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BUYING GUIDE

OF THE INDUSTRY

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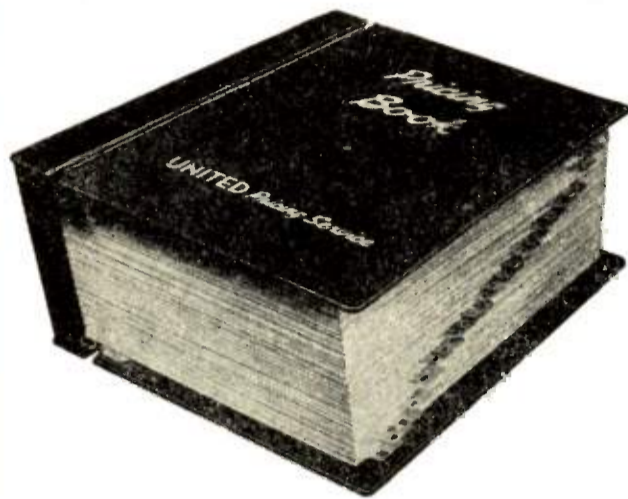
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for products
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- DESCRIPTIONS
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GUIDE TO PRODUCT SECTIONS

THE RADIO-ELECTRONIC MASTER

As publishers of The Radio-Electronic MASTER, we take great pride in the fact that this publication has reflected the changes and growth of the electronic industry for more than 24 years. To continue this policy of "changing to meet the times," the product sections in this edition have been revised in order to facilitate the user's selection and buying decisions.

The 28 Product Sections listed below broadly categorize related electronic products and services so that you can quickly compare similar items within the sections. However, to locate specific products within the catalog pages, always refer to the General Index. NOTE: Manufacturers' pages are arranged alphabetically within each section.

Sec. 1200 Pages 23 thru 63	Antennas & Accessories
Sec. 1300 Pages 64 thru 101	Audio: High Fidelity Tuners, Amplifiers, Sound Systems, Intercoms, Kits
Sec. 1320 Pages 102 thru 182	Audio: Speakers & Systems, Enclosures, Microphones, Headphones, Accessories
Sec. 1340 Pages 184 thru 240	Audio: Recording & Playback Equipment, Accessories
Sec. 1400 Pages 242 thru 321	Cabinets, Chassis, Racks, Boxes, etc.
Sec. 1500 Pages 322 thru 585	Capacitors (All Types), Circuits
Sec. 1600 Pages 586 thru 590	Chemicals (Acids, Coatings, Paints, Varnishes, Lubricants, etc.)
Sec. 1800 Pages 591 thru 603	Coils (Inductors, Toroids), Assemblies, Forms
Sec. 1900 Pages 604 thru 661	Communications Equipment (Broadcast, Television, Amateur, Facsimile)
Sec. 2100 Pages 662 thru 768	Connectors (Plugs, Jacks, Receptacles, Sockets, Clips)
Sec. 2300 Pages 769 thru 771	Crystals, Equipment & Accessories
Sec. 2400 Pages 772 thru 778	Dials, Knobs, Handles, Panel Components
Sec. 2800 Pages 779 thru 811	Hardware (Bolts, Nuts, Screws, Washers, Terminals, Terminal Boards, etc.)
Sec. 2900 Pages 812 thru 910	Instruments (Electrical Measuring & Test)

Sec. 3100 Pages 911 thru 915	Insulators, Insulating Material & Parts
Sec. 3700 Pages 916 thru 920	Photoelectric Equipment & Components
Sec. 3900 Pages 921 thru 937	Pilot & Signal Lamps, Lights & Accessories
Sec. 4000 Pages 938 thru 1007	Power Supplies, Converters, Inverters, Vibrators, Batteries, Flashlights, etc.
Sec. 4200 Pages 1008 thru 1017	Publications (Textbooks, Reference Handbooks, etc)
Sec. 4400 Pages 1018 thru 1029	Rectifiers (Non-Tube Types)
Sec. 4500 Pages 1030 thru 1059	Relays, Solenoids
Sec. 4700 Pages 1060 thru 1169	Resistors (All Types) Controls
Sec. 4800 Pages 1170 thru 1174	Semiconductors (Diodes, Transistors)
Sec. 5100 Pages 1175 thru 1234	Switches, Circuit Breakers, Fuses, Counters, Motors
Sec. 5400 Pages 1235 thru 1293	Tools (Hand & Power), Supplies
Sec. 5600 Pages 1294 thru 1421	Transformers, Chokes, Reactors, etc.
Sec. 5700 Pages 1422 thru 1463	Tubes, Tube Parts, Shields, Inserts, etc.
Sec. 6000 Pages 1464 thru 1551	Wire, Cable, Harnesses, etc.

GENERAL INDEX

A

Absorption Frequency Meters	653, 655
AC-DC Power Inverters	955, 959, 973
Acorn Sockets	644
Acoustic Insulation	191, 225
Acoustic Phono Reproducer	216
Acoustone Grille Cloth	140
ACRO DIV. ROBERTSHAW-FULTON CONTROL CO.	1175
ACRO PRODUCTS COMPANY (Acrosound)	64
Acrylic Spray	588, 589
ACTION SYSTEMS CO.	65
Actuators—Switch, Relay, etc.	1175, 1180, 1181, 1199, 1203, 1212, 1213, 1224
Adapter, Drill	1253

Adapters—Cable Connector, Jacks, Clips, etc.	40, 667, 678, 697, 718, 719, 729, 760, 761, 768, 847
Cathode Ray Tube Testing	656, 828, 847, 853, 1168
Crystal Holder	771
Phone Plug	228, 729, 741, 760, 761
Plug-in	733, 737, 754
45 RPM Record and Spindles	188, 205, 216, 225, 238, 240
Socket	684, 852, 1246
Swivel Fittings—Microphone	107
Tube Checker	1168
Tube Socket Test	768
Turntable	232
Vibrator Test	212, 853
Voltage Adjusters—Foreign	754, 1420
Waveguide—Coax	660

Continued on next page

GENERAL INDEX (Continued)

	Page		Page
<i>Adjust-A-Cone</i> Speakers	146, 147	Analyzers (see also Testing Instruments)	339, 812 to 910 (Sec. 2900)
<i>Adjust-A-Volt</i> Variable Transformers	994	Angles and Brackets	78, 254, 275, 288, 313, 315, 318, 615, 755, 778, 781, 783, 796, 805, 807, 942, 1195
ADVANCE RELAY (Elgin National Watch Co., Electronics Div.)	1030 to 1033	Anode Connectors	703, 909
AERO INSTRUMENT COMPANY	812	Antenna Accessories	
AEROVOX CORPORATION		Boosters, Preamplifiers	34 to 36, 609, 610, 612, 613
Capacitors, Filters	322 to 363	Brackets, Wall, Struts	23, 26 to 28, 31, 34, 41, 46, 47, 54, 55, 608
L-C Checker	363	Coils	24, 25, 42, 43, 47, 48, 595, 596, 598, 1549
Resistors	1060, 1061	Connectors—See Connectors	
<i>Air Dux</i> Coils	599	Couplers	34, 37, 43, 191, 610, 611, 613, 1286
Aircraft and Marine Crystals	46, 769 to 771	Insulators	34, 682, 1538, 1550
Aircraft Fuses	1218	Lead-in Strips, Ground Clamps and Rods	27, 55, 731, 1550, 1551
Aircraft Indicator Lights, Lamps	931, 934	Lightning Arresters	1550
Aircraft Microphones	119	Matching, Coupling Transformers	28, 37, 38, 43, 48, 602, 610, 612, 1312
Aircraft Rheostats	1071	Mixing Networks	38, 191, 611
Aircraft Switches, See Switches		Mobile Antenna Equipment	24 to 28, 46 to 49, 61 to 63, 608
Aircraft Wires and Shielding	1469, 1482, 1515, 1539, 1542, 1546	Mounting Accessories, Bases, Brackets, Springs	23 to 63 (Sec. 1200), 608
AKRO-MILS, INC.	242, 243	Rotators, Rotors	23, 52, 53, 57
Alarms—Burglar	919	Spring Wire Clips	49, 754, 781, 1247
ALCO ELECTRONICS MFG. CO.	813	Switches—Changeovers, etc.	43, 116, 1192, 1225
ALLIANCE MANUFACTURING CO.		Terminators	37, 611
Antenna Rotors	23	Turnbuckles	55
Garage Door Operator	1176	Wall Receptacles	34, 37, 38, 43, 44, 698 to 706, 725, 1193
Phono and Small Motors	184 to 187, 723	Wire and Cable	1494, 1549
Alligator Clips	680, 730, 731, 737, 753, 935	Antenna Changeover Relays	1033, 1037, 1054, 1088, 1286
Alignment, Neutralizing Tools, Kits	755, 1168, 1242, 1247, 1256, 1279	Antenna Couplers	34, 37, 38, 40, 611
ALPHA WIRE CORPORATION	1464 to 1479	Antenna Manuals	1008
<i>Alpha</i> Tubing and Sleeving	1470	ANTENNA SPECIALISTS CO.	24, 25
ALTEC LANSING CORP.		Antennas and Systems	
Transformers (Peerless Division)	1376, 1377	Airborne	58
AMERICAN MICROPHONE (Div. G-C Textron, Inc.)	102, 909	Amateur	24, 25, 28, 29, 41, 42, 46, 48, 49, 57, 61
AMERICAN RADIO RELAY LEAGUE, INC. (ARRL)	1008	Auto, Accessories	24 to 28, 46 to 51, 62, 63, 703
AMERICAN TELEVISION & RADIO CO. (ATR)		Citizens Band	24, 32, 41, 46, 49, 63, 615, 616, 661
Radios, TV Chassis & Sets	604 to 607	Commercial & Military, C-D	26, 28, 45, 49, 58
Vibrators, Power Sources	938 to 946	Horn	660
Ammeters	812 to 910 (Sec. 2900)	Indoor Antennas—TV, FM	30, 59, 122, 729
AMPEREX ELECTRONIC CORP.	1422, 1423	Kits	34, 59, 190, 659
AMPERITE COMPANY, INC.		Loop Antennas, Sticks, Rods, etc.	596, 598, 659
Ballast Tubes, Regulators	1424, 1425	Marine	25, 26, 33, 46, 61
Thermostatic Delay Relays	1034, 1035	Master Antenna Distribution Systems	34 to 36, 38, 45, 56, 609, 610, 612, 613
AMPHENOL ELECTRONICS CORP.	662 to 673	Masts, Radiators, Towers, Whips	24 to 27, 31, 45 to 47, 51, 55, 61 to 63
Amplifiers and Systems	64 to 101 (Sec. 1300)	Mobile, Transmitter, Police Antennas	24 to 26, 42, 46, 61, 63
Cases, Cabinets, Racks	68, 73, 89, 258, 259, 270, 271, 279 to 283, 909	Parabolic	45, 58
Foundation Chassis	73, 258, 259, 270, 271, 279 to 283, 298, 318	Rotating Antennas	29, 41, 42, 46, 56, 57
High Fidelity	64, 73 to 75, 81 to 91, 94, 95, 100, 123, 196, 611, 829, 832, 847, 859, 1296	Telemetering, Astronomy, Dish	45, 56, 58, 1345, 1400
Industrial and School Systems	69, 72, 81 to 89	TV & FM Antennas	24, 30, 34, 56, 58, 59, 60, 190
Intercom & Interphone	65, 69, 71, 72, 77 to 80, 96 to 99, 661	UHF & VHF Antennas	29, 30, 45, 56, 58, 60, 63, 568
Kits	64, 73, 74, 90, 91, 100, 220, 221, 453, 847, 1296	Appliance Noise Filters	336, 568, 596
Magnetic	988, 989, 1312, 1340 to 1342, 1410	Appliance Testers	816, 823, 825, 892, 899
Master Antenna, Distribution Systems, TV, FM	34 to 36, 38, 45, 56, 609, 610, 612, 613	ARCO ELECTRONICS, INC.	
Mobile Amplifiers	67, 70, 88, 89, 93, 94	Capacitors (EI Menco)	365 to 384
Music Monitor	82, 271	Fused Plugs	1177
Phono Top Amplifiers, Systems	67 to 69, 71, 81 to 83, 87 to 89	Laboratory Standards (Capacitors)	814, 815
Portable Amplifiers	81 to 83, 85 to 89, 92 to 94	ARGONNE ELECTRONICS MFG. CORP.	1299
Power Supply	77	ARGOS PRODUCTS CO.	110
Pre-Amplifiers, Boosters	66, 67, 70, 73 to 75, 81 to 89, 91 to 95, 100, 117, 123, 196, 609 to 613, 829, 832, 847, 859, 919, 1341	Arm, Lift-Tone	188, 225
Public Address	66 to 68, 70 to 72, 77, 79, 81 to 83, 85 to 89, 91, 93, 220 to 224	Arm, Transcription, Phono	73 to 95, 102, 205, 211, 232
Recording Amplifiers	198, 222	ARRL—(See American Radio Relay League)	
Remote Control Amplifier	66, 79	ASSOCIATED SPECIALTIES CO.	947
Stereo-Phonic	73 to 75, 84, 89, 90, 95, 100, 196, 832, 847	ASTATIC CORPORATION	108, 109
Sweep, for Oscilloscopes	640, 837	ASTRON CORPORATION	385 to 404
Transistor	100	ATLAS E-E CORP. (Atlee)	676
Transmitter, Amateur Power Amplifiers	615, 616, 641	ATLAS SOUND CORPORATION	103 to 107
AMPROBE (Div. Pyramid Instrument Corp.)	816	ATR—(See American Television & Radio Co.)	
		Attenuators—Audio, R.F., etc.	38, 39, 116, 611, 877, 1072, 1112, 1198, 1234
		Attenuators, Microwave	660
		<i>Audax</i> —(See Rek-O-Kut)	

GENERAL INDEX (Continued)

	Page
Audio Chokes	1294 to 1421 (Sec. 5600)
AUDIO DEVELOPMENT CO. (ADC)	674, 675
AUDIO DEVICES, INC.	
Recording Accessories	193 to 195
Rectifiers	1018
Audio Reactors	1291 to 1421 (Sec. 5600)
AUDIOTEX MFG. CO. (Div. of G-C Textron, Inc.) ..	188 to 192
Audio Transformers	64, 1291 to 1421 (Sec. 5600)
<i>Audioclips, Audiopoints, Audiotape</i>	193 to 195
Auto Radio Accessories (See main category, i.e.: Antennas, auto radio; Noise Suppressors, auto radio, etc.)	
<i>Automatic Manufacturing</i> —(See General Inst. Corp.)	
Automatic Tube Tester	870
Autotransformers, Autoformers	974, 981, 985 to 987, 994, 1307, 1350, 1360, 1373, 1374, 1377, 1389, 1417
AUTOTRON, INC.	920

B

Baffles, Enclosures for Speakers	82, 85, 89, 92 to 94, 102 to 182 (Sec. 1320), 196, 212, 1549
Bafflelight (Outdoor)	133
Baffle Mounting Accessories	134 to 137
Ballasts (Voltage Regulator Tubes)	1070, 1423 to 1425
Baluns	43, 641, 1549
Banana Plugs, Jacks—(See Plugs & Jacks)	
Bar and Pattern Generators, TV	656, 829, 836, 850, 858, 866, 867, 880, 881, 898
BARCO, INC.	364
Barrier Type Terminal Boards, Blocks	647, 648, 705, 716, 744, 747 to 749, 751, 783, 948
Bases, Turntable	210, 221, 236, 237, 238, 240
Batteries, Cells, Nickel Cadmium	949
950, 962 to 964, 966, 967, 975, 976, 979	
Batteries—Dry, Flashlight, Portable Radio, Transistor, Photoflash	948 to 951, 958, 961 to 967, 975, 976, 978, 979
Batteries, Mercury	948, 961, 964, 966, 967
Batteries—Power-Pak, Industrial, Special Purpose	949
Batteries, Zinc-Carbon	961, 962
Battery and Test Clips	680, 681, 723, 724, 730, 731, 735, 737, 740, 896, 1478
Battery Chargers, Boosters	829, 945, 999, 1001, 1002
Battery Charging Rectifiers	960
Battery Connectors	746
Battery Eliminators	657, 829, 846, 873, 941, 944, 955, 957, 999
Battery Eliminator Kits	829, 846
Battery Holders	796
Battery Plugs	698, 704, 746
Battery Testers, Meters	823, 828, 875, 877, 891
BEEDE ELECTRICAL INSTRUMENT CO., INC.	817 to 819
BELDEN MANUFACTURING CO.	1502 to 1520
Belts, Safety, Tool, etc.	1261, 1262, 1265, 1271
BENDIX AVIATION CORP. (Red Bank Div.)	1170
<i>Berg</i> Pliers	1241, 1243
Bezels—Cathode Ray Tube, CRT Cameras	642, 792, 793
Bias Supply, Voltage	851, 871
Binaural Headphones	See Headphones
Binding Posts	629, 648, 680, 682, 723, 724, 738, 778, 991
BIRNBACH RADIO CO., INC.	
Hardware, Components	779 to 782
Plugs, Jacks, Clips, etc.	677 to 684
Switches	1178 to 1181
Wire, Cable, Tubing, Price Lists	1480 to 1500
Blades, Knife	1252, 1253
BLILEY ELECTRIC CO.	769
BLONDER-TONGUE LABORATORIES, INC.	609 to 611
Blower & Motor Assemblies, Blower Wheels	252, 1226, 1227
BLUM & CO., JULIUS	911
BOGEN-PRESTO CO.	
Amplifiers, P.A. Equipment, Intercoms	66 to 72
Tape & Disc Equipment	197 to 199
BOKER CO., H. (In-Dus-Tronic Div.)	1260, 1261
Bolt Cutter	802
Bolts, Nuts, Screws, Washers	754, 755, 782, 783, 909
Books and Manuals	227, 1008, 1009, 1011 to 1014, 1017

<i>Boom-Mike</i> Headset	169
Boosters and Pre-amplifiers for Amplifiers	66, 67, 70, 73 to 75, 81 to 89, 91 to 95, 100, 117, 123, 196, 609 to 613, 829, 832, 847, 859, 919, 1341, 1490
Boosters for TV, FM Reception	34 to 36, 609, 610, 612, 613
Box Chassis, Boxes, Utility	253, 256, 259, 278 to 281
Brackets and Angles	78, 254, 275, 288, 313, 315, 615, 755, 778, 781, 783, 796, 805, 807, 942, 1195
Brackets—Chassis Mounting	248, 257, 270, 273 to 275, 277, 281, 288, 299, 301, 313, 317, 320
BRADY CO., W. H.	1501
Braid, Tinned Copper	1494, 1516, 1547
Breadboard Sockets	852
Bridges:	
Antenna	641
Capacitor-Resistor	495, 828, 832, 846
Kits	846
Standing Wave Ratio	41, 641
Wheatstone	844
Brighteners, TV Tube	116, 656, 1168, 1374
BRITISH INDUSTRIES CORPORATION	
Record Changers, Hi-Fi Equip't.	196
Solder, Tubes, Headphones	1235
Broadcast Audio & TV Equipment—See main category, i.e., Amplifiers, Microphones, Recorders, etc.	
Broadcast Audio Cable	1472 to 1474, 1489, 1503
<i>Brown, S. G.</i> , Headphones	1235
Brushes, Record, Stylus	188
BUD RADIO, INC.	244 to 267
<i>Bulplates, Multicom</i> s Printed Circuits	561 to 565
BURGESS BATTERY COMPANY	948 to 951
Bumpers, Rubber—See Rubber Bumpers, Feet	
Burglar Alarms—Photo Electric	919
BURTON-ROGERS CO. —(Div. Hoyt Electrical Instrument Works, Inc.)	820, 821
Bus Bar Wire	1494, 1516
Bushings, Spacers	647, 705, 745, 746, 754, 781, 782, 796, 805, 807, 1112, 1114, 1170
BUSSMANN MFG. (Div. McGraw Edison Co.)	1182 to 1186
<i>Buss</i> Fuses	1182 to 1186
Buttons—Plugs, Snap, Ventilating, etc.	24, 704, 754, 783, 811
Buzzers	1046
Bypass (Bathtub) Capacitors	322 to 585 (Sec. 1500)

C

Cabinet, Cases, Utility	249, 251, 260, 271, 278 to 283, 298, 318, 320
Cabinet Mouldings, Handles, etc.	246
Cabinet Rack Dollies, Casters, etc.	282, 295, 317
Cabinet Side Supports	248, 257, 270, 273 to 275, 277, 281, 282, 288, 299, 301, 313, 317, 320
Cabinets & Cases—Amplifiers, Receiver, Instrument	73, 258, 259, 270, 279 to 283, 909
Cabinets & Cases, Speaker—Metal	242 to 321 (Sec. 1400)
Cabinets—Low Temperature	268
Cabinets, Racks, Panels—Metal	79, 242 to 321 (Sec. 1400)
Cabinets, Radio & Phonograph, Equipment	153
Cabinets, Storage	226, 242, 243, 272, 783
Cabinets, Sloping Front	251, 258, 260, 270, 280, 283, 298, 303, 310, 318
Cable (See Wire)	
Cable Clamps, All Types	291, 294, 664, 684, 705, 719, 745, 749, 781, 783, 1532, 1536
Cable Connectors	43, 662 to 664, 673, 687 to 694, 696, 698, 699, 726, 727, 762, 801, 990
Cable Type—Multitesters	816
Cable Connector Plugs	808
Cable Fittings	667
Cable Splice	667
Cable Transition	667
Calibrators—TV, Frequency, Signal, Sweep	843, 844
CALIFORNIA CHASSIS CO.	268 to 271
CAMBRIDGE THERMIONIC CORP. (Cambion)	784 to 787
Camera, Industrial TV	609
CANNON COMPANY, C. F.	111
CANNON ELECTRIC COMPANY	688 to 699

GENERAL INDEX (Continued)

	Page		Page
Canopy Switches	1178, 1230, 1232	Carbofilm Resistors	1060
Capacitor Analyzers, Decades	362, 363, 569, 826 to 828, 832, 835, 862, 881, 889	Carbon Microphones	See Microphones
Capacitor Assemblies	561	Carbon Resistors	1083, 1087, 1088, 1095, 1097, 1102, 1104 to 1107, 1119, 1127, 1128, 1146, 1149, 1159, 1169
Capacitor Color Codes	361	Cardioid Microphones	See Microphones
Capacitor Insulating Tubes	530	CARLING ELECTRIC, INC.	1187 to 1189
Capacitor Mounting Hardware	329, 349, 354, 412, 530, 533, 577	Carrying Cases—Utility	41, 110, 243, 258, 898
Capacitor Plug-in Socket	484	CARTER MOTOR COMPANY	952
Capacitors—Fixed	322 to 585 (Sec. 1500) 814, 815, 889, 958, 974, 1047, 1097, 1143 to 1149, 1223	Cartridges, Phono, All Types	73, 82, 89, 196, 205, 209, 216, 232 to 234, 239, 240, 658
Auto Radio	338, 372, 383, 746, 1083	Cases, Steel, Aluminum	280
Bypass, Bathtub	322 to 585 (Sec. 1500)	Casters—Trucks, Racks, Cabinets	282, 295, 308, 317
Ceramic	322 to 585 (Sec. 1500)	Cathode Ray Oscillographs, Oscilloscopes	812 to 910 (Sec. 2900)
Disc	351, 378, 386, 404, 408 to 410, 434 to 437, 449, 450, 452, 477 to 479	Cathode Ray Tube Bezels	642, 792, 793
Doorknob—Ceramic, Hi-Voltage	354, 412	Cathode Ray Tube Shields	642, 652, 790, 791, 793
Electrolytic, Dry	322 to 585 (Sec. 1500)	Cathode Ray Tube Testing Adapters	656, 828, 847, 852, 853, 1168
Feed-thru, Stand-off, etc.	354, 355, 411, 453, 561, 568	Cathode Ray Tubes	1438, 1448, 1460 to 1462
Filters—Noise, Interference	35, 338, 339, 393, 485, 487, 488, 545, 568, 1083	CBS-ELECTRONICS (Div. of Columbia Broadcasting System, Inc.)	1426 to 1428
Fluorescent Lighting	339	Ceco (See Community Eng. Corp.)	612, 613
Glass	405 to 407, 456 to 458, 486, 489, 555	Cements—Radio Repair, Coil, Speaker, etc.	588
High Capacity Low Voltage	322 to 585 (Sec. 1500)	CENTRALAB (Div. Globe Union, Inc.)	408 to 413
High Temperature	322 to 585 (Sec. 1500)	Ceramic Capacitors	414, 415
High Voltage	322 to 585 (Sec. 1500)	Packaged Electronic Circuits	1190 to 1195
Kits—Paper, Mica, Ceramic, JAN, etc.	329, 337, 355, 361, 379, 380, 412, 429, 453, 494	Switches	1062 to 1067
Laboratory Standard	270, 407, 447, 814, 815	Volume Controls	322 to 585 (Sec. 1500)
Metal Clad	322 to 585 (Sec. 1500)	Ceramic Capacitors	603, 645
Metallized Paper	342 to 346, 393, 394, 396, 428, 429, 463, 501, 554, 580, 581	Ceramic Coil Forms	184 to 240 (Sec. 1340)
Mica, Bakelite, etc.	322 to 585 (Sec. 1500)	Ceramic-Element Cartridges	448 to 453
MIL Type	322 to 585 (Sec. 1500)	Ceramicon Capacitors	558 to 560
Miniature, Sub-miniature, Micro-miniature	322 to 585 (Sec. 1500)	Ceramite	608
Mica, Silvered	322 to 585 (Sec. 1500)	Cesco (See Continental Elec. & Sound)	70, 71
Motor Run	440, 521	Challenger Sound Equipment	1236, 1237
Motor Starting	438, 439, 476, 477, 509, 510	CHAMPION DeARMENT TOOL CO. (Chan-nel-lock)	829, 999, 1236, 1237
Mylar Dielectric	322 to 585 (Sec. 1500), 958	Chargers, Battery	89, 101, 659, 751
Non-Polarized	330, 331, 484	Chassis and Kits—Receiver, TV, Audio, etc.	248, 257, 269, 273, 277 to 279, 283, 288, 299, 301, 319
Oil Filled, Impregnated	322 to 585 (Sec. 1500), 1097	Chassis Bottom Plates, Top Plates, Covers	257, 273 to 275, 277, 281, 282, 317, 320
Paper	322 to 585 (Sec. 1500), 1097	Chassis Brackets, Mounting	273, 274, 277
Plastic Film, Polystyrene	322 to 585 (Sec. 1500), 958	Chassis—Expandable	269
Plastic Mica	368, 369, 380	Chassis—Flanges	273, 274, 277, 808
Plastic, Molded, Cased, Tubular	322 to 585 (Sec. 1500)	Chassis Kit for Experimental Work	256, 257, 268 to 271, 273, 277, 278, 280 to 283, 299, 319
Printed Circuit	332, 333, 335, 411, 444 to 446, 472, 476, 482, 531, 535, 542, 580, 1183, 1186	Chassis—Metal	274, 320
Photoflash, Energy Storage	340, 423, 502, 536, 546, 578	Chassis Mounts—Rubber	255, 277, 299, 319
Plug-in, Twist-Prong, etc.	322 to 585 (Sec. 1500)	Chassis—Panel	278
Porcelain Enamel	358, 522	Chassis—Printed Circuit	1246, 1250 to 1252, 1286
Pulse, Pulse-Forming Networks	407, 488	Chassis Punches, Hole Cutting	1509
Screw Base	333, 334, 341, 349, 389, 444 to 446, 510, 531, 551, 584	"Cheater" Safety Terminals, Cords	586
Selenium Rectifier	572 to 574	CHEMICAL ELECTRONIC ENGINEERING, INC.	586 to 590
Solid Electrolyte	389, 474, 475, 536, 538, 540	Chemical Kits, Chemicals, Compounds	822 to 824
Tantalum	298, 362, 389, 467, 474, 475, 484, 494, 536, 539, 974, 1047, 1143 to 1149, 1223	CHICAGO INDUSTRIAL INSTRUMENT CO.	931
Television	322 to 585 (Sec. 1500)	CHICAGO MINIATURE LAMP WORKS	1308 to 1317
Temperature Coefficient, Compensating, Stable	351 to 353, 378, 404, 410, 434, 437, 451, 452, 478, 479, 559	CHICAGO STANDARD TRANSFORMER CORP.	1295 to 1307
Transmitting, Industrial	340 to 342, 347, 357 to 360, 370, 371, 413, 430, 516, 517, 552, 555, 566, 567, 585	Chicago Division	1110 to 1121
Tubular	322 to 585 (Sec. 1500)	Standard Division (Stancor) (Indexed on pg. 1296)	26, 27
Vacuum, H. V.	465, 1423	CHICAGO TELEPHONE SUPPLY CORP. (CTS) (See IRC)	1294 to 1421 (Sec. 5600)
Vibrator-Buffer	335, 352	CHISHOLM-RYDER CO., INC. (Premax Div.)	484, 592 to 595, 611, 627, 646, 775, 957, 971, 1000, 1026, 1047, 1129, 1130, 1143 to 1149, 1223, 1303, 1407
Wet Electrolytic Replacements	333	Chokes—Audio, Filter, Swinging, Smoothing, AC-DC	700 to 717
Capacitors, Variable	374, 375, 384, 413, 441, 454, 459, 596, 618 to 621, 645, 659, 775	Chokes—R.F., Plate, Power Line, etc.	1250, 1251, 1286
Kits	384	CINCH-JONES SALES DIV. CINCH MFG. CO.	1030 to 1032, 1036, 1038, 1041 to 1043, 1050, 1051
Neutralizing, Padding	375, 384, 442, 596, 645	Circuit Cutters	1179
Receiving, Tuning	441, to 443, 618 to 620, 645, 659	Circuit Designer, Assembly Boards	273, 275, 276, 569, 889
Transmitting	349, 350, 442, 443, 618 to 621, 645	Circuit Opening Switch	171, 757, 1222
Trimmers	374, 413, 441 to 443, 454, 459, 596, 618 to 620	Circuit Testers, Analyzers	569, 825, 831, 873, 889, 1246, 1257
Vacuum	464	<i>Circuitracer</i>	825
CAPPS & CO., INC.	200		
Caps, Grid, Plate	755, 1018, 1025		
Captive Nuts & Screws	775, 778		

GENERAL INDEX (Continued)

	Page
Circuits, Plug-in, Packaged, Modules	414, 415
Citizens Band Communication Equipment	32, 49, 615, 616, 661
Civil Defense Communication Equipment	49, 615
CLAIREX CORPORATION	916, 917
Clamp, Cross-Action	1253
Clamp-On Meters	895, 907
Clamps, Band, Cable (See Cable Clamps)	
Clamps, Tube	644
CLAROSTAT MFG. CO., INC.	1068 to 1080
Cleaning Fluids, Materials, Degreaser	226, 586 to 590, 1168
CLETRON, INC.	112, 113
CLEVITE ELECTRONIC COMPONENTS (Div. Clevite Corp.)	114
CLEVITE-WALCO	201 to 203
Clips:	
Alligator	680, 723, 730, 731, 737, 753, 935
Battery and Test	680, 681, 723, 724, 730, 735, 737, 740, 896, 1478
Cable and Wire	745
Dial Cord	783, 909
Diode Clips, Mounts	798, 1018, 1025, 1216
Fuse	778, 783, 1219, 1220
Spring Wire, Fahnestock	754, 781, 783, 1247
Tube Grid and Cap	647, 672, 705, 783, 909
Closed Circuit TV Systems	609
Cloth, Cleaning—Record, Tape	186, 205, 216, 225, 226
Cloth, Cleaning—Tape Head	189
Coaxial Cable, RG, etc.	37, 40, 611, 612, 660, 670, 671, 1503, 1510, 1511, 1521, 1522, 1526, 1539, 1540, 1542 to 1545, 1547, 1550, 1551
Coaxial Connectors, Plugs—See Connectors, Plugs	
Coaxial Relays	465, 1031, 1256, 1257
Coaxial Speakers	105, 112, 142, 148, 149, 153, 162, 164, 180, 196, 212
Code Devices, Phono Records for Learners	363, 638, 751
Code Practice Oscillators	615, 751, 843
Coil Assemblies	592 to 597, 646, 648, 654
Coil Bobbin Kit	1051
Coil Dope, Cement	588, 724
Coil Forms and Mountings	603, 645, 648, 672, 775, 786, 787
Coil Shields	646
Coils & Inductors	
Antenna	24, 25, 42, 47, 48, 596, 598, 1549
Broadcast, S. W., Transmitting	592 to 596, 599 to 601, 603, 636, 637, 645, 646, 751
Choke	592 to 595
FM	596 to 598
High Q, Low Frequency	1327, 1328, 1404
High Voltage Step-Up	1006, 1007
Hybrid and Repeat	1321, 1412
I. F. Transformers	595, 597, 598
Miniature, Subminiature	592 to 595, 597, 598, 603
Oscillator, Phono, Test	596, 598
Relay	764, 1037, 1051 to 1053
R.F.	592 to 596, 598, 599, 646, 1038
Telephone Pickup	151, 190, 206
Television	206, 595, 598, 603, 1363, 1395
Toroidal	603, 992, 993, 1310, 1332, 1390, 1402, 1404
Cold Zone Temperature Testers	841
Color-Bar Generators	656, 829, 836, 850, 858, 866, 867, 880, 881, 898
Color Codes	361, 1149
Color Coding Kit	588
Color Gun Killer	656
Coloring Lacquer for Light Bulbs	588
COLUMBIA BROADCASTING SYSTEM, INC.	
CBS Electronics Sales	1426 to 1428
COLUMBIA PRODUCTS CO. (Subs. Shakespeare Co.)	28
COLUMBIA WIRE & SUPPLY CO.	1521, 1522
Communication Microphones	102, 108, 109, 118, 119, 159 to 161, 173, 175, 233
Communication Receivers and Equipment	76, 614 to 617, 639, 658, 661
COMMUNITY ENGINEERING CORP. (Ceco)	612, 613
Communo-Phones	122
Component Holders	676
Computer Diodes, Transistors	1024, 1029, 1171 to 1173, 1433, 1437, 1452

	Page
CONANT LABORATORIES	1019
Concentrikit Controls	1114 to 1117
CONDENSER PRODUCTS CO.	405 to 407
Con-Hex Connectors	801
Conical Antennas	23 to 63, (Sec. 1200)
Connector Caps and Chains	418, 419, 442, 664, 688, 930
Connectors	37, 40, 192, 662 to 768, (Sec. 2100), 809 to 811
Adapters	718, 719
Auto Antenna, Fuse	48, 62, 703, 746
Battery	746
Break-Away, Quick-Disconnect	811
Cable	43, 62, 662 to 768 (Sec. 2100), 801, 990
Chassis	683, 930
Coaxial Cable	37, 40, 611, 612, 660, 665 to 667, 670, 671, 678, 697, 718, 719, 729, 745, 760, 761, 768, 847, 1490, 1503, 1510, 1511, 1521, 1522, 1526, 1529, 1539 to 1545, 1549 to 1551
Cord	689, 696, 697, 718, 719, 741, 762, 909
Couplings, Extenders, Reducers	37, 643, 648, 667, 681, 743, 794, 805, 1112
Heat Radiating for Transmitting Tubes	1430
Heavy Duty Power and Radio	664, 668, 669, 673, 764, 990
Junction Shells	745
Kits	687
Microphone	68, 192, 228, 672, 683, 720, 726, 727, 742, 759 to 761, 930
MIL Type	48, 62, 662 to 667, 669, 801
Miniature, Subminiature	662, 663, 665 to 669, 673, 687, 720, 760, 762, 764, 765, 801
Oscilloscope	765
Power	664, 668, 669, 673, 764, 990
Printed Circuit	669, 765
Rack and Panel, Wall	43, 661 to 768 (Sec. 2100), 801, 990, 991, 1231
R.F.	37, 40, 665 to 667, 801
Relay, Miniature	764
Screw Lock	764, 765
Solderless	37, 40, 611 to 613
Speaker	177, 192, 658, 673
Strain Relief	43, 745
Triaxial	719
Twin Lead for TV	43, 60, 643
CONSOLIDATED WIRE & ASSOCIATED COS.	1523 to 1527
Console Desk Assembly, Components, Metal	248, 252, 262 to 266, 289, 300, 301, 303, 304, 310, 311, 314
Constant Impedance Controls, Attenuators	38, 39, 116, 611, 725, 877, 1072, 1112, 1198, 1234
Constant Voltage Transformers	981 to 983, 1343, 1363
Contact Cleaning Fluids	226, 586 to 590, 1168
Contact Discs	644
Contact Finger Stock	1430
Contact Strips	705, 744
CONTINENTAL CARBON, INC. (Div. Wirt Co.)	1081 to 1083
CONTINENTAL ELECTRONICS & SOUND CO.	608
Control Guards, Knobs	191, 626, 776 to 778, 1146, 1195, 1273
Controllers, Remote, Standby, P.A.	68, 89, 141, 191
Controls, Photoelectric	1059
Controls, Voltage	918 to 920, 1113
Controls—Volume, Tone, Mono, Stereo, etc.	181, 659, 725, 729, 754, 759, 760, 1060 to 1169 (Sec. 4700)
Base Elements	1115
Cabinets and Kits	1067
Carbon Controls	1062, 1063, 1065, 1067, 1068, 1073, 1080, 1110, 1119, 1134, 1137
Constant Impedance (L & T Pads)	1112, 1135
Hardware, Accessories	782, 1111, 1112
Industrial Types, MIL Types	1121
Miniature, Subminiature	754, 1064, 1069, 1073, 1080, 1082, 1094, 1118, 1119, 1136, 1150, 1151
Shafts	1070, 1082, 1111, 1116, 1117, 1135
Speaker, Volume, Loudness Controls—Mono, Stereo	116, 141, 145, 166, 181, 190, 191, 658, 760, 1062, 1063, 1112, 1135
Switches	760, 1066, 1067, 1070, 1095, 1111, 1114, 1135, 1136

Controls continued on next page

GENERAL INDEX (Continued)

	Page		Page
Controls (cont'd.)			
Tab Mount	1068, 1112, 1134		
Television, Auto Replacement Controls	1060 to 1169 (Sec. 4700)		
Wire Wound Controls	1064, 1065, 1067, 1068, 1071, 1080, 1082, 1113 to 1115, 1119, 1136		
Conversion Kit, Stereo	729		
Converters—Amateur Radio, SSB	614, 617, 1110		
Converters, Power Packs	942 to 944, 952, 955, 1001, 1002		
Converters—Rotary Power	952		
Converters—UIHF, FM	35, 38, 609, 610, 614		
Copper Oxide Rectifiers	1019, 1028		
Copper Sulfide Rectifiers	960		
Cord Connectors, Plugs, Switches	689, 696, 697, 718, 719, 741, 762, 909		
Cord Strain Reliefs	783, 952		
Cores, Powdered Iron	1169		
CORNELL-DUBILIER ELECTRIC CORP.			
Antennas & Rotors	50 to 53		
Capacitors	416 to 440		
Vibrators and Converters	953 to 955		
Corning Glass Capacitors, Trimmers	456 to 459		
Corning Resistors	1089 to 1091		
CORNISH WIRE CO., INC	1528 to 1531		
Corona Dope	588		
Corona Shields	703		
Corrugated Inserts, Tube Shields	676		
Cotter and Hairpins	783		
Counter Dial	626		
Counters, Electric, Mercury	1224		
Counters, Electronic	1423		
Counters, Turns	1224		
Couplates	414, 415		
Couplers—Antenna	34, 37, 43, 191, 610, 611, 613, 1286		
Couplers, T.V. Set	37, 43, 116, 122		
Couplings, Extenders, Reducers	37, 442, 643, 648, 667, 681, 743, 794, 805, 1112, 1538		
Couplings, Flexible, Insulated, Non-Insulated	442, 627, 647, 648, 789		
Couplings Non-Flexible, Insulated, Non-Insulated	627, 648, 789, 805, 1070		
Covers, Jack, Trimmer	909		
COYNE ELECTRICAL SCHOOL—Technical Book Division	1009		
Crimping Tools	744, 802, 811, 909		
Crocodile Clips	730		
Crossover Networks, Speaker	See Speakers		
Crystal Diodes—Germanium, Microwave	1029, 1109, 1174, 1428, 1433, 1437, 1452, 1463		
Crystal Holder Adapters	771		
Crystal Microphones, Cartridges	68, 73, 82, 89, 92, 93, 102 to 182 (Sec. 1320), 200, 231, 233, 658, 659		
Crystal Oscillators, Calibrators, Markers	771		
Crystal Ovens	769		
Crystal Prod	723, 872		
Crystal Selector	627		
Crystal Sockets, Mounts	627, 643, 644, 660, 672, 681, 700, 722, 746, 771, 909		
Crystals, Transmitting, Amateur, Citizens Radio, TV, etc.	46, 769 to 771		
Current Transformers	821, 841, 992, 993, 1330		
CUTLER-HAMMER, INC.	1196, 1197		
Cutting Heads, Systems—Recording, Stereo, Mono	199, 222, 223, 231		
Cutting Needles	193, 197, 200, 216		
Cutting Pliers	1235 to 1293 (Sec. 5400)		
D			
DB Meters	813, 833, 849, 885, 887, 908, 909		
DC-AC, AC-DC, DC-DC Power Converters, Inverters	942 to 944, 952, 955, 1001, 1002		
DAGE ELECTRIC COMPANY, INC.	718, 719		
DALE PRODUCTS, INC. (Dalohm)			
Phono & Recorder Motors	204		
Resistors	1084 to 1088		
Datalite Miniature Indicator Lights	926		
DAVEN CO., THE	1198		
DAVIES MOLDING COMPANY, HARRY	772, 773		
DAVIS CO., J. W. (Watterson)	115		
DAYSTROM, INC. (Weston Instr. Div.)	902 to 907		
Decades—Capacitance	362, 363, 569, 826, 827, 832, 835, 843, 844, 862, 881, 889		
Decades—Inductance	362, 1403		
Decades—Resistance	362, 844, 862		
Decals for Electronics, Receivers, etc.	191, 1286		
Delay Lines, Standards, Networks	642, 651		
Demagnetizers, Head	189, 194 to 227		
Demagnetizers, Degaussers, Tape	363, 656		
DERO ELECTRONICS	116		
DESCO MFG. CO.			
Circuitracer	825		
Miniature Tools	1240		
Desk and Cabinet Assemblies—Metal	289, 301, 303, 304, 314 to 317		
Dial Cable, Cords, Belts	1532		
Dial Cord Anti Slip Compound	588		
Dial Cord Clips	783		
Dial, Counter	626		
Dial Drives and Accessories	909		
Dial Drive Cements, Compounds	588		
Dial Drive Springs	783		
Dial Knob Springs	783		
Dial Knobs, Pointers	191, 543, 626, 648, 772 to 778, 805, 909, 935, 1146, 1195, 1243		
Dial Lamps, Bulbs	931, 937, 1424, 1425, 1457, 1460		
Dial Light Assemblies, Jewels, Lens Holders	632, 633, 674, 742, 921 to 928, 932 to 936, 1273		
Dial Light Coloring Lacquers, Kits	588		
Dial Light Installer and Remover Tools	930		
Dial Light Sockets, Brackets	633, 742, 929, 933, 1273		
Dial Locking Devices	643, 648, 681, 743, 778, 789, 796, 804, 805, 807		
Dial Plates	909, 1195, 1207, 1208, 1229, 1232, 1273		
Dial Pulleys	783		
DIALIGHT CORPORATION (Dialco)	921 to 930		
Dials—Instrument, Tuning, Vernier, etc.	191, 626, 642, 643, 648, 772 to 778, 805, 909, 935, 1146, 1195, 1243		
Diathermy Cable	1486, 1490		
Diathermy Tubes	1422 to 1463 (Sec. 5700)		
Dictating Machine Inverter, Accessories	938 to 946		
Dictionary, Electronics Engineering	1013		
Diffaxial Speakers	180		
Diode Mounts, Clips	798, 909, 1018, 1025, 1216		
Diodes—Germanium, Selenium, Silicon Crystal—Computer, General Purpose, etc.	1029, 1109, 1174, 1428, 1433, 1437, 1452, 1463		
Disc Ceramic Capacitors	351, 352, 378, 404, 408 to 410, 412, 434 to 437, 449, 450, 452, 477 to 479, 558, 559		
Disc Recorders	198, 222		
Discriminator Transformers	598		
Discs—Cavity Socket Contact	644		
Discs—Contact	544		
Discs—Recording	193, 197, 216		
Donut Transformers	821, 885		
Door Opener, Garage—Remote Control	657, 1176		
Doors—Metal Cabinet	309, 317		
DOSS ELECTRONIC RESEARCH, INC.	826		
DRAKE ELECTRIC WORKS, INC.	1238, 1239		
DRAKE MANUFACTURING CO.	932, 833		
Drawer Slides	225, 261, 288, 289, 301, 311, 317		
Drill Adapters, Chucks	1253		
Drills, Hand, Power	751, 1238, 1242, 1253, 1287		
Driver Transformers	1294 to 1421 (Sec. 5600)		
Driver Units, Speaker	103, 120, 128, 152, 177, 181, 1367		
Drives for Radio and Phono, Rubber	1286		
Drives—Ratio and Ball Bearing	788, 909		
Drives, Right Angle, Vernier	643, 648, 775, 788		
Drives, Worm	643		
Dulling Spray	589		
DUOTONE COMPANY, INC.	205		
Dust Cap and-Chains for Connectors, etc.	664, 689, 718, 719, 930		
Dust Cover	278		
DYNACO, INC. (Dynakits)	73		
Dykanol Capacitors	430, 440		

GENERAL INDEX (Continued)

	Page
DYNAMIC ELECTRONICS—NEW YORK, INC.	122, 123
Dynamic Microphones	68, 73, 82, 89, 92, 93, 102 to 182 (Sec. 1320), 200, 233, 658, 659
Dynamometer Instrument	879
Dynamotors	952
<i>Dynetic</i> Phono Cartridges, Arm	232

E

Earphones, Earsets	111, 114, 139, 150, 151, 168 to 171, 190, 658, 659, 751, 1235
Cords and Accessories	150, 151, 746, 1083
Cushions	111, 170, 751
Earmolds	151
EASTERN PRECISION RESISTOR CORP.	1092 to 1094
Edgewise Panel Instrument	665, 667, 817, 883, 900, 990, 991
EDITORS & ENGINEERS, LTD. (Books)	1012
<i>Efcon</i> Capacitors	444 to 447
<i>Eico</i> Test Equipment	827 to 829
<i>Eimac</i> Tubes	1430, 1431
EITEL-McCULLOUGH, INC. (<i>Eimac</i> Tubes)	1430, 1431
Elapsed Time Meters	839, 840
ELCO SALES COMPANY	685 to 687
ELECTRIC SOLDERING IRON CO., INC. (<i>Esico</i>)	1244, 1245
Electrical Connecting Devices	662 to 768 (Sec. 2100), 801, 1168, 1231, 1490, 1495, 1509, 1531, 1541
Electrical Extension Cords, Sets	942 to 944, 1012
Electrical Tape	915
ELECTROCRAFT, INC. (Div. G-C Textron, Inc.)	720, 721
ELECTRO-MECHANICAL INSTRUMENT CO. (<i>Emico</i>)	830, 831
ELECTRO PRODUCTS LABORATORIES	956
ELECTRO-VOICE, INC.	117 to 121
Electrolytic Capacitors, Dry	322 to 585 (Sec. 1500)
Electrolytic Substituter	826
ELECTRONIC CHEMICAL CORP.	587
ELECTRONIC FABRICATORS, INC. (<i>Efcon</i>)	444 to 447
ELECTRONIC INSTRUMENT CO., INC. (<i>Eico</i>)	74 to 76
Hi-Fi, Ham Gear, Kits	827 to 829
Test Instruments, Kits	832
ELECTRONIC MEASUREMENTS CORP. (<i>EMC</i>)	757, 758, 827
Electronic Switches	1429
ELECTRONS, INC.	1199
ELECTROSNAP	211
Electrostatic Speakers	See Advance Relays
ELGIN NATIONAL WATCH CO.	365 to 384
<i>El-Menco</i> Capacitors (<i>Arco</i> Electronics, Inc.)	810, 831
<i>Emico</i> Panel and Test Meters	308, 588, 589, 909, 1286
Enamels, Lacquers, Paints, Varnishes	611
Equalizers, All-Channel, Low Band	448 to 459
ERIE RESISTOR CORP.	914
Capacitors, Trimmers	1089 to 1091
Insulators	722
Resistors	1200
Sockets, Connectors	1241-1243
Switches	1235
ERIKSON SPECIALIZED TOOL CO.	626, 794
<i>Ersin</i> Multicore Solder	1244, 1245
Escutcheon Plates, Dial	586
<i>Esico</i> Soldering Irons, Pots	964 to 967
<i>Ever-Quiet</i> (See Chemical Electronic Eng. Inc.)	918, 919
<i>Eveready</i> Batteries, Flashlights	641, 649
Exciter Lamps	741, 942 to 944, 1168
Exciter-Transmitters	1490, 1495, 1509, 1528, 1531, 1541
Extension Cord Sets	683, 732, 741, 742, 758, 759
Extension Jacks	26 to 28, 46 to 51, 62, 703
Extensions, Mobile Antennas	783
Eyelets, Rivets	

F

Fabrication, Sheet Metal	267
Fahnestock and Spring Wire Clips	754, 781, 783, 1247
Fanning Strips	717
FANON ELECTRIC CO. (<i>Fanfare</i>)	77 to 79
Feeder Line Spreader Insulators	634, 682

	Page
Feed-Thru Stand-off Capacitors	634, 635, 644, 780, 914
Feed-Thru Terminals	752, 753, 779, 784, 785, 797, 800, 801, 803, 804, 806, 917
Felt, Feet, Pads	783
Felt Washers for Knobs, etc.	783
FERRANTI ELECTRIC, INC.	1318, 1319
Ferrite Loopsticks, Antenna Rods	596, 598, 659
Ferrules	40
Fibre Insulating Washers	783
Field-Coil Speakers	127
Field Strength Meters	39, 48, 609, 812, 881
Filament Checker—Tube, Series String	59, 825, 851
Filament Chokes	1294 to 1421 (Sec. 5600)
Filament Resistors	1102, 1169
Filament Transformers	593, 594, 1006, 1294 to 1421 (Sec. 5600)
Files	1253
FILM CAPACITORS, INC.	460 to 463
Filter Chokes—Line, R.F., etc.	592 to 595, 611, 627, 775, 957, 1000, 1026, 1129, 1130, 1303, 1400
Filter Chokes, Reactors—Audio	1294 to 1421 (Sec. 5600)
Filter, Null T Network	1331
Filters—Interference, Noise	35, 339, 393, 485, 487, 488, 545, 568, 1083
Appliance	568, 596
Automotive Noise Suppression	338, 339
Band Pass, Low Pass, High Pass	113, 122, 338, 568, 602, 1316, 1345 to 1347, 1400, 1401
Industrial, Heavy Duty	339, 593, 594, 755
Interstage, Line	1347, 1400, 1401
Rumble	122
Screen Room	339
Telemetry	1345, 1400
Television	339
Tone, Telegraph	1401
Wave Traps	43, 91, 568
Finger Stock, Tube	1430
Fire Alarms, Photoelectric	919
<i>Fixtohm</i> Precision Resistors	1079
Fixture Wire, Lamp Cords	724
Flashlights and Lantern Batteries	948 to 951, 958, 961 to 967, 975, 976, 978, 979
Flashlights and Lanterns, Cases	951, 963, 965, 977
<i>Flex-Pak</i> Amplifiers, Accessories, Systems	66, 68
Flexible Couplings, Insulated	627
Flexible Resistors	1078, 1133
Flexible Shafts	627, 682, 743
<i>Fluxvalve</i> Pickup	209
Flyback Transformer and Yoke Testers	598
FM-AM Tuners, Kits	75, 76, 95, 611, 614, 847
FM and TV Antennas	24, 30, 34, 56, 58 to 60, 190
FM Books, Manuals	193, 194, 227, 1008 to 1017
FM Coils	596 to 598
Foot Switches	1203, 1214, 1215
Forceps	1253, 1261
Forms—Coil	603, 645, 648, 672, 775, 786, 787
<i>Footrol</i> Switches	1203
Foundation Chassis for Amplifiers	73, 258, 259, 270, 271, 279 to 283, 298, 318
FREED TRANSFORMER CO., INC.	1320 to 1353
Frequency Changers, AC-AC	952
Frequency Meters, Testers, Standards	655, 771, 812, 838, 840
Friction Tape	915
Fungus Varnish, Lacquer	588
Furniture Polishes, Varnishes, Oils, Kits	588
Fuse Pullers, Extractor Posts	1184, 1219, 1220
Fuse Type Resistors	1070, 1095, 1109, 1142, 1149, 1168
Fused Plugs	1177
<i>Fuse-O-Let</i> Duplex Outlet	59
Fuses	1182 to 1186, 1217, 1218, 1220, 1221, 1228
Aircraft	1218
Caddy	1220
Connectors, Clips, etc.	778, 783, 1183, 1186, 1219, 1220
Fuse Blocks, Mounting Panels	746, 1186, 1218, 1220
Holders	746, 1184, 1185, 1220, 1221
<i>Fusetron</i> Fuses	1182 to 1185
<i>Fuse-Sistors</i> Fuse Resistors	1095
<i>Fuzohm</i> Fuse-Resistors	1070

GENERAL INDEX (Continued)

	Page
G	
G-C ELECTROCRRAFT (See Electrocraft)	
G-C ELECTRONICS MFG. CO. (Div. G-C-Telextron, Inc.)	
Knobs, TV & Radio	774
Resistors, Fusistors, etc.	1095
Galvanometers	774, 887
Garrard Record Players	196
GATES ELECTRONIC CO.	957
Geiger-Mueller Tubes	1422 to 1463 (Sec. 5700)
Genalex Audio Tubes	1235
Genemotors	952
GENERAL CEMENT MFG. CO. (Div. Telextron, Inc.)	
Chemicals, Cements	588
Electronic Hardware	783
Plugs, Jacks, Test Leads	723
Tools, Punches, Wire Strippers	1246, 1247
Taping, Cable Clamps, Dial Cords	1532
GENERAL CONTROL CO.	1202, 1203
GENERAL ELECTRIC CO.	
Capacitors	467
Resistors, Power	1096
Soldering Irons	1248, 1249
Tubes—Receiving, Transmitting, Industrial, Semiconductors	1436 to 1440
GENERAL INSTRUMENT CORP. (Distributor Div.)	
Metallic Rectifiers	1020, 1021
Semiconductors, Rectifiers	1433 to 1435
General Purpose Relays	1030, 1033, 1041, 1050 to 1052, 1056, 1057
General Purpose Switches	757, 1175, 1193, 1196, 1225, 1232
GENERAL TRANSISTOR DISTRIBUTING CORP.	958, 1200
Generators:	
Color Dot Bar, Crosshatch	656, 829, 836, 846, 850, 858, 864, 866, 867, 871, 880, 881, 898
Kits	846
Marker, Adder	858, 868
Pulse	858
Signal	812 to 910 (Sec. 2900)
Sine & Square Wave	829, 837, 850, 858
Sweep	828, 836, 850
Geofomers	867, 1391
Geophysical Transformers	836
Germanium Crystal Diodes	1029, 1109, 1174, 1428, 1433, 1437, 1452, 1463
Germanium Transistors—See Transistors	
GERNSBACK LIBRARY, INC.	1010, 1011
Gibson Girl Tape Splicers	226
Gin Pole Tower Erector	31
GIRARD-HOPKINS	1097
Glasohm Insulated Flexible Resistors	1078
Glass and Porcelain Insulators—Antenna	555
Glass and Plastic Jars for Hardware	909
Glass Capacitors	405 to 407, 456 to 458, 486, 489
Classical Capacitors	498 to 500
Glasslike Capacitors	405 to 407
Globar Resistors	1095, 1168
Glow Modulator Tubes	1423
Glue—Cabinet Repair, Wood	588
GONSET DIVISION, (L. A. Young Spring & Wire Corp.)	
Antennas	29
Communications Equipment	614 to 616
GOTHAM AUDIO SALES CO., INC.	124, 125
Gouges	1252
GRAMER HALLDORSON TRANSFORMER CORP.	1354, 1355
GRAYHILL, INC.	
Binding Posts, Clips, Jacks	724
Switches	1201
GREAT EASTERN MANUFACTURING CO.	1174
GREENLEE TOOL COMPANY	1250, 1251
Greenohm Resistors	1074 to 1078
Grid Caps and Clips, Tube	647, 672, 705, 755, 783, 909, 1018, 1025
Grid Dip Meters	76, 640, 653
Grille Cloth and Screening	115, 138, 140, 141, 145
GROMMES—See Precision Electronics	91

	Page
Grommets, Rubber, Plastic	746, 783
Ground and Lead-in Wire	1492, 1509, 1517, 1541, 1549
Ground and Pipe Clamps	27, 55, 731, 1550
Ground Plane Antennas	25 to 27, 41, 42, 45, 49, 63
Ground Rods	27, 55, 1551
GUARDIAN ELECTRIC MFG. CO.	1036 to 1039
Guns, Pencils, Soldering	1239, 1245, 1255, 1259, 1267 1272, 1274, 1275, 1280 to 1285, 1287
Guy Wire	55, 1549
Guy Wire Rings, Thimbles	55, 1550
Guy Wire Tightener, Turnbuckles, Clamps	55
Gyropoise Turntable	210

H

H-Pads (Printed Circuits) for TV Attenuator Switch	1192
HAKE PRODUCTS, INC.	272
HAMMARLUND MFG. CO., INC.	
Capacitors, Variable	441 to 443
Communication Equipment	617
Hammer, Electrician's	1237
HANDICRAFT TOOLS, INC. (Div. X-Acto)	1252 to 1254
Handles, Catch-Set, Door	246
Handles, Terminal Board	799
Handles, Utility, Ferrules	258, 743, 778, 805, 1273
Handsets	65, 102, 119
Hardware Assortments	909
Hardware, Terminal Board	799
HARDWICK, HINDLE, INC.	1098 to 1101
Haz-Bin Storage Cabinets	242, 243
Headlight	965, 977
Headphones, Headsets	111, 114, 139, 150, 151, 168 to 171, 190, 659, 751, 1235
Binaural, Stereo	114, 151, 168, 171, 1235
Cords	168, 169
Ear Cushions	111, 170, 751
High Fidelity	1235
Kit, TV	111, 171, 1286
Listening Center	81, 89
Outlet Boxes and Controls	169, 171
Transistor Radio	150, 151, 168, 169, 190, 659, 751
Heat Sinks	676, 1018, 1169
Heater Rectifier	768
HEEGER, INC. (1MB)	278, 279
HETHERINGTON, INC.	
Indicator Lights, Aircraft	934
Switches	1205
HEXACON ELECTRIC COMPANY	1255
Hex and Spline Keys, Wrenches	1257
HICKOK ELECTRICAL INSTRUMENT CO.	834 to 837
Hickory (see Superior Cable)	1547, 1548
High Fidelity (See Main Categories, i.e.: Amplifiers, Tuners, Kits, Speakers, Cartridges, etc.)	
High Frequency Speakers and Horns	102 to 182 (Sec. 1320)
High Q Reactors	1327, 1328, 1404
High Q Traps	38
High Voltage and Current Power Supplies	407, 485, 641, 649, 938 to 1007 (Sec. 4000)
High Voltage Probes—TV, etc.	465, 723, 824, 835, 847, 850, 851, 859, 871, 880, 896
High Voltage Shaft Coupler	643
High Voltage Transformers	64, 1382
Hi-Kaps Capacitors	409 to 411
HI-LO TV ANTENNA CORPORATION	30, 641
HOFFMAN ELECTRONICS CORP. (Semiconductor Div.)	1024
Holders, Battery	796
Hookup Wire	1464 to 1551 (Sec. 6000)
Horns, Projectors, Trumpets	102 to 182 (Sec. 1320)
Adapters, Connectors	121, 166, 177, 181
Driver Units	103, 120, 128, 152, 177, 181
Stands, Brackets, Mounting Fixtures	104
Hot Stylus Unit—Disc Recording	200
Housing, Radiation Proof	200
HOYT ELECTRICAL INSTRUMENT WORKS, INC. (Burton Rogers Co.)	820, 821
Hudson Miniature Lamps (See Oxford Components)	837

GENERAL INDEX (Continued)

	Page
HUNTER TOOLS	1256, 1257
HURST MANUFACTURING CO.	1204
<i>Hush</i> —(See Chemical Electronic Eng. Inc.)	586
Hybrid and Repeat Coils	1321, 1412
Hydraulic Punch Driver & Sets	1251
HYTRON (CBS) See CBS Electronics	

I

IDEAL INDUSTRIES, INC.	1258, 1259
Identification Markers, Control, Wire—See Wire Markers	
Idler Pulleys, Accessories	1286
I. F. Transformers	595, 597, 598, 646, 775
Ignition Batteries	948 to 951, 958, 964 to 967 975, 978, 979
Ignition Pliers	1269, 1276, 1293
Ignition Suppressors	746, 1083
Ignitrons (Pool-Cathode Tubes)	1423, 1438, 1439, 1441, 1448, 1449, 1453 to 1455
ILLINOIS TOOL WORKS (Licon Switch Div.)	1212, 1213
ILLUMITRONIC ENGINEERING CO.	
Air Wound Coils	599
Plastics for Electronics	912, 913
Spiral Wrap, Zipper Tubing, Cable Clamps	1533 to 1536
<i>Imlok</i> Extrusions & Connectors, Console Assemblies	265, 266
Indicating Instruments, Meters	812 to 910 (Sec. 2900)
Indicator, Dial	805, 807
Indicator, Line Power	831
Indicators, Neon Light	926, 933, 935, 1273, 1424, 1425
Indicators, Null	849
Indicators, Side	833
Indicators—Temperature, Heat	841
Indicators—Volume Level	813, 833, 849, 885, 887, 908, 909
Indoor Antenna Wire, AC-DC	1517
Indoor TV Antennas	30, 59, 122, 729
Inductances, Encapsulated	654, 1402 to 1404
Inductors and Coils (Also See Coils)	592 to 597, 646, 648, 654
Inductors—Coils, Toroidal	603, 992, 1310, 1332 to 1339, 1390, 1402, 1404
Inductors—Variable, Rotary	595, 600, 601, 636, 637, 1327, 1403
INDUSTRIAL DEVICES, INC.	935
INDUSTRIAL INSTRUMENTS, INC.	844, 845
INDUSTRIAL SAFETY BELT CO.	1262
IN-DUS-TRONIC (Div. H. Boker Co.)	1260, 1261
Ink, Stencil	589
Input Transformers	64, 1294 to 1421 (Sec. 5600)
Inserts, Corrugated Tube Shield	676
Inserts, Plug & Receptacle	673
Inspection Lites, Mirrors	1246, 1247
Installer, Pilot Light	930
Instrument Rectifiers	1019, 1028
Instrument Switches	757, 1207 to 1209, 1232, 1233
Instruments and Meters, Panel	813, 814, 818 to 821, 833, 838, 844, 845, 848, 860, 874 to 887, 890, 900, 901, 908, 909
Insulated Terminals	647, 797, 802
Insulated Tubing for Tool Handles, Switches	1181
Insulating Materials, Sheets	672
Insulating Tubing, Spaghetti	547, 722, 1480, 1481, 1532
Insulating Washers	724, 782
Insulation, Acoustic	225
Insulation and Breakdown Testers	845, 888, 969
Insulators—Steatite, Lucite, Ceramic, Teflon, etc.	634, 635, 644, 648, 754, 780, 797
Antenna	34, 682, 1538, 1550
Bowls, Bushings	655
Feeder Spreader	634, 682
Standoff, Beehive	635, 644, 682, 780
Standoff, Cone Type	635, 644, 780, 914
Standoff, Screw Eye, Open Line	644, 724, 754, 780, 1538, 1550
Strain, Airplane	634, 682
Tru-Panel, Feed-Thru	634, 635, 644, 780, 914
Tubes, Rods, Pillars	780, 914
Insulators for Test and Battery Clips, Flexible	680, 723, 730, 731
Intercom & Interphone Systems	65, 69, 71, 72, 77 to 80, 96 to 99, 661

	Page
Intercom Microphones	102 to 182 (Sec. 1320)
Intercom Speakers	65, 78, 92, 93, 97, 98, 104, 121, 130, 144, 152, 167, 178, 179
Intercom Wire	96 to 99, 1471 to 1474, 1489, 1504 to 1507, 1515, 1527, 1530, 1542, 1551
Interconnecting Cables, Hi-Fi	116, 122, 192, 726 to 728, 741, 742, 761, 1236, 1473, 1502, 1505, 1521
Interference Analyzer	339
Interference Filters	35, 338, 339, 393, 485, 487, 488, 545, 1083, 1528, 1541
INTERNATIONAL ELECTRONICS CORP. (Mullard)	1442, 1443
INTERNATIONAL INSTRUMENTS, INC.	833
INTERNATIONAL RECTIFIER CORP.	
Rectifiers—Selenium, Silicon	1022, 1023
Selenium, Silicon Diodes	1171
INTERNATIONAL REGISTER CO. (Intermatic)	1206
INTERNATIONAL RESISTANCE CO. (IRC)	1102 to 1130
Interstage Filter	1347, 1400, 1401
Inverters—Power, Mobile & Accessories	942 to 945, 955
Ionization Gauge	1430
Ion Trap	595
IRC (See International Resistance Co.)	
Irish Magnetic Recording Tape	214, 215
Iron Testers, Accessories	841
Isolators, Plates, TV	725
Isolation Transformers	78, 602, 998, 1307, 1317, 1350, 1360, 1381, 1389, 1392, 1420
Isophase Speaker	211
Isotap Testing Transformer	871
IT&T (See International Telephone & Telegraph Corp.)	

J

Jack Bar Assembly	600, 636
Jack Covers—Panel	756, 788, 909
Jack Panels and Accessories	675, 756, 762
Jacks and Plugs	43, 150, 169, 171, 192, 228, 629, 631, 647, 648, 658, 662 to 768 (Sec. 2100), 778, 800, 805, 807, 909, 991
Jack and Plugs—Military, JAN, SC, etc.	756 to 758
Jacks, Circuit	763
Jacks, Cord Mounted	721
Jacks, Extension	683, 732, 741, 742, 759
Jacks, Long and Short Frame	675, 721, 756, 763
Jacks, Panel Mounting	756, 763
Jacks, Plugs, Connectors—Phone	43, 150, 171, 192, 228, 629, 631, 647, 648, 662 to 678 (Sec. 2100), 778, 800, 805, 807, 856, 909, 991
Jacks, Printed Wiring	800
Jacks, Shielded	721
Jacks, Splice	683, 734, 741
Jacks, Telephone Switchboard	681, 682, 721, 763
Jacks, Test Prod	699, 778, 800
Jacks, Tip	628 to 630, 672, 677, 679, 683, 723, 733, 734, 736, 739, 760, 761, 800
JACKSON ELECTRICAL INSTRUMENT CO.	842, 843
JAN HARDWARE MFG. CO., INC.	788 to 795
Jars—Glass and Plastic, for Hardware	909
JAVEX ELECTRONICS	725
J-B-T INSTRUMENTS, INC.	
Switches	1207 to 1211
Test Equipment, Vibrating Reed Meters	838 to 841
JEFFERSON, INC., RAY	32, 33
JENNINGS RADIO MFG. CO.	464 to 466
JENSEN MANUFACTURING CO. (Speakers)	126 to 131
JERROLD ELECTRONICS CORP.	34 to 40
Jewel Lights, Assemblies, Lens Caps	632, 633, 674, 742 921 to 928, 932 to 936, 1273
Jewelers' Pliers	1241, 1261, 1264
Jewels, Lenses, Pilot Light	742, 933
JOHNSON CO., E. F.	
Coils, Inductors, RF Contactors	600, 601
Communications Equipment, Components	618 to 619 936
Pilot Lights	700 to 717
JONES, HOWARD B. (Div. Cinch Mfg. Co.)	716, 723, 741
Jumper Leads, Cable, Cords	716, 723, 741

GENERAL INDEX (Continued)

	Page
K	
KEDMAN COMPANY	78, 1266
Kenotrons (High Vacuum Rectifier Tubes)	1422 to 1463 (Sec. 5700)
Keying Relays	638, 1040, 1051
Keys and Practice Sets—Telegraph	638, 751
KEYSTONE ELECTRONICS CORP.	796
Kilovoltmeters	968
Kinescopes (TV Picture Tubes)	832, 1427, 1440, 1446, 1447, 1451, 1452, 1457, 1460
KLEIN & SONS, MATHIAS	1263 to 1265
Klystrons (Tubes)	1420, 1431, 1438, 1439, 1453 to 1455, 1462
Knives, Knife Tools, Accessories, Sets	1243, 1252, 1253, 1261, 1265
Knobs & Pointers—Dial, Instrument, etc.	191, 626, 642, 643, 648, 772 to 776, 778, 805, 807, 909, 935, 1146, 1195, 1273
Braille	776
Clock	774
Collet Fitting	626
Felt Washers	783
Knobs for Auto Radios	774
Knobs, Clutch	788
Set Screws and Springs	783
Spinner	626, 772, 775, 776
Knockout Punches and Cutters	788, 1050, 1051, 1286
Koolohm Resistors	1157, 1158
KRAEUTER & COMPANY, INC.	1268 to 1271
KRYLON, INC.	589
KTV TOWER & COMMUNICATION EQUIP.	31
KURMAN ELECTRIC CO.	1040 to 1043
KWIKHEAT MFG. CO.	1267
Kwik-Kall Intercoms	80
L	
L-Pads (Attenuators)	38, 39, 116, 611, 877, 1072, 1112, 1198, 1234
LAB-TRONICS, INC.	726 to 729
Laboratory and Industrial Test Equipment	812 to 910 (Sec. 2900)
Lacing Cord, Tape, Cable Ties	684, 745, 1476, 1532, 1534
Lacquers, Enamels, Paints, Varnishes	308, 588, 909, 1286
Ladders—Magnesium	55
Lamp Cords and Fixture Wire	1490, 1516, 1549
Lamps—Dial and Panel, Flashlight, Toy, Appliance, Neon	931, 937, 1424, 1425, 1457, 1460
Lamps—Exciter	918, 919
Lapel, Lavalier Microphones	See Microphones, Third Hand
Latching Impulse Relays	1032, 1053 to 1055, 1058
Leader, Splicing, Timing, Tape	189, 194, 195, 207, 215, 226 to 228
Lead-in and Ground Wire	1492, 1509, 1517, 1541, 1549
Lead Sulhde Cells	568
Leads, Connecting	855
Leak Amplifiers	196
Leakage Testers	845, 888, 906
LECTROHM, INC.	1131 to 1134
Lens Caps—See Jewel Lights	
LERCO ELECTRONICS, INC.	797 to 799
Lever Action Switches	757, 1193, 1199, 1200, 1202, 1207, 1222
LICON SWITCH & CONTROL (Div. Ill. Tool Works)	1212, 1213
Light Fluorescent, Battery-AC	1002
Light, Service	1522
Light Sources, Photo Electric	918, 920
Lightning Arresters	1550
Lights, Pilot, Panel, Assemblies	632, 633, 674, 742, 921 to 928, 930 to 936, 1273
Limit Switches	1203, 1212
LINE ELECTRIC	1044 to 1046
Lines, Delay	642, 651
Line Separator, Clamp-On Measuring	895
Line Voltage Boosters	1307, 1350, 1374
Line Voltage Power Testers	875
Line Voltage Regulators—Plug-in	1070

	Page
Line Voltage Regulator Transformers & Controls	31, 484, 974, 980, 981, 985 to 987, 994, 1047, 1143 to 1149, 1223, 1381, 1420
LINEMASTER SWITCH CORP.	1214, 1215
Link Coils, Inductors	600, 636
Jack Bars and Assemblies	600, 636
Plug in Links	600, 636
LITTELFUSE, INC.	1216 to 1221
LITTON INDUSTRIES (Usecor)	803 to 807
Litz Wire	1516
LMB (Heeger, Inc.)	278, 279
Lock-Grip Pliers	1254
Lock Washers	755, 782
Locks—Dial, Shaft	643, 648, 681, 743, 778, 789, 796, 804, 805, 807, 909
LOGE SOUND ENGINEERS, J. M.	80
Loop Antennas, Sticks, Rods, etc.	596, 598, 659
Leakness Control	1064, 1112
Low Pass, High Pass Filters	113, 122, 338, 568, 602, 1316, 1345 to 1347, 1400, 1401
Low Temperature Cabinets	268
LOWELL MANUFACTURING CO.	132 to 137
Lubricants	188 to 190
Applicators	1168
Lugs—Terminal, Soldering, Tinned	680, 744, 749, 752, 753, 755, 781, 783, 784
<i>Lynn</i> Solderless Terminals	802

M

<i>Magic Eye</i> Assemblies and Accessories	672
Magnesium Copper Sulhde Rectifiers	960
Magnesium Ladders	55
Magnet Wire	1493, 1517, 1524
Magnetic Amplifiers	988, 989, 1312, 1340 to 1342, 1410, 1469
Magnetic Metal Shields	642, 652, 790, 791
Magnetrons (Tubes)	1423
MALLORY, P. R. & CO., INC.	
Capacitors	468 to 479
Controls, Rheostats, Resistors	1134 to 1139
Jacks & Plugs	732
Rectifier, Silicon	1025
Switches	1222
Vibrators, Power Supplies, Batteries	959 to 963
Manuals, Service and Instruction	227, 1008, 1009, 1011, 1012, 1014, 1016
Marine Speakers, Horns	178
Marker Generators	858, 868
Marker Strips	749, 750
Markers, Wire, Strips	1501
Masks—IV	909
Mast Clamps, Straps, Bases, Couplers, Springs	23 to 28, 31, 34, 41, 43, 46, 47, 54, 55, 61, 63, 608
MASTER MOBILE MOUNTS, INC.	46 to 49
Masts and Towers, Antenna	24 to 28, 45 to 47, 51, 55, 61 to 63
McGRAW-EDISON CO. (Bussmann Mfg. Div.)	1182 to 1186
Measuring Test Instruments	812 to 910 (Sec. 2900)
MELLIOTONE, INC.	138
Mercury "A" Batteries	877, 948, 961, 964, 966, 967
MERIT COIL & TRANSFORMER CORP.	1356 to 1363
Metal Housings, Cabinets, Racks, Panels	79, 242 to 321 (Sec. 1400)
Metal Primer	589
Meter Carrying Cases	851
Meter Cases, Metal and Bakelite	73, 258, 259, 270, 271, 279 to 283, 318, 909
Metered Transformers	875
Meters and Indicating Instruments	812 to 910 (Sec. 2900)
Clamp on	895
Elapsed Time	839, 840
Field Strength	39, 48, 609, 812, 881
Frequency	655, 812, 838
Grid Dip	76, 640, 653
Interchangeable	860
Kilovoltmeters	968
Miniature	813, 833, 900

GENERAL INDEX (Continued)

	Page
Panel	813, 814, 818 to 821, 830, 831, 833, 838, 848, 849, 874, 875, 883 to 887, 890, 901, 908, 909
Pocket	851, 891, 898
Portable	820, 821
Recording Level, Decibel, Noise, VU	813, 833, 849, 885, 887, 908, 909
Ruggedized	833
"S" Meter	813
Vibrating Reed	812, 838
Mica Capacitors	332, 356 to 361, 365, 368, 369, 371, 379, 431, 433, 511, 513 to 517
Mica Capacitors—Silvered	361, 366, 367, 370, 371, 376, 379 to 382, 432, 455, 511, 512, 517, 566, 567
Mica-Filled Coil Forms	603
Microammeters	810 to 912 (Sec. 2900)
Micro Mho Meter Tube Checker	870
Microphones—Carbon, Cardioid, Ceramic, Condenser, Crystal	
Dynamic, Velocity Lapel, Hand, etc.	68, 73, 82, 89, 92, 93, 102 to 182 (Sec. 1320), 200, 231, 233, 658
Adapters, Swivels, Fittings	107, 1529
Cable and Wire	1471, 1488, 1495, 1502, 1521, 1522, 1525, 1542, 1547, 1549
Cartridge Replacements	102, 106, 107, 109, 161, 174 to 176
Coiled Cord Sets	65, 102, 161
Communications, Mobile	108, 109, 118, 119, 159 to 161, 233
Connectors	68, 192, 228, 672, 683, 720, 726, 727, 742, 759 to 761, 930
Differential, Noise Cancelling	119, 173, 175
High Fidelity	102, 108, 109, 117 to 119, 124, 125, 155 to 158, 174, 200, 231, 233
Miniature	160
Mixers	66, 70, 704, 759
Stands, Booms, and Attachments	65, 82, 89, 92, 93, 109, 117, 155, 158, 159, 161, 175, 176
Stereo	125
Switches	161, 1233
Third Hand, Chest Plate, Lavalier, etc.	102, 107, 117 to 119, 158, 174, 176, 658
Transformers	158, 1294 to 1421 (Sec. 5600)
Transistor Amplifier Type	117
Microscope, Needle Checking	188, 205, 216
MICROTRAN CO.	
Hi-Fi Accessories	206
Transformers	1364 to 1375
MICROWAVE COMPONENTS, INC.	660
Microwave, Components, Equipment & Accessories	660
MIDDLETOWN MFG. CO.	280 to 283
Midget Relays	1031, 1032, 1036, 1040, 1042, 1043, 1048, 1049, 1054 to 1058
MILLEN MFG. CO., INC., JAMES	640 to 655
MILLER COMPANY, J. W. (Coils)	592 to 597
MILLER COMPANY, SANFORD (Rectifiers)	1026, 1027
Milliammeters, Millivoltmeters	812 to 910 (Sec. 2900)
MILWAUKEE RESISTOR CO.	1140 to 1142
Miniboxes, Metal Utility Box	253
Mini-Mix Audio Mixer	704, 759
MINNESOTA MINING & MFG. CO.	207
Mobile & Police Transmitters	614
MODEL ENGINEERING & MFG. INC. (Tru-Ohm Div.)	1160 to 1163
Modulators	76, 871, 1430
Modules—Circuit, Plug-in, Packaged	350, 414, 415
Moisture Tester	824
Molded Plastic Tubular Capacitors	322 to 585 (Sec. 1500)
Momentary Contact Switches	1178, 1181, 1187 to 1189, 1196, 1201, 1205, 1214, 1215, 1225, 1229, 1230, 1232, 1233
Monitor, Music	82, 89
Monitor, Video	609
Monoset Headset	111, 114, 139, 150, 151, 168 to 171, 190, 658, 659, 751, 1235
Morse Code Learner's Phono Records, Devices	363, 638, 751
MOSLEY ELECTRONICS, INC.	41 to 44
Motor & Blower Assemblies	252, 1226, 1227
Motor-Starting Capacitors	438, 439, 476, 477, 509, 510
Motor-Starting Relays	1030, 1033, 1038, 1050, 1052, 1055

	Page
Motors—General Purpose	184, 186, 187, 201, 952
Motors, Synchronous, Timing	186, 204, 992, 1204
Motors, Turntables for Phonos & Recorders	184 to 187, 204, 210, 222
Mounts, Antenna, Mobile—See Antenna Accessories	
Mounts, Silicon Rectifier	1216
Mounts, Thermistor	660
Mounting Boards, Record Changer, Turntable	196, 237, 238, 240
Mounting Standoffs	798
MUELLER ELECTRIC COMPANY	730, 731
Mullard Tubes (International Electronics Corp.)	1442, 1443
Multicore Solder	1235
Multimeters, Multitestors	812 to 910 (Sec. 2900)
Multiple Conductor Cable	1464 to 1551 (Sec. 6000)
Multiple Leaf Relays	1052
Mu-Metal Shields	642, 652, 790, 791
MURDOCK CORPORATION, THE	139
Musicaster Speaker Systems	121
Music Intercom.	79
Music Monitor	82, 89
Musical Radio-Intercoms.	79, 99

N

Name Plates, Strips	762
NATIONAL CARBON COMPANY (Eveready)	964 to 967
NATIONAL ELECTRONICS, INC.	1441
NATIONAL RADIO COMPANY, INC.	775
NATIONAL WIRE & CABLE CORP.	1537 to 1539
Needle Brush	225
Needle Nose Pliers	1236, 1237, 1241, 1254, 1256, 1260, 1263, 1264, 1268 to 1270, 1276, 1293
Needle Replacement Tools	216
Needle Tips and Chucks	736
Needles—Cutting, Recording	193, 197, 200, 216
Needles—Phono Pickup, Playback	193, 197, 201 to 203, 205, 216, 217, 239
Neon Indicator Lights	921, 922, 926, 933, 935, 937, 1273, 1424, 1425
Network, Null T Filler	1331
Network, Phase Shift	642
Networks—Crossover—for Speakers	113, 116, 142, 181, 658
Neumann (Gotham Audio Sales)	124, 125
Neutralizing, Aligning Tools	755, 1168, 1242, 1247, 1256, 1279
Neutralizing Capacitors	375, 384, 442, 596, 645
NEWCASTLE FABRICS CORP. (Acoustone)	140
NEWCOMB AUDIO PRODUCTS CO.	81 to 89, 208
NEW HAVEN CLOCK & WATCH CO. (Condenser Products)	405 to 407
Nippers, Cutting	1241, 1268
Nobleloy Metallic Film Resistors	1081
Noise Filters, Silencers	35, 338, 339, 393, 485, 487, 488, 545, 568, 1083
Noise Level Indicators	813, 833, 849, 885, 887, 908, 909
Noise Suppressors—Auto Ignition	615
"No-Noise" Chemical Cleaners	587
Non-Slip Compound	588
Norelco (North American Philips)	212, 213
Norseman Tools	1242, 1243
NORTH AMERICAN PHILIPS CO., INC. (Norelco)	
Speakers	212
Tape Recorders	213
NORTH HILLS ELECTRIC CO., INC.	602, 603
Null Indicators, Detectors	849
Null T Filters	1331
Nut Drivers, Wrenches	1240, 1242, 1256, 1278, 1279, 1291, 1292
Nuts, Bolts, Screws, Washers	754, 755, 782, 783, 909

O

OHMITE MFG. CO.	
Capacitors, Tantalum	484
Relays, R.F. Chokes	1047
Rheostats, Potentiometers, Resistors	1143 to 1149
Switches, Power Tap	1223
Variable Transformers	974

GENERAL INDEX (Continued)

	Page
Ohmmeters and Megohmmeters	816, 824, 845, 876 to 879 890, 898
Ohm's Law Calculator	1149
Openline, Transmission Line	589
Open-Wire Spacers, Splicers	634
ORR INDUSTRIES, INC. (Irish Tape)	214, 215
ORYX CO.	1272
Oscillator Coils	596, 598
Oscillators—Audio and Code Practice	615, 751, 843
Oscillators—Signal Generators	812 to 910 (Sec. 2900)
Oscillators—Variable Frequency	616, 641
Oscillographs, Oscilloscopes	640, 650, 827, 835, 837, 843, 846, 850, 861, 869, 880, 897, 910
Accessories, Amplifiers, Calibrators	650, 880
Oscilloscope Kits	846
Outlets, Electrical	661 to 669, 673, 684, 688, 689, 692, 694, 703, 704, 706 to 714, 718, 719, 725, 745, 746, 801, 990, 991, 1231
Output Transformers	64, 73, 206, 1294 to 1421 (Sec. 5600), 968
Ovens, Crystal	769
Oven Temperature Testers	841
OXFORD COMPONENTS, INC. (Subs. Oxford Elec. Co.)	
Miniature Lamps (Hudson)	937
Speakers	142 to 145

P

P.A. Controls	1060 to 1169 (Sec. 4700)
P.A. Systems, Units	64 to 101 (Sec. 1300), 220 to 224
P.A. Wire and Cable	1471 to 1479, 1489, 1491, 1504, 1505, 1507, 1528, 1547, 1548
PACE ELECTRICAL INSTRUMENT CO., INC.	848
Packaged Electronic Circuits	561 to 565
PACO ELECTRONICS CO., INC.	846, 847
Padding Capacitors	374, 375, 413, 441, 442, 454, 459, 596, 618 to 620
Pad, L and T	1072, 1112, 1135
Paging and Talk-Back Speakers	78, 92, 93, 97, 98, 104, 121, 130, 144, 152, 167, 178, 179
Paints, Enamels, Lacquers, Varnishes	299, 308, 588, 909, 1286
Panel Bearings, Assemblies	627, 743, 781, 794
Panel Chassis	255, 274, 277, 319
Panel Dials	191, 626, 643, 648, 772 to 775, 778, 805, 807, 909, 935
Panel Lamps, Indicators	632, 633, 674, 742, 921 to 928, 932 to 936, 1273
Panel Marking Transfers	1368 to 1370
Panel Meters, Instruments	812 to 910 (Sec. 2900), 1368 to 1370
Panel Supports, Metal Rack	253, 305, 317, 778
Panels, Aluminum	254, 270, 280 to 283, 296, 320, 321
Panels, Desk, Door, Grille, End, Sides	255, 263, 297, 301, 305, 310, 311, 321
Panels, Jack	756, 762
Panels—Metal Rack	255, 270, 275, 277, 280 to 283, 296, 297, 305, 311, 321, 762
Panels, Meter	270, 311, 397
Panels, Speaker	321
Paper Capacitors	322 to 585 (Sec. 1500), 910, 1097
Parabolic Antennas	45, 58
Paraflex Speakers	148, 149
PARKWAY SPECIALTIES COMPANY	141
PAR-METAL PRODUCTS CORP.	284 to 305
Patch Boards	767
Patch Cords	674, 683, 725 to 728, 740, 762, 854
<i>Peco</i> (Pomona Electronics Co.)	263
Pedestals for Console Assembly	301, 302, 304, 310
PEERLESS ELECTRICAL PRODUCTS (Div. Altec Lansing)	1376, 1377
Pegboards	275
Pencils, Soldering	See Soldering Irons
Penetrating Oil, Spray	588, 589
PENTA LABORATORIES, INC.	1444
PERMACEL	915
PERMA-POWER COMPANY	656, 657
Permeability Toned Ceramic Forms	645

	Page
Permanent Magnet Speakers	102 to 182 (Sec. 1320)
PETERSEN RADIO CO., INC.	770, 771
Phanotrons (Rectifier Tubes)	1422 to 1463 (Sec. 5700)
PHAOSTRON INSTRUMENT & ELECTRONIC COMPANY	849
Phase Shift Networks, Units	642
Phasitrons (Tubes)	1422 to 1463 (Sec. 5700)
Phillips Screw Drivers	1290, 1292
PHILMORE MFG. CO., INC.	658, 659
Phone Headsets	111, 114, 139, 150, 151, 168 to 171, 190, 658, 659, 751
Phone Plugs, Connectors, Jacks	43, 150, 169, 170, 192, 228, 629, 631, 647, 648, 658, 662 to 768 (Sec. 2100), 778, 800, 805, 807, 856, 909, 991
Phone System	97, 98
Phone Tips, Jacks	628 to 630, 672, 677, 679, 683, 723, 733, 734, 736, 739, 800
Phono Drawer Assemblies, Metal	191
Phono Plugs & Jacks, Mono, Stereo	228, 683, 741, 742, 758 to 761, 1169
Phonographs, Record Players—Mono, Stereo	69, 81 to 83, 87 to 89, 94, 196, 222, 236, 237, 240
Arms, Phono, Transcription	95, 102, 211, 220, 221, 230, 232
Cabinets, Cases, Bases	240, 290
Cartridges, Stereo, Mono	73, 82, 102, 109, 154, 184 to 240 (Sec. 1340), 658
Cushion, Mats	188, 205, 225
Drives, Idler Wheels—See Drives	
Needles—Playback	193, 197, 201 to 203, 205, 216, 217, 232, 239
Phono Plugs, Jacks	228, 683, 741, 742, 758 to 761, 1169
Phono Wire—Shielded	82, 192, 211, 232, 761, 1492, 1496, 1527, 1551
Pickups—(See Cartridges above)	
Record Changers, Mono, Stereo	123, 196, 225, 236, 238, 240
Spindle 45 RPM—Adapters	188, 205, 216, 225, 238
Springs and Set Screws—Pickup	1423
Turntable Mounting Springs	783
Turntables, Motors, Assemblies, Mono, Stereo	69, 81 to 83, 87 to 89, 95, 184 to 187, 198, 204, 210, 220 to 222, 224, 236, 237, 239
Photo Cells, Photo Conductors	916, 917, 1022, 1505
Photo Electric Relays	918, 920, 1040, 1041, 1059
Photo Electric Units, Alarms, Controls	918 to 920, 1059
Photo Multiplier Shields	642
Photoflash Battery Tester	823, 824
Photoflash Capacitors	333, 340, 423, 502, 536, 546
Photoflash Power Transformers	1307, 1360, 1381, 1420
Photoflash Relays	1053
Photoflash Tubes	1443
Phototubes	1422 to 1463 (Sec. 5700)
PIC AUTOMATION (Div. General Controls Co.)	1224
<i>Pick-a-Shaft</i> Controls	1070
PICKERING & CO., INC.	209 to 211
Pickup Coil, Telephone	151, 190, 206
Pickup Tool	1247
Pickups, Cartridges—Phono & Transcription	73, 82, 102, 109, 154, 184 to 240 (Sec. 1340), 658
Pillow Speakers	139, 168, 171, 780
Pilot Lamps, Bulbs	931, 937, 1424, 1425, 1457, 1460
Pilot Lights and Assemblies	632, 633, 674, 742, 921 to 928, 932, 933, 935, 936, 1273
Pilot Light Shield	632, 753
Pin Straightener Tools for Tubes	1168, 1246
Pins, Taper	804
Pipe and Ground Clamps	27, 55, 731, 1550
PLANET SALES CORP.	480 to 483
PLASTIC CAPACITORS, INC.	485 to 489
Plastic Cement	588, 1058
Plastic, Nylon Cable Clamps	664, 684, 705, 717, 745, 749, 781, 783, 1532, 1536
Plastic Electrical Tape	1210, 1225
Plastic Jars & Boxes for Hardware	909
Plastic Molded, Paper Tubular Capacitors	322 to 585 (Sec. 1500)

GENERAL INDEX (Continued)

	Page
Plastic Tubing	911, 912, 1470
PLASTOID CORP.	1542 to 1546
Plate Transformers	169, 1294 to 1421 (Sec. 5600)
Plates, Isolator, TV	725
Plates, Wall	725
Plier Safety Grips	1237, 1246, 1265, 1276, 1277
Pliers, Plier Wrenches	578, 745, 1236, 1237, 1241, 1254, 1256, 1260, 1261, 1263, 1264, 1268 to 1270, 1293
Pliotrons (High Vacuum Tubes)	1422 to 1463. (Sec. 5700)
Plug Caps and Shells	702
Plug-in Coils, Inductors	600, 751
Plug-in Enclosures, Housings	646, 831
Plug-in Resistors—Tube Type	1070, 1424, 1425
Plug-in Transformers	68, 89, 1308, 1364 to 1366, 1368 to 1370, 1373, 1396, 1411
Plug-in, Twist-Prong Capacitors	322 to 585 (Sec. 1500)
Plugs and Jacks	43, 150, 171, 192, 228, 662 to 768 (Sec. 2100) 800, 805, 807, 856, 909
Plugs, Banana, Jacks	662 to 768 (Sec. 2100) 805, 807, 856, 991
Plugs, Battery	698, 704, 746
Plugs, Cord, Cable, Coax, Etc.	662 to 768 (Sec. 2100), 909
Plugs, Fused	1171
Plugs, MIL Type	683, 756 to 758
Plugs, Miniature, Subminiature	693 to 695, 720, 727, 762
Plugs, Phone	43, 150, 169, 171, 192, 221, 629, 647, 648, 658, 662 to 768 (Sec. 2100) 800, 805, 807, 856, 909
Plugs, Receptacles, Sockets	123, 662 to 768 (Sec. 2100), 801, 990, 991
Plugs, Snap Button	24, 704, 754, 783, 811
Plugs, Ventilating Hole	705
Plugs, 110-250, Volt	706 to 714
Plunger Switches	1175, 1203, 1212
Pocket Meters, Testers	851, 875, 891, 898
<i>Pocketscopes</i>	910
Police & Mobile Antennas	See Antennas
Police & Mobile Receivers, Xmitters & Equipment	614, 615, 617, 639
Polystyrene Cement and Coil Dope	588
Polystyrene Rods, Tubing, Sheets	911
POMONA ELECTRONICS CO. (Peco)	852 to 856
Posts—Binding	629, 648, 680, 682, 723, 724, 738, 778, 804, 991
Post Socket Turrets	766, 767
Potentiometers, Rheostats	824, 974, 1060 to 1169 (Sec. 4700)
Potentiometers—Wire Wound Precision	1069, 1073, 1094, 1119, 1121, 1136, 1150, 1151
Pots, Electric Solder, Accessories	1282, 1283
POTTER & BRUMFIELD, INC.	1048 to 1055
Pouches, Holders, Belts, Tool	1261, 1262, 1265, 1271
Power Conversion Equipment	942 to 944, 952, 955, 1001, 1002
Power Cords for Radios, Lamps, etc.	1490
Power Drills, Saws	1287
Power-Lab	859
Power Meters, Instruments	See Test Equipment
Power Plugs, Connectors, Receptacles	662 to 768 (Sec. 2100)
Power Rectifiers	1018, 1020, 1022, 1027, 1238, 1244, 1245
Power Relays	1030, 1033, 1036, 1038, 1041, 1050 to 1053
Power Resistors	1060 to 1169 (Sec. 4700)
Power Rheostats	1071, 1144, 1145, 1163
Power Supplies, Industrial, H.V.	407, 463, 485, 641, 649, 657, 947, 955, 956, 960, 968, 969, 981 to 984, 992 to 998, 1001 to 1006
Power Supplies, Packs, Kits	65, 73, 79, 99, 277, 485, 657, 660, 829, 858, 938 to 1007 (Sec. 4000), 1259
Power Supplies—Regulated	642, 947, 984 to 987, 1001
Power Supplies—Rotary	952
Power Switches	191, 1178, 1189, 1194, 1196, 1197, 1203, 1213 to 1215, 1225, 1230 to 1232
Power Transformers	64, 1294 to 1421 (Sec. 5600)
<i>Powercon Power Supplies</i>	955
<i>Powerpage Soundcaster, Portable</i>	179
<i>Powerstat Variable Transformers</i>	985 to 987
Pre-amplifiers, Boosters—for Amplifiers	66, 67, 70, 73 to 75, 81 to 88, 91 to 95, 100, 117, 123, 609 to 613, 829, 832, 847, 859, 919, 1341

	Page
Pre-amplifiers, Boosters—for TV	34 to 36, 609 to 613
Pre-amplifiers for Pickups, Cartridges	64 to 101 (Sec. 1300)
PRECISE DEVELOPMENT CORP.	High Fidelity Tuners, Amplifiers, Kits 90 Test Equipment, Kits 857 to 862
PRECISE MEASUREMENTS CO.	968, 969
PRECISION APPARATUS CO., INC.	850, 851
PRECISION ELECTRONICS, INC. (Grommes Div.)	91
Precision Resistors	1060 to 1169 (Sec. 4700), 1198
<i>Precistors</i>	1127, 1128
PREMAX PRODUCTS (Div. Chisholm-Ryder Co., Inc.)	26, 27
PREMIER METAL PRODUCTS CO. (Prem-O-Rack)	306 to 321
PRENTICE-HALL, INC.	1013
Press Mount Teflon Terminals	785, 797, 800, 801
Pressure Gauges—Phono Styli	188, 189, 197 to 199, 225
PRESTO	See Bogen-Presto
Primer Metal	589
Printed Circuits (See main category, i.e.: Capacitors, Printed Circuits; or Coils, Printed Circuits; Connectors, Printed Circuit, etc.)	765
Printed Card Receptacles	723, 826, 827, 847, 872, 880
Probes—R.F.	465, 723, 826, 827, 835, 847, 850, 851, 859, 871, 872, 880, 896
Probes—TV, High-Voltage, VTVM	723, 872
Prod—Crystal	1224
PRODUCTION INSTRUMENTS (PIC) (Div. Gen. Controls)	82, 92 to 94, 102 to 182 (Sec. 1320), 190, 196, 212, 239, 659
Projectors, Horns, Trumpets	945, 946, 1095
Protectors, Electronic Tube	1257
Puller, Hot Tube	407, 488
Pulse-Forming Networks	858
Pulse Generators, Markers	602, 958, 1308, 1330, 1389, 1410
Pulse Transformers	1430
Pump, Vacuum, Oil—Diffusion	1246, 1250 to 1252, 1286
Punches, Dies—Chassis, Panel, Socket	720, 757, 934, 1178, 1184, 1189, 1199, 1201, 1205, 1225, 1229 to 1233
Push and Push-Button Switches	772
Push Buttons	1464 to 1551 (Sec. 6000)
Pushback, Hookup Wire	490 to 501
PYRAMID ELECTRIC COMPANY	816
PYRAMID INSTRUMENT CORP. (Amprobe)	841
Pyrometers	146, 147

Q

QUAM-NICHOLS COMPANY	146, 147
QUIETROLE COMPANY	590

R

Racks—Relay, Cabinet	79, 242 to 321 (Sec. 1400)
Racks, Storage	226, 242, 243, 783
RADIART CORP.	Antennas and Rotors 50 to 53 Vibrators, Converters 970 to 973
Radiation Counter Tubes	1422 to 1463 (Sec. 5700)
<i>Radio Amateur Handbook (ARRL)</i>	1008
RADIO CORP. OF AMERICA (Electron Tube Div.)	Batteries 978, 979 Technical Literature, Tube Manuals 1014, 1015 Test and Measuring Equipment 863 to 872 Transistors, Diodes 1172, 1173 Tubes, Entertainment, TV, Special Purpose 1445 to 1449
<i>Radio Handbook (Editors & Engineers, Ltd.)</i>	1012
RADIO RECEPTOR CO.—See General Inst. Corp	
Radios, Table, Car, Truck	604, 606, 607
RAY-O-VAC COMPANY	975 to 977
RAYTHEON MFG. CO.	Knobs, Mechanical Components 776 to 778 Tubes, Semiconductors 1450 to 1455 Voltage Regulators 980
R. C. L. MFG. CO.	1152
Reactors—Audio, Filter	1294 to 1421 (Sec. 5600)
Readout Cells, Silicon	1024
Reamers, Routers	1242, 1252, 1551
Receivers—AM, FM, etc. (Also see Tuners, AM-FM)	81, 84, 88, 89, 611, 659

GENERAL INDEX (Continued)

	Page		Page
Receivers—Communication	76, 614 to 617, 639, 661	Regulators, Line Voltage	484, 656, 981 to 983, 985 to 989, 994 to 998, 1047, 1143 to 1149, 1223, 1381
Receiving Kit—Transistor	76, 658	Rejuvenators—TV Picture Tube	116, 656, 974, 1168, 1374
Receiving Kits, Chassis—AM, FM	101, 751	REK-O-KUT CO., INC.	
Receiving Kits—Chassis—TV	101	Disc Recording Equipment, Record Players	220 to 224
Receiving Tubes	154, 1422 to 1463 (Sec. 5700)	Speakers & Systems	148, 149
Receptacles, Printed Card	765	Relay Racks, Panels, Cabinets, Doors	79, 242 to 321 (Sec. 1400)
Receptacle Shells	673	Relays, AC, DC,	484, 974, 1002, 1030 to 1059 (Sec. 4500), 1143 to 1149, 1223, 1457, 1460
Receptacles, Sockets, Plugs	43, 662 to 768 (Sec. 2100), 801, 990, 991, 1281	400 Cycle	1043, 1053
Record Changers, Attachments—Mono, Stereo	123, 196, 225, 236, 238, 240	Aircraft, Missile	1031, 1042, 1043, 1049
Adapters, 45 rpm.	188, 216, 225, 238	Antenna Changeover for Transmitters	1033, 1041, 1054
Bases, Cases	240, 290	Appliance	1041, 1047, 1050
Covers	188, 225	Circuit and Industrial Control	1030 to 1032, 1036, 1038, 1041 to 1043, 1050, 1051
Mounting Boards	196, 237, 238, 240, 1548	Coaxial	465, 1031
Record Cleaners, Preservers, Handlers	188, 205, 216, 225	Coils, Assemblies, Parts, Connectors, Housings	764, 1037, 1038, 1051 to 1053
Record Disc Covers	188, 205, 225	Computer, Data Processing	1042, 1043, 1048, 1049
Record Players, Phonographs, Mono, Stereo	69, 81 to 83, 87 to 89, 94, 196, 222, 236, 237, 240	Dust Enclosures, Covers, Cases	1030, 1032, 1036, 1040, 1041, 1044, 1045, 1050, 1051, 1053
Record Storage Cabinets, Racks	225	Electronically Operated	918, 1042
Recording and Playback Equipment	184 to 240 (Sec. 1340)	General Purpose	1030, 1033, 1044 to 1047 1050 to 1052, 1056, 1057
Bases, Turntable	221, 237	Hermetically Sealed	1031, 1034 to 1036, 1043, 1049, 1050, 1055
Chip-Chaser	193	High Frequency and R.F.	1033, 1048, 1054
Disc Recorders	198, 222	Indicating	1045
Discs—Recording	193, 197, 216	Keying	638, 1051
Echoraser	194	Latching, Impulse	43, 1032, 1045, 1053, 1054, 1058
Head Demagnetizer	189, 194, 227	Meter	885
Heads, Tape & Wire	229, 232, 233, 235	Midget, Miniature, Subminiature	1031, 1032, 1036, 1040, 1042, 1043, 1045, 1048, 1049, 1054 to 1058
Hot Stylus Unit	200	Missile	1057
Insulation, Acoustic	191, 225	Mobile Equipment	1051
Labels for Disc and Tape Reels	194, 207, 214, 226, 227	Motor-Starting and Control	1030, 1033, 1038, 1041, 1050, 1052, 1055
Lathes, Leadscrews	223	Multiple Leaf	1046, 1052
Leader, Splicing, Timing, Alignment Tape	189, 194, 195, 207, 214, 226, 227	Overload	1054
Levels, Phono & Kits	189, 225	Photo Electric, Sensitive	918, 920, 1040, 1041, 1059
Lift Tone Arm	188	Photoflash	1053
Lubricants, Cleaners	188, 189, 190, 194, 225	Plate Circuit	1030, 1036, 1040, 1041, 1044, 1047, 1049, 1056
Manual—Disc, Tape	193, 194	Plug-In	831, 1030, 1036, 1040, 1042, 1043 to 1046, 1049, 1050, 1053
Meters, Volume	See Meters	Polarized	1040, 1055, 1058
Motors, Turntable	184 to 187, 204, 210, 222	Power, Heavy Duty, etc.	1030, 1033, 1036, 1038, 1041, 1050 to 1053, 1058, 1081, 1178, 1179, 1189, 1231, 1233
Needle Force Gauges	188, 189, 196, 225	Printed Circuit	1031, 1050
Playback Reproducer	222	Radio Control	1056
Record Brushes	188, 205, 216, 225	Remote Control	1036 to 1038, 1040, 1043, 1049
Recording Amplifiers	198, 222	Rotary Action	1031, 1037, 1041, 1042, 1052, 1054, 1057
Recording Turntables	223	Sensitive	1032, 1036, 1040, 1042, 1048, 1050
Reproducer, Phono—Acoustic	216	Solenoid: Contactors	758, 1039, 1048
Reproducer, Tape	199	Special Purpose	1037, 1038, 1053
Speed Test Kit—Phono	189	Stepping, Ratchet	1038
Tape-erasers	189, 206	Switch Assemblies, Contact	1037
Tape, Recording	194, 195, 205, 207, 215, 216, 219, 226	Telephone Type	1032, 1038, 1042, 1043, 1048, 1049, 1055
Tape Recorders, Mono, Stereo	199, 208, 213	Time Delay, Thermostatic Delay	1032, 1034, 1035, 1044 to 1046, 1457, 1460
Tape Splicers	189, 214, 226, 227	Transmitting	1033, 1036, 1041, 1048, 1051
Test Records & Tapes	188, 190	Ultra Sensitive	1002, 1032, 1040, 1050, 1056 to 1059
Transcription Pickups, Lifts	73, 95, 102, 205, 211, 220, 221, 230, 232, 239	Vacuum	464 to 466, 1033
Transcription Players, Tables	69, 81 to 83, 87 to 89, 95, 184 to 187, 198, 204, 210, 220 to 222, 224, 236, 237, 239, 1423	Remote Control Garage Door Openers	657, 1176
Transformers—Crystal Recorder Output—See Transformers		Remote Control Amateur Ant. Tuner	48
RECOTON CORPORATION	216, 217	Remote Control Relays	1036, 1038, 1040, 1043
Rectifier Heater	768	Reproducer, Phono-Acoustic	216
Rectifier Transformers—Power	64, 957, 1000, 1026, 1359, 1406	Resharpener Service—Styli	193, 200
Rectifier Tubes	1428 to 1430, 1438, 1439, 1441, 1444, 1448, 1449, 1453 to 1455	Resistance Analyzers, Indicators, Meters	362, 827, 875, 1078
Rectifiers, Battery Charging	960	Decades	362, 827, 875, 1078
Rectifiers—Copper Oxide, Instrument	1019, 1028	Resistance Soldering Tools	827, 844, 862, 1259
Rectifiers, Magnesium-Copper Sulfide	960	Resistor Bands, Lugs	1075, 1096, 1098, 1123, 1161, 1162, 1166, 1167
Rectifiers—Power, High Voltage	1018, 1020 to 1022, 1027	Resistor Cabinets and Kits	1078, 1083, 1104 to 1108, 1149
Rectifiers—Selenium	957, 1000, 1019, 1020 to 1023, 1026	Resistor Color Code Indicator	361, 1149
Re-entrant Speakers, Trumpets	102 to 182 (Sec. 1320)	Resistor Pliers, End Cutting	1241, 1260, 1263, 1269
Rectifiers, Silicon	957, 1000, 1018, 1022 to 1025, 1027, 1029, 1173, 1174, 1434, 1435, 1437		
Reed Relays, Tachometer, Oscillator Controls	840		
Reels, Tape Recording	195, 207, 214, 219		
REEVES SOUND CRAFT CORP.	219		
Regulated Power Supplies	642, 947, 984 to 987		

GENERAL INDEX (Continued)

	Page
Resistors—Fixed and Adjustable	484, 974, 1047,
1060 to 1169 (Sec. 4700), 1198, 1223	
Carbon, Composition, etc.	1083, 1087 to 1091, 1095,
1097, 1102, 1104 to 1107, 1119, 1127, 1128, 1146,	
1149, 1159, 1169	
Encapsulated	1060, 1061, 1078, 1079, 1081,
1083 to 1086, 1092, 1093, 1097, 1127,	
1143, 1157, 1158, 1198	
Filament	1102
Film	1060, 1061, 1081, 1128, 1159, 1169
Flexible	1078, 1133
Fuse Type	1070, 1095, 1109, 1142, 1149, 1168
Hermetically Sealed	1087, 1088, 1198
Metal Film	1081, 1086, 1089 to 1091, 1143, 1198
MIL Type	1060, 1061, 1079, 1081, 1084 to 1091,
1099, 1141, 1143, 1152, 1153, 1158, 1159, 1163	
Miniature, Subminiature	1087, 1088, 1097,
1119, 1125, 1133, 1148, 1157 to 1159	
Power	1060 to 1169 (Sec. 4700)
Precision	1060, 1061, 1079, 1084 to 1086, 1088, 1092,
1093, 1097, 1124 to 1128, 1143, 1152, 1159, 1198	
Thermistors	958, 1095, 1164
Tube Type, Ballasts	1169
Vitreous Enamel	1076, 1077, 1096, 1098 to 1100, 1131,
1132, 1139 to 1142, 1144, 1145, 1147, 1148,	
1160 to 1163, 1166, 1167	
Wire Wound	1074 to 1078, 1083 to 1086, 1092, 1093,
1096, 1098, 1102, 1103, 1108, 1119, 1122 to 1126, 1131	
to 1133, 1139 to 1145, 1147, 1148, 1152, 1153, 1157,	
1158, 1166, 1167, 1169, 1198	
Resistor Hardware	778, 1075, 1096, 1156, 1166, 1167
Retaining Rings and C Washers	700
R.F. Chokes, Coils	484, 592 to 596, 598, 599, 611, 627, 646,
775, 937, 974, 1000, 1026, 1047, 1129,	
1130, 1143 to 1149, 1223, 1303, 1400	
R.F. Pads	38
R.F. Power Amplifiers	641
Rheostat Coupling Kits	1124, 1146
Rheostats—Potentiometers	484, 824, 974, 1047, 1069, 1073,
1080, 1082, 1088, 1094, 1100, 1101, 1136,	
1138, 1143 to 1151, 1163, 1165, 1223	
Rheostats—Power	1071, 1144, 1145, 1163
RIDER PUBLISHER, INC., JOHN F.	1016, 1017
Right Angle Tube Sockets	350, 686
RIMAK INCORPORATED (See Zak)	273 to 276
RIPLEY CO., INC.	1226, 1227
<i>River Edge Cabinets</i>	196
Rivets, Eyelets	783
R-J Enclosures	196
ROBERTSHAW-FULTON CONTROLS CO. (Acro Div.)	1175
ROBINS INDUSTRIES CORP.	225 to 229
Rods—Extension, Insulated, Brass	743
Rods, Bars, Polystyrene, Plastic	683, 743, 911, 912
Roller Switches	1549 to 1551
Rome Wire	1523
<i>Rondine Turntables</i>	220, 221
RONETTE SALES CORP.	230
Rotary Beam Antennas	29, 41, 42, 46, 56, 57
Rotary Inductors	See Inductors, Variable
Rotary Power Supplies	952
Rotary Switches	833, 1080, 1190, 1191, 1199, 1200, 1201,
1208, 1209, 1222, 1234	
Rotator TV-FM Cable	1490, 1509, 1521, 1529, 1541, 1547, 1551
Rotoprobe	768
Rotors, Rotators, Antenna	23, 52, 53, 57
Routers	1540, 1541
ROYAL ELECTRIC CORPORATION	1540, 1541
Rubber Coat-Spray	587
Rubber Chassis Mounts	746
Rubber Drives for Radios, Phonos	See Drives
Rubber Feet, Bumpers, Washers	783, 746, 1287
Rubber Grommets, Gaskets	746, 783
Rubber Pads, Turntable	188, 205, 225
Ruggedized Meters	833, 1407
Running Time Meters	839, 840
RYE SOUND CORP.	150, 151

	Page
S	
Saddle Nuts, Socket	768
Safety Belts	1265
Safety Terminals	647
Sanders and Polishers	1287
SANGAMO ELECTRIC	502 to 521
SARGENT ELECTRIC CORP. (Div. Pyramid Instr.)	1225
Saws—Power, Drill, Razor, Jig	1238, 1252, 1253, 1287
Saw Table	1287
SAXTON PRODUCTS, INC.	1549 to 1551
SCALA RADIO COMPANY	45
SCHAUER MANUFACTURING CORP.	
Battery Chargers and Eliminators	999
Instrument Rectifiers	1028
Scissors	1265
<i>Scotch Magnetic Recording Tape</i>	207
Scraping, Probing Tools	1253
Scratch Removers, Polishes	588
Screw Drivers	1240, 1242, 1247, 1253, 1256,
1266, 1278, 1279, 1286, 1290, 1292	
Neutralizing, Alignment	755, 1168, 1242, 1247, 1256, 1279
Screw-eye Insulators	754, 780, 1538, 1550
Screw Lock Connectors	764, 765
Screws, Nuts, Bolts, Washers, All Types	754, 755,
782, 783, 909	
Escutcheon Plate Screws	783
Lead Screws—Recording Lathe	223
Machine Screws, Metal, Plastic	754, 755, 782, 783
Ornamental, Head Screws	755, 783, 805
Rack and Cabinet Screws	755, 782, 783
Self-Tapping, Parker-Kalon Screws	755, 782, 783
Set Screws for Knobs, Pickups	783
Wood Screws	783
SEALECTRO CORP.	800, 801
SECO MANUFACTURING CO.	873
Second Anode Connectors	703, 909
Seizer Holding Tool	1291
Selector Switches	833, 1080, 1190, 1191, 1199 to 1201,
1208, 1209, 1222, 1234	
Selenium Diodes	1171
Selenium Rectifiers	957, 1000, 1019, 1020, 1022, 1023, 1026
Capacitors	322 to 585 (Sec. 1500)
Contact Protectors	1171
Transformers, Chokes	1301, 1304, 1392
Semiconductors, (see Diodes, Rectifiers, Germanium, Silicon, Crystal)	
Series-Strung, Filament Tester	59, 825, 851
Service Aids	59, 1168, 1235 to 1293 (Sec. 5400)
Service and Instruction Manuals	227, 1008 to 1017
Shaft Bearings	648
<i>Shaft-Kut Tool</i>	1065
Shaft Extenders, Reducers, Couplings	37, 442, 643, 648,
667, 681, 743, 794, 805, 1112	
Shaft Locks	643, 648, 681, 743, 778, 789, 796, 804
Shafts, Flexible	682, 743
Shafts, Volume Control	1070, 1082, 1111, 1116, 1117, 1135
SHAKESPEARE CO., COLUMBIA PRODUCTS DIV.	28
<i>Shav-Paks</i>	944
Shaver Packs	627
Sheets, Tubing, Rods—Plastic (All Types)	911 to 913
Shelf Assembly, Rack	261, 289, 295, 301, 317
Shellac Sticks, Scratch Fillers	588
Shelves—Rack	254, 270, 301, 311, 313
Shield-Insert, Tube	685
Shielded Cable Connectors	1573
Shielding—Copper Braid	1475, 1494, 1516, 1547
Shields and Shield Cans	642, 1233, 1411
Box Shields	253, 256, 271, 278 to 280
Coil Shields	646
Corona Shields	703
Insert for Tube Shields	642, 652, 685, 791
Meter Shield	270, 1195, 1233
Mu-Metal	790
Tube Shields 644, 652, 673, 676, 685, 701, 745, 766, 791, 909	
Tube Shields—Cathode Ray	642, 652, 790, 791, 793
Shock Testing Machines	795

GENERAL INDEX (Continued)

	<i>Page</i>		<i>Page</i>
Shunts—Ammeter, Switchboard	820, 885, 896	Solder Terminals	716
SHURE BROS., INC.		Solderless Coaxial Connectors	37, 40, 611 to 613
Cartridges, Pickups, Arms—Phono, Recording Heads	232 to 235	Solderless Terminal Lugs, Tip, Plug, etc.	744, 783, 809 to 811
Microphones & Accessories	155 to 161	Soldering Irons, Guns, Pencils, Tools	802, 1239, 1245, 1248, 1249, 1255, 1259, 1267, 1272, 1274, 1275, 1280 to 1285, 1287
SHURITE METERS	874, 875	De-Soldering Tips & Kits	1280
SIDCO Soldering Tools	1274, 1275	Replacement Tips, Elements, Kits	1245, 1248, 1249, 1255, 1259, 1267, 1272, 1274, 1275, 1280 to 1285
Side Indicators, Meters—See Edgewise Panel Instruments	833	Soldering Tool Aids, Kits	1243, 1247, 1280
SIGHTMASTER	1228	Stands, Pots, Heat Controls, Printed Circuit, etc.	1238, 1244, 1245, 1282, 1283
SIGMA INSTRUMENTS, INC.	1056 to 1059	Temperature Control	1245
Signal Generators	828, 829, 832, 836, 837, 846, 850, 865, 866, 893, 899	Transformers for Midget Irons	1249, 1259, 1272
SIGNAL INDICATOR CORP. (Dialight Corp.)	921 to 930	Soldermaster Irons	1255
Signal Indicators	632, 633, 674, 742, 921 to 928, 932 to 936, 1273	Solenoids, Contactors	758, 1039
Signal Tracers	91, 829, 832, 847, 872	SONOTONE CORPORATION	154
Silicon Diodes, Rectifiers	957, 1000, 1018, 1022 to 1025, 1027, 1029, 1173, 1174, 1434, 1435, 1437	Sound Level Indicators	813, 833, 849, 885, 908, 909
Silicon Rectifier Mounts	1216	Sound System Cable	1527
Silicone Compounds	588	Sound Systems, Amplifiers, etc.	64 to 101 (Sec. 1300)
Silver Mica Capacitors	322 to 585 (Sec. 1500)	Soundcraft Recording Tapes	219
Silver Paint for Printed Circuits	588	SOUTH RIVER METAL PRODUCTS CO., INC.	54, 55
SIMPSON ELECTRIC COMPANY	876 to 887	Spacers and Bushings—Metal and Insulating ..	647, 705, 745, 746, 754, 781, 782, 796, 805, 807, 1070, 1112, 1114
Sine and Square Wave Audio Generators	850, 858	Spade, Lugs, Bolts	680, 755
<i>Skottie</i> Capacitors—(Astron)	404	Spaghetti Tubing	220 to 224, 722, 1480, 1481, 1532, 1547
SLAUGHTER CO.	888	Spark Plug Suppressors, Auto	746, 1083
Sleeves, Connector	628, 737, 1538	Speakers, Horns, Projectors, Trumpets	82, 89, 92 to 94, 102 to 182 (Sec. 1320); 190, 196, 212, 239, 659
Sleeves, Test Jack	724	Adapters	121, 129, 166, 177, 181
Sleeving—Coated, Saturated, etc.	508, 1534	Aircraft	166
Sliding Cabinet Drawer Assemblies—Metal ..	225, 261, 288, 289, 301, 311, 317	Auto—Rear Seat, Rear Deck, Replacement, etc.	113, 143, 145, 190
<i>Slo-Blo</i> Fuses	1217, 1220, 1221	Baffles, Cabinets, Enclosures	85, 92 to 94, 102 to 182 (Sec. 1320), 196, 212, 271, 298, 315, 318, 1549
SMITH, INC., HERMAN H.		Blast Valve	128
Knobs, Neon Indicators	1273	Cable, Wire	192, 658, 760, 1472, 1491, 1492, 1496, 1507, 1523
Plugs, Jacks, Sockets, etc.	733 to 755	Carrying Cases	94, 110
Switches	1232, 1233	Coaxial	105, 112, 142, 148, 153, 162, 164, 180, 196
Snap-Action Switches	934, 1175, 1199, 1201, 1203, 1205, 1212, 1213	Communication Receiver	639
Snap-Around-Multitester	816	Controls, Volume, Loudness, etc.	116, 141, 145, 166, 181, 190, 191, 658, 760, 1062, 1063, 1112
Snap-Lock Terminals	797	Cords—Extension	See Wire
SNC MANUFACTURING CO., INC.	1378 to 1381	Crossover Networks	113, 116, 142, 181, 196, 658
Snips, Metal, etc.	1261, 1265, 1270	Diffaxial	180
Socket Extenders	768	Driver Units	103, 120, 128, 152, 177, 181
Socket Punches	1246, 1250 to 1252, 1286	Electrostatic	211
Socket, Replacement, Tube Checker	766 to 768	Enclosure Kits	113
Socket-Turrets and Plug-in Units	766, 767	Explosion Proof	104, 179
Socket Wrenches	1242, 1257	Field Coil	127
Sockets	622 to 625, 644, 662 to 768 (Sec. 2100) 775, 852, 853, 909, 1246, 1286	Grille Cloth, Screening, Assemblies	115, 138, 140, 141, 145
Air Systems, Chimneys	1430, 1444	High Fidelity	76, 82, 85, 89, 112, 120, 121, 123, 126, 128, 131, 142, 145, 147, 148, 152, 153, 162, 164, 177, 179, 180, 196, 212, 239, 760
Barrier	673	Intercom	65, 78, 92, 93, 97, 98, 104, 121, 130, 144, 152, 167, 178, 179
Crystal Holders	627, 643, 644, 660, 672, 681, 700, 722, 746, 771, 909	Kits, Speaker	113, 121, 142, 145, 181, 182, 190, 196
Dial Lights	633, 742, 929, 933, 1273	Marine	178
Experimental Use	852, 1444	Miniature	116, 659
High Voltage	644, 672, 1444	Outdoor Theatre, Drive-In	82, 89, 121, 144, 147, 152, 167
JAN, MIL Type	350, 622, 624, 625, 685, 930	P.A.	69, 85, 92, 93, 103, 113, 121, 144, 147, 152, 167, 177 to 179
Miniature, Subminiature, Tube	350, 622, 644, 672, 673, 686, 701, 703, 704, 746	Paging and Talk Back	78, 92, 93, 97, 98, 104, 121, 130, 144, 152, 167, 178, 179
Plug-in Capacitors	700	Panels	321
Printed Circuits	350, 685, 686	Pillow	139, 168, 171
Receiving Tubes	625, 644, 672, 673, 685, 686, 700, 701, 722, 909	Plugs, Connectors, Hardware	177, 192, 658, 673
Relay	686, 704	Portable	82, 89, 94
Right Angle, Tube Printed Circuit	350, 686	Replacement	113, 127, 143 to 147, 152, 163, 166
Tube, Bracket Type	672	Stands, Supports, Brackets	103 to 105, 318, 896
TV and Cathode Ray Tubes	703, 704, 1168	Stereo	76, 82, 89, 110, 113, 116, 123, 164, 165, 181, 182, 196, 212, 239
TV Wall Plates	34, 37, 38, 43, 44, 698, 706, 725, 1193	Submergence-Proof	178
Transistors, Diodes	686, 909	Switch, Auxiliary	44, 116, 122, 145, 191, 658, 729, 1192
Transmitting, Acorn, Industrial and Special Purpose Tubes	622-624, 672, 684, 1444		
Vibrator Voltage Regulator	700		
SOLA ELECTRIC COMPANY	981 to 984		
Solar Cells, Silicon	1022, 1024		
Solder, Solder Flux, Solder Paste	1235		
Soldering Terminal Lugs	680, 744, 749, 752, 753, 755, 781, 783, 784		

GENERAL INDEX (Continued)

	Page
Systems, Multi-Speaker	82, 85, 89, 112, 116, 121, 123, 131, 141; 142, 149, 153, 165, 182, 196, 212, 239
Theatre	102 to 182 (Sec. 1320)
Transformers	104, 121, 130, 144, 167, 206
Transistor Radio	143, 177
Triaxial	126, 131
TV	102 to 182 (Sec. 1320)
Tweeters and Units, Midrange	105, 112, 127, 142, 147, 148, 153, 162, 164, 181, 196
Weatherproof	82, 89, 92, 93, 103 to 105, 121, 128, 144, 152, 177 to 179
Weatherproofing Compound	190
Woofers and Units	112, 142, 147, 148, 162, 164, 181
SPECIALTIES MFG. CO. (Spemco)	1229 to 1231
SPECIFIC PRODUCTS (Speed-Chassis)	277
SPECTROL ELECTRONICS CORP.	1150, 1151
Speed Control—Electronic	239
Speed Nuts	783
Speed Reducers (Drives—Ball Bearing)	788, 909
SPELLMAN HIGH VOLTAGE CO.	1003 to 1007
SPEMCO (See Specialties Mfg. Co.)	
Spiral Wrap Tubing	1533
Splatter Choke	1303, 1316, 1351, 1396
Splicing Tape, Magnetic	189, 194, 195, 207, 215, 226, 227
Splitter, TV Distribution	37
SPRAGUE PRODUCTS COMPANY	
Capacitors	523 to 569
Resistors	1153 to 1159
Test Equipment	889
Spray, Acrylic	588, 589, 1533
Spring (Friction) Washers	783
Springs, Expansion and Compression	783
Square Wave Generator	829, 837, 850, 858
Stabiline Voltage Control Equipment	988, 989
Stackpole Resistors	855
Stack-Up Patch Cords, Test Leads	683, 740, 854
STANDARD ELECTRICAL PRODUCTS CO. (Staco)	994 to 998
Standards, Capacitance, Resistance, Inductance	362
Standing Wave Ratio Bridge	41, 641
Standing Wave Reflectometers	608
Standoff Insulators, TV Screw Eye, Cone, etc.	644, 724, 754, 780
Standoff Terminals	705, 752, 753, 779, 784, 797, 800, 801, 803, 806, 914
Standoffs	805, 807
Stands, Microphone	65, 82, 89, 92, 93, 106, 107, 109, 117, 155, 158, 159, 161, 175, 176, 1538, 1550
Stands, Supports, Brackets	103 to 105, 318, 896
STANWYCK WINDING CO., INC.	598
Staples—Insulated—Saddle Type	1135
Static Eliminator for Records	188
Stencil Ink	153, 589
Stepdown Transformers	602, 1307, 1312, 1317, 1355, 1360, 1373, 1374, 1381, 1389, 1420
Step-up Coils, High Voltage	1007
Stereophonic Equipment (See main category, i.e.: Amplifiers, Tuners, Kits, etc.)	
STERLING MANUFACTURING CO.	890, 891
STERLING TRANSFORMER CORP.	1382, 1383
Stickleback Tools	1242, 1286
Stock Boxes, Storage Cabinets & Racks—Steel & Plastic	226, 242, 243, 272, 783
Straps—Antenna Mast	55
Strap—Pole	55
Strat-O-Matic, TV Antenna	745, 1246, 1257, 1258, 1265, 1269, 1286
Stroboscopes, Discs, Tapes, Precision	188, 189, 215, 225, 888
Strobotrons (Tubes)	1422 to 1463 (Sec. 5700)
STROMBERG-CARLSON CO. (Spec. Prods. Div.)	
Amplifiers, Hi-Fi Equipment	92 to 95
Speakers and Housings	152, 153
Styli—Cutting	193, 197, 200, 216
Styli—Phono, Hi-Fi	193, 197, 201 to 203, 205, 216, 217, 232, 239
Stylus Heating Unit	200
Stylus Pressure Gauge	196, 225, 239
Subminiature Tubes	1422 to 1463 (Sec. 5700)
Supercon Connectors	990
SUPERIOR CABLE CORP. (Hickory Brand)	1547, 1548

	Page
SUPERIOR ELECTRIC CO.	985 to 993
SUPERIOR INSTRUMENTS CO.	892, 893
Suppressors—Noise	615
Auto Ignition	746, 1083
Swaging Tools, Terminal	363, 784, 804
Sweep Frequency Generators	850, 867
Swinging Input Chokes, Reactors	1294 to 1421 (Sec. 5600)
Switchboard, Interphone & Intercom	65, 96
Switch Knobs, Washers, Nuts, Dial Plates, etc.	909, 1195, 1207, 1208, 1229, 1232, 1273
SWITCHCRAFT, INC.	756 to 761
Switches	191, 239, 757, 758, 833, 1081, 1175, 1178 to 1181, 1187 to 1200, 1202, 1203, 1205 to 1215, 1222, 1225, 1229 to 1233
Actuators	1175, 1180, 1181, 1199, 1203, 1212, 1213, 1224
Adjustable Stop	1198, 1209
Aircraft	750, 1225
Antenna—Coaxial, Changeover, etc.	43, 116, 1192, 1225
Appliance	1196
Cam	1234
Canopy	1178, 1230, 1232
Circuit Opening	171, 757, 1222
Contactors—R.F. High Voltage	601, 637
Control—For Volume, Tone Controls, etc.	760, 1060 to 1169 (Sec. 4700)
Crystal Selector	627
Decade	1222
Electrical	757, 758
Electronic	757, 758, 827
Feed-thru	1231
Foot	1045, 1203, 1214, 1215
General Purpose	757, 1175, 1193, 1196, 1200, 1225, 1232
Guards	1181
Ham Type	757, 1192
Heavy Duty, Industrial	1181, 1187, 1189, 1203, 1210, 1212 to 1214, 1231
Hook Type	758
Index Assemblies	1190, 1192, 1194
Instrument	757, 1207 to 1209, 1232, 1233
JAN. Marine	1210, 1225
Kits	1192, 1195, 1207, 1208
Knife	1178, 1179
Lever Action	757, 1193, 1199, 1200, 1202, 1207, 1222
Limit	1203, 1212
Lock	757, 758, 1178, 1215, 1230, 1232
Meter Polarity	853, 1233
Microphone	161, 1233
MIL Type	750, 1179, 1190, 1191, 1197, 1205, 1210, 1212, 1232
Miniature, Subminiature	720, 757, 833, 1175, 1179, 1190, 1191, 1194, 1199, 1201, 1205, 1212, 1232
Momentary Contact	1178, 1181, 1187 to 1189, 1196, 1201, 1205, 1214, 1215, 1225, 1229, 1230, 1232, 1233
Mounting Plates	1193, 1207, 1232
Multi-Switches	758, 1234
Plunger	1175, 1203, 1212
Power, Heavy Duty	191, 1178, 1189, 1194, 1196, 1197, 1203, 1213 to 1215, 1225, 1230 to 1232
Precision	1212, 1213
Push, Push-Button, Single	720, 757, 934, 1181, 1189, 1199, 1201, 1205, 1225, 1229 to 1233
Push-Button, Lighted	1199, 1201
Push-Button, Multiple	720, 1202
Record-Player, Phono	729
Roller	1212, 1213, 1175
Rotary Power, Tap	1190, 1191, 1193, 1194, 1198, 1201, 1222, 1234
Rotary Selector	833, 1080, 1190, 1191, 1199 to 1201, 1208, 1209, 1222, 1234
Rotary Snap, Toggle	934, 1070, 1178, 1230, 1232
Roto-Lock	757, 758, 1178, 1215, 1230, 1232
Sealed	1212, 1213
Sections, Index Assembly	1190, 1192, 1194
Slide Type	1081, 1178, 1179, 1189, 1231, 1233
Snap-Action, Spring-Return	934, 1175, 1199, 1201, 1203, 1205, 1212, 1213
Speaker, Auxiliary	44, 116, 122, 145, 191, 658, 729, 1192

Switches continued on next page

GENERAL INDEX (Continued)

	Page		Page
Switches (cont'd.)		Terminal Plates, Clips, Strips	705, 749, 781
Stepping	1234	Terminal Posts, Assemblies	647, 772, 803, 806
Stereo Control, Channel Reverse, etc.	141, 191, 729	Terminal Strips	647, 648, 705, 715, 716, 747 to 749, 751, 783
Stop, Adjustable	1198, 1209	Terminals, Feed-thru	752, 753, 779, 784, 797, 800, 801, 803, 804, 806, 914
Tap, Tap-Change	474, 672, 974, 1047, 1143 to 1149, 1192, 1223	Terminals, Miniature & Subminiature—	
Timer	1203, 1204, 1206	Turret, Insulated, Non-Insulated	273, 275, 696, 779, 784, 796 to 798, 800, 801, 803, 804, 808, 914
Toggle, Bat Handle, etc.	658, 750, 1179 to 1181, 1187 to 1189, 1196, 1197, 1205, 1210, 1225, 1229, 1232, 1233	Terminals—Plug and Jack	779
Tool-Handle, Trigger	1181, 1225, 1230	Terminals, Printed Circuit	784, 804, 914
Vacuum	466, 1430, 1444	Terminals, Snap-Lock	802, 803, 806
SYLVANIA ELECTRIC PRODUCTS, INC. (Radio & TV Picture Tube Div.)	1462, 1463	Terminals, Solderless	744, 783, 802, 809 to 811
Synchoscopes	640	Terminals, Stand-Off	705, 752, 753, 779, 784, 797, 800, 801, 803, 806, 914
Synkote Wire and Cable	1544 to 1546	Terminals, Swaging Tools	784, 804
		Terminals—Vector Push-In	808
T		Termination, Cable	697
Table Tops for Console Assembly	264, 301, 305, 311	Termination, Waveguide	660
T Pads (Attenuators)	38, 39, 116, 611, 877, 1022, 1112, 1198, 1234	Test Adapters	724, 768, 828, 850
Tachometers—See Reed Relays		Test Clips	680, 681, 723, 724, 730, 731, 735, 737, 740, 869, 1478
Taco Antenna Equipment	58	Test Instruments and Analyzers	39, 569, 608, 812 to 910 (Sec. 2900)
TALK-A-PHONE COMPANY	97 to 99	Appliance Testers	816, 823, 825, 892, 899
TANDBERG		Audio Oscillators	843
Intercoms	96	Battery Testers, Meters	825, 828, 875, 877, 891
Recording Cutterheads, Microphones	231	Boxes, Decade—See Decade Boxes	
Tan-O-Mite Tantalum Capacitors	484	Bridges, (See Bridges)	
Tap Tool	1242, 1257	CRT Tester	893
Tape Cases, Racks	226, 227	Capacitor Analyzers, Decades	362, 569, 826, 827, 832, 835, 843, 844, 862, 881, 889
Tape Cleaning Cloth	225, 226	Capacitors-Resistor Analyzers	828, 862
Tape—Friction, Plastic, Rubber, Cloth, etc.	915	Circuit Testers	569, 825, 873, 889, 1246, 1257
Tape Head Cleaning Cloths	189	Color TV Test Equipment	866 to 869, 871
Tape—Recording	194, 195, 205, 207, 214 to 216, 219, 226	Current-Capacity Tester	826
Tape—Splicing, Leader, Alignment, Timing	194, 195, 207, 215, 226, 227	Delay Line Standards	651
Reels, Clips, Labels—Tape Colored	189, 194, 207, 215, 226, 227	Edgewise Panel Instruments	817, 833, 883
Tape Recorders—Mono, Stereo	190, 208, 213	Elapsed Time—See Meters	
Eraser	189, 206, 227, 235	Electrical	823, 825, 875, 893
Recording Heads, Erase Heads	229, 232, 233, 235	Electronic Switches	757, 758, 827
Tape Splicers, Kits	189, 215, 226, 227	Field Strength Meter	39, 812, 881
Tape Threader	189, 226	Filament, Series String	59, 825, 851
Tap-Offs, Cable	1550	Flyback and Yoke Testers	828, 873
Taps and Drills	751, 1207, 1238, 1242, 1253	Frequency Meters, Testers, Standards	655, 838 to 840
Tap Switches	484, 672, 974, 1047, 1143 to 1149, 1192, 1223	Generators—Dot, Color, Bar (also see Generators)	656, 829, 836, 850, 858, 866, 867, 880, 881, 898
TECH LABORATORIES, INC.	1234	Generators, Signal	828, 829, 832, 836, 837, 846, 850, 865, 866, 893, 899
TECH-MASTER CORP.	100, 101	Generators, Sine & Square Wave	829, 836, 858
TECHNICAL APPARATUS BUILDERS (Tabtron)	1000, 1001	Generators, Sweep	828
TECHNICAL APPLIANCE CORP. (Taco)	58	High Voltage Tester	825, 845, 888, 969
Teflon Parts, See Under Main Category—		Horizontal System Analyzer, TV	826, 880
Insulators, Connectors, Sockets, Spaghetti, etc.	722, 797	Insulation and Breakdown	845, 888, 906, 969
Tele-Fi Headset	168	Interference Analyzer	339
Telegraph Keys and Practice Sets	638, 751	Kits	827 to 829, 832, 835, 846, 847, 857, 861 to 863, 869
Accessories, Parts	638	Leakage Tester	826, 845, 850, 881, 888
Morse Code Learners' Records, Devices	363, 638, 751	Marker Adder	836, 851
Oscillators—Code Practice	615, 751, 843	Marker Generators	836, 843
Telemetering Components	58, 1345, 1400	Meters & Indicating Instruments	812 to 910 (Sec. 2900)
Telephone Pickup Coil	151, 190, 206	Microammeters	812 to 910 (Sec. 2900)
Telephone Systems, PAX Exchanges	77	Milliammeters, Millivoltmeters	812 to 910 (Sec. 2900)
Television Components & Accessories (See Main category, i.e.: Antennas, TV; or Coils, TV, etc.)	34, 592 to 597, 609 to 613, 656	Modulator, RF	76, 871, 1430
Television Sets, Chassis	101, 605	Moisture Tester	824
Television Systems, Closed Circuit	609	Multimarker, Video Color	871
TELEX, INC.	168, 169	Multitesters	813, 822, 823, 833, 876 to 878, 883, 892
TELREX LABORATORIES	56, 57	Null Indicators, Detectors	849
Temperature Compensating Capacitor	351 to 353, 378, 404, 410, 434, 437, 451, 452, 478, 479, 744	Null "T" Filter	1331
Temperature Indicators, Testors	841, 877, 882, 883	Ohmmeters, Megohmmeters	816, 824, 845, 876 to 879, 892
TERADO CO. (Trav-Electric)	1002	Oscillators, Signal Generators	653, 826
Terminal and Soldering Lugs	680, 744, 749, 752, 753, 755, 781, 783, 784, 804	Oscilloscope Probes	827, 835, 847, 861, 880, 910
Terminal Boards, Blocks	674, 705, 715, 716, 744, 747 to 749, 751, 796, 799, 805, 808	Oscilloscopes	640, 650, 827, 835, 837, 843, 846, 850, 861, 869, 880, 897, 910
Terminal Kits	744	Oscilloscopes—Color	827, 861, 869, 880
		Photoflash Battery	823, 824
		Probes, (See Probes)	
		Relays, Meter	885

GENERAL INDEX (Continued)

	Page
Resistor Analyzers, Decades	827, 875, 1078
Scanner, Video	858, 864, 866 to 868, 871
Shock Testing Machine	795
Signal Generators	828, 829, 832, 836, 837, 846, 850, 893, 899
Signal Tracers	91, 181, 829, 832, 847, 865, 866, 872
Slave Oscillator	826
Snap-around Volt-Ammeter-Ohmmeter	816, 907
Stand	896
Sweep Analyzer	640
Synchroscope	826
Television Testers, Generators, etc.	858, 864, 866 to 868, 871
Temperature Testers	841, 877, 882, 883
Transistor, Diode, Analyzers, Testers ..	834, 846, 850, 851, 857, 873, 877, 897
Transistor Radio Testers	836, 877
Tube Testers, Checkers, Preheaters ..	52, 116, 812 to 910 (Sec. 2900), 1168
Universal Testers	825, 828, 879, 899
Vacuum Tube Voltmeters	465, 822, 823, 827, 832, 834, 835, 837, 843, 847, 851, 862, 873, 877, 879, 892, 894, 896
Voltmeters, Voltohmmeters, V-O M Meters & Accessories	812 to 910 (Sec. 2900), 935
Test Jacks	724, 779, 803, 806
Test Jack Sleeves	724
Test Leads, Prods, Handles, Kits	658, 679, 723, 847, 854, 855
Test Lead Wire	751, 1475, 1492, 1495, 1515, 1523, 1524, 1530
Test Tapes, Records	831
Tetrachloride Cleaning Fluids	588
Theater Speakers, Indoor and Outdoor ..	102 to 182 (Sec. 1320)
Thermistors	958, 1095, 1164
Thermo Ammeters	901, 909
Thermocouples, Accessories	841
Thermostatic Delay Relays	1032, 1034, 1035, 1457, 1460
Thinner for Cement, Paint, etc.	588
THORDARSON-MEISSNER	1384, 1385
THORENS COMPANY	236, 237
Threaded Brass and Steel Rods	683, 743
Thrust Bearing Bracket	23
Thyratrons (Rectifier Tubes)	1423, 1428 to 1430, 1438, 1439, 1441, 1444, 1448, 1449, 1453 to 1455
Time Controls, Automatic, Photoelectric ..	920
Time Delay Relays	1032, 1034, 1035, 1457, 1460
Time-Lag Fuses	1228, 1419
Time Switches	1203
Timer Meters	812, 839, 840, 1204, 1206
Tip Jacks, Plugs (All Types)	628 to 630, 672, 677, 679, 683, 723, 733, 734, 736, 739, 800
TOBE DEUTSCHMANN CORP.	570 to 585
Toggle Switches	750, 1178 to 1181, 1187 to 1189, 1196, 1197, 1199, 1210, 1225, 1229, 1232, 1233
Tone Arms	73, 92, 102, 120, 121, 205, 211, 230, 232, 239
Tone Controls	141, 181, 659, 725, 729, 754, 759, 760, 1062, 1069, 1072, 1073, 1080, 1082, 1110, 1112, 1115 to 1118, 1120, 1121, 1134 to 1137
Tool Handle Switches, Trigger	1181, 1225, 1230, 1242, 1243
Tool Holsters, Belts, Pouches	1265
Tool, Magnetic, Retrieving	1257
Tools and Tool Kits	40, 190, 588, 744, 755, 811, 1235 to 1293 (Sec. 5400)
Neutralizing Alignment	755, 1168, 1242, 1247, 1256, 1279
Television	588, 1235 to 1293 (Sec. 5400)
Tools, Miniature Jewelers	1240 to 1242
Tools, Stickleback	1286
Toroidal Coils, Inductors	603, 992, 993, 1310, 1332, 1390, 1402, 1404
Towers—Antenna	24 to 28, 31, 45 to 47, 51, 55, 61 to 63
Transceivers, Citizens Band	32, 49, 611, 612, 615, 616, 661
Transcription Arms	73, 95, 102, 205, 211, 220, 221, 230, 232, 239
Transcription Players, Turntables	69, 81 to 83, 87 to 89, 95, 184 to 187, 198, 204, 210, 226 to 222, 224, 236, 237

	Page
Transformers, Chokes, Reactors	64, 100, 592 to 597, 602, 659, 820, 1294 to 1421 (Sec. 5600)
400 Cycle	1312, 1313, 1319, 1355, 1392, 1405, 1407
Amplifier	64
Antenna Coupling, Matching	37, 38, 43, 602, 610, 612, 1312
Audio—Input, Output, Interstage	64, 1294 to 1421 (Sec. 5600)
Auto Transformers, Autoformers	974, 981 to 983, 985 to 987, 994 to 998, 1307, 1350, 1360, 1373, 1374, 1377, 1389, 1417
Bias Supply	1306, 1311, 1380, 1417, 1418
Blocking Oscillator	1330, 1410
Bridging	1324, 1413
Cable—Microphone	1420
Cathode Ray Tube	1307, 1389, 1408
Chopper Input	1373, 1391, 1409
Condenser Tester, Power	1307
Constant Voltage	981 to 983, 1343, 1363
Converter (DC-DC, DC-AC), Transverter ..	1314, 1344, 1372, 1405
Crystal Recorder Output	1299, 1413 to 1415
Current	816, 821, 841, 885, 992, 993, 1330
Discriminators	595, 597, 598, 820, 1346, 1420
Donut, Current	821, 885
Driver	1294, 1297, 1314, 1316, 1317, 1322, 1325, 1361, 1367, 1378, 1384, 1385, 1396, 1412, 1417, 1418
Filament	593, 1006, 1305, 1309, 1310, 1313, 1318, 1329, 1350, 1355, 1358, 1376, 1381, 1382, 1388, 1392, 1405, 1407, 1417
Filter, Audio, Swinging, Smoothing, Chokes	1294 to 1421 (Sec. 5600)
Flyback—High Voltage	1363
Geophysical	1391
Hermetically Sealed	646, 1308 to 1313, 1318, 1319, 1321, 1322, 1329 to 1332, 1343, 1344, 1347, 1364 to 1367, 1383, 1386, 1387, 1405, 1407, 1409, 1410, 1419
High Fidelity Audio	64, 73, 206, 1294, 1296, 1311, 1314, 1315, 1321, 1324, 1368, 1373, 1376, 1377, 1384, 1388, 1396, 1408, 1412 to 1415
High Voltage	64, 1382
Housing	121
Hum Reducing	1299
Input	64, 1294 to 1421 (Sec. 5600)
Interstage Audio	1298, 1321, 1351, 1354, 1385, 1387, 1408, 1412, 1414, 1415
Isolation	78, 692, 998, 1307, 1317, 1350, 1360, 1381, 1389, 1392
Line	1363, 1418
Low Frequency	1391
Matching, Impedance, etc.	602, 1322, 1325, 1329, 1351, 1376, 1388, 1413, 1538
Magnetic Amplifier	1340 to 1342, 1410
MIL Type	1294 to 1421 (Sec. 5600)
Miniature, Sub-miniature, Micro-Miniature, Ultra-	Miniature, etc. 529, 597, 659, 1308, 1314, 1323, 1330, 1364, 1366, 1368, 1371, 1386, 1393, 1408 to 1411, 1419
Mixing	1315, 1322 to 1324, 1351, 1388, 1412, 1414
Modulation	1304, 1316, 1317, 1361, 1379, 1396, 1413, 1415, 1417, 1418
Output	64, 73, 206, 968, 1294 to 1421 (Sec. 5600)
Photoflash Power	1307, 1360, 1381, 1420
Plate Supply	1306, 1359, 1382, 1386, 1394, 1407, 1418
Plate-Filament Combined	64, 1301, 1302, 1309, 1310, 1313, 1316, 1318, 1326, 1329, 1349, 1355 to 1357, 1376, 1380, 1382, 1387, 1389, 1393, 1394, 1418
Plug-In	68, 89, 1308, 1364, 1366, 1368, 1370, 1373, 1396, 1411
Power	64, 1294 to 1421 (Sec. 5600)
Printed Circuit Types	1364 to 1371, 1409
Pulse	64, 602, 958, 1308, 1330, 1389, 1410
Reactors, Chokes—Audio	1294 to 1421 (Sec. 5600)
Rectifier—Power	957, 1000, 1026, 1359, 1406
Saturable	1312, 1340, 1343
Selenium Rectifier	1301, 1304, 1392
Signalling and Control	1420
Silicon Rectifier	1367, 1405

Transformers continued on next page

GENERAL INDEX (Continued)

	Page		Page
Transformers (cont'd.)		TRU-OHM PRODUCTS DIV. (Model Eng. & Mfg. Co.)	
Speaker Field Supply	1307	Tube Base Plugs	1160 to 1163
Speaker Impedance Matching	104, 121, 130, 144, 206	Tube Base Shields	767, 766
Step-down, Step-up	602, 1307, 1312, 1317, 1355, 1360, 1373, 1374, 1381, 1389, 1420	Tube Brighteners	116, 656, 1168, 1374
Television	595, 1294 to 1421 (Sec. 5600)	Tube Carrying Cases, "Caddies"	110
Transceiver	1395	Tube Clamps	644
Transistor	659, 1294, 1295, 1308, 1312, 1314, 1361, 1364 to 1371, 1384 to 1386, 1391, 1393, 1408, 1409, 1415, 1419	Tube Clips, Caps, Grips, Holders	644, 676, 745
Tube Checker	1306	Tube Extractor Tools	1236, 1237, 1257, 1430
Ultrasonic	1348, 1411, 1416	Tube Heat Radiating Connectors	1430
Variable Matching Line to Voice Coil	1325, 1416	Tube Manuals	1014, 1015
Variable Output	1417	Tube Pin Straightener Tools	1168, 1246
Variable Voltage	484, 974, 980 to 983, 985 to 987, 994 to 998, 1041, 1143 to 1149, 1223, 1381, 1420	Tube Protector, Electronic	945, 946, 1095
Vibrator Power and Auto Radio	1302, 1359, 1380, 1393	Tube Restorer, TV	656
Voltage Adjuster, Control	980 to 983, 987, 994 to 998, 1420	Tube Shields	644, 652, 673, 676, 685, 701, 745, 766, 791, 909
Voltage Booster-Line	1307, 1350, 1374	Tube Sockets—Receiving	625, 644, 672, 673, 685, 686, 700, 701, 722, 909
Wideband R. F.	602	Tube Sockets—TV and CR	703, 704, 1168
Transistor:		Tube Sockets—Transmitting, etc.	644, 672, 704
Batteries	948 to 951, 958, 961 to 967, 975, 976, 978, 979	Tube Testers, Checkers	59, 116, 812 to 910 (Sec. 2900), 1168
Capacitors	See 322 to 585 (Sec. 1500)	Adapters	1168
Clips (Holders) Heat Sinks	676, 1018, 1169	Tubes, Electron	1235, 1422 to 1463 (Sec. 5700)
Intercom Radio System	77	Cathode Ray	1438, 1439, 1449, 1453 to 1455, 1460 to 1462
Kits	277, 751, 859	Geiger—Mueller	1423
Power Supplies	150, 168, 169, 657, 1529	High Vacuum Types	1430, 1448, 1449
Radio Earsets	659	Microwave Radar, etc.	1422 to 1463 (Sec. 5700)
Receiver, AM	659, 751	Phototubes	1438, 1439
Sockets	686, 909	Receiving, Entertainment	154, 1235, 1423, 1426 to 1428, 1436, 1437, 1442, 1443, 1445, 1450, 1451, 1457 to 1459
Testers, Testing Equipment	834, 846, 850, 851, 857, 873, 877, 897	Rectifier and Control	1423, 1428 to 1430, 1438, 1439, 1441, 1444, 1448, 1449, 1453 to 1455
Transformers, Coils	659, 1294, 1295, 1308, 1312, 1314, 1323, 1361, 1364 to 1371, 1384 to 1386, 1391, 1393, 1405, 1408, 1409, 1411, 1415, 1419	Special Purpose, Industrial Type, etc.	154, 656, 1427 to 1429, 1438, 1439, 1441 to 1445, 1448, 1449, 1453 to 1455, 1457, 1458, 1562
Turrets	766	Subminiature	1422 to 1463 (Sec. 5700)
Transistors—Semi-Conductors	1029, 1169, 1170, 1172 to 1174, 1428, 1437, 1452, 1457, 1460, 1463	Television Camera	1422 to 1463 (Sec. 5700)
TRANSITRON ELECTRONIC CORP.	1029	Television Picture	1427, 1440, 1446, 1447, 1451, 1452, 1457, 1460
Transmission Line, Cable	1490, 1491, 1508, 1509, 1521, 1522, 1526, 1534, 1538, 1547, 1550, 1557	Transmitting, Amateur Type, etc.	1422 to 1463, (Sec. 5700)
Transmission Line Plugs, Sockets, Connectors	43, 60, 643	Voltage Regulator—Resistor—(See Ballasts)	
Transmitters, All Types	32, 76, 614 to 616, 639, 649, 661, 1176	Tubing—Flexible, Varnished, Spaghetti, etc.	722, 1480, 1481, 1532, 1547
Kits	76	Tubing—Insulated—for Tool Handles	1181
Metal Racks, etc.	242 to 321 (Sec. 1400)	Tubing—Vinyl, Teflon, Fiberglass, Polyethylene	43, 167, 912, 1470, 1480, 1481, 1532, 1534, 1537
Power, Speech Amplifiers	615, 616, 641	Tubing—Polystyrene, Bakelite, Fibre	911, 912, 1470
Power Supplies	649	Tubing, Zipper	1477, 1535
Variable Frequency Oscillators	616, 641	Tubular Capacitors—Cardboard, Paper, Metal	322 to 585 (Sec. 1500)
Transmitting Capacitors—Fixed	340 to 342, 347, 357 to 360, 370, 371, 413, 430, 515 to 517, 552, 555, 566, 567, 585	Tuners Remote Control Amateur Antenna	48
Transmitting Capacitors—Variable	349, 350, 442, 443, 618 to 621, 645	Tuners—FM, AM & Kits	73, 75, 76, 90, 91, 95, 123, 611, 614, 847
Transmitting Chokes	646	Tuners—Stereo & Kits	95, 239, 847
Transmitting Coils and Forms	592, 594, 596, 599 to 601, 603, 636, 637, 646, 751	Tuners—TV	101
Transmitting Relays	1033, 1036, 1041, 1048, 1051	TUNG-SOL ELECTRIC, INC.	1457 to 1460
Transmitting Tubes	1422 to 1463 (Sec. 5700)	Tuning Wands	706, 1247
Converters	1001, 1344	Turnbuckles for Guy Wires	55
Trav-Electric Converters	1002	TURNER COMPANY	173 to 176
Triaxial Speakers	126, 141	Turntable Felts, Cushions, Mats	188, 205, 225
TRIAD TRANSFORMER CORP.	1386 to 1398	Turntable Kits	220, 221, 239
TRICRAFT PRODUCTS CORP.	59	Turntables and Motors	69, 81 to 83, 87 to 89, 95, 120 to 122, 184 to 187, 198, 204, 210, 224, 236, 237, 239
TRIMM, INC.		Turntable Mounting Springs	783
Headphones	170, 171	Turret Sockets and Assemblies	766, 767
Jacks, Plugs, Connectors	762, 763	Turret Terminals—See Terminal	
Trimmer Capacitors	374, 375, 413, 441, 442, 454, 459, 596, 618 to 620	<i>71' Listener</i> , Headphone & Control	168
Trimmer Covers	756	Tweeter Speakers and Units	105, 112, 127, 142, 147 to 149, 153, 162, 164, 181
Trimmer Potentiometers	1088, 1094	Tweezers and Tweezer Kits	1253, 1257
Trimout Fasteners—Snap in	783	Twin Lead Wire for TV and FM	See Wire & Cable
TRIO MANUFACTURING CO.	60	Twin Lead Wiring Connectors	43, 60, 643
TRIPLETT ELECTRICAL INSTRUMENT CO.	894 to 901	<i>Twinsat</i> Headset	168
Trumpets and Horns	92 to 94, 103 to 105, 110, 112, 113, 116, 117, 120, 121, 126 to 131, 141 to 148, 152 to 154, 162 to 167, 177 to 182, 190, 196, 212, 239, 659		

GENERAL INDEX (Continued)

	Page
U	
UHF Antennas	29, 30, 45, 56, 58, 60, 63
UHF Books, Manuals	227, 1008 to 1017
UHF, FM Converters	35, 38, 610, 614
Ultrasonic Components	1348
UNGAR CO., INC., SID (Sidco)	1274, 1275
UNGAR ELECTRIC TOOLS, INC.	1280, 1281
Unimeters	899
UNITED TRANSFORMER CORPORATION (U.T.C.)	1399 to 1421
Universal Joints—Shaft	789
UNIVERSITY LOUDSPEAKERS, INC.	177 to 182
U. S. COMPONENTS, INC.	764, 765
Useco Electronic Hardware (Litton Industries)	
U. S. ENGINEERING CO. (Useco), Litton Ind.	803 to 807
UTAH RADIO PRODUCTS CO., INC.	162 to 167
U. T. C.—See United Transformer Corp.	
UTICA DROP FORGE & TOOL CORP.	1276
Utility Boxes, Enclosures	249, 251, 253, 256, 259, 260, 271, 278 to 281, 283, 298, 318, 320


V	
V-M CORPORATION	238
VU Meters	813, 833, 849, 885, 908, 909
VHF & UHF Converter, Amplifiers	609
VACO PRODUCTS COMPANY	
Solderless Terminals	802
Tools	1277 to 1279
Vacuum Capacitors—High Voltage	464
Vacuum Relays	464 to 466
Vacuum Switches	466, 1430
Vacuum Tube Voltmeters	465, 822, 823, 827, 832, 834, 835, 837, 843, 847, 851, 862, 873, 877, 879, 892, 894, 896
Variable Frequency Oscillators	616, 641
Variable Inductors	595, 600, 601, 636, 637, 1327, 1403
Variable Receiving and Tuning Capacitors	441 to 443, 618 to 620, 645, 659
Variable Transmitting Capacitors	349, 350, 442, 443, 618 to 621, 645
Variable Voltage Transformers	484, 974, 981 to 983, 985 to 987, 994 to 998, 1041, 1143 to 1149, 1224, 1381
Varicon Miniature Connectors	686, 687
Varistors	1164
Varnished Tubing, Spaghetti, etc.	See Tubing
Varnishes, Lacquers, Paints, Enamels	588, 909
VECTOR ELECTRONIC CO.	
Sockets, Turrets, Shields, Patch Boards, etc.	766 to 768
Terminals, Terminal Boards, etc.	808
Vectorboard	808
Ventilating Louvres	271, 296, 297, 307
Vernier Dials, Drives	626, 775
VFO Oscillators	616, 641
Vibrapak Power Supplies	959
Vibrating Reed Frequency Meters	812, 838, 839
Vibration Pads	190
Vibrator Buffer Capacitors—Auto	335, 352
Vibrator Power Supplies, Packs	858, 938 to 945, 947, 955, 957, 959, 968, 969, 973, 980 to 984, 994 to 998, 1001, 1002
Vibrator Test Adapter	853
Vibrator Transformers	1302, 1359, 1380, 1393
Vibrators	938 to 940, 953, 954, 959, 970 to 972
Vises	1253, 1257
VICTORY ENGINEERING CORP. (Veco)	1164
Viking Loudspeakers	127
Viking Transmitters	638, 639
Vinyl Tubing	43, 912, 1470, 1480, 1481, 1532 to 1534, 1537
VITRAMON, INC.	522
Vitrohm Rheostats, Resistors	1165 to 1167
VOCALINE CO. OF AMERICA	661
Voice Coil Lead Wire	1516
Volometer Meters	818, 819, 848, 884
Voltage Adapters—Foreign, Export	1420
Voltage Booster Transformer	1425
Voltage Dividers, Resistors	1060 to 1169 (Sec. 4700)

	Page
Voltage Regulator Transformers, Controls	980 to 983, 988, 989, 1420
Voltage Regulator Tubes (Ballasts)	1070, 1423, 1424
Voltage Regulators, Zener	1170
Voltage Stabilizers and Regulators—Electronic	988, 989
Voltage Testers	816
Voltage Transformers—Constant	981 to 983, 1343
Voltage Transformers—Variable	See Transformers, Variable Voltage
Voltmeters, Voltmeters	812 to 910 (Sec. 2900), 935
Volt-Ohm Microammeter	878
Volt-Ohm Milliammeters	812 to 910 (Sec. 2900), 935
Voltmeters	863, 864
Volume and Tone Controls	116, 141, 145, 166, 181, 190, 191, 658, 760, 1062, 1063, 1112, 1135
Volume Control Hardware	782, 1111, 1112
Volume Control Wrenches	751
Volume Level Indicators, VU Meters	See Meters, Recording Level
VULCAN ELECTRIC CO.	1282, 1283

W	
Wafer Sockets	625, 672, 673, 685, 686, 700, 701, 722, 909
WALCO	(See Clevite-Walco)
WALDOM ELECTRONICS, INC.	
Panel Meters	908, 909
Solderless Terminals & Connectors	809 to 811
WALL MANUFACTURING CO., P.	1284, 1285
Wall Plates, Receptacles	34, 37, 38, 43, 44, 698, 725, 1193
Wall Racks for Hardware, Chemicals, etc.	242, 243
WALSCO ELECTRONICS MFG. CO. (Div. G-C Textron, Inc.)	1286
WARD LEONARD ELECTRIC CO.	1165 to 1167
WARD PRODUCTS CORPORATION	62, 63
Washers Insulating	724, 782
Washers, Nuts, Bolts, Screws	754, 755, 782, 783, 909
WATERMAN PRODUCTS CO., INC.	
Cathode Ray Tubes	1461
Oscilloscopes	910
Waterson Speaker Baffles	115
Wattmeters	877, 887, 899, 905
Wave Guides	660
Wave Traps	43, 91, 611
WEATHERS INDUSTRIES	239
WBCOR, INC.	240
WEBSTER MANUFACTURING CO.	61
WELLER ELECTRIC CORP.	1288, 1289
WEN PRODUCTS, INC.	1287
WENDELL PLASTIC FABRICS CORP. (Mellotone)	138
WESTON INSTRUMENTS (Div. Daystrom, Inc.)	902 to 907
Wet Electrolytic Capacitor Replacements	333
Wharfedale Speakers	196
Wheatstone Bridges	844
Wheels, Idler, Drive	1286
Wire and Cable	670, 671, 1464 to 1551 (Sec. 6000)
Aircraft	1469, 1482, 1513, 1539
Analyzer Cable	1523
Antenna Wire & Cable	1517, 1542, 1546, 1549
Antenna Wire for AC-DC Sets	1517
Armored Industrial	1488, 1542
Army-Navy MIL, JAN Spec., etc.	660, 670, 671, 1464 to 1551 (Sec. 6000)
Assemblies	760, 761
Auto Radio Wire and Cable	25
Battery Cable	1523
Broadcast & Audio Cable	1472 to 1474, 1489, 1503
Bus-Bar Wire (Solid Tinned Copper)	1494, 1516
Camera Cable, TV	1503
Coaxial Cable, RG, etc.	37, 40, 665 to 667, 670, 671, 718, 719, 745, 1490, 1503, 1510 to 1512, 1522, 1526, 1529, 1539, 1540, 1542, 1543, 1547, 1550, 1551
Community TV Antenna	1538, 1542, 1550
Copper Antenna Wire, Bare	1494, 1549
Cotton Covered	1523
Dial Cable, Cords, Belts	1532
Diathermy Cable	1486, 1490


GENERAL INDEX

	Page
Exact Duplicate Cables	729
Extension Cords, Cord Sets 741, 1168, 1490, 1495, 1509, 1528, 1531, 1541	
Fixture Wire, Lamp Cords 1490, 1516, 1528, 1541, 1549	
Glass Braid	1465, 1466, 1484 to 1486
Guy Wire	55, 1540
High Temperature Wire	1465, 1468, 1482, 1483, 1496 to 1542, 1543
High Voltage Wire 1464, 1465, 1467, 1475, 1485, 1492, 1512, 1513, 1515, 1530, 1531, 1542, 1543	
Hookup, Pushback Wire (All Types)	1464 to 1551 (Sec. 6000)
Indoor Aerial Wire	1517
Intercom System Cable 96 to 99, 1471 to 1474, 1489, 1504 to 1507, 1515, 1527, 1530, 1542, 1548, 1549, 1551	
Interconnecting, Hi-Fi 116, 122, 192, 228, 726 to 728, 741, 742, 760, 761, 1490, 1503, 1510, 1511	
Juke Box	1507, 1528
Lead Covered Intercom, PA Cable	1524
Lead-in and Ground Wire 1492, 1509, 1517, 1541, 1549	
Litz Wire	1516
Magnet Wire	1469, 1493, 1517, 1524
Microphone Cable 1471, 1488, 1495, 1502, 1521, 1522, 1525, 1529, 1542, 1547, 1549	
MIL Type	670, 671, 1464, 1469, 1482, 1486, 1510 to 1514, 1521 to 1523, 1526, 1529, 1537, 1539, 1540, 1542, 1547, 1551
Miniature, Subminiature	1542
Multi-Conductor Cable	1464 to 1551 (Sec. 6000)
Nickel Chrome Wire—Bare	1524
Open Transmission Line	1534, 1538, 1550
P. A. Wire and Cable 760, 761, 1471 to 1474, 1489, 1491, 1504, 1505, 1507, 1528, 1547, 1548	
Phono Pickup and Grid Wire—Shielded 89, 192, 211, 232, 760, 761, 1492, 1496, 1505, 2751	
Phono System Cable 760, 761, 1505, 1525, 1531	
Phosphor Bronze Antenna Wire & Dial Cable	1494
Quarter Round Cable	1548
Remote Control Cable	1496, 1502
Retractable Wire, Cord, Cord Sets	676, 1495
Rotator TV FM Cable 1490, 1509, 1521, 1529, 1541, 1547, 1551	
Service Cord—Rubber Sheathed, etc.	1490, 1516
Shielded Wire and Cable	1464 to 1551 (Sec. 6000)
Shielding—Copper, Braid	1475, 1494, 1516, 1547
Sound System Cable	See PA Wire & Cable
Speaker Cable 192, 760, 1472, 1491, 1496, 1507, 1523	
Stereo 192, 232, 760, 761, 1492, 1496, 1505, 1527	
Telephone Cable, Wire	1473, 1527, 1542
Test Lead Wire	751, 1415, 1423, 1424, 1430, 1475, 1492, 1495
Thermocouple Lead	841
Transmission Line, Cable 1490, 1491, 1508, 1509, 1521, 1522, 1526, 1529, 1547, 1557	
Tubing—(See Tubing, Spaghetti, etc.)	
Twin Lead, for TV and FM	1521, 1526, 1529, 1534, 1538, 1547, 1550, 1551
Voice Coil Lead Wire	1516
Wire Markers	1501
Wire Measuring Outfit	682
Wire Recording Heads	229, 235
Wire Stripping Tools, Blades	745, 1246, 1257, 1258, 1265, 1269, 1289
Wire Wound Controls 1071, 1080, 1082, 1113 to 1115, 119, 1136	
Wire Wound Resistors	1060 to 1169 (Sec. 4700), 1198
Wireless Intercom Systems 69, 71, 72, 77 to 80, 99, 661	
WIRT CO. (See Continental Carbon)	1081 to 1083
Wood Glue	588, 1501
Wooter Speakers and Units	142, 153, 162, 164, 196
WORKMAN TV, INC.	1168, 1169
WORNER ELECTRONIC DEVICES	918, 919
Wrenches:	
Flex, Key, Spline, Socket	745, 1257
Neutralizing Alignment 755, 1168, 1242, 1247, 1279	
Nut Driver, Ratchet 1240, 1242, 1278, 1279, 1291, 1292	
Steel	1256, 1261, 1270, 1291
Volume Controls, Switches	751
Wrinkle Varnish	115
X	
X-ACTO (Div. Handicraft Tools, Inc.)	1252 to 1254
XCELITE, INC.	1290, 1291
Y	
YOUNG SPRING & WIRE CORP., L.A. (Conset Div.) See Conset	
Z	
Zener Diodes, Voltage Regulators, Devices 1024, 1029, 1170	
Zipper Tubing	1477, 1535



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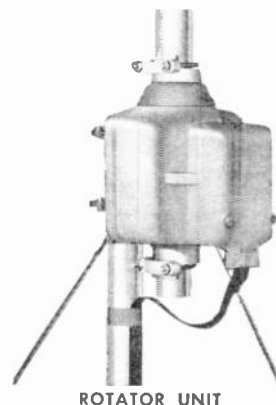
AC Spark Plug Arma Boeing CBS Television Convair Delco Radio Eclipse-Pioneer Eastman Kodak Esso Std. Oil Fairchild Guided Missile Firestone Tire General Electric Harvard Univ. Internat'l Bus. Machines Kearfott Mass. Inst. of Tech.	Motorola Nat'l Broadcasting Co. Nat'l Cash Register Pacific Tel. & Tel. Philco Ramo-Wooldridge Reeves Instrument Shell Oil Univ. of Maryland Western Electric Westinghouse White Sands Pvg. Gr. U.S.A. Sig. Supply U.S. Central Intell. U.S.N. Test Station
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ALLIANCE TV PRODUCTS

ALLIANCE TENNA-ROTORS

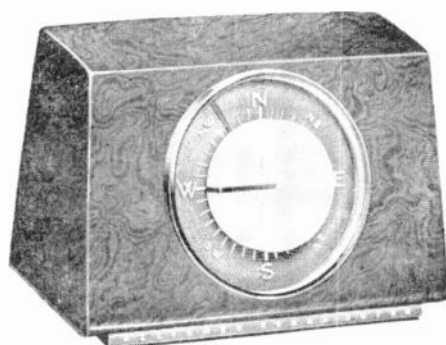
ALLIANCE TENNA-ROTOR

The Alliance Tenna-Rotor, available in three models illustrated below, is a TV or FM antenna rotator. Designed to rotate all conventional type antennas. It consists of a fully enclosed electrically driven rotor into which the antenna center-post is clamped. Four-conductor "zip" cable connects rotator with plastic control case placed near receiver, which plugs into any 60 cycle 110-volt AC house circuit. A selector switch controls rotation clockwise or counter-clockwise to point antenna in any direction for optimum reception.



ROTATOR UNIT

*Most Widely Advertised
Rotator on the Market*



Model U-98 Automatic

Available in *Forest Green, *Ivory and Mahogany Grain.
List Price \$48.68
*Slightly Higher

FULLY AUTOMATIC MODEL U-98

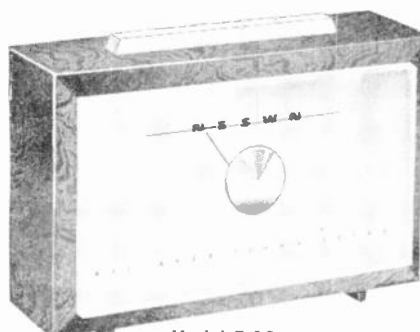
"SET IT AND FORGET IT"

The first and finest fully automatic rotator on the market.

BEAUTIFUL NEW DECORATOR MODELS!

New Colors—*Forest Green, *Ivory, as well as Standard Mahogany.

Simply set the pointer—antenna automatically turns by itself and stops at the direction shown on the indicator dial. New styling plus the exclusive automatic feature makes Model U-98 the ultimate in rotators!



Model T-12

(with Tenna-Teller Dial)

Available in *Forest Green, *Ivory and Mahogany Grain.
List Price \$37.68
*Slightly Higher

MODEL T-12

WITH EXCLUSIVE TENNA-TELLER DIRECTION INDICATOR

This finger-tip electrically driven and manually operated Alliance Tenna-Rotor is noted for extreme accuracy, compactness and smart styling. The "Tenna-Teller" indicator dial shows the exact compass direction to which the antenna is pointed and gives a constant reading.

Both new model Alliance Tenna-Rotors, the U-98 automatic and the T-12 have many new and advanced features of design which include increased speed of rotation and incorporate 32 distinct improvements.

The new rotator unit has double-action, magnetic anti-drift brake, plus smoother synchronization with control units. All Alliance Tenna-Rotors are pre-sold through years of continuous nationwide television advertising.



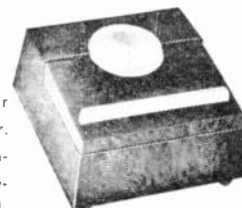
Model TBB
List Price \$4.95

THRUST BEARING BRACKETS FOR ALLIANCE TENNA-ROTORS

The Alliance Thrust Bearing Bracket, accessory to Alliance Tenna-Rotor, is made to provide added support for all heavier conventional type antennas. It assures extra rigid support and maximum resistance to high winds.

MODEL K22

Alliance Model K-22 Tenna-Rotor features a fingertip control bar. When pressed on one end the antenna rotates in one direction, reverses when other end is depressed. Center disc signal light indicates limit of travel is reached.



Model K-22
Standard Color Only
List Price \$26.95

THE ALLIANCE MANUFACTURING COMPANY, INC. • Alliance, Ohio

the antenna specialists co.

MANUFACTURERS OF RADIO COMMUNICATIONS ANTENNAS
CLEVELAND 6, OHIO

AUTOMOTIVE ANTENNAS

MODEL	DESCRIPTION	WEIGHT
AS-1	"Baseball" Antenna. Triple chrome plated, 3 section 56" tube assembly, 54" lead.	1 lb. 1 oz.
ASA2	Side Cowl Antenna. 66" 3 section chrome plated tube assembly 54" lead.	1 lb. 2 oz.
ASA3	Side Antenna. 100" 3 section chrome plated tube assembly. 54" lead.	1 lb. 8 oz.
ASA23	Disappearing Antenna. 3 section, 3"-54" with 54" lead.	1 lb. 6 oz.
ASA26	FM Antenna. Triple chrome plated, 3 section 56" tube assembly 54" RG-58/U coax cable with pin plug	1 lb. 1 oz.
EC-6	Twin Antennas for rear fender mounting, 3 section 26½" chrome antennas with 22" lead-in cable and "T" connector. Packed in attractive display box.	2 lb. 1 oz.
ECA15	Top Cowl Antenna. Triple chrome, 3 section telescopic swaged 56" tube assembly. 54" lead.	8 oz.
ECA16	Same as above except with bushed and curled tube assembly.	8 oz.
EC020	Top Cowl Antenna. Triple chrome 3 section telescopic 56" tube assembly. 48" lead.	
K-9	Universal replacement mast for any top cowl antenna.	6 oz.
K-8	Antenna Booster for long lead antenna.	
K-11	Set of 2 pads for sharp fin fender.	
	Replacement Leads and Extension Leads available in any length.	

COMMUNICATIONS ANTENNAS

½ WAVE LENGTH HIGH GAIN ANTENNA

Doubles transmitting power
Vastly improves reception

ASP-177. For vehicular rooftop use only. 144-174 mc. 3 DB gain doubles transmitter power. Eliminates dead spots. Receiver becomes 1.56 times more sensitive (4 DB) thus increasing range. Audio quality is improved. Solderless, weather-tight mounting for ¾" hole. S.S. whip, shock mounting spring and weather-proof transformer. Adaptable to existing original equipment mounts. Has 12' RG 58/U cable and PL-259 connector... **\$24.00**



COWL MOUNTING ANTENNAS

ASPH 85. For installations where appearance or location of an ordinary car aerial is desired. All frequencies 25-174 mc. 72" S.S. whip. Order cable and plug separately. **\$13.50**

ASPR 85. Same as above except with 56" whip. **\$13.50**

ASPR 80. Same as above except with pseudo-telescopic 56" chrome plate whip. (Joints permanently soldered.) **\$13.50**

RUBBER HOLE PLUGS



M-10 Rubber plug to fill 1 5/16" hole.	\$.90
M-11 Rubber plug to fill 3/4" hole.	\$.60
M-16 Rubber plug to fill 3/8" hole.	\$.60
M-18 Rubber plug to fill 7/8" hole.	\$.60

ASP-197 Cowl mounted ASP-177 ½ wavelength high gain antenna with tunable skirt. 12' RG-58/U cable	\$30.00
ASP-203 Conversion kit for converting GE, RCA, and A/S ASP-201 antenna to ½ wavelength (ASP-177 type)	19.50
ASP-200 Bumper mounted ASP-177 ½ wavelength high gain antenna. 12' RG-58/U cable and connector.	36.00
ASP-201 ¼ wavelength rooftop antenna. Solderless construction for 3/8" hole. Same as IPC, D & K. No lead.	2.85
ASP-206 Conversion Kit for converting Motorola antenna to ½ wavelength (ASP-177 type)	19.50

<p>M-3B 60" S S. Whip with removable adaptor (can be cut to length) \$4.35</p> <p>M-25 Mini Spring. Reduces shock to coil if whip strikes object \$1.98</p> <p>M-19 10-15 20 meters Automatic coil No adjustment necessary. Weather proof Compact. \$14.95</p> <p>M5-36 36" chrome plated, solid mast extension with coupling nut \$4.55 Available in 6 lengths either chrome or S S (both solid)</p> <p>M-9A Heavy duty spring Cad. plated. \$4.77</p> <p>M-3 Aluminum base with black Polyester Fiberglass, one piece insulator Hard ware included. \$3.03</p>	<p>M-1 Professional size base, spring and 96" cuttable stainless steel whip with removable adaptor. (list \$14.95) \$8.97</p> <p>Also available with bright mirror polished base and spring (spring has chrome end mounts) as M-1D \$11.97 complete</p> <p>M-1 and M-1D components may be purchased separately.</p> <p>M-3 Aluminum swivel base \$3.03</p> <p>M-3D Mirror polished swivel base \$4.83</p> <p>M-3A Cad plated spring for 96" whip \$2.04</p> <p>M-3AD Bright polished spring with chrome end mounts \$3.24</p> <p>M-3B S S 96" cuttable whip with adaptor \$4.35</p> <p>M-7A 2 meter ground plane antenna (144-172, 450-470 MC) Base accepts PL-259 Stainless steel, brass and chrome parts. Cutting chart supplied. \$5.40</p>	<p style="text-align: center;">BASES</p> <p>M-13 Same as M 3 but with coax fitting \$6.00</p> <p>M-14 Same as M 13 but fitted for outside mounting. \$6.90</p> <p>M-15 Coax adaptor converts base from solder lug type. \$2.25</p> <p style="text-align: center;">SPRINGS</p> <p>M-8A Heavy duty standard spring. \$3.65</p> <p>M-9AS Deluxe polished stainless steel heavy duty spring. \$8.95</p> <p>M-4 Whip hold down clip \$.75</p> <p>ASP-143 Double Chain Bumper Mount</p> <p>Cad plated, alloy steel interlocking "Z" links assure a secure mounting for spring, extension, coil and whip Mount accepts ¼" 24 thread of spring or whip. \$7.95</p>
--	---	--

For the new 27 MC (11 meter) Citizens Band, For mobile, portable and base station use. 14 models available. (4 shown) Write for free catalog on entire 27 MC line.

<p>M-22 27 mc ground plane antenna. Chrome plated brass radiator and radials are telescoping and may be removed from mounting bracket All hardware supplied Accepts PL-259 connector \$15.95</p> <p>M-27 Same as M 22 except vertical radiator and radials are 108" stainless steel \$28.50</p> <p>ASP-63 For portable transceivers Vinyl covered coil wound into 40" whip. Complete with PL-259 connector. \$7.77</p>	<p>ASP-185 Auto gutter clamp antenna Ideal for temporary use Has Vinyl covered loading coil wound for 27 MC Complete with 12' RG58 U cable and PL-259 adaptor. 40" whip \$15.40 complete</p> <p>M-23 Mobile rear mount. Consists of 102" S S whip, plated spring, aluminum swivel base and 15' of RG58 U cable with PL 259 connectors on both ends Whip gutter clip included \$18.90 complete.</p>
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PREMAX ANTENNAS--MOUNTINGS--ACCESSORIES

SERIES C CENTER-LOADED MARINE ANTENNAS

A Center-Loaded Collapsible type Antenna, consisting of two telescoping, adjustable base sections, on which the loading coil is mounted, with a tapered top whip section, giving a total extended length of about 19 feet. This Antenna collapses to a single unit with the whip section telescoping through the coil into the lower section, making a collapsed length of 7 feet. The sections are of seamless aluminum, or stainless steel and the coil is wound on low-loss bakelite tubing and treated after assembly with weatherproof coating.

No.	Type	Base O.D.	Base I.D.	Wt. Lbs.	List Price
CLA-619	Aluminum	1.000"	.834"	5	\$ 45.00
CLA-1119	Stainless	1.000"	.900"	7	110.00

SERIES B CENTER-LOADED ANTENNAS FOR MOBILE & MARINE USE

Center-Loaded Whip-Type Antennas consist of a standard base section or spring-type on which is mounted a special Premax coil. The top is a taper-ground stainless steel whip 6 ft. in length, giving a total overall height of 9 ft. Various coils are available or the standard 75-meter coil can be adapted by shorting out turns on the coil. Antennas can be used with any of the Standard Premax Mountings shown below, or will fit any 3/8" x 24-thread mounting.

NO.	FREQ.	PRICE
BNS-11	14,000 kc. (29M.)	\$12.50
BNS-23	2374 kc. (CAP)	15.00
BNS-31	3105 kc. (A1P)	15.00
BNS-38	3800 kc. (75M.)	15.00
BNS-43	4325 kc. (CAP)	15.00
BNS-46	4585 kc. (CAP)	15.90
BNS-25	2000 to 3000 kc. (Marine)	20.00
(Same as BNS but with Spring)		
BSS-11	14,000 kc. (29M.)	22.50
BSS-23	2374 kc. (CAP)	25.00
BSS-31	3105 kc. (A1P)	25.00
BSS-38	3800 kc. (75M.)	25.00
BSS-43	4325 kc. (CAP)	25.00
BSS-46	4585 kc. (CAP)	25.00
BSS-25	2000 to 3000 kc. (Marine)	30.00

SERIES B COILS

Premax also supplies the Series "B" Coils in the standard frequencies above. List Price \$9.00 ea.

Also available in special frequencies
Extra Charge \$3.50 ea. net

CIVIL DEFENSE, PUBLIC SERVICE, FIRE & POLICE ANTENNAS CAR TOP OR MOBILE ANTENNAS

FCDA is insisting on adequate communications in Civil Defense and cities everywhere are installing RACES equipment that calls for outstanding ground plane and UHF Antennas. Premax meets this need with several profitable numbers to cover this new market.

TYPE CD-11 Series — PERMANENT TYPE CD-21 Series — EMERGENCY TYPE

NO.	FREQ.	PRICE
CD-112	108 to 120 mc.	\$4.00
CD-114	144 mc.	4.00
CD-115	152 to 162 mc.	4.00
CD-212	108 to 120 mc.	2.80
CD-214	144 mc.	2.80
CD-215	152 to 162 mc.	2.80

GROUND PLANE ANTENNAS FOR POINT-TO-POINT USE

For point-to-point installations, Premax has two VHF Antennas: The Style GP-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any angle to match coax cable. Mounting is within a water-proof housing that fits standard 1/2" pipe. Cable carries down thru pipe.

NO.	FREQ.	USE	PRICE
GP-312	120 mc.	For aircraft and CAP.	\$8.00
GP-314	140 mc.	For 2 meter and C.D.	8.00
GP-315	150 mc.	For police and taxi	8.00

PREMAX ADJUSTABLE GROUND PLANE ANTENNAS 20-60 mc

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc. or 40 to 60 mc. Standing wave ratio matching to 52-ohm line is 1.07 to 1.13 and to 72-ohm line is 1.27 to 1.23 depending on type of transformer cable. All-aluminum construction employing adjustable tubular elements.

GP-430	Adjustable 20-40 mc.	\$50.00
GP-450	Adjustable 40-60 mc.	40.00



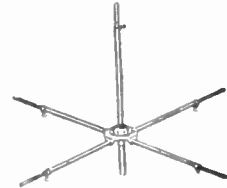
CD-114



CD-214



GP-314



GP-430



Series C



TYPE TYPE
BA BS

MOBILE MOUNTINGS For 1/4" Dia. Whips or any 3/8"-24 Male Thread



Type CA

CA BUMPER MOUNTING

"Chain Style" — clamps on any bumper with 1" clearance; no drilling; theft-proof.
Price \$11.00



Type RS-2

TYPE RS-2

Similar to R-2 except has spring as shown under SA-1.
Price \$23.00



Type K-1

TYPE K-1

Bumper mounting, ceramic cone insulators, cadmium-plated brackets; 10" height adjustment.
Price \$9.00



Type SA-1

SA-1 SPRING ADAPTER

(similar to RS-2 which can be attached to Type K, L, or NA mounting. Ht. 4-3/4", Dia. 1-5/8")
Price \$12.50



Type NA-1

TYPE NA-1

Bumper mounting with ceramic cone insulator and steel bracket.
Price \$8.50



Type F

TYPE F

30° adjustable mounting for fender, cowl or gravel pan. Chrome-plated brass with phenolic insulation.
Price \$13.50



Type R-2

R-2 UNIVERSAL MOUNTING

Solid Aluminum split-ball can be adjusted to any angle. Has shielded coax connection.
Price \$12.50



Type L-1

TYPE L-1

Bumper mounting, 2 pairs ceramic cone insulators with steel bracket, 10" adjustment.
Price \$14.00



Type V

TYPE V

Thru-deck mounting designed for Style BX and BS Center-Loaded Marine Antennas. White porcelain cones with a maximum opening for 1-1/2" deck. Stud threaded 7/16"-24.
Price \$9.00

PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., NIAGARA FALLS, N. Y.

PREMAX

ANTENNAS--MOUNTINGS--ACCESSORIES

**VERTICAL TELESCOPING ANTENNAS
PREMAX STAINLESS STEEL ANTENNAS**

Premax stainless steel antennas, fully telescoping and adjustable, have a locking device that holds the sections firmly at any desired point insuring a perfect electrical contact. Made of a high grade polished stainless steel tubing, hard-drawn to an extremely high tensile and yield strength, they are well suited for the most severe strains from high seas or winds.

PREMAX ALUMINUM ANTENNAS

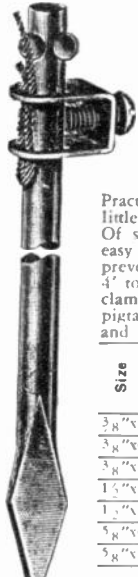
Premax aluminum antennas are lightweight, corrosion resistant and have adequate strength to meet practically all needs for marine, commercial and mobile installations that demand convenience in erecting and dependable performance. They are constructed of highly polished, specially tempered aluminum tubing engineered to withstand wind velocities up to 60 miles per hour.

PREMAX STEEL ANTENNAS

Inexpensive, popular, fully adjustable telescoping steel antennas for commercial, amateur, civil defense or other installations, made of high-tensile copper-nickel steel tubing, are heavily cadmium-plated. A positive locking device insures proper electrical contact between sections. *Not recommended for marine use on salt water.*

**SPECIFICATIONS & DESCRIPTIONS OF
TELESCOPING VERTICALS**

NO.	DESCRIPTION	EXTD.	COLL.	BASE O.D.	BASE I.D.	WGT.	LIST PRICE
SS-1118	5-Sec. Stainless	18'1"	6'3"	.750"	.680"	6	\$ 90.00
SS-1123	4-Sec. Stainless	21'3"	6'3"	1.000"	.900"	9	135 00
SS-1130	5-Sec. Stainless	30'0"	6'1"	1.250"	1.120"	13	185.00
SS-1135	6-Sec. Stainless	35'7"	6'4"	1.500"	1.370"	19	255.00
AL-512	2-Sec. Aluminum	12'3"	6'4"	.500"	.331"	11 1/2	15.00
AL-518	3-Sec. Aluminum	18'5"	6'4"	.750"	.581"	3	25.00
AL-524	4-Sec. Aluminum	24'1"	6'4"	1.000"	.834"	5	35.00
AL-530	5-Sec. Aluminum	30'0"	6'5"	1.250"	1.084"	7	55.00
AL-535	6-Sec. Aluminum	35'8"	6'5"	1.500"	1.310"	12	75.00
112-M	2-Sec. Steel	11'8"	6'0"	.656"	.556"	4	10.00
318-M	3-Sec. Steel	17'3"	6'2"	.875"	.775"	7	16.00
224-M	4-Sec. Steel	22'9"	6'3"	1.063"	.963"	11	22.00
130-M	5-Sec. Steel	28'3"	6'1"	1.250"	1.150"	15	28.00
136-M	6-Sec. Steel	33'9"	6'5"	1.500"	1.400"	20	36.00



**PROTECT YOUR
EQUIPMENT WITH A
PREMAX GROUND ROD!**

Practical and efficient Ground Rods, costing so little that it doesn't pay to fuss with makeshifts! Of smooth, hard-drawn steel, chisel-pointed for easy driving and heavily copper-plated for rust prevention and to insure clean electrical contact. 4' to 8' lengths in 3/8", 1/2" and 5/8" with screw clamp (illustrated) or in 6' and 8' lengths in pigtail wire, drilled hole or plain style, 1/2" and 5/8" only.

Size	Screw No.	Clamp List	Hole		Pigtail		Plain	
			No.	List	No.	List	No.	List
3/8"x4'	J-64	\$ 80						
3/8"x6'	J-66	110						
3/8"x8'	J-68	165						
1/2"x6'	G-86	210	H-86	\$200	P-86	\$225	X-86	\$180
1/2"x8'	G-88	250	H-88	240	P-88	265	X-88	220
5/8"x6'	G-106	300	H-106	290	P-106	315	X-106	265
5/8"x8'	G-108	380	H-108	370	P-108	395	X-108	315

(Prices are per 100 rods, bundled in 25's)

BASE MOUNTINGS FOR VERTICALS



TYPE 1 BASE INSULATOR

Heavy-duty type Base Mounting Insulator with compression rating up to 10,000 lbs. Has wet-process brown-glazed porcelain cones. Available in galvanized malleable iron, plain brass and chrome-plated brass, in rigid-post, hinged-post. Ht. to post base, 7 to 9 inches. Wt. 8 lbs.

List Price \$52.00 to \$105.00



TYPE 6 BASE INSULATOR

For marine, mobile unit, roof-top or tower. Lead-thru construction permits connections below deck. Flanges 6" in diameter with 6 bolts on a 5" circle. For 1 1/2" to 3" deck. Available in galvanized malleable iron, only, except on special order. Rigid post, and hinged post styles. Ht. from flange to post base, 3" to 5". Wt., 11 1/2 lbs.

List Price \$78.00 to \$85.00

STANDOFF INSULATORS



TYPE 10-S

A heavy-duty Insulator with chrome-plated brass base and head caps regular or hinged clamps. Insulator is brown-glazed porcelain in extra heavy style. Ht. to center of clamp, about 4 1/2". Wt., 3 lbs.

List Price \$60.00 to \$72.00



TYPE 13-S

Heavy, rugged cast caps and base plates in aluminum, or chrome-plated brass. Heavy brown-glazed porcelain insulator, 3 inches in diameter. Ht. to center of clamp, 4 1/4". Wt., 2 1/2 lbs.

List Price \$14.00 to \$26.00

MOBILE WHIP ANTENNAS

HEAVY-DUTY TAPERED STAINLESS — TYPE ES

Solid one-piece taper-ground whips, 1/4" at base tapering to 3/32" at tip with ball top. High-tensile stainless steel fabricated by special formula, comparing favorably with the best spring steel, yet having excellent corrosion-resistant properties.

HEAVY-DUTY TAPERED CHROME — SILICON — TYPE EC

Same as above only fabricated from chrome-silicon steel of exceptionally high tensile strength and uniformity of temper, with high fatigue values developed by special heat treatment during fabrication.

STANDARD WEIGHT WHIPS WITH NON-REMOVABLE ADAPTOR — TYPE TS

A high-tensile stainless taper-ground whip assembled with a press-fit stainless adaptor to fit all 3/8"-24 tapped mountings.

STANDARD WEIGHT WHIPS WITH REMOVABLE ADAPTOR — TYPE VS

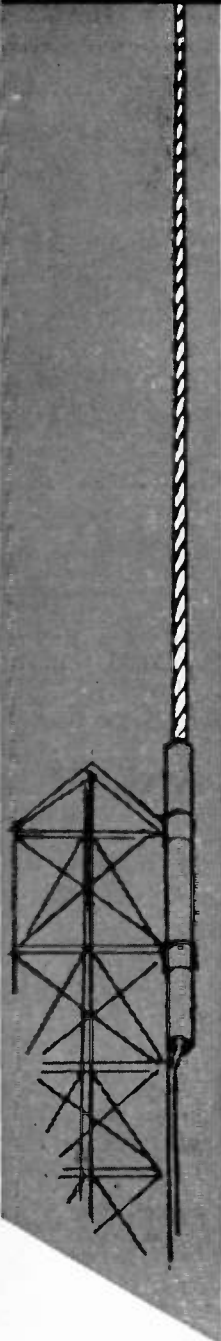
Same description as the above TS Series except adaptor is removable.

NO.	LENGTH	PRICE	NO.	LENGTH	PRICE
ES-760	60"	\$6.00	TS-860	60"	\$7.00
ES-772	72"	6.00	TS-872	72"	7.00
ES-784	84"	7.00	TS-884	84"	7.50
ES-796	96"	7.00	TS-896	96"	7.50
EC-660	60"	5.50	VS-960	60"	8.00
EC-672	72"	5.50	VS-972	72"	8.00
EC-684	84"	6.50	VS-984	84"	8.50
EC-696	96"	6.50	VS996	96"	8.50

**ALL PRICES SHOWN ARE LIST PRICES SUBJECT TO USUAL COMMERCIAL DISCOUNTS.
PRICES EFFECTIVE AT TIME OF PRINTING AND ARE SUBJECT TO CHANGE WITHOUT NOTICE.
PREMAX PRODUCTS, DIV. CHISHOLM-RYDER CO., NIAGARA FALLS, N. Y.**

Shakespeare WONDERRODS

COMPLETE ANTENNA LINE



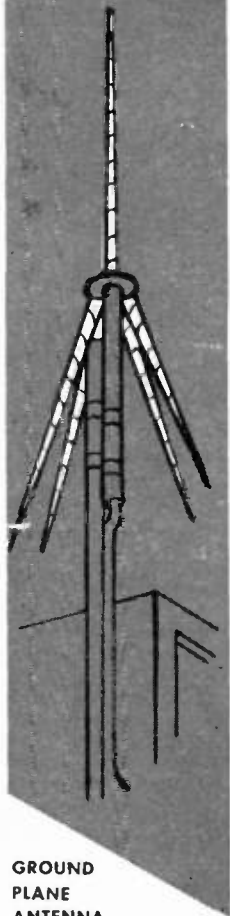
GROUND PLANE ANTENNA

High strength fiberglass radiating elements.
 Style 61-1 for 25-30 mc
 61-2 for 30-35 mc
 61-3 for 35-40 mc
 61-4 for 40-47 mc
 61-5 for 47-54 mc

Resonated for low end of band, with curve furnished for cutting to higher frequencies.

HIGH GAIN — 3 DB GAIN

Style 59 for 440-470 mc
 Style 60-1 for 144-155 mc
 60-2 for 155-165 mc
 60-3 for 165-174 mc



STANDARD WHIP ANTENNA

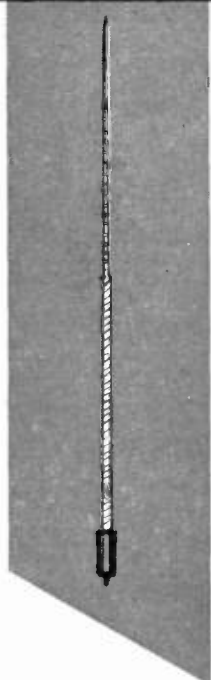
Light weight
 high flexural and impact strength
 corrosion resistant.
 Whips —
 Style 10-1 54" — 60" — \$5.75
 10-2 60" — 90" — 6.95
 10-3 27 mc citizen's band — 6.95

Base Extensions —
 Style 29-1 18" — \$4.80
 29-2 27" — 5.48
 29-3 36" — 5.82
 prices shown amateur net

HIGH GAIN — 5-6 DB GAIN

Light weight, self supporting.
 Style 57 for 440-470 mc*
 Style 58 for 144-174 mc*

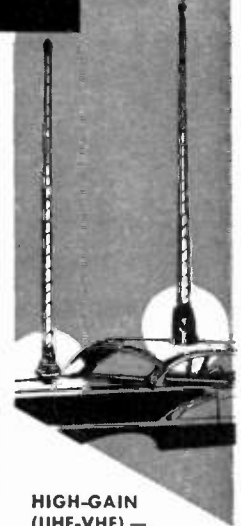
*specify operating frequency when ordering.



NORMAL MODE HELICAL ANTENNA

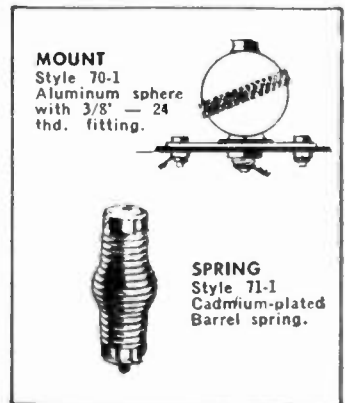
Distributed-load antenna eliminates standard loading coils. Shortened antenna permits choice of mounting positions.

Style	62-0	62-1	62-2	62-3	62-4	62-5	62-6	62-7	62-8	62-9
Band	27 mc citizen's	30-35 mc	35-42 mc	10 meters	15 meters	20 meters	40 meters	80 meters	40 meters	80 meters
Approx. Length	4'	4'	4'	4'	4'	6'	6'	6'	8'	8'



HIGH-GAIN (UHF-VHF) — 3 DB GAIN

Doubles your effective mobile transmitter power.
 19" roof top antenna.
 Style 45 for 440-470 mc
 cowl or bumper mounted.
 Style 56-1 for 144-155 mc
 56-2 for 155-165 mc
 56-3 for 165-174 mc



MOUNT

Style 70-1
 Aluminum sphere with 3/8" — 24 thd. fitting.

SPRING
 Style 71-1
 Cadmium-plated Barrel spring.



We solicit orders for custom-built antennas for industrial application.

COLUMBIA PRODUCTS COMPANY

Columbia, South Carolina • Subsidiary of Shakespeare Co.

look for the spiral markings of genuine Shakespeare Wonderrods.

GONSET

DIVISION OF YOUNG
SPRING & WIRE CORP.



Communications Equipment

ANTENNAS... ACCESSORIES...

"3-BANDER" SERIES, 2 and 3 ELEMENT BEAMS for operation on 3-bands



2-element beam, #3219....

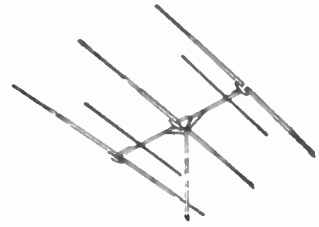
Gonset 3-Banders are 2 and 3 element full length beams for high gain and superior performance on 3-bands, 10, 15 and 20 meters. Exclusive, multiple sleeve concentric elements give top 3-band performance, eliminate coils completely.

Beam assembly is simple, rapid. All elements are factory cut to correct length. 20 meters requires no tuning. Tuning for 10 and 15 meter driven elements and 15 meter parasitics is accomplished by simple adjustment of tuning sleeves, 10 meter parasitic elements are factory cut to correct length.

Highest grade silicone rubber "Boots" seal off the open-ended concentric elements from dust and moisture. These "Boots" have very low losses, do not absorb moisture, will not become brittle under exposure to sun and weather.

Forward gain, (3-band average)
3-element: More than 8 db.
2-element: 4.9 to 5.3 db.

Typical VSWR: 1.4 to 1. (at heights over 35')
Feed: Single RG8/U cable.
Weights: 3-element 65#, 2-element 35#.



3-element beam, #3220...

6 METER 10 ELEMENT YAGI BEAM

The new Gonset 10 element Yagi beam provides exceptionally high gain—actually permits 50 watts to sound like a KW at the receive end!

Usable frequency range is 50-54 mcs. Beam has 10 elements on a husky 16 foot boom. Construction throughout is light but well balanced and rigid so that there is no sag or droop. Assembly is rotated easily by any heavy-duty TV-type rotator.

Forward gain is more than 12 db. Front-to-back ratio is 23 db. minimum. Tripole driven element provides excellent match to line.



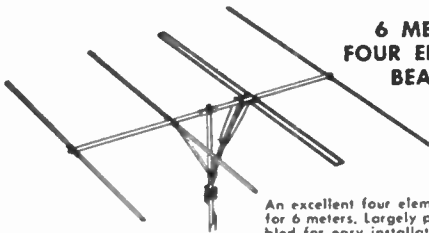
10 element Yagi ... #3282

2 METER ANTENNAS



DROOPING GROUND PLANE #1621

6 METER FOUR ELEMENT BEAM



Includes special balun for balance and match of folded dipole driven element to 52 ohm coax.

An excellent four element Yagi for 6 meters. Largely preassembled for easy installation. Features high forward gain, low SWR and symmetrical pattern.

#1523

10 METER 3 ELEMENT BEAM



Pre-tuned and matched, full length 10 meter beam. T match and coax balun, (supplied) assure low SWR and symmetry over wide band width. Gain is more than 6 db (1/2 wave dipole reference) and FBR exceeds 20 db at peak frequency. Boom is 10', 1 1/2" and stub mast 40", 1 1/4" galvanized steel tubing.

Elements are 3/4" aluminum alloy. With coax balun and stub mast

#1587

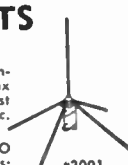
C-D ANTENNA KITS



#3095

2 METER COMPLETE GROUND PLANE KIT. Includes: 1-ground plane antenna, 50' coax cable and 2-PL259 fittings, 1-8' mast with clamp, base mounting, guys, etc. #3091

BEAM ANTENNA KIT FOR POINT TO POINT COMMUNICATION. Includes: 1-de luxe Twin-six beam, 50' coax, 2-PL259 fittings. (Mast not supplied). #3092



#3091

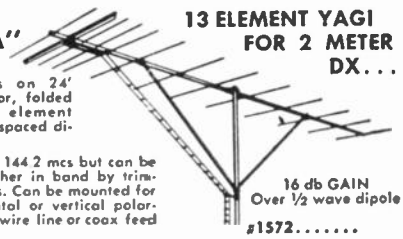
6 METER GROUND PLANE ANTENNA. Includes: 50' coax, PL259 fitting, 8' mast with clamp, base mount, guys, etc. #3095

"BIG BERTHA"

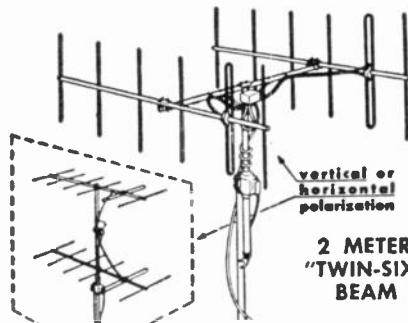
13 elements on 24' boom—reflector, folded dipole driven element and 11 wide spaced directors.

Factory set at 144.2 mcs but can be optimized higher in band by trimming elements. Can be mounted for either horizontal or vertical polarization. Open wire line or coax feed possible.

13 ELEMENT YAGI FOR 2 METER DX...



16 db GAIN Over 1/2 wave dipole #1572



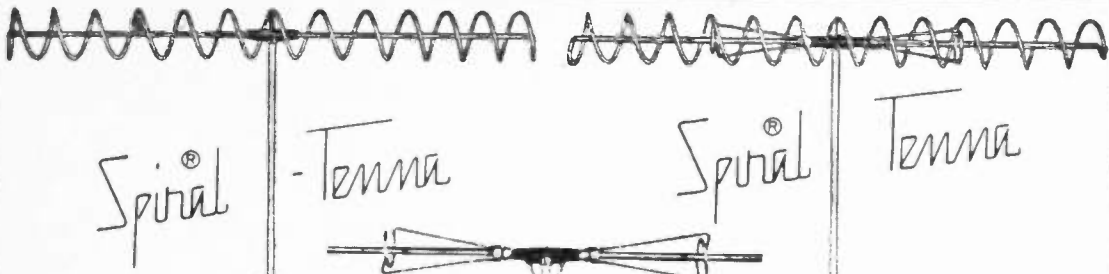
2 METER "TWIN-SIX" BEAM

Twin-six, a rugged, quickly assembled dual Yagi, provides well over 10 db gain and FBR throughout the 2 meter band. Special balun and matching networks assure symmetry and low SWR with 52 ohm coax line feed.

Array is largely preassembled and designed for use with standard TV rotator. Antenna may be arranged for horizontal or vertical polarization. De Luxe model includes braced 5' boom and mast section.

DE LUXE TWIN SIX BEAM..... #1560

HI-LO TV ANTENNAS are BEST



MODEL 101
For
Channels 2-13

Here is the greatest indoor TV antenna . . . the antenna which has been setting the highest standard for indoor TV reception since the beginning of television. Beautiful golden spiral which performs as well as it looks . . . the highest signal gain possible . . . new and improved for better television pictures. Shipping weight: 2 lbs.

\$5.47
Dealer
net

HI-LO TV ANTENNAS ARE BETTER
FOR UHF, VHF, AND COLOR

MODEL 303 UHF ANTENNA



Unsurpassed reception in UHF areas with this proven and accepted indoor antenna which works better in tough areas. Shipping weight: Dealer **\$3.57** net 1 1/2 lbs.

MODEL 202UV
For
Channels 2-83

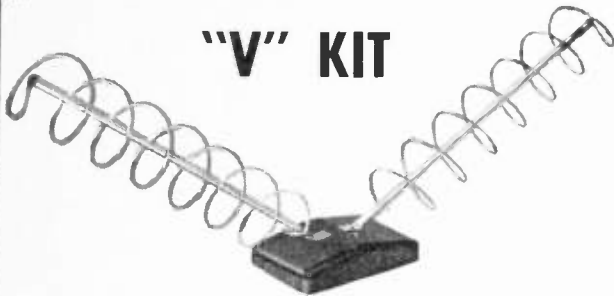
Hi-Lo is still the leader in the antenna business and this UHF-VHF model is one of the reasons. This is the best-performing indoor television antenna for all channels which is guaranteed to outperform others. Its more modern design and finer engineering assure you of television reception at its highest peak. Shipping wt.: 2 lbs.

\$5.97
Dealer
net

You will obtain the sharpest, clearest TV pictures with HI-LO

"SELL THE GENUINE HI-LO ANTENNAS"

"V" KIT



MODEL 606
For
Channels 2-13

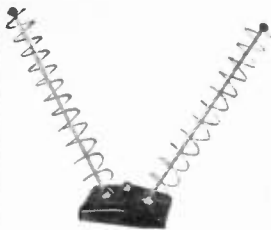
Utilizing the Spiral-Tenna design, the 606 produces clearest reception. The luxurious brown plastic base rests lightly and firmly on any flat surface and the gold color on the spiral blends with any room. The antenna is so designed to completely eliminate any pulling or pushing of rods and carries the same guarantee as all other Hi-Lo antennas, famous throughout the country.

Dealer Net **\$4.80**

MODEL 505
For
Channels 2-83

The spiral antenna that is designed for maximum performance, featuring the NEW TELESCOPING DIPOLES. This versatile antenna swivels on ball and socket in any direction. Gold spirals, plastic base blends with any room.

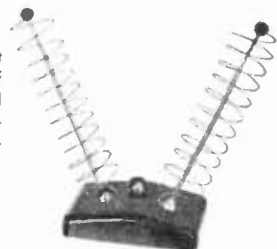
Dealer Net **\$5.00**



MODEL 404
For
Channels 2-83

NEW INDOOR ANTENNA that swivels with a gentle touch of your little finger. Dipoles swivel on ball and socket in every direction. Golden spirals and decorative plastic base blend with all furniture. RECEPTION IS GUARANTEED.

Dealer Net **\$4.80**



U.S. Pat. No. 2,495,579
Canadian Pats. 1951
Other Pats. Pending

Mfd. By **Hi-Lo** TV Antenna Corporation
Chicago 13, Illinois

KTV

formerly KUEHNE

Towers

and communications equipment

2 GREAT PACKAGES

40 ft. Tower Includes: 1 #710-K; 1 #816-K; 2 #818-K tower sections and all connecting hardware. Shipping wt. 126 lbs. Order concrete base or roof mount separately.

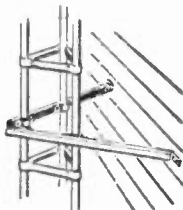
50 ft. Tower Includes: 1 #710-K; 1 #816-K; 2 #818-K and 1 #820-K tower sections; all connecting hardware. Shipping wt. 164 lbs. Order concrete base or roof mount separately.

also available in 10, 20 and 30 ft. packages



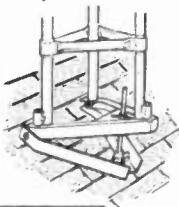
#710-K Top Section. Equipped with 21" spaced mast socket rings to take 1½" to 2½" dia. mast. Threaded external receptacle securely welded to each ring gives extra bearing for 2" x 1½" set screw. Hi-tensile bolts, washers, hex nuts and set screws furnished. Over-all length 10 ft. Wt. 28 lbs.

#820-K Straight Section. Used as bottom of free-standing 50 ft. tower and in other applications. Legs of 16 ga. cold rolled steel triangularly spaced on 107½" centers. Gird-around cross ties spaced at 12" intervals. Over-all length 10 ft. Complete with hardware 38 lbs. #818-K, same quality, but cross ties are spaced at 15" intervals. Wt. 34 lbs. #816-K. Cross ties spaced 20" apart. Wt. 30 lbs.



#864-H Wall or Roof Bracket. Adjustable to 20 inches.

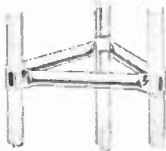
#863-H Roof Mount. Assures a strong, accurately vertical installation of one or more tower sections. Adjusts up to 45° roof pitch. Takes full advantage of KTV's lateral load support. Wt. 8 lbs.



#852-J "Gin Pole". For easy tower assembly. Has 1¼" heavy-duty steel tubing with powerful strap-steel grab brackets. Fits all tower sections. With forged ring and iron pulley. Length 12 ft. Wt. 18 lbs.

Gird-Around Cross Ties

Bigger, safer, stronger. Actually grip around vertical tubing. Take all outward strain. The tower itself takes none.

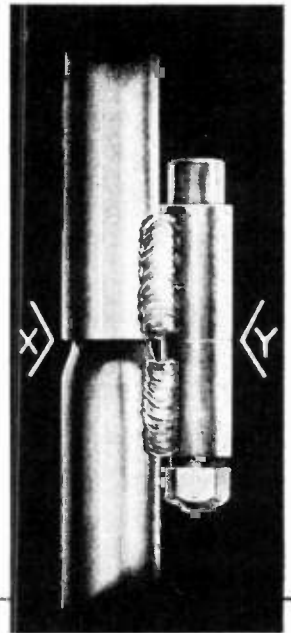


- #862-H. Concrete base mount. The recommended installation.
- #857-F. Mast 10 ft. x 1¼" O.D.
- #859-F. Mast 14 ft. x 1¼" O.D.
- #865-H. Rotor post brackets—adjustable.
- #866-H. Tower mast bushing. 1¼" I.D. 1½" O.D.
- #867-H. Base plate for drive-in base.

A TOWER OF STRENGTH

- Safe in gales up to 80 mph without ugly, hazardous guy wires.
- Free-standing to 50 feet high.
- No rusting, ripping or weakening holes . . . safest by far!
- Big, husky, steel gird-around ties for extra strength.
- Exclusive lateral load bearers take all strain off joints.
- Easy installation and dismantling on roof or ground.
- Free-drainage joints prevent trapped moisture and corrosion.
- Electro-plated with durable zinc for permanent high-luster finish

COMMERCIAL and HAM TOWERS AVAILABLE TO 160 FEET



Exclusive! LATERAL LOAD BEARERS

No dangerous rust. Arrow (X) shows open joint section. Assures free drainage and ventilation, less corrosion. * * * No hazardous holes. Arrow (Y) shows lateral load bearers lifetime welded to side of each section leg with twin 1¼" fillets. Sections are bolted vertically. Bear 100% of the load. No load on joints. No horizontal bolts to tear through. Nothing safer. Only KTV has it!

Engineering available for special towers for radiation and special antennas.

KTV Tower and Communications Equipment Company
Sullivan, Illinois

RAY JEFFERSON, INC.
Manufacturer Communications Equipment
FREEPORT, L. I., N. Y.

MODEL 905

**NET
PRICE
\$99.95**

**INCLUDING
MICROPHONE &
CRYSTAL FOR
1 CHANNEL**



CITIZENS BAND TRANSCEIVER

27 MC CLASS D

FEATURING

- ★ 5 CHANNEL TRANSMITTER
- ★ 23 CHANNEL RECEIVER
- ★ SMALL SIZE (8" x 8½" x 6¾")
- ★ UP TO 10 MILE RANGE
- ★ PRESS-TO-TALK MICROPHONE
- ★ 5 WATTS INPUT POWER
- ★ 12 VDC MODEL, 115 VAC MODEL
- 6 VDC MODEL ON SPECIAL ORDER

NOTE — ACCESSORIES AVAILABLE ARE ANTENNAS,
CRYSTALS & TELEPHONE HANDSETS

MANUFACTURED BY THE PIONEER IN
MARINE RADIO TELEPHONES

RAY JEFFERSON, INC.

Manufacturer Communications Equipment
FREEPORT, L. I., N. Y.

MARINE ANTENNAS

SEAGOING MODEL 2380

The model 2380 is a new streamlined center loaded antenna using a re-enforced fiber-glass top section. The special fiber-glass top section has a wide aluminum ribbon conductor molded in its entire length.

This new antenna also features a new, longer space wound loading coil. The entire coil is sealed in fiber-glass to insure moisture proof operation. The model 2380 is a high output type antenna which in some cases, will more than double your radiated output.

All metal parts from the antenna connection to the tip of the antenna are of aluminum, thus eliminating undue corrosion due to dissimilar metals.

The double hinged base and latch clamp insulator allow the antenna to be easily lowered for passing under bridges. All hardware is furnished and is chrome plated brass or bronze.

Specifications:

Lower section	1½" diam.	12 ft. long
Top section	tapered rod	8 ft. 1 in. long
Loading coil	1¾" diam.	33½ in. long
Total length 23 ft. — Including hardware.		

SEAGOING MODEL CL-22



This center loaded antenna has been designed after many years of research and development in the manufacture of antennas. The CL-22 will operate with any radiotelephone in the marine band 2000-2830KC.

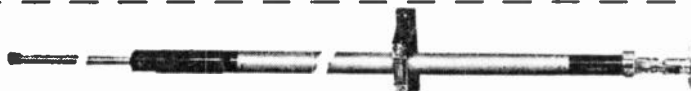
The radiated output of the CL-22 antenna is much greater due to the additional overall length and the lower distributed capacity of the long space wound coil of larger diameter for greater efficiency. The larger radiating surface of the top section (5/8" diameter) also contributes to the excellent performance of this antenna.

Complete with all hardware.

Specifications:

Lower section	1½" diam.	12 ft. long
Top section	5/8" diam.	9 ft. long
Loading coil	2" diam.	2 ft. long
Total length 23 ft. — Including hardware.		

SEAGOING MODEL TL-18A



The Model TL-18A is our standard antenna. This antenna may be used in conjunction with any standard radiotelephone over the marine range 2000-2830 KC. Comes complete with all hardware.

Specifications:

Lower section	1½" diam.	12 ft. long
Top section	5/8" diam.	6 ft. long
Loading coil	1½" diam.	8 in. long
Total length 19 ft. — Including hardware.		

SEAGOING MODEL CL-12



The CL-12 is a small but practical radiotelephone antenna designed especially for the smaller boat not capable of supporting our larger and more efficient antennas. Ideal for open skiffs as it has a self-supporting base which allows the antenna to be lowered for passing under bridges.

Specifications:

Lower section	1½" diam.	2 ft. long
Top section	tapered rod	8 ft. 1 in. long
Loading coil	1¾" diam.	32½" long
Total length 13 ft. — Including hardware.		

SEAGOING MODEL 1690



The model 1690 antenna was designed for use on the small cabin boat. It is an efficient and very light antenna which operates on the marine band.

Specifications:

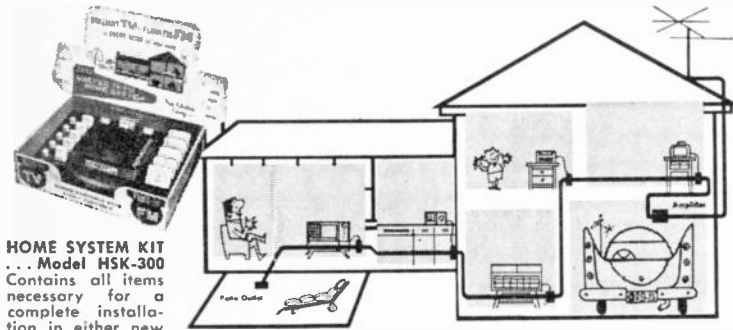
Lower section	1" Diam.	6 ft. long
Top section	tapered rod	8 ft. 1 in. long
Loading coil	1" diam.	18 in. long
Total length 16 ft. — Including hardware.		

JERROLD

TV RECEPTION AIDS

JERROLD'S AMPLIFIED TV-FM HOME SYSTEM

The 1st Completely Engineered, Amplified System For The Home. Produces . . . Plug-In . . . High Fidelity TV and FM Reception . . . Anywhere In The Home.



HOME SYSTEM KIT . . . Model HSK-300
Contains all items necessary for a complete installation in either new construction or existing buildings. Contains one HSA-46, five HS-140, twelve HS-36 and 100' of twin-lead. List Price \$67.75.

SYSTEM COMPONENTS



HOME AMPLIFIER
Model HSA-46
A printed circuit amplifier with a low noise input. Response is flat, ± 1.5 db over TV and FM band. Gain is a minimum of 15 db.

Output capabilities permit input signals as high as 30,000 microvolts without overload. Input and output matched to 300 ohms. Utilizes two 6BK7-A tubes. List Price \$49.95.



COVER PLATE
Model HS-23
Ivory cover plate to cover the outlet in flush mounting applications. List Price \$.50.

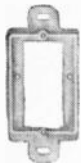


PRESS-ON PLUG
Model HS-24

Male plug for simple attachment to 300 ohm twin-lead. No soldering. Inserts into HS-21 Outlet. List Price \$.50.



HOME OUTLET . . . Model HS-21
An efficient press-on tap unit for surface or flush mounting (with HS-22 and HS-23). Offers 10 db isolation between receiver and 300 ohm line. List Price \$1.45.



MOUNTING RING . . . Model HS-22
Plastic bracket used to adapt HS-21 for flush mounting in standard plastic outlet box. List Price \$.30.

TWIN-LEAD INSULATORS
Model HS-36

Plastic strap insulators for attaching twin-lead throughout the home. List Price \$1.80/24.

OUTLET ASSEMBLIES
SURFACE MTG. Model HS-135

Contains all items for surface mounting. One HS-21 and one HS-24. List Price \$1.95.

FLUSH MOUNTING . . . Model HS-140
Contains all items for flush mounting. One HS-21, one HS-22, one HS-23 and one HS-24. List Price \$2.75.

FEATURES

- HIGH-OUTPUT, NOISE FREE AMPLIFIER
- ALL VHF CHANNEL TV AND FM RECEPTION
- 300 OHM TWIN-LEAD OPERATION
- PRESS-ON, PLUG-IN OUTLETS
- SCREW-DRIVER INSTALLATION . . . SOLDERLESS
- IMPEDANCE MATCHED THROUGHOUT
- HIGH ISOLATION BETWEEN OUTLETS

DESCRIPTION

The JERROLD Home System is a completely new innovation in supplying exceptional quality television and FM signals to a number of receivers located anywhere in the home. This is the first truly engineered, amplified system designed especially for the home.

The Home System consists of a low-noise, high output amplifier that permits clear reception of VHF television and FM radio signals in both fringe and metropolitan areas. AM reception is included by utilizing one side of the distribution wiring as an efficient AM antenna. The amplifier distributes the TV and FM signals throughout the house over regular twin-lead. Connection to the twin-lead is made by a special tap unit. A quick disconnect press-on plug is supplied for connecting the antenna terminals of each receiver to any of the tap units. This feature allows any receiver to be moved from room-to-room . . . receivers are no longer tied down.

LOW LOSS MULTI-SET COUPLERS



Jerrold Multi-Set Couplers provide the best method of connecting 2, 3 or 4 television receivers to a common antenna array. Units feature positive matching, extremely low loss and high isolation. Couplers can be used in reverse to mix antennas.

INDOOR MOUNTING — on the baseboard for a neat and attractive appearance, with connectors concealed and protected. For attic or basement use, the unit mounts with terminals exposed for ease of servicing.

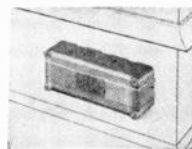
OUTDOOR MOUNTING — a bracket is supplied utilizing keyhole perforation for screw heads, or for strapping to antenna mast. The unit is weather resistant.

THREE MODELS AVAILABLE

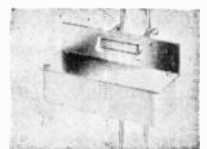
***M-2 TWO SET COUPLER FOR STRONG SIGNAL AREAS** — inductively compensated with emphasis on positive matching for reduction of ghosting and smear. Color: blue grey. List \$3.50.

MF-2 TWO SET COUPLER FOR FRINGE AREAS — for use wherever extremely low forward losses are mandatory. Featuring a highly efficient transformer design and positive matching. Provides complete isolation between receivers. Color: ivory. List \$4.50

MF-4 FOUR SET COUPLER FOR ALL AREAS — designed with the same basic circuit as MF-2, but for use in feeding 3 or 4 sets from one antenna. Color: ivory. List \$5.75



Baseboard



Mast



Attic & Basement



Outside

(Each unit packed with special bracket, for outdoor mounting, and necessary hardware.)
*Best for UHF.

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

ALL JERROLD EQUIPMENT DESIGNED FOR COLOR

FOR THE HOME

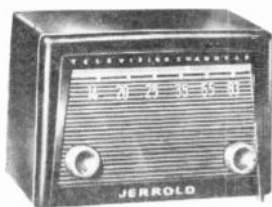


JERROLD ULTRACON UHF CONVERTERS

FEATURING

- PRESELECTION — a must in 2 channel areas, UHF or VHF.
- COAXIAL TUNING — for no drift-stability, low noise operation, no wiping contacts.
- LONG LIFE OPERATION — newly developed 6AF4-A oscillator tubes, low noise mixer-diodes.
- VERNIER TUNING — coupled to slide rule dials for easy station selection.

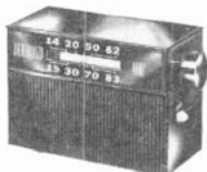
ULTRACON Deluxe Model FTC



... for excellent reception in areas where other units don't work. Combines high gain amplification with low loss radar designed, dual cavity tuner. Built-in UHF antenna. Matched Impedance. Handsome mahogany or blonde cabinet. Complete with 6AF4-A, 1N72, 6CB6 and instruction booklet. List Price \$39.95.

ULTRACON Model TCU

... for quality reception in normal signal areas. Lowest noise figure over entire UHF band of any similarly priced converter! Handsomely styled cabinet in dark maroon. Complete with 6AF4-A and 1N72. List Price \$22.95.



"TRAP-EASE" TUNABLE INTERFERENCE TRAPS

Eliminate adjacent channel interference, permit reception of weak, distant stations normally blocked by a strong local channel.



BEFORE



AFTER

TRAP-EASE "KNOCKS OUT ADJACENT CHANNEL INTERFERENCE". This tunable "deep notch" antenna trap (greater than 50 db) permits TV viewers to remove "beat" or "herringbone" patterns caused by adjacent channel sound or video carriers. Permits clear reception of even weak distant stations.

Works with any TV receiver and any 300 ohm antenna that would normally bring in pictures from the distant stations if the interfering adjacent channel was not on the air. Does not affect reception of regularly viewed channels.

TWO MODELS AVAILABLE

LOW TRAP-EASE
(Model HQ-91) covers
Channels 2 to 6.

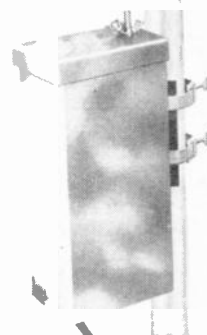
HIGH TRAP-EASE
(Model HQ-92) covers
Channels 7 to 13



\$19.95 List

"DE-SNOWER" PREAMPLIFIERS

Jerrold De-Snower Preamplifiers mount directly at the antenna. Produce "snow-free" pictures from extremely weak signals. Overcome noise pick-up and line losses in antenna lead-ins. Three models available, each with optional inputs for 75 or 300 ohm antennas. One coax cable carries both 24 volt power and amplified signal. All units shipped with remote power supply, fittings and mounting brackets.



Model DSA-132

All Band: Covers channel 2 to 13. Gain: 25 db. Frequency Response: ± 1 db. Noise Figure: 6 db low band and 7.5 db high band. Tubes: 3- 6BQ7-A, 1 6AK5, 1 6CB6. Sizes: 5" x 5" x 10 1/4". List Price \$109.50*

Model DSA-62

Low Band: Covers channel 2 to 6. Similar to DSA-132 in specifications. Tubes: 1-6CB6 and 1-6BQ7-A. List Price \$90.00*

Model DSA-*

Single Channel: Available for any channel from 2 to 13. Similar to Model DSA-62. Gain: 28 db. Tubes: Low Band, 1- 6BQ7-A and 1-6CB6; High Band, 1-6BQ7-A and 1-6AK5. List Price \$90.00*

FM RANGE EXTENDER

Provides reception of distant FM stations not normally received. Greatly improves reception of weak or noisy stations. Connects between the antenna and FM tuner or receiver. 20 db S/N ratio with 0.6 uv input. Increases the antenna signal 18x. Full FM bandwidth. Gain: 25 db. Tubes: 1 6BQ7-A and 1- 6CB6.



Model DSA-FM

Designed for outdoor antenna mast mounting, operates from a remote supply of 24 volts. Supply included. List Price \$90.00*

Model 406A-FM

Designed for indoor mounting, operates from internal 117 volt supply. List Price \$64.25*

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

LOOK TO JERROLD FOR AIDS TO BETTER TELEVIEWING.

JERROLD



TV DISTRIBUTION SYSTEMS

as simple as A-B-C

A AMPLIFYING

Amplify the signals, one channel or all channels. Achieve undistorted reproduction of TV signals over long distances of coaxial cable with simplicity of installation and continuous 24-hour maintenance-free operation. Each Jerrold amplifier is designed with:

- Flat Response over entire band
- Matched 300 ohm or 75 ohm input
- Matched 75 ohm output
- High Overload Characteristics

MODEL 2300

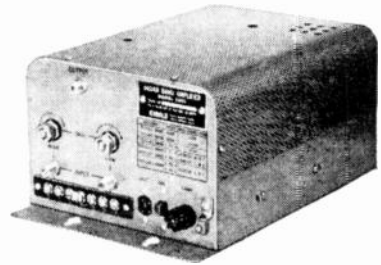
COVERS CHANNELS 2 TO 6 AND 7 TO 13

The Jerrold high gain, high output TV distribution amplifier for large motels, hotels, apartment buildings and "neighborhood cable" systems.

\$164.00 List

FEATURES:

- Hi and Lo band locking gain controls.
- Hi and Lo band "tilt" controls for cable compensation. (No external line equalizers needed.)
- Ground clamp for lightning protection.



SPECIFICATIONS

Gain: 38 db min.

Gain Controls: 16 db range Hi and Lo bands.

Tilt Controls: Hi and Lo bands.

Rated Output (Max.): .3v channel for 9 channel operation

Rated Input (Max.): 26000 uv

Tube Complement: 4-6BQ7-A, 2-12BY7A, 1-6CB6.

Cable Fittings: 75 ohms — (3) F-61; 300 ohms — screw terminals

Fuses: Primary — 1 amp.

Finish: Gray hammertone.

Dimensions: 11" x 7 1/4" x 5 1/4"

Shipping Weight: 10 lbs.

Power Requirements: 117 volts AC .58 amps.; 63 watts

MODELS ABD-1, ABD-8 and 406A

Provide the key to superior television distribution for small economical systems. Combining latest cascade circuitry and superior mechanical design, these amplifiers deliver strong, snow-free pictures and keep installation costs to a minimum.

SPECIFICATIONS: MODEL ABD-1

COVERS CHANNELS 2 TO 6 and 7 TO 13

Gain: 25 db

Rated Output (Max.): 0.1 v/channel (7 channel operation)

Rated Input (Max.): 5500uv

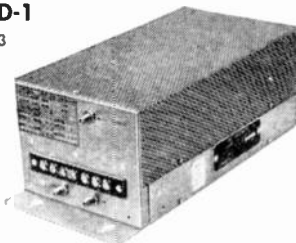
Noise Figure: 6 db low band, 7.5 db high band

Tube Complement: 3-6BQ7A, 1-6AK5, 1-6CB6

Cable Fittings: 75 ohms-(3) F-61; 300 ohms — screw terminals

Fuses: B+, 1/10 amp. Slo Blo; Pri. 1/2 amp. Slo Blo

Dimensions: 11" x 4" x 5"



Shipping Weight: 7 lbs. 7 ozs.

Power Requirements: 117 v AC, 50-60 cps, 35 Watts

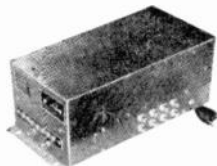
\$99.50 List

SPECIFICATIONS: MODEL ABD-8

COVERS CHANNELS 2 TO 13

Same circuitry as ABD-1 except output circuit, which delivers 15 db gain to each of eight F-61 output terminals.

\$99.50 List



SPECIFICATIONS:

MODEL 406A-*

COVERS ANY SINGLE CHANNEL FROM 2 TO 13

Gain: 28 db

Bandwidth: 6 mc. ±1/2 db

Rated Output (Max.): .6v RMS Lo band, .5 v RMS Hi band

Noise Figure: 6 db Lo band, 8 db Hi band

Tube Complement: Lo band, 1-6CB6, 1-6BQ7A; Hi band, 1-6BQ7A, 1-6AK5

Housing: Gray hammertone finish

Dimensions: 3" x 4" x 10 1/2" overall

Shipping Weight: 4 1/4 lbs.

Power Consumption: 15 Watts

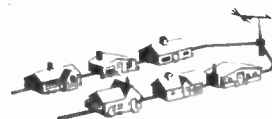
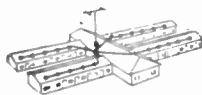


* Specify channel desired

\$64.25 List

TECHNICAL DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE
Above units shipped complete with coaxial fittings and hardware.

ALL JERROLD EQUIPMENT DESIGNED FOR COLOR



B BRANCHING

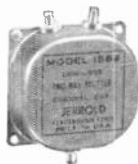
Branch amplifier outputs into 2 or more trunks with minimum loss, no distortion, no overload and high isolation between legs.

TWO-WAY SPLITTER

Model 1562

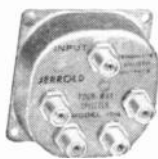
Hybrid two way splitter with only 3 db forward loss in each leg. Isolation between outputs is 15-20 db. B-59 coax bushings do not require cable connectors.

\$7.50 List



FOUR-WAY SPLITTER

Model 1514



Four-way reactive splitter with only 6 db forward loss to each output. Isolation between outputs, 12 db. Complete with five F-59 cable connectors. (Unused outputs must be terminated with TR-72F terminating resistors.)

\$14.50 List

TERMINATORS



Model TR-72B

Inexpensive 75 ohm terminator for easy connection to B-59 type bushings.

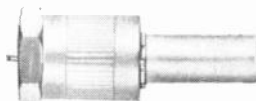
\$1.50 List



Model TR-72

Close tolerance 75 ohm resistor for line or equipment termination. Mates with C-61, C-81 or C-5911.

\$1.50 List



Model TR-72F

Similar to TR-72. Mates with F-61, F-81, A-61 or F-101-59.

\$1.50 List

C CONNECTING

Connect the signal to TV receivers quickly and efficiently — using simple and rapidly installed Jerrold tap-off units. Designed for high isolation between receivers. Compensates for cable characteristics.

FOR INDOOR USE

Surface Mounting

Model LT-310 — 300 ohm output

Taps RG-59 U line to 300 ohm receivers. Full RF and AC isolation. B-59 coax bushings do not require cable connectors. Surface mounting, ivory radiation-proof steel case. Three color-coded attenuation values specify R, Y or G. Terminate the last tap on feeder line with model TR-72B terminator.

\$5.00 List



Model LT-77 — 75 ohm output

Taps RG-59 U line to 75 ohm receiver or to 300 ohm in direct pick up locations. Full RF isolation. B-59 coax bushings do not require cable connectors. Surface mounting, ivory radiation-proof steel case. Three color-coded attenuation values (specify R, Y or G). Terminate the last tap on a feeder line with model TR-72B terminator.

\$5.00 List

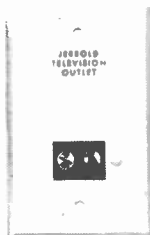


Flush Mounting

Model 1431 — 300 ohm output

Electrically identical to LT-310. Mounts in 2" x 4" electrical outlet box or 4" x 4" outlet box with single gang plaster ring. Specify R, Y or G. Terminate the last tap on a feeder line with model TR-72B terminator.

\$5.00 List



Model 1477 — 72 ohm output

Electrically identical to Model LT-77. Mounts in 2" x 4" electrical outlet box or 4" x 4" outlet box with single gang plaster ring. Specify R, Y or G. Complete with 72 ohm output plug. Terminate the last tap on a feeder line with model TR-72B terminator.

\$5.00 List

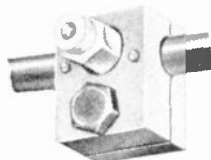


FOR OUTDOOR USE

Model PT 1461 — For RG-11/U

Pressure tap for RG-11 U type feeders. Surface mounting. Removable color coded isolation units. (Specify R, Y or GR.) Unique design minimizes shunt capacity. (Requires use of CD-11 Cutting Punch.) Complete with F-59 cable connector. Terminate the last tap on a feeder line with TR-72F terminator. (Use F101-59 cable adaptor.)

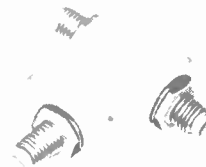
\$7.50 List



Model 1401 — For RG-59/U, RG-6 U

Surface mounting non-resistive line tap for RG-59/U type feeders. Color coded attenuation values permit use with highest gain amplifiers. Specify R, Y, GR. Complete with mounting bracket and three C-52 cable connectors. (Use C-56 connectors for RG-6 type feeders.) Terminate the last tap on a feeder line with TR-72 terminator.

\$7.50 List



TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

LOOK TO JERROLD FOR AIDS TO BETTER TELEVIEWING

JERROLD

JERROLD TV SYSTEM ACCESSORIES

**ANTENNA
MIXING
NETWORKS**

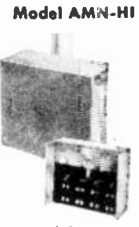
NEW



Group of 4 Model TX-(†) Units on GP-4 Mount

For mixing single channel or broadband antennas into a common line. May be used in reverse as channel splitters.

- INDOOR OR MAST MTG.—FIXED FILTER—300 OHM**
Complete with Matched Mixing Jumpers, Sgl. Mtg. Plate and Hardware
TX-(†) Specify Channel Desired Ch. 2 thru 13 \$5.95
TX-(FM) FM From TV Antenna With No Losses \$5.95
TX-(H-L) To Be Used When Mixing Hi and Lo VHF Chs. \$5.95
TX-(VHF-UHF) Mix or Separate VHF and UHF Signals \$5.95
GP-4 GANG PLATE For Mounting 4 TX-(†) Complete With Hardware and Strap \$1.95
- INDOOR MTG.—TUNABLE FILTER—75 OHM**
AMN-HI Gray Hammettone Finish 4 ch. 7-13 \$27.50
AMN-LO Gray Hammettone Finish 3 ch. 2-6 \$27.50
- MAST MTG.—TUNABLE FILTER—300 OHM**
DMN-HI Iridite Finish 4 ch. 7-13 \$42.50
DMN-LO* Iridite Finish 3 ch. 2-6 \$42.50
* Includes Hi-Lo Mixer for Combining With DMN-HI
† Specify channel desired.



Model AMN-HI
Model DMN-HI

**UHF
CONVERTER
MODEL
U2V**

UHF Converter Model U2V
Pulling UHF pictures out of the snow where other converters haven't a chance, the U2V mast mounting mixer head converts right at the antenna. The UHF oscillator is mounted at the amplifier location (or at the TV receiver for individual home installation) and sends conversion signals up to the mixer, a technique developed in radar installations). Signals leave the mixer as VHF so coaxial cable may be used. The U2V will convert any UHF channel to any VHF channel. Order by specifying UHF channel to be converted to a specific VHF channel. \$124.50 list

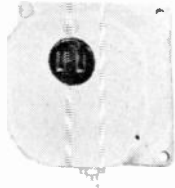


MIXER HEAD
UHF Input: double cavity tuned, 10 mc bandwidth, 75 ohms
VHF Output: 75 ohms
Mixer Crystal: CK 710 or CK 731
Dimensions: 4 1/4" x 4 3/8" x 2 3/8"
Weight: 1 lb. 13 oz.
Mounting: Mast mounted, brackets and straps supplied

Oscillator Output: 1.0 v RMS
Power Requirements: 117v AC, 50-60 cps, 25 watts
Dimensions: 4 1/2" x 5 1/2" x 7"
Weight: 3 1/2 lbs.
Mounting: May be mounted higher horizontally on a shelf or vertically on a wall.
Shipping Weight: 7 lbs. (Head & Oscillator).



**WALL
TERMINAL
UNITS**



Model ST 1611
Features quick-disconnect receptacle. Matches receiver to 75 ohm line. Terminates top line. Isolates line from AC-DC receivers. Metal construction minimizes radiation. Male plug not included. \$3.75 list

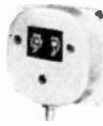
MODEL 1201
Matches receiver to 75 ohm line. Terminates line. Isolates line from AC-DC receivers. Molded plastic economy model. Surface mounting. \$2.40 list

MODEL 1202
Same as model 1201 but mounts flush in 2 x 4 electric outlet box. Requires one Model 1202-P Cover Plate. 1202 \$2.40 list 1202P \$.25 list



**MATCHING
TRANS-
FORMERS**

Model T-372
Surface mounting. 6 db gain between 75 ohm line and 300 ohm line. Flat response 50-250 mc. VSWR 1.26. Isolates line from AC-DC receivers. C-52 male connector included. \$6.00 list



Model T-375
Receiver mounting. Economy version of T-372. Has B-59 crimp-on bushing in place of C-61 female 75 ohm connector, pre-connected 6" 300 ohm lead instead of terminal strip for mounting directly to receiver. \$4.85 list



Model T-373
Flush mounting. Transformer type terminal unit. Mounts flush in 2" x 4" electric outlet box. Steps up signal 6 db between 75 ohm line and 300 ohm output. Isolates line from AC-DC receivers. \$6.00 list



Model TO-374
Antenna mounting. Outdoor version of T-372. Bypasses AC for using open line in long runs between De-Snower preamplifier and power supply. Matches 300 ohm broadband or yagi antennas to 75 ohm line. Complete with mounting strap and cable connector (F-59). \$10.00 list



HIGH Q TRAPS

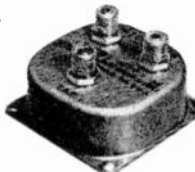
Each trap consists of two tunable L-C circuits in a modified bridged-tee network. Tuning is by Teflon-dielectric trimmers with screwdriver adjustment. With both circuits tuned to an interfering signal, rejection is 40 db minimum with insertion loss only 1 db at 1 mc off the interfering frequency. Complete with two F-59 connectors for RG-59/U cable. each \$58.50 list

Model TLB-1 59.75 — 83.75 mc
Model TFM-1 88-108 mc
Model THB-1 179.75 — 211.25 mc



MATCHED T PADS

Model MTP
Model MTP is a T pad presenting outstanding 75 ohm match to both line and tap. VSWR is better than 1.2. Available in attenuation values of 8, 10, 12, 14, 17, and 20 db. (Insertion loss varies inversely with tap attenuation, 5.5, 5.0, 4.5, 3.3, 2.5 and 2.0 db). Specify value desired. Complete with three F-59 cable connectors for RG-59/U cable. \$10.83 list



FIXED RF PADS

Model PDC—Coaxial chassis mounting attenuator pads. F-59 connector on one end mates with F-61 connector on chassis. F-61 connector at other end mates with F-59 male cable connector. Available in attenuation values of 3, 6, 10 and 20 db. Specify value desired. \$5.85 list

Model PDC-3, 6, 10 or 20 \$5.85 list

Model PDL — Identical with PDC except that both ends have F-61 female connectors to mate with F-59 cable connectors.

Model PDL-3, 6, 10 or 20 \$5.85 list



TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

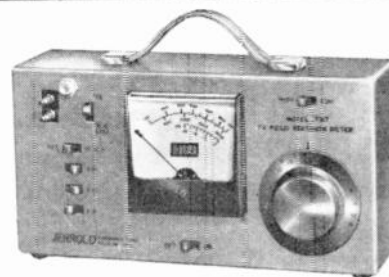
ALL JERROLD EQUIPMENT DESIGNED FOR COLOR



JERROLD TEST EQUIPMENT

TRANSISTORIZED FIELD STRENGTH METER Model TMT

Direct Reading . . . Portable Field Strength Meter for Television
Signal Measurements . . . Channels 2 to 6 and 7 to 13.



FEATURES

- TRANSISTORIZED PRINTED CIRCUIT . . . 200 operating hours on 4 flashlight cells.
- EXTREMELY LIGHT WEIGHT . . . 4½ lbs.
- UP TO 6,000,000 MICROVOLTS . . . in eight switchable ranges.
- NO FALSE READINGS ON NON-TV INTERFERENCE.
- METER CALIBRATED IN BOTH MICROVOLTS AND DB.
- WEATHER PROTECTIVE CARRYING CASE, WITH NECK STRAP, AVAILAble.
- DESIGNED FOR EASY ONE MAN ANTENNA ORIENTATION.

APPLICATIONS

- CHECKING ANTENNA PERFORMANCE ON SERVICE CALLS
- ANTENNA ORIENTATION
- SIGNAL PROBING FROM ROOF TOPS, VEHICLES, ON HILL-SIDES AND OTHER LOCATIONS WHERE PORTABILITY AND BATTERY OPERATION ARE A NECESSITY
- MEASURING TELEVISION SIGNALS IN ALL TV DISTRIBUTION SYSTEMS.

The Jerrold Model TMT is a direct reading Field Strength Meter that represents a radically new concept in the design of an instrument for measuring television signal strengths. In operation, the meter is relatively immune to noise and interfering signals; it responds only to the channel to which the meter has been tuned. The input to the meter is designed for both 75 and 300 ohm applications.

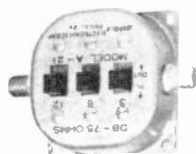
Utilization of transistors, crystal diodes and printed circuit wiring offer many advantages. Principal among these are: extremely long life, minimum maintenance, stable operation, minimum power consumption and compact portability. Model TMT features these and many more advantages for the television serviceman and system technician. Unit shipped complete with transistors, crystal diodes and instructions. Net Price \$135.00

WEATHER PROTECTIVE CARRYING CASE

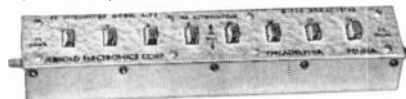
A sturdy water repellent case designed for the TMT. Makes it possible for one man operation with hands free.



VARIABLE ATTENUATORS



A-21 \$11.70 net

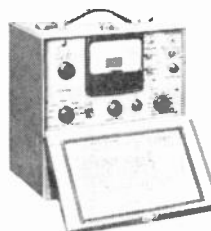


A-72
\$54.50 net

Models A-72 and A-21

Switch type, Variable RF Attenuators providing precise attenuation over the frequency range of 0 to 250 megacycles. The units are matched to 75 ohms with a VSWR of less than 1.05 and are capable of handling 500 milliwatts of power. Model A-72 attenuates from 0 to 82 db in 1 db steps. Model A-21 attenuates from 0 to 21 db in 3 db steps.

JERROLD CALIBRATED FIELD STRENGTH METER Model 704B

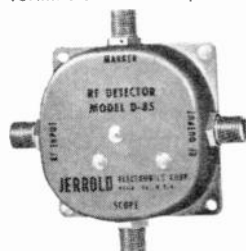


A calibrated, direct reading instrument for TV and FM measurements . . . a 'must' for color. Reads down to 5 microvolts and up to 3 volts. Bandwidth is 0.6 mc. Separates audio from adjacent video. Precise readings in db or microvolts, ±0.8 db over entire range. Reads percent of amplitude modulation of FM carriers, percent of AM distortion of FM amplifiers, and percent of AM of RF generators. Output jacks for phone and oscilloscope.

Frequency Range: 54 to 220 mc, covered in one band by a continuous tuner. Ranges: 0-100 uv; 0-300 uv; 0-1,000 uv; 0-3,000 uv; 0-10,000 uv; 0-30,000 uv; 0-.1 volt; 0-.3 volt; 0-1 volt; and 0-3 volts. Image Rejection: 90 db below signal. Power Requirements: 55 watts, 105-125 volts @ 50/60 cps. Tubes: 2-5654; 1-6AB4; 1-6T8; 1-OD3; 3-5749; 1-5V4; and 1-12AU7. Dimensions: 12" x 12¼" x 8". Finish: Gray Crackle, aluminum case. Shipping Weight: 24 lbs. Complete with tubes and instruction manual. Net Price \$365.00.

SPLIT RF DETECTOR—Model D-86

Model D-86 Detector removes the modulation envelope from an RF carrier and applies it to the vertical input of an oscilloscope. Terminals are: RF Input; RF Output; Scope; and External Marker



Input. Voltage doubler circuit for up to 1 volt DC output. For testing and aligning RF amplifiers, VSWR measurements and checking impedance match of RF devices. Response flat from 1.5 to 220 mc. Impedance of 75 ohms with a VSWR of 1.06. List Price \$25.00 net.

ALIGNMENT JIG Model AJ-106



Capacity coupling alignment jig used where an RF signal must be inserted between stages of amplifiers or similar equipment. The AJ-106 is placed over a cold (dummy) tube and the alignment or test signal from the signal generator is connected to the jig.

\$4.50 net

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE





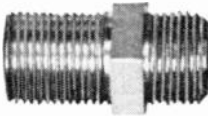
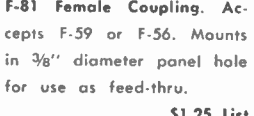
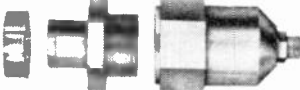
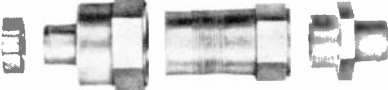


LOOK TO JERROLD FOR THE BEST IN EVERY TEST

JERROLD




JERROLD Solderless COAXIAL CABLE CONNECTORS and ADAPTERS

JERROLD solderless connectors can be permanently bonded to all types of RG-59/U, RG-6/U and RG-35/U cables with simple crimping tools. JERROLD connectors are carefully machined of brass and all exposed surfaces are heavily silver plated. All the new JERROLD "F" series connectors are accurately matched to 75 ohm with a V.S.W.R. less than 1.05 up to 200 mc. "F" connectors can be wrench tightened and all sizes will adapt to each other.




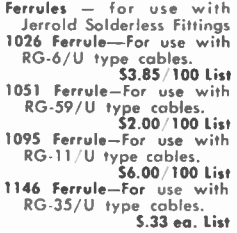
NEW "F" SERIES

FOR RG-59/U AND RG-6/U			
	F-71 Male Coupling Adapter. Mates with F-61, F-81, F-101-59 or A-61. \$1.60 List	F-61 Female Chassis Fitting. Accepts F-59, F-56 and TR-72F. Mounts in 3/8" diameter chassis hole. \$.92 List	A-61 Adapter. Mates new F-59 or F-56 male connectors to older type C-61 female fittings. \$2.00/25 List
			
	F-59 Male Connector. Mates with F-81, F-1159, A-61. For RG-59/U type cables. Requires Crimping Tool PL-601 or PL-602. \$.80 List	F-56 Male Connector. Same as F-59, but for RG-6/U type cables. \$1.03 List	F-81 Female Coupling. Accepts F-59 or F-56. Mounts in 3/8" diameter panel hole for use as feed-thru. \$1.25 List
FOR RG-35/U			
	F-100 Adapter. Connects RG-35/U type cables to F-59, F-56 or TR-72F. Use 8" end cutters for crimping ferrule. \$16.25 List	F-181 Coupler. Couples two lengths of RG-35/U. \$32.90 List	
FOR RG-11/U			
	MODEL F-101-59 ADAPTER ASSEMBLY Connects RG-11/U type cables to F-59, F-56 or TR-72F. Requires Crimping Tool PL-602. \$2.43 List	MODEL AF-201 ADAPTA-FIT MALE CONNECTOR For RG-11 U type cables. Mates with F-81, F-1159, F-61, F-101-59 and A-61. Requires Crimping Tool PL-602. \$2.10 List AF-201. Same as AF-101, but for RG-11 Poly Foam Cables. \$2.10 List	

"C" SERIES

		
C-52 Male Connector mates with C-61 or C-5911. For RG-59/U type cables requires Crimping Tool PL-601 or PL-602. \$.80 List C-56 Male Connector. Same as C-52 but for RG-6/U type cables. \$1.03 List	C-61 Female Chassis Fitting. Accepts C-52, C-56 or A-61. Mounts in 3/16" diameter chassis hole. \$.80 List	C-81 Female Coupling. Accepts two C-52, C-56 or A-61. Mounts in 1/4" diameter panel hole and feed-thru. \$1.00 List

TOOLS and FERRULES

			
Crimping Tool PL-601 — Crimps type 1051 ferrules. For F-59, F-56 and C-52 connectors and B-59 bushings. Does not distort cable or cause impedance mismatches. \$6.50 List	Crimping Tool PL-602 — Crimps all three ferrules — 1051, 1026 and 1095. For F-59, C-52, F101-59, AF-101 and B-59 bushings. Does not distort cable or cause impedance mismatches. Made of hardened steel. \$8.17 List	Cable Cutting Tool CD-11 — Cuts attenuator opening in coax cable for JERROLD pressure taps. Made of hardened steel. \$3.25 List CT-1. Replacement cutting tip for CD-11. \$1.66 List	Ferrules — for use with Jerrold Solderless Fittings 1026 Ferrule —For use with RG-6/U type cables. \$3.85/100 List 1051 Ferrule —For use with RG-59/U type cables. \$2.00/100 List 1095 Ferrule —For use with RG-11/U type cables. \$6.00/100 List 1146 Ferrule —For use with RG-35/U type cables. \$3.53 ea. List

TECH DATA SHEETS AVAILABLE FOR PRODUCTS LISTED ON THIS PAGE

LOOK TO JERROLD FOR AIDS TO BETTER TELEVIEWING

JERROLD

Mosley

ROTARY BEAM ANTENNAS

Mosley

"TRAP-MASTER" VERTICAL ANTENNAS

5 BANDS!

Work 10, 15, 20, 40 and 80 with one antenna...one RG-8/U feed-line! Designed and built to meet United States Air Force electrical and structural specifications. The V-5 is 100% rust proof and performs brilliantly on each of the 5 bands. It is capable of handling power of 1 KW to the antenna! Weather-proof trap assemblies are used throughout...no external loading coil needed. Maximum length of antenna is 43 ft., 8 in. Supplied complete with polyethylene guy rope, heavy duty base with internal coax fitting and all necessary hardware.

MODEL V-5 Net, \$118.50



HEAVY DUTY BASE MOUNT

Supplied with the V-5.



2 BANDS!

For 40 and 80 meter bands. Equivalent performance to a separate 1/4 wavelength vertical on each band. Heavy duty 100% rust proof construction. Husky oversize trap assembly handles 1 KW (AM) in the antenna. Maximum overall length of antenna is 52 ft., 3 in. The antenna requires 12 radials each 64' in length. Antenna comes complete with base mount (heavy duty), polyethylene guy rope, hardware and detailed instructions.

MODEL V-4-8 Net, \$85.00



"PORTABLE" 3 BAND ANTENNA

TOTE-TENNA

Rated to 300 watts

Collapsible, portable 1/2 wavelength antenna for 10, 15 & 20 meter bands. Supplied with L network tuning unit for best performance everywhere. Sturdy bracket fits most windows, holds ToteTenna securely. No ground

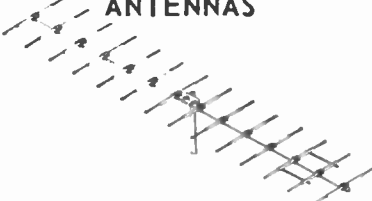
or radials required. Rated to 300 watts (AM). Superb engineering and craftsmanship.

MODEL TT-31 Net, \$80.00



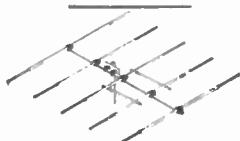
(Carrying Case and SWR Bridge available as operational accessories.)

VHF "POWER-MASTER" ANTENNAS



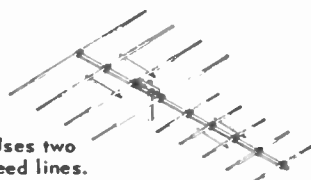
14 element, 2 meter beam. Forward gain - 15, db, front-to-back - 20 db SWR - 1.1, maximum element length 3' 5", boom - 1 1/4" X .058" X 12', turning radius - 6' 5", wind load 37 lbs., assembled weight - 11 1/2 lbs., element sections are 5/8" OD and 1/2" OD establishing an extremely low ratio of length-to-diameter.

MODEL A-142 Net, \$48.75



5 element, 6 meter beam. Forward gain - 11 db., front-to-back - 20 db., SWR - 1.1, maximum element length - 9' 8 1/2", boom - 1 1/4" X .058" X 12', turning radius - 8' 5", wind load - 38 lbs. assembled weight - 11 1/2 lbs. "Power-Master" VHF Antennas combine superlative performance with the most rugged construction to be found in any VHF antenna for amateur use!

MODEL A-56 Net, \$41.95

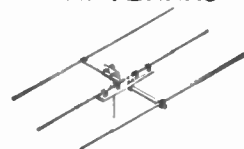


Uses two feed lines.

5 element, 2 meter beam and 4 element, 6 meter beam. Forward gain - (2M) 11.4 db., (6M) 9.6 db., front-to-back - (2M) 11.5 db., (6M) 16.3 db., SWR - (2 and 6M) 1.1, maximum element length - (2M) 3' 5", (6M) 8', boom - 1 1/2" X .125" X 14', turning radius - 8' 9", wind load - 50 lbs., assembled weight - 20 lbs. "Power-Master" VHF Antennas are 100% rust-proof.

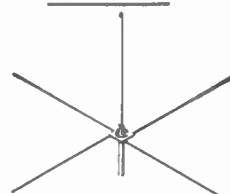
MODEL A-2N6 Net, \$67.05

NEW CITIZENS BAND ANTENNAS



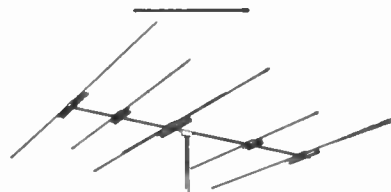
Three element beam for best point-to-point communication. 9.3 db. gain over reference dipole means effective radiated power is multiplied by 8. Five watt rig delivers 40 watts ERP. Use the A-311 on each end to develop 80 watts ERP. Less mast, coax line and rotor.

MODEL A-311 Net, \$37.50



Ground Plane Vertical is ideal as base station antenna. 360 degree pattern and vertical polarization for effective communication with mobiles. High impact polystyrene base with internal coax fitting.

MODEL V-27-GP Net, \$34.95



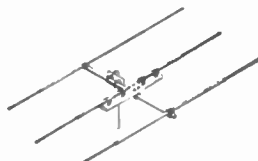
WWV - 10, 15 and 20 mcs.

3 Band Antenna consists of three shortened arrays composed of six elements on one boom. By use of tuned circuits located in certain director and reflector elements, automatic switching to desired frequencies is obtained. Forward gain (approx.) - 10 mc, 4.5 db., 15 mc, 7 db., 20 mc, 8 db., front-to-back - (approx.) 20 db., transmission line - 52 ohm coaxial, boom - 2 7/8" X 18", maximum element length - 34", wind load - E.I.A. Standard - 305 lbs.

MODEL ST-3 Net, \$409.28

"POWER-MASTER" BEAM ANTENNAS

"Power-Master" Antennas are full sized arrays, each designed for a single band, 10, 15, or 20 meter. All are 100% rust-proof, stainless steel hardware, high impact polystyrene insulators with aluminum elements and boom. "Power-Master" is fed with 52 ohm coax.



Forward gain - 8.9 db., front-to-back - 28 db., SWR - 1.1/1, maximum element length - 23' 4", boom - 12' X 1 1/4" OD X .058, turning radius - 13' 2", wind load - 87 lbs.

MODEL A-315 Net, \$42.50

Forward gain - 8.9 db., front-to-back - 28 db., SWR - 1.1/1, maximum element length - 18' 7", boom - 12' X 1 1/4" OD X .058, turning radius - 11' 1", wind load - 69 lbs.

MODEL A-310 Net, \$37.50

Forward gain - 8.9 db., front-to-back - 25 db., SWR - 1.1/1, maximum element length - 35' 4", boom - 14' X 1 1/2" OD X .125, turning radius - 18' 9", wind load - 200 lbs.

MODEL A-320 Net, \$77.25



300 Ohm Connectors

Precision molded low loss 300 ohm connectors for UHF and VHF transmission lines. Constant impedance. Solderless.

- Type 301. Line Plug. List \$.32
- Type 311. Line Socket. .32
- Type 321. Polarized. Pair, .63
- Type 304. Input Adapter. .32
- Type 27-S. Flat-line Splicer. .19
- Type 29-S. Round to flat Splicer. .21



Multi-wire Connectors

For rotor cable connections and many other low voltage uses. No set screws in line plugs and line sockets. 8-wire line sockets and plugs are round. Brown or ivory.

Base Sockets

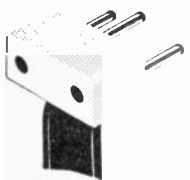
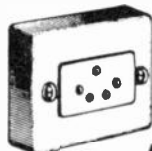
- Type 354. 4-Wire. List \$1.44
- Type 355. 5-Wire. 1.58
- Type 358. 8-Wire. 1.84

Line Sockets

- Type 364. 4-Wire. List \$1.01
- Type 365. 5-Wire. 1.08
- Type 368. 8-Wire. 1.32

Line Plugs

- Type 374. 4-Wire. List \$.79
- Type 375. 5-Wire. .85
- Type 378. 8-Wire. 1.05



300 Ohm TV Plug

Type 303. New 300 ohm Plug, similar in appearance to No. 312 but of one-piece construction and utilizing set-screws to hold line. Supplied with 3 pins to mate with AC-TV series plates but middle pin is removable to use with Mosley 2-pin sockets. Brown or ivory.

List \$.32

Roof-Thru

Type 624. 8" x 9" copper flashing with polystyrene feed through bushing permits direct weather-proof roof entrance of flat TV line and rotor cable. Easy to install. List \$6.15

Type 623. Similar to No. 624 but for round or oval 300 ohm line only. List \$6.15



Wall-Thru

Type 625. Neat, low loss wall entrance for all popular oval, round or flat transmission lines. Fits walls up to 13" thick. Type 343 TV Socket mounts on inside plate. Brown or ivory. List \$2.05

Type 625PK. Above, with TV Socket & Plug. List \$3.15

TV Antenna Switches

Top quality rotary TV Antenna Switches for UHF and VHF. Silver-to-silver contacts and constant impedance design assures low insertion loss. Solderless. Brown or ivory.

- Type F-40. 2-Way Switch. List \$2.05
- Type F-20. 3-Way Switch. List \$3.94



Wall Feed

Type 626. Install at gable end or under roof overhang to provide weatherproof TV lead-in entrance into attic. Ideal for house trailer installations. Ivory or brown polystyrene plate with weatherhood and 2" tube. In trailer installation cut tube flush with inside wall and install Type 343 TV Socket directly over opening. List \$1.33

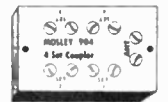
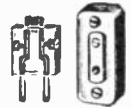
Type 626PK. Above, with TV Socket & Plug. List \$2.43

Multi-Set Couplers

Type 912. "Tiny-Mite" Multi-set Coupler and plug-in socket with plug. Resistor type tap-off unit will operate two TV sets from one antenna. Neat, compact. In brown or ivory. List \$1.84

Type 902. Dual Match 2-Set Coupler. Efficient resistor type coupler outperforms many coil type units and provides exceptionally good isolation between sets. Solderless. Brown or ivory case. Intended for primary signal areas. List \$3.10

Type 904. 4-Set Coupler. Resistor type coupler designed for metropolitan areas, the major multi-set markets. Ideal for motels, small apartment buildings, etc. Brown or ivory poly case. List \$6.56



72-300 Ohm Transformer



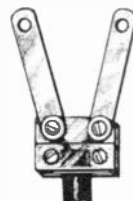
Type 90. Balun type transformer matches 72 to 300 ohm or 300 to 72 ohm. Can be installed at set or directly on antenna. Solderless. Weather-sealed poly case. List \$3.77

Tunable Wave Traps

High Q, series resonant wave traps for eliminating interference patterns and cross-talk on TV and FM. Use on any receiver input, 50 to 600 ohms, balanced or unbalanced. Solderless. Install on set terminal strip. Choose type with range including frequency of interfering station. List \$4.82



Type	Range (mcs)	Type	Range (mcs)
WT-7	6.8 - 8.5	WT-41	27 - 55
WT-14	13.8 - 16	WT-78	47 - 110
WT-21	16 - 28	WT-165	100 - 230



MOSLEY "Y-TY"

Solderless strain relief connector prevents transmission line from breaking at the antenna. Easy to install, fits all types line. Use type 263-L for antennas with terminals more than 4" apart.

- Type 263-S "Y-TY" List \$.69
- Type 263-L "Y-TY" List \$.69

Polyethylene TV Conduit

Black polyethylene tubing makes ideal conduit for running TV and FM transmission lines within walls. Simplifies replacement of hidden wires. 1/4" inside diameter. Flexible, easy to install. Many other applications such as intercom and other low voltage cables.

- No. 80-25. 25'. List \$8.25
- No. 80-100. 100'. List \$33.00
- No. 80-50. 50'. List \$16.50

See MOSLEY Rotary Beam Antennas and other Amateur Components listed in another section of this book.

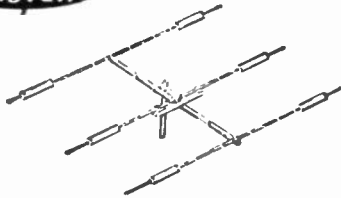
Mosley

ROTARY BEAM ANTENNAS

Mosley



3 BAND BEAMS
10 - 15 - 20



3 ELEMENT beam provides outstanding performance on 10, 15 and 20 meter bands. Up to 8 db. forward gain with 25 db., or better, front-to-back. 1.1/1, or less, SWR at resonant frequencies. Exceptionally broadband for excellent results over full Ham bandwidth. Exclusive MOSLEY trap design provides frequency stability under all weather conditions. Easily handles full KW amplitude modulated. Traps weather and dirt proof. Element center sections of double thickness 61ST6 aluminum to reduce sag. 1½" x 14' aluminum boom requires no bracing. Self-aligning element clamping blocks of high-impact polystyrene provide positive, non-slipping orientation of elements. Heavy duty universal mounting plate fits all masts up to 1½" O.D. Maximum element length, 28'. Turning radius, 15½'. Assembled weight, 40 lbs. Feed with single coax line; RG-8/U recommended. Shipping weight, 53 lbs.
Model TA-33, Amateur Net, \$99.75

2 ELEMENT version of the famed TRAP MASTER Beam rated to a full KW. 5.5 db. forward gain with 20 db. front-to-back. 7' boom; 28' max. element length. Easily converted to TA-33 with kit.
Model TA-32, Amateur Net, \$69.50



3-BAND VERTICAL for 10, 15 and 20 meter bands. Rated to full KW (AM). Weatherproof traps need no adjusting and provide automatic band-switching. One-quarter wave operation for low angle radiation. Requires 4 or more 16' radials. 61ST6 aluminum. Height, 11' 6"; weight, 4 lbs. With guy rope & base.
Model V-3 Net \$22.95



"TRAP MASTER" VERTICAL ANTENNA

10 Thru 40 Meters

No bandswitching with this vertical. Electrical ¼ wave length each band with low angle radiation makes this an excellent low cost DX antenna. Low SWR with exceptionally flat response over full bandwidth. Traps weather and dirt proof for long, reliable service. Will handle full KW, AM. Sturdy aluminum construction. Included with antenna are; heavy gauge aluminum base plate, ceramic base insulator, poly guy rope, all necessary hardware & instructions. Requires 4 radial wires, 30' ea.
Model V-4-6, Amateur Net, \$27.95

80 Meter BASE LOADING COIL
Beautifully made loading coil for operating V-4-6 Vertical on 75 and 80 meter bands. Space wound on heavy ceramic form. Handles full KW, AM. Mounts on base section of vertical. With coax connectors.
Model D-4BC, Net, \$14.95

TRAP-MOBILE for 10, 15 & 20 M

No Band Switching !

3-band mobile antenna functions without switches, sliding contacts or other mechanical devices. Overall length of 7' 8" provides electrical ¼ wavelength on each band assuring excellent performance with low SWR over full bandwidth. Weatherproof trap assembly has slim profile for low wind resistance. Stainless steel whip sections permit antenna to lay forward over car for garaging. Guaranteed not to take set. Stainless steel base stud, 3/8"-24, fits standard mounts. Use any standard base loading coils for operation on 40 and 80. Recommended mounting on fender or rear deck. Feed with RG-8/U coax, preferably 22½ feet in length.
Model MA-3, Net, \$19.95



"JR"

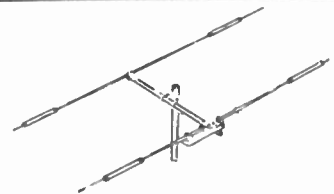
FOR 300 WATTS OR LESS

10 - 15 - 20 METER BANDS

No need to pay for power rating you cannot use- TRAP MASTER "JR" Beams provide the same fine performance and incorporate the same excellent design features as the world-famous Models TA-33 and TA-32 Trap Master Beams. Traps rated to 300 watts, AM, are lighter in weight permitting use of smaller diameter element tubing with no sacrifice in strength or sturdiness.

Model TA-33-JR, 3 ELEMENT 'JR'
Up to 8 db. forward gain with 25 db. front-to-back will give that low or medium-power rig real "authority" on 10, 15 and 20 meter bands. SWR is usually less than 1.5/1 at resonant frequencies and is remarkably flat across full width of each band. Aluminum boom is 1¼" O.D. x 12". Max. element length, 26' 8". Turning radius is 14' 9". Wind load, 86 pounds. Assembled weight, 20 lbs. Recommended feed-line, RG-8/U.

Amateur Net, \$69.50



Model TA-32-JR, 2 ELEMENT 'JR'
Provides 5.5 db. forward gain with approximately 20 db. front-to-back. Aluminum boom is 6' long and maximum element length is 26' 8". Has turning radius of just 13' 9". Weight assembled is 14 pounds. Wind load, 62 pounds.

Amateur Net, \$49.50

300 WATT VERTICAL for 10, 15 and 20 meter bands. Electrical ¼ wave-length on each band achieved with weatherproof traps. One feedline-no bandswitching 61ST6 aluminum. Height, 11' 9"; weight 2 lbs. Requires 4 or more 16' radial wires. With guy rope and base.

Model V-3JR Net \$17.95



Flush Mounted TV Sockets



Easy-to-install, attractive wall plate TV sockets for every installation requirement. Ivory or brown plates are styled to harmonize with existing electrical plates. Available in types for single, dual or triple lead-in lines and for single and dual lines plus 4, 5 or 8-wire rotor cable. Packaged with mating plug(s), F-9 mounting brackets and full instructions.

Type No.	Service	List
F-1PK	1 - 300 ohm lead.	\$2.05
F-11PK	2 - 300 ohm leads.	2.81
F-111PK	3 - 300 ohm leads.	2.81
F-14PK	1 - 300 ohm lead & 4-wire rotor.	3.69
F-15PK	1 - 300 ohm lead & 5-wire rotor.	3.69
F-18PK	1 - 300 ohm lead & 8-wire rotor.	3.78
F-114PK	2 - 300 ohm leads & 4-wire rotor.	3.69
F-115PK	2 - 300 ohm leads & 5-wire rotor.	3.69
F-118PK	2 - 300 ohm leads & 8-wire rotor.	3.78

"Anti-Stub" TV-FM Wall Plate Outlets

Similar to F-1PK, above, but with switch to disconnect system beyond outlet being used. Prevents "stub-effect". Silver plated positive action contacts. Brown or ivory poly. With polarized plug and mounting hardware.

Type FD-1PK List \$2.20

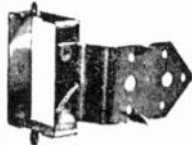
Mounting Hardware



Type F-9, Mounting Brackets of heavy gauge steel for installing F-Series Sockets in walls of existing buildings. Requires rectangular opening 1 1/2" wide by 4" long. List \$.37

Type F-8, Plaster Ring for installing F-Series Sockets in new construction. Mounts easily and quickly to wood studding. Adjustable for plaster thicknesses up to 1 1/2". Heavy plated steel.

List \$.42



Surface Mounted Sockets

Surface mounted sockets resemble flush wall plate types but may be used for either concealed wiring or where TV line is brought along surface of wall. No wall opening required. In brown or ivory polystyrene. Supplied with mating plug(s) and wood screws.



Type No.	Service	List
SM-1PK	1 - 300 ohm lead.	\$1.74
SM-11PK	2 - 300 ohm leads.	2.25
SM-111PK	3 - 300 ohm leads.	2.51
SM-14PK	1 - 300 ohm lead & 4-wire rotor.	3.69
SM-15PK	1 - 300 ohm lead & 5-wire rotor.	3.69
SM-18PK	1 - 300 ohm lead & 8-wire rotor.	3.78
SM-114PK	2 - 300 ohm leads & 4-wire rotor.	3.30
SM-115PK	2 - 300 ohm leads & 5-wire rotor.	3.36
SM-118PK	2 - 300 ohm leads & 8-wire rotor.	3.73

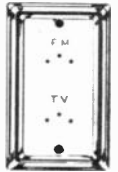
Universal TV Socket

Type 343PK. Compact, neat plug-in socket for FM or TV lead-in line. Use as line tap or terminal socket. Low loss polystyrene, constant impedance design for 300 ohm line. In brown or ivory. Complete with mating plug. List \$1.11



Stereo TV-FM Wall Plate Outlets

For use in areas where FM can be received with TV antenna. Resistor-type 2 set coupler built-in to isolate TV from FM permitting simultaneous reception without interaction.



Type WSP-11PK List \$2.20

Audio Pad Plate w-knob

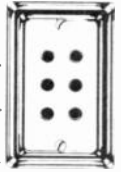


Attractive brown or ivory polystyrene plate with satin finished anodized aluminum dial face and modern indicator knob. Use to assemble L-pad, T-pad, Fader, etc., for audio and Hi-Fi systems. Less control.

Type FAV-1 Price to be announced.

Flush Speaker Switch Plate

High quality 6 position switch plate selects any speaker or combination of speakers in remote locations. Heavy duty push button switches on brown or ivory plate. Complete with plated machine screws and instructions.



Type FAS-6 Price to be announced.

Speaker Wall Plate Outlets



Brown or ivory polystyrene flush mounting outlets. Speaker socket and plug polarized and solderless. Ideal for custom Hi-Fi installations where remote speakers are not permanently installed. Complete with mounting brackets and instructions.

Type FAS-1PK Single List \$2.81
Type FAS-11PK Double List \$3.00

AC-TV Wall Plate Sockets

Combination TV lead-in outlet and plate for double convenience outlet. Ideal for installation during new construction or remodeling. Metal barrier plate, supplied, separates AC and TV services to comply with electrical codes. Install in ganged electrical boxes. Brown or ivory. With mating plug(s) & mounting screws.



Catalog No.	TV Service	List Price
AC-1PK	Single 300 Ohm Lead.	\$ 1.97
AC-11PK	Dual 300 Ohm Lead.	2.62
AC-111PK	Triple 300 Ohm Lead.	3.48
AC-14PK	One 300 Ohm Lead plus 4-Wire Rotor.	3.48
AC-15PK	One 300 Ohm Lead plus 5-Wire Rotor.	3.48
AC-18PK	One 300 Ohm Lead plus 8-Wire Rotor.	3.88
AC-114PK	Two 300 Ohm Leads plus 4-Wire Rotor.	4.18
AC-115PK	Two 300 Ohm Leads plus 5-Wire Rotor.	4.33
AC-118PK	Two 300 Ohm Leads plus 8-Wire Rotor.	4.58

TV Distribution Outlets

Attractive, easy-to-install wall plate sockets for hotels, hospitals, apartments, etc., with master antenna systems using RG-59/U or equivalent. Provides excellent electrical and mechanical plug-in connections of TV sets to coaxial cable drops. Fits standard electrical outlet boxes or may be installed with Type F-8 or F-9 accessories. In brown or ivory.

Type F-3PK. 300 ohm socket with plug. List \$2.63
Type F-3BPK. Above, with balun coil. List \$4.73
Type F-3CPK. With MC fitting for RG-59/U cable. List \$5.04

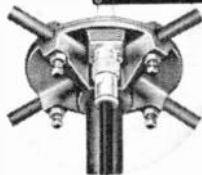
UHF • VHF—Complete Antenna Coverage

Precision Industrial Antennas

by **SCALA**

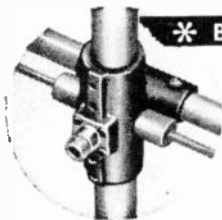
Why you get better performance with Scala Antennas —

* PROPER STRUCTURAL DESIGN



A machined casting, webbed for extra strength and structural support is used to hold parasitic elements in the ground plane antenna. Set screws and lock nuts provide simple assembly and easy installation.

* BUILT-IN BALUN



(pat. pending)

Provides a balanced feed system assuring equal distribution of current to the driven element, greater electrical and mechanical stability. The balun allows the driven element to be supported by metal and eliminates the necessity of using the insulator as a mechanical support.

* BUILT-IN HEATER

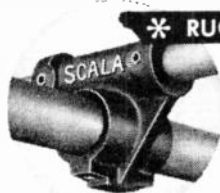
Most of the antennas described below can be obtained with a 24 volt heating system for maximum weather protection and assured winter operation.

* TESTING AND INSPECTION

Each antenna is tested twice for impedance match — once during manufacture and again prior to dis-assembly for shipment. New models are field-tested for one year before released for production.

**Shipped complete—all U-bolt mounting clamps and brackets are included. Unit is ready for installation.*

* RUGGED CONSTRUCTION



Elements are supported by machined castings providing a larger support area, damping vibrations and reducing the concentration of stress and metal fatigue. Mechanical splices are never used. All units are available in metals other than aluminum if desired.

1. YAGI—VHF The Scala Model CA5-150 is a 52-ohm 5 element yagi. Nine db gain on the major lobe is assured by careful design and Scala's exclusive feed system which eliminates radiation from the feed line and provides equal distribution of current to the driven element. The VSWR is less than 1.3 to 1. For complete weatherproofing and year-around operation, the boom can be provided with a 24 v heater. The unit is anodized and dichromate sealed.

2. YAGI—UHF The Scala Model CA5-450 general communications antenna is a product of years of extensive research. Its construction is possible only because of developments in foam plastics and Teflon insulated cable. A Teflon insulated balun is located within a chamber filled with a special foam plastic for complete moisture and corrosion protection. High strength 7/16" solid aluminum rod is used for the parasitic elements. VSWR is less than 1.3 to 1. Gain is 10 db. Two units may be mounted in an array for an increase in gain up to 3 db and greater directivity. Shipped completely assembled, the unit is anodized and dichromate sealed.

3. GROUND-PLANE—40-170 MC The Scala Model GPC-150 ground-plane antenna is ideal for non-directional, all weather communications. It is the first ground-plane antenna that can be

obtained with 24 v heaters throughout—including the radial elements, providing a completely weatherproof and safe year-round operating antenna. Another version of this unit comes equipped with a reflector and provides a cardioid radiation pattern with increased gain. In all cases the VSWR is less than 1.3 to 1. The unit is anodized and dichromate sealed.

4. CORNER REFLECTOR—140-170 MC The Scala Model CR-150 corner reflector uses Scala's unique built-in balun to convert the unbalanced coaxial feed to the balanced load of the radiating dipole. This provides an excellent match and assures proper distribution of energy to the feed point. Featuring extreme ruggedness and ease of installation, the unit can be assembled in less than two minutes.

5. PARAFLECTOR®—350-1000 MC The Scala Model PR-450 Paraflector® is a major contribution toward the improvement of antenna construction and performance in the 350 to 1000 mc range. Essentially, a parabolic section in one plane, the driver is positioned to approach a point source. Over the 350 to 1000 mc range, the Paraflector® is equal to a parabolic dish of the same aperture and has the advantage of lower cost, lighter weight, ease of assembly, installation and rugged construction.

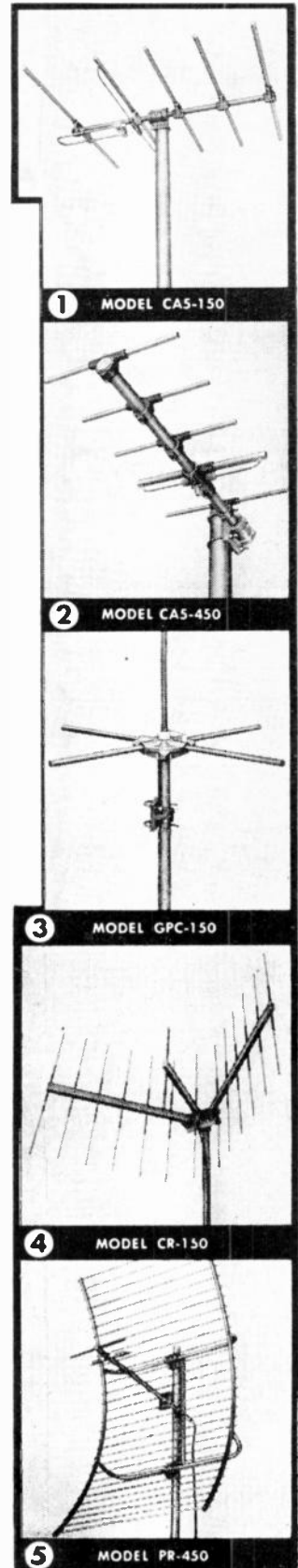
EXACTING DESIGN — TESTED MATERIALS — PRECISION MANUFACTURE

In addition to the antennas described above, and other standard communications, telemetering and community systems, Scala maintains a complete engineering service to design and manufacture special antennas to your specific requirements.

Write for complete catalog on Scala antennas and engineering services. Address Dept. REM.

SCALA RADIO COMPANY

SAN FRANCISCO 10, CALIF.



ANTENNAS *Master Mobile* MOUNTS

MASTER FIBRE-GLAS WHIPS FLEXIBLE, INDESTRUCTIBLE MOBILE ANTENNA

Here is the ideal answer to complete satisfaction for the most unique mobile antenna problems. Precision engineered and tested in Master Mobile's own laboratory the Master Fibre-Glas Whips over-perform all expectations in efficiency power reception and styling as well as price!

The special flexibility of Master Whips prevents accidental shorting-out against overhead obstructions which sometimes cause loss of signal or serious damage to your equipment.

- **Completely Weatherproof** — permanent and rust resistant, corrosion proof.
- **Break-Proof** — specially designed flexibility prevents failure due to fatigue or breakage.
- **Safe** — permanent insulation featured in Master Whips make it absolutely safe, prevents burns.
- **Base Fitting** — 3/8" x 21 thread with male brass—chrome plated fittings.
- **Retains Original Shape** — Masters unique construction makes it extremely flexible to give . . . and retain its shape.
- **Light Weight** — eliminates and reduces road noises.

Available in Standard Lengths

FG-60 60" Amateur Net	\$4.95
FG-72 72" Amateur Net	\$4.95
FG-84 84" Amateur Net	\$5.15
FG-96 96" Amateur Net	\$5.25
FG-103 103" Amateur Net	\$6.95

Special lengths are available — Write today!

SUPER HI-GAIN CITIZENS BAND ANTENNA 460 to 465 MC

New hi-gain omni-directional mobile or fixed station co-linear array gives low angle radiation with approximately 5.5 DB gain over single dipole antenna.

Ruggedly constructed of highly polished chrome plated brass. Complete with 3 radials and 18" extension for mounting with any Master Mobile Mount and 12 ft. of RG 58U coaxial cable. SWR approximately 1.5:1 over Citizens band.

CL-465 \$21.95

MASTER MAGIC WAND COMBINATION COIL & WHIP

New Magic-Wand Top-Loaded Mobile Antenna Mounts On Any Standard Base Mount.



A newly designed single band coil and whip antenna in 1 compact and attractive unit. Top loaded to provide top performance and efficiency at the most useful radiation angle for mobile communications. Built and tested in the Master Mobile laboratories, the Master Magic-Wand provides a minimum wind resistance which minimizes detuning effects at high speeds. Antenna wound over tapered fiberglass-whip for maximum strength.

Available in 5 ft. & 6 ft. Lengths

No. MM810—10 Meters—5 Ft. L.	\$8.95
No. MM811—11 Meters—	
27 Mc.—5 Ft. L.	8.95
No. MM811-35—11 Meters—35"	8.95
No. MM811-45—11 Meters—45"	8.95
No. MM815—15 Meters—5 Ft. L.	8.95
No. MM820—20 Meters—5 Ft. L.	8.95
No. MM840—40 Meters—6 Ft. L.	9.95
No. MM880—80 Meters—6 Ft. L.	9.95

FIBER-GLAS BASE SECTIONS

MASTER MOBILE announces a new moisture-resistant, fibreglas Base Section that eliminates distorting the radiation pattern of vertically-polarized VHF and UHF antennas caused by using a metal support tube.

The pole is made of a resin-impregnated, heavy-wall, spiral-wound fibre-glas for greater strength. It has a 1 1/2" plug in each end to facilitate clamping to present antenna-mast or beam rotator.

Masts are available in 1, 5 or 6-foot lengths, 1 1/2" O.D.

FG-14—4'	\$8.95
FG-15—5'	9.95
FG-16—6'	10.95

ANTENNA WITH PL-259 PLUG

Model No. C-259 \$6.95

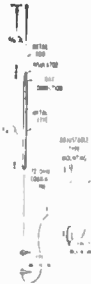
2-METER COAX ANTENNA 5/8 WAVE

MASTER DELUXE . . . Ruggedly constructed, vertically polarized, frequency range 140 to 170 MC. Completely water-proofed. Highly polished chrome finishes appearance of any vehicle. Furnished with 10 ft. of 72 Ohm Coax Cable.

58W-1—On side with 2 brackets furnished

58W-2—Master Mount (No. 232X or 140X)—Mounts sold separately. Adjustable mounting — adjust to 17°.

58W2	\$19.95
58W1	\$17.95



CITIZENS BAND ANTENNA 26.960 to 27.225 MC

Citizens Band Home Station Ground Plane

—Designed to give maximum performance in the 27.0 MC range with minimum space requirements—easy installation. Constructed of heavy wall special alloy aluminum tube for the whip and support pipe. Swivel type antenna base mount permits installation on flat or peaked roof.

Ground plane radials made of heavy flexible tinned copper braid.

VSWR under 1.5:1 at resonance. Furnished complete with all mounting hardware, insulators, guy hooks, screws and 50 ft. of RG-58 U/C cable terminated with Motorola type auto radio connector.

GP27-11 \$34.50



11 METER CITIZENS BAND MOBILE ANTENNA

A base-loaded stainless-steel whip antenna with an overall height of 10 inches.

The bottom of the whip has been wound into a coil which is potted in a pliable plastic to add rigidity to the coil.

The base of the whip is fitted with a 3/4" diameter brass slug, for use with a standard broad-band 8-ball type coil mount; also roof-top or trunk-rod type mounting.

The antenna is cut to offer very low standing-wave ratio over most of the band when fed with a 52-ohm coax.

YOUR CHOICE EACH \$12.95

5B-27

8B-27



MASTER MARINE MARVEL MARINE ANTENNA

Designed, built and tested in Master Mobile's own floating laboratory, the new center-loaded Master Marine Antenna is the latest result of many years of experience in producing the finest in Antennas used throughout the world! The Marine Marvel, secure and powerful, provides maximum power radiation on all marine frequencies from 2 to 3 megacycles. Here is the Antenna that was made for your boat! . . . engineered to withstand the most severe type of marine service, with long life assurance by being fabricated of the highest quality material available.

- 10 1/2 Ft. Overall Length.
- Capacity 4 Ft. Stainless Steel Plastic-Coated Whip
- 18" Center-Loaded Impregnated Coil.
- 5 Ft. Anodized Base Section.
- Absolutely Waterproof - Weatherproof.
- No Electrolysis.
- Rugged Insulators.
- Adjustable Antenna Lead.

COLORS AVAILABLE
WHIP—Yellow, Blue or Black
COIL—Yellow, Blue or Black
BASE—Gold (Spec. Saltwater Anodized)

No. MMM-2710 Antenna & Solid Mounts—5 Ft. Base \$29.95

No. MMM-2715 Antenna & Solid Mounts—10 Ft. Base \$35.95

No. MMM-2700 Antenna—5 Ft. Base (less Mts.) \$27.95

No. MMM-2705 Antenna—10 Ft. Base (less Mts.) \$33.95

MMM-10 SOLID MOUNTS per set \$5.00



MASTER SUPER MARINE ANTENNA MMM-2750

The Master Super-Deluxe Marine Antenna in 12 ft. anodized 1 1/4" tubing. Coil section is 35" long. Impregnated coil covered with phenolic tubing, 8" fibreglas whip.

MMM-2750 Antenna & Solid Mounts	\$49.95
Without Mounts	\$47.95



"THE CITIZEN SR."

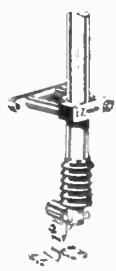
No. SR-100
3 ELEMENT—11 M. BEAM

Don't waste power — Beam your signal where you want it.

Sturdy and lightweight 3 element beam provides a power gain of approximately 2 1/2 (8 DB) in the forward direction and reduces interference from the sides and rear by approximately 10 to 1 (From to back ratio 20 DB).

A coaxial gamma match is prewired at the factory to give an excellent VSWR of 1.1 to 1 at band center when fed with a 52 OHM coax.

Amateur Net \$34.50



Each \$19.95

MASTER DELUXE LAYDOWN MOUNTS NO. MMM-25

New deluxe laydown mounts that can be mounted on either the side of cabin or upright on the deck. Mounts swivel and are adjustable to any position or mount. Made of chrome-plated brass with high impact waterproof-weatherproof phenolic insulator.

CRYSTALS

Novice Band Xtls—80, 40, 15 & 2 Meters .1% Tol.	ea. \$1.99
All Amateur Frequencies	ea. 1.99
C.A.P., MARS & MARINE—.005% Tol.	ea. 2.99

Specify Holder with Order—Special Freq. Avail.

All Xtls available in Hermetically Sealed Holders.

Master Mobile Mounts, Inc.
LOS ANGELES, CALIFORNIA

ANTENNAS

Master Mobile

MOUNTS



MODEL 232



MODEL 232C (COAXIAL TYPE) (Coaxial Type Body Mounts Optional)



MODEL 321C



232 SERIES



MODEL 140



MODEL 142



100 SERIES

SEPARATE SPRINGS FOR BUMPER MOUNTS

100W SERIES



No. 444 Bumper Mount \$17.80



No. 445 Bumper Mount \$7.95



No. 446 Bumper Mount \$13.45

MOUNT SPECIFICATIONS

(All types are tapped for 3/8" Stud Fitting on Antenna End. Shipping Weight Approx. 3 lbs.)

232	Body Mount—Double Tapered Spring—Swivel Base	\$ 8.75
232C	Body Mount—Double Tapered Spring—Swivel Base Coax Conn.	8.75
232SS	Body Mount—Double Tapered Spring—Spec. Stainless	12.95
232SSC	Body Mount—Double Tapered Spring—Spec. Stainless—Coax Conn.	12.95
232X	Body Mount—Heavy Duty—Double Tapered Spring—Swivel Base	9.85
232XC	Body Mount—Heavy Duty—Double Tapered Spring—Coax Conn.	9.85
232XSSC	Body Mount—Heavy Duty—Double Tapered Spring—Spec. Stainless—Coax Conn.	14.95
232XSS	Body Mount—Heavy Duty—Double Tapered Spring—Spec. Stainless	14.95
232XX	Body Mount—Extra Heavy Duty Spring	10.85
232XXC	Body Mount—Extra Heavy Duty Spring—Double Tapered Spring—Coax Conn.	10.85
232XXSS	Body Mount—Extra Heavy Duty Spring—Double Tapered—Spec. Stainless	15.95
232XXSSC	Body Mount—Extra Heavy Duty Spring—Double Tapered—Spec. Stainless—Coax Conn.	15.95
321 or 321C	Body Mount—Where no spring desired—with spec. rigid type ball joint	7.95
140	Bumper Mount—Double Tapered Spring	6.95
140X	Bumper Mount—Heavy Duty—Double Tapered Spring	7.95
140SS	Bumper Mount—Special Stainless	9.65
140XSS	Bumper Mount—Special Heavy Duty Stainless	10.95
140XX	Bumper Mount—Extra Heavy Duty—Double Tapered Spring	8.95
140XXSS	Bumper Mount—Extra Heavy Duty—Stainless Steel	11.95
142	Bumper Mount—Less Spring, with Insulators for Direct Mounting by Series 100 Ant. or 92 Ext. and 106 Antenna	3.95
446SS	Bumper Mount—Special Stainless—Chain Mount	14.90
446XSS	Bumper Mount—Heavy Duty—Special Stainless—Chain Mount	15.90
446XXSS	Bumper Mount—Extra Heavy Duty—Special Stainless—Chain Mount	16.90
446	Bumper Mount—Heavy Duty Spring—Chain Mount	13.45
446L	Bumper Mount—Double Tapered Spring—Chain Mount	12.45
446XX	Bumper Mount—Extra Heavy Duty Double Tapered Spring—Chain Mount	14.45
444	Bumper Mount—Heavy Duty Spring—Swivel Base—Chain Mount	17.80
444L	Bumper Mount—Double Tapered Spring—Swivel Base—Chain Mount	16.70
444XX	Bumper Mount—Extra Heavy Duty Spring—Swivel Base—Chain Mount	18.80
444SS	Bumper Mount—Special Stainless—Swivel Base—Double Tapered Spring—Chain Mount	20.90
444XSS	Bumper Mount—Special Stainless—Heavy Duty—Swivel Base—Chain Mount	22.90
444XXSS	Bumper Mount—Extra Heavy Duty—Special Stainless—Swivel Base—Chain Mount	23.90
445	Bumper Mount—Threaded, 3/4"-24—Chain Mount	7.95

SEPARATE SPRINGS FOR BUMPER MOUNTS

100—Regular	Net \$4.50
100-X—Heavy Duty	5.50
100SS—Stainless Steel	6.95
100XSS—Heavy Duty Stainless Steel	7.95
100WX—Heavy Duty w/Male stud	5.50
100XX—Extra Heavy Duty Spring	6.50
100WXX—Extra Heavy Duty Spring—Male Stud on one end	6.50
100XXSS—Extra Heavy Duty Spring—Stainless Steel	8.95

M SERIES

M-75	\$3.95
M-40	3.95
M-20	3.95
M-160	7.95

C.A.P. COILS

M-2374KC	\$6.75
M-2738KC	6.75
M-2768KC	6.75
M-4325KC	5.25
M-4507.5KC	5.75
M-4585KC	5.75

WHIP ANTENNA SPECIFICATIONS

MODEL	Overall St Steel Length	Base Specifications	Net Price
100-60S	60"	Threaded 3/8" Stud to fit all Mounts...	\$4.95
100-72S	72"	Threaded 3/8" Stud to fit all Mounts...	4.95
100-78S	78"	Threaded 3/8" Stud to fit all Mounts...	5.00
100-86S	86"	Threaded 3/8" Stud to fit all Mounts...	5.15
100-90S	90"	Threaded 3/8" Stud to fit all Mounts...	5.20
100-96S	96"	Threaded 3/8" Stud to fit all Mounts...	5.25
106-60S		Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.15
106-72S		72" Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.15
106-78S		78" Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.20
106-86S		86" Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.35
106-90S		90" Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.40
106-96S		96" Pl. End 3/16" Dia. (Fits Mod. 92 Ext.)	4.50
Comb. 106-96" whip with #92 Ext. (18") gives up to 112" adj.			Net \$8.00

SILICON-CHROME WHIP ANT.

New 9 Series—with 3/4" Thr. Studs		
Model No.	Overall Length	Net Price
9-60T	60"	\$2.97
9-72T	72"	3.24
9-84T	84"	3.30
9-86T	86"	3.60
9-96T	96"	3.75

New 8 Series—without Studs		
Model No.	Overall Length	Net Price
8-60	60"	\$2.82
8-72	72"	3.07
8-84	84"	3.13
8-86	86"	3.42
8-96	96"	3.55

New Model No. 132-J Junior Body Mount—Same design as standard No. 232 Master Mount but smaller size. Built to approved Master spec. for quality, workmanship and finish.

Attractively priced at only \$4.17
Model No. 132-JC—Same as above with Coax Connector Only \$5.17

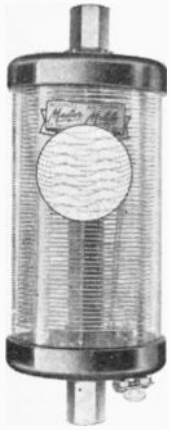
New Model No. 140-J Junior Bumper Mount—Same design as our standard No. 140 Master Mount but smaller spring—yet of same high quality construction and finish. Net \$4.17

Coaxial Conversion Kit—No. 118 fits No. 232 and No. 118J fits No. 132J Models. Net \$1.00

ORDER FROM YOUR JOBBER TODAY!

Master Mobile Mounts, Inc.
LOS ANGELES, CALIFORNIA

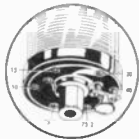
ANTENNAS *Master Mobile* MOUNTS



THE ARISTOCRAT
No. 900



THE VICTORY



10-15-20-40-75 METERS

No. 999
10-15-20
METERS
ONLY

NEW MULTI-BAND TRANS. ANTENNA COILS

New Plug In Coils Just plug into desired pair of jacks and presto! . . . your coil is ready for operation on the desired band. No switches, no sliding contacts, no loose connections. Built and tested for maximum resonance.

- Rigidly tested and engineered—found to have a "Q" of 525
- Handles 500 Watts input
- Operate into a 52-ohm cable
- Positive contact—noise-free, trouble-free operation
- Weathersealed
- Ruggedized construction
- Factory pre-tuned—no adjustment is necessary
- Higher efficiency—lower loss

YOUR CHOICE \$14.95

NEW SLIM-JIM

All-Band
BASE LOADING

Antenna Coil

For 10, 11, 15, 20,
40, 80 Meters.

96" S.S. Whip included. Positive locking action whip provides accurate and tight contact wherever set. Just slide in or out to final loading point and lock whip into position.

No. B-1080
\$17.95



THE GREAT NEW ADVANCEMENT IN VARIABLE ANTENNA COILS!

HY "Q" construction with wider spacing of turns for high frequency bands. Use as center or base loaded antenna with 60" whip.



New! . . .
Silver-Plated Roller with Positive Action, Stay-Put Contact
No. 333
MASTER MIGHTY MIDGET
For 40-20-15-11-10 Meters
Net **\$9.95**

No. 750
MASTER DELUXE ALL-BANDER
Covers 10 thru 75 and all intermediate frequencies.
Silverplated single turn contact, positive spring. Eccentric cam contact easy selection of turn.
Automatic lock prevent damage to oil
Net **\$14.95**



Ultra-Hi "Q" COILS

FOR 80-40-20 & 15, METERS

After many years of experimentation, here is the coil with the highest "Q" ever obtained. Tested and found to have a "Q" of well over 515. Use with 5/8" base section 60" whip.
• Ruggedized construction • Greater efficiency • Precision made • 2 3/4" Diameter
ANY BAND . . . AMATEUR
NET EA. **\$5.25**

MOBILE BASE MOUNT

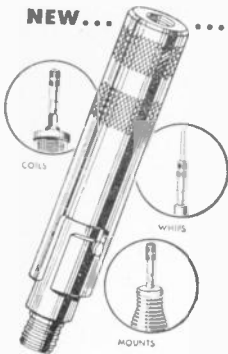
Engineered for Greater Performance!



MMW-3 APS

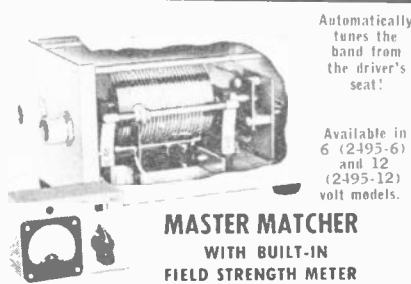
Latest and greatest is this new design in universal swivel bases, incorporating the last word in modern design for strength and service.
Easy one man installation, no special tools needed. Mounts watertight on curved or flat surface. Mounting Torque plate provided. 3/8" 24 Thread mounting hole for whips and antennas.
Model MMW-3AE **\$6.95**
High Gloss Ebony Finish
Model MMW-3AP **\$7.95**
High Gloss Polished Finish
Model MMW-3AES **\$8.95**
Ebony Finish with Stainless Steel Hardware
Model MMW-3APS **\$9.25**
Polish Finish with Stainless Steel Hardware

NEW... NOISE-FREE E-Z-OFF ANTENNA CONNECTOR



Connect or remove your loading coils, whips or mounts in a jiffy. No wrenches, pliers or screwdrivers needed. High-grade stainless steel throughout.
• Precision made
• Maximum efficiency
• Positive lock—will not corrode
AMATEUR NET \$2.95
Model No. E-Z-295

UH	"Q"	3374	KC.	(Additional HY "Q" C.A.P. Coils to be used with HY "Q" C.A.P. Antennas according to frequency desired. These coils are interchangeable. Other freq. coils priced upon request.)	Net
UH	"Q"	2730	KC.		\$ 8.95
UH	"Q"	2768	KC.		8.95
UH	"Q"	4507.5	KC.		7.95
UH	"Q"	4585	KC.		7.95
UH	"Q"	4325	KC.		7.95
UH	"Q"	160	Meters		12.95
UH	"Q"	2251	KC.		12.95



Automatically tunes the band from the driver's seat!

Available in 6 (2495-6) and 12 (2495-12) volt models.

MASTER MATCHER WITH BUILT-IN FIELD STRENGTH METER

No. 2495-6 and No. 2495-12

Motor driven variable inductance controlled by a switch from the operating position in the driver's seat enabling him to tune in the mobile antenna to the exact resonant frequency. Just flip the switch and presto! . . . the Master Matcher goes to work! QSY in any particular band without jumping in and out of car to adjust antenna loading coil. All guesswork is eliminated with the Master-Matcher and the built in FIELD STRENGTH METER. Automatic panel light indicates when the roller is at minimum inductance position. With the Master-Matcher, maximum efficiency is possible with minimum of time and effort.

Complete **\$24.95** Amateur Net

HEAVY DUTY MOBILE SPRINGS



Heavy duty flexible mounting spring mounts on the base and holds the antenna. Special flexible "give" spring prevents sharp air parts and breakage. Maintains vertical antenna position under normal wind loads.

3/8"-24 tapped hole for antenna mast. 1/8"-24 stud for antenna base. 5" h. Tightening wrenches supplied.
Model MMW-7 **\$4.50**
Cadmium plated with black painted ends. Lockwasher included.
Model MMW-7HC **\$5.50**
Heavy Cadmium plated for extra protection. Lockwasher included.
Model MMW-7SS **\$8.95**
Deluxe—Stainless Steel spring high quality appearance. Lockwasher included.

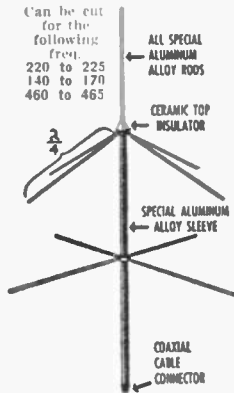
ANTENNAS *Master Mobile* MOUNTS

2 METER ANTENNAS — FIXED • MOBILE

GROUND PLANE ANTENNA

Model 300—Master DeLuxe . . . NEW! . . . brings in that DX. Outperforms any type of vertical dipole. "Drooping" Type Ground Plane plus four straight radials to give a low angle of radiation for general coverage, an almost perfect circle radiation pattern. Ideal for CD and defense nets.

Can be cut for the following freq.
220 to 225
140 to 170
460 to 465



are adjustable (up or down) to eliminate standing waves on trans. lines. For medium or low-powered trans. Sturdily built of finest alloys to withstand corrosion, high winds and extreme icing. With 36" length of 3/4" pipe for mounting purposes. Model 300 Amateur's . . . Net \$12.95
MB I—Mounting Bracket Net 1.00

Model GP-4 — Four "Drooping" Radials for perfect match to 52 ohm coax cable. Complete amateur band coverage. Specify other frequencies. Attaches to Mast with U-Bolts, U-Bolts and Mounting Brackets furnished. Also attachable to side of building. Sturdy, with steel alloys, to withstand corrosion and extreme weather.

MODEL GP-4
Amateur's Net \$5.95

TWO METER COAX ANTENNAS

No. 214—MASTER DELUXE . . . ruggedly constructed, vertically polarized, frequency range 140 to 170 MC. Completely waterproofed. Highly polished chrome enhances appearance of any vehicle. Furnished with 10 ft. of 72 Ohm Coax Cable.
Type 1—On side with 2 brackets furnished. \$15.95
Type 2—Master Mount (No. 232X or 140X)—Mounts sold separately. Complete \$17.45
Adjustable mtg.—adjusts to 17".



2 METER STANDARD MODEL

No. 114 COAX VHF ANTENNA — At a popular price! For OPEN TYPE VEHICLES using 140 MC to 165 MC. Mounts any convenient place with standard Master Mounts. Baked enamel finish. With 10 ft. Coax Cable and 18" Adjustable Section.
Net. Only \$9.95



232X
Sug'd Mtg.

No. 613



No. 613—NEW IMPROVED MASTER VHF ROOF TOP ANTENNA. This new high performance antenna features an improved type positive lock coaxial connector. Designed for police, fire, taxi cabs and amateurs using 140 MC to 165 MC. Stainless steel wire with threaded fitting. Easily changed without disturbing mounting. Comes with 10 ft. coax cable. . . . Net \$4.95

No. 113—MOBILE ROOF TOP ANTENNA without De Luxe Connections . . . Net 3.96

No. 117—Extra Antenna for No. 113 and No. 114. . . . Net .97

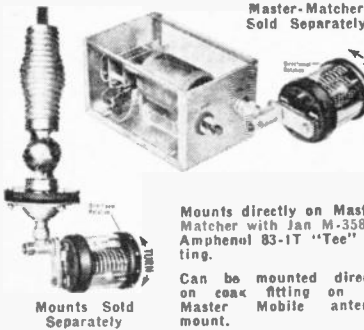
No. 116—Extra Antenna for No. 214 and No. 613. . . . Net 1.70

MICRO-Z-MATCH

MICROMETER IMPEDANCE MATCHING INDUCTANCE for MOBILE ANTENNAS

- Used on all bands with any type coaxial cable to match any mobile antenna.
- Roller coil construction with rear cap rotating the inductance within the case. 4 microhenries maximum inductance.
- Silver plated coil and roller contacts for low loss.
- Micrometer type calibration permits infinite adjustment and positive re-setting.
- Adjustability — Easily adjustable for minimum standing wave ratio (1.1).

Without coax adapter kit Micro-Z-Match may be connected between antenna connector and ground connection.



Master-Matcher Sold Separately

Mounts directly on Master-Matcher with Jan M-358 or Amphenol 83-1T "Tee" fitting.

Can be mounted directly on coax fitting on any Master Mobile antenna mount.

Mounts Sold Separately

CITIZEN BAND 2 METER

No. 460
with 10' Coax (RG 58/U)
\$7.95

No. B-20
\$1.95

No. CB-19
\$7.50

New Improved Master antennas for high performance. Stainless steel and chrome plated brass. Self-tapping threads. Easy to install with one 7/16" hole.

CIVIL DEFENSE ANTENNAS

Freq. Range 220-225 MC

Master deluxe antennas, ruggedly constructed, vertically polarized. Completely waterproofed, highly polished chrome. Furnished with 10' of 72 ohm coax. Special designed positive action rubber suction cups for easy mounting . . . No. 220-3 \$15.95

Available in Type 1 . . . \$15.95 (Similar to No. 214)

Available in Type 2 . . . \$17.45 (Similar to No. 214)

EXTENSIONS — with 3/8"-24 thread, fits all mounts and coils



EXTENSIONS

88	36"
88C	36"
90	26"
92	18 1/4"
94	36 1/4"
115	36"
12"	12"
12C*	12"
18"	18"
18C*	18"
24"	24"
24C*	24"
38"	36"
38C*	36"

Lower Section for all Band Antennas	\$4.95
In Chrome Plate	5.25
Extension for 100 Series Whips	3.95
Extension for 106 Series Whips	3.50
Extension for 106 Series Whips	4.95
Extension for Models No. 114 and No. 214	4.25
Base Section for AB Antenna (baked enamel)	2.95
Chrome Base Section for AB Antenna	3.50
Base Section for AB Antenna (baked enamel)	3.25
Chrome Base Section for AB Antenna	3.75
Base Section for AB Antenna (baked enamel)	3.95
Chrome Base Section for AB Antenna	4.50
Base section for AB Antenna (baked enamel)	4.95
Chrome Base Section for AB Antenna	5.25

*NOTE: Base Sections for use with ALL-BANDER Antenna Coils.



2 METER (DROOPING TYPE) GROUND PLANE GP4-3

For temporary vehicle installations. For 2 meter, 220 MC, 450 to 470 MC. Made of special aluminum alloy. 5 positive action suction cups permit fast mounting on all vehicle rooftops. 4 drooping radials for perfect match to 52 or 72 ohm coax cable. Spec. Freq. when ordering.

\$8.95

GROUND PLANE (Drooping Type) FOR 6 METERS

No. MGP-6

Aluminum alloy tubing, coax cable connector. For medium or low powered trans.
\$14.95



No. 10-H
Tenohold
Net \$1.00



NEW MASTER FLEX-R No. 711

Designed to relieve stress and strain and prevent damage that could be transmitted to the loading coil.

\$1.95

Master Mobile Mounts, Inc.
LOS ANGELES, CALIFORNIA

CORNELL-DUBILIER
SOUTH PLAINFIELD, N. J.



THE RADIART CORP.
CLEVELAND 13, OHIO

AUTO AERIALS



200 SERIES



400 SERIES

Model No.	Description	List Price
101	2 Section—Extends 38½". 48" Lead—Printed Box**	\$3.20
102	Same as Model 101 Except Packed in Kraft Bag&	3.04
103	3 Section—Extends 58¼". 54" Lead—Printed Box**	3.83
104	Same as Model 103 Except Packed in Kraft Bag&	3.69
105	Same as Model 103 Plus 12' Ext. Lead for Rear Mtg.*	7.11
109	"Dummy Model"—Extends 8½" #	1.41
110	3 Section—Extends 40". 48" Lead—Printed Box%	
111	Same as Model 103 Except Packed in Blister Pkg.***	3.83
112	Same as Model 101 Except Packed in Blister Pkg.	3.20
115	2 Section—Extends 38½". 54" Lead—Printed Box	3.27
The "Hi-Ball" Series (Top Cowl)		
201	3 Section—Extends 57¼". 54" Detach. Lead—Printed Box**	4.21
202	Same as Model 201 Except Packed in Kraft Bag&	4.06
211	Same as Model 201 Except Packed in Blister Pkg.	4.21
The "Periscope" Series (Disappearing Type)		
301	3 Section—Extends 53¼". 54" Lead—Printed Box**	5.34
303	3 Section—Extends 25". 36" Lead—Plain Box%	3.81
306	3 Section—Extends 25". 48" Lead—Printed Box	4.06
The "Ro-Tenna" Series (Ball Type)		
401	2 Section—Extends 38½". 48" Lead—Printed Box**	4.12
402	3 Section—Extends 58¼". 54" Detach. Lead—Printed Box**	4.43
411	Same as Model 402 Except Packed in Blister Pkg.	4.43
The "Sailfish" Series (Rear Deck Fin Type)		
501	3 Section—Extends 30½". 15' Lead—Single—Plain Box*	7.66
502	Same as Model 501 Except Duals. 24' Lead—Printed Box*	12.87
503	3 Section—Extends 46½". 15' Lead—Single—Printed Box*	8.99
504	Same as Model 503 Except Duals. 24' Lead—Printed Box#	13.21
505	"Dummy Model"—Same as Model 501 Without Lead#	4.15
506	"Dummy Model"—Same as Model 503 Without Lead#	4.50
507	1 Model 501 and 1 Model 505 Packed Together	11.80
The "Side-Car" Series (Side Cowl)		
701	3 Section—Extends 57½". 54" Lead—Printed Box**	4.68
702	Same as Model 701 Except with Chromed Stanchions**	4.99
703	3 Section—Extends 90". 54" Lead—Plain Box*	5.92
704	Same as Model 703 Except with Chromed Stanchions*	6.22
705	Same as Model 701 Except in Kraft Bag	4.55
The "Ro-Tenna De Luxe" Series (De Luxe Ball Type)		
601	3 Section—Extends 58¼". 54" Detach. Lead—Fender Plate**	4.96

CORNELL-DUBILIER
SOUTH PLAINFIELD, N. J.

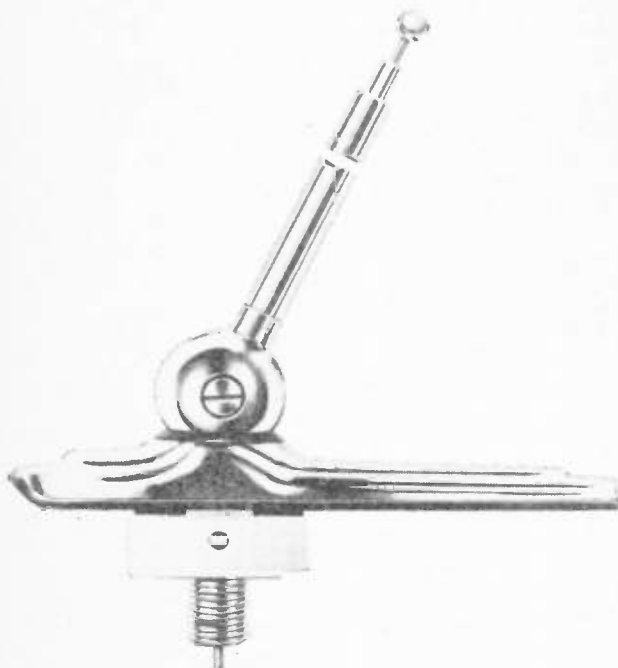


THE RADIART CORP.
CLEVELAND 13, OHIO

AUTO AERIALS



500 SERIES



600 SERIES

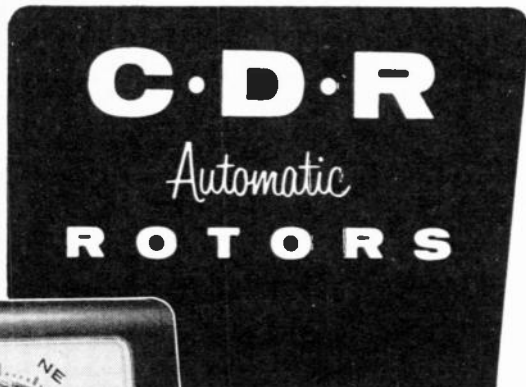
Model No.	Description	List Price
105	3 Section—Extends 58 1/4". 54" Lead plus 12' Ext.—Top Cowl*	\$7.11
106	Dual Kit—3 Section—Extends 28". 24' Lead—Top Cowl*	9.45
107	Same as Model 106 Except 1 Live, 1 Dummy—Top Cowl*	8.12
203	3 Section—Extends 57 1/4". 54' Lead plus 12' Ext.—Rear Mount	7.50
302	3 Section—Concealed Type—Extends 53 1/4". 54" and 12' Ext.*	8.62
304	3 Section—Concealed Miniature—Extends 25". 54" and 12' Ext.*	7.33
305	Dual Set of Model 304 with 24' Lead*	10.00
403	Same as Model 402 plus 15' Extension Lead*	7.71
404	Dual Set—3 Section—Extends 28". 24" Lead—Ball Type*	10.15
405	Same as Model 404 Except 1 Live, 1 Dummy*	8.84
602	Same as Model 601 plus 12' Extension Lead*	8.24
603	Dual Set—3 Section—Extends 28". 24' Lead—Fender Plates*	10.60
Replacement Masts		
901	Universal Set Screw Type—3 Section—Extends 58 3/4" #	2.25
902	Same as Model 901 Except in Blister Package***	2.59
903	Universal Set Screw Type—3 Section—Extends 38 1/2"***	
904	De Luxe Self-aligning Universal Type—3 Section—59"***	2.56
905	Same as Model 904 Except in Blister Package***	2.87
906	Olds 1952-1959 Pontiac 1948-1954 Mast—3 Section—57" %	2.34
907	Chrysler Mast—3 Section—Extends 57". Plain Box %	2.34
908	Olds Replacement w/Rubber Grommet	2.56
909	3 Section Mast—Extends 57". Pontiac 1955-1959	2.34
108	Replacement Mast for Model 107* **	3.50
Leads and Accessories		
1012	12" Extension Lead—Plastic Bag @	.78
1018	18" Extension Lead—Plastic Bag @	.94
1024	24" Extension Lead—Plastic Bag @	1.10
1036	36" Extension Lead—Plastic Bag @	1.28
1048	48" Extension Lead—Plastic Bag @	1.41
1096	96" Extension Lead—Plastic Bag @	2.65
1144	144" Extension Lead—Plastic Bag @	3.28
1180	180" Extension Lead—Plastic Bag @	3.61
1181	180" Extension Lead with "Y" Connector %	4.38
1254	Original Replacement Lead-In @	1.37
1301	"Y" Connector %	1.00
1302	In-Line Capacitor for Rear Mount Antennas %	1.22
Displays		
D-1	Metal Stand w/Model 101, 201, 301, 402 & 601 Antenna	22.14
D-2	Rotating Blister Pack Steel Stand w/20 Assorted (Price according to assortment)	
TERMS: 2% 10th Prox.—F.O.B. Factory		
PRICES: include Excise Tax & Freight Allowance on 100# & Over		
PACKAGING: *—Corrugated Plain Box %—Chipboard Plain Box		
**—Corrugated Printed Box #—Chipboard Printed Box		
***—Blister Package		
&—Kraft Bag		
@—Plastic Bag		

CORNELL-DUBILIER
SOUTH PLAINFIELD, N. J.



THE RADIART CORP.
CLEVELAND 13, OHIO

now... **3 models** to choose from



a type for every need . . . ALL 40% sharper tuning than any other automatic rotor.



AR-22

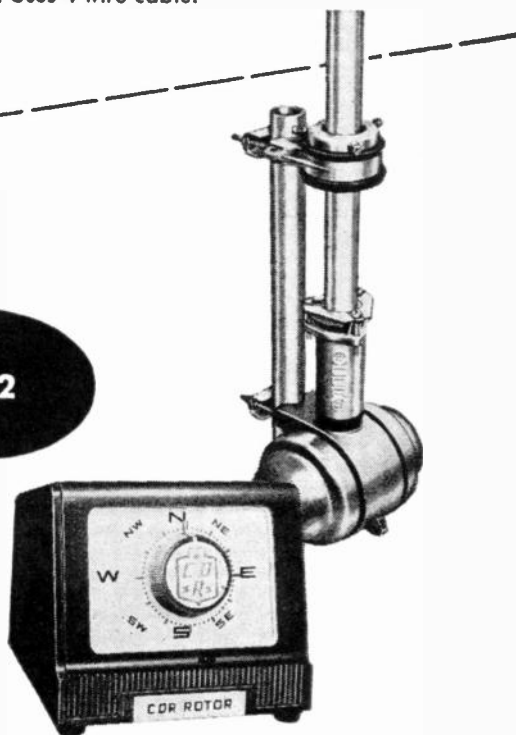
Here is the **HEAVY DUTY** rotor that is so popular everywhere . . . **NOW COMPLETELY AUTOMATIC!** Powerful beyond any TV need . . . it is proven and tested as the giant of the industry. Uses 4 wire cable.

The complete, **AUTOMATIC** rotor with **THRUST BEARING**. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.

AR-2

The complete, **AUTOMATIC** rotor. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.

AR-1



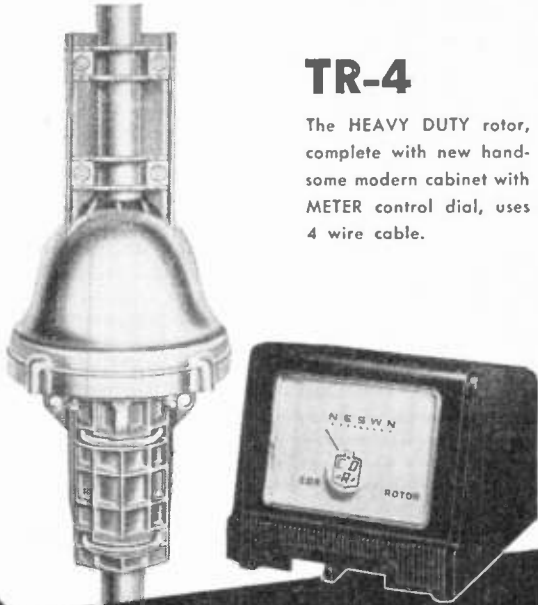
CORNELL-DUBILIER
SOUTH PLAINFIELD, N. J.



THE **RADIART** CORP.
CLEVELAND 13, OHIO

TR-4

The **HEAVY DUTY** rotor, complete with new handsome modern cabinet with **METER** control dial, uses 4 wire cable.



TR-15

Features never before available in popular price range. Instant locking. 360° revolution. Weather-sealed. Cabinet: mahogany or blond. Uses 4-wire cable.

TR-16 Same but with heavy-duty thrust bearing.

TA-6 Heavy-duty thrust bearing.

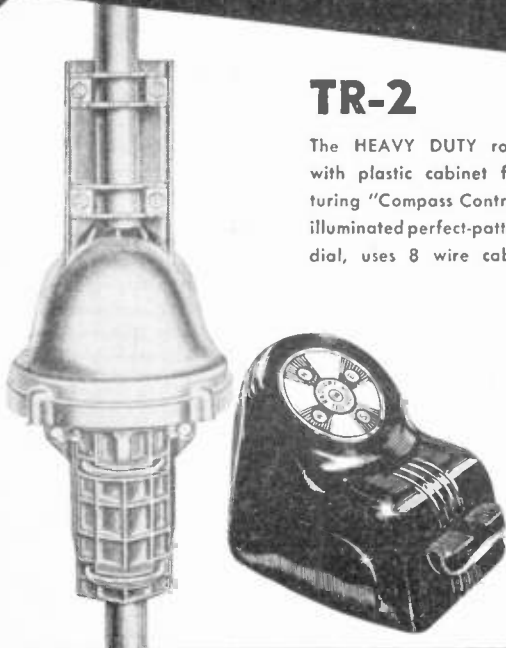


C·D·R
R O T O R S
Powerful . Dependable

Here is the **ONE** line that has everything . . . a model for every need! **AND POWERFUL EVEN BEYOND ANY ORDINARY NEED!** Skillfully engineered . . . **ALL FIELD TESTED AND PROVEN** by thousands and thousands of satisfied users from coast to coast.

TR-2

The **HEAVY DUTY** rotor with plastic cabinet featuring "Compass Control" illuminated perfect-pattern dial, uses 8 wire cable.



HAM-M

Heavy-duty unit specially designed for amateur radio operators. Holds heaviest antennae commercially available. Exceptional resistance to ice, wind. Uses 8-wire cable. Automatic break. Extremely accurate directional indicator.

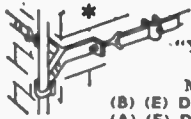


South River

THE COMPLETE QUALITY LINE OF ANTENNA MOUNTING ACCESSORIES

CHIMNEY MOUNTS

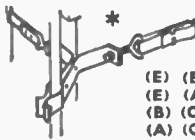
U.S. Pat. #2482575, Can. Pat. #463261



"Y" TYPE HOT DIP GALV. STEEL

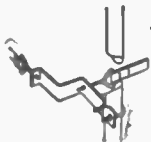
MODEL	LIST
(B) (E) DM-36	\$4.00
(A) (E) DM-36-ST	5.65
(B) (C) "Y" Special	3.10
(A) (C) "Y" ST Special	3.95

COMPLETELY ALL STAINLESSS
(A) ST-DM 8.05



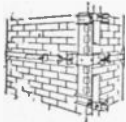
SNAP-IN TYPE

MODEL	LIST
(E) (B) SN-50	\$3.60
(E) (A) SN-50-ST	5.00
(B) (C) CM-20	3.10
(A) (C) CM-20-ST	3.95



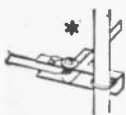
"Z" TYPE

MODEL	LIST
(B) (C) ZM	\$2.45
(A) (C) ZM-ST	3.50
(B) (C) ZM-2	2.35
(A) (C) ZM-2-ST	3.30



ONE PIECE TYPE

MODEL	LIST
(E) (A) (One Strap) UM-1-ST	\$6.85



RATCHET TYPE

MODEL	LIST
(B) RT	\$4.25
(A) RT-ST	\$5.50

EAVE MOUNTS



MODEL	LIST
EM-1	\$5.45



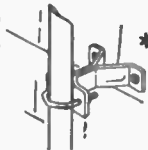
MODEL	LIST
30" EM-30	\$4.55
48" EM-48	6.40
60" EM-60	8.00

CODE:

* TWO TO A SET

- (A) Stainless Steel Banding
- (B) Galv. Steel Banding
- (C) Economy Model
- (D) Not Illustrated
- (E) With Kwik Klip
- (F) U.S. Pat. # 2734708
- (G) Fits Masts Up To 1 1/2"
- (H) Fits Masts Up To 2"

WALL BRACKETS

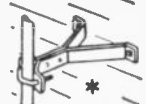


"U" BOLT TYPE

MODEL	LIST
3" Alum. WB-3	\$2.20



MODEL	LIST
3" NT-3	\$1.45
4" NT-4	1.60

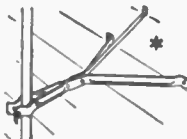


MODEL	LIST
6" WB-6	\$2.35

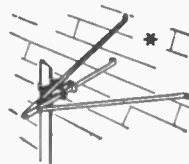
MODEL	LIST
9" WB-9	\$3.45
12" WB-12	4.60
15" WB-15	5.45
18" WB-18	6.15
24" WB-24	7.60

SNAP-IN TYPE

MODEL	LIST
6" SN-6	\$2.35



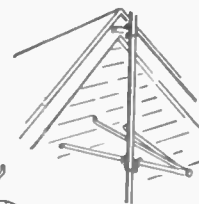
MODEL	LIST
9" SN-9	\$3.45
12" SN-12	4.60
15" SN-15	5.45
18" SN-18	6.15
24" SN-24	7.60



ADJUSTABLE

MODEL	LIST
18" Alum. WB-18A	\$7.50

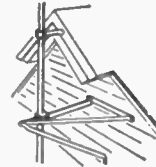
MODEL	LIST
Combination WB-3-18A	\$5.45
All Aluminum	



MODEL	LIST
ST-18A	\$9.25
Assembled	
ADJ-18	6.90
Unassembled	
ALL STEEL	

Complete descriptions and list of South River Products available in latest catalog. Write for your copy.

WALL BRACKETS



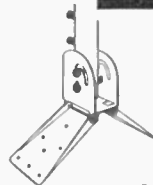
MODEL	LIST
Combination Assembled ST-3-18A	\$5.80
Combination Unassembled ADJ-3-18A	5.25
ALL STEEL	



HEAVY SWIVEL GROUND UP TYPE

MODEL	LIST
GU-3	\$6.15 Pr.
(Fits Masts Up To 3 3/4" O.D.)	
GU-7	\$3.65 Pr.
Fits Masts up to 2 3/4" O.D.	

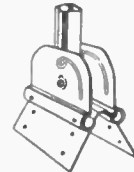
ROOF MOUNTS



MODEL	LIST
(F) (G) PFM-1	\$3.80
(F) (H) PFM-1-LM	4.70

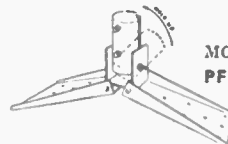


MODEL	LIST
(F) (G) PFM-30	\$3.35
(F) (H) PFM-30-LM	4.35

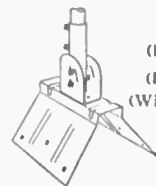


MODEL	LIST
(F) (G) PFM-2	\$7.30
All Aluminum	

MODEL	LIST
(G) PFM-90	\$2.25
(H) PFM-90-LM	3.25
(C)(D)(G) SPF-9	1.90
(C)(D)(H) SPF-9-LM	2.40



MODEL	LIST
PFM-XL	\$5.90
(Fits Masts Up to 2 1/4" O.D.)	



MODEL	LIST
(F) (G) PM-10	\$4.85
(F) (H) PM-10-LM	5.50
(Without Patented Walk-Up Drop-Lock Feature)	
(D) (G) PM-12	2.95
(D) (H) PM-12-LM	3.60

MODEL	LIST
(G) UR-1	\$5.99
(G)(D) UR-2**	.59

** (Holes replaced by continuous slot)

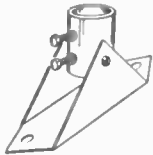


SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey

South River

THE COMPLETE QUALITY LINE OF ANTENNA MOUNTING ACCESSORIES

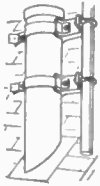
ROOF MOUNTS



MODEL	LIST
(G) RM-80	\$1.25
(H) RM-80-LM	2.35
(C) (G) SRM-8	1.05
(C) (H) SRM-8-LM	1.55
(D) RM-XL*	3.65

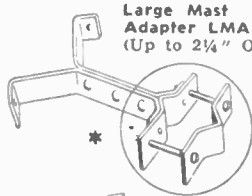
*(Fits Masts Up To 2 1/4" O.D.)

PIPE MOUNT

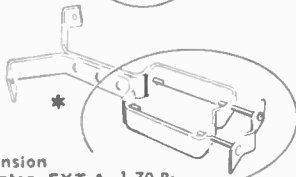


MODEL	LIST
(B) P-1	\$2.85
(A) P-1-ST	3.25

ACCESSORIES



Large Mast Adapter LMA \$1.35 Pr.
(Up to 2 1/4" O.D.)



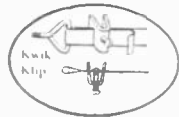
Extension Adapter EXT-A 1.70 Pr.
(Extends Mast 3")



Mast Coupler MC .95



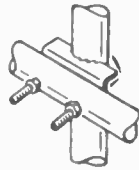
Mast Plug MP .20



KWIK KLIP
MODEL LIST
KK \$.28

Complete descriptions and list of South River Products available in latest catalog. Write for your copy.

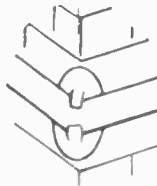
ACCESSORIES



MODEL LIST
"U" Bolt & Saddle UBS \$.45

CORNER GUARD

MODEL LIST
CG \$.49



STRAP CLAMPS

MODEL LIST
(C)-Q Galv. Steel \$.08
(C)-QS Stainless Steel .15



U.H.F. ANTENNA MAST ADAPTERS
Model UHB-15
List \$2.10

BANTAM TOWERS

MODEL LIST
BT-5 \$7.25
BT-10 9.95

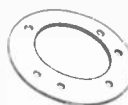


GUY RINGS



(Universal Type Fits Masts up to 2")
Model GR-1
List \$1.60

MODEL LIST
1 1/4" MASTS GR-5 \$.20
1 3/8" MASTS GR-6 .30
1 1/2" MASTS GR-7 .30
(D) Guy Ring Support RS-5 .25
(For 1 1/4" Masts)



RATCHET GUY WIRE TIGHTENER
Model GW-RT
List \$.75

GROUND RODS

MODEL LIST
(D) 4 Ft. GND-4 CP \$1.10
(D) 6 Ft. GND-6 CP 1.55
(D) Gnd. Rod GRC Clamp .35
(D) Gnd. Rod Clamp GRC-2 .18

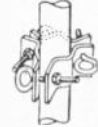
GUY WIRE CLAMPS



(G) Model GC-1 List \$.40



(G) Model GC-2 List \$.45



(H) Model GC-3 List \$.60



Model GC-4 List \$.80
(For Masts Up to 3")

MAST TUBING

ALUMINUM
ALLOY 635 T6
WALL THICKNESSES—.050"—.054"—.058"
SIZES 5', 8', 10', 12'

GUY WIRE

STRANDED ALCLAD ALUMINUM
500# TEST—7 Strand 17 Gauge
50' INTERCONNECTED COILS
100' INTERCONNECTED COILS
1000' CONTINUOUS COILS

REPLACEMENT BANDING KITS

A 12 Ft. Straps 1.90
AT 10 Ft. Straps 1.55
C 12 Ft. S.S. Straps 3.45
CT 10 Ft. S.S. Straps 2.75
XLG 18 Ft. Straps 2.60
XLST 18 Ft. S.S. Straps 4.95

SOUTH RIVER SUPERLIGHT MAGNESIUM LADDERS

Magnesium: 1/3 Lighter than Aluminum, Strongest Metal Lb. for Lb. in existence.

EXTENSION LADDERS

Size	Weight	List Price
40'	57 Lbs.	\$142.40
36'	51 "	128.20
32'	46 "	113.95
28'	32 "	87.95
24'	28 "	75.35
20'	23 "	62.80
Rubber Safety Feet		3.65

STRAIGHT LADDERS

Size	Weight	List Price
16'	18 Lbs.	46.70
12'	13 "	35.00
10'	11 "	29.20
Roof Hooks		3.65

STEPLADDERS

Size	Weight	List Price
8'	16 Lbs.	39.10
6'	11 1/2 "	28.15
4'	8 1/2 "	21.35
26"	3 3/4 "	10.40

These ladders furnished immediately from complete warehouse stocks in South River, N. J.

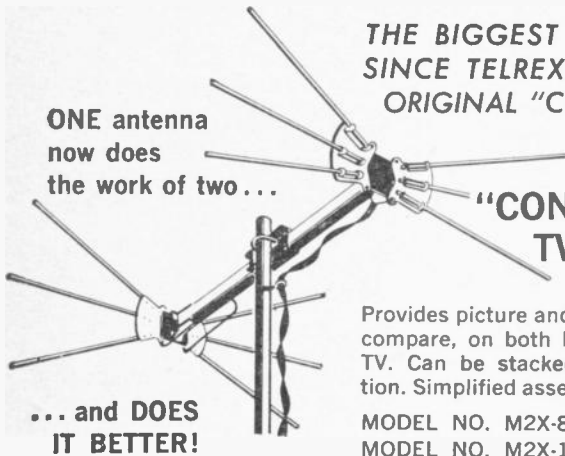
SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey

ANTENNAS SINCE 1921

telrex LABORATORIES

Communication and TV Antennas
ASBURY PARK 25, NEW JERSEY, U.S.A.

DESIGNERS AND MANUFACTURERS OF
TV, FM AND COMMUNICATION ARRAYS



ONE antenna now does the work of two...

... and DOES IT BETTER!

THE BIGGEST ADVANCE IN TV SINCE TELREX INTRODUCED THE ORIGINAL "CONICAL-V-BEAM"

NEW "CONICAL-V-BEAM" TV ANTENNA

Provides picture and sound brilliance beyond compare, on both black and white or color TV. Can be stacked for deep-fringe reception. Simplified assembly speeds installation.

MODEL NO. M2X-8 \$12.50
MODEL NO. M2X-12 13.50

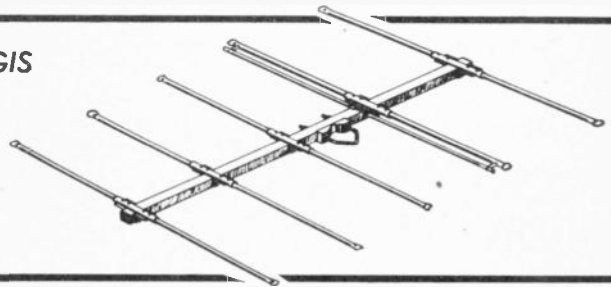
Telrex is equipped to design and supply to our specifications or yours, broadband or single frequency, fixed or rotary arrays for communications, FM, TV, scatter-propagation, etc. Consultants and suppliers to communication firms, universities, propagation laboratories and the Armed Forces. Install a TELREX system.

There's long term dependability, scientific leadership, world-wide respected performance, plus quality of materials too!

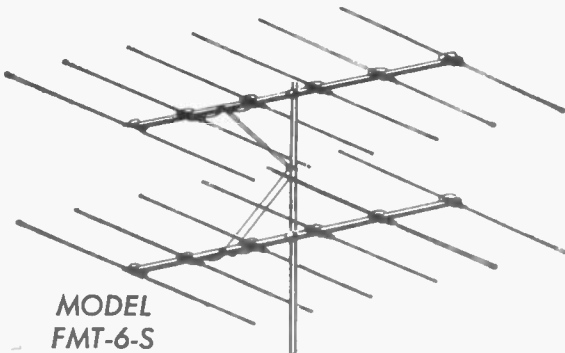
CUSTOM-BUILT, SINGLE CHANNEL YAGIS

Extra Heavy-Duty TELREX YAGI

Rugged, custom-built, 10-db gain, broadband 5-element Yagi array. Designed and precision-tuned for a single channel of customer's choice. Mounted on 1 1/4" square cross arm.



FM and HI-FI SERIES



MODEL FMT-6-S

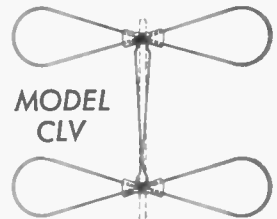
MODEL NO.	UNITS IN STD. CARTON	SHIP WT. LBS.	LIST PRICE
FMT-3	1	4	\$ 9.03
FMT-3-S	1	8	20.92
FMT-6	1	8	17.75
FMT-6-S	1	15	38.31
FM-2X*	1	4	9.05
FM-4X*	1	8.5	19.30

*Conical-V-Beam

Broad-band gain and impedance characteristics make these beams ideal where extremely high fidelity, high-sensitivity antennas are required. All models of this series provide an excellent match to a 300 ohm characteristic impedance line (common TV lead).

"CLOVER-V-BEAM" SERIES

Requires no rotator to pick up signal from front or back. Transposition bar stacking gives vertically narrow, noise-free reception lobes. Tough closed loops yield lightly in high winds, but have no tendency to snap off.



MODEL CLV

MODEL NO.	UNITS IN STD. CARTON	SHIP WT. LBS.	LIST PRICE
CLV E-Z-Rig Clover	4	5	\$6 95

Special TV and Communication Arrays

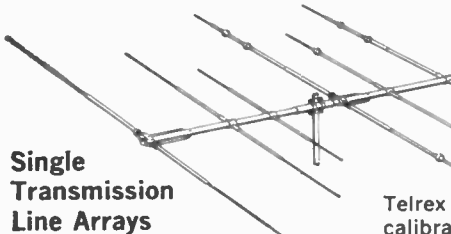
Constructed of rugged, lightweight aluminum, with exclusive Telrex features such as taper-swaged elements, "Cyclocac" element supports, etc. Specially built for community-system installations, communications (broadband or single frequency) fixed or rotary, point-to-point, FM, TV-relaying, scatter-propagation, etc.

ANTENNAS SINCE 1921

telrex LABORATORIES

Communication and TV Antennas
ASBURY PARK 25, NEW JERSEY, U.S.A.

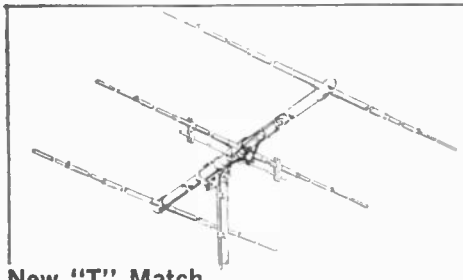
DESIGNERS AND MANUFACTURERS OF
COMMERCIAL SERVICE "BEAMED-POWER" ARRAYS



Single Transmission Line Arrays

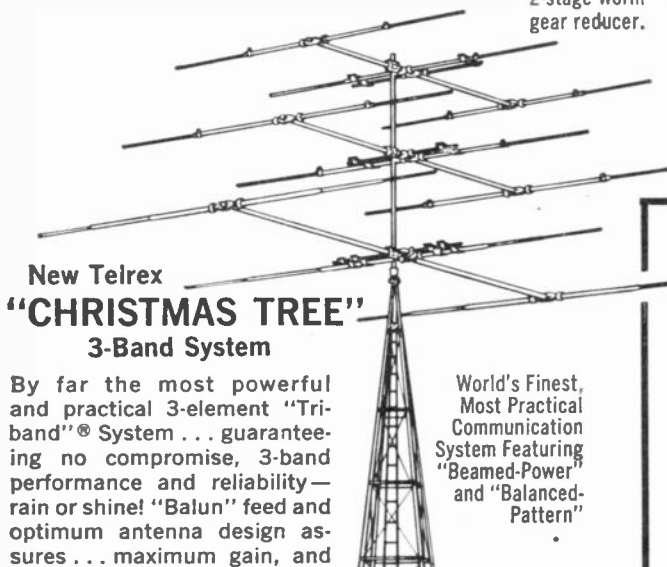
New Telrex "MONARCH" Model TBS-626 "Tri-Band"

Telrex... tuned, matched, and calibrated for easy assembly. No tuning or adjustments of any kind required. Model TBS-626 consists of 6 optimum spaced elements (two of which are "Tri-Band" elements) on a 26 ft. boom, providing optimum 4 element 10 and 15 meter, and optimum 3 element 20 meter performance. Separate, properly spaced reflectors, provide optimum F/B ratio on the 3 bands with no gain degradation.



New "T" Match 20 METER ARRAY

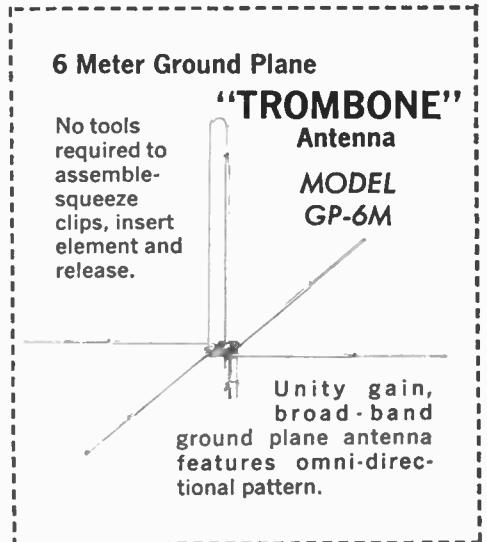
Equipped with coaxial half-wave balun and high efficiency, compensated "T"—match section. Designed for 52 ohm transmission line. Precision tuned, matched and calibrated for easy assembly at your site.



New Telrex "CHRISTMAS TREE" 3-Band System

By far the most powerful and practical 3-element "Tri-band"® System... guaranteeing no compromise, 3-band performance and reliability—rain or shine! "Balun" feed and optimum antenna design assures... maximum gain, and impedance bandwidth, plus pattern symmetry with minimum TVI, BCI and harmonic radiation qualities not possible with so-called "Tri-banders".

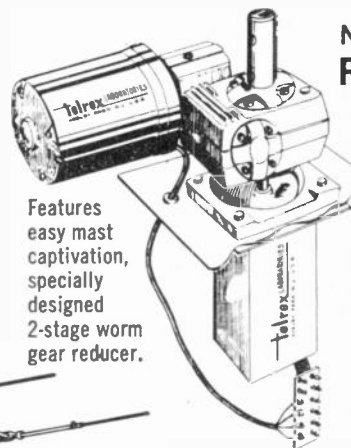
World's Finest, Most Practical Communication System Featuring "Beamed-Power" and "Balanced-Pattern"



6 Meter Ground Plane "TROMBONE" Antenna MODEL GP-6M

No tools required to assemble—squeeze clips, insert element and release.

Unity gain, broad-band ground plane antenna features omni-directional pattern.

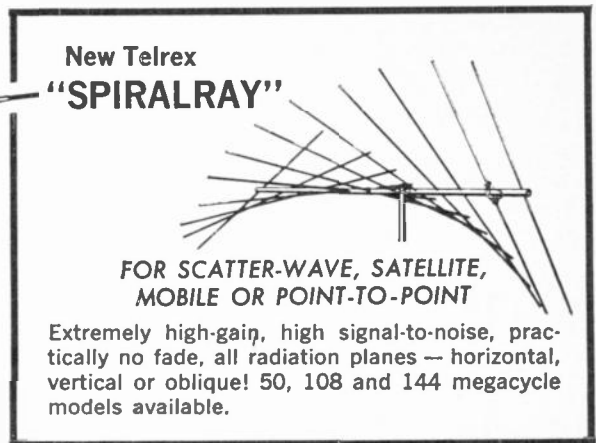


New Telrex ROTATOR/INDICATOR System Model 175-RIS

Features easy mast captivation, specially designed 2-stage worm gear reducer.



Designed to out-perform and outlast any other beam rotator in its class. Will hold and rotate beams in winds up to 110 mph. Control Housing is Telrex quality thru-out. Black japanned aluminum housing. Tri-colored azimuth rose and reciprocal readings. Has sel-syn indication and limit of rotation circuitry.



New Telrex "SPIRALRAY"

FOR SCATTER-WAVE, SATELLITE, MOBILE OR POINT-TO-POINT

Extremely high-gain, high signal-to-noise, practically no fade, all radiation planes — horizontal, vertical or oblique! 50, 108 and 144 megacycle models available.

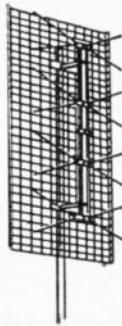
Sec. 1200



AVAILABLE IN
STANDARD OR
GOLD ANODIZED



UHF



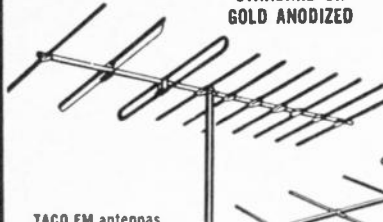
VHF

A complete line of compact, modern, trouble-free TV antennas, engineered for top performance ... both black and white and color. Includes the famed TACO Topliner, Explorer and Trapper models for VHF and for UHF, Parabolics, Bow-ties and Yagis.

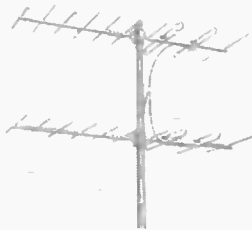
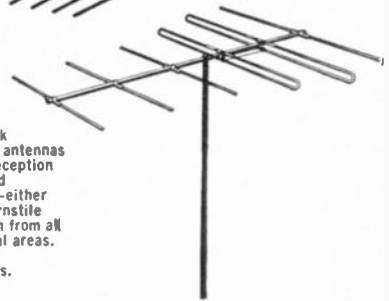
Write for details



AVAILABLE IN
STANDARD OR
GOLD ANODIZED



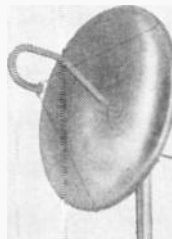
TACO FM antennas include: Directional antennas—high-gain Yagis for top performance in weak signal areas, Bi-Directional antennas for "in-between" station reception in medium signal areas, and Omni-Directional antennas—either S-type folded dipoles or Turnstile types for efficient reception from all directions in stronger signal areas. Antenna kits available for "do-it-yourself" enthusiasts.



RUGGEDIZED YAGI: From 30 MC to 500 MC. Available as individual units or stacked systems.



AIRBORNE ANTENNAS: (Above) Antenna G-833 flush mounted annular slot antenna for communication band. (Below) Antenna AT-256-A/ARC streamlined blade type for communication band.



PARABOLIC ANTENNAS: Mesh sizes from 4 ft. to 19 ft., and spun sizes from 4 ft. to 6 ft. Frequency bands from 806-960 MC, 1700-2400 MC and 5925-7450 MC. Other bands available on special order.



28, 32 and 60 foot PARABOLICS: Expanded aluminum mesh. Ground mounted or tower mounted. Unique design allows rapid, simple erection. Dual polarized horns supplied at reasonable cost to meet individual requirements.

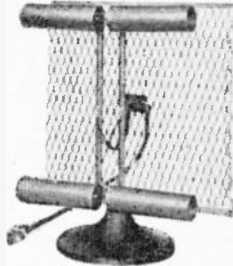
**WHEN IT COMES TO ANTENNAS
COME TO TACO**

TECHNICAL APPLIANCE CORP., SHERBURNE, N. Y.

TV ANTENNAS — SERVICE AIDS

TRICRAFT UHF INDOOR ANTENNA

Consists of a two element aluminum array with a plane reflector. Measures only 12 inches from side to side. Has plastic base. Conveniently placed atop TV receivers. Covers all 70 UHF bands and provides excellent impedance match over the band. Packed individually. Wt. 2 lbs. each.



Model 210

MODEL 210 Dealer's Net\$5.32

TRICRAFT UHF-VHF INDOOR ANTENNA

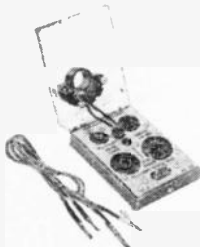


"Performance never before achieved." Here's why:

- Electronically adjusted
- "Only" pretuned frequency indoor antenna
- Turn switch to channel and antenna is electronically tuned to station
- Signal gain never before achieved
- Two-toned mahogany leatherette cover blends with any TV set
- Consumer tested and approved, wt. 1½ lbs. ea.

MODEL 600 Dealer's Net\$8.60

TRICRAFT FILAMENT CONTINUITY CHECKER

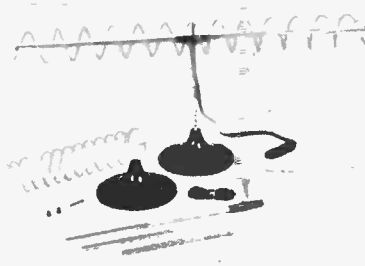


Model SM-101

Model SM-101 Dealer's Net\$2.95

- Quickly locates bad tubes in series-sets.
- Tests continuity of parts and appliances
- Easy to use — no warm-up or switching.
- No guessing — positive indication.
- Safe — Test current less than 1/1000 amp.
- Pocket size

TRICRAFT INDOOR ANTENNA

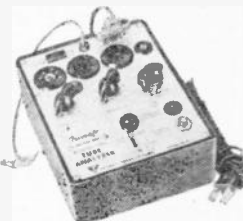


Model T-11 in Kit Form
Gleaming Gold Spiral and Dipoles

- Best indoor performance
- Highly directional characteristics reject noise and ghosts
- No dangling, unsightly wires
- No dust catcher
- Simple to orient on both high or low bands
- Sturdy construction, wt. 1½ lbs. each.

MODEL T-11 Dealer's Net\$4.39
(Licensed by Hi-Lo TV Antenna Corp. U. S. Pat. No. 2,495,579; Canadian Pat. 1951)

TRICRAFT TUBE CHECKER



Model 200

- Entirely NEW circuit
- Tests ALL tubes
- Quick and accurate
- Fits in tube Caddy

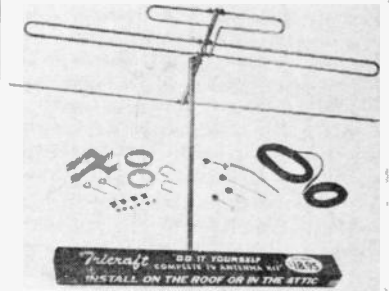
A Precision Instrument with the following features:

1. Tests tubes better, faster and more thoroughly than instruments costing many times more.
2. Compact and rugged enough to take it day in and day out in the service kit.
3. Completely and thoroughly checks all standard octal, loctal, 7 and 9 pin miniature tubes including:
 - 150 mil type for grid emission, gas, shorts, opens, microphonics and filament continuity. (Also picture tubes.)
4. All elements checked independently; no elements are tied together during test.
5. Obsolete proof; no circuit changes necessary to check new tubes as they are developed.

MODEL 200 Dealer's Net\$23.95
Pat. Applied for

TOP TV RECEPTION to 100 MILES!

TRICRAFT IN-LINE No. 2000M
Available factory assembled with complete installation kit and chimney mount.



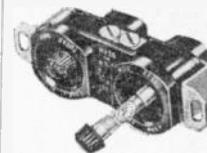
for Black & White or COLOR

TRICRAFT
Do It Yourself ANTENNA KITS
Outdoor or indoor installation for TOP TV RECEPTION

- Completely pre-assembled, instantly installed
 - All-channel, high gain, directional
 - None better made, top quality and construction
 - ½" Aircraft aluminum tubing
 - 1" extra strong cross arm
 - Well matched in all channels
 - Directs the signal to your set.
- TRICRAFT "PACKAGED" ANTENNA KITS ARE COMPLETE, READY FOR INSTALLATION

MODEL 2000M Dealer's Net\$5.95

FUSE-O-LET DUPLEX OUTLET



Model FL-101

For Maximum SAFETY
For Positive PROTECTION
In HOME and INDUSTRY

FUSE-O-LET saves time and money because it prevents costly down-time and expensive burn-outs on test lines, control circuits, motorized equipment and other critical industrial installations. Eliminates fire hazard, prevents overloaded outlets, protects hidden wiring. Manufactured of finest materials including phosphorous-bronze contacts, comes individually boxed with two 6 amp fuses. Available with any standard ¼" x 1¼", 250 volt fuses, 15 amps or less. Fits all standard outlet boxes. Complete with two fuses Underwriters Laboratories Appr. Patented.

Dealer's Net\$72

Waxing, Varnishing and Impregnating of Electrical Components

PRODUCTION and MANUFACTURING FACILITIES for CUSTOM MADE PRODUCTS!

Tricraft

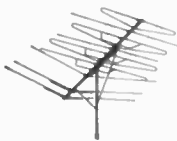
PRODUCTS CORPORATION
Chicago 13, Illinois
Division of HI-LO Manufacturing Corp.



TRIO® the line with features

TRIO® COLOR ROYAL

Model CR-1



for the ultimate in color reception—excellent on black and white. Greatest freedom from interference.

—See the Trio Colorite for areas formerly using conical installations.

TRIO® ZEPHYR ROYAL®

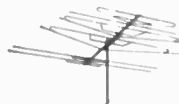
Model ZR-1



The nation's best performing antenna on black and white—excellent on color!

TRIO® Zephyr® PIONEER

Model ZP-1



For distance. Excellent reception where the extreme power of the CR-1 and ZR-1 is not required.

WING DIPOLE—the world's most powerful composite dipole.

WING DIRECTOR—the world's most powerful director.

DYNA-COIL PHASING—for increased performance.

NO-STRIP LEAD-IN CONNECTOR—No stripping - no exposed wire - Eliminates wire breakage at the terminal posts.

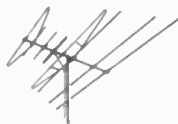
QUICK-LOK WING CLAMPS—Eliminates all nuts and bolts.

BRACED REFLECTORS—the world's strongest long reflector elements.

THREE POINT SUSPENSION—The only dipoles with triple attachment to the boom.

TRIO® Super Mite

Model SM-1



Deluxe Antenna features at an economy price.

no-strip LEAD-IN CONNECTOR



An exclusive feature of Trio Zephyr and Color Series Antennas.

no-strip SET CONNECTOR



the safest, most positive TV connector

TRIO® Sharpshooter

America's No. 1 Antenna Values!

Trio "Sharpshooter" Yagis

Trio "Sharpshooter" Conicals

The Trio "88"

Models for every channel and power gain required. Completely pre-assembled. 5 element, 10 element and broadband models.

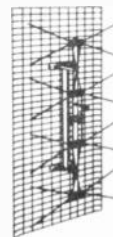
Highest quality. 12 popular models. Completely pre-assembled.

Uses famous Trio "Conical" head and Instalok clamps. Available in single and two bay models.

TRIO® SU 44

UHF ANTENNA

Wide vertical expanse. Instalok-type assembly. New improved phasing harness. Rugged construction. Improved over TRIO UBT-4—rates as highest gain UHF antenna by independent, unsolicited tests.



TRIO® Manufacturing Company
GRIGGSVILLE, ILLINOIS

WEBSTER

MOBILE ANTENNAS • STAINLESS STEEL WHIPS ANTENNA MOUNTS • MARINE ANTENNAS

All WEBSTER antennas feature exclusive quarter-wave, center-loaded design... give you more communications mileage!

WEBSTER — Standard of the Industry



STAINLESS STEEL WHIPS

Webster offers high quality, long life, solid stainless steel whips in standard and custom-manufactured lengths to meet any replacement requirement. Webster regularly supplies quantity users with whips and base fittings of many different types. It is therefore possible that designs applicable to your particular purpose may already exist. Your inquiries on special lengths and mounts will be given immediate attention.

STANDARD MODELS

Lengths

36" - 46"	66" - 76"
46" - 56"	76" - 86"
56" - 66"	86" - 96"

All listed whips have male-type base fittings threaded $\frac{3}{8}$ - 24 SAE.

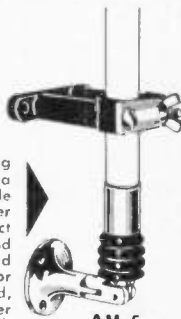
ANTENNA MOUNTS for Model 2700...



AM-4

Insulated deck mount for Model 2700. Combines excellent insulation with high mechanical strength. Ribbed phenolic insulator is internally reinforced. Cast base flange and antenna socket are brass, finished in polished chrome. Weather and corrosion-proof.

A truly universal mount permitting a full 90° movement of antenna in all directions. For base or side mounting of antenna. Upper support bracket is high impact plastic fitted with pivot bar and wing nut for quick release and lock-up. Base assembly insulator is ribbed. Hardware is polished, chrome-plated brass. Weather and corrosion-proof.



AM-5

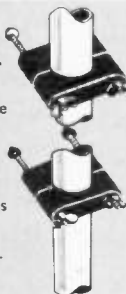
WEBSTER AM-7B DE LUXE SWIVEL BASE MOUNT

Strong, sturdy... designed for a long life of service. Arranged for either deck or side of cabin mounting. Provides a full 90° swing in every direction through universal-joint design. Upper support bracket is of high impact plastic fitted with pivot bar and wing nut for quick release and lock-up of antenna. Has rugged, chrome-plated brass hardware, polished to a high brilliance. Fully weather- and corrosion-proof. Has de luxe features throughout.



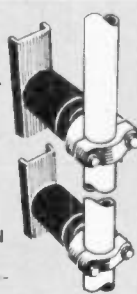
AM-1B ANTENNA MOUNT

De Luxe quality... a truly universal antenna mounting with every desirable feature. Upper support bracket fitted with pivot bar and wing nut. Has polished, chrome-plated brass hardware... phenolic base insulator. Weather- and corrosion-proof.



AM-6 ANTENNA MOUNT

Webster standard mounts. High impact phenolic with brass hardware. Simple, strong, sturdy. (AM-6A mounts have chrome-plated hardware)



AM-3 ANTENNA MOUNT

Ceramic insulated mounts for high power and severe operating conditions. Has long leakage path, high strength glazed ceramic side mounted insulators. Anodized aluminum castings, holding bolts of stainless steel, brass fittings.

MARINE ANTENNAS

Used with any standard marine radiotelephone to provide effective, high performance operation over the marine range of 2000 to 5000 kcs.

Webster "Standard Marine"

Quarter-wave, center-loaded... design is widely accepted as the standard of comparison throughout the industry. Completely weather and corrosion-proof. Features fiber glass covered top whip... support column is aircraft-type aluminum. Antenna height (over-all) 23'-6"; (whip only) 8'-6".

Webster "Model 2700"

The ideal center-loaded antenna for the smaller power cruiser where space limitations impose definite restrictions. Has an overall height of 12'-6". Is completely weather and corrosion-proof. Fiber glass top whip is removable, brass fittings are chrome plated.

Webster 17" Antenna Package

Everything furnished for a complete installation—antenna, mounts, and hardware. Designed expressly for medium-sized boats. Features stainless steel top whip, antenna column is aircraft-type aluminum tubing. Unit is weather and corrosion-proof... comes complete with universal-type, swivel base mount (similar to AM-7B shown below), side mount, lay-down bracket, and hardware. Antenna height (over-all) 17'; (whip only) 5'.

Webster "De Luxe Junior"

New... De Luxe Junior permits both top whip and antenna support column to be readily telescoped for overhead clearance. Uses quarter-wave, center-loaded design. Is weather and corrosion-proof... has stainless steel top whip... antenna column is polished, chrome-plated brass tubing. Antenna height (over-all) 16'2"; (fully telescoped) 6'-7".

BANDSPANNER Multi-band mobile antenna

An effective antenna for operation on 80-40-20-15 and 10 meter amateur bands. This is an effective, streamlined, center-loaded antenna with loading inductor wound directly on upper portion of fiber glass support column. Moving top whip in or out, plunger fashion, makes possible exact resonance on those amateur bands. Light weight, sturdy, has stainless steel top whip, fiber glass support column and loading section.



Choose WEBSTER... the finest available
WEBSTER MANUFACTURING CO., INC.

Division, Applied Electronics Co. Inc.

HIGHEST QUALITY
AUTO ANTENNAS



FRONT MOUNTS

NEW LOK-MATIC® MODEL L-1000

Revolutionary! An entirely new concept in auto antenna design! Fits all cars — even '59 and '60 models. Fits any hole 7/8" to 1 1/4". Installed in seconds, by one man, from top! Completely water-proof. Highest "Q" ever.

- 3 sections, to 56" from 19 1/2".
 - Triple chrome plated brass tubing.
 - Adjusts to 43°. New Lok-matic mount.
 - 54" low loss Elektran lead cable.
- 12-carton: 12 lbs., 1 lb. each.

DISAPPEARING MODEL D-2000

Collapses to only 6 1/2" — Features include complete installation from the top and the Revolutionary Lok-Matic® Mount. Fits any hole from 7/8" to 1 1/4". The first major advance in a disappearing antenna in years.

- 3 section
- Extends to 52" from 6 1/2"
- 54" 100% shielded lead cable
- 12 — carton 24 lbs.

**DELUXE PHANTOM COMPLETE
 DISAPPEARING MODEL DCF-3C**

Collapses to 1"! Really extra smart, extra-sleek. Has flame tip, too! New aluminum shield tube is water-sealed. Mounting bracket. Waterseal grommet.

- 3 sections, to 45" from 1".
 - Triple chrome plated brass tubing.
 - Adjusts to 35°. "8" Ball mount.
 - 54" low loss Elektran lead cable.
- 12-carton: 15 lbs., 1 1/4 lbs. each.

NEW SUPER "8" MODEL TCF-4

King-size, but at regular price! Extra heavy. Sleek, modern, rugged. Popular, proved "8" Ball mount. Installed in minutes, by one man, from outside.

- 4 sections, to 57" from 18".
 - Triple chrome plated brass tubing.
 - Adjusts to 35°.
 - 54" low loss Elektran lead cable.
- 12-carton: 13 lbs., 1 lb. each.

EIGHT BALL MODEL TCF-3C

Still the world's most popular antenna! Rugged, rattle-proof, smart. Installed by one man, completely from outside, in a matter of minutes!

- 3 sections, to 56" from 22".
 - Triple chrome plated brass tubing.
 - Adjusts to 35°. "8" Ball mount.
 - 54" low loss Elektran lead cable.
- 12-carton: 12 lbs., 14 ozs. each.

FIBERGLASS MODEL TGF-1

Chrome Fiberglass: Looks, feels, sounds like chrome. Not a surface paint, but an exclusive impregnating. 16-carton: 6 lbs. Duraramic: Six colors — white, blue, green, yellow, tan, red. Cannot fade, rust, wear off. 6-carton: 6 lbs.

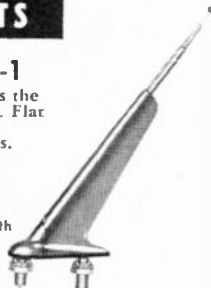
- Model TGF-1 chrome
 Model TGF-1 color (specify)
- Single section, 38" long.
 - 4 inner-conductor wires.
 - Will bend almost double, flex back.
 - 54" low loss Elektran lead cable.
 - "8" Ball mount.

REAR MOUNTS

SPARKLE MODEL TFL-1

Here's rear-fin styling that's the very latest! Deck or fender. Flar mounting pad and contour pad for high-crown fenders. Colorful display carton.

- 3 sections, to 27" from 9".
 - Triple chrome plated brass tubing.
 - 18' Elektran lead cable with built-in capacitors.
- 12-carton: 16 1/2 lbs., 1 1/2 lbs. each.



Dummy Model TFD-1: Same as TFL-1 except no lead cable. Will not receive.
 12-carton: 12 lbs., 3/4 lb. each.

MIDGET "PHANTOM" MODEL TDT-2

Disappearing short twin rear. For that smart "built-in" look.

- 3 sections, to 24" from 13 1/4".
 - Triple chrome plated brass tubing.
 - Adjusts to 35°. "8" Ball mount.
 - Two 54" low loss Elektran lead cables.
 - 15' lead extension with built-in capacitors.
 - "T" connector and 5 clips.
- 6 twins to carton: 13 1/2 lbs., twin set 2 lbs.

MIDGET "8" BALL MODEL TCT-2

Live short twins. Rear fender or deck. Same fine Ward quality.

- 3 sections, to 24" from 11 1/2".
 - Triple chrome plated brass tubing.
 - Adjusts to 35°. "8" Ball mount.
 - Two 54" low loss Elektran lead cables.
 - 15' lead extension with built-in capacitors.
 - "T" connector and 5 clips.
- 6 twins to carton: 13 1/4 lbs., twin set 2 lbs.



SIDE MOUNTS

SKY QUEEN MODEL SC-6

Neat, simple styling. Two stanchions assure sturdy mounting, are chrome capped. Rugged. Rattle-proof. Trouble-free. Adaptable to foreign cars.

- 3 sections, to 56" from 25".
 - Triple chrome plated brass tubing.
 - 36" low loss Elektran lead cable.
- 12-carton: 12 3/4 lbs., 1 lb. each.



**LONG RANGER
 MODEL SC-8**

Here's extra length that's ideal for extra pull in low-signal areas. Perfect for over-the-road truck equipment. Rattle-proof. Adaptable to foreign cars.

- 4 sections, to 100" from 39".
 - Triple chrome plated brass tubing.
 - 36" low loss Elektran lead cable.
 - Sturdy 2 stanchion mount with chrome caps.
- 12 carton 21 lbs., 1 1/2 lbs. each.

**CONTINENTAL FLEX
 ANGLE MODEL CF-6**

Adaptable to foreign cars. The only antenna that fits the Volkswagen. Flexible adjustment. Locks vertically.

- 3 sections, to 56" from 22".
 - Triple chrome plated brass tubing.
 - 36" low loss Elektran lead cable.
- 12 carton 15 lbs., 1 lb. 7 ozs. each.



ACCESSORIES

REPLACEMENT MASTS

3-section telescopic. Just slip on and tighten over stub of original mast with Allen wrench supplied. Triple chrome plated brass tubing.

Model TCFR-1 extends to 57" from 24" — 1/2 lb.
 Individual packed in cardboard tube — shipped bulk.



"T" CONNECTOR MODEL C-50
 To connect two lead cables and lead extension of Twin Rear mounts. One 3-way connector and 5 clips.
 12 on display card — 1 lb.

LEAD EXTENSIONS:

- Model C-9:** 18", 24 to box, 2 lbs.
- Model C-12:** 24", 12 to box, 2 1/2 lbs.
- Model C-42:** 15', 12 to box, 8 3/4 lbs. — built-in capacitors.
- Model C-63:** 18', 12 to box, 10 lbs. — built-in capacitors.

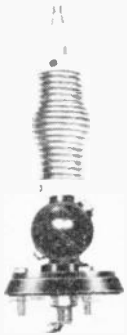


QUALITY BUILT
COMMUNICATION Antennas
 For every mobile frequency and application



NEW HEAVY DUTY DIE CAST MOBILE BASES

INSTALLS COMPLETELY FROM THE TOP — No more awkward installation problems — only 3 mounting holes needed — world's easiest installation. Positive water-proofing. Mounts on any curved or flat surfaces.



COMBINATION

Base spring and mast package as one unit. All components same quality and design as single units. 90" mast.
WCA-336-FG, black Fiberglass mast
WCA-336-SS, stainless steel mast



WCA311 — Universal swivel base. Plated & painted parts. Stainless steel mounting hardware.



WCA312 — Chrome plated swivel base w/ stainless steel mounting hardware.



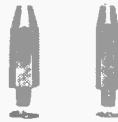
WCA315 — Coaxial type. New rugged metal backup plate and shell is one unit. Connector mounted in the shell is PL-258 which accepts a PL-259.



WCA314 — Same as No. 315 except base is chrome plated.



Mast Extension. Heavy chrome plated brass tubing with 3/4-24 thread at both ends. 3 lengths: **WCA-330**, in 12" or 24" or 36".



Adapters have 3/4-24 thread for use on any standard Ward mast. Lock washer and set screws included.

WCA-89-357 stainless; 1/2" hex.
WCA-89-358 cadmium plated; 3/4" hex.

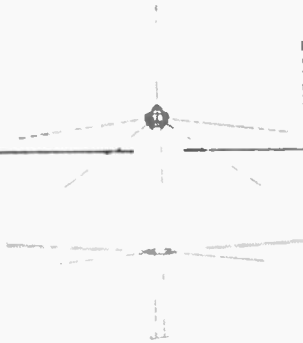


Springs protect car and mast. Shock mounting "gives" under impact. Normal vertical.

WCA-3A is cadmium plated with lock washers.

WCA-3AL is extra heavy cadmium plated with lock washers.

WCA-301 Deluxe has stainless steel spring and mounts.



Ward Ground Plane antennas are general purpose, non-directional and vertically polarized, fixed-station antennas. For any frequency in 144-174 mc. range; will handle up to 3 kw of power. Good impedance, minimum VSWR. Radiate equal power in all horizontal directions. Built-in lightning arrester; weather-protected with cable terminating in mounting mast. Supplementary rods available to lower vertical radiation angle.

WCA-A94 for 144-152 mc.

WCA-B94 for 152-164 mc.

WCA-94 for 164-174 mc.

WCA-95 for lowering angle of radiation (Ring and 4 ground rods)

ADAPTERS

WCA-96 for use with RG-58/U and RG-8/U cables

WCA-97 for use with RG-17/U cables. Takes 1 1/4" IPS.

VSWR: less than 1.5:1; 52 ohms impedance. Vertically polarized. 300 watts maximum.

LEADS FOR DISGUISE ANTENNAS

Leads are available in various lengths with either RG-8/U or RG-58A/U cables. Stub type loading is employed for 30-50 mc. operations to compensate for the short length of the antenna mast. Regular coaxial cable leads are used for 144-174 mc. operation.

WALKIE TALKIE MODEL WCA-254

Expressly for 2-way radio. Greatest operating range, clearest reception. 19" whip rod fits any adapter which accepts PL-259 connector.

ROOF TOP ANTENNAS

Three efficient models with varying megacycle ranges. Mount from outside; only one 3/8" hole required. 12' cable. Weather proof, positive ground. Ideal for fleets, police, taxi, fire, etc.

WCA-250 — 144-174 mc.
WCA-251 — 150-170 mc.
WCA-A250 — 108-174 mc.

HEAVY-DUTY MASTS

Highest grade stainless steel: assured heavy-duty performance. 84 1/2" mast bends to bring tip and base 30" apart without distortion. All base studs 3/8-24 threads. All taper ground with ball tip.

WCA-320 series—60" long, choice of adapters: chrome press fit, cadmium plated press fit; 3/8" hex steel, cadmium plated with set screws; 1/2" hex stainless steel with set screws.

WCA-321 series—72", same choices.

WCA-322 series—84", same choices.

WCA-323 series—96", same choices.

WCA-324 series—Fiberglass in all 4 lengths.

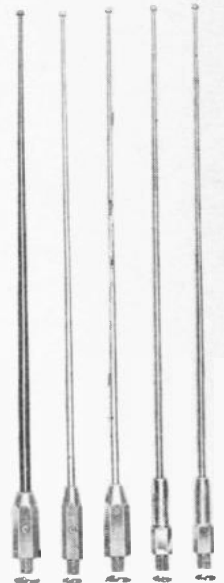
DISGUISE ANTENNAS

Look and mount like ordinary car antennas, with Ward "8" Ball mount. The secret is in the lead: stub load type for 30-50 mcs.; standard leads for 144-174 mcs. **WCAB-71** has triple chrome plated brass tubing and stainless steel tip rod. Looks like 3-section car antenna, but length fixed at 55 1/2" (permanent at telescopic joints). Has heavy mounting bracket.

WCA-235 same but with 70" mast.
WCA-143 same but tapered stainless steel mast.

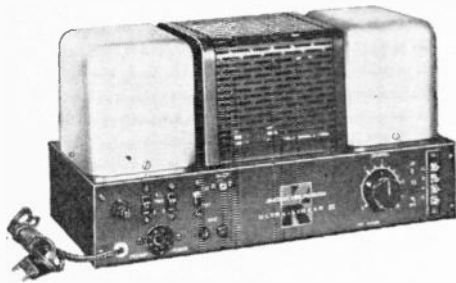
WCA-248 looks like 3-section, "8" Ball mount.

WCA-249 55 1/2" tapered stainless steel, "8" Ball mount.



ACRO PRODUCTS COMPANY

MANUFACTURERS OF THE WORLD FAMOUS ACROSOUND TRANSFORMERS & AMPLIFIERS



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

Rated output power: 60 watts, 120 peak.
IM Distortion: Less than 1% at 60 watts for any standard combination of test frequencies.
Harmonic Distortion: Less than 1% at any frequency between 20 CPS and 20 KC at power output within 1 DB of 60 watts.
Frequency Response: At 1 DB from 5 CPS to 100 KC. At 60 watts 1 DB from 18 CPS to 30 KC. Note: There is no peaking at any frequency; the rolloff is gradual and controlled above 85 KC for best transient response.

Square wave response: Undistorted squarewave response from 20 CPS to 20 KC with no overshoot or ringing. Capacity loads will not cause ringing or any other type of instability. Rise time of wave 1.5 microseconds.
Sensitivity: 1.6 Volts RMS for 60 watts output.
Output Impedances: 4, 8, and 16 ohms.
Damping Factor: Variable from 0.5 to 10. Damping control may be switched out to provide a fixed damping factor of 15.
Hum: 90 DB below rated output.
Size: 7" by 15 1/8" by 8" high. **Weight:** 30 lbs.
Tubes: 1-ECC83/12AX7, 1-ECC82 12AU7
 1-GZ 34, 2-EL 34/6CA7
Color: Amplifier attractively finished in two-tone metallic Brown.
Net Price: \$79.50 complete with all components. \$109.50 wired and assembled. Slightly higher in the west.
 *U.S. pat. #2,710,312 licensed by Keroes Enterprises

MODEL	IMPEDANCES*	POWER RATING	FREQUENCY RESPONSE	RATED PRIMARY CURRENT PER TUBE	PERMISSIBLE DC PRIMARY UNBALANCE	CASE TYPE	WEIGHT	NET PRICE	APPLICATION
T0-230	3000 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	150 ma	20%	A	7 lbs.	\$14.50	For use with 6B4's or 2A3's fixed bias pp par. 6L6's, etc.
T0-250	5000 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 20 kc 20 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	6 lbs.	11.75	For use with 6B4's or 2A3's self bias, 6L6's, class A, etc.
T0-270	10,000 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 20 kc 20 watt— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	6 lbs.	11.75	For use with 6V6's, 6K6's, etc.
T0-280	9000 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	7 lbs.	14.50	For use with 6L6's, class AB1
T0-290	12,000 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 20 kc 40 watts— 30 cps to 15 kc	±1 db 10 cps to 40 kc	75 ma	10%	A	7 lbs.	15.75	For use with triode connected 807's or 5881's in Williamson type circuit
T0-300	6600 plate-to-plate 4, 8, 16 secondary	20 watts— 20 cps to 30 kc 40 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	75 ma	15%	A	7 lbs.	24.75	For Ultra-Linear operation of KT-66's, 807's, 5881's, 1614's, 6L6's. Ultra-Linear conversion of Williamson type circuits
T0-310	8000 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 30 kc 20 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	75 ma	10%	A	6 lbs.	18.75	For Ultra-Linear operation of 6V6's or EL-84's
T0-320	3500 plate-to-plate 4, 8, 16 secondary	10 watts— 20 cps to 30 kc 20 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	75 ma	10%	A	6 lbs.	18.75	For Ultra-Linear operation of 6Y6's
T0-330	3800 plate-to-plate 4, 8, 16 secondary	50 watts— 20 cps to 30 kc 100 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	150 ma	15%	B	14 lbs.	39.75	For push pull Ultra-Linear 6550's, EL-34's, 6CA7's or for push pull parallel operation of KT-66's, 807's, etc.
T0-340	5000 plate-to-plate 4, 8, 16 secondary	50 watts— 20 cps to 30 kc 100 watts— 30 cps to 20 kc	±1 db 10 cps to 100 kc	150 ma	15%	B	14 lbs.	39.75	For push pull Ultra-Linear 6550's KT-88's, in self bias operation.
T0-350	6600 plate-to-plate 4, 8, 16 secondary	100 watts— 20 cps to 20 kc	±1 db 7 cps to 70 kc	175 ma	10%	B	14 lbs.	49.50	For Ultra-Linear operation of 6146 tubes using tertiary winding for screen connection.



Case Type "A" furnished in silver grey hammerloid finish. 10-inch color coded wire leads are brought out through case bottom. Case mounts with base flange. Size—3 3/4 x 4 1/4 high.



Case Type "B" furnished in silver grey hammerloid finish. 10-inch color coded wire leads are brought out through case bottom. Case has provision for either top or bottom mounting. Size—4 x 4 3/4 x 5 3/8 high

POWER TRANSFORMERS			
MODEL	VOLTAGES	USE	NET PRICE
TP-520	285-0-285 - 175 ma, 6.3V - 5a, 5V - 2a	For 6Y6 Amplifiers For 6146 Amplifiers	\$ 9.75 33.75
TP-550	825-290-0-100-290-825, 6.3V - 6a, 5V - 6a, 5V - 2a		

* All models available with additional line winding (125 and 500 ohms) at extra cost of \$6.00 net for models with numbers up to T0-320 and \$10.00 net for models T0-330 and T0-350. Models with line winding are designated by model numbers ending in "5." For example, Model T0-300 with additional line winding is specified as T0-305. All power transformers supplied in gray hammer tone end bells with upright mounting.

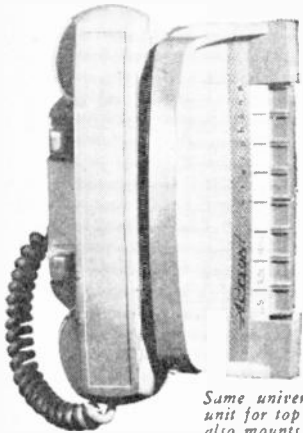
ACRO PRODUCTS COMPANY • PHILADELPHIA, PA.

High Fidelity Output Transformers for every application

Available through Leading Distributors

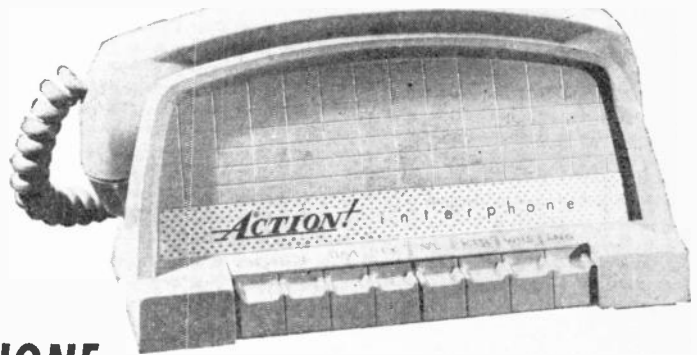
ACTION!

PRIVATE INTERPHONE SYSTEMS



Same universal phone unit for top of desk also mounts on side of desk or wall.

Newest design in intercommunication, combines the privacy and dignity of telephones with the convenience of two way loudspeakers and paging stations, linked together in one versatile system. Answers the requirements — in services, capacity, and cost — of 90% of the businesses, factories, and professional offices.



ACTION! INTERPHONE

Serves 2 to 9 stations, with regular telephone-quality performance. Direct push-button signalling. Available with one or two conversation channels and B-Z-lite

to indicate busy lines. Every Interphone is a master station, can originate calls to every other station. Simplest do-it-yourself installations: only a screw-driver needed — no soldered connections.

<p>HAND SETS</p> <p>Designed to accommodate all standard microphone and receiver units manufactured by Western Electric, Conn. Telephone, and Yankee Telecom Labs. Available with push-button switch, bar, or butterfly switch in handle. Microphones: standard carbon capsule equivalent WECO F-1 and T-1 for flat response (300-1000 cps). Receivers: standard magnetic, equivalent WECO HA-1, U-1 and CTE 3163. Impedance 128 ohms (also available with higher impedances).</p>	<p>CENTRAL CALL DIRECTOR</p> <p>Compact switchboard for motels, schools, dormitories, YMCAs, etc. Provides direct communications to main office where connection can be arranged for other phones in the system.</p>	<p>VOICE-COM SPEAKERS & PAGING</p> <p>Two-way loudspeakers can be connected on the same system with Interphones, or tied into any paging system together with horns and amplifiers.</p>
<p>RETRAX CORDS</p> <p>Retractable cords are available in all lengths and colors, from 2 to 5 conductors, with spade terminals or untrimmed.</p>	<p>CUP HANGER</p> <p>Handset hanger with hook switch for panel mounting. Available with a variety of spring combinations.</p>	<p>POWER-PAK</p> <p>3-tap power supply 8-16-24 volts; provides ringing voltage 12 to 17 and talking 3½ to 5 v.d.c. Also 24 volt filtered full wave d.c. for loudspeaking units and 24 volts for B-Z-lites, chimes, clocks, etc.</p>

ACTION! SYSTEMS COMPANY

Meriden, Conn.

BOGEN
the sound way

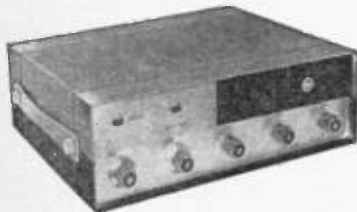
**NEW M SERIES FLEX-PAK®
PUBLIC ADDRESS AMPLIFIERS
AND VERSATILE PREAMPLIFIERS**

Presenting Bogen's exciting new "M" series PA amplifiers, the deluxe MX60 and MX30, and the superb M60 and M330. Features of the deluxe "MX" models: Master gain control.—Built-in Remote Gain-Control Circuit allows changes in gain from distances up to 2,000 feet.—Plus all the other features listed below. Features of the superb "M" models: Constant voltage output taps simplify calculations for speaker matching transformers.—Power stage screen regulation for higher output, greater efficiency.—Special filters to improve speech clarity.—Equalized phono input for all

cartridges.—Separate bass and treble controls.—Plug-in sockets for low impedance transformers.—Quick maintenance: four thumbscrews remove cage, no tools needed.—Broadcast-type (Cannon XL Series) microphone connectors. Pencil-in, erase-out identification strips for all channels. Sturdy leather carrying handles.—Variable level markers permit resetting of controls to previously determined levels.—A host of accessories for completely flexible operation.—Handsome, compact design, finished in silver, gray and black.



MX30-MX60



M60



M330

NEW MX60, DELUXE 60-WATT PA AMPLIFIER

With master gain control . . . built-in remote gain-control circuit . . . four microphone channels (one converts to phono) . . . exclusive variable level markers. **Power output:** 60 watts at less than 1% distortion. **Power consumption:** 270 watts. **Frequency response:** ± 2 db, 35 to 20,000 cycles. **Gain:** microphone: 125 db; tuner: 85 db; magnetic phono: 115 db. **Hum:** (below rated output): microphone: —60 db. **Output impedance:** 4, 8, 16 and 38 ohms, balanced 25-volt line, 70-volt line. **Tubes:** total of ten, 3-GZ34, 2-7027A, 1-12AX7, 1-7247. **Tone controls:** treble (10 kc): +10 db to —10 db; bass (50c): +10 db to —10 db. **Overall dimensions:** 16¼" wide, 13" deep, 5¾" high. **Shipping weight:** 37 lbs. **List Price**.....\$290.00 (Zone 2: \$293.75)

NEW MX30, DELUXE 30-WATT PA AMPLIFIER

With master gain control . . . built-in remote gain control circuit . . . four microphone channels (one converts to phono) . . . exclusive variable level markers. **Power output:** 30 watts at less than 2% distortion. **Power consumption:** 150 watts. **Frequency response:** ± 2 db, 35 to 20,000 cycles. **Gain:** microphone: 120 db; tuner: 80 db; crystal phono: 80 db; magnetic phono: 115 db. **Hum:** (below rated output): microphone: —60 db. **Output impedance:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Tubes:** total of eight, 1-GZ34, 2-6L6GC, 4-12AX7, 1-7247. **Tone controls:** treble (10 kc): +10 db to —10 db; bass (60c): +10 db to —10 db. **Overall dimensions:** 16¼" wide, 13" deep, 5¾" high. **Shipping weight:** 31 lbs. **List Price**.....\$290.00 (Zone 2: \$293.75)

NEW M60, SUPERB 60-WATT PA AMPLIFIER

With exclusive variable level markers . . . three microphone channels (one converts to phono) . . . speech filters. **Power output:** 60 watts at less than 1% distortion. **Power consumption:** 270 watts. **Frequency response:** ± 2 db, 85 to 20,000 cycles. **Gain:** microphone: 125 db; tuner: 80 db; crystal phono: 80 db; magnetic phono: 115 db. **Hum:** (below rated output): microphone: —50 db. **Output impedance:** 4, 8, 16 and 83 ohms, balanced 25-volt line, 70-volt line. **Tubes:** total of nine, 3-GZ34, 2-7027A, 3-12AX7, 1-7247. **Overall dimensions:** 16¼" wide, 13" deep, 5¾" high. **Shipping weight:** 37 lbs. **List Price**.....\$231.25 (Zone 2: \$235.00)

NEW M330, SUPERB 30-WATT PA AMPLIFIER

With exclusive variable level markers . . . three microphone channels (one converts to phono) . . . speech filters. **Power output:** 30 watts at less than 1% distortion. **Power consumption:** 150 watts. **Frequency response:** ± 2 db, 35 to 20,000 cycles. **Gain:** microphone: 120 db; tuner: 80 db; crystal phono: 80 db; magnetic phono: 115 db. **Hum:** (below rated output): microphone: —60 db. **Output impedance:** 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. **Tubes:** total of seven, 1-GZ34, 2-6L6GC, 3-12AX7, 1-12AU7. **Overall dimensions:** 14½" wide, 13" deep, 5¾" high. **Shipping weight:** 29 lbs. **List Price**.....\$187.50 (Zone 2: \$190.42)

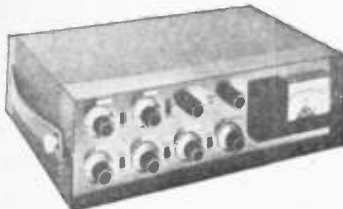
VERSATILE BOGEN PREAMPLIFIERS

RP-2 . . . LOW-NOISE PROGRAM PREAMPLIFIER

Designed for use at remote pickup points. Contains separate input channels for one microphone and one phonograph. Separate volume controls for each channel permit mixing of inputs. The output is designed to feed either a booster amplifier or a low impedance line separately or simultaneously. A bass cut-off switch provides speech clarity. Enclosure with VU meter (as illustrated) is available—see below. **Power consumption:** 20 watts, 117 volts ac, 60 cycles. **Gain:** microphone: 76 db, phono: 35 db. **Sensitivity:** microphone: 3.5 mv., phono: 0.4 v. **Bass cut:** 20 db. **Output impedance:** high impedance; cathode follower driven; minimum recommended load resistance—10,000 ohms. **Low impedance:** 600 ohms 50 and 200 ohms. **Input impedance:** high impedance; 1/2 megohm, convertible to low impedance by use of plug-in transformers for 50, 150-250 or 600 ohms. **Pilot light:** ± 27. **Tubes:** total 4—2-6SF5, 1-6J5, 1-6X5GT. **Dimensions:** 11" w. x 5¼" h. x 7¾" d. (excluding knobs). With cage, height is 6¼". **RP-2** (cage optional extra) **List Price**.....\$90.00 (Zone 2: \$91.95)
CAGVU? cage with meter. **List Price**.....\$31.35 (Zone 2: \$32.00)

NEW MXM MIXER-PREAMPLIFIER

Higher gain—outstanding sensitivity—excellent signal-to-noise ratio—high output at low distortion—extremely low hum level. The MXM is self-powered, accommodates five microphones, or four microphones and a tuner or phonograph. Each channel is regulated by a separate gain control (a master gain control is also provided). Features: individual speech filters for each channel, output level meter, sockets for plug-in, low impedance transformers, feedback-type, distortion-free tone controls, and new variable level markers which permit instant resetting of controls to previously determined levels. May be remote controlled with SR2 and SR4 remote controllers. . . . **Output:** +18 dbm @ less than 1% dist. **Power consumption:** 27 watts. **Frequency response:** ± 2 db, 20 to 20,000 cycles. **Input sensitivity:** high imp.: 4 mv. Low imp.: 0.4 mv. **MAG:** 4 mv. **XTAL:** 0.2v. **AUX:** 0.5v. **Hum:** (below rated output): microphone: —60 db. **Output impedance:** high imp.: (cathode follower); —600 ohms with T161 or T165B (broadcast quality) accessory plug-in transformers. **Tubes** total 9, 4-EP86, 2-12AX7, 1-6CG7, 1-6BF6, 1-6X4. **Tone controls:** treble (10 kc): +12 db to —12 db; bass (60c): +12 db to —12 db. **Overall dimensions:** 16¼" wide, 13" deep, 5¾" high. **Shipping wt.:** 21 lbs. **List Price**.....\$237.50 (Zone 2: \$239.58)



BOGEN-PRESTO CO.

ALL prices and specifications subject to change without notice

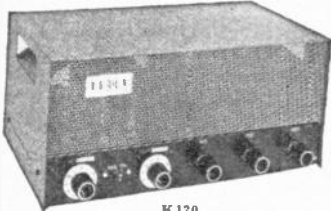
BOGEN

the sound way

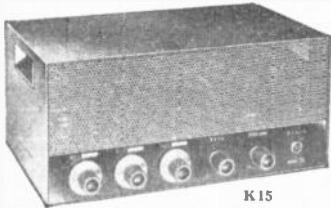
AMPLIFIERS - BOOSTER AMPLIFIERS AND NEW POWERFUL MOBILE 25-WATT TRANSISTOR AMPLIFIER



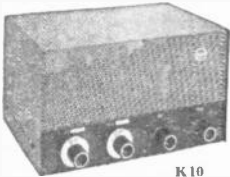
K1630Y



K130

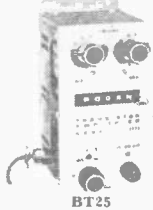


K15



K10

BT 25 MOBILE P.A. AMPLIFIER



BT 25

A product of Bogen research . . . the BT25 is the first commercially available fully transistorized public address amplifier offering 25 watts of power from a 12-volt battery. So versatile it will serve scores of P.A. applications, the amplifier is so small it will fit in the glove compartment of your car.

The BT25 is perfect for use in cars, trucks and busses for regular public address or emergency use. Its hefty 25 watts of power make it ideal for fire department or police use, for disaster work and civil disturbances. It is also recommended for ships, carnivals, electioneering . . . wherever a small, high-powered, reliable P.A. amplifier is needed. Bogen's unique, fully transistorized circuit provides maximum power with minimum battery drain. When operated from a 12-volt battery, the drain is approximately 3 amperes at full output—85% lower than comparable vacuum tube amplifiers. When operated from a 6-volt battery, current drain is only 1.4 amperes at full output. The inputs of the BT25 are individually controllable, permitting mixing. A transistorized circuit insures ruggedness and long, trouble-free service not possible with conventional amplifiers (Bogen guarantees the BT25 for a full year). There are no tubes to burn out, no vibrators to replace. It is completely hum-free.

BT25 Mobile P.A. Amplifier

List: \$120.00 (Zone 2: \$120.00)

K1630Y PHONO-TOP 30-WATT AMPLIFIER

Features a three-speed manual phono-top complete with tone arm and Ronette turn-over cartridge. Other features include: Controlled positive feedback; universal operation from 6- or 12-volt DC or 117-volt AC; one phono and two microphone channels. Power Output: 30 watts at less than 2% distortion. Peak Power: 45 watts. Frequency Response: ± 2 db, 20 to 20,000 cps. Gain: Microphone, 125 db; Crystal Phono, 85 db. Hum: (below rated output) Microphone, —60 db; Phono, —70 db. Output Impedance: 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. Tubes: (8) 2-6AV5GA; 2-6AX5GT; 1-12AX7; 1-6AV6; 1-6CCT; 1-6U8. Overall Dimensions: 15 $\frac{1}{4}$ " wide, 10" deep, 8 $\frac{3}{4}$ " high. Shipping Weight: 35 lbs.

Bogen Model K1630Y Phono-Top Amplifier—List Price -----\$235.00 (Zone 2: \$242.00)
Bogen Model K1630 Amplifier—Amplifier only, less phono-top. Overall Dimensions: 15 $\frac{1}{4}$ " wide, 10" deep, 8 $\frac{3}{4}$ " high. Shipping Weight: 30 lbs. List Price -----\$212.75 (Zone 2: \$218.15)

K130 ECONOMICAL 30-WATT AMPLIFIER

With separate bass and treble controls, constant voltage output taps and socket for plug-in, low impedance transformers. Erasable identification strips. One microphone input. Power Output: 30 watts at less than 2% distortion. Peak Power: 45 watts. Frequency Response: ± 2 db, 20 to 20,000 cps. Gain: Microphone, 120 db; Phono 80 db. Hum: (below rated output) Microphone, —60 db; Phono, —70 db. Output Impedances: 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. Tubes: (8) 2-6AV5GA, 2-5Y3GT; 1-6CCT; 1-6U8; 1-12AX7; 1-6AV6. Overall Dimensions: 14 $\frac{1}{4}$ " wide, 8 $\frac{3}{4}$ " deep, 6 $\frac{3}{4}$ " high (K130Y: 10 $\frac{3}{4}$ " high). Shipping Weight: K130, 30 lbs.; K130Y, 35 lbs.

Bogen Model K130 Amplifier—List Price -----\$127.50 (Zone 2: \$132.90)
Bogen Model K130Y Phono-Top Amplifier—Model K130 Amplifier with three-speed manual phono top, tone arm and Ronette turnover cartridge. List Price -----\$155.00 (Zone 2: \$161.30)

K15 ECONOMICAL 15-WATT AMPLIFIER

With separate bass and treble controls, constant voltage output taps, sockets for plug-in, low impedance transformers. Two microphone channels. Power Output: 15 watts at less than 3% distortion. Peak Power: 25 watts. Frequency Response: ± 2 db, 20 to 20,000 cps. Gain: Microphone, 125 db; Phono, 82 db. Hum: (below rated output) Microphone, —55 db; Phono, —70 db. Output Impedance: 4, 8, 16, 42 and 326 ohms, balanced 25-volt line, 70-volt line. Tubes: (6) 1-6AV6; 2-6L6GB; 1-6BW4 EZ80. Overall dimensions: 14 $\frac{1}{4}$ " wide, 8 $\frac{3}{4}$ " deep, 6 $\frac{3}{4}$ " high (K15Y: 10 $\frac{3}{4}$ " high). Shipping Weight: K15, 21 lbs.; K15Y, 26 lbs.

Bogen Model K15 Amplifier—List Price -----\$109.50 (Zone 2: \$113.28)
Bogen Model K15Y Phono-Top Amplifier—Model K15 Amplifier with three-speed manual phono top, tone arm and Ronette turnover cartridge. List Price -----\$139.50 (Zone 2: \$144.72)

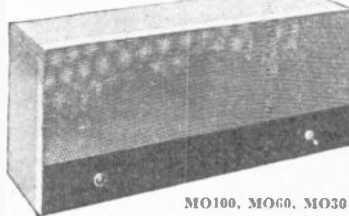
K10 ECONOMICAL 10-WATT AMPLIFIER

With six-position SelectTone tone control, constant voltage output taps, socket for plug-in, low impedance transformers. One microphone input. Power Output: 10 watts at less than 3% distortion. Peak Power: 15 watts. Frequency Response: ± 2 db, 20 to 20,000 cps. Gain: Microphone, 110 db; Phono, 72 db. Hum: (below rated output) Microphone, —55 db; Phono, —65 db. Tone Control: SelectTone—Natural, Mellow, Bass, Deep Bass. Brilliant, Crisp Output Impedances: 4, 8, 16 and 500 ohms, 70-volt line. Tubes: (5) 2-6AQ5; 1-6BW4 EZ80; 1-12AX7; 1-6AU6. Overall Dimensions: 11" wide, 7 $\frac{1}{2}$ " deep, 6 $\frac{1}{8}$ " high. Shipping Weight: 15 lbs.

Bogen Model K10 Amplifier—List Price -----\$80.00 (Zone 2: \$82.05)

POWER PACKED BOOSTER AMPLIFIERS

NEW MO SERIES BOOSTER AMPLIFIERS



MO100, MO60, MO30

Bogen's new MO series booster amplifiers embody the most advanced developments in design and techniques of construction. They are ideal for sound systems in industrial plants, airports, stadiums, shipyards . . . wherever undistorted high power is required. Note their exceptionally wide-range response characteristics. An input signal of just 2 volts or less will drive any of the boosters to rated output. The MXM- and RP-2, described on another page, are ideal preamplifiers for these boosters. Built-in provision for paralleling several MO series power amplifiers to multiply power output.

MO100, 100-WATT BOOSTER AMPLIFIER

Provision for balanced low impedance line input . . . provision for remote control of standby operation. INDUSTRIAL RATING can be used as 100-watt source of continuous power between: 50 and 20 KC (with distortion below 2%). Power output: 100 watts at less than 1% distortion. Power consumption: 500 watts. Frequency response: ± 2 db, 35 to 70,000 cycles. Input: (1) high impedance; 1/2 megohm. With low impedance transformer (T161): 500 ohms. Sensitivity: high impedance: 2 volt; low impedance (with T161 transformer): 0.5 volts. Hum: (below rated output): —80 db. Output impedance: 1.6, 6.25 and 49 ohms, balanced 25-volt line, 70-volt-115-volt. Tubes: Total 6, 2-GZ34, 1-EZ81, 2-6550, 1-6C4. Overall dimensions: 17 $\frac{1}{4}$ " wide, 9" deep, 7 $\frac{3}{4}$ " high. Shipping weight: 35 lbs. List Price -----\$215.75 (Zone 2: \$218.83)

MO60, 60 WATT BOOSTER AMPLIFIER

Provision for balanced low impedance line input . . . provision for remote control of standby operation. Power output: 60 watts at less than 1% distortion. Power consumption: 260 watts. Frequency response: ± 2 db, 35 to 20,000 cycles. Input: high impedance 1 megohm. With low impedance transformer (T161): 500 ohms. Sensitivity: high impedance: 2 volts; low impedance (with T161 transformer): 0.5 volts. Hum: (below rated output): —80 db. Output impedance: 4, 8, 16, and 82 ohms, balanced 25-volt line, 70-volt line. Tubes: total 7, 3-GZ34, 2-7027A, 1-12AX7, 1-6C4. Overall dimensions: 17 $\frac{1}{4}$ " wide, 6 $\frac{1}{2}$ " deep, 7 $\frac{3}{4}$ " high. Shipping weight: 23 lbs. List Price -----\$167.50 (Zone 2: \$169.83)

MO30, 30-WATT BOOSTER AMPLIFIER

Provision for balanced low impedance line input. Power Output: 30 watts at less than 2% distortion. Power Consumption: 150 watts. Frequency Response: ± 2 db, 35 to 20,000 cycles. Input: (1) high impedance; 1 megohm. With low impedance transformer (T161): 500 ohms. Sensitivity: high impedance: 2.0 volt, low impedance (with T161 transformer): 0.5 volts. Hum: (below rated output): —80 db. Output Impedance: 4, 8, 16 and 163 ohms, balanced 25-volt line, 70-volt line. Tubes: total 5, 1-GZ34, 2-6L6GC, 1-12AX7, 1-6C4. Overall dimensions: 17 $\frac{1}{4}$ " wide, 6 $\frac{1}{2}$ " deep, 7 $\frac{3}{4}$ " high. Shipping weight: 21 lbs. List: \$119.88 (Zone 2: \$121.97)



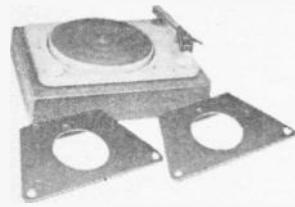
BOGEN - PRESTO CO.

ALL prices and specifications subject to change without notice

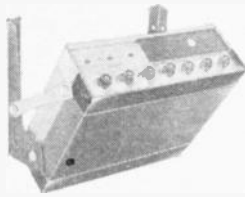
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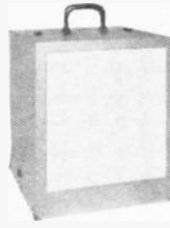
FLEX-PAK® ACCESSORIES FOR BOGEN P. A. AMPLIFIERS



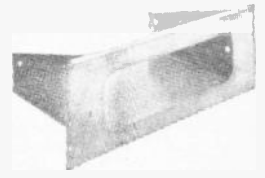
(A)



(B)



(C)



(D)



(E)



(F)



(G)



(H)



(J)

(A) M AND MX SERIES PHONO TOPS come in kits consisting of phono top, mounting brackets and all necessary hardware. Two types are available. Both are easily installed without tools and can be ordered with the amplifier or at any subsequent time. Standard Kits include 3-speed manual phono tops complete with tone arm and Ronette turnover cartridge. Model LPA-3, for M330 . . . List Price: \$42.25 (Zone 2: \$43.00). Model LPB-3 for MX60, M60 and MXM same price as LPA3. Deluxe Kits include 4-speed vibration-isolated manual phono top with variable speed control, tone arm and Ronette turnover cartridge. Model LPA-4, for M330 . . . List Price: \$69.00 (Zone 2: \$69.75). Model LPB-4, for MX60, MX30, M60 and MXM: same price as LPA-4. For K series phono tops, see page 4.

(B) WALL-MOUNTING KITS. Keep your equipment ready when you need it, yet safely, neatly out of the way when not in use. Bogen wall-mounting kits can be used with M and MX amplifiers and the MXM. You can set your equipment flat against the wall when idle or at any angle for operation. Model LWM wall-mounting kit, complete with all hardware, mounting template and instructions . . . List Price: \$15.00 (Zone 2: \$15.45).

(C) CARRYING CASES AND SPEAKERS. Carrying cases for portable systems are available with or without speakers. With speakers installed, each half of the split case acts as a baffle. Cases with speakers include 25' cables with plugs. For M330, K130 and K15: Model LK12S, with two Bogen L123 speakers . . . List Price: \$74.15 (Zone 2: \$78.30) and model LK12, case only . . . List Price: \$41.25 (Zone 2: \$41.55). For M330Y, K130Y and K15Y: Model LKP12S, with two Bogen L123 speakers . . . List Price: \$77.25 (Zone 2: \$81.70) and Model LKP12, case only . . . List Price: \$46.75 (Zone 2: \$50.40). For K10: Model CK10S, with two Bogen L121 speakers . . . List Price: \$77.50 (Zone 2: \$80.30) and Model CK10 case only . . . List Price: \$45.40 (Zone 2: \$45.90). Sizes: LK12, 16 1/2" x 19 1/2" x 15 1/2"; LKP12, 16 1/2" x 21 3/4" x 15 1/2".

(D) RACK PANEL MOUNTING KITS. Choose either factory mounting or kits for rack installations. For factory mounting (on 19" x 7" panels for M, MX and K models, 19" x 8 1/2" panels for MO models) add suffix "-R" to amplifier model number, and add \$25.00 to list price of M and MX amplifiers and \$24.25 to list price of K amplifiers. Kits contain pre-

cut and pre-drilled panel, hardware and mounting brackets . . . List Price for M and MX amplifiers: \$19.50 (Zone 2: \$21.00). List price for K amplifiers: \$14.85 (Zone 2: \$16.60). Note: When ordering kits specify the model number of the amplifier that is to be mounted.

(E) CONTROL GUARD LOCKING PLATE. Tampering fingers will never disturb your advance settings when you protect them with the Control-Guard Locking Plate Set them and forget them. Model LK-1, for M330 . . . List Price: \$7.75 (Zone 2: \$8.05). Model LK-2, for MX60, MX30, M60 and LOM . . . List Price: \$8.00 (Zone 2: \$8.30). Model LK-3, for M330 when used on LWM wall mounting . . . List Price: \$10.50 (Zone 2: \$10.95). Model MK-4, for MX60, MX30, M60 and MXM when used on LWM all mounting . . . List Price: \$11.00 (Zone 2: \$11.45).

(F) MOBILE AMPLIFIER SHOCK BASE. Model SV3, a spring-loaded shock-isolating base for operating K1630 and K1630Y amplifiers in a car or truck . . . List price: \$13.75 (Zone 2: \$14.45).

(G) REMOTE CONTROLLERS Two and four channel remote control units broaden the flexibility of the deluxe amplifiers, allow you to mix and fade channels, and make frequent changes in gain, even from distances up to 2,000 feet, without sacrificing power or signal quality. List Prices: two channel SR2 \$11.25 (Zone 2: \$11.55), four channel SR4 \$16.50 (Zone 2: \$16.95).

(H) PLUG-IN TRANSFORMERS. Bogen microphone and line transformers have been especially designed for plug-in use with Bogen amplifiers. List Prices for microphone input transformers: Model T155 (200 ohms) \$17.50 (Zone 2: \$17.65), Model T156 (500 ohms) \$21.25 (Zone 2: \$21.40) Model T157 (50 ohms) \$18.75 (Zone 2: \$18.90). List Prices for line transformers: Model T161 (500 ohms) \$16.25 (Zone 2: \$16.40), Model T165A, broadcast-type (500 ohms) \$17.50 (Zone 2: \$17.65).

(J) STANDBY CONTROLLER. Model KR6 plugs into MO100 and MO60, lengthens amplifier life, reduces high voltage power consumption . . . List Price: \$30.00 (Zone 2: \$30.45).

MICROPHONE CONNECTOR — Model CON-1, for all Bogen amplifiers . . . List Price: \$2.85.

COMPLETE INDOOR, OUTDOOR AND PORTABLE PA SYSTEMS

OUTDOOR SYSTEMS

Bogen System Number	Amplifier	Mikes †	Speakers	List Price	
				Zone 1	Zone 2
MX60X	MX60	F	3-Bogen-University LH trumpets w 3-SAHF	\$608.75	\$629.35
MX30X	MX30	F	2-Bogen-Univ LH trumpets w 2-SAHF drivers	462.65	479.15
M60X	M60	F	3-Bogen-Univ. PH trumpets w 3-MA25 drivers	502.50	520.95
M330X	M330	C	2-Bogen-Univ PH trumpets w 2-MA25 drivers	352.50	364.35
M330YX	M330+	C	Same as M330X	395.00	406.85
K130X	K130	C	1-Bogen-Univ. PH trumpet w/1-MA25 driver	239.40	251.30
K130YX	K130Y	C	Same as K130X	265.65	275.90
K15X	K15	C	1-Bogen-Univ. MLC	216.25	226.15
K10X	K10	F	1-Bogen-Univ. MLC	175.00	181.15
K1630YX	K1630Y	E	1-Bogen-Univ PH trumpet w/1-MA25 driver	315.00	355.85

PORTABLE SYSTEMS

M330C	M330	C	2-Bogen L123**	List Price	
				\$305.00	\$315.55
M330YC	M330+	C	2-Bogen L123++	350.00	361.35
K130C	K130	C	2-Bogen L123**	252.50	263.05
K130YC	K130Y	C	2-Bogen L123++	282.50	293.90
K15C	K15	C	2-Bogen L123**	232.50	242.40
K15YC	K15Y	C	2-Bogen L123++	267.50	278.20
K10C	K10	D	2-Bogen L121 # #	185.75	192.20

INDOOR SYSTEMS

Bogen System Number	Amplifier	Mikes †	Speakers	List Price	
				Zone 1	Zone 2
MX60F	MX60	A	6-Bogen WS12-T16*	\$588.65	\$610.00
MX30F	MX30	A	3-Bogen WS12-T16*	417.90	431.25
M60F	M60	A	6-Bogen WS12-T16*	530.00	550.00
M330F	M330	B	3-Bogen WS12-T16*	350.00	360.65
M330YF	M330+	B	3-Bogen WS12-T16*	386.25	397.60
K130F	K130	C	3-Bogen WS12-T16*	285.00	295.65
K130YF	K130Y	C	3-Bogen WS12-T16*	309.90	320.55
K15F	K15	C	2-Bogen L123 12" =	213.75	223.75
K15YF	K15Y	C	2-Bogen L123 12" =	245.00	255.00
K10F	K10	D	2-Bogen L121 10" =	155.65	162.10
K1630YF	K1630Y	E	3-Bogen WS12-T16*	101.25	113.05

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

***MICROPHONES**

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



ALL prices and specifications subject to change without notice



PORTABLE TRANSCRIPTION AND RECORD PLAYERS - POWER MEGAPHONE - HIGH POWER INTERCOM-PAGING SYSTEM

VP17 SERIES—TRANSCRIPTION PLAYER WITH 10-WATT PREAMPLIFIER



MODELS VP17X AND VP17—These two outstanding portables are complete high fidelity phonographs featuring variable speed control from 29 through 86 rpm, with instant selection of 16, 33 $\frac{1}{2}$, 45 or 78 rpm speeds. Especially suitable for dance or language instruction, square dancing, calisthenics and all other applications requiring these four speeds and variations from them. Both models incorporate a heavy-duty 4-pole motor, weighted (3 $\frac{1}{2}$ lbs.), and rubber-padded turntable, 10-watt high-fidelity amplifier and 12-inch speaker, all carefully matched and housed in an attractive, compact carrying case. Frequency Response: 40-12,000 cps. + 1 $\frac{1}{2}$ db. The VP17X and VP17 will play all records up to 16" in diameter, with splendid sound quality and minimum record wear. Speed variation is accomplished through a precision cone drive, regulated by a single lever with lock-in positions for instantaneous selection of the four standard speeds. The motor velocity remains constant regardless of changes in turntable speed or line voltage. The superb combination of motor and turntable reduces wow, hum and rumble to negligible values. Pick-up arm has "Feather Drop" action to protect record and stylus. Separate bass and treble controls are provided, as well as an effective scratch filter. A microphone input with its own volume control enables either model to serve also as a portable 10-watt PA system. Case is constructed of $\frac{3}{4}$ " plywood, shock-mounted, and measures VP17 (5): 5Y3GT; 6SC7; 6SL7GT; 2-6V6GT. VP17X (6): Same as VP17 plus one 6SJ7. Both 117 volts, 60 cycles

Bogen Model VP17X—With G.E. variable reluctance cartridge with dual sapphire-tipped styli, built-in compensated preamp. 37 lbs. List price: \$181.90 (Zone 2: \$188.65)
Bogen Model VP17—With wide range piezoelectric cartridge with dual sapphire-tipped styli. Carrying weight, 36 lbs. List price: \$168.10 (Zone 2: \$174.10)

1004 and 9009 PLUG-IN RECORD PLAYERS



Model 1004 shown

Model 1004 portable transcription player. Deluxe 4-speed record and transcription player in a sturdy, easy-to-carry, leatherette-covered wood carrying case. Uses same 4-speed record player as VP 17 above, 95-125 volts, 60 cps, AC. Dimensions: 15 $\frac{1}{2}$ " x 13 $\frac{1}{2}$ " x 7". Carrying weight: 21 lbs. Ready to plug into amplifier, or radio or television set with phono plug.
1004 Transcription Player
 List price: \$97.50* (Zone 2: \$101.40*)
 *Inc. Fed. Tax

Model 9003 portable record player. Budget priced portable three-speed record player for your PA system. Constant speed rim-drive motor for reliable service. Plays records up to 12". Complete with crystal turnover cartridge. In same case as 1004, 110 volts, 60 cycles, AC. Dimensions: 15 $\frac{1}{2}$ " x 13 $\frac{1}{2}$ " x 7". Carrying weight: 12 lbs.
9003 Record Player
 List price: \$48.62 (Zone 2: \$51.32*)

HIGH POWER INTERCOM-PAGING SYSTEM

SPECIFICATIONS—MODELS SA10-40

POWER OUTPUT: 10 watts
TUBES: Total 4 2—6SJ7, 1—6L6GA, 1—5Y3GT.
POWER CONSUMPTION: 70 watts, 117 volts, 50-60 cycles AC.
DIMENSIONS: 13 $\frac{1}{4}$ " wide, 9" high, 10 $\frac{1}{4}$ " deep.
SHIPPING WEIGHT: SA10: 31 lbs., SA20: 33 lbs., SA30: 35 lbs., SA40: 37 lbs.

SPECIFICATIONS—MODELS IA10-10

DIMENSIONS: IA10, IA20: 13 $\frac{1}{4}$ " wide, 21 $\frac{1}{2}$ " high, 10 $\frac{1}{4}$ " deep
 IA30, IA40: 13 $\frac{1}{4}$ " wide, 5" high, 10 $\frac{1}{4}$ " deep.
SHIPPING WEIGHT: IA10: 10 lbs., IA20: 12 lbs., IA30: 23 lbs., IA40: 25 lbs.

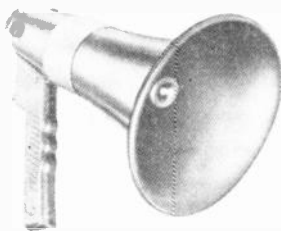
SA Series—In daily use in thousands of industrial plants, schools, automotive dealer and service shops; hospitals and department stores, the SA series is an ideal combination of selective paging and high power intercommunication. The ten-watt amplifier, incorporated in the SA master station, has provision for connection of an external phonograph and radio tuner, effecting a most economical overall sound consolette. There is also provision for adding an external booster amplifier.

Upon installation, the SA master station may be set permanently for privacy or non-privacy operation. In privacy operation, no remote may be listened into unless desired.

	List Price
SA10 — Capacity up to 10 remotes, with tubes	\$182.40 (Zone 2: \$187.05)
SA20 — Capacity up to 20 remotes, with tubes	215.50 (Zone 2: 220.45)
SA30 — Capacity up to 30 remotes, with tubes	244.75 (Zone 2: 250.00)
SA40 — Capacity up to 40 remotes, with tubes	274.75 (Zone 2: 280.30)
IA10 — Annunciator Pedestal Base for SA10	81.65 (Zone 2: 83.30)
IA20 — Annunciator Pedestal Base for SA20	123.10 (Zone 2: 125.35)
IA30 — Annunciator Pedestal Base for SA30	179.00 (Zone 2: 182.75)
IA40 — Annunciator Pedestal Base for SA40	220.75 (Zone 2: 224.85)
JT — Junction box (use 1 for each 10 remotes)	8.36 (Zone 2: 8.66)
I101S — Two-conductor twisted \pm 20 stranded speaker cable (per 100')	5.25 (Zone 2: 5.63)
I102P — Two-conductor SHIELDED \pm 20 twisted and overall plastic-insulated speaker cable (per 100')	7.50 (Zone 2: 7.95)
I32PW — Same as I102P with weatherproof covering for use where cable is partially exposed to weather (not waterproof) (per 100')	10.25 (Zone 2: 10.70)

INSTALLATION: NORMAL OPERATION (NON-PRIVACY): One SHIELDED twisted pair to each remote. **FOR VERBAL CALL INITIATION OR PRIVACY OPERATION:** One UNSHIELDED twisted pair to each remote plus one SHIELDED twisted pair to each remote. **FOR ANNUNCIATORS:** One additional twisted UNSHIELDED pair to each remote. As alternate annunciator wiring a single wire may be run to each remote using the shield of either the program pair or the privacy pair for the return.

NEW... Bogen TAP 1 power megaphone



- sturdy, weatherproof construction
- excellent for indoor or outdoor use
- 10 db of negative feedback
- uses four transistors for low battery drain
- completely free of hum

Transistorized, "penlite" battery operated, portable power megaphone is completely hand held. Provides 5 clean watts output—9 watts maximum power. Incorporates a volume control, two-position "tone control" switch, magnetic mike for crystal-clear reproduction.

TAP 1 Power Megaphone
 List: \$166.50 (Zone 2: \$167.05)



BOGEN - PRESTO CO.

ALL prices and specifications subject to change without notice

BOGEN
the sound way

Challenger BY BOGEN

P. A. AMPLIFIERS AND MIXER



CHA75

CHA75 75-WATT AMPLIFIER

A high-power public address amplifier that gives astonishing value. Features wide-range response; one phono and two mike inputs; individual controls for each microphone and for treble, bass and phono; advanced push-pull output circuit; exclusive Controlled Positive Feedback circuit; power stage screen voltage regulation for increased power output; fixed bias on power stage control grids; plug-in connector for speaker line; decorator styling. **Power Output:** 75 watts. **Response:** ± 2 db, 20-20,000 cps. **Inputs:** Two microphone, one phono. **Gain:** Microphone, 120 db; Phono, 85 db. **Hum and Noise:** Fundamental, -70 db below rated output. Microphone -55 db and Phono -70 db below rated output. **Tone Controls:** Bass: ± 13 db to -10 db at 60 cps; Treble +5 db to -12 db at 10,000 cps. **Output Impedances:** 4, 8, 16 and 65 ohms: 70-volt and balanced 25-volt line. **Tubes:** (11) 4-6AV5GA; 3-5Y3GT; 1-6CM7; 1-6U8; 1-6U6; 1-12AX7. **Power:** 117 volts, 60 cps. **Power Consumption:** 270 watts at full signal. **Dimensions:** 17 $\frac{1}{4}$ " wide, 12" deep, 6 $\frac{1}{2}$ " high. **Shipping Weight:** 34 lbs. **Challenger Model CHA75 Amplifier—With tubes and cage. List Price.....\$175.00 (Zone 2: \$179.73)**



CHA33

CHA33 33-WATT AMPLIFIER

Features wide-range response; two microphone inputs; individual controls for each microphone and for treble, bass and phono; separate boost cut bass and treble tone controls; advanced design push-pull output circuit with negative feedback; rugged construction; plug-in connectors for speaker line; 70-volt line; decorator styling. **Power Output:** 33 watts. **Response:** ± 2 db, 30-15,000 cps. **Inputs:** Two microphone, one phono. **Gain:** Microphone, 120 db; Phono, 83 db. **Hum and Noise:** Fundamental, -75 db below rated output. Microphone -55 db and Phono -75 db below rated output. **Tone Controls:** Bass +12 db to -12 db at 60 cps; Treble +5 db to -17 db at 10,000 cps. **Output Impedances:** 4, 8, 16 and 150 ohms; 70-volt line. **Tubes:** (7) 2-6L6GB; 2-5Y3GT; 2-12AX7; 1-6AV6. **Power:** 117 volts, 60 cps. **Power Consumption:** 135 watts at full signal. **Dimensions:** CHA33 14 $\frac{1}{8}$ " wide, 8 $\frac{1}{2}$ " deep, 6 $\frac{1}{2}$ " high; CHA33Y, 14 $\frac{1}{8}$ " wide, 8 $\frac{1}{2}$ " deep, 10 $\frac{3}{4}$ " high. **Shipping Weight:** CHA33, 22 lbs.; CHA33Y, 25 lbs. **Challenger Model CHA33 Amplifier—With tubes and cage. List Price.....\$115.00 (Zone 2: \$117.97)** **Challenger Model CHA33Y Phono-Top Amplifier—With built-in three-speed phono top, Ronette turnover cartridge, tubes and cage. List Price.....\$146.50 (Zone 2: \$149.80)**



CHA620Y

CHA620 20-WATT UNIVERSAL MOBILE AMPLIFIER

Operates on 117 volts AC, 12 or 6 volts DC. Wide-range response, individual controls for microphone, treble, bass and phono. Separate boost cut bass and treble controls; advanced design push-pull output circuit with negative feedback; built-in inverter provides 117 volts AC, 60 cps power to built-in or external phono for battery operation; rugged construction; plug-in connectors for speaker line; 70-volt line; decorator styling. **Power Output:** 20 watts. **Response:** ± 2 db, 30 to 15,000 cps. **Inputs:** One microphone, one phono. **Gain:** Microphone, 120 db; Phono, 76 db. **Hum and Noise:** Fundamental, -75 db below rated output. Microphone -55 db and Phono -75 db below rated output. **Tone Controls:** Bass +12 db to -12 db at 60 cps; Treble, +8 db to -12 db at 10,000 cps. **Output Impedance:** 4, 8, 16 and 245 ohms; 70-volt line. **Tubes:** (5) 2-6V6GT; 1-6AX5GT; 2-12AX7. **Power:** 117 volts 60 cps, 6 or 12 volts DC. **Power Consumption:** (at full signal), 80 watts at 117 volts; 88 watts with phono at 6 or 12 volts DC. **Dimensions:** CHA620, 15 $\frac{1}{4}$ " wide, 10" deep, 8 $\frac{1}{2}$ " high; CHA620Y, 15 $\frac{1}{4}$ " wide, 10" deep, 10 $\frac{3}{4}$ " high. **Shipping Weight:** CHA620, 25 lbs.; CHA620Y, 30 lbs. AC and DC cable supplied. **Challenger Model CHA620 Amplifier—With tubes and cage. List Price.....\$175.00 (Zone 2: \$177.97)** **Challenger Model CHA620Y Amplifier With Phono Top—With tubes, cage, AC and DC cable, built-in three-speed phono top, Ronette turnover cartridge.....List \$200.00 (Zone 2: \$203.30)**



CHA20

CHA20 20-WATT AMPLIFIER

Wide-range response; individual controls for microphone, treble, bass and phono; separate boost/cut bass and treble controls; advanced design push-pull output circuit with negative feedback; rugged construction; plug-in connectors for speaker line; 70 volt line; decorator styling. **Power Output:** 20 watts. **Response:** ± 2 db, 30 to 15,000 cps. **Inputs:** One microphone, one phono. **Gain:** Microphone, 120 db; Phono, 76 db. **Hum and Noise:** Fundamental, -75 db below rated output; Microphone, -55 db and Phono, -75 db below rated output. **Output Impedance:** 4, 8, 16 and 245 ohms; 70-volt line. **Tone Controls:** Bass, +12 db to -12 db at 60 cps; Treble, +8 db to -12 db at 10,000 cps. **Tubes:** (5) 2-6V6GT; 1-6AX5GT; 2-12AX7. **Power:** 117 v., 60 cps. **Power Consumption:** 30 watts at full signal. **Dimensions:** CHA20, 14 $\frac{1}{4}$ " wide, 8 $\frac{1}{2}$ " deep, 6 $\frac{1}{2}$ " high; CHA20Y, 14 $\frac{1}{4}$ " wide, 8 $\frac{1}{2}$ " deep 10 $\frac{3}{4}$ " high. **Shipping Weight:** CHA20, 20 lbs.; CHA20Y, 23 lbs. **Challenger Model CHA20 Amplifier—With tubes and cage. List Price.....\$91.00 (Zone 2: \$93.20)** **Challenger Model CHA20Y Amplifier with Phono Top—With tubes, cage, built-in three-speed phono top, Ronette turnover cartridge. List Price.....\$122.50 (Zone 2: \$125.03)**



CHA10

CHA10 10-WATT AMPLIFIER

A champion for low-power applications. Wide-range response; SELECTONE for quick, easy tonal adjustment; individual controls for microphone, phono and tone; advanced negative feedback circuit; rugged construction; plug-in connectors, decorator styling. **Power Output:** 10 watts. **Response:** ± 2 db, 30 to 15,000 cps. **Inputs:** One microphone, one phono. **Gain:** Microphone, 115 db; Phono, 76 db. **Hum and Noise:** Fundamental, -70 db and Phono, -70 db below rated output. **Output Impedances:** 4, 8 and 16 ohms. **Tone Control:** SelectOne—Deep Bass, Mellow, Crisp. **Brilliant. Tubes:** (4) 1-6L6GB; 1-6AU6; 1-6AV6; 1-6AX5GT. **Power:** 117 volts, 60 cps. **Power Consumption:** 70 watts at full signal. **Dimensions:** 11" wide, 7 $\frac{1}{2}$ " deep, 5 $\frac{3}{4}$ " high; with cage, 6 $\frac{1}{4}$ " high. **Shipping Weight:** 10 lbs.; with cage, 12 $\frac{1}{2}$ lbs. **Challenger Model CHA10 Amplifier—With tubes, less cage. List Price.....\$61.50 (Zone 2: \$62.60)** **Challenger Model CAG10—Cage for CHA10 Amplifier. List Price.....\$6.50 (Zone 2: \$7.05)**

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

FEATURES:

- Universal Mounting permits 4 alternate mounting positions
- Remote control of standby to reduce current drain.
- Primary Power Circuit physically isolated from high gain circuit for minimum hum.



CD6 CD12

CD6 operates from a six-volt battery, CD12 from a 12-volt battery. Universal mounting permits four alternate mounting positions. Remote control of "standby" reduces current drain. Vibrator replaceable from front without dismounting amplifier or removing cage. Complete chassis removable for service by removing four screws. Fused DC power cable built-in. Primary power circuit physically isolated from high gain circuit for minimum hum. **Power Output:** 6 watts. **Response:** Optimum speech. **Gain:** 109 db. **Output Impedances:** 4, 8 and 16 ohms. **Tubes:** (4) 2-6SF5; 1-6L6GA; 1-6X5GT. **Dimensions:** 3 $\frac{1}{4}$ " wide, 8" deep, 7" high. **Shipping Weight:** 8 lbs. With tubes, cage and DC cable. **Challenger Model CD6 6-Volt Mobile Amplifier—List Price.....\$80.00 (Zone 2: \$80.88)** **Challenger Model CD12 12-Volt Mobile Amplifier—List Price.....\$77.50 (Zone 2: \$78.38)**

MX6 MIXER-PREAMPLIFIER

Self-powered, provides four microphone and two radio-phono inputs; any four can be used at once for noiseless mixing and fading. **Output:** 6 volts. **Response:** 50-15,000 cps, ± 2 db. **Gain:** Mike, 59 db; Phono, 30 db. **Hum Level:** -70 db below 6 volt input. **Output Impedance:** Less than 1000 ohms (cathode follower). **Controls:** Two mike volume, two mike or phono volume, On-Off. **Tubes:** 2-12AX7; 1-12AT7. **Size:** 8" x 4 $\frac{3}{4}$ " x 6 $\frac{1}{2}$ ". **Power:** 10 w, 117 v, 60 cps. **Shipping Weight,** 6 lbs. **Bogen Model MX6—List Price.....\$60.00 (Zone 2: \$60.90)**



BOGEN-PRESTO CO.

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Challenger BY BOGEN

SOUND SYSTEMS — INTERCOMS

COMPLETE INDOOR, OUTDOOR AND PORTABLE PUBLIC ADDRESS SYSTEMS

Challenger System No.	Type of System	Uses Amplifier Model	Uses Microphone Model	Uses Speakers, Baffles, Horns, Drivers	List Price	
					Zone 1	Zone 2
CHA75B	75-watt Indoor	CHA75	Bogen—E-V Model 927 crystal microphone, stand, 10' cable, MC1F connector.	Four 12" Alnico V PM speakers, each with 25' cable and plug mounted in 12" hand-finished walnut wall baffles.	\$309.48	\$319.33
CHA75T	75-watt Outdoor	CHA75	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	Three University PH trumpets with MA25 driver units. (Additional trumpets and driver, List \$58.50. Zone 2: \$61.20).	387.98	396.98
CHA33P	33-watt Portable	CHA33	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	Two 12" Alnico V PM speakers, each with 25' cable and plug mounted in split, portable baffle which also carries the amplifier.	207.75	213.91
CHA33YP	Phono	CHA33Y	Same as CHA36P.	Same as CHA33P, except larger carrying case.	241.53	247.82
CHA33B	33-watt Indoor	CHA33	Bogen—E-V Model 927 crystal microphone, stand, 10' cable, MC1F connector.	Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in 12" hand-finished walnut wall baffles.	201.75	213.91
CHA33YB	Phono	CHA33Y	Same as CHA33B.	Same as CHA33B.	230.93	237.00
CHA33T	33-watt Outdoor	CHA33	Bogen—E-V Model 927 crystal microphone with stand, 10' cable, MC1F connector.	One University PH trumpet with MA25 driver unit. (Additional trumpets with driver. List Price \$58.50. Zone 2: \$61.20).	206.98	212.15
CHA33YT	Phono	CHA33Y	Same as CHA33T.	Same as CHA33T.	236.25	241.75
CHA620T	20-watt Universal	CHA620	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	One University PH trumpet with MA25 driver unit. (Additional trumpets with driver. List Price \$58.50. Zone 2: \$61.20).	272.28	277.45
CHA620YT	Phono	CHA620Y	Same as CHA620T.	Same as CHA620T.	300.68	306.18
CHA20P	20-watt Portable	CHA20	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in split portable baffle which also carries amplifier.	177.80	183.30
CHA20YP	Phono	CHA20Y	Same as CHA20P.	Same as CHA20P except larger carrying case.	211.38	216.76
CHA20B	20-watt Indoor	CHA20	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	Two 12" Alnico V PM speakers, each with 25' cable and plug, mounted in hand-finished walnut wall baffles.	172.78	103.67
CHA20YB	Phono	CHA20Y	Same as CHA20B.	Same as CHA20B.	200.93	206.10
CHA10S	10-watt 1-spkr. Portable	CHA10	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	One 8" Alnico PM speaker mounted in portable carrying case.	128.65	131.73
CHA10P	10-watt 2-spkr. Portable	CHA10	Bogen—E-V Model 927 crystal microphone with stand, 10' cable and MC1F connector.	Two 10" Alnico PM speakers, each with 25' cable and plug, mounted in split portable carrying case.	143.40	147.36
CD6U	6-volt, 6-watt Mobile	CD6	Bogen—E-V Model 927 crystal microphone with stand, 10' cable, MC1F connector.	One University IBS trumpet. (Additional trumpets available. List Price \$34.50. Zone 2: \$35.25).	130.50	132.26
CD12U	12-volt	CD12	Same as CD6U.	Same as CD6U.	128.00	129.76

ACCESSORIES



RACK PANEL MOUNTING KITS

For CHA75 Amplifier—19" x 8 3/4". With all hardware. Gray metallustre finish. List Price.....\$14.85
Zone 2: 16.60

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

PHONO TOPS

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

SHOCK-MOUNTING BASE

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

CHALLENGER FUTURA INTERCOMS by BOGEN

Challenger presents a new line of handsome, compact, popular priced intercoms with performance characteristics that challenge higher priced systems. Choose a system of six or twelve station capacity as you prefer. You may also select either the convenience and utility of a complete all master system, or a single master station with remote stations. Futura Intercoms provide the simplest way yet devised to modify systems at will so that all remotes have either privacy (for offices, etc.) or non-privacy (for nursery, stock room, etc. where remote must reply without operating controls).



CHM6 master station. For systems up to 6 stations. A dual purpose unit housed in a sturdy gray and black plastic cabinet. Has volume control, press-to-talk button, 7-position selector including "all" and "mute" positions. Any master station can call any other station or all simultaneously. In a single master-multiple remote system, in the non-private mode, the master can silence background sound from the remotes whenever desired by using the "mute" position; remotes can still initiate calls to the master.

- CHM6 master station List: \$49.95 (Zone 2: \$46.75)
- CHM 12 master station. For systems including up to 12 stations.
- CHM12 master stationList: \$49.95 (Zone 2: \$50.75)
- CHR remote station. Contains matching speaker, has full width call-initiating bar
- CHR remote stationList: \$12.95 (Zone 2: \$13.30)

CHALLENGER TWOSOME 2-STATION INTERCOM—the low-cost system for home, office, business

The Challenger Twosome is a low priced, complete two-way communication system that can save you countless steps every day.

simple operation! The master has two controls: a Volume Control that regulates both master and remote, and a Talk-Listen Switch. The remote also has two controls: a Talk-Listen Switch, and a Privacy Switch. In the non-private position the latter control allows the master to receive messages originated at the remote without requiring the Sender to operate the Talk-Listen Switch.

easy installation! plug the master into your outlet. (There is no power connection to the remote.) Then attach the inter-station connecting wire.

twosome system, (Model CHS-2) Master, remote, 50 ft. wire.....List Price \$44.95 (Zone 2: \$46.05)



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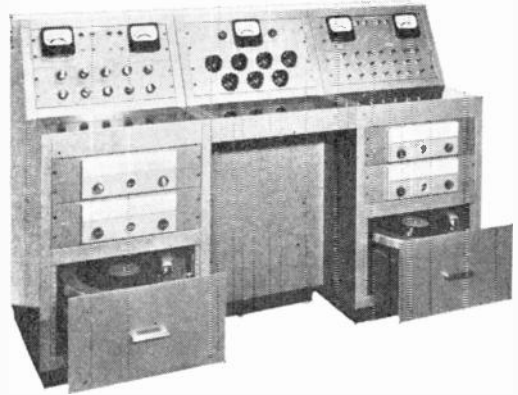


CUSTOM SOUND SYSTEMS INTERCOMS AND TELEPHONES

In industry, office and home look to Bogen for a solution to your every sound problem . . . Bogen . . . the sound way.

Where the sound problem requires the design of special equipment or the selection and combination of several standard units, you will find the Bogen Custom Division ready to factory-assemble equipment to your requirements.

The large Bogen Custom Division has its own expert engineering staff and production facilities to solve special sound problems. Bogen custom systems are factory-assembled and tested, thus assuring maximum performance. The Division has developed and built many special systems for industry, such as Remington Rand and Sylvania Electric, for hotels, such as the New Yorker, and for institutions, such as the Metropolitan Opera House, and the U.S. Military Academy.

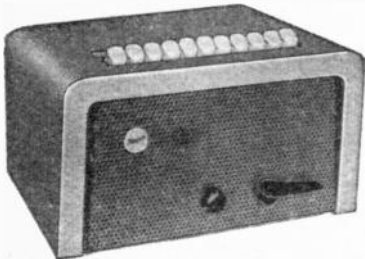


BOGEN INTERCOMS AND PHONES

COMMUNO-PHONE X AND C SERIES

Select your station, depress the talk-listen switch and talk. It's that easy to operate: the Bogen Communo-Phones. To receive a reply, remove your finger from the switch. It automatically returns to the listen position. "X" systems incorporate discrete busy signal system. Remote stations are available as listed below.

Models are housed in decorator-styled steel cabinets. Privacy within the system is a feature of both "X" and "C" masters and the addition of "UX2" or "UZ2" handset permits use of communo-phone privately, even while a visitor is present.



TYPE "X" DELUXE 117 V.—A/C SERIES

Bogen Model X110A Master—Will serve installations requiring single master, multiple remotes, all masters, or multiple masters and remotes. Ten selector push-buttons. 7-foot master cable terminating in spaced lug strip for quick solderless connection to junction box.

List Price \$116.00 (Zone 2: \$118.25)

Bogen Model X210A Master—Same as X110A, but with 20 selector push-buttons. List Price \$140.00 (Zone 2: \$142.40)

Bogen Model RX10 Remote—With push-button break-in to ten masters, volume control and 7-foot master terminating in spaced lug strip for quick solderless connection to junction box.

List price \$46.20 (Zone 2: \$47.25)

Bogen RX1 Remote—With break-in switch to one master, volume control and 7-foot cable. List price \$25.30 (Zone 2: \$25.75)

Bogen RX3 Remote—With break-in switch to three masters, volume control and 7-foot cable. List Price \$28.60 (Zone 2: \$29.05)

TYPE "C" DUAL PURPOSE AC-DC SERIES

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

Bogen Model C110A Master—Similar to X110A. List \$82.50 (Zone 2: \$84.60)

Bogen Model C210A Master—Similar to X210A. List Price \$105.00 (Zone 2: \$107.25)

Bogen RC1 Remote—With break-in switch to one master and 7-foot cable. List Price \$21.45 (Zone 2: \$21.90)

Bogen Model 60R—Remote station in gray polystyrene—with initiating call switch. List Price \$12.93 (Zone 2: \$13.40)

ACCESSORIES FOR "X" AND "C" SERIES

Bogen Model "J" Junction Box—Will serve all series "X" and "C" installations. X110A and C110A masters require only one junction box. X210A and C210A require to boxes. List Price \$8.36 (Zone 2: \$8.66)

Bogen Model "UX2" Handset—Plug-in handset and cradle for side of desk mounting. List Price \$44.50 (Zone 2: \$45.10)

Bogen Model "UZ2" Handset—Plug-in handset and cradle for mounting on "X" or "C" master stations. List Price \$47.50 (Zone 2: \$48.10)

NEW TQ SERIES BOGEN-PHONES

Reach anyone you need, instantly, without leaving your desk, yet keep your outside telephone service free for incoming calls. Bogen-Phones provide simple, push-button intercommunication that is ideal for office, plant, store or home. They save you time and energy, give you the confidential replies of a telephone.

THE IDEAL LOW-COST INTERNAL TELEPHONE SYSTEM

To make a call you simply lift your receiver and press the button (or buttons, for a conference call) of the station(s) you wish to reach. A buzzer sounds at the station you have called. When that station's receiver is lifted you are in communication. Your regular telephone is free for outside calls, and you have not used the switchboard.

Model "TQ" Bogen-Phones have selective ringing with a common talk line (permits conference calls, but only one conversation at a time). They are handsomely styled in gray plastic, and may be used on desk or counter, or wall mounted. Handset, with base, is 9 1/2" x 3 1/2" x 3 1/2" in size, weighs 5 lbs. They are supplied with 4-ft. snarlproof cord. Each system requires one PRS-1 power supply (below).

TQ-1 phones (for 2 station systems) List: (pair) \$49.95 (Zone 2: \$50.80)

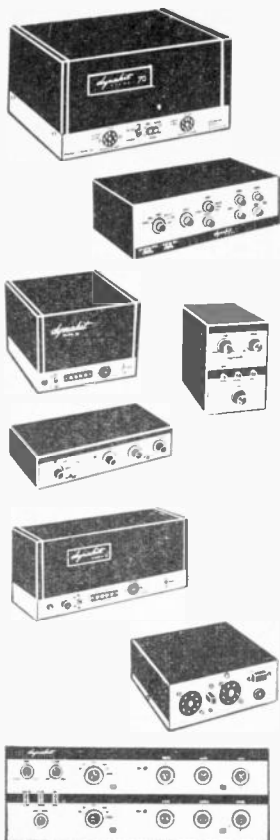
TQ-6 phone (for up to 7 station systems) List (each) \$27.96 (Zone 2: \$28.35)

TQ-12 phone (for up to 13 station systems) List: (each) \$29.95 (Zone 2: \$30.35)

Power Supply Model PRS-1—Services all of the above TQ systems. The PRS-1 may be plugged into any standard electrical outlet and connected to any of the junction boxes in the system. (One junction box is provided as part of each complete handset.) Power drain is negligible when the system is inactive.

PRS-1 Power Supply (weighs 4 lbs.) List: \$30.00 (Zone 2: \$30.30)

ALL prices and specifications subject to change without notice



STEREO 70

Two 35 watt super-quality amplifiers for stereo or 70 watt monophonic use. Premium quality parts and uncompromised design for finest performance with all loudspeakers. Pre-assembled printed circuit design enables 5 hour assembly. EL-34 (4), 7199 (2). GZ-34, selenium rectifier. Nickel chassis and charcoal brown vinyl, 13" x 9 1/2" x 6 1/2", 32 lbs. Complete with cover, all parts and instructions \$99.95.

STEREO PREAMPLIFIER PAS-2

The famous DYNA preamp circuit adapted to stereo. Complete control, with absolute minimum distortion and noise, plus power supply, D.C. heaters, less than 0.05% IM, 60 db gain from 3 stereo low level inputs, plus 4 high level stereo inputs. Features exclusive Dyna Blend Control to eliminate the "hole in the middle". Two printed circuit boards for 8 hour assembly, 13" x 8" x 4", 11 lbs. Complete \$59.95.

MARK II

The 50 watt amplifier which made audio history. Similar to Mark III, below, but with 8 and 16 ohms only. \$69.75

MARK III

The outstanding 60 watt amplifier. Unmatched performance and stability on all loads with pulse and square wave tests. Features Dyna Biaset for simplified adjustment. Three hour assembly with prefabricated printed circuitry, 9" x 9" x 7", 28 lbs., 4, 8, 16 ohms \$79.95. With added 70 volt output Mark III-70 \$84.95. 220 volt Mark III \$84.95.

MARK IV

A 40 watt analogy of the Mark III, similar to one-half the Stereo 70. Assembly time 3 hours. Uncompromised performance and utmost reliability. 5" x 14" x 6 1/2" high, 20 lbs., complete with all parts and protective cover \$59.95.

PREAMPLIFIER PAM-1

The famous "no distortion" preamp which made audio history. Accurate equalization, minimum noise, utmost flexibility, yet amazingly simple—6 hour assembly. Requires 300 volts @ 4 ma, 6 volts @ .75 amps—from amplifiers or PS-1. Brown or white finish, 7 lbs., 12" x 6" x 2 3/4", \$34.95.

STEREO CONTROL DSC-1

The simple solution to "step up to stereo". Plugs in to Dyna or similar preamps to provide centralized control and complete switching facilities. Exclusive Dyna Blend Control. No noise, no distortion, no loss. Brown or white, 2 1/2 lbs., matches Dyna preamplifiers. \$12.95.

**PANEL MOUNT PM-25
CABINET SET CM-25**

Single front panel and brackets for panel mounting two Dyna preamps and DSC-1 \$5.95. Panel and walnut cabinet for same \$17.95.

DUAL POWER SUPPLY

For powering 1 or 2 preamps. Well filtered, with separate heater windings for individual hum adjustment. \$8.95.



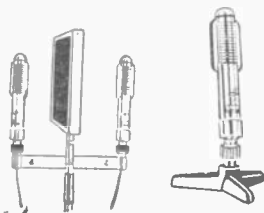
STEREODYNE ARM CARTRIDGE

The STEREODYNE phono cartridge is united with a modern tone arm for unexcelled stereo or mono performance, and unmatched convenience in installation and use. Dynamic balance and gyro pivoting enable 2 gram tracking with perfect groove contact even if turntable is jarred. Detachable cartridge and replaceable stylus. Single hole mounting. \$49.95.



STEREODYNE PHONO CARTRIDGE

Without equal for stereo or mono reproduction. Uniform high compliance, minimum dynamic mass, high output, no hum pickup, no turntable attraction—all the vital features for minimum record and stylus wear, plus the highest channel separation over the entire spectrum. With replaceable diamond \$29.95.



B&O MICROPHONES

The finest ribbon microphones made. Utmost versatility, ideally suited for stereo applications with the Stereo Spacer, achieving remarkable ease of installation, optimum separation, consistent balance. B&O 53 has 50Ω, 250Ω, Hi-Z switch \$59.95. B&O 50 for 50Ω use only. \$49.95. Accessory Stereo Spacer includes dual microphone mount. \$14.95

DYNACO SUPER FIDELITY TRANSFORMERS

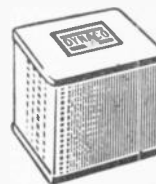
Featuring para-coupled windings, this patented design insures superior wave forms under all transient and pulse tests. Full rated power 20 cps to 20 KC, double nominal power from 30 cps to 15KC.

MODELS

A-110	15 watts	EL-84, 6Y6, 6AQ5	\$14.95
A-120	30 watts	5881, EL-34, KT-66	19.95
A-430	60 watts	KT-88, EL-34	29.95
A-440	120 watts	KT-88, 6550	39.95
A-450	120 watts	pp par KT-88, EL-34	39.95
A-470	35 watts	EL-34, pp par EL-84	24.95

Specifications

Response: ± 1 db 6 cps to 60 KC Power: within 1 db 20 cps to 20 KC. Square Wave: No ringing from 20 cps to 20 KC Permissible Feedback: 30 db.



DYNAKITS MAY ALSO BE OBTAINED COMPLETELY ASSEMBLED AND TESTED

Prices slightly higher in the West

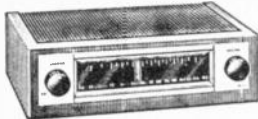
DYNACO INC.

Philadelphia 4, Pa.

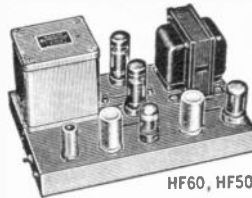
EICO® KITS and WIRED...TEST INSTRUMENTS·HI-FI·HAM GEAR



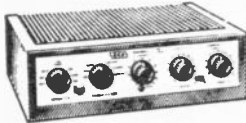
HF81



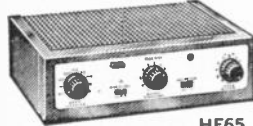
HFT90, HFT94



HF60, HF50



HF85



HF65



HF32



HFS2

STEREO DUAL AMP-PREAMP HF81

KIT \$69.95 WIRED \$109.95

Selects, amplifies and controls any stereo source—tape, discs, broadcasts—and feeds it thru self-contained dual 14W amplifiers to a pair of speakers. Monophonically: 28 watts for your speakers; complete stereo preamplifier. "Service Selector" switch permits you to drive both internal power amplifiers of the HF 81 from one of the preamp-control sections while the other preamp-control section is left free to drive an existing external amplifier. Ganged level controls, separate focus (balance) control, independent full-range bass and treble controls for each channel. Identical Williamson type, push-pull EL84 power amplifiers with high quality output transformers. Attractive "low silhouette" construction permits you to dispense with cabinetry if desired.

Output Power: 28 watts (two 14 watt channels) continuous; 56 watts peak. **IM Distortion (60 & 6000 cps at 4:1):** 2% at 28 watts (14 watts each channel); 0.5% at 10 watts (5 watts each channel). **Frequency Response:** 2W (1W each channel) ± 0.5 db 10 cps to 100 kc. **Harmonic Distortion:** 16W (8W each channel) less than 1% from 30 cps to 10 kc; 20W (10W each channel) less than 1% from 40 cps to 10 kc; 28W (14W each channel) less than 1% from 50 cps to 5 kc. **Sensitivity (input for 14W):** mag. phono—4mv; tape head—2 mv; mic.—6mv; tuners, auxiliaries—0.5V. **Hum & Noise Level (below 14W):** mag. phono—60 db; tape head—51 db; mic.—57 db; tuners, auxiliaries—75 db. **Tone Control Range:** ± 15 db at 50 c and 10 kc. **Speaker Connections:** 4, 8, and 16 ohms. **Tubes:** 4-ECC83/12AX7, 2-ECC82/12AU7, 4-EL84, 2-EZ81. Size 15" wide, 4 3/4" high, 10 1/2" deep. Weight: 24 lbs.

HIGH FIDELITY STEREO DUAL AMPLIFIER-PREAMPLIFIER AF-4

KIT: \$38.95 WIRED: \$64.95

Provides clean 4W per channel or 8W total output. Inputs for ceramic/crystal stereo pick-ups, AM-FM stereo, FM-multi stereo, 6-position stereo/mono selector. Clutch-concentric level & tone controls. Use with a pair of HFS-5 Speaker Systems for good quality, low-cost stereo.

STEREO DUAL PREAMP HF85

KIT \$39.95 WIRED \$64.95

Offers practically every control and switching facility anyone could want in a physical design adaptable to any type of installation. With it, you can select, preampify and control accurately, any stereophonic source—tape, discs or broadcasts. Extremely low distortion, bordering on the unmeasurable (even at high output levels), precludes any degradation of quality from the best modern program sources. Self-powered, utilizing a full-wave rectifier tube power supply. Works in conjunction with any two high quality power amplifiers, such as the EICO HF14, HF22, HF30, HF35, HF50 and HF60. Separate low level input in each channel for mag. phono, tape head, and microphone. Separate high level inputs for AM tuner, FM tuner, and FM Multiplex. Also two

auxiliary A inputs (one in each channel) and two auxiliary B inputs (one in each channel). Independent level controls that may be operated together with built-in clutch. Independent full-range bass and treble tone controls in each channel, may be operated together with built-in clutch.

Switch permits hearing each stereo channel individually, also use of unit for stereo or monophonic play. Stereo channels may be reversed. On monophonic record playback, channels are mixed for rumble cancellation. 30 db feedback amplifier pair reduces tone control distortion to unmeasurable levels in each section. Low impedance output to tape recorder, useful on all inputs. New "low-silhouette" construction matches EICO tuner. Very attractive when placed on a shelf or out in the open, yet permits easy console installation with full shielding and adaptability to any panel thickness.

Frequency response: ± 0.3 db 5-200,000 cps at any level up to 3V RMS out. **Sensitivity (input for 2V RMS output at 1000 cps):** Mag. Phono—1 mv; Microphone—1 mv; Tape-head—0.5 mv; High Level Inputs—0.17V. **Hum Noise:** Mag. Phono—60 db; Microphone—60db; Tape Head—50 db; High level inputs—75 db. **IM Distortion (60 and 7000 cps at 4:1):** 0.04% at 2 V out. **Harmonic Distortion (20-20,000 cps):** 0.1% at 3V RMS out; 0.15% at 5V RMS out. **Tone Control Range:** At 10kc: 15 db boost, 15 db cut; At 50 cps: 15 db boost, 15 db cut. **Equalization:** Phono-RIAA; Tape Head-NARTB for 15 ips, 7 1/2 ips, 3 3/4 ips. **Tape Output Impedance:** 1400 ohms. **Tube Complement:** 5—12AX7/ECC83, 1-6X4. Size 3 3/8" high, 12" wide, 8 1/4" deep.

HIGH FIDELITY STEREO DUAL POWER AMPLIFIER HF-87

KIT: \$74.95 WIRED: \$114.95

An unsurpassed high fidelity stereophonic 70 watt dual power amplifier providing superb stereo reproduction. Design determined by quality considerations only without compromise. For use with the top quality HF-85 stereo preamp or other self-powered stereo preamplifier. Highest quality circuit design utilizing the EICO proven cathode-coupled phase inverter-driven circuit with preceding direct-coupled voltage amplifier and an output stage of ultra-linear connected, self-biased, push-pull EL-34s. Output transformers are the finest and costliest in the field. A low impedance silicon diode power supply exhibits very good regulation minimizing the effect of signal conditions in one amplifier on the operating conditions of the other amplifier. Stability margins as great as the feedback employed. Service selector switching determines the choice of operating the unit as either a stereophonic dual preamp ifier providing 35 watts a channel or a monophonic 70-watt amplifier. Level controls are provided in each channel.

SPECIFICATIONS

Output Power: 70 watts (two 35 watt amplifiers) continuous. 140 watts peak. **IM Distortion:** (60 & 7000 cps at 4:1) 1% at 70 watts. **Harmonic Distortion:** Less than 1% from 20 to 20,000

cps within 1 db of 70 watts. **Frequency Response:** ± 0.5 db 5 cps — 100 kc. **Rise time:** 3 microseconds. **Square-wave response:** Essentially undistorted to 20,000 cps. **Inverse Feedback:** 17 db. **Stability Margin:** 17 db. **Damping Factor:** above 11. **20 cps to 20 kc. Channel Separation:** 55 db. **Sensitivity:** 0.38V. for full output. **Hum:** Better than 90 db below full output. **Speaker Connections:** 4, 8, 16 and 32 ohms. **Tubes:** 1-ECC83/12AX7, 2-6SN7GTB, 4-EL34, 2 silicon diode rectifiers protected by surgistor. **Size:** 15" x 11" x 6". **Shipping weight:** 32 lbs. Matching cover E-7, \$3.95.

HIGH FIDELITY STEREO DUAL POWER AMPLIFIER HF-86

KIT: \$43.95 WIRED: \$47.95

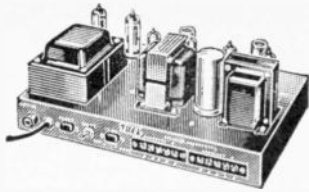
Attains flawless stereo performance at medium power levels. For use with the top quality HF-85 stereo preamplifier or other self-powered stereo preamplifier. Excellent stability and transient response. Each of the two amplifiers is rated at 14 watts and employs Williamson-type circuitry with self-biased, push-pull EL 84s. The amplifier utilizes for the first time the new 12DW7 developed exclusively to meet EICO's exacting "hi-fi" design requirements. The 12DW7 provides significantly better performance characteristics in the Williamson type circuit. The amplifiers may also be operated in parallel to deliver 28 watts for monophonic use. Features include switching to provide a common input to both amplifiers and level control of each input.

SPECIFICATIONS

Output Power: 28 watts (two 14 watt amplifiers) continuous, 56 watts peak. **IM Distortion (60 & 7000 cps at 4:1):** 1.5% at 28 watts (14 w. each) 0.5% at 10 watts (5 w. each), 0.3% at 4 watts (2 w. each). **Harmonic Distortion:** 16 watts (8 w. each) less than 1% from 30c to 15 kc; 28 watts (14 w. each) less than 2% from 40 c to 15 KC and 1% from 50 c to 7 kc. **Frequency response:** 2 watts (1 w. each) ± 0.5 db 10 c to 100 kc. **Transient Response:** Excellent square wave reproduction (4 usec rise time); negligible ringing, rapid settling on 10 kc square wave. **Inverse Feedback:** 20 db. **Stability Margin:** 15 db. **Speaker Connections:** 4, 8, 16 and 32 ohms. **Sensitivity:** 1.15 V for 14 w. output. **Hum:** 90 db below rated output. **Tubes:** 2-12DW7, 4 EL84, 2-EZ81. **Size:** HWD — 5" x 13 1/2" x 9". **Shipping Weight:** 16 lbs.

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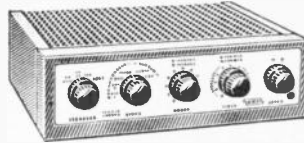
HF86, 87



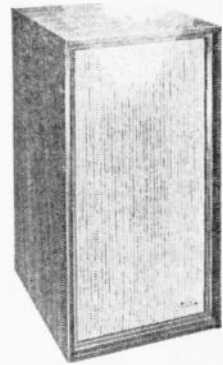
HF52, HF20



RA-6



AF-4



HF5-3, HF5-5

MONAURAL PREAMPLIFIERS

(stack 2 for STEREO)

HF65A: KIT \$29.95 WIRED \$44.95
with Power Supply:

HF65: KIT \$33.95 WIRED \$49.95

For those who desire to incorporate tape head and microphone into their hi-fi systems, and to match the attractive "low silhouette" look of the EICO HFT90 FM Tuner, EICO has designed the new Model HF65 Preamplifier. It also features a new 3-stage tone control circuit comprised of a 30 db feedback amplifier pair driving a true variable crossover feedback tone control stage. The HF65 offers practically every control and switching facility an audiophile could want, plus adaptability to any panel thickness for easy console installation.

SPECIFICATIONS

Frequency Response: ± 0.3 db 5-200,000 cps at any level up to 3 V RMS out. (Measured from high level inputs with level and loudness controls set at maximum and tone controls electrically flat). Sensitivity (input for 2 V RMS output at 1000 cps): LO Mag. Phono: 1 mv; Hi Mag. Phono: 3 mv; Microphone: 1 mv; Tape Head 0.5 mv; High Level Inputs: 0.17 V. Hum-Noise: Mag. Phono: 60 db; Microphone: 60 db; Tape Head: 50 db; High Level Inputs: 75 db. (For low level inputs, values given are equivalent noise input in db down from 10 mv input level. For high level inputs, value given is equivalent noise input in db down from 0.5 V input level.)
IM Distortion (60 and 7000 cps at 4:1):

V RMS Out	I. M. Dist.
0.5V	0.02%
1.0V	0.03%
2.0V	0.04%
3.0V	0.07%
4.0V	0.11%
5.0V	0.17%

Harmonic Distortion (20-20,000 cps): 0.1% at 3 V RMS out; 0.15% at 5 V RMS out. Filter Cut-off Frequencies: Rumble Filter: 50 or 100 cps at 9 db/octave; Scratch Filter: 5 kc or 10 kc at 9 db/octave. Tone Control Range: At 10 kc: 15 db boost, 15 db cut; At 50 cps: 15 db boost, 15 db cut. Phono Equalizations: RIAA, LONDON, COLUMBIA, 78. Tape Head Equalization: NARTB for 7 1/2 ips. Output to Tape Recorder Impedance: 1400 ohms. Output to Main Amplifier Impedance: 770 ohms. Tube Complement: 3-12AX7/ECC83, 1-6X4. Size: 3 5/8" high, 12" wide, 8 1/4" deep. WT.: 9 lbs.

MONAURAL POWER AMPLIFIERS

(use 2 for STEREO)

60-WATT Ultra-Linear Power Amplifier HF60 with Acro TO-330 Output Transformer
KIT \$72.95 WIRED \$99.95
Superlative performance, obtained through finest components and circuitry. EF86 low-noise voltage amplifier direct-coupled to 6SN7GTB cathode coupled phase inverter driving a pair of Ultra-Linear connected push-pull EL34 output tubes operated with fixed bias. Rated power output: 60 w (130 w peak). IM Distortion (60 & 6000 cps at 4:1): less than 1% at 60 w; less than 0.5% at 50 w. Harmonic Distortion: less than 0.5% at any freq. between 20 cps & 20 kc within 1 db of 60 w. Sinusoidal Freq. Resp.: at 1 w: ± 0.5 db 5 cps — 100 kc; ± 0.1 db 15 cps to 35 kc at any

level from 1 mw to rated power; no peaking or raggedness outside audio range. Square Wave Resp.: excellent from 20 cps to 25 kc, 3 usec rise-time. Sensitivity: 0.55 v for 60 w. Damping Factor: 17. Inverse Feedback: 21 db. Stability Margin: 16 db. Hum: 90 db below rated output. ACRO TO-330 Output Transformer (fully potted). Speaker Taps: 4, 8, 16 ohms. GZ34 extra-rugged rectifier (indirectly-heated cathode eliminates high starting voltage on electrolytics & delays B+ until amplifier tubes warm up). Input level control. Panel mount fuse holder. Both bias and DC — balance adjustments. Std octal socket provided for pre-amplifier power take-off. Size: 7" x 14" x 8". 30 lbs. Matching cover Model E-2 \$4.50.

HF50: 50-Watt Ultra Linear Power Amplifier with extremely high quality Chicago Standard Output Transformer. Identical in every other respect to HF60, same specifications at 50 watts. Kit \$57.95. Wired \$87.95. Matching Cover E-2 \$4.50.

35-WATT POWER AMPLIFIER HF-35

KIT \$47.95 WIRED \$72.95
An ultra-linear basic power amplifier which provides high fidelity quality reproduction comparable to the peerless HF-60 and HF-50 amplifiers. Stability and transient response are flawless under speaker levels, and no bounce or flutter under pulsed conditions.

SPECIFICATIONS:

Rated Output Power: 35 watts continuous, 70 watts peak. IM Distortion: (60 cps & 7 kc at 4:1): 1.5% at 35 watts, 15% at 20 watts. Harmonic Distortion: below 1% at any frequency from 20 cps to 20 kc with 1 db of 35 watts. Frequency Response: 1 w: ± 0.5 db 5 cps-60 kc; ± 1.5 db 5 cps-100 kc; 35 w: ± 0.5 db 15 cps-40 kc; ± 1.5 db 15 cps-60 kc; any level from 1 mw to 35 w: ± 0.1 db 20 cps-30 kc; no peaking or raggedness outside audio range. Square Wave Response: 3.5 usec rise time. Inverse Feedback: 20 db. Stability Margin: 18 db. Sensitivity: 0.43 V for 35 w output. Hum: 90 db below rated output. Speaker Connections: 4, 8 and 16 ohms. Tubes: 1-EF86, 1-6SN7GTB, 2-EL34/GCA7, 1-GZ34. Size: 7" x 14" x 8". 25 lbs. Matching cover E-2, \$4.50.

30-WATT POWER AMPLIFIER HF-30

KIT \$39.95 WIRED \$62.95

22-WATT POWER AMPLIFIER HF-22

KIT \$38.95 WIRED \$61.95

14-WATT POWER AMPLIFIER HF-14

KIT \$23.50 WIRED \$41.50

MONAURAL INTEGRATED AMPLIFIERS

(use 2 for STEREO)

20-WATT Ultra-Linear Williamson-type Integrated Amplifier HF20
With Preamplifier, Equalizer & Control Section.
KIT \$49.95 WIRED \$79.95
"well-engineered"—Stocklin, RADIO TV NEWS
The HF-20 employs an output transformer capable of handling far in excess of its 20 watts rated power, a full Ultra-Linear Williamson power amplifier circuit, and the finest preamplifier-control facilities. During its first year it has received consistently high praise from its users, and has become established as the outstanding value in amplifiers of this power class. A low-cost complete-facility amplifier of the highest quality that sets a new standard of performance at the price,

kit or wired. Rated Power Output: 20 w (34 w peak). IM Distortion (60 & 6000 cps/4:1) at rated power: 1.3%. Max. Harmonic Distortion between 20 & 20,000 cps at 1 db under rated power: approx. 1%. Mid-band Harmonic Distortion at rated power: 0.3%. Power Response (20 w): ± 0.5 db 20-20,000 cps; ± 1.5 db 10-40,000 cps. Freq. Resp. (1/4 w); ± 0.5 db 13-35,000 cps; ± 1.5 db 7-50,000 cps. 5 feedback equalizations for LPs & 78s. Low-distortion feedback tone controls; large boosts or cuts in bass or treble with mid-freqs. and volume unaffected. Loudness control and separate level set control on front panel. Low Z output to tape recorder. 4 hi-level switched inputs: tuner, tv, tape, aux; 2 low-level inputs for proper loading with all cartridges. Hum bal. control. DC superimposed on filament supply. Extremely fine output transformer: interleaved windings, tight coupling, careful balancing, grain-oriented steel. 8 1/2" x 15" x 10". 24 lbs. Matching cover Model E-1, \$4.50.

50-Watt Ultra-Linear Integrated Amplifier HF52

With Preamplifier, Equalizer and Control Section
KIT \$69.95 WIRED \$109.95

Combines a power amplifier section essentially identical to the HF50 power amplifier with a preamp-equalizer control section similar to HF20 above. Provision for use with electronic crossover network and additional amplifier(s). See HF50 for response and distortion specs; HF60 for square wave response, rise-time, inverse feedback, stability margin, damping factor, speaker connections; HF20 for preamplifier, equalizer and control section description. Hum and noise 60 db below rated output on magnetic phono input (8 mv input for rated output), and 75 db below rated output on high level inputs (0.6 v input for rated output). "Excellent value"—Hirsch-Houck Labs. Matching cover Model E-1, \$4.50.

HF32: 30-Watt Integrated Amplifier combines excellent HF30 power amplifier above with versatile preamplifier featuring tape head & microphone inputs, scratch & rumble filters, all amplifier facilities. Kit \$57.95. Wired \$89.95 Both include cover.

HF12: 12-Watt Integrated Amplifier provides complete "front end" facilities & excellent performance for any medium-power application. "Packs a wallop"—POPULAR ELECTRONICS. Kit \$34.95. Wired \$57.95.

FM TUNER HFT90

KIT, less cover \$39.95*
WIRED, less cover \$65.95*
Cover \$ 3.95*

* excise tax incl.
"Drift absolutely absent; audio quality excellent; novel tuning quite effective."—ELECTRONICS ILLUSTRATED. "One of the best buys you can get in high fidelity kits."—AUDIOCRAFT Kit Report. Newly-designed, extremely sensitive, low-noise "front end", supplied in a cast housing completely pre-wired, pre-aligned, ready to use. Employs temperature-compensated components and advanced circuitry to completely eliminate need for AFC. Drift less than 2 parts in 10,000 from cold start. Radiation suppressed far below FCC standards. Also features exclusive pre-

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EICO® KITS and WIRED... TEST INSTRUMENTS · HI-FI · HAM GEAR

wired precision eye-tronic® traveling tuning eye. Sensitivity, unapproached among FM tuner kits, of 1.5 uv for 20 db quieting**. Input 300 ohms, IF bandwidth 260 kc, detector Peak separation at 600 kc. Freq. resp. 20-20,000 cps \pm 1db. Audio output 1 V for 10 uv input with 75 kc deviation. Hum 60 db below 1 V. Cathode follower and multiplex outputs. Flywheel slide-rule tuning, AGC, stabilized low limiting threshold for excellent performance from weaker signals. broad-band ratio detector for improved capture ratio and easier tuning, full-wave rectifier and heavy filtering, very low distortion. Uses 1-ECC85 6AQ8, 3-6AU6, 1-6AL5, 1-6C4, 1-DM70, 1-6X4. Flexible "low silhouette" design adaptable to any panel thickness for console installation; optional cabinet, HWD: 3 $\frac{5}{8}$ " x 12" x 8 $\frac{1}{4}$ ". Operates from 110-125 VAC, 60 cps line.

**Typical unit, measured with Marconi TF 955A/2 FM-AM signal generator.

AM TUNER HFT-94

KIT: \$39.95 Wired: \$65.95
Includes Cover & F.E.T.

A newly designed basic high fidelity AM tuner that affords matchless stereo reproduction when used with the widely acclaimed HFT-90 FM tuner. It features a choice of "hi-fi" wide bandpass to 14 kc or narrow bandpass to 7 kc for weaker, distant stations. Excellent signal to noise ratio with very little signal. High selectivity and sensitivity attained with the aid of tuned RF stage and built-in ferrite loop antenna. High output with low distortion and low output impedance. Very little inter-station noise. No alignment or test instruments required as RF and IF coils are carefully pre-aligned. Features include precision eye-tronic® tuning with the DM-70 traveling eye indicator, slide-rule dial, fly-wheel tuning. Auxiliary recording output and volume controls.

SPECIFICATIONS

Typical Sensitivity: 3uv at 30% mod. for 1.0 output, 20 db S.N. **Overall Selectivity:** (Wide) 14 kc at -6 db, (Narrow) 7 kc at -6 db. **Frequency Response:** (Wide) 20-9000 cps at -3 db, (Narrow) 20-50,000 cps at -3 db. **Image Rejection:** 58 db. **Hum Level:** 60 db below output with 3uv input, 30% modulation (1.0 Volt).

Distortion: Less than 1% harmonic distortion at 100% modulation. **Output:** Low impedance plate follower (8000 ohms). **Tubes:** 2-6BA6, 1-6BE6, 1-12AU7 ECC82, 1-DM70 tuning eye, 1-6X4, 1-CK885 diode. **Size:** (HWD) 3 $\frac{5}{8}$ " x 12" x 8 $\frac{1}{4}$ ". **Shipping Weight:** 12 lbs.

SPEAKER SYSTEMS (use 2 for STEREO)

HFS2: Natural bass 30-200 cps via slot-loaded 12-ft. split conical bass horn. Middles & lower highs; front radiation from 8 $\frac{1}{2}$ " edge-damped cone. Distortionless spike-shaped super-tweeter radiates omni-directionally. Flat 45-20,000 cps, useful 30-40,000 cps. 16 ohms. HWD 36", 15 $\frac{1}{4}$ ", 11 $\frac{1}{2}$ ". "Remarkable realism; eminently musical; unusual suitability for stereo."—Holt, HIGH FIDELITY. Completely factory-built: Walnut or Mahogany. \$139.95; Blonde, \$144.95.

HFS1: Bookshelf Speaker System, complete with factory-built cabinet. Jensen 8" woofer, matching Jensen compression-driver exponential horn tweeter. Smooth clean bass; crisp extended highs. 70-12,000 cps range. Capacity 25 w. 8 ohms. HWD: 11" x 23" x 9". Price \$39.95.

LGS-1 Brass Tip Matching Legs easily convert HFS-1 into attractive consolette. All brackets and hardware provided. \$3.95.

New HFS3 3-Way Speaker System Semi-Kit complete with factory-built $\frac{3}{4}$ " veneered plywood (4 sides) cabinet. Bellows-suspension, full-inch excursion 12" woofer (22 cps res.), 8" mid-range speaker with high internal damping cone for smooth response, 3 $\frac{1}{2}$ " cone tweeter. 2 $\frac{1}{4}$ cu. ft. ducted-port enclosure. System Q of $\frac{1}{2}$ for smoothest frequency & best transient response. 32-14,000 cps clean, useful response, 16 ohms impedance. HWD: 26 $\frac{1}{2}$ ", 13 $\frac{7}{8}$ ", 14 $\frac{3}{8}$ ". Unfinished birch \$72.50. Walnut, mahogany or teak \$87.95.

New HFS5 2-Way Speaker System Semi-Kit complete with factory-built $\frac{3}{4}$ " veneered plywood (4 sides) cabinet. Bellows-suspension, $\frac{5}{8}$ " excursion, 8" woofer (45 cps res.), & 3 $\frac{1}{2}$ " cone tweeter. 1 $\frac{1}{4}$ cu. ft. ducted-port enclosure. System Q of $\frac{1}{2}$ for smoothest frequency & best transient response. 45-14,000 cps clean, useful response. HWD: 24", 12 $\frac{1}{2}$ ", 10 $\frac{1}{2}$ ". Unfinished birch \$47.50. Walnut, mahogany or teak \$59.50.

6-TRANSISTOR PORTABLE RADIO RA-6

KIT: \$29.95* Wired: \$49.95*

American-made modern transistor superheterodyne portable receiver with unusual selectivity and sensitivity. Big set volume and tone quality in handy carrying size and with simulated leather case. Pre-aligned RF and IF coils. 4" x 6" PM speaker driven by 250 mw push-pull output stage. Easy 1:6 vernier tuning, high impedance earphone jack (use eliminates drain on output stage) and built-in rod-type antenna for good reception in all locations. Easy to build and service. No printed wiring boards. Plug-in sockets for all transistors. 8 $\frac{1}{2}$ " long, 4 $\frac{1}{2}$ " high, 2 $\frac{1}{2}$ " deep. Requires 9 volt battery N.E. D.A. type 1602. Shipping weight—3 lbs.

* Less 9V battery, F.E.T. included.

the specs prove . . . now your best buy in HAM GEAR is EICO®

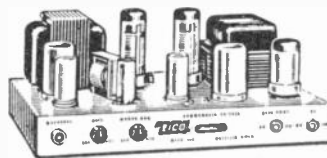


#720

90-WATT CW TRANSMITTER

KIT \$79.95 Wired \$119.95

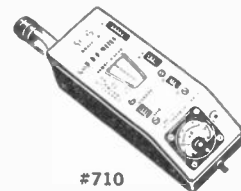
Conservative, highly efficient design plus stability, safety, and excellent parts quality. Covers 80 thru 40, 20, 15, 11, 10 meters (popular operating bands) with one knob band-switching. 6146 final amplifier for full "clean" 90 W input, protected by clamper tube circuit. 6CL6 Colpitts oscillator, 6AQ5 buffer-multiplier, GZ34 rectifier. "Novice limit" calibration on meter keeps novice inside the FCC-required 75W limit. No shock hazard at key. Wide range, hi-efficiency pi-network matches antennas 50 to 1000 ohms, minimizes harmonics. EXT plate modulation terminals for AM phone modulation with 65W input. Excellent as basic exciter to drive a power amplifier stage to maximum allowable input of 1KW. Very effective TVI suppression. Ingenious new "low silhouette" design for complete shielding and "living room" attractiveness. Finest quality, conservatively rated parts, copper-plated chassis, ceramic switch insulation. 5" H, 15" W, 9 $\frac{1}{2}$ " D.



#730

NEW UNIVERSAL MODULATOR-DRIVER No. 730

KIT \$49.95 WIRED \$79.95 Cover E-5 \$4.50 Superb, truly versatile modulator at low cost. Can deliver 50 watts of undistorted audio signal for phone operation, more than sufficient to modulate 100% the EICO #720 CW Transmitter or any xmitter whose RF amplifier has a plate input power of up to 100W. Multimatch output xfmr matches most loads between 500-10,000 ohms. Unique over-modulation indicator permits easy monitoring, precludes need for plate meter. Low level speech clipping and filtering with peak speech frequency range circuitry. Low distortion feedback circuit, premium quality audio power pentodes, indirectly heated cathode rectifier. Balance & bias adjust controls. Inputs for crystal or dynamic mikes, phone patch, etc. Excellent deluxe driver for high-power class B modulation. ECC83/12AX7 speech amplifier, 6AL5 speech clipper. 6AN8 amplifier driver, 2-EL34 6CA7 power output, EM84 over-modulation indicator, GZ34 rectifier. Finest quality, conservatively rated parts, copper-plated chassis. 6" H, 14" W, 8" D.



#710

NEW GRID DIP METER No. 710

KIT \$29.95 WIRED \$49.95 including complete set of coils for full band coverage.

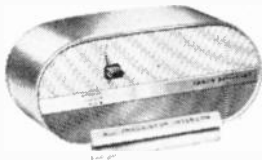
Exceptionally versatile, stable, rugged, compact. Basically a VFO with a microammeter in its grid circuit; determines frequency of other oscillators or tuned circuits; sensitivity control and phone jack facilitate "zero beat" listening. Also excellent absorption wave meter. Ham uses: pre-tuning and neutralizing xmitters, power indication, locating parasitic oscillations, antenna adj., correcting TVI, general debug-ging with xmitter power off, determining C.L.Q. Electronic servicing uses: alignment of traps, filters, IF's, peaking compensation networks; as signal or marker generator. Easy to hold & thumb-tune with one hand. Continuous coverage of 400 kc-250 mc (broadcast, FM, ham, TV bands) in 7 ranges with pre-wound coils of \pm 0.5% accuracy, 500 ua meter movement. 6AF4(A) or 6T4 Colpitts oscillator. Xmf-r operated selenium rectifier. 2 $\frac{1}{4}$ " H, 2-9/16" W, 6 $\frac{7}{8}$ " L. Brushed satin deep-etched aluminum panel; grey wrinkle steel case.

ELECTRONIC INSTRUMENT CO., Inc. • Long Island City 1, N. Y.

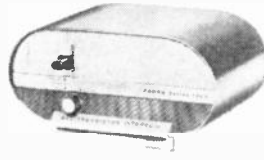
ALL PRICES 5% HIGHER IN THE WEST

Fanfare ALL TRANSISTOR INTERCOMS

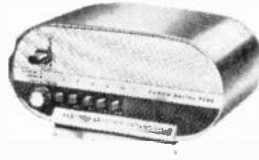
A new concept in intercommunication with new styling and outstanding performance. Features: Four transistors with push-pull output stage. Thermally compensated circuit. Instant operation—no warm up time. Battery used only when talking. Heavy-duty Listen-Talk switch. 13 ohm speaker impedance. 2 watt output.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



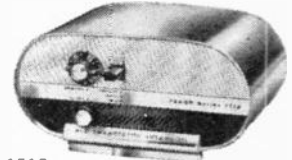
150



1500



1506



1512

1500—\$59.95. Deluxe 2-station system with 50 ft. cable. Sensitive amplifier picks up slightest sounds. Remote has "di-tate" position for baby-sitting. Ideal for the home and office. Additional remote may be added. Weight 8 lbs.
150—\$15.95. Remote station with call switch for private or non-private operation. Weight 2 lbs.
151—\$13.45. Remote station for non private use only. (Less call switch.) Weight 2 lbs.
156—\$22.75. Remote station with 6 position station selector switch. Weight 2 lbs.

1506—\$59.95. A six station master for use in INTERMIXED, ALL MASTER or MASTER-REMOTE installations. Weight 4 lbs.
1512—\$64.95. A twelve station master for use in INTERMIXED, ALL MASTER or MASTER-REMOTE installations. Weight 4 lbs.
PSA—\$29.95. A 115v. AC transformer power supply for optional use. One PSA can be used for up to four master stations. Weight 4 lbs.
BPA—\$1.50. Cable adaptor to connect PSA to any master.
 NOTE: All intercoms are less battery. Use Eveready \approx 276 or equivalent.



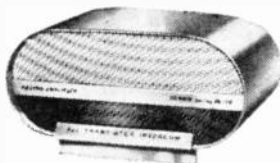
COMMON TALKING—SELECTIVE RINGING

TELEPHONE SYSTEMS

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



8506



PA-TR

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

8520—Complete 2 station system consisting of 2 telephones (8501), 50 ft. four conductor cable and battery wall bracket. \$72.50.

8501—Single button phone used in conjunction with any multi-station phone. \$34.95.

8503—A four-station capacity phone with 3 buzzer buttons. \$36.25.

8506—A seven-station capacity phone with 6 buzzer buttons. \$38.75.

8510—An eleven-station capacity phone with 10 buzzer buttons. \$42.50.

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

Paging Amplifiers for use with "85" telephones:

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

PA-TR—A 4 transistor paging amplifier used with any of above phones. Separate controls for incoming and outgoing volumes. Phone jack to connect paging horn. Relay operated. On only when talking. Can answer calls without using a switch. \$89.50.

PSA—115v. AC transformer power supply for use with PA-TR paging amplifier. \$29.95 — or use one 9 volt battery, Eveready \approx 276.

8520



SELECTIVE TALKING—SELECTIVE RINGING



5012



FA-22

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

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

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

PSA—115v. AC power supply for above phone. Only one required per system. \$29.95.

PRIVATE AUTOMATIC EXCHANGES—P.A.X.

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

FAS-101—Ten line capacity with one trunk.

FAS-152—Fifteen line capacity with two trunks.

FAS-253—Twenty-five line capacity with three trunks.

FAS-304—Thirty line capacity with four trunks.

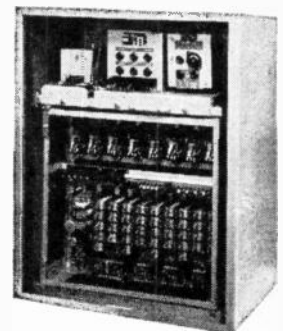
FAS-506—Fifty line capacity with six trunks.

Larger switchboards also available.

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

FA-23—Deluxe, modern styled automatic dial phone for wall mounting.

Prices on PAX equipment quoted upon request.



FAS-304

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

FANON ELECTRONIC INDUSTRIES, Inc. • Brooklyn 8, N. Y.

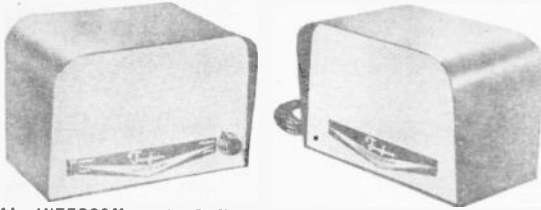
Warehouses in Los Angeles, San Francisco, Seattle and Toronto, Canada

Fanfare[®] INTERCOMS

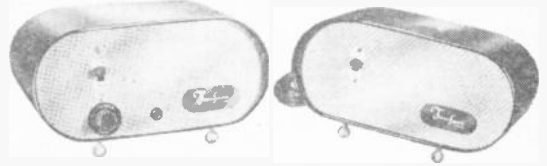


The complete intercom line styled for the modern office and home at economy prices.

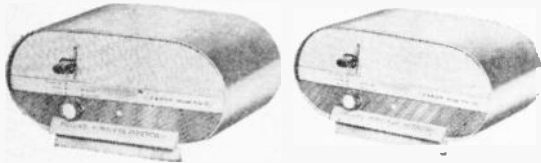
The complete line uses the same proven circuit and components: Three tubes — 12AU6, 50C5 and 35W4. • 3 1/2" Alnico V speaker • Neon pilot light • Press-to-talk switch with long lasting "Coil-Spring" return • AC or DC • Remotes may be private or non-private • 2 1/2 watt output • 20 watt power consumption • Dimensions: 8" x 4" x 4" • Decorator colors in Grey, Tan, Black and White. (Brushed Brass, extra.)



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



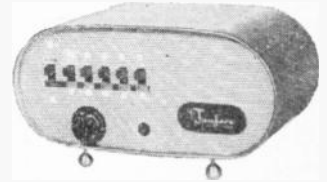
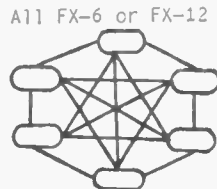
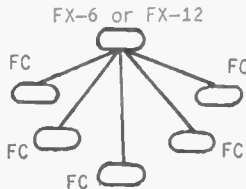
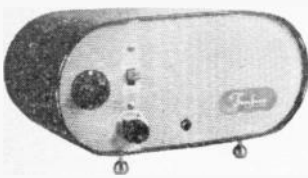
FX-2. TWIN — \$29.95. Ultra sensitive 2 station system with 50 ft. cable. Powerful amplifier picks up slightest noise. Remote has TALK-LISTEN switch to permit originating calls to master. Use it anywhere — home or business. Extra remote, TR, may be added: \$12.50. Weight: 6 lbs.



FW-50, Deluxe WIRELESS — \$89.50. A complete 2 station system ready to operate. No wires — no installation — just plug into any AC or DC outlet. Four tubes plus silicon rectifier amplifier. Three way Talk-Listen Dictate switch. In brushed brass cabinets. Weight: 9 lbs. Model FW-51, additional single station for above, may be added, \$44.75. FW-20, Standard 2 station wireless system. (Not ill.) \$79.50. FW, Additional single station for above, \$39.75.

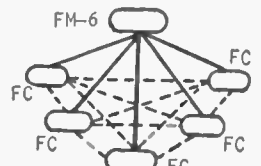
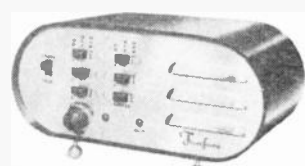
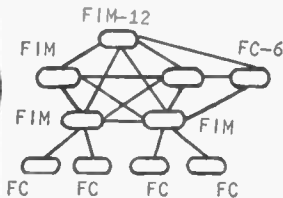
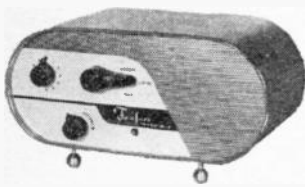


RB-1. BABY-COM — \$19.95. A one station, wire less radio intercom. No installation, no wires required — merely plugs in to any AC or DC outlet and voice is heard thru any radio (even car or battery radios). Ideally suited as a portable baby sitter. Extremely sensitive, can be heard 300 ft. away. Blue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



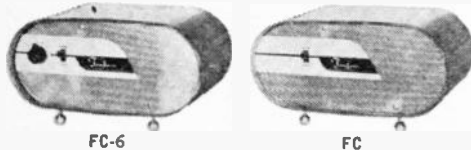
FX-12. MANAGER — \$37.50. A dual purpose master for use with up to eleven FC remotes, in a MASTER-TO-REMOTE system, or up to twelve masters in an ALL MASTER system. Twelve station rotary selector switch. Six private conversations may be held in an all master system. Weight: 4 lbs.

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



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

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



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

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

ACCESSORIES

- YT—Wall bracket for any master \$1.50
- YF—Wall bracket for any remote \$1.50
- FA-30—Isolation transformer \$12.50
- PH-5—Paging horn \$26.95
- TB-9—Nine terminal junction box \$5.95
- TB-18—Eighteen terminal junction box \$7.50

All prices shown are list. Add 5% west of the Rockies.
For detailed information, on any model, write to the factory for free catalogs.
For cable requirements, write to the factory.

FANON ELECTRONIC INDUSTRIES, Inc. • Brooklyn 8, N. Y.
Warehouses in Los Angeles, San Francisco, Seattle and Toronto, Canada

Fanfare[®] MUSI-TALK[®]



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

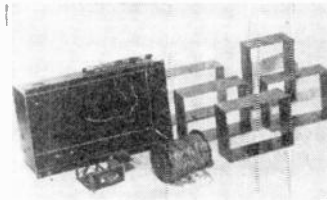
There are two MUSI-TALK systems — namely system MT (with radio), and MTL (less radio). For easier handling and greater economy the MUSI-TALK systems are packaged in kit-form, as follows:

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

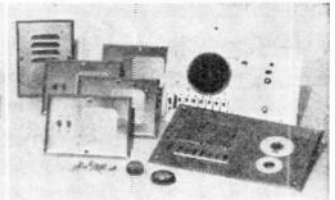
EK, (Electronic Kit) — Consists of 1 MC Master Control, (with radio), 4 BC Indoor Remotes, 1 BD Door Remote and hardware. List, \$115.00

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

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



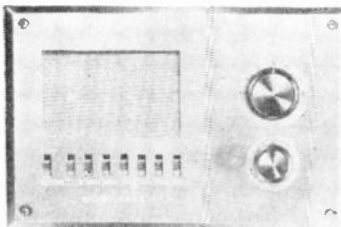
INSTALLATION KIT — IK



ELECTRONIC KIT — EK or EKL

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

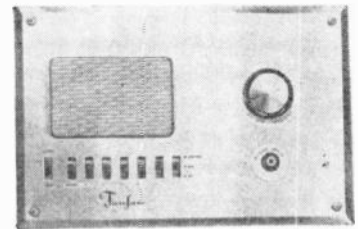
Complete Musi-Talk system MTL, consists of one EKL and one IK. List, \$119.95



MC — MASTER CONTROL

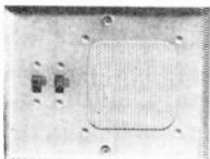
MC, MASTER CONTROL — A six tube, six-station master from which you may converse with any or all remotes. The master can "set-up" two or more remotes for direct communication with one another. "Monitor" feature enables master and remotes to eavesdrop any other locations. Powerful printed circuit radio can be "piped" to as many rooms as desired. Simultaneous radio and intercom operation is featured. Stylish satin copper panel is 11" x 7 3/4". List, \$89.95. Rough-in dimensions: 5 1/2" x 10 1/4" x 3 1/2".

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



MCL — MASTER CONTROL

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



BC — REMOTE



BD — REMOTE

BC, INDOOR REMOTE — Four indoor remotes provide instant 2 way conversation among themselves and the master, as well as radio music throughout the home. Remotes can originate calls to the master or to other remotes. Remotes may also "monitor" any other locations. Talk Listen switch and Privacy switch. Satin copper panel is 6 3/4" x 4 3/4". List, \$11.25

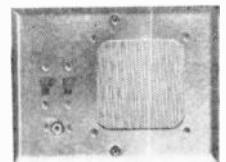
BD, DOOR REMOTE — Has weatherproof rubber gasket and "weatherized" speaker to withstand all types of weather. Door remote can originate calls to the master and any indoor remote. Enables you to answer the door from within the house and to "pipe" music to the porch or patio. Copper finish panel 6 3/4" x 4 3/4". List, \$9.95

OPTIONAL EQUIPMENT:

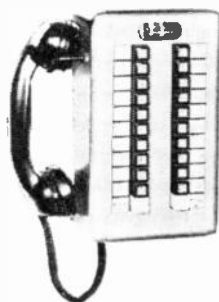
BJ, INDOOR REMOTE — Same as BC, but incorporates a jack and matching transformer. Enables you to "pipe" your hi-fi to any or all rooms. List, \$15.95

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

PB, PLASTERBOX — Wall box for mounting all wall-type remotes. Measures 5 1/4" x 5 7/8" x 2". List, \$2.50



BJ — REMOTE



FTS-20

20 STATION SYSTEM, WITH SWITCHBOARD — IDEAL FOR BOWLING ALLEYS, MOTELS, HOSPITALS, AND SCHOOLS

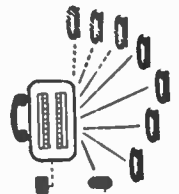
FTS-20—A 20 line manual exchange which features selective ringing and a selective talking circuit—assures complete privacy. Each of the twenty push-buttons on the switchboard have busy-lamps as well as a buzzer (which may be shut off). Stations call switchboard by lifting receiver. The switchboard may arrange for conferences between two or more substations, although only one private conversation may take place at a time. Size of FTS-20: 10 1/2" x 7 1/2" x 3 3/4" deep. Simple installation requires only 2 wires from each phone to switchboard. For more extensive installations, one FTS-20 switchboard may be ganged with one or two XT-22 extension boards to provide for a total of 12 stations or 64 stations



8500—Extension phone for desk or wall use, molded in high impact polystyrene, with convenient coiled cord. List Price \$39.95.

FTS-20 — List Price \$299.95
XT-22 — List Price \$274.95

PS-20—Transformer operated power supply. One required per installation. List Price \$124.95.



System can be expanded to 42 or 64 intercom stations.

FANON ELECTRONIC INDUSTRIES, Inc. • Brooklyn 8, N. Y.

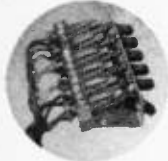
Warehouses in Los Angeles, San Francisco, Seattle and Toronto, Canada

J. M. LOGE SOUND ENGINEERS • KWIK-KALL INTERCOMS

THESE EXCLUSIVE FEATURES ASSURE LOGE QUALITY

PATENTED SELECTOR SWITCH ASSEMBLY

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



MASTER CHASSIS

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



VISUAL ANNUNCIATORS

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



JUNCTION-TYPE TERMINAL CONNECTIONS

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



KWIK-KALL EXECUTIVE



Model L-512-AB

The Kwik-Kall Executive is designed for the executive . . . to keep his desk neat and efficient and occupies a little more space than the telephone itself. Its compactness permits not only two-way conversation with as many as a total of 12 stations, but serves as a telephone stand as well.

Choice of 5 colors to match your telephone — Black, green, beige, white and gray — L-506 (black) **\$137.50** — other colors **\$15.00** extra

KWIK-KALL JUNIOR INTERCOMS



\$6995
List Price

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

PR-50
Paging
Speaker
\$1450



List Price

JR-3-45
Remote
Speaker
\$900



List Price

Low cost versatile intercoms for smaller installations

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

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

KWIK-KALL "NOR" INTERCOMS



\$22950
List Price

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

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

J. M. LOGE • SOUND ENGINEERS

Los Angeles, California

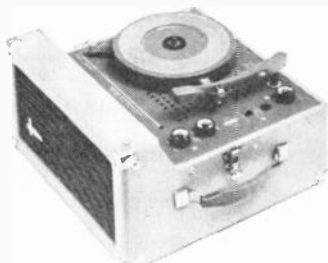
PIONEERS IN THE DESIGN AND MANUFACTURE OF INTERCOMMUNICATION SYSTEMS FOR MODERN BUSINESS

NEWCOMB

PORTABLE PHONOGRAPHS AND RADIOS

NEW MODEL R-124V

4 SPEED, VARIABLE SPEED, HI-FIDELITY PHONOGRAPH



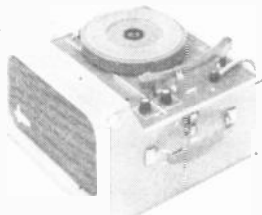
A rare combination of ruggedness and high fidelity sound, the Newcomb R-124V is built with a host of features that make it the outstanding value among portable phonographs: New four speed, variable speed motor; big two-way, 9" oval, dual cone speaker; new Bi-

Coupled 10 watt peak output system; pilot light; "Power Point" type plug-in ceramic high fidelity cartridge; rubber record mat and "Twist-up" 45 center spindle; jack for external speaker, headphones, or Newcomb Headphone Listening Center Accessory; idler release interlocked with separate motor switch; spring-suspension feet, Hide-away cord compartment; new ultra wide range tone control; compensated volume control; Tempo Control that smoothly varies speed as much as 20%. Crackproof plywood case, glue-block reinforced, covered in washable gray fabrikoid. Transformer powered. U.L. approved. DIMENSIONS: 8 1/4" x 14 1/4" x 14 1/8"; weight 20 pounds. POWER CONSUMPTION: 55 watts, 117 volts, 60 cycles A.C. LIST: \$129.50. Plus excise tax.

MODEL R-124 FIXED SPEED, except for the absence of Tempo Control, is identical to the R-124V. LIST: \$104.35. Plus excise tax.

NEW MODEL R12-C4

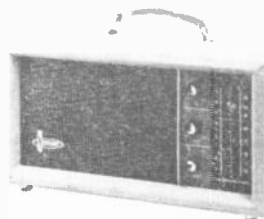
4 SPEED, FIXED SPEED HI-FIDELITY PHONOGRAPH



The Newcomb Model R12-C4 is a transformer powered, 8 watts peak utility model that offers safety, dependability, and high performance at low cost. New enhanced tone and volume range improves realism. It has an 8 watt inverse feedback controlled output system teamed up with a two-way 9" oval, dual cone speaker. The R12-C4 has a "Power Point" type plug-in ceramic high fidelity cartridge, idler release position, rubber record mat and "Twist-up" 45 center spindle, pilot light, spring suspension feet, crackproof plywood case covered in washable gray fabrikoid. U.L. approved. DIMENSIONS: 8 1/4" x 14 1/8" x 14 1/8"; weight 19 pounds. POWER CONSUMPTION: 55 watts, 117 volts, 60 cycles a.c. LIST: \$93.75. Plus excise tax.

tem teamed up with a two-way 9" oval, dual cone speaker. The R12-C4 has a "Power Point" type plug-in ceramic high fidelity cartridge, idler release position, rubber record mat and "Twist-up" 45 center spindle, pilot light, spring suspension feet, crackproof plywood case covered in washable gray fabrikoid. U.L. approved. DIMENSIONS: 8 1/4" x 14 1/8" x 14 1/8"; weight 19 pounds. POWER CONSUMPTION: 55 watts, 117 volts, 60 cycles a.c. LIST: \$93.75. Plus excise tax.

NEW MODEL AFM-1500 FM & AM HI-FI A.C. RADIO



Never before has such all-around excellence, high power, superb sound been built into a table model radio. The Newcomb AFM-1500 has a tuning section with the sensitivity, selectivity, and stability heretofore reserved for high fidelity tuner components costing more than this complete radio set. It has a f.c.c., a 15 watt peak push-pull amplifier coupled with a 20 watt 9" oval, dual cone speaker capable of making full use of amplifier power. The Newcomb AFM-1500 has a pull-up, telescoping rotating FM antenna, built in "Hi-Q" ferrite rod AM antenna, tuning eye, lighted lucite sliderule type dial with reference scale and Conelrad markings, reference AM and FM pilot lights, wide ranging tone control of new design, large tuning knob, compensated volume control, external antenna terminals, jack for external speaker, headphones, or Newcomb Headphone Listening Center Accessory, jack for external amplifier, public address system, or tape recorder. Neat power cord storage on back. U.L. approved. DIMENSIONS: 16 3/4" x 9 3/4" x 8 3/8"; weight 20 1/4 pounds. POWER CONSUMPTION: 70 watts, 117 volts, 60 cycles a.c. LIST: \$199.50. Plus excise tax.

NEW MODEL R-164V

4 SPEED, VARIABLE SPEED HI-FI, MEDIUM POWER, PORTABLE COMBINATION TRANSCRIPTION PLAYER-P.A. SYSTEM

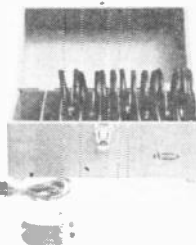


This is a versatile, portable sound system of advanced design that will play any record size up to 17 1/4 masters. It has the new four speed, variable speed Newcomb motor. The R-164V has a big 12" round, dual cone high fidelity loudspeaker with 25 foot cord and the new Bi-Coupled 10 watt peak output system. Speaker enclosure forms case lid. Jeweled pilot light and lighted operating panel, "Power Point" type plug-in ceramic high fidelity cartridge, rubber record mat and "Twist-up" 45 center spindle. Microphone input jack. Mixing volume controls. Bass tone control does not affect voice. Separate treble control. Output jack for speaker, headphones or Newcomb Headphone Listening Center Accessory. The R-164V has a long tone arm of cast metal, protective drop pad, Hideaway power cord, 4 speed settings—78, 45, 33 1/2 and 16 2/3 r.p.m.; tempo control which smoothly varies speed as much as 20%; pickup stop post; pick up lock screw; separate motor power switch that automatically retracts idler. Crackproof plywood case covered in washable gray fabrikoid. Transformer powered. U.L. approved. DIMENSIONS: 11" x 15 1/2" x 15 1/2"; weight 25 pounds. POWER CONSUMPTION: 55 watts, 117 volts, 60 cycles a.c. LIST: \$159.95.

MODEL R-164 FIXED SPEED, except for the absence of Tempo Control, is identical to the R-164V. LIST: \$139.95.

NEW HEADPHONE LISTENING CENTER

New Headphone Listening Center Kit is designed for library use, language study, group-within-a-group listening. The 8A Adapter simply plugs in the speaker outlet jack on any Newcomb Phonograph, Radio or Transcription Player (except the R12-C4) shown in this catalog. From one to eight pairs of phones can then be connected to the adapter.

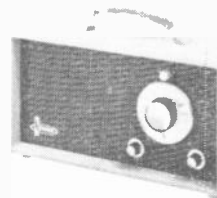


MODEL LC8A Complete Listening Center Kit includes Adapter, 8 pairs of headphones, plywood compartmented case covered with gray fabrikoid to match Newcomb equipment. LIST: \$89.60.

MODEL 8A Listening Center Adapter only, provides outlets for 8 pairs of headphones. LIST: \$22.50.

MODEL HDP sturdy, sensitive, double headphones with 6' cord, pin jacks, give excellent reproduction. Colored bright red and black to identify them as public property. LIST EACH: \$5.95.

NEW MODEL AM-500 AM ONLY HI-FIDELITY A.C. RADIO



A high performance, handsome, safe, rugged, economical continuous duty table model AM radio, the Newcomb AM-500 has a powerful 5 watt peak inverse feedback amplifier and big 8" oval cone loudspeaker with special tweeter cone for improved distribution and high frequency response. It has a built in "Hi-Q" antenna and terminals for external antenna. A lighted index illuminates the dial and serves as a pilot light. Dial of satin finished aluminum has large numerals and Conelrad markings. Large tuning knob drives the dial directly through planetary vernier—no strings. Jack for external speaker, headphones, or Newcomb Headphone Listening Center Accessory. Jack for external amplifier, public address system, or tape recorder. When latter is used, the amplifier-speaker system of the AM-500 becomes a fully controllable power monitor. Neat power cord storage. Crackproof plywood case covered in washable gray fabrikoid. Transformer powered. U.L. approved. DIMENSIONS: 6 1/2" x 8" x 15 1/2"; weight 10 pounds. POWER CONSUMPTION: 40 watts, 117 volts, 60 cycles a.c. LIST: \$73.50. Plus excise tax.

Specifications and Prices subject to change without notice. All parts used in Newcomb Equipment are made in U.S.A. All Newcomb Equipment Approved by Underwriters Laboratories.

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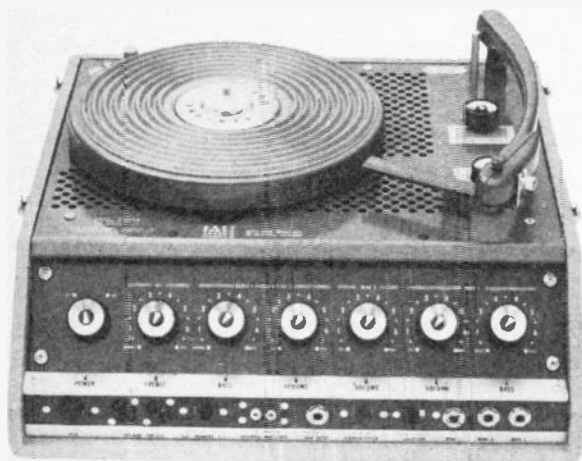
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Page 81

NEWCOMB

TR SERIES HIGH POWER PORTABLE COMBINATION
TRANSCRIPTION PLAYER/P.A. SYSTEMS

NEW DESIGNS! NEW MOTORS! NEW OUTPUT SYSTEMS! NEW REPRODUCERS!



New, American-Made 4 Speed Variable Speed Motor delivers full starting torque at any speed setting; no warm-up required. The motor is remarkably stable under all conditions of use, and requires no more attention than conventional fixed speed motors. No flutter producing friction discs or cone drives used. Plays All Sizes of records up to 17 1/2" masters. New Amplifiers are engineered for optimum performance with the

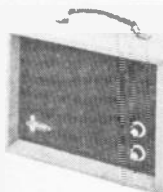
particular types of speakers used with the different models to greatly improve acoustic output. **Sturdy Crackproof Plywood Case** is glue-blocked for additional strength, covered with washable scratch-resistant fabricoid in a very pleasing shade of warm gray. **Metal Corners** greatly extend life of case. Non-scratch feet are spring-floated to prevent needle skip from bumps and jars. **Loudspeakers Are Protected** by a kickproof, perforated metal grill.

Straps for Hanging speakers from wall provided with all standard split-case speakers. Back of speaker in most models is protected by an armored basket. 25 foot cord is provided with all speakers. **New Hideaway Cord Compartment.** Power cord is coiled and tucked into compartment built into side of the case. **Readily Accessible.** The top deck lifts for instant access to tubes and motor. **Bottom Plate Removes** for complete access to wiring. **Clear Plastic Card Holder** for name of owner, room, instructor, building, or "home base". **New Sta-Kleen® Rubber Mat** has deep grooves that swallow up dust and grime, protects records, is clamped on. Easily cleaned. **Heavy Turntable — 10", 2 pounds** — for flywheel stability, minimum wow. **Unbreakable Pop-Up 45 Spindle** of nylon. **Dual-Lighted Neon Speed-O-Scope** permits precise speed setting. **Sturdy, Full-Size Carrying Handle** and handhold for assistant. **New Ceramic Cartridge** on TR-1625 and TR-1640 series models is dual sapphire styli, high fidelity, plug-in, "power point" type, thoroughly proven for durability, dependability, fidelity. **GE Magnetic Cartridge,** twist needle type with individually replaceable microgroove and standard sapphire styli; necessary pre-amplifier built in.

Drop Pad, rubber covered, protects stylus and cartridge. **Long, One Piece, Cast Metal Pickup Arm** lifts to vertical position for inspection. **Rugged Stop Post** prevents putting arm in wrong position. **Stylus Pressure Adjustment** for 78's or LP's. **Separate Motor Power Switch** automatically retracts idler. **Tempo Control** varies speed from +5% to -15% of any standard setting. **Positive Lock Screw** holds arm securely during transportation. **Two Jeweled Pilot Lights.** **Dual Lighted Panel** angled for most convenient operation. **Full Through Ventilation,** louvers in bottom plate, holes in deck. **"All" Channel Output Jack** to external amplifier permits monitoring entire output with M-9 Monitor. **Speaker Impedance Selector** matches amplifier impedance to number of speakers being used. **Auxiliary Input Jack** for signal from radio, tape machine, or stereo channel. **"Phono" Output Jack** delivers only phono signal to external amplifier or Newcomb Model M-9 Amplified Music Monitor. **Transformer Powered, Safe,** completely isolated from the power mains. All units have UL approval. **Positive Humidity Protection** is given output transformers by cellulose acetate or mylar insulation.

AMPLIFIED MONITOR & ACCESSORY SPEAKERS

Model M-9 Amplified Music Monitor



includes a 10 watt amplifier and 9" oval, dual cone speaker. Has its own tone and volume controls. When connected to "Phono" output jack of any Newcomb transcription player, you monitor recorded music without feedback squeal, without confusion with own voice. Will monitor both voice and music if plugged into "All" output jack. Plywood case with handle covered with gray washable fabricoid, 10 pounds. 13 1/4" x 10 1/8" x 7". LIST \$104.50.

SINGLE SPEAKERS IN CASE

16 3/4" x 16 1/4" x 13 1/4"
Model S-112 Extended range, 12", 30 watt, dual cone speaker. Additional speaker for TR-1625 or TR-1625M. 25' cable. 8 ohms. 14 1/2 pounds. LIST \$65.85.

Model S-112H Heavy Duty, extended range, 12", 50 watt speaker. Additional speaker for TR-1640. 25' cable. 8 ohms. 14 1/2 pounds. LIST \$75.00.

Model S-112HF Two-way, 50 watt, reproducer. 12" woofer, crossover filter, 3 1/2" tweeter. Additional speaker for TR-1640M-HF. 25' cable. 8 ohms. 15 pounds. LIST \$89.25.

PORTABLE REFLEX REPRODUCERS

18 1/2" x 24" x 12 1/2"
Model R-112 Reflex enclosure with 12" extended range, 30 watt, dual cone speaker. Additional speaker for TR-1625MR. 25' cable. 8 ohms. 23 pounds. LIST \$96.75.

Model R-112HF Reflex enclosure with two-way, 50 watt speaker system — 12" woofer, crossover filter, 3 1/2" tweeter. Additional reproducer for TR-1640M-HFR or wherever high efficiency, high fidelity, and high power

handling capacity are desired. 25' cable. 8 ohms. 23 1/2 pounds. LIST \$133.00.

2 SPEAKERS IN SPLIT CASE

16 3/4" x 16 1/4" x 13 1/4"
Model S-212E Two 12" extended range, 30 watt, 8 ohm, dual cone speakers, each with 25' cord. 21 pounds. LIST \$96.75.

Model S-212HE Two 12" extended range, 50 watt, 8 ohm speakers (as used in TR-1640 models), each with 25' cord. 21 1/2 pounds. LIST \$116.50.

Model S-212HFE Two, two-way, 50 watt, 8 ohm speaker systems — 12" woofer, crossover filter, 3 1/2" tweeter (as used in TR-1640MHF models) in each half case — each with 25' cord. 23 pounds. LIST \$133.00.

Model S-212XE Split case assembly containing two super efficiency, 60 watt, 8 ohm speakers with large, aluminum-domed, 2" voice coils and integral tweeter cones, each with 25' cord, especially for use with the TR-1656M-X2. 25 pounds. All above are wired with sockets as extension speakers. LIST \$166.00.

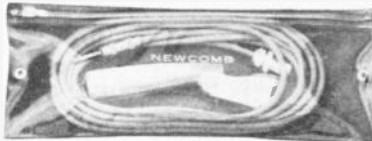
WEATHERPROOF OUTDOOR REPRODUCER

Model N-848 has high efficiency and better response than is usually found in horn type reproducers. 16 ohms, 25 watts. Useful indoors for directional coverage. Covers large crowds beyond capacity of cone type speakers. Four provide superb 360° coverage. Use at least two for excellent 180° coverage with any Newcomb transcription player system. Where greatly increased outdoor coverage without increase in available amplifier power is needed, the N-848 will more than double effective power. 13 1/2 pounds. LIST \$75.00.

DIMENSIONS OF NEWCOMB TR PLAYERS:

Single speaker TR players form a single case with the speaker case used as the lid. They measure 16 3/4" x 16 1/4" x 13 1/4". Multiple speaker models snap together to form two or three cases — audio unit with lid and speakers in split cases back to back. Audio units, closed, measure 16 3/4" x 16 1/4" x 8 1/2". Dimensions of speaker assemblies are given above.

MICROPHONES AND ASSOCIATED EQUIPMENT



Model MS-23 Accessory Bag of heavy plastic, zippered, for microphones, etc., can be attached inside lid of speaker case. LIST (bag only) \$2.95.

Model N-30 Crystal Microphone with lavalier cord, stand adapter, switch, and shielded plug. LIST \$19.95.

Model N-30D Desk Mounting for N-30 only. LIST \$2.65.

Model N-36 Dynamic Professional Quality Microphone is the perfectionist's choice with any TR system, especially intended for use with TR-1640M and TR-1656M series models. Supplied with shielded cord and plug and on-off switch. LIST \$75.00.

Model N-23 Dynamic Microphone of very high quality with switch and shielded plug, recommended for general purpose use with all TR series systems. LIST \$59.50.

Model N-3766 Stand, a professional class, extremely stable, collapsible stand, beautifully finished in brushed chrome, extending from 37" to 66" for use with any standard microphone. LIST \$30.00.

Model PP-61 Stereo Conversion Pickup Cartridge, plug-in type, for any TR series player equipped with stereo output jack and plug-in ceramic cartridge. LIST: \$6.95.

Model WC-64 Connecting Cable, four feet long with plugs for connecting two TR ceramic models together for stereo. LIST: \$6.95.

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NEWCOMB

TR SERIES HIGH POWER PORTABLE COMBINATION TRANSCRIPTION PLAYER/P.A. SYSTEMS

CERAMIC MODELS

TR-1625 SERIES

25 WATTS PEAK



Successor to the widely used TR16, the Newcomb TR-1625 is capable of doing more jobs better. Four speed, variable speed model with "Power Point" type, dual sapphire styl, high fidelity pick-up. It has a treble tone control, a bass control that does not affect mike, phono volume mixer, mike volume mixer, scratch filter switch, voice filter switch, dual pilot lights and lighted

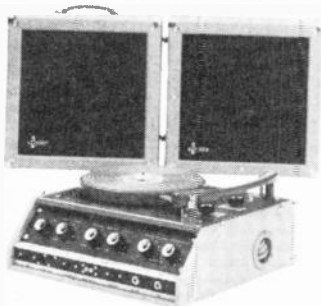
control panel, lift-up motor board access to tubes and motor. Pick-up lock nut, stop post, drop pad. Hideaway cord compartment. Crackproof plywood case, glue blocked, covered with gray washable fabricoid. Output jacks for stereo, for 2 speakers, and for monitoring "Phono" only or "All" using Newcomb M-9.

MODEL TR-1625 is in a single, split case with one 12" dual cone, 30 watt speaker. Weight 35 lbs. LIST \$209.00.

MODEL TR-1625-2 is in two cases with two 12" dual cone, 30 watt speakers. Weight 50 lbs. LIST: \$259.00.

TR-1640 SERIES

40 WATTS PEAK



A completely new system with plenty of power to drive four loudspeakers, TR-1640 models are excellent choices for gyms, athletic fields, auditoriums. Start with a single speaker, or two speaker model; add additional speakers at any time. Provided with a treble tone control for all channels, separate bass for phono, separate bass for mike,

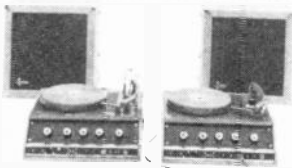
separate bass for mike, separate bass for phono, separate bass for mike, separate bass for phono, separate bass for mike, separate bass for phono. Two pilot lights. Lighted operating panel. Crackproof plywood case, fabricoid covered. Easy access to tubes and wiring. Spring suspension feet. Hideaway cord compartment.

MODEL TR-1640 is in a single split case with one 12", 50 watt loudspeaker. Weight 36 lbs. LIST \$253.95.

MODEL TR-1640-2 is in two cases with two 12", 50 watt speakers. Weight 51½ lbs. LIST \$314.50.

MODEL TR-1640-4 is in three cases with two 12", 50 watt speakers and two 12", 30 watt extension speakers. Weight 72½ lbs. LIST \$394.00.

USE TWO CERAMIC MODELS FOR STEREO



Ceramic models have stereo jacks. The standard monophonic ceramic cartridge is replaced with a stereo cartridge. A patch cord is run from the stereo jack on the first player to the "Auxiliary" input jack on the second. Thus, while having a perfectly balanced, fully controllable stereo reproducer, you still have two complete, individual players for other assignments.

And if you wish to use stereophonic tape, connect the two outputs of the Newcomb Model SM-310 professional stereo tape machine to the auxiliary inputs of any two Newcomb TR Series players to provide two powerful, matched reproduction channels complete with tone controls.

Specifications and Prices subject to change without notice. All parts used in Newcomb Equipment are made in U.S.A. All Newcomb Equipment Approved by Underwriters Laboratories.

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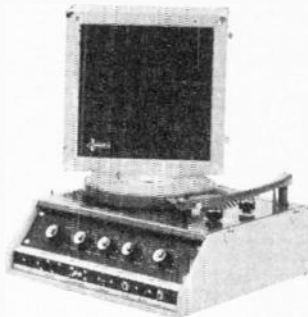
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MAGNETIC MODELS

TR-1625M SERIES

25 WATTS PEAK



When music reproduction is a major consideration, a Newcomb TR player equipped with a magnetic cartridge is the answer. The TR-1625M is furnished with a GE variable reluctance, twist needle cartridge with sapphire styl and necessary preamplifier built in. The 4 speed, variable speed motor is a new 4 pole, deluxe unit for minimum rumble. Pilot lights; lighted panel, crackproof plywood case, 2 speaker output jacks;

"Phono" and "All" jacks to external amplifier or Newcomb M-9 Monitor. Input jacks for auxiliary equipment and microphone.

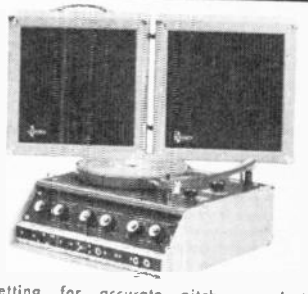
MODEL TR-1625M is in a single, split case with one 12" dual cone, 30 watt speaker. Weight 36 lbs. LIST \$231.95.

MODEL TR-1625MR is in two cases with a single 12" dual cone, 30 watt speaker in a portable bass reflex enclosure. Weight 53 lbs. LIST \$281.50.

MODEL TR-1625M-2 is in two cases with two 12" dual cone, 30 watt speakers. Weight 51 lbs. LIST \$281.50.

TR-1640M SERIES

40 WATTS PEAK



A more powerful music model with ultra-linear amplifier output system, the TR-1640M systems have the GE cartridge with built in preamp. The phono circuit is convertible to a second mike channel by merely flipping the selector switch. New 4 speed motor is the deluxe, 4 pole unit. As on all TR models a dual lighted neon strobe permits precise speed

setting for accurate pitch reproduction. Same output jacks as TR-1625M.

MODEL TR-1640M-HF is a single case model with a two-way speaker system including a 12", 50 watt woofer, crossover, and separate 3½" tweeter. Weight 36½ lbs. LIST \$307.50.

MODEL TR-1640M-HF2 is a two case system with two, two-way, 50 watt speaker systems. Weight 54 lbs. LIST \$366.00.

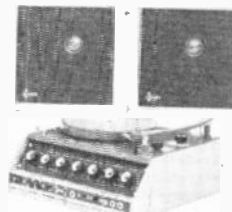
MODEL TR-1640M-HF4 is a three case system with two, two-way 50 watt speaker system and two 12" dual cone, 30 watt extension speakers. Weight 75½ lbs. LIST \$464.50.

MODEL TR-1640M-HFR is in two cases with one two-way 50 watt speaker system in a bass reflex enclosure. Weight 54 lbs. LIST \$366.00.

MODEL TR-1640M-HFR2 is in three cases with two, two-way 40 watt speaker systems in ref enclosures. Weight 77 lbs. LIST \$499.00.

TR-1656M SERIES

56 WATTS PEAK



Phenomenal output is achieved in these fully integrated systems. Phono channel converts to third microphone channel. First mike channel has separate bass attenuating control for voice clarity. Second mike channel is flat. The phono tone controls affect the third mike channel.

MODEL TR-1656M-HF2 is in two cases with two, two-way 50 watt speaker systems including a 12", 50 watt woofer, crossover, separate 3½" tweeter. Weight 57 lbs. LIST \$432.00.

MODEL TR-1656M-HF4 is in three cases with four, two-way 50 watt speaker systems. Weight 80 lbs. LIST \$565.00.

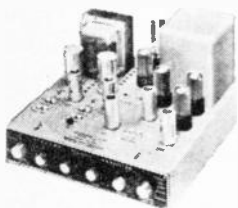
MODEL TR-1656M-X2 is in two cases with two 12", 60 watt, super-efficient, dual cone speaker. Weight 59 lbs. LIST \$467.00.

MODEL TR-1656M-X4 is in three cases with four 12", 60 watt speakers. Weight 84 lbs. LIST \$632.00.

NEWCOMB

HIGH FIDELITY COMPONENTS

TWO CHANNEL STEREOPHONIC AMPLIFIER

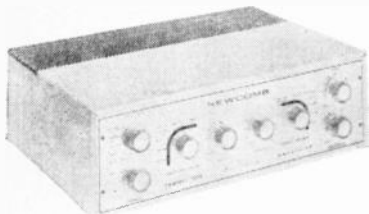


MODEL 3-D12

Two-channel stereophonic amplifier, for use in reproducing either stereo or monaural programs from records, radio, or tape. Separate bass and treble controls in distortion-free circuitry provide for control of both channels simultaneously. Channel selector provides choice of stereo or "enhanced" monaural reproduction, reverses channels to put "violins"

on left, choice of channel A or B separately, base control range 0 to +18 db, treble control range -24 to +13 db. Fletcher-Munson compensated volume control for utmost low level realism. Response ± 1 db 20-20,000 cycles. Hum and noise 80 db below 12 watts. **POWER OUTPUT:** Each channel, 12 watts at less than 2% 10 watts at less than 1%. Output impedance 8 and 16 ohms to speakers at each output strip. Inputs to both channels provide for crystal pickups, high level magnetics (.008 volts), low level magnetics (.025 volts), radio (1 volt), tape (1 volt). **SIZE:** 12 $\frac{1}{2}$ " wide, 12 $\frac{1}{2}$ " deep, and 7 $\frac{3}{8}$ " high. **WEIGHT:** 19 lbs. **AUDIOPHILE NET:** \$179.50.

COMPACT 1020 AMPLIFIER



Combination amplifier/preamp rated at 20 watts. Engineered for the most critical of perfectionists, the design combines high power (20 watts at less than 1% distortion) with unusually low average level distortion (less than .05%). Response, inherently excellent to 100,000 cycles is within ± 1 db at 20 to 20,000 cycles.

Eight panel controls include: (1) power switch; (2) 5-position input and rumble filter selector; (3) 6-position bass crossover selector; (4) 6-position treble rolloff control; (5) bass tone control range -24 db to +16 db; (6) treble tone control range -27 db to +16 db; (7) level control gives maximum effectiveness to loudness control; (8) loudness control. **INPUTS FOR:** Radio, microphone, 2 magnetic pickups, crystal pick-up, tape, and auxiliary. "Output-to-tape" jack to permit recording while listening. Hum balance control. Hum 80 db below 20 watts. Features removable etched panel and patented Newcomb "Adjusta-Panel" for easy installation in cabinetry where desired. Output impedances 8 and 16 ohms. **TUBES:** 1-6AV6, 2-12AX7, 2-6L6GB, 1-5U4GA. **WEIGHT:** 20 $\frac{1}{2}$ pounds. **AUDIOPHILE NET:** \$159.50.

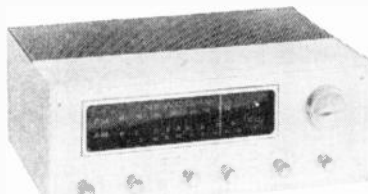
COMPACT 1012 AMPLIFIER

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

COMPACT 1010 AMPLIFIER

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

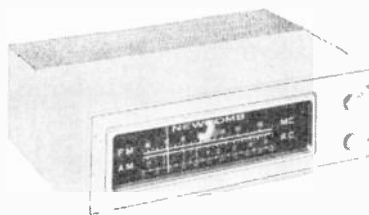
COMPACT 712 AMPLIFIER-TUNER



COMBINATION FM-AM tuner, 12-watt amplifier, preamp, and controls in one beautiful decorator-styled case. Edgelighted tuning dial, velvety flywheel tuning. FM sensitivity exceeds 5 microvolts for 30 db of quieting. Radiation far below FCC requirements. Automatic frequency control (with defeat switch), temperature-

controlled oscillators for drift-free FM. Amplifier 20-20,000 cycles ± 1 db. Total harmonic distortion less than 1% at 12 watts. Multiplex jack for FM multiplex reception. 6-position record response control. Level and loudness controls, 8-position program selector. Inputs for magnetic pickups, crystal, tape, and aux. Size 14 $\frac{1}{8}$ " x 5 $\frac{3}{8}$ " x 10". **WEIGHT** 20 lbs. **AUDIOPHILE NET:** \$249.50.

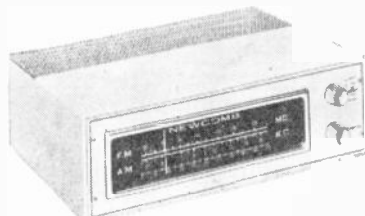
COMPACT 200 TUNER



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

Temperature controlled oscillators and snap-in automatic frequency control for FM with a defeat switch. Advanced FM detector system with double limiting action which, with other circuit advantages, decreases distortion at all modulation percentages, gives excellent adjacent channel rejection, and provides effective limiting on weak as well as strong signals. Output 2 volts at less than 1% distortion. Radiation far below minimum FCC requirements. **OUTPUTS (3):** One FM multiplex; one to amplifier; one to recorder. All high impedance. FM section sensitivity 5 microvolts for 30 db of quieting. Response ± 1 db 20 to 20,000 cycles. Accepts 72 or 300 ohm antennas. AM sensitivity is 25 microvolts. Bandwidth 8 KC. **SIZE:** 12 $\frac{1}{2}$ " x 9" x 4 $\frac{1}{8}$ ". **WEIGHT:** 10 $\frac{1}{2}$ lbs. **AUDIOPHILE NET:** \$129.50.

COMPACT 100 TUNER



An economical self-powered 2-knob FM-AM tuner of dependable high fidelity performance. For use with amplifier having its own controls. It features an important new multiplex output jack that makes it adaptable for reception of stereophonic or binaural broadcasts. Smooth fly-wheel tuning action.

Temperature controlled oscillators and snap-in automatic frequency control for FM with a defeat switch. Advanced FM detector system with double limiting action which, with other circuit advantages, decreases distortion at all modulation percentages, gives excellent adjacent channel rejection, and provides effective limiting on weak as well as strong signals. Output 2 volts at less than 1% distortion. Radiation far below minimum FCC requirements. **OUTPUTS (3):** One FM multiplex; one to amplifier; one to recorder. All high impedance. FM section sensitivity 5 microvolts for 30 db of quieting. Response ± 1 db 20 to 20,000 cycles. Accepts 72 or 300 ohm antennas. AM sensitivity is 25 microvolts. Bandwidth 8 KC. **SIZE:** 12 $\frac{1}{2}$ " x 9" x 4 $\frac{1}{8}$ ". **WEIGHT:** 10 $\frac{1}{2}$ lbs. **AUDIOPHILE NET:** \$129.50.

Specifications and prices subject to change without notice.

NEWCOMB

AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA

NEWCOMB

AMPLIFIERS • CUSTOM SERIES



KX-25



KX-50



KX-6A



K-50B

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

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

Full audio power, 50 to 5000 cycles (region of all major power requirements) within \pm 1.4 db. less than 5% distortion. Separate tone controls for Bass and Treble Boost or Attenuation of advanced design for better curve shape, greater range. Feedback controlled, 2 stage mike pre-amplifiers. Hum balancing control, all models but booster. Linear mixer frequency response. All but Pre-Amplifier have output impedance of 4, 8, 16, 250, 500 ohms, PLUS a 70 volt "constant voltage" tap, with convenient, simple, impedance selector. Multistage inverse feedback. Large, heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installation. A. C. convenience outlet in rear, all models except booster. CABINETS: Heavy gauge welded steel beautifully styled. FINISH: Silver Grey Hammertone Baked Enamel. PANELS: Etched metal, illuminated. KNOBS: Round, large, skirted type, for easy operation. Additional specifications given under specific model numbers.

KX-25: 25 watts power output design center, rating, 30 watts max. at less than 3% distortion any output tap. PEAK POWER: 40 watts design center, 48 watts max. INPUTS (6): 5 mike (2 meg.), gain 123 db; 1 phono either Magnetic input gain 99 db based on 27000 ohm input, bass equalization +10 db or Crystal input 1/2 meg. gain 90 db. REMOTE CONTROL: Use RC-6 remote control unit. BASS TONE CONTROL: Range — 16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —75

KX-50: 50 watts power output design center rating, 60 watts max. at less than 3% distortion any output tap. PEAK POWER: 80 watts design center, 90 watts max. BOOSTER COUPLING JACK for connecting K50B Boosters for 100 watts or more. All other characteristics identical with KX-25 except gains, which are all

KX-6A: A 6 channel mixer pre-amplifier designed to feed broadcast lines or boosters for finest quality. OUTPUT: +31 VU, less than 3% distortion, +30 VU at less than 1%. Has built in power supply and genuine VU meter with meter range extension switch. INPUTS: for 5 mikes (2 meg.) gain 97 db and 1 phono either crystal (1/2 meg.) gain 64 db or magnetic (27,000 ohms) gain 73 db. Use RC-6 Unit for remote control. Includes Master Volume Control and same fine Dual Tone Controls and Audio Bandwidth Selectors as in KX-25 and KX-50. BASS TONE CON-

K50B: Booster Amplifier. Performance, power and output impedance same as KX-50 with but one input of 1/2 meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Built for continuous duty with long life parts, separate plate, and filament power transformers, individually fused, permits dependable plate power switching. Includes volume and overload

db crystal phono. —65 db mike and magnetic pickup inputs. Referred to rated output. CONTROLS (15): 5 mike, 1 phono, 1 bass, 1 treble, 4 bandwidth, 1 master, 1 volume indicator (all under keylocked control cover) A.C. power switch. TUBES (15): 6-6SC7, 2-6J5, 1-6J7, 1-6SQ7, 1-6SN7, 2-6L6G, 1-6AF6G, 1-5U4G. POWER CONSUMPTION: 135 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9 $\frac{3}{8}$ " x 17 $\frac{3}{4}$ " x 14 $\frac{3}{4}$ ". WEIGHT: 38 $\frac{1}{2}$ lbs. LIST: (with tubes) \$456.92. Use Cannon XL3-11 type microphone connectors.

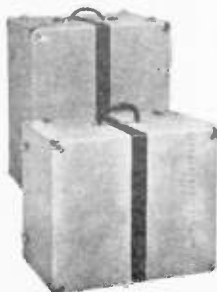
3 db higher than KX-25. TUBES (18): 6-6SC7, 2-6J5, 1-6SQ7, 1-6J7, 1-6SN7, 4-6L6G, 1-6AF6G, 2-5U4G. POWER CONSUMPTION: 235 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9 $\frac{3}{8}$ " x 17 $\frac{3}{4}$ " x 14 $\frac{3}{4}$ ". WEIGHT: 46 lbs. LIST: (with tubes) \$532.03. Use Cannon XL3-11 type microphone connectors.

TROL: Range —16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —80 db crystal —75 db mike and magnetic. CONTROLS (12): 5 mike, 1 phono, 1 bass, 1 treble, 1 master, 1 four position bandwidth (all under key locked cover), 1 A.C. power switch, 1 VU meter range switch (in rear). TUBES (12): 6-6SC7, 4-6J5, 1-6J7, 1-6X5. POWER CONSUMPTION 35 WATTS, 117 volts 60 cycles A.C. MAX. Input 129 volts. DIMENSIONS: 9 $\frac{3}{8}$ " x 17 $\frac{3}{4}$ " x 14 $\frac{3}{4}$ ". WEIGHT: 30 lbs. LIST: (with tubes) \$400.29. Use Cannon XL3-11 type microphone connectors.

indicators as in KX-50. Ample multistage feedback to minimize effects of speaker load variations. Etched metal panel. TUBES (10): 1-6SJ7, 1-6SN7, 1-6SQ7, 5-6L6G, 1-6AF6G, 2-5U4G. POWER CONSUMPTION: 230 watts 117 volts 60 cycles. 129 volts max. DIMENSIONS: 9 $\frac{3}{8}$ " x 17 $\frac{3}{4}$ " x 12 $\frac{1}{4}$ ". WEIGHT: 41 lbs. LIST: (with tubes) \$225.00. PLUG KIT: \$2.50.

NEWCOMB

PORTABLE SYSTEMS • CUSTOM SERIES



KX-2512X: Portable system with KX-25 amplifier and two heavy duty, extremely efficient speakers, each with 50' cable. System is carried in two cases: Model KA for the amplifier, size 19" x 11 $\frac{3}{4}$ " x 16 $\frac{7}{8}$ "; Model K-212X for two speakers, size 18 $\frac{1}{2}$ " x 12 $\frac{1}{2}$ " x 22 $\frac{1}{2}$ ". Speakers face inside for maximum protection when split case is closed. Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) \$645.57.

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

KX-25R12X: Portable system identical to KX-2512X but with each speaker mounted in an individual portable reflex baffle. Model KR-112X, for utmost tone quality. Speaker cases size, 18 $\frac{1}{2}$ " x 12 $\frac{1}{2}$ " x 24 $\frac{1}{2}$ ". Mikes and mountings not included as requirements vary. LIST: (less mikes and stands) \$716.82.

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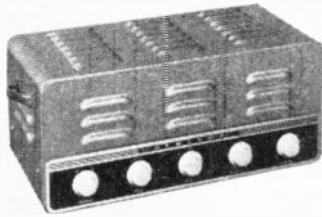


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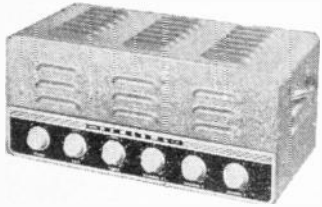
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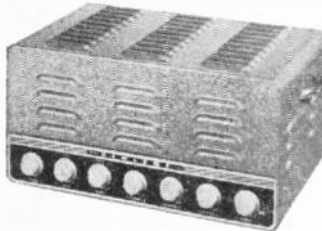
AMPLIFIERS • DELUXE SERIES PORTABLE SYSTEMS



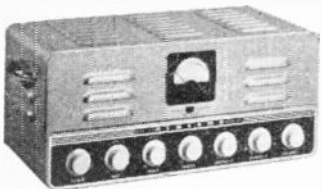
H-15



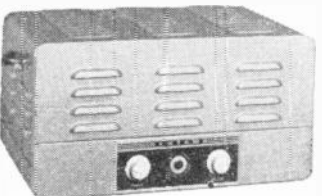
H-25



H-50



H-4VU



H-25B



H-50B

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

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

Full Audio Power, 50 to 5000 cycles (region of all major power requirements) within \pm 1/2 db. less than 5% distortion. Individual boost and attenuate type bass and treble tone control in new distortion free circuit. Linear mixer frequency response. All models but pre-amplifier have output impedances of 4, 8, 16, 250, and 500 ohms PLUS a 70 volt "constant voltage" tap, with easily-operated impedance selector. Multi-stage inverse feedback. Large heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installations. A. C. convenience outlet in rear, all models except boosters. CABINETS: Heavy gauge welded steel beautifully styled in modern functional simplicity that endures. FINISH: Silver Grey Hammertone Baked Enamel. PANEL: Etched metal, illuminated. KNOBS: Large, round, skirted type, for ease of operation. Additional specifications under specific model numbers.

H-15: 17 watts power output design center rating, 20 watts max. at less than 5% distortion, any output tap. PEAK POWER: 26 watts design center, 31 watts max. INPUTS (3): 2 mike (2 meg.), gain 120 db; 1 phonograph (1/2 meg.), gain 80 db. BASE TONE CONTROL: Range -16 to +14 db. TREBLE TONE CONTROL: -34 to +13 db. HUM: -72 db phono input, -62 db mike inputs (referred to rated

output). **H-25:** 25 watts power output design rating, 30 watts max. at less than 5% distortion, any output tap. PEAK POWER: 40 watts design center, 48 watts maximum. INPUTS (4): 3 mike (2 meg.), gain 124 db; 1 phonograph (1/2 meg.), gain 80 db. BASE TONE CONTROL: -18 to +15 db. TREBLE TONE CONTROL: Range -27 to +10 db. HUM: -72 db phono input, -62 db mike inputs (referred to

rated output). **H-50:** 50 watts power output design center rating, 60 watts max. at less than 5% distortion, any output tap. PEAK POWER: 80 watts design center, 90 watts max. INPUTS (5): 4 mike (2 meg.), gain 124 db, 1 phono (1/2 meg.), gain 81 db. BOOSTER COUPLING JACK for connecting H-25B or H-50B Boosters for 75 to 100 watts or more. BASE TONE CONTROL: Range -21 to +16 db. TREBLE-TONE CONTROL: Range -27 to +10 db.

H-4VU: Mixer Pre-Amp. with built-in power supply. Extremely low hum. Suitable for feeding telephone lines or booster amplifiers such as the H-25B or H-50B. Output +22 db at less than 5% distortion. +21 db at less than 2%. INPUTS for three mikes (2 meg.), gain 90 db, 1 phono (1/2 meg.), gain 51 db. HUM: Better than, -80 db from phono input or -75 db, mike inputs. Use RC-3 Unit for remote control. Includes master con-

H-25B: Booster Amplifier — Performance Power and Output Impedances same as H-25 with but one input of 1/2 meg. impedance, gain 68 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. power switch and volume control. Ideal for use with H-4 Pre-amplifier.

H-50B: Booster Amplifier — Performance, Power and Output Impedances are same as H-50 with but one input of 1/2 meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. switch and volume control.

CONTROL (5): 1 mike-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-2 remote control unit. **TUBES (7):** 2-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5Z4. **POWER CONSUMPTION:** 85 watts, 117 volts 60 cycles. A.C. Max. input 129 volts. **DIMENSIONS:** 8 1/2" x 19" x 10 1/4". **WEIGHT:** 20 lbs. **LIST:** (with tubes) \$183.59. Use Cannon XL3-11 type microphone connectors.

CONTROL (6): 2 mike, 1-mike-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-3 remote control unit. **TUBES (8):** 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5U6G. **POWER CONSUMPTION:** 125 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. **DIMENSIONS:** 8 1/2" x 19" x 10 1/4". **WEIGHT:** 24 lbs. **LIST:** (with tubes) \$215.03. Use Cannon XL3-11 type microphone.

CONTROL (7): 3 mike, 1 mike-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-4 remote control. **TUBES (12):** 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5U4G. **POWER CONSUMPTION:** 225 watts, 117 volts, 60 cycles A.C. Max Input 129 volts. **DIMENSIONS:** 9 1/4" x 19" x 12 1/2". **WEIGHT:** 37 lbs. **LIST:** (with tubes) \$285.60. Use Cannon XL3-11 type

microphone connectors. **CONTROL (7):** 3 mike, 1 mike-phonograph, 1 bass, 1 treble, 1 A.C. power switch. **REMOTE CONTROL:** Use RC-4 remote control. **TUBES (12):** 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5U4G. **POWER CONSUMPTION:** 225 watts, 117 volts, 60 cycles A.C. Max Input 129 volts. **DIMENSIONS:** 9 1/4" x 19" x 12 1/2". **WEIGHT:** 37 lbs. **LIST:** (with tubes) \$285.60. Use Cannon XL3-11 type

microphone connectors. **Built for long life. Ideal for use with H-4 Pre-Amp. TUBES (8):** 1-6SJ7, 1-6J5, 4-6L6G, 2-5U4G. **POWER CONSUMPTION:** 120 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. **DIMENSIONS:** 8 1/2" x 19" x 10 1/4". **WEIGHT:** 22 lbs. **LIST:** (with tubes) \$149.50. **PLUG KIT:** \$1.69.

Built for long life. Ideal for use with H-4 Pre-Amp. TUBES (8): 1-6SJ7, 1-6J5, 4-6L6G, 2-5U4G. **POWER CONSUMPTION:** 220 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. **DIMENSIONS:** 9 1/4" x 19" x 12 1/2". **WEIGHT:** 33 1/2 lbs. **LIST:** (with tubes) \$189.50. **PLUG KIT:** \$1.69.

NEWCOMB DELUXE PORTABLE SYSTEMS

H-1512R: Portable system with H-15 amp. and two 12" speakers, each with 25' cable, in split case Model EH-212R, size 11 1/2" x 20 1/2" x 21", covered in washable fabricoid. Kickproof metal grills protect speakers. Mikes and mountings not included as requirements vary. **LIST:** (less mikes and stands) \$283.09.

H-2512R: Portable system with H-25 amp. and two 12" speakers, each with 25' cable in split case, Model EH-212R. Size, 20 1/2" x 11 1/2" x 21". Mikes and mountings not included as requirements vary. **LIST:** (less mikes and stands) \$314.53.

All Prices and Specifications Subject to Change Without Notice.



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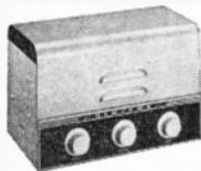
AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA

NEWCOMB

AMPLIFIERS • SPECIAL SERIES



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



E-10A: Delivers 10 watts from push-pull 6V6 tubes. Separate mike and phono controls. Multistage inverse feedback circuit. **POWER OUTPUT:** 10 watts at less than 5%. **FREQUENCY RESPONSE:** 40 to 15,000 cycles \pm 2 db. **INPUTS:** (2) 1 mike (2 meg.) gain 116 db. Wired for plug-in input transformers. 1 phono ($\frac{1}{2}$ meg.) gain 77 db. **TONE CONTROL:** Range 0 to -24 db. **OUTPUT**

IMPEDANCES: 4, 8, 16 and 500 (70 Volt Tap) ohms to octal socket. **TUBES:** (5) 1-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. **FINISH:** Silvergrey hammertone baked enamel. **PANEL:** Genuine etched enamel. **POWER CONSUMPTION:** 60 watts at 117 volts, 60 cycles A.C. **SIZE:** $5\frac{3}{4}'' \times 10\frac{3}{4}'' \times 6\frac{3}{4}''$. **WEIGHT:** $9\frac{1}{2}$ lbs. Less cover, $7\frac{1}{2}$ lbs. **LIST:** (with tubes, without cover) \$69.50. **Cover \$7.21. PLUG KIT: \$1.71.**



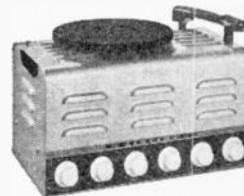
E-17P3: A conservative 17 watt model with 3 speed phono. Separate bass and treble controls, phono bass boost, multi-stage inverse feedback circuit. Input controls for mike and phono. **POWER OUTPUT:** 17 watts at less than 5%. **FREQUENCY RESPONSE:** \pm 2 db. 40 to 15,000 cycles. **INPUTS:** 1 mike (2 meg.) gain 115 db. Wired for plug-in input transformers. 1 phono ($\frac{1}{2}$ meg.) gain 77 db. **OUTPUT IMPEDANCES:** 4, 8, 16, 290 (70 Volt Tap) and 500 ohms. **TUBES:** (5) 1-12AX7, 1-6SJ7, 2-6L6G, 1-5V4G. **FINISH:** Silvergrey hammertone baked enamel. **PANEL:** Etched metal, lighted. **POWER CONSUMPTION:** 75 watts at 117 volts, 60 cycles A.C. **SIZE:** $8\frac{3}{8}'' \times 14\frac{1}{8}'' \times 8''$. **WEIGHT:** 15 $\frac{1}{2}$ lbs. **LIST:** (with tubes) \$151.55. **PLUG KIT: \$2.28.**

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



E-25: A dependable, full 25 watts with inputs for 2 mikes and 1 phono, separate bass and treble controls, phono bass boost, multi-stage inverse feedback circuit. **POWER OUTPUT:** 25 watts at less than 5%. **FREQUENCY RESPONSE:** \pm 2 db. 40 to 15,000 cycles. **INPUTS:** (3) 2 mike (2 meg.) gain 117 db. Wired for plug-in input transformers. 1 phono ($\frac{1}{2}$ meg.) gain 77 db. **OUTPUT IMPEDANCES:** 4, 8, 16, 196 (70 Volt Tap) and 500 ohms. **TUBES:** (6) 1-12AX7, 1-6SC7, 1-6J5, 2-6L6G, 1-5V4G. **FINISH:** Silvergrey hammertone baked enamel. **PANEL:** Etched metal, lighted. **POWER CONSUMPTION:** 90 watts, 117 volts, 60 cycles A.C. **SIZE:** $8\frac{3}{8}'' \times 14\frac{1}{8}'' \times 8''$. **WEIGHT:** 18 $\frac{1}{4}$ lbs. **LIST:** (with tubes and cover) \$139.50. **PLUG KIT: \$3.24.**

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



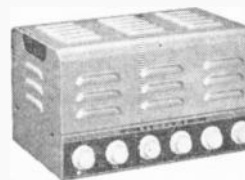
E-254P3: A highly versatile, yet economical 4 channel, 25 watt amplifier with 3 speed phono. **FEATURES:** High gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback circuit. Pickup is high-grade turnover crystal. **POWER OUTPUT:** 25 watts at less than 5% distortion. **FREQUENCY RESPONSE:** \pm 2 db, 40 to 15,000 cycles. **3 MIKE INPUTS:** 2 meg., gain 123 db. Wired for plug-in input transformers. **PHONO INPUT:** $\frac{1}{2}$ meg., gain 83 db. **OUTPUT IMPEDANCES:** 4, 8, 16, 196 (70 Volt Tap) and 500 ohms. **TUBES:** (8) 3-6SF5, 1-6SN7, 2-6L6G, 1-5V4G. **FINISH:** Silvergrey hammertone baked enamel. **PANEL:** Etched metal illuminated. **CONTROLS:** 3 mike, 1 phono, 1 bass, 1 treble and power switch. **POWER CONSUMPTION:** 105 watts at 117 volts, 60 cycles A.C. **SIZE:** $8\frac{3}{8}'' \times 14\frac{1}{8}'' \times 8''$. **WEIGHT:** 18 $\frac{1}{4}$ lbs. **LIST:** (with tubes) \$213.18. **PLUG KIT: \$3.90.**

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



E-50: A distortion-free, conservatively rated 50 watts using push-pull parallel 6L6 tubes and multi-stage inverse feedback circuit. Has inputs for 2 mikes, 1 phono, separate bass and treble controls, phono bass boost. Same as E-25 except as follows:

POWER OUTPUT: 50 watts at less than 5%. Mike gain 120 db. Wired for plug-in input transformer Phono gain 79 db. **OUTPUT IMPEDANCES:** 4, 8, 16, 98 (70 Volt Tap) and 250 ohms. **TUBES:** (9) 1-6SJ7, 1-12AX7, 1-6J5, 4-6L6G, 2-5V4G. **POWER CONSUMPTION:** 170 watts at 117 volts, 60 cycles A.C. **SIZE:** $11\frac{1}{4}'' \times 14\frac{3}{4}'' \times 8\frac{1}{2}''$. **WEIGHT:** 29 lbs. **LIST:** (with tubes and cover) \$196.50. **PLUG KIT: \$3.24.**



E-504: A 4 channel 50 watt amplifier featuring; high gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback, push pull parallel output system for lowest distortion at all power levels. **POWER OUTPUT:** 50 watts at less than 5% distortion.

FREQUENCY RESPONSE: \pm 2 db, 40 to 15,000 cycles. **THREE MIKE INPUTS:** 2 meg., gain 126 db. Wired for plug-in input transformers. **PHONO INPUT:** $\frac{1}{2}$ meg., gain 86 db. **OUTPUT IMPEDANCES:** 4, 8, 16, 98 (70 Volt Tap) and 250 ohms. **TUBES:** (11) 3-6SF5, 1 6SJ7, 1-6SN7, 4-6L6G, 2-5V4G. **FINISH:** Silvergrey hammertone baked enamel. **PANEL:** Etched metal, illuminated. **CONTROLS:** 3 mike, 1 phono, 1 bass, 1 treble and power switch. **POWER CONSUMPTION:** 180 watts, 117 volts, 60 cycles A.C. **SIZE:** $11\frac{1}{4}'' \times 14\frac{3}{4}'' \times 8\frac{1}{2}''$. **WEIGHT:** 30 lbs. **LIST:** (with tubes and cover) \$239.50. **PLUG KIT: \$3.90.**

All prices and specifications subject to change without notice.

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The MASTER — 24th Edition

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY.

Page 87

NEWCOMB

PORTABLE AMPLIFIERS

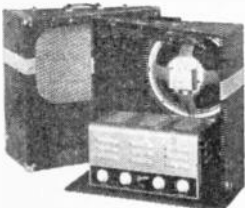


SERIES



E-1010S: A 10 watt basic portable consisting of one E-10 amplifier with plugs and one E-110S case assembly with efficient 10" P.M. speaker protected by a kick-proof metal grill. Speaker cable 25'. Overall size: 12 1/4 x 15 3/4 x 8 3/4".

Weight: 19 lbs. LIST: (less mike and stand) \$126.82.



E-1712R: A 17 watt dual speaker portable system consisting of one EH-212R split speaker and amplifier case assembly with two 12" high quality P.M. speakers, each with 25' cable, protected by kick-proof grills, and one E-17 amplifier with plugs. Size: 11 1/4 x 20 1/2 x 21". Weight: 40 lbs. LIST: (less mike and stand) \$209.28.

E-2512R: A 25 watt dual speaker portable system with model E-25 amplifier. Weight 42 1/2 lbs.

LIST: (less mikes and stands) \$242.24.

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



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

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

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

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

NEWCOMB

MOBILE AMPLIFIERS



SERIES

E-10M: A 10 watt mobile amplifier. For use on 6 V.D.C. or 117 V.60 cycles A.C. Features push-pull beam power output tubes with inverse feedback for low distortion, standby, battery saver switch, new freedom from vibrator hash, special mounting for easy removal of chassis, inputs for mike and phono, sturdy Jones connectors for battery and A.C. cables. **POWER OUTPUT:** 10 watts at less than 5%. **FREQUENCY RESPONSE:** ± 2 db. 50 to 15,000 cycles. **INPUTS:** Mike (2 meg.) gain 115 db. phono (1 1/2 meg.) gain 75 db. **OUTPUT IMPEDANCES:** 4, 8, 16 ohms. **TUBES:** (5) 1-6SC7 1-6SF5, 2-6V6GT, 1-6X5GT. **POWER CONSUMPTION:** 60 watts, 117 volts, 8 amps. at 6 V.D.C. **FINISH:** Silvergrey hammertone baked enamel. **PANEL:** Etched metal with pilot lamy. **SIZE:** 6 1/8 x 6 3/8 x 8 1/4". **WEIGHT:** 9 3/4 lbs. LIST: (with tubes) \$99.75. Plug Kit \$1.39.



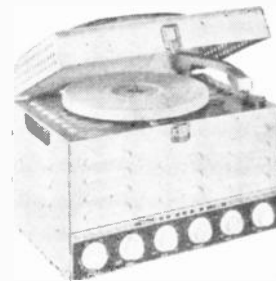
All Newcomb equipment* U/L approved. Prices and specifications subject to change without notice.

**No matter what price level . . .
if it's a NEWCOMB,
it's DEPENDABLE!**

Sound installations vary greatly in their needs of complexity as well as requirements of cost. Yet, one important feature is required of all—dependability. No matter how complex, or how simple and inexpensive your needs may be . . . you can enjoy utmost dependability by insisting on a Newcomb amplifier for your sound system. No product bears the name Newcomb unless it is inherently dependable, no matter on what price level you find it. Under the Newcomb name there is only one standard for quality . . . the best! Newcomb amplifiers vary in their complexity, but never in dependability. Quality of parts, materials or workmanship are never sacrificed here to gain lower price. Lower cost of one Newcomb model as compared to another is always entirely the result of greater simplicity.

12-VOLT

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



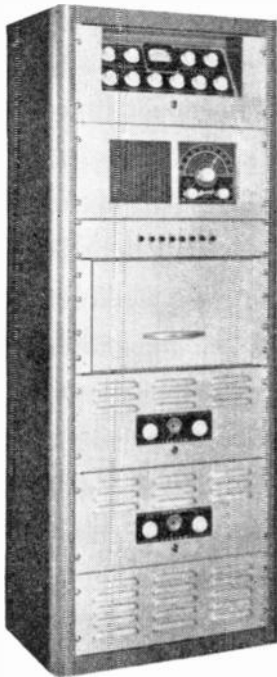
POWER OUTPUT: 25 watts at less than 3% total harmonic distortion, peak power 40 watts. **FREQUENCY RESPONSE:** 30 — 20,000 cycles ± 2 db. **HUM LEVEL:** 70 db below 25 watts. **INPUTS:** Two mike (2 meg.) gain 122 db; one phono (2 meg.) gain 90 db; and one tape (2 meg.) gain 90 db. Mike inputs convertible to low impedance using Newcomb plug-in transformers. **CONTROLS:** One stand-by switch, one power switch and treble tone control, one bass tone, one phono, two microphone, one phono motor control (on phono top models), and one hum balance control. **OUTPUT IMPEDANCE:** 4, 8, 16, and 500 ohms and a 70 volt tap to impedance selector and two output sockets. **POWER CONSUMPTION:** On 117 volts 60 cycles AC, 100 watts. On 12 volts DC, 8.85 amps (with phono top, 10.3 amps). Stand-by current less than 3 amps. **SIZE:** 14 1/2 x 9 1/2 x 8" high (with cover (height 10 1/4")). **TUBES:** 1-12AX7, 1-12AU6, 2-6L6G, 2-6X5GT, 1-12AV7, E-253M — plain top model, list price \$214.50. (Weight, 24 lbs.). E-253M3 — 3-speed phono-top model, list price \$249.50. (Weight, 28 1/4 lbs.). PC — Protective turntable cover with "king-sized" handle for use on Model E-253M3 only, list price \$15.00. (Weight, 2 3/4 lbs.). Above prices include both battery and AC power cables.

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AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA

NEWCOMB

RACK AND PANEL ASSEMBLIES



Any standard Newcomb amplifier may be obtained panel mounted on special order in 19" x 8 3/4" panels, thus giving the custom designer a wide choice of equipment to meet any need.

MODEL 595-19 CABINET: (illustrated) Supplies a demand for a beautifully finished housing that is fully in keeping with the Newcomb tradition and reputation for quality. Panel space is 56". Design accepts standard 19" wide panels. Mounting holes are RMA standard 1/4" and 1/2" spacings. Panel mounting holes are tapped in 1/8" stock. Fully ventilated rear door provides easy accessibility. Entire cabinet is a complete welded assembly ready for use as you receive it. Finish is dark grey hammertone. Provision is made in the rear for nine 1/2" conduits. Included is a removable terminal strip mounting plate located near conduit inlets. **OVERALL DIMENSIONS:** 59 1/2" x 23" wide x 16" deep. **SHIPPING WEIGHT:** 92 lbs. **LIST:** \$189.50.

MODEL 385-19 CABINET: Provides 35" of panel space for standard 19" panels. **OVERALL DIMENSIONS:** 38 1/2" x 23" wide x 16" deep. **SHIPPING WEIGHT:** 72 lbs. **LIST:** \$149.50.

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

MODEL 1050-C PHONOGRAPH CHANGER PANEL is a practical solution to mounting a phono changer in cabinet 595-19. Ball bearing drawer with wood motor board is adaptable for mounting most popular changers. Panel size 19" x 10 1/2". All panels are finished in silver-grey hammertone baked enamel. **MODEL E2-525 PRE-AMPLIFIER** answers the need for a simple, dependable but economical pre-amp for rack use. **MODEL TB2-525 INTERCOM AMPLIFIER** has built-in power supply, speaker, talk-listen switch and separate talk and listen volume controls.

MODEL B-100-875 AM RADIO is the Newcomb B-100 radio mounted on an 8 3/4" panel. (See listing page B-7.) **MODEL 700-MP MONITOR** is available for installation of any 6" speaker. **LEVER KEY PANELS** are provided for use with CRL keys, 3 1/2" deep with slots for 6, 8, 10 or 12 keys. **LOUVERED PANELS** for additional ventilation and **BLANK PANELS** are made in assorted sizes.

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

NEWCOMB

ACCESSORIES FOR (H) AND (K) SERIES



REMOTE CONTROLS

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

RC-2 for H-15 amp. Requires ordinary 3 wire cable, 2 3/4" x 6" x 2 1/8". **WEIGHT:** 1 lb. **LIST:** (less cable) \$10.50.

RC-3 for H-25 or H-4 amps. Requires ordinary 4 wire cable. 2 3/4" x 6" x 2 1/8". **WEIGHT:** 1 lb. **LIST:** (less cable) \$15.50.

RC-4 for H-50 amp. Requires ordinary 5 wire cable. 2 3/4" x 7 3/8" x 2 1/8". **WEIGHT:** 1 1/2 lbs. **LIST:** (less cable) \$19.50.

RC-6 for KX-25, KX-50, KX-6 amps. Requires ordinary 7 wire cable. 2 3/4" x 11 1/4" x 2 1/8". **WEIGHT:** 2 lbs. **LIST:** (less cable) \$27.50.



PLUG-IN TRANSFORMERS

TR-91: Features sextuple alloy and copper shielding for quiet operation right in amp. proper. Alloy core and specially designed windings for extended frequency response from 20 to 20,000 cycles. Plug base for easy installation. For use between 30-50 or 200-250 ohm mikes and grid. **WEIGHT:** 1 1/4 lbs. **LIST:** \$32.50.

TR-92: Input impedance 5,000 ohms to grid for bridging a 500-600 ohm line. When plugged into sockets on K50B, H50B, H25B it converts for use as bridging amps. **WEIGHT:** 1 1/4 lbs. **LIST:** \$29.50.

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

All prices and specifications subject to change without notice.

COMPLETE BID SPECIFICATIONS AVAILABLE

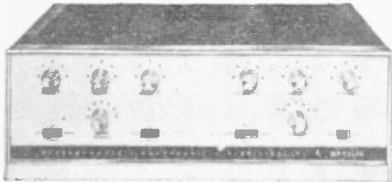
Available from Newcomb are complete bid specifications for public address amplifiers, phonographs, transcription players, and radios. A must for schools, states, or federal governments as well as commercial institutions requiring specifications to be shown. These Newcomb bid specifications spell out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

All Newcomb equipment approved by Underwriters Laboratory.

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Instruments IN KIT & WIRED FORM ... **precise**
above all else



TRIMUPH IN STEREO!

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Integra MARK XXIV

STEREO AMPLIFICATION SYSTEM

Not since the advent of Stereo has any unit hit the world of High Fidelity with such dramatic impact as this fabulous amplification system.

Now for the first time—a stereo system which includes dual amplifiers and pre-amplifiers in a single compact unit . . . with sufficient power to match custom reproduction . . . PLUS every important luxury feature found in amplifiers sold at twice the price.

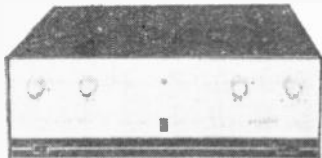
And best of all, the Mark XXIV will equal any stereo amplifier in advanced circuitry, engineering, beauty of design, quality of product . . . and superb performance.

Waiting for for Multiplex? The INTEGRAs are ready now to accept Precise Development's inexpensive accessory MULTIPLECTOR which places Multiplex right where it belongs — inside the amplifier! You'll be able to receive Multiplexed programs with no equipment other than your own AM Tuner, FM Tuner or TV.

\$99⁹⁵
ONLY

FEATURES: ● Two Individual Amplifiers and Pre-amplifiers in a Single Compact Unit. ● 20 Watts RMS Power in Each Channel (40 Watts Peak) ● 40 Watts RMS Power. Combined for Monophonic Listening (80 Watts Peak) ● Ready to Accept Internal Accessory MULTIPLECTOR for immediate reception of Multiplexed programs when used with your own AM or FM Tuner or TV Set ● Separate Push-Pull Amplification Circuits Using 4 Tubes ● Exclusive Voltage Regulating Fixed Bias Supply Provides 5 Times Greater Efficiency and Virtually Eliminates Distortion ● High Inverse Feedback Circuit Yields Flat Response from 18 to 20,000 cps (½ db at 75,000 cps) ● IM Distortion Less than .6% at Normal Listening Level ● Total Harmonic Distortion Less Than .4% at Normal Listening Level ● Separate Treble Controls for Each Channel ● Separate Bass Controls for Each Channel ● Separate Volume Controls for Each Channel ● Master Loudness Control Provides Gain and Attenuation

for Both Channels Simultaneously ● Separate Panel Illumination Switch ● Contour Switch with Provision for Normal Listening, —10 and —20 ● Slide Switch Affords Stereo, Monophonic or Multiplex Listening Plus Mute Position ● Slide Switch for Normal Stereo Listening or Reversal of Stereo Channels ● Selector Control has Positions for Phono, Tuner, Tuner Plus TV (For Special TV-Radio Stereo Broadcasts), TV and Tape ● Built-in Speaker Phasing ● Variable Hum Balance Control ● Inputs for 2 Tuners (Can Be Operated Simultaneously for Stereo Broadcast Reception) ● Dual Tape Inputs ● Dual TV Inputs ● Inputs for Magnetic, Ceramic and Crystal Cartridges ● Dual Tape Outputs ● Isolated Heavy-duty AC Power Transformer ● AC Convenience Outlet ● White and Gold Contrasting Front Panel ● Handsome Cabinet ● Tube Complement: Four 6BQ5 (EL 84); one 6CA4 (EZ81); one 12AU7 (ECC82); three 12AX7 (ECC83); one Germanium Diode; one Neon Regulator



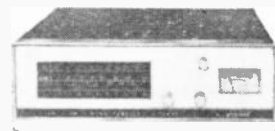
Eclipse MARK XIV

All you need with this amazing low-cost unit is two speakers, a turntable, a stereo cartridge . . . and an easy chair and the time to listen! If you already have a Hi-Fi system, all you'll need is another speaker and the stereo cartridge (your late model changer is probably designed to accept it).

PRICED AT ONLY
\$59⁹⁵

Fabulous Features Packed Into A Single Stereo Unit!

- Two Individual Stereo Amplifiers —each with more than six times as much power as you'd need in a normal room.
- Two preamplifiers—compensated for all three types of cartridge —magnetic, ceramic and crystal.
- AC Power Transformer.
- Phasing Switch affording normal stereo, reverse channel stereo and monophonic listening.
- Loudness Contour Control.
- Muting Switch.
- Dual Tape Inputs.
- Inputs for Two Tuners so that both AM and FM tuners can be operated simultaneously in areas where such broadcasts are available.
- Factory wired—and complete with cage.



Perfecta AM-FM TUNER

A superb AM and FM tuner providing matched performance and great beauty. Coupled with variable automatic frequency control and metered output, it brings in the weakest stations and provides razor-sharp selectivity. Rich gold-and-silver trim. Hear the PERFECTA . . . discover how inexpensively you can own one of the finest tuners made today.

- FM-88 to 108 MC ● AM-500 to 1600 KC ● Output tuning meter ● Cathode follower output ● Convenience outlet ● Phono, FM, AM, TV switch and inputs ● Foster-Seeley discriminator ● Flywheel tuning ● 2 limiters ● Ferri-loop ● 3-gang variable condenser ● Logging scale ● 13" x 4¼" x 9¾" ● Cage at additional cost.

Factory-wired ----- \$99.95

PRECISE DEVELOPMENT CORP. OCEANSIDE, NEW YORK

PRECISION



ELECTRONICS



**NEW GROMMES
PREMIERE SOUND AMPLIFIERS**

- G-20 20 WATT AMPLIFIER**
 Controls — (6) Microphone-1, Microphone-2, Phono, Bass, Treble, Power Off-on Switch.
 Tubes — 3 - 12AX7, 2-6L6GB and 5Y3GT. **NET PRICE \$106.66**
- G-40 30 WATT AMPLIFIER**
 Controls — (7) Microphone-1, Microphone-2, Microphone-3, Phono-Telephone, Bass, Treble, Power Off-On Switch.
 Tubes — 4 - 12AX7, 2-6L6GB and 5U4GB. **NET PRICE \$130.00**
- G-75 50 WATT AMPLIFIER**
 Controls — (9) Microphone-1, Microphone-2, Microphone-3, Microphone-4, Phono-1, Phono-2/Telephone, Bass, Treble, Power Off-On Switch.
 Tubes — 3-12AX7, 2-12AU7, 2-6550 KT88, 2-5U4G, and 6L6GB Regulator. **NET PRICE \$166.66**
- G-5 DELUXE PREAMPLIFIER, MIXER, EQUALIZER**
 Inputs — (8) Channels, 1, 2, 3, 4, 5 for high impedance microphone or low impedance with plug-in transformer. (All mic. inputs are Cannon XL-3.)
 Controls — (11) Channels, 1, 2, 3, 4, 5, 6, Master Gain, Bass, Treble, VU Meter, Power Off-On.
 Tubes — 7 - 12AX7, 2-12AU7 and 1 - 6X4. **NET PRICE \$155.00**
- G-50 WATT BOOSTER AMPLIFIER**
 Output impedance — 8, 16, 250 ohm and 70 volt line (100 ohms).
 Tubes — 2 - 12AU7, 2 - 6550 KT88, 2 - 5U4GB and 6L6GB Regulator. **NET PRICE \$111.66**

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

- MODEL 10PA 10 WATT AMPLIFIER**
 Controls — Microphone, Phono, Tone, Power Off-On.
 Output — 4, 8, 16 and 500 ohms (70 volt line at 10 watts).
 Tubes — 12AX7, 6L6GB, 6X5GT. **NET PRICE \$32.50**
- MODEL 20PA 20 WATT AMPLIFIER**
 Controls — Microphone, Phono, Bass, Treble, Power Off-On.
 Output — 4, 8, 16 and 333 ohms (70 volt line at 15 watts.) High impedance output for coupling booster amplifier.
 Tubes — 2 - 12AX7, 2 - 6V6GT, 6AX5GT. **NET PRICE \$47.50**
- MODEL 30PA-30 WATT AMPLIFIER**
 Controls — Microphone-1, Microphone-2, Phono — Bass, Treble, Power Off-On, Slide Switch for operating magnetic phono through channel 2.
 Output — 4, 8, 16 and 250 ohms (70 volt line at 20 watts.) High impedance output for coupling booster amplifier.
 Tubes — 3 - 12AX7, 2-6L6GB, 5Y3GT. **NET PRICE \$59.95**
- MODEL 60PA 60 WATT AMPLIFIER**
 Controls — Microphone-1, Microphone-2, Phono, Bass, Treble, Power Off-On, Slide Switch for operating magnetic phono through channel 2.
 Tubes — 3 - 12AX7, 2-6CA7 EL34, 2-5U4GB, 6973. **NET PRICE \$99.50**
- MODEL 30MPA 30 WATT MOBILE AMPLIFIER**
 Controls — Microphone-2, Microphone-2, Phono, Bass, Treble, Off-On switch for battery, combination off-on AC and standby switch for DC, 6 - 12 volt function switch.
 Output — 4, 8, 16 and 250 ohms (70 volt line at 20 watts.)
 Tubes — 3 - 12AX7, 2-6L6GB, 2-6X5GT. **NET PRICE \$129.50**



"GROMMES LITTLE GENIE" KITS

LAYER-BUILT COLOR-GUIDE

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

- LJ-6K—(Little Jewel) 10 watt Amplifier with built-in preamplifier **Net \$24.95**
- 207-AK—Hi-Fi Preamplifier (self-powered) Feedback circuit with 10 controls **Net \$44.50**
- 20-PG8K—20 Watt Amplifier with built-in preamplifier **Net \$59.50**
- 250-K—60 Watt Basic Amplifier, for use with a preamplifier (such as 207-AK.) **Net \$79.50**

Model 202



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



MODEL 202 SIGNAL TRACER

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

Write for complete information and specifications on the new series of Grommes Stereo High Fidelity Amplifiers, Preamplifiers and Tuners... now, more than ever, the "Best Buy in Hi-Fi"

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SOUND EQUIPMENT

by **STROMBERG-CARLSON**

A DIVISION OF GENERAL DYNAMICS CORPORATION

SIGNET SOUND

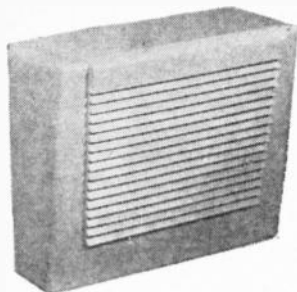
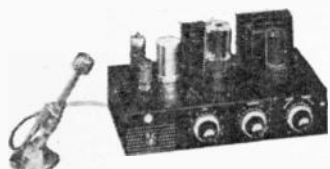
NEW, LOW-COST, COMPLETE . . . THE MOST FLEXIBLE

Signet Sound Systems are designed and engineered by Stromberg-Carlson to provide economical sound reinforcement for many simplified applications in business and industry. These systems are complete, ready-to-use packages that offer tremendous flexibility, easy installation, and excellent fidelity.

SIGNET COMPONENT ASSEMBLIES

A FEW OF THE MANY POSSIBLE SYSTEMS:

**SIGNET 10
ASSEMBLY**



Budget-priced system for many applications. A few examples: restaurants, stores, meeting rooms, taverns, offices, warehouses. Unbeatable in its price range.

Typical Indoor System:

- Signet 10 Ten-Watt Amplifier. **LIST PRICE: \$62.00**
without top cover
- MCX-55 Crystal Microphone. **LIST PRICE: \$15.95**
- MS-42 Microphone Stand. **LIST PRICE: \$6.50**
- RH-28D Speaker Housing. **LIST PRICE: \$10.00**
- RC-27* 8" Speaker. **LIST PRICE: \$10.00**

* Four speakers may be used without line-matching transformers; up to 20 speakers with line-matching transformers.

**SIGNET 22
ASSEMBLY**



A perfect matching of high-quality components for any number of applications. A few of many possibilities include: freight docks, amusement parks, parking lots, gymnasiums, garages, bus terminals, railroad stations.

Typical Outdoor System:

- Signet 22 Twenty-two Watt Amplifier. **LIST PRICE: \$87.50**
- MCX-55 Crystal Microphone. **LIST PRICE: \$15.95**
- MS-42 Microphone Stand. **LIST PRICE: \$6.50**
- RS-14* Re-entrant Speakers with built-in driver units. **LIST PRICE: \$34.50**

* Four speakers may be used without line-matching transformers; up to 40 speakers with line-matching transformers.

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**ELECTRONICS CENTER
ROCHESTER, N. Y.**

SOUND EQUIPMENT

by **STROMBERG-CARLSON**

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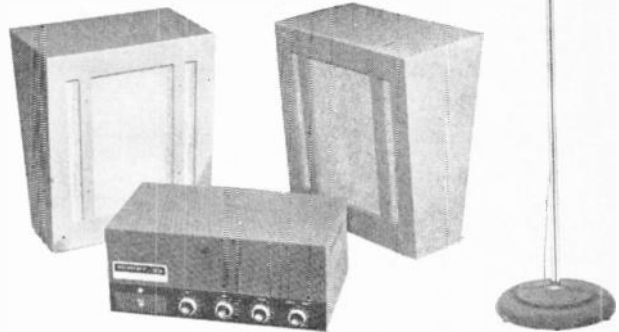
SIGNET 33 ASSEMBLY

Full fidelity performance, with superior audio reproduction. A few of many applications: industrial plants, hotels, motels, hospitals, auditoriums, Field Houses, Churches.

Typical Indoor System:

- Signet 33 Thirty-three Watt Amplifier. **LIST PRICE: \$107.50**
- MD-56 CS Dynamic Microphone. **LIST PRICE: \$41.00**
- MS-12 Floor Stand. **LIST PRICE: \$13.50**
- RH-54 Speaker Housings. **LIST PRICE: \$22.00**
- RC-58* 12" Speakers. **LIST PRICE: \$14.00**

* Four speakers may be used without line-matching transformers; up to 60 speakers with line-matching transformers.



SIGNET 70 ASSEMBLY

Practically unlimited applications, with power to spare for all situations. A few examples: stadiums, playgrounds, race tracks, athletic fields, schools, auditoriums, factories, airports.

Typical Outdoor System:

- Signet 70 Seventy-Watt Amplifier. **LIST PRICE: \$168.00**
- MD-30C Dynamic Microphone. **LIST PRICE: \$60.00**
- RP-27* Re-entrant Horn with RD-24 Driver Units. **LIST PRICE: \$26.00 (RP-27) \$27.50 (RD-24)**

* Handles up to 25 horns with RD-21 Driver Units with built-in line-matching transformers.



SIGNET MOBILE ASSEMBLY

Truly mobile-portable system which provides superb coverage over a wide area in countless applications. For example, police, civil defense, sports events, tour guides, field days, etc.

System Features:

- Transistorized AM-666 8-Watt Amplifier. **LIST PRICE: \$120.00**
- MD-60 Dynamic Microphone. **LIST PRICE: \$33.00**
- RS-14* Re-entrant Speaker with built-in driver unit. **LIST PRICE: \$34.50**

* Additional RS-14 Speakers may be used



MICROPHONES



MODEL MD-60 DYNAMIC

Close-talking, medium impedance, hand-held type. Designed for clear, natural voice reproduction. Ideal for mobile or portable use. Complete with coiled cord and connector. **LIST PRICE: \$33.00**



MODEL MCX-55 CRYSTAL

Small and inconspicuous, only 4 1/4" high. Rugged high-impedance crystal element. Mounts on standard floor, banquet or desk stand. **LIST PRICE: \$15.95**



MODEL MD-56CS DYNAMIC

Ideal for sound reinforcement and public address applications. The positive-action on-off switch is of the shorting type. Omni-directional pick-up characteristic at low frequencies; directional at high frequencies. **LIST PRICE: \$41.00**

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ELECTRONICS CENTER
ROCHESTER, N. Y.

Sec. 1300

SOUND EQUIPMENT

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Audio perfection depends on careful selection of the right amplifier for the specific job. The wide selection, plus unsurpassed flexibility, quality, dependability and economy of Signet Amplifiers assures the finest in audio.

SIGNET AMPLIFIERS



SIGNET 10

(illustrated with optional top cover)

POWER OUTPUT: Rated 10 watts, peak 19.6 watts. **RESPONSE:** 30 to 20,000 cps ± 2 db. **REGULATION:** 3.0 db at 1 kc. **INPUTS:** 1 microphone, 1 phono-radio. **GAIN:** 115 db microphone, 77 db phono-radio. **INPUT SENSITIVITY:** Microphone 8 millivolts for rated output. Phono-radio 0.4 volts for rated output. **HUM AND NOISE:** Fundamental — 75 db, microphone — 50 db, phono-radio — 75 db. **TONE CONTROL:** Continuously variable, provides 18 db attenuation at 10 kc. **OUTPUT IMPEDANCES:** 4, 8 ohms, 25 volt line. **POWER CONSUMPTION:** 60 watts at 120 volts, 60 cps. **TUBES:** 1-6AV6, 1-6AU6, 1-6L6GB, 1-5Y3GT. **SHIPPING WEIGHT:** 12 lbs. 8 oz. **DIMENSIONS:** 11 $\frac{1}{4}$ "W, 8"D, 6"H.

LIST PRICE: \$62.00
(without top cover)



SIGNET 70

POWER OUTPUT: Rated 70 watts, peak 138 watts. **RESPONSE:** 20 to 20,000 cps ± 2 db. **REGULATION:** 3 db at 1 kc. **INPUTS:** 2 microphones (2 meg. input impedance); 1 phono-radio (0.5 meg. input impedance). **GAIN:** 127.6 db microphone, 85.9 db phono-radio. **INPUT SENSITIVITY:** Microphone 6 millivolts for rated output. Phono-radio 0.35 volts for rated output. **HUM AND NOISE:** Fundamental — 75 db, microphone — 55 db, phono-radio — 70 db. **TONE CONTROL:** Separate continuously variable bass and treble controls. **Bass Control** — 15 db boost at 50 cps; 14 db cut at 50 cps. **Treble Control** — 13 db boost at 10 kc; 16 db cut at 10 kc. **OUTPUT IMPEDANCES:** 4, 8, 16 ohms, 70 volt line. **POWER CONSUMPTION:** 180 watts at 120 volts, 60 cps. **TUBES:** 1-7025, 1-12AX7, 1-6U8, 2-6V50, 1-5U4GB, 1-5Y3GT. **SHIPPING WEIGHT:** 31 lbs. **DIMENSIONS:** 16 $\frac{1}{2}$ "W, 10"D, 8"H.

LIST PRICE \$168.00



SIGNET 22

POWER OUTPUT: Rated 22 watts, peak 40 watts. **RESPONSE:** 30 to 20,000 cps ± 2 db. **REGULATION:** 3.0 db at 1 kc. **INPUTS:** 2 microphone (2 meg. input impedance), 1 phono-radio (0.5 meg. input impedance). **GAIN:** 122.5 db microphone, 80 db phono-radio. **INPUT SENSITIVITY:** Microphone 7 millivolts for rated output. Phono-radio 0.35 volts for rated output. **HUM AND NOISE:** Fundamental — 75 db, microphone — 55 db, phono-radio — 70 db. **TONE CONTROL:** Continuously variable, provides 15 db attenuation at 10 kc. **OUTPUT IMPEDANCES:** 4, 8, 16 ohms, 70 volt line. **POWER CONSUMPTION:** 75 watts at 120 volts, 60 cps. **TUBES:** 1-7025, 1-12AX7 ECC83, 2-6BQ5/EL84, 1-5Y3GT. **SHIPPING WEIGHT:** 13 lbs. 8 oz. **DIMENSIONS:** 11 $\frac{1}{4}$ "W, 8"D, 6"H.

LIST PRICE: \$87.50



SIGNET 33

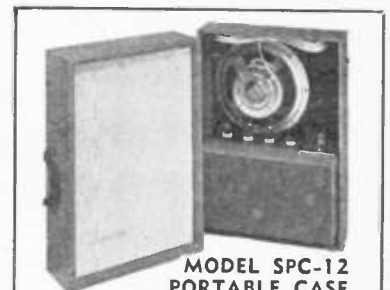
POWER OUTPUT: Rated 33 watts, peak 64.5 watts. **RESPONSE:** 30 to 20,000 cps ± 2 db. **REGULATION:** 2.5 db at 1 kc. **INPUTS:** 2 microphone (2 meg. input impedance); 1 phono-radio (0.5 meg. input impedance). **GAIN:** 122.5 db microphone, 80 db phono-radio. **INPUT SENSITIVITY:** Microphone 7 millivolts for rated output; Phono-radio 0.35 volts for rated output. **HUM AND NOISE:** Fundamental — 75 db, microphone — 55 db, phono-radio — 70 db. **TONE CONTROL:** Separate continuously variable bass and treble controls. **Bass control** — 13 db boost at 50 cps; 15 db cut at 50 cps. **Treble control** — 13 db boost at 10 kc; 18 db cut at 10 kc. **OUTPUT IMPEDANCES:** 4, 8, 16 ohms, 70 volt line. **POWER CONSUMPTION:** 120 watts at 120 volts, 60 cps. **TUBES:** 1-7025, 1-12AX7, 1-6U8, 2-6L6GB, 1-5U4GB. **SHIPPING WEIGHT:** 24 lbs. **DIMENSIONS:** 16 $\frac{1}{2}$ "W, 10"D, 8"H.

LIST PRICE: \$107.50



AM-666 MOBILE

POWER OUTPUT: 8 watts, less than 5% distortion. **RESPONSE:** 100 to 10,000 cps ± 3 db. **INPUTS:** 1 microphone, medium impedance (150-600 ohms); 1 phono, high impedance (500,000 ohms). **GAIN:** 97 db. **NOISE LEVEL:** 65 db below rated output. **CONTROLS:** On-Off Switch, microphone-phono selector switch, gain control. **OUTPUT IMPEDANCES:** 4, 8, 16 ohms. **POWER SUPPLY:** 12 volts car battery or dry battery pack, current drain 0.15 amperes standby, 0.3 amperes speech, 0.5 amperes music. **Power leads,** 3 feet, identified for polarity; positive lead has in-line fuse. **TRANSISTORS:** 1-2N214, 2-2N226, 2-2N257. **MOUNTING:** "L" brackets furnished for fastening to bulkheads. **WEIGHT:** 3 lbs. **DIMENSIONS:** 6 $\frac{1}{2}$ "W, 4 $\frac{1}{8}$ "H, 3 $\frac{1}{8}$ "D. **LIST PRICE: \$120.00**



MODEL SPC-12 PORTABLE CASE

Includes 2 high-quality 12" speakers in split portable baffles which double as a carrying case for amplifier. Mounts Signet 22 or 33. Includes 25 feet of cable for each speaker. 18"W x 24 $\frac{1}{2}$ "H x 11 $\frac{1}{2}$ "D.

LIST PRICE: \$85.00



Model PR-5 Phono Table

This three-speed record player is available for the Signet 10, 22, Signet 33 and Signet 70 Amplifiers. **LIST PRICE: \$42.50**

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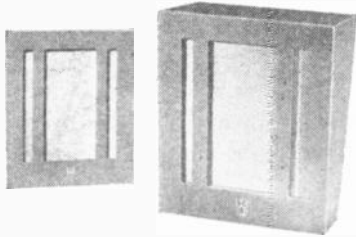
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SOUND EQUIPMENT

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SIGNET SPEAKER HOUSINGS



Models RH-34 and RH-54

Rugged tilt-type wall mounting cabinets in Desert Sand finish. 7½ degree tilt on each side. RH-34 designed for 8" speaker. RH-54 designed for 12" speaker. RH-34 easily converts to two-way use by addition of RA-8 Back Panel

**LIST PRICE: RH-34 \$12.00
RH-54 \$22.00**

SIGNET CONE SPEAKERS



MODEL RC-27 8" PERMANENT MAGNET SPEAKER



MODEL RC-58 12" PERMANENT MAGNET SPEAKER

Both speakers employ high-efficiency Alnico V magnets, aluminum voice coil forms and one-piece ribbed molded diaphragm cones. **Model RC-27:** FREQUENCY RESPONSE: 55-13,000 cps; POWER RATING: 10 watts (program); CONE RESONANCE: 105 cps; FLUX DENSITY: 8,000 gauss; VOICE COIL IMPEDANCE: 8 ohms; SENSITIVITY: 88 db; SIZE: 8½" dia., 3½" deep; WEIGHT: 2 lbs. **LIST PRICE: \$10.00**

Model RC-58: FREQUENCY RESPONSE: 55-13,000 cps; POWER RATING: 16 watts (program); CONE RESONANCE: 80 cps; FLUX DENSITY: 8,500 gauss; VOICE COIL IMPEDANCE: 8 ohms; SENSITIVITY: 85 db; SIZE: 12½" dia., 4¾" deep; WEIGHT: 2½ lbs. **LIST PRICE: \$14.00**

COMPLETE RE-ENTRANT SPEAKERS

Ideal for paging and intercommunication under adverse weather conditions and in high-noise areas.



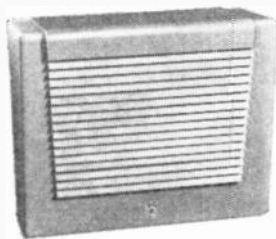
Model RS-14
Re-entrant, with built-in driver. Effective in noisy locations. Suitable also for outdoor installation.

LIST PRICE: \$34.50



Model RS-5 & RS-6
Small re-entrant speakers with built-in driver units. For paging, etc. Ideal for loading platforms and exposed locations.

**LIST PRICES: RS-5 \$26.00
RS-6 \$27.25**



Model RH-28D

Modern plastic housing for 8" cone speakers. Molded in solid Desert Sand color. Will withstand extreme abuse without breakage. Designed with sloping front and horizontal louvers. Bracket available for wall mounting. **LIST PRICE: \$10.00**

Model	Size	Air Col. Equiv.	Input Capacity	Voice Coil Impedance	Freq. Response	Distribution Angle	Mounting	Weight	Finish
RS-5	Bell 6" Length 7"	14"	5 watts	8 ohms	100-13,000 cps	120°	Ratchet Bracket	3½ lbs.	Gray
RS-6	Bell 6" Length 7"	14"	5 watts	45 ohms	400-13,000 cps	120°	Ratchet Bracket	3½ lbs.	Gray
RS-14	Bell 9" Length 9"	18"	15 watts	8 ohms	300-13,000 cps	90°	Ratchet Bracket	5 lbs.	Glacier Gray

DRIVERS

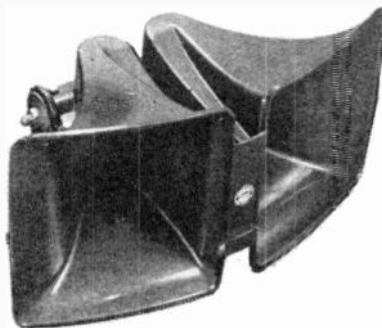


Model RD-24: INPUT CAPACITY: 25 watts. FREQUENCY RANGE: 85-6,500 cps. VOICE COIL: 16 ohms. **LIST PRICE: \$27.50**

Model RD-21: INPUT CAPACITY: 30 watts. FREQUENCY RANGE: 80-10,000 cps. VOICE COIL: 16 ohms. Built-in transformer. **LIST PRICE: \$47.50**

Model RD-23: INPUT CAPACITY: 30 watts. FREQUENCY RANGE: 80-10,000 cps. VOICE COIL: 16 ohms. **LIST PRICE: \$36.00**

SIGNET RE-ENTRANT HORNS



The Signet Line includes models of various sizes distribution angles and low-frequency cutoffs.

Model RP-48. 9¼" x 18½" mouth. **LIST PRICE: \$38.35**

Model RP-27. Bell 15½", Length 12½". **LIST PRICE: \$26.00**

Model RP-34. Bell 20", Length 16¼". **LIST PRICE: \$31.00**

Model RP-40. Bell 24¾", Length 19½". **LIST PRICE: \$47.00**

Model RP-44. Bell 25½", Length 19". **LIST PRICE: \$44.50**

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**ELECTRONICS CENTER
ROCHESTER, N. Y.**

TANDBERG

PELHAM, NEW YORK

CENTRUM FEATURES NEWEST ADVANCES IN INTERCOMS

Centrum is a complete line of high quality intercommunication systems which offer new and exclusive features. Centrum intercoms are probably easiest to install and easiest to maintain. Yet Centrum systems achieve high level efficiency and are extremely simple to operate.

Centrum systems exceed conventional intercommunications equipment in styling too. Functional slim-line design makes each master station a very handsome, unobtrusive desk unit. There is a Centrum system which can efficiently meet virtually every business requirement.

Centrum Transistor Systems

Centrum Transistor intercoms are highly compact. To operate you just push a button and you contact the person you want immediately. No waiting for a signal to be answered, no need for your party to operate buttons on his set. There are three different Centrum Transistor systems from which to select: T-4A, T-4-HA and T-10A. List prices are quoted.

CENTRUM TRANSISTOR T-4A

A small intercom and a simple communications set-up everyone can use—at home, in the office, stores, etc. This system may be extended further by adding three sub-stations. The master station can call the sub-stations. A sub-station can call the master station but not communicate with other sub-stations. The standard set consists of one master station, one sub-station and a 60 foot, 4 cord interconnecting cable. Additional 4 conductor cable, color coded, plastic-jacketed.



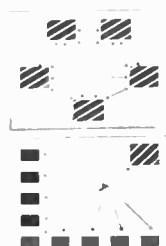
Standard set \$79.50
 Additional 4 conductor cable, color coded, plastic-jacketed \$7.05 per C

CENTRUM TRANSISTOR T-4-HA With the masters T-4-HA, you can build up a system of up to 5 masters, all interconnected. All 5 master stations can call each other. There is a privacy switch on each station, and an indicator shows immediately when the system is engaged.

3-position master stations with privacy switch \$67.50
 8-conductor cable, color-coded for use in a 5 master to master station \$12.00 per C

CENTRUM TRANSISTOR T-10A The T-10A master will control up to nine sub-stations. A master station can call all the sub stations and all the sub stations can call the master station but cannot communicate with each other.

10 station master \$83.50
 6-conductor cable used with T-10A and 9 remotes \$9.30 per C



SUB-STATION TR-D'S The wide range of reception enables speech to be transmitted from any place in the room where the unit is installed. The sub-stations can call the master of T-4A and T-10A at any time and they are fitted with a privacy switch to avoid eavesdropping.

Each remote station \$15.00

INSTALLATION—All you need to install a Centrum Intercom is a hammer and a screwdriver. Each of the stations, T-4A, T-4-HA and T-10A has a battery-powered transistor amplifier. The terminal board in each station has a color code which corresponds to the colors of the conductors. There is no main connection. Two 4.5 volt flash-lamp batteries (or one 9 volt transistor battery) will power the system for about one year.

The mini-amplifiers used for Centrum Transistor Intercoms enable strong, clear communications. Where noise is excessive such as in factory rooms and workshops powerful Centrum horn speakers are available. (Information on request) Horn Speaker H-5-159 \$37.78 ea. Model 266, EVEREADY TRANSISTOR BATTERY \$1.98

CENTRUM GB SIMPLEX AND DUPLEX SYSTEMS

Design efficiency of Centrum GB equipment results in high quality compact units that can be installed easier and at lower cost. Centrum GB intercoms are classified as "Duplex" or "simplex" systems. The basic difference is in the operating function. The Duplex features an electronic voice-switching system which takes over the talk/listen operation. The Simplex is operated manually by merely pushing or releasing the "talk" button.

GB Simplex Duplex Systems are relay operated. A "feather touch" on the station button is enough to initiate a call. A number of stations can be called simultaneously. Every station has its own selector relay box. You can, therefore, easily extend the installation without changing the central equipment. Installation charges are approximately 50% lower than comparable intercom systems on the market.

- Dependable relay operation
- Full privacy
- Busy signal
- Vocal Hi-Fi sound
- Double call signal
- Priority circuit

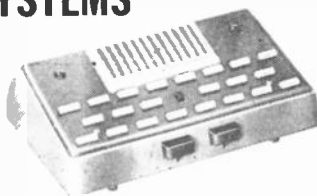
CENTRUM GB SIMPLEX OPERATION

The GB Simplex system has a combined loud-speaker microphone. To talk you simply push the talk listen button and keep it down as long as you talk. After releasing it you will immediately hear the answer. To answer a call is very simple—you just give the reply from where you are without touching your station. You can even be many yards away from the station. A red lamp lights up on all masters when the system is busy. This saves you from trying to make a call when it is not possible to do so. With the privacy button in the center of the master you can temporarily disconnect your own station if for some reason you do not wish to be disturbed. If anybody calls you, you will hear only a low distorted sound, but the caller will not be able to hear you.

OPERATING PRINCIPLES

When you push the talk button, your station will be connected as a microphone and at the same time the called station will be connected as a loudspeaker. When you release the talk button, a reverse procedure will take place—the called station will be connected as a microphone whereas at the same time yours will function as a loudspeaker. In all Simplex systems a manual operation of the calling station is thus, required for maintaining a conversation.

The GB Simplex may have between 2-22 stations. Master stations are available with 6, 14, or 22 line buttons. The relays, which are used for connecting the desired station, are de-centralized, meaning that the input and output relay belonging to each master station are incorporated in a wall box situated at and connected to every master station (the connecting procedure



takes place in the wall relay box of the called station). Also sub stations can be used in a GB Simplex system. They have no call facility but can, of course reply to a call. A sub station consists of (a) a microphone loudspeaker and (b) a relay box with an input relay. Also a second type sub station is available having two buttons for calling one or two

master stations. All the stations are connected to (1) an amplifier, (2) a signal relay box, and (3) a power supply box connected to the A.C. mains which supplies 24 V D.C. for the operation of the relays.

CENTRUM-GB SIMPLEX PRICE LIST

Model No.	Description	Net Selling Price
597	Amplifier	\$4.15
580	Signal Relay Box	44.71
12-4 GB	Power Supply Box	57.26
GB6H	Six Master Station	73.43
GB14H	14-Master Station	89.60
GB22H	22-Master Station	123.59
648/586B	Sub Station (can only answer when called)	26.89
626 A	Sub Station (for calls to 2 master stations)	32.18
608	Relay Box	21.45

CENTRUM GB DUPLEX OPERATION

The great feature of the GB Duplex system is the automatic voice-switching which takes over the talk listen operation. All the time the caller's hands are free to light a cigarette, make notes, etc. The reply comes through a separate loudspeaker, which may be placed either on the wall or on the desk. It is possible to increase the volume of the voice when the calling office or the receiving office is noisy. One need simply to switch off the electronic voice-switching and use the manual talk listen button.

In Simplex as well as in Duplex, one or more stations may be given priority, e.g. the manager's office and the switchboard. Such stations are able to interrupt any other call when necessary.

The buttons have a magnifying lens making it easy to read the names. The design of the set gives the best possible acoustics and it fits harmoniously into any office.

OPERATING PRINCIPLES

The exchange of the conversation is controlled by the voice, which actuates the particular amplifier channel connected to the microphone to which you speak. When two stations A and B are communicating in a Duplex system, the amplifier channel belonging to B will be almost closed when A speaks, whereas A's amplifier channel will stay open. At the very moment when A stops talking, both amplifier channels will be almost closed. When B replies, his amplifier channel will be opened whereas A's amplifier channel will remain closed.

The opening and closing of the two amplifier channels in a Duplex amplifier follows electronically. Thus, the Duplex system is described as an electronic voice-switching system. The called person does not have to operate his station but always has free hands (this refers both to Simplex and Duplex). GB Duplex stations are also available with 6, 14 and 22 line buttons. The chassis is different to that of Simplex GB stations and special master and sub stations therefore have to be used in a Duplex system.

CENTRUM-GB DUPLEX PRICE LIST

Model No.	Description	Net Selling Price
624	Amplifier	\$161.21
12-4 GB	Power Supply Box	57.26
580/DK	Signal Relay Box	89.60
GB6H/DK/648	Six-Master Sta. w/Spk	91.25
GB14H/DK/648	14-Master Sta. w/Spkr	107.41
GB22H/DK/648	22-Master Sta. w/Spkr	141.41
648/632/586B DK	Sub Station (cannot initiate a call)	39.44
626A/DK/648	Sub Station (for calls to 2 master stations)	44.72
648	Sub Station	12.54

INSTALLATION

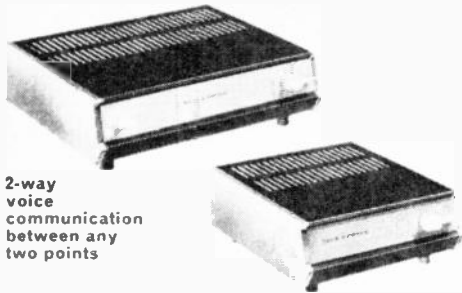
The installation of a GB system requires technical knowledge of low tension installations and preferably also knowledge of relays. Multicore cables have to be used.

CENTRUM SWITCHBOARD SYSTEMS for handling up to 100 lines are available. Write for complete information.

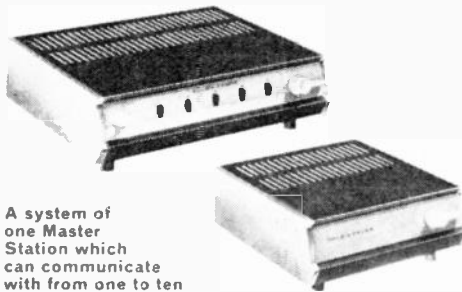
NEW TALK-A-PHONE DELUXE INTERCOM SYSTEMS



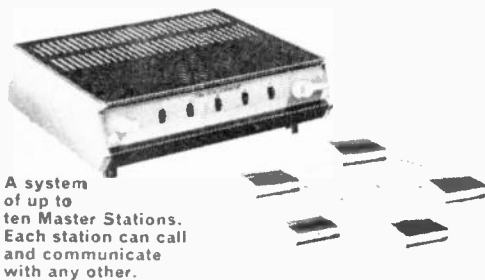
Quality intercommunication systems designed for the Office, Business, Plant, House, Farm, Professional Man, or any other private or commercial application. A flick-of-a-finger gives you instant and direct two-way conversation between any two points—anywhere. Masters have translucent indicator which illuminates when system is "on." In cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray and brushed chrome. Resists industrial liquids and atmospheres. Size: Masters, 10 1/2" w x 8 3/4" d x 3 3/4" h.; Subs, 7 1/4" w x 8 3/4" d x 2 1/4" h. U.L. Approved.



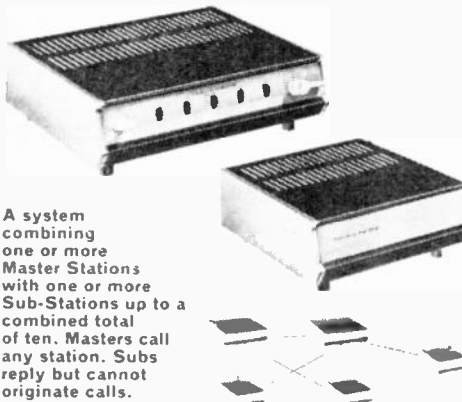
2-way voice communication between any two points



A system of one Master Station which can communicate with from one to ten Sub-Stations. Subs can call Master, but not each other.



A system of up to ten Master Stations. Each station can call and communicate with any other.



A system combining one or more Master Stations with one or more Sub-Stations up to a combined total of ten. Masters call any station. Subs reply but cannot originate calls.

TALK-A-PHONE 2-STATION SYSTEM

T-TC-2 A complete, high-quality intercommunication system. Includes a Master Station, a Sub-Station and 50 feet of interconnecting cable. Additional cable available for distances up to 2000 feet. Easy to install and operate. Master and Sub-Station can originate calls to each other and carry on a 2-way conversation. Sub-Station can be used "privately" or "non-privately." When "private", Master cannot listen-in on Sub-Station; yet Sub can answer and originate calls. When "non-private", persons at Sub-Station can answer calls at a distance without operating controls, as well as originate calls. Master is equipped with a translucent indicator, illuminated by permanent-type bulb, to show when system is "on". Rugged, high-gain

amplifier is built to withstand continuous use and to require a minimum of maintenance. Adjustable Volume. Only Master plugs into electrical outlet, 110-120 volts, AC or DC. Master in deluxe cabinet finish, Sub-Station cabinet is of same style and color, but is in grained, baked enamel finish. U.L. Approved.

Model T-TC-2 2-Station System complete with tubes, easy-to-follow instructions, and 50 feet of cable. Wt. 11 lbs. List Price complete \$62.00. Net complete **36.00**

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

TALK-A-PHONE MASTER SELECTIVE SYSTEMS

T-LM A new system consisting of one Master Station and from one to ten Sub-Station. Master Station can talk and listen to any one Sub-Station, several Sub-Stations or with all Subs simultaneously. Sub-Stations do not communicate with each other. Only the Master Station plugs into an electrical outlet. You may start with only one Master and one or two Sub-Stations and then add later when necessary. Installation of system has optional features where Sub-Stations can be connected "privately," or "non-privately," and still originate calls to the Master under either application. Once a conversation has been initiated with a "non-private" system, persons at Sub-Stations need operate no controls and can reply from a distance. When the system is connected "privately," Master unit cannot "listen-in" on Sub-Stations. However, they can reply when called, and also originate calls to the Master. Operates universally on 110-120 volts, AC-DC. U.L. Approved.

Model T-LM-10 Master Selective Station for 10 Sub-Stations, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$75.00. Net each **44.00**

Model T-AC-5406 Master Station, 5 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each \$75.00. Net each **44.00**

Model T-AC-5411 Master Station, 10 sub-station capacity. High Volume Output. Wt. 8 lbs. List Price each \$89.95. Net each **52.50**

Model T-LR-3 Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs. List Price each \$27.50. Net each **15.95**

Model T-LR-3M Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs. List Price each \$31.00. Net each **11.95**

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

Model T-C-20 Nine-Inch Weatherproof Re-entrant Horn. Charcoal Gray color. Wt. 5 lbs. List Price each \$44.95. Net each **26.50**

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

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

T-AC The T-AC-5406 and T-AC-5411 Master Stations operate as above with the added feature of 10 times volume output. A desirable feature for large areas or noisy locations. Operates on 110-120 volts, AC only.

Only one master station can be used in each Master Selective System.
Model T-LM-5 Master Selective Station for 5 Sub-Stations, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$59.95. Net each **34.95**

TALK-A-PHONE SUPER SELECTIVE SYSTEMS

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

Model T-LS-5 Super Selective Station for five Masters, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$59.95. Net each **34.95**

Model T-LS-10 Super Selective Station for ten Masters, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$75.00. Net each **44.00**

No. 5506 (6-conductor) Cable for connecting T-LS-5 Masters. List Price per foot 13c. Net per foot **.07 1/2**

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

TALK-A-PHONE COMBINATION SYSTEMS

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

Model T-LR-2 Sub-Station (in same deluxe finish as Masters) for use with any of above Masters. Wt. 6 lbs. List Price each \$27.50. Net each **15.95**

Model T-LR-2M Sub-Station (in cabinet of same style, color and size as above, but in grained, baked enamel finish) for use with any of above Masters. Wt. 6 lbs. List Price each \$31.00. Net each **11.95**

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

Model T-C-20 Nine-inch weatherproof re-entrant horn. Charcoal gray color. List Price each \$44.95. Net each **26.50**

No. 6210 (5 pair) Cable for interconnecting T-CL-5 Masters. List Price per foot 24c. Net per foot **.14**

No. 6226 (13 pair) Cable for interconnecting T-CL-10 Masters. List Price per foot 47c. Net per foot **.28**

No. 6902 (2-conductor) Cable for connecting Sub-Station to T-CL-5 or T-CL-10. List Price per foot 31c. Net per foot **.02**

Model T-CL-5 Combination Master for five station use, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$72.00. Net each **42.00**

Model T-CL-10 Combination Master for ten station use, complete with tubes and easy-to-follow instructions. Wt. 8 lbs. List Price each \$87.00. Net each **51.00**

CRADLEPHONE—Optional for units above except T-CL-5 and T-CL-10. List Price Per Station, add \$59.95. Net, add **35.00**

HOW TO DETERMINE CABLE REQUIREMENTS

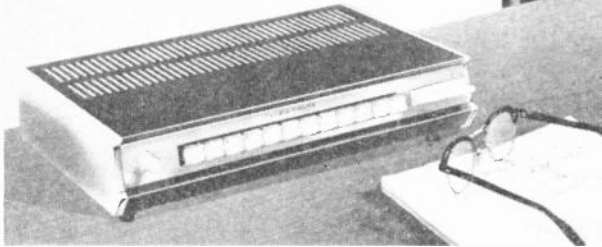
For Master Selective Systems measure from each Sub-Station to the Master and order total. For Super Selective Systems—measure from first Master to second Master only, from second Master to third Master only, etc., and total. Cable between first and last Master not necessary. For Combination Systems—Master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

See following pages for more TALK-A-PHONE Intercom Systems

All Prices Slightly Higher West of Rockies—All Prices and Specifications Subject to Change Without Notice. Manufactured under exclusive TALK-A-PHONE Patents

THE ALL-NEW, ALL-TRANSISTOR TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" INTERCOMMUNICATION SYSTEMS

"Has Everything . . . Does Everything"



ONLY THE TALK-A-PHONE "CHIEF" AND "CHIEF REDI-POWER" GIVE YOU ALL THESE FEATURES

- **DISTINCTIVELY STYLED** Less than 3 inches high. In cabinets that combine the look and feel of fine-grained leather with the strength and rigidity of steel. Attractively finished in charcoal gray and brushed chrome.
- **"PRIVATE" OR "NON-PRIVATE" MASTERS AND STAFFS** Exclusive Dynasonic Design enables stations to perform "privately" (so no one can listen-in), or "non-privately" (for reply without use of controls). The same station can be "private" to one or more Masters and "non-private" to others, and retain full communication facilities.
- **INCOMING CALL CHIME** A standard feature of Masters. Indicates that your station is being called. Caller talks, you reply.
- **MONITORING SIGNAL** A standard feature of Masters and Staffs. Visually indicates to a "non-private" station that it is being monitored.
- **BUSY SIGNAL** A standard feature of Masters and Staffs. Visually indicates when station you call is "busy." All units have facility to override "busy signal" for important calls.
- **DYNASONIC SELECTOR** An exclusive TALK-A-PHONE feature that permits intermixing of stations and variation of performance. Add to system at anytime without discarding original equipment.
- **MULTI-MAGIC STATION SELECTOR** A patented, exclusive TALK-A-PHONE feature that enables selection of up to 30 stations with only 12 push buttons . . . 40 and 50 stations with 14 push buttons . . . in the same attractive cabinet style and size.
- **UNI-TRANS DICTATION CONTROL** No need to operate or hold down controls when one-way transmission is desired or when Cradle Phone is used.
- **EXTERNAL RELAY CONTROL** A standard built-in feature of Masters. Enables Master to activate external relays for operating siren, alarm, light, etc. For use in extremely high noise level areas to signal personnel, who can then communicate with caller from Master in quieter location or in sound booth.
- **RECIPROCAL POWER SUPPLY** Each Master operates on 110-120 volts, AC only, and should be plugged-in. Where no electrical outlet is available, up to 30' of the Masters in the system can operate without being plugged-in.
- **NOISE-FREE VOICE RANGE POWER** The rugged, all-transistor, high-gain amplifier provides unsurpassed clarity and naturalness of tone. The exclusive, patented TALK-A-PHONE circuit enables performance without noise, hum or distortion, even in locations having X-Ray, diathermy equipment, business machines, or other electrical disturbances, when used with TALK-A-PHONE cable.
- **HI-POWER STAFF STATIONS AND HORNS** For use with any TALK-A-PHONE Master where exceptionally high volume at Staff locations is needed. Ideal for paging speakers. T-HP-3 provides more than twice the volume of universal Staff. T-C-20 provides about 4 times greater volume . . . more with REDI-POWER Masters.
- **WALL SWITCH** Combine with TALK-A-PHONE Horn or Hi-Power Staff to add origination-of-call feature.
- **"LD" LONG DISTANCE** (optional accessory on "CHIEF" Masters) For use over cable lines of 2,000 ft., 5,000 ft., 10,000 ft. or more without loss of volume. Functions only between Masters with LD . . . not between an LD Master and Staff. Built-in at factory at additional cost.
- **CRADLE PHONE** (optional accessory on Masters or Staffs) Has live microphone. Provides listening privacy and greater speaking convenience. Diminishes background noise in noisy areas. Eliminates use of controls in conversation between Masters. Cuts off incoming voice from loudspeaker when in use.
- **RIGHT-OF-WAY RELAY** (optional accessory). Use with "CHIEF REDI-POWER" Masters to page any group of stations with a single button. Paged stations can also be used for intercommunication. RW-10 capacity, 10 stations. For greater capacity use more RW-10's. Connects to one Master, other Masters also utilize facilities.
- **POWER PAGING BOOSTER** (Optional accessory) Use with "CHIEF" Masters to page a group of speakers with a single button. 30 watts output. Requires its own paging speakers (as T-C-20, T-HP-3). Provides paging facility only. Paged stations cannot reply or originate calls through paging speakers. Connects to one Master, other Masters can also utilize facilities.

All "CHIEF" and "CHIEF REDI-POWER" Master Stations come complete with junction box and built-in power supply attached by 6' flexible cable. Master size: 14" w., 3 3/8" h., 8 3/4" d. For 110-120 volts, AC only. U. I. Approved.

T-C-4906 Master 6 station capacity, Wt. 13 lbs.	
List Price Per Station \$136.00	Net 79.50
T-C-4912 Master 12 station capacity, Wt. 14 lbs.	
List Price Per Station \$154.00	Net 89.80
T-C-4920 Master 20 station capacity, Wt. 17 lbs.	
List Price Per Station \$184.00	Net 107.40
T-C-4930 Master 30 station capacity, Wt. 20 lbs.	
List Price Per Station \$214.00	Net 125.00
T-C-4940 Master 40 station capacity, Wt. 23 lbs.	
List Price Per Station \$244.00	Net 142.60
T-C-4950 Master 50 station capacity, Wt. 26 lbs.	
List Price Per Station \$274.00	Net 160.20

All Prices Slightly Higher West of Rockies
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 TALK-A-PHONE Patents

One Model Meets Every Requirement

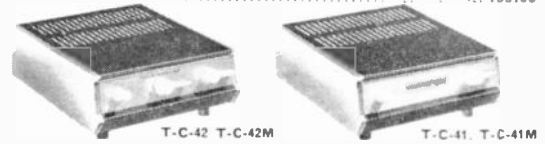


Setting a new standard in quality, design and performance, the new TALK-A-PHONE "CHIEF" and "CHIEF REDI-POWER" meets every intercom need of office, factory, institution, or any other commercial or private application. "CHIEF" Master Stations of 6, 12, 20, 30, 40 or 50 station capacity can be intermixed with "CHIEF REDI-POWER" Masters of different capacities, together with Staff Stations and Horns within the same system in any desired combination. Masters can talk with any other Master or Staff . . . and can utilize other optional equipment shown as well. Staffs can answer any Master and can originate calls to one Master, or to two Masters selectively.

TALK-A-PHONE ALL-TRANSISTOR "CHIEF REDI-POWER" MASTERS

These units have all the operational features of the "CHIEF" plus an additional feature of built-in extra power (up to 20 watts) for use when and as needed. Provides additional volume for calling many stations at once, or noisy locations singly. Needs no separate power booster which would eliminate return speech. Return speech is received at normal room volume. REDI-POWER Masters have a self-impeding amount of volume, whether you call 2, 10 or 20 stations simultaneously. Each station receives its pre-determined volume with no division of output as you call more stations at once. Use REDI-POWER Masters with "CHIEF" Masters and Staffs in same system. Add RW-10 and REDI-POWER Masters can page any group of stations with a single selector button. Paged stations can also be used for intercommunication. Operates on 110-120 volts, AC only. U. I. Approved.

T-C-RP-5912 Redi-Power Master 12 station capacity, Wt. 18 lbs.	List Price Per Station \$235.00	Net 138.00
T-C-RP-5920 Redi-Power Master 20 station capacity, Wt. 21 lbs.	List Price Per Station \$265.00	Net 155.00



TALK-A-PHONE "CHIEF" UNIVERSAL STAFF STATIONS

For use with any "CHIEF" or "CHIEF REDI-POWER" Master. Like Masters, Staff Stations can be connected "privately" or "non-privately", and can originate calls. When non-private, calls can be answered at a distance from Staff without using controls. Persons at "non-private" Staffs may reply to all Masters in the system (whether directly connected to them or not) and can originate calls to one Master or two Masters, depending upon Staff's capacity. Connected "privately" no one can listen-in to Staff, but any Master can call "private" Staffs can originate calls and reply to one or two Masters. Each Staff has "busy signal" and "monitoring signal" features. Staffs do not connect to an electrical outlet . . . are distinctively styled in modern cabinets that combine the look and feel of fine grained leather with the strength and rigidity of steel. Attractively finished in charcoal gray and brushed chrome. Size 7 1/2" w. x 8 3/4" d. x 2 1/4" h. T-C-41, Staff Station for origination-of-call to one Master. Wt. 8 lbs. List Price, Each \$36.50. T-C-41M, Same operation as T-C-41 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each \$29.95. T-C-42, Staff Station for origination-of-call to two Masters. Wt. 8 lbs. List Price, Each \$45.00. T-C-42M, Same operation as T-C-42 and in cabinet of same style, color and size, but in grained baked enamel finish. Wt. 8 lbs. List Price, Each \$38.50. T-HP-3, Hi-Power Sub-Station for wall mounting in charcoal gray metal case. Wt. 8 lbs. List Price, Each \$28.00. T-C-20, Nine-inch weatherproof re-entrant horn. Charcoal gray. List Price, Each \$44.95.

Optional Equipment

Cradle Phone Available on all Models. Add "H" to Model No. when ordering. List Price, Each add \$59.95.	Net add 35.00
LD—Long Distance Feature Available on "Chief" Master Stations. Add "LD" to Model No. when ordering. List Price, Each—add \$20.00.	Net add 11.75
T-S-101 Wall Switch For origination of call to one Master through T-C-20, or T-HP-3 in Chief systems. List Price, Each \$11.95.	Net 6.95
T-S-102 Wall Switch For origination of call to two Masters through T-C-20, or T-HP-3 in Chief systems. List Price, Each \$19.95.	Net 11.70
T-RW-10 Right-of-Way Relay. List Price, Each \$63.00.	Net 37.00
T-HP-30 Power Booster. List Price, Each \$138.00.	Net 81.00

Cable (For Indoor and Outdoor Use)

6206 Cable for connecting T-C-41, T-C-42, T-HP-3, T-C-20 with origination of call. List Price per Ft. 14c.	Net per Ft. 8 1/2c
6214 Cable for inter-connecting T-C-4906 Masters. List Price per Ft. 24c.	Net per Ft. 14c
6226 Cable for inter-connecting T-C-4912, T-C-4920, T-C-4930, T-C-4940, T-C-4950, T-C-RP-5912 and T-C-RP-5920 Masters. List Price per Ft. 47c.	Net per Ft. 28c
6902 Cable for connecting T-HP-3, T-C-20 without origination of call. List Price per Ft. 31c.	Net per Ft. 2c

How to Determine Cable Requirements. To inter-connect Master Stations measure from first Master to second Master only, from second to third Master only, etc. until the last unit in the system is reached, and total. For T-C-4906 and T-C-RP-5920, use two lengths of 6226 Cable; and for T-C-4930 use three lengths of 6226 Cable. To connect T-C-41, T-C-20, T-C-42 or T-HP-3 Staff Stations measure from Staff Station to the one Master to which Staff Station originates calls. To connect the T-C-42 Staff Station measure a separate length of cable from Staff Station to each Master Station to which Staff originates calls (for each T-C-41 or T-C-42, follow same procedure).



AUTOMATION IN INTERCOM

The TALK-A-PHONE SUPER CHIEF System offers you fully automatic performance. No longer is it necessary to manually operate a Talk-Listen Control during conversation; yet you have "private" and "selective" communication. Your own voice automatically operates the Talk-Listen Control for you. The SUPER CHIEF features many other exclusive TALK-A-PHONE achievements in intercommunication engineering. Write today for details.

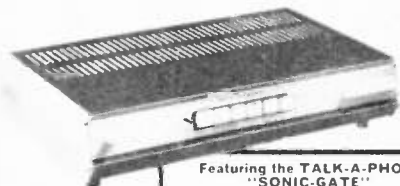
NEW TALK-A-PHONE WIRELESS AND HOME INTERCOM SYSTEMS

TWO NEW WIRELESS SYSTEMS

Two NEW, high-quality wireless intercoms, featuring the exclusive TALK-A-PHONE "SONIC GATE" circuit. Provides dependable communication where permanent, wired systems are not practical. Ideal for use in offices, factories, stores, homes, apartments, nurseries, farms, etc. Distinctively styled cabinets combine the look and feel of fine grained leather with the strength and rigidity of steel. Beautifully finished in charcoal gray with brushed chrome side panels. Each station has a translucent indicator which illuminates when "On." All stations must be connected to outlets on the same electric company service transformer. Built-in Ground Adapter provides greater sensitivity where electrical wiring is routed over long paths. U.L. Approved.

NEW TALK-A-PHONE 6-STATION SELECTIVE WIRELESS* SYSTEM

- 3 Separate 2-Way Conversations Simultaneously with 6 Master Stations
- Selective Paging with Reply



Featuring the TALK-A-PHONE "SONIC-GATE"

Your Voice Goes Through... Noise and Hum are Screened Out...

The Sonic Gate circuit effectively suppresses line noises and hum by 30 db while system is in actual operation, as well as when in Stand-By position.

- No Installation
- No Wiring
- No Cables
- Just Plug-in and Talk



Provides selective communication. Each Master is equipped with a 6-channel selector, can converse with any other station selectively, can receive calls on any channel Master elects to use. As many as 3 separate conversations may be held simultaneously, with 6 Masters. Masters can talk with any station in system, can also set up conferences.

Wireless Staff Stations are for use where calls need not be originated, but where reply must be made. They are available for operation on any single channel desired - to match that of Master. They also can be used to receive Paging Calls from any Selective Wireless Master in the system. . . . use as many Wireless Staffs as needed (all Staffs must operate on same channel for this

purpose). Two or more Wireless Staffs on the same channel will function as a 2-Station System (without Master), they can originate calls and reply to each other.

Start a system with any number of Masters and Staffs. Where up to 6 stations are used, each on a separate channel, Master can converse selectively with any channel. If more than 6 stations are used, channels must be shared, stations on same channel will receive all calls to that channel. To change location, merely pick up unit and move . . . no rewiring or new installation is necessary. All stations are equipped with the original TALK-A-PHONE UNI-TRANS feature, which permits continuous one-way transmission for periods when you wish to dictate or "listen-in."

T-LCM-8806, 6-Station Selective Wireless Master. Complete, with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size 14"wx8 1/4"dx3 1/4". Shipping weight, 1 1/2 lbs. List Price Per Station \$136.00Net **79.50**

Wireless Staff Stations. Receive and reply on a single channel only.

T-LCS-801 Channel 1	T-LCS-803 Channel 3	T-LCS-805 Channel 5
T-LCS-802 Channel 2	T-LCS-804 Channel 4	T-LCS-806 Channel 6

Complete with tubes and instructions, ready to use. Operates on 110-120 volts, AC or DC. Size 10 1/2"wx8 1/4"dx3 1/4". Shipping weight, 7 lbs. List Price Per Station \$77.00Net **45.00**

NEW TALK-A-PHONE 2-STATION WIRELESS* SYSTEM

A complete system of 2 stations, ready to use. Simply place each unit where desired, plug each into nearest electrical outlet, and talk! Add more stations anytime. All stations will receive any messages transmitted from any point. Move units anywhere, plug into electrical outlet and use - no re-wiring or new installation necessary. The original TALK-A-PHONE UNI-TRANS is built in - provides continuous one-way transmission; idea for dictation, or listening-in on baby. 110-120 V. AC-DC. Size, 10 1/2"wx8 1/4"dx3 1/4".

T-LC-33. Complete with tubes and instructions. Weight 16 lbs. List Price Per System \$138.00Net **79.95**

T-LC-17. Additional Single Station. Weight 8 lbs. List Price, Each \$69.00Net **39.95**

NEW TALK-A-PHONE All-Transistor HOME INTERCOM-RADIO SYSTEMS



This new TALK-A-PHONE Intercom System saves the housewife and homeowner miles of tiresome steps, hours of time Makes home life easier, more comfortable and more enjoyable

LISTEN-IN ON BABY, CHILDREN OR SICK ROOM . . . from any room in the house, day or night • **ANSWER OUTSIDE DOORS FROM ANY ROOM . . .** in any part of the house - without opening doors to strangers • **TALK FROM ROOM TO ROOM . . .** back and forth, upstairs or downstairs, any time, day or night • **YOUR FAVORITE RADIO PROGRAMS . . .** follow you throughout the house with the flick of a switch.

TALK-A-PHONE All-Transistor Home Intercom units are beautifully finished in gold, polished and satin over finishes. All Masters and Staff Stations are designed for flush mounting - or with optional Housing Assemblies HI-SM; these stations can be mounted on walls, cabinets, or set on tables, shelves, etc. Plaster Ring included for 14" x 4 1/2" x 3 1/4" wall opening. Master front panel size: 15 1/4" x 9 1/4". Sub Stations are designed for flush mounting only, do not need Plaster Ring. Requires 2" square wall opening, 2" deep. Front Panel size: 3 1/2" x 5 3/4". Stations do not plug into electrical outlet. Operates from Battery or HI-PS Power Supply Unit. Total capacity: 8 stations including Central Master. With full instructions.

CENTRAL MASTER STATIONS. Only one used per system. Contains the All-Transistor Amplifier (and radio when built-in). Place in any room. Master can call and converse with any other station (or stations) in system, can listen-in to any Station that user makes "non-private." If system has Model HI-9R Central Master (built-in radio), the Master, Staff and any Indoor Sub can listen to standard AM radio broadcasts. "Additional" Masters can be used in rooms where it is desired to listen to AM radio programs different from those tuned in at Central Master.

- HI-9 Central Master Station.** Without radio, less battery. List Price, Each, \$39.00Net Each **58.00**
- HI-9R Central Master Station.** With built-in radio. Less battery. List Price, Each, \$154.00Net Each **89.50**
- HI-29R Additional Master Station.** With built-in radio. Less battery. List Price, Each, \$154.00Net Each **89.50**
- HI-8 STAFF STATION.** Use as needed to call and converse with one or more Staff. Master of Sub Stations can be switched to "private" or "non-private" operation as desired. When "non-private" as in baby or sick room use, another Staff or Master can listen in. Staff can listen to standard AM radio programs of HI-9R Central Master. List Price Each \$34.00Net Each **31.50**

ARCHITECTS AND CONTRACTORS - HI-PR Plaster Rings. For Masters and Staffs, also available separately. (Sub-Stations do not use Plaster Ring). Approx. Size: 14-1 1/2" W x 4 1/2" H x 3 1/2" D. List Price Each \$2.80Net Each **1.45**

HI-SM HOUSING ASSEMBLY UNIT. For enclosing any Master or Staff Station, to permit mounting on walls or cabinets, or placing on tables, shelves, etc. List Price Each \$19.00Net Each **11.00**

HI-2 INDOOR SUB-STATION. Use as many as needed, within system's capacity. Can receive and reply to calls from any Master or Staff. Can be switched from "private" to "non-private" operation to permit any Master or Staff to listen-in. Ideal for baby or sick room. Can listen to standard AM radio programs of HI-9R Central Master. List Price Each \$27.50Net Each **15.95**

HI-1 OUTDOOR SUB-STATION. For front and rear entrance applications. Complete with push-button for connection to regular house chime, bell or buzzer. Has illuminated nameplate. When caller rings bells, any Master or Staff may reply and converse with caller. Caller operates no controls. List Price Each \$27.50Net Each **15.95**

HI-JB JUNCTION BOX. For connecting Masters and Staffs under method #2 or cable needs. List Price Each \$7.00Net Each **4.00**

BATTERY. Use any 9-volt dry battery, such as ignition or telephone battery; or standard #6 dry cells in series - available from local sources. Note: When battery is used power supply is not required.

HI-PS POWER SUPPLY UNIT. One required per system (only when battery is not used). Plugs into any 110-120 volt, 60 cycle AC electrical outlet in basement, attic, etc. List Price Each \$27.50Net Each **15.95**

HOW TO DETERMINE CABLE NEEDS

Masters and Staff Stations. Use #6226 cable in one of 2 ways: (1) Measure from 1st unit to 2nd unit only, from 2nd unit to 3rd unit only, etc., until last unit is reached - then total. Cable between last and 1st unit not needed. (2) Place a Common Junction Box (Model HI-JB) in attic, basement, closet, etc. Measure from each Master and Staff to Junction Box and total.

Indoor and Outdoor Sub-Stations: Connect to nearest Master or Staff only. Use #6202 cable for Indoor Sub; #6202 cable for Outdoor Sub.

Battery or Power Supply Unit: Connect with #6202 cable to Master Stations only.

CABLE FOR indoor or outdoor use.

Type No.	No. Pairs	Approx. O. D.	LIST, Per Ft.	NET, Per Ft.
6226	12	1 1/2"	.47c	28c
6206	3	3/4"	.14c	8 1/2c
6202	1	1/2"	.06c	3 1/2c

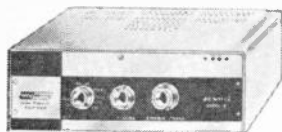
All Prices Slightly Higher West of Rockies
All Prices and Specifications Subject to Change Without Notice.
Manufactured under exclusive TALK-A-PHONE Patents

TALK-A-PHONE CO.
CHICAGO 23, ILLINOIS

TM TECH-MASTER ULTRA HIGH FIDELITY | MONOPHONIC & STEREOHONIC CUSTOM-QUALITY COMPONENTS

MODEL 19N

**60 WATT AMPLIFIER
PREAMP SYSTEM**

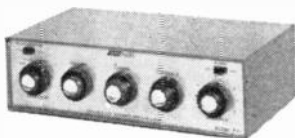


Combines low-distortion preamp plus basic amplifier. 60-W undistorted from 20 - 20,000 cps; I.M. distortion less than 0.25%; direct interstage coupling; special 10 lb. output xformer tapped for ultra linear connection; output impd. 4, 8 or 16-ohms; hum level 65 db below rated output thru magnetic input; 72 db thru other inputs; accepts all magnetic cartridges; positions for RIAA, AES, NAB, LP and 78; selector for piezo, tuner, TV & tape; cathode-follower tape recording take-off; concentric tone controls. Size: 14¼" W x 10¾" D x 5¼" H. Wgt. 28 lbs.

Net Price (compl. with cabinet) \$129.95

MODEL P-41

**TRANSISTOR STEREO
PREAMPLIFIER EQUALIZER
Straight DC Operation**



Separate bass and treble controls for each channel plus common and balancing controls. 6 Hi-impd. inputs. 4 equalized Lo-impd. inputs. Takes both low and high output cartridges without external transformer. 4 outputs for amplifier and tape. Amplifier control switch. With cabinet, less battery. Size: 3" H x 9" W x 5½" D. Wgt. 4 lbs.

Net Price \$59.50

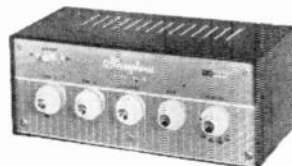
MODEL 24

**HI-FI TRANSISTOR
PREAMPLIFIER EQUALIZER**

Will control any basic amplifier. Similar to Model 41, but single channel control with 4 inputs and 2 outputs. Size: 3" H x 9" x 5½" D. Wgt. 3 lbs. Net Price \$34.50

MODEL PA-39

**14 WATT STEREO AMPLIFIER
& PREAMPLIFIER
For 90% of all Hi Fi Stereo
Requirements**



This most versatile amplifier will satisfy a majority of Hi-Fi Stereo requirements. It is a beauty to behold, with beautiful blue and white front panel and blue-gray case. Thrilling to listen to, with 2 channels of faithful audio... amazing faultless design; skillfully produced; priced as only a diversified, experienced producer like Tech-Master could afford to. This amplifier is a boon to the entire service industry. Most servicemen can install it into any existing Hi-Fi, connect an additional speaker and in no time complete a sale at a sensible price. Features: Dual channel crystal or ceramic phono and tuner inputs; ganged gain controls; balance control; two separate tone controls; monaural-stereo switch; channel reverse switch; transformer power supply for complete line isolation.

Tubes: 2—EL84, 12AX7, EZ80.

Dimensions: 10 5/8" W x 5 3/8" D x 4 3/16" H.

Net Price \$49.50

TECH-MASTER HI-FI KITS | for Optimum Performance at Minimum Cost

**60 W HI-FI AMP-PREAMP
KIT—MODEL 19K**



An integrated high-power amplifier in kit form complete with preamplifier at a budget price! Delivers undistorted 60 W from 10 to 20,000 cps. I.M. distortion below 1% at 60W and below 0.25% at ordinary levels. Compensates for all recording characteristics. Simple to assemble from easy instructions. Same features as wired Model 19. Tubes: 12AX7, 12AU7, 6AN8, 2-6550, 5U4GB; sel. rectifier for fixed bias. Size: 14¼" W x 10¾" D x 5¼" H. Wgt. 28 lbs.

Net Price (less cab.) \$79.95

CABINET 19C \$7.50

**25 W HI-FI AMP-PREAMP
KIT—MODEL 21K**



An integrated amplifier-pre-amp system in kit form at a new low price. Similar to Model 19K except for 25 W output rating. RIAA equalization. Simple to assemble from easy-to-follow instructions. Tubes include: 12 AX7 pre-amp, 12 AU7 tone, 6 AN8 driver and phase-splitter, 2 6L6GB output, 5V4GA rectifier plus selenium rectifier for fixed bias. Size: 14¼" W x 9" D x 5¼" H. Wgt. 21 lbs.

Net Price (less cab.) \$59.95

CABINET 21C \$7.50

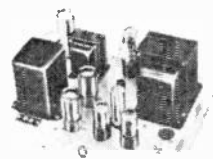
**STEREO PREAMP KIT
MODEL 41K**



TRANSISTOR stereophonic preamplifier-equalizer similar to mod. 24K but with dual channel circuitry. Eight inputs—four outputs. Common gain plus balancing controls. Dual bass and treble controls for adjustment of each channel. Pure D.C. operation eliminates all possible line noise or hum. Assembly is simple as monaural unit. Make a Stereo system with T-M kits and save. Can be used as single input originally and then add second amplifier. Size: 3" H x 9" W x 5½" D. Wgt. 4 lbs. Complete with cabinet.

Net Price (less batt.) \$49.50

**WILLIAMSON TYPE 20W
AMP KIT—MODEL TM 15A**



Famous Williamson circuit with modification, for Hi-Fi reproduction at increased power output. Complete with tubes and easy instructions. FEATURES: 20 Watt undistorted; 4-8-16 ohm impedance; hum & noise level is 70 db below rated output; 20 db feedback. Frequency response, 10 cps to 80,000 cps. Tubes: 2-6SN7, 2-5881, & 1-5V4G. Size: 9" W x 12" D x 6½" H. Wgt. 27 lbs.

Net Price \$49.95

TECH - MASTER GALAXY OF CUSTOM - BUILT TELEVISION



★ GOLD MEDAL VIDEO MASTER ★

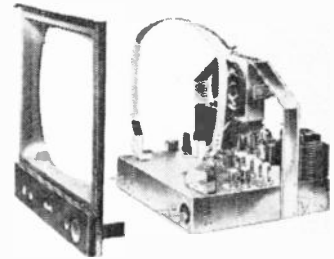
630 AT ITS BEST

A custom quality most dependable receiver combining time proven 630 type circuitry with advanced engineering. This 30 tube chassis delivers flawless video response, crisp clear picture with full tonal gradations, synchronized tuning of audio and video signals, efficient amplification offers full-bodied sound.

A world-famous quality T.V. chassis. Its standards maintained by Tech-Master skill and integrity.

FEATURES:

High-Gain Tuner; Exclusive Synchrolock Transformer in hor. hold circuit; keyed Automatic Gain Control; 5 microvolt sensitivity; anti-blooming circuit; full vert. & hor. blanking; 2-stage audio amplifier; 4-stage video I.F.; Phono Jack Input: For all tubes up to 27". Dimensions: 19" W x 15" D.



Model 2430B — for 90° tubes, with knobs; 12" speaker; mtg. brackets and hwre. **Net Price \$219.50**
 Model 2430-10 — for 110° Pix tubes with accessories as above. **Net Price \$229.50**
 P21 — 21" Panel Assembly with glass & mask **\$27.50**
 P24 — 24" Panel Assembly with glass & mask **\$32.50**

★ CONSTELLATION ★



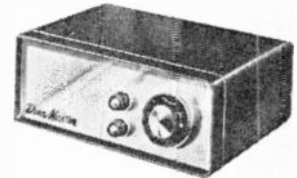
A star performer for conventional cabinet or built-in custom installation. AC transformer powered model. Super sensitive for fringe or troublesome areas, 16 tube, power packed circuit delivers bright, sharp, rock steady picture and clean, undistorted static-free sound. Features: Automatic Gain Control; 3-Stage, stagger-tuned IF; Auto-transformer high voltage system; Wired for low-voltage electrostatic focus kinescopes for 90 degree picture tubes from 21" to 27"; Sensitivity 5 uv ar; 20 V peak-to-peak; 2 Stage video amplifier sweep circuit. Size: 12" x 16". Complete with mounting hardware, speaker, speaker and knob kit. Wgt. 35 lbs.

MODEL 5816—Similar to above but for 110 degree deflection. Includes mtg. hardware for new shallow tubes.

NET PRICE\$144.50 MODEL 5818. NET PRICE \$129.50

★ DUO-MASTER TV TUNER ★

MODEL 23A—A SUPER-SENSITIVE B & W OR COLOR TV REMOTE CONTROL SYSTEM.



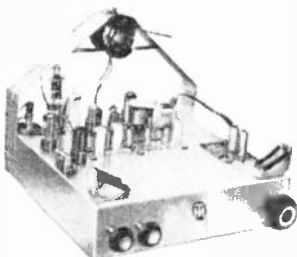
Just plug single thin coaxial lead thru adaptor plug into any TV set to select station, fine-tune picture and sound, and adjust picture intensity from up to 50 ft. from set. Use speaker in the handsome DUO MASTER or plug in headphones for private listening. May also be connected to extension speaker or hi-fi systems.

Features: 3 IF stages; 2 audio stages; jacks with low impedance connections for external amplifier or tape recorder take-off; TUBES: 9 plus rectifier; separate audio detector; improved color response thru isolation circuit design. Size: 12½" x 8" x 6". Wgt. 15 lbs.

NET PRICE\$79.50

TECH-MASTER TOP QUALITY "DO-IT-YOURSELF" KITS

★ TV CRAFT KIT ★



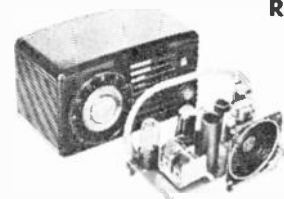
MODEL 5516W—A most up-to-date TV Kit, ideal for school or home project. Coils are factory pre-adjusted. Simple step-by-step instructions are easy to follow. Sockets, terminal strips and connectors riveted to chassis.

Features: Super-selective, 12-channel turret tuner; new 600 milliampere low-drain tubes; takes 17" to 21" 70° tubes; circuit-sensitivity of 6 microvolts at 20 V peak-to-peak; 3-stage, stagger-tuned IF uses high gain bil-filar coils; AGC; synchro-guide horiz. hold, with AFC; ceramic core horiz. output xformer with beam power amplifier. (With IF section fully wired and aligned. Uses Std. Tuner (6 uv sensitivity).)

Dimensions: 17" W x 17" D x 9" H. Weight: 26½ lbs.

NET PRICE \$99.50

DELUXE AC-DC SUPERHET RADIO KIT



MODEL 3B5-K — Complete with modern, handsome Bakelite cabinet (10" x 5½" x 5½"), station selector and control knobs. Tunes AM broadcasts from 550-1720 KC. Super-sensitive, high gain circuit for best reception. Built-in loop antenna. Automatic volume control circuit eliminates blasting or fading. TUBES: 12SA7 12SK7, 12SQ7, 50L6 and 25Z5 rectifier. Schematic and pictorial diagram with clear assembly instructions supplied for simple assembly. POWER: 115-125 V, 50/60 cy. or D.C. Wgt.: 6 lbs.

NET PRICE (less wire & solder) \$19.95

QUANTITY PURCHASES

T.V. kits and wired chassis available for schools, export (in all voltages) and other special applications. Quotation and specifications supplied on request.



AMERICAN MICROPHONES

FOR EVERY BROADCAST, P. A., MOBILE OR RECORDING NEED



DR330 DYNAMIC CAROID AND RIBBON

Variable low-medium impedance and polar pattern. Frequency response 40 to 15,000 cps. Ideal for radio and TV.

List Price
DR330 \$250.00

DR332 DYNAMIC AND RIBBON CAROID

Variable impedance... low, medium, high. Unidirectional polar pattern. Frequency response 50 to 10,000 cps. For P.A. and general use.

List Price
DR332 \$162.50



D66 DYNAMIC CAROID

Hi-Low Impedance Switch for difficult feedback locations. Mylar diaphragm; wind screening. Frequency response 45 to 15,000 cps.

List Price
D66 \$87.50



TRC SERIES—PUSH BUTTON STYLES

Low or high impedance, wide response. For recording, conference, P.A.

List
D204 Dynamic Types \$17.00-\$24.30
B204 Ceramic Types \$16.00-\$17.30
X204 Crystal Types \$16.00-\$18.30



D44 DYNAMIC — OMNI-DIRECTIONAL

Low impedance; response 50 to 15,000 cps. For motion picture use on booms, excellent for outdoor P.A. with wind screen).

List Price
D44 \$272.50



D33 DYNAMIC — OMNI-DIRECTIONAL

Variable impedance... low, medium; response 40 to 15,000 cps. For radio-TV, P.A., recording.

List Price
D33 \$130.00

D22 DYNAMIC — OMNI-DIRECTIONAL

Variable impedance... low, h.h.; response 50 - 12,000 cps. For P.A., studio, general audio use.

List Price
D22 \$99.50



D12 LAVALIER DYNAMIC

"Mighty Midge", lightweight, miniaturized, with necktie clip holder and cord. High and low impedance. Response 70 to 12,000 cps.

List Price
D12 \$59.50



D6 DYNAMIC PUBLIC ADDRESS

Low impedance; response 50 to 7,000 cps. All purpose; rugged construction.

List Price
D6 \$46.00
D6T similar, but high impedance \$49.00



D11 HAND-HELD DYNAMIC

Low impedance; response 50 to 10,000 cps. All purpose; well balanced.

List Price
D11 \$36.00
D11T similar, but high impedance \$39.50

D10 DYNAMIC — OMNI-DIRECTIONAL

Low impedance; response 50 to 10,000 cps. General purpose; rugged.

List Price
D10 \$29.50
D10T similar, but high impedance \$33.00



TAPE RECORDER MICROPHONE

High impedance; response 100 to 6,000 cps. Omni-directional; ideal for home use.

List
X203 Crystal Types \$ 8.35-\$ 9.65
B203 Ceramic Types \$11.50-\$12.80
(100-6,000 cps)



D801 MINIATURE DYNAMIC

Low impedance; response 250 to 6,000 cps. Compact; can be concealed.

List Price
D801 \$14.75



CRYSTAL MICROPHONES

C7H STAND TYPE... high impedance; response 100 to 6,000 cps. List \$21.75

CL2 LAPEL TYPE... high impedance; response 150 to 5,000 cps. List \$17.25

RC DESK TYPE... high impedance; response 100 to 6,000 cps. Non-breakable plastic base. List \$13.50

501 SERIES... MOBILE TYPES



Low or high impedance; response 300 to 3,000 cps. Lightweight, rugged. D501A Dynamic Types (low imped.) List \$25.50-\$34.00 D501C Dynamic Types (high imped.) List \$29.50-\$34.00 C501A Carbon Types (low imped.) List \$24.50-\$33.00

504 SERIES... MOBILE TYPES



Low impedance; response 300 to 3,000 cps. Rugged, moisture - proof, ideal for motorcycle use. C504 Carbon Types List \$31.00-\$38.00

DYNAMIC HAND SETS



High quality, lightweight, low impedance; for use with radio transmitters, intercoms, etc. H602 Types List \$21.00-\$25.80

ALSO...

Phono Cartridges and pickup arms
Stereo Tone Arm Adapter
Microphone Accessories and Replacement Parts



SEND FOR YOUR COPY OF CATALOG 58. FREE!

AMERICAN MICROPHONE MFG. CO.

Division of GC—Textron Inc. Western Plant: Los Angeles 18, California Main Plant: ROCKFORD, ILLINOIS, U.S.A.



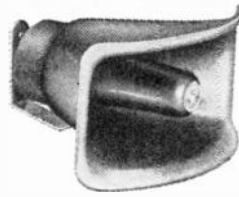
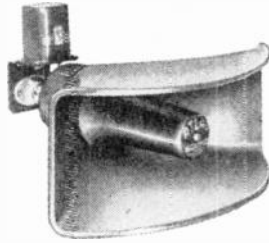
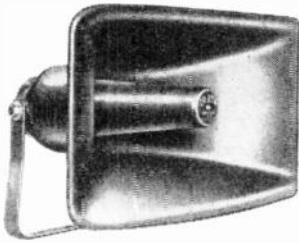
**KING
COBRA-
JECTOR-
P. A.
SPEAKER**

ATLAS SOUND CORP. the complete line for all P. A.

CJ-44

CJ-30

CJ-14



**ALL MODELS
EQUIPPED
WITH
OMNI-
DIRECTIONAL
MOUNTING
BRACKETS**

INDESTRUCTIBLE FIBERGLASS

CJ-44—All purpose, wide angle, P.A. speaker, complete with built-in "Acoustic-Matched" driver unit. "Controlled Response" offers smooth reproduction, free from peaks which so often create and sustain acoustic feedback.

CJ-30—Versatile all purpose speaker in amazing power package for the really "tough jobs". The 30" air column results in an adequate response for industrial type music systems.

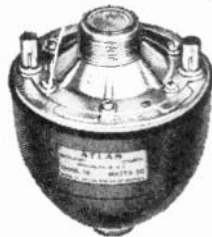
CJ-14—Excellent for inter-com systems for paging and talk-back. Super efficient when used with low power inter-comms.

Model:.....	CJ-44	CJ-30	CJ-14
† Power:.....	30 watts	15 watts	5 watts
* Impedance:.....	16 ohms	8 ohms	8 ohms
Frequency:.....	150-9000 cps.	250-9000 cps.	400-9000 cps.
Dispersion:.....	90° x 60°	120° x 60°	120° x 60°
Dimension:.....	Bell 23"x12"	Bell 14"x6"	Bell 9½"x5½"
Overall Length:.....	19"	14"	8½"
List Price:.....	\$72.50	\$40.00	\$28.00

*All models available in 45 ohms—add \$1.00 to list.
† Power ratings may be doubled with equalized response.

ATLAS SUPER-POWER ALNICO-V-PLUS DRIVER UNITS

All models include Atlas "Alnico-V-Plus" super efficient magnetic circuit-magnetically shielded, hermetically sealed. One piece unbreakable fatigue proof diaphragm of phenolic construction. Models PDSVH and PDSOT include a built in "Uni Match" transformer for use on variable impedance amplifiers as well as on constant voltage systems. All transformer taps are terminated at a waterproof terminal window located at the rear of the unit. All units 1½"—18 thread.



PD-5VH



PD-4V



PD-50
PD-50T
PD-5VT

Model	Continuous Power	Equalized Response	Impedance	Frequency	List
PD4V	25 watts	50 watts	16 ohms	90-6000	\$27.50
PDSVH	30 watts	60 watts	16 ohms	80-10,000	35.00
PDSVT	30 watts	60 watts	16 ohms*	80-10,000	47.50
PD50T	50 watts	100 watts	16 ohms*	70-10,000	55.00
PD50**	50 watts	100 watts	16 ohms	70-10,000	45.00

Input Frequencies limited to frequencies above horn cut off.
*Voice coil impedance. Built in transformer offers 100, 165, 250, 500, 1000 and 2000 ohms—70 volt power taps 50 to 2½ watts.
**Identical in appearance to PD50T but less transformer.

ATLAS 'DR' WEATHERPROOF DOUBLE-REENTRANT PROJECTORS

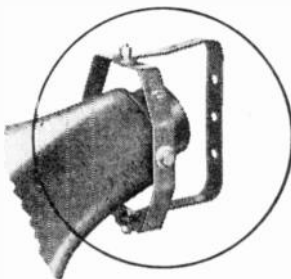


The modified exponential taper has proved most efficient for overall performance. All acoustical paths are clean and uniform. Reflex turns are smooth and flowing. Ruggedly constructed of heavy castings, precision stampings, accurate die castings and uniform metal stampings. Bell rim dampened and mechanically protected with formed rubber rim. All metals specially processed by chemical and electro-chemical means to impart complete weather-protection. Heavy "U" bracket mountings, securely fastened to main body casting of each model, do not fail even under extreme stress, strain or vibration. 1½"—18 thread.

Model	Air Column	Low Frequency	Lqth.	Diam.	List Price
DR-32	2½ ft.	175 c.p.s.	12 in.	14 in.	\$27.50
DR-42	3½ ft.	135 c.p.s.	15 in.	21 in.	32.50
DR-54	4½ ft.	105 c.p.s.	18 in.	23 in.	44.50

**UNIVERSAL MOUNTING BRACKET
MODEL GB-1 FOR CJ-44 AND ALL
MODELS OF "DR" PROJECTORS**

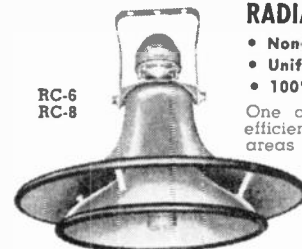
This useful accessory is easily and quickly attached to all Atlas projectors using U type bracket mounting. It permits the speaker to be quickly adjusted in both a horizontal and vertical plane and securely locked in position for the most effective sound coverage. Average adjustment limits 160° on the horizontal and 65° on a vertical direction. Constructed of bonderized steel, finished in baked enamel, all hardware supplied. Shipping weight 3 lbs. Model GB-1 List \$5.00



RADIAL DRIVER PROJECTORS

- Non-Resonant
- Uniform 360° Coverage
- 100% Stormproof

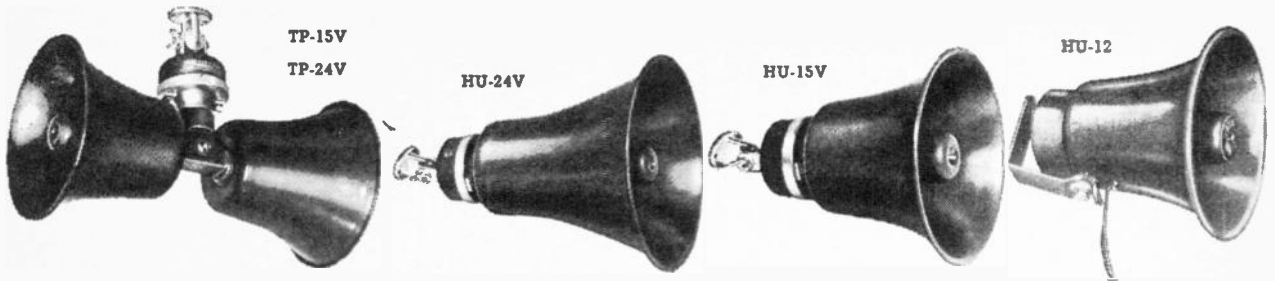
One of these models often is more efficient for large and high noise level areas than several ordinary projectors. For speech and music. All - aluminum construction - smooth, uniform response. Thread 1½"—18.



RC-6
RC-8

	RC-8	RC-6
Air Column	5 feet	4 feet
Bell Diameter	29"	25"
Overall Ht. (incl. bracket)	26"	21½"
Low Frequency Cutoff	120	150
List (horn only)	\$59.00	\$47.00

ALNICO V-PLUS PAGING and TALK BACK SPEAKERS — all with OMNI-DIRECTIONAL BRACKET.



Model	HU-12	HU-15V	HU-24V	TP-15V	TP-24V
Power*	5 watts	15 watts	15 watts	15 watts	15 watts
Impedance	8 ohms †	8 ohms †	8 ohms †	8 ohms †	8 ohms †
Frequency	375-9000 c.p.s.	300-7000 c.p.s.	200-7000 c.p.s.	250-7000 c.p.s.	190-7000 c.p.s.
Length	7½ in.	11 in.	14½ in.	15½ in.	22 in.
Diameter	6¼ in.	8½ in.	10 in.	8½ in.	10 in.
Air Column	13½ in.	16½ in.	24 in.	19½ in. ea. side	27 in. ea. side
List	\$25.00	\$32.50	\$35.75	\$50.00	\$54.50

*Power ratings may be doubled with equalized response.

†All models available in 45 ohms. (Add 45 after Model No. — Example, HU-15V-45.) Add \$1.00 to list price.

This series of speakers includes models suitable for every conceivable industrial application. The Atlas "Alnico V-Plus" feature incorporated in Atlas speakers does much to increase the high conversion efficiency inherent in speakers of this design.

EFFICIENT—These speakers are particularly efficient in the voice frequency range and provide the extra "punch" that over-rides high level background noise.


TALK-BACK—All of these models have been designed to offer a

maximum sensitivity to voice pickup far in excess to any other speakers.

MOUNTING—The mounting bracket design of all models permits both a vertical and horizontal adjustment.

FINISH—Weatherproof, high lustre gray enamel protects all parts and results in a fine appearance. The driver units are hermetically sealed and are 100% weatherproof under every conceivable climatic condition.

T-15 WEATHER-PROOF 50 WATT TRANSFORMER




For use with CJ 44 and all high power driver units. Complete with die cast housing and universal mounting bracket.

Specifications: Primary 100, 165, 200, 250, 500, 1000, and 2000 ohms. On 70 V line 50, 30, 25, 20, 10, 5, and 2.5 watts. Sec. 4, 8, 16 ohms.

List Price \$16.50

T-16 transformer only less case **List Price \$8.50**

T-11 WEATHER-PROOF 15 WATT TRANSFORMER

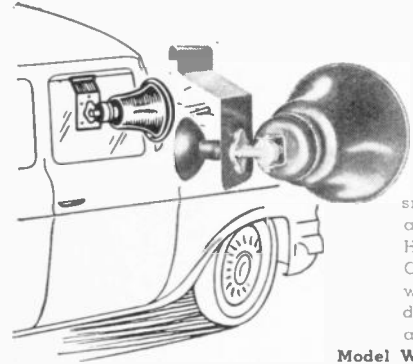


For use with all models HU, TP, CJ, and WT-6 speakers. Convenience wall bracket supplied—mounts under speaker support bracket. Varnish impregnated.

Specifications: Primary 45, 325, 500, 1000, 2000, 4000, and 8000 ohms— or based on 70 volt line 15, 10, 5, 2.5, 1.25, .65 watts. Secondary 4, 8, and 16 ohms.

List Price \$8.50

CAR WINDOW SPEAKER SUPPORT



Simple to attach for all speakers such as HU-15V, HU-12 and CJ 14. Cannot slip or work loose — cannot damage car. Easily attached without tools.

Model WM-1 List Price \$5.00

HIGH EFFICIENCY EXPLOSION-PROOF SPEAKERS

Approved by Underwriters Laboratories for Hazardous Locations



HLE-30
Both models are rated at 30 watts input; voice coil impedance 16 ohms (45 ohms also available). HLE-30 type—overall length 17½", opening 14" x 6". HLE-42 type—overall length 25", bell opening 21" diameter.

HLE-42

Approved T-16 line matching transformer available. **List \$8.50**

COMPLETE DESCRIPTIVE SHEET ON REQUEST

HLE-1-30 Class I - List \$110.00 **HLE-1-42 Class I - List \$125.00**
HLE-2-30 Class II - List 135.00 **HLE-2-42 Class II - List 150.00**


SPEAKER SUPPORT STAND



Extremely useful for both rental and permanent installations. The three rubber tipped folding legs will automatically level on uneven ground or turf. Each stand equipped with one "Easy Off" top fitting which permits quick and easy removal of the speaker without tools. Height extension 5' to 10'. Sturdy, strong. Weight 20 lbs.

Model SS-2 List Pr. \$40.00

ATLAS "ARMOR PLATE" BAFFLES FOR 8" CONE SPEAKERS



The TW-9 is a new model "two way" baffle that will harmonize with all types of surroundings. Can be easily mounted on all wall and ceiling surfaces. Universal mounting plate supplied to fit all types of electrical outlet boxes and all flat wall surfaces. Finished in a modern shade of beige enamel. Grill opening covered with plastic grille.

Model TW-9 **List Price \$13.00**
The OW-9 same as above but for "one way" operation on all wall surfaces. Rear cover plate has all mounting holes for outlet boxes, etc.

Model OW-9 **List Price \$9.00**
The TW-8 is a low cost two way speaker enclosure having a wide range of application. A universal quick mount bracket is supplied so that the baffle can be adjusted to almost any angle. All steel, finished in neutral gray enamel, flock covered wire screen over openings.

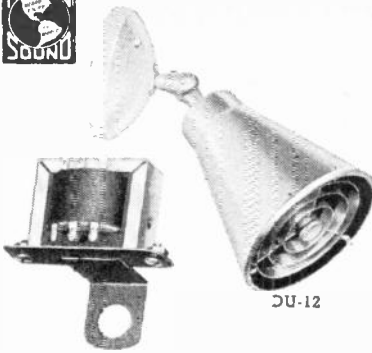
Model TW-8 **List Price \$10.00**



ATLAS DECOR—PROJECTOR MODEL DU-12

An Atlas exclusive! Now for the first time the high efficiency, intelligibility and directivity of a driver type projector have been combined with the high styling contours of a modern lighting fixture.

The Atlas Decor Projector harmonizes with the most ultra-modern decor, is of horn design, offers directional control of sound, and is "tailored" to reproduce speech with clean crisp articulation and without the reverberations often associated with cone speakers and wall baffles having a preponderance of low frequency response. It is equipped with a ratchet type "Positive Lock" bracket that permits the speaker to be quickly and easily directed at any angle on either a vertical or horizontal plane. All wiring is concealed with line matching transformer under the mounting canopy.



DU-12

SPECIFICATIONS:

Model	DU 12	Overall length	14 inches
Input Power (cont.)	5 watts	Bell diameter	7 inches
Input Impedance	8 ohms*	Air column	14 inches
Response	400 to 9000 c.p.s.	Ship. weight	4 lbs.
Dispersion	120° prox.	Model DU-12	List Price \$35.00
Finish	brushed, satin finish aluminum.		

Mounting . . . universal bracket for mounting to electrical box or any flat surface.

*Also available in 45 ohms, Model DU-12-45. **List Price \$36.00**

T-5

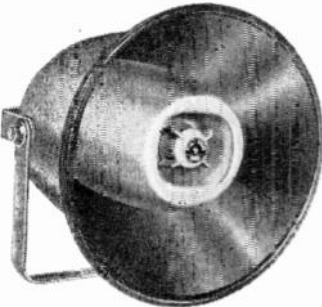
HIGH EFFICIENCY LINE MATCHING TRANSFORMER MODEL T-5

Especially designed for use with the DU-12, Model T-5 has a bracket for easy mounting under the DU-12's canopy without need of extra mounting holes, etc.

Specifications: Primary 1,000, 2,000, 4,000, 8,000 and 16,000 ohms or based on a 70V line: 5, 2.5, 1.25, .62, .31 watts. Secondary 8 ohms.

Model T-5

List Price \$4.90



WT-6

ATLAS COAX-PROJECTOR MODEL WT-6

for wherever HI-FI is a MUST, indoors or out . . . entertainment places: theatres, auditoria . . . industrial music & paging systems . . . outdoors: carnivals, pools, boat clubs . . . home patios, gardens . . . permanent or portable installations.

all-weather — install it, forget it! — **high-efficiency** . . . **compact** . . .

True HIGH FIDELITY TWO-WAY system — not just a "compromise" of two horns coupled to a single diaphragm. The WT-6 comprises a weather-proof cone type driver (with 6-inch throat) coupled to its individual woofer horn; a separate pressure-type driver loaded to its separate tweeter horn. The built-in crossover electronic filter supplements the electro-mechanical frequency-limiting characteristics of the 2 individual reproducers — providing for smooth frequency division as each speaker functions within its engineered range of frequencies. Universally adjustable "U"-type rugged steel mounting . . . finished in high temperature baked modern beige enamel.

SPECIFICATIONS

Type	Coaxial-Individual High and Low Drivers
Power Rating	15 watts (continuous duty)
Frequency Range	140-15,000 cps
Impedance	8 ohms
Dispersion	120° average
Sound Level*	118 db
Crossover	1,000 cps (approximate)
Dimensions	Bell Opening 15" Overall Depth 12"

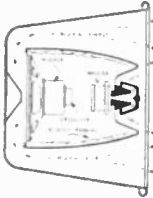
Net Weight . . . 11½ lbs.

Shipping Weight . . . 14 lbs.

*Sound pressure measured at four feet, 800 to 1300 cps sweep with rated power.

Model WT-6

List Price \$57.50



ATLAS CONE-PROJECTOR MODEL W-6

Model W-6 is identical in engineering size, construction and general appearance to the WT-6, except that it is not equipped with an individual high-frequency driver unit and horn. Response is adequate for applications where good musical reproduction is desired but the ultimate in high-frequency response is not necessary (juke box extension speakers, individual music systems, outdoor installation, etc.)

SPECIFICATIONS

Type	Cone Speaker Projector
Power Rating	15 watts
Frequency Range	140 to 8,000 cps
Impedance	8 ohms
Dispersion	120° approximate
Dimensions	Bell Opening 15" Depth 12"
Net Weight	9 lbs.
Shipping Weight	12 lbs.

Model W-6

List Price \$42.50



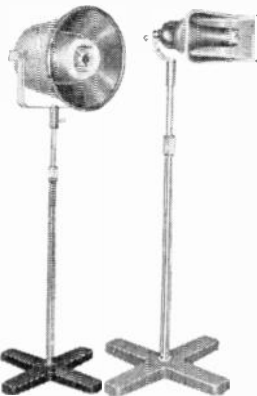
W-6

ATLAS LOUDSPEAKER TELESCOPING SUPPORT STAND

Excellent all-purpose speaker stand, suitable for manifold applications. Designed for use with all speakers of medium weight & size, such as WT-6, W-6, CJ-30, etc. The answer to a quick & simple rental installation — eliminates problem of speaker placement. Supplied with "easy off" top adapter & fittings so various models of speakers may be quickly attached or removed. Cast iron base supplies adequate stability yet minimum floor space. Attractive full chrome upright, can metal shrivel base. Extends well over 6 ft. high sufficient for all applications. Shipping wt. 20 lbs.

Model SS-4

List Price \$21.00



SS-4

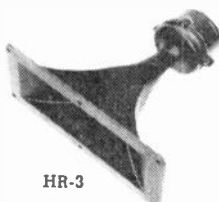
ATLAS SUPER-TWEETER

Versatile super-efficient. Goes "over the top" in response. Silky smoothness, wide-angle distribution pattern, distortion-free. "Precision-controlled" construction.

Freq. Response	2,000 to 17,500 cps
Impedance	12 to 16 ohms
Power (prog. cap.)	35 watts (prox.)
Cabinet opening required	6" x 2"

Model HR-3

List Price \$27.50



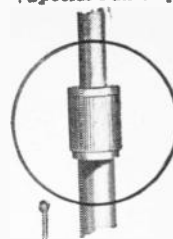
HR-3



ATLAS SOUND CORP. the complete line for all P.A.

MICROPHONE STANDS featuring SPECIAL FULL-GRIP

VELVET ACTION CLUTCHES — maximum STABILITY, QUIET and EASE

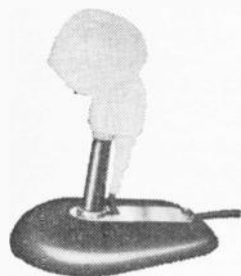


The "Full-Grip" Clutch offers an extended length clutch body, permitting a secure, full-hand grip. The clutch mechanism is inner-lined with a wearproof bakelite locking collet which grips without jamming, slipping, or sudden dropping. All bases are functionally designed to offer maximum stability for a given base weight. The maximum base mass is located at the outer periphery of the casting where the concentrated weight is most useful. All bases include self-leveling, shock-absorbent base pads, plus three additional "anti-tip" points located between the base pads. The complete tube assemblies of all models are "super-chrome" plated, assuring "life-time" wear. All models terminate in a 5/8"-27 carefully machined thread.

Model	Weight	Base Finish	Height Adjust.	Base Diam.	List Price
MS-10C	9 lbs.	Gray Shrivel	35" to 64"	10"	\$ 9.75
MS-12C	12 lbs.	Gray Shrivel	35" to 65"	10"	10.50
MS-11C	12 lbs.	Full Chrome	35" to 65"	10"	13.00
+MS-4	12 lbs.	Gray Shrivel	26" to 61"	10"	14.75
+MS-20	15 lbs.	Gray Shrivel	37" to 66"	12"	16.00
+MS-25	24 lbs.	Chrome & Gray	37" to 66"	17"	26.00
*CS-1	5 lbs.	Plated	23" to 62"	collapsible	18.00
*CS-42	9 lbs.	Gray Shrivel	34" to 62"	collapsible	12.50
*CS-32	4 lbs.	Chrome & Gray	36" to 64"	demountable	11.50
*CS-33	5 lbs.	Hammerloid	26" to 64"	demountable	13.50

All telescoping tube assemblies finished in full chrome.
 *Each stand is individually packed complete in a single carton.
 †Stands so indicated use large diameter telescoping tube assemblies (1 1/2" diameter base tube) resulting in a handsome and fine appearing stand that supplements the professional appearance of high quality microphones.
 ‡Collapsible to a minimum overall length of 23 inches.

DESK STAND



Modern — Attractive — Functional Stable!

"THE STREAMLINER" Desk Stand Compliments appearance of any mike. Conceals mike cable in slot beneath center section of chromium trim and directs it out at rear of base. Adequate space under base for installation of "on-off" or "press-to-talk" switch.

Model DS-10 List Price \$5.00



ADJUSTABLE BANQUET STAND

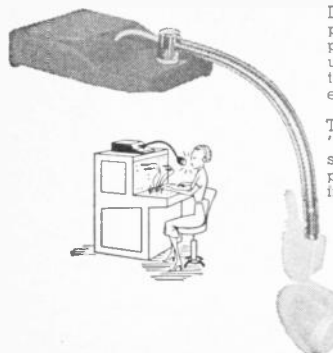
Features "Full-Grip Velvet-Action" adjustment. Tube and base has same super-chrome finish. Adjustable 14 1/2" to 26". Base diameter 8". Wt. 5 lbs.
 Model TS-6 List Price \$9.00

'VELVET ACTION' DESK STAND

DS-5 and DS-7 Desk Stands—Same fine finish and workmanship as floor models. Adjustable DS-7 has heavy duty 5/8" and 7/8" tubing. Felt base pads included. Base diameter 6", gray shrivel finish; tube chromium plated. DS-4 moulded phenolic base 4" diameter chrome tube.

Model	Adj. Height	List Price
DS-5	Fixed 6"	\$3.00
DS-7	8" to 13"	5.00
DS-4	Fixed 4"	2.50

DISPATCHER AND SWITCHBOARD MICROPHONE SUPPORT



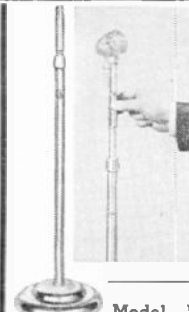
Designed for use in supporting a microphone over conventional types of telephone switch boards, and many other useful applications for a stand of this type, such as a desk support, dispatcher's office, dais, banquet table, etc.

The 12 inch long, flexible, chrome plated "goose neck" arm is mounted on a spring loaded swivel so that the microphone can be swung aside when not in use.

The heavy, functionally designed, 13 Lb. base casting is rear loaded so that the base will not tip forward. Rubber bumpers fastened to the base prevents "skidding" and protects against damage to fine furniture finishes.

Model SB-1 List Price \$14.00

Automatic "SLEEVE-ACTION" STANDS



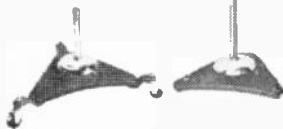
"Sleeve-Action" clutch mechanism permits fully automatic height adjustment by slight downward or upward pressure applied to the telescoping section. Quiet smooth — no rasp, jolt, jar or creep. Lifetime durability.

Model	Base Finish	Tube Finish	Ht. Adj.	Base Dia.	Wt.
MS-12S	Gray	Full	35" to		
\$21.00	Shrivel	Chrome	65"	10"	12 lbs.
MS-11S	Full	Full	35" to		
\$23.50	Chrome	Chrome	65"	10"	12 lbs.

BS-36W Mobile

Model — Identical to BS-36 but features DeLux base having ball-bearing hard-rubber swivel castors that permit entire stand to be wheeled about.

List Price \$73.00



PROFESSIONAL BOOM STAND

New model! All advantages of "Floating Action" and "Safety Air-Lock Cushion" that prevents accidental slippage. All parts "Velvet Smooth" in operation. Boom easily removable to use upright as a conventional floor stand. Gyromatic swivel joint assures mike always hangs in proper position.

Specifications: Boom length 62" (more extension addable). Adjustable vertical extension 48"-72". Base diam. 17". Tubular sections super-chrome plated. Modernistic base finished in chrome and gun metal shrivel. "Snap On" hangers furnished to hold mike cable to boom section. Ship. wt. 33 lbs.

BS-36 List Price \$63.00

'SNAP ON' MICROPHONE ATTACHMENT



Permits any mike to be attached to or removed from any floor stand — instantly, safely, without on-and-off threading. SO-1 is ball-bearing spring sleeve attachment: one section is attached to mike, other section is permanently fastened to stand.

Model SO-1

List Price \$2.75

FLEXIBLE GOOSE NECK



Attachable to any mike stand or fixture. Ends have 5/8"-27 male and female threads. GN-6 is 6' long; GN-13 is 13" long; GN-19 is 19" long. Finished in polished chrome.

Model GN-13—List Price \$2.75

Model GN-19—List Price \$4.00

Model GN-6—List Price \$2.00

'BABY BOOM' ATTACHMENT



Easily attached to any mike stand and locked in any position. Also effectively used with bracket clamps BC-1 and SK-1. Boom length 32", chrome plated. Castings in gun metal shrivel. 5/8"-27 threads. Ship. wt. 4 lbs.

Model BB-1

List Price \$7.50

SKY HOOK



Answers many mike positioning problems. Fastens securely to ledges, round pipes, stanchions*. Has 5/8"-27 thread for any mike. Can also be used in combination with SW-1, GN-13, etc. Casting finish, gun metal shrivel; 3" long tube, chrome.

*Excellent for attaching an extra mike to a conventional floor stand.

Model SK-1

List Price \$3.50

TS-7 BANQUET STAND (Only)

For use with TB-1. Heavy base, 10" diam. All parts super-chrome plated. Adjustable tube assembly. Easily placed on and moved along speaker's table. Ship. wt. 11 lbs.

Model TS-7

List Price \$11.00



GYROMATIC SWIVEL



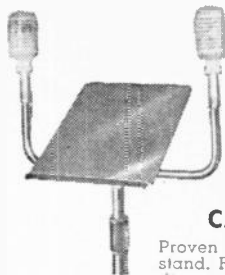
Permits any mike to be adjusted and locked into any angle on any floor or desk stand. Also useful with SK-1, BC-1, etc. Precision die castings, super-chrome finish. 4 1/2" long. 5/8"-27 male and female threads.

Model SW-1

List Price \$4.50

DUPLIX MIKE MOUNT

With Desk Attachment



Permits use of 2 mikes on any single stand. Reduces "off mike" possibility. Desk attachment and mike support arms detachable. Thus one mike alone may be used—to one side or rear of desk. Finished in chrome and cadmium. Moulded composition desk, 9" x 11". Ship wt. 2 1/2 lbs.

TB-1 List Price \$11.00

CABLE HANGER

Proven necessity on every mike stand. Fits all tubes, 7/8" to 1 1/4" diam.; attached and removed by 1 screw. All parts chrome finish.

Model CH-1 List Price \$2.50



NECK SUPPORTED MIKE HOLDER

FULFILLS EVERY PRACTICAL REQUIREMENT FOR A MICROPHONE CHEST SUPPORT



The "Chesty" permits a quick and simple "three way" adjustment. Mike is always in a suitably "close talking" position reducing acoustic feed back problems caused by excessive spacing between mike and speaker's mouth.

Wide comfortable chest support prevents rolling due to sudden movement. Flexible goose neck quickly removed if desired for use as hand held mike. Entire assembly can be placed on table top and used as conventional desk stand. Cool and lightweight weighing only 6 oz.

Model NS-1

List Price \$5.00

BRACKET CLAMP

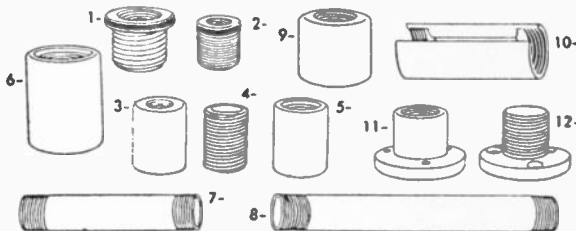


Very versatile. Usable with BB-1, GN-13, etc. Clamp can be removed and top flange screwed or bolted into position. Chrome tube 6" long. 5/8"-27 thread.

Model BC-1

List Price \$3.50

MICROPHONE ADAPTORS & FITTINGS



MODEL	Description	LIST PRICE
AD-1	5/8"-27 female to 1/2" pipe thread male (RCA Adaptor)	\$.85
AD-2	1/8" pipe female to 5/8"-27 male	.60
AD-3	1/8" pipe female to 5/8"-27 female	.60
AD-4	3/4" long, 5/8"-27 male running thread	.30
AD-5	5/8"-27 female to 3/8"-27 female coupling	.60
AD-6	7/8"-27 female to 7/8"-27 female coupling	1.00
AD-7	3" long tube 5/8"-27 male each end	.60
AD-8	6" long tube 5/8"-27 male each end	.70
AD-9	7/8"-27 female to 5/8"-27 female	.70
AD-10	5/8"-24 female to 5/8"-27 female (W. E. Adaptor)	1.20
AD-11	Flange, 3/8"-27 female. Base diameter 1 1/4"	.70
AD-12	Flange 5/8"-27 male. Base holes on 7/8" mounting centers	.70
AD-13	7/8"-27 male to 5/8"-27 female	.85
AD-14	Right angle bent tube: 5/8"-27 male and female each end	1.50

Note: Thread sizes specified as 1/8" pipe is I.P.S. (Electrical fitting) Measure approx. 3/8" dia. All adaptors chrome plated.

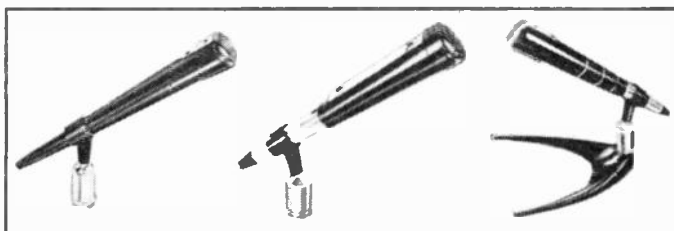
THE ASTATIC CORPORATION

KNOWN THE WORLD OVER
CONNEAUT OHIO

ASTATIC PROFESSIONAL MICROPHONES FOR SOUND STAGE—TAPE RECORDING—TV AND BROADCAST

A new trend in precision microphones. Strikingly styled, superior performance. Omni directional, widest range, pop and blast proof mylar diaphragm. Pressure cast body. Complete with lavalier assembly, swivel adaptor and 20 feet of two conductor cable.

MODEL 788: Excellent for tape recording, orchestras and PA. Dual impedance 150 ohms and high. High output —55 db, Frequency Response 50-13,000 cps. Built in on-off switch. Finish—satin black body, satin gold trim. List Price —\$79.50. Shipping weight—12 oz.



MODEL 888: Designed for wide applications; sound stage, tape recording, TV and broadcast. High output —56 db, Frequency Response 50-15,000 cps, multi-impedance selection. Finish—black body with chrome trim. List Price—\$110.00. Shipping weight—1½ lbs.

MODEL 988: Extended range (40-20,000 cps) professional microphone for TV broadcast, group pickup. High output —58 db, Frequency Response 40-20,000 cps, multi-impedance selection 50-150-250 ohms. Finish—satin black body with satin gold trim. List Price—\$150.00.

CARDIOID DYNAMIC MICROPHONES

MODEL 77: THE MOST POSITIVE ANTI-FEED BACK MICROPHONE EVER BUILT.

A high fidelity unidirectional dynamic cardioid microphone. New advanced styling. Front to back pickup, differential of 18 db. Cartridge is suspended in rubber like material, no need for external shock mount. Built in impedance selector switch. Low impedance 30 to 50 ohms, Medium 150 to 250 ohms, High 40,000 ohms. Output —52 db, Frequency Response 30-15,000 cps all models. Satin chrome or gold finish.

MODEL 77—Complete with on-off switch, with provision for locking in on position. List—\$82.50. Shipping weight 2 lbs. 14 oz.

MODEL 77L—Head only for mounting on Astatic G Stand. List—\$72.50. Shipping weight 1 lb. 14 oz.

MODEL G77—Includes Astatic G Stand. List—\$97.45. Shipping weight 3 lbs. 10 oz.

MODEL 77 (Gold)—List Price \$92.50

MODEL 77L (Gold)—List Price—\$82.50



MODEL 77

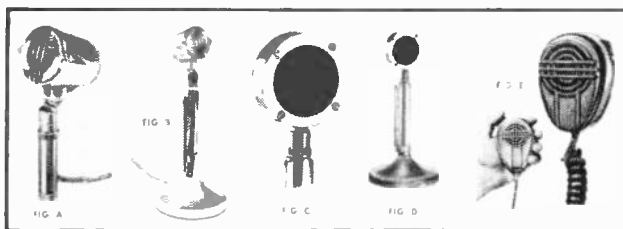


MODEL 77L



MODEL G77

FOR SSB-AMATEUR—AM—PAGING AND INDUSTRIAL USE



MODEL 10C, 10D: The tailored response, the higher talk power makes these microphones ideal for SSB and AM transmitter use. Also ideal for industrial paging, semi-directional. Pressure cast body. **MODEL 10C**—contains ceramic element which is immune to temperature and humidity. Finish Opalescent Grey. Output —54 db, Frequency Range 300-3000 cps. **MODEL 10D**—contains dynamic unit. Finish Bright Chrome. Output —54 db, Frequency Range 300-3000 cps.

FIG. A—List Price 10C \$29.70 Shipping weight 1 lb. 4 oz.

FIG. A—List Price 10D \$39.70 Shipping weight 1 lb. 10 oz.

FIG. B—List Price G10C \$49.90 Shipping weight 2 lbs. 12 oz.

FIG. B—List Price G10D \$59.90 Shipping weight 3 lbs. 2 oz.

FIG. C—**MODEL D-104, D-104C:** "The Premier" The Radio Amateur's first choice. Balanced performance for maximum intelligibility throughout the voice range. Machine brass parts. Bright chrome finish. 5 feet of single conductor cable. **MODEL D-104**—High output crystal —46 db, Frequency Range 30-7500 cps. List Price—\$31.00. Shipping weight—1¾ lbs. **MODEL D-104C**—with ceramic element, Output —51 db, Frequency Range 30-7500 cps. List Price—\$31.00. Shipping weight 1¾ lbs.

FIG. D—**MODEL GD-104**—Complete with Astatic G Stand, List Price—\$51.20. Shipping weight 3¾ lbs. **MODEL GD-104C**—Complete with Astatic G Stand, List Price—\$51.20, Shipping weight—3¾ lbs.

MOBILE AND COMMUNICATIONS MICROPHONES

FIG. E—**MODEL 10M5A:** "The Communicator" Popular rugged carbon microphone, light weight, high sensitivity. Built in RF filter. Ideal for portable or mobile communication such as police, fire department, taxi cab. Heavy duty thumb switch. Pressure cast housing. Finish opalescent grey. 5 feet of self coiling cable, includes anti-rattle hang-up bracket. Power level 2 db above 6 M.W. List Price—\$29.50. Shipping weight —1 lb. 3 oz.

TAPE RECORDING MICROPHONES

FIG F—MODEL M-332, M-332-5: New slim high fidelity crystal microphones. Excellent for improving tape recording and for PA work. Designed for hand, and stand, with lavalier. Precision made. Pressure cast body. Chrome finish. Output —54 db, Frequency Range 30-15,000 cps. Both models complete with lavalier and stand adaptor. 8 feet of single conductor cable. MODEL M-332-5—Same as M-332 except has on-off switch.

MODEL M-332 List Price—\$17.90, Shipping weight 1 lb.

MODEL M-332-5 List Price—\$19.90, Shipping weight 1 lb.

FIG. G—MODEL M-101, M-102: "The Economike" Lowest cost, wide range home recording microphone designed for hand held use. Durable, light weight plastic, 5 feet of single conductor shielded cable. MODEL M-101—Ceramic. Output —53 db, Frequency range 30-10000. List Price—\$8.75, Shipping weight 1 lb. MODEL M-102—Crystal. Output —48 db.

ALL PURPOSE CRYSTAL MICROPHONES

FIG. J—MODEL 200: "Velvet Voice" All purpose, low cost, hand held, desk-floor stand. Crystal high impedance microphone. Pressure cast housing, gold finish chrome grille. Complete with 8 feet of cable. MODEL 200—wide range, Output —50 db, Frequency Range 30-10,000 cps. MODEL 200-5—wide range with switch MODEL 241-5 rising characteristics with switch Output —50 db, Frequency Range—rising characteristics. From 1500 to 5500 cps.

MODEL 200—List Price \$19.50, Shipping weight 2 lbs.

MODEL 200S AND 241S—List Price—\$21.50, Shipping weight 2 lbs.

FIG. K—MODEL T-3 "The Pioneer" Industry standard. High output —52 db Frequency Range 30-10,000 cps tilting head provides for semi or non-directional pickup. Pressure cast housing. Finish bright chrome body and grille. 10 feet of single conductor cable. MODEL GT-3 includes Astatic G Stand.

MODEL T-3—List Price—\$29.30, Shipping weight 2 lbs.

MODEL GT-3—FIG L—List Price—\$49.50.

ALL DIRECTIONAL DYNAMICS

FIG N—MODEL DN-50, DN-HZ "The Commentator" Famous Astatic dynamic microphones for communication and general purpose use. Rugged construction, tilting head. Pressure cast body. Opalescent grey finish with bright chrome grille. MODEL DN-50—Low impedance, Output —51 db, Frequency Range 50 7000 10 feet of cable. MODEL DN-HZ—High impedance. Output —55 db Frequency Range 50-7000 cps. 10 feet of cable.

MODEL DN-50—List Price—\$33.50, Shipping weight 2 lbs.

MODEL DN-HZ—List Price—\$39.70, Shipping weight 2 1/2 lbs.

FIG O—MODEL GDN-50—Low impedance with Astatic G Stand. List Price—\$52.70, Shipping weight 3 lbs.

MODEL GDN-HZ—High impedance with Astatic G Stand. List Price—\$59.90, Shipping weight 3 lbs. 8 oz.

MODEL UGDN-50—Low impedance with Astatic UG Stand (balanced line) List Price—\$56.00, Shipping weight 3 lbs. 3 oz.

Frequency range 30-10,000 cps. List Price—\$9.70, Shipping weight 1 lb.

FIG. H—MODEL 54M3: The Universal Model 54M3. Nondirectional crystal microphone. Designed for PA and recording. Pressure cast housing, quick lock on base, brown finish. 5 feet of single conductor cable. Output —51 db, Frequency Range 30-10,000 cps. List Price—\$17.95, Shipping weight 2 lbs.

FIG. I—MODELS M-301 AND M-302: "The Gold Standard" Unique modern styling superior performance, wide range, high output makes this microphone ideal for tape recording use. Pressure cast housing, finish in metallic gold. Hinge in back recesses in and out making it a versatile microphone for hand or desk.

MODEL M-301—Ceramic, Output —53 db, Frequency Range 30-10,000. List Price—\$11.50, Shipping weight 1 lb.

MODEL M-302—Crystal, Output —48 db, Frequency Range 30-10,000. List Price—\$12.50, Shipping weight 1 lb.

FIG. M—JT-30 Crystal, JT-30C Ceramic: "The Spokesman" High quality low cost, specially designed for PA recording and communications. Pressure cast body and base. Finish—opal-escence grey, chrome grille. MODEL JT-30—Crystal, 8 feet of cable. Output —49 db, Frequency Range 30-10,000. MODEL JT-30C—Ceramic, 5 feet of cable. Output —54 db, Frequency Range 30-10,000 cps.

MODEL JT-30 List Price—\$18.40, Shipping weight 1 lb.

MODEL JT-30C List Price—\$18.90, Shipping weight 2 1/2 lbs.

FIG. Q—MODEL L-1—"The Lecturer." Small and efficient—High quality—Inconspicuous crystal microphone. Spring clip for attachment to speaker's coat lapel or other garment. Precision built, wide range performance. Wire mesh front and rear grilles. Black melamine finish. 15 ft. small diameter single conductor shielded cable. High impedance. Output —62 db. Range 30-10,000 cps. List Price—\$27.35.

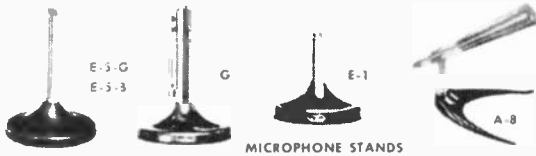
FIG. P—MODELS M-350 AND M-352—"The Dynamike," Low Cost Wide Range Dynamic Microphone. Versatile, all around high or low impedance dynamic microphone for P.A., tape recording, communications, industrial applications. MODEL M-350. High impedance, output level —56 db, response 50-10,000 cps, complete with adaptor for 3/8"-27 thread, 10 ft. single conductor shielded cable. Finish: non-reflecting satin black with brushed chrome trim. MODEL M350-5. Same as above with switch adaptor. MODEL M-352. Same as M-350 but low impedance 50 ohms balanced and 10 ft. two conductor shielded cable. MODEL M-352-5. Same as MODEL M-352 but with switch adaptor. Net weight: 16 oz.

List Price—M-350 (high impedance) \$41.50

List Price—M-350S (with switch) \$46.50

List Price—M-352 (low impedance) \$37.50

List Price—M-352S (with switch) \$44.75



MODEL G STAND—Has grip-to talk on-off switch sliding bar for "lock on." Use with DN-50 DN-HZ, T-3, D-104, 10C-100 Finish: bright chrome grey Hammerlin base. List Price \$24.95

MODEL UG STAND—Incorporates grip to talk on-off switch with sliding bar for "lock-on." Use with DN-50 microphone balanced line. List Price \$28.30

MODEL E-5-G, E-5-B DESK STANDS—Finish: grey or brown Hammerlin base with bright chrome stem. Has 3/8"-27 thread. Overall height 8". List Price \$7.75

MODEL E-1 DESK STAND—Finish: grey Hammerlin base, bright chrome stem. Has 3/8"-27 thread. Overall height 5 1/2". List Price \$8.25

MODEL A-8 DESK STAND—Futura microphone stand. Also may be used for other standard microphone. Finish: smooth satin black. Has 3/8"-27 thread. List Price \$8.25



ASTATIC REPLACEMENT MICROPHONE CARTRIDGES

MC-151—Used in models CX, CX-1, 200, 241, JT-30, JT-40, T-3. List Price \$ 7.00
 MC-127 Used in models CC, CC-1, VC, VC-1, JT-30C, JT-40C, T-3C. List Price \$ 7.00
 MC-451—Used in models 10MS, 11MS. List Price \$ 8.75
 MC-226—Used in models DN-50, DN-500, DN-HZ, DN-MZ. List Price \$16.50
 MC-320—Used in model D-104. List Price \$ 9.50
 MC-321—Used in model D-104C. List Price \$ 7.00
 MC-551—Used in model M-301. List Price \$ 7.00
 MC-552—Used in models M-300, M-302. List Price \$ 7.00
 MC-205—Used in models 12M3, 54M3, N-30. List Price \$ 7.00

ASTATIC PICKUP CARTRIDGES

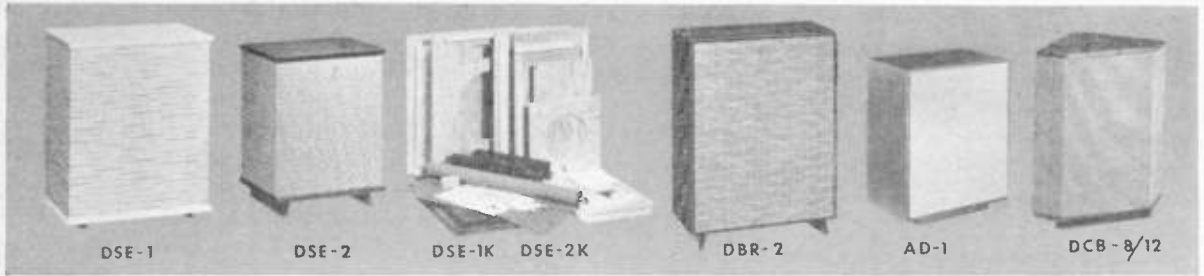
LEADER WITH ORIGINALS—FIRST WITH REPLACEMENTS

Astatic designs and manufactures THE WORLD'S MOST COMPLETE LINE OF PICKUP CARTRIDGES FOR BOTH ORIGINAL EQUIPMENT MANUFACTURERS AND DISTRIBUTORS. As the pioneer of the pickup cartridge industry, and as its largest single supplier for OVER A QUARTER OF A CENTURY, Astatic leadership continues unabated through constant research and product development for business and industry.

Argos
PRODUCTS COMPANY

*Craftsmanship
in Cabinets*

NEW HI-FI CABINETS,
BAFFLES, TUBE CADDIES



The Californian . . . DE LUXE HI-FI CABINETS

Panelyte top is most durable wood-grained surface known. Solid walnut wood trim (dark or bleached). Acoustone decorator grille cloth. New Argos "ducted port" design. Fibreglas acoustic padding.

DSE-1—The Californian (Factory-built). Takes 15" or 12" woofer and tweeter or coax speaker. Size 24" W. x 29" H. x 15" D. Ship. wt. 43 lbs. Blonde or Walnut, same price. Net \$49.95

DSE-2—The Californian Jr. (Factory-built) Takes 12" or 8" woofer and tweeter or coax speaker. Size 19 1/2" W. x 23 3/8" H. x 13 1/2" D. Ship. wt. 30 lbs. Blonde or Walnut. Net \$39.95

The Californian cabinets described at left are also available in unfinished kits. All parts are pre-cut. Entire top and bottom sections finished.

DSE-1K—The Californian (Kit). Will take 15" or 12" woofer and tweeter or coax speaker. Size 24" W. x 29" H. x 15" D. Ship wt. 41 lbs. Blonde or Walnut, same price. Net \$39.95

DSE-2K—The Californian Jr. (Kit). Will take 12" or 8" woofer and tweeter or coax speaker. Size 19 1/2" W. x 23 3/8" H. x 13 1/2" D. Ship. wt. 28 lbs. Blonde or Walnut, same price. Net \$29.95

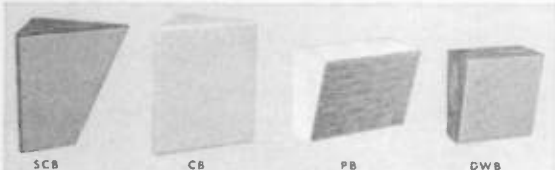
MODERATELY PRICED SPEAKER ENCLOSURES

All three units below use Argos "ducted port" design to extend low end of responsive curve. Fibreglas acoustic lining. Heavy scuff-resistant pyroxylin fabric. Tweeter port cover, all hardware and speaker reducing ring.

New "Forward Front" permits slim size with same 4.3 cu. ft. vol. Can be used upright as shown or on side (Base is shipped unattached). Takes either 15" or 12" woofer and separate tweeter or a coax speaker. Size 23" W. x 30" H. x 15" D. Ship wt. 43 lbs. DBR-2A—Blonde or Walnut. Net \$36.50

Equal in fine tonal qualities to cabinets costing up to twice the price. Ideal height for use as lamp table. Takes either 12" or 8" woofer and separate tweeter or a coax speaker. Size 19 1/4" W. x 23 3/8" H. x 13 1/2" D. Ship wt. 31 lbs.. AD-1—Blonde or Walnut. Net \$24.95

Better tone than any comparable cabinet because of (1) "ducted port" design and (2) corner location. Use on wall or floor. Takes either 12" or 8" woofer and separate tweeter or a coax speaker. Size 22 1/2" W. x 25" H. x 14 3/8" D. Wt. 22 lbs. DCB-8 12.—Blonde or Walnut. Net \$22.50



SCB—SLANTING CORNER BAFFLE. Forward Front gives 22% more internal vol. Bass reflex. Walnut or blonde pyroxylin.

SKB—Like SCB only new efficient open-back design. More internal vol., lower price.

CB—CORNER BAFFLE. Forward Front gives 19% more internal vol. Bass reflex. Walnut or Blonde pyroxylin.

KB—Like CB only new efficient open-back design. More internal volume, lower price.

PB—NEW PRESTIGE BAFFLES. Greater width improves appearance. Almost twice internal vol. for small extra cost. Walnut or Blonde pyroxylin.

DWB—DELUXE WALL BAFFLES in genuine birch, either modern (dark) walnut or platinum (light) finish. Forward Front.

WB—REGULAR WALL BAFFLES now with Forward Front. Like DWB only new "woodgrain" pyroxylin, walnut or blonde.

R-8 12 REDUCING RING for mounting 8" speaker in any 12" cabinet. All hardware. Ship. Wt. 1 lb. Net \$1.20.

R-12 15 REDUCING RING. Same only 12-15" size. Ship. wt. 1 lb. Net \$1.65.

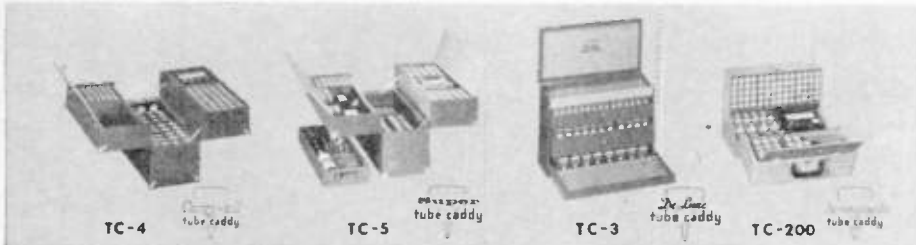
BAFFLES ONLY — NO SPEAKER

Model	Speaker Size	Width, Height Depth, In.	Cubic Inches	Ship. Wt. Lbs.	Net Each
SCB-8A	8	17 3/4 x 15 x 9 1/2	680	6	7.90
SCB-12A	12	21 x 20 1/4 x 10 1/2	1240	8	10.95
SKB-8	8	17 3/4 x 15 x 9 1/2	720	5	6.00
SKB-12	12	21 x 20 1/4 x 10 1/2	1320	6 1/2	7.80
CB-8C	8	14 x 12 1/4 x 6 1/2	525	4 1/2	7.41
CB-12C	12	20 x 18 x 9	1520	8 1/2	10.50
KB-8	8	9 3/8 x 10 7/8 x 6 1/4	380	3	4.95
KB-12	12	14 3/4 x 19 3/4 x 10 1/4	1860	7	7.50
PB-8	8	14 x 10 3/8 x 7	690	4	5.25
PB-12	12	18 1/4 x 13 3/4 x 9	1580	6 1/2	7.80
DWB-8A	8	9 3/8 x 10 1/2 x 6 1/2	400	5 1/2	6.00
DWB-12A	12	13 1/4 x 14 1/4 x 9	1180	9	8.40
WB-4 5C	4 5	6 1/4 x 6 1/8 x 4	100	2	2.80
WB-6C	6	7 7/8 x 8 1/2 x 5	210	3	3.40
WB-8C	8	9 3/4 x 10 1/2 x 6 1/2	400	5	4.05
WB-10C	10	11 7/8 x 12 3/8 x 7 3/4	800	6 1/2	4.80
WB-12C	12	13 3/8 x 14 x 9 1/8	1180	8 1/2	5.55

* Shipping wt. of 2 in carton * Order WB-6 9 for 9" oval speaker, same price

SAME BAFFLES WITH SPEAKER INSTALLED

SCB-8AS	8"	15 W Spkr.	4.64 oz. mag.	Wt. 8 1/2 lbs.	Net 13.65
SCB-12AS	12"	18 W Spkr.	6.8 oz. mag.	Wt. 12 1/2 lbs.	Net 19.20
WB-8CS	8"	15 W Spkr.	4.64 oz. mag.	Wt. 5 1/2 lbs.	Net 9.90
WB-12CS	12"	18 W Spkr.	6.8 oz. mag.	Wt. 8 1/2 lbs.	Net 14.50



They make work easier and quicker and you are more efficient. Regimented drawers give INVENTORY at a GLANCE. Shop owners say a tube caddy PAYS FOR ITSELF IN THREE WEEKS' TIME. Men are checked in and out faster and always arrive with the tubes they need.

CARRY-ALL TUBE CADDY* "Break-away" design gives quick access. Holds up to 262 tubes, plus tools, meter. 21" w. x 15" h. x 8" d. Ship. Wt. 12 lbs. TC-4—Net Each \$15.95

NEW PACEMAKER CADDY* TC-100. Similar to above, priced for economical buy. *Registered TM of Argos Co. er. Same size, wt. Net. \$12.35

TUBE CADDY* JUNIOR TC-2A. Like TC-4, smaller. 143 tubes, tools. 15 3/4" w. x 12 1/2" h. x 8" d. Wt. 9 lbs. Net \$10.50

NEW SUPER TUBE CADDY* Carries 4 1/2 more, gets more jobs done on the

spot. Separate tool tray. 3300 cu. in. vol. Size 24" w. x 16 1/2" h. x 8 1/2" d. Ship. Wt. 16 lbs. TC-5—Net Each \$21.95

DELUXE TUBE CADDY* Convenient tool tray (21 1/4" deep). Holds up to 225 tubes. Slip-out hinges. 18" w. x 14 1/2" h. x 9 1/4"

d. Ship. Wt. 14 1/2 lbs. TC-3—Net Each \$16.95

NEW PACEMAKER JR. New small size, folding model, economically priced. Holds up to 143 tubes, tools. Size 15 3/4" w. x 12 1/2" h. x 8" d. Ship. Wt. 9 1/2 lbs. TC-200—Net Each \$8.95



NEW STEREO ENCLOSURE WITH TWO SPEAKERS

The Argos Catalina ducted port hi-fi enclosure for bookshelf or floor. Range 40-17,000 cycles. Woofer, tweeter and crossover network. 8-ohm input. Walnut or blonde pyroxylin. Size 24" W. x 11" H. x 10 1/2" D. TSE-1S—Ship. wt. 19 lbs. Net \$24.95

TSE-1—Like above, without speakers. Ship. Wt. 17 lbs. Net \$16.50

SOUND CADDY (Not shown) Accommodates two 12" speakers and amplifier. Brackets for cables. Heavy plywood, steel corner angles. Brown fabric covering. 17 3/4" W. x 22" H. x 13 1/8" D. Shipping Wt. 20 lbs. SC-2C—Net \$21.55

HEADPHONES By C. F. CANNON CO.



THE "CHIEF" Cannon-Ball Bakelite Headset

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is 2 1/4". Double coils, two in each receiver. Alnico permanent magnets. Supplied with vinyl plastic covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4 1/2 ft. long.

- CC-2—2000 ohms D.C. List \$4.00
- CC-3—3000 ohms D.C. List 4.25
- CC-5—5000 ohms D.C. List 5.75
- CC-11—11 ohms D.C. List 4.00



BRANDES "SUPERIOR" Matched Tone Headset

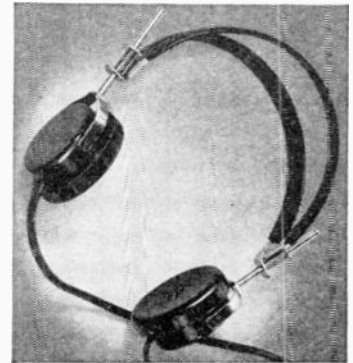
A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2 1/2" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjustment. 4 1/2 ft. cotton covered cord.

- BS-2—2000 ohms D.C. List \$4.15

BRANDES "ADMIRAL" Matched Tone Headset

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

- BA-2—2000 ohms D.C. List \$4.15
- BA-3—3000 ohms D.C. List 4.65
- BA-5—5000 ohms D.C. List 6.00



CANNON-BALL ALNICO MAGNETIC No. 25

A New Headset of Unusual Quality, Efficiency and Durability, powered by Alnico V magnets.

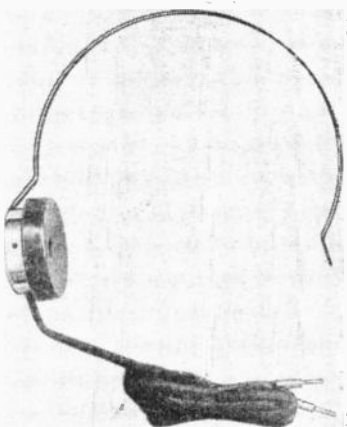
The headband is covered by attractive black extruded vinylite and provides utmost wearing comfort. Limits turn of phone to prevent twisting of cord. Cap and case of molded plastic. Large size diaphragm 2 1/2". Equipped with sanitary moisture-resistant plastic cord with riveted crotch piece.

- AM-25-2 List \$6.50
- AM-25-3 List 7.00
- AM-25-5 List 8.50

ALNICO MAGNETIC No. 15

A new, small size extra sensitive double headset, light in weight. Diameter of diaphragm 1 3/4". Molded cap and case. Steel adjustable headband. 4 1/2 ft. cord.

- AM-15-2 List \$3.50
- AM-15-3 List 3.75



CANNON-BALL "ALNICO" Single Headphone

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1 3/4". Bakelite case and caps. Alnico magnet, double coils, 4 1/2 ft. cord. Spring steel headband permanently attached.

- AM-15-1—1000 ohms D.C. List \$2.00

THE "MASTER" Cannon-Ball Headset

Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals. Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm 2 1/4" diameter. Double coils. Chrome steel magnets. 4 1/2 ft. cotton-covered cord.

- MC-2—2000 ohms D.C. List \$4.15
- MC-3—3000 ohms D.C. List 4.50
- MC-5—5000 ohms D.C. List 5.75

CANNON-BALL "EMPIRE" Lightweight Headset

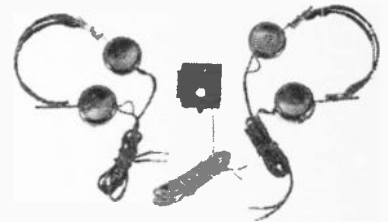
A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1 3/4". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4 1/2 ft. cord. Inside terminal connections.

- EC-2—2000 ohms D.C. List \$3.65
- EC-3—3000 ohms D.C. List 3.90

THE "DIXIE" Cannon-Ball Headset

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside. Bakelite case Alnico magnets.

- CD-2—2000 ohms D.C. List \$3.75
- CD-3—3000 ohms D.C. List 4.00



CANNON-BALL HEARING AID FOR TELEVISION

Provides private listening without disturbing others. Excellent for persons hard of hearing. Can be attached to any television set and permits listening to phones alone, speaker alone, or both together.

FOR TELEVISION

Kit complete with 15 foot cord, phone volume control and two sets of phones.
List \$16.50

With one headset List 12.50

MOLDED RUBBER CUSHIONS



Fit standard size headsets. Molded-in air chamber provides maximum wearing comfort.

List per pair \$1.00

Phones can be supplied with any resistance required or with variations to meet special requirements. Sanitary plastic covered cords available for institutional use. Write for special quotation.

Cletron Hi-Fi Speakers

CATHEDRAL SERIES HIGH-FIDELITY SPEAKERS TWEETERS



C-4FT

MODEL C-4FT (1800-18,500 CPS)

An excellent 4" tweeter with a range of 1,800-18,500 cps, ±5 db. May be used with capacitive or inductive crossover. Heavy 3.16 oz. Alnico V magnet; 1/8" aluminum form voice coil. Power handling, 10 watts. Impedance, 8 ohms.
Cletron Model C-4FT Tweeter—Audiophile Net. \$650

MODEL C-4CT (1800-18,500 CPS)

Identical to Model C-4FT except: Has 1.47 oz. Alnico V magnet; power handling, 8 watts.
Cletron Model C-4CT Tweeter—Audiophile Net. \$560

MODEL C-3CT (1800-18,500 CPS)

A 3" tweeter for multiple speaker installations with series-parallel voice coil connections and where two tweeters are used. May also be used as a single tweeter. Range, 1,800-18,500 cps, ±5 db. Has 1.47 oz. Alnico V magnet; 1/8" aluminum form voice coil. Power handling, 6 watts. Impedance, 8 ohms.
Cletron Model C-3CT Tweeter—Audiophile Net. \$475

MODEL C-3CT4 (1800-12,500 CPS)

For use where two tweeters are used in series and connected to 8-ohm network. Same as C-3CT except: Range, 1,800-12,500 cps, ±5 db; 4 ohm voice coil; power handling, 4 watts.
Cletron Model C-3CT4 Tweeter—Audiophile Net. \$530



C-3CT

FULL SCALE-WIDE RANGES WITH HIGH FREQUENCY DIFFUSERS

MODEL C-12NR (30-16,000 CPS)

Ideal for use in back-loaded enclosure with or without tweeter unit. Finest double cone 12" speaker with a range of 30-16,000 cps. Air resonance, 30 cps. Has 16 oz. Alnico V magnet (12,500 gauss); 2" aluminum form voice coil. Power handling, 25 watts. Impedance, 8 ohms. Overall depth, 7".
Cletron Model C-12NR—With high frequency diffuser. Audiophile Net. \$3330

MODEL C-8NR (60-12,500 CPS)

Mid-range double cone 8" speaker for use in multiple speaker systems with high power requirements or as a single speaker where excellent mid-range reproduction is required. Range, 60-12,500 cps, ±5 db. Air resonance, 65 cps. Has 16 oz. Alnico V magnet (12,500 gauss); 2" aluminum form voice coil. Power handling, 16 watts. Impedance, 8 ohms. Overall depth, 5".
Cletron Model C-8NR—With high frequency diffuser. Audiophile Net. \$2700

MODEL C-8FR (65-16,000 CPS)

Popular in high fidelity applications of moderate power or as a perfect speaker for excellent public address applications. A double cone 8" speaker with a range of 65-16,000 cps, ±5 db. Air resonance, 70 cps. 3.16 oz. Alnico V magnet (9,500 gauss); 1 1/2" aluminum form voice coil. Power handling, 8 watts. Impedance, 8 ohms. Overall depth, 3 3/4".
Cletron Model C-8FR—With high frequency diffuser. Audiophile Net. \$1500

MODEL C-8MFR (1000-6000 CPS)

New solid basket mid-range has high compliance characteristics. Mates with any system. Solid basket eliminates interaction when mounted in same cavity as woofer. Axial sensitivity of 95 db (±5 db). Aluminum voice coil form handles power up to 12 watts. Impedance, 8 ohms.
Cletron Model C-8MFR Midrange—Audiophile Net. \$1320



C-12NR

COAXIAL HIGH-LOW DUETS WITH BUILT-IN CROSSOVERS

MODEL C-12PC (35-18,500 CPS)

A 12" coaxial speaker with a range of 35-18,500 cps, ±5 db. Woofer has extra heavy 21 oz. Alnico V magnet around 2" aluminum form voice coil; 25 watts power handling. Tweeter is C-4CT. Air resonance, 35 cps. Impedance, 8 ohms. Overall depth, 7".
Cletron Model C-12PC—With built-in crossover. Audiophile Net. \$5350

MODEL C-8JC (60-12,500 CPS)

Frequency range, 60-12,500 cps, ±5 db. The 8" woofer has a 6.8 oz. Alnico V magnet, 1" aluminum form voice coil. The C-3CT, 3" tweeter, has a 3/8" voice coil and a 6.8 oz. Alnico V magnet. Air resonance, 65 cps. Power handling, 8 watts. Impedance, 8 ohms. Overall depth, 5".
Cletron Model C-8JC—With built-in crossover. Audiophile Net. \$1800



C-8NR

WOOFERS

MODEL C-12RW (16-4000 CPS)

Most efficient 12" bass speaker available. Flex-Edge cone permits full 1" excursion at 16 cps with only 4 watts input. A 6 1/2 lb. ceramic Indox magnet structure for over one million Maxwell lines. High compliance for organ or drum tonal response. Aluminum voice coil operates efficiently at 5 watts; peaks at 35 watts, 25 watts continuous program. Efficiency cuts out before 4000 cps. Ideal for folded horn or infinite baffles. Matched to 16 ohms.
Cletron Model C-12RW Flex-Edge Woofer—Audiophile Net. \$5900

MODEL C-12RDW DUAL WOOFER FOR STEREO

Same features as C-12RW above, but has bililar winding on voice coil for dual channel use. Assures in-phase balance from both amplifiers. Permits smaller second baffle without loss of bass response on second channel.
Cletron Model C-12RDW Flex-Edge Dual Woofer—Audiophile Net. \$6400

MODEL C-12PW (30-5000 CPS)

A 12" speaker with a range of 30-5,000 cps, ±5 db. Has 21 oz. Alnico V magnet, 2" aluminum form voice coil. Air resonance, 35 cps. Power handling, 25 watts. Impedance, 8 ohms. Overall depth, 7".
Cletron Model C-12PW Woofer—Audiophile Net. \$5050

WOOFER-TWEETER COMBINATION WITH SOUNDING BOARD AND CROSSOVER NETWORK

MODEL C-1233 (30-18,500 CPS)

The crossover in C-1233 functions at 1,800 cps and "crosses over" at the rate of 12 db per octave. Designed for either wall installation on 16" joist centers, installation in a back-loaded enclosure or for conversion of an older console to high fidelity sound. Consists of one 12" woofer with a 21 oz. Alnico V magnet and 2" voice coil, two 3" tweeters with 1.47 oz. Alnico V magnets and 1/8" voice coils, and a completely shielded L-C crossover network, all mounted on a plywood mounting board 16" x 20" with a depth of 7" from the front of the baffle to the back of the speakers. Frequency range, 30-18,500 cps. Air resonance, 35 cps. Power rating, 35 watts. Impedance, 16 ohms. See matching "Trio" enclosure kit listed on next page.
Cletron Model C-1233—Audiophile Net. \$6000



C-8FR



C-12PC



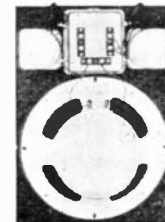
C-8JC



C-12RW



CM12PW



C-1233

Cletrun Stereo Kits, Speakers



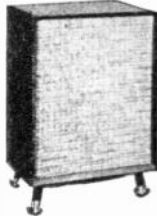
CATHEDRAL HIGH FIDELITY KITS MODEL C-33812 MATCHED SET

Features the Cletrun 12" Flex-Edge woofer with ceramic Indox magnet for over one million Maxwell lines. May be used in either stereophonic or monophonic sound systems. The new development Flex-Edge cone is specifically designed for easier linear movement and has an unusually heavy body to prevent break-up of bass mid-tones common to other woofers. High compliance, 16 cps to 4000 cps. Full one-inch excursion of cone, with aluminum voice coil form, at 16 cps with only four watts input. Handles 25 watts continuously and 35 watts peak power. Operates efficiently at only five watts. Efficiently cuts out before 4000 cps. Kit includes Model C-SMFR mid-range speaker for 1000-6000 cps, with an axial sensitivity of 95 db (± 5 db). Has aluminum form voice coil. Features solid basket construction, eliminating the interaction effect when used in the same cavity as the woofer. Upper range is accommodated by the use of two Model C-3CT quality three-inch tweeters with a range of 1800-18,500 cps, completing the audio spectrum. Tweeters are designed primarily for multiple speaker systems where two tweeters are used. L-C network Model C-1220 matched for perfect operation has remote control for fine-tuning the mid-range output to suit individual tastes.

Cletrun Model C-33812 Matched Set—Audophile Net. **\$9800**

"TRIO" ENCLOSURE KIT

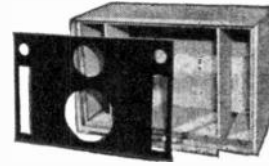
Enclosure kit matched to and including the Cathedral C-1233 sounding-board panel. Furnished prefabricated and unfinished, including all components, for quick, easy assembly. Model C-1233 combination woofer, dual tweeter and L-C network included. Features: 12" bass with a 5 lb. magnetic structure; two matched 3" tweeters; and a completely shielded L-C network matched to 16 ohms. **Frequency Range:** 30-18,500 cps. Free air resonance is 35 cps. Rated at 35 watts maximum. Has complimentary, decorative grille cloth. Size: 31" h. x 21 1/2" w. x 11" d. "Trio" Enclosure Kit and C-1233 Speaker Set—Unfinished. **\$10800**



"QUARTET" ENCLOSURE KIT

A complete component, prefabricated unit matched to and including the Model C-33812 speaker set described above. All parts cut to shape and unfinished for easy construction. Furnished completely with all components, including grille cloth, for quick assembly. Size: 26" h. x 36" w. x 18" d. (Height includes 2" mounting base).

"Quartet" Enclosure and Matched Speaker Set—Unfinished. Audophile Net. **\$15800**



L-C NETWORKS

MODEL C-800 HIGH PASS FILTER
Designed to divide audio between woofer and tweeter in two-speaker system. Matches 8, 16 ohms. Capacity, 30 watts. Frequency range, 2000-20,000 cps for tweeter, self-contained. Protects tweeter from damage. Size: 4 1/2" x 2 3/4" x 1 1/4" d. **\$750**

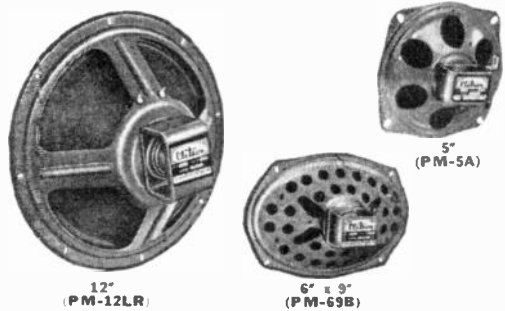
MODEL C-1200 TWO-WAY L-C NETWORK
Designed for two-speaker system and matches 8 and 16 ohms. Eight ohms crossover is 2000 cps; 16 ohms crossover is 1500 cps.

Has 12 db per octave attenuation. Handles up to 50 watts. Gold anodized case, 5" x 5 1/2" x 2 1/4". Cletrun Model C-1200 Two-Way L-C Network—Audophile Net. **\$1700**

MODEL C-1220 THREE-WAY NETWORK
Matching 8 and 16 ohm impedance with "L" pad remote control for fine tuning of mid-range output. Crossover: Bass, 15-1500 cps; mid-range, 500-5000 cps; tweeter, 2000 cps (12 db per octave). Insertion loss is less than 1 db. Power handling up to 50 watts. Gold anodized case, 5 3/4" x 3 1/2" x 2 1/4". Cletrun Model C-1220 Three-Way Network—Audophile Net. **\$2150**

REPLACEMENT AND AUTO SPEAKERS

STANDARD PM SPEAKERS



Size In.	Cletrun No.	Magnet Wt. Oz.	V.C. Size	Watts	Mtg. Holes C't's In.	Depth In.	Net Each
2 3/4	PM-2P2*	.73	1/2"	250 mv	...	1 1/2	\$2.88
3 3/4	PM-3A	.68	3/4"	2-4	2 1/2 x 2 1/2	1 1/2	2.37
4	PM-4A	.68	3/4"	2-4	3 1/4 x 3 1/4	1 3/8	2.37
4	PM-4P2	.70	3/4"	2-4	3 1/4 x 3 1/4	1 3/8	2.04
4	PM-4	.68	3/4"	2-4	3 1/4 x 3 1/4	1 3/8	2.49
4	PM-4B	1.00	3/4"	2-4	3 1/4 x 3 1/4	2 1/8	2.70
4	PM-4C	1.47	3/4"	2-4	3 1/4 x 3 1/4	2 1/8	5.2
5	PM-5A	.68	3/4"	2-4	3 1/4 x 3 1/4	2 1/8	2.73
5	PM-5B	1.00	3/4"	2-4	3 1/4 x 3 1/4	2 1/8	2.94
5	PM-5C	1.47	3/4"	2-4	3 1/4 x 3 1/4	2 1/8	3.06
5	PM-5	.68	3/4"	2-4	3 1/4 x 3 1/4	2 1/8	2.64
5 1/2	PM-5CA	1.47	3/4"	2-4	4 x 4	2 1/8	3.09
6	PM-6	.68	3/4"	2-4	4 3/4 x 4 3/4	2 1/8	3.27
6	PM-6B	1.00	3/4"	2-4	4 3/4 x 4 3/4	2 1/8	3.54
6	PM-6C	1.47	3/4"	2-4	4 3/4 x 4 3/4	2 1/8	4.14
6	PM-6E	2.15	3/4"	4-9	4 3/4 x 4 3/4	2 1/8	4.80
6	PM-6F	3.16	3/4"	4-9	4 3/4 x 4 3/4	3 3/4	5.04
7	PM-7EA	2.15	3/4"	4-9	4 3/4 x 5 3/4	3 3/4	3.21
7	PM-7FA	3.16	3/4"	4-9	4 3/4 x 5 3/4	3 3/4	4.71
8	PM-8	.68	3/4"	2-4	5 1/4 x 5 1/4	3	4.71
8	PM-8D	1.47	3/4"	4-9	5 1/4 x 5 1/4	3 3/4	4.29
8	PM-8F	2.15	3/4"	4-9	5 1/4 x 5 1/4	3 3/4	6.60
8	PM-8EA	2.15	3/4"	4-9	5 1/4 x 5 1/4	3 3/4	8.70
8	PM-8E1*	2.15	3/4"	4-9	5 1/4 x 5 1/4	2 1/8	5.70
10	PM-10E	2.15	3/4"	4-9	6 1/4 x 6 1/4	4 3/4	6.33
10	PM-10G	3.16	1"	6-12	6 1/4 x 6 1/4	4 3/4	4.29
10	PM-10	1.00	3/4"	4-9	6 1/4 x 6 1/4	3 3/4	6.60
12	PM-12	1.47	3/4"	5-10	8 1/4 x 8 1/4	4 3/4	8.70
12	PM-12G	3.16	1"	6-12	8 1/4 x 8 1/4	5 3/4	9.60
12	PM-12H	4.61	1"	6-12	8 1/4 x 8 1/4	5 3/4	

Note: Voice coil impedance of speakers above, 3.2 ohms, except: *Speaker is 14 ohms †Speaker is 8 ohms. ‡Motor structure is inverted to reduce depth.

PM SPEAKERS, PA TYPES

Size In.	Cletrun No.	Magnet Wt. Oz.	V.C. Size	Watts	Mtg. Holes C't's In.	Depth In.	Net Each
8	PM-8FR	3.16	3/4"	4-9	5 1/4 x 5 1/4	3 3/4	\$ 5.46
8	PM-8JM	6.80	1"	6-12	5 1/4 x 5 1/4	4 3/4	8.01
10	PM-10JR	6.80	1"	6-12	6 1/4 x 6 1/4	4 3/4	9.00
12	PM-12JR	6.80	1"	6-12	8 1/4 x 8 1/4	7 3/4	10.20
12	PM-12LR	10.00	1 1/4"	12-20	8 1/4 x 8 1/4	7 3/4	11.88
12	PM-12CR	6.80	1"	6-12	8 1/4 x 8 1/4	7 3/4	16.62
15	PM-15CR	6.80	1"	6-12	10 1/4 x 10 1/4	8	21.60

Note: Voice coil impedance, 8 ohms. PM-12CR is a coaxial with separate 4-inch tweeter and crossover network built in. PM-15CR is a coaxial with separate 5-inch tweeter and crossover network built in.

PM OVAL SPEAKERS

Size In.	Cletrun No.	Magnet Wt. Oz.	V.C. Size	Watts	Mtg. Holes C't's In.	Depth In.	Net Each
2 x 10	PM-210*	1.47	3/4"	2-4	7 1/2 x 2 1/2	2 1/4	\$3.66
4 x 6	PM-46A	.68	3/4"	2-4	3 3/4 x 4 3/4	2 1/8	2.97
4 x 6	PM-46B	1.00	3/4"	2-4	3 3/4 x 4 3/4	2 1/8	3.09
4 x 6	PM-46C	1.47	3/4"	2-4	3 3/4 x 4 3/4	2 1/8	3.27
5 x 7	PM-57	.68	3/4"	2-4	4 1/4 x 4 1/4	2 1/8	3.09
5 x 7	PM-57A	.68	3/4"	2-4	4 1/4 x 4 1/4	2 1/8	3.38
5 x 7	PM-57B	1.00	3/4"	2-4	4 1/4 x 4 1/4	2 1/8	3.54
5 x 7	PM-57C	1.47	3/4"	2-4	4 1/4 x 4 1/4	2 1/8	3.75
5 x 7	PM-57E	2.15	3/4"	4-9	4 1/4 x 4 1/4	3 3/4	4.79
5 x 7	PM-57FC	3.16	3/4"	4-9	4 1/4 x 4 1/4	3 3/4	4.79
6 x 9	PM-69B	1.00	3/4"	4-9	4 3/4 x 6 3/4	3 3/4	4.05
6 x 9	PM-69D	1.47	3/4"	4-9	4 3/4 x 6 3/4	3 3/4	4.62
6 x 9	PM-69E	2.15	3/4"	4-9	4 3/4 x 6 3/4	3 3/4	5.05
6 x 9	PM-69FC	3.16	3/4"	4-9	4 3/4 x 6 3/4	3 3/4	5.70
6 x 9	PM-69EI	2.15	3/4"	4-9	4 3/4 x 6 3/4	2 1/8	4.01
6 x 9	PM-69I2	1.73	3/4"	4-9	4 3/4 x 6 3/4	3	4.01
6 x 9	PM-69I4	1.73	3/4"	4-9	4 3/4 x 6 3/4	3	4.01
6 x 9	PM-69	1.00	3/4"	4-9	4 3/4 x 6 3/4	3 3/4	4.2

Note: Voice coil impedance, 3.2 ohms. *Or, 9 1/2" x 2 1/2". PM-57FC and PM-69FC have Hi-Pi diffuser type dual cones. PM-69I1 is a replacement for Ford PM-69I2 is a replacement for Delco. PM-69EI has an inverted motor structure to reduce its depth.

Clevite-Brush Headphones

.....*The Standard of Fidelity*.....

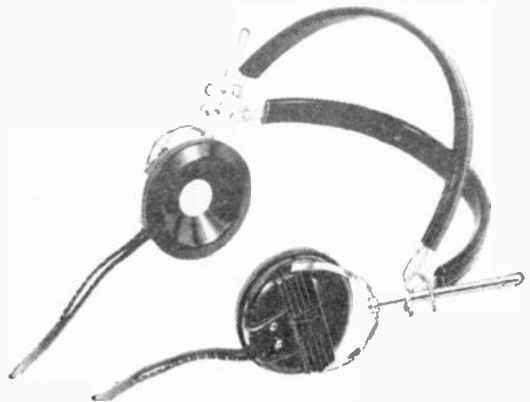


HIGH FIDELITY—The completely redesigned model BA-220 headphone comes complete with ear cushions for improved frequency response and greater listening comfort. The BA-220 has exceptionally flat response out to 10,000 cycles. It combines the quality performance of the model BA-206 with the convenience and flexibility required of a high fidelity instrument. A simple plug change permits stereophonic or monophonic listening.

BA-220 Double \$44.95 List
Net Wt. 8 oz. Shipping Wt. 2 lbs.

... for commercial and amateur listening

Clevite-Brush crystal phones possess wider range response with more uniform output. They furnish smooth, air-tight fit for excellent bass response. The Bimorph[®] crystal drive element is of such high impedance that line or circuit characteristics are not affected when monitored by Clevite-Brush phones. Light-weight, rugged, shock-proof construction is standard. All models are available with special cords for binaural listening.



Model BA-206 headphones are designed for listening to stereophonic or monophonic phonograph records, tape recordings or FM broadcasts. Their high impedance and negligible power requirements allow monitoring without any effects on associated equipment. The special "Metalseal" crystal elements provide maximum protection against excessive humidity.

BA-206 Double \$37.25 List
Net Wt. 8 oz. Shipping Wt. 2 lbs.

BRUSH BINAURAL HEADPHONES

All Brush headphones are available with special cords for binaural applications. These feature the same high quality performance provided by all Brush headphones.

- 1. BA-206 B \$39.25
- 2. BA-205 B \$35.75
- 3. BA-200 B \$24.50

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE



EXTENDED RANGE

For use where extended frequency response is of paramount importance. (100 to 8,000 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar applications. Impedance over 75,000 ohms at any frequency within audio range. Headset complete with 5' cord and headband.

BA-205 \$33.75 List
Net Wt. 6 oz. Shipping Wt. 2 lbs.



GENERAL PURPOSE

For laboratory, studio and skilled amateur home use. Wide range response (100 to 5,000 cps.) High impedance; high sensitivity, ideal for multiple installations. Headset complete with 5' cord and adjustable headband.

BA-200 \$22.50 List
Net Wt. 6 oz. Shipping Wt. 2 lbs.



SINGLE PHONE

Particularly adapted to individual or group hearing aid and radio applications. Light-weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber cushion to eliminate slipping. Single phone complete with 5' cord and headband.

BA-201 \$14.95 List
Net Wt. 3 oz. Shipping Wt. 1 lb.



LORGNETTE PHONE

Designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Attractively finished in satin black. Light-weight easy to handle and complete with 5' cord and lorgnette handle.

BA-202 \$18.75 List
Net Wt. 5 oz. Shipping Wt. 1 lb.



CLEVITE ELECTRONIC COMPONENTS

division of



Cleveland 14, Ohio

East Orange, New Jersey



J. W. DAVIS CO.

Wattersan SPEAKER BAFFLES

Americas Most Complete Line

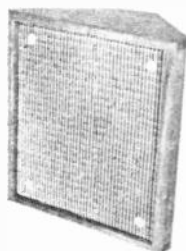
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Model	Speaker Size	List	Net
6-5	6" or 5"	\$7.50	\$4.50
8	8"	9.88	5.93
12	12"	13.75	8.25

Walnut or Natural Blond

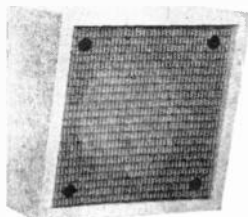
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Model	Speaker Size	List	Net
C-8	8"	\$17.37	\$10.42
C-12	12"	23.75	14.25

Walnut or Natural Blond

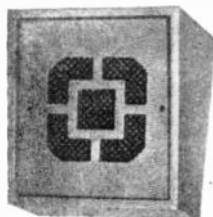
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Model	Speaker Size	List	Net
80	8"	\$9.88	\$5.93
120	12"	13.12	7.87

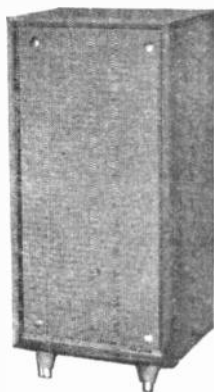
Mahogany or Blond Lacquer

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Model	Speaker Size	List	Net
8E	8"	\$8.75	\$5.25
12E	12"	12.37	7.42

Brown Hammetone, Natural Blond, or Blond Lacquer



MODEL HF-85

Model	Speaker Size	List	Net
HF-85	8" & 5"	...	\$28.95
HF-85S	8" & 5"	...	46.50

installed

Walnut, Blond, Maple, Charcoal



MODEL SA-18

ALUMINUM CEILING BAFFLE FOR 8" SPEAKER

SA-18

PROTECTIVE ENCLOSURE



MODEL C-800

CORNER HORN BAFFLE FOR 8" SPEAKER

List	Net
\$16.87	\$10.12

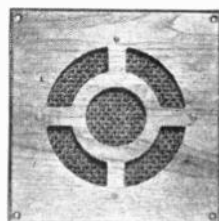
Walnut or Natural Blond



Since 1933

DALLAS, TEXAS

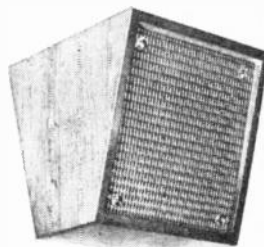
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Model	Speaker Size	List	Net
P6	6"	\$3.75	\$2.25
P8	8"	4.63	2.78
P12	12"	5.87	3.52

Walnut, Mahogany, or Blond

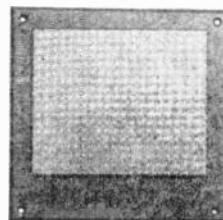
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Model	Speaker Size	List	Net
CR-88	one 8"	\$14.63	\$8.78

Walnut or Natural Blond

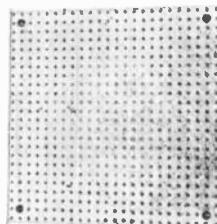
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Model	Speaker Size	List	Net
MP-68	6" or 8"	7.00	4.20

White, Gray, Brown, Beige, Blond

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Model	Speaker Size	List	Net
AC-6	6"	\$6.25	\$3.75
AC-8	8"	6.25	3.75

Dull White

Sec. 1320

SELECT-O-SWITCH

4-position switch permits quick switching of one input to four different outputs. Use as an antenna switch or speaker switch. Beautiful modern design hi-impact case.

Model SS-4 List 3.25



TELE-LINK

Billar coils offer maximum isolation between sets with maximum signal transfer. Solderless screw terminals for all connections. Equally effective for TV or FM sets.

Model TL-2 List 2.95



ANTEN-UATOR

Removes overload in strong signal areas. Corrects reception when AGC circuits are faulty in TV & FM receivers. Reduces ghosts, audio and video distortion. One feed-thru, 10 DB and 20 DB attenuation positions. Matched to 500 ohms.

Model SA-1 List 3.25



TELE-TRAP

Balanced constant-K high-pass filter for 300 ohm line. Cures most spurious signal overload problems. Attenuates signals below 44 MC and passes all higher frequencies. Assembled with coils and capacitors.

Model F-1 List 2.95



DE RO-JUVENATOR

Compact tube booster. Restores brilliance and contrast to picture. Prolongs life of old Tubes.

Model RP-1 Parallel List 1.50

DUO-JUVENATOR

Featuring exclusive "Switch-In-Base" for conversion from Parallel to Series and Vice-versa.

Model RPS-2 Series & Parallel List 2.95

JUMP-IT HI-FI CONNECTOR CABLES INDIVIDUALLY PACKAGED

- PP-18 18" cable Pin Plug both ends 1.25
- PJ-18 18" cable Pin Plug and Pin Jack 1.35
- PT-18 18" cable Pin Plug and tinned ends .95
- PPH-18 18" cable Pin Plug and Phone Plug 1.50
- PHPJ-18 18" cable Phone Plug and Pin Jack 2.50
- FTPJ Feed-thru Pin Jack Both ends .85
- PHPJ Phone Plug and Pin Jack adapter .95
- Pin 30" cables one end letters glove and add 75¢-1.00

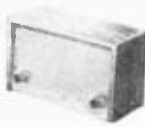
Example: PP-36.



UNIVERSAL DE RO-JUVENATOR

Corrects practically all tube failures. Isolates cathode and filament shorts. For all parallel or series TV sets — both electrostatic and electromagnetic.

Model RU-5 List 3.95



PERSONNA-TONE

Permits chair-side TV listening. Select either one or both speakers from remote position. Unwanted commercials are eliminated. All wood cabinet for best sound. Built-in volume control. Complete with 25 feet of cable.

Model PS-20 List 9.95



REMO-TONE

Completely wired remote speaker switch assembly for installation to any radio or TV set. 3-position silver-plated contacts. Ample cable for all cars when used in rear-seat speaker installations.

Model RT-16 List 1.95



DUAL-TONE

Two volume controls — one for each speaker. Permits sound adjustment of either speaker independently. No switch necessary. Adjusts sound to fit the needs exactly.

Model DT-32 List 3.95



PIC-TEST

Determine if picture tube is defective without removing it from the cabinet by substituting the Pic Test in its place. Step-by-step instructions make operation simple.

Model PT-1 Net 2.97



3 SPEAKER HI-FI SYSTEM Stereo Model S844W

Hand rubbed mahogany and blond woods, matched and phased speakers. Electronic crossover network wired in assuring proper frequency dispersion. True hi-fi presence. Handles outputs to 15 watts. Dimensions: 14"H x 18"W x 10"D. Brass legs optional.

List \$39.95

Model VT-2



VELVETONE

Crossover network featuring high-pass filter to extend high frequency range of any amplifier system. Facilitate the addition of a tweeter to any amplifier.

Automatically channels low frequencies to woofer and higher frequencies to tweeter. High frequency control for precise tone balance.

Can be used on 1.8 or 10 ohm systems. Low frequency roll-off begins in the 2000-3000 cycle region.

List 2.65

Latest catalog available on request



ROOSEVELT, LONG ISLAND, NEW YORK

SOUND-ORBITER

Completely wired. One crossover network services all four sets of speakers. Screw terminals for all connections.

Unique switching permits operation of HI-FI speakers independently of all remote loads. Switches in any combination of up to four sets of woofers and tweeters in constant-impedance arrangement.

Use directly across amplifier output and control eight speakers in groups of two; or connect to output of cross-over network and control four sets of speakers.



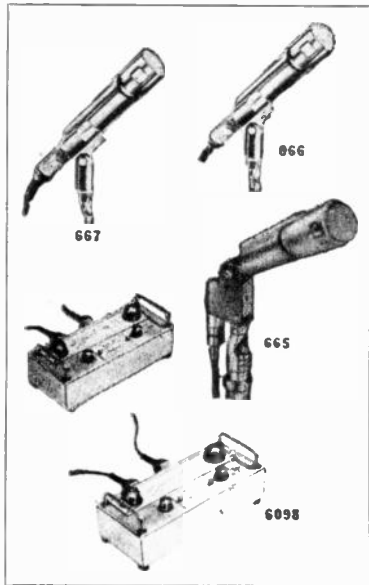
- Model HFS-4 (4 ohms)
- HFS-8 (8 ohms)
- HFS-16 (16 ohms)

List \$ 9.95

Electro-Voice BC-TV-RECORDING MICROPHONES

BROADCAST—TV—RECORDING DYNAMICS

CARDIOID UNIDIRECTIONAL MICROPHONES



Model 666 Super Cardioid Microphone—Totally new concept in directional microphone design uses Variable D principle. High discrimination against sounds from back hemisphere. Highly resistant to mechanical shock. Model 666 affords another octave of uniform HF response over that found in conventional broadcast cardioids. Permits close talking with no bass accentuation. Increases working distance over pressure microphones by factor of 1.7:1 due to polar pattern. Designed for operation on boom, stand or in hand. Uses only one moving element with exclusive, rugged Acoustalloy diaphragm. Response range, typical 30-16,000 cps; output -55 db. Impedance changed on internal terminal board. Wired for 150 ohms, taps at 50 and 250 ohms. Aluminum cast case finished in TV gray. Built-in Cannon UA-3 connector. Clamp-on stand mount included with $\frac{3}{8}$ "-27 thread and $\frac{1}{2}$ " pipe thread adapter. 20' cable. Size, $7\frac{1}{2}$ " long, $1\frac{3}{4}$ " diameter. Net Weight, 11 oz. List Price... **\$255.00**

Model 666R Rising Response Cardioid—Similar to Model 666 above but has a frequency response which rises 4 $\frac{1}{2}$ db from 100 cps to 2000 cps. This characteristic, combined with an excellent polar response, reduces pickup of low-frequency room reverberations, thereby reducing room "rattle" and prop noise. The Model 666R is particularly suited to boom operation because of its increased sensitivity. Output is -50 $\frac{1}{2}$ db; other specifications are similar to Model 666. List Price... **\$255.00**

Model 667 Variable Response Cardioid—This all-purpose microphone fulfills requirements of wide-range reproduction under a great variety of acoustic conditions. The 667 combines the same excellent cardioid operations of the Model 666, listed above, with an in-line transistor preamplifier, with bass, treble and presence controls providing 40 distinct frequency response characteristics. Maximum output level: 50 ohms, -30 db; 150 ohms, -32 db; 250 ohms, -33 db. Microphone specifications, accessories, similar to Model 666 except response: 35-16,000 cps; finish brown and gold. Preamplifier noise level -123 db referred to input. Controls: Bass (4-position: +3 db, flat, -5 db, -9 db at 100 cps); Treble (5-position: +9 db, +6 db, +3 db, flat, -6 db at 10 kc); Gain (4-position); Power On-Off switch. Long-life mercury battery supplied. Steel case, brushed chrome finish. Size, 9" l., $3\frac{3}{4}$ " w., $3\frac{1}{2}$ " h. Net Wt., $3\frac{1}{2}$ lb. Supplied with 50' cable, UA-3-11, UA-3-12 connectors; 20' cable with UA-3-11 connector, hardwood carrying case for complete unit. List Price... **\$600.00**

Model 665 Cardioid—Similar in design and function to the Model 666, but for less exacting applications. Uniform response 50-14,000 cps. Reversed switch provides 50 or 250 ohms. Pressure-zinc case. Nonreflecting gray finish. Diameter, $1\frac{1}{4}$ ", length $7\frac{3}{4}$ ". 18' cable. Net Weight, 1 lb., 10 oz. List Price... **\$150.00**

Model 6098 Transistor Line Amplifier—Can be used with any E-V low-impedance microphone to increase dynamic range and lower system noise. See Model 667 above for specifications. List Price... **\$269.00**

OMNIDIRECTIONAL MICROPHONES

Model 655C Slim-Trim TV Dynamic—Frequency response 40-20,000 cps. Output level -55 db. Has widest range response of any microphone commercially available. Used in many laboratories as test standard. Excellent level affords high signal-to-thermal noise ratio. Can be used on stand, in hand or on boom. Easily concealed in studio props. Acoustalloy diaphragm. Pop-proof grille. Impedance 50, 150 and 250 ohms. Impedance easily changed at internal terminal board. Cannon UA-3 connector. Clamp-on stand mount included with $\frac{3}{8}$ "-27 thread and $\frac{1}{2}$ " pipe thread adapter. Size, $10\frac{1}{4}$ " long w/o connector, 1" dia. 20' cable. Net Wt., 11 oz. List... **\$200.00**

Model 654 Slim-Trim Broadcast Dynamic—Frequency Response 50-16,000 cps. Output level -55 db. Reversed selector provides 50 or 250 ohms. Built-in Cannon XL-3 connector. Acoustalloy diaphragm. $\frac{3}{8}$ "-27 thread, 18' cable, $10\frac{1}{4}$ " long with stand, 1" dia. Net Weight, $15\frac{1}{2}$ oz. TV gray enamel... **\$100.00**

Model 646 Lavalier Dynamic—For chest, desk or hand use. Neck cord and support clips supplied. Response 50-10,000 cps; output level -57 db. Matches all low impedances. Omnidirectional. Acoustalloy diaphragm. Built-in connector. Gray enamel. 30' cable, $7\frac{1}{4}$ " x 1" dia. Net Weight, less cable, 7 oz. List Price... **\$147.50**

Model 649A Miniature Lavalier—Smallest dynamic lavalier—weighs only 2 oz. without cable; $3\frac{1}{4}$ " long x $\frac{3}{8}$ " diameter. Ideal for programming where unobtrusive or concealed microphone placement is desirable. The 649A may be hidden in corsages, under the lapel or tie, behind a book—almost anywhere. Frequency response 60-12,000 cps. Output: -60 db. Nondirectional. Matches all low impedances. 30' shielded cable. Aluminum case finished in TV gray. Complete with neck cord assembly and belt clip. List Price... **\$105.00**

Model 635 Broadcast Dynamic—Compact, rugged, versatile. Omnidirectional. Response, 60-13,000 cps. Output level -55 db. 50-250 ohms impedance selector. Head tilts through 90° arc. Cannon XL-3 connector, $\frac{3}{8}$ "-27 thread; size 2" x $6\frac{1}{4}$ ". Satin chrome finish. 18' cable. Net Weight, 1 lb. List Price... **\$82.00**

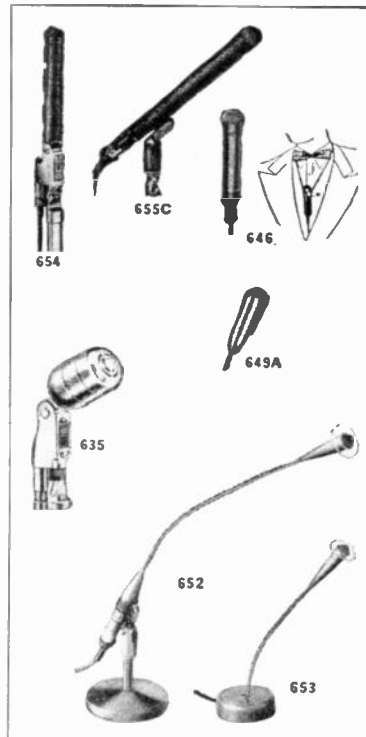
NEW "THIN-TRIM" DYNAMIC MICROPHONES

Model 652—A unique new design for an almost invisible dynamic microphone. The microphone is mounted on the end of the semirigid tube bringing the moving element closer to the user for full range, pop free response. The unobtrusive and attractive contour makes it ideal for use in television, broadcasting, recording lectures and other applications where the microphone should be inconspicuous. Breath and wind filter is an integral part of the microphone. Two clear plastic baffles provided to give either a 6 db or 3 db boost in the brilliance range of 6000 cps for added articulation. The microphone without the baffles gives a smooth response from 50 to 12,000 cps. The Model 652 is mounted on a $\frac{1}{2}$ " brass rod and finished in a light tan, non-reflecting VB-325 finish. Output level -60 db. Matches all low impedances. VA-3-12 Cable connector, 20' cable. Model 300 stand coupler. Length of microphone to cable connector 25". Weight, 11 oz. List Price... **\$120.00**

Model 652A—Same as Model 652 except 15" long. List Price... **\$120.00**

Model 653—Same as Model 652A except adjustable desk stand integral part of microphone. Weight, 1 lb., 6 oz. List Price... **\$130.00**

All E-V microphones except crystals are eligible for FCDA purchases.



Electro-Voice

GENERAL PURPOSE MICROPHONES

UNIDIRECTIONAL LINE MICROPHONE

Model 644 Sound Spot—Another Electro-Voice revolutionary development, the Sound Spot Model 644 is a combination cardioid and distributed front opening, making it the most directional microphone ever. The Model 644 has the farthest front pickup, or better than 2.5 times the working distance of pressure types. Work close or far away without change of frequency response.

Cancellation from the rear and sides exceeds 20 db giving practically complete rejection of unwanted sound. This feature gives the most rejection of random noise in any microphone commercially available. Reverberation and feedback are vastly lower than any other microphone, allowing much greater leeway in loudspeaker placement.

The effective front acceptance angle is 45° each side of center giving best isolation of individual performers. The Model 644 is 9 db better on the reduction of wind noise and has far less response to shock than all other microphones.

Frequency response is smooth from 40 to 12,000 cps, high output -52 db, dual high and low impedance selected by changing one tap on MC4M cable connector. The case is high-pressure diecast zinc with ¼" aluminum tube. Rear diameter 2 3/8", length 16". Cable is 18'. Weight, 2 lbs. 9 oz. List Price.....**\$110.00**

CARDIOID UNIDIRECTIONAL MICROPHONES

Model 664 Cardioid Dynamic—Similar to Model 666 in function, but designed specifically for PA. Cardioid pattern at all frequencies. Permits close talking without "booming" or bass accentuation. Provides better discrimination against unwanted sound. Less feedback than any cardioid PA microphone built. Blast filter minimizes wind effect. Acoustalloy diaphragm shielded from dust and magnetic particles. Response 40-15,000 cps. Output -55 db, On-Off switch, 150-ohm and high impedance. Impedance changed by moving one wire in MC4 cable connector. Pressure-cast case. Chrome finish. 18' cable. Size 7 1/8" long, less stand coupler, 1 3/4" diameter. Net Weight, 1 lb. 10 oz. List Price.....**\$85.00**

Model 664G—Gold Finish. List Price.....**\$90.00**

OMNIDIRECTIONAL MICROPHONES

Model 636 "Slimair" Dynamic—Exceptionally fine for PA, recording and general use. Response 60-15,000 cps, output -55 db. Pop-proof head. Wide pickup range. On-Off switch. Satin chrome finish. Tilttable head. Built-in MC-4 connector. 5/8"-27 thread. Hi-Z or Lo-Z by changing one wire in connector. 18' cable. 10 3/4" long including stud, 1 1/4" max. diameter. List Price.....**\$72.50**

Model 636G—Gold Finish. List Price.....**\$77.50**

Model 630 High Fidelity, High-Output Dynamic—Famous for quality at low cost. Response 60-11,000 cps; output level -55 db. Unaffected by heat or humidity. Acoustalloy diaphragm. Tilttable head. Built-in MC-3 connector. On-Off switch. Satin chrome finish. Available in 50, 250 ohms, or Hi-Z. Size 2" x 6 1/4". 18' cable. Net Weight, 1 lb. List Price.....**\$52.50**

Model 647 PA Lavalier Dynamic—Small, rugged; for chest, desk or hand use. With neck cord, support clips and 18' cable. Response 60-10,000 cps; output level -57 db. Impedance Hi-Z or Lo-Z easily changed at internal terminal board. Acoustalloy diaphragm. Built-in connector. Gray enamel finish. 5" long, 1" dia. Net Weight, less cable, 4 oz. List Price.....**\$82.50**

Model 623 Slim Dynamic—Ideal for PA, recording and general use. Use on stand or in hand. Omnidirectional. Response 60-12,000 cps; output level -56 db. Hi- or Lo-Z by changing one wire in connector. Pressure cast; satin chrome finish. Tilttable head. On-Off switch. Built-in MC-4 connector. 3/8"-27 thread. 7 1/2" x 1 1/8". 18' cable. Net Weight, 15 oz. List Price.....**\$57.00**

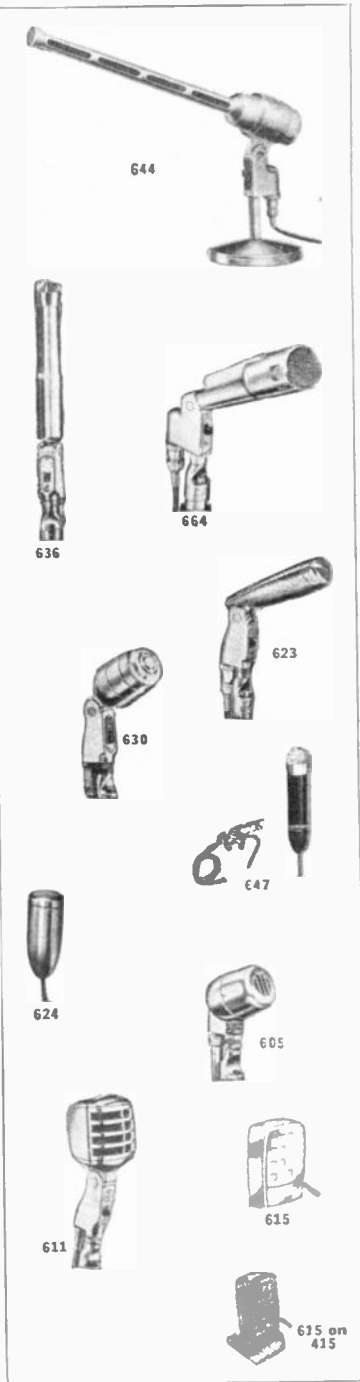
Model 611 "Mercury" Dynamic—Traditional styling, fine performance for general sound pickup. Response 50-9000 cps; output level -55 db. Nondirectional. Acoustalloy diaphragm. Tilttable head. On-Off switch. Built-in MC-3 connector. 3/8"-27 thread. Satin chrome finish. Available in 50, 250 ohms or Hi-Z. Lo-Z balanced to ground. 2 1/8" x 3 1/4" x 6 1/4" inc. stud. 18' cable. Net Weight, 1 1/4 lbs. List Price.....**\$45.00**

Model 624 Dynamic Lavalier—Most economical dynamic lavalier on the market. For chest or hand use. Supplied with neck cord, support clip and 18' cable. Satin chrome finish. Wire mesh head acoustically treated for wind and moisture protection. Output -56 db, response 100-7,000 cps. Hi-Z or 150 ohm, not balanced to ground. 3 1/2" x 1 1/8". Cable has integral strain relief. Net Weight, 10 oz. List Price.....**\$42.50**

Model 605 Durable Dynamic—For dependable, general purpose use. Response 65-8000 cps. Output level -55 db. Nondirectional, becoming directive at higher frequencies. Acoustalloy diaphragm. Head at 22° fixed tilt. Built-in MC-1 connector. Satin chrome. Choice of 50, 250 ohms or Hi-Z. Low impedance not balanced to ground. 3 1/4" x 2 1/2" x 2" dia. Net Weight, 12 oz. With 18' cable. List Price.....**\$32.50**

Model 615 "Century" Dynamic—Incomparable for paging, home recording, amateur, or any low-cost applications. Can be used in hand, on table, on stand, or overhead. Nondirectional. Acoustalloy diaphragm. Withstands extreme temperature, humidity, corrosion and shock. Response 80-8000 cps. Output -55 db, 50 ohms or Hi-Z. Lo-Z not balanced to ground. 5" cable. Pressure cast case, satin chrome. Rugged, lightweight. Size 3" x 2 1/8" x 1". With 3/8"-27 thread stand adapter. AC-DC insulated. List Price.....**\$25.50**

All E-V microphones except crystals are eligible for FCDA purchases.



Electro-Voice MICROPHONES

CRYSTAL AND CERAMIC MICROPHONES

Model 951 Cardioid Crystal—Uses same new Variable D principle as E-V's BC-TV cardioids to obtain uniform directivity at all frequencies, high discrimination against unwanted sound. The 951 is an excellent wide-range, all-purpose PA microphone for a great variety of acoustic conditions, and especially useful where background noise and reverberation are a problem. Response 50-11,000 cps. Output —60 db. HI-Z. On-Off switch. Pressure-resistant case, satin chrome finish. 18' cable, MC-1 connector. 5 $\frac{3}{4}$ " l. (excluding stud), 1 $\frac{1}{4}$ " dia. overall. Net wt., less cable, 1 $\frac{1}{4}$ lbs. List **\$49.50**

Model 911 "Mercury" Crystal—Same smart design and fine performance as Model 611. Response 50-9000 cps. Output —50 db. Metal seal Crystal, MC-1 connector. HI-Z. 18' cable. Net Weight 1 $\frac{1}{4}$ lbs. List Price **\$32.50**

Model 926 Slim Crystal—Level and response ideal for general purpose use. Response 60-8000 cps; output level —60 db. HI-Z. Pressure cast case, satin chrome finish. Fitable head, $\frac{5}{8}$ "-27 thread, 6 $\frac{3}{4}$ " x 1 $\frac{1}{2}$ ". 18' cable with integral strain relief. Net Weight 11 oz. List Price **\$29.50**

Model 920 "Spherex" Crystal—All-direction pick-up. Response 60-7000 cps; output level —50 db. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal. HI-Z. Satin chrome, $\frac{5}{8}$ "-27 thread. Diam. 2 $\frac{1}{2}$ ". 18' cable. Net Weight 8 oz. List. **\$27.50**

Model 924 Lavalier Crystal—Unique crystal lavalier for chest or hand use. Supplied with neck cord, support clips and 18' cable. Satin chrome finish. Wire mesh head acoustically treated for wind and moisture protection. Output —60 db. Response 60-8000 cps. HI-Z. 3 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ ". Cable has integral strain relief. Net Weight 8 oz. List Price **\$20.00**

Model 729 Ceramic Cardioid—The Model 729 is the lowest priced cardioid ever built. Random noise, reverberation and the possibility of feedback reduced by a factor of 67%. Front pickup range nearly double that of pressure microphones. Designed for public address, call and paging systems, amateur radio, home recorders, especially stereo, and general communications. Discriminating against sound from the rear makes the 729 excellent for amateur radio VOX operation. Tailored for single sideband. Output —55 db. Response 60 to 8,000 cps. High impedance only. May be used in any climate. Available with or without "on-off" switch. Metalustre gray front with medium gray back. Attractive desk

stand and floor stand supplied. Net weight, less cable and stand, 9 oz. List Price **\$24.50**

Model 729S—With switch. List Price **\$26.50**

Model 727 Slim Ceramic—A new approach to the design of ceramic microphones for PA, recording and general use, similar in appearance to Model 729. Withstands extremes of temperature and humidity. Response 60-8000 cps. Output —55 db. High impedance only. 5' cable. Available with or without "on-off" switch. Metalustre gray front with medium gray back. Size 7 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ ". Supplied with attractive desk stand and floor stand coupler. Net Weight less cable, stand, 9 oz. List Price **\$18.00**

Model 727S—With switch. List Price **\$20.00**

Model 715 "Century" Ceramic—Use in any position—in hand, on table, on stand or overhead. Ceramic element, 60-7000 cps. output —55 db. HI-Z. 5' cable. Non-directional. Satin chrome finish. Rugged, lightweight, 3" x 2 $\frac{1}{2}$ " x 1". With $\frac{5}{8}$ "-27 adapter, AC-DC insulated. 6 oz. List Price **\$13.00**

Model 715S—With switch. List Price **\$15.00**

Model 718 Ceramic—With attractive contemporary styling, the new 718 is designed particularly as an improved replacement for inexpensive home recording microphones. Convenient to use in hand or on flat surface, 5' cable includes a molded-on phono plug, with adapter, to match all late model home recorders. Improved high-level (—55 db) ceramic element resists damage from temperature, humidity extremes. Response 60 to 6000 cps. 3 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ ". Net Weight 8 oz. List. **\$12.00**

Model 712 Ceramic—Low cost ceramic microphone. Fits need of limited PA, home recording, paging and general use. Handheld. Moisture sealed ceramic. Response 70-7000 cps. High output —55 db. HI-Z. Attractive gray Styron case. Size 3" x 2 $\frac{1}{2}$ " x 1 $\frac{1}{4}$ ". 5' cable. Net Weight 4 oz. List Price. **\$7.50**



DIFFERENTIAL AND SPECIAL PURPOSE MICROPHONES

Model 6225KK Dynamic Handset—For paging, intercom and communications. Light sturdy bakelite. 150-ohm magnetic receiver with response 200-4000 cps. Switch closes mike and relay circuit. Response 100-5000 cps, output level —55 db. Impedance 250 ohms. 5' 5-conductor cable. List Price **\$78.00**

Model 6225KK Dynamic Differential Handset Microphone—Noise-cancelling microphone designed for use where background noise is at high level. Enables user to speak in a normal voice. Appearance and characteristics similar to Model 6225KK, supplied with five-conductor, unshielded cable. DPST switch also will handle relay or other remote control in addition to turning on mike. Press button to talk. Size 9" x 3" x 2 $\frac{1}{2}$ ". Net Weight, 1 $\frac{1}{2}$ lbs. List Price... **\$85.00**

Model 606 Differential Dynamic—Close talking, noise-cancelling. Permits noise free PA systems at boat and auto races, noisy industrial plants, etc. Accepts sounds of close origin (1/4") and rejects sounds of distant origin. Response 100 to 5,000 cps. Output at 1/4" —55 db. Avon-tally diaphragm. Head at 22°. Fixed tilt $\frac{1}{8}$ "-27 thread. Built-in MC-1 connector. Satin Chrome. 2 $\frac{1}{2}$ " x 3 $\frac{1}{4}$ " x 2 $\frac{1}{2}$ " including stud. 50, 250 or HI-Z. Low impedance not balanced to ground. 18' cable. List Price **\$52.50**

Model 600D Dynamic Mobile-Mike—Lightweight, hand-held, extra-rugged. Output —55 db. Press-to-talk switch. Acoustalloy diaphragm. 2 $\frac{1}{2}$ " x 2" x 4".

Model 648 Intercom Microphone—Extremely versatile paging, intercom, or PA mike. Can be mounted on desk or floor stand, boom, gooseneck, or special fixtures. Cable is concealed when used with Model 448 swivel boom. Response 50-10,000 cps. Output —58 db. Choice of 50, 150, 250-ohm impedance. Omnidirectional. Acoustalloy diaphragm. Non-reflecting gray. Less Cable. Size 6 $\frac{1}{2}$ " x 1" (including $\frac{5}{8}$ "-27 thread adapter). Net Weight (with adapter), 8 $\frac{1}{2}$ oz. List Price... **\$56.00**

All E-V microphones except crystals are eligible for FDA purchases.

50, 250 ohms or HI-Z. 1' retracted coiled cord, 5' extended. Net Weight less cable 8 oz. List Price **\$47.50**

Model 210KK Carbon—Similar to Model 600D but single-button carbon. Output —50 db. Press-to-talk switch. 1' coiled cord. List Price... **\$35.00**

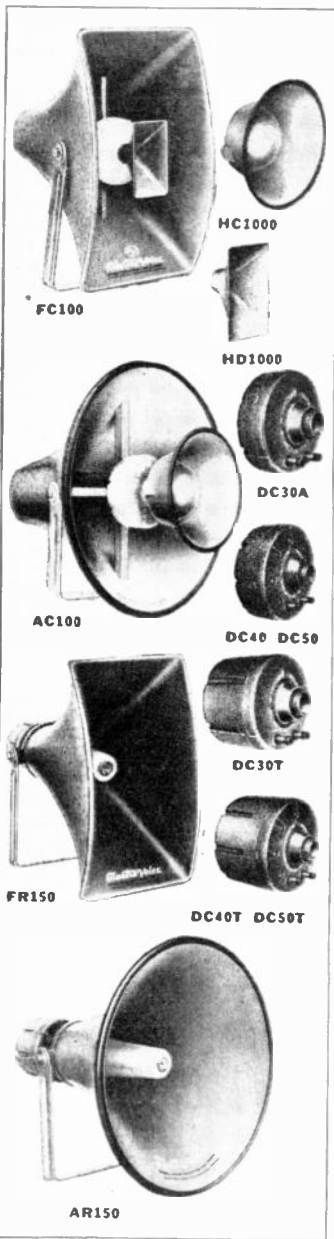
Model 602—A noise-cancelling dynamic microphone for use in areas of heavy background noise. It accepts sounds of close origin (1/4") and rejects sounds of a distant origin. Successful noise-free public address systems are now possible at boat and stock car races, railroad yards or similar noisy locations. Output level 55 db. 200 to 1,000 cps. Press-to-talk switch. Avon-tally diaphragm. 1' retracted coiled cord, 5' extended. Available in HI-Z or balanced line, 50 or 250 ohm. Weight, less cable, 8 oz. List Price... **\$57.50**

Model 205KK Differential Carbon—Close-talking, noise-cancelling, single button carbon. Maximum intelligibility under high ambient noise. Designed for private aircraft and emergency communications. Blastproof, waterproof, shock resistant. Output at 1/4" —50 db. Black phenolic case. Press-to-talk switch. Mounting bracket. 1' coiled cord. Size 2 $\frac{1}{2}$ " x 2 $\frac{1}{4}$ " x 4". Net Weight less cable 8 oz. List Price **\$45.00**

Model 205STCKK—CAA Type approved certificate No. 1040 with coiled cord. Designed for commercial aircraft. List Price **\$56.50**

Model 205STCKKP—Similar to above with W-E-309 plug. List Price **\$61.25**

Electro-Voice PUBLIC ADDRESS HORNS AND DRIVERS



PROJECTOR HORNS

Completely new designs assure finest performance with Electro-Voice projector horns. Two basic types from which to choose . . . compound and reentrant.

Exclusive compound horns permit widest range at lowest distortion, plus complete directional control of both highs and lows. Best wide-angle coverage with exclusive diffraction horns means better sound through entire coverage area for uniform coverage. Concentrating compound horn provides highest efficiency at lowest distortion. Natural voice and music reproduction result in higher intelligibility without annoying peaks.

Model FC100—Similar to the famous CDP, the FC100 provides two diffraction horns for uniform wide-angle coverage. Frequency response is not compromised since both horns are ideally designed to handle a specific portion of the range. Compound horn reduces distortion far below any other projector design. Flexible coverage control provided by individual adjustment of each horn, or concentrating high-frequency horn (HC1000) can be substituted for small diffraction horn. Large horn is of fiberglass with Mesa Tan finish molded in. Use any E-V convertible driver. Specifications: Low-frequency horn—cut-off, 100 cps; taper, 100 cps; air column length, 58"; sound distribution, 90° x 120°. High frequency sound distribution, 90° x 120°; crossover, 1,000 cps. Mouth size, 10 1/2" x 20 1/2"; depth (less driver), 20". Net Wt. (less driver), 10 1/2 lbs. Shpg. Wt., 12 1/2 lbs. List Price **\$47.50**

Model AC100—Concentrating version of CDP. Has all of the quality advantages of FC100, except utilizes round horns for most concentrated coverage with greatest efficiency. Retains compound design for lowest distortion—widest range. Diffraction high-frequency horn (HD1000) can be substituted for concentrating horn for flexible coverage control. Use any E-V convertible driver. Specifications: Low-frequency horn—cut-off, 100 cps; taper, 100 cps; air column length, 54"; sound distribution, 80°. High-frequency sound distribution, 30°; crossover, 1,000 cps. Diameter, 21"; depth (less driver), 16". Net Wt. (less driver), 11 lbs. 6 oz. Shpg. Wt., 13 1/2 lbs. List Price **\$44.50**

Model HD1000—Diffraction horn for converting AC100 to wide-angle (60° x 120°) coverage above 1,000 cps. Shipping Weight, 1 1/2 lbs. List Price **\$6.50**

Model HC1000—Concentrating horn for converting FC100 to concentrated (30°) coverage above 1,000 cps. Shipping Weight, 4 lbs. List Price **\$10.00**

Model 848—Combines FC100 Compound Diffraction Horn plus DC30 Compound Driver for finest wide-angle sound, lowest distortion, highest sound quality of any projector. Specifications: Frequency response, 150-10,000 cps; impedance, 16 ohms; dispersion, 90° x 120°; power handling capacity, 30 watts; sound pressure level, 117 db; dimensions, 10 1/2" x 20 1/2" x 20"; Net Weight, 12 lbs.; Shpg. Wt., 17 lbs. Complete—List Price **\$75.00**

Model 848-45—With 45-ohm voice coil. List Price **\$78.50**

Model 848LT—Long Throw CDP (with 1000 cycle concentrating horn). For projecting intelligible, extended range sound over great distances—limiting dispersion to a selected area. Allows pinpointing sound to a selected audience, with increased sound level on-axis. Specifications: Frequency response, 150-10,000 cps; power handling capacity, 30 watts; sound pressure level, 117 db; dispersion, 50°; nominal impedance, 16 ohms; Size, 20 1/2" x 10 1/2" x 21"; Net Weight, 16 lbs. 8 oz.; Shipping Wt., 20 lbs. Complete—List Price **\$75.00**

Model 848LT-45—With 45-ohm voice coil. List Price **\$78.50**

New reentrant horns provide wider range than ever before at lowest cost. Unique E-V ring reflector design provides better balanced highs than possible with conventional exponential designs, by reducing high frequency losses of open ended horns. Smoother response plus added useful range increases intelligibility and adds to more natural sound. Rugged aluminum die cast mounting plate plus precision die cast reentrant tubes assure long-lasting performance. Heavy spun aluminum round bell or fiberglass rectangular horn provides either concentrated coverage or medium angle coverage. Electro-Voice Reentrant Horns accept any standard driver with 1 1/2"-18 threads.

Model FR150—Reentrant Horn. Medium-angle low-cost rectangular horn provides good coverage at low cost. Virtually indestructible fiberglass horn has Mesa Tan color molded in. Adjustable mounting angle allows best coverage. Can be stacked for multiple speaker applications. Ideal for car-top installation or wherever low silhouette is needed, and where bass response cannot be sacrificed. Accepts Electro-Voice convertible drivers or any standard driver with 1 1/2"-18 thread. Specifications: Low-frequency cut-off, 150 cps; taper, 150 cps; air column length, 45"; sound distribution, 70° x 100°; mouth size, 10 1/2" x 20 1/2"; depth (less driver), 21"; Net Wt. (less driver), 9 1/2 lbs. Shpg. Wt., 12 lbs. List Price **\$37.00**

Model AR150—Reentrant Horn. Round concentrating horn for maximum penetration at lowest cost. E-V ring reflector plus precision new exponential design contributes to widest range yet achieved from this horn type. Smoother curve results in high intelligibility, and remarkably natural voice and music quality. Rubber-edge damping ring eliminates resonances. High-efficiency design allows more useful volume from driver over entire range. Accepts Electro-Voice Convertible drivers or any standard driver with 1 1/2"-18 thread. Specifications: Low-frequency horn—cut-off, 150 cps; taper, 150 cps; air column length, 47"; sound distribution, 85°; diameter, 21"; depth (less driver), 17". Net Weight (less driver), 6 1/2 lbs. Shipping Weight, 8 lbs. List Price **\$31.00**

VERSATILE CONVERTIBLE DRIVERS

Now, for the first time, here are drivers that can be used interchangeably in compound or reentrant horns. Used on either type of horn, the new Electro-Voice Convertible Drivers feature highest efficiency available. Increased power handling plus extra increased efficiency make the 40 and 50-watt drivers uniquely useful where high power at minimum cost is essential. The high efficiency of all E-V Convertible Drivers is achieved without resorting to "peaked" response which may increase loudness, but does reduce intelligibility. The smooth response of these drivers insures most natural reproduction of voice and music for more satisfying quality with vastly reduced feedback problems and greatly increased tonal range. Double flux ceramic magnets provide long-lasting high efficiency in entirely new low-loss magnetic circuits. Edgewise-wound ribbon voice coils give 18% more energy. The drivers are rugged and weatherproof; conversion to either reentrant or compound use can be made instantly in the field. Voice coils are also field replaceable, thus reducing repair costs to a minimum. E-V Convertible Drivers are available with 16 or 45-ohm voice coils or with built-in 70.7-volt line constant voltage transformers. This entirely new design concept gives better performance at minimum cost, making E-V Drivers your best buy.

	DC30A	DC30T	DC40	DC40T	DC50	DC50T
Frequency Response†	150-10,000	150-10,000	110-11,000	140-11,000	140-11,000	140-11,000
Program Power Capacity	30	30	40	40	50	50
Sound Pressure Level†	120 db	120 db	123 db	123 db	127 db	127 db
Voice Coil Impedance	16**	16	16**	16	16**	16
Transformer Impedances, Ohms		167, 333, 1000, 2000		125, 250, 500, 1000		100, 143, 200, 500
Transformer Power Taps, Watts		30, 15, 5, 2.5		40, 20, 10, 5		50, 35, 25, 10
Dimensions (overall)	5 1/2" dia. 3" l.	5 1/2" dia. 5 1/2" l.	6 1/2" dia. 4 1/2" l.	6 1/2" dia. 6" l.	6 1/2" dia. 4 1/2" l.	6 1/2" dia. 6" l.
List Price	\$27.50	\$37.00	\$36.00	\$46.50	\$47.00	\$57.50

†Measured at 4' on-axis with full rated power from 500-1500 cps.

††Measured on-axis with FC100 horn.

**Available with 45-ohm voice coil at \$1.50 list additional.

Electro-Voice PA SPEAKERS AND ACCESSORIES

PAGING SPEAKERS

Effective paging systems require not only efficient loudspeakers, but also natural sound quality free from peaks that cause listening fatigue and acoustic feedback. No better speakers for clear natural voice paging are available than the new Electro-Voice Model 844 and the improved Model 847 CDP.

Model 844—Low-cost paging speaker for medium-angle sound distribution. Features smoothest response in its class with better lows to reduce natural, pleasing paging without feedback. Handles twice the power—30 watts—to reduce costs. Rugged diecast horn plus field-replaceable voice coil keeps service costs at a minimum. Precision manufacturing assures long-lasting reliability under the toughest conditions.
 Specifications: Frequency response, 250-13,000 cps; power handling capacity, 30 watts; nominal impedance, 8 ohms; dispersion, 90°; EIA sensitivity rating, 51 db; sound pressure level, 120 db; dimensions, 9 3/4" diameter x 8 3/8" deep; Net Weight, 5 lbs. 10 oz.; Shipping Weight, 8 1/2 lbs. List Price **\$34.50**

Model 844-45—Same as standard 844, but with 45-ohm voice coil for simple installation in intercom systems. List Price **\$36.00**

Model 847—Utilizing the famous CDP Principle—this newly improved wide-angle speaker provides higher articulation without annoying "peaked" response over a uniform 120° x 90° area. Extremely low distortion results from the use of T.W.O. diffraction horns—each covering only half of the voice range. 25-watt power handling capacity means more volume from fewer speakers. Fiberglass horn has Moss Tan color molded in.
 Specifications: Frequency response, 250-10,000 cps; power handling capacity, 25 watts; sound pressure level, 118 db; dispersion, 90° x 120°; impedance, 16 ohms; dimensions, 11 1/4" x 7 3/4" x 10 3/8". Net Weight, 6 1/2 lbs.; Shipping Weight, 10 lbs. List Price **\$46.33**

Model 847-45—Same as standard 847, but with 45-ohm voice coil for simple installation in intercom systems. List Price **\$47.83**

HI-FI OUTDOOR WEATHERPROOF SPEAKERS

Musicaester speaker system provides true high fidelity performance in a compact, portable system. Sturdy aluminum diecast housing protects weatherproof cone speaker and extends bass response through back-loaded folded horn. Dual Radax cone radiates smooth useful highs through 120° angle. Can be mounted anywhere or used as portable speaker. Provision for mounting 70 7-volt line transformer inside. Ideal for square dances, school auditoriums, clubs, out-door hi-fi or anywhere that music and voice must be reproduced with maximum clarity.

Specifications: Frequency response, 60-13,000 cps; nominal impedance, 8 ohms; dispersion, 120°; power handling capacity, 30 watts program; sound pressure level, 110 db; dimensions, 21 1/2" x 21 1/2" x 8 1/2". Net Weight, 31 lbs.; Shipping Weight, 34 lbs. List Price **\$80.00**

Musicaester II—Same line performance as Musicaester above, except has added brilliance and wider coverage from RE36 Very-High-Frequency Range Extender. Smooth response to 18,000 cps. Complete with crossover. Net Weight, 33 lbs.; Shipping Weight, 36 lbs. List Price **\$115.00**

Model MB-1—Surface mounting bracket allows mounting of any Musicaester flat against wall for neat unobtrusive installation. Replace standard "U" bracket. Shipping Weight, 1 lb. List Price **\$4.50**

TRANSFORMERS AND ACCESSORIES

Model TH—Transformer Housing. Provides neat weatherproof mounting of any E-V transformer. Mount vertically or horizontally on any flat surface of on horn bracket. Exclusive waitage indicator tells power setting at a glance. No soldering required with E-V transformers. Size: 4" h., 5" w., 3 1/2" d. Net Weight, 1 lb. 11 oz. Shipping Weight, 2 1/2 lbs. List Price **\$8.00**

Model TR5—5-watt 70.7-volt line transformer. Primary impedance taps 1000, 2000, 4000, 8000 ohms; 5, 2.5, 1.25 and 675-watt line power taps. 4, 8 and 16 ohms secondary impedances. Accepts solderless terminals in TH housing. Frequency response ±2 db, 35-20,000 cps. Insertion loss 0.8 db. Overall dimensions 2" x 1 1/4" x 1 1/4". Mounting hole centers, 1 3/4". Shipping Weight, 1 lb. List Price **\$5.00**

Model TR15—Same as TR5 except 15-watt capacity with primary impedances of 333, 500, 1000, 2000 ohms and 15, 10, 5, 2.5-watt line power taps. Overall dimensions 1 3/4" h., 2 3/8" w., 2 3/8" d. Mounting hole centers, 2 1/4". Shipping Weight, 1 1/2 lbs. List Price **\$6.00**

Model TR30—Same as TR5 except 30-watt capacity with primary impedances of 167, 250, 500, 1000 ohms and 30, 20, 10 and 5-watt line power taps. Overall dimensions 1 3/4" h., 2" w., 2 1/4" d. Mounting hole centers, 2 1/4". Shipping Weight, 1 1/2 lbs. List Price **\$7.00**

Model TR50—Same as TR5 except 50-watt capacity with primary impedances of 100, 125, 200, 333 ohms and 50, 40, 25 and 15-watt line power taps. Overall dimensions 2" h., 2 1/4" w., 2 1/4" d. Mounting hole centers, 2 1/4". Shipping Weight, 2 lbs. List Price **\$9.00**

Model AP-1—Pipe stand adapter for mounting any E-V speaker "U" bracket to standard 1/2" pipe. Shipping Weight, 1 lb. List Price **\$2.00**

Model AD-1—Driver adapter allows use of E-V Convertible Driver on horns with 1 3/8"-16 thread (W.E.—RC") for improved performance. Shpg. Wt., 1 lb. List Price **\$2.50**

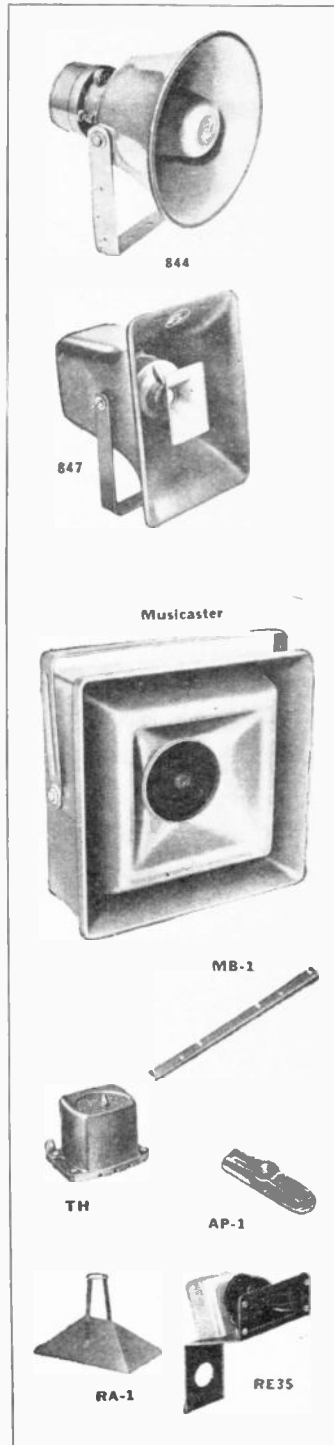
Model AD-2—Horn adapter allows use of E-V reentrant horns with drivers having 1 1/4"-16 thread (W.E.—RC") for improved performance. Shpg. Wt., 1 lb. List Price **\$3.00**

Model RA-1—Radial Adapter instantly converts FC100 horn or 848 projector to "radial" applications. Superior to typical "360°" projectors. Diffraction horns give better spread and adapter reflects sound off-axis, to eliminate hot spot. No tools required. Extends 2 1/4" in front of FC100 horn with DC30A. Shpg. Wt., 1 lb. List Price **\$5.00**

Model RE35—Range Extender mounts on 848 or FC100 to improve response and dispersion of highs. 30-watt capacity. Response 3500-18,000 cps. 16 ohms impedance. Complete with crossover, mounting bracket. Shipping Weight, 4 1/2 lbs. List Price **\$40.00**

Model RE36—Range Extender Kit. Converts Musicaester to Musicaester II. Includes driver, bezel, crossover and wiring harness. Shipping Weight, 4 1/2 lbs. List Price **\$37.50**

Model 873—Joining Kit for two or more 848, 848LT or FC100 horns in multiple array. One kit required for each junction of two horns. Shpg. Wt., 1 lb. List Price **\$2.75**



	DRIVER	8 Ohm	16 Ohm	45 Ohm
Diaphragm Replacement Kits allow easy field maintenance or conversion of E-V Drivers.	828 or DC30		8923	8427
	844 (DS30)	8410		8421
	DC30A/DC30T		8577	8617
	DC40/DC40T		8573	8618
	DC50/DC50T		8574	8619
	List Price	\$10.00	\$10.00	\$11.50

Note: Sound Pressure Level is measured at 4' on-axis with full rated power from 500 to 1500 cps.



... devoted to the manufacturing and
★ TELEVISION • FM • HI-FI • ACCESSORIES

UNMISTAKABLY
the finest
INDOOR
TV and FM
ANTENNA
because

Only the CLEAR PICTURE Comes Thru!



with the
NEW and
AMAZING

Dynamic
FILTER
TENNA

with the EXCLUSIVE built-in
HI-PASS FILTER
1/2 W. RES. PH. FREQ.
THE FIRST TRULY ELECTRONIC
INDOOR TV ANTENNA TO GIVE
CLEAR FILTERED RECEPTION.



List
\$18.95

SATIN
BRASS,
SATIN
CHROME,
SATIN
COPPER
FINISHES.

Beautiful!

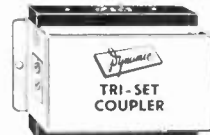
UHF
VHF
Color

Model
DB 500

The secret is in the FILTER!
The ONLY REALLY
NEW FEATURE IN
Indoor Antennas



All NEW shielded model GUARANTEED to eliminate electrical disturbances in the antenna circuit — AUTOMATICALLY.
● Passes all frequencies above 40 mc
● Rejects all frequencies below 40 mc
Model T121M List **\$7.50**



Highly efficient coupler to operate any combination of 2 or 3 TV or FM sets off 1 antenna of any type—NO INTERACTION
● Less than 6 db insertion loss
● 40 to 50 db rejection ratio
Model T130M List **\$7.50**



De Luxe unit to couple up to 3 speakers from 1 audio output — Maximum Flexibility selects any of the 3 speakers individually or any combination of speakers as desired.
● 3 separate toggle selector switches
Model DS80 List **\$7.50**



Guaranteed to eliminate LINE noise caused by motors, industrial RF, neon & appliances on any receiver, recorder, player or TV.
● Automatic Attenuation
● Dual Ferrite Filter Action
Model DF200 List **\$9.50**



Reduces or eliminates all Low Frequency rumble or distortion in Phono circuit to be used for Crystal or Ceramic cartridges.
● Attenuates signals below 50 cycles
● In-Out slide switch
Model RF190 List **\$9.50**



Finest precision accessory to be used to obtain maximum quality from all types of recordings — European — Domestic LP's old and new 78's etc. To be used with all types of reluctance cartridges.
● Shielded Lead & Molded Pin Plug
● Pin Jack & Rotary Switch
Model RC180 List **\$9.50**



Model	Description	List
MM18-18"	Cable-Pin Plug Both Ends	1.25
MM36-36"	Cable-Pin Plug Both Ends	1.50
MM72-72"	Cable-Pin Plug Both Ends	1.75
MM144-12"	Cable Pin Plug Both Ends	2.75
FM18-18"	Cable-Pin Plug & Pin Jack	1.40
FM36-36"	Cable-Pin Plug & Pin Jack	1.65
FM72-72"	Cable-Pin Plug & Pin Jack	1.90
MS18-18"	Cable-Pin Plug & Tinned Ends	1.00
MS36-36"	Cable-Pin Plug & Tinned Ends	1.25
MS72-72"	Cable-Pin Plug & Tinned Ends	1.50

A MOST DISTINCTIVE LINE OF
ALL MOLDED-ON
Shielded Patch & Jumper Cords,
Connecting Cables, Feed Thru Adap-
ters — 20 Types for all HI-FI needs.

FREE SELF SERVICE METAL DISPLAY RACK

Model	Description	List
MS144	12 ft. Cable-Pin Plug & Tinned Ends	2.50
FT10	Feed Thru-Pin Jack Both Ends	1.00
FP50	Phone Plug to Pin Plug Adaptor	1.95
PFJ50	Phone Jack to Pin Plug Adaptor	2.50
FC20	72" Shielded Cable-Phono Pin Plug Shielded Phone Plug	2.95
FC25	12 ft. Shielded Cable-Shielded Phone Plug & Shielded Phone Jack	6.95
FC30	12 ft. Dual Zip Cord Conductor Cable-Pin Plug One End & Alligator Clips	1.95
FC35	12 ft. Dual Zip Cord Conductor Cable-Phone Plug One End & Alligator Clips	2.95
FC40	72" Shielded Cable to Shielded Phone Plug, Stripped and Tinned Ends	2.50
FC45	72" Shielded Cable to Tiny Plug, Stripped and Tinned Ends	2.30

DYNAMIC ELECTRONICS-NEW YORK INC. RICHMOND HILL 18,
LONG ISLAND, NEW YORK

engineering of quality electronic products
AMPLIFIERS · TUNERS · SPEAKERS ★



HIGH FIDELITY AM-FM TUNER



Precision Engineered Laboratory Standard-most advanced circuitry AFC "AUTOMATIC FREQUENCY CONTROL" for guaranteed Lock in Drift Free reception, 7 tubes plus Selenium Rectifier—Extremely sensitive.

- Built in FERRITE Antenna for AM & FM
- 117 V. AC Convenience Power Outlet
- Built-in Output Jack for any amplifier
- Shielded Cable provided with Pin Plugs

Handsome 2 Tone Cabinets in Satin Brass & Ebony or All Metal. 14" w x 4 1/2" h x 9 1/2" d.

Model T2000 List **\$99.50**

25 WATT AFC AM-FM HI-FI TUNER AMPLIFIER



Featuring all of the characteristics of the T2000 Laboratory Standard Tuner plus a really fine 25 Watt peak output push-pull amplifier using matched EL84's in the output stage — 12 tubes — Handsome 2 Tone Metal Cabinet.

- FUNCTION CONTROL for Radio & Phono & Tape. 14" w x 7 1/4" h x 8 1/4" d.
- LOUDNESS, BASS & TREBLE CONTROLS
- Full Range RECORD COMPENSATOR — 20 to 20,000 CPS

Model AF250-PA with built-in Pre-amp List **\$129.50**



DeLuxe CUSTOM LABORATORY STANDARD Hi-Fi Amplifier with built-in pre-amplifier

14" w x 4" h x 6" d

18 watt peak output Input Jacks for all phono pick ups & AM-FM tuners, tape decks—Impedance Matched Speaker Taps.

- Beautiful Black-Satin Copper & Brass Decorator Styled Cabinet
- Full Range RECORD COMPENSATOR — Separate LOUDNESS, BASS and TREBLE and Auxiliary Controls

Model A2000-PA List **\$69.50**

4 SPEED AUTOMATIC RECORD CHANGER

The latest type plays all speed records 16 - 45 - 78 - 33 RPM. Automatically shuts off when last record is played.

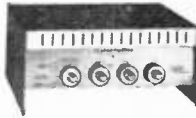
- Mounted on Attractive Finished Base
- AC Line Cord & Shielded Cable & Pin Plug

Model 1143M Dual Sapphires, Monaural List **\$59.50**



Model ST83M Dual Sapphires, STEREO CARTRIDGE List **\$69.50**

50 Watt Dual Channel Stereo Hi-Fi Amplifier



The ultimate in STEREO amplifiers. 2 completely separate push - pull output stages each using 2 EL84's, 10 tubes in all, amazing Dynamic realism with true Stereo quality — 20 to 20,000 CPS

- 25 Watt Peak Output from each independent channel — 50 watts total
- Function and Compensator Control
- Separate Loudness, Bass and Treble Controls. Dim: 14" w x 6 1/2" h x 9 3/4" d.
- Input Jacks for AM-FM Tuners & Tape

Model ST3000-PA-2 with built-in Pre amp List **\$99.50**

QUADRAURAL * SPEAKER SYSTEMS



*T.M. Reg.

A remarkable achievement in high fidelity speaker systems at economy prices. Excellent reproduction on any HI-FI system for MONAURAL or STEREO, use as additional or extension speakers any where in the house.

Model QS2854L List **\$47.50**

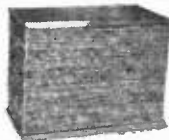
Leatherette finished wood construction, two 8" Woofers, one 5" Mid-Range & one 4" High Frequency Tweeter with an Electronic Crossover Network, Response 30 to 18,000 CPS. 26" h x 19" w x 9 1/2" d.

Model QS2854W List **\$57.50**

Wood finished enclosure available in fine grained Walnut, Mahog. & Blonde. Other specifications as above.

Model QS12254W List **\$69.50**

Deluxe Wood finished enclosure available in fine grained Walnut, Mahg. & Blonde. Equipped with Jensen 12" Co-axial Woofer & Mid-Range & Two 4" High Frequency Tweeters & Crossover Network. Full Range 20 to 20,000 CPS. 26" h x 19" w x 9 1/2" d.



Model S2 List **\$29.50**

All wood finished enclosure available in Walnut, Mahg., or Blonde, equipped with one 8" Woofer & one 5" Mid-Range Speaker & Xover. 11" h x 19" w x 9 1/2" d.

Model S4 List **\$39.50**

Enclosure as described above but equipped with 4 speakers, one 8" Woofer, two 5" Mid-Range & one 4" High Frequency Tweeter & Xover. 14" h x 19" w x 9 1/2" d.

Model S12 List **\$49.50**

DeLuxe Enclosure all fine grained woods in Walnut, Mahg., or Blonde equipped with JENSEN 12" Co-axial Woofer and Mid-Range and a 4" High Frequency Tweeter & Xover. 14" h x 19" w x 9 1/2" d.

BOOKCASE OR SHELF MODELS

HI-FIDELITY DUAL CHANNEL AMPLIFIER



10 watt peak output. Dual concentric volume-balance control. Bass & treble control. Stereo-Monaural switch. 2 sets speaker terminals. Dual phono input jack. In ebony, pewter, white. 12 1/2" w x 4 1/2" h x 7" d

Model ST100 **\$59.50**

DYNAMIC PRE-AMPLIFIER

To convert existing amplifiers or radio-phonos to operate with variable reluctance pick up or tape recorders — using the existing controls. Shielded Cable & Molded Pin Plug. Pilot Lite. Black & Copper Cabinet. Phono Input Jack. 6" w x 3 1/4" h x 3 1/2" d.

Model PA-110 LIST **\$12.95**

STEREOPHONIC & REMOTE EXTENSION HIGH FIDELITY SPEAKER SYSTEMS



Excellent group of speaker systems designed to complete any stereophonic ensemble. Four speaker coaxial systems consisting of 2 high fidelity 8" Alnico V heavy permanent magnet speakers, each equipped with a high fre-

Model ST-5 20" w x 28" h x 14 1/2" d List **\$69.95**



Model ST-1 List **\$34.95**



ST-2 List **\$49.95**



ST-3 List **\$59.95**



ST-4 List **\$59.95**

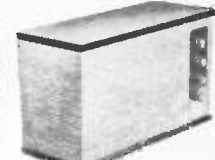


ST-6 List **\$79.95**

STEREO SPEAKER AMPLIFIER SYSTEMS



Model SA-400 18" w x 28 1/2" h x 14" d List **\$129.50**



Model SA-300T 23 1/2" w x 14" h x 9 1/2" d List **\$109.50**

Consists of a 25 watt push-pull high fidelity amplifier. Separate Bass, Treble, Loudness and Function controls. Full range record compensator. In addition a four speaker coaxial system consisting of 2 high fidelity 8" Alnico V heavy permanent magnet speakers, each equipped with a high frequency coaxial type whizzer cone. Supplied with 12 foot Stereo connector cable. In genuine Mahogany, Walnut and Blond Oak.

DYNAMIC ELECTRONICS - NEW YORK INC. RICHMOND HILL 18, LONG ISLAND, NEW YORK

NEUMANN

NEUMANN

U-47 (U-48) "Studio Standard"

Microphone System



This microphone has become the standard of the American recording, broadcasting and film industries, and is the only condenser microphone in its price range featuring an electronically switchable directional characteristic.

Complete microphone system consists of microphone, power supply (type NG), inter-connect cable (type UC-3), with Z-37 full elastic suspension, AC power cable, U. S. fuse holder, pilot light, power connector, and XLR output receptacle with mating cable connector.

Field Pattern:
 U-47 System Switchable non-directional—cardioid
 U-48 System Switchable bi-directional—cardioid

NEUMANN

KM-54a/KM-53a



The KM-54a is a super cardioid miniature microphone that has been designed with tv and film in mind. This 7/8" diameter by 5" long, 3 1/2 ounce marvel, when mounted in the Z-38 full elastic suspension, can be aimed at the sound and provide more than 25db rejection of extraneous sounds in the studio.

The KM-53a is identical in size but omnidirectional in pattern. It is recommended for the recording of pop-orchestra and jazz sessions where close-up technique is employed.

Complete microphone system consists of microphone, power supply (type NKM), inter-connect cable (type KC-1) with Z-38 full elastic suspension, A. C. power cable, U. S. fuse holder, pilot light, power connector, and XLR output receptacle, with mating cable connector.

NEUMANN

KM-56 Miniature Condenser

Microphone System



This miniature condenser microphone is one of the latest to join the precision Neumann line. Its quality is in every way similar to the U-47 series, but dimensions are amazingly miniaturized.

Complete microphone system consists of microphone, power supply (type NKM), inter-connect cable (type KC-1), with Z-38 full elastic suspension, A. C. power cable, U. S. fuse holder, pilot light, power connector, and XLR output receptacle, with mating cable connector.

COMPLETE TECHNICAL SPECIFICATIONS WILL BE PROMPTLY FURNISHED UPON PROFESSIONAL REQUEST.

NEUMANN

M-49b Continuously Electronically Variable Directional Pattern

Microphone System



This microphone permits remote control of the directional characteristic. A smooth, continuous fader-control selects any of the basic directional patterns (non-directional, bi-directional, and cardioid) and any intermediate pattern. Wide frequency response with extremely low distortion — 0.6% 40-15 kc up to 110 db absolute.

Complete microphone system consists of microphone, power supply (type NN-48), inter-connect cable (type C-26), A.C. power cable, XLR output connector, and MZ-49 swivel mounting harness.



WHY?



NEUMANN Type SM-2 Miniature Stereo Microphone System

This latest addition to the condenser microphone field comprises two separate and complete condenser microphones and their respective preamplifiers in the same miniature housing. The two condenser capsules are mounted one above the other, the top one being rotatable to achieve the M-S stereo recording technique (also known as intensity stereo). Each of the two microphone systems can be individually switched to any pattern (non-directional, bi-directional, and cardioid) or to any one of six intermediate patterns. Specifications are identical to KM-56 microphone with addition of extreme balance between systems, and numerous intermediate directional patterns.

Complete microphone system consists of microphone, power supply (type NSM), inter-connect cable (type SC-1), with Z-42 full elastic suspension, A.C. power cable, XLR Cannon output connectors, U. S. standard pilot light, fuse holder, A.C. receptacle.

Dimensions: Microphone: 1 1/8" dia., 8" length
Power Supply: 8 1/2" x 4" x 4 3/4"
Weight: Microphone: 9 1/2 oz.
Power Supply: 5 lbs., 12 oz.

**NEUMANN fully automatic stereo mastering
lathe/TELDEC stereo recording system**



BEYER DYNAMIC PEAK-PERFORMANCE HEADPHONES DT 48

A hand-built, high-fidelity transducer designed for the most demanding audometry and measurement purposes, yet in a reasonable price class. It is used in peak-quality applications such as critical evaluation of recorded and transmitted sound without the disturbing influences of room acoustics. Frequency range certified by the National Bureau of Standards: 30-15,000 cycles, down no more than 7 db at 15 kc. and perfectly flat at 30 cycles. Comfortable exchangeable foam rubber pads and separate cords for each ear for stereo application. Impedance: 5 ohms each side; input voltage required. 0.1 volt; peak power demand: 0.4 watt; weight: 12 1/2 oz.

BECAUSE —

Neumann microphones have long been accepted as the standards of the broadcasting, film and recording industries.

BECAUSE —

Neumann microphones come to you with Cannon XL connectors . . . United States standard AC plug . . . fuse . . . and pilot light as original equipment.

BECAUSE —

Neumann microphones receive same day service . . . by trained factory representatives . . . here, in the United States. These experts use, of course, only genuine Neumann parts. They reseal each and every Neumann serviced microphone with a six month warranty . . . as a new microphone.

Regardless of the nameplate with which Neumann microphones have been previously sold, they are still Neumann. They are still designed and manufactured by the Neumann Acoustical Laboratories. They are still the standards of the world . . . by which all other microphones are judged.

Choose by world famous numbers: U 47, M 49b, KM 53a, KM 54a, KM 56, SM 2. Choose the microphone that best fits your needs. But choose the best . . . Neumann . . . and be sure.

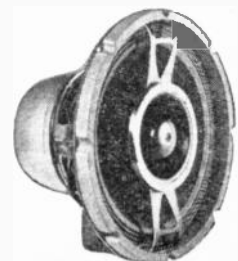
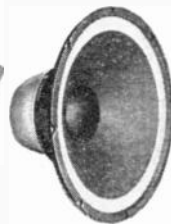
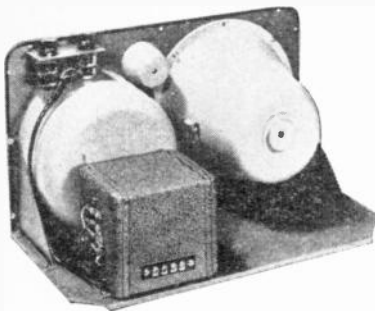
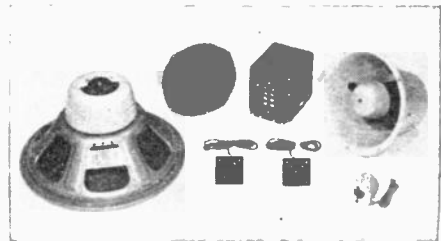
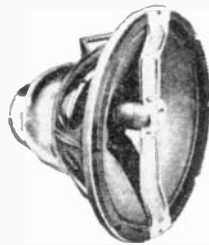


Jensen

HI-FI SPEAKERS... REPRODUCERS... ENCLOSURES

for MONOPHONIC...
for STEREOPHONIC SOUND

For all your hi-fi speaker needs, whatever the application, choose Jensen, the world's most extensive high fidelity loudspeaker line. Whether it be unitary, 2-way or 3-way assemblies, you'll find the greatest selection and price range in Jensen's Unax, Duax, 3-element, coaxial or Triaxial* (the only true 3-way) loudspeakers . . . for the do-it-yourselfer, there is a wide choice of speaker kits without equal in every price class . . . Jensen complete reproducers incorporate the extreme bass capability of the new amazing "Flexair*" woofer in combination with up-to-the-minute advances in midchannel and super-tweeter design and engineering . . . and they all incorporate the newest high-fashion "Flair Line" living-wise furniture . . . for stereo, the sensational Jensen "Stereo Director*" that sends the sound to you. For monophonic . . . for stereophonic sound—Jensen is *the* speaker line for you!



Complete speaker information is yours upon request—write your dealer for Jensen's newest High Fidelity Catalog—

*T.M.,

Jensen Concert & Viking Speakers

JENSEN CONCERT SERIES SPEAKERS

CONCERT SERIES PM SPEAKERS

Nom. Size, Inches	Jensen No.	Mag. Wt., Oz.	Voice Coil		Dia., In.	Dimensions, Inches			List Price
			Imp. Ohms	Power Watts		H. & W.	Depth	Baffle Opening	
2 3/4	P275-Y	0.65	16	0.15	3 1/8	2 3/4	1 1/8	2 1/8	\$ 6.25
3	P3-W	1.00	3.2	3.5	3 3/8	3	1 1/8	2 3/8	4.30
3 1/2	P35-W	1.00	3.2	4.0	3 1/2	3 1/2	2	3 3/8	4.20
4	P4-W	1.00	3.2	4.5	3 3/8	4 1/8	2 1/4	3 1/2	4.20
4	P4-WV	1.00	4.5	4.5	3 3/8	4 3/8	2 1/4	3 1/2	4.35
4 1/4	P4-V	1.47	3.2	5.0	3 3/8	4 3/8	2 1/4	3 1/2	4.80
4 x 6	P46-W	1.00	3.2	4.5	3 3/8	4 1/2 x 6 1/2	2 1/4	3 1/2 x 5 1/2	4.95
4 x 6	P46-V	1.47	3.2	5.0	3 3/8	4 1/2 x 6 1/2	2 1/4	3 1/2 x 5 1/2	5.50
5	P5-W	1.00	3.2	5.0	3 3/8	4 1/8	2 1/4	3 3/8	4.55
5	P5-WV	1.00	4.5	5.0	3 3/8	4 1/8	2 1/4	4	4.70
5	P5-V	1.47	3.2	5.5	3 3/8	4 1/8	2 1/4	4	4.85
5	P5-T	3.16	3.2	6.0	3 3/8	4 1/8	2 1/4	4	7.40
5 1/4	P52S-W	1.00	3.2	5.5	3 3/8	5 1/4	2 1/4	4 1/2	4.75
5 1/4	P52S-V	1.47	3.2	6.0	3 3/8	5 1/4	2 1/4	4 1/2	5.25
5 x 7	P57-V	1.47	3.2	6.0	3 3/8	5 x 7 1/4	2 1/4	4 1/4 x 6 1/2	5.95
6	P6-W	1.0	3.2	6.0	3 3/8	6 1/8	2 1/4	5 1/4	4.85
6	P6-V	1.47	3.2	6.5	3 3/8	6 1/8	2 1/4	5 1/4	5.30
6	P6-T	3.16	3.2	7.5	3 3/8	6 1/8	2 1/4	5 1/4	7.80
6 x 9	P69-V	1.47	4	7.5	3 3/8	6 1/8 x 9 1/4	3 1/8	5 1/4 x 8 3/4	7.50
7	P7-V	1.47	3.2	7.0	3 3/8	7	3 1/8	6	7.00
8	P8-U	1.73†	3.2	9.0	1	7 1/8	3	6 3/4	7.65
8	P8-T	2.5‡	3.2	10.0	1	7 1/8	3 3/8	6 3/4	8.90
8	P8-S	1.64	8	11.0	1	7 1/8	3 3/8	6 3/4	11.30
8	P8-R	6.8	8	12.0	1	7 1/8	4	6 3/4	13.25
10	P10-T	2.5‡	3.2	11.0	1	10 1/8	5 1/2	8 1/4	10.75
10	P10-S	1.64	8	12.0	1	10 1/8	5 1/4	8 1/4	14.35
12	P12-T	2.5‡	3.2	12.0	1	12 1/8	6 1/8	10 1/2	11.80
12	P12-S	4.64	8	13.0	1	12 1/8	6 1/8	10 1/2	15.85
12	P12-R	6.8	8	14.0	1	12 1/8	6 1/8	10 1/2	17.35
12	P12-P	11.6	8	18.0	1 1/2	12 1/8	6 1/8	10 1/2	33.60
12	P12-N	27.0	8	20.0	1 1/2	12 1/8	7	10 1/2	52.50
14 x 3	P314-T	3.16	3.2	7.5	3/4	3 1/2 x 14	3 1/8	2 3/4 x 13 1/2	12.75
15	P15-P	11.6	8	20.0	1 1/2	15 1/8	8	13 1/4	45.25
15	P15-N	27.0	8	25.0	1 1/2	15 1/8	8	13 1/4	61.50

*All Magnets DP Alnico 5. All 10", 12" and 15" speakers equipped with magnet covers. †Performance equivalent to EIA 3.16 oz. ‡Performance equivalent to EIA 2.15 oz.

CONCERT SERIES FIELD COIL SPEAKERS

Nom. Size, In.	Jensen No.	Stock No.	Voice Coil*		Field		Dimensions, Inches			List Price
			Power Watts	Imp. Ohms	Power Watts	H. & W.	Depth	Baffle Opening		
5 x 7	F57-W	ST-884	5.5	3 3/8	5.0	3 1/2	2 3/8	4 1/4 x 6 1/2	\$6.25	
6	F6-X	ST-189	5.0	3 3/8	4.50	4.5	2 1/8	5 1/4	5.50	

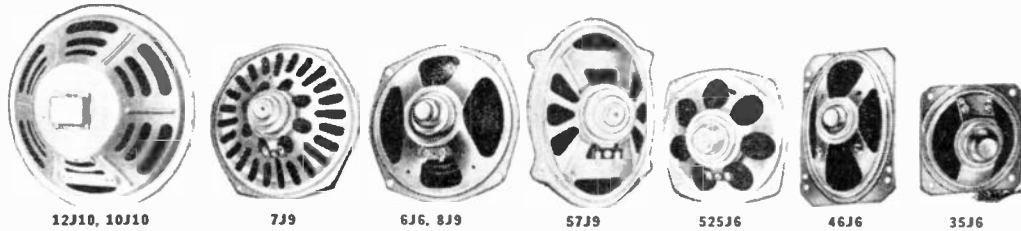
*All Voice Coil Impedances are 3.2 Ohms.

CONCERT SERIES SPECIAL OVAL GROUP FOR AUTO USE

Nom. Size Inches	Model No.	Mag. Wt. Oz.	Voice Coil		Dia. In.	Dimensions, Inches			List Price
			Imp. Ohms	Power Watts		H. & W.	Depth	Baffle Opening	
5 x 7	P57-U	1.73†	3.2	8.0	1	5 x 7 1/2	2 1/2	4 1/4 x 6 1/2	\$7.20
5 x 7	P57-TX§	2.5‡	3.2	9.0	1	5 x 7 1/2	2 1/2	4 1/4 x 6 1/2	8.35
6 x 8	P69-U	1.73†	3.2	9.0	1	6 x 8 1/4	3 3/8	5 1/4 x 8 1/4	7.80
6 x 8	P69-T	2.5‡	3.2	10.0	1	6 x 8 1/4	3 3/8	5 1/4 x 8 1/4	8.65
6 x 8	P69-TX§	2.5‡	3.2	10.0	1	6 x 8 1/4	3 3/8	5 1/4 x 8 1/4	8.95

§High Fidelity Model. *All Magnets DP Alnico 5. †Performance Equivalent to EIA 2.15 oz. ‡Performance Equivalent to EIA 3.16 oz.

JENSEN VIKING SERIES REPLACEMENT SPEAKERS



Nom. Size In.	Model No.	Mag. Wt. Oz.	Pwr. Watts	V.C. Dia. In.	Dimensions in Inches			List Price
					H. & W.	Depth	Baffle Opening	
3	3J6*	0.85	3.0	3/8	3	1 1/4	3 1/2	\$3.70
3 1/2	35J6*	0.85	3.5	3/8	3 1/2	1 3/8	3 3/8	3.60
4	4J6*	0.85	4.0	3/8	4 3/8	1 1/2	3 1/2	3.60
4 x 6	46J6*	0.85	4.5	3/8	4 3/8 x 6 3/8	1 1/8	3 1/2 x 5 1/2	4.70
5	5J6	0.85	4.5	3/8	5	2 3/8	4	4.05
5 1/2	525J6*	0.85	5.0	3/8	5 1/2	2 3/8	4 1/4	4.15
5 x 7	57J9†	1.47	6.0	3/8	5 x 7 1/4	2 3/8	4 1/4 x 6 3/4	5.85
6	6J6*	0.85	5.5	3/8	6 1/8	2 3/8	5 1/4	4.35

‡3.2 ohm voice coils. †Alnico 5 magnets. §Oval design. *CTM-1 univ. mig. bracket free on request; also holds 1/2 sq. transformer.

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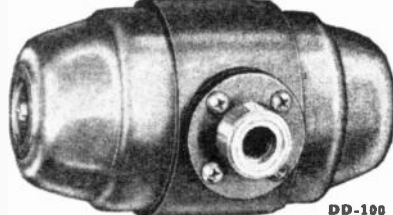
Jensen Professional Series



D-30



D-40



DD-100

NEW HYPEX® LIFETIME DRIVER UNITS

The new Jensen Hypex® Lifetime Driver Units have many new features which contribute to increased performance and reliability. Frequency range is based on achieving substantially higher conversion efficiency, higher power ratings and improved reliability over comparable units previously available, while affording good fidelity in the reproduction of speech and music. Lower cutoff frequency is somewhat below those of the horns with which they will be used; the specifications show the maximum upper limiting frequencies, but response has been shaped to give emphasis to the 3-5 kc region, which is extremely important in high efficiency sound projection. As a result of these design choices and special research on ruggedization, the D-30 can be rated at 30 watts speech and music, D-40 at 40 watts, and a Lifetime Guarantee extended against failure under normal conditions of use! The DD-100 100-watt Superpower Driver Unit, similarly guaranteed, is the first double acting integrated sound chamber driver unit ever to be offered; it is also the first 100 watt unit available,

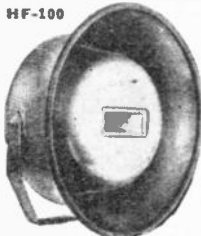
achieving a higher power input rating to a single projector or an array, than has ever been possible before. Magnetic structures are the most efficient that research has been able to develop, yielding the highest magnetic energy from the generous sized Alnico V magnets which scientific proportioning of magnet material and soft iron structure can provide, specially shaped reinforced plastic diaphragms combine ruggedness with excellent acoustic properties and freedom from "breakup". Voice coils are varnish wound, baked and aged on treated, heat and moisture resistant bobbins, resulting in a rigid assembly that is indestructible in normal service. Beryllium copper leads are indefinitely fatigue-resistant. Models D-40 and DD-100 have precision self-centering moving system assemblies which are added insurance for dependability under severe operating conditions. External leads connect to heavy binder screw terminals; added reliability for wiring is provided by strain reliefs on all units. All units are threaded 1 1/8"-18.

SPECIFICATIONS

Model	Power Rating†	Impedance	Frequency Range	Length	Diameter	Weight, lbs.		List Price
						Net	Shpg.	
D-30	30 w.	16 ohms	75-7,000 cps	3 1/2"	4 1/2"	3 1/4	3 1/2	\$27.50
D-40	40 w.	16 ohms	75-10,000 cps	4 1/2"	4 1/2"	4	4 1/2	38.00
DD-100	100 w.	8/32 ohms	75-10,000 cps	5 1/2"	8 1/2"	7 1/4	8	96.50

†Integrated speech and music program material. For sine wave or siren signal input, reduce ratings one-half. Ratings apply only for frequencies above horn cutoff.

HF-100



VH-91A



VR-11



JENSEN COMPLETE HYPEX® PROJECTORS

HF-100 WEATHERPROOF TWO-WAY HIGH FIDELITY PROJECTOR

Here is a real high fidelity projector for use indoors or out, under all weather conditions. Consists of a heavy duty "N" "woofer" feeding a folded horn plus a horn-loaded compression driver "tweeter". Low frequency unit feeds horn by a combination of direct radiation and phase-inversion bass reflex ports for superior efficiency in the low frequency region. The high frequency horn has a 90° fold and is mounted so that the driver unit is at the top, thus providing self-draining and making it impossible for rain, sleet or snow to reach the driver unit. Horn's outer section is spun aluminum with baked enamel finish. Central enclosure is glass fibre reinforced polyester. In matching natural molded Modern Tan finish. Sturdy "U" mounting bracket is fully adjustable and positive locking.

SPECIFICATIONS: HF-100 PROJECTOR

Type: Coaxial assembly of separate low and high frequency units.
 Frequency Range: 70 to 15,000 cycles.
 Power Rating: 25 watts.
 Impedance: 16 ohms.
 Rated Coverage Angle: 120°.
 Overall Diameter: 2 1/4".
 Overall Depth: 11 1/2".
 Net Weight: 23 lbs.
 Shipping Weight: 30 lbs.
 HF-100—List Price \$129.50.

Jensen VH-91A and VR-11 Hypex® projectors are the most compact in the line and their use is indicated where speech reproduction is the only important consideration and where size or cost are controlling factors. Designed for maximum efficiency in the upper frequency range, these units provide excellent penetration of noise. Small in size, they can also be located near areas of extreme noise. Magnetic structures are highly efficient, using Alnico V magnets in ample soft iron structures. Corrosion-resisting finishes and materials such as plastic cloth base diaphragms insure long life under outdoor and industrial atmospheric conditions. For further protection driver units are completely enclosed inside the rigid outer shell.

MODEL VH-91A HYPEX® PROJECTOR

Equipped with new universal mounting bracket for adjustment in any direction and secure locking with a single wing nut. Extremely rigid vibration-proof clamping allows three hole flange mounting on flat surface, single hole mounting with 3/4" tag or machine screw through center, or mounting on top of standard 1/2" pipe.

MODEL VR-11 HYPEX® RADIAL PROJECTOR

For application requiring 360° coverage in horizontal plane, such as low ceiling industrial areas. Equipped with sturdy eye-bolt for clamping or suspension from above.

SPECIFICATIONS

Model	Power Rating	Impedance	L-F Range	Mouth Dia. Over All	Over All Lgth.	Air Column Path. Angle	Rated Coverage	Net Shpg.		List Price
								Wt. Lbs.	Lbs.	
VH-91A	15	8	300	8 3/8"	7 1/4"	16°	100°	3 1/4	3 1/2	\$35.80
VR-11	15	8	280	11"	10 1/2"	18°	360°	4	5	46.50

BV-1 BLAST VALVE



The BV-1 Blast Valve is an accessory device for protecting the driver unit from high pressures due to explosive forces. Valve is the same as used in Jensen military blastproof loudspeakers. Under the positive blast pressure phase, the valve moves inward to seal off the driver unit from the horn throat. On the negative phase the valve moves out-

ward, again effecting a seal. With the valve in neutral position, attenuation of sound is negligible. Screws between horn and driver unit. Overall diameter 3". Fits all Jensen driver units and horns.
 Net weight, 1/2 lb. Shipping Weight, 3/4 lb.
 BV-1—List Price \$15.00.

*T. M. Reg. Jensen Mfg. Co.

78X-58A

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Jensen Professional Series



H-150



H-200



H-240

NEW JENSEN HYPEX* PROJECTOR HORNS

These new projector horns are acoustically coordinated in design for best performance with HypeX* Driver Units D-30, D-40 and DD-100, any one of which may be used on any of the horns. The horn expansion formula is the hyperbolic exponential (U. S. Patent 2,338,262) providing low frequency reproduction superior to that obtained with conventional horns of the same mouth size. Horns (with the exception of RT-20) are spun aluminum with weather-resistant baked tan enamel finish. Horns are threaded 1 1/4" x 1/8" and may be used with any driver units with this thread. Sturdy steel mounting 3/16" brackets allow horn to point in any desired direction; horn locks in desired position by means of new positive action trunion clutches.

(See separate description and specifications on RT-20 Rectangular Horn).

Specifications	H-150 (15°)	H-200 (20°)	H-240 (24°)	R-242 (20° Radial)
Mouth diameter, over all	15 3/4"	20 3/4"	25 1/4"	20 1/2"
Length, over all (less driver)	12"	14 5/8"	20 5/8"	14 1/2"
Air column length	31"	41"	59"	40"
Low frequency cutoff	200 cycles	150 cycles	120 cycles	140 cycles
Rated coverage angle	95°	85°	75°	360°
Net weight (less driver)	6 lbs.	8 1/2 lbs.	12 3/4 lbs.	10 1/2 lbs.
Shipping weight	7 3/4 lbs.	12 3/4 lbs.	19 3/4 lbs.	14 1/2 lbs.
List price	\$26.00	\$31.00	\$45.00	\$47.00

*T.M. Reg. Jensen Mfg. Co.



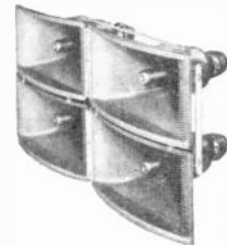
R-242

MODEL RT-20 RECTANGULAR HORN

These versatile new horns may be used in a variety of ways to provide projector systems of almost any desired directional characteristics and total power rating. They may be used singly just as round horns are used and in such cases, the rectangular shape is frequently an advantage in appearance, minimizing obstruction to vision, and facilitating mounting.

RT-20 Horns are designed so that they may be stacked in plane or circular arrays. Eight units, each with a geometric sector angle of 45 degrees, form a complete circle with a diameter of 57 9/16". Horizontal coverage, fewer units are used where less than 360° coverage is required as indicated below:

Number of Units	Horizontal Coverage Angle
1	80°
2	125°
3	170°
4	215°
5	260°
6	305°
8	360°

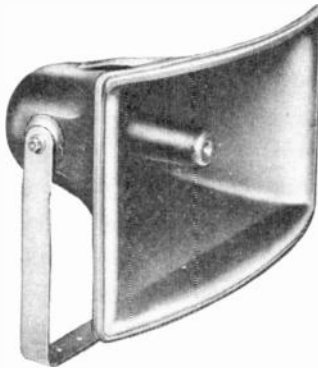


Horns may be "double decked," which will concentrate the sound in a narrower angle in the vertical plane. A stack two units high will give a vertical coverage angle of approximately 30 degrees, at the same time, there is a gain in sound pressure on the axis of 2.5 db, due to the restricted angle of radiation.

The horn is molded of high impact strength, glass fibre reinforced polyester. Natural molded finish in Modern Tan color.

SPECIFICATIONS—RT-20

Mouth Size: 25" wide by 12 1/2" high.
Horn Length, overall, less driver: 16 5/8".
Air Column length: 41".
Low Frequency cutoff: 140 cycles.
Rated Coverage angle: 80° horizontal. (See data for arrays).
Net Weight, less driver unit: 10 3/4 lbs.
Shipping Weight: 15 lbs.
RT-20—Horn only, List Price: \$46.50



ACCESSORIES

MA-1 PIPE ADAPTER

A sturdy malleable iron casting which bolts to the "U" bracket of HypeX* Projector Horns and provides 3/4" pipe thread for pipe mount mounting. Baked tan enamel finish. Net weight: 3/4 lb. Shipping Weight: 1 lb. MA-1—List Price \$2.30.

MA-3 STACKING HARDWARE
 Complete set of hardware for joining two RT-20 horns side by side. Net weight: 2 1/4 lbs. Shipping Weight: 2 3/4 lbs. MA-3—List Price \$5.30.

MA-4 STACKING HARDWARE
 Complete set of hardware for joining two RT-20 horns double decked. Net weight: 1 1/2 lbs. Shipping Weight: 2 lbs. MA-4—List Price \$4.60.

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Jensen Professional Series

JENSEN SPEECH MASTER LOUDSPEAKERS

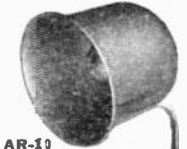


AP-10

JENSEN Speech Master loudspeakers are specialized units designed for applications where highly intelligible speech reproduction is a prime requisite. Good basic design and sturdiness of construction as well as

MODEL AP-10 SPEECH MASTER

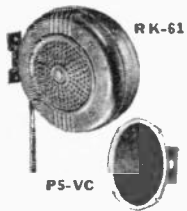
Attractively styled desk type unit. Heavy cast base with felt pad. Specially designed for superior intelligibility in the presence of static and acoustic background noise. Excellent "talk-back" characteristics. Driver Unit, a sturdy 5" speaker, fully enclosed with protective front screen. Mounting facility for 1/2" x 1/2" transformer (inside cover) locking tilt adjustment. Power rating, 5 watts maximum speech signal. 36" rubber cable. 6 1/2" H., 5 3/4" D., 5" W., Modern Tan finish. Shipping Weight 5 1/4 lbs. **\$19.30**
ST-591, 45-50 ohms. List Price **20.30**



AR-10

MODEL AR-10 SPEECH MASTER PROJECTOR

Specially designed for intercom and paging systems. Recurrent horn directs sound and adds speech range efficiency. Used in factories, warehouses, garages, etc. Sturdy P5-VC driver shielded from direct exposure. 1/2" x 1/2" transformer fits in cover. Power rating 6 watts. 22" rubber cord, 10" dia. Gray hammer finish. Shipping Weight 6 1/2 lbs. **\$23.50**
ST-643, 3-4 ohms. List Price **24.50**
ST-644, 45-50 ohms. List Price **24.50**



RK-61

MODEL RK-61 "CORRIDOR" SPEECH MASTER

pleasing appearance and functional styling are outstanding features of these units. All loudspeakers in this group use high efficiency direct radiator driver units of the permanent magnet type.

Designed for two-direction sound in corridor or office. Heavy steel case perforated on both sides for high quality speech coverage. In both directions protected in heavy duty 6" loud-speaker driver unit. Sturdy mounting bracket welded to case provides flexibility in installation. Standard 3/4" conduit (not supplied) can be used. 24" heavy SJ cable for connections. Transformers up to 1/2" x 1/2" mount on speaker frame inside case. Excellent "talk-back" characteristics. Quality on music is also acceptable for many areas. Power rating 8 watts. Case diameter 8 1/2". Thickness 3 1/4". Overall distance from wall 9 1/2". Modern Tan finish. **\$12.60**
ST-850, 3-4 ohms. List Price **\$12.60**

MODEL P5-VC SPEAKER

This loud-speaker is offered for installation in radio communications, intercom and paging equipment. May be panel mounted, wall mounted or installed in a small case as required with excellent results. Provides the performance of the AP-10 Speech Master in your equipment. Power rating, 5 watts. Depth, 2 1/2"; OD, 5"; baffle opening 4 1/2". Shipping Weight 1 lb. **\$5.30**
ST-916, 3-4 ohms. List Price **\$5.30**

JENSEN PROFESSIONAL SERIES TRANSFORMERS

MODEL W-1 WEATHERPROOF TRANSFORMER CASE

Thoroughly weatherproof for permanent outdoor installations for maximum protection to transformers. Designed for upright mounting on U-bracket of Jensen Types H, R¹ and R² Hypex[®] horns or on pipe by means of clamp. Also suitable for screw mounting to side wall or other flat surface. Accommodates transformers of standard nominal core sizes of 1 x 1, 1 1/2 x 1 1/2, 2 x 2 and 3 x 3, with maximum transformer height of 4". Cable entry holes provide for up to four Type SJ cables. Cast aluminum base and spun aluminum cover with bayonet locking. Rich tan baked enamel finish. Complete with transformer mounting and clamp hardware. Net weight 1 lb., shipping weight 1 1/4 lbs. List **\$10.50**.
*T.M. Reg. Jensen Mfg. Co.



TYPE ZC "CONSTANT VOLTAGE" TYPE TRANSFORMERS

These transformers are designs especially for the distribution systems commonly referred to as 70-volt constant voltage systems. They are designed to draw a predetermined amount of power from a 70-volt line as indicated in the tables. All are mountable in W-1 Weatherproof Transformer Case except ZC-3514, as noted.

Models ZC-100, ZC-200, ZC-300, and ZC-400 are equipped with adjustable terminal board with handy pin jack adjustment for the

desired input power. Heavy duty screw terminals are provided for speaker and line connection. Completely impregnated and dip processed for operation in outdoor and industrial atmospheres.

Models ZC-3514 and ZC-3515 are similar except color coded pig-tail leads replace the terminal board. Non-weatherproof, recommended for indoor and less severe locations.

Model No.	Nominal Core Size	Input Watts	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZC-100	1" x 1"	30	167	4/8/16	3 3/4"	\$11.50
		15	333			
		7 1/2	667			
ZC-200	1" x 1"	25	200	4/8/16	3 3/4"	13.00
		10	500			
		5	1000			
ZC-300	3/8" x 3/8"	20	250	4/8/16	3 3/8"	9.65
		10	500			
		5	1000			
ZC-400	3/8" x 3/8"	5	1000	4/8/16	2 3/8"	7.00
		2 1/2	2000			
		1 1/4	4000			

Model No.	Nominal Core Size	Input Watts	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZC-3514*	1" x 1 1/4"	16	313	3/16	2" x 2 1/2"	\$13.00
		8	625			
		4	1,250			
		2	2,500			
ZC-3515	3/8" x 3/8"	4	1,250	8	2 3/8"	4.75
		2	2,500			
		1	5,000			
		1/2	10,000			
		1/4	20,000			
		1/8	40,000			

Response characteristics: plus or minus 1 db, 30-15,000 cycles.
Type ZC-200; plus or minus 1 db, 30-15,000 cycles.
Type ZC-100, ZC-300, ZC-400; plus or minus 2 db, 70-10,000 cycles

Response Characteristics: plus or minus 1 db 30-15,000 cycles.
*Not mountable in W-1 Case.
1Marked VA (volt-amperes) on terminals.

ADJUSTABLE IMPEDANCE TRANSFORMERS

The Type ZY adjustable impedance transformers have long been popular for use on 500-ohm line systems. Equipped with sturdy terminal board with pin jack adjustment of impedance. Type ZL transformers are similar except for solder lug terminals for impedance adjustment and pig-tail secondary leads. Vacuum wax impregnated for general purpose applications. Can be installed in Model W-1 Weatherproof Transformer Case.

Model No.	Nom. Core Size, In.	Power Rating, Watts	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZY-2005	1x1	25		8	3 3/4"	\$11.85
ZY-2003	3/4 x 3/4	16		8	3 1/4"	9.92
ZY-2002	2 x 2	10		8	2 1/4"	8.25
ZY-4004	3/4 x 3/4	10	500/1000/1500/2000	4	2 1/4"	8.25
ZY-4005	5/8 x 5/8	6 1/2		8	2 1/4"	6.15
ZY-4002	5/8 x 5/8	6 1/2		4	2 3/4"	6.15

Response characteristics: Plus or minus 2 db, 70-10,000 cycles.

TYPE "Z" TRANSFORMERS

Model Z-3422 is a high fidelity autotransformer for interconnecting 4, 8 or 16 ohm circuits. Model Z-3345 is particularly designed to properly match 8 ohm loudspeakers and projectors to 45-50 ohm intercommunication systems. Vacuum wax impregnated and mountable in Model W-1 Weatherproof Transformer Case.

Model No.	Nom. Core Size, In.	Power Rating, Watts	Input Imped., Ohms	Sec. Imped., Ohms	Mtg. Ctrs.	List Price
ZL-2022	1/2 x 1/2	6 1/2	500/1000/1500/2000	8	2 1/4"	\$ 4.65
ZL-2021	1/2 x 1/2	3 1/2		4	2"	3.75
Z-3422	1x1	25	4/8/16	8	3 3/4"	8.58
Z-3345	1/2 x 1/2	6 1/2	45-50	8	2 1/4"	3.25

Response characteristics: Types ZL-2021, ZL-2022 and Z-3345: Plus or minus 2 db, 70-10,000 cycles.
Type Z-3422: plus or minus 1 db, 30-15,000 cycles.

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Jensen Professional Series

TWO-WAY AND THREE-WAY UNITARY HIGH FIDELITY LOUSPEAKERS

These outstanding unitary two-way and three-way loudspeakers have been especially designed for institutional, industrial and commercial sound systems where high fidelity music and realistic voice reproduction are essential. They may be mounted in procession arch or underneath a canopy; flush or in small enclosures on walls; in large or small cabinets. In enclosures they may stand on floor or be suspended overhead for large audience coverage. In wide angle coverage of entire frequency range and in sound quality, they are markedly superior to projector type speakers. Ideal for school rooms, auditoriums, arenas and the like.

Moving systems and other parts have been moisture-proofed so that they are highly satisfactory for protected outdoor service where not directly exposed to rain, sleet or snow. Durable finishes and materials are used throughout. Construction is rugged to insure trouble-free performance indefinitely. Terminals are provided for insertion of fixed or adjustable pads if desired (not furnished—see control listings) in the "tweeter" circuits. All units have full dividing networks (mounted on housing in H-525C and H-225C). Input terminals are screwdriver type. Housing finish is baked tan enamel, borax, etc., and the front of the units are finished in black enamel for minimum visibility through grill or cloth. All units are thoroughly dust-proofed.

These units incorporate Alnico 5 magnets in highly efficient conservatively designed magnetic structures. Table shows loudness efficiency relative to Model H-225C.

G-615C 15" THREE-WAY LOUSPEAKER

The TRIAXIAL, a unitary three-way loudspeaker, has three electrically and acoustically independent speaker elements, each handling a portion of the frequency range. Separate three-way 600 and 4000 cycle crossover network with provision for easily adding m-f and l-f balance controls (not supplied—see separate listing). Heavy duty curvilinear l-f diaphragm and compression horn-type m-f and h-f units in exclusive Jensen design. Excellent damping and high conversion efficiency. Power rating 40 watts, impedance 16 ohms. Recommended baffle opening 13 1/4" dia.; OD 15 1/4"; depth 10 1/4"; net weight 29 lbs.; shipping weight 48 lbs.

Model G-615C—
List Price \$350.00;
*T. M. Reg. Jensen Mfg. Co.

H-535C 15" TWO-WAY LOUSPEAKER

An outstanding unitary loudspeaker of the coaxial type. Employs a heavy duty low frequency unit with heavy magnet to handle the range below 2000 cycles, with high conversion efficiency and good damping. High frequency range is reproduced by an efficient multireel horn-loaded compression driver unit. Excellent high frequency distribution. Separate plug-connected 2000

cycle crossover network with provision for adding h-f balance pad (not furnished—see separate listing). Impedance 16 ohms. Power rating 30 watts. Recommended baffle opening 13 1/4" dia.; OD 15 1/4"; depth 9"; net weight 17 lbs.; shipping weight, 25 lbs.

Model H-535C—
List Price \$192.00;

H-525C 15" TWO-WAY LOUSPEAKER

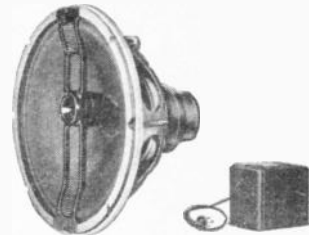
A coaxial unitary two-way loudspeaker like Model H-535C above, except built-in crossover network and lighter magnetic structures on l-f and h-f units. Power rating 25 watts, impedance 16 ohms. Recommended baffle opening 13 1/4" dia.; OD 15 1/4"; depth 8 1/4"; net weight 16 lbs.; shipping weight 16 lbs.

Model H-525C—
List Price \$112.50;

H-225C 12" TWO-WAY LOUSPEAKER

A coaxial unitary two-way loudspeaker like Model H-525C above, except 12-inch l-f unit. Power rating 27 watts, impedance 16 ohms. Recommended baffle opening 10 3/4" dia.; OD 12 3/4"; depth 7 1/4"; net weight 9 lbs.; shipping weight 13 lbs.

Model H-225C—
List Price \$81.50;



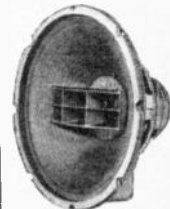
G-615C



H-535C

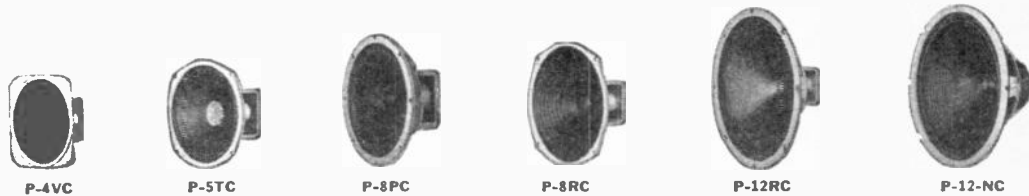


H-525C



H-225C

Model No.	Relative Efficiency
G-615C	+5 db
H-535C	+3 db
H-525C	+1 db
H-225C	0 db



P-4VC

P-5TC

P-8PC

P-8RC

P-12RC

P-12-NC

EXTENDED RANGE HIGH FIDELITY LOUSPEAKERS

Here is a complete line of loudspeakers of latest designs especially for commercial and general purpose applications, all field tested for the exacting and rigorous requirements of professional service. There is a loudspeaker for every need—ruggedly dependable units which have enjoyed the position of "world's quality standard" for many years in the professional field.

These heavy duty loudspeakers are of the extended range high fidelity type with performance suitable for applications where two-way and three-way speakers are not needed. High efficiency is assured with carefully designed magnetic structures using Alnico 5 magnets and ample soft iron circuits. Moisture-resistant cones and other materials contribute to long life expectancy. The units are especially suitable for protected outdoor locations not directly exposed to rain, sleet and snow, as well as for indoor use.

Extended h-f range insures excellent music reproduction. The l-f range will depend on the enclosure size and design. Commonly used in small enclosures or ceiling baffles. Models P8-SC and P12-SC are practically standard in the industry for inferior low level music distribution systems.

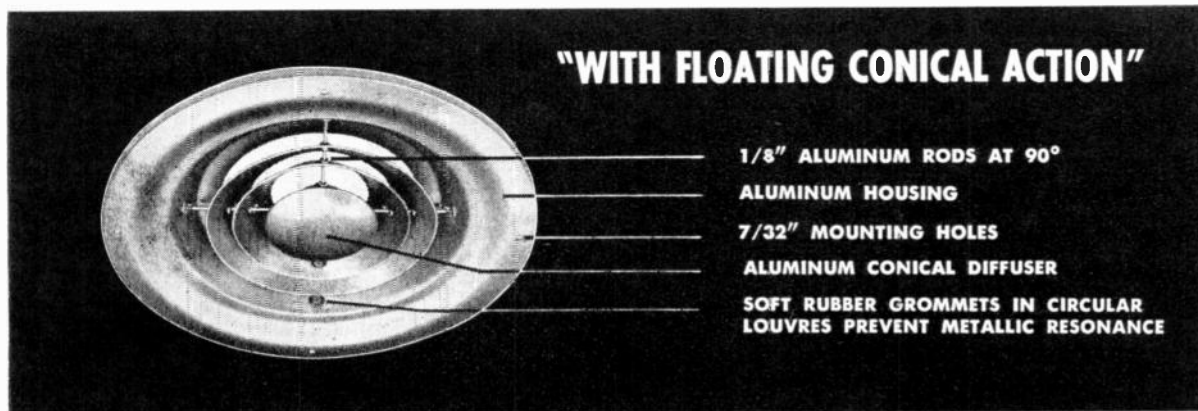
Sizes from 4" to 15" offer the best performance possible in each size and cost class. Choices as to efficiency and power ratings are available in some sizes. Relative loudness efficiency is shown in the table referred to the P4-VC. A speaker with relative loudness efficiency of +3 db will be noticeably louder than the P4-VC for the same power; only one-half the power will be required to be equally as loud as the P4-VC.

Nominal Size	Model No.	Power Rating Watts	Magnet Wt., Oz., Alnico 5	Relative Loudness Efficiency	Imped., Ohms	V. C. Dia., Inches	Baffle Cutout Dia., In.	Overall Dia., Inches	Depth Inches	Ship. Wt., Lbs.	List Price
15"	P15-NC	25	27	+7 1/2 db	8	1 1/2	13 1/4	15 1/4	7	10	\$350.00
12"	P12-NC	18	27	+7 db	8	1 1/2	10 3/4	12 3/4	6	8 1/4	\$100.00
12"	P12-RC	12	6.8	+4 1/2 db	8	1	10 1/2	12 1/4	5 1/4	6	16.65
12"	P12-SC	10	4.64	+3 1/2 db	8	1	10 1/2	12 1/4	5 1/4	6	15.20
10"	P10-SC	9 1/2	4.64	+3 1/2 db	8	1	8 3/4	10 1/4	4 1/2	4	13.75
8"	P8-PC	10	14.6	+5 db	8	1 1/2	6 3/4	8 1/4	4	5 1/2	31.80
8"	P8-RC	9	6.8	+2 1/2 db	8	1	6 3/4	8 1/4	4	3	14.80
8"	P8-SC	8	4.64	+1 1/2 db	8	1	6 3/4	8 1/4	3 3/4	3	12.70
5"	P5-TC	6	3.16	+1 1/2 db	4	3/4	5 1/4	6 1/2	3 1/4	2	8.50
5"	P5-SC	5	3.16	+1 1/2 db	4	3/4	4	5	2 1/2	2	8.15
4"	P4-VC	4	1.47	0 db	4	3/8	3 1/2	5	2 1/8	1 1/2	5.25

JENSEN • JENSEN • JENSEN • JENSEN • JENSEN •

LOWELL STL SERIES

New Low Ceiling Type Baffles



Patented in U.S.A. and Canada

Model No.	Speaker Size	Will Mount to
STL-6	6"	CP8, XCP8, PR8
STL-7	7"	STP8, XSTP8, XSTPR8
STL-8	8"	STP8, XSTP8, XSTPR8
STL-10	10"	STP1012, XSTP1012, XSTPR12
STL-12	12"	STP1012, XSTP1012, XSTPR12

grommets. Baffles are coated with clear lacquer which also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request.

Shipped complete with hardware and instructions for mounting to Lowell Protective Speaker Enclosures illustrated.

These new, unusual additions to the Lowell line of speaker baffles are top quality heavy 18 gauge spun aluminum in a buffed satin finish. Designing assures controlled 360° dispersion of undistorted sound. Echo and feedback are at the minimum. Louvres and conical diffuser "float" on very small soft rubber

From architecture to acoustics, Lowell STL series meets every requirement — in ultra-modern design . . . for even, undistorted low-level sound distribution throughout 360°. Recommended baffle placement is usually 25' from center to axis. Where straight line placement is impossible, triangulating the baffles in the ceiling is highly effective.

STP SERIES



XSTP SERIES

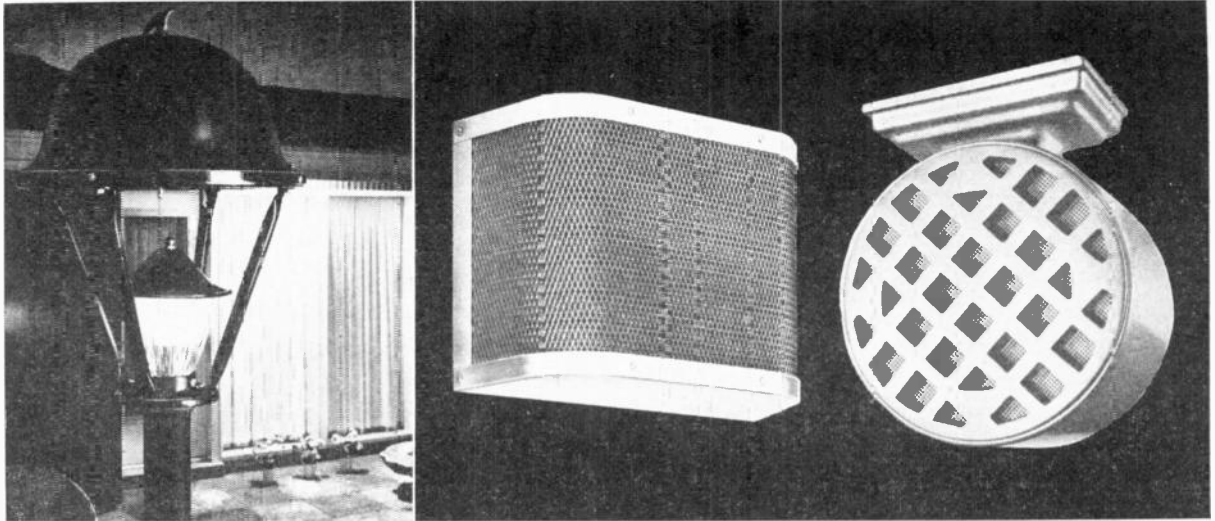


XSTPR SERIES



HEARD EVERYWHERE
Lowell MANUFACTURING COMPANY

LOWELL SPECIAL APPLICATIONS



HI-FI-LITE

Hi-Fi sound and outdoor light now combined in a beautiful, all-weather lamp. Ideal for residential and commercial installations. Finished in anodized midnight black or gold. The perfect companion to modern American outdoor living.

THE 'DRAMATONE' BASE REFLEX WALL BAFFLE

Especially designed for installations where a modern trend is desired. Beautiful plastic grille cloth mounted directly in back to conceal the loudspeaker. Baffle operates with a bass reflex principle. Interior completely lined with jute to prevent metallic resonance.

HEAVY-DUTY PENAL INSTITUTIONAL BAFFLE

Bi-directional type mounts to any standard single or double electrical outlet box. Tamper-proof machine screws, which fasten the baffle together, cannot be removed without a special screwdriver. Rugged construction withstands severe punishment. Both speaker face plates are covered from behind with perforated metal to prevent sharp objects from piercing the speaker cone.

The entire baffle is prime coated and finished in silver grey hammertone.

Order screwdriver with 6-32 and 8-32 tip.

SPECIFICATIONS

HI-FI-LITE

MODELS:	DESCRIPTION:
PBA-8	With pipe and lite (For 8" speaker) Complete unit
PBA-7	With pipe and lite (For 7" speaker) Complete unit
PBC-8	With pipe only (For 8" speaker) No lite
PBC-7	With pipe only (For 7" speaker) No lite
PBF-8	With lite only (For 8" speaker) No pipe
PBF-7	With lite only (For 7" speaker) No pipe
PB-8	With top section only (No pipe or lite) For 8" speaker
PB-7	With top section only (No pipe or lite) For 7" speaker

'DRAMATONE' BASE REFLEX WALL BAFFLE

DIMENSIONS: 13 $\frac{3}{4}$ " x 5 $\frac{5}{8}$ " depth x 9 $\frac{3}{4}$ " height.
 MODELS: DD6-A
 DD7-A
 DD8-A

PENAL INSTITUTIONAL BAFFLE

MODELS	SPEAKER SIZE
BRK-5	5"
BRK-6	6"
BRK-7	7"
BRK-8	8"

Model RLK series is very similar to Model BRK with the exception that these models do not have a cradle base. Mount to ceiling or wall or standard electrical outlet boxes.

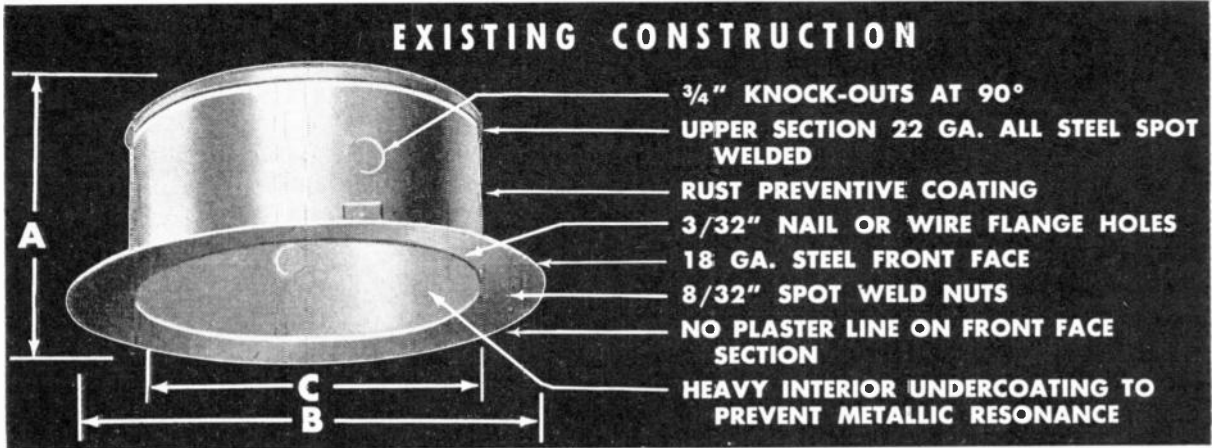
MODELS	SPEAKER SIZE
RLK-5	5"
RLK-6	6"
RLK-7	7"
RLK-8	8"

NOTE Order only by model numbers

HEARD EVERYWHERE
Lowell MANUFACTURING COMPANY

LOWELL XCP SERIES

Back Cover Protective Speaker Enclosure



Model	A	B	C	Speaker Size Accommodation
XCP6	4"	10 1/4"	7 3/8"	6"
XCP8	2 1/2"	11 3/4"	8 1/2"	8"
XCP8	4 1/4"	11 3/4"	8 1/2"	8"
XCP8	7"	11 3/4"	8 1/2"	8"
XCP8	10"	11 3/4"	8 1/2"	8"
XCP1012	7"	16"	12 3/8"	10" & 12"
XCP15	10 3/4"	21 1/4"	14 5/8"	15"
XSTP8	7"	13 3/4"	12 1/2"	8"
XSTP1012	10"	17 1/2"	14 1/2"	10" & 12"

USES: Designed for quick labor-saving wall or ceiling installation of sound systems in EXISTING CONSTRUCTION, ready for plastering.

DESCRIPTION: All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. 1/2" and 3/4" knockouts at 90°. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete mounting hardware and mounting instructions furnished to meet problems of various types of installations.

Note: Special overall depths (where space in walls and ceilings allow) and additional "loading" may be ordered at slightly higher price.

IMPORTANT: When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath:

Model XCP6—7 1/4" dia. Model XCP15—14 3/4" dia.
 Model XCP8—8 5/8" dia. Model XSTP8—12 3/8" dia.
 Model XCP1012—12 3/8" dia. Model XSTP1012—14 5/8" dia.

FOR SUSPENDED CEILING:

Mount XCP Series back enclosures to Model SS24 or 48 Steel Support Channels for positive strength.

FEATURES: Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Installation time reduced.

Speaker Baffles That Will Mount to XCP Series Protective Speaker Enclosures:

Enclosure Model No.	Speaker Baffle Model No.
XCP6	AL6-A, RS5-A, RS6-A,
XCP8	AL7-A, AL8-A, RS7-A, RS8-A, CE, JG8, M-8, PS8, STL6
XSTP1012	AL10-A, AL12-A, RS10-A, RS812-M, AL812-M, RS12-A, JG12
XCP15	AL15, RS15-A
XSTP8	STL8
XCP1012	STL10 STL12

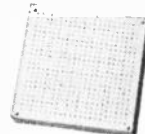
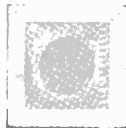
AL SERIES

RS SERIES

JG SERIES

M SERIES

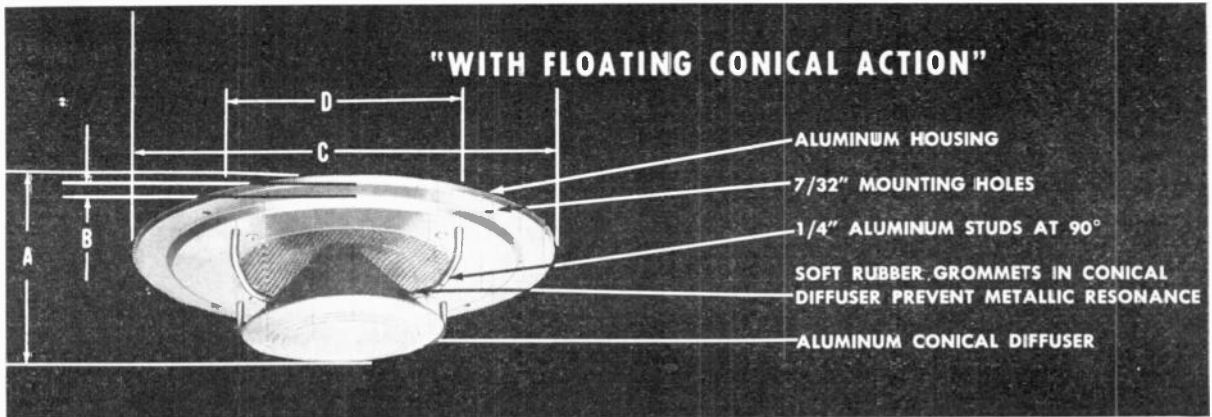
PS8 BLOCK PAN



HEARD EVERYWHERE
Lowell MANUFACTURING COMPANY

LOWELL AL SERIES

Flush Mounting Low Ceiling Baffles



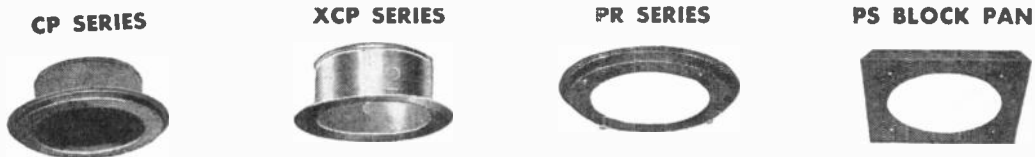
Patented in U.S.A. and Canada

Speaker Baffle Model	Size Speaker Accommodated	Mount to Speaker Enclosure Models	A	Dimensions B	C	D	Baffle Flange	No. of Flange Mtg. Holes	Dia. of Required Hole in Ceiling	Weight (lbs.) Net Shpg.	No. per Shipping Carton
AL6-A	6"	CP6, XCP6, PR6 PS	2 1/2"	1/2"	10 3/4"	5 1/4"	1"	4	7"	1/2 3/4	12
AL7-A	7"	CP8, XCP8, PR8 PS	2 1/2"	1/2"	12 5/8"	5 3/4"	1"	4	8 1/2"	3/4 1	15
AL8-A	8"	CP8, XCP8, PR8 PS	2 1/2"	1/2"	12 5/8"	6 3/8"	1"	4	8 1/2"	3/4 1	15
AL10-A	10"	CP1012, XCP1012 PR10	3"	1/2"	16 7/8"	8 1/2"	1"	4	13"	1 1 1/2	6
AL12-A	12"	PR12, CP1012, XCP1012	3"	1/2"	16 7/8"	10 3/8"	1"	4	13"	1 1 1/2	6
AL15-A	15"	PR15, XCP15 CP15	5"	2"	21 3/4"	13"	1 3/4"	8	15 1/2"	3 3 1/2	1
AL812-M	8"	PR12, CP1012 XCP1012	2 1/2"	1/2"	16 7/8"	6 1/4"	2"	4	8 1/2"	3/4 1	6

Top quality, heavy gauge satin finished spun aluminum. Assures controlled 360° diffusion of undistorted "ear-level" sound with minimum of echo and feedback. Conical diffuser "floats" on soft rubber grommets forming a press fit to aluminum support studs which thread to speaker housing ring. Clear lacquer coating also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request. Shipped complete with hardware for mounting to Lowell Protective Speaker Enclosures illustrated.

360° Coverage Low "Ear-Level" Sound

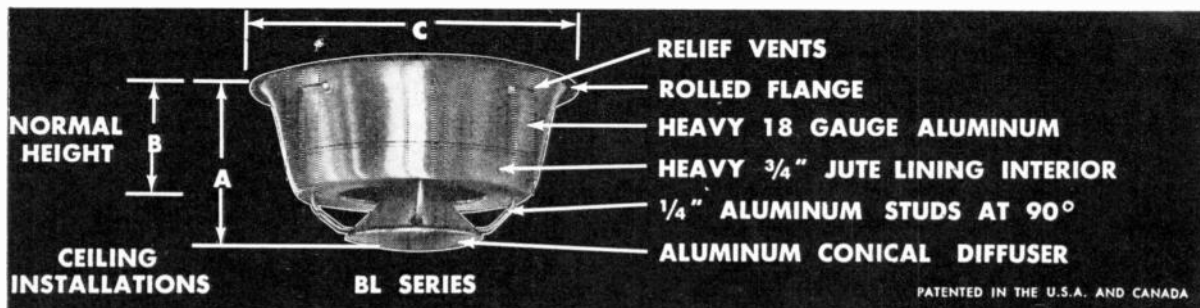
Even undistorted sound. Recommended baffle placement 25' from center of axis. Where straight line placement is impossible, triangulating baffle in ceiling is highly effective.



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Lowell MANUFACTURING COMPANY

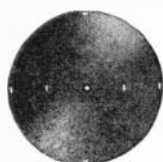
SURFACE MOUNTING CEILING BAFFLES

"WITH FLOATING CONICAL ACTION"



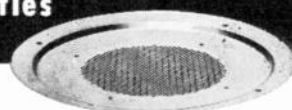
Model No.	Speaker Size	A	B	C	Will Mount To
BL6-A	6"	7 1/4"	4 1/4"	12 3/4"	PL6
BL7-A	7"	8 1/8"	5"	14 3/4"	PL7
BL8-A	8"	8 1/8"	5"	14 3/4"	PL8
BL10-A	10"	9 1/4"	6 3/4"	18 5/8"	PL10
BL12-A	12"	9 1/4"	6 3/4"	18 5/8"	PL12

GENERAL INFORMATION: Designed for surface mounting constructed of heavy gauge aluminum. Accurately engineered for normal ceiling sound reinforcement. Perfect speaker cone loading holds feed-back to minimum. Exclusive "Floating Conical Action" assures controlled 360° sound coverage. High frequency diffuser supported to housing by four 1/4" aluminum studs and threaded on one end mounted to housing. Press fit to diffuser through soft rubber grommets prevents metallic resonance. Recommended placement of baffles under normal ceiling heights is 25' off center of axis in straight line placement. All models finished in brushed satin and coated with colorless lacquer. Acts as excellent base coat or primer for on-the-job painting. All models available in colored lacquers at slightly higher price. Complete information on request.



PL Series Steel Discs for mounting BL Series to concrete ceilings. Heavy 18 gauge steel. All holes punched for standard electrical outlet boxes.

TYPE RS recessed wall type directional speaker baffles



TYPE RS RECESSED WALL TYPE DIRECTIONAL SPEAKER BAFFLES:

Excellent speaker trim for modern installations. Especially recommended for Dress Shops, Department Stores, Night Clubs. Provides concealment of speaker. Easily installed.

DESCRIPTION: Made of aluminum with 1/2" mounting flange. Standard finish — satin-aluminum. Improved one-piece construction. Four screws are supplied to mount speaker. Mounts to LOWELL TYPE CP or XCP enclosures where speakers must be protected. The RS7-a, RS8-a, RS10-a and RS12-a are now one-piece construction.

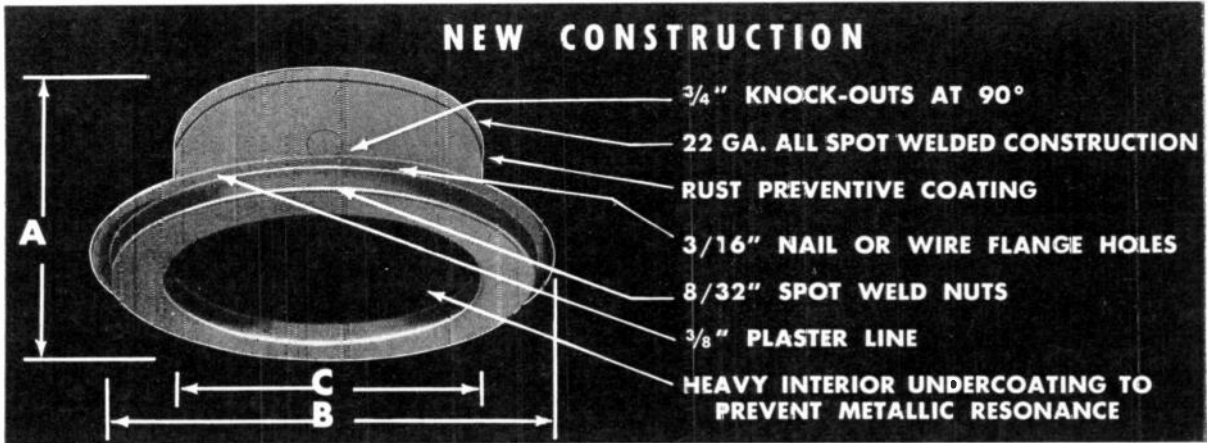
Model No.	Speaker Size	Dimensions	Wall Hole Size
RS4-A	4"	7 1/2" dia. x 7'16" depth	5" dia.
RS5-A	5"	10 3/4" dia. x 7'16" depth	7" dia.
RS6-A	6"	10 3/4" dia. x 7'16" depth	7" dia.
*RS7-A	7"	12 3/8" dia. x 7'16" depth	8 1/2" dia.
RS812-M	8"	16 7/8" dia. x 1'2" depth	8 1/2" dia.
RS8-A	8"	12 5/8" dia. x 1'2" depth	8 1/2" dia.
RS8-A (1 1/2" deep)	8"	12 3/8" dia. x 1 1/2" depth	8 1/2" dia.
RS10-A	10"	16 7/8" dia. x 1'2" depth	12 1/2" dia.
RS12-A	12"	16 7/8" dia. x 1'2" depth	12 1/2" dia.
RS15-A	15"	21 3/4" dia. x 3" depth	17" dia.

* For RCA 7" Accordion Speaker. Information on colored lacquer furnished on request for both models.

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Lowell MANUFACTURING COMPANY

LOWELL CP SERIES

Back Cover Protective Speaker Enclosure



Model	A	B	C	Speaker Size Accommodation
CP6	4"	11 1/4"	7"	6"
CP8	2 1/2"	13 1/8"	8 1/2"	8"
CP8	4 1/2"	13 1/8"	8 1/2"	8"
CP8	7"	13 1/8"	8 1/2"	8"
CP8	10"	13 1/8"	8 1/2"	8"
CP8	12"	13 1/8"	8 1/2"	8"
CP1012	7"	17 1/8"	12 1/2"	10" x 12"
CP15	11"	21 1/2"	14 5/8"	15"
STP8	7"	14 7/8"	12 3/8"	8"
STP1012	10"	18 7/8"	14 3/4"	10" x 12"

USES: Designed for quick, labor-saving wall or ceiling installation of sound systems in NEW CONSTRUCTIONS, ready for plastering.

DESCRIPTION: All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. 3/4" and 1/2" knock-outs at 90°. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete with mounting hardware and mounting instructions to meet problems of various types of installation.

Note: Special overall depths (where space in walls and ceilings allow) and additional "loadings" may be ordered at slightly higher price. Available with removable cylinder and stationary front plaster ring in adjustable face models—DCP series.

IMPORTANT: When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath.

Model CP6—7" dia. Model CP15—14 1/4" dia.
 Model CP8—8 1/2" dia. Model STP8—12 1/2" dia.
 Model CP1012—12 1/2" dia. Model STP1012—14 1/2" dia.

FOR SUSPENDED CEILINGS:

Mount CP Series back enclosures to Model SS 24 or 48 Steel Support Channels for positive strength.

FEATURES: Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Reduces installation time.

Speaker Baffles That Will Mount to CP Series Protective Speaker Enclosures:

Enclosure Model No.	Speaker Baffle Model No.
CP6	AL6-A, RS5-A, RS6-A
CP8	AL7-A, AL8-A, RS7-A, RS8-A, JG8, M-8, PS8, STL8
CP1012	AL10-A, AL12-A, RS10-A, RS12-A, JG12, RS812-M, AM812-M
CP15	AL15, RS15-A
CTP8	STL8
STP1012	STL10, STL12



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NO FUZZY FEELERS WITH MELLOTONE



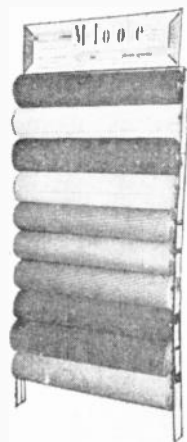
Fuzzy Feelers are the multi-filament yarns in ordinary grille fabrics that muffle and absorb sound. To hear all your hi-fi insist on Mellotone

Accept no substitutes!



Mellotone

THE HIGH FIDELITY GRILLE FABRIC



THE MELLOTONE STEREO PACKAGE DISPLAY

THE MELLOTONE TEN YARD BOLT DISPLAY

MURDOCK HEADPHONES



P-23 Aviation Headphone
C.A.A.T.C. 1200

Specifications:

Receivers: "Solid-Built" type. Best quality Alnico magnets. Moulded bakelite coil forms impregnated to resist moisture. Moulded bakelite case and cap. Standard impedance 600 ohms. Lightweight sponge rubber cushions.

Headband: All metal parts stainless steel and passivated to prevent corrosion. Headband and earphones are easily adjusted by cleverly designed guide and plate.

Cord: Phones connected within band, making a single cord to instrument panel. Standard set has 5 foot plastic-covered tinsel cord with phone plug attached.

LIST \$12.00



No. 111 Institutional Headphone

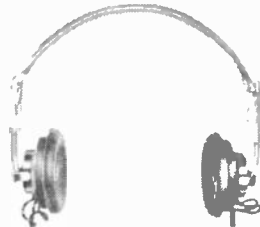
Specifications:

Receivers: "Solid-Built" one-eleven type. Magnets are fine quality chrome steel. Moulded black bakelite case and cap. Standard set has 10,000 ohms impedance. Standard concealed terminals.

Headband: Stainless steel bands covered with plastic. Guides and yokes are solid brass, nickel plated.

Cord: Six foot Y type plastic-covered tinsel cord with pin tips.

LIST \$8.50



No. 131 "CW" Designed for Code Communication

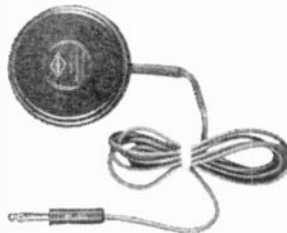
Specifications:

Receivers: Same "Solid-Built" construction as P-23. Standard impedance 10,000 ohms. Equipped with wafer-thin rubber cushions.

Headband: Double stainless steel bands with plastic covering. Stainless steel guides and yokes permit adjustment on vertical and horizontal planes.

Cord: Six foot Y type plastic-covered tinsel cord with phone plug attached.

LIST \$12.00



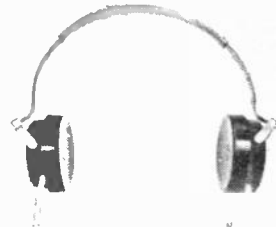
Magnetic Underpillow Speaker

Specifications:

Speaker: Rugged, durable bakelite case in walnut or gray finish. 3 1/2" diameter. Alnico V magnet.

Cord: Six foot plastic extension cord and phone plug. Mounting jack supplied with switch in jack. Available in impedances from 5 ohms to 10,000 ohms or higher.

LIST \$10.95



No. 112 Lightweight Headphone

Lightness and scientific fit of these headphones make them comfortable to wear for a considerable length of time.

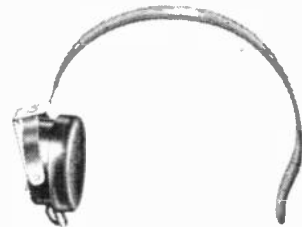
Specifications:

Receivers: "Solid-Built" one-twelve type with Alnico magnet. Standard set has 10,000 ohms impedance. Standard concealed terminals.

Headband: Easy operating controls permit adjustment of the earphones. Bands are 1/4" stainless steel.

Cord: Six foot Y type plastic-covered tinsel cord with pin tips.

No. 112 LIST \$5.50
No. 116 Single LIST \$3.50



No. 115 Laboratory Headphone

Specifications:

Receiver: "Solid-Built" one-eleven type.

Headband: Special one-fifteen. Yoke is spring brass, nickel plated. Covered with fine quality plastic.

Cord: Five foot single type, plastic-covered tinsel with pin tip.

LIST \$5.50

HEADSET impedances are available up to 17,000 ohms. Cotton-covered or other special cords and special terminals are available to meet individual requirements.

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ACOUSTONE

WORLD'S FINEST LINE

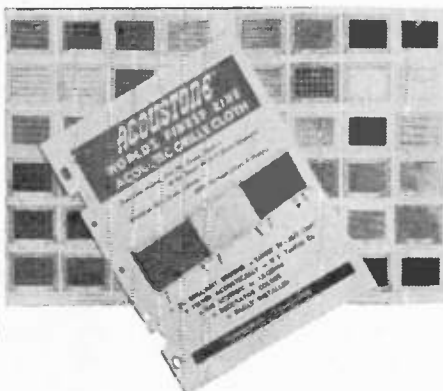
ACOUSTIC GRILLE CLOTH

ACOUSTONE DEALER AIDS

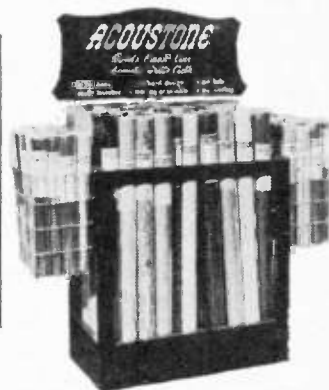
Acoustically Tested — U. S. Testing Co. — No Scuffing — Sagging — Easily Installed



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"FAMOUS 50" — SELECTED PATTERNS — IN STOCK! IMMEDIATE DELIVERY!
(Carefully chosen each year from 4000 designs for home decorator needs)

PATTERN	DESCRIPTION	LIST PRICE	PATTERN	DESCRIPTION	LIST PRICE
==211	Mahogany with Ivory Thrds.	5.60	==290B	Mah. with Brn & Wht Uph. Yarn	8.50
==212	Mahog with Beige Thrds.	5.60	==560B	Blk. with Brn & Wht Uphol. Yarn	8.50
==213	Mahog. with Gold Ray. Thrds.	5.60	==814BM	Bge with Wht & Met. Gold Thrds	8.50
==214	Mahog. with Copper Ray. Thrds.	5.60	==1011	Solid Gold	8.50
==306A	Walnut with Tan Thrds.	5.60	==1012	Solid Silver	8.50
==450	Solid Black	5.60	==1215BA	Brn & Tan with Brn & Wht Uph. Yarn	8.50
==452A	Charcoal with Grey Threads	5.60	==1802	Woven Cane—Brown/Tan	8.50
==511	Blonde with Brown Threads	5.60	==1803	Woven Cane—Walnut/Tan/Gold	8.50
==611	Solid White	5.60	==1804	Woven Cane—Brown/Tan/Cocoa	8.50
==612	White with Lt. Grey Thrds.	5.60	==1809	Woven Cane—Walnut/Tan	8.50
==811	Tan with Bronze Threads	5.60	==1810	Woven Cane—Brown/Tan	8.50
==812	Tan with White Threads	5.60	==1826	Woven Cane—Brown/Tan/Wht.	8.50
==1216	Beige & Wht. with Blk. Thrds.	5.60	==300	Mah. with Gold Metal Cobweb	8.50
==2211	Bronze/Mah. with Bld Thrds.	5.60	==453	Black with Gold Metal Cobweb	8.50
==215M	Mah/Beige with Met. Gold Thrds.	6.75	==454	Charcoal with Silv. Met. Cobweb	8.50
==412M	Wht & Blk with Met. Silver Thrds.	6.75	==618	White with Gold Metal Cobweb	8.50
==413M	Wht & Blk with Met. Gold Thrds.	6.75	==619	Wht. with Blk/Gold Met. Cobweb	8.50
==512M	Bge & Bronze with Met. Gold Thrds.	6.75	==313	Mah. with Gold Metal Pagoda	8.50
==515M	Blk & Blk with Met. Gold Thrds.	6.75	==473	Black with Gold Metal Pagoda	8.50
==616M	Wht & Blk with Met. Gold Thrds.	6.75	==613	Wht with Blk/Gold Pagoda	8.50
==617M	Solid Wht with Met. Gold Thrds.	6.75	==805	Beige with Wht/Brown Pagoda	8.50
==711M	Bge & Brnze & Wht. Uphol. Yarn	6.75	==314	Mah. with Gold Metal Stardust	8.50
==804BM	Bge. Straw with Met. Gold Thrds.	6.75	==474	Black with Gold Metal Stardust	8.50
==813	Beige with Beige Straw	6.75	==477	Black with Silver Metal Stardust	8.50
==857	Beige with Beige Straw	6.75			
==1214M	Brn & Bge with Met. Gold Thrds.	6.75			

Engineered for Sound—Designed for Beauty

NEWCASTLE FABRICS CORP.

BROOKLYN 11 N Y

Aud-O-Gril

STEREO ACCESSORIES AND CONTROLS



STEREO CONTROL

Features: Balance, Volume Controls, Stereo Monaural Switch, Direct-Reverse Switch.

- ≡SC-1 Panel List \$10.95
- ≡SC-2 w ebony cabinet: 12.95
- ≡SC-2 dimensions: 6 1/4 x 3 3/4 x 2



STEREO VOLUME

- ≡SV-1—20 Ohms Low or 500K High. List: \$3.75
- Dimension: 2 3/4 x 2 3/4



STEREO ADAPTOR

- ≡SA-1 — Direct-Reverse Switch, Stereo-Monaural Switch, wired w jacks. List \$2.95.



STEREO BALANCE

- ≡SB-1—20 Ohms Low or 500K High. Dimensions: 2 3/4 x 2 3/4 List: \$3.75



STEREO-REMOTE

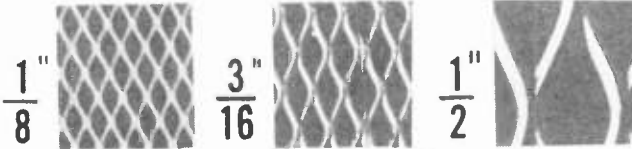
- ≡SW-1—Balance or Volume. 20 Ohms Low or 500K High. List: \$3.25



AUTO SPEAKER GRILLES

High quality grille in 2 styles offered in 3 metal finishes and 7 enamel colors: Chrome, Brass & Copper, Red, Yellow, Blue, Green, Grey, Ivory & Black.

	Deluxe	List	Economy	List
PR46		1.95	PR46LB	1.60
PR57		2.45	PR57LB	1.95
PR69		2.95	PR69LB	2.45



EXPANDED METAL — GRILLE MESH

Actual size Finishes: Copper and Brass. List: \$1.75 per square foot

SPEAKER CONTROLS

Multiple Speaker Operation for all Electronic Equipment

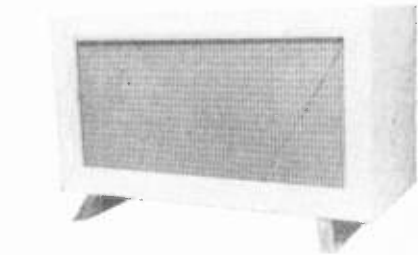
Switches—3-way		Faders—20 Ohms	
≡SW-2	\$1.35	≡FA-2	\$1.95
≡SW-3 wired	2.45	≡FA-3 wired	2.65
≡SW-3P wired	2.95	≡PL-3 wired	2.95



HI-FI ENCLOSURES



- ≡CC-8 —8", 10 watts, 50 to 15,000 CPS., 8 Ohms.
- ≡CC-12—12", 20 watts, 35 to 15,000 CPS., 8 Ohms.
- Dimensions: 20"x14 1/2"x9 1/2"
- Finishes: Blond, Mah., Walnut, Cherry and Unfinished.
- List: \$29.95 to 59.95



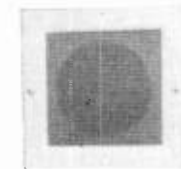
8" BASS REFLEX

- ≡BR-8BS—8" Bass Reflex—2-Way Coax. 10 watts, 46 to 15,000 CPS., 8 Ohms.
- Finishes: Blond, Mah., Cherry, Walnut and Unfinished Birch.
- Dimensions: 20"x11"x9 1/2" List: \$19.50 to \$54.50



Econ 0-3

- ≡SC-3—3 Speakers w Crossover and Volume Control, 1—6x9, 1—4x6, 1—3 1/2 Tweeter. 8 watts, 50 to 14,000 CPS., 8 Ohms. Finishes: Blond & Mah. List: \$32.50



FLUSH BIRCH GRILLES

- ≡FG-6 10"x10" \$5.45
- ≡FG-8 10"x10" 5.45
- ≡FG-12 14"x14" 7.85

ADDITIONAL PRODUCTS

KINE-SAC SPEAKER KITS WALL BAFFLES EXTENSION BAFFLES HI-FI TWEETER KITS

See your local distributor

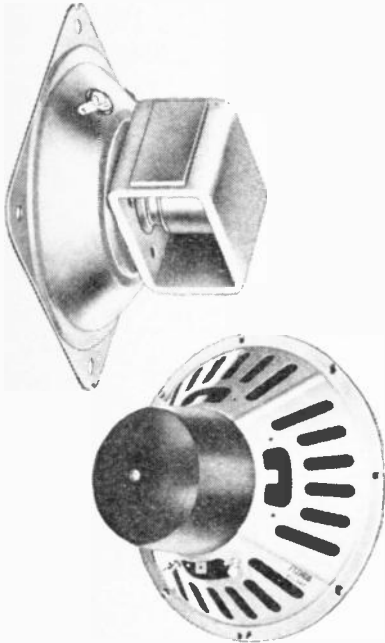
• Reg. Trade Name

PARKWAY SPECIALTIES COMPANY

DETROIT 39, MICHIGAN

OXFORD Speakers—

HIGH FIDELITY — Tempo Series



OXFORD TWEETERS

Model No.	Size	Alnico V Mag. Wt. Oz.	V.C. Size	Power Handling Capacity in Watts	Frequency Response in C.P.S.	Resonance in C.P.S.	Audiophile Net
T3C208	3"	1.47	5/16"	2-4	1800-15,000	—	\$4.35
T5C208	5"	1.47	5/16"	2-4	1100-15,000	—	5.10

FULL RANGE SPEAKERS

Model No.	Size	Mag. Wt. Oz.	V.C. Size	Power Handling Capacity in Watts	Frequency Response in C.P.S.	Resonance in C.P.S.	Price
F8J408	8"	6.80	1"	15	50-13,000	85	\$14.97
F12J408	12"	6.80	1"	15	50-12,000	75	19.50
F12L608	12"	14.00	1 1/2"	25	40-10,000	70	29.95

OXFORD WOOFERS

Model No.	Size	Mag. Wt. Oz.	V.C. Size	Power Handling Capacity in Watts	Frequency Response in C.P.S.	Resonance in C.P.S.	Price
W12K508	12"	10.0	1 1/4"	15	4,000 roll off	50	\$23.70
W12M608	12"	20.0	1 1/2"	25	3,000 roll off	45	34.50
W15M608	15"	20.0	1 1/2"	25	2,000 roll off	40	39.00

COAXIAL SPEAKERS

Model No.	Size	Mag. Wt. Oz.	V.C. Size	Power Handling Capacity in Watts	Frequency Response in C.P.S.	Resonance in C.P.S.	Price
C8J408	8"	6.8	1"	8	50-15,000	75	\$21.00
C12J408	12"	6.8	1"	15	40-15,000	75	25.50
C15L608	15"	14.0	1 1/2"	25	30-15,000	50	43.50

EXTENDED RANGE SPEAKERS

Model No.	Size	Mag. Wt. in Oz.	V.C. Size	Power Handling Capacity in Watts	List Price
HF8JB	8"	6.8	1"	10	\$16.50
HF10JB	10"	6.8	1"	10	18.95
HF12JB	12"	6.8	1"	10	22.50
HF12LN	12"	14.00	1 1/2"	25	36.75
HF15LN	15"	14.00	1 1/2"	25	44.95
CO12JB(coax)	12"	6.8	1"	15	32.50

HIGH FIDELITY 3 SPEAKER SYSTEM with 3 way crossover network

Kit No. 3W20

3 way—3 element network with nominal crossover frequencies of 600 cycles and 5000 cycles: Attenuation rate of approximately 6db per octave on either side of crossover frequencies and in sertion loss of approximately 1db.



3 WAY SYSTEM

Item	Model No.	Ship. Wt.	Audiophile Net
3 WAY SYSTEM Complete less cabinet	3W20	14 lbs.	\$39.00

RESPONSE: of system is substantially flat from 35 cycles to 15,000 cycles, when used in acoustically matched cabinets.
INPUT IMPEDANCE: 8 ohm output
POWER HANDLING: 20 watts peak (of program material) is recommended. Oxford Bass Reflex Cabinets available in red mahogany, cherry, walnut, and blonde oak.

CROSSOVER NETWORK (Available separately) OXN-31 3 lbs. 12.30



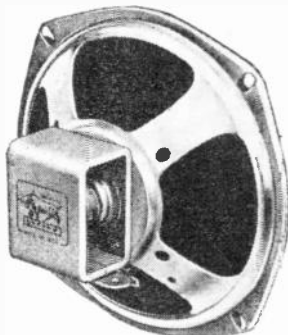
OXFORD

OXFORD COMPONENTS, INC., subsidiary of Oxford Electric Corp., Chicago 6, Illinois

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO

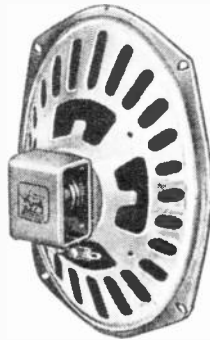
EXPORT: ROBURN AGENCIES, NEW YORK CITY

OXFORD Speakers —



For Radio & Television

For Auto Radios



SPACE-SAVER "H" Series SPEAKERS

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
2 1/2" Square	H2A	.68	\$4.15
3 1/2" Square	H3A	.68	4.05
4" Square	H4A	.68	4.10
5" Round	H5A	.68	4.30
4" x 6" Rectangular	H46A	.68	4.85

PERMANENT MAGNET SPEAKERS AUTO REPLACEMENT SPEAKERS* 3.2 ohm

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
5" Pin Cushion	5PCM-20	1.47	\$5.35
5 1/4" Pin Cushion	52BM-21	1.00	4.70
5 1/2" x 7 1/2" Elliptical	5575FS-9	3.16	9.25
6" Pin Cushion	6EV-46	2.15	7.00
7" Pin Cushion	7CV-2	1.47	6.60
4" x 6" Rectangular	46CM-31	1.47	5.35
5" x 7" Elliptical	57AM-1	.68	5.60
5" x 7" Elliptical	57CV-2	1.47	7.00
5" x 7" Elliptical	57EV-10	2.15	7.75
6" x 9" Elliptical	69AM-1	.68	6.45
6" x 9" Elliptical	69CV-5	1.47	7.85
6" x 9" Elliptical	69EV-11	2.15	8.60
6" x 9" Elliptical	69E4WS	2.15	8.95
6" x 9" Elliptical	69FS-6	3.16	9.35

Each and every OXFORD Speaker is backed by over thirty years of manufacturing experience, and production and engineering facilities which are unequalled anywhere in the world. Now, seven separate and complete factories produce Oxford Speakers for original equipment and replacement applications for hundreds and hundreds of leading manufacturers and electronics parts distributors.



All Oxford Speakers are made to meet the most rigid specifications and include only Alnico V Permanent Magnets.



OXFORD COMPONENTS, INC., subsidiary of Oxford Electric Corp., Chicago 6, Illinois

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO

EXPORT: ROBURN AGENCIES, NEW YORK CITY

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The MASTER — 24th Edition

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Page 143

PERMANENT MAGNET SPEAKERS STANDARD REPLACEMENT LINE 3.2 ohm

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
2" Square	2AMS	.68	\$3.75
2" Square	2BMS	1.00	4.25
2" Square	2CMS	1.47	4.75
3" Square	3AMS	.68	3.75
3" Square	3BMS	1.00	4.40
3" Square	3CMS	1.47	4.75
4" Square	4AMS	.68	4.00
4" Square	4BMS	1.00	4.25
4" Square	4CMS	1.47	4.60
5" Round	5AMS	.68	4.25
5" Round	5BMS	1.00	4.50
5" Round	5CMS	1.47	4.85
5" Round	5ECS	2.15	6.05
5" Pin Cushion	5PAMS	.68	4.35
5" Pin Cushion	5PBMS	1.00	4.60
5" Pin Cushion	5PCMS	1.47	5.00
5 1/4" Pin Cushion	52AMS	.68	4.35
5 1/4" Pin Cushion	52BMS	1.00	4.60
5 1/4" Pin Cushion	52CMS	1.47	5.00
5 1/4" Square	55CMS	1.47	5.25
6" Pin Cushion	6AMS	.68	4.85
6" Pin Cushion	6BMS	1.00	5.10
6" Pin Cushion	6CMS	1.47	5.50
6" Pin Cushion	6CVS	1.47	5.75
6" Pin Cushion	6EVS	2.15	6.90
6" Pin Cushion	6FOS	3.16	8.15
7" Pin Cushion	7CVS	1.47	6.50
7" Pin Cushion	7EVS	2.15	7.10
7" Pin Cushion	7FOS	3.16	8.00
7 1/2" Pin Cushion	82CVS	1.47	7.25
7 1/2" Pin Cushion	82EVS	2.15	7.50
8" Round	8CMS	1.47	6.85
8" Round	8CVS	1.47	7.10
8" Round	8EVS	2.15	7.35
8" Round	8FOS	3.16	8.50
8" Round	8HBS	4.64	12.20
8" Round	8JBS	6.80	14.10
10" Round	10CVS	1.47	8.75
10" Round	10EVS	2.15	9.50
10" Round	10FOS	3.16	10.50
10" Round	10HBS	4.64	13.85
10" Round	10JBS	6.80	15.60
12" Round	12CVS	1.47	9.75
12" Round	12EVS	2.15	10.50
12" Round	12FOS	3.16	11.50
12" Round	12HBS	4.64	15.00
12" Round	12JBS	6.80	17.00
15" Round	15JBS	6.80	26.20
4" x 6" Elliptical	46AMS	.68	4.50
4" x 6" Elliptical	46BMS	1.00	4.75
4" x 6" Elliptical	46CMS	1.47	5.25
5" x 7" Elliptical	57AMS	.68	5.40
5" x 7" Elliptical	57BMS	1.00	5.85
5" x 7" Elliptical	57CMS	1.47	6.50
5" x 7" Elliptical	57EVS	2.15	7.70
5" x 7" Elliptical	57EV-11	2.15	8.25
5" x 7" Elliptical	57FOS	3.16	8.75
6" x 9" Elliptical	69AMS	.68	6.35
6" x 9" Elliptical	69BMS	1.00	6.60
6" x 9" Elliptical	69CMS	1.47	7.00
6" x 9" Elliptical	69CVS	1.47	7.10
6" x 9" Elliptical	69EVS	2.15	7.85
6" x 9" Elliptical	69EV-16	2.15	9.10
6" x 9" Elliptical	69FOS	3.16	9.25

*Includes High Fidelity Dual Cone

RECTANGULAR SPEAKERS

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
	2510CMS	1.47	\$10.00

TRANSISTOR SPEAKERS — 12 OHM

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
2 3/4" Round	27AAT-512	.45	\$4.70
2 3/4" Round	27AT-512	.68	4.90

OXFORD Speakers—

PUBLIC ADDRESS SPEAKERS 8 ohm

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
8" Round	8CMS-7	1.47	57.35
8" Round	8EVS-7	2.15	7.85
8" Round	8FOS-7	3.16	9.00
8" Round	8HBS-7	4.64	12.70
8" Round	*8HB-15A	4.64	12.25
8" Round	8JBS-7	6.80	14.60
7½" Pin Cushion	82FO-2	3.16	9.75
10" Round	10EVS-7	2.15	10.00
10" Round	10FOS-7	3.16	11.00
10" Round	10HBS-7	4.64	14.35
10" Round	10JBS-7	6.80	16.10
12" Round	12CVS-7	1.47	10.25
12" Round	12EVS-7	2.15	11.00
12" Round	12FOS-7	3.16	12.00
12" Round	12HBS-7	4.64	15.50
12" Round	12JBS-7	6.80	17.50
15" Round	15JBS-7	6.80	27.60

*Moisture Resistant Cone

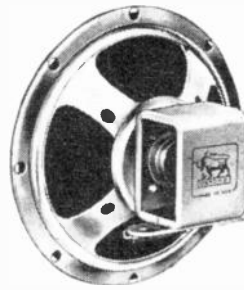
INTERCOM SPEAKERS 45 ohm

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
2" Square	2AM-S45	.68	54.25
2" Square	2BM-S45	1.00	4.25
2" Square	2CM-S45	1.47	4.85
3" Square	3AM-S45	.68	3.90
3" Square	3BM-S45	1.00	4.75
3" Square	*3BM-S45W	1.00	4.95
3" Square	3CM-S45	1.47	4.90
4" Square	4BM-S45	1.00	5.00
4" Square	*4BM-S45W	1.00	5.20
4" Square	4CM-S45	1.47	5.25
5" Round	5BM-S45	1.00	5.25
5" Round	*5BM-S45W	1.00	5.40
5" Round	5CM-S45	1.47	5.35
8" Round	8EV-S45	2.15	8.35
8" Round	8HB-S45	4.64	12.70
8" Round	8JB-S45	6.80	14.75
2½"x10" Rect.	2510CM-S45	1.47	10.50

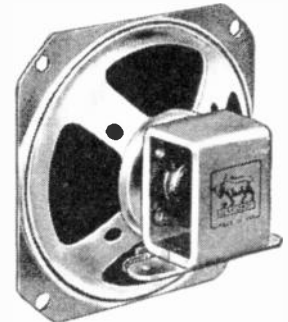
*Also Weatherproofed

LINE TO VOICE COIL TRANSFORMERS

	Part No.	Ohms Pri.	Impd. Sec.	Audio Watts	Mtg. Cntrs.	H	W	D	Sug. List	
										VOLT
25	4L25V	125	4 8	5	2	1 7/16	2 7/16	1 3/4	54.10	
				2.5						
				1.25						
				.62						
				.31						
5L25V	62.5	4/8	16	10	2 3/8	1 11/16	2 13/16	1 5/8	4.45	
				5						
				2.5						
				1.25						
				.62						
6L25V	35	4/8/16	18	18	2 3/8	2 3/8	2 15/16	1 7/8	5.90	
				9						
				4.5						
				2.25						
				1.12						
.56										
70.7	4L70V	1000	4/8	5	2	1 7/16	2 7/16	1 3/4	54.60	
				2.5						
				1.25						
				.62						
				.31						
	5L70V	500	4	8/16	10	2 3/8	1 11/16	2 13/16	1 5/8	4.45
					5					
					2.5					
					1.25					
					.62					
6L70V	275	4/8/16	18	18	2 3/8	2 3/8	2 15/16	1 7/8	5.45	
				9						
				4.5						
				2.25						
				1.12						
.56										



For Intercoms



For Outdoor Applications

ALL-WEATHER SPEAKERS 3.2 ohm

SIZE	MODEL NUMBER	MAG. SIZE OZ.	SUGG. LIST
3" Square	3CM-SW	1.47	55.25
4" Square	4AM-65	.68	4.70
4" Square	4BM-SW	1.00	5.00
4" Square	4CM-27	1.47	5.75
4" Square	4CM-SW	1.47	5.25
5" Round	5BA-3	.68	4.45
5" Round	5CM-SW	1.47	5.50
5" Round	5CM-51	1.47	5.35
6" Pin Cushion	6CM-SW	1.47	6.15
8" Round	*8HB-15A	4.64	12.25
4"x6" Rectangular	46CM-SW	1.47	5.95
2½"x10" Rect.	**2510CM-SW	1.47	10.80

*8 ohm **Weather Resistant Cone

SPEAKER Baffles

MODEL NO.	SIZE & DESCRIPTION	SUGG. LIST
8TP	8" Metal Grille & Trim Plate 12" OD	5.85
8WB	8" Tapered Front Wall Baffle 10½" x 6¼" x 3⅝"	13.50
12WB	12" Tapered Front Wall Baffle 14" x 8¾" x 4⅝"	20.00
8PR	8" Metal Plaster Ring 11" OD	3.50
8CH	8" Ceiling Housing 5¼" x 9"	8.75
8CB	8" Tapered Front Corner Baffle 16" x 15½" x 7"	15.00

OXFORD SPEAKERS and ACCESSORIES are Preferred for Original Sound Equipment . . . Proven for Replacement in Sound Installations.



OXFORD COMPONENTS, INC., subsidiary of Oxford Electric Corp., Chicago 6, Illinois

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO

EXPORT: ROBURN AGENCIES, NEW YORK CITY

OXFORD

REAR DECK SPEAKER KITS and ACCESSORIES

Super Deluxe Hi-Fi Line

2.15 Oz. Alnico V Magnet

PART NUMBER		SUGGESTED LIST
TE57S	Chrome	\$12.50
TE57S	Grey	11.60
TE69S	Chrome	13.50
TE69S	Grey	13.00

Economy Hi-Fi Line

.68 Oz. Alnico V Magnet

PART NUMBER		SUGGESTED LIST
TA57S	Chrome	\$10.45
TA57S	Grey	9.95
TA69S	Chrome	12.45
TA69S	Grey	11.95

Grille Assemblies

PART NUMBER		SUGGESTED LIST
G57	Chrome	\$2.05
G57	Grey	1.50
G69	Chrome	2.20
G69	Grey	1.65

Three Way Switches		
W15C	with wire)	2.45
WO15C	(switch only)	1.70

Fader Controls		
W15M	(with wire)	3.40
WO15M	(control only)	2.70

Enclosures		
CPO57		5.85
CPO69		6.00

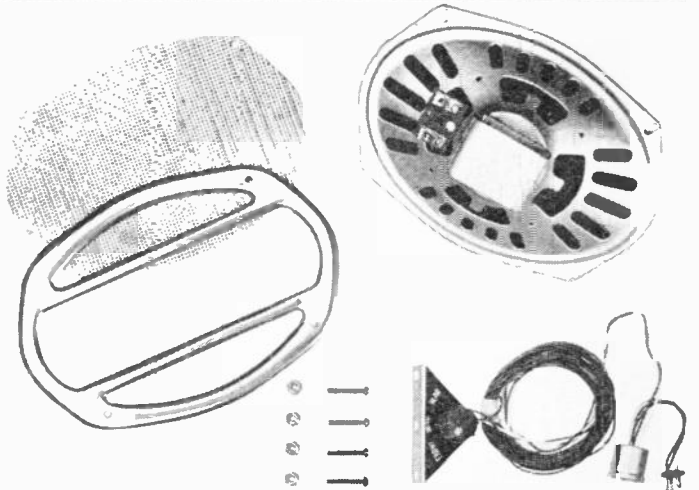
Complete Kits Less Switch Accessory

FULL RANGE CONE

PART NUMBER		SUGGESTED LIST
C57	Chrome	8.40
C57	Grey	7.80
C69	Chrome	9.40
C69	Grey	8.85
A57	Chrome	7.50
A57	Grey	7.00
A69	Chrome	8.50
A69	Grey	8.00

HI-FI TWIN CONE

PART NUMBER		SUGGESTED LIST
TE57	Chrome	9.40
TE57	Grey	8.90
TE69	Chrome	10.35
TE69	Grey	9.80
TA57	Chrome	8.50
TA57	Grey	8.00
TA69	Chrome	9.50
TA69	Grey	9.00



READY FOR INSTALLATION

OXFORD REAR SEAT SPEAKER KITS are ready for easy installation. Each kit includes a wiring harness which will simplify installation. In most cases there is no need of splicing wires or soldering, since the connections are either of a plug in or snap in type. The Oxford speakers included in these kits are equipped with spring type terminals for ease in wiring. In all cases detailed instructions are included. All Speaker Kits are attractively packaged in Display Cartons. Grilles are available in Chrome finish or Grey baked enamel.

Satellite Custom Universal Hi-Fi Kits

68 Oz. Alnico V Magnet Twin Cone

PART NUMBER		SUGGESTED LIST
TA57CUG	Grey	\$12.95
TA57CUC	Chrome	13.95
TA69CUG	Grey	13.95
TA69CUC	Chrome	14.95

2.15 Oz. Alnico V Magnet Twin Cone

PART NUMBER		SUGGESTED LIST
TE57CUG	Grey	14.50
TE57CUC	Chrome	15.25
TE69CUG	Grey	15.25
TE69CUC	Chrome	16.00

Satellite Custom Universal Kits

.68 Oz. Alnico V Full Range Cone

PART NUMBER		SUGGESTED LIST
A57CUG	Grey	10.00
A57CUC	Chrome	10.75
A69CUG	Grey	11.50
A69CUC	Chrome	12.50

Satellite Leader Kit—Complete

57R	Chrome	6.10
69R	Chrome	7.35

Satellite Hi-Fi Leader Kit

T57R	Chrome	8.35
T69R	Chrome	9.35

Oxford Economy Line

.68 Oz. Alnico V Magnet

PART NUMBER		SUGGESTED LIST
A57S	Chrome	\$ 9.25
A57S	Grey	8.70
A69S	Chrome	10.20
A69S	Grey	9.70

Oxford Deluxe Line

1.47 Oz. Alnico V Magnet

PART NUMBER		SUGGESTED LIST
C57S	Chrome	\$10.55
C57S	Grey	10.00
C69S	Chrome	11.50
C69S	Grey	11.05



Dual Cone Speakers

Dual Cone High Fidelity Auto Replacement Speakers

Size		Model No.	Mag. Size	Sugg. List
5" x 7"	Elliptical	57AM-2	.68	\$6.15
5" x 7"	Elliptical	57CV-3	1.47	7.55
5" x 7"	Elliptical	57EV-11	2.15	8.25
6" x 9"	Elliptical	69AM-2	.68	6.95
6" x 9"	Elliptical	69CV-19	1.47	8.35
6" x 9"	Elliptical	69EV-16	2.15	9.10

All Oxford Speakers are made to meet the most rigid specifications and include only Alnico V Permanent Magnets.



OXFORD COMPONENTS, INC., subsidiary of Oxford Electric Corp., Chicago 6, Illinois

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO

EXPORT: ROBURN AGENCIES, NEW YORK CITY

QUAM *Adjust-a-Cone*[®] SPEAKERS

These speakers are engineered and manufactured solely for replacement, public address, high fidelity and outdoor applications. EIA standard dimensions. Fully dust-proofed. Baked aluminum enamel finish. EIA service guarantee. QUAM UNIVERSAL MOUNTING BRACKET comes with all 3 1/2" to 6 1/2" speakers and may be attached to any two of the FOUR threaded mounting holes in the U-shaped pot. Any Quam speaker can be supplied with voice coil impedances other than those listed for an additional \$1.00 list.

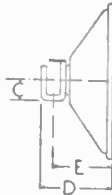


Fig. A

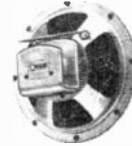


Fig. B

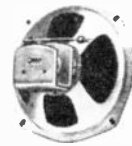


Fig. C

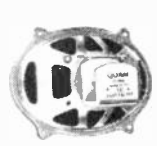


Fig. D

QUAM ADJUST-A-CONE[®] SUSPENSION

This patented QUAM feature is your added assurance of trouble-free operation. In other speakers the spider is cemented in place with no means of accurate adjustment. The Adjust-a-Cone suspension permits precision centering of the voice coil as a final production operation.

QUAM U-SHAPED COIL POT

Another QUAM exclusive, this patented U-shaped coil pot construction, used throughout the QUAM replacement line, provides an unbroken flux path of sufficient cross-section to carry the full energy of the magnetic field.

ED — Electro Dynamic Speakers

REPLACEMENT SPEAKERS

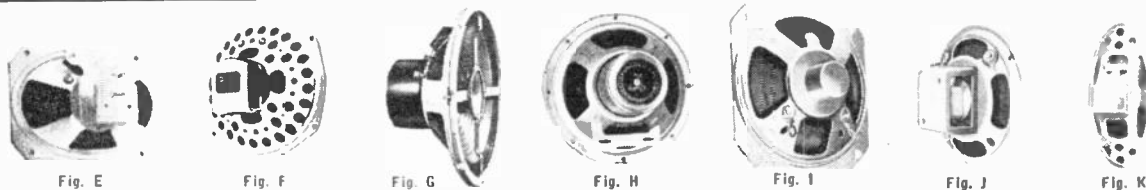
Voice coil impedance 3.2 ohms ± 10%

PM — Permanent Magnet Speakers

TYPE	MODEL No.	SIZE	FIGURE	FIELD	POWER HANDLING WATTS	DIMENSIONS IN INCHES			SHIP WT. LBS.	PRICE LIST
						C	D	E		
PM	22AC6Z8**	2 1/4"	J	.62 oz. Alnico V	.25	19 32	1-7 64	---	1 4	4.75
	22A06Z100**	2 1/4"	J	.62 oz. Alnico V	.25	19 32	1-7 64	---	1 4	5.25
PM	25A07*	2 1/2"	A	.65 oz. Alnico V	2	11/16	1-1/4	7/8	1 1/2	\$ 4.00
PM	27A06Z12**	2 3/4"	J	.62 oz. Alnico V	.25	19 32	1-1 16	---	1 4	4.70
ED	3E45‡	3 1/2"	A	450 Ohms	2.5	1-1/4	1-51 64	1-1/4	3 4	5.25
PM	3A05*	3 1/2"	I	.55 oz. Alnico V	2	7/16	1-13 32	---	1 2	2.95
	3A07*	3 1/2"	A	.65 oz. Alnico V	2.5	3/4	1-33 64	1-7 64	1 1/2	4.00
ED	4E45‡	4"	A	450 Ohms	3	1-1/4	2	1-7 16	1	5.25
	4E62‡	4"	A	55-65 Ohms	3	1-1/4	2-5 16	1-5 8	1	5.25
PM	4A05*	4"	I	.55 oz. Alnico V	2.5	7/16	1-13 32	---	1 2	2.95
	4A06*§	4"	A	.62 oz. Alnico V	2.5	11/16	1-23 32	---	1 1/2	2.95
	4A07*	4"	A	.65 oz. Alnico V	3	3/4	1-23 32	1-5 16	1 2	4.00
	4A07R*★	4"	B	.65 oz. Alnico V	3	3/4	1-23 32	1-5 16	1 2	4.00
	4A1	4"	A	1.0 oz. Alnico V	3	1	2-3 16	1-9 16	3 4	4.25
	4A1R★	4"	B	1.0 oz. Alnico V	3	1	2-3 16	1-9 16	3 4	4.25
	4A15	4"	A	1.47 oz. Alnico V	3	1	2-3 16	1-9 16	3 4	4.70
ED	46E45‡	4"x6"	E	450 Ohms	3.5	1-5 64	2-15 64	1-5 8	1-1 4	6.25
	46E90‡	4"x6"	E	85-95 Ohms	3.5	1-5 64	2-15 64	1-5 8	1-1 4	6.25
PM	46A07*	4"x6"	E	.65 oz. Alnico V	3.5	3/4	1-15 16	1-27 64	3 4	4.45
	46A1	4"x6"	E	1.0 oz. Alnico V	3.5	1	2-1 4	1-9 16	1	4.75
	46A15	4"x6"	E	1.47 oz. Alnico V	3.5	1	2-1 4	1-9 16	1	5.15
PM	48A2*	4"x8"	K	1.4 oz. Alnico V	4.5	7 8	2-3 16	---	1	6.95
ED	5E45‡	5"	C	450 Ohms	3.5	1-1/4	2-1 8	1-19 32	1	5.50
	5E10	5"	C	1000 Ohms	3.5	1-1/4	2-1 8	1-19 32	1	5.50
	5E62‡	5"	C	55-65 Ohms	3.5	1-1/4	2-7 16	1-19 32	1-1 4	5.50
	5E90‡	5"	C	85-95 Ohms	3.5	1-1/4	2-7 16	1-19 32	1-1 4	5.50
PM	5A05*	5"	I	.55 oz. Alnico V	3	7/16	1-11 16	---	3 4	3.25
	5A07*	5"	C	.65 oz. Alnico V	3.5	3/4	1-7 8	1-7 16	3 4	4.20
	5A07R*★	5"	B	.65 oz. Alnico V	3.5	3/4	1-7 8	1-7 16	3 4	4.20
	5A1	5"	C	1.0 oz. Alnico V	3.5	1	2-5 16	1-11 16	1	4.45
	5A1R★	5"	B	1.0 oz. Alnico V	3.5	1	2-5 16	1-11 16	1	4.45
	5A15	5"	C	1.47 oz. Alnico V	3.5	1	2-5 16	1-11 16	1	4.85
	5A15R★	5"	B	1.47 oz. Alnico V	3.5	1	2-5 16	1-11 16	1	4.85
ED	52E50‡	5 1/4"	C	45-55 Ohms	4	1-1/4	2-17 32	1-27 32	1	6.00
	52E90‡	5 1/4"	C	85-95 Ohms	4	1-1/4	2-17 32	1-27 32	1	6.00
PM	52A1	5 1/4"	C	1.0 oz. Alnico V	4	1	2-25 64	1-25 32	1	4.65
	52A15Q¶	5 1/4"	A	1.0 oz. Alnico V	4	1	2-25 64	1-25 32	1	4.65
	52A21	5 1/4"	C	2.15 oz. Alnico V	4	1-1/8	2-21 32	1-25 32	1-1 4	5.70
	52A215Q¶	5 1/4"	A	2.15 oz. Alnico V	4	1-1/8	2-21 32	1-25 32	1-1 4	5.70
ED	57E45‡	5"x7"	D	450 Ohms	5	1-1/4	2-13 16	2-9 64	1-1 2	7.25
	57E62‡	5"x7"	D	55-65 Ohms	5	1-1/4	2-13 16	2-9 64	1-1 2	7.25
PM	57A1	5"x7"	D	1.0 oz. Alnico V	5	1	2-11 16	2-5 64	1	5.40
	57A15	5"x7"	D	1.47 oz. Alnico V	5	1	2-11 16	2-5 64	1	5.80
	57A21	5"x7"	D	2.15 oz. Alnico V	5	1-1/8	2-6 16	2-13 64	1-1 4	6.45
ED	6E45‡	6 1/2"	C	6 Volt	5	1-1/4	2-23 32	2-1 32	1-1 2	6.50
	6E45‡	6 1/2"	C	450 Ohms	5	1-1/4	2-23 32	2-1 32	1-1 2	6.50
	6E10	6 1/2"	C	1000 Ohms	5	1-1/4	2-23 32	2-1 32	1-1 2	6.50
	6E18	6 1/2"	C	1800 Ohms	5	1-1/4	2-23 32	2-1 32	1-1 2	6.50
	6E62‡	6 1/2"	C	55-65 Ohms	5	1-1/4	2-23 32	2-1 32	1-1 2	6.50
	6E90‡	6 1/2"	C	85-95 Ohms	5	1-1/4	2-23 32	2-1 32	1-1 2	6.50
PM	6A1	6 1/2"	C	1.0 oz. Alnico V	5	1	2-5 8	2	1	4.80
	6A1R★	6 1/2"	B	1.0 oz. Alnico V	5	1	2-5 8	2	1	4.80
	6A15	6 1/2"	C	1.47 oz. Alnico V	5	1	2-5 8	2	1	5.20
	6A15R★	6 1/2"	B	1.47 oz. Alnico V	5	1	2-5 8	2	1	5.20
	6A21	6 1/2"	C	2.15 oz. Alnico V	5	1-1/8	2-7 8	2-1 8	1-1 4	5.85
	6A31	6 1/2"	C	3.16 oz. Alnico V	6	1-3 8	3-11 64	2-9 32	2	6.75
ED	69A1*	6"x9"	F	1.0 oz. Alnico V	6	7 8	3-3 4	---	1-1 2	5.95
	69E45	6"x9"	D	6 Volt	8	1-31 64	3-1 2	---	2	7.50
	69E10	6"x9"	D	1000 Ohms	8	1-31 64	3-1 2	---	2	7.50
PM	69A2*	6"x9"	D	1.4 oz. Alnico V	8	7 8	2-15 16	---	1-1 2	7.50
	69A3	6"x9"	D	3.2 oz. Alnico V	10	1-1 4	3-5 16	---	2	8.95

‡ TV speaker. † With hum bucking coils. * Very shallow unit. ★ Round basket. ‡ Rotated pot. † Square basket. • No Adjust-a-Cone suspension. § No mtg. bracket or threaded holes in pot. ** Impedance of 22A0628 is 8 ohms, 22A06Z100 is 100 ohms, 27A06Z12 is 12 ohms.

QUAM *Adjust-a-Cone*® SPEAKERS



Replacement Speakers (Cont'd) Voice coil impedance 3.2 ohms ± 10%

TYPE	MODEL No.	SIZE	FIGURE	FIELD	POWER HANDLING WATTS	DIMENSIONS IN INCHES			SHIP WT., LBS.	LIST PRICE
						C	D	E		
ED	7EV6	7"	F	6 Volt	7	1-9/32	2-3/4	---	2	7.50
	7EV6A†	7"	F	6 Volt	7	1-9/32	2-3/4	---	2	7.50
PM	7A21*	7"	F	1.4 oz. Alnico V	6	7/8	2-31/32	---	1-1/4	7.25
	7A31	7"	F	3.16 oz. Alnico V	9	1-1/4	3-1/32	---	1-3/4	8.50
ED	8EV6	8"	C	6 Volt	7	1-1/4	3-9/32	---	1-3/4	7.50
	8E10	8"	C	1000 Ohms	7	1-1/4	3-9/32	---	1-3/4	7.50
	8E18	8"	C	1800 Ohms	7	1-1/4	3-9/32	---	1-3/4	7.50
	8E50‡	8"	C	45-55 Ohms	7	1-1/4	3-9/32	---	1-3/4	7.50
	8E90‡	8"	C	85-95 Ohms	7	1-1/4	3-9/32	---	1-3/4	7.50
PM	8A21	8"	C	2.15 oz. Alnico V	7	1-1/8	3-13/32	---	1-1/2	7.20
	8A31	8"	C	3.16 oz. Alnico V	9	1-3/8	3-21/32	---	2-1/4	8.50
ED	10E60‡	10"	B	600 Ohms	10	1-3/4	5-1/16	---	4	12.00
	10E10‡	10"	B	1000 Ohms	10	1-3/4	5-1/16	---	4	12.00
	10E65‡	10"	B	60-70 Ohms	10	1-3/4	5-1/16	---	4	12.00
	10E90‡	10"	B	85-95 Ohms	10	1-3/4	5-1/16	---	4	12.00
PM	10A31	10"	B	3.16 oz. Alnico V	9	1-3/8	4-1/2	---	2-3/4	10.50
	10A4A	10"	B	4.64 oz. Alnico V	10	1-3/8	4-1/2	---	3-1/4	11.70
	10A6A	10"	B	6.8 oz. Alnico V	12	1-7/16	4-5/8	---	3-1/2	13.60
ED	12E60‡	12"	B	600 Ohms	12	1-3/4	5-5/8	---	5	14.00
	12E10‡	12"	B	1000 Ohms	12	1-3/4	5-5/8	---	5	14.00
	12E15‡	12"	B	1500 Ohms	12	1-3/4	5-5/8	---	5	14.00
	12E90‡	12"	B	85-95 Ohms	12	1-3/4	5-5/8	---	5	14.00
PM	12A31	12"	B	3.16 oz. Alnico V	10	1-1/4	4-19/32	---	3-3/4	11.35
	12A4A	12"	B	4.64 oz. Alnico V	12	1-3/8	5-1/8	---	4	12.65
	12A6A	12"	B	6.8 oz. Alnico V	14	1-7/16	5-1/4	---	4-1/2	14.50

OUTDOOR SPEAKERS

Voice coil impedance 3.2 ohms ± 10%

These Quam speakers have the new exclusive Humi-Gard Cone of plastic impregnated natural fiber fabric that outlasts ordinary moisture-proofed cones 3 to 1, yet has the response of an untreated paper cone. Resists sand and dirt abrasion. Air gap surfaces cadmium plated and enameled. Quantity quotations on request.

All Quam speakers are available weather-proofed for an additional 70c list. When ordering weather-proofed speakers use part numbers appearing in this catalog and add suffix "OT", to part number (Humi-Gard Cone available only on 3 1/2", 4", 5", and 6 1/2" speakers.)

PM	3A07 OT*‡	3 1/2"	A	.65 oz. Alnico V	2.5	3/4	1-19/32	1-3/16	1/2	\$ 4.00
	4A1 OT‡	4"	A	1.0 oz. Alnico V	3	1	2-3/16	1-9/16	3/4	4.25
	5A15 OT‡	5"	C	1.47 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.85
	6A15 OT‡	6"	C	1.47 oz. Alnico V	5	1	2-5/8	2	1	5.20

PUBLIC ADDRESS SPEAKERS

Voice coil impedance 8 ohms

PM	8A21PA	8"	C	2.15 oz. Alnico V	8	1-3/8	3-9/16	---	1-1/2	\$ 8.20
	8A31PA	8"	C	3.16 oz. Alnico V	10	1-3/8	3-9/16	---	2-1/4	9.20
	8A4PA	8"	B	4.64 oz. Alnico V	12	1-3/8	3-3/4	---	2-3/4	10.20
	8A6PA	8"	B	6.8 oz. Alnico V	12	1-7/16	3-7/8	---	3-1/4	12.10
PM	10A31PA	10"	B	3.16 oz. Alnico V	12	1-3/8	4-13/32	---	2-3/4	10.75
	10A4PA	10"	B	4.64 oz. Alnico V	14	1-3/8	4-1/2	---	3-1/4	11.70
	10A6PA	10"	B	6.8 oz. Alnico V	14	1-7/16	4-5/8	---	3-1/2	13.60
	10A10PA	10"	B	10 oz. Alnico V	20	1-3/8	4-21/64	---	3-1/2	18.00
PM	12A31PA	12"	B	3.16 oz. Alnico V	12	1-3/8	5	---	3-3/4	11.60
	12A4PA	12"	B	4.64 oz. Alnico V	15	1-3/8	5-1/8	---	4	12.65
	12A6PA	12"	B	6.8 oz. Alnico V	15	1-7/16	5-1/4	---	4-1/2	14.50
	12A10PA	12"	B	10 oz. Alnico V	25	1-3/8	4-15/16	---	4-3/4	19.00

HIGH IMPEDANCE SPEAKERS

Voice coil impedance 45 ohms ± 10%

Speakers with voice coil impedances other than those listed are supplied at an increase of \$1.00 list. Those catalogued are most frequently used.

quently used but any other model can be supplied with special voice coil impedance.

PM	3A07Z45*	3 1/2"	A	.65 oz. Alnico V	2.5	3/4	1-19/32	1-3/16	1/2	\$ 4.25
	4A07Z45*	4"	A	.65 oz. Alnico V	3.0	3/4	1-23/32	1-5/16	1/2	4.25
	4A1Z45	4"	A	1.0 oz. Alnico V	3.0	1	2-3/16	1-9/16	3/4	4.50
	5A07Z45*	5"	C	.65 oz. Alnico V	3.5	3/4	1-7/8	1-7/16	3/4	4.45
	5A1Z45	5"	C	1.0 oz. Alnico V	3.5	1	2-5/16	1-11/16	1	4.70

HIGH FIDELITY SPEAKERS

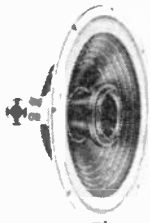
TYPE	MODEL No.	SIZE	FIGURE	SPEAKER TYPE	FREQUENCY RESPONSE CPS	Pwr Hndlg Watts	V.C. Impedance	Shippg Wt. Lbs.	LIST PRICE
PM	15A10CO	15"	G	Coaxial, 2000cps. Xover	25-15,000	20	8	8-1/2	\$47.50
	12A6CO	12"	G	Coaxial, 2000cps. Xover	50-15,000	14	8	6-1/2	30.00
	8A4CO	8"	G	Coaxial, 2000cps. Xover	50-15,000	10	8	2-3/4	22.95
	12A10X	12"	H	Extended range	50-12,000	15	8	4-3/4	26.00
	10A10X	10"	H	Extended range	50-12,000	12	8	3-3/4	24.00
	8A10X	8"	H	Extended range	60-12,000	10	8	3-1/4	20.00
	15A10L	15"	H	Low frequency woofer	25-5,000	10	8	7	35.00
	12A10L	12"	H	Low frequency woofer	50-5,000	10	8	4-3/4	26.00
	5A15T	3"	B	High frequency tweeter	2,000-15,000	10	14	1	6.50
	3A15T	3"	A	High frequency tweeter	2,000-15,000	10	14	3/4	5.75
	CO2-50			Crossover Unit for use with 5A15T, 3A15T				1/2	2.00

† TV speaker. ‡ Equipped with hum bucking coils. * Very shallow construction. ★ Round basket † Rotated pot.
 † Square basket * without Adjust-a-Cone suspension. † No mounting bracket or threaded holes in pot.

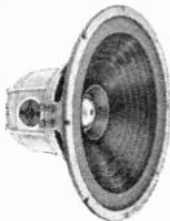
PARAFLEX SPEAKERS BY AUDAX

15 INCH MODELS

The 15-inch series cover 3 models, representing the optimum in overall performance. The cone, because of its large diameter and long excursion, will move a large volume of air which is essential for very low frequencies with uniform sound output. The outer magnetic keeper is a chemically pure, annealed casting which surrounds the central-pole magnet. The magnetic structure weighs 18 pounds. Fundamental resonance falls between 24-28 CPS. Large diameter voice coils for heat dissipation and high power operation. Impedance—8 ohms.



MODEL A-150X: COAXIAL An integrated tri-cone, using coaxially mounted tweeter. A small mid-range propagator cone is attached at the apex of the woofer cone, and functions by mechanical crossover action. This controls the output between 2000-5000 cycles. The tweeter with built-in network extends the range to 18,000 cycles.

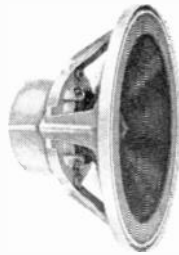


MODEL A-150D: DUAL-CONE A dual-cone, single extended range speaker, same as Model A-150X, except tweeter is eliminated. It delivers bass equal to A-150X, but does not offer "highs" to the limit of audibility.



MODEL A-150W: WOOFER Probably the best high compliance woofer on the market today. Although capable of undistorted reproduction to 2 cycles per second, no effort is made to mechanically attenuate inherent high frequencies. This accounts for the cleanness and realism of transient signals which are usually low frequency pulses with large harmonic content. This woofer reproduces both the fundamental and full range of harmonics accompanying such pulses. Excellent for direct-radiator or horn type enclosures.

18 INCH WOOFER

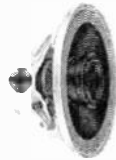


MODEL A-180W This is the highest professional quality available in a woofer. It is capable of peak to peak excursion of 1". Central, cylindrical magnet of Alnico 5 weighs 5 pounds, surrounded by cast iron keeper giving a weight of 27 pounds to the magnetic structure. The supporting frame or basket is a massive aluminum sand casting affording strength and rigidity to assure that the voice coil concentricity will always be maintained. Fundamental resonance falls between 19-22 CPS. Impedance: 8 Ohms.

12 INCH MODELS

(Cast Frame Type)

These three models incorporate all the outstanding features of the 15" models, but with smaller cone and lighter magnet. All include high compliance foam suspension, "Styrofoam" cone reinforcing, glass voice coil form and curvilinear cone. Fundamental resonance falls between 35-40 CPS. The basket is rugged cast aluminum, built to highest standards for 12-inch diameter speaker. Impedance: 8 Ohms.



MODEL A-120X: CO-AXIAL This is a tri-cone with coaxially mounted tweeter of the direct radiator type. Mid-range propagator is mechanically coupled at 2000 cycles and operates to 5000 cycles. Tweeter extends range to 17,000 cycles



MODEL A-120D: DUAL CONE Similar to A-120X except minus tweeter. Apex propagator and dural center dome cap extend range to at least 12,000 cycles.



MODEL A-120W: WOOFER This is the woofer of the 12-inch cast frame series. Exhibits same clean bass quality of all Audax Paraflex models.



MODEL A-80D A wide range, dual-cone speaker 8" in diameter for use in small enclosures, or as an additional speaker for stereo or remote locations. The high compliance foam suspension permits installation in compact enclosures of the bookshelf type. A bass-reflex cabinet having an internal volume as low as 1.15 cubic feet with a port of 14 square inches may be used. Generally as large a volume as space will permit should be employed in order to bring out the maximum bass response. Magnet wt. is 10 ounces, made of Alnico 5, oriented grain. Voice coil diameter is 1/4". Utilizes stamped steel basket.



MODEL A-100D A 10-inch, wide range dual-cone speaker. Because of its larger cone diameter it will deliver somewhat more bass than the A-80D (8" size). It is recommended where a moderate size enclosure can be used. It will deliver excellent bass in a small floor console or table top cabinet of the bass-reflex type having an internal volume as low as 2 to 3 feet.



MODEL A-12D A popular-priced version of our deluxe A-120D. It utilizes a stamped steel basket instead of the cast aluminum. The foam rubber suspension and high-compliance characteristics are preserved in this model. Voice coil diameter is 1/4". Magnet is Alnico 5-D G, wt. 10 ounces.

MODEL A-60M: MID RANGE SPEAKER

This is a unique speaker specifically engineered to complement our woofers with equivalent efficiency and freedom from distortion. The output of 300-6000 cycles is rigidly smooth. This is not a run-of-the-mill cone speaker. It utilizes a bakelite diaphragm, and felt inserts as acoustic dampers to eliminate all traces of peaks and dips. There is nothing like it on the market. The 6" diameter basket is cast aluminum. The bakelite cone incorporates Paraflex foam suspension.



SPECIFICATIONS — AUDAX PARAFLEX SPEAKERS

MODEL	CLASS	RESPONSE C.P.S.	POWER WATTS	RESONANCE FREE AIR	GAP FLUX DENS. (GAUSS)	SIZE	SHIPPING WT. LBS.	NET PRICE
A-60-M	6" Mid-Range	300-6,000	25 W.		12,000	6 ¹ / ₈ x 3 ¹ / ₄	4	\$35.00
A-80-D	8" Full Range	55-13,000	20 W.	55-60 CPS	11,500	8 ¹ / ₈ x 4	4 ³ / ₄	24.95
A-100-D	10" Full Range	45-13,000	20 W.	48-52 CPS	11,500	10 ¹ / ₈ x 5	5 ¹ / ₂	29.95
A-12-D	12" Full Range	40-12,000	20 W.	45-50 CPS	11,500	12 ¹ / ₈ x 6 ³ / ₄	6 ¹ / ₂	34.95
A-120-X	12" Co-Axial	35-17,000	25 W.	35-40 CPS	12,500	12 ¹ / ₈ x 7	12	59.95
A-120-D	12" Full Range	35-14,000	25 W.	35-40 CPS	12,500	12 ¹ / ₈ x 7	11	44.95
A-120-W	12" Woofer	35-5,000	25 W.	35-40 CPS	12,500	12 ¹ / ₈ x 7	11	42.95
A-150-X	15" Co-Axial	20-18,000	35 W.	24-28 CPS	14,000	15 ¹ / ₈ x 8 ¹ / ₂	27	109.95
A-150-D	15" Full Range	20-12,000	35 W.	24-28 CPS	14,000	15 ¹ / ₈ x 8 ¹ / ₂	26	79.95
A-150-W	15" Woofer	20-4,000	35 W.	24-28 CPS	14,000	15 ¹ / ₈ x 8 ¹ / ₂	26	74.95
A-180-W	18" Woofer	10-1,500	35 W.	19-22 CPS	16,000	18 ¹ / ₄ x 10	58	150.00

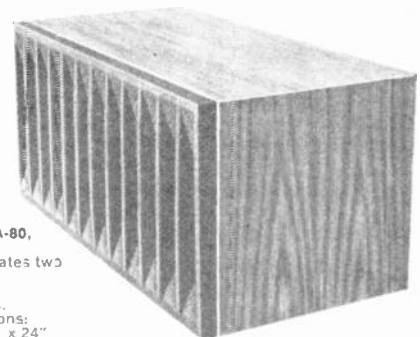
Note: — A. C. Impedance of all models standardized at 8 ohms at 400 cps.

AUDAX SPEAKER SYSTEMS

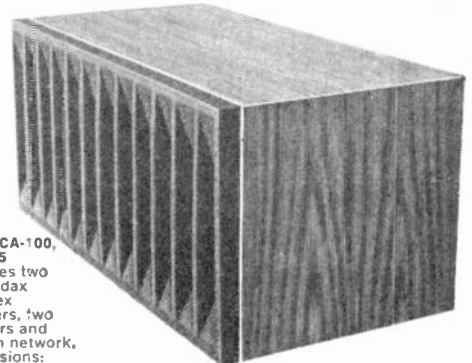
AUDAX SPEAKER SYSTEMS In these incomparable systems, Audax Paraflex speakers are housed in completely new type of enclosures reflecting both engineering and style advancements achieved by no other units today! The enclosure operates on a new principle wherein the speakers are located symmetrically on either side of a ducted-slot. The bass output is aided by this mutually loaded slot. The configuration of the slot is such as to present air viscosity to the rear pressures, resulting in damping and suppression of resonance peaks. This method of venting results in smart, clean bass without a trace of boom or unnatural heaviness. These enclosures are specifically designed to bring out the depth and striking realism of the Paraflex high-compliance speaker units. Patent has been applied for. **Output impedance: 8 ohms.**

Styled by GEORGE NELSON...SIMPLE, STRIKING BEAUTY
In both Audax systems, George Nelson, one of America's great industrial designers, has wrought truly exciting furniture.

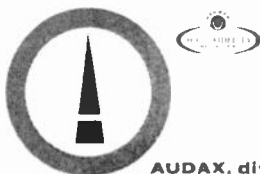
- The 2-dimensional dyne! 'Acoustiscreen" (grille) is removable and washable.
- Enclosures are finished on all sides in finely-grained oiled walnut.
- Each enclosure can be fitted with easily attachable legs, available from Audax.



Model CA-80, \$99.95
Incorporates two 8" Audax Paraflex speakers.
Dimensions: 12" x 12" x 24"



Model CA-100, \$139.95
Features two 10" Audax Paraflex speakers, two tweeters and built in network.
Dimensions: 15" x 12" x 25"



AUDAX, division of REK-O-KUT CO., Inc. • Corona 68, New York

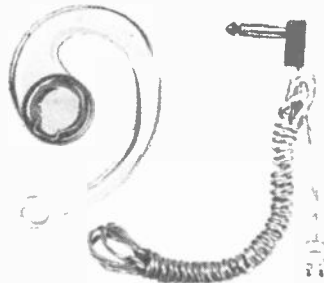
EXPORT: Morhan Exporting, 458 Broadway, New York 13, N. Y. CANADA: Atlas Radio, 50 Wingold Avenue, Toronto 19, Ontario

RYE SOUND

earphone assemblies

RYE SOUND CORP., Mamaroneck, N. Y.

High Quality moving iron type earphone available in the following impedances: 3.2, 15, 50, 120, 300, 500, 1000, 2000, 4000, 8000 ohms



Soft, polyethylene ear clip for holding earphone firmly in place. Adaptable for left or right ear.

Colorful carton serves as a counter display and contains 6 earsets.



Deluxe line made by the best American & European Craftsmen. Each earset is packed in a plastic box, labeled by code and type; each box contains one superquality MAGNETIC receiver with plastic earloop for use on either ear, and one cord and plug.

FOR PARTS DISTRIBUTORS

- R-80 RCA T1, Motorola 6x28, 7x25, 8x26, X12, L12, L13, L14, & Philco T5 & others requiring high impedances.
- R-81 Zenith, Regency, Admiral, Arvin, Emerson, RCA (except T1), Motorola (except 6x28, 7x25, 8x26, X12, L12, L13, L14), Philco (except T5), Roland, Travler, Sony, DeWald & others requiring low impedance.
- R-83 Westinghouse, Magnavox, Bulova, Sylvania, Hoffman Solar, Sparton, Sonora
- R-87 General Electric
- R-90 Emerson TV & Revere 400
- R-200 Universal TV Earset, 20' cord with Alligator Clips

FOR SET DISTRIBUTORS

- R-31 Regency
- R-32 RCA (except T1)
- R-32A RCA T1
- R-34 Motorola (except 6x28, 7x25, 8x26, X12, L13, L14)
- F-34A Motorola 6x28, 7x25, 8x26, X12, L12, L13, L14
- R-35 Admiral
- F-36 Magnavox
- F-37 Philco (except T5)
- R-37A Philco T5
- F-38 Bulova
- R-39 Roland
- R-40 Travler
- R-41 Westinghouse
- R-42 Emerson
- R-43 General Electric
- R-44 DeWald
- R-46 Revere 400
- R-47 Arvin
- R-48 Sylvania
- R-49 Hoffman Solar
- R-50 Zenith

ECONOMY LINE manufactured in Japan by RYE SOUND with right angle miniature plug.

A50-15 ohm impedance
A50-A-2000 ohm impedance

RECEIVER IMPEDANCE

TYPE OF PLUG

3.2	15	50	120	300	500	1000	2000	4000	8000	Plug Only	Cord & Plug Only	TYPE OF PLUG
R-109	R-105	R-104	R-100	R-106	R-103	R-101	R-102	R-107	R-108	100P	100C	Standard Plug Phone
R-129	R-125	R-124	R-120	R-126	R-123	R-121	R-122	R-127	R-128	—	120C	Right angle 5/16" x 3/16"
R-139	R-135	R-134	R-130	R-136	R-133	R-131	R-132	R-137	R-138	—	130C	Right angle 5/16" x 3/16"
R-149	R-145	R-144	R-140	R-146	R-143	R-141	R-142	R-147	R-148	—	140C	Right angle 5/16" x 3/16"
R-159	R-165	R-164	R-160	R-166	R-163	R-161	R-162	R-167	R-168	—	160C	Right angle 7/32" x 3/16"
R-179	R-175	R-174	R-170	R-176	R-173	R-171	R-172	R-177	R-178	—	170C	Open end (no plug)
R-189	R-185	R-184	R-180	R-186	R-183	R-181	R-182	R-187	R-188	—	—	Phone tips
R-199	R-195	R-194	R-190	R-196	R-193	R-191	R-192	R-197	R-198	190P	190C	Banana Plugs
R-229	R-225	R-224	R-220	R-226	R-223	R-221	R-222	R-227	R-228	220P	220C	Straight Plug 5/16" x 3/16"
R-419	R-415	R-414	R-410	R-416	R-413	R-411	R-412	R-417	R-418	—	—	Phono output like RCA)
R-439	R-435	R-434	R-430	R-436	R-433	R-431	R-432	R-437	R-438	430P	430C	3-Pole European*
R-449	R-445	R-444	R-440	R-446	R-443	R-441	R-442	R-447	R-448	440P	440C	4-Pole European*
R-459	R-455	R-454	R-450	R-456	R-453	R-451	R-452	R-457	R-458	450P	450C	5-Pole European*
R-469	R-465	R-464	R-460	R-466	R-463	R-461	R-462	R-467	R-468	460P	460C	6-Pole European*

* specify terminal numbers onto which earphone cord should be soldered.

EXTRA CORDS

LENGTH OF CORD

3'	9'	15'
6'	12'	24'

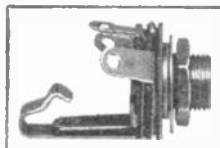
available for any of the above earsets.

- F-122 Miniature 2-wire
- F-123 Miniature 3-wire



JACKS

- F-102 Standard Phone Jack 2-wire
- F-103 Standard Phone Jack 3-wire



- F-430 European 3-pole
- F-440 European 4-pole
- F-450 European 5-pole
- F-460 European 6-pole



RYE SOUND

lightweight headsets

Complete with phone, cord and plug assembly.

These Rye Sound headsets meet the requirements of comfortable under-the-chin use and provide binaural (two-ear) hearing for maximum intelligibility. Attractive, lightweight, comfortable and completely hygienic.

RYE STEREOSOUND

The finest way to listen to stereo equipment. Provides maximum listening intelligibility. Excellent separation of signal for balanced output to each ear. Complete with two earphones molded in, two plugs and two cords.



Model D270, STEREOSOUND 120 ohms	Model D273, STEREOSOUND 500 ohms	Model D276, STEREOSOUND 300 ohms
Model D271, STEREOSOUND 1000 ohms	Model D274, STEREOSOUND 50 ohms	Model D277, STEREOSOUND 4000 ohms
Model D272, STEREOSOUND 2000 ohms	Model D275, STEREOSOUND 15 ohms	Model D278, STEREOSOUND 8000 ohms

RYE STETHOSOUND

Durable headphone incorporates two magnetic earphones feeding sound directly into both ears for superior intelligibility. Complete with earphones, cord and plug. Changeable plastic foam eartips for hygienic purposes. Available with impedances from 15 to 8000 ohms.



Model D260, STETHOSOUND 120 ohms	Model D263 STETHOSOUND 500 ohms	Model D266, STETHOSOUND 300 ohms
Model D261 STETHOSOUND 1000 ohms	Model D-264 STETHOSOUND 50 ohms	Model D267 STETHOSOUND 4000 ohms
Model D262 STETHOSOUND 2000 ohms	Model D265 STETHOSOUND 15 ohms	Model D268 STETHOSOUND 8000 ohms

RYE STETHOPLUG

Lightweight headset includes a special Rye Sound earphone speaker inside the jack plug. Reproduces the sound at the side of the equipment then through acoustical tubing; thus the only thing the operator has to wear is an ultra-light clip equipment with damping filters for superior intelligibility. Advantages are lightest weight for operators, less exposure to damage by dropping, no cord, no breakage or knots. Headset has changeable eartips for hygienic reasons. Headset weights only .4 ounces. Available in impedances from 15 to 2000 ohms. Available with standard phone plug only.



Model D280 STETHOPLUG 120 ohms	Model D284 STETHOPLUG 50 ohms
Model D283 STETHOPLUG 500 ohms	Model D285 STETHOPLUG 15 ohms

Model D356—STETHOLOOP

Lightweight headset made of strong attractively colored semi-elastic material. Spring action of tubing assures perfect fit for anyone and the eartips can be changed for hygienic reasons. Provision for a single snap-on phone at one side of the top of the thin tube so that the sound goes straight into one ear and through the tube into the other. Special diaphragm equalizes sound pressure at the two ears, reduces harmonic distortion — assuring the greatest maximum intelligibility.



Model D356S STEREOLOOP

Same as the D356 except has provision for 2 snap-on ear phones, one at each ear, for true stereophonic reproduction.

Model D355 STETHOSCOPE, FEATHERWEIGHT

Advanced design, lightweight headset of plastic tubing with adjustable pivot fork assembly. Fits comfortably under the chin. Earphone easily attached to stethoscope by means of press-stud. Removable eartips for hygienic purposes.



Model D358 STETHOSCOPE, ULTRA-FEATHERWEIGHT

Same as model D355 except pivot fork assembly replaced by semi-flexible tubing and can be adjusted comfortably to operator's ears. Eartips include built-in nylon-foam damping filters.



For recording telephone conversations

Induction telephone pickup coil picks up voices for recording from both sides of the phone with no tapping of wires, or special telephone circuits required. Specify plug and circuitry.



Model D371 (round) with suction cup for mounting shielded type phones



Model D372 (flat) fits under base of cradle or upright phone.

earloops, eartips, earmolds

Rye presents a wide variety of ear attachments with provision for easy mounting of earphones.



Model D350 — earloop, soft plastic



Model D352 — earloop, wire, plastic covered



Model D351 — earloop, stiff plastic



Model D359 — earloop, all-nylon



Model T-11 — eartip, metal with plastic tip

Model 390

14 assorted molds in an attractive sectional box. 5 sizes for right ear, 5 for left ear for personalized use.



- Model 390-R1—earmold for small right ear
- Model 390-R2—earmold for medium-small right ear
- Model 390-R3—earmold for medium right ear
- Model 390-R4—earmold for medium-large right ear
- Model 390-R5—earmold for large right ear
- Model 390-L1—earmold for small left ear
- Model 390-L2—earmold for medium-small left ear
- Model 390-L3—earmold for medium left ear
- Model 390-L4—earmold for medium-large left ear
- Model 390-L5—earmold for large left ear

HI-FI EQUIPMENT BY

STROMBERG-CARLSON

A DIVISION OF GENERAL DYNAMICS CORPORATION

True high fidelity performance can be achieved only with the highest quality, most skillfully engineered components designed to work together as a team. The units illustrated here are designed and made to reproduce the full range of the audio scale.

FOR INTEGRITY
IN MUSIC

SOURCES OF MUSIC

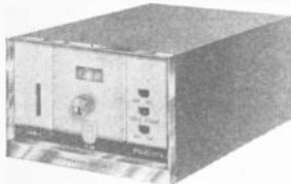
AMPLIFIERS



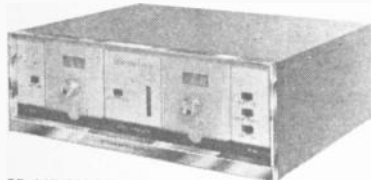
SR-440 AM-FM TUNER: Wide peak-to-peak separation ratio detector. SENSITIVITY: On 72 ohm matched antenna input, .9 uv for 20 db quieting. On 300 ohm antenna input, 1.8 uv for 20 db quieting. CONTROLS: AM-FM selector switch, AFC switch. Local-distant switch for both AM and FM. Broad-sharp switch for AM. Tuning and gain controls. Multiplex output.
\$159.95 without top cover (Consumer Net).



AM-442 AM TUNER, with power supply. PRICE: \$59.95 without top cover (consumer Net). Also available as AM-441 without power supply.
\$59.95 without top cover (Consumer Net).



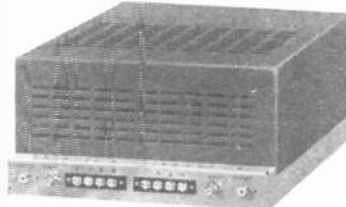
FM-443 FM TUNER.
\$79.95 without top cover (Consumer Net).



SR-445 AM-FM STEREO TUNER
\$129.95 without top cover (Consumer Net).

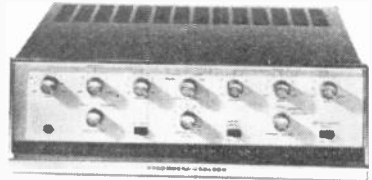


ASE-434 STEREO PREAMPLIFIER: FREQUENCY RESPONSE: 10-100,000 cps ± 1 db at 1V. HARMONIC DISTORTION: 3% 20-20,000 cps at full output. IM Distortion: .5% 60-7,000 cps 4:1 (at full output). NOISE LEVEL: 70 db down (Aux.). TAPE OUTPUT: each channel. Phantom Output (A and B): .3V out. TUBES: 2-7025; 4-12AU7. RECTIFIER: 2 silicon voltage doubler; 1 silicon — filament supply. PHONO TAPE EQUALIZER: RIAA NARTB / Switched / operates in any input. BASS CONTROL: 15 db droop; 15 db boost. TREBLE: 14 db droop; 12 db boost. RUMBLE FILTER: Switched. SCRATCH FILTER: Switched (7500 cps). DIMENSIONS: 4 5/8" high, 13 1/2" wide, 8 1/2" deep. Output Balance Signal. CHANNEL SELECTOR: A, B, Stereo, Stereo Reverse, Monaural.
\$99.95 (Consumer Net).



ASR-422 "STEREO 40" POWER AMPLIFIER: RATED POWER: 40 watts (Two 20-watt channels). INSTANTANEOUS PEAK POWER: 80 watts (Two 40-watt channels). FREQUENCY RESPONSE: 20-50,000 cps ± 1 db. HARMONIC DISTORTION: less than 1% at full output. IM DISTORTION: less than 1% program level. HJM & NOISE: 80 db down. OUTPUT TUBES: 2 dual 6DY7. RECTIFIER: 2 silicon T-400 voltage doublers. NUMBER OF TUBES: 4. U. L. Approved. DIMENSIONS: 10 3/4" wide, 9 1/2" deep, 5" high.
\$99.95 (Consumer Net).

AP-437 POWER AMPLIFIER: POWER OUTPUT: 40 watts. FREQUENCY RESPONSE: 20-20,000 cycles ± 1 db at 40 watts. 10-60,000 cycles ± 1 db. 10-100,000 cycles ± 1 db at 10 watts. HARMONIC DISTORTION: 0.1% mid frequencies at 40 watts. 0.5% 20-20,000 cycles at 40 watts. IM DISTORTION: 0.4% at 40 watts: (60:7kc/4:1). NOISE LEVEL: 90 db down. TUBES: 2-6V50, 1-12BH7, 1-7025, 1-5AR4 GZ34.
\$145.00 with top cover (Consumer Net).



ASR-444 "STEREO 60" AMPLIFIER: POWER OUTPUT: 60 watts (Two 30-watt channels). FREQUENCY RESPONSE: 20-20,000 cycles ± 9 db. HARMONIC DISTORTION: less than .7% at 30 watts each channel. IM DISTORTION: less than 1% program level (60 and 7,000 cps at 4:1 ratio). NOISE LEVEL: 70 db down (Aux.). INPUTS: Magnetic Phono, Ceramic Phono, Tape Head, Tuner and Aux. Tape. AMPLIFIER OUTPUTS: 4, 8, 16 ohms. PRE-AMPLIFIER OUTPUTS: Dual Tape Out; Output for external second-channel amplifier. LOUDNESS CONTROL: In-out, continuously variable. TONE CONTROLS: Bass 15 db droop, 15 db boost; Treble 14 db droop, 12 db boost. EQUALIZATION: RIAA Mag. Phono, NARTB Tape Head. TUBES: 2-12AX7 7025, 2-6AV6, 2-6U8, 4-7027. CHANNEL SELECTOR: Channel "A," Channel "B." Stereo, Monaural, Crossover (at 3000 cycles). Channel Reverse. Two AC Convenience Outlets. DIMENSIONS: 13 1/2" wide, 13 3/8" deep, 4 3/8" high.
\$169.95 (Consumer Net).

ASR-333 "STEREO 24" AMPLIFIER:
ASR-433 "STEREO 24" AMPLIFIER: POWER OUTPUT: 24 watts (2-12 watt channels). FREQUENCY RESPONSE: 20-20,000 cycles ± 1 db. HARMONIC DISTORTION: less than 1.5%. NOISE LEVEL: 63 db down. INPUTS: Magnetic Phono, Ceramic Phono, Tape Head, Tuner and Aux. Tape. OUTPUTS: 4, 8, 16 ohms and Dual Tape Out. LOUDNESS CONTROL: In-out, continuously variable. TONE CONTROLS: Bass 15 db droop, 15 db boost. Treble 14 db droop, 12 db boost. Equalization: RIAA Mag. Phono, NARTB Tape Head. TUBES: 2-12AX7/7025, 2-6AV6, 2-6U8, 4-EL84. CHANNEL SELECTOR: Channel "A," Channel "B." Stereo, Monaural, Crossover (at 3000 cycles). STEREO TONE BALANCE Aural balance control. DIMENSIONS: 13 1/2" wide, 13 3/8" deep, 4 3/8" high.
\$129.95 (Consumer Net).

AR-430 CONTROL AMPLIFIER: POWER OUTPUT: 12 watts. FREQUENCY RESPONSE: 20-20,000 cycles ± 1 db. HARMONIC DISTORTION: less than 1.5%. NOISE LEVEL: 63 db down. TUBES: 1-12AX7 7025, 1-6AV6, 1-6U8, 2-6BQ5/EL84, 1-6CA4 EZ81.
\$59.95 with top cover (Consumer Net).



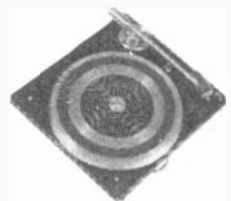
PR-499 "PERFECTEMPO" TURNTABLE: NOISE LEVEL: 55 db down. WOW: less than 0.25% peak (0.18% RMS). FLUTTER: 0.14% peak (0.09% RMS). SPEEDS: Continuously variable from 14 to 80 RPM, guaranteed constant at any setting. Stroboscopic Window Pilot Light: Visual guide to accurate speed. Double Suspension System. Complete isolation achieved.
\$99.95 (Consumer Net).



RA-498 TONE ARM.
\$24.95 (Consumer Net)

PR-500 TURNTABLE: a single-speed turntable, complete with tone arm.

\$69.95
(Consumer Net)



"There is nothing finer than a Stromberg-Carlson"

STROMBERG-CARLSON
A DIVISION OF **GENERAL DYNAMICS**



ELECTRONICS CENTER
ROCHESTER, N. Y.

HI-FI EQUIPMENT BY

STROMBERG-CARLSON

A DIVISION OF GENERAL DYNAMICS CORPORATION

SPEAKER SYSTEMS, HOUSINGS AND SPEAKERS Acoustical Labyrinth® Speaker Systems

RS 405 12" System with RW-486 12" Woofer, RM-485 5" Mid-range and RT-476 Tweeter. **\$84.95**

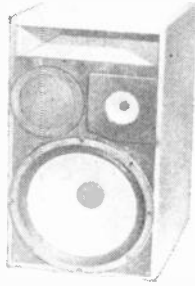
RS-401 8" System with RF-480 8" wide-range speaker and RT-476 Tweeter. **\$44.95**

RS-404 12" System with RW-486 12" Woofer and RT-476 Tweeter. **\$54.95**

RS-406 12" System with RW-489 12" Woofer, RM-485 5" Mid-range and RT-477 Induction Tweeter. **\$119.95**

RS-424 15" System with RW-490 15" Woofer, RM-485 5" Mid-range and RT-477 Induction Tweeter. **\$199.95**

All prices, consumer net.



MSS-492 12" System with RW-489 12" Woofer, RF-480 8" Mid-range and two RT-476 Tweeters. **\$249.95 (Consumer Net)**

MSS-491 15" System with RW 490 15" Woofer, RF-480 8" Mid-range and RT-477 Induction Tweeter. **\$379.95 (Consumer Net)** in Mahogany, Walnut or Oak **\$10 extra.**

EH-418 EQUIPMENT CABINET. **\$129.95 (Consumer Net)**

Unassembled Acoustical Labyrinth Kits, without speakers, available in 8", 12" and 15" sizes.



MSS-492

DECORATOR HOUSINGS FOR ACOUSTICAL LABYRINTH SYSTEMS

MODEL	DESCRIPTION	CONSUMER NET
RH-451-M (A, B, C)	8" Contemporary Mahogany	\$19.95
RH-452-M	8" Traditional Mahogany	24.95
RH-452-WL	8" Traditional Walnut Lacquer	24.95
RH-453	8" French Provincial Cherry	29.95
RH-454-M (A, B, C)	12" Contemporary Mahogany	24.95
RH-455-M	12" Traditional Mahogany	29.95
RH-455-WL	12" Traditional Walnut Lacquer	29.95
RH-456	12" French Provincial Cherry	39.95
RH-457	12" Italian Provincial Cherry	39.95

Key: A is Walnut Oil; B is Walnut Lacquer; C is Lined Oak

MODEL	DESCRIPTION	CONSUMER NET
RH-458-E	12" Oriental Near East Walnut	\$39.95
RH-459-MP	12" Early American Maple	39.95
RH-464-M (A, B, C)	15" Contemporary Mahogany	39.95
RH-465-M	15" Traditional Mahogany	44.95
RH-465-WL	15" Traditional Walnut Lacquer	44.95
RH-466	15" French Provincial Cherry	49.95
RH-467	15" Italian Provincial Cherry	49.95
RH-468-E	15" Oriental Near East Walnut	49.95
RH-469-MP	15" Early American Maple	49.95

A, B and C \$5 extra. Bases available for all models.

"SLIMLINE" SPEAKERS

RF-480 8-INCH WIDE-RANGE TRANSDUCER:

POWER HANDLING CAPACITY: 18 watts. EFFECTIVE FREQUENCY RANGE: 30 to 17,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 52 to 12,000 cps for 5:1 average loudness ratio re. 32 sones (90 phons). IM DISTORTION: 200 cps and 7,000 cps at 2.8 volts, 1:1 ratio, an instantaneous power input of 4 watts: 3.9%. FREE AIR RESONANCE: 80 cps, ± 5 cps.

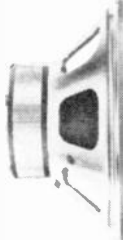
\$24.95 (Consumer Net)



RF-483 15-INCH COAXIAL TRANSDUCER:

POWER HANDLING CAPACITY: Woofer — Over 100 watts Program Material; Tweeter — 32 watts Program Material. EFFECTIVE FREQUENCY RANGE: 25 to 18,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 32 to 14,500 cps for 5:1 average loudness ratio re. 32 sones (90 phons).

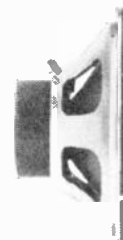
\$99.95 (Consumer Net).



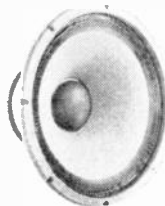
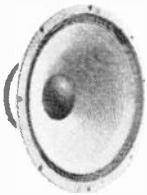
RF-484 15-INCH COAXIAL TRANSDUCER WITH INDUCTION TWEETER:

POWER HANDLING CAPACITY: Woofer — Over 100 watts Program Material; Tweeter — Over 50 watts Program Material. EFFECTIVE FREQUENCY RANGE: 15 to 20,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 15 to 20,000 cps. for 5:1 average loudness ratio re. 32 sones (90 phons).

\$124.95 (Consumer Net)



RW-489 12-INCH SOFT SKIVER WOOFER: POWER HANDLING CAPACITY: More than 50 watts. EFFECTIVE FREQUENCY RANGE: 20 to 5,500 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 25 to 4,600 cps for 5:1 average loudness ratio re. 32 sones (90 phons). FREE AIR RESONANCE: 25 cps plus or minus 5 cps. **\$49.95 (Consumer Net)**



RW-490 15-INCH SOFT SKIVER WOOFER: POWER HANDLING CAPACITY: More than 100 watts. EFFECTIVE FREQUENCY RANGE: 15 to 5,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). 15 to 4,200 cps for 5:1 average loudness ratio re. 32 sones (90 phons). FREE AIR RESONANCE: 20 cps plus or minus 5 cps. **\$99.95 (Consumer Net)**

RT-476 2 1/2" TWEETER: POWER HANDLING CAPACITY: 32 watts. EFFECTIVE FREQUENCY RANGE: *800 to 18,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). *800 to 14,500 cps for 5:1 average loudness ratio re. 32 sones (90 phons). *When used with 4,000 cps crossover network. **\$9.95 (Consumer Net)**



RT-477 INDUCTION TWEETER: POWER HANDLING CAPACITY: More than 50 watts. EFFECTIVE FREQUENCY RANGE: *800 to 20,000 cps for 10:1 average loudness ratio re. 32 sones (90 phons). *800 to 20,000 cps for 5:1 average loudness ratio re. 32 sones (90 phons). *When used with 4,000 cps crossover network. **\$24.95 (Consumer Net)**



OTHER SPEAKERS



RM-485 5" MID-RANGE. **\$24.95 (Consumer Net)**



RW-486 12" SOFT SKIVER WOOFER. **\$29.95 (Consumer Net)**



RF-478 12" COAXIAL SPEAKER **\$39.95 (Consumer Net)**



RF-482 12" COAXIAL SPEAKER **\$59.95 (Consumer Net)**



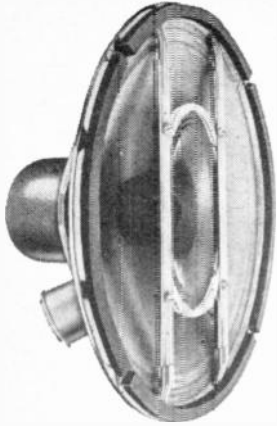
RF-487 12" COAXIAL SPEAKER **\$74.95 (Consumer Net)**

"There is nothing finer than a Stromberg-Carlson"

STROMBERG-CARLSON
A DIVISION OF **GENERAL DYNAMICS**

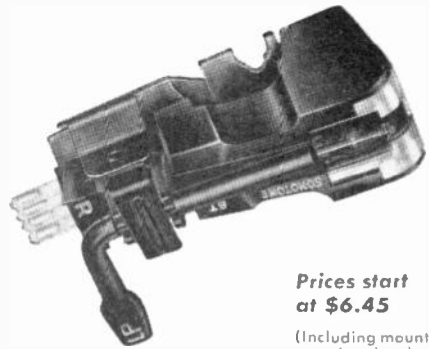


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SHURE

STUDIO MICROPHONES

UNI-DIRECTIONAL RIBBON MICROPHONE



Model "333"
Studio Uni-Ron

Here is the dependable "333," a truly fine and rugged microphone created for discriminating users with the most exacting professional requirements. Here, indeed, is a major advance in microphone development and design! This small, ultra-cardioid "333" is highly recommended for motion-picture studios, TV studios, radio stations, professional recording, and all other uses where quality requirements are of the highest. Here is performance never before achieved in such a small and slender microphone! Here is ruggedness and reliability! Here is matchless beauty and striking design to appeal to users who demand the finest! The "333" is ultra-cardioid, uni-directional—reduces the pickup of random noise energy by 73°—prevents the pickup of moving props, scuffling feet and moving "dollies," so common when conventional broadcast microphones are used. Following are the features that make the "333" Studio so outstanding in performance, so dependable in operation: (1) patented, world-famous "Uniphase" system; (2) a true ultra-cardioid pickup pattern; (3) horn-loaded ribbon transducer provides extended smooth response, production uniformity guaranteed to plus or minus 2½ db, 30-15,000 c.p.s.; (4) multi-impedance switch; (5) voice-music switch; (6) anti-"Pff" filter screen; (7) Shure self-adjusting "lifetime" swivel; (8) high output; (9) sturdy, one-piece metal case; (10) vibration-isolation unit mounted in live rubber; (11) Cannon XL connector. All these important features, plus the striking design of the Studio "333," make it ideal for critical studio applications that call for the highest possible broadcast quality, small size and matchless beauty—plus the ability to withstand the rough work-a-day handling by the sound crew. The "333" has two-tone "Baked Bronze" non-reflecting finish. Head dimensions: Width, 1 1/8"; height, 3 9/16"; depth, 1 3/4".

IMPEDANCE TABLE	OUTPUT LEVEL
Low—50 ohms	60 db below 1 Milliwatt per 10 microbar signal
Medium—150 ohms	59 db below 1 Milliwatt per 10 microbar signal
High-Medium—250 ohms	



Model 533
Broadcast
Desk Stand
For use with Models
300, 333, 525, 535
and 556S
List Price \$15.00

MODEL	LIST PRICE
"333"	\$250.00

OMNI-DIRECTIONAL DYNAMIC MICROPHONE



Model "525"
Studio Slendyne

The new Studio "525" is an exceptionally fine probe microphone of broadcast quality. It features: (1) frequency response 40-15,000 c.p.s., production uniformity guaranteed to plus or minus 2½ db; (2) a moving-coil mounted in a highly efficient magnetic structure; "Alnico V" magnet; (3) multi-impedance switch; (4) high output; (5) long life "Duracoustic" diaphragm—specially designed to withstand moisture, heat, cold and physical shock. The "525" is furnished with a 20 ft., two-conductor, rubber-covered, shielded cable with Cannon XL-3-11 connector attached; swivel adapter; adjustable lavalier assembly (cord and clip), and a belt clip assembly. The "525" Studio has a non-reflecting "Baked Bronze" finish—which makes it blend into the background, giving the spotlight to the performer. Body diameter, 1"; length, 8 17/32".

IMPEDANCE TABLE	OUTPUT LEVEL
50 ohms	61 db below 1 Milliwatt per 10 microbar signal
150 ohms	
250 ohms	

Model 533
Broadcast
Desk Stand
List Price: \$15.00

MODEL	LIST PRICE
"525"	\$200.00

BI-DIRECTIONAL GRADIENT MICROPHONE



Model "300"
Studio Gradient

This rugged, high fidelity, multi-impedance microphone is widely used for television, radio broadcasting, professional recording and high-fidelity uses. The "300" reduces reverberation and the pickup of random noise by 66°. The "300" combines the best features of conventional velocity microphones with advanced acoustic design—including an anti-"PFF" filter screen. Its bi-directional polar pattern is effective over a broad frequency range. It provides sound pickup at the front and rear of the microphone, but greatly reduces pickup at the sides. One of the outstanding features of the "300" is the fact that the microphone can be placed at a 73° greater distance from the performer than is possible with omni-directional microphones! The "300" has a non-reflecting "Baked Bronze" finish, so it blends into the background, gives the spotlight to the performer. The "300" has a readily accessible Voice-Music switch, vibration-isolation unit mounted in live rubber, and a multi-impedance switch, providing low medium and high impedance. Extended response, production uniformity guaranteed to plus or minus 2½ db, 40-15,000 c.p.s. Furnished with a 20-foot two-conductor, rubber-covered, shielded cable with Cannon XL-3-11 connector attached.

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	59 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	60 db below 1 Milliwatt per 10 microbar signal
H—High	57 db below 1 volt per microbar

Model 533
Broadcast
Desk Stand
List Price: \$15.00

MODEL	LIST PRICE
"300"	\$150.00

See Pages 232-235 for additional Shure Products.

SHURE

GENERAL PURPOSE MICROPHONES

OMNI-DIRECTIONAL DYNAMIC MICROPHONES

The new Slendyne 535 is the most versatile fine quality probe microphone ever developed — actually five microphones in one because of its practical design and useful accessories! The "535" is a moving-coil dynamic microphone built to provide wide range reproduction of music and voice. It can be used for indoor or outdoor applications in the following manner: (1) in the hand, (2) on a floor stand, (3) on a desk stand, (4) hung around the neck on a lavalier cord.* Add to these factors an on-off switch adapter and a dual-impedance switch and you have the most completely versatile fine quality probe ever developed. Frequency response is 60 to 13,500 c.p.s..

The Slendyne 535 is ideal for high quality public address, theater-stage sound systems, and all recording applications where an omni-directional microphone is desired. The microphone is ruggedly built to withstand hard usage, and is unaffected by temperature and humidity variations. The 18-foot, high quality, shielded, two-conductor cable is supplied with a microphone plug equivalent to the Amphenol 91-MC3M plug. The "535" meets the requirements for maximum quality and minimum size. It is finished in rich satin chrome. A self-adjusting swivel adapter is supplied with the microphone, and permits it to be tilted from 90° from vertical to horizontal, making it possible to tilt the microphone at the source of sound. Also includes on-off switch adapter.

The "535" is specially recommended for "interview-type" use where the "hand-a-bility" is important. Of special interest to P.A. technicians and recording enthusiasts is the quick-disengaging feature that permits the microphone to be instantaneously removed from the stand swivel adapter, for use as a hand microphone during audience participation shows, interviews, and for home recording sessions.

The Model 530 Slendyne is the deluxe broadcast Slendyne, finished in an attractive black and gold anodized finish. It has a frequency range of 50 to 15,000 c.p.s., and is furnished with a 20-foot, high quality, two-conductor shielded cable with a Cannon XL-3-11 cable connector. Furnished with swivel adaptor, deluxe lavalier cord and belt clip, on-off switch adaptor.

LAVALIER ASSEMBLY Model A28L for use with Slendyne model 535. MODEL A28L ... LIST PRICE \$4.50



Model "535"
Slendyne



Model "530"
Broadcast Slendyne

MODEL	IMPEDANCE TABLE	OUTPUT LEVEL
"535"	L—50-250 ohms	61 db below 1 Milliwatt per 10 microbar signal
	H—High	61 db below 1 volt per microbar
"530"	L—50-250 ohms	61 db below 1 Milliwatt per 10 microbar signal
	H—High	61 db below 1 volt per microbar

MODEL	LIST PRICE
"535"	\$72.50
"530"	\$110.00

BI-DIRECTIONAL GRADIENT¹ MICROPHONE

This rugged high fidelity multi-impedance microphone is recommended for fine quality general purpose uses. It features a frequency response of 50 to 12,000 cps—will reproduce voice and music in a clear, natural tonal quality, which makes it ideal for use in auditoriums, night clubs, schools and churches. The "315" is similar in features and design to the Studio Model 300. It is ideal for those numerous public address applications where its streamlined design and striking beauty lend dignity and prestige to any setting in which it is used. This gradient microphone is a favorite of professional performers and educators because it provides unusual freedom of motion on the platform — making it possible for the user to stand at a 73% greater distance from the microphone than is possible with omni-directional microphones. Its bi-directional "Fig. 8" pickup pattern extends over a broad frequency range — and it permits the sound system to be operated at a level almost 6 db higher than is possible with non-directional (omni-directional) microphones! The "315" picks up voices and music from front to back — is "dead" at the sides, reduces reverberation and the pickup of random noises by 66%. This feature means the "315" can be used in those critical installations where feedback makes it impossible or impracticable to use conventional microphones. It is "PFF"-proof — filters out the "PFF"-type noises often heard over conventional microphones. Here again is another fine quality Shure microphone made under scientific control conditions, which are your guarantee that it can be used month after month without deviation from its original standards. Dimensions: height 6"; width 1 7/16"; depth 1 3/32". The "315" is furnished with an 18-foot, high quality, two conductor, shielded cable, supplied with the equivalent of the Amphenol 91-MC3M plug.



Model "315"
Gradient

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	59 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	60 db below 1 Milliwatt per 10 microbar signal
H—High	57 db below 1 volt per microbar

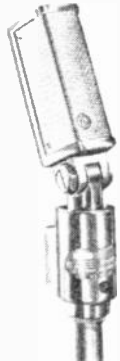
MODEL	LIST PRICE
"315"	\$89.50

See Pages 232-235 for additional Shure Products.

SHURE

GENERAL PURPOSE MICROPHONES

UNI-DIRECTIONAL RIBBON MICROPHONE



Model "330"
"Professional Uni-Ron"

The striking-looking 330 "UNI-RON" Microphone has been designed to meet the exacting requirements of professional tape recording and highest quality indoor public-address systems. The "UNI-RON" is basically a member of the Shure Studio Microphone family, similar in appearance and performance to the Model "333". The "UNI-RON" has a super-cardioid pickup pattern — reduces the pickup of undesired random noise energy by 73%!

It has a smooth, peak-free response from 30 to 15,000 cps. The Professional "Uni-Ron" is equipped with multi-impedance (50, 150 and 250 ohms) switch, life-time swivel, and special vibration-isolation shock mount, as well as Cannon XL-3-11 cable connector and 20 ft. 2-conductor shielded broadcast-type cable. The microphone is finished in beautiful satin-chrome with natural anodized aluminum grille.

IMPEDANCE TABLE	OUTPUT LEVEL
L—50 ohms	59 db below 1 milliwatt per 10 microbars
M—150 ohms	57 db below 1 milliwatt per 10 microbars
H—250 ohms	58 db below 1 milliwatt per 10 microbars

This rugged performer has been developed to achieve optimum operating performance — for those applications where highest quality is essential, yet cost is a factor.

Model "330" List Price \$120.00

UNI-DIRECTIONAL DYNAMIC MICROPHONES



Model "555"
"Small Unidyne"

The small Unidynes are the largest selling microphones throughout the world—used consistently by famed celebrities for those important events where the faithfulness of sound reproduction is critical. A sturdy construction provides immunity of the moving-coil system to abnormal atmospheric conditions and severe mechanical shock. Model 555 is highly recommended for fine quality public address, theater-stage sound systems, recording and remote broadcasting. It is also the field-proved standard for fixed station use in the police, fire, transportation, forestry and commercial services. The smooth frequency response of the 555 ranges from 50 to 15,000 c.p.s. It is furnished with an 18-foot, high quality cable and plug assembly. Special Note: Both of the famed Unidynes are now 41% higher in output — can be used with low gain tape recorders and P.A. systems.

Model 556S is specially constructed and tested to meet the requirements of the broadcast and television studio, and is held within close tolerances in frequency response and directivity. It is a moving-coil type microphone with a frequency range of 40 to 15,000 c.p.s., production uniformity guaranteed to plus or minus 2½ db. The Broadcast Unidyne is ideal for high quality station and remote broadcasting, public address, theater-stage sound systems and recording applications. As a further precaution against mechanical vibration pickup, the 556S is provided with an additional isolation unit. This isolation unit is of live rubber construction in combination with the stand connector and a built-in high quality cable connector. The microphone is furnished with a 20-foot, high quality, shielded, 2-conductor cable with a Cannon microphone plug attached. Both the 555 and the 556S feature the world-renowned patented "Uniphase" network system.

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	54 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	55 db below 1 Milliwatt per 10 microbar signal
H—High	57 db below 1 volt per microbar

MODEL	LIST PRICE
556S	\$135.00
555	\$ 83.00



Model "556S"
"Small Broadcast"

MULTI-IMPEDANCE HIGH OUTPUT DYNAMIC



Model "51"
"Sonodyne"

The "Sonodyne" is ideal for all general purposes, including public address, wire and tape recording, and similar applications. It is widely used by bands, instrumentalists and professional recording artists because of its outstanding reproduction of both voice and music. Widespread usage by home users of tape recorders indicates that the Sonodyne is the ideal high-quality, moderately-priced replacement for the conventional microphone supplied with tape recorders. The wide range frequency response is 60 to 10,000 c.p.s. This rugged microphone is of the pressure type, with conventional semi-directional characteristics, and it may be used for close-talking without undue low frequency emphasis. The Sonodyne is a multi-impedance microphone, providing the versatility of three microphones in one—for low, medium and high impedance. Has built-in receptacle and a 15-foot, two-conductor shielded cable with microphone plug attached. Satin chrome finish.

Model "51"

List Price \$49.50

Multi-Impedance Switch on Models "555", "556S", "51", "300", "315"



IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	53.0 db below 1 Milliwatt for 10 microbar signal
M—150-250 ohms	52.5 db below 1 Milliwatt for 10 microbar signal
H—High	52.0 db below 1 volt per microbar

See Pages 232-235 for additional Shure Products.

SHURE **GENERAL PURPOSE MICROPHONES**

"COMMANDO" ALL-PURPOSE MICROPHONES

The new Commando series represents a significant achievement in providing quality performance at nominal cost. These dramatic looking, rugged microphones can be used indoors or outdoors. Models 415 and 430 provide practical versatility of operation. They can be held in the hand, set on a floor stand or on a desk stand — can be inserted or withdrawn from the stand in a second, without the use of any tools. Model 420 is of more compact design and is intended primarily for use as a lavalier microphone. It is readily detachable from its lavalier clip for use as a hand held unit. Coupled with this versatility of usage, the Commandos are ideal for general-purpose applications where both voice and music reproduction are of critical importance. Commandos can be used for tape recording in the home; theater-restaurant public address systems; lecturing; paging and dispatching systems; interview-type shows; outdoor public address systems for carnivals, picnic and special events.

All three units are ruggedly constructed of attractive, non-reflecting gray, impact resistant polystyrene. The lower part of Models 415 and 430 are of die cast zinc with a satin chrome finish.

The Commandos are omni-directional units with a frequency response of 60-10,000 cps. They are controlled magnetic units and are unaffected by extremes of temperature and humidity. Models 420 and 430 are equipped with readily changeable pin jacks for a choice of two impedances (L — 150 to 250 ohms and H — High), without soldering.

Model 430 includes on-off switch, dual-impedance feature and Amphenol MC2M cable conductor. Furnished with 15 Ft. of 2-conductor shielded cable, black Model A25-type swivel adapter and switch locking plate for keeping switch in "on" position. **List Price: \$38.50**

Model 420 includes dual impedance feature and lavalier cord and clip assembly. Furnished with 20 ft. of non-detachable 2-conductor shielded cable. **List Price: \$30.00**

Model 415 includes black Model A25-type swivel adapter and 7 ft. of non-detachable single-conductor shielded cable. High impedance only. **List Price: \$27.50**

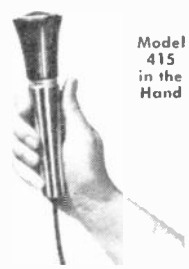
S38B Desk Stand for use with Models 415 and 430. **List Price: \$4.50**



Model 430 in the Hand

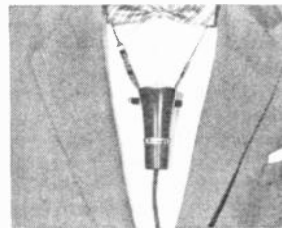


Model 430 on Floor Stand

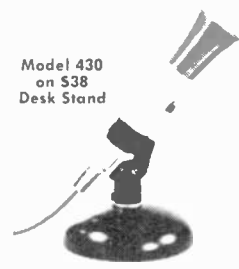


Model 415 in the Hand

IMPEDANCE	OUTPUT LEVEL
150-250	-54 db below 1 volt per microbar
HIGH	-55 db below 1 milli-watt per 10 microbars

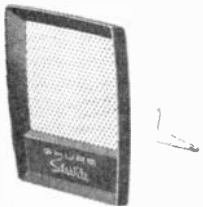


Lavalier Model 420



Model 430 on S38 Desk Stand

"STARLITE" MICROPHONES



Model 215 and 715

These beautifully designed microphones are excellent for voice and music reproduction. Their extremely low price and good quality make them a "natural" for home recording, intercom systems and inexpensive public address systems. The "Starlite" microphones can be held in the hand, or used on a desk by simply releasing a built-in retractable stand which is an integral part of the back of the microphone case. They are semi-directional, high impedance units, in impact resistant polystyrene cases.

Model 215, a ceramic unit, has a response from 50-8000 cps. Model 715, a crystal unit has a response range from 50-10,000 cps. Both microphones are supplied with 5 ft. fabric covered single conductor shielded cable.

MODEL	OUTPUT	LIST PRICE
215 Ceramic	56.5 db below 1 volt per microbar	\$8.00
715 Crystal	50 db below 1 volt per microbar	\$8.00

CABLE TYPE TRANSFORMER



Model A86A

Model A86A is a high-quality, cable-type transformer which makes it convenient to run a long microphone line from a low impedance microphone to a high impedance amplifier. It is housed in a compact, sturdy and magnetically-shielded case. Connection terminals are easily accessible, and compression fittings crimp the microphone and amplifier inputs. The A86A matches 35-50 ohm and 150-250 ohm microphones to high impedance amplifier inputs. This type of system usually solves the problem of excessive high frequency loss and objectionable hum pickup when long lengths of microphone cable are necessary. The A86A offers additional versatility when used in conjunction with Shure Models 51, 55S, 556S, 300, 315, 330, 333, 525, 530 and 535 Dynamic and Ribbon Microphones. And in addition to these the Model A86A may be used in specialized applications which require high impedance to low impedance circuit connections. The transformer is finished in an attractive two-tone gray and is furnished with a 2-foot cable. Frequency response: 20 to 20,000 c.p.c., plus or minus 1 db.

Model —A86A **List Price: \$17.50**

See Pages 232-235 for additional Shure Products.

SHURE

CRYSTAL MICROPHONES

THE VERSATILE "SLIM-X" ALL-PURPOSE MICROPHONE

FOR:

- Low Cost P. A. Systems
- Home Recording
- Hams
- General Purpose



In Cradle
On S38
Desk Stand



On S38
Desk Stand
(With A25
Swivel)



In Cradle
On Floor Stand



In the Hand

The "777" Slim-X Microphones are rugged little microphones weighing only 6 ounces! They are designed for good-quality voice and music reproduction. Their versatility and "hand-ability" make them ideal for use by lecturers, announcers, instructors, and Hams; for audience participation shows; carnivals; panel and quiz shows; and use with home-recorders. When mounted on either cradle or swivel, the "777" can be removed in a flash (no tools necessary)—simply by lifting it

out of the holder. This makes it an ideal "walk-around" hand-held microphone.

TECHNICAL INFORMATION: Smooth frequency response—60 to 10,000 c.p.s.; Moisture-proof "Metal Seal" crystal for long operating life; high impedance; 7 ft. single-conductor cable, disconnect type. Dimensions: (Microphone only) Length, 4½"; Diameter, 1". Finish: Rich satin chrome overall.

Note: All Models are furnished with Lavalier Cord, for suspension of microphone around neck.

"SLIM-X" ASSEMBLIES

MODEL 777A includes 777 Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord.
Model: 777A List Price: \$33.00

MODEL 777SA includes 777S Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord.
Model: 777SA List Price: \$35.00

ACCESSORIES FOR "777"

MODEL S-38 STAND is a heavy die-cast base. Includes metal screw machine stud for connecting microphone adaptor to stand base.

Model: S-38 List Price: \$4.50

MODEL A-25 SWIVEL ADAPTOR features a long-life, high-quality swivel connector. Is lined with a long-life nylon sleeve—for noise-free and scratch-free insertion and removal of microphone.

Model: A-25 List Price: \$5.50

Model	Output	List Price
777		\$25.00
777A	62 db below	\$33.00
777S With Switch	1 volt per microbar	\$27.00
777SA With Switch		\$35.00

*(Price includes cradle for mounting on stand.)



"MONOPLEX"

The only Super-Cardioid Crystal Microphone made—for superior to conventional Crystal Microphones! Excellent for high-quality public address, communications, recording, and similar applications. The 737A operates under adverse conditions of background noise and reverberation—where a conventional microphone would be practically useless! Reduces pickup of random sound by 73%! Moisture-proof "Metal Seal" crystal for long operating life. Case pivots at rear, can be pointed toward desired sound or upwards for horizontal plane pickup. Has 15 ft. shielded cable. Rich satin chrome finish. High impedance.

MODEL	OUTPUT	LIST PRICE
737A	53 db below 1 volt per microbar	\$46.00



THE "REX"

Its low price makes this hand-held microphone a natural for "Hams" and low-cost public address system. A rugged unit designed for high speech intelligibility. Saves extra costs, as it needs no desk stand! Has a broad base, complete with stand adaptor for mounting on floor stand. Sits firmly on a table top without tipping over. Die cast case. Frequency response 60 to 9,000 c.p.s. 5 ft. shielded cable. Beautiful Burgundy-red metallic finish. Only 2¾" wide, 3¼" high, 1⅛" thick. High impedance.

MODEL	OUTPUT	LIST PRICE
710A	50 db below 1 volt per microbar	\$12.00
710S (with switch)	50 db below 1 volt per microbar	\$14.00



MODEL 707A

Ideal for low-cost P.A. systems, amateur 'phone transmitters and similar applications. Good-quality performance at low cost. Has typical semi-directional pickup. Has 7 ft. shielded cable. High impedance. Pearl Gray case with rich satin chrome finish on front grille. Diameter 2¾".

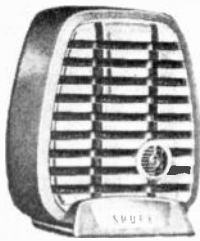
Model 707A designed to be used with Shure Model S34B or S36A Desk Stands (see page D-179).

MODEL	OUTPUT	LIST PRICE
707A	50 db below 1 volt per microbar	\$19.50

See Pages 232-235 for additional Shure Products.

SHURE CONTROLLED MAGNETIC MICROPHONES

THE "HERCULES"



The "Hercules" is a hand-held unit, ideal for general purpose use in tropical countries and in all coastal areas where heat and humidity are a problem. The "510" provides the ruggedness, clear reproduction and high output for public address, communications and recording where high speech intelligibility is vital. It is recommended for Announcing; Mobile Public Ad-

dress Systems; Communications; Home Recording, and High Quality Intercommunication. The Hercules can be used either Indoors or Outdoors, fits snugly in the hand, sits firmly on a desk. High impedance. Frequency response 100 to 7000 c.p.s. Furnished with 7 ft. shielded cable. Green metallic finish. Diecast case. Furnished with stand adapter. Dimensions: 2 2/3" wide, 3 1/4" high, 1 1/2" th ck. Model 510 Series designed to be used with S34B or S36A Desk Stands. (See page D-7)

MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
510C	52.5 db below 1 volt per microbar	HIGH	\$17.00
510S (with switch)	52.5 db below 1 volt per microbar	HIGH	\$19.00

THE "GREEN BULLET"

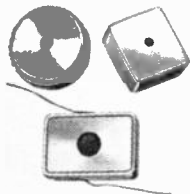


The "Green Bullet" is designed to provide quality music and speech reproduction at moderate cost. It is practically immune to the effects of high temperatures and humidity. It features: high output, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7000 c.p.s. Furnished with 7 ft. single-conductor shielded cable. High Impedance. The "Green

Bullet" is highly recommended for those public address systems where low cost is a must, good reproduction is essential and ruggedness is a necessity. Model 520 series designed to be used with Shure Model S34B or S36A Desk Stands. (See page D-7)

MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
520	52.5 db below 1 volt per microbar	HIGH	\$22.50
520B	51 db below 1 milliwatt per 10 microbars	150-250 ohms	\$22.50

MINIATURE MICROPHONES



Small microphones specially designed for use in vacuum-tube devices such as small, compact amplifiers, transmitters, dictating equipment—wherever size and weight are important factors. They also are highly recommended for use in small transistor-type devices. They are immune to varying conditions of heat and humidity.

Model MC11
(Circular)
Impedance: 1,000 ohms
Frequency Response: 400 to 3,000 cps
Output Level: -75 db (0 db - 1 volt per microbar)
Dimensions: Dia. 1 1/64", thickness 25/64"
List Price: \$12.50

Model MC20
(Rectangular)
Impedance: 1,100 ohms
Frequency Response: 400 to 4,500 cps
Output Level: -75 db (0 db - 1 volt per microbar)
Dimensions: width 10/16", thickness 5/16", length 15/16"
List Price: \$14.00

Model MC30
(Rectangular)
Impedance: 1,850 ohms
Frequency Response: 400 to 3,500 cps
Output Level: -76 db (0 db - 1 volt per microbar)
Dimensions: width .5", length .5", thickness .265"
List Price: \$20.00

THE "DISPATCHER"



This new Controlled Magnetic unit is designed to handle the most severe field requirements of paging and dispatching systems. The unit is supplied with 7 feet of 2-conductor shielded cable, and is wired to operate both microphone and relay circuits. The "Dispatcher" is ideal for police, taxi-cab, railroad airport, bus, truck, and all emergency communications work where dependability is vital. Large grip-bar assures positive contact.

MODEL 520SL

(NOTE: Complete assembly furnished as illustrated.)

MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
520SL	52.5 db below 1 volt per microbar	High	\$45.00

THE "RANGER"

The new Shure "Ranger" is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields), mobile communications, ham, audience participation shows, etc. The "Ranger" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Has heavy-duty double-pole, single-throw, leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. Model 505B is furnished with 5 ft. four-conductor shielded cable. Model 505C is furnished with 5 ft. three-conductor shielded cable. Model 505K is the replacement for General Electric Model EMIOA and is furnished with Amphenol MC4M connector and 5 1/2 ft. coiled 3-conductor (1-conductor shielded) cable. Frequency response is 200 to 8,000 cps.

MODEL	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	LIST PRICE
505B	50.0 db below 1 milliwatt per 10 microbar signal	150-250 ohms	1 5/8 lbs.	\$32.00
505C	50.5 db below 1 volt per microbar	High	1 5/8 lbs.	\$32.00
505K*	50.5 db below 1 volt per microbar	High	1 5/8 lbs.	\$37.50

* Replacement for General Electric EMIOA

See Pages 232-235 for additional Shure Products.



505 SERIES

SHURE

COMMUNICATIONS MICROPHONES

MODEL "100" SERIES CARBON MICROPHONES

Used around the world for police, taxi, bus, truck, and commercial applications — more than all other makes combined! Rugged unit with clear, crisp voice response and high output. Heavy duty switch for push-to-talk performance. Furnished with bracket for wall mounting, plus coiled-cord cable. Adopted as standard microphone by G.E., Link, Motorola, R.C.A. and others for 2-way radio communications equipment. Output level: 5db below 1 volt for 100 microbar speech signal.



REPLACEMENT CHART

MANUFACTURERS MODELS	REPLACEMENT MODEL
CB10, CB10B, CB10C, CB10D, CB15, CB15D,	101C
CB10E	101E
CB12, CB12A, CB12C, CB12D	102C
CB12E	102E
CB15F	103

Model	Cable	Switch Arrangement	List Price
101C	Standard Coiled Cord 11' retracted; 5' extended	Two Wire Relay Switch normally open. (No microphone switch)	\$30.00
101E	Tinsel Coiled Cord 11' retracted; 5' extended with Amphenol MC4M Connector		\$33.00
102C	Standard Coiled Cord 11' retracted; 5' extended	Relay normally open. Microphone switch normally open.	\$30.00
102E	Tinsel Coiled Cord 11' retracted; 5' extended with spade lugs		\$33.00
103	Standard Coiled Cord 11' retracted; 5' extended with Amphenol MC4M Connector	Two Wire Relay Switch normally open. (No microphone switch)	\$31.00

CARBON MICROPHONE CARTRIDGE



Model R10 and Model 99A149

Rugged microphone cartridge replacement for "CB", "100", and "120" Series Carbon Microphones. Furnished with necessary mounting hardware and complete installation instructions. Direct replacement for the cartridge used in the Models 101A, 101B, 101C, 102A, 102B, 102C, 120, CB10, CB10B, CB10C, SB10E, CB11, CB11B, CB12, CB12A, CB12B, CB12C, CB12D, CB12E, CB14, CB14A, CB15, CB15B, CB15C, CB15D, CB15F, CB20, CB162, 91A27 carbon microphones.

Model R10 List Price \$8.50

Model 99A149 is the replacement for cartridges used in microphone models: CB20, CB21, CB50 and 115. Model 99A149 List Price \$8.50

SWITCHES AND ACCESSORIES

MICROPHONE REPLACEMENT CARTRIDGES



CONTROLLED MAGNETIC
Model R5 & Model R5B

Direct replacement for cartridges used in the following Shure microphone models: 510C, 510MD, 510S, 520, 520SL and 505C. Also ideal for replacement of crystal cartridges in Shure cases of the Model 707A and 708A Series, where heat and humidity are a problem. Supplied with rubber mounting ring.

Model: R5 List Price: \$11.00

Model 99C86 is used in models 505B and 520B. Is physically identical to Model R5; but low impedance (150 to 250 ohms).

Model: R5B List Price: \$11.00



CRYSTAL
Model R7

Model R7 Crystal Microphone. Available for service installation as a replacement for the cartridges in the Shure Crystal Microphones of the 707A and 708A Series, and other microphones of similar design. High output—48 db below 1 volt per microbar. Cartridge supplied with rubber mounting rings and installation instructions.

Model: R7 List Price: \$8.25

SLIM-X CARTRIDGE

Model 99A186 for the 777 Series Slim-X Microphones. Crystal element metal-sealed for long life. Requires only one solder connection.

Model: 99A186 List Price: \$10.00

TAKE-APART STAND



Model **S34B**

Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle.

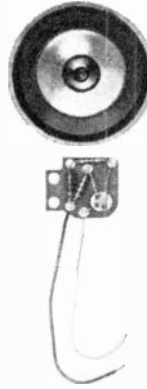
Model: S34B List Price: \$4.50

"RANGER" TRANSISTOR-AMPLIFIER FOR CARBON MICROPHONE REPLACEMENT

Model 505T is the perfect improvement-replacement for carbon microphones. A self-contained transistor amplifier, powered by the carbon microphone circuit, does not require an additional power source. Provides unusual speech clarity and freedom from ageing under severe vibration conditions. Same size and appearance as "100" series microphones. Output level 1 db below 1 millivolt per 100 microbars.

Model 505T

List Price \$48.50



MODEL R5T

Model R5T is a conversion kit containing a controlled magnetic cartridge and transistor amplifier. It is designed to convert carbon microphones into improved controlled magnetic transistorized microphones. Conversion takes only a matter of minutes—and all that is necessary is a screwdriver, a long-nose plier and a soldering iron.

SPECIFICATIONS FOR MODEL R5T

List Price: \$25.00

Type: Controlled magnetic with transistor amplifier.

Frequency Response: 200 to 4,000 cps

Output Level: -1 db loaded with 500 ohms (0 db — 1 milliwatt per 100 microbars)

Polar Pattern: Semi-directional

COILED CORD SETS

Tinsel Coiled Cord with trimmed and tinned leads and Amphenol MC4M connector attached (3 conductor shielded) for use with General Electric EM10A and 505K microphones.

Model: C10C List Price \$12.00

Standard Copper Coiled Cord with trimmed and tinned leads. Used in "CB" and "100" Series Microphones.

Model: C15C List Price: \$6.25

Tinsel Coiled Cord with Amphenol MC4M Connector for use with General Electric equipment.

Model: C16C List Price: \$9.50

Tinsel Coiled Cord with spade lugs for use in Motorola equipment.

Model: C17C List Price: \$7.75

Standard Coiled Cord with Amphenol MC4M Connector for use with Motorola equipment.

Model: C18C List Price: \$9.50

Tinsel Coiled Cord with Amphenol MC4M Connector for use with Motorola equipment.

Model: C19C List Price: \$9.50

MICROPHONE REPLACEMENT CARTRIDGES

"GRIP-TO-TALK SLIDE-TO-LOCK" SWITCH

Heavy-Duty Switch withstands the most severe field requirements of paging and dispatching systems. Ideal for Police, Taxi-Cab, Railroad, Airport, Bus, Truck, and all emergency communications work. Can be used with Shure connector-type crystal, dynamic and carbon microphones of any impedance. Fits handily on Shure S36A Desk Stand. Rich satin chrome finish.

Model: A88A

List Price: \$12.50 Model A88A



ON-OFF PRESS-TO-TALK SWITCHES



Model A83B. Rotary-type "On-Off" switch. Quickly attached to any cable-conductor type Shure microphone.

Model: A83B List Price: \$11.00

Model A84B. Momentary Press-to-Talk "On-Off" switch.

Model: A84B List Price: \$11.00

Model A85C. Momentary Press-to-Talk Relay-Type Switch.

Model: A85C List Price: \$11.50



MODERN DESK STAND

Model S36A. Streamlined Desk Mount fits all Shure connector-type microphones. Adapter provided for mounting other type microphones. Ideal for use with A88A switch.

Model: S36A List Price: \$6.50



Model **S36A**

See Pages 232-235 for additional Shure Products.



Utah's UNI-DRIVE® line of co-axial speakers

featuring the all-new

dual diameter

magnetic circuitry producing **MORE POWER PER POUND**

In the fabulous new line of Dual Diameter Uni-Drive speakers, Utah has produced the *greatest power per pound* in a loudspeaker since the advent of Alnico V

The combination of two Alnico magnetic material structures into one dual diameter, processed for new molecular orientation, produces nearly double the normal magnetic power.

This single speaker with two perfectly matched and balanced cones provides exacting full range reproduction of unsurpassed tonal quality, plus a bonus of reserve power.

Other great Utah-quality features are:

Dynamic Uni-Coils, the most rugged voice coil yet developed . . .

Slim Modern Design with heavier steel frame protection of cone and elimination of *Cross-over Response Drop-out* . . .

Treated Cone Skiver Rolls produce greatly improved frequency response and extremely long playing life . . .

Phase Coded Terminals for solderless installations . . .

Sky Blue Wrinkle Finish for lasting, dashing beauty.



MODEL NO. D15P



MODEL NO. D69J

MODEL NO.	SIZE & DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	FREQUENCY RESPONSE (CPS)	OUT-SIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
D8J	8"	6.8	1	8	12	45/15,000	8 ³ / ₂	4	7 ¹¹ / ₁₆	3 ¹ / ₂	\$17.50
D8LA	8"	14.7	1 ¹ / ₄	8	20	40/16,000	8 ³ / ₂	4	7 ¹¹ / ₁₆	4	24.95
D8P	8"	21.5	1 ¹ / ₂	8	20	35/13,000	8 ³ / ₂	4 ³ / ₄	7 ¹¹ / ₁₆	5	35.25
D12J	12"	6.8	1	8	15	35/15,000	12 ¹ / ₂	5 ¹ / ₂	11 ⁹ / ₁₆	6	19.95
D12LA	12"	14.7	1 ¹ / ₄	8	40	30/16,000	12 ¹ / ₂	5 ⁵ / ₈	11 ⁹ / ₁₆	6 ¹ / ₂	29.95
D12P	12"	21.5	1 ¹ / ₂	8	30	30/14,000	12 ¹ / ₂	6 ¹ / ₂	11 ⁹ / ₁₆	7 ¹ / ₂	40.75
D15P	15"	21.5	1 ¹ / ₂	8	35	25/12,000	15 ¹ / ₄	8	14 ⁹ / ₁₆	9 ¹ / ₂	44.50
D69J	6 x 9"	6.8	1	8	12	60/16,000	6 ³ / ₄ x 9 ³ / ₄	3 ¹ / ₄	4 ¹ / ₄ x 5 ¹ / ₁₆	2 ¹ / ₂	16.95

Utah's finest...the incomparable CONTINENTAL speakers



MODEL NO. C12RD



MODEL NO. CM8L



MODEL NO. CT5JN

MODEL NO.	SIZE & DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	FREQUENCY RESPONSE (CPS)	OUT-SIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
CT5JN	5" Tweeter	6.8	1	16	40	3,500/20,000	5	3 ¹ / ₄	4 ¹¹ / ₁₆	3 ¹ / ₄	\$19.50
CM6J	6" Mid Range	6.8	1	16	15	600/6,000	6 ¹ / ₂	4	6 ¹ / ₂	3 ¹ / ₄	25.50
CM8L	8" Mid Range	14.7	1 ¹ / ₄	16	20	500/5,000	8 ³ / ₂	4 ³ / ₁₆	7 ¹¹ / ₁₆	4 ¹ / ₂	35.95
C8P	8" Woofer	21.5	1 ¹ / ₂	16	20	25/8,500	8 ³ / ₂	4 ³ / ₄	7 ¹¹ / ₁₆	5	47.50
C8R	8" Woofer	2 lb.	2	16	25	20/8,000	8 ³ / ₂	4 ³ / ₄	7 ¹¹ / ₁₆	8	54.95
C12P	12" Woofer	21.5	1 ¹ / ₂	16	25	25/8,000	12 ¹ / ₂	6 ¹ / ₂	11 ⁹ / ₁₆	7 ¹ / ₂	52.00
C12R	12" Woofer	2 lb.	2	16	30	20/7,500	12 ¹ / ₂	6 ¹ / ₂	11 ⁹ / ₁₆	10 ¹ / ₂	55.95
C12RD	12" Woofer (Dual V.C.)	2 lb.	2	16 (series)	30	20/2,500	12 ¹ / ₂	6 ¹ / ₂	11 ⁹ / ₁₆	10 ¹ / ₂	75.00
C15R	15" Woofer	2 lb.	2	16	40	20/5,000	15 ¹ / ₄	8	14 ⁹ / ₁₆	13	67.50

SPEAKERS, BAFFILES AND SOUND REPRODUCERS BY UTAH PRECISION CRAFTED FOR STEREO AND ALL SOUND REPRODUCTION



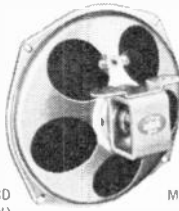
the MICRO-GAP speakers...utah's famed replacement standard of the industry



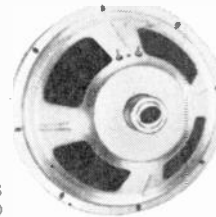
MODEL NO. SP4A
(SQUARE)



MODEL NO. SP69G
(OVAL)



MODEL NO. SP8D
(PIN CUSHION)



MODEL NO. SP12G
(ROUND)

MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	OUTSIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
SP25A	2½" Sq.	.68	¾	3-4	2	2½	1½	2"	¼	\$ 3.95
SP27A	2¾" Rnd	.68	¾	12-16	2	2½	1½		¼	4.30
SP3A	3" Sq.	.68	¾	3-4	3	3	1½	3"	½	3.90
†SP35A	3½" Sq.	.68	¾	3-4	3	3½	1½	3½"	¼	3.95
†SP35B	3½" Sq.	1.00	¾	3-4	3	3½	2	3½"	¼	4.35
SP4Y	4" Sq.	.55	¾	3-4	4	4½	1½	4½"	½	2.95
SP4Y-8	4" Sq.	.55	¾	8	4	4½	1½	4½"	½	3.25
SPL4A	4" Sq.	.68	¾	3-4	4	4½	1½	4½"	½	3.35
†SP4A	4" Sq.	.68	¾	3-4	4	4½	1½	4½"	¼	3.95
†SP4B	4" Sq.	1.00	¾	3-4	4	4½	2½	4½"	1	4.35
SP4D	4" Sq.	1.47	¾	3-4	5	4½	1½	4½"	¼	4.45
SP5Y	5" P.C.	.55	¾	3-4	4	4½	1½	4½"	½	3.50
SP5Y-8	5" P.C.	.55	¾	8	4	4½	1½	4½"	½	3.85
SPL5A	5" P.C.	.68	¾	3-4	4	4½	1½	4½"	½	3.80
SPR5A	5" Rnd.	.75	5/8	3-4	4	5	1½	4½"	¼	3.90
†SP5A	5" P.C.	.68	¾	3-4	4	4½	2½	4½"	¼	4.10
†SP5B	5" P.C.	1.00	¾	3-4	4	4½	2½	4½"	1	4.45
SP5D	5" P.C.	1.47	¾	3-4	5	4½	2½	4½"	1	4.60
SP52B	5¼" P.C.	1.00	¾	3-4	5	5½	1½	5½"	¼	4.75
SP52B-8	5¼" P.C.	1.00	¾	8	5	5½	1½	5½"	¼	5.10
†SP6A	6" P.C.	.75	¾	3-4	4	6½	2½	6½"	¼	4.75
†SP6B	6" P.C.	1.00	¾	3-4	5	6½	2½	6½"	¼	4.90
†SP6D	6" P.C.	1.47	¾	3-4	6	6½	2½	6½"	1	5.40
†SP6D-8	6" P.C.	1.47	¾	8	6	6½	2½	6½"	1	5.75
†SP6EL	6" P.C.	2.15	¾	3-4	8	6½	2½	6½"	1½	5.95
SP7B	7" P.C.	1.00	¾	3-4	6	7	2½	4 x 5"	1½	5.45
SP8B	7½" P.C.	1.00	¾	3-4	5	7½	2½	7½"	1½	6.45
†SP8D	7½" P.C.	1.47	¾	3-4	6	7½	3	7½"	1½	6.95
†SP8D-8	7½" P.C.	1.47	¾	8	6	7½	3	7½"	1½	7.25
SP8E	7½" P.C.	2.15	1	3-4	8	7½	2½	7½"	1½	7.25
†SP8F-8	7½" P.C.	3.16	¾	8	8	7½	3½	7½"	1½	8.75
SP8G	8" Rnd.	3.16	1	3-4	10	8½	3½	7½"	2	\$ 8.50
SP8J	8" Rnd.	6.80	1	3-4	12	8½	4½	7½"	3¼	11.30
SP8J-8	8" Rnd.	6.80	1	8	12	8½	4½	7½"	3¼	11.70
†SP10D	10" P.C.	1.47	¾	3-4	6	9½	4½	9½"	2	8.75
†SP10G	10" Rnd.	3.16	¾	3-4	12	10½	4½	9½"	2½	10.50
SP12D	12" Rnd.	1.47	¾	3-4	6	12½	5½	11½"	3½	10.00
SP12G	12" Rnd.	3.16	¾	3-4	10	12½	5½	11½"	4	12.50
SP12J	12" Rnd.	6.80	1	3-4	15	12½	6½	11½"	4½	14.55
SP12J-8	12" Rnd.	6.80	1	8	15	12½	6½	11½"	4½	14.90
SP46Y	4 x 6 Oval	.55	¾	3-4	3	4½ x 6½	1½	3½ x 4½	½	3.95
SP46A	4 x 6 Oval	.75	¾	3-4	4	4½ x 6½	1½	3½ x 4½	½	4.50
SP46B	4 x 6 Oval	1.00	¾	3-4	4	4½ x 6½	1½	3½ x 4½	¾	5.00
SP46D	4 x 6 Oval	1.47	¾	3-4	5	4½ x 6½	1½	3½ x 4½	¾	5.20
SP57Y	5 x 7 Oval	.55	¾	3-4	3	5 x 7½	2½	4½ x 6½	¾	4.50
SP57A	5 x 7 Oval	.75	¾	3-4	4	5 x 7½	2½	4½ x 6½	¾	4.95
SP57B	5 x 7 Oval	1.00	¾	3-4	4	5 x 7½	2½	4½ x 6½	1	5.25
SP57B-3	5 x 7 Oval	1.00	¾	8	4	5 x 7½	2½	4½ x 6½	1	5.65
SP57D	5 x 7 Oval	1.47	¾	3-4	5	5 x 7½	2½	4½ x 6½	1	5.75
SP57E	5 x 7 Oval	2.15	¾	3-4	8	5 x 7½	3½	4½ x 6½	1½	6.75
†SP69A	6 x 9 Oval	.68	¾	3-4	4	6 x 9½	3½	4½ x 6½	1	6.50
†SP69B	6 x 9 Oval	1.00	¾	3-4	4	6 x 9½	2½	4½ x 6½	1¼	6.75
†SP69D	6 x 9 Oval	1.47	¾	3-4	6	6 x 9½	3½	4½ x 6½	1¼	7.40
†SP69D-8	6 x 9 Oval	1.47	¾	8	6	6 x 9½	3½	4½ x 6½	1¼	7.80
†SP69E	6 x 9 Oval	2.15	1	3-4	8	6 x 9½	3½	4½ x 6½	1¼	7.75
†SP69G	6 x 9 Oval	3.16	1	3-4	10	6 x 9½	3½	4½ x 6½	2	9.40
†SP69J	6 x 9 Oval	6.80	1	3-4	12	6 x 9½	4½	4½ x 6½	3	10.35

All models are individually boxed and labeled.

Utah's new Z 700 transformer or speaker mounting bracket for use on Models SP25A, SP3A, SP4Y, SP4Y-8, SPL4A, SP5Y, SP5Y-8, SPL5A, SPR5A, SP6A, SP46A, SP46Y, and SP57A available at 25c each.

{Models indicated have transformer mounting brackets, or facilities

Utah's Z 575 exclusive angle mounting bracket, for use on Models SP35A, SP35B, SP4A, SP4B, SP5A, SP5B, and SP69A available at 30c each.

SPEAKERS, BAFLES AND SOUND REPRODUCERS BY UTAH PRECISION CRAFTED FOR STEREO AND ALL SOUND REPRODUCTION

Sec. 1320



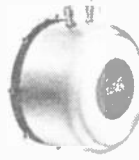
Utah's FABULOUS G quality speakers...sensibly priced



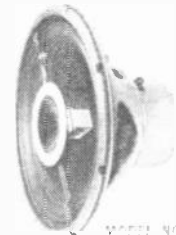
MODEL NO. G12J



MODEL NO. GM8J



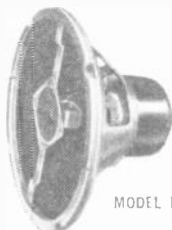
MODEL NO. GT5FN



MODEL NO. GT5F

MODEL NO.	SIZE & DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	FREQUENCY RESPONSE (CPS)	OUT-SIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
GT5F	5" Tweeter	3.16	3/4	8	30	3,000 19,500	5	2 1/16	4 1/16	1.4	\$ 8.75
GT5FN	5" Tweeter w Crossover	3.16	3/4	8	30	3,000 19,500	5	2 7/8	4 1/16	1.4	12.95
GM6F	6" Mid Range	3.16	3/4	8	8	1,500 7,000	6 1/2	3 3/8	6 3/32	3	11.60
G8J	8" Ext. Range	6.8	1	8	12	50/14,000	8 3/32	4 1/8	7 1/16	3	13.80
GM8J	8" Mid Range	6.8	1	8	25 w Crossover	600 13,500	8 3/32	4 1/8	7 1/16	3	13.80
GMT8J	8" Mid Range Tweeter	6.8	1	8	25 w Crossover	130 20,000	8 3/32	4 3/4	7 1/16	3 1/4	17.55
G8S	8" Woofer	1 lb.	2	8	20	40 8,000	8 3/32	4 1/4	7 1/16	5 1/2	4.95
G12J	12" Ext. Range	6.8	1	8	15	40 13,000	12 3/16	6 5/32	11 3/16	5	17.30
G12S	12" Woofer	1 lb.	2	8	25	35 8,000	12 3/16	6 3/16	11 3/16	5	18.90
G12P	12" Low-Mid Range	21.5	1 1/2	8	30	35 8,000	12 3/16	7 3/8	11 3/16	7 1/2	24.50
G15P	15" Low-Mid Range	21.5	1 1/2	8	35	30 8,000	15 1/8	8	14 3/16	10	44.25
G15R	15" Woofer	2 lbs.	2	8	40	20 5,000	15 1/8	8	14 3/16	12 1/2	56.75
G12J3	12" Co-Ax	6.8	1	8	15	35 17,500	12 3/16	7 7/16	11 3/16	5	39.75
G12P5	12" Co Ax	21.5	1 1/2	8	30	35 19,500	12 3/16	7 7/16	11 3/16	5	47.50
G15P5	15" Co Ax	21.5	1 1/2	8	35	30 19,500	15 1/8	8 1/4	14 3/16	12 1/4	65.00

SCOTSMAN series...true high-fi and stereo at budget prices



MODEL NO. CSP12J3



MODEL NO. TSP35A



MODEL NO SP8GC



MODEL NO. SP6DC

MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	FREQUENCY RESPONSE (CPS)	OUT-SIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
TSP35A	3 1/2" Tweeter	.68	9/16	8	10	Crossover to 12,000	3 1/32	2	3 1/32	1/4	\$ 5.50
TSP4A	4" "	.68	9/16	8	15	Crossover to 13,000	4 1/32	2 3/32	4 1/16	1/4	5.95
TSP5D	5" "	1.47	1 1/4	8	20	Crossover to 15,000	5	2 9/16	4 1/8	1/4	6.75
SP8GC	8" Dual Cone	3.16	1	8	10	70/10,000	8 1/32	4 3/32	7 1/8	3	10.95
CSP8G2	8" Co Axial	3.16	1	8	10	70/11,000	8 1/32	5 1/8	7 1/16	4	18.25
SP8JC	8" Dual Cone	6.80	1	8	12	45/14,500	8 1/32	4 1/16	7 1/8	4	16.50
SP12JC	12" Dual Cone	6.80	1	8	15	35/14,500	12 3/16	6 5/32	11 3/4	4 1/4	18.75
*CSP12J3	12" Co-Axial	6.80	1	8	15	40/15,500	12 3/16	7 1/2	11 3/4	4 1/2	24.00
SP15J	15" Low and Mid Range	6.80	1	8	20	35/5,000	15 1/8	6 7/8	14 3/8	5	27.75
CSP15J5	15" Co Axial	6.80	1	8	20	35/16,000	15 1/8	8 1/8	14 3/8	5 1/4	41.10
SP5/DC	5 x 7" Dual Cone	1.47	1 1/4	3.4	8	60/12,000	5 x 7 1/4	2 1/32	6 1/32	1/4	1.75
SP6DC	6 x 9" Dual Cone	1.47	1 1/4	3.4	8	50/13,500	6 1/2 x 9 1/4	3 1/8	4 3/8 x 6 1/8	1/4	4.00
SP69E	6 x 9" Dual Co Axial	2.15	1 1/4	3.4	10	50/10,000	6 1/2 x 9 1/4	4 1/32	4 3/8 x 6 1/4	3	1.45
CSP69E3	6 x 9" Co Axial	2.15	1 1/4	8	10	50/14,500	6 1/2 x 9 1/4	4 1/32	4 3/8 x 6 1/4	3	21.55

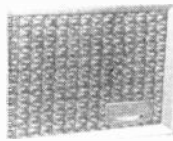
*Improved Model of CSP12H3.

SPEAKERS, Baffles AND SOUND REPRODUCERS BY UTAH PRECISION CRAFTED FOR STEREO AND ALL SOUND REPRODUCTION

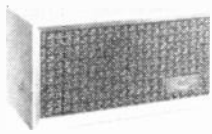
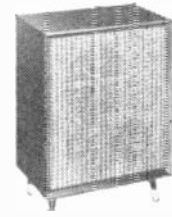


Utah's STEREO system and utah BAFFLES

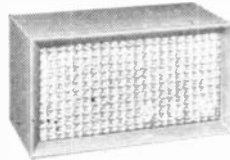
WALL-DESK OR TABLE MODEL SS101
Ideal, wherever space is at a premium. Stereo balance/monaural volume control.
Stereo audio watts: 5; imp 8 ohms. Size: 9 1/2" h x 13" w x 7" d. List price \$30.40.



CONSOLE MODEL SS103
Excellent 3 speaker system with presence/brilliance control. Stereo audio watts: 20; imp 8 ohms.
Size: 30 1/4" h x 21 1/2" w x 14" d. List price \$139.95. (Enclosure only, model SC103 \$69.30.)



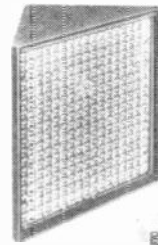
BOOKSHELF MODEL SS102
Stereo-flex type enclosure, two speakers and stereo balance control/monaural volume.
Size: 10" h x 20" w x 10 1/4" d. Stereo audio watts: 10, imp 8 ohms. List price \$63.50. (Enclosure only; Model SC102, \$25.60.)



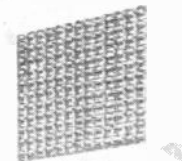
BOOKSHELF MODEL SA102
Complete with 10W push-pull 6V6's with high effective inverse feed-back circuit. Features dual input for ceramic or magnetic cartridges and transistor preamp. Imp 8 ohms. List price, \$110.95.

custom All Models feature Utah's fabulous new Dual Diameter Speakers. Available in three beautiful wood finishes. Mahogany, Oak, Danish Walnut.

STYLE	SIZE	MODELS			A	B	C	D	LIST PRICE
		MAHOGANY	OAK	WALNUT					
A	4 1/2	F45	PO45	F45	8 1/2	7 1/2	2 1/2	4 1/2	\$ 8.60
	6	F75	PO75	F75	8 1/2	7 1/2	2 1/2	4 1/2	9.10
	8	F108	PO8	F108	12	10	4	6	10.50
	12	F151	PO12	F151	17	14 1/2	5 1/2	8	14.5
B	8	CPM8	CP08	CF08	17 1/2	15 1/2	8		12.95
	12	CPM12	CF012	CF012	17 1/2	17 1/2	8		17.25
	12	AM8	A08	AW8					1.50
Mounting Bucks for Style "A" Baffles	6	AM6	A06	AW6					1.75
	8	AM8	A08	AW8					1.75
	12	AM12	A012	AW12					1.75

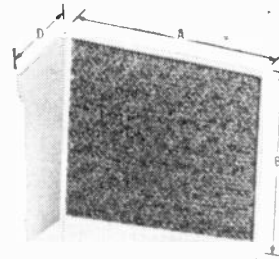


MODEL NO. CPMB (STYLE B)



MODEL NO. PM8 (STYLE A)

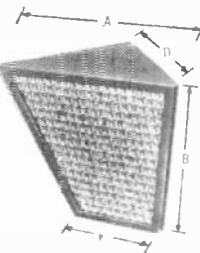
deluxe



STYLE	SIZE	MODELS		A	B	C	D	LIST PRICE
		MAHOGANY	BLONDE					
A	8	DM8	DB8					\$ 9.95
	12	DM12	DB12	17	14	4	6	14.70
B	8	DM8	DCB8	15 1/2	14	4	6	11.00
	12	DM12	DCB12	17 1/2	16	4	6	15.00

ADAPTOR BOARDS
Available in 6, 8, 10, 12" sizes. Prices \$ 8.10, 12.10, 15.10, 17.10. Includes transformer and wiring. Mounting hardware included.

MODEL NO.	SPK TO BAFF	LIST PRICE
AD 5h	5 to 6"	1.50
AD 8	8 to 9"	1.90
AD 8 1/2	8 1/2 to 10"	1.90
AD 8 1/2	8 1/2 to 12"	1.50
AD 10 1/2	10 1/2 to 12"	1.50



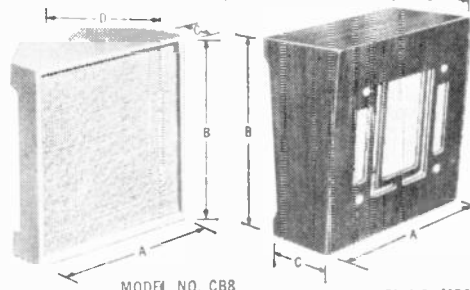
MODEL NO. DCM8 (STYLE B)

standard

SIZE	MAHOGANY	MODELS	BLONDE	A	B	C	D	LIST PRICE
6"	MB 6	BB 6		8 1/2	9 1/2	2 1/2	4 1/2	\$ 5.95
8	MB 8	BB 8		9 1/2	10 1/2	3 1/2	5 1/2	7.50
10"	MB 10	BB 10		11 1/2	12 1/2	4 1/2	6 1/2	8.95
12"	MB 12	BB 12		13 1/2	14 1/2	5 1/2	8 1/2	11.50

ECONOMY CORNER BAFFLES

SIZE	MODEL	LIST PRICE
8"	CM 8	7.75
12"	CM 12	10.50



MODEL NO. MB8

8" combination speaker and baffle

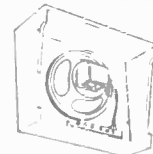
8 ohm speaker features effective 6.8 oz. Dual Diameter magnetic circuitry, 70.7 volt constant voltage transformer with taps at .62, 1.25, 2.5, 5, and 10 watts; assembled with volume control and terminal board. This ready-to-use system excellent for all indoor installations. Power handling capacity: 10 watts. 25 volt constant voltage line transformer available on special order.

STANDARD SERIES
BAFFLE SAME AS MB 8 & BB 8

MODEL	SIZE & FINISH	LIST PRICE
MB8-A	8" Mahogany	\$27.25
BB8-A	8" Blonde	27.25

DELUXE SERIES
BAFFLE SAME AS DM 8 & DB 8

MODEL	SIZE & FINISH	LIST PRICE
DM8-A	8" Mahogany	\$29.75
DB8-A	8" Blonde	29.75



MODEL NO. DB8-A

SPEAKERS, BAFFLES AND SOUND REPRODUCERS BY UTAH PRECISION CRAFTED FOR STEREO AND ALL SOUND REPRODUCTION

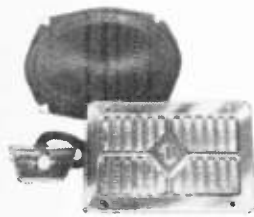
utah's AUTOMOTIVE rear deck systems

"RF" custom series



MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATTS)	SHIP. WT. (LBS.)	LIST PRICE
RF57B	5 x 7"	1.0	3/4	3-4	4	2	\$11.50
RF57E	5 x 7"	2.15	1	3-4	6	2 1/4	12.50
RF69B	6 x 9"	1.0	3/4	3-4	4	2 1/4	12.50
RF69E	6 x 9"	2.15	1	3-4	8	2 1/4	13.50
RF69EX	RF69E less grille	2.15	1	3-4	8	2 1/4	12.95
RFD69E	6 x 9" Dual Co Ax.	2.15	3/4	3-4	8	3	20.50
*RF62E	6" 3-way Spkr. Sys.	2.15	3/4	3-4	8	2 1/2	24.95

"DUO" deluxe series



MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATTS)	SHIP. WT. (LBS.)	LIST PRICE
R57A	5 x 7"	.68	3/4	3-4	4	1	\$ 7.35
R57B	5 x 7"	1.0	3/4	3-4	4	1	7.70
R69A	6 x 9"	.75	3/4	3-4	4	1 1/4	8.55
R69D	6 x 9"	1.47	3/4	3-4	6	1 1/2	9.40
R57DC	5 x 7" Co-Axial	1.47	3/4	3-4	4	1	11.50
R69DC	6 x 9" Co-Axial	1.47	3/4	3-4	6	1 1/4	12.50
*R62E	6" 2-Spkr. Sys.	2.15	3/4	3-4	8	2 1/2	18.95

*RF62E & R62E have regular 6 x 9 mounting dimensions.

rear deck control kits



MODEL NO.	DESCRIPTION	SHIP. WT. (LBS.)	LIST PRICE
RKF	Duo Deluxe Fader Control	1/4	\$2.50
RKS	Duo Deluxe 3-Position Switch	1/4	2.50
RDF	RF Custom Fader Control	1/4	5.95

utah's AUTOMOTIVE REPLACEMENT speakers

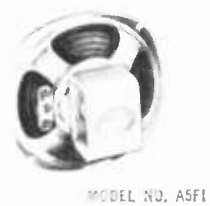
MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	OUTSIDE DIMENSION (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
SP52B	5 1/4" P.C.	1.00	3/4	3-4	5	5 1/4	1 1/4	5 1/2	1/2	\$ 4.75
SP6B	6" P.C.	1.00	3/4	3-4	5	6 1/2	2 1/2	6 1/2	3/4	4.90
SP7B	7" P.C.	1.00	3/4	3-4	6	7	2 1/2	4 1/4 x 5 1/4	1 1/4	5.45
SP57B	5 x 7" Oval	1.00	3/4	3-4	4	5 x 7 1/4	2 1/4	6 1/2	1	5.25
SP57E	5 x 7" Oval	2.15	1	3-4	8	5 x 7 1/4	3 1/4	6 1/2	1 1/2	6.75
SP57DC	5 x 7" Oval	1.47	3/4	3-4	8	5 x 7 1/4	2 1/2	6 1/2	1 1/4	7.75
SP69B	6 x 9" Oval	1.00	3/4	3-4	4	6 1/2 x 9 1/4	2 1/2	4 3/4 x 6 1/4	1 1/4	6.75
SP69E	6 x 9" Oval	2.15	1	3-4	8	6 1/2 x 9 1/4	3 1/4	4 3/4 x 6 1/4	1 1/4	7.75
SP69DC	6 x 9" Oval	1.47	3/4	3-4	8	6 1/2 x 9 1/4	3	4 3/4 x 6 1/4	1 1/4	9.00
SPD69E	6 x 9" Oval	2.15	3/4	3-4	10	6 1/2 x 9 1/4	4 1/2	4 3/4 x 6 1/4	3	17.45
*VW5E	5" P.C.	2.15	3/4	3-4	4	4 1/4	2 1/4	4 1 1/4	1	5.55

*Exact Replacement for Volkswagen and Foreign Cars.



utah's speakers for AIRCRAFT

MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V.C. DIA. (IN.)	V.C. IMP. (OHMS)	PEAK AUDIO (WATT)	OUTSIDE DIMENSION (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
A5F1	5" P.C.	3.16	3/4	45	9	4 1/4	2 1/4	4 1/4	1 1/4	\$7.75
A5C13	5" P.C.	1.47	3/4	30	5	4 1/4	2 1/4	4 1/4	1	6.95
A5C73	5" P.C.	1.47	3/4	3-4	4	4 1/4	2 1/4	4 1/4	1	7.35



SPEAKERS, BAFFLES AND SOUND REPRODUCERS BY UTAH PRECISION CRAFTED FOR STEREO AND ALL SOUND REPRODUCTION

utah PUBLIC ADDRESS permanent magnet speakers

DELUXE SERIES

MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V. C. DIA. (IN.)	V. C. IMP. (OHMS)	PEAK AUDIO (WATT)	FREQUENCY RESPONSE (CPS)	OUTSIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP WT. (LBS.)	LIST PRICE
PA6D	6"	1.47	3/4	8	8	70/6,000	6 1/2	2 1/8	6 1/4	1 1/2	\$ 5.95
PA6F	6"	3.16	3/4	8	8	90/8,000	6 1/2	3 1/4	6 1/4	1 1/2	7.50
PA8D	8"	1.47	3/4	8	8	70/7,000	7 1/2	3 1/4	7 1/8	1 3/4	8.10
PA8F	8"	3.16	3/4	8	8	70/8,000	7 1/2	3 1/2	7 1/8	1 3/4	10.50
PA8J	8"	6.8	1	8	9	60/8,000	8 3/2	3 1/2	7 1/8	3	13.80
PA10J	10"	6.8	1	8	12	60/7,500	10 3/2	4 3/2	9 3/4	3 3/4	14.95
PA12J	12"	6.8	1	8	15	50/8,500	12 3/4	5 1/2	11 3/4	5	17.30

SUPREME SERIES

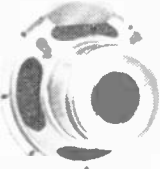
MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V. C. DIA. (IN.)	V. C. IMP. (OHMS)	PEAK AUDIO (WATT)	FREQUENCY RESPONSE (CPS)	OUTSIDE DIM. (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP WT. (LBS.)	LIST PRICE
PA8M	8"	14.7	1 1/4	8	20	50/7,000	8 3/2	4	7 1/8	4	\$25.95
PA10M	10"	14.7	1 1/4	8	20	50/6,000	10 3/2	4 3/2	9 3/4	4 3/4	27.50
PA12M	12"	14.7	1 1/4	8	25	50/7,000	12 3/4	5 1/2	11 3/4	6	33.50
PA12P	12"	21.5	1 1/2	8	30	40/6,500	12 3/4	6 3/2	11 3/4	7 3/4	39.50
PA15P	15"	21.5	1 1/2	8	30	30/6,000	15 1/4	8	14 3/4	10	42.65
PA15R	15"	31.6	2	8	40	30/5,000	15 1/4	8	14 3/4	12 1/2	56.75



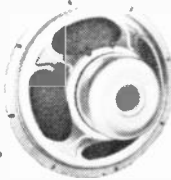
MODEL NO. PA8J



MODEL NO. PA6F



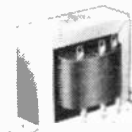
MODEL NO. PA8M



MODEL NO. PA15P

utah's line TRANSFORMERS

MODEL NO.	STYLE	PRIMARY IMPEDANCE/POWER	SECONDARY IMPEDANCE (OHMS)	NOMINAL WATTS	CORE SIZE	DIMENSIONS			MTG. CENTERS	SHIP WT. (LBS.)	LIST PRICE
						HEIGHT	WIDTH	DEPTH			
70.7 V CONSTANT VOLTAGE LINE											
CV702	A	2/1.5	8/4	—	3/4 x 3/4	1 1/4	1 1/2	1 1/4	1 1/4	1/2	\$3.05
CV705	A	5/2.5/1.25 .62/.31	8/4	—	1/2 x 1/2	1 3/8	1 3/4	1 3/8	2	3/4	4.00
CV7010	B	10/5/2.5 1.25/.62	16/8/4	—	3/4 x 3/4	2	1 3/4	1 1/2	2	3/4	4.55
CV7018	B	18/9/4.5 2.25/1.12	16/8/4	—	3/4 x 3/4	2 3/8	2	2	2 3/8	1 1/4	5.75
25 V CONSTANT VOLTAGE LINE											
CV252	A	2/1.5	8/4	—	3/4 x 3/4	1 1/4	1 1/2	1 1/4	1 1/4	1/2	3.15
CV255	B	5/2.5/1.25 .62/.31	8/4	—	1/2 x 1/2	2	1 3/4	1 3/4	2	1/2	4.50
CV2510	B	10/5/2.5 1.25/.62	16/8/4	—	3/4 x 3/4	2 3/4	2 1/4	2 1/4	2 3/4	1 3/4	5.60
CV2518	B	18/9/4.5 2.25/1.12	16/8/4	—	1 x 1	3	2 3/4	2 1/2	3 3/4	2 1/4	7.70
UNIVERSAL LINE (IMPEDANCE MATCHING)											
1633	A	500/1000 1500/2000	8/4	4	1/2 x 1/2	1 3/8	1 1/8	1 1/4	2	1/2	2.95
8747	A	500/1000 1500/2000	8/4	8	3/4 x 3/4	1 3/8	1 1/8	1 3/8	2 3/8	3/4	3.19
8749	B	500/1000 1500/2000	8/4	12	3/4 x 3/4	2 3/8	1 1/8	1 1/2	2 3/8	1 1/4	3.85



STYLE A



STYLE B

outdoor replacement speakers

MODEL NO. SP5B



MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V. C. DIA. (IN.)	V. C. IMP. (OHMS)	PEAK AUDIO (WATT)	OUTSIDE DIMENSION (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
SP4B	4" Sq.	1.00	3/8	3-4	4	4 3/2	2 1/8	4 1/8	1	\$4.35
SP5B	5" P.C.	1.00	3/8	3-4	4	4 3/8	2 3/2	4 1/8	1	4.45

inter-communication speakers

MODEL NO. SP35AI



MODEL NO.	SIZE AND DESCRIPTION	MAGNET WEIGHT (OZ.)	V. C. DIA. (IN.)	V. C. IMP. (OHMS)	PEAK AUDIO (WATT)	OUTSIDE DIMENSION (IN.)	DEPTH (IN.)	MTG. DIA. (IN.)	SHIP. WT. (LBS.)	LIST PRICE
SP35AI	3 1/2"	.68	3/8	45	4	3 1/2	1 2/2	3 1/2	3/4	\$3.75
SP4AI	4"	.68	3/8	45	4	4 3/2	1 2/2	4 1/8	3/4	3.95
SP5AI	5"	.68	3/8	45	4	4 3/8	2 1/8	4 1/8	3/4	4.10

SPEAKERS, BAFLES AND SOUND REPRODUCERS BY UTAH PRECISION CRAFTED FOR STEREO AND ALL SOUND REPRODUCTION

TELEX ... QUALITY HEADSETS AND ACCESSORIES

Telex Park, St. Paul 1, Minn.



TWINSET®

Perfect for amateur, commercial, and industrial communications, the Twinset is CAA approved and is standard equipment on airlines and private planes. Comfort replaces listening fatigue. Adjustable tone arms pipe sound into ears, blocking out background noise, yet ear tips need not even touch user's ear. Weighs 1.6 oz. and has 5' cord and standard phone plug. Special cord with built-in miniature volume control also available.

Sensitivity is 101 db above .0002 dynes per sq. cm. for 10 microwatts input.

Stock Number	Catalog Number
#3791—TWINSET, 64 ohm imp. complete, std. cord.	HTL-2
#3775—TWINSET, 1000 ohm imp. complete (CAA app.), std. cord	HTX-2
#3781—TWINSET, 64 ohm imp. LESS CORD.	HTL-01
#3776—TWINSET, 1000 ohm imp. LESS CORD (CAA app.).	HTX-01
#2846—Volume Control Cord, 64 ohm imp.	VVM-2
#2845—Volume Control Cord, 1000 ohm imp.	VXM-2

TELE-FI®

Sound reaches one ear before the other ear to provide "depth of sound" and 30% better understanding. Ideal for secretaries, order board operators, monitoring, etc. Weight of only 1/2 oz. Replaceable foam ear tips assure maximum comfort. Standard phone plug and 5' cord included.

Sensitivity provides comfortable listening at 1 milliwatt input. Frequency response: 50 to 5,000 cycles. The Tele-Fi chin band is usable with all Telex transistor receivers.



Stock Number	Catalog Number
#18135—TELE-FI, 15 ohm, std. cord	HFR-91
#18035—TELE-FI, 128 ohm, std. cord.	HVF-91
#18020—TELE-FI, 1000 ohm, std. cord.	HFX-91
#18160—TELE-FI, 2000 ohm, std. cord	HFY-91

TV LISTENER

Youngsters can view TV without disturbing family. Also ideal for institutions and hard-of-hearing. Two can use at the same time. Switch to turn TV speaker on or off, volume control, and 15' cord included. Child can use easily and safely.



Stock Number	Catalog Number
#9900—LISTENER, complete, one Earset.	LCP-90
#9338—Extra Earset, cord & plug.	ELV-98

TELE-SET®

Unique multi-type headset used extensively for electric organ practice. Also popular in office, shop, studio, or lab. The receiver is in the special plug, and sound is piped through acoustic tubing to the thin Plexiglas ear cushions. Total weight only 1.6 oz. Special plug and 5' acoustic tube included.



Stock Number	Catalog Number
#8825—TELE-SET, Complete, 128 ohm	HSV-01
#9316—TELE-SET, Complete, 2000 ohm.	HSY-01



PILLOW SPEAKERS

Comfortable radio, sound, tape recorder or TV listening through pillow. Popular in hospitals and homes because you listen without disturbing others, also for learn-while-sleep applications. DYNAMIC type features stainless steel housing with a hanger. Weighs 4 oz. and measures 3 1/4" x 1 1/8". MAGNETIC type has unit molded maroon case. Diaphragm is rust and moisture proof and hermetically sealed. Can be sterilized by submerging in alcohol. Weighs 2.6 oz. and measures 2 1/4" x 1/4". BOTH TYPES come with 5' cord and standard phone plug. Miniature plug available. Sensitivity of Dynamic Speaker is 1 milliwatt input to speaker for comfortable listening level.

Stock Number	Catalog Number
#8110—DYNAMIC PILLOW SPEAKER, 3.2 ohm imp.	SDN-2
#8130—DYNAMIC PILLOW SPEAKER, 10,000 ohm imp.	SDM-2
#8197—DYNAMIC PILLOW SPEAKER, 10,000 ohm imp. with volume control cord	SDM-7
4500—MAGNETIC PILLOW SPEAKER, 128 ohm imp.	SMV-2
4530—MAGNETIC PILLOW SPEAKER, 2000 ohm imp.	SMY-2
4501—MAGNETIC PILLOW SPEAKER, 128 ohm imp. NO CORD	SMV-01
4531—MAGNETIC PILLOW SPEAKER, 2000 ohm imp. NO CORD	SMY-01
#2846—Volume Control Cord, MAGNETIC ONLY, 128 ohm imp.	VVM-2
2844—Volume Control Cord, MAGNETIC ONLY, 2000 ohm imp.	VYM-2
9238—Volume Control Cord, DYNAMIC ONLY, 10,000 imp.	VMD-2

MONOSET®

Here's the ORIGINAL under-chin, lightweight headset. Ideal for listening systems, business machines, radio and record listening, broadcasting, and nearly any other application. Weighing only 1.2 oz., it is complete with 5' cord and standard phone plug. Sensitivity is 88 db above .0002 dynes per sq. cm. for 10 microwatts input. Frequency response: 100 to 6500 cycles.



Stock Number	Catalog Number
#18183—MONOSET, 128 ohm, complete, std. cord.	HMV-2
18184—MONOSET, 2000 ohm, complete, std. cord.	HMY-2
#18185—MONOSET, 128 ohm, with volume control cord.	HMV-7
#18186—MONOSET, 2000 ohm, with volume control cord.	HMY-7
#18110—MONOSET, 128 ohm, NO CORD	HMV-01
18165—MONOSET, 2000 ohm, NO CORD.	HMY-01
#9241—CORD, Standard (for metal monoset).	CMT-2
#3280—CORD, Standard (for plastic monoset)	CMH-2

TELE-TWIN®

The new Telex Tele-Twin provides ideal balance for stereophonic listening. Permits adaptation of monaural to stereo without costly second speaker. Tele-Twin is a magnetic unit with superior listening qualities (especially in base response) . . . complete with in-line jack and cordage.



Catalog Number	Stock Number
HAV-13	For voice-coil impedances.
HAY-13	For higher impedances than above.

EARSETS

Modern, miniature earphone that slips on the ear. Unlimited single phone applications including transcribing, phone order, lab, record shops, dispatching, multiple listening, transistor radios, etc. Uses one ear leaving the other free. This sealed unit weighs 1/2 oz. and will fit any ear. Available with plastic or slim, plastic-covered metal earframes. Standard phone plug and 5' cord included.

METAL PLASTIC

	with PLASTIC earframe	with METAL earframe
	Stock Number	Stock Number
EARSET, 15 ohm imp.	#18134	#18092
EARSET, 128 ohm imp.	#18056	#9334
EARSET, 1000 ohm imp.	#18058	#9335
EARSET, 2000 ohm imp.	#18138	#18140
#12045—Volume Control Cord, 128 ohm imp.		VVT-2
#12046—Volume Control Cord, 1000 ohm imp.		VXT-2



STANDARD AND DELUXE TELETHIN® TRANSISTOR RADIO EARSETS

Engineered in the great tradition of Telex quality. Provides a measurably flatter response than other similar units. Weighs less than an ounce complete with flex-tested three-foot cord and earloop. Price of Standard Earset is competitive with foreign imports. Earsets are packaged individually in pocket-size "jewelike" plastic boxes—6 Standards or 4 Telethins to a merchandise display carton. Models to fit all transistor radios.

Deluxe Telethin		Telex Standard		To Fit Following Radios
Stock Number	Catalog Number	Stock Number	Catalog Number	
#18116	ETR-92	#18681	ESR-92	Admiral, Dewald, Hoffman, Motorola, Philco, Regency, Roland, Travler, Western Auto, Zenith, Arvin other than 8576 and 9577P, and RCA other than RCA T-1
#18117	ETR-93	#18682	ESR-93	Emerson, GE 710, GE 720 and 725
#18118	ETR-94	#18683	ESR-93	GE 715 and 675
#18120	ETR-95	#18680	ESR-95	Magnavox, Packard Bell, Roland, Sentinel, Sonora, Bulova 900B, Spartan and Westinghouse
#18315	ETR-90	#18684	ESR-90	Assorted carton of 4 Deluxe Telethin Earsets
				Assorted carton of 6 Telex Standard Earsets

BOOM-MIKE HEADSET



This lightweight, 3½-ounce, two-way headset is ideally suited to airline, ham radio, television, ship-to-shore and switchboard use. Parallel connected 500-ohm receivers are mounted on stainless spring-steel headband. Adjustable tone arms transmit sound directly to ears—no heavy, sweaty cans. Mike is mounted in shock absorbing tenite at end of fully adjustable boom—angled for best pickup. Choice of general purpose 50 ohm carbon mike (output 30 db above 1MV)—also reluctance, crystal and noise-cancelling dynamic types with -50, -45 and -52 db below 1 Volt/Microbar output, respectively.

BE SURE TO ORDER BY CATALOG NUMBER

Stock Number

- #18260—Headset w/double receivers and 5' cord w terminal clips less plug
- #18250—Headset w/single receiver and cord as above
- #18240—Headset w no receivers, mike only and cord as above
- #18230—TV type headset w/double receivers, split phone & cord as above
- #18200—Headset w/double receivers, no cord
- #18220—Headset w/single receiver, no cord
- #18235—Headset—split phone, no cord
- Cord unit w/term, lugs packed separately, no plug
- Aircraft-type cord w/PL-55 and PL-68 or equivalent
- Aircraft-type cord w/push-to-talk switch
- Standard cord w/PL-68 or equivalent
- Switchboard-type cord w/standard plug
- "Y" cord, 6 conductor, for headset #18235 w/term. lugs packed separately, no plug

SUB-MINIATURE JACKS AND PLUGS

Miniature phone plug and closed-circuit jack, ¼ the size of previous models, are ideal for computing devices, dictating machines, transistor radios, tape recorders, and similar applications. Jack has nickel-plated brass bushing, .228" dia. mounting, grade XXXP phenolic insulator. Plug is nickel-plated brass, nylon insulator, and Tenite II housing (flesh or gray).



Stock Number		Catalog Number
9245—JACK, closed circuit panel mnt		JMP-01
12102—JACK, open circuit, panel mnt.		JMP-02
9231—PLUG, straight		PM-01
# 9199—Display Cord		PJM-24D
12162—Two pronged, standard switchboard plug, gray Nylon housing for telephone switchboards and broadcast jack panels		PS-01

Catalog Numbers for the Boom Headset

Carbon	Reluctance	Crystal	Dynamic
BCW-12	BRW-12	BXW-12	BDW-12
BCW-11	BRW-11	BXW-11	BDW-11
BCO-1	BRO-1	BXO-1	BDO-1
BCW-13	BRO-13	BXW-13	BDW-13
BCW-02	BRW-02	BXW-02	BDW-02
BCW-01	BRW-01	BXW-01	BDW-01
BCW-03	BRW-03	BXW-03	BDW-03
CBE-14	CBE-14	CBE-14	CBE-14
CBE-54	CBE-54	CBE-54	CBE-54
CBE-34	CBE-34	CBE-34	CBE-34
CBE-24	CBE-24	CBE-24	CBE-24
CBE-44	CBE-44	CBE-44	CBE-44
CBE-96	CBE-96	CBE-96	CBE-96

SUB-MINIATURE TRANSFORMERS



Designed for transistorized circuits in radios, paging units, hearing aids, and other audio and ultrasonic applications. High permeability cores and light weight. Series A weighs 4.5 grams, measures 1/8" x 1/16". Series B weighs 2.4 grams, measures 3/8" x 3/16". Series C is 1/16" x 11/16" x 3/8".

STOCK NO.	TYPE	SERIES	PRI. IMP.	SEC. IMP.
8641	Input	A	200 M	1 M
8642	Interstage	A	20 M	1 M
8643	Output	A	1 M	100
8901	Interstage	B	20 M	1 M
8918	Input	C	10	150 M
8929	Output	A	600	8
8978	Output	A	2M-CT	125
8982	Reactor	A	10 Hen. @ .5 ma 900 ohm DC	
11135	Input	B	200 M	1 M
11137	Output	B	1200	50
11138	Output	A	1 M	10

MINI-MIKE®

Performs ideally in any application requiring a miniature electro-acoustic transducer—including dictating machines, transceivers, etc. A dynamic speaker and microphone are housed in case 1" x 1" x 3/8" weighing 1 1/2 oz. Impedance is 10 ohms. Sensitivity as mic. is 52 db below 1 volt per dyne per sq. cm. of sound pressure (with match, xfmr.). Sensitivity as speaker is 124 db with 10 milliwatts of power input.



Stock Number		Catalog Number
#9155—MINI-MIKE, Model 100		MDP-01
#8918—Matching Xformer, input to grid, 10 to 150K		

TRANSISTOR RECEIVER (MINIATURE EARPHONES)

This transistor receiver is designed for use in portable radios, paging systems, and other miniature audio applications. Sensitivity is 118 db above .0002 dynes per sq. cm. at 1 milliwatt of power at 1000 cycles. Maximum power recommended: 25 mw. Weighs only 1/4 oz. and measures 1/2" x 1 3/8". Can be used with a variety of cords available from Telex.



Stock Number		Catalog Number
7688-R4—15 ohm imp., D.C. Resistance 5		RTR-04
#7692-V4—128 ohm imp., D.C. Resistance 27		RTV-04
7694-W4—500 ohm imp., D.C. Resistance 115		RTW-04
#7696-X4—1000 ohm imp., D.C. Resistance 200		RTX-04
#7698-Y4—2000 ohm imp., D.C. Resistance 300		RTY-04

STANDARD CORDS

LESS VOLUME CONTROL, COLOR GRAY, LENGTH 5' PLUG TYPE



	TO FIT Plastic Monoset, Twinset Magnetic Pillow Speaker		TO FIT Metal Monoset, Tele-Fi, Tela-Ear TV Listener, Plastic Earset, & Metal Earset		TO FIT Dynamic Pillow Speaker	
	Stock Number	Catalog Number	Stock Number	Catalog Number	Stock Number	Catalog Number
Standard Phone Plug	3280	CMM-2	# 9241	CMT-2	4230	CSD-2
Less Plug—Eyelets Only	#3280-22	CMM-1	# 9241-22	CMT-1	Available on Request	
Right angle Miniature Phone Plug	9200	CMM-92	#12047	CMT-92		
Straight Miniature Phone Plug	#9225	CMM-98	#12048	CMT-98		
Extension Cord 5' Long	#8555	CMM-99	#12246	CMT-99		

VOLUME CONTROL CORDS, STANDARD LENGTH 5', STANDARD PHONE PLUG



Speaker Impedance	To Fit: Plastic Monoset		Twinset		Magnetic Pillow Speaker		Dynamic Pillow Speaker		Metal Monoset Earsets, Tela-Ear Tele-Sets	
	Stock Number	Catalog Number	Stock Number	Catalog Number	Stock Number	Catalog Number	Stock Number	Catalog Number	Stock Number	Catalog Number
64 ohm.			#2846	VVM-2						
128 ohm.	#2846	VVM-2			#2846	VVM-2			#12045	VVT-2
500 ohm.	#2845	VVM-2								
1,000 ohm.			#2845	VVM-2					#12046	VXT-2
2,000 ohm.	#2844	VYM-2			#2844	VYM-2			#12172	VYT-2
10,000 ohm.							#9238	VMD-2		

EARTIPS AND ACCESSORIES



Stock Number	Catalog Number	Stock Number	Catalog Number
# 3374—Eartips, Plastic Monoset	AMT-1	#18036—Lucite Ear Frame	AEF-1
# 6710—Eartips, Metal Monoset & Dynaset.	AMT-2	# 9252—Metal Ear Frame	AEF-2
# 3756—Twinset Eartips, Plastic (white).	ATT-1	#18009—Tele-Fi Plastic Foam Cushions	AFT-1
# 9635—Twinset Eartips, Rubber (black).	ATT-2	#18068—Under Chin Tube Complete.	AFC-1
# 8834—Acoustical Shell—Tele-set	ASM-1	# 3756—Plastic (white).	ATT-1
#18013—Acoustical Shell—Tela-ear	AEM-2	# 9635—Rubber (black).	ATT-2
#18304—Nylon Ear Loop	AEF-3		

TELEX INC • ST. PAUL 1, MINNESOTA

TRIMM

HEADSETS AND ACCESSORIES



FEATHERWEIGHT

The original light weight headset. Extensively used by amateurs, dx listeners, commercial operators, etc. Bakelite shell and cap; 6 ft. water-resistant cord, concealed terminals; choice of variety of headbands. Weight 4½ oz. Available in all standard ohmages.

AMATEUR SPECIAL — 24,000 Ohm Impedance

- No. 106—Double headset, single metal-band headband (as pictured above) 5M ohms d.c. resistance \$11.00
- No. 107—Double, fabric covered double wire band headband (as pictured at right) 5M ohms d.c. resistance \$11.00

STANDARD — Specify Ohmage in Ordering

Standard Featherweight headsets available in 4, 152, 2M and 4M ohms d.c. resistance (Impedance approx. 5 times d.c. resistance)—

- No. 100—Double headset, single metal band headband (as pictured above) \$11.00
- No. 104—Double, fabric covered double wire band headband (as pictured to right) \$11.00



PROFESSIONAL

The original TRIMM headset, and the choice of countless users. Watch case bi-polar design. Cap and shell of molded bakelite. Tinsel conductor, braided cord, 5 ft. long, enclosed terminals. Adjustable vinyl plastic covered wire headband. Recommended for general radio communication, electronic testing applica-

tions, etc. Standard resistances for double headsets 4, 78, 2M, 3M, and 4M ohms d.c. (Impedance approx. 7 times resistance.)

- No. 70—Double (4M ohms furnished if not specified) \$5.80
- No. 72—Single (2M ohms max.) 3.30
- No. 76—Single (2M ohms max.) 4 ft. cord. Has eyelet attached to unit to permit hanging on hook. No headband supplied. Used on intercom systems, etc. 3.30



COMMERCIAL

Extremely light weight yet one of the most rugged headsets built. Originally developed for marine and aircraft service. Recommended for heavy duty commercial radio service, amateur radio, etc. High impact bakelite cap and shell. Cord, 6 ft. long, tinsel, plus rubber insulation, plus



high grade mercerized cotton outer braid, enclosed terminals. No. 156 and 157 have 501 plug attached, others without plug. No. 151 and 152 have off-the-shoulder cords. Rubber covered headband.

- No. 156—Double (600 ohms impedance) \$15.00
- No. 157—Double (17M ohms impedance) 15.00
- No. 158—Double (600 ohms impedance) 13.50
- No. 159—Double (17M ohms impedance) 13.50
- No. 151—Double (specify ohmage). Headband similar to type used on No. 100 12.10
- No. 152—Double (specify ohmage). Headband fabric covered wire type similar to type used on No. 104 12.10

EAR CUSHIONS



Provide the user with maximum comfort in wearing headsets, also exclude outside disturbing noises if present. All prices per pair.

- No. 654 —Sponge rubber, fits TRIMM Featherweight, Commercial, Acme, Rex, and "E" types \$ 1.60
- No. 655 —Solid rubber, military type MC-162A. Fits TRIMM "S" and Permo-flux headsets, military type ANB-H-1 units 3.00
- No. 656 —Sponge rubber face, solid rubber back, military type MX-41/AR. Fits same types as No. 655 but recommended as being better choice 4.20
- No. 658 —Chamois donut type cushion, military type NAF 48490-1. Fits same types as No. 655 8.50
- No. 658-2—Same general design as No. 658 but fits Brush type A headset. 11.00
- No. 660 —Sponge rubber, Fits TRIMM Dependable, Professional, "K", and "W" headsets 2.50

Ohmages given are d.c. resistance unless specifically indicated as impedance which is about 4-7 times the d.c. resistance.

ACME

The superior low-cost, light weight headset. Used on crystal sets, educational electronic kits, Geiger counters, etc. Cap and shell of molded bakelite. Cord, 4½ ft. long; double headsets, braided cord sets, single earphones, flexible vinyl covered cord, concealed terminals. Several headband styles. Specify ohmage.



- No. 24 —Double, 2M ohms, vinyl covered headband \$4.20
- No. 24 —Double, 4M ohms, vinyl covered headband 4.35
- No. 24-5—Double, 4 ohms, vinyl covered headband 4.10
- No. 24-8—Double, 4 ohms, vinyl covered headband & No. 511 plug attached 5.00
- No. 25 —Double, 2M ohms, metal headband (as pictured) 3.60
- No. 25 —Double, 4M ohms, metal headband 3.90
- No. 25-5—Double, 4 ohms, metal headband 3.50
- No. 27 —Single, 1M ohms, metal headband 2.15
- No. 27 —Single, 2M ohms, metal headband 2.35
- No. 27-5—Single, 2 ohms, metal headband 2.10
- No. 27-8—Single, 2 ohms, metal headband & No. 511 plug attached 3.00

DEPENDABLE

When a high grade headset is desired, but price must be considered, choose the Dependable. Used by institutions, on general radio applications, etc. Bi-polar construction, bakelite cap and shell. Forged magnet. Tinsel conductor braided cord, 5 ft. long, concealed terminals. Vinyl covered wire headband, adjustable.



- No. 65 —Double, 2M ohms \$4.80
- No. 65-5—Double, 4 ohms 4.80
- No. 67 —Single, 1M ohm 3.00
- No. 65-3—Double, 2M ohms, similar to No. 65 except uses special 6 ft. plastic covered cord No. 890. Designed especially for use on institutional radio systems as cord can be washed, etc. 5.75

REX

The lowest cost TRIMM bi-polar headset. Bakelite shell and cap. Cord 4½ ft. long; double headsets braided, single earphones vinyl covered, concealed terminals. Adjustable headband. Specify ohmage.



- No. 30 —Double 2M ohms \$4.35
- No. 30 —Double 3M ohms 4.70
- No. 30-5—Double 4 ohms 4.35
- No. 32 —Single 1M ohms 2.55
- No. 32 —Single 1½M Ohms 2.75
- No. 32-5—Single 2 ohms 2.55

ARMY-NAVY



Built for severe use. Design has been accepted standard in years past. Bakelite cap, metal shell. Rubber covered headband. Waterproof cord. Available in two impedances.

- No. 28—Double, 112 ohms d.c.—600 ohms impedance \$20.00
- No. 29—Double, 2200 ohms d.c.—20M ohms impedance 20.00

See Facing Page for TRIMM hearing aid equipment and other headsets and accessories.

See pages 762, 763 for listing of TRIMM Plugs, Jacks, Patch Cords, and Jack Panels. For complete listing see Trimm General Catalog.

Prices subject to change without notice.

TRIMM

HEADSETS AND ACCESSORIES

GROUP HEARING AID COMPONENTS Single Earphones



The most widely used single earphones for group hearing aid systems in churches, theatres, mortuaries, etc. are of the TRIMM Featherweight type. Available with either lorgnette handles, or with single headbands. Standard ohmages: 76, 1000, and 2000 ohms d.c. For use with low (less than 100 ohm), medium (100-500 ohm) and high (500 ohms and over) lines respectively. Require phone plug such as TRIMM No. 512 for use with Outlet Boxes described below.



- No. 110—Headband type (specify ohmage) \$8.00
- No. 120—Lorgnette type (specify ohmage)..... 9.10

OUTLET BOXES and CONTROLS

Boxes No. 460 and 461 are recommended for the majority of installations, combines volume control and jack in one unit. Box has all rounded corners and edges. No. 460 has brown hammertone finish, No. 461 glossy ivory for improved visibility in theatres. Standard ohmages: 1000 ohms for low impedance lines, 10,000 for high. Other ohmages available, i.e. 500M ohms for crystal earphones, at slightly higher cost.



A large variety of variations of basic box and volume controls, switches, jacks, etc. available to order for centralized radio systems.

- No. 460—Outlet Box (specify ohmage) \$5.50
- No. 461—Outlet Box (specify ohmage) 5.50
- No. 477—Outlet Box, dual jacks, no control, brown finish..... 3.85
- No. 478—Outlet Box, dual jacks, no control, ivory finish..... 3.85
- No. 484—Outlet Box, single jack, no control, brown finish..... 3.30
- No. 485—Outlet Box, single jack, no control, ivory finish..... 3.30

FLAT NON-PROTRUDING PLUG

TRIMM No. 512 provides a compact, non-protruding design widely used in group hearing aid installations. Bakelite body practically non-breakable. Fits standard jacks. Cord pin tips held by set screws.



- No. 512 —Black \$0.87
- No. 512-1—Red 0.87
- No. 512-2—Black with hook for hanging headset 1.32

PILLOW-PHONE

Designed for use as a miniature speaker for under pillow use at home, in hospitals, etc. Very thin disc shaped, 2" dia. x 27/64" thick. Sealed unit is entirely moisture-proof and tamper-proof. Face of stainless steel, back



of molded high impact bakelite. Flexible rubber cord, 6 ft. long, is anchored to unit under terminal cover plate that cannot be readily removed by user. Normally furnished with standard TRIMM No. 501 plug, but other types available. May be cleaned in disinfecting solutions. Supplied in 8, 300, and 2000 ohms impedance.

- No. 85 — (Specify ohmage) \$11.00

CONTACT FACTORY FOR HEADSET ACCESSORIES AND REPLACEMENT PARTS.

Copyright by U. C. P., Inc.

"S" HEADSET

Designed particularly for broadcast stations and other high fidelity applications. Response is substantially flat through all essential frequencies.

Shell and cap of molded plastic, Alnico V magnet, floating diaphragm with controlled compliance provide uniform response unaffected by temperature. Units usually provided with TRIMM No. 656 ear cushions, but other types available. Headband leather covered double band with mounting for unit providing restricted rotation to prevent cord snarl.

Available for military applications in modified form under various code numbers such as HS-33A, etc.



- No. 35 —Double Headset, 8 or 600 ohms impedance, two conductor off-the-shoulder type flexible neoprene cord terminated with TRIMM No. 501 plug \$28.00

STEREO HEADSETS

All TRIMM headsets can be supplied with special cords for stereo reception. Below are the most commonly produced types.

- No. 35-14—Stereo Headset, 4 or 300 ohms impedance per unit, split circuit three conductor off-the-shoulder type braided cord terminated with TRIMM No. 508 plug (0.206" dia.) \$32.00
- No. 50-14—Stereo Headset, 4, 300, or 6M ohms impedance per unit, split circuit three conductor Y-shaped braided cord terminated with No. 508 plug (0.206" dia.) 26.00
- No. 70-14—Professional Series, with No. 513 plug attached. 10.50
- No. 187 —Commercial Series, with No. 509 plug attached. 19.80

"L" HEADSET

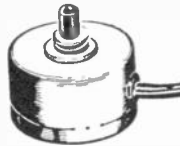
Intended especially for high quality communications systems requiring extended frequency range. Embodies a new electro-magnetic design. Lightweight, and more comfortable wearing than most high grade headsets.

Floating diaphragm provides response unaffected by temperature. Available in 8 ohms, 600 ohms, and 7M ohms impedance per headset; (one half this per unit for binaural types).

- No. 50 Double Headset, (Specify ohmage), with nylon braided, waterproof Y-shaped cord and No. 501 plug attached \$22.00
- No. 50-5 Double Headset, Military version, equivalent to No. 49985A. \$28.00

"STOP-IT" COMMERCIAL TRIMMER

Permits user to turn off audio signal of TV or radio set without getting up from chair, giving listener freedom to choke off unwanted commercials. Other uses that suggest themselves are to suppress loudspeaker when phone rings, etc.



- No. 639—"STOP-IT" (Illustrated at left) consists of housing containing switch to which is attached 15 ft. cord ready to install in accordance with instructions with each unit \$3.40

HEADSET KITS for TV and RADIO

Kits described provide simple means of attaching headset or extension speaker to TV or radio sets. Consists of one of several types of headsets and a small outlet box with attached 15 ft. cord. Box has remote on-off switch for loudspeaker and volume control for headset. Two jacks provided for multiple listening.



- No. 631 —Outlet Box only \$ 7.15
- No. 632 —Kit—Outlet Box plus one double Acme headset and plug 12.15
- No. 632-1—Kit—Outlet Box plus one single Acme earphone and plus 10.35
- No. 633 —Kit—Outlet Box plus one double Dependable headset and plug 12.75
- No. 634 —Kit—Outlet Box plus one double Featherweight headset and plug 12.75
- No. 635 —Kit—Outlet Box plus one single Commercial earphone and plug. Recommended for hard of hearing 15.10
- No. 637 —Kit—Outlet Box plus one Pillow-Phone and plug 16.90

See General Catalog for added information on "STOP-IT" and Headset Attachment Kits.

Use Index (pg. 2) for Quick Location of ALL Products

The MASTER — 24th Edition

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Page 171

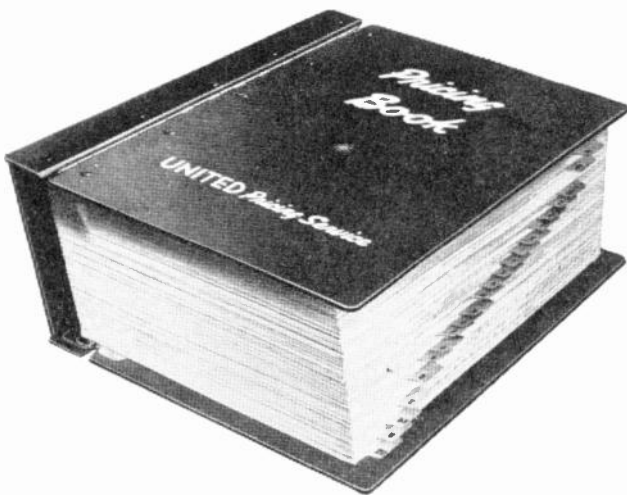
PRICES

All prices listed in The MASTER are subject to change without notice — they should not be considered final.

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DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

THE NEW TURNER MODEL 250

IDEAL FOR USE IN:

POLICE DISPATCH



CONTROL TOWER



PAGING SYSTEMS



TURNER MODEL 250

Handsome all chrome finish on the deluxe model 250 dynamic mike with exclusive triple-switching action: push-to-talk, Lever-Lock, and lift switch. Will do any and all dispatching or P.A. work. Wired to operate both mike and relay circuits at a touch—no gripping necessary. Single unit die-cast case. Just the mike for police, taxi stands, railroad, control towers, etc. Complete with 20' three conductor (one shielded) cable. Response 60-10,000 c.p.s. Output level -52 db. Hi impedance.

List Price\$49.50

TURNER MODEL 251

Same as model 250 except 150 ohms impedance, 20 ft. four conductor (2 shielded) cable.

List Price\$49.50

TURNER MODEL 252

Low cost dispatcher type dynamic microphone, same as model 250 except gray Hammertone finish and without lift switch. Seven foot three conductor (one shielded) cable. Output level -52 db.; response 60-10,000 c.p.s.

List Price\$36.50

TURNER MODEL 253

Same as model 252 except low impedance (150 ohms); four conductor (two shielded) seven foot cable.

List Price\$36.50

TURNER MODEL 254

Crystal mike with same style and finish as model 252. Has touch-bar on-off switch and Lever-Lock on-off

switch. Extreme versatility at low cost. Excellent for amateur communications. Output level -48 db. Response 60-8,000 c.p.s. Complete with 7 foot single-conductor shielded cable.

List Price\$23.50

TURNER MODEL 255

Crystal interior; Gray Hammertone finish. Specifications same as model 254 except without switching arrangements of any kind.

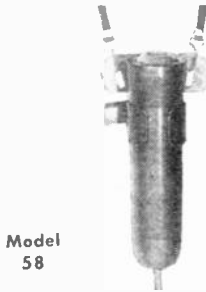
List Price\$16.00

TURNER MODEL 256

Crystal version of model 250. Response: 60-8,000 c.p.s. Output level: -48 db. Complete with 20 ft., three conductor (one shielded) cable.

List Price\$35.00

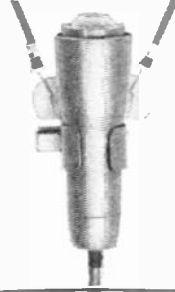
TURNER BROADCAST & TV MICROPHONES



Model 58



Model 210A



Model 220A



Model 98



MODEL 57 DYNAMIC

Smooth, high-level response at a reasonable price makes the Model 57 the best buy on the market. Hinged coupler with 5/8"-27 thread, Dynaflex diaphragm. Satin black finish. Quick disconnect Cannon XE-4 connector. 20-ft., 3-conductor shielded cable. Response, 50-15,000 cps. Level, -53 db. Impedance, wired for selection of high or 150 ohm. (Model 57A wired for selection of 50 or 200 ohm only. Same price.) Matching BL-6 stand available. List Price \$65.00 List Price (with on-off slide switch) S-57... \$69.00

MODEL 58—DYNAMIC
High performing, compact, miniature lavalier-type. Hides discreetly behind necktie or handserehief, may be concealed in table decorations or props. Support clip and neck cord are furnished. Non-directional sensitivity. Turner Dynaflex diaphragm. Neutral grey finish. Wired for high or low (150 ohm) impedance. 25-ft., 3-conductor shielded cable. Response, 50-13,000 cps. Level, -57 db. (Model 58A wired for selection of 50 or 200 ohm. Same price.) Model G-4 desk stand and G-10 floor stand adapter available. List Price \$57.00

MODEL 220A
Turner has put fidelity performance and utility foremost in the 220A. Its great sensitivity and wide response make it an incomparable lavalier microphone. Response, 50-20,000 cps. Level, 50 ohm; -90 db. 200 ohm; -84 db. List Price \$125.00



Model 98

MODEL 210A
For motion picture studio, TV, broadcast and hi-fidelity recording users, the new Turner 210A is designed to satisfy the most exacting professional requirements. Low impedances only. Response, 40-20,000 cps. Level, 50 ohm -86 db. 200 ohm; -80 db. List Price \$125.00

MODEL 98—CARDI0ID
Combines modern, compact design with excellent directional characteristics. These characteristics make it live to sounds originating in front of it, dead to sounds from the rear. This feature reduces unwanted audience noises, mechanical equipment noises and background noise from ventilating, heating or air conditioning equipment. In P.A. work it eliminates acoustical feedback. Truly outstanding performance for very little cost. Single dynamic element construction. Includes 20 ft. cable. Response, 65-11,000 cps. Front-to-back ratio: 20 db. Level, -52 db. Matching G-7 stand available. List Price (Light grey)... \$59.50 List Price (Satin chrome)... \$69.50 For on-off switch models, specify S-98 and add \$4.00 to above prices.

MODEL 51—DYNAMIC
High output interior and advanced circuit design for ultra wide range high fidelity. No closely associated auxiliary equipment needed. Hinged coupler with 5/8"-27 thread mounting... quick disconnect. Finished in amber grey. 12-ft. balanced line cable. Response, 50-15,000 cps. Level, -75 db. at high impedance. Specify high impedance or low (card for selection of 50 or 200 ohm.) Matching G-6 stand available. List Price \$72.50

TURNER GENERAL PURPOSE MICROPHONES



Model 200

MODEL 200
With Turner engineered accessories, the new 200 quickly switches from hand to stand, desk or lavalier mike. Gives you the versatility for broadcast, TV, P.A., recording or intercom. Available as crystal—Response, 60 to 10,000 cps. Level, -51 db.; as dynamic—Response, 60 to 13,000 cps. Level, -53 db.; as ceramic—Response, 60 to 10,000 cps. Level, -60 db. List Prices: Crystal, 201X with desk stand, 202X with floor stand adapter, 203X with lavalier \$23.50 Crystal, 204X complete with all accessories, desk stand, stand adaptor and lavalier assembly \$30.00 Dynamic, 201D with desk stand, 202D with floor stand adapter, 203D with lavalier \$41.00 Dynamic, 204D complete with all accessories, desk stand, stand adaptor, and lavalier assembly \$47.50 Ceramic, 201C with desk stand, 202C with floor stand adapter, 203C with lavalier \$25.50 Ceramic, 204C complete with all accessories, desk stands, stand adaptor and lavalier assembly \$32.00



Model 95

MODEL 95D—DYNAMIC
Beautiful styling, good performance, and attractive price make this a popular P.A. mike. High impedance wired single ended (single-conductor shielded 20-ft. cable). 50 and 200 ohm models wired for balanced line (two-conductor shielded 20-ft. cable). Response, 100-10,000 cps. Level, -58 db. List Price \$37.50 List Price (with on-off switch) S-95D \$41.00

Model 33

MODEL 33X—CRYSTAL
High output over wide frequency range gives fine reproduction. Head tilts 90°. Satin chrome finish. 5/8"-27 thread coupler mounting. 20-ft. removable cable set. Moisture sealed crystal. Response, 60-9,000 cps. Level, -52 db. List Price \$27.50 List Price (with on-off slide switch) S-33X \$30.00



MODEL 33D—DYNAMIC
Same general design as 33X, but with dynamic interior. 50 ohm, 200 ohm or high impedance. Complete with 20-ft. removable cable. High impedance wired single ended; Low impedance balanced line (2 conductor shielded). Response 100-9,000 cps. Level, -54 db. at high impedance. List Price \$31.90 List Price (with on-off slide switch) S-33D \$34.40

Model 124

MODEL 124—DYNAMIC
A slender, modern mike which sells for much less than other mikes of comparable quality. Impressive performance makes the Turner 124 an excellent buy for broadcast, recording, or P.A. work. Spring-clip stand adapter permits instant conversion to hand use. Response, 50-13,000 cps. Level, -58 db. 12 ft. cable. Impedance specify 50 ohm, 200 ohm or high. Gummel grey finish, chrome trim. Matching G-8 stand available. List Price \$49.00 List Price (with on-off switch) S-124 \$54.00



Replacement Cartridge No. 194-1, List Price \$19.00

Model 33X List Price \$27.50 List Price (with on-off slide switch) S-33X \$30.00 Model 33X Replacement Cartridge No. 2B, List Price \$8.00 Model 33D List Price \$31.90 List Price (with on-off slide switch) S-33D \$34.40 Replacement Cartridge No. 13C, List Price \$11.00

TURNER GENERAL PURPOSE MICROPHONES



Model 22



Model BX-BD



Model 141



Model 808-807



Model U9S



Model 9D



Model 80 Model C-4 Stand



Model 908

MODEL 22X—CRYSTAL

Popular P.A. and amateur radio model. Head tilts 90°. 20 ft. removable cable w/et. Satin chrome finish. 3/8" -27 thread coupler mounting. Humidity protected crystal in mechanical shock proof mounting. Response, 60-9,000 cps. Level, -52db. Also available as ceramic microphone at same price. Specify Model 22C.

List Price\$29.50

List Price (with on-off switch)

S-22X\$32.50

Model 22X Replacement Cartridge

No. 2B, List Price\$ 8.00

Model 22C Replacement Cartridge

No. 2BC, List Price\$ 8.00

MODEL 22B—DYNAMIC

Dynamic version of 22X. 50 ohm, 200 ohm, or high impedance. High impedance wired single coiled (20 ft. single conductor shielded cable, low impedance wired for balanced line (two conductor shielded cable). Response, 100-9,000 cps. Level, -54 db. at high impedance.

List Price\$35.00

List Price (with on-off slide switch)

S-22D\$37.50

Replacement Cartridge No. 6,

List Price\$11.00

MODEL U9S—DYNAMIC

Sturdy all-purpose mike with multi-impedance transformer. Select 50, 200, 500 ohms or high impedance with built-in switch. Unaffected by heat, cold, or humidity. Adjustable saddle with 3/8" -27 thread coupler, gunmetal metaluster finish, 3-pin polarized locking connector, 20 ft. balanced line low-capacity cable. Response, 80-9,000 cps. Level, -52 db. at high impedance.

List Price\$49.50

Replacement Cartridge No. 9,

List Price\$12.50

MODEL BX—CRYSTAL

Low cost crystal microphone. Attractive streamlined case with brown metal lustre finish. 3/8" -27 thread mounting, 7 ft. single conductor attached cable. Response, 60-7,000 cps. Level, -48 db.

List Price\$11.75

Replacement Cartridge No. 21A,

List Price\$ 6.50

MODEL BD—DYNAMIC

Same appearance and finish as BX. High output dynamic interior. Complete with 7 ft. single conductor attached cable. High impedance wired single ended; Low impedance balanced line (2-conductor shielded) 50 ohm, 200 ohm or high impedance. Response, 100-6,000 cps. Level, -52 db. at high impedance.

List Price\$21.00

Replacement Cartridge No. 10,

List Price\$10.00

MODEL 9D—DYNAMIC

Rugged hand microphone. Balanced for hand; has hook for hanging. 3/8" -27 thread stand mounting. Die cast zinc alloy case, satin chrome finish. Standard model equipped with on-off slide switch. Wide choice of interiors and switch arrangements (write for details). Response, 150-7,000 cps. Level, -52 db. at high impedance.

List Price\$32.50

Replacement Cartridge No. 13C,

List Price\$11.00

MODEL 141—CRYSTAL

Highest output small microphone on the market. Easily adapts to hand, stand or lavaliere use for P.A. and intercom systems, tape recording or demonstration work. Response, 60-10,000 cps. Level, -52 db. 6 ft. single conductor shielded cable. Light grey case.

List Price\$13.50

MODEL 80—CRYSTAL

Small, inconspicuous satin chrome plated milk-shaker, compact and graceful. Can be adapted for stand or hand use. Total weight: 5 oz. Equipped with 7 ft. attached single conductor shielded cable. Response, 80-7,000 cps. Level, -54 db.

List Price\$15.95

Replacement Cartridge No. 23,

List Price\$ 8.00

C-4 Stand\$ 6.50

MODEL 80S—CRYSTAL AND 807 CERAMIC

Die cast alloy case finished in baked-on grey enamel. 3 7/16" high x 2 1/2" wide x 1-11/32" thick. 3/8" -27 thread adapter for stand mounting. 6 ft. attached fabric covered cable. Response, 60-8,500 cps. Level, -45 db. (With ceramic interior, same price. Response, 80-7,000 cps. Level, -57 db. Specify Model 807.)

List Price\$10.85

List Price (with on-off slide switch)

S-808\$12.85

MODEL 908—CRYSTAL

A new Turner microphone with high sensitivity for tape recorder use. The microphone is priced for most modest budgets. Durable polystyrene case designed for hand or desk use—weighted to avoid tipping. Response, 60-8,500 cps. Level, -47 db. (Microphone also available with ceramic interior at low same price. Same response, Level, -54db. Specify Model 907.)

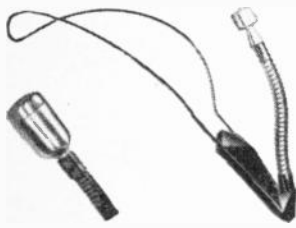
List Price\$ 8.00

THE TURNER COMPANY

Cedar Rapids, Iowa

TURNER MICROPHONES FOR SOUND PERFORMANCE

Turner specialty microphones and stands



Model 132

Model 82-3H



Model L-100



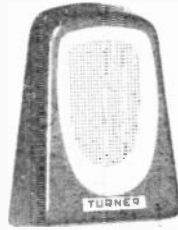
Model 142



Model SR-90



Model SR-90T



Model 16602



Model G-12



Model C-3



Model G-7



Model C-4



Model BL-6

A variety of Turner stands are available. All bases are made of heavy die-cast zinc alloy and have standard 5/8" — 27 thread terminals.

MODEL 132—DYNAMIC

A new mike for applications calling for a minimum size dynamic on the Turner Third Hand. Model 95 head permanently installed on gooseneck, with transformer concealed in breastplate. 20-ft. cable. Available in high impedance, 200 ohm, or 50 ohm models. Response 100-10,000 cps. Level. —58 db.

List Price, mounted on Turner Third Hand \$42.50

MODEL 82-3H—CRYSTAL

Tiny Model 80 microphone head. Permanently installed on Turner "Third Hand." Attached 20-ft. single conductor shielded cable permits freedom of movement.

List Price \$22.75
Third Hand alone \$ 5.00

MODEL L-100—CRYSTAL

Excellent speech reproduction characteristics, chest sounds damped out. Grey plastic case. Strong rubber-padded clip adjusts to any desired position. 20-ft. single conductor shielded cable attached. Response. 50-10,000 cps. Level. —52 db.

List Price \$12.50
Replacement Cartridge No. 26, List Price \$ 6.50

MODEL 142—DYNAMIC

Here's the first lavalier dynamic in its field to be list-priced under \$50. Tops in economy and performance. Response. 70-12,000 cps. Level. —50 db. Impedance. 2 models; high and 50/200 ohm.

List Price, complete with lavalier assembly \$45.00
#G-14 matching stand, List Price .. \$ 5.75

MODEL SR-90R CARBON.

Ideal hand-held mikes for mobile communications. Clear voice reproduction. Designed to fit hand comfortably with switch in normal grip. Zinc alloy case in permanent satin chrome. Furnished with hook for hanging and bracket for wall or dash mounting. Standard Model SR-90R Carbon—Response. 200-4,000 cps. Level. —38 db. 11-inch retracted unshielded Coiled Kord.

List Price, SR-90R \$26.50
Replacement Cartridge No. 25, List Price \$ 8.00

MODEL SR90D DYNAMIC

Response. 200-10,000 cps. Level. —48 db. at high impedance. 11" (retracted) shielded Coiled Kord.

List Price, SR-90D.. \$42.50
Replacement Cartridge No. 13C, List Price \$11.00

MODEL SR90T

Transistor preamplifier coupled with a dynamic interior makes this microphone a perfect replacement for all carbon microphones now used in mobile communications equipment. No extras needed. Plugs right in. Powered by current already available. Handsome satin chrome finish on die cast zinc alloy case. Response: 200-6,000 cps. Output Level +3 db r-1.0 MAW 100 microhrs with 6 V DC Supply loaded with 500 ohms. Switch: Rugged push to talk, double pole single throw leaf type for external relay control. Power Requirement: 4.5-6 volts dc 3.5 MA. Weight: 1 lb. 3 oz. including k.k. Write for free specification sheet.

List Price \$60.00

TURNER MICROPHONE STANDS

Model	Finish	Upright	List Price	Style
C-2	Chrome	1"	\$ 5.50	C-3
C-3	Chrome	4 3/4"	5.50	C-3
C-4	Chrome	—	6.50	C-4
C-5	Chrome	2 3/8"	5.50	C-3
* C-7	Chrome	None	9.50	BI-6
B-3	Brown	4 3/4"	4.50	C-3
G-3	Gunmetal	4 3/4"	4.50	C-3
G-4	Grey	Clip	5.75	C-4
G-6	Grey	None	7.50	BI-6
* G-7	Light Grey	None	8.00	G-7
* G-8	Gunmetal	None	8.00	G-7
G-10	Grey	Clip	6.50	Not Shown
G-12	Chrome	35"-65"	15.00	Floor Stand
G-14	Grey	—	5.75	C-4
BI-5	Black	2 3/8"	4.50	C-3
* BI-6	Black	None	7.50	BI-6
144	Light Grey	Clip	4.50	Not Shown

* Shock-mount base.

MODEL 16602

Tape recorder or general purpose P. A. mike; packaged in plastic bag complete with 6' cable and phono plug and phone jack plug to fit any input. Case finished in handsome leather X finish. Response 80-8,000 c.p.s.; output level —45 db.

List Price \$14.00

TURNER MICROPHONES FOR SOUND PERFORMANCE

THE TURNER COMPANY
CEDAR RAPIDS, IOWA

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TRUMPETS, DRIVERS AND ACCESSORIES

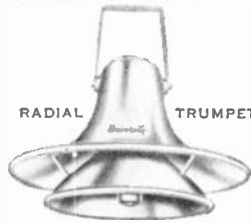
TRUMPETS



DIRECTIONAL TRUMPET

DIRECTIONAL MODELS GH, LH, PH, SMH For maximum penetration of distance and noise. Reflex construction assures maximum conversion efficiency, full weather protection.

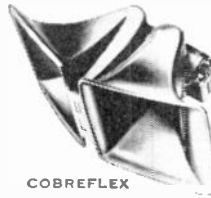
RADIAL MODELS RLM, RPH, RSH For uniform 360° overhead sound distribution from a single projector. Fewer speakers needed to cover area. For high-ceiling factories, hangars, church interiors, towers, etc.



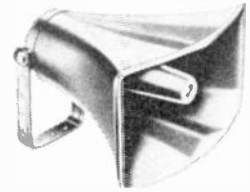
RADIAL TRUMPET

WIDE ANGLE COBREFLEX Outstanding feature is pair of folded exponential horns having twin air columns in a single assembly. "Dual Exponential Flare" design results in very smooth radiation pattern and high efficiency. Rugged construction. Use singly or in clusters.

WIDE ANGLE MODEL CLH Longest air column length and wide-angle bell designed for maximum



COBREFLEX



MODEL CLH

low frequency response. Omni-directional mounting bracket permits speaker to be rotated horizontally and vertically for optimum projection... tune out reverberation, dead spots. Perfect for multi-speaker cluster arrays. Can be "stacked" in any configuration.

MODEL L30-1 CLH Horn Stacking Kit For clamping bell rims together in any desired configuration. Each kit clamps two horns. Shpg. wt., 6 oz. \$1.50 list.

DRIVERS



MODEL MA-25 Recommended for use whenever response to 6500 cycles is adequate. Highly efficient. Tropicalized 2" voice coil and breakdown-proof diaphragm



MODEL SA-HF "Workhorse of the sound industry." Meets most P.A. and industrial requirements. Cuts through heavy noise. Good for speech and music. Top-flight performer even under diverse weather conditions.



MODEL SA-30 Same performance as SA-HF, but has built-in matching transformer for connection to high impedance lines or "constant voltage" systems. Die-cast aluminum housing.



MODEL PA-HF Great power handling capacity combined with maximum sensitivity and wide frequency response. Rugged lifetime construction. Die-cast aluminum housing.



MODEL PA-50 "Deluxe" unit with extended high and low frequency range. Highest continuous duty power capacity. Greatest conversion efficiency. Built-in multi-match transformer.

ACCESSORIES



CTR

MODEL CTR TRANSFORMER JUNCTION HOUSING Die-cast aluminum. Weatherproof. Houses models 5433, 5434, or other transformers up to 2 1/2" x 2 1/2" x 2 1/2". Adjustable slotted adapter mounts transformers with centers 1 1/2" to 2 1/2". Junction box for speaker lines. Bar strap for mounting to "U" brackets. Screws directly to wall. Also holds University paging speakers. Shpg. wt., 2 lbs. \$8.00 list.

MODEL PB-1 TRANSFORMER HOUSING Weatherproof. For MIL-A, CMIL, IB-A and CIB paging speakers. Use model 5434 transformer, or other type with 2" mounting center and 1 1/2" h. x 1 1/2" w. maximum dimensions. Shpg. wt., 1 lb. \$3.75 list.

MODEL 5433 TRANSFORMER 30 watt capacity. Use with MA-25, SA-HF, or to feed a number of smaller paging speakers. Primary impedance: 45/165/200/250/500/1000/2000 ohms. Secondary imped-

ance 4/8/16 ohms 70 v. line power taps: 30, 25/20/10/5/2.5 watts. Dimensions: 1 1/8" x 2 1/4" x 1 1/4". Mounting hole centers: 2 3/8". Shpg. wt., 1 lb. \$7.00 list.

MODEL 5434 TRANSFORMER 15 watt capacity. Primary impedance 45/325/500/1000/2000/4000/8000 ohms Secondary impedance 4/8/16 ohms. 70 v. line power taps: 15/10/5/2.5/1.25/.65 watts. Dimensions: 1 3/8" x 1 1/2" x 1 1/4". Mounting hole center: 2". Fits CTR and PB-1. Shpg. wt., 3/4 lb. \$6.00 list.

2YC CONNECTOR Allows use of two driver units on a single radial, directional, or wide-angle trumpet. For high power in speech application. Shpg. wt., 1 lb. \$12.00 list.

PMA ADAPTER Fits 1/2" IPS threaded pipe to any University "U" mounting bracket. Shpg. wt., 3/4 lb. \$2.00 list.

RTA ADAPTER Fits University trumpets to West-

ern Electric and RCA drivers having 1-7/16-16 threads. Shpg. wt., 1/2 lb. \$3.00 list.

WEA ADAPTER Fits University drivers to Western Electric and RCA trumpets having 1-7/16-16 threads. Shpg. wt., 1/2 lb. \$2.50 list.

SPA ADAPTER Replaces standard triangular base used on all University CR and MM-2 paging speakers for mounting to 1/2" threaded IPS pipe. Shpg. wt., 1/2 lb. \$1.75 list.

MODEL ST Transformer/Junction Box Adapter. Fits MM-2, MM-2L. Weatherproofed. For bulkhead, wall, ceiling mounting. Houses transformers up to 2 1/4" x 2 1/4" x 2 1/4", with 2" and 2 1/2" mounting centers. Used as terminal or junction box. Shpg. wt., 1 lb. \$12.50 list.

MODEL SB Bulkhead Mounting Adapter. Fits MM-2, MM-2L, MM-2F. 3 mounting holes 120° apart on 5 3/8" mounting circle diameter. For flush-fit mounting onto bulkhead, wall, ceiling. Shpg. wt., 1 lb. \$3.00 list.



PB-1



5433



5434



2YC



PMA



RTA



WEA



SPA



ST



SB

MODEL	LOW FREQUENCY CUT-OFF	SOUND DISTRIBUTION	AIR COLUMN LENGTH	HORN LENGTH	BELL DIA.	SHIP. WT.	LIST PRICE	MODEL	FREQUENCY RESPONSE	POWER RATING (Cont. Duty)		VOICE COIL IMPEDANCE	DIMENSIONS (Overall)	SHIP. WT.	LIST PRICE
										FULL RANGE	*ADJUSTED RANGE				
GH	85 cps	65°	6 1/2 ft.	28"	31"	22 lbs.	\$72.00	MA-25	85-6500 cps	25 watts	50 watts	16 ohms	4 1/2" dia. 3 3/4" d.	3 3/8 lbs.	\$28.50
LH	120 cps	75°	4 1/2 ft.	19"	25 1/4"	16 1/2 lbs.	\$44.50	SA-HF	80-10,000 cps	30 watts	60 watts	16 ohms	4 1/2" dia. 4 1/8" d.	4 1/2 lbs.	\$36.00
PH	150 cps	85°	3 1/2 ft.	15 1/4"	20 3/4"	11 1/2 lbs.	\$32.50	SA-30	80-10,000 cps	30 watts	60 watts	16 ohms	5" dia. 6 1/4" d.	5 1/2 lbs.	\$47.50
SMH	200 cps	95°	2 1/2 ft.	12"	16 1/4"	8 lbs.	\$27.50	PA-HF	70-10,000 cps	50 watts	100 watts	16 ohms	4 1/2" dia. 5" d.	5 1/2 lbs.	\$47.50
RLH	120 cps	360°	5 ft.	18 1/2"	28 3/4"	25 lbs.	\$59.00	PA 50	70-10,000 cps	50 watts	100 watts	16 ohms	6 1/4" dia. 6 3/8" d.	6 1/4 lbs.	\$57.50
RPH	140 cps	360°	4 ft.	13 3/4"	25 1/4"	19 lbs.	\$47.00								
RSH	180 cps	360°	3 ft.	11"	19"	13 lbs.	\$41.00								
COBREFLEX†	200 cps	120° x 60°	2 1/2 ft.	18 1/2" x 9 1/4"	10 1/4"	10 1/4 lbs.	\$38.33								
CLH‡	120 cps	120° x 60°	4 1/2 ft.	21 1/2" x 11 1/2"	20"	15 lbs.	\$46.50								

*When input program response limited to above low frequency cut-off of trumpet used.
†Patented. "Cobreflex" is a trademark.

Transformer impedances: SA-30—45/165/250/500/1000/2000 ohms. PA-50—16/100/165/250/500/1000/2000 ohms. 70 V. line power taps: SA-30—30/20/10/5/2.5 watts. PA-50—50/30/20/10/5/2.5 watts.

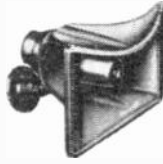


PAGING, TALK-BACK, SUBMERGENCE-PROOF

PAGING, TALK-BACK



MODEL MIL-A New version of the MIL, with higher power capacity (7.5 watts continuous duty) and improved lower frequency response. High conversion efficiency for perfect operation in low power systems. OLB*



MODEL CMIL Similar to CIB-8, but for use in lower power operations, where excessive sound would be wasted. Offers high efficiency, maximum intelligibility. OLB*



MODEL IB-A New version of world's most widely used medium power speaker. 25 watts continuous duty power capacity. Lower frequency response improved to 250 cps. High efficiency, special rising frequency characteristic. OLB*



MODEL CIB Exclusive University wide-angle horn for uniform sound pattern with optimum vertical dispersion. Ideal for wide area coverage where ambient noise level not excessive. Design minimizes feedback problems. OLB*

PAGING, TALK-BACK



MODEL IBR Small radial speaker with built-in driver. Economical solution where total number of speakers must be kept to a minimum but where wide coverage is required.



MODEL MIS+ Compact reflex speaker designed for flange or flush mounting in cabinets, walls, etc. Ideal replacement for less efficient cone speakers. Tropicalized and weatherproof.



MODEL CR Big power in a small package. Built-in driver with heavy duty 2" voice coil. High intelligibility in noisy areas. Frequency response ideal for music reproduction.



MODEL 2WP Bi-directional paging projector covers two opposite areas effectively, efficiently with one driver unit. (Takes any University driver except PA-50).

*Exclusive swivel mounting OMNI-LOK BRACKET; also fastens to 1/2" pipe without additional fixture. Patent pending.

†Patent pending

SUBMERGENCE-PROOF.



MODEL MM-2 Power capacity and frequency response ideal for clear, noise-cutting reception. Screws permit removal from front to expose diaphragm for cleaning. Seriated swivel mounting bracket.



MODEL MM-2L Like MM-2, but with higher power capacity and extended low frequency response. Good for music or speech. Swivel mounting bracket mounts directly on CTR watertight transformer housing.



MODEL MM-2F Like MM-2, but for flush mounting in walls, ceilings, bulkheads, dashboards, etc. Drains automatically. Weatherproofing gasket. Six mounting holes on 6 1/4" circle diameter.



MODEL MM-2TC Complete speaker, using cast aluminum combination bell and weatherproof housing with space for a line matching transformer and for volume control which can be mounted right into position. For bulkhead, wall, or ceiling mounting. MM-2TC-T comes wired with multi-impedance transformer and pad attenuator.



MODEL MSR All die-cast reflexed air column speaker with radial deflector for 360° horizontal dispersion. Hermetically sealed driver easily removed. Provisions for line matching transformer and volume control. Wall/ceiling bulkhead mounting. MSR-T comes wired with multi-impedance transformer and pad.



FOR UNDER-WATER SOUND MODEL MM-2FUW Completely waterproof. Can be left submerged indefinitely. Similar to MM-2F, but with stainless steel cover for special mylar diaphragm. Silicone treated gaskets. Fully guaranteed for one year. Model MM-2UW for bracket mounting. \$67.50 list.

MODEL	FREQUENCY RESPONSE	POWER RATING (Cont. Duty)		IMPEDANCE	DISPERSION	**SOUND PRESSURE LEVEL	†SENSITIVITY AS MICROPHONE	‡SERIES CAP. FOR ADJUSTED RANGE	DIMENSIONS	SHIPPING WEIGHT	LIST PRICE
		FULL RANGE	*ADJUSTED RANGE								
IB-A	250-13,000 cps	25 watts	50 watts	4, 8, 45 ohms	90°	123 db	-26 DBM		10 1/4" dia. 9" deep	4 lbs.	8 Ω—\$34.50 4.45 Ω—\$36.00
CIB	300-13,000 cps	15 watts	30 watts	4, 8, 45 ohms	120° x 60°	118 db	-22 DBM		7 1/2" hi. 14" wide 12" deep	5 1/2 lbs.	8 Ω—\$42.00 4.45 Ω—\$43.50
MIL-A	350-13,000 cps	7.5 watts	15 watts	4, 8, 45 ohms	120°	115 db	-23 DBM		7 1/2" dia. 6 1/2" deep	3 1/2 lbs.	8 Ω—\$27.00 4.45 Ω—\$28.25
CMIL	400-13,000 cps	5 watts	10 watts	4, 8, 45 ohms	120° x 60°	113 db	-20 DBM		6 1/2" hi. 9 1/2" wide 8 1/2" deep	4 lbs.	8 Ω—\$29.75 4.45 Ω—\$31.00
MIS	500-13,000 cps	5 watts	10 watts	4, 8, 45 ohms	150°	111 db	-22 DBM		5 1/2" o.d. 4 1/2" deep 6 holes on 4 1/4" mtg. dia.	3 1/2 lbs.	8 Ω—\$28.00 4.45 Ω—\$29.25
CR	250-8000 cps	20 watts	40 watts	16 ohms	90°	119 db	-22 DBM		11 1/2" dia. 11 1/2" deep	8 1/2 lbs.	\$45.00
IBR	300-10,000 cps	15 watts	30 watts	4, 8, 45 ohms	360°	106 db	-32 DBM		13" dia. 10 1/4" deep	5 1/2 lbs.	8 Ω—\$46.50 4.45 Ω—\$48.00
2WP	350 cps horn cut-off	Depends upon driver used		Depends upon driver used	120° each horn	Depends upon driver used	Depends upon driver used		8 1/2" dia. each bell 20 1/2" long	4 lbs.	\$28.00
MM-2	350-10,000 cps	25 watts	50 watts	16 ohms	150°	117 db		11 mfd	6" o.d. 5" deep	5 1/2 lbs.	\$48.50
MM-2L	250-10,000 cps	25 watts	50 watts	16 ohms	120°	120 db		14 mfd	6 1/2" o.d. 6 1/2" deep	6 1/2 lbs.	\$54.50
MM-2F	350-10,000 cps	25 watts	50 watts	16 ohms	150°	117 db		11 mfd	7 1/4" o.d. 3 3/4" deep	5 1/2 lbs.	\$48.50
MM-2TC	350-10,000 cps	25 watts	50 watts	16 ohms	120°	117 db		11 mfd	10" high 6 1/2" w. 4 1/2" deep	MM-2TC—8 1/4 lbs. MM-2TC-T—10 1/4 lbs.	MM-2TC—\$72.50 MM-2TC-T—\$86.00
MSR	250-10,000 cps	25 watts	50 watts	16 ohms	360°	114 db		14 mfd	10 1/2" hi. 7 1/2" w. 8 1/4" deep	MSR—10 lbs. MSR-T—10 1/2 lbs.	MSR—\$72.50 MSR-T—\$86.00

*Input program response above speaker low frequency cut-off.

**Sound pressure readings taken at 4 ft. with "Full Range" power input. Reduce by 6 db each time distance is doubled. Reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.

†DBM re 10 dynes/cm²

‡Assumes use of 16 ohm input.

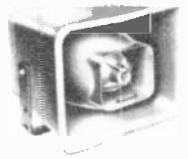
Note: all MM speakers are patented.

WEATHERPROOF, SUPERPOWER, EXPLOSION-PROOF, POWRPAGE

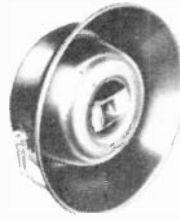
WEATHERPROOF HIGH FIDELITY

Each is a genuine dual range, with separately driven woofer and tweeter. Exceptionally efficient. Baffled chamber and front loaded folded horn provide optimum loading and clean bass. Sturdy "U" mounting bracket simplifies installation and adjustment.

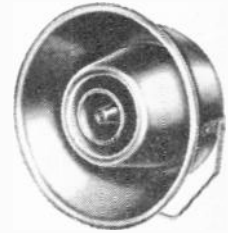
*Pat. pending



MODEL MLC* Ideal for coverage of moderate-size areas or crowds—or for sound reinforcement where smooth, clean, wide-range musical reproduction and even distribution are important. Fiberglass reinforced polyester housing. 2000 cps crossover.



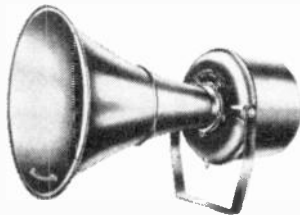
MODEL BLC Sets a new standard for voice and music reproduction. Light in weight, shallow in depth, easy to handle. May be used in place of public address trumpet driver units except where maximum penetration is required. All metal construction. 2000 cps crossover.



MODEL WLC Finest outdoor system made. For over a decade has brought full range high fidelity sound to auditoriums, concert halls, parades, stadiums, over the world. Achieves full bass response down to 50 cps. All metal construction. 1000 cps crossover.



SUPERPOWER MODEL 4A4 Versatile, powerful, compact. Use with any University drivers except PA-50, according to capacity, response and impedance needed. Four individually reflexed center assemblies united in acoustically correct mixing chamber. Single bell combines entire output, assuring maximum penetration and reserve power.



SUPERPOWER MODEL B-12P Takes 12 drivers of the MA-25, SA-HF, or PA-HF types. Fantastic power range and reserve power. Drivers screw into patented mixing chamber of heavy cast aluminum. Separate bell assembly easily attaches to mixing chamber. Spun aluminum coverall protects drivers and connections. Use for military, civil defense, church towers, stadiums, etc.



EXPLOSION-PROOF MODELS 7101, 7102 Underwriters' Labs. approved for 100% safe systems where flammable liquids, gases, dust and other combustibles are present. Shipped fully assembled with built-in line matching transformer to comply with government safety regulations. Required conduit entrance provided as part of driver housing casting. 7101 for Class I, Groups C & D; 7102, same plus Class II, Groups E, F, G.



PORTABLE POWRPAGE MODEL PP-1 High output, weatherproof, reflex speaker projects sound wherever desired. Compact, light, efficient—ideal for police, fire, railroads, sports, etc. Hand microphone with 11 ft. cable. Instantaneous operation with Powrsaver press-to-talk switch. Uses 6 volt standard batteries (Burgess F-4H or equivalent). Battery housing serves as base. Shpg. wt., 8 lbs. \$95.00 list.



PORTABLE POWRPAGE MODEL PP-2 Aim, press, talk for crystal-clear powerful sound. Weighs only 3 1/2 lbs., including batteries. Slim handle holds standard pencil batteries. Powrsaver press-to-talk switch. Weatherproof, high output. Built-in jack for 6-12 volt from boat or auto battery. Shpg. wt., 5 1/2 lbs. \$75.00 list.

MODEL	FREQUENCY RESPONSE	POWER RATNG (Cont. Duty)		DISPERSION	**SOUND PRESSURE LEVEL	IMPEDANCE	DIMENSIONS		SHIPPING WEIGHT	LIST PRICE	
		FULL RANGE	*ADJUSTED RANGE				DIAMETER (overall)	DEPTH (overall)			
MLC	150-15,000 cps	15 watts		120°	117 db	8 ohms	12 3/4" w.x 9 1/2" hr.	10 1/2"	10 lbs.	\$57.50	
BLC	70-15,000 cps	25 watts		120°	119 db	8 ohms	22 1/2"	9 1/2"	21 lbs.	\$89.50	
WLC	50-15,000 cps	30 watts		90°	120 db	8 ohms	33 1/2"	20"	72 bs.	\$250.00	
7101 and 7102†	200-10,000 cps	30 watts	60 watts	95°	7101 122 db 7102 110 db	16 ohms	15 1/2"	19"	23 1/2 lbs.	7101—\$125.00 7102—\$150.00	
4A4 WHEN USED WITH DRIVERS	MA-25	120-6500 cps	100 watts	200 watts	80°	128 db	30 1/2"	28 1/2"	49 lbs. less drivers	\$125.00 less drivers	
	SA-HF	120-10,000 cps	120 watts	240 watts	80°	131 db					4, 16, 64 ohms
	SA-30	120-10,000 cps	120 watts	240 watts	80°	131 db					wide variation
	PA-HF	120-10,000 cps	200 watts	400 watts	80°	135 db					4, 16, 64 ohms
B-12P WHEN USED WITH 12 DRIVERS OF TYPES	MA-25	100-6500 cps	300 watts	600 watts	80°	136 db	31 1/2"	47"	60 lbs. less drivers	\$395.00 less drivers	
	SA-HF	100-10,000 cps	360 watts	720 watts	80°	139 db					1.3, 5.3, 12, 21.3, 48, 192 ohms
	PA-HF	100-10,000 cps	600 watts	1200 watts	80°	143 db					1.3, 5.3, 12, 21.3, 48, 192 ohms

*Input program response limited to above 200 cps for 7101 and 7102; above 100 cps for B-12P and above 120 cps for 4A4.
**Sound Pressure for LC series taken at 4 ft., 750-1250 cps with 1 cps sweep. Reduce by 6 db each time distance is doubled; reduce by 3 db each time power input is halved. Sound Pressure readings for 4A4 and B-12P taken at 4 ft. with "Full Range" power in-

put. Reduce by 6 db each time distance is doubled, reduce by 3 db each time power input is halved; increase by 3 db when power input is doubled.
†Transformer impedances, 7101 and 7102: 45/165, 200/250, 500/1000/2000 ohms. 70 V. line power taps, 7101 and 7102: 30/25/20/10/5/2.5 watts.



UNIVERSITY LOUDSPEAKERS, INC.

SERIES 100 WIDE-RANGE SPEAKERS

University's six new Series 100 wide-range speakers are engineered to the highest specifications from the finest materials available. Identified by their attractive exteriors—matte black baskets and chrome silver dust covers—they represent the most outstanding values in the high fidelity field. Once again, University proves that quality does not necessarily mean high prices.



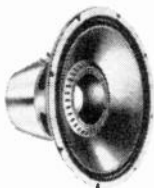
MODEL UC-153
15" 3-WAY DIFFAXIAL

Tremendous value, featuring high efficiency tweeter and deluxe, multi-element Diffusicone mid-range. 2 lb. all-Alnico 5 magnet. Response from below 30 cps to inaudibility. 30 watts* rating. Shpg. wt., 12 lbs. \$83.00 net.



MODEL UC-122
12" 2-WAY DIFFAXIAL

Coaxial horn loading at apex of cone extends mid and high frequency response. Exclusive uni-sectional Diffusicone element provides 1000 cps mechanical crossover and uniform wide-angle dispersion. Super-sensitive all-Alnico 5 magnet. Response: 45-13,000 cps. 25 watts* rating. Shpg. wt., 5¼ lbs. \$35.50 net.



MODEL UC-152
15" 2-WAY DIFFAXIAL

Patented Diffusicone element provides dual horn loading at apex of cone to extend mid and high frequency response. Excellent wide-angle dispersion of highs. 1½ lb. all-Alnico 5 magnet. Response: below 30 to 14,000 cps. 30 watts* rating. Shpg. wt., 8¼ lbs. \$45.00 net.



MODEL UC-121
12" EXTENDED RANGE

Only 4" deep, perfect for wall, flush ceiling and other limited space installations. Highly efficient, needs only fraction of power required for ordinary 12" speakers. 1 lb. all-Alnico 5 magnet. Response: 45-10,000 cps. 30 watts* rating. Shpg. wt., 5¼ lbs. \$28.00 net.



MODEL UC-123
12" 3-WAY DIFFAXIAL

Exclusive patented Diffusicone element. UXT-5 super-tweeter with "reciprocating flare" horn. Super-sensitive all-Alnico 5 magnet. Crosses over at 1000 cps mechanically, 5000 cps electrically. Response: below 45 cps to 17,500 cps. 25 watts* rating. Shpg. wt., 9 lbs. \$66.50 net.



MODEL UC-82
8" WIDE-RANGE

New! Especially designed for small cabinet stereo applications. Ideal for later addition of one University dual voice coil woofer to extend combined bass range of both channels. Also effective as second channel or stereo add-on speaker. All-Alnico 5 magnet. Response: 45-14,000 cps. 25 watts* rating. Shpg. wt., 3½ lbs. \$16.95 net.

OTHER SUPERB WIDE-RANGE SPEAKERS



MODEL 315-O
SUPER 15" 3-WAY DIFFAXIAL

Woofer performance equivalent to C-15W. Diffusicone mid-range has 1000 cps crossover. Heavy duty H-600/T-50 tweeter crosses over at 5000 cps. Built-in L/C network with mid-range and treble controls. 6½ lbs. of all-Alnico 5 magnet. Response from below 25 cps to inaudibility. 50 watts* rating. Shpg. wt., 34½ lbs. \$156.00 net.



MODEL 312
12" 3-WAY DIFFAXIAL

Completely engineered package with HF-206 tweeter thru-axially projected. Diffusicone mid-range. Built-in L/C network with treble control. Crossovers at 1000 and 5000 cps. 2 lbs. of all-Alnico 5 magnet. Response from below 40 cps to inaudibility. 25 watts* rating. Shpg. wt., 11 lbs. \$73.00 net.



MODEL 6201
12" DUAL RANGE COAXIAL

Tweeter projects through center of woofer. Built-in L/C network with balance control. 1¾ lbs. of all-Alnico 5 magnet. Response: 45-15,000 cps. 25 watts* rating. Shpg. wt., 10¼ lbs. \$57.75 net.



DIFFUSICONE-12
12" 2-WAY DIFFAXIAL

Employs patented multi-element Diffusicone with 1000 cps crossover. Response from below 40 cps to 14,000 cps. 30 watts* rating. 1½ lbs. all-Alnico 5 magnet. Shpg. wt., 6 lbs. \$39.75 net.



MODEL 308
8" 3-WAY DIFFAXIAL

Compression tweeter projects through center of woofer. Wide-angle horn employs "reciprocating flare" principle. Diffusicone mid-range. Extra large woofer voice coil. 1¼ lbs. of all-Alnico 5 magnet. Response: 40-15,000 cps. 25 watts* rating. Shpg. wt., 6 lbs. \$42.00 net.

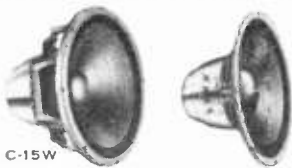


DIFFUSICONE-8
8" 2-WAY DIFFAXIAL

Patented multi-element Diffusicone provides 1000 cps mechanical crossover. Response from 40-13,500 cps. Full pound of all-Alnico 5 magnet. 25 watts* rating. Shpg. wt., 4¾ lbs. \$28.00 net.

*Integrated program. All 8-16 ohms.

WOOFERS



C-15W

MODEL C-15W 15" DUAL VOICE COIL WOOFER
Maximum conversion maintained by new type dual voice coil with exceptional axial depth and excursion. Twin spider and 6 lbs. of Alnico 5 Gold Dot magnet ensure positive transient control. Response from below 25 to 1500 cps. 50 watts* rating. 4-20 ohms. 10 1/2" deep. Shpg. wt., 2 3/4 lbs. \$85.00 user net.

MODEL C-12SW 12" DUAL VOICE COIL WOOFER
High-end response adjustable to 700, 2500, or 5000 cps, suiting most tweeters. Crossover points changeable for best tonal balance. With N-1 filter in 2-way system, forms complete L/C network. 1 1/2 lb. all-Alnico 5 Gold Dot magnet. Response from 40-6000 cps. 30 watts* rating. 8 ohms. 6 1/2" deep. Shpg. wt., 7 1/4 lbs. \$39.50 user net.



C-15HC

MODEL C-15HC 15" DVC HIGH COMPLIANCE WOOFER
Astounding bass depth and ultra linear response thruout entire low frequency range. New Hiflux Uniferron-7 magnet material in twin-spider assembly ensures positive transient control. Cone resonance 15 cps. Response to 800 cps. 4-20 ohms. Use with quality amplifier from 10 watts up. 60 watts* rating. 8 1/4" deep. Shpg. wt., 2 3/4 lbs. \$89.50 user net.

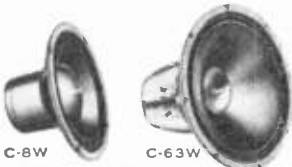


C-12HC

C-8HC

MODEL C-12HC 12" DVC HIGH COMPLIANCE WOOFER
Response to 2500 cps permits use in two-way systems with tweeter. Cone resonance 20 cps. Use with quality amplifier from 15 watts up. Hiflux Uniferron-7 magnet material. 4-20 ohms. 50 watts* rating. 5 1/2" deep. Shpg. wt., 8 1/2 lbs. \$49.50 user net.

MODEL C-8HC 8" DVC HIGH COMPLIANCE WOOFER
Newly engineered for those who want full bass response down to 40 cps even from the smallest enclosure. Features University dual voice coil and new type heavy die-cast basket for extreme rigidity and reliability. Uniferron-7 magnet material. Response: 38-2200 cps. 8 ohms. 30 watts* rating. 4 1/4" deep. Shpg. wt., 7 1/4 lbs. \$39.95 user net.



C-8W

C-63W

MODEL C-8W 8" WOOFER
Ideal for assembling a compact, high quality system, or as mid-range in low-cost 3-way system. Crossover over up to 5000 cps. Response down to 50 cps with proper baffling. All-Alnico 5 Gold Dot magnet. 25 watts* rating. 8 ohms. 4 1/4" deep. Shpg. wt., 3 lbs. \$15.00 user net.

MODEL C-63W 15" WOOFER
High-end response adjustable to 700, 2500 and 5000 cps. With N-1 filter in 2-way system, forms L/C network. Smooth response from below 30 to 6800 cps. 1 1/2 lbs. All-Alnico magnet. 30 watts* rating. 10" deep. Shpg. wt., 10 lbs. \$49.00 user net.

*Integrated program

MID-RANGE AND TWEETERS



MODEL HF-206 HYPERSONIC TWEETER
High frequencies beyond audibility. For 5000 cps crossover or above. "Reciprocating flare" die-cast aluminum wide-angle horn. Dispersion: 120° x 50°. 8 ohms. 25-50 watts* rating, depending on crossover frequency used. 6" x 3 1/4" x 6 1/4". Shpg. wt., 3 1/2 lbs. \$35.00 user net.



MODEL UXT-5 SUPER TWEETER
Compact super tweeter for 5000 cps crossover or above. Response to 17,500. "Reciprocating flare" horn. Dispersion: 120° x 50°. 8 ohms. 25-50 watts* rating. 4 1/2" x 2 1/2" x 4". Shpg. wt., 1 1/2 lbs. \$21.00 user net.



MODEL 4401 TWEETER
For 2500 cps crossover. Response to 15,000. Sturdy, one-piece die-cast "Reciprocating flare" horn. Dispersion: 120° x 50°. 8 ohms. 25 watts* rating. 6" x 2 1/4" x 6 1/4". Shpg. wt., 2 lbs. \$18.00 user net.



MODEL H-600 HORN
Finest 600 cps cut-off horn for home and professional use. Combines "Reciprocating flare" principle with hemispherical deflection for exceptionally uniform sound distribution pattern. Use with T-30 or T-50 driver and N-2A network. 7 1/4" x 8 3/4" x 4 1/4". Shpg. wt., 2 1/2 lbs. \$19.00 user net.



COBREFLEX HORN
Perfect as top end of 2-way system, or mid-range of 3-way system. 27" exponentially-flared air column permits crossover low as 350 cps. Exclusive twin-flare for uniform wide-angle 120° x 60° dispersion. 10 1/4" x 18 1/2" x 9 1/4". Shpg. wt., 10 1/4 lbs. \$23.00 user net.



T-50

T-30

T-50 HYPERSONIC DRIVER
Heavy duty super-efficient driver for use with H-600 horn. Response from 600 cps to inaudibility. 8 ohms. \$49.50 user net.

T-30 HIGH FREQUENCY DRIVER
Use with H-600 or Cobreflex for mid-range in 3- and 4-speaker systems, or as tweeter in 2-speaker system. Response from 200-15,000 cps. 8 ohms. \$30.00 user net.

ADJUSTABLE NETWORKS



MODEL N-1 HIGH PASS FILTER
Built-in "brilliance" control. Crossover and impedance combinations 2500, 5000, 10,000 cps at 8 ohms; 1250, 2500, 5000 cps at 16 ohms; 5000, 10,000 cps at 4 ohms. Use with N-2A in 3-way systems. 3 1/4" x 3 1/4" x 3". Shpg. wt., 1 1/4 lbs. \$14.00 user net.

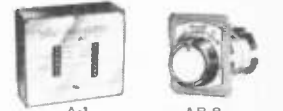
MODEL N-3 "ACOUSTIC BATON"
For 3-way systems. Connections for 350 or 700 cps crossover to mid-range, 5000 cps to tweeter. Built-in "presence" and "brilliance" controls. For vertical or horizontal mounting. 8 ohms. 7" x 5" x 3". Shpg. wt., 5 1/2 lbs. \$32.00 user net.



MODELS N-2A AND N-2B
Permit use of any speaker combination, with great variety of voice coil impedances and crossovers. Use either model singly as 6 db/octave 2-way network, as 12 db/octave low or high-pass filter, or in pairs as 12 db/octave network. Both can be used together for 3-way systems. 3 3/8" x 3 1/4" x 3". Shpg. wt., each 2 1/4 lbs.

N-2A CROSSOVER 350 or 700 cps at 8 or 16 ohms; 700 cps at 4 ohms. \$18.00 user net.

N-2B CROSSOVER 1250, 2500, or 5000 cps at 8 ohms; 2500 or 5000 cps at 16 ohms; 2500 cps at 4 ohms. \$14.00 user net.

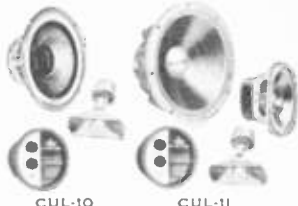


MODEL A-1 STEREO ADAPTER
Enables use of any single woofer for both stereo channels, while maintaining electrical separation of mid and high frequencies to preserve stereo effect. Not needed with University "stereo-adapted" systems with suffix "S", e.g. S-5S. Includes phasing switch to accommodate varying recording techniques and combination monophonic/stereo use. Shpg. wt., 5 1/2 lbs. \$30.00 user net.

MODEL AP-8 BALANCE CONTROL
For balancing sound to room acoustics and regulating speakers of different efficiencies. Use with N-2A and N-2B. Ex-cutechon marked "presence" on one side, "brilliance" on other. Suits 8-16 ohm systems. Shpg. wt., 7 oz. \$3.95 user net.

MODEL SK-1 STEREO PREPARATION KIT
Converts any existing speaker system having University dual voice coil woofer (C-15W, C-12SW, C-15HC, C-12HC, C-8HC) to single woofer, two-channel stereo. Not needed for University "stereo-adapted" systems. Shpg. wt., 1 lb. \$5.95 user net.

RRL ULTRA LINEAR RESPONSE COMPONENT KITS CUL-10, CUL-11



CUL-10 comprises identical components of 12" Model S-10S (C-12HC woofer, UL/HC tweeter, HC-2 network); **CUL-11** components: C-15HC woofer, Diffusione — 8 mid-range, UL/HC tweeter, HC-3 network. Both kits complete with all wiring cables and easy-to-follow instructions for building and installing RRL enclosure. Shpg. wt., CUL-10, 15 lbs., CUL-11, 37 lbs. CUL-10—\$98.75, CUL-11—\$164.50 user net.



SYSTEMS and ENCLOSURES

ULTRA-COMPACT HIGH COMPLIANCE SYSTEMS IN FAMED RRL ENCLOSURE

RRL-Radiation Resistance Loading to give outstanding bass reproduction from ultra-compact cabinets.



MODEL S-10S RRL 12" SYSTEM
Absolutely outstanding big system performance. Dual voice coil stereo woofer achieves flat response to 30 cps. Available as highboy or lowboy.

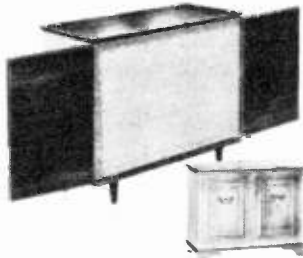


RRL-12 12" SYSTEM
Smooth, full-range performance from 35 cps to beyond audibility. Features sensational new Sphericon Super Tweeter.



RRL-8 8" SYSTEM
Newly engineered 8" high compliance woofer produces full bass down to below 40 cps.

Each finished on all four sides—use as highboy or lowboy.



TMS-2 STEREO SYSTEM

Completely integrated single cabinet stereo system, only 30" wide. New "trimensional" principle of obtaining separation achieves balanced stereo anywhere in the room. Available in contemporary and Early American Models.



MODEL EN-1215 ENCLOSURE Attractive new phase inverter lowboy. Smallest lowboy available for 12" or 15" wide-range speakers or multi-speaker systems.



MODEL S-80 8" SYSTEM Excellent high efficiency system offering wide-range response at a modest price. Only 9 1/4" deep.



MODEL S-55 12" SYSTEM Top quality self-contained folded horn for limited space. Use in corner or against wall.

MODEL EN-12 ENCLOSURE For 12" wide-range speaker or multi-speaker system. Complete with mid-range/tweeter plugs.

KWIKITS

MODELS KEN-15 AND KEN-12
Self-contained folded horns for placement anywhere in room. Everything needed to assemble quickly, easily. Only a screwdriver needed. Heavy 3/4" first grade lumber with genuine hardwood veneers.



MODEL S-3TM 8" SYSTEM Powerhouse of acoustic energy. Needs only 5-10 clean watts.

MODEL TM-812 ENCLOSURE For use with any University 8" or 12" wide-range speaker.



MODEL S-9S 15" SYSTEM Versatile front-loaded folded horn, operating independent of walls or floor. Completely assembled and wired. Unfinished only.

MODEL EN-CB ENCLOSURE Includes all hardware for mounting speakers. S-9S components suggested.

Exclusive Stereo Feature . . . THE DUAL VOICE COIL

Two electrically independent voice coils on a single woofer. Allows any University speaker system with DVC woofer (C-15W, C-12SW, C-15HC, C-12HC, C-8HC) to be converted to stereo with addition of a compact, modestly priced "add-on" speaker. No need for second woofer, enclosure or network.



STEREOFLEX-1



SLC



STEREOFLEX-2

Double horn-loaded STEREO "ADD-ON" SPEAKERS

STEREOFLEX-1 Makes stereo installation easy even in rooms with crowded decor. Response from 150-15,000 cps.

MODEL SLC Same acoustic design as Stereoflex-1, but with fiberglass housing of charcoal grey, gold anodized grille and adjustable stand.

STEREOFLEX-2 True end table design needing only 10" floor width. Response to inaudibility.

MODEL	WOOFER	MID-RANGE	TWEETER	NETWORK	SIZE: H x W x D	Shg. Wt.	Mahogany	Bleed	Walnut	Limed Oak	Oiled Walnut	Fruitwood	Unfinished
TMS-2	C-12HC	2 spec. 8"	2 compr. wide-angle	Dual 3-Way	Contemp'y: 25 x 30 x 12 1/2 Early Amer.: 24 1/2 x 30 x 13 1/2	92 lbs.	258.00	263.00	263.00	—	—	—	—
S-10S	C-12HC		UL/HC	HC-2	25 x 14 x 14 1/2	51 lbs.	154.00	158.00	158.00	—	—	279.95	—
RRL-12	12" high compliance	3 1/2" direct radiator	Sphericon	6 db per octave	25 x 15 1/2 x 12 1/2	3 1/2 lbs.	119.95	—	123.95	123.95	125.95	—	114.95
RRL-8	8" high compliance	3 1/2" direct radiators (2)		6 db per octave	22 1/2 x 12 1/2 x 10 1/2	28 lbs.	99.50	—	102.50	102.50	105.50	—	95.50
S-5S	C-12SW	H-600/T-30	UXT-5	N-3	30 x 21 1/2 x 15 1/4	72 lbs.	215.00	220.00	220.00	—	—	—	—
EN-12	Any 12" wide-range speaker or 2- or 3-speaker system*				30 x 21 1/2 x 15 1/4	60 lbs.	76.00	79.50	79.50	—	—	—	65.50
S-3TM	308				built-in	21 1/2 x 15 1/2 x 12 1/2	32 lbs.	87.25	90.25	90.25	—	—	—
TM-812	Any 8" or 12" wide-range speaker**				21 1/2 x 15 1/2 x 12 1/2	26 lbs.	43.50	46.50	46.50	—	—	—	37.75
S-80	C-8W	3 1/2" direct radiator		6 db per octave	21 1/2 x 11 1/2 x 9 1/2	17 lbs.	59.95	—	59.95	—	—	59.95	56.95
EN-1215	Any 12" or 15" wide-range speaker or 2- or 3-speaker system				27 1/2 x 25 1/2 x 16	56 lbs.	63.00	69.00	69.00	—	—	—	—
S-3S	C-15W	Cobreflex/T-30	HF-206	N-3	40 1/2 x 31 1/2 x 23 1/4	170 lbs.	—	—	—	—	—	—	340.00
EN-CB	S-9S components recommended				40 1/2 x 31 1/2 x 23 1/4	135 lbs.	—	—	—	—	—	—	120.00
KEN-15	Any 15" or 12" wide-range speaker or 2- or 3-speaker system†				35 1/2 x 29 x 18 1/2	68 lbs.	—	—	—	—	—	—	59.50
KEN-12	Any 12" wide-range speaker or 2- or 3-speaker system*				29 1/2 x 21 1/2 x 15 1/2	45 lbs.	—	—	—	—	—	—	44.75
SLC	—	6" driver horn-loaded	compr. wide-angle	built-in	11 1/2 x 12 1/2 x 10 1/2	10 lbs.	Charcoal Grey—43.50			—	—	—	—
STEREOFLEX-1	—	6" driver horn-loaded	compr. wide-angle	built-in	11 1/2 x 12 1/2 x 10 1/2	16 1/2 lbs.	54.50	56.50	56.50	—	—	—	—
STEREOFLEX-2	—	heavy duty compr. driver	compr. wide-angle	built-in	9 1/2 x 25 1/2 x 14 1/2	40 lbs.	110.00	113.00	113.00	—	—	—	—

*with H-600/T-30 mid-range

**8" adapter board available on request

†12" adapter board sold separately

Note: all prices user net

Thank You!

When ordering products shown in this book or writing for additional information, please be sure to specify:

1. **Manufacturer's Catalog Numbers and Page Numbers.**
2. **The Year and Edition of This MASTER.**

This will avoid confusion and expedite delivery.

The
Radio - Electronic
MASTER

ALLIANCE PHONOMOTORS

THE ALLIANCE MANUFACTURING CO., INC. • ALLIANCE, OHIO

FOR HI-FI AND STEREOPHONIC

Phonomotors

Three and four speed phonomotors for record players 16, 33 1/3, 45 and 78 RPM records

Single speed 78 RPM phonomotors

General Purpose Motors

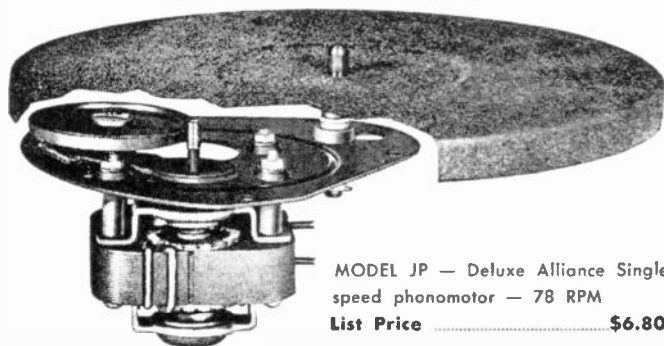
The Model JS Alliance Sub-fractional Motors are mass produced with minor variations to meet the demands of specific jobs which require a highly efficient miniature power plant. It can be used as the vital power source on all kinds of electrical and mechanical devices for electronic, electric, radio and time controls, TV and radio tuners, turntable drives for phonographs and Hi-Fi, valve and heating controls, animated displays, coin operated mechanisms, switches, signals, business machines, and other special uses. These motors are equipped with oilless bronze bearings for continuous duty. They can be furnished with or without Internal fans and for clockwise or counter-clockwise rotation.

The specifications shown can be varied within limits to meet your design requirements. This would include such things as corrosive resistant finish, water resistant (impregnated coil), threaded or stepped shaft, and variation of the mounting arrangement.

ALLIANCE SINGLE SPEED

78 RPM PHONOMOTOR MODEL JP

Available in 45 and 33 1/3 RPM on customer order only



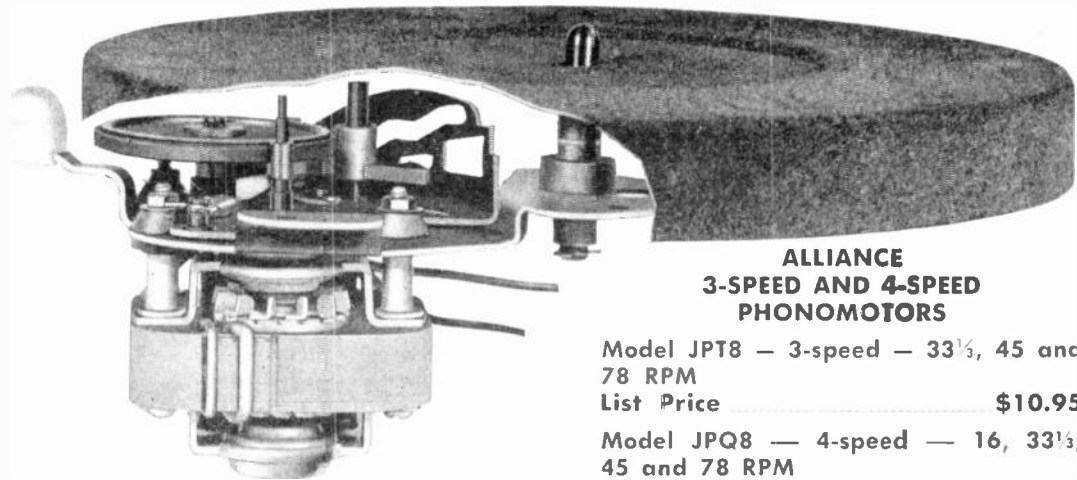
MODEL JP — Deluxe Alliance Single speed phonomotor — 78 RPM
List Price \$6.80

Model JP — The most economical player motor on the market. Available with 6½" and 8" turntable diameters. Same basic motor as used on JPT and JPQ models. Same mounting cutout as three and four speed units. Turntables available in choice of colors. Also available with motor winding for use in series with Z5L6 vacuum tube filament. Scintered metal tip on turntable spindle revolves with record.

THE ALLIANCE MANUFACTURING COMPANY, INC., ALLIANCE, OHIO

ALLIANCE PHONOMOTORS

FOR HI-FI AND STEREOPHONIC



ALLIANCE 3-SPEED AND 4-SPEED PHONOMOTORS

Model JPT8 — 3-speed — 33 $\frac{1}{3}$, 45 and 78 RPM

List Price \$10.95

Model JPQ8 — 4-speed — 16, 33 $\frac{1}{3}$, 45 and 78 RPM

List Price \$11.86

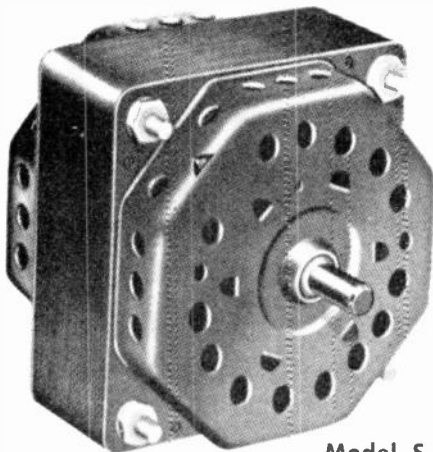
THREE AND FOUR SPEED PHONOMOTORS

THE LARGEST SELLING PHONOMOTORS IN THE WORLD

MODEL JPT — A completely new design. Retains all of the features of original model, which became the standard of the industry, with many added improvements. Adequate reserve power in motor. Elimination of stepped pulley reduces possibility of wow and rumble. Added neutral position on shifter lever removes drive shaft from contact with rubber tire when instrument is not in use. Attractive plastic knob on shifter lever available in color. TURNTABLES AVAILABLE IN CHOICE OF COLORS. FURNISHED WITH PLASTIC 45 RPM CENTER DISC. Can be furnished with winding for operation in series with 25 .6 tube

filament if desired. Furnished with speed indicator escutcheon plate. Same mounting plate cut-out as single speed 78 RPM unit illustrated, thus providing greater versatility for manufacturers of phonograph equipment.

The model JPT provides unimpaired performance at all speeds. Single lever shifts and indexes speeds with freer movement. Electronic dynamically balanced rotor. Vibration-proof mountings. Minimum rumble and hum. Unexcelled speed regulation. Designed to meet U. L. requirements. Occupies minimum space. Millions have been sold.



Model S

MODEL S

This motor was specifically designed for transcription type turntables, stereo tape, stereo disc, and Hi-Fi applications. For further information on this motor, please contact:

The Alliance Manufacturing Company, Inc.

Alliance, Ohio

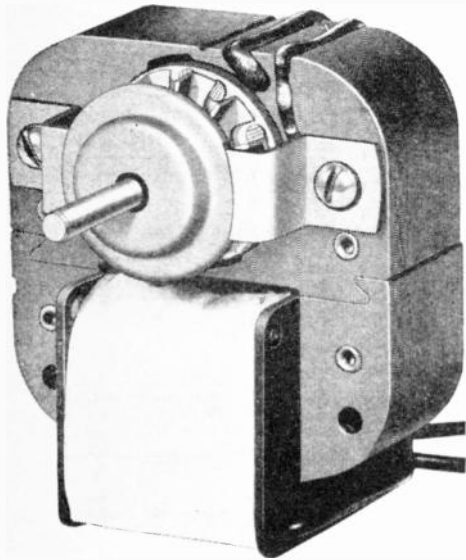
Component Division — Plant #1

THE ALLIANCE MANUFACTURING COMPANY, INC., ALLIANCE, OHIO

ALLIANCE MOTORS

MODEL JS MOTOR—

This new model is an extremely versatile motor of high efficiency and compact design. In reality JS is a "big brother."



Model JS

SPECIFICATIONS

SPECIFICATION NO.	JS0300	JS0600	JS0750	JS0800	JS1100	JS1200
Stack Thickness	0.350	0.600	0.750	0.850	1.100	1.250
Voltage	117	117	117	117	117	117
Frequency	60	60	60	60	60	60
Locked Amps—Cold	0.30	0.71	0.88	0.92	0.93	1.0
Locked Watts—Cold	15	35	45	50	55	62
Starting Torque—Cold Oz. In.	0.66	1.75	2.35	2.70	2.95	3.20
Idle Amps—Hot	0.25	0.54	0.65	0.67	0.60	0.70
Idle Watts—Hot	11	22	28	30	30	40
Idle RPM—Hot	3350	3470	3475	3475	3500	3500
Full Load Amps	0.26	0.57	0.70	0.76	0.72	0.82
Full Load Watts	13	29	38	42	44	53
Full Load Torque Oz. In.	0.75	2.70	3.60	4.20	5.10	5.30
Full Load RPM	2900	2900	2900	2900	2900	2900
Full Load HP	0.002	0.008	0.010	0.012	0.015	0.015
"A" Dimension (Internal Fans)	1 23/32	1 31/32	2 1/8	2 7/32	2 15/32	2 5/8
"A" Dimension (No Fans)	1 9/16	1 13/16	1 15/32	2 1/16	2 5/16	2 15/32
Weight	12 oz.	1 lb. 2 oz.	1 lb. 6 oz.	1 lb. 8 oz.	1 lb. 13 oz.	2 lb. 1 oz.
Duty	Cont.	Cont.	Cont.	Cont.	Cont.	Cont.

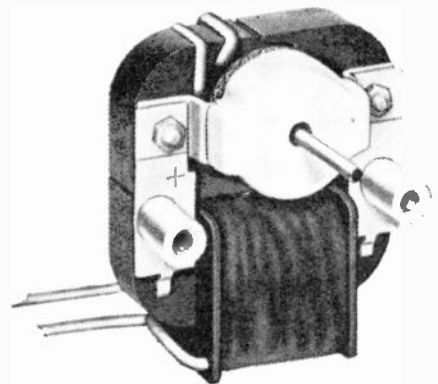
117 volts 60 cycles, continuous open rating with 65° centigrade temperature rise. Motor can be supplied with internal fans for mechanical duty. Mounting hole 1 7/8" center.

Prices vary with stack thickness

JS0500

SPECIFICATIONS Dual Bearing Long Life

Stack Thickness inches	0.500
Voltage	115
Frequency — CPS	60
Locked Amps — Hot	0.170
Locked Watts — Hot	10
Starting Torque, Hot — oz. in.	0.70
Idle Amps — Hot	0.150
Idle Watts — Hot	7.8
Full Load Torque — oz. in.	0.5
Full Load RPM	2500
Full Load HP	0.0012
Weight	1 lb. 1 oz.
Duty	Continuous



Model JS0500

THE ALLIANCE MANUFACTURING COMPANY, INC., ALLIANCE, OHIO

ALLIANCE MOTORS

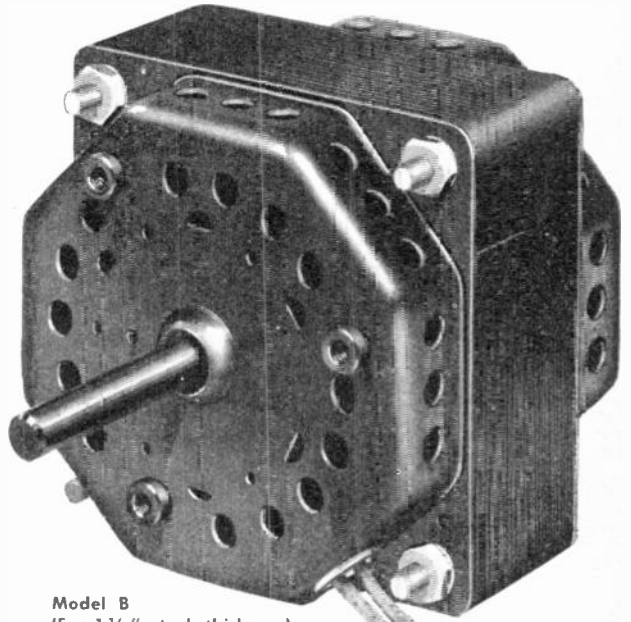
GENERAL TYPES FOR SMALL LOADS

MODEL B Shaded Pole Induction Motor

**FOR HI FIDELITY PLAYERS
FANS — RECORDERS — HEATERS
and OTHER DEVICES**

Model B is a 4-pole shaded pole induction motor, especially adapted for such devices as fans, unit heaters, blowers, air circulators, disc, tape and wire recorders. Comes in three standard lamination stack thicknesses. The range of power is from 1/100 h.p. up to 1/25 h.p. Where necessary the motor can be supplied completely enclosed.

Important advantages for Model B are economy of operation, low induced hum, low magnetic field, cool running, flexible power range and compactness. A real Hi-Fi power plant.



Model B
(For 1 1/4" stack thickness)
List Price\$15.10

SPECIFICATIONS

MECHANICAL

3 3/8" square, with length of 2 1/8" over the end bracket for the 1 1/4" stack. 5/16" diameter shaft.

Porous bronze, oil-less type, self aligning bearings — amply proportioned, with large oil reserves.

Semi-open or fully enclosed construction. Can be supplied with oil tubes if required.

Four No. 10-32 bolts equally spaced for end mounting or motor can be supplied with mounting bushings on end covers.

3/4", 1 1/4" and 1 3/4" lamination stacks depending on rating required.

Max. weight — approx. 5.6 lbs. for largest stack thickness.

Single Phase, 4-pole, shaded pole induction motor with squirrel cage rotor.

Approx. 1/25 h.p. for fans — approx. 1/40 h.p. for mechanical loads without external cooling. Entire power range runs from 1/100 h.p. to 1/25 h.p. for semi-enclosed construction.

Starting torque approx. 40% of torque at full load rating. 1550 r.p.m. full load speed

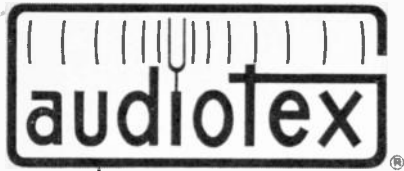
A. C. only — 115 volts, 60 cycles. Clockwise or counter clockwise rotation — not reversible. Can be wound for 50 cycles and other voltages.

Internal cooling fans on each end.

FOR DETAILED INFORMATION... CATALOG SHEETS
OR ADVICE ON SPECIAL PROBLEMS WRITE THE FACTORY
THE ALLIANCE MANUFACTURING COMPANY

Division of Consolidated Electronics Industries Corp.

ALLIANCE, OHIO



HI-FI ACCESSORIES

AUDIOTEX MFG. CO., DIV. of G-C TEXTRON, INC.
 ROCKFORD, ILL. • LOS ANGELES 18, CALIFORNIA

PHONO ACCESSORIES



RECORD BRUSH

Camel hair brush clips on tone arm; sweeps grooves while record is playing. Adjustable swivel permits use with any record player.

CAT NO. 30-000 List: \$.75

ATOMIC STAT-ELIM

Anti-static dust eliminator drains static charge by ionizing air surface of record. Contains mildly radio-active element; lightweight holder attaches to tone arm.

CAT NO. 30-002 List: \$3.95



STYLUS BRUSH

Automatically cleans stylus each time tone arm is moved from rest position. Self-adhesive bottom attaches to turntable; adjustable to any height.

CAT NO. 30-004 List: \$1.65

STATI-KLEER

Spray-type static eliminator comes in 12 oz. aerosol can. Eliminates dust-attracting static electricity.

CAT. NO. 30-008 List: \$1.79



RECOR-DE-STAT

Squeeze bottle of anti-static detergent with velvet pad applicator. Long velvet fibers reach bottom of record grooves. Anti-static detergent cleans records; leaves dust-repelling film.

CAT NO. 30-010 List: \$2.00

DUST BUG

Four-in-One Record Cleaner & Static Eliminator

Applies cleaning fluid, brushes dirt from grooves, picks up loosened dirt, eliminates static charge automatically while record is playing. Anti-static cleaning fluid included.

CAT. NO. 30-014 (changer model) List: \$7.90
 CAT. NO. 30-012 (player model) List: \$9.60
 CAT. NO. 30-016 (fluid refill) List: \$2.00
 CAT. NO. 30-018 (plush pad replacement) List: \$1.40



45-RPM RECORD ADAPTOR

Plastic adaptor slips over standard spindle to play any 45 RPM disc.

CAT. NO. 30-034 List: \$.25

DISK-O-KLEEN

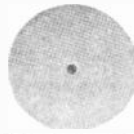
Silicone treated record cleaning cloth eliminates static charge. Specially woven velvet material has extra length nap to reach bottom of grooves.

CAT. NO. 30-022 List: \$1.25

45-RPM RECORD INSERTS

Plastic snap-in inserts adapt large hole 7" records for play on 3 speed changers. Spring-like construction holds insert firmly in place.

CAT NO. 30-030 (Pkg. of 6) List: \$.30



TURNTABLE RECORD CUSHIONS

Thick plastic sponge cushions eliminate record slip, reduce magnetic pull, prolong record life.

CAT. NO. 30-040 (10") List: \$1.25
 CAT. NO. 30-042 (12") List: \$1.65

TURNTABLE RUBBER MAT KIT

Heavy rubber mat fits any 12" turntable. Has tapered ridges 7", 10", and 12" in diameter. Supports any size record by its blank outside rim, keeping grooves from touching. Strobe disc and 45 RPM adaptor included.

CAT. NO. 30-044 List: \$4.25



PHONO COVERS

Heavy duty embossed vinyl covers for turntables and changers.

CAT. NO.	SIZE	LIST
30-048	13 1/4" x 12 1/2" x 8"	\$2.50
30-050	17" x 15" x 8 1/2"	\$2.50
30-052	17 1/2" x 16 1/2" x 8 1/2"	\$3.00
30-054	21 1/2" x 16" x 8 1/2"	\$3.00

RECORD SAVERS

Heavy-duty polyethelene envelopes protect records when not in use.

CAT NO.	SIZE	LIST
30-060	For 10" records. Pkg. of 6	\$4.49
30-062	For 12" records. Pkg. of 5	\$4.49

TONE ARM LIFT

Provides precise control of tone arm. Made of spring metal, plastic coated; attaches to tone arm.

CAT. NO. 30-066 List: \$.75



PHONO ACCESSORY KIT

Complete phono and record care kit contains record brush, recor-de-stat, 12" record savers, tone arm lift, stylus microscope, stylus weight gauge, strobe disc, and phono and recorder oil.

CAT. NO. 30-098 List: \$9.95



AUDIOTESTER TEST RECORD

12" plastic LP has stereo tests on Side 1; mono on Side 2. Side 1: metronome balance, pickup alignment, channel separation, frequency response, RIAA equalization, turntable rumble. Side 2: stylus wear, frequency response, RIAA equalization, im distortion, turntable rumble, tone arm resonance.

CAT. NO. 30-200 List: \$4.98

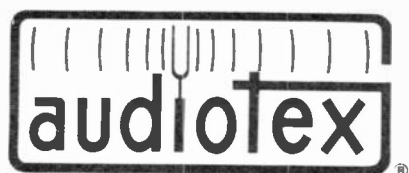


STYLUS MICROSCOPE

Optical instrument for checking stylus wear. Has adjustable focus and magnifying power of 50. Complete with pen-type pocket clip.

CAT NO. 30-218 List: \$2.50





HI-FI ACCESSORIES

AUDIOTEX MFG. CO., DIV. of G-C TEXTRON, INC.
 ROCKFORD, ILL. • LOS ANGELES 18, CALIFORNIA

PHONO ACCESSORIES (Continued)



STYLUS WEIGHT GAUGE

Measures force needed to lift tone arm from record. Calibrated in bands with an expanded scale at low force. Accurately gauges correct stylus pressure.

CAT. NO. 30-220 List: \$2.80

PHONO LEVEL

Bubble-type gauge for precise measurement of phonograph level. Accurate to better than 1°.

CAT NO. 30-224 List: \$2.50



PHONO LEVEL KIT

Includes bubble-type phono level and four adjustable feet for balancing of any phonograph or turntable.

CAT NO. 30-226 List: \$3.25



STROBE DISC

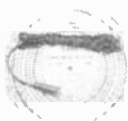
New design shows not only correct speed but also $\pm 2\%$ and $\pm 4\%$ deviations.

CAT. NO. 30-228 (Cardboard) List: \$.55
 CAT. NO. 30-230 (Plastic) List: \$1.65

PHONO SPEED TEST KIT

Complete outfit for checking turntable speed. Includes plastic scrobe disc and hardy neon lamp.

CAT. NO. 30-232 List: \$2.90



TAPE ACCESSORIES



TAPE SPLICER — QUICK SPLICE MODEL

For fixing broken tape and editing. Provides easy-to-repair mitre cut.

CAT. NO. 30-100 List: \$2.75



TAPE SPLICER—PROFESSIONAL MODEL

Easy to use, precise cutter splicer with pair of curved cutting blades. Leaves tape edges free of adhesive. For use with any 1/4" tape.

CAT. NO. 30-104 List: \$9.95

SPLICING TAPE

For use with any tape splicer. Special cold setting, non-flowing adhesive on Mylar base. 100' spool, 1/2" width. Enough for 200 splices.

CAT. NO. 30-110 List: \$.50

HEAD-DEMAG TAPE HEAD DEMAGNETIZER

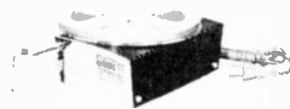
Safely removes all trace of magnetism from recording heads. Curved, flat tip is plastic-covered — can't scratch or damage. Reaches most heads with cover left on; on-off switch eliminates unplugging when device is not in use.

CAT. NO. 30-112 List: \$9.95

TAPERASER

Removes all traces of signal and noise from audio tapes and 16 or 35 mm magnetic sound film. Powerful erase action (to -52 db) lowers residual noise level below that of some virgin tape. Erases tape on reels up to 10 1/2" in diam. Complete operation takes only 30 seconds.

CAT. NO. 30-114 List: \$33.00



TAPE END CLIPS

Stops straying tape ends. Reusable plastic clip, works with any reel.

CAT. NO. 30-116 (Pkg. of 18) List: \$.60

TAPE AND RECORD LABELS

36 pressure-sensitive 1 1/2" x 2" labels provide handy index to the music library. Space for title, date, and number.

CAT. NO. 30-118 List: \$.55

TAPE CUEING LABELS

Color coded, pressure-sensitive numbered tabs for marking selections anywhere on a tape. Package contains five sheets, six tabs to a sheet, and includes identification labels for the reel or box.

CAT NO. 30-120 List: \$1.65

TAPE THREADING LEADER

For easy threading of tape on reel. 24" Mylar leaders with pressure sensitive adhesive. A small foam rubber ball at one end drops into hub of take-up reel. On fast rewind, the ball releases without damaging tape.

CAT. NO. 30-122 (Pkg. of 10) List: \$1.40



KLEEN-LUBE

Two-bottle kit for cleaning and lubricating tape heads. Cleaner dissolves dirt and grease. Lubricating fluid contains silicone in solvent base; leaves light oil film to reduce friction, eliminate tape squeal.

CAT. NO. 30-124 List: \$1.95



KLEEN-TAPE

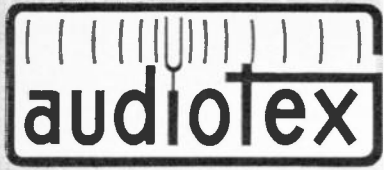
100' of specially impregnated cloth tape on 5" reel for cleaning tape heads. "Plays" through any standard tape recorder in less than 2 minutes.

CAT. NO. 30-126 List: \$2.95

TAPE RECORDER ACCESSORY KIT

Complete set of essentials for proper care and operation of tape recorders. Contains "Kwick-Splice" tape splicer, roll of splicing tape, package of tape labels, box of tape end clips, package of tape starting leaders, reel of Kleen-Tape and vial of Phono and Recorder Oil.

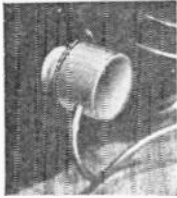
CAT. NO. 30-148 List: \$9.95



HI-FI ACCESSORIES

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TAPE ACCESSORIES (Continued)



TELEPHONE PICK-UP

Records both sides of a telephone conversation — suction cup attaches to any phone. Plugs into tape recorder.

CAT. NO. 30-150 List: \$5.95

AUDIOFESTER TAPE

For checking performance of stereo and mono tape machines and associated equipment. Tests include head alignment, resonance, frequency response. NAB equalization, intermodulation, flutter, metronome balance, and distortion. 7.5 ips tape comes with detailed instruction.



CAT. NO. 30-206 (Standard tolerance) List: \$6.50

CAT. NO. 30-208 (Precise tolerance) List: \$8.25

MISCELLANEOUS HI FI ACCESSORIES



MINIATURE EARPHONE

For private listening to radios, TV, and hi-fi. Electro-dynamic type with frequency range 50-4000 cps. Lightweight metal clip holds phone to either ear.

CAT. NO. 30-154 (15 ohm) List: \$4.50

CAT. NO. 30-156 (2000 ohm) List: \$4.50

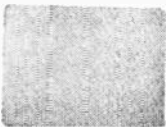
PROFESSIONAL HEADPHONES

High quality instruments for stereo and monophonic play. Frequency range 50-15,000 cps. Moving coil elements contain dual 16 ohm voice coils and lightweight plastic diaphragms. Supplied with connecting cable and plugs. Impedance: 16/16 ohms (stereo) or 8 ohms (mono).



CAT. NO. 30-158 List \$49.00

VIBRATION PADS



Resilient pads made of foam plastic and sponge rubber. Laminations reduce rumble, minimize feedback, and protect cabinets.

CAT. NO.	SIZE	LIST
30-162	6"x12"	\$0.90
30-164	9"x12"	1.25
30-166	12"x12"	1.60
30-168	13"x16"	2.25

DUO CONE REAR SEAT SPEAKER KIT

Wide frequency range, oval speaker for rear deck of auto. Kit includes all parts necessary for installation — speaker, baffle, grill, 3-way wired switch, switch plate, wire, hardware.

CAT. NO. 30-172 (6"x9") List: \$15.95

CAT. NO. 30-174 (5"x7") List: \$12.95

"SONATA" REAR SEAT SPEAKER KIT

Separate woofer and tweeter provide excellent music reproduction in the car. Ideal for use with FM car radios. Complete with all accessories; ready to install.

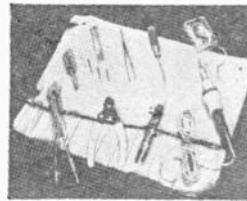
CAT. NO. 30-176 List: \$19.95

AUTO REMOTE SPEAKER CONTROL AND JACK

Feeds signal from car radio to remote speaker. Automatically cuts out interior car speaker and provides volume control for external speaker. Ideal for supplying music to outdoor picnics, etc.



CAT. NO. 30-182 List: \$3.50



ENGINEER'S HI-FI SERVICE TOOL KIT

Special tools for the audiophile or professional for repair, installation and adjustment of hi-fi and music equipment. Heavy duty plastic pouch contains 2 miniature-tip soldering irons; precision tweezers; neolite circuit tester; phono & recorder oil; set of jeweler's screwdrivers; Phillips screwdriver; miniature screw holding screwdriver ("Minihold"); wire stripper and cutter, and a package of solder.

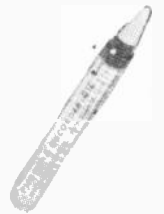
CAT. NO. 30-244

List: \$16.50

PHONO AND RECORDER OIL

Specially compounded non-gumming oil in handy plastic drop-by-drop applicator. Contains rust inhibitor.

CAT. NO. 30-250 List: \$6.55



SPEAKER CONE WEATHERPROOFING

Special silicone compound weatherproofs speakers for outdoor use. 8 oz. in aerosol-type spray can; enough to protect several speakers.

CAT. NO. 30-252 List: \$2.50

FM INDOOR ANTENNA

Folded Dipole for local or strong signal locations. Comes ready to install with 6' lead wire and spade lugs.

CAT. NO. 30-270 List: \$2.10

FM TURNSTYLE ANTENNA KIT

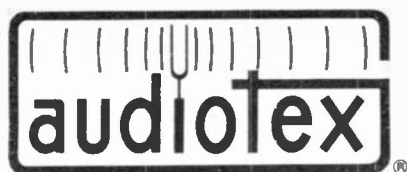
Omni-directional antenna kit provides excellent reception even in fringe areas. Kit contains step-by-step instructions and all parts needed for easy installation.

CAT. NO. 30-272 List: \$15.95

FM YAGI ANTENNA

The ultimate for long distance reception — brings in signals up to 100 miles away. Dual driven 8 element Yagi construction with 10 db gain. Easy to install snap-out construction. (Mast, wire and hardware not supplied).

CAT. NO. 30-276 List: \$27.50



HI-FI ACCESSORIES

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MISCELLANEOUS HI FI ACCESSORIES (Continued)

TWO-SET TV-FM ANTENNA COUPLER

Provides good isolation between TV and FM receivers. Excellent for strong signal areas.

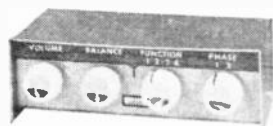
CAT. NO. 30-280 List: \$2.50

Ultra low-loss coupler designed specifically for fringe area reception. Easy to mount, indoors or out. Completely weather-proof.

CAT. NO. 30-282 List: \$3.50

STEREO-O-SOUND REMOTE CONTROL CENTER

Operates stereo and monophonic hi-fi remotely from the listening position. Four controls provide complete "arm-chair" operation: "fine" volume, balance, phase reversal, four-position stereo mono selector. Gold-finish metal cabinet is 2 1/2" H, 7" W, 4" D. Comes with 20' cable and screw-type terminal board; connects between amplifier and speakers.



CAT. NO. 30-286

List: \$39.50

STEREO/MONOPHONIC SWITCHBOX

Parallels two stereo channels for noise-free play of monophonic records with stereo cartridge. Two-position switch for stereo or mono play. 3 ft. shielded cables with male phono plugs included.

CAT. NO. 30-290 (surface mounting) List: \$4.85

CAT. NO. 30-292 (panel mounting) List: \$5.25



DUO JACK SWITCH BOX

Connects two units such as tuner and record player or tape machine to single input. Automatically switches signals. Contains two inputs that accept phono jacks and 18" output cable with phono plug.

CAT. NO. 30-294 (surface mounting) List: \$3.00

CAT. NO. 30-296 (panel mounting) List: \$3.75

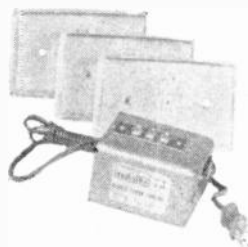
REMOTE POWER CONTROL

Operates like a light switch; provides remote control of electrical equipment at any location, with any number of switches. Contains low voltage signal power supply and relay switch. Remote switches fit standard electrical outlet box or may be built into a cabinet. Uses 3 conductor low voltage wire. 10 amp at 117.5 volt capacity.

CAT. NO. 30-300 (includes 3 switches) List: \$23.00

CAT. NO. 30-302 (with 3 pilot light switches) List: \$28.00

CAT. NO. 30-304 (additional switches without pilot light) List: \$2.25



POWEROFF

Shuts-off power to automatic record changers when last record has been played. Automatic shut-off may be switched to manual control. Complete with line cord and two receptacles.

CAT. NO. 30-310 (for changers drawing 30-45 watts) List: \$11.95

CAT. NO. 30-312 (for changers drawing 15-30 watts) List: \$11.95



HI FI DECALS

Jumbo assortment of attractive labels. Includes identification tabs for controls, cabinets, chassis parts and remote control devices.

CAT. NO. 30-314 List: \$1.50

HI FI KNOBS

Attractive plastic knobs with silver or gold ring inserts. Standard 1/4" brass insert bushing with set screw — fits any shaft configuration.

CAT. NO.	COLOR	SIZE	LIST
30-320	Black/gold	1" x 1 1/8"	\$.50
30-322	Grey/silver	1" x 1 1/8"	\$.50
30-324	Ivory/gold	1" x 1 1/8"	\$.50
30-326	Black/gold	1 1/8" x 1 1/8"	\$.55
30-328	Grey/silver	1 1/8" x 1 1/8"	\$.55
30-330	Ivory/gold	1 1/8" x 1 1/8"	\$.55
30-332	Black/gold	1 1/2" x 7/8"	\$.65
30-334	Grey/silver	1 1/2" x 7/8"	\$.65
30-336	Ivory/gold	1 1/2" x 7/8"	\$.65

DRAWER SLIDES

For mounting record players, tape machines or other equipment in storage walls or cabinets. Support up to 50 lbs.; fit any drawer up to 17" long. Nylon rollers provide smooth operation.

CAT. NO. 30-350 (one pair) List: \$3.30

ACOUSTIC PADDING

Spun fiberglass eliminates standing sound waves, reduces reverberation inside speaker cabinets. May be used for any application to control or absorb sound.

CAT. NO. 30-356 (24"x60"x1") List: \$1.65

CAT. NO. 30-358 (Roll 24"x150"x1") List: \$31.25 (30c ft.)

SPEAKER SELECTOR SWITCH

Dial switch provides control of 1 to 3 speakers anywhere in the house. Finished in attractive brush lacquered solid brass. Terminals on rear.

CAT. NO. 30-360 (surface mounting or free standing) List: \$5.50

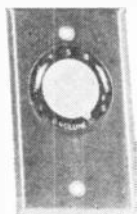
CAT. NO. 30-362 (wall plate type) List: \$3.50

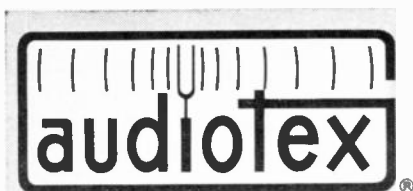


SPEAKER VOLUME CONTROLS

Terminal-type controls for mounting on standard electrical wall plates. Also fit standard conduit box or may be mounted in any panel or cabinet. 10 watt power capacity (20 watt peak); "L" pad design.

CAT. NO.	LIST
30-364 (or 8 ohm speakers)	\$4.95
30-366 (for 16 ohm speakers)	\$4.95
30-368 (for 8 ohm speakers with output jack for plug-in of extension speaker)	\$5.25
30-370 (for 16 ohm speaker with jack as above)	\$5.25
30-372 (for two 8 ohm speakers)	\$8.50
30-374 (for two 16 ohm speakers)	\$8.50





HI-FI ACCESSORIES

AUDIOTEX MFG. CO., DIV. of G-C TEXTRON, INC.
 ROCKFORD, ILL. • LOS ANGELES 18, CALIFORNIA

CONNECTING CABLES, ADAPTORS, PLUGS AND JACKS

A full assortment of Interconnecting Cables, Adaptors and connectors for connecting Hi-Fi sets. Cables come in a variety of lengths for any application.

SHIELDED CABLES

Phono Pin Plugs on both ends.

CAT. NO.	LENGTH	LIST
30-400	18"	\$1.00
30-402	36"	1.25
30-404	72"	1.50
30-406	144"	2.00

Phono Pin Plug on one end, other end stripped and tinned.

CAT. NO.	LENGTH	LIST
30-412	18"	\$.90
30-414	36"	1.00
30-416	72"	1.25
30-418	144"	1.75

Phono Pin Plug on one end; Phono Pin Jack on other end.

CAT. NO.	LENGTH	LIST
30-424	18"	\$1.25
30-426	36"	1.35
30-428	72"	1.75
30-430	144"	2.25

Phono Pin Jacks on both ends.

CAT. NO.	LENGTH	LIST
30-434	18"	\$1.55
30-436	36"	1.80
30-438	72"	2.25

Phono Pin Plug on one end, 90° Phone Plug on other.

CAT. NO. 30-442 (72") List: \$2.00

Phono Pin Plug on one end, Std. Phone Plug on other.

CAT. NO. 30-444 (72") List: \$2.00

90° Phone Plug on one end, Phone Jack on other.

CAT. NO. 30-446 (10') List: \$5.00

Std. Phone Plug on one end, Phone Jack on other end.

CAT. NO. 30-448 (10') List: \$5.00

Phone Plug on one end, other end stripped and tinned.

CAT. NO. 30-450 (6') List: \$1.90

Mike Connector on one end, other end stripped and tinned.

CAT. NO. 30-452 (10') List: \$2.70

TWO-CONDUCTOR CABLES

Alligator Clips on one end; 90° Phono Pin Plug on other end.

CAT. NO. 30-456 (10') List: \$3.25

Spade Lugs on one end; 90° Phono Pin Plug on other end.

CAT. NO. 30-458 (10') List: \$1.85

Alligator Clips on one end; 90° Phono Plug on other end.

CAT. NO. 30-460 (10') List: \$2.40

Standard Phone Plug on one end; 90° Phone Plug on other end.

CAT. NO. 30-462 (10') List: \$2.40

ADAPTORS

Phono Pin Jack, for connecting two Phono Pin Plugs.

CAT. NO. 30-470 List: \$1.00

Phono Pin Plug to Standard Phone Plug

CAT. NO. 30-472 List: \$1.95

Female Mike Connector to Standard Phone Plug.

CAT. NO. 30-474 List: \$.45

Mike Connector to Phono Pin Plug.

CAT. NO. 30-476 List: \$1.00

MISCELLANEOUS

Connector for two Male Mike Connectors.

CAT. NO. 30-478 List: \$1.00

Mike Connector, Single Contact, Male.

CAT. NO. 30-480 List: \$.50

Mike Connector, Single Contact, Female.

CAT. NO. 30-482 List: \$.70

Standard Phone Plug, 2 Contact, Plastic handle.

CAT. NO. 30-484 List: \$.75

Standard Phone Plug, 2 Contact, "Stubby" Metal handle (shielded).

CAT. NO. 30-486 List: \$1.00

Phone Plug, 3 Contact, Plastic handle.

CAT. NO. 30-488 List: \$1.20

Phone Plug, 3 Contact, Metal handle (shielded).

CAT. NO. 30-490 List: \$1.40





Phono Pin Plugs, Package of 4.

CAT. NO. 30-492 List: \$.55







Phono Pin Jacks, Package of 3.

CAT. NO. 30-494 List: \$.55

— THE WORLD'S FINEST MAGNETIC RECORDING TAPE



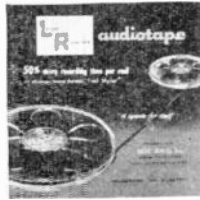

Description	Type No.*	Length	Reel+	List Price
 <p>SUPER-THIN AUDIOTAPE on ½-mil "Mylar" gives twice as much recording time per reel as standard plastic-base tape. For long-play applications where tape tension is not excessive.</p>	1231	1200 ft.	5" Plastic	3.50
	2431	2400 ft.	7" Plastic	6.50
 <p>SUPER-THIN AUDIOTAPE ON TEMPERED "MYLAR" gives twice as much recording time per reel as conventional tape and is twice as strong as other double-length tapes. Will not stretch or break on any tape recorder — will not dry out or embrittle with age.</p>	1231T	1200 ft.	5" Plastic	4.75
	2431T	2400 ft.	7" Plastic	8.75
	4831T-R	4800 ft.	10½" Aluminum Reel	20.50
	‡4831T-FS	4800 ft.	10½" Fiberglass (RETMA)	20.50
 <p>MASTER LOW PRINT-THROUGH AUDIOTAPE on plastic base — reduces print-through (magnetic echo) by 8 db. The finest, professional-quality recording tape. Base material, 1½-mil acetate. Maximum fidelity, uniformity, frequency response and freedom from noise and distortion.</p>	651-M	600 ft.	5" Plastic	2.75
	1251-M	1200 ft.	7" Plastic	4.30
	2551H-M	2500 ft.	NARTB Hub	9.80
	2551R-M	2500 ft.	10½" Aluminum Reel	12.50
	‡2551FS-M	2500 ft.	10½" Fiberglass (RETMA)	12.50
	5051H-M	5000 ft.	NARTB Hub	19.55
5051R-M	5000 ft.	14" Aluminum Reel	26.00	
 <p>MASTER LOW PRINT-THROUGH AUDIOTAPE on 1½-mil "Mylar"—print-through (magnetic echo) is reduced by 8 db. A super durable tape that meets the highest standards of performance. Withstands extreme temperatures and is virtually immune to humidity. Has maximum life under any conditions.</p>	671-M	600 ft.	5" Plastic	4.60
	1271-M	1200 ft.	7" Plastic	7.70
	2571H-M	2500 ft.	NARTB Hub	14.00
	2571R-M	2500 ft.	10½" Aluminum Reel	16.40
	‡2571FS-M	2500 ft.	10½" Fiberglass (RETMA)	16.40

Audio Accessories



Item	Type No.	List Price	Item	Type No.	List Price
 <p>AUDIO HEAD DEMAGNETIZER Removes all permanent magnetism from recording and reproducing heads in a matter of seconds. Includes 7-foot cord and is individually boxed.</p>	400	10.00	 <p>AUDIO RECORDING HEAD CLEANER Especially formulated for use on recording heads. Contains silicone solvent. Superior to carbon tetrachloride. One-ounce bottle with brush.</p>	1HC	.65
 <p>ECHORASER Simple device for removing print-through from recorded tape. Kit contains one base and two Echorasers—red for removing weak print-through, black for removing strong print-through.</p>	500	12.50	 <p>AUDIO SELF-TIMING LEADER TAPE A strong, durable leader tape of white "Mylar" material with spaced markings to permit accurate rate time of leader intervals. Each box contains 100 feet, ¼" wide.</p>	3L	.55
 <p>ADHESIVE REEL LABELS Provide positive identification of your tapes, right on the reel. Simply press to apply, pull off to remove. Envelope of 30, 2" x ½" labels.</p>	30AL	.20	<p><i>how to make GOOD TAPE RECORDINGS</i></p> <p>This completely new handbook of tape recording contains up-to-the-minute information of interest and practical value to every tape recordist. Profusely illustrated with photographs, charts and diagrams prepared especially for this book, it contains 150 pages of valuable information on all phases of modern tape recording.</p>	Clothbound	
 <p>AUDIO HEAD ALIGNMENT TAPE Pre-recorded at 2,000, 10,000 and 15,000 cps (15"/sec.) with precisely correct head alignment. Each box contains 300 ft. on a 4" reel and instructions.</p>	200	10.00	<p>25C</p>	2.50	
			<p>Paperbound</p>	15P	1.50

Type EP AUDIOTAPE, extra precision magnetic recording tape for telemetering, electronic computers and other specialized applications, is also available. Ask for bulletin on EP AUDIOTAPE. AUDIOFILM on 35mm, 17½mm and 16mm base, and AUDIO MAGNETIC DISCS are also available. Ask for information.

THE COMPLETE LINE OF PROFESSIONAL QUALITY audiotape TRADE MARK

Description	Type No.*	Length	Reel†	List Price	
 <p>PLASTIC-BASE AUDIOTAPE on 1½-mil cellulose acetate meets the most exacting requirements of the professional, educational and home recordist at minimum cost. Known the world over for matchless performance and consistent uniform quality.</p>	151	150 ft.	3" Plastic	\$ 0.70	
	351	300 ft.	4" Plastic	1.35	
	651	600 ft.	5" Plastic	2.25	
	1251	1200 ft.	7" Plastic	3.50	
	2551H	2500 ft.	NARTB Hub	8.50	
	2551R	2500 ft.	10½" Aluminum Reel	10.90	
	‡2551FS	2500 ft.	10½" Fiberglass (RETMA)	10.90	
	5051H	5000 ft.	NARTB Hub	17.00	
	5051R	5000 ft.	14" Aluminum Reel	22.10	
	 <p>AUDIOTAPE ON 1½-MIL MYLAR® — a premium-quality professional tape with maximum mechanical strength and immunity to heat and humidity. Will not dry out or embrittle with age.</p> <p><small>® Du Pont Trade Mark</small></p>	671	600 ft.	5" Plastic	4.10
1271		1200 ft.	7" Plastic	6.65	
2571H		2500 ft.	NARTB Hub	12.10	
2571R		2500 ft.	10½" Aluminum Reel	14.50	
‡2571FS		2500 ft.	10½" Fiberglass (RETMA)	14.50	
5071H		5000 ft.	NARTB Hub	24.20	
5071R		5000 ft.	14" Aluminum Reel	30.20	
 <p>"LR" (Longer Recording) AUDIOTAPE ON 1-MIL "MYLAR" — 50% more recording time per reel. Strong, superdurable polyester film base assures trouble-free operation even under extreme heat and humidity.</p>		261	225 ft.	3" Plastic in Self-Mailer Pkg.	1.00
		961	900 ft.	5" Plastic	3.60
		1861	1800 ft.	7" Plastic	6.20
	3661H	3600 ft.	NARTB Hub	12.00	
	3661R	3600 ft.	10½" Aluminum Reel	14.40	
	‡3661FS	3600 ft.	10½" Fiberglass (RETMA)	14.40	
	7261H	7200 ft.	NARTB Hub	24.00	
	7261R	7200 ft.	14" Aluminum Reel	30.00	
 <p>PLASTIC-BASE "LR" AUDIOTAPE provides 50% more recording time on low-cost 1-mil cellulose acetate base, affording maximum economy where high strength is not required.</p>	941	900 ft.	5" Plastic	3.50	
	1841	1800 ft.	7" Plastic	5.50	
	3641H	3600 ft.	NARTB Hub	10.00	
	3641R	3600 ft.	10½" Aluminum Reel	12.85	
	‡3641FS	3600 ft.	10½" Fiberglass (RETMA)	12.85	
	7241H	7200 ft.	NARTB Hub	20.00	
	7241R	7200 ft.	14" Aluminum Reel	26.00	

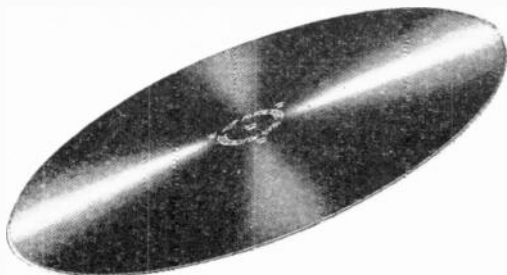
Miscellaneous audiotape TRADE MARK Items

Item	Type No.	Description	List Price			
 <p>COLORED PLASTIC-BASE AUDIOTAPE on 1½-mil cellulose acetate (in same box as above with label for color). Green and blue colored Audiotape, in conjunction with the standard red-brown tape, provide instant visual identification of recorded selections spliced into a single reel (as shown) — permit fast and easy color cueing and color coding. Eliminate need for identifying leaders between selections.</p>	Green	Blue	Length	Reel		
	151G	151B	150 ft.	3" Plastic	\$ 0.70	
	351G	351B	300 ft.	4" Plastic	1.35	
	651G	651B	600 ft.	5" Plastic	2.25	
	1251G	1251B	1200 ft.	7" plastic	3.50	
	2551HG	2551HB	2500 ft.	NARTB Hub	8.50	
	2551RG	2551RB	2500 ft.	10½" Aluminum Reel	10.90	
	‡2551FSG	‡251FSB	2500 ft.	10½" Fiberglass (RETMA)	10.90	
	5051HG	5051HB	5000 ft.	NARTB Hub	17.00	
	5051RG	5051RB	5000 ft.	14" Aluminum Reel	22.10	
	 <p>EMPTY AUDIO REELS IN INDIVIDUAL BOXES</p>	Standard Reels				
		3PB		3" Plastic Reel in Box	.25	
		4PB		4" Plastic Reel in Box	.45	
5PB			5" Plastic Reel in Box	.60		
7PB			7" Plastic Reel in Box	.75		
10RB			10½" Aluminum Reel in Box	4.00		
10FS			10½" Fiberglass (RETMA) in Box	4.00		
14RB			14" Aluminum Reel in Box	7.40		
10H			NARTB Metal Hub	.70		
Colored Plastic Reels						
5PBR		Red Yellow Green Blue	5" Plastic Reel in Box	.60		
5PBY						
5PBG						
5PBB						
7PBR		Red Yellow Green Blue	7" Plastic Reel in Box	.75		
7PBY						
7PBG						
7PBB						

*Type Numbers listed cover red oxide wound on reel with OXIDE IN. For tape wound with Oxide Out, change last digit of Type No. from "1" to "0."
 †COLORED PLASTIC REELS. Audiotape on 5" and 7" plastic reels can be supplied on colored reels at no increase in price when ordered

in lots of 30 reels or more of any one color. To designate color of reel (Red, Yellow, Green or Blue) add letters "RR" and "YR," "GR," or "BR" to Type No. Listed.
 ‡"FS" in Type No. indicate Fiberglass reel with solid hub and 5 16" center hole.

audiodiscs®



For truly fine recording and reproduction

For more than a decade, Audiodiscs have consistently maintained their position of eminent leadership in every field of instantaneous disc recording.

A superior lacquer coating, applied to the mirror-smooth aluminum base by a patented process, gives these outstanding advantages: maximum uniformity of coating, permanent resistance to humidity, longer stylus life, freedom from audible background scratch, long playback life, brilliant frequency response, and freedom from deterioration with age.

Type	Diameter	List Price per Disc	Box Contains	
RED LABEL Audiodiscs for professional use. Exceed the most exacting demands for highest quality professional recordings. The finest discs obtainable. Aluminum base. Double sided. Embossed labels.	7"	\$1.40	25	
	8"	1.10		
	10"	1.55		
	12"	2.55		
	16"	4.60		
SINGLE FACE RED LABEL Audiodiscs. Same quality as double sided Red Label Audiodiscs, listed above.	12"	2.00	25	
	16"	3.70		
YELLOW LABEL Audiodiscs for general use. High uniform quality. The popular choice for all general purpose recording. Aluminum base. Double sided. Yellow paper labels.	8"	.93	25	
	10"	1.24		
	12"	2.11		
	16"	3.70		
REFERENCE LABEL Audiodiscs. Provide maximum economy for test cuts, filing, reference recordings, auditions and equipment adjustments. Aluminum base. Double sided. White paper labels.	10"	1.05	25	
	12"	1.55		
	16"	2.77		
BLUE LABEL Audiodiscs for amateur use. Same high quality lacquer as professional discs, but on thinner aluminum base. Ideal for schools, homes, and general amateur use. Double sided. Blue paper labels.	6 1/2"	.50	50	
	8"	.70		
	10"	1.00		
MASTER Audiodiscs. The outstanding choice of professional recordists for use where pressings are to be made. Give fine results with either silvering or gold sputterings. Aluminum base. Doublesided or single face.	10"	2.50	25	
	12"	3.20		
	13 1/4"	4.05		
	16"	5.95		
	17 1/4"	6.95		
	10"	2.00		25
	12"	2.50		
13 1/4"	2.95			
16"	4.71			
	17 1/4"	5.10		

*Standard 1.1mm disc with 1 1/2" center hole. Center-hole adapters included for recording on conventional turntable.

Prices slightly higher in Pacific Coast and Southwestern Areas.



AUDIOBISC CHIP-CHASER

A simple but perfect solution to the thread removal problem in recording. The felt-lined wiper blade is set on the disc before starting the recording. The Chip-Chaser automatically and infallibly brushes the thread toward the center, winding it up on the overhead post or drive pins, as the case may be.

List Price | for 16" turntables, \$8.95
| for 12" turntables, \$7.90



"HOW TO MAKE GOOD RECORDINGS"

A complete, authoritative and non-technical handbook on all phases of disc recording—materials, equipment and techniques. Contains 140 pages, profusely illustrated with photographs, charts and diagrams. Includes a glossary of recording terms. Now in its 11th printing. List price \$2.00

audiopoints®

microscopically matched recording and playback styli

The complete line of Audiopoints covers the full range of recording and playback needs—for professional as well as general use. Audiopoints are made by skilled craftsmen, and conveniently packaged in cards, boxes or envelopes.



RECORDING AUDIPOINTS

SAPPHIRE No. 14—long recognized as the finest recording stylus made. Short or long dural shank, 87° included angle.

List Price—\$8.25
(Resharpening cost—\$3.75)

SAPPHIRE No. 20—especially designed for professional microgroove recording. Short or long dural shank.

List Price—\$8.25
(Resharpening cost—\$3.75)

SAPPHIRE No. 202—a high-quality professional stylus. Short or long brass shank.

List Price—\$6.60
(Resharpening cost—\$3.20)

STELLITE No. 34—a favorite with many professional and non-professional users. Short or long shank. 87° included angle.

List Price \$2.50
(Resharpening cost—\$1.10)

DIAMOND LAPPED STEEL No. 50—most practical and economical stylus for non-professional use.

List Price—3 for \$1.75



PLAYBACK AUDIPOINTS

SAPPHIRE No. 113—meets the requirements of the most critical professional recordists. Straight dural shank.

List Price—\$4.50
(Resharpening cost—\$2.00)

SAPPHIRE No. 123—for professional use with microgroove recordings.

List Price—\$2.00

"RED CIRCLE" SAPPHIRE No. 103—for professional use with instantaneous recordings or vinyl transcriptions. Straight dural shank.

List Price—\$2.00

"RED CIRCLE" SAPPHIRE No. 303—same as No. 103, except with bent dural shank. Ideal for phonograph records.

List Price—\$2.00

RESHARPENING SERVICE

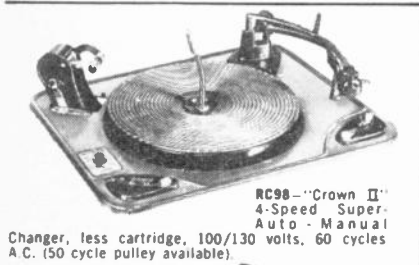
Established years ago, our Resharpening Service materially reduces the over-all cost of using sapphire and stellite Audiopoints. Each resharpened point is disc-tested. Special cards and envelopes are available for returning Audiopoints for resharpening.

Sec. 1340



**ALL GARRARD RECORD PLAYERS
ARE WIRED FOR STEREO AND
MONAURAL RECORDS**

PICK. 350C
EMPIRE 108
SHURE 17D
GE UR1000-7

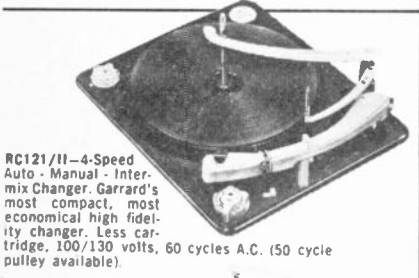


RC98—"Crown II"
4-Speed Super-
Auto-Manual

Changer, less cartridge, 100/130 volts, 60 cycles A.C. (50 cycle pulley available).



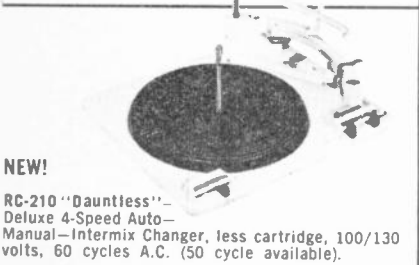
RC88—"Triumph II" Deluxe 4-Speed
Auto-Manual Changer, less cartridge,
100/130, volts, 60 cycles A.C. (50
cycle pulley available).



RC121/II—4-Speed
Auto-Manual-Inter-
mix Changer. Garrard's
most compact, most
economical high fidelity
changer. Less cartridge,
100/130 volts, 60 cycles A.C. (50 cycle
pulley available).



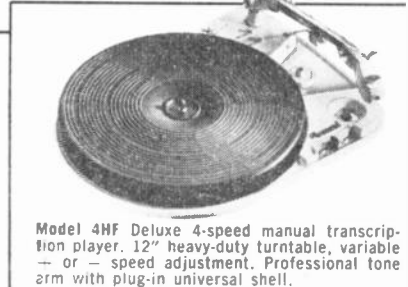
Model 301—"Professional"
Transcription Turntable,
100/130, 200/250 volts,
60 cycles A.C. (50 cycle
pulley available).



NEW!
RC-210 "Dauntless"—
Deluxe 4-Speed Auto-
Manual-Intermix Changer, less cartridge, 100/130
volts, 60 cycles A.C. (50 cycle available).



Model Tmk II—"Crest" 4-Speed Manual
Player, less cartridge, 100/130 volts, 60
cycles A.C. (50 cycle pulley available).



Model 4HF Deluxe 4-speed manual transcription
player. 12" heavy-duty turntable, variable
— or — speed adjustment. Professional tone
arm with plug-in universal shell.

All Garrard automatic record changers and manual players are available with
Electro Voice, G.E., Pickering and Shure Stereo Cartridges (also available with G.E. monaural cartridges).
Accessories Available: Mounting Boards, Bases, Carrying Cases and stylus pressure gauge.



LEAK STEREO MODELS

NEW! "Point One Stereo" Preamplifier
NEW! "Stereo 50" Amplifier, 25 watts
per channel.
NEW! "Stereo 20" Amplifier, 12 watts
per channel.

LEAK MONAURAL MODELS

Varislope III Preamplifier
TL/50 PLUS—0.1% dist. at 50 watts
TL/25 PLUS—0.1% dist. at 25 watts
TL/12 PLUS—0.1% dist. at 12 watts
NEW! Trough Line II FM Tuner
ONLY LEAK KEEPS HARMONIC DISTORTION DOWN TO 0.1% AT FULL RATED POWER.



WHARFEDALE

Designed & built under the
direction of G. A. Briggs

SPEAKERS

Super 3-3" treble speaker
Super 8/FS/AL-B" full range
(also for use as tweeter).
W10/FSB—10" full range
Super 12/FS/AL—12" full
range.
Co-axial 12-12" full range
dual concentric speaker.
W12/FS—12" low frequency
driver.
W15/FS—15" low frequency
driver.
1000 cycle crossover.
3000 cycle crossover.
3 way crossover (800 &
500 cycles).

READY TO PLAY SYSTEMS

SFB/3 Custom 3-way system, sand filled baffle.
SFB/3 Deluxe 3-way system, sand filled baffle.
W/AF/1—Acoustic-filter 2-Speaker system with 10" woofer.
W/AF/2—Acoustic-filter 2-Speaker system with 12" woofer.
C-500 "Briggs" 3-way corner system.
C-500 Deluxe "Briggs" 3-way corner system deluxe style.
NEW!
WS/2 Full range 2 speaker system
W/20 Full range 2 speaker system

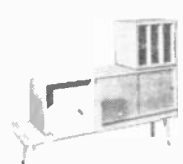


Built to RJ
Patented
Design
Principles

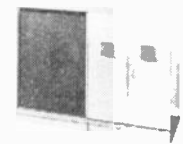
Entire line restyled—

RJ ENCLOSURES

RJ/8—Single shelf model for 8" speaker 11" H x 10" D x 23 1/2" L
RJ/12-S—Double shelf model for 12" speaker. 24" H x 10" D x 21" L.
RJ/12-F—Floor model for 12" speaker. Tapered legs with brass ferrules 20" H x 16" D x 20" L
RJ/15—Floor model for 15" speaker. Tapered legs with brass ferrules 20" H x 16" D x 20" L
RJ/Super 8—RJ/8 enclosure with Wharfedale Super 8 FS/AL installed.
Available in unfinished Birch Hardwood and in Mahogany, Walnut or Blonde RJ custom finishes.



RIVER EDGE CUSTOM-IZED CABINETS AND DO-IT-YOURSELF KITS
Equipment and loud-speaker cabinets, crafted of fine woods, meticulously finished; made to hold components of all manufacturers.



BRITISH INDUSTRIES CORPORATION - PORT WASHINGTON, N. Y.



PROFESSIONAL TAPE AND DISC EQUIPMENT

PRESTO RECORDING DISCS

MASTERS

PRESTO MASTERS represent the ultimate development in the art of recording disc manufacturing. Every step of their production is carefully checked, and the final inspection is one of the most rigorous in the industry. Over twenty-five years of experienced leadership assures you of the finest possible cutting and plating characteristics. Proof of quality and reliability lies in the continued insistence by leading studios on MASTERS by Presto. Single side MASTERS are identical to double side, except that only one side is warranted perfect. Specify if drive hole is desired. Separate envelopes are provided on request. Shipped with spacers between discs in wood crate or time proved Presto Pak.

Packed 25 per carton.
*20 per carton

Type Number	Overall Thickness in Inches	Diameter in Inches	List Price
		Double Side	
620A	.050	10	\$2.50
621A	.050	11 ⁷ / ₈	3.20
623A	.050	13 ¹ / ₄	4.05
626A	.050	16	5.95
627A	.064	17 ¹ / ₄ *	6.95
		Single Side	
820B	.050	10	1.95
821B	.050	11 ⁷ / ₈	2.50
823B	.050	13 ¹ / ₄	2.95
826B	.050	16	4.70
827B	.064	17 ¹ / ₄ *	5.10

GREEN LABEL

GREEN LABEL recording discs are of the same high quality as Presto MASTERS. They are ideal for the most critical recording purposes. Both sides are warranted flawless. Packed 25 in carton. The exclusive GREEN LABEL seal is your guarantee of complete satisfaction. Separate envelopes are provided. Shipped in the user approved Presto Pak carton.

610A	.040	10	1.40
611A	.050	11 ⁷ / ₈	2.55
616A	.050	16	4.60

Packed 25 per carton

BROWN LABEL

BROWN LABEL recording discs represent a real saving when a disc is desired of GREEN LABEL quality, but where only one perfect side is required. The "second" side is usually suitable for test cuts, reference recordings, etc. BROWN LABELS are identified by an embossed seal and are packed in the full protection of the Presto Pak carton. Separate envelopes are provided.

810B	.040	10	1.20
811B	.050	11 ⁷ / ₈	2.00
816B	.050	16	3.70

Packed 25 per carton

WHITE LABEL

WHITE LABEL recording discs offer an opportunity for savings when full GREEN LABEL quality is not required. They are excellent for test cuts, reference recordings, playbacks or better quality amateur recording. The same quality lacquer and aluminum base material used in GREEN LABELS and MASTERS is used in the making of WHITE LABELS. An embossed seal identifies this "best-buy" disc. They are packed with separate envelopes in the sturdy Presto Pak carton.

510A	.040	10	1.10
511A	.050	11 ⁷ / ₈	2.00
516A	.050	16	3.70

Packed 25 per carton

ORANGE LABEL

ORANGE LABEL—the same quality lacquer used in the finest Presto discs is also used for ORANGE LABELS. However a lighter gauge aluminum base is utilized. This combination provides excellent recording quality at reasonable cost. ORANGE LABELS are popular with schools, amateur recordists, and studios where cost is an important factor, but where quality cannot be sacrificed. Distinctive paper labels are attached. Records are in individual envelopes inside the strong shipping cartons. Also supplied BULK PACKED with no labels, separate envelopes. State "BULK PACK" if desired.

306A	.035	6 ¹ / ₂	.50
308A	.035	8	.75
310A	.035	10	1.05
311A	.040	11 ⁷ / ₈	1.55

Packed 50 per carton

PRESTO RECORDING STYLI

DURAL SHANK SAPPHIRE

DURAL SHANK SAPPHIRE cutting needles complement the high quality of Presto recording discs. Discriminating recordists have found them to make consistently quiet cuts with excellent polishing characteristics. Careful and skilled workmanship to rigid specifications plus individual testing is your assurance of quality. 87° included angle is standard, 70° is available on special order. Available with long shank for Presto I-D recording head, or short shank for all other recorders. With care, sapphires can be used for many hours before resharpening is required.

Type Number	Size	Shank Length	List Each
603A	Standard	Short	\$8.25
603M	Micro	Short	8.25
604A	Standard	Long	8.25
604M	Micro	Long	8.25

RESHARPENING SAPPHIRE — DURAL SHANK

3.75

BRASS SHANK SAPPHIRE

BRASS SHANK SAPPHIRE cutting needles can be utilized where extended high frequency response is not required. They are popular with schools and home recordists. 87° included angle. Available for micro-groove on special order. Resharpening service available. Life expectancy similar to dural shank.

320A	Standard	Short	6.60
321A	Standard	Long	6.60

RESHARPENING SAPPHIRE — BRASS SHANK

3.25

STELLITE

STELLITE Needles produce a clean quiet cut, but are limited to a few hours of life. They are particularly suited to home or student applications where tip breakage of the more costly sapphires could be a problem. 87° included angle. Resharpening service available. Recording life limited to several hours.

330A	Standard	Short	2.50
331A	Standard	Long	2.50

RESHARPENING STELLITE

1.40

STEEL

STEEL cutting needles are produced with the same care as other Presto needles but because of the material used, do not have the extended range of long life of the more expensive types. The ruggedness of steel needles makes them ideal for beginners where cost is important. Cannot be resharpened. 15 to 30 minute life.

350A	Standard	Short	(pkg. of 3) 1.00
351A	Standard	Long	1.00
350B	Standard	Short	(12 pkgs.) 12.00
351B	Standard	Long	12.00

PLAYBACK NEEDLES

SAPPHIRE

SAPPHIRE playback needles are the finest obtainable for replaceable needle reproducers. Excellent fidelity and long wear are a result of extreme care in manufacture. Dural shank.

Type	Size	List Price
420A	Standard	1.25

TRANSCRIPTONE

TRANSCRIPTONE playback needles are made from an extremely hard steel alloy. These unbreakable needles are usable for several hours of playing time without excessive wear.

430A	Standard	1.00
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BOGEN-PRESTO CO.

"The Finest Recordings are made on
PRESTO DISCS"

ALL prices and specifications subject to change without notice



PROFESSIONAL TAPE AND DISC EQUIPMENT

2-SPEED DISC RECORDER... THE 66-H BY PRESTO

The 66-H is the simplest type of very high quality gear driven recording equipment. It is an ideal unit for broadcast station or recording studio, where quality must be maintained. The Presto dual motor direct gear drive gives 100% perfect program timing. The 1-D cutting head has flat response between 50 and 12,000 cycles per second, plus ample output to assure an excellent signal-to-noise ratio. Accessories such as pickups, equalizers, and microscopes can be added to the 66-H if desired. Engineers appreciate the 66-H design because of the minimum amount of maintenance needed and perfect speed regulation. Presto A93 (below) is recommended.

66-H Disc Recorder (33 $\frac{1}{3}$ and 45 R.P.M.)
 TA-6 78 R.P.M. Adaptor

User Price, \$1930.50
 User Price, 214.50



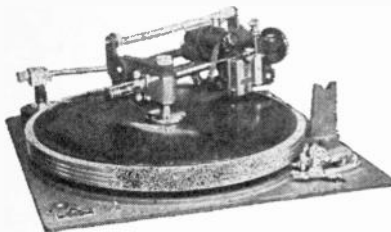
64-B Transcription Turntable
 User Price \$1023.00

TA-5 78 R.P.M. Adaptor
 User Price, \$214.50

64-B TRANSCRIPTION TURNTABLE

The Presto 64-B transcription turntable is designed especially for broadcast station transcription and record reproduction. Its drive mechanism is unique in that it is directly gear driven at both 33 $\frac{1}{3}$ and 45 rpm. A separate motor is employed for each speed and there is no mechanical speed shift whatsoever. This type of construction produces a mechanism which always operates at the correct speed and requires no adjustment of any sort. The mechanical construction is very rugged, insuring unusually long life under continuous operation.

6-N 3-SPEED DISC RECORDER



The Presto 6-N recorder is the ideal unit for high quality work under all conditions calling for either a portable or a stationary recorder. Broadcasting stations for a decade have found the 6-N to be an ideal and economical mechanism for master work, delayed programs, and local program recording. Standard equipment includes spiraling feedscrew, vertical damper, time scale and lateral reproducer arm. For portable use the 6-N is unusually sturdy. The entire overhead mechanism can be dismantled and secured in a special compartment in the side of the carrying case. Mechanical Noise: 40 db below average program level. Feedscrew Pitches available: 96, 112, 120, 136, also 224 microgroove (specify which). Speed Regulation: Overall 0.5%. Instantaneous 0.25%. Power Requirements: 115 volts, 60 cycle—0.6 amp. (50 cycles available). Dimensions: In carrying case, 20 $\frac{1}{4}$ " x 20" x 15". Weight: in carrying case, 82 lbs.

6N-S Disc Recorder Chassis (1 standard feedscrew).....	\$1245.00
6N-M Disc Recorder Chassis (1 microgroove feedscrew) ..	\$1245.00
6N-SM Disc Recorder (1 each microgroove and standard feedscrews)	\$1321.50
Carrying Case	\$ 75.00

1D Cutting Head. The Industry Standard. Frequency Response: 50-12,000 cps; Impedances: 500 or 15 ohms (specify which). Includes crossover network. 1D Cutting Head.....\$269.00

A-93 DISC RECORDING AMPLIFIER



The Presto A-93 is a power amplifier primarily intended for disc recording purposes. **Input Impedance:** 50, 200, or 500 ohms, line; or 15,000 ohms, bridging. **Output Impedance:** 8, 15, 250, or 500 ohms. **Power Gain:** Line input, 83 db; bridging input, 68 db. **Signal-to-Noise Ratio:** Better than 55 db at normal record level. **Frequency Response:** \pm 1 db from 20 to 17,000 cps. **Tube Complement:** Two each 807 and 6SN7; one each 12AX7, 5U4G, and OA2. **Dimensions:** 10 $\frac{1}{2}$ " x 19" x 10 $\frac{3}{4}$ " deep. **Weights:** 72 lb. gross; 40 lb. net. **Power Input:** 115 volts, 50/60 cycle, 135 watts. User Price.....\$420.00

1. Pushbutton control provides choice of frequency response.
2. Provision for radius equalizer. Compensates for changing diameter of disc.
3. Rated output of 30 watts assures ample reserve for recording.
4. Harmonic distortion is less than 0.3%. Intermodulation distortion less than 1% at normal recording levels.
5. Meter monitors recording level and checks output tube current.

PRESTO PROFESSIONAL EQUIPMENT

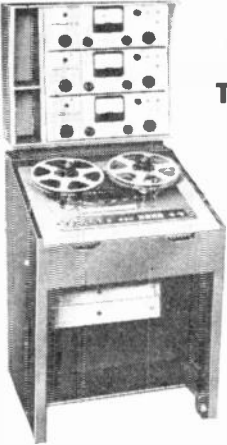


Since 1934, Presto has been the world's foremost name in sound recording equipment and blank discs. Among the professional users of these products the world over will be found more Presto sound equipment than any other make.

ALL prices and specifications subject to change without notice

PRESTO P

PROFESSIONAL TAPE AND DISC EQUIPMENT



NEW 3-Track Tape Recorder

The New Presto 850 . . . the only professional tape recorder instantly changeable from half inch to quarter inch . . . certainly the world's finest 3-track tape recorder.

Now, just one machine to do ALL your recording. The Presto 850 is the one tape recorder that will be the workhorse of your studio, for it can do everything any other tape recorder can do . . . and then some! A minute of your time and it's changed from a half inch machine to a quarter inch machine, or from a quarter inch to a half inch machine. The 850 professional is certainly your best buy . . . best in performance, most economical (one does everything). Its three fabulous Presto A903 amplifiers are stacked on a single easy-to-work-at console . . . you can see them, and operate them with ease. The use-proved design of the 850 is based on the success of the 800 . . . your assurance of top performance. Available in rack, portable or console models. For further information, see your Presto representative or write Bogen-Presto, Paramus, N. J.

800 SERIES PROFESSIONAL FOR MONOPHONIC OR STEREOHONIC USE

The 800's flexible control panel allows absolute control of tape handling. Five color-coded illuminated push buttons provide interlocked relay control of the five basic modes—Record, Play, Stop, Rewind and Fast Forward. A unique interlock protects the Record circuit from accidental operation without the need for mechanical covers or physical separation—safe tape handling with optimum speed is assured.

Three "fast" speeds are push-button selected. Separate tape reel-size switches provide correct tape tension even when small and large reel sizes are mixed. Capstan motor switch allows machine to remain in "standby" with capstan motor off . . . and you get slow starts when you want them. Operator error is virtually eliminated, thanks to the unique 800 feature that automatically switches recording equalization when tape speed is changed. Cue push buttons switch recording equalization when tape speed is changed. Cue push button allows hand winding and cueing of tape without having to hit brakes. Low torque motor AC voltage eliminates tape spillage. Exclusive Edit micro-switch permits easy one-hand runoff of tape during editing and assembly of master tapes. Remote control unit plugs in for control of five basic modes.

Tape Used: 1 1/2" width (1 1/2" on model 850). **Tape Speed:** 7 1/2 and 15 ips or 3 1/4 and 7 1/2 ips, or 15 and 60 ips (equalization automatically switched with speed change). **Speed Accuracy:** ± 3 sec per 30 minutes. **Rewind or Fast Forward Time (at max. speed):** 7" dia. reel Approximately 30 seconds. 10 1/2" dia. reel Approximately 1 minute. **Starting Time:** Instantaneous. (Less than 1 second from stop to full speed). **Stopping Time:** At 15 ips, less than 2 inches of tape travel after depressing stop button. **Flutter:** At 15 ips—well below 10%. At 7 1/2 ips—well below .15%. **Frequency Response:** At 15 ips—± 2 db, 30 to 20,000 cps. At 7 1/2 ips—± 2 db, 40 to 12,000 cps (on Model 850)—at 15 ips—± 2 db, 40 to 15,000 cps. At 7 1/2 ips—± 2 db, 40 to 10,000 cps). **Signal-to-Noise Ratio:** 60 db at 2% distortion. (Model 850—55db at 2% distortion). **Adjacent channel Crosstalk:** 50 db at 2% distortion. **Playback Amplifier Distortion:** Less than 1% (harmonic) at +20 dbm from 25 to 20,000 cps. **Power Requirements:** Transport—117 VAC, 60 cycles, 260 watts. Power Supply and Amplifier: 60 watts. Export, 220-240 VAC: 50 cycles.



PB-17C TAPE REPRODUCER

The Presto PB-17C unit is a dual-track, reversing magnetic tape reproducer designed for use by wired music services, industrial plants, and other organizations where a constant source of background music is desired. This unit provides automatic continuous repetition of previously taped program material at a tape speed of 3 1/2" per second (7 1/2 ips optional) with a frequency response of 50 to 7500 cycles per second. The PB-17C uses a 14" diameter reel with a total playback time of eight hours. The PB-17C may be furnished for vertical rack mounting or supplied for vertical operation in CC-7 console cabinet. The mechanism is designed for use with the Presto A-909 preamplifier (shown in console).

PB-17C Tape Reproducer (chassis only)
A-909 Preamplifier
CC-7 Console

User Price, \$785.50
User Price, 132.00
User Price, 201.25

NEW! S1 STEREO DISC CUTTING HEAD

Licensed by Westrex, the S1 is a system of extraordinary stability. It is absolutely stable from 50 to 20,000 cycles, giving a totally useful band width without peaks or dips. An entirely new Presto designed feedback coupling technique permits recording at previously unobtainable levels. Distortion is virtually unmeasurable. A unique suspension system provides superior cross-talk characteristics.

Presto's "Studio Oriented" design permits quick change of stylus (10 minutes or less) . . . no jig or fixture is required for alignment, no tear-downs are necessary when a stylus needs replacing—the head need not be removed from the feed mechanism.

The S1 fits all Presto disc recording lathes and all other professional lathes as well . . . mounting kits are available where necessary.

PRESTO PROFESSIONAL EQUIPMENT



BOGEN-PRESTO CO.

Since 1934, Presto has been the world's foremost name in sound recording equipment and blank discs. Among the professional users of these products the world over will be found more Presto sound equipment than any other make.

ALL prices and specifications subject to change without notice

Capps

CAPPS & CO., inc.
valley stream, n.y.

CAPPS CUTTERS

Patent No. 2187512 and 2530284

CAPPS CUTTERS are the finest examples of precision hand craftsmanship available in this country today. Each one is made by a series of hand shaping and polishing operations on delicate facets so small that they can be covered by a human hair. Each is individually disc tested to assure the highest possible recording standards. PRODUCTION TOLERANCES: Included angle-Plus 7, minus 3 degrees; Radius, plus or minus .0003; Burnishing facet, plus or minus .00025 (measured at radius tip); Noise meter reading of minus 55db or better at an 8" record diameter.

SAPPHIRE CUTTERS

Cat. No.	Duty	Shank	Shank Matl.	Included Angle (degrees)	Radius (M's)	List Price	Resharpener List Price
780S	For general course pitch work, 78 and LP.	Short	Dural	87	1.5	\$8.25	\$3.75
780L	"	Long	Dural	87	1.5	8.25	3.75
702S	"	Short	Dural	70	2.0	8.25	3.75
702L	"	Long	Dural	70	2.0	8.25	3.75
330S	Routine microgroove	Short	Dural	87	0.5 to 1.0	8.25	3.75
330L	"	Long	Dural	87	0.5 to 1.0	8.25	3.75
B2S	Utility stylus	Short	Brass	87	to 1.0	6.60	3.25
B2L	"	Long	Brass	87	to 1.0	6.60	3.25

STELLITE CUTTERS

871S	Harder than steel—softer than sapphire	Short	Brass or Dural	87	to 1.0	2.50	1.40
871L	"	Long	Brass or Dural	87	to 1.0	2.50	1.40

CUSTOM MADE AND SPECIAL DESIGN STYLI AVAILABLE (MRS, ANM and FEATHER EDGE)

Eccentric styli, Advance balls, Shaving knives, Wax points, Embossing styli, Replaceable Sapphire reproducing needles, Cartridge assemblies with Sapphire points.

CAPPS RESHARPENING SERVICE

Most CAPPS MADE styli can be resharpened upwards of five times depending on whether they are simply dull or badly chipped (Thermo styli cannot be resharpened this many times because of the wiring which limits the available area of sapphire.) CAPPS "RESHARPS" are given the same exacting care and attention as CAPPS new styli and are returned to the sender promptly.

HOT STYLUS UNIT

The CAPPS HOT STYLUS UNIT is used for applying heat to disk recording styli, softening the disk material at the point of contact thereby producing smoother more accurate grooves. This results in a substantial reduction in surface noise, especially at the inner diameter and minimizes the mechanical load on the cutting head increasing its efficiency and frequency response.

When ordering specify make and model number of cutter head and stylus requirements.

Model No.

CU-I	Supplied without stylus	\$60.00 net
CU-IR	Supplied with regular duty stylus LP or 78	66.50 net
CU-IC	Supplied with custom made stylus to customer's specification	70.50 net



MICROPHONES CONDENSER MICROPHONES

CAPPS CONDENSER MICROPHONES are acoustically faithful, distortion free, omnidirectional, blast proof, and have a smooth frequency response from 20 to 20,000 c.p.s. Their excellent transient response make them ideal for those who must have the ultimate in acoustical transmission. They are complete with preamplifier, power supply and cable.

CM 2001 "PROFESSIONAL." The lowest priced condenser microphone available. Combines all of the features above with low cost achieved through mass production. Available for high impedance input (Grid Input). A boon to high fidelity enthusiasts.

CM 2001 Net Price \$150.00*

CAPPS "STUDIO" Condenser Microphones are completely equipped with Cannon Connectors and swivel head.

CM 2030A—30 Ohms Net Price \$225.00*

CM 2250A—250 Ohms Net Price \$225.00*

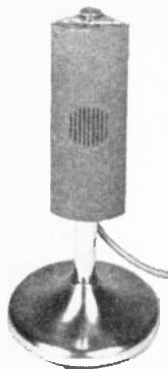
CM 2011A—Hi Imp. (Mic Input) Net Price \$225.00*

CRYSTAL MICROPHONE WITH CONTROLLABLE BASS BOOST

(Patent Pending)

Designed to compensate for frequency response deficiencies inherent in many tape recorder and p.a. systems, this microphone has a control knob which causes the acoustic chamber of this microphone to increase the bass response of the microphone up to 12 db from 50 to 150 c.p.s. with smooth rise and roll off below peak boost. Smooth frequency response 20-12,000 c.p.s. Output level —55 db re 1V/dyne/CM². Omnidirectional. 5/16"-27 thread for stand mounting or lay flat for desk use. Supplied with 15' of shielded microphone cable.

CR BB List Price \$36.00



CR 88



CM 2030A
CM 2250A
CM 2011A



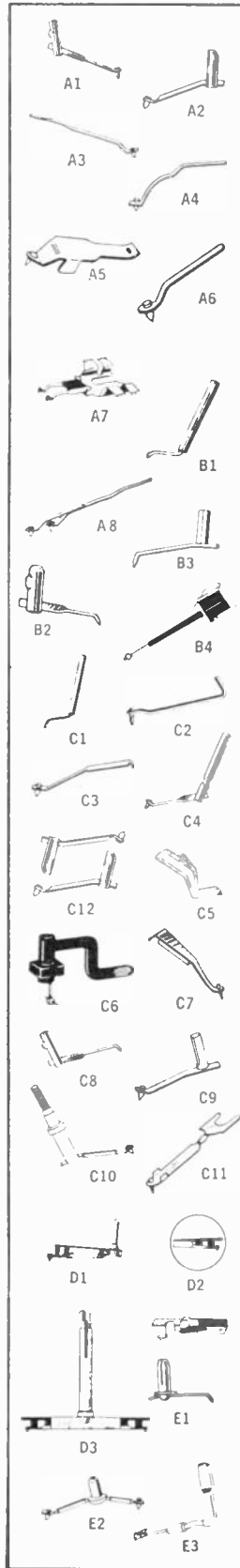
REPLACEMENT NEEDLE GUIDE

PRICE WALCO NO. FIG CARTRIDGE

FOR ADMIRAL CARTRIDGES			
2.50	W-2MGS	A1	
14.95	W-2MGD*	A1	409A301
2.50	W-5AGS	A2	
14.95	W-5AGD*	A2	409A16
2.50	W-21S	A3	
14.95	W-210*	A3	
2.50	W-21MGS	A3	409A13-1, 409A14
14.95	W-21MGD*	A3	409A15-1, 409A15 2
2.50	W-21AGS	A3	
14.95	W-21AGD*	A3	
2.50	W-30S	A4	
14.95	W-30D*	A4	
2.50	W-30MGS	A4	98454-1, 409A11, 409A13,
14.95	W-30MGD*	A4	409A13-2, 409A300, 409B19-9
2.50	W-30AGS	A4	
14.95	W-30AGD*	A4	
2.50	W-32AGS	A5	
14.95	W-32AGD*	A5	409A17
2.50	W-34S	A6	
14.95	W-34D*	A6	
2.50	W-34MGS	A6	409B19-8
14.95	W-34MGD*	A6	
3.50	W-35TPS	A7	
4.25	W-35TPS-1+	A7	
15.95	W-35DS	A7	409B20
29.95	W-35TPD*	A7	

FOR AMERICAN MICROPHONE CARTRIDGES			
1.50	W-55A	B1	S-1, S-1A, S-2, S-2A
1.50	W-56A	B2	
1.50	W-56MGA	B2	CR5, CR6, CR7
1.50	W-56AGA	B2	
1.50	W-57A	B3	
1.50	W-57MGA	B3	X101B, X101C,
1.50	W-57AGA	B3	X-105, X-106, X-107
2.50	W-58S	B4	
2.50	W-58MGS	B4	
2.50	W-58AGS	B4	B-101, B-102, B-103
14.95	W-58D	B4	
14.95	W-58MGD	B4	
14.95	W-58AGD	B4	

FOR ASTATIC CARTRIDGES			
1.50	W-1A	C1	
1.50	W-1MGA	C1	LT-1M, LT-2M, LT-3M
2.50	W-2S	A1	
14.95	W-2D*	A1	403-J, CAC-D, CAC-AG, CQ-AG,
2.50	W-2MG	A1	CAC-78, CQ-78, CAC-78X,
14.95	W-2MGD*	A1	CAC-78-W
2.50	W-2AGS	A1	CAC-1, QT, CQ, CAC-X, LQD,
14.95	W-2AGD*	A1	LQD-1, LQD-1B
2.50	W-3S	C2	
14.95	W-3D*	C2	
2.50	W-3MGS	C2	51-2, 53-1, 53-2, 53-3, 59-1,
14.95	W-3MGD*	C2	59-2, 59-3, GC-1-AG, 402-M,
2.50	W-3AGS	C2	GC, GC-AG, GC-78
14.95	W-3AGD*	C2	
2.50	W-4S	C3	
14.95	W-4D*	C3	
2.50	W-4MGS	C3	U, U-78
14.95	W-4MGD*	C3	
2.50	W-5S	A2	
14.95	W-5D*	A2	10L3(JorM), 11L3(JorM), 90-TB,
2.50	W-5MGS	A2	90-TJB, 90-TS, 90-TJS, AC, AC-C,
14.95	W-5MGD*	A2	ACR, AC-AG, AC-C-AG, AC-78,
2.50	W-5AGS	A2	AC-C-78,
14.95	W-5AGD*	A2	ACD, ACD-C, ACD-1, ACD-C1,
5.00 pr.	W-5S-H	C12	
29.95 pr.	W-5D-H*	C12	MD-1,
5.00 pr.	W-5MGS-H	C12	MD-3, MD-5, MD-6,
29.95 pr.	W-5MGD-H*	C12	
2.50	W-6S	C4	
14.95	W-6D*	C4	
2.50	W-6MGS	C4	LT-3DM, LT-4DM, LT-4D-1M,
14.95	W-6MGD*	C4	LT-4-M, LT-4-AG, LT-4-78
2.50	W-6AGS	C4	
14.95	W-6AGD*	C4	
2.50	W-7S	C5	Nylon1J, Nylon1M
3.50	W-8TPS	C6	
4.25	W-8TPS-1+	C6	
15.95	W-8DS	C6	55-T, GCD
29.95	W-8TPD*	C6	
2.50	W-19S	C7	
14.95	W-19D*	C7	MD-1, MD-3,
2.50	W-19MGS	C7	MD-5, MD-6
14.95	W-19MGD*	C7	
1.50	W-25A	C8	14L3-M, 15L3-M, 14L3-AG-M,
1.50	W-25MGA	C8	15L3-AG-M, 14L3-78-M,
1.50	W-25AGA	C8	15L3-78-M,
2.50	W-30S	A4	14L3-DM, 14L3-DMB,
14.95	W-30D*	A4	15L3-DM, 15L3-DMB



PRICE WALCO NO. FIG CARTRIDGE

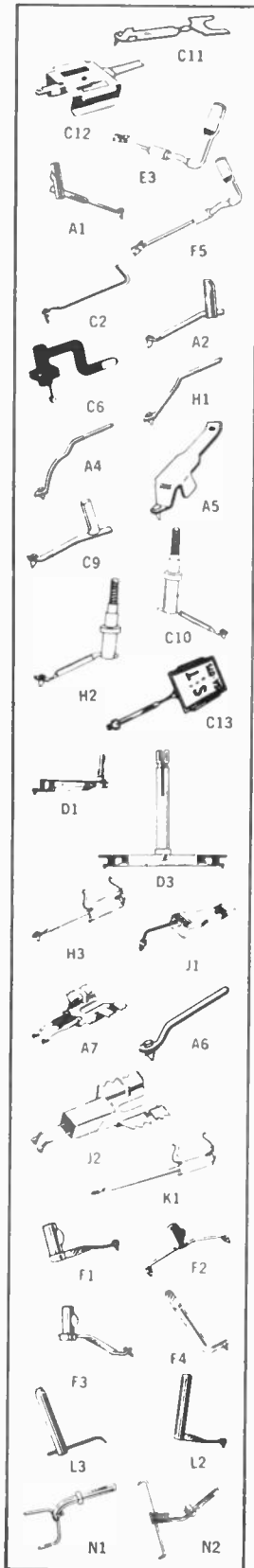
For Astatic Cartridges (Continued)			
3.50	W-38TPS	C6	57-T
4.25	W-38TPS-1+	C6	
15.95	W-38DS	C6	57-T
29.95	W-38TPD	C6	
2.50	W-39S	C9	12L3-M, 62-1M, 64-TMS,
14.95	W-39D*	C9	66-1M, 68-1M, 66-2M, 68-2M,
2.50	W-39MGS	C9	66-3M, 68-3M, 66-TMS, 66-TMY,
14.95	W-39MGD*	C9	66-TMB, 68-TMS, 68-TMY,
2.50	W-39AGS	C9	68-TMB,
14.95	W-39AGD*	C9	94-TB, 94-TMB, 405, 406
2.50	W-42MGS	C10	
14.95	W-42MGD*	C10	408, 410
2.50	W-64S	C11	
14.95	W-64D	C11	
2.50	W-64MGS	C11	310-2, 310-T, 310-TB, 310-TS,
14.95	W-64MGD	C11	414-1, 420-TS, 422-TS, 424-TS
2.50	W-64AGS	C11	
14.95	W-64AGD	C11	
FOR ELECTRO-VOICE CARTRIDGES			
			14, 14S, 14S4, 20, 22, 34,
			34S, 44, 44S, 46, 46T,
			47, 74, 74S, 13, 33, 33-2,
2.50	W-21S	A3	33-3, 33-4, 33B, 33-S, 33-S2,
14.95	W-21D*	A3	33-S4E, 43, 43-S, 73, 10, 12,
2.50	W-21MGS	A3	12S, L-12, M-12, 20, 22, 32,
14.95	W-21MGD*	A3	32-5,
2.50	W-21AGS	A3	42, 42-S, 46, 46-T, 47, 72, 82,
14.95	W-21AGD*	A3	82D, 82DM, 82S, 82SM, 84, 84D,
			84DM, 84S, 84SM, 85D, 85DM,
3.50	W-22TPS	A8	
15.95	W-22DS	A8	16-TT, 16-0 26
29.95	W-22TPD	A8	
FOR GENERAL ELECTRIC CARTRIDGES			
3.50	W-67S	D1	
14.95	W-67D	D1	
3.50	W-67MGS	D1	RPX-040, RPX-041,
14.95	W-67MGD	D1	RPX-042, RPX-046,
3.50	W-67Tr	D1	RPX-061, RPX-063, 9D
14.95	W-67TrD	D1	
3.50	W-68S	D2	
14.95	W-68D	D2	
3.50	W-68MGS	D2	RPX-050A
14.95	W-68MGD	D2	
3.50	W-68Tr	D2	
14.95	W-68TrD	D2	
5.95	W-68TPS	D3	
5.95	W-68TPTrS	D3	
6.95	W-68TPS-1+	D3	RPX-050A, RPX-052A,
16.95	W-68DS	D3	RPX-053A, RPX-047,
29.95	W-68TPD	D3	RPX051, RPX-052,
29.95	W-68TPTrD	D3	RPX-053, 12D, UXP-111 Head
29.95	W-68TPD-1+	D3	
3.50	W-69S	D4	4G-052, 053, 4G-061, 063
14.95	W-69D	D4	4G-050, 040, 041
3.50	W-69MGS	D4	
14.95	W-69MGD	D4	VR11
FOR MAGNAVOX CARTRIDGES			
2.50	W-2S	A1	
14.95	W-2D*	A1	560052
5.95	W-33TPS	A7	
6.95	W-33TPS-1+	A7	
16.95	W-33DS	A7	560207-1
29.95	W-33TPD	A7	
3.50	W-35TPS	A7	
4.25	W-35TPS-1+	A7	
16.95	W-35DS	A7	560188-2
29.95	W-35TPD	A7	
1.50	W-50A	E1	560101
2.50	W-51TPA	E2	560133, 560170
3.50	W-52TPS	E2	
15.95	W-52DS	E2	560151 Series
29.95	W-52TPD*	E2	
2.50	W-64S	C11	
14.95	W-64D*	C11	
2.50	W-64MGS	C11	560176
14.95	W-64MGD*	C11	
3.50	W-75TPS	E3	
16.95	W-75DS	E3	560161
29.95	W-75TPD	E3	
4.25	W-75TPS-1+	E3	
29.95	W-75TPD-1+	E3	
FOR PHILCO CARTRIDGES			
1.50	W-30A	A4	
2.50	W-30S	A4	35-2671-1
2.50	W-45MGS	F1	35-2682, 45-1609,
14.95	W-45MGD*	F1	45-1612, 76-4053
3.50	W-46TPS	F2	425-0009, 425-0014,
15.95	W-46DS	F2	45-9785, 45-9612,
29.95	W-46TPD*	F2	76-4649

Sec. 1340



REPLACEMENT NEEDLE GUIDE

PRICE	WALCO NO.	FIG.	CARTRIDGE
For Philco Cartridges (Continued)			
2.50	W-47MGS	F3	45-9792
14.95	W-47MGD	F3	
2.50	W-48S	F4	45-1844, 76-1622,
14.95	W-48D	F4	76-1622-1
2.50	W-64S	C11	
14.95	W-64D	C11	
2.50	W-64MGS	C11	325-8014
14.95	W-64MGD	C11	325-8021
2.50	W-64AGS	C11	
14.95	W-64AGD	C11	
3.50	W-75TPS	E3	
15.95	W-75DS	E3	325-8018
29.95	W-75TPD	E3	
4.25	W-75TPS-1†	E3	
29.95	W-75TPD-1†	E3	
4.00	W-77TPS	F5	
15.95	W-77DS	F5	325-8016
29.95	W-77TPD	F5	
4.25	W-77TPS-1†	F5	
29.95	W-77TPD-1†	F5	
FOR RCA CARTRIDGES			
2.50	W-2S	A1	
14.95	W-2D*	A1	73839
2.50	W-3MGS	C2	
14.95	W-3MGD*	C2	74984, 76297
2.50	W-5S	A2	
14.95	W-5D*	A2	76257 (988370-2),
2.50	W-5MGS	A2	101955
14.95	W-5MGD*	A2	
3.50	W-8TPS	C6	
4.25	W-8TPS-1†	C6	
15.95	W-8DS	C6	100329
29.95	W-8TPD*	C6	
2.50	W-29S	H1	
14.95	W-29D*	H1	75044
2.50	W-29MGS	H1	
14.95	W-29MGD*	H1	
2.50	W-30MGS	A4	
14.95	W-30MGD*	A4	76257 (988370-1)
2.50	W-32S	A5	
14.95	W-32D	A5	78478, 162A001
2.50	W-32MGS	A5	
14.95	W-32MGD	A5	
2.50	W-39S	C9	
14.95	W-39D*	C9	
2.50	W-39MGS	C9	102321
14.95	W-39MGD*	C9	101316
2.50	W-39AGS	C9	
14.95	W-39AGD*	C9	
2.50	W-42S	C10	9890, 9953, 38453, 38598,
14.95	W-42D*	C10	39550, 39851, 39919, 70332,
2.50	W-42MGS	C10	70338, 70338-A, 70339, 72551,
14.95	W-42MGD*	C10	75976, 74067, 74625, 76318
2.50	W-44S	H2	
14.95	W-44D*	H2	
2.50	W-44MGS	H2	75475, 75575, 77779
14.95	W-44MGD*	H2	
3.50	W-67MGS	D1	
14.95	W-67MGD	D1	74466
5.95	W-68TPS	D3	
6.95	W-68TPS-1†	D3	
16.95	W-68DS	D3	78634, SPC-1, M1-12110,
29.95	W-68TPD	D3	SPC-2, M1-12112
29.95	W-68TPD-1†	D3	
3.50	W-75TPS	E3	
4.25	W-75TPS-1†	E3	
15.95	W-75DS	E3	79807, 100653
29.95	W-75TPD	E3	
29.95	W-75TPD-1†	E3	
2.50	W-76S	H3	
14.95	W-76D	H3	
2.50	W-76MGS	H3	
14.95	W-76MGD	H3	79791
2.50	W-76AGS	H3	
14.95	W-76AGD	H3	
4.00	W-77TPS	F5	103422
4.25	W-77TPS-1†	F5	
15.95	W-77DS	F5	
29.95	W-77TPD	F5	103422
29.95	W-77TPD-1†	F5	
FOR RONETTE CARTRIDGES			
2.50	W-64S	C11	
14.95	W-64D*	C11	DT60-P, DT60-OV, DT60-T,
2.50	W-64MGS	C11	DT60-US, RA-284P, RA-284-OV,
14.95	W-64MGD*	C11	RA-284-T, RA-284-US, TO-284-P,
2.50	W-64AGS	C11	TO-284-OV, TO-284-T, TO-284-US
14.95	W-64AGD	C11	
14.95	W-59D	C12	TX-88A
14.95	W-59MGD	C12	
3.00	W-104S	C13	B-40, BF-40
3.00	W-104MGS	C13	
15.95	W-104MGD	C13	



PRICE	WALCO NO.	FIG.	CARTRIDGE
FOR SEEBURG CARTRIDGES			
2.50	W-53S	G1	
14.95	W-53D	G1	
2.50	W-53MGS	G1	245789, A251620
14.95	W-53MGD	G1	
2.50	W-53AGS	G1	
14.95	W-53AGD	G1	
2.50	W-53Tr	G1	
14.95	W-53TrD	G1	
FOR SHURE CARTRIDGES			
2.50	W-29S	H1	P72, P72A, P72AF, P72AFV,
14.95	W-29D*	H1	P72T, P72V, P76, P76A, P76AF,
2.50	W-29MGS	H1	P76AFT, P76AT, P76F, P76T,
14.95	W-29MGD*	H1	P76AV, P76V, P77, P77A,
2.50	W-29MGS	H1	P77AT, P77AV, P77T, P77V,
14.95	W-29MGD*	H1	P79, P79AF, P79T, PC72V,
			W22A, W22AB, W22ABT,
			WC24, WC24-T
2.50	W-30S	A4	P73, P73A, P73AR, P73R,
14.95	W-30D*	A4	P75, P75A, P80, P37, P37A
2.50	W-30MGS	A4	P37C, P37CA, P71, P71A,
14.95	W-30MGD*	A4	P71B, P71C, P71CA, P81, P81A,
2.50	W-30AGS	A4	P81AD, P81C, P81CA, P81D,
14.95	W-30AGD*	A4	P81E, P30, P30B, P30C,
			P30D, P30E, P30G,
			P30HS, P30S, P30W, P35,
			PC30, PN30, PN30S, PN31S,
			P35S, P70, P70A, P85, PC30,
			PN30, PN30S, PN31S, W21A,
			W21AR, W21E, W21F, W26A,
			W26B, W66A, W66B, W23A,
			W23B, W60A, W60B, W60HS,
			W60PN, W61B, W65B,
			WC60B, W68
2.50	W-31S	J1	PC9, PC10, PC11
14.95	W-31D*	J1	PS20, P31ADH, PC40,
2.50	W-31MGS	J1	PC41, PC40T, PC40C-T, PC41-T,
14.95	W-31MGD*	J1	WC22AB-T, W31AR, WC31AR,
2.50	W-31AGS	J1	WC33B, W36B, WC36B
14.95	W-31AGD*	J1	
2.50	W-32S	A5	PC12, PC13, PC14, WC32
14.95	W-32D*	A5	
2.50	W-32MGS	A5	
14.95	W-32MGD*	A5	
2.50	W-32AGS	A5	
14.95	W-32AGD*	A5	
5.95	W-33TPS	A7	
6.95	W-33TPS-1†	A7	ML44(SS)
15.95	W-33DS	A7	ML44(DS)
29.95	W-33TPD	A7	ML44(DD)
2.50	W-34S	A6	
14.95	W-34D*	A6	
2.50	W-34MGS	A6	PC42AD
14.95	W-34MGD*	A6	
3.50	W-35TPS	A7	PC2 Series, PC3 Series,
4.25	W-35TPS-1†	A7	PC4 Series, PC5 Series,
15.95	W-35DS	A7	WC10, WC10D
29.95	W-35TPD	A7	
5.95	W-41TPS	J2	PC-6, WC-6
15.95	W-41DS	J2	PC-7
FOR SONOTONE CARTRIDGES			
2.50	W-3S	C2	7590-1S, 7590-LB-1S,
14.95	W-3D*	C2	7590-2M,
2.50	W-3MGS	C2	7590-2S, 7590-LB-2M,
14.95	W-3MGD*	C2	7590-LB-2S,
2.50	W-3AGS	C2	7590-LB-3S,
14.95	W-3AGD*	C2	7590-3S, 7590-LB-3S
3.50	W-75TPS	E3	
4.25	W-75TPS-1†	E3	2T-D, 2T-S, 2T-SD, 2T-LB-D,
15.95	W-75DS	E3	2T-LB-S, 2T-LB-SD, 9980-S,
29.95	W-75TPD	E3	9980-SD, 9980-D
29.95	W-75TPD-1†	E3	
2.50	W-76S	H3	
14.95	W-76D	H3	IP-1S, IP-1D, IP-LB-1S,
2.50	W-76MGS	H3	IP-LB-1D, IP-2S, IP-LB-2S,
14.95	W-76MGD	H3	IP-3S, IP-3D, IP-LB-3S,
2.50	W-76AGS	H3	IP-LB-3D
14.95	W-76AGD	H3	
4.00	W-77TPS	F5	
4.25	W-77TPS-1†	F5	
15.95	W-77DS	F5	3-T, 3-TSD, 3-TDD
29.95	W-77TPD	F5	
29.95	W-77TPD-1†	F5	
2.50	W-78S	K1	
15.95	W-78D	K1	
2.50	W-78MGS	K1	3P-1, 3P-3
15.95	W-78MGD	K1	
2.50	W-78AGS	K1	
14.95	W-78AGD	K1	
FOR WEBSTER-CHICAGO CARTRIDGES			
2.50	W-60TPA	N1	ZIP247, ZIP404, ZIP403
2.50	W-63TPA	N2	U-42, U-47

CLEVITE Walco REPLACEMENT NEEDLE GUIDE

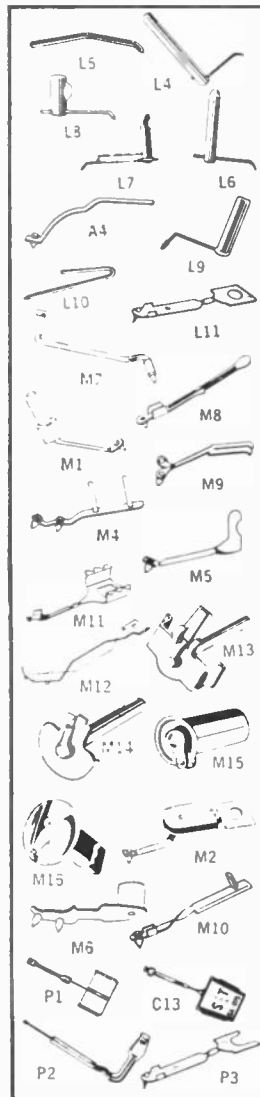
PRICE	WALCO NO.	FIG.	CARTRIDGE
FOR WEBSTER ELECTRIC CARTRIDGES			
2.50	W-10S	L2	
14.95	W-10D	L2	A1, A1-8, A7, A7-1, A7-5,
2.50	W-10MGS	L2	A7-8, A8, A10
14.95	W-10MGD	L2	
1.50	W-11A	L3	A1M, A1M1, A2M, A5M,
1.50	W-11MGA	L3	A6M, A7M, A8M, A10M,
			AB1M, AX
1.50	W-16A	L4	
1.50	W-17A	L4	F15, F15-1, F16 F16-1,
1.50	W-16MGA	L4	F16-2, F18, F18 1, F19, F19-1
1.50	W-17MGS	L4	
1.50	W-23A	L5	G1M, GX,
1.50	W-23MGA	L5	G2M, G4M,
1.50	W-23AGA	L5	G3M, G6M
2.50	W-26S	L5	
2.50	W-26MGS	L5	
14.50	W-26D*	L5	F20, F-21, FX
14.50	W-26MGD*	L5	
1.50	W-27MGA	L7	B1M, BX
1.50	W-28A	L8	AG1M, AG7M,
1.50	W-28MGA	L8	AG1, AG7
2.50	W-30S	A4	
14.95	W-30D	A4	
2.50	W-30MGS	A4	F10, F11, F11-1
14.95	W-30MGD	A4	
1.50	W-36A	L9	RG Series
1.50	W-36MGA	L9	
1.50	W-40MGA	L10	
1.50	W-40AGA	L10	P1-2, P2-1, UX
14.95	W-65D*	L11	
2.50	W-65S	L11	
14.95	W-65MGD*	L11	A100, A103, A160,
2.50	W-65MGS	L11	B202, A200, A250, A260
14.95	W-65AGD*	L11	
2.50	W-65AGS	L11	
FOR FOREIGN CARTRIDGES			
2.50	W-61S	M11	
2.50	W-61MGS	M11	
2.50	W-61AGS	M11	Vaco — T45, S45
14.95	W-61D	M11	
14.95	W-61MGD	M11	
14.95	W-61AGD	M11	
16.95	W-85DS	M12	Telefunken — TTSA
16.95	W-86DS	M13	Bang & Olufsen — Fentone B & O 350R Std., B & O 72R Std.
14.95	W-87MGD	M14	Professional — B & O A, Special
15.95	W-88D	M15	Élac Miratwin
15.95	W-88MGD	M15	MST-2A, 2D
15.95	W-89D	M16	Perpetuum-Ebner
15.95	W-89MGD	M16	P-7000
3.00	W-90S	M1	
15.95	W-90D	M1	
3.00	W-90MGS	M1	ACOS GP29
15.95	W-90MGD	M1	

CODE

A—Osmium alloy needle for 78 rpms
 S—Synthesized Sapphire needle for 78 rpms
 D—Diamond needle for 78 rpms
 AGA—All groove alloy needle for all speeds
 AGS—All groove sapphire needle for all speeds
 AGD—All groove diamond needle for all speeds
 MGA—Microgroove alloy needle for 33 1/3 & 45 rpms
 MGS—Microgroove sapphire needle for 33 1/3 & 45 rpms
 MGD—Microgroove diamond needle for 33 1/3 & 45 rpms
 Tr—Transcription sapphire (.0025")
 TrD—Transcription diamond (.0025")
 TPTrS—Twin point sapphire needle (Combination Tr and MGS)
 TPTrD—Twin point diamond needle (Combination of TrD and MGD)
 TPA—Twin point alloy needle (Combination of A and MGA)
 TPS—Twin point sapphire needle (Combination of S and MGS)
 TPD—Twin point diamond needle (Combination of D and MGD)
 DS—Twin point needle (Combination of S and MGD)
 AS — Twin-point needle (combination of A and MGS)
 -H — Two identical needles for Markel changer
 STS — Stereo Sapphire, 0.7 mil
 STSS — Twin-point sapphire, 0.7 mil stereo and 3 mil 78 rpm
 STD — Stereo Diamond, 0.7 mil
 STDS — Twin-point needle, 0.7 mil diamond stereo and 3 mil sapphire 78 rpm
 STSS-1 — Twin-point sapphire, 0.7 mil stereo and 1 mil 33 1/3 and 45 rpm
 STDS-1 — Twin-point needle, 0.7 mil diamond stereo and 1 mil sapphire 33 1/3 and 45 rpm
 STDD-1 — Twin-point diamond, 0.7 mil stereo and 1 mil 33 1/3 and 45 rpm

* Available with alloy tip † Two 1 mil tips
 ALL Sapphire Needle Tips are precision synthesized

CLEVITE "WALCO" East Orange, N. J.



PRICE	WALCO NO.	FIG.	CARTRIDGE
For Foreign Cartridges (Continued)			
3.00	W-91MGS	M2	
15.95	W-91MGD	M2	Recoton Goldring "500"
4.00	W-93TPS	M4	
16.95	W-93DS	M4	Perpetuum-Ebner
29.95	W-93TPD	M4	PE-8 and PE-10
3.00	W-94S	M5	
15.95	W-94D	M5	
3.00	W-94MGS	M5	Philips AG3013
15.95	W-94MGD	M5	
4.00	W-95TPS	M6	
16.95	W-95DS	M6	
29.95	W-95TPD	M6	Dual
3.00	W-96S	M7	
15.95	W-96D	M7	
3.00	W-96MGS	M7	ACOS 37-1
15.95	W-96MGD	M7	
3.00	W-97S	M8	
15.95	W-97D	M8	
3.00	W-97MGS	M8	ACOS HGP59
15.95	W-97MGD	M8	
4.00	W-98TPS	M9	
16.95	W-98DS	M9	Perpetuum-Ebner
29.95	W-98TPD	M9	P-12/RG
3.00	W-99S	M10	
15.95	W-99D	M10	
3.00	W-99MGS	M10	Garrard GC-2
15.95	W-99MGD	M10	
FOR STEREO CARTRIDGES			
3.00	W-101STS	P1	Electro-Voice 21, 26
15.95	W-101STD	P1	
3.00	W-102S	P1	
3.00	W-102MGS	P1	
15.95	W-102MGD	P1	
3.50	W-103STSS	P2	Sonotone 8-T
3.50	W-103STSS-1	P2	
16.95	W-103STD	P2	
16.95	W-103STD	P2	
33.90	W-103STD	P2	
3.00	W-104STS	C13	Ronette B-40, BF-40, Turnover
3.00	W-104S	C13	Stereo OV, Turnover Stereo OV1
3.00	W-104MGS	C13	Turnover Stereo T-1
15.95	W-104STD	C13	
15.95	W-104MGD	C13	
3.00	W-106STS	P3	Monarch TC-8
15.95	W-106STD	P3	

CLEVITE Walco CONVENTIONAL NEEDLES

WALCO "400" Floating Jewel (SYN.) Needles

WS-400. For scratch-free, high fidelity reproduction. Famous "Floating Jewel" action. For 78 rpm. List, \$2.50.

WS-400-2. Same high fidelity "Floating Jewel" reproduction as WS-400, but Universal tip for 3-speed phonographs. List, \$2.50.

Also Available W-400 MGS (33-1/3 — 45 rpm, Sapphire SYN.)

WALCO "400" Precious Metal Needles

WA-400. Scientifically designed self-polishing tip. Cuts down friction, lengthens record life. For 78 rpm. List, \$1.50.

WA-400-2. Same self-polishing tip needle as WA-400, but Universal tip for 3-speed phonographs. List, \$1.50.

WALCO "ENCORE" Needles

WA-100. Spring-action design for long life, less record wear. 78 rpm. List, \$1.00.

WA-100-2. Same spring-action design needle, but with Universal tip for 3-speed phonographs. List, \$1.00.

WALCO "GROOVEMASTER" Needles

WA-150. Low-priced, fast selling alloy tip needle with filter type shank. 78 rpm. List, \$.50.

WA-150-2. Same as WA-150, but with Universal tip for 3-speed phonographs. List, \$.50.

Available on Display Cards or space saving cards of six.

© 1953 BY CLEVITE "WALCO"

from **DALOHM**
*Better things in
 smaller packages*
DALE PRODUCTS, INC.
 Columbus, Nebr.

SUB-FRACTIONAL H.P. LOW HEAT RISE HYSTERESIS MOTOR

The DALOHM HYSTERESIS MOTOR is a split-capacitor type; sub-fractional horsepower, from 1/20th to 1/300th. Totally enclosed it has a new space-saving pancake design giving great rigidity. It is ideally suited for such applications as facsimile machines, Hi-Fi turntables, tape recorders, tele-metering and many other types of equipment where constant synchronous speed is essential.

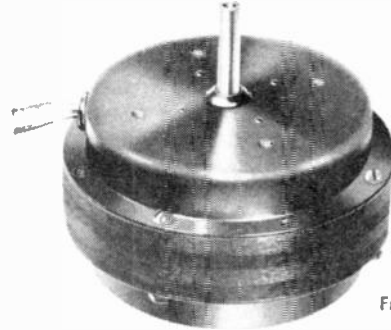
An outstanding feature is the exceptionally low heat rise. This removes the basic objection common in most hysteresis motors. It also has extremely low noise and no vibration or magnetic strays. It is absolutely synchronous, will reach synchronization within one revolution, maintains synchronous speed at rated load and will synchronize any load it can accelerate, regardless of inertia.

- Voltage: 115 V., 60 c.p.s.
- Speed: 1800 R P M.*
- Shaft rotation: clockwise or counter-clockwise and easily reversed.
- Running torque from 1.9 inch-ounces to 28 inch-ounces.
- Extremely low heat rise of only 20° C. to 38° C., depending on horsepower rating.
- Exceptionally low cost.

*The DALOHM hysteresis motor will operate on any frequency up to 120 c.p.s., giving a selection of speeds up to 3600 RPM.



Frame HMD



Frame HM



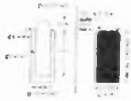
Frame HMB

Model Number	Rated H.P.	Speed RPM	Capacitor		Torque in Oz.			Full Load Power Input			
			Mfd.	V.A.C.	Rated	Start	Pull Out	Amps	Watts	Cycle	Volts
HMD - 20	1/20	1800	2.75	330	28.0	22.0	35.0	1.20	75	60	115
HMD - 30	1/30	1800	2.50	330	18.7	15.0	23.0	.90	60	60	115
HM - 40	1/40	1800	1.50	330	14.0	12.0	16.0	.54	39	60	115
HM - 60	1/60	1800	1.50	330	9.4	9.4	11.5	.48	33	60	115
HM - 75	1/75	1800	1.25	330	7.5	7.5	9.0	.40	27	60	115
HM - 80	1/80	1800	1.25	330	7.0	7.0	8.5	.40	24	60	115
HM - 125	1/125	1800	1.25	330	4.5	4.5	6.0	.40	19	60	115
HM - 150	1/150	1800	1.00	330	3.8	3.8	5.0	.35	16	60	115
HMB - 200	1/200	1800	1.25	330	2.8	2.8	4.0	.25	18	60	115
HMB - 300	1/300	1800	1.00	330	1.9	1.9	2.5	.22	15	60	115



The FIRST AND LEADING NAME IN REPLACEMENT NEEDLES AND PACKAGED PHONO ACCESSORIES

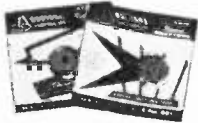
**DIAMOND REPLACEMENT
PHONO NEEDLES** featuring
DUOTONE WHOLE DIAMOND



DUOTONE is your most complete single source for replacement DIAMONDS, SAPPHIRES, and OSMIUM tipped phono needles. For all makes American & Foreign-type phonographs. Each needle is carefully inspected and FULLY GUARANTEED.

PHONOGRAPH ACCESSORIES

for individual pack &
rack merchandising



DUOTONE 45 RPM ADAPTORS
2 models for spindle or manually
operated machines. Individually
carded 5 to blister pack also 21
pack display card.

**DUOTONE
ELECTRO-WIPE
CLOTH**



Amazing scientifically treated record
cleaning cloth, removes dirt,
dust particles & static charges
from records. Chemical action re-
vitalized by damping. Individually
packed in sealed polyethylene bag,
12 per display box. SFR LAL.
"Rack Pack" deals—Ask about it.



**DUOTONE KLEEN-SWEEP
RECORD BRUSH**

Static-resistant goat hair brush
cleans records as they play, elimi-
nating dirt, grime, etc. Simple
snap-on to tone arm. Individual
blister pack card, 12 to display
card.



**ACOS REPLACEMENT
TONE ARMS**

Complete with pre-mounted turn-
over cartridge (Britain's Finest)
Arm has sturdy lightweight, die-
cast construction, excellent track-
ing. Suitable for all phonos. Choice
cartridge: GP65-3 (hi output)
GP65-1 (medium output). Individ-
ually boxed with instruction sheets.



**FOAM RUBBER
TURNTABLE CUSHION**

A MUST FOR RUMBLE-FREE
STEREO gives quieter operation—
protects records. Available in 10"
& 12" size. Individually packed in
full-view polyethylene bag.

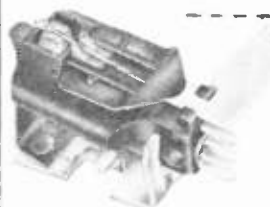
**OTHER DUOTONE
QUALITY SELLERS:**

**MAGNETIC SOUND RECORD-
ING TAPE**—Highest quality sound
recording tape, acetate or nylon.
Reels are hi-impact polystyrene,
standard NARTB hubs. Available
in 60' to 2400' reels.

CONTOUR RECORD COVERS—
Dual strengthened, heat sealed,
form-fitting, packed 12 to the
package—12 pack display carton.

DUOTONE HI-FI MICROSCOPY
—75 power, wide angle, slotted end
permits needle check without re-
moving from cartridge. Easily
focused, pocket clip—6 to display
card.

MONOPHONIC & STEREO CARTRIDGES



The Duotone "ACOS" cartridge
line has been widely acclaimed for
its unique design and excellent
performance featuring "Hi-C" and
"Floating Needle Action".

STEREO—Freq. Resp.: 10-15,000
c/s. Output: 0.7 volts. Channel
Separation: 25 db. 100 Hz. Com-
pliance: 4 x 10⁻⁶ cm./dyne.
Tracking Force: 2 to 6 grams.
Model GP 748 (7 mil sapphire,
3 mil sapphire). Model GP 758 (4
mil diamond, 3 mil sapphire).

MONOPHONIC—Model GP 65-1:
2 sapphire medium output turnover
cartridge designed for hi fi sound
reproduction. Output: 1 volt. Freq.
Resp.: 50-12,000 c/s. Tracking
pressure: 8-10 grams. Model
GP65-3: 2 sapphire high output
turnover cartridge designed for low
gain amplifiers & portables. Out-
put: 3 volts. Freq. Resp.: 50-9,000
c/s. Tracking pressure: 8-10 grams.
Both cartridges are compatible for
monophonic playback of stereo
records.



DEALER MERCHANDISING & SALES AIDS



**EXCLUSIVE! PHOTO GUIDE &
REPLACEMENT NEEDLE
WALL REFERENCE CHART**
Two indispensable sales tools. Cuts
sales assistance time. Photo Guide
permits customer to look up name
of machine in index—turns to
proper section—recognizes either
photo or model number and specifies
needle replacement number. Wall
Reference Chart gives cartridge
number, needle illustration, record
speed, needle number & list price.



**DUOTONE CATALOGUE OF
PHONOGRAPH NEEDLES
& ACCESSORIES**

The complete counter reference
"encyclopedia" of replacement
needles & accessories. Contains 84
jam-packed pages of information
for monophonic & stereo. Fully
illustrated and cross-indexed for
quick reference.



**EXCLUSIVE! DUOTONE NEEDLE
TEST CENTER**

A Powerful sales puller! This high
power stereoscopic microscope dra-
matically presents to the customer
his need for a replacement needle.
To operate simply place worn
needle in holder, adjust eyepieces
... and there your customer sees
his needle in 3 dimensions. Needle
Test Promotion pays off in heavy
in-store traffic.



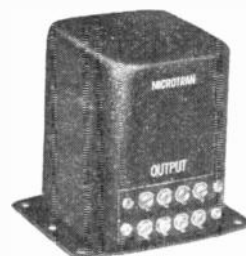
PRECISION HI-FI ACCESSORIES

multi speaker matching and level adjusting transformer—model HM-80

This precision transformer has been designed for the Audiophile who is modifying or enlarging his sound system by the addition of auxiliary speakers, equalizers, cross-over networks, etc.

Permits these system changes to be made without unbalancing the present Hi-Fi Audio System by maintaining required impedance matches and power levels.

- Power: 50 watts. Peak power 100 watts.
- Frequency Response: 15 to 30,000 cycles.
- Impedance Range:
 - Amplifier or Crossover Network: 16, 8, 4 Ω
 - 1 to 3 speaker system (in any combination): 16, 8, 4 Ω .
- Power Level Adjusting Range: 3 db steps
- Guide Chart: Easy to follow hookup chart provided.
- Size: 3 1/2" x 3 1/8" x 4 5/8" high.
- Mounting Centers: 2 3/4" x 3 3/8".
- Finish: Baked Enamel.
- Weight: 4.0 lbs



telephone pick-up coil — model HP-61

For transcribing telephone conversations with recorder or making messages audible on amplifier. May also be used as probe for locating sources of hum.

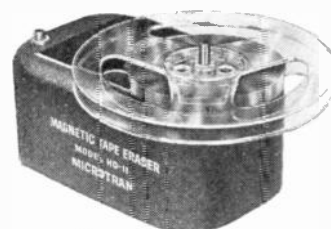
- Equalized Level: Local and distant conversations recorded with more constant signal level than base mounted units.
- Suction Cup: Mounting on telephone receiver.
- Universal Model: One unit suitable for all types of telephones.
- Plug-in Use: Supplied with 68" shielded cable, terminated with standard phone plug for mike input of recorder or amplifier.
- Finish: Optical Black.
- Compact: Size only 5/8" diameter x 2" long.
- Weight: 1 1/2 ounces



magnetic tape eraser — model HD-11

A bulk tape demagnetizer that develops a high intensity magnetic field. Erases recorded signals and noise from magnetic tape without rewinding. Saves unnecessary wear on heads and tape. Noise level reduced below level of standard erase heads. Restores tape to like new condition or better.

- Spindle Mounting of reel permits rapid thorough coverage without missed spots.
- Reel Size Range: 5", 7", 10 1/2". Spindle removable for use with other reel sizes.
- Adapter Hub: Available on order for use with 10 1/2" reels. Model HD-11-AD
- Universal Use: May also be used for demagnetizing record—playback—erase heads, watches and other metal objects.
- Rating: 117 volts AC 5 amps.
- Finish: Baked Enamel.
- Size: 3" x 5" x 8".
- Weight: 8 1/2 lbs.



A MUST FOR STEREO RECORDING

Most stereo recorders do not provide facilities for pre-erasing both tracks.

UNIVERSAL COIL KIT — MODEL 200K

Saves valuable service and development time . . . minimizes inventory problems, eliminates difficulty in obtaining hard-to-get replacements.

For Video Peaking . . . IF Circuits. Eight coils cover a range from 1 to 590 uh.

Q-Max impregnation.

Extra terminal for tiepoint convenience.

Spring clip mounting: designed for 5/16" chassis hole.

Full data enclosed on L min., L max., Q's, R, C distrib., Freq. self-res.

INDIVIDUAL CALIBRATION CHARTS permit approximate adjustment to required inductance value without test equipment. Individually packaged in 8 labeled plastic containers.

Single Coil Replacements Available

Coils	L. Min.	L. Max.
≐ 200-1	1	2.7 uh
≐ 220-2	2.4	7.6 uh
≐ 200-3	6.6	20.0 uh
≐ 200-4	16.0	55.0 uh
≐ 200-5	33	110 uh
≐ 200-6	74	225 uh
≐ 200-7	100	310 uh
≐ 200-8	200	590 uh



Complete Kit Model 200K.

Shipping weight per kit: 6 oz.



1. No. 111. All Purpose. Plastic backing. Flawless sound reproduction at low cost. Recommended for all general recording needs. International standard of the recording industry.

2. No. 102. All Purpose. Polyester backing. Coated on weather-balanced, super tough 1½ mil PE backing. Flawless recording characteristics similar to No. 111. Ideal for long term storage of your valuable, irreplaceable recordings.

3. No. 120. High Output. Plastic backing. Enjoy music with greater dynamic range, freedom from distortion on signal peaks and 133% more output for brilliant sound reproduction. A must for hi-fi fans.

4. No. 122 High Output. Polyester backing. Coated on weather-balanced, super tough 1½ mil PE backing. Superb recording characteristics similar to No. 120. Ideal for long term storage of treasured hi-fi recordings.

5. No. 190. Extra Play. Plastic backing. 50% more tape on a standard size reel—as much recording time as 1½ reels of standard tape. Brilliant sound from new high-potency oxide.

6. No. 150. Extra Play. Polyester backing. Made for use in extremes of temperature and humidity. Ideal for all-weather outdoor recording. 50% extra playing time. Superpotent oxide produces uniform response, crisper tones.

7. No. 131. Low Print. Plastic backing. Reduces print-through to a point below noise level on most professional machines . . . 8 db lower print level than conventional tapes. Has excellent recording characteristics.

8. No. 200 Double Length. Tensitized polyester backing. The original no-break, no-stretch tape that plays twice as long. You get as much recording time as with two reels of conventional tape.

9. No. 41 Splicing Tape. Has a special white thermosetting adhesive that is guaranteed not to ooze. Makes splices that actually strengthen with age. No. 41-½S (½ x 150') Available in handy metal dispenser on blister-pac display card. Other sizes supplied individually boxed.

10. No. 43P Leader and Timing Tape. (1¼"x150'). For tape lead-ins, cueing, exact timing, identification between recorded selections. Available on convenient, self-dispensing display card.

STOCK NO.	DESCRIPTION	REEL	LIST PRICE
*111-1.5	¼" x 150'	3"	\$.70
111-3	¼" x 300'	4"	1.35
111-6	¼" x 600'	5"	2.25
111-12	¼" x 1200'	7"	3.50
111-24H	¼" x 2400'	HUB	8.50
111-24R	¼" x 2400'	10½"M	10.90
*102-6	¼" x 600'	5"	4.10
102-12	¼" x 1200'	7"	6.65
102-24H	¼" x 2400'	HUB	12.10
102-24R	¼" x 2400'	10½"M	14.50
*120-3	¼" x 300'	4"	1.75
120-6	¼" x 600'	5"	3.50
120-12	¼" x 1200'	7"	5.50
120-24H	¼" x 2400'	HUB	10.00
120-24R	¼" x 2400'	10½"M	12.85
*122-6	¼" x 600'	5"	4.60
122-12	¼" x 1200'	7"	7.65
122-24H	¼" x 2400'	HUB	14.10
122-24R	¼" x 2400'	10½"M	16.50
†190-9	¼" x 900'	5"	3.50
190-18	¼" x 1800'	7"	5.50
190-36H	¼" x 3600'	HUB	10.00
190-36R	¼" x 3600'	10½"M	12.85
†150-2.25	¼" x 225'	3"	1.00
150-9	¼" x 900'	5"	3.60
150-18	¼" x 1800'	7"	6.20
150-36H	¼" x 3600'	HUB	12.00
150-36R	¼" x 3600'	10½"M	14.40
*131-12	¼" x 1200'	7"	4.40
131-24H	¼" x 2400'	HUB	10.00
131-24R	¼" x 2400'	10½"M	12.40
200-3	¼" x 300'	3"	1.35
200-12	¼" x 1200'	5"	4.75
200-24	¼" x 2400'	7"	8.75
200-48RPS	¼" x 4800'	10½"	20.50

ACCESSORIES

41-½S	½" x 150'	.39
41-¾L	¾" x 66'	.57
41-½L	½" x 66'	.76
41-¾L	¾" x 66'	1.01
43P-1.5	¼" x 150'	.90

*Also available 4800' on hub or 14" reel.
 †Also available 7200' on hub or 14" reel.

MINNESOTA MINING AND MANUFACTURING COMPANY

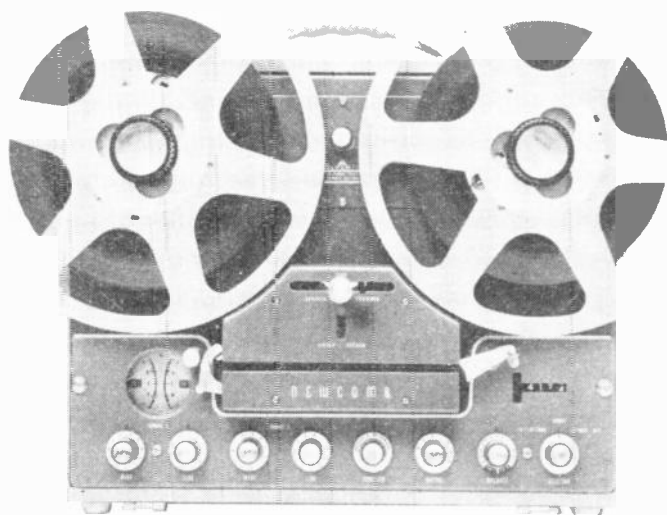
... WHERE RESEARCH IS THE KEY TO TOMORROW



NEWCOMB

PROFESSIONAL STEREOPHONIC TAPE
RECORD/PLAYBACK MACHINE

STEREO TAPE RECORDER model SM-310
CYBERNETICALLY ENGINEERED FOR INTUITIVE OPERATION



Cybernetically engineered for intuitive operation, the Newcomb Model SM-310 is the simplest machine to operate you have ever used. Easiest on tape. Transport control is centered in a single lever "joy stick" that gives fluid smooth, positive, effortless tape handling. Records or plays back magnetic tape either stereophonically or monophonically. Plays or records either or both channels in same direction. Operates vertically or horizontally, takes 3" to 10 1/2" reels, has two tape speeds — 7 1/2" or 3 3/4" ips, die cast aluminum spindles, oversize brakes de-

signed to last for life of machine, separate mixing controls — mike and "line" — for each channel. Two lighted recording level meters, protected against overload, arranged pointer-to-pointer for ready comparison, straight line tape loading, automatic shut-off switch, four digit counter to pinpoint desired position, without repeating, on any size reel; head cover removable for easy editing. All pre-amplification needed for recording and playback. Monitor through Brush binaural headphones while recording. Cathode follower outputs.

SPECIFICATIONS

- HEADS**.....In line record-playback heads; separate half-track erase heads.
- FLUTTER**.....Less than .2% on 7 1/2 ips; less than .25% on 3 3/4 ips.
- SIGNAL-TO-NOISE RATIO**.....Better than 50 db on 7 1/2 ips; better than 45 db on 3 3/4 ips.
- RESPONSE**.....At 7 1/2 ips, ± 2 db 30-15,000 cps; at 3 3/4 ips, ± 3 db 40-10,000 cps (based on standard 111 tape.)
- EQUALIZATION**.....NARTB standard.
- OUTPUT**.....Average, approximately 1.3 volts from cathode follower, each channel.
- BIAS OSCILLATOR**.....Push-pull balanced Colpitts for reliability and low distortion.
- MAXIMUM PLAYING TIME**.....In excess of 8 hours at 3 3/4 ips, half-track monoaural (4800' tape on 10 1/2" reel); in excess of 4 hours at 3 3/4 ips, two track stereo. At 7 1/2 ips the above times will be halved.
- REWIND SPEED**.....Approximately 2 minutes for 3600 feet.
- INPUT JACKS**.....(4) Two high level inputs and two microphone inputs (wired for use with Newcomb Humfree Plug-in Transformers for conversion of mike inputs to low impedance).
- OUTPUT JACKS**.....(3) One for each stereo channel and one monitor.
- DIMENSIONS**.....12 3/4" x 16 3/4" x 9 1/2".
- WEIGHT**.....34 pounds.
- POWER REQUIREMENTS**.....90 watts, 117 volts, 60 cycles a.c.

PROFESSIONAL NET: \$499.50

NEWCOMB

AUDIO PRODUCTS CO. • HOLLYWOOD 38, CALIFORNIA

**ALL OF THE FEATURES
PROFESSIONALS AND AMATEURS
HAVE ALWAYS WANTED
IN A STEREO TAPE RECORDER**

Records or plays back magnetic tape either stereophonically or monophonically.

Operates vertically or horizontally.

Takes from 3" to 10 1/2" reels.

Has two tape speeds — 7 1/2 or 3 3/4 inches per second.

Push-push speed change with automatic compensation for 3 3/4" speed.

No-stretch, extraordinarily gentle tape handling.

interlocked separate record function switch requires premeditated, two-hand operation, prevents accidental erasure.

Powerful single motor is fully synchronous, cool running, precision built for continuous dependable operation and accuracy of speed.

Die cast aluminum spindles.

Equipped to handle NAB hubs.

Oversize brakes are designed to last for life of machine.

Straight line tape loading.

Dual acting tape tensioning device keeps tape always under control even with the larger reels.

Automatic shut-off switch.

Four digit counter.

Head cover removable for easy editing.

Positive erase provided by low distortion balanced Colpitts double triode erase oscillator.

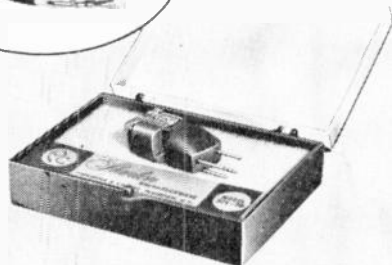
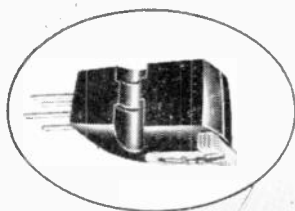
Ganged volume control for outputs.

Balance control, when needed, balances playback level between channels.

Choice of low or high impedance microphone inputs by means of Newcomb Humfree plug-in transformers.

Microphone input sockets take Cannon XLR-3-12C male connectors.

Specifications and Prices subject to change without notice. All parts used in Newcomb Equipment are made in U.S.A. All Newcomb Equipment Approved by Underwriters Laboratories.



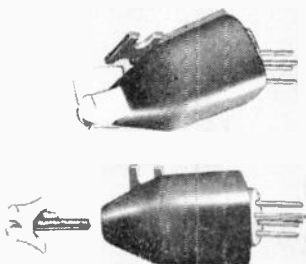
Only the STANTON Stereo-FLUXVALVE has the parallel reproducing element contained in the "T-GUARD"



Model 371 STANTON Stereo-FLUXVALVE Cartridge—Of truly miniature design, it will fit into all tone arms with standard 1/2" mounting centers...ideal for "going stereo," or for installation into new systems. Fully compatible, the Model 371 will perform equally well with all microgroove records, monophonic or stereophonic. Traditional Pickering quality of design assures the finest performance—a response flat within 2 db over the entire stereo recording range with complete absence of spurious resonance. This obviates any possibility of groove-wall breakdown which eventually results in both record and stylus wear...and, the "mint" condition of both record and stylus is prolonged. Supplied with a .7 mil precision-polished diamond of the very finest quality mounted in Pickering's exclusive "T-GUARD" stylus assembly. For record changers, players and transcription tone arms using a stylus force from 2-5 gms and 3-7 gms, see below. The STANTON Stereo-FLUXVALVE has two balanced signal outputs for connection to the low mag inputs of a

stereo-preamplifier (they may be connected in parallel for use with a conventional single-channel preamplifier.) Output level is sufficient for all preamplifiers and there is no need to employ a transformer or other "gain" stage device. Exclusive "magnetic-discriminator" provides inter-channel isolation with negligible cross-talk.

- Model 371C—MK II STANTON Stereo-FLUXVALVE Cartridge Tracking Force 3-7 grams\$24.00
- Model 371A—MK II STANTON Stereo-FLUXVALVE Cartridge Tracking Force 2-5 grams\$26.40
- Model D3707C Replacement "T-GUARD" stylus assembly with .7 mil diamond for the 371C MK II Stereo-FLUXVALVE\$12.00
- Model D3707A Replacement "T-GUARD" stylus assembly with .7 mil diamond for the 371A MK II Stereo-FLUXVALVE\$14.40



Only the NEW Model 380...

is both...hermetically sealed and fully encapsulated in precious mu-metal...for a lifetime of trouble-free and hum-free performance!

NEW! Exclusive "V-GUARD" stylus assembly



Model 380 Stereo-FLUXVALVE, completely compatible for all records, stereophonic or monophonic. Miniature design, fits all pickup arms, manual or automatic. Response is flat within 2 db from 20 to 20,000 cycles. Exclusive magnetic discriminator provides channel separation of 25 db. Push-pull magnetic generator provides an output of 2 mv per cm/second of recorded level per channel. Uses four output terminals. Recommended tracking force is 2-5 gms and 3-7 gms, see below. Standard EIA mounting centers (7/16" x 1/2"). The Model 380 is hermetically sealed and fully encapsulated in precious mu-metal for a lifetime of trouble-free and hum-free performance. Warranted for Life, except for normal wear and tear of the diamond stylus tip and parts of the related moving system in

the "V-GUARD" stylus assembly. Supplied with finest quality .7 mil diamond stylus. Complete instructions and hardware for mounting.

- Model 380-C Stereo-FLUXVALVE recommended for automatic changers Tracking Force 3-7 grams.....Audiophile net \$29.85
- Model 380-A Stereo-FLUXVALVE recommended for manual pickup arms Tracking Force 2-5 grams.....Audiophile net \$34.50
- Model D3808-C Replacement "V-GUARD" stylus assembly with .7 mil diamond for 380-C Stereo-FLUXVALVE.....Audiophile net \$15.00
- Model D3808-A Replacement "V-GUARD" stylus assembly with .7 mil diamond for 380-A Stereo-FLUXVALVE.....Audiophile net \$19.65

FLUXVALVE, "T-GUARD" AND "V-GUARD" ARE TRADEMARKS USED TO DENOTE THE QUALITY OF PICKERING & CO. INVENTIONS



For those who can hear the difference FINE QUALITY HIGH FIDELITY PRODUCTS BY

PICKERING & COMPANY, INC., Plainview, N. Y.

EXPORT: AD. AURIEMA, INC., 89 BROAD ST., NEW YORK / CANADA: CHARLES W. POINTON LTD., 6 ALCINA AVE., TORONTO

The Gyropoise® 800 airborne Stereotable™

*The first really new idea
in turntable design
in 75 years!*



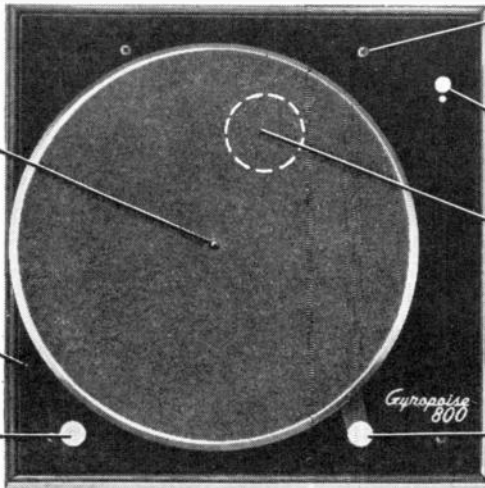
The Gyropoise was *invented* by Pickering & Company out of the *necessity* to provide a turntable with *complete absence of distortion*, for playing the newer stereophonic phonograph records.



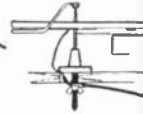
NO RUMBLE!... horizontal or vertical... turntable floats on a bearing of air — in magnetic suspension

The Gyropoise Stereotable is simple to install. Integrated baseplate mounts over the simplest of cutouts... no complicated patterns to cut, no special saws required... just a few simple cutouts and four holes.

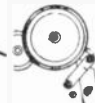
Built-in precision level for precise visual adjustment of turntable base.



Exclusive PICKERING spring mounting... an extra measure of "cushion".



Predrilled opening for pickup arm. Unimount feature of UNIPOISE Arm permits installation in minutes.



Exclusive "free-floating" idler of live omni-compliant rubber. Sure-grip feature eliminates any possibility of slippage

Single, simplified electro-mechanical control... precise single (33 1/3 rpm) speed... constant accuracy with synchronous motor

With conventional LP records, rumble, a form of distortion caused by mechanical vibration in a turntable mechanism, is a minor problem. The motion of a conventional stylus is lateral and a conventional cartridge is designed to generate a signal voltage only when activated by lateral motion without responding to any vertical movement of the stylus. With the stereo cartridge the motion of the stylus is complex... it is lateral, vertical and a combination of both lateral and vertical, depending upon the recorded material. Therefore, vertical vibration is a serious problem when playing stereo records... this vibration is picked up by the cartridge and is heard as a distortion that sounds exactly as the name implies — *rumble!*

Regarded by engineers as a major handicap in stereo record reproduction, *vertical rumble* is not a problem with the Gyropoise 800 Stereotable. Only the Gyropoise revolves with precise accuracy in magnetic suspension, on a bearing-of-air void of stiff mechanical linkage inherent in conventional turntables.

Designed specifically for microgroove records... monophonic and stereophonic... the Gyropoise 800 Stereotable is single speed at 33 1/3 rpm and employs a built-in precision leveling adjustment with indicator. The Stereotable which embodies a unique magnetic suspension, is an exclusive invention of Pickering & Company (patents are pending and all rights are reserved). Vertical period of spring suspension is below 5 cps; compound vertical rumble attenuation is 12 db per octave below resonance; noise is 65 db below reference level; speed accuracy is ±0.2% total variation. Weight: 9 lbs. less Tray; 11 lbs. with Tray; 13 lbs. with Complete Base. Measures 13 1/2" x 13 1/2" — 1 1/8" above and 3" below the 5/32" thick base plate. Overall dimensions on complete base: 14 3/4" x 14 3/4" x 5 3/8" high.

Model 800C Gyropoise Stereotable,
chassis only\$59.85
Model 800CB Complete Base"\$15.00

* Mahogany, Walnut or Blond.

GYROPOISE AND STEREO TABLE ARE TRADEMARKS USED TO DENOTE THE QUALITY OF PICKERING & CO INVENTIONS.

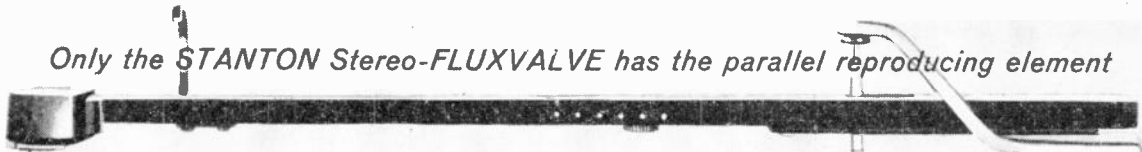


For those who can hear the difference FINE QUALITY HIGH FIDELITY PRODUCTS BY

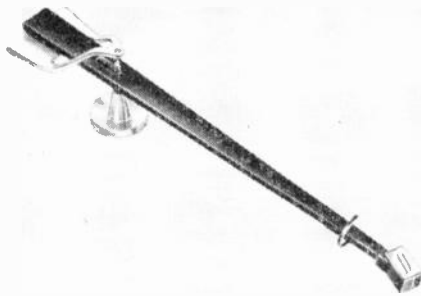
PICKERING & COMPANY, INC., Plainview, N. Y.

EXPORT: AD. AURIEMA, INC., 89 BROAD ST., NEW YORK / CANADA: CHARLES W. POINTON LTD., 6 ALCINA AVE., TORONTO

Only the **STANTON Stereo-FLUXVALVE** has the parallel reproducing element



contained in the "T-GUARD"



Model 196 STANTON UNIPOISE arm with integrated Stereo-FLUXVALVE pickup. The finest pickup ever made...the Model 196 employs a Stereo-FLUXVALVE pickup of the same exacting design and specifications as the Model 371 Stereo-FLUXVALVE cartridge. In the design and manufacture of the UNIPOISE tone arm, Pickering & Co. has achieved the highest standards of engineering and craftsmanship. A precision instrument, the UNIPOISE employs a single friction-free pivot bearing for almost-infinite compliance to trace precisely the delicate more-difficult-to-track groove of a stereo record. The complete assembly...tone arm and pickup...is only a fraction of the weight of conventional tone arms. Introduced for conventional records only a short time ago, the UNIPOISE was originally designed to make precise and reproducible record measurements in calibrating recording channels and record masters...

an exclusive feature that is tailor-made and ideally suited for the new and exciting stereo records. This advanced mechanical design and functional styling combine to provide the finest phonograph reproducer ever made...for all microgroove records...monophonic and stereophonic! For use with all high quality transcription turntables, its practical size permits installation into areas only slightly larger than that required for record changers...it will mount on a motorboard measuring only 15½" x 15½". Simple Uni-mount installation, employs a single thumbscrew and bolt. Exclusive arm rest with soft sable brush to keep the stylus tip free of dust at all times. Convenient stylus force adjustment.

Model 196—.7D UNIPOISE Arm with Integrated Stereo-FLUXVALVE pickup\$49.50

EVERYTHING YOU NEED FOR STEREO CONVERSION

STANTON STEREO KableKits

FOR
CONVERTING
CHANGERS



FOR CONVERTING
MANUAL
TONE ARMS



NEW! Low cost stereo cable assembly for converting automatic changers and manual tone arms. Prefabricated insulated and fully shielded harness assembly with all plugs and connector clips soldered...ready for instant installation! No soldering required for normal installation. Harness length 4 feet, comes complete with cable retention clips.

Model 603 Stereo KableKit for three wire systems.....\$2.98

Model 604 Stereo KableKit for four wire systems.....\$3.98

UNIPOISE, FLUXVALVE AND KABLEKIT ARE TRADEMARKS USED TO DENOTE THE QUALITY OF PICKERING & CO. INVENTIONS.



"For those who can hear the difference" FINE QUALITY HIGH FIDELITY PRODUCTS BY

PICKERING & COMPANY, INC., Plainview, N. Y.

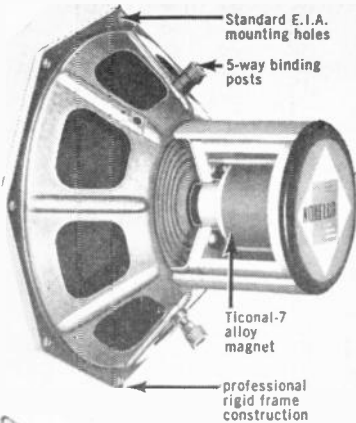
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from the
audio
research
center
of the
world

Norelco[®]

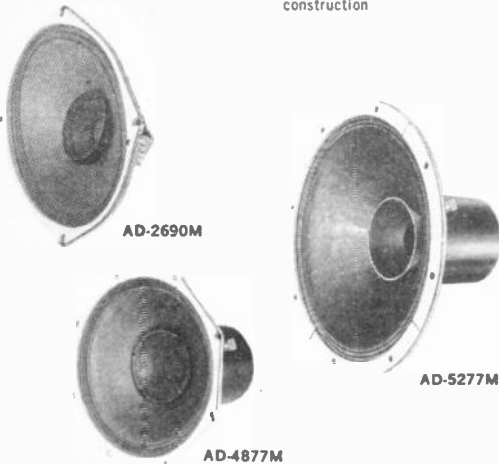
HI-FI COMPONENTS

featuring new
TICONAL VIII
magnets (30%
more powerful
than alnico)



LOUDSPEAKERS

This new line of 5" to 12" loudspeakers is designed to match the quality requirements of the discriminating music lover...at a surprisingly moderate price. The world's greatest buys on the basis of listening quality, the T-7 series incorporates voice coil magnets of Ticonal-7 steel, the most powerful of modern magnet alloys, for maximum efficiency and damping...dual cones for wide frequency response...constant impedance resulting in an extremely straight response curve...longer effective air-gaps and extra-high flux density to provide exceptional transient response and to eliminate ringing and overshoot.



Model	Size	Power (watts)		Efficiency at 400 cps	Total Flux (Maxwells)	Frequency Response (cps)	Audiophile Net
		Continuous	Peak				
AD-5277M	12"	20	30	14%	134,000	35 18,000	\$72.50
AD-4277M	12"	20	30	7%	98,000	35 18,000	39.00
AD-4877M	8"	6	10	10%	58,300	50 20,000	26.00
AD-3800M	8"	6	10	6%	26,200	75 19,000	9.90
AD-3500M	5"	3	5	4%	26,200	30 19,000	8.34
AD-3690M	6x9"	6	9	5.5%	26,200	70 18,000	7.95
AD-2690M	6x9"	6	9	2.5%	15,200	70 16,000	6.75

'EXHIBITION' SPEAKER ENCLOSURES

Acoustically designed to achieve moderate size without loss of bass response or wideness of dispersion. Perfectly matched for the bass response of the NORELCO T-7 speakers. Available in three sizes in hand-rubbed Mahogany, Walnut, Blond or Cherry finishes.

Specifications: The "Rembrandt," (26" x 21½" x 17¼" deep) Walnut or Cherry \$99.50; Blond \$94.95; Mahogany \$91.00. The "Van Gogh," (23¾" x 13¾" x 11¾" deep*) Walnut or Cherry \$59.95; Blond \$55.50; Mahogany \$51.00. The "Vermeer," (18½" x 12" x 8-15/16" deep*) Walnut or Cherry \$35.00; Blond \$33.25; Mahogany \$31.00.

*May be placed horizontally or vertically.

...also new from *Norelco*

The "HAGUE"; completely integrated quality speaker system. Two high-efficiency T-7 loudspeakers in an acoustically matched enclosure. Designed for optimum dispersion...maximum efficiency...extremely wide-range, flat response. 26" x 21½" x 17¼" deep. Walnut or Cherry \$159.95; Blond \$154.95; Mahogany \$149.95.

The REMBRANDT
(for AD-5277M or
AD-4277M Speakers)

The HAGUE
(Matched
Speaker System)

The VAN GOGH
(for AD-4877M
Speaker)

The VERMEER
(for AD-3800M
Speaker)



Whether you are a music lover, a recordist, or a high fidelity enthusiast, we are confident you will find one of the justly famous Norelco 'Continental' family of professional quality tape recorders ideally suited to your specific recording requirements.

"...quite up to professional standards... capable of producing superb tapes..."
HIGH FIDELITY MAGAZINE

- ◆ full frequency recording... broadcast fidelity playback
- ◆ three speeds for maximum versatility, economy and fidelity
- ◆ special narrow-gap heads for extended frequency response
- ◆ simple piano-key controls
- ◆ self-contained with dynamic microphone and wide range Norelco loudspeaker
- ◆ can also be played through an external hi-fi system
- ◆ easily portable... rugged
- ◆ carrying case styled by the continent's top designers.

NEW THE CONTINENTAL "400"
4-TRACK
STEREO-RECORD/PLAYBACK
Model EL3536 \$399.50

◆ four-track stereophonic recording and playback ◆ four-track monophonic recording and playback ◆ self-contained including dual hi-fi preamps, recording and playback amplifiers and Norelco wide-range loudspeaker ◆ fully compatible with conventional pre-recorded magnetic tapes ◆ can also be used as a self-contained phono/P.A. amplifier and speaker system

SPECIFICATIONS:

THREE TAPE SPEEDS—7½, 3¾, and 1⅞ ips; **TRACKS**—stereo 2 (dual); monophonic 4; **HEADS**—stacked; **FREQUENCY RESPONSE**—at 7½ ips, 50-18,000 cps; at 3¾ ips, 60-14,000 cps; at 1⅞ ips, 60-7,000 cps; **SIGNAL-TO-NOISE RATIO**—55 db or better; **WOW AND FLUTTER**—Less than .3% at 3¾ ips; **MODULATION INDICATOR**—Magic Eye (Type EM84); **PROGRAM INDICATOR**—Built-in, 4 digit adjustable; **PAUSE BUTTON**—Instantaneous with locking device; **FAST FORWARD AND REVERSE**—Less than 2 minutes for 1200 ft. of tape; **DUBBING FACILITIES**—Sound on sound; **AUTOMATIC STOP**—At ends of tape (with metalized strips); **AUDIO FACILITIES**—Self-contained including dual hi-fi preamps, recording and playback amplifiers, balance control and Norelco wide range loudspeaker; **INPUTS**—(1) for stereo microphone; (2) for stereo phono or



tuners; **OUTPUTS**—(2) for extension speakers; (2) for external amplifiers; (1) for stereo headphones. **MICROPHONE**—Stereophonic (dual elements); **SPECIAL CONTROLS**—For recording only: ganged mike volume, and ganged phono/radio volume. For playback only: 2 channel tone; ganged volume; and ganged balance; **SWITCHES**: (1) dubbing; (1) 2-position channel modulation selector; (1) 2-position for combining both stereo channels to single speaker output; (1) 4-position selector—Pos. I, Public Address, Stereo (mike and phono), Pos. II, Monaural Track 1 (& track 4 when tape reel is inverted), Pos. III, Monaural Track 3 (& track 2 when tape reel is inverted), Pos. IV, Stereo; **TUBE COMPLEMENT**—EF86 (2), ECC83 (3), EL84 (2), EM84 (1); **LINE VOLTAGE**—117 volts AC at 60 cycles; **POWER CONSUMPTION**—100 w; **DIMENSIONS**—18½" x 15½" x 8½"; **WEIGHT**—55 lbs.

STEREO-PLAYBACK VERSION
Model EL3516/G53 \$299.50

Provides every feature of the original monaural 'Continental' Model EL3516—PLUS stereophonic playback and mixing facilities for monaural recording.

SPECIFICATIONS:

THREE TAPE SPEEDS—7½, 3¾, and 1⅞ ips; **TRACKS**—Dual; **HEADS**—Stacked; **FREQUENCY RESPONSE**—at 7½ ips, 50 to 15,000 cps; at 3¾ ips, 60 to 10,000 cps; at 1⅞ ips, 60 to 5,000 cps; **WOW AND FLUTTER**—0.15% at 7½ ips, 0.2% at 3¾ ips, 0.35% at 1⅞ ips; **VOLUME INDICATOR**—Magic Eye Type EM84; **LOUDSPEAKER**—Integrated, heavy magnet, wide range; **FAST FORWARD AND REVERSE**—Less than 2 minutes for 1200 ft. of tape; **AUTOMATIC STOP**—At ends of tape (with metalized strips);

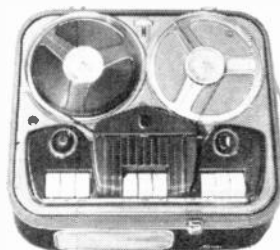


PROGRAM INDICATOR—Built-in, 3 digit adjustable; **INPUTS**—(1) radio/phono; (1) microphone (with mixing facilities); **OUTPUTS**—(1) for external speaker without controls; (1) for headphone monitoring recording circuit; **MICROPHONE**—High-Impedance Dynamic; **TUBES**—EF86 (2), ECC83 (2), ECL82 (1), EM84 (1); **LINE VOLTAGE**—117 volts AC at 60 cycles; **POWER CONSUMPTION**—80 watts; **DIMENSIONS**—15¾" x 13" x 8"; **WEIGHT**—32 lbs.

STEREO COMPANION
PIECE Model SCP-1 \$99.00

Provides the all important "second voice" for completely self-contained stereophonic playback with the 'Continental' Model EL3516/G53. Incorporates second power amplifier and second wide-range Norelco loudspeaker in exactly matching carrying case.

WEIGHT—15 pounds. **DIMENSIONS**—15¾" x 13" x 8".



ORIGINAL MONAURAL
VERSION
Model EL3516 \$269.50

Still the greatest buy in a monaural tape recorder. Similar to the 'Continental' Model EL3516/G53 but with monaural facilities only. The Norelco Model EL3516, the favorite of the nation's schools and voice and music teachers is regarded as the world's most advanced, all-in-one portable tape recorder.



THERE'S AN
Irish
TAPE
FOR EVERY
RECORDING
REQUIREMENT

Whatever the application—professional sound recording...broadcasting...hi-fi in the home...school or office use...science and industry—there is an **Irish** tape that meets every requirement in quality, dependability and value.



A mirror smooth surface tape An exclusive **Irish** development The *ferro-sheen* process offers five major benefits over conventional magnetic tapes

1. **ULTIMATE IN HIGH FREQUENCY RESPONSE.** Due to intimacy of contact between tape and heads, frequency response is ultimate in first play. Conventional tapes must be "worn-in" by usage to approach *ferro-sheen* performance.

2. **MINIMUM HEAD WEAR.** The mirror smooth surface of **Irish** tape reduces head wear considerably below that of ordinary rough surface tapes.

3. **FREEDOM FROM HEAD CONTAMINATION.** **Irish** tape has the most homogeneously bonded oxide of any magnetic tape. NO external lubricant is needed as ample lubricant is built into the oxide. This right combination of the right ingredients reduces oxide and lubricant build-up on heads to an absolute minimum.

4. **LOWEST MODULATION NOISE.** The ultra smooth *ferro-sheen* magnetic surface of **Irish** tape assures significantly lower modulation noise.

5. **MINIMUM DROP-OUTS.** The remarkable *ferro-sheen* process produces a superior tape with maximum freedom from drop-outs. **Irish ferro-sheen** tape is the *best engineered* tape in the world.



211
GREEN BAND

The only premium-quality high-fidelity tape at the standard price. "Ferro-sheen processed" 1½-mil acetate. Meets the highest professional standards and all EIA and NAB specifications. Compatible with existing standard bias settings. Superior frequency response characteristics.

Length (feet)	Reel Size	Price
150	3"	.75
300	4"	1.40
600	5" or 5¾"	2.25
850	5¾"	2.85
1200	7"	3.50
2400	10½"	9.45



601
LONG PLAY
(Mylar*)

A premium-quality *ferro-sheen* process tape with 60% more playing time than standard tape on any given reel size. Made on 1-mil Mylar* polyester film base for longer storage life plus outstanding strength and tear resistance. Meets highest professional recording standards. Superior frequency response characteristics.

Length (feet)	Reel Size	Price
225	3"	1.00
450	4"	2.00
900	5" or 5¾"	3.60
1150	5¾"	4.95
1800	7"	6.20
3600	10½"	14.70



602
LONG PLAY
(Acetate)

50% more playing time than standard tape on any given reel size. Same audio quality as #601—slightly lower in price, has slightly lower tensile strength than 1½-mil acetate. Most pre-recorded tapes are duplicated on this 1-mil acetate film. Made by the *ferro-sheen* process. Guaranteed splice-free.

Length (feet)	Reel Size	Price
225	3"	.90
450	4"	1.80
900	5" or 5¾"	3.50
1150	5¾"	4.25
1800	7"	5.50
3600	10½"	12.20



724
DOUBLE PLAY

Twice the length of standard tape. Twice the strength of conventional thin tapes. Made by the *ferro-sheen* process on specially strengthened ½-mil Mylar* base. Greatly increased tensile strength (6 lbs.) eliminates necessity for gentle handling. Superior frequency response.

Length (feet)	Reel Size	Price
300	3"	1.60
600	4"	2.90
1200	5" or 5¾"	5.45
1650	5¾"	7.25
2400	7"	9.50
4800	10½"	22.00



irish BRAND TAPE REELS

The 7" irish tape reel provides 28 square inches of indexing area (7 sq. in. on each of 4 large flanges). These 4 smooth areas permit use of china crayon or other suitable means to identify program material directly on reel.

The new improved 1960 model reels have been strengthened and reinforced to further eliminate warping.

Irish tape reels are easy to thread—they have the largest access to the threading eye of any reel on the market.

Price

- 3" plastic reel, with box..... .25
- 4" plastic reel, with box..... .55
- 5" and 5 3/4" plastic reel with box..... .65
- 7" plastic reel, with box..... .75
- 10 1/2" fiberglass reel, NAB hub, (boxed) 3.80
- 10 1/2" aluminum reel, NAB hub, (boxed) 4.70

**220
SOUND PLATE**

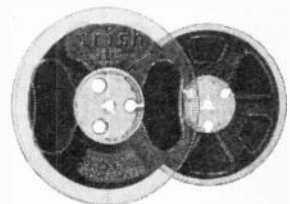
The super-tough special-purpose premium tape pioneered by ORR Industries. Made by the *ferro-sheen* process on 1 1/2-mil Mylar® polyester base. Virtually indestructible, with outstanding resistance to stretching, tearing and breaking. Unaffected by extremes of temperature and humidity, even in tropical or arctic climates. Used for tape masters and other applications requiring permanence.

Length (feet)	Reel Size	Price
600	5" or 5 3/4"	4.10
1200	7"	6.65
2400	10 1/2"	14.20

**195
BROWN BAND**

Budget-priced "name brand" quality tape backed by the famous irish guarantee. 1 1/2-mil cellulose acetate base. Frequency response characteristics superior to all other budget priced tapes. Guaranteed splice-free. Widely used in homes, schools, churches—wherever a good inexpensive tape is needed.

Length (feet)	Reel Size	Price
600	5" or 5 3/4"	1.75
850	5 3/4"	2.35
1200	7"	2.95



5-3/4" EMPTY REELS

All irish recording tapes are available on a new, improved 5 3/4" reel as well as on the industry's standard 5" reels. The special 5 3/4" reel has the advantage of a large professional hub which equalizes tension and improves tape timing, an extra-large opening to the threading eye, and 24 square inches of smooth flange area for easy write-on indexing.

NEW FLUTTER-FREE REEL

Extra-large professional hub gives more consistent tape speed, less wow and flutter. 5" reel with 3" hub (boxed)..... .75
7" reel with 4" hub (boxed)..... .85

#141 SPLICING TAPE

1/4" x 100' long..... .40

#151 LEADER/DIVIDER TAPE

1/4" x 150 feet long..... 1.00



SP-3 TAPE SPLICER

The Model SP-3 tape splicer is of a thoroughly tested, trouble-free design, enabling expert or novice to make professional splices in a matter of seconds, without scissors or razor blades. It uses as little as 1/4 inch of splicing tape per splice and leaves the finished splice entirely free of adhesive at the edges. The base is removable, and the splicer may be conveniently mounted on the recorder. \$8.85

**TAPE
CORRESPONDENCE
PACK**

A multiple packet of 5 individually-packaged 3" reels, each in its convenient mailing carton. Choice of Green Band (150 feet per reel) or Long Play Mylar® (225 feet per reel).

Description	Five Reels	Price
TC 211	750'	3.75
TC 601	1125'	5.00

**#TSB-1
RECORDER
STROBOSCOPE**

Checks recorder speeds to split second. Low friction clock-type bearings. Accurately calibrated, scaled and ruled. A precision instrument to determine if your recorder is operating at its correct speeds..... \$4.95

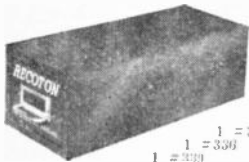
ORR INDUSTRIES, INC.

EXPORT:
Morhan Exporting Corp., New York, N. Y.

CANADA:
Atlas Radio Corp., Ltd., Toronto, Ontario

* DU PONT'S REGISTERED TRADEMARK

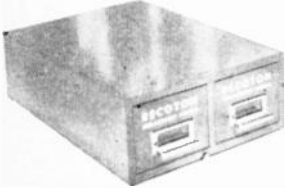
Recoton Phoneneedles, Accessories, etc.



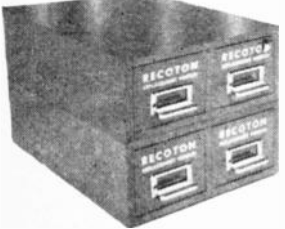
**KIT NO. 104
METAL CABINET**
Contains 47 Replacement
needles

1 = 303	1 = 356	1 = 117	2 = 460
2 = 310	2 = 370	2 = 318	1 = 661
2 = 317	1 = 387	2 = 427	1 = 665
1 = 319	1 = 393	2 = 437	1 = 670
1 = 322	1 = 395	2 = 441	1 = 501
1 = 339	1 = 396	1 = 445	1 = 503
1 = 349	2 = 401	1 = 450	1 = 504
1 = 353	1 = 406	1 = 452	1 = 506

Included Free: Inventory control index cards and a complete set of replacement tools, and with a 10-power jeweler's eye loupe.
List Price \$128.95



KIT NO. 105
Large Double Drawer Metal Cabinet. Contains one each of all replacement needles. Cat. No. 301 to 516. Does not contain any Diamond needles. A set of replacement tools is included Free.
List Price \$482.40



KIT NO. 106
Two Large Double Drawer Metal Cabinets. Contains two each of all replacement needles. Cat. No. 301 to 516. Does not contain any Diamond needles. A set of replacement tools is included Free.
List Price \$964.80

CUTTING STYLI

SAPPHIRE CUTTING NEEDLES

Superbly crafted, equipped with finest sapphire point. For professional use.



available in Specify No. TMG when ordering.

STEEL CUTTING NEEDLES

No. 1060 List Price \$1.50
5 needles to a card

STELLITE CUTTING NEEDLES

Cat. No. 11—Stellite Cutting Needle, packed in individual card, \$2.50

1112—12 cards to a display card, \$30.00

MAGNETIC RECORDING TAPE

For all Tape Recorders



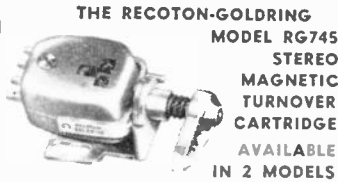
Cat. No.	Length in Feet	Size of Plastic Reel	List Price
1112A	1200	7"	\$3.50
118A	600	5"	2.25
118A	1800	7"	5.50
119A	900	5"	5.50



No. 4012
"Whisk-a-way" clip-on
RECORD BRUSH

A new and better record brush, one that every record owner needs and wants.

12 Whisk-A-Brushes (\$1.00 List each) to a Display Card List Price \$12.00



THE RECOTON-GOLDRING
MODEL RG745
STEREO
MAGNETIC
TURNOVER
CARTRIDGE
AVAILABLE
IN 2 MODELS

RG745-3SD With diamond stylus for stereo and monaural LP's. Sapphire stylus or 78 rpm. Audiophile Net: \$29.95

RG745-1SD With diamond stylus for stereo and monaural LP's. Sapphire stylus for monaural LP's. Audiophile Net: \$29.95

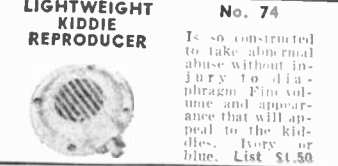


RECOTON-GOLDRING
MODEL
RG 666
MU-METAL
SHIELDED

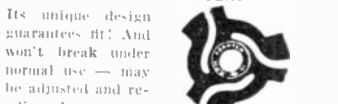
RG 666-SS Cartridge equipped with two sapphire stylus \$12.90
Cartridge equipped with diamond stylus for 33 & 45 RPM, sapphire stylus for 78 RPM 22.90
RG 666-DD Cartridge equipped with two diamond stylus 32.90



RECOTON
WIPE-A-WAY CLOTH
A New Anti-Static Record cleaning cloth. Cleans, preserves and protects records and needles. Removes harmful dirt from grooves and aids Hi-Fi sound reproduction. Contains Silicone. 24 Wipe-A-Way Cloths \$81.00 List each to a Display Card List Price \$24.00



45 RPM RECORD INSERT
Its unique design guarantees fit! And won't break under normal use — may be adjusted and re-adjusted.
Cat. No. 3224—contains:
5 inserts in pkg. at 25¢ ea.
24 pkgs. on display card. List Price \$6.00



HOME RECORDING DISCS
RED LABEL—ALUMINUM BASE Price
6 1/2" packed 100 to a carton... \$.45
8" packed 50 to a carton... \$.60
10" packed 50 to a carton... \$.90
12" packed 25 to a carton... \$ 1.10

GREEN LABEL—THIN ALUMINUM BASE List Price
6 1/2" (100 blanks to a carton)... \$.35
8" (100 blanks to a carton)... \$.50
10" (100 blanks to a carton)... \$.70



No. 102
"ON THE JOB" SERVICEMAN'S KIT
Will service 95% of "on the job" requirements. Can be carried in regular tool box. Contains 11 replacement needles. One each of Cat. No. 310, 316, 318, 319, 370, 385, 401, 406, 417, 418, 441, 443, 469, 474 plus a complete set of replacement tools.
List Price \$37.45



No. 103
METAL CABINET
Contains 25 replacement needles. One each of Cat. No. 303, 310, 317, 319, 336, 370, 385, 396, 401, 406, 417, 418, 427, 437, 441, 445, 450, 460, 464, 465, 470, 501, 503, 504, 506. Plus a complete set of replacement tools.
List Price: \$68.95

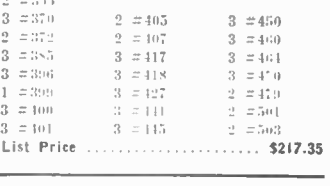


No. 602
METAL CABINET
WITH
MICROSCOPE
DISPLAY

2 = 301
3 = 303
3 = 310
2 = 315
2 = 316
3 = 317
2 = 318
2 = 319
2 = 327
2 = 353
2 = 375
3 = 370
2 = 372
3 = 385
3 = 396
1 = 399
3 = 400
3 = 401

2 = 405
2 = 407
3 = 417
3 = 418
3 = 427
2 = 440
2 = 441
2 = 503

List Price \$217.35



No. 41
STYLUS
MICROSCOPE
"INSPECTOR"

Electrically wired, mounted on heavy polished wood base.
List Price \$26.40

ALL GROOVE NEEDLES



No. 2712 SUPEROSMIUM UNIVERSAL 3-SPEED OSMIUM TIPPED
Recoton's fine permanent-type needle made of the finest osmium alloys. Micro-tested and factory-sealed for precision results. Lowest surface noise and hiss. Exceptionally gentle to records.
List Price
No. 2712—1 needle to a card \$ 1.00
12 to a display card 12.00



No. 2912 PRIMUS SAPPHIRE NEEDLE
Versatile... popular priced... ideal for every kind of electrical player including automatic changers. Features special wire type grip to allow greater flexibility permitting needle to follow modulation track of record faithfully. Fine sapphire point eliminates surface noise, minimizes record wear. Reproduces entire tonal range.
List Price
No. 2912—Each needle \$ 2.50
12 to display card 30.00



No. 3D
COMBO
CARD

All your needs on ONE card!



No. 2812 ULTRA UNIVERSAL 3-SPEED SAPPHIRE
Popular-priced sapphire tipped needle featuring high-level performance at low level cost. Quality crafted... micro-tested, factory-sealed for fine results.
List Price
No. 2812—1 needle to a card \$ 1.50
12 to a display card 18.00



No. 2124 SUPERIOR OSMIUM TIPPED FEATHER-LITE NEEDLE
Recoton's new osmium tipped bent-shank phoneneedle. Long life construction. Fine value for needs of this quality!
List Price
No. 2124—1 needle to card \$.50
24 pkgs. to a display card 12.00

CONTAINS
12-50¢ 3-speed
12-1.00 Phoneneedles
8-1.50 need es
List \$30.00

*Reg. U. S. "PAT OFF." **RECOTON CORPORATION** • LONG ISLAND CITY 4, N. Y.

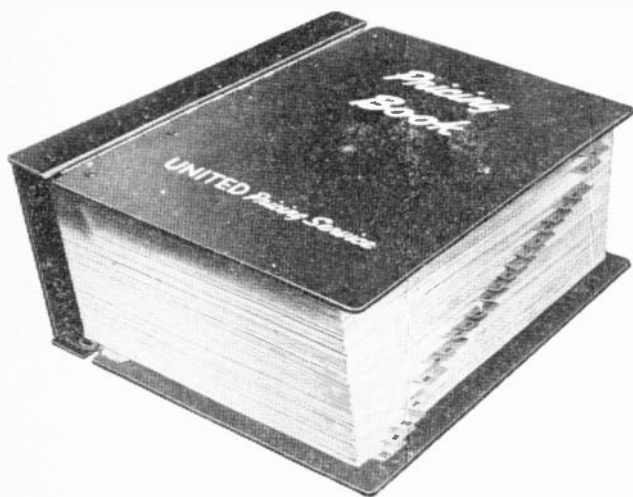
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HEMPSTEAD, N. Y.

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Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.



**REEVES
SOUNDCRAFT CORP.**
New York, New York West Coast: Los Angeles, Calif.

**MAGNETIC RECORDING TAPES
AND TAPE RECORDING
ACCESSORIES**

SOUNDCRAFT MYLAR* BASE RECORDING TAPES

*Du Pont Trademark

Description	Type	Length	Reel	Std. Pkg.	Sug. Con. Net
Soundcraft "LIFETIME" 1½ Mil "MYLAR" Base For use where maximum strength, professional fidelity, permanence and accurate timing are important. Insures accurate timing in film, radio and recording work. Guaranteed for a "Lifetime".	L-1	150'	3"	10	\$ 1.00
	L 6	600'	5"	10	3.90
	L 12	1200'	7"	10	6.30
	L 24RM•	2400'	10½"	5	13.80
	L 24RF†	2400'	10½"	5	13.80
	L 24RF3‡	2400'	10½"	5	13.80
	L 24H	2400'	Hub	5	11.40
	L 48R	4800'	14"	2	28.60
	L-48H	4800'	Hub	2	25.00
	Soundcraft "PLUS-50" 1 Mil "MYLAR" Base Offers best combination of long play with tape strength. Has durability of "Lifetime" but is somewhat less rugged because of its thinner base.	PL-2	225'	3"	10	1.05
PL-9		900'	5"	10	3.50
PL-18		1800'	7"	10	6.00
PL-36RF†		3600'	10½"	5	14.00
PL-36RF3‡		3600'	10½"	5	14.00
PL-36H		3600'	10½"	5	11.75
PL-72R		7200'	14"	3	30.00
PL-72H	7200'	Hub	3	24.50	
Soundcraft "PLUS-100" ½ Mil "MYLAR" Base Provides extra long play (twice the length of standard play tapes) for the recordist who knows how to handle tape.	XP-12	1200'	5"	10	3.80
	XP-24	2400'	7"	10	6.80
	XP-52RM•	5280'	13½"	5	16.80
	XP-52RF†	5280'	10½"	5	16.80
	XP-52RF3‡	5280'	10½"	5	16.80
XP-52H	5280'	Hub	5	15.50	
Soundcraft "PLUS-100X" ½ Mil Tensitized "MYLAR" Base Finest double-play tape available. Dupont tensitized "Mylar" base provides super-strength and stretch-resistance.	XP-12X	1200'	5"	10	4.75
	XP-24X	2400'	7"	10	8.75
	XP-48X	4800'	10½"	10	20.30

SOUNDCRAFT ACETATE BASE RECORDING TAPES

Soundcraft "RED DIAMOND" 1½ Mil "ACETATE" Base Economical "workhorse" tape—standard for many applications in business, schools, government, professional work—where long, hard usage and low cost is important.	SPN-1	150'	3"	10	\$.65
	SPN-3	300'	4"	10	1.25
	SPN-6	600'	5"	10	2.10
	SPN-12	1200'	7"	10	3.50
	SPN-24RF†	2400'	10½"	5	8.50
	SPN-24RF3‡	2400'	10½"	5	8.50
Soundcraft "PROFESSIONAL" 1½ Mil "ACETATE" Base Engineered for the professional—carries this guarantee: Uniformity at 1000 cps, as tested on Ampex #307, is ±¼db in a reel and ±½db from reel to reel. Minimum response at 10,000 cps is guaranteed within 1 db of response at 1000 cps.	P-12	1200'	7"	10	4.40
	P-24RM•	2400'	10½"	5	10.25
	P-24RF†	2400'	10½"	5	10.25
	P-24RF3‡	2400'	10½"	5	10.25
	P-24H	2400'	Hub	5	8.00
	P-48R	4800'	14"	3	20.75
	P-48H	4800'	Hub	3	12.50
	Soundcraft "STANDARD-50" 1 Mil "ACETATE" Base "STANDARD-50" is the long play companion to "RED DIAMOND" and "PROFESSIONAL." Its 1 mil acetate base gives the recordist 50% more recording time on the same size reel. "STANDARD-50" has been engineered to reproduce professional sound with wide frequency response, high signal-to-noise ratio and low distortion.	S5-9	900'	5"	10	3.29
S5-18		1800'	7"	10	5.17
S5-36H		3600'	Hub	5	9.38
S5-36RF3‡		3600'	10½"	5	12.04
S5-36RF†		3600'	10½"	5	12.04
S5-36RM•		3600'	10½"	5	12.04
S5-72R		7200'	14"	3	27.08
S5-72H		7200'	Hub	3	20.83

• Metal Reel

† Fiberglass Reel (5/16" center opening)

‡ Fiberglass Reel (3" center opening)

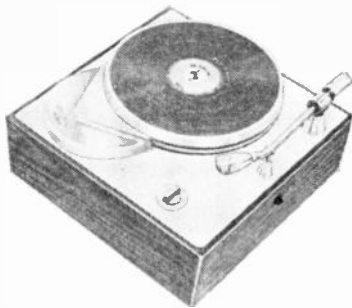


REK-O-KUT COMPANY

THE HYSTERESIS LINE OF STEREO TABLES

SINGLE-SPEED STEREO TABLES

NET PRICE... \$49.95*



TURNTABLE KITS

Model K-33H—Single Speed Belt Drive

Furnished only in kit form.

ASSEMBLY TIME: Approximately 30 minutes with simple tools. Mounting template supplied.

NOISE LEVEL: 52 db. below average recording level.

MOTOR: New design, self-lubricating HYSTERESIS SYNCHRONOUS MOTOR.

SPEED: 33 $\frac{1}{3}$ RPM.

BELT: Special endless woven fabric with thickness held to micrometer tolerances. Has adjustment for belt tension.

STROBE DISC: Permanently affixed—permits instantaneous checking of speed.

MINIMUM DIMENSIONS FOR CABINET INSTALLATION WITH REK-O-KUT S-120 ARM: 17 $\frac{3}{4}$ " x 16 $\frac{3}{4}$ "; Height above Deck 3"; Height below Deck 1".

TURNTABLE: Solid Cast Aluminum Lathe Turned. Tapered for easy disc handling.

FINISH: Silver-tone Aluminum.

SHIPPING WEIGHT: 15 lbs.

MODEL K-33, AS K-33H, BUT WITH 4-POLE MOTOR . . . NET \$39.95*

SHIPPING WEIGHT: 15 lbs.

NET PRICE... \$69.95*



Model N33H—Single Speed Belt Drive

NOISE LEVEL: 53 db below average recording level.

MOTOR: New design, self-lubricating, HYSTERESIS SYNCHRONOUS MOTOR.

CHASSIS DECK: 15 $\frac{7}{8}$ x 15 Aluminum.

SPEED: 33 $\frac{1}{3}$ RPM.

BELT: Special endless woven fabric with thickness held to micrometer tolerances. Has adjustment for belt tension.

STROBE DISC: Permanently affixed—permits instantaneous checking of speed.

MINIMUM DIMENSIONS FOR CABINET INSTALLATION WITH REK-O-KUT S-120 ARM: 17 $\frac{3}{4}$ x 16 $\frac{3}{4}$.

TURNTABLE: Solid Cast Aluminum Lathe Turned. Tapered for easy disc handling.

FINISH: Decorator Grey and Two-tone Aluminum.

SHIPPING WEIGHT: 17 lbs.

THREE-SPEED STEREO TABLES

NET PRICE... \$129.95*



Model B-12H 3 Speeds

The aristocrat of the STEREO TABLE Series. As a record reproducing device, it represents the closest approach to perfection ever attained.

SPECIFICATIONS:

NOISE LEVEL: 57 db below average recording level.

MOTOR: Custom-built HYSTERESIS SYNCHRONOUS MOTOR.

SPEEDS: 33 $\frac{1}{3}$, 45 and 78 rpm.

SPEED SELECTION: Single selector knob. Switching to speed position starts motor. Setting to "off" position adjacent to speed shuts off motor and disengages filter.

STROBE DISC: Permanently affixed—permits instantaneous checking of all speeds.

45 RPM HUB: Built-in—retractable—requires no external adapter.

PILOT LIGHT: Jewelled neon light acts as "on off" indicator.

CHASSIS DECK: Cross-ribbed cast aluminum. Designed for flush-mounting in rectangular cut out.

MINIMUM DIMENSIONS FOR CABINET INSTALLATION: Left to Right 17 $\frac{3}{4}$ "; Front to Back 16"; Height above Deck 3"; Height below Deck 6 $\frac{1}{2}$ ".

TURNTABLE: Solid Cast Aluminum—Lathe Turned.

FINISH: Silver-tone Aluminum

SHIPPING WEIGHT: 19 lbs.

NET PRICE... \$99.95*



Model B-12GH 3 Speeds

All specifications are identical to the B-12H with the following exceptions:

NOISE LEVEL: 53 db below average recording level.

MOTOR: New design self-lubricating, HYSTERESIS SYNCHRONOUS MOTOR.

SHIPPING WEIGHT: 18 lbs.

Model B-12—3 Speeds

All specifications are identical to the B-12H with the following exceptions:

NOISE LEVEL: 50 db below average recording level.

MOTOR: Induction—1 pole built to REK-O-KUT specifications.

SHIPPING WEIGHT: 18 lbs.

NET PRICE... \$84.95*

The policy of Rek-O-Kut Co., Inc., is one of continual improvement in design and manufacture. Hence, we reserve the right to change specifications and design without notice.

REK-O-KUT COMPANY



THE HYSTERESIS LINE OF STEREO TABLES

TWO-SPEED STEREO TABLES



NET PRICE...
\$59.95*

Model L-34: 33 1/3 & 45 rpm
Model L-37: 33 1/3 & 78 rpm

SPECIFICATIONS:

NOISE LEVEL: 10 db below average recording level.
MOTOR: Induction—1-pole—built to Rek-O-Kut specifications.
SPEEDS: Model L-34—33 1/3 and 45 rpm; Model L-37—33 1/3 and 78 rpm.
SPEED SELECTION: Slide shift with intermediate "off." Locks in either speed position.
STROBE DISC: Permanently affixed—permits instantaneous checking of both speeds.
45 RPM HUB: Built in—retractable—requires no external adapter on L-34.
MINIMUM DIMENSIONS FOR CABINET INSTALLATION: Left to Right 16 1/2". Front to Back 16 1/2". Height above Deck 5". Height below Deck 5 1/2".
TURNTABLE: Solid Cast Aluminum Lathe Turned.
FINISH: Silver-tone Aluminum.
SHIPPING WEIGHT: 15 pounds.



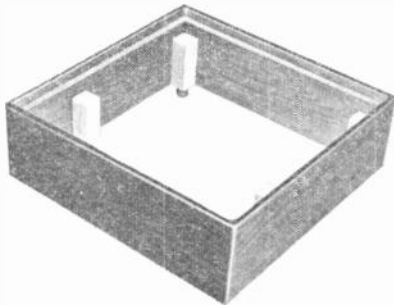
NET PRICE...
\$79.95*

Model L-34H: 33 1/3 & 45 rpm
Model L-37H: 33 1/3 & 78 rpm

SPECIFICATIONS:

NOISE LEVEL: 50 db below average recording level.
MOTOR: New design, self-lubricating, HYSTERESIS SYNCHRONOUS MOTOR.
SPEEDS: Model L-34H—33 1/3 and 45 rpm; Model L-37H—33 1/3 and 78 rpm.
SPEED SELECTION: Slide shift with intermediate "off." Locks in either speed position.
STROBE DISC: Permanently affixed—permits instantaneous checking of both speeds.
45 RPM HUB: Built in—retractable—requires no external adapter on L-34H.
MINIMUM DIMENSIONS FOR CABINET INSTALLATION: Left to Right 16 1/2". Front to Back 16 1/2". Height above Deck 5". Height below Deck 5 1/2".
TURNTABLE: Solid Cast Aluminum Lathe Turned.
FINISH: Silver-tone Aluminum.
SHIPPING WEIGHT: 17 pounds.

STEREO TABLE BASES



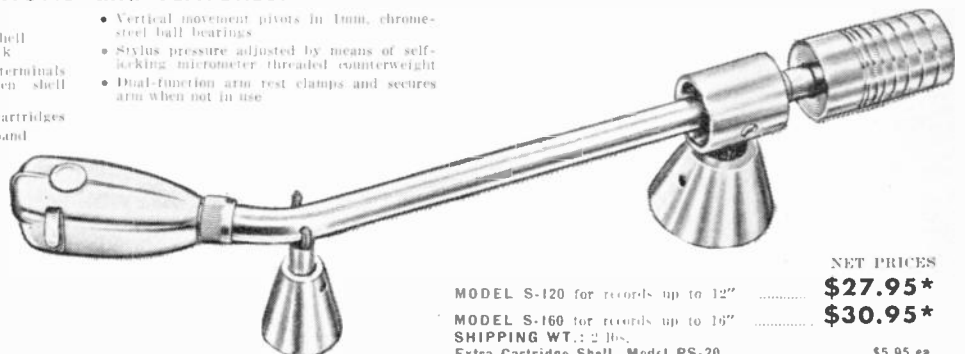
		UNIVERSAL BASES (Wt.: 8 lbs.)		
Model	Accommodates Turntable Model	Description	Net Price	Zone 2 Net Price
BW	ALL MODELS	Solid Walnut	\$19.95	\$21.25
BU	ALL MODELS	Unfinished	10.95	12.25
LU	L-34, L-37, L-34H, L-37H	Unfin. (One piece—incl. motor board)	8.95	10.20
KU	K-33, K-34	Unfin. (One piece—incl. motor board)	8.95	10.20
MOTOR BOARDS				
MB-1	B-12; B-11H and B-11G	Unfinished	2.95	3.25
MB-2	B-12; B-11H and B-11G	Solid Walnut	3.95	4.25
ML-1	L-34 and L-37	White Lacquer	8.50	9.25
MK-1	K-33	White Lacquer	7.95	8.75
MK-2	K-33	Unfinished	4.95	5.75
NOTE: Model N-3-H Turntable requires NO motor board				
ROLL-OUT PLATFORM				
ROP-12	ALL MODELS	Stained Plywood	7.95	8.75
16" EXTENSION				
X-16		Permits mounting of REK-O-KUT 8" (16" Turnarm on ALL MODEL BASES	6.95	7.75

12 AND 16-INCH STEREO TONEARMS

Both arms are identical in design and construction except for length and offset angle. Non-ferrous metal alloys are used throughout.

SPECIFICATIONS and FEATURES:

- Tubular Arm Body
- Interchangeable 4-wire cartridge shell secured to arm body by bayonet lock
- Silver plated, spring-loaded pin terminals establish positive contact between shell and arm.
- Shells accommodate all standard cartridges
- Arm resonance well below audible band
- Adjustable for turntable height
- Dual ball bearing races for horizontal movement
- Vertical movement pivots in Innu, chrome-steel ball bearings
- Stylus pressure adjusted by means of self-locking micrometer threaded counterweight
- Dual-function arm rest clamps and secures arm when not in use



NET PRICES
MODEL S-120 for records up to 12" \$27.95*
MODEL S-160 for records up to 16" \$30.95*
SHIPPING WT.: 2 lbs.
 Extra Cartridge Shell, Model PS-20 \$5.95 ea.

Note: prices less cartridge

Prices of Stereotables (as illustrated) do not include tonearm or base.

MODEL CR heavy duty portable carrying case for Stereotables... \$39.95 net. Specify turntable model when ordering.



REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

DISC RECORDING EQUIPMENT Imperial



The "Imperial," America's finest professional 13 1/4" disc recorder, is built to meet the respective needs of the Professional Recordist, Musician, Educator and Recording Enthusiast who wants to make permanent, professional recordings. The "Imperial" embodies the most advanced design, engineering and production techniques in the disc recording industry. The many exclusive operating features incorporated in the "Imperial" simplify and improve the art of disc recording.

PROFESSIONAL DISC RECORDER AND PLAYBACK REPRODUCER

FREQUENCY RESPONSE: ± 1 db from 30 to 20,000 cycles at normal setting of equalizer controls.
POWER OUTPUT: 13.5 watts at less than 3% total harmonic distortion into resistive load.
TREBLE EQUALIZER: Boost of 14 db and attenuation of 15 db above 8000 cycles, continuously variable.
BASS EQUALIZER: Boost of 14 db and attenuation of 14 db below 50 cycles, continuously variable.
INPUT CHANNELS: Two for high impedance microphone, one for phono (magnetic cartridge) and one high level for radio and tape.
GAIN: Microphones — 120 db; Phono — 90 db; Radio — 80 db.
OUTPUT IMPEDANCES: 4, 8, 15 and 500 ohms for cutter and speaker.
OUTPUT SELECTOR: Three positions providing — recording, playback and public address. Microphones are muted in play-back position.
MONITORING: A switch is provided giving three positions of monitor level — off, medium, loud. Speaker or headphones may be used. Meter on front panel indicates correct recording level.
HUM AND NOISE: 61 db below 13.5 watts with all controls turned for maximum hum and noise output.
CONTROLS: Microphone "1", microphone "2", radio-phone fader, output selector, treble equalizer, bass equalizer, monitor.
TUBE COMPLEMENT: (2) 6SL7; (2) 6SL7; (1) 6SC7; (2) 6VC; (1) 5Y3.
POWER REQUIREMENTS: 105-125 volts, 50-60 cycles.
POWER CONSUMED: 100 watts.
SPEAKER: 10" PM type. Custom-built rigid REK-O-KUT specifications for extra power and wide range. Mounted into detachable cover of case.
CASE: Sturdy plywood cover with rich gray leatherette. Built to withstand rough usage. **DIMENSIONS:** 25 x 22 x 12 inches.
WEIGHT: 77 lbs.
 Equipped with 120-line Leadscrew **IMPERIAL NET PRICE \$599.95***

SPECIFICATIONS:

MOTOR: Hysteresis Synchronous motor fitted with lamitex drive pulley. Suspended in shock mounts to prevent transmission of motor vibration.
RECORDING AREA: Records from 6" up to 13 1/4" masters.
SPEEDS: Simple, budget-price speed control. Records at both 33-1/3 & 78 R.P.M. Includes filler and Adapter for 45 R.P.M. recordings.
OVERHEAD RECORDING LATHE: Model M-12S Lathe.
 • **HAND CRANK** for run-in and run-off spiral grooves.
 • **PROVISION FOR INTERCHANGING LEADSCREWS** for Standard and Microgroove.
 • **LIFTOMATIC SAFETY CAM** prevents double cutting and stylus damage. Automatically retracts cutter as center of disc is approached.
 • **CALIBRATED SCALE FOR TIMING.**
RECORDING HEAD: Model H-4—response from 30-10,000 cycles.
PLAYBACK ARM: Model S-160 for records up to 16" — with dual-sapphire magnetic cartridge.
AMPLIFIER: Model R-8A Universal Recording Amplifier

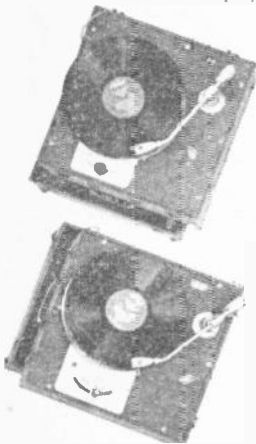
Model R-8A Available Separately **\$159.95***
 Model C-85 Portable Amplifier Case **22.95***

LEADSCREWS—for Imperial—See Model M-12S.

RECORD PLAYERS

These record players are designed to operate into any amplifier or for dubbing records onto tape, wire or disc. May be used with radio, TV receiver, sound projector, recorder, etc.

Models with magnetic cartridges require pre-amplifiers. Mounted in sturdy plywood, leatherette-covered case with detachable covers.



- P-34C with 2-speed L-31 (33-15) Turntable and S-120 Arm with dual sapphire needles and ceramic cartridge. NET PRICE **\$124.95***
- P-37C with 2-speed L-37 (33-78) Turntable and S-120 Arm with dual sapphire needles and ceramic cartridge. NET PRICE **\$124.95***
- P-34M with 2-speed L-31 (33-15) Turntable and S-120 Arm with dual sapphire needles and magnetic cartridge. NET PRICE **\$129.95***
- P-37M with 2-speed L-37 (33-78) Turntable and S-120 Arm with dual sapphire needles and magnetic cartridge. NET PRICE **\$129.95***
- P-VC with Variable Speed CVS-12 Turntable and S-120 Arm with dual sapphire needles and ceramic cartridge. NET PRICE **\$139.95***
- P-VM with Variable Speed CVS-12 Turntable and S-120 Arm with dual sapphire needles and magnetic cartridge. NET PRICE **\$144.95***



VARIABLE-SPEED TURNTABLE CVS-12

The CVS-12 permits continuous speed variation from 25 rpm to 100 rpm without resetting or stopping the record. It can therefore be used with 33-1/3, 45 and 78 rpm records, and permits them to be slowed down to as little as 1/3 normal tempo or speeded up to as much as 300%. It is standard equipment with the P-VC and P-VM players. NET PRICE. **\$89.95***

NOTE: This turntable operates at either 50 or 60 cycles. At 50 cycles speed can be varied from 20 rpm to 85 rpm.
 Shipping Weight: 15 lbs.

NOTE: All Rek-O-Kut Players and Turntables are supplied for 110-120 volts, 60-cycle AC operation. Available for other voltages and frequencies at additional cost.

* All prices slightly higher West of Rockies.

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REK-O-KUT COMPANY



Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems.

ALL REK-O-KUT RECORDING TURNTABLES

are made of cast aluminum, lathc-turned for accuracy and driven with shock-mounted HYSTERESIS SYNCHRONOUS motors equipped with lamitex pulleys.

MODEL R-16H DELUXE 2 SPEED (33-78) 16" RECORDING TURNTABLE With Accessory Idler For 45 rpm Speed

The outstanding value in the recording field. Ruggedly constructed and precisely machined, the Model R-16H turntable will maintain the constant, wow-free speed and smoothness demanded in broadcast work. The Model M-5S Overhead Cutting Mechanism mounts to the R-16H turntable in a matter of moments.

CHASSIS: Radial-ribbed aluminum casting. Designed for flush mounting in rectangular cut-out.
IDLERS: Neoprene compound for maximum traction and silent operation.
OILING: Shafts and bearings are self-oiling. Require infrequent lubrication.

SPEED CHANGE: Mastermatic self-locking instantaneous speed shift.
FINISH: Gray wrinkle.
DIMENSIONS: 18 3/4" x 20". Fits existing consoles and cabinets with slight modification.
TURNTABLE: Solid cast aluminum-Lathe turned.
SHIPPING WT: 34 pounds.

NOTE: Model R-16H Recording Turntable mounts directly on Model C-7B Console without use of either screw or bolts.



NET PRICE:
\$250.00*

(Less Lathe & Cutter)

MODEL TR-43H 2 SPEED (33-78) 12" RECORDING TURNTABLE With Accessory Idler for 45 rpm Speed

Design and construction of the Model TR-43H is similar to the Rek-O-Kut 16" professional recording tables. The Model M-12S Overhead Recording mechanism is mounted to the chassis in a few moments.

CHASSIS: Cast ribbed aluminum drilled to accommodate the M-12S Lathe.
IDLERS: Neoprene compound for maximum traction.
OILING: Shafts and bearings are self-oiling. Require infrequent lubrication.

SPEEDS: Instantaneous speed shift engages either 78 or 33-1/3 rpm idlers.
FINISH: Gray wrinkle.
DIMENSIONS: Front to back 16 1/2"; width 16"; height above motor board 1 3/4"; depth below motor board 5".
SHIPPING WEIGHT: 20 lbs.



NET PRICE:
\$149.95*

(Less Lathe & Cutter)

LEADSCREWS FOR OVERHEAD LATHES

Lines/inch	Model	Net Price
120	M-5S	\$39.95
150	MS-120	39.95
210	MS-210	49.95
216		
240	MS-240	49.95
270	MS-270	49.95

Lines/inch	Model	Net Price
120	M12S-120	\$35.95
150	M12S-150	35.95
210	M12S-210	44.95
216		
240	M12S-240	44.95
270	M12S-270	44.95

Lines/inch	Model	Net Price
120	M12-120	\$19.95
150		
210		
216	M12-216	29.95
240	M12-240	29.95
270		

Lead screws of 210 lines/inch or more = microgroove.

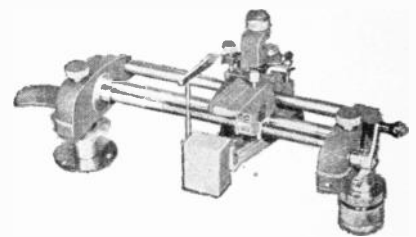
MASTER-PRO OVERHEAD RECORDING LATHES

MODEL M-5S 16" OVERHEAD LATHE

A precise tool for professional work. Working surfaces and moving parts are hardened, ground and polished to a micro finish. The Master-Pro is a universal machine that can be readily attached to all 12" and 16" recording turntables as well as the Rek-O-Kut model R-16H recording table.
HANDCRANK: For run-in and run off spiral grooves.
DUAL CLUTCH SPIRALING CONTROL: Eliminates danger of rise spoilage while crank handle is in motion.
ANGLE OF CUT: Controlled by simple adjustment.
DIMENSIONS: Length 16"; width 6 1/2"; height 9".
WEIGHT: 6 lbs.

Supplied with 120 line lead-screw.

MODEL M-5S less cutter NET PRICE \$200.00*



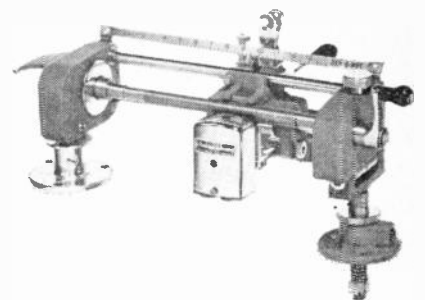
MODEL M-12S 12" OVERHEAD LATHE

This professional lathe is designed to very exacting specifications and features the following:

- Interchangeable Lead-screw.
 - Hand-crank for run-in and run-off Spiral Grooves.
 - Timing Scale.
 - Accommodate Standard Cutting Heads.
 - Depth of Cut Adjustment.
- LIFT-O-MATIC:** Automatically lifts cutter from disc as it approaches end of lead-screw.

Designed for instantaneous replacement of the M-12
 Supplied with 120-line lead-screw

MODEL M-12S less cutter NET PRICE \$150.00*



SPECIFICATIONS FOR H-4 CUTTER \$75.00 NET

Impedance: 8-15-500 ohms. **Sensitivity:** Approx. 1.8 watts at 1000 cycles for 6.3 cm/sec peak recorded velocity. **Freq. Resp.:** +2 db from 30 to 10,000 cycles (with proper equalization). **Distortion:** 1.5% at 1000 c.p.s. **Mounting:** Universal mounting for most lathes. 1 1/2" between mounting holes of cutter. **Stylus:** Short shank steel or sapphire 5/8" overall stylus length.

* All prices slightly higher West of Rockies.

SPECIFICATIONS FOR H-5 CUTTER \$115.00 NET

Impedance: 8-15-500 ohms. **Sensitivity:** Approx. 1.8 watts at 1000 cycles for 6.3 cm/sec peak recorded velocity. **Freq. Resp.:** +2 db from 30 to 13,000 cycles (with proper equalization). **Distortion:** 1.2% at 1000 c.p.s. **Mounting:** Universal mounting for most lathes. 1 1/2" between mounting holes of cutter. **Stylus:** Short shank steel or sapphire 5/8" overall stylus length.

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REK-O-KUT COMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Sound Systems,



16" PRECISION TURNTABLE

The MODEL B-16H 3 Speeds

Offers the broadcaster and recording studio the finest professional performance at the lowest cost. The turntable itself is precision lathe-turned, non-magnetic, cast aluminum — dynamically balanced — and with an extra-heavy rim for effective flywheel action. Turntable diameter is standardized at 15 3/4 inches to allow a 1/4-inch overhang for cueing. It is internally rim-driven by means of neoprene compound idlers. All inter-moving parts are case-hardened and ground to a micro finish. Rotates on a single-ball pivot which takes the entire thrust of the turntable shaft.

Extremely low distortion has been achieved through effective acoustical damping — through special attention to motor bearings, motor suspension, idler design, concentricity of pulleys and all the other elements essential to smoothness, quiet and overall quality of performance. Rumble, wow and flutter and speed regulation are well within NARTB standards. Requiring no more than routine maintenance, all parts are readily and easily accessible.

SPECIFICATIONS:

- SPEEDS:** 33 1/3, 45 and 78 rpm.
- SPEED SELECTION:** Mastermatic, self-locking, instantaneous shift. Engages either idler without stopping turntable or removing disc.
- STARTING:** From standing start to operating speed —
 - at 78 rpm 3/4 turn
 - at 33 1/3 and 45 rpm 1/4 turn
- MOTOR:** Self-lubricating, custom-built HYSTERESIS SYNCHRONOUS.
- NOISE LEVEL:** 50 db below average recording level.
- 45 RPM HUB:** Built-in — retractable — requires no external adapter.
- STROBE DISC:** Permanently affixed — permits instantaneous checking of all speeds.
- CHASSIS DECK:** Radial-ribbed aluminum casting. Designed for push mounting in rectangular cut-out. PRE-DRIILLED for ready mounting of Rek-O-Kut Turntable Arm Model S 160.
- DIMENSIONS:** 18 3/4" x 26". Fits existing consoles and cabinets with slight modification.
- CLEARANCE REQUIRED:** Above Deck — 1 1/2". Below deck — 6 1/2".
- FINISH:** Wrinkle gray.
- SHIPPING WEIGHT:** 34 pounds.

NET PRICE **\$250.00***

CONSOLE CABINET

for B-16H & other REK-O-KUT Turntables



Designed to accommodate the B-16H Turntable without the use of either screws or bolts. Floats on felt. Has 2 storage compartments and piano-hinged doors with flush ring-latches. Includes built-in electrical outlet and adjustable leveling domes. Metallic gray finish. Dimensions: 33" high x 22" wide x 20 1/2" deep.

MODEL C-7B NET PRICE **\$115.00***

Shipping weight: 65 lbs.

Identical to C-7B but with the addition of a 3/4" motor board to accommodate various REK-O-KUT turntables.

MODEL C-7BT NET PRICE **\$124.95***

Shipping weight: 70 lbs.

NOTE: All Rek-O-Kut Turntables are supplied for 110-120 volt, 60-cycle AC operation. Available in other voltages and frequencies at additional cost.

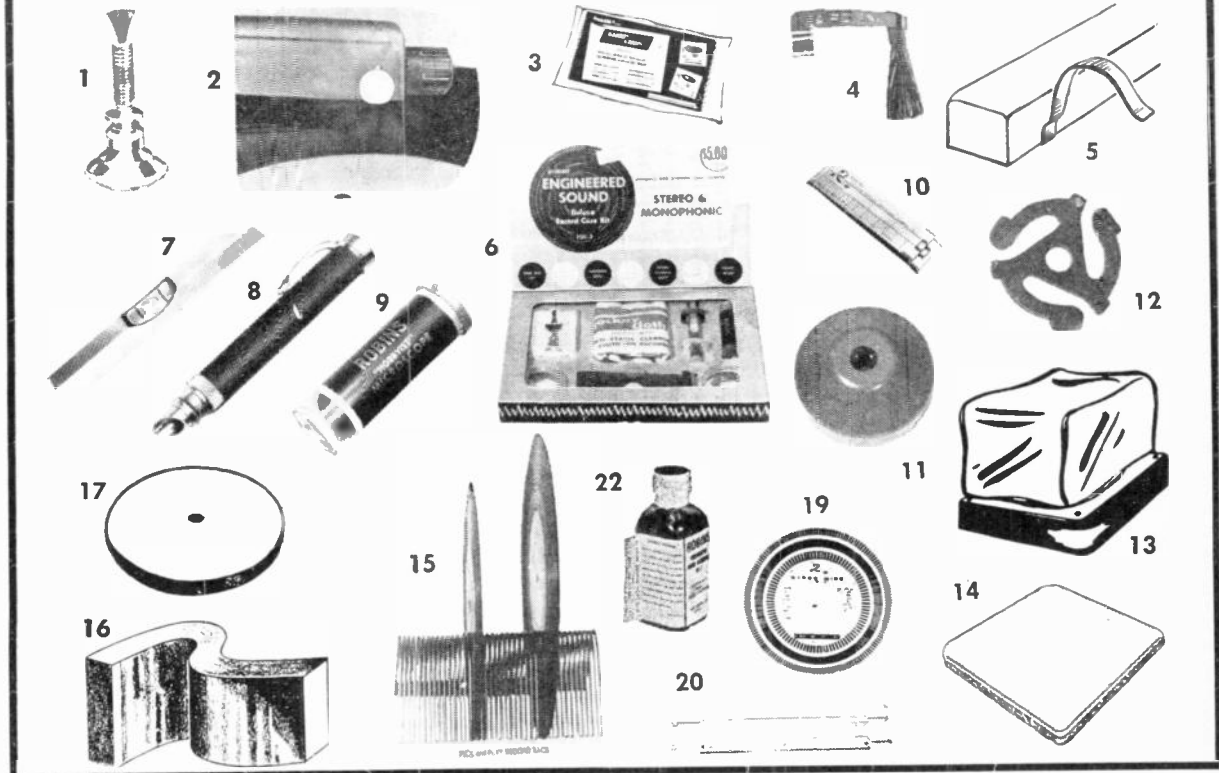
*All prices slightly higher West of Rockies.

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ROBINS INDUSTRIES CORP. FLUSHING 54, N. Y.

PHONOGRAPH EXTRAS FOR BETTER LISTENING



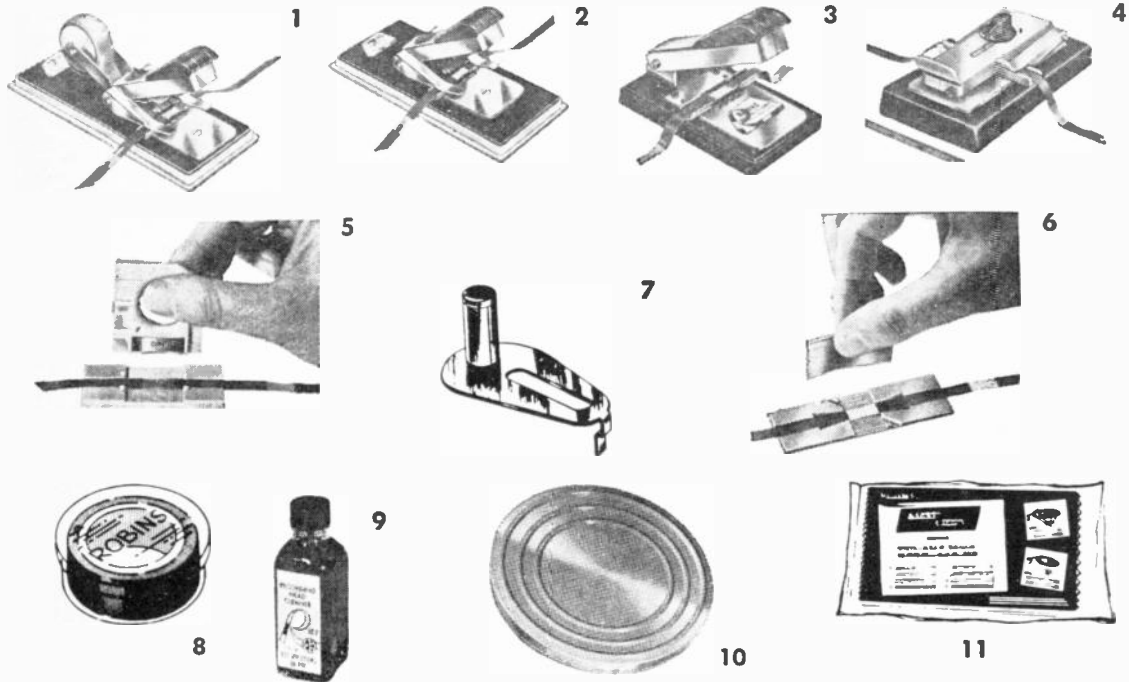
1. **NB-1 KleeNeedLE**— Automatic Changer Needle Brush. Automatically keeps needle clean by removing "dust blob" each time tone arm passes over brush. Adjustable height fits most record changers. Pressure sensitive adhesive for mounting. List \$1.35.
2. **SE-900 ATOMIC JEWEL** — Anti-static device keeps records dust free reducing record, needle wear. Clips on arm. List \$4.00.
3. **JC-1 JOCKEY CLOTH FOR RECORDS** — Anti Static Record cleaning cloth — cleans, lubricates and eliminates static charges which attract dust. List 80c.
4. **RB-75 RECORD BRUSH** — A fine haired brush that clips on tone arm and gently sweeps dust from record as it rotates. List \$7.5.
5. **TA-1 TONE ARM LIFT** — Clips on tone arm to provide a convenient finger lift. Eliminates fumbling. Reduces record scratching. List \$3.5.
6. **FOUR "ENGINEERED SOUND" RECORD KARE KITS Deluxe Engineered Sound Record Kare Kit ESK-3**
Contains: Stylus Pressure Gauge SG-1, Hobbyist Stylus Microscope MX-40, Turntable Level TL-1, Jockey Record Cleaning Cloth JC-1, KleeNeedle NB-1, Record Brush RB 75, Tone Arm Lift TA-1. List \$5.00
Professional Engineered Sound Record Kare Kit ESK-2
Contains: Stylus Microscope MX-40, Turntable Level TL-1, Stylus Pressure Gauge SG-1. List \$3.00.
Hobbyist Engineered Sound Record Kare Kit ESK-1
Contains: Stylus Pressure Gauge, Turntable Level. List \$2.00.
Engineered Sound Turntable Leveling Kit ESK-4
Consists of: 4 adjustable rubber feet, mounts; Level. List \$3.50.
7. **TL-1 TURNTABLE LEVEL** — Spirit level in attractive gold anodized aluminum case sits easily on any turntable. List \$1.15.
8. **MX-1 PROFESSIONAL STYLUS MICROSCOPE**—Check stylus wear and protects against damage to records. List \$2.60.
9. **MX-40 HOBBYIST STYLUS MICROSCOPE** — Direct reading microscope with precision plastic lens. List \$1.35.
10. **SG-1 — STYLUS PRESSURE GAUGE** — measures stylus pressure accurately from 2 to 30 grams. List \$1.00.
11. **SA-45 SPINDLE ADAPTER FOR 45RPM RECORDS** — Enlarges standard spindle diameter to take 45 RPM records. Top is tapered for ease in stacking records. List \$2.25
12. **RA-45 RECORD SPIDERS FOR 45 RPM RECORDS** — Clips into record to reduce hole diameter for fit on standard record spindle. Pkg. of 5. List \$2.25

13. **CHANGER COVERS**— Transparent plastic covers fit many models. Listed here are a few. (Not for portable units).
RECORD CHANGER COVERS.
CC-1 13" x 13 1/2" x 8" for Webeor, V-M, Miracord 200, Dual, Garrard "T", etc. \$1.75 — CC-2 13 1/2" x 15" x 8" for Garrard RC80, 121; Thorens 134, 184; etc. \$1.75 — CC-5 17" x 15" x 8 3/4" for Garrard RC88, 98, 4HF; Glaser-Steers GS-77, Pickering, etc. \$1.75.
TURNTABLE COVERS
CC-3 22" x 16 1/2" x 9" for Fairchild, Rek-O-Kut, Garrard, etc. \$2.25 — CC-4 17 1/2" x 17 1/2" x 8 1/2" for Rek-O-Kut 134, N33; Grey; Thorens TD-124; Metzner, etc. \$2.25.
14. **ISOLATION PAD** — Scientifically designed for use under All Record Changer Bases! Made of Dielectric Foam. Can be used for Tape Recorders, T-V Chassis, etc. IP-16—16 1/2" x 13 1/2". List \$2.
15. **RECORD & ALBUM RACKS** — For neat, safe storage.
RR-7—Holds 48 7" records. List \$1.00 — RR-10—Holds 40 12" records. List \$1.35 — RR-12—Holds 25 12" Albums. List \$1.35.
16. **AM-9 FIBERGLASS ACOUSTIC INSULATION** for lining speaker cabinets, record changers, tape decks, etc. 36" x 36" x 1" thick. Reduces high and medium frequency reverberation and standing waves in speaker cabinets and enclosures. List \$2.25.
17. **PHONO-CUSHION** — Polyester foam mat fits most changers and players. Cushions record fall, reduces motor rumble, reduces magnetic pull of pickup, eliminates record slip, covers worn tables. In attractive colors. Cat. No. PC-7, 7 inch. List \$.65. PC-10, 10 inch. List \$1.00. — PC-12, 12 inch. List \$1.35.
18. **DISCLOSURES** — Virgin polyethylene envelopes for record storage — Protects records from dust, grime, lint, etc. (not illus.) E-10, 10 inch (pkg. of 12). List \$.90. E-12, 12 inch (pkg. of 10). List \$.90.
19. **MODEL SD-1 STROB-DISC** — Easiest and simplest way to check turntable speed and assure its accuracy. List \$5.50.
20. **MODEL CS-1311 ALUMINUM COMPONENT SLIDES** — Easy-to-install, aluminum drawer slides for record players or other equipment. Has a load capacity of 30 lbs., length is 13" and maximum extension 14". List \$3.50.
21. **RC-2-33 TAPE AND PHONO DRIVE OIL** — Highly refined lubricant formulated especially for rotating and moving parts of tape and phono drives. Inhibits rust and oxidation. 2 oz. List \$7.5.
22. **RC-2-56 NON-SLIP FOR TAPE AND PHONO DRIVES** — Stops slippage of idler wheels, pulley belts and cords. Fast drying, stable and penetrating material dries to a tack-free yet non-slip surface. 2 oz. \$7.5 list.



ROBINS INDUSTRIES CORP. FLUSHING 54, N. Y.

GIBSON GIRL TAPE SPLICERS AND TAPE ACCESSORIES



Robins Gibson Girl tape splicers are the accepted standard of the professional and industrial users of recording tape. They have gained this reputation because of their ease and reliability of operation, high standards of workmanship. They are the only splicers which actually cut a diagonal lap joint in the tape and trim the splicing tape and tape edges with an indented trim cut, making THE SPLICE WITH THE GIBSON GIRL SHAPE.

The slight "waists" formed in the tape prevent adhesive from contacting critical parts of the recording mechanism and prevent layer to layer adhesion. Adhesive deposited on tape guides, etc. is a frequent cause of wow, flutter, and erratic performance. Gibson Girl Tape Splicers Are Available In Six Models.

GIBSON GIRL "TS4A" SERIES PROFESSIONAL SPLICES IN SECONDS!

* New! With Replaceable Cutter Cartridge
The "TS" series splicers have cutter cartridges which house 3 long-life blades. The cartridge has two operating positions, miter cut and trimming cut. These are selected by moving the knob back and forth.

1. TS4A-DLX GIBSON GIRL DELUXE — Our finest, a complete splicing unit. Has hinged padded fingers to hold tape in position. Splicer plus roll of Robins Splicing Tape mounted in an integral tape dispenser. Supplied with clear plastic dust cover. List \$11.50.

2. TS4A-STD GIBSON GIRL STANDARD—Our basic, moderately priced professional model, same as the TS-4DLX except without tape dispenser or splicing tape. Supplied with clear plastic dust cover. List \$8.50.

3. TS4A-JR GIBSON GIRL JUNIOR—Low cost, small and compact. This is a handy carrying size model. Similar to TS-4STD except tape is held in tape guide by friction. List \$6.50.

4. GIBSON GIRL INDUSTRIAL TAPE SPLICERS — For computer, TV industrial and special purpose tapes up to 2" wide. Gibson Girl Industrial Tape Splicers have all of the features of the TS-4STD. They are ruggedly constructed for industrial use, mounted on a heavy cast base. Precise blade centering adjustment. Long life blades easily replaceable.

Model TS250 for 1/4" tapes. Net \$55.00.
Model TS-500 for 1/2" tapes. Net \$55.00.
Model TS-1000 for 1" tapes. Net \$55.00.
Custom Built Splicers For Special Tapes and Applications Available — Send For Quotation.

5. SP-4 GIBSON GIRL "SEMI-PRO" — This hand held splicer consists of three parts, a tape alignment guide, a cutting unit which has a diagonal cutter on one side and Gibson Girl cutters on the other side, and a blade cover to protect the blades, designed for semi-professional use. List \$3.50.

6. H-4 GIBSON GIRL "HOBBYIST" — A simple inexpensive tape splicer consisting of a tape and blade guide and a unique curved blade. It is designed to produce uniform Gibson Girl type splices for hobbyists who require its services less frequently. List \$1.75.

7. TT-1 ROBINS TAPE THREADER — The perfect solution to an old nuisance! No more awkward fumbling. Just place tape against the reel, slip on your threader to hold it in place, turn the crank and presto! — you're ready to use your recorder. List \$1.00.

8. ST-500 ROBINS SPLICING TAPE — Specifically made for splicing recording tape. Tackiness, thickness, strength and cold flow are carefully controlled. Individually packed in crystal clear plastic container. List 40c.

9. NEW! HC-2 ROBINS RECORDING HEAD CLEANER — A fast, efficient solvent for cleaning recording heads. In brush applicator bottle. List \$1.00.

10. TC-5, TC-7 TAPE STORAGE CANS, for safe storage of recording tapes. Reduces tape "ageing." Helps prevent accidental tape erasure. Ribs on cans nest for stacking. TC-5, for 5" reels, list 55c; TC-7 for 7" reels, list 75c.

11. NEW! JCT-2 JOCKEY CLOTH FOR TAPES — Revitalizes tapes. Reduces head wear. Reduces tape wear. Eliminates "grime distortion." Reduces tape squeal and chatter. Cleans, lubricates and protects by depositing a microscopic film of Silicone on the tape. List \$1.00.

12. REEL LABELS (SELF STICK ADHESIVE) — Write on with pencil, pen, ball point, etc. Names can be typed on labels prior to removal from sheet. For Tape Reels, Parts, Records, Service Calls, 1001 other uses. SL-30 — 30 Labels. List \$.25. (not illus.)



ROBINS INDUSTRIES CORP. FLUSHING 54, N. Y.

ENJOY YOUR TREASURED TAPES



1



3



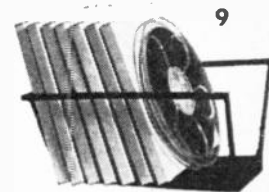
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6



5



9



7



8

1. NEW! GIBSON GIRL ACCESSORY KITS — Everything You Need for Better Tape Recording and Editing. This kit contains the famous Gibson Girl Tape Splicer, Splicing Tape, Tape Threader, Head Cleaner, Tape Cleaner Cloth, Tape Clips, Reel Labels and Tape Editing Book. ● For Professional Results! ● For More Pleasure! ● For Better Recordings! ● A Perfect Hi-Fi Gift!
TK-4STD—With Gibson Girl Standard Splicer. List \$12.00.
TK-4JR—With Gibson Girl Junior Splicer. List \$10.00.
TK-4H—With Gibson Girl Hobbyist Splicer. List \$3.50.

2. TAPE KARE KIT TK-2 — Preserves valuable tapes and protects tape recorders. Contains — Robins Recording Head Cleaner — Jockey cloth for cleaning tapes. List \$2.00.

3. TAPE EDITING AND SPlicing TE-24 —For the Professional and Amateur Tape Recordist by N. M. Haynes. 24 Pages, Illustrated. An authoritative work on the subject by an outstanding author. Contains a great deal of information which is not readily available elsewhere — Price \$.25.

4. MORE FUN WITH YOUR TAPE RECORDER TE-128 (stereo edition) — 128 pages fully illustrated. Covers every aspect of tape recorder for the hobbyist and the professional. Tells you how to get the most out of your tape recorder, or if you don't have one what to look for when purchasing one. (Not illust.) List \$1.00.

5. REPLACEMENT REELS TR-70 — Sturdy 7" styrene reels. With write-on surfaces and tape log index. List \$.75.

6. MODEL ME-99 MAGNETIC BULK TAPE ERASER — Removes completely, recorded and unwanted signals. Provides superior de-magnetizing of tape by reducing background noise levels of tapes from 3 to 6 db below normal erase head levels. Assures distortion-free tape — makes old tapes with accumulated background noise perform like new. If a tape deck is geared to

stereo and does not have stereo erase — the Robins 99 does the job quickly and efficiently and eliminates sending the tape through the single-track erase head twice. Easy to operate, one can demagnetize tape up to 1/2 wide. Accepts any reel up to 10". Operation: 110-120 volts, 50-60 cycle AC. Draws 6 amps. List \$33.00.

7. HEAD DEMAGNETIZER For Tape Recording Heads — ● Removes Permanent Magnetization ● Improves Signal To Noise Ratio ● Reduces Noise Level ● Listed by Underwriters' Laboratories, Inc. ● Reduces Harmonic Distortion when caused by head magnetization. Robins head demagnetizer, when properly used, removes any residual permanent magnetism from the heads. It consists of an alternating current electromagnet with an extended pole piece designed for easy access to the recording heads of most tape recorders. When energized, contact of the demagnetizer pole piece with the pole tips of the recording head causes the head to be saturated by an alternating magnetic field. Gradual removal of the head from this saturating field neutralizes any residual permanent (DC) magnetism in the recording head. HD-6 — List \$10.00.

8. TAPE CLIPS — Keeps Tapes from Unwinding from Full or Half Empty Reels. As important to the tape recordist as the diaper pin is to the baby nurse. 1. With full reel of tape, snap clip on one edge of reel flange with the long foot in, or . . . 2. With half empty reel, fold end of tape around edge of reel flange and place clip over tape.
TC-12—Package of 12. List .35.
TC-250—Package of 250. List \$6.60.
TC-1000—Package of 1000. List \$20.00.

9. TAPE STORAGE RACK — For neat and safe storage of 7" Tapes on reels, in boxes or in cans. Contents always visible. Holds 12 7" tapes. TR-12 — List \$1.35.



ROBINS INDUSTRIES CORP. FLUSHING 54, N. Y.

ROBINS KINK/LESS PATCH CORDS (molded cable assemblies)
HI-FI • STEREO • PA

Precision engineered molded connecting cables in a complete variety of combinations to fit every possible need in hi-fi, stereo and pa systems for connection of amplifiers, pre-amplifiers, mixers, rec-

ord changers, recorders, speakers, speaker extensions, tuners and musical instruments. To assure superior performance, Robins Patch Cords feature a new kink/less packaging design.

		TYPE	LENGTH (inches)	LIST PRICE
<i>(all Grey shielded cable unless otherwise shown)</i>				
	TO		phono plug	MM 18 1.10
				MM 36 1.25
				MM 72 1.55
				MM 120 1.95
	TO		phono extension jack	MF 18 1.35
				MF 36 1.50
				MF 72 1.80
				MF 120 2.20
	TO		stripped and tinned ends	MS 18 .90
				MS 36 1.05
				MS 72 1.35
				MS 120 1.75
	TO		phone plug	MT 72 2.35
				MT 120 2.75
	TO		alligator clips	MC 120 2.25
				<i>(grey parallel cable)</i>
	TO		phone jack	MJ 72 2.25
	TO		phono jack	TF 72 2.50
	TO		phone plug	TT 72 2.85
				TT 120 3.25
	TO		stripped and tinned ends	TS 72 1.90
				TS 120 2.30
	TO		alligator clips	TC 72 2.00
				TC 120 2.40
	TO		phone jack	TJ 120 4.50
	TO		stripped and tinned ends	BS 120 2.75
	TO		phono jack	FF 72 2.25

ADAPTORS

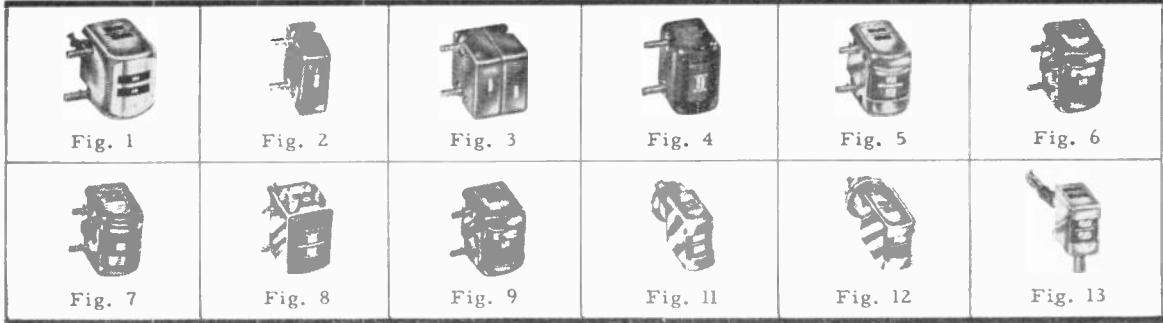
FF-1		Phono Plug coupler, mates with Phono plug at each end. Grey colored plastic: completely shielded. 1.00	TD-1		Male Microphone input to Phone Plug Output .50
JM-1		Adapter, 2-Conductor Phone Jack Input to Phono Plug Output. 2.00	BP-1		Adapter, Phono Plug on end with Female Microphone Connector at other end. 1.00
FT-1		Phone plug output with phono jack input. Attractive grey colored molded housing, completely shielded. 1.50	DP-1		Adapter, Phono Plug one end with Male Microphone Connector at other end. 1.00
T-1		Phone Plug .55	D-1		Male Microphone Connector .50
M-1		Phono Plug (Pkg. of 4) .55	F-1		Phono Jack (Pkg. of 3) .55
			B-1		Female Microphone Connector .70



ROBINS INDUSTRIES CORP. FLUSHING 54, N. Y.

ROBINS $\frac{M}{M}$ EXACT REPLACEMENT AND CONVERSION $\frac{M}{M}$ RECORDING AND ERASE HEADS

- REPLACE WORN HEADS
- UPGRADE OLD EQUIPMENT
- CONVERT TO STEREO
- BUILD SPECIAL EQUIPMENT



REPLACEMENT HEADS

MAKER	MODEL NO.	STEREO HEAD	MONAURAL HEAD	ERASE HEAD
BELL SOUND	BT-205-18	7B17	7L17U	7EM12A
	T200 through T207	7B17	7L17U	7EM12A
CAPITOL RECORDS	750, 752	7B17	3L20	7EM12A
COLUMBIA RECORDS	570, 575	7B17	3L20	7EM12A
CRESCENT INDUSTRIES	730, 770, 772, 790, 791, 792	7B17	3L20	7EM12A
	830, 870, 891, 892	.....	3L20	.....
	773, 774	.....	3L20	.....
FAIRFAX	WRC-1, WRG-2, WRG-3	3F20-101	3L20	40EM12
KNIGHT	4001, 4010, 4020	None	3L20	40EM12
	PR5A, PR5A12, PR4F10, PR176, PR177	.....	3L20	.....
PENTRON	TM series	5B20LS	.....	.....
	NL, PT series	10B20LS	.....	.....
RCA-VICTOR	TR-3	7B17	.....	7EM12A
SILVERTONE	7059, 7060, 7070, 7072	None	3L20	7EM12A
	8057, 8058, 8070, 8072, 4690	.....	.....	.....
	7065, 7066, 7074, 7080, 7081	.....	.....	.....
SYMPHONIC	300, 340	3F20-101	3L20	40EM12
TELECTRO	1960	7B17	7L17	.....
V-M CORPORATION	710, 710-A, 710-A3, 711, 711-A1	7B17	7L17	7EM12A
	714, 714-1, 714-3, 714-13	.....	.....	.....
	750, 750-A1, 750-A2, 750-A3	.....	.....	.....
VIKING	Reel-to-Reel units	3F20-105	3FM20-108	.....
	Cartridge units	7B17	3FM20-104	.....
WEBSTER-RACINE	290	7B17	.....	.....
WILCOX-GAY	375	.....	.....	.....
	5A, 5B, 5F, 5H, 5U, 6B, 6F	None	3L20	.....
	632, 642, 651, 652, 674, 686	.....	.....	.....
	702, 712, 732, 750, 752, 762, 772, 782	.....	.....	.....

Other heads available. Send for latest conversion chart

SPECIFICATIONS — R/P HEADS

PART No.	TYPE	TAPE SPEED (IPS)	IMPED. (1 kc)	REC. LEVEL (below sat) (db)	AUDIO CURRENT (ma) ^a	BIAS CURRENT (m.a.)	BIAS FREQ. (k.)	PLAY LEVEL (1kc) (mv)	PLAY LEVEL (10kc) (bel. 1kc level)	INDUCT. (nom.) (h)	FIG. No.	LIST PRICE
7B17	1/2 tr. Stereo	7.5	5150	-12	.023	1.0	80	2.15	-11	.75	5	27.00
5B20	(superceded by 7B17)	7.5	5150	-12	.023	1.0	80	2.15	-11	.75	5	27.00
5B20LS	1/2 tr. Stereo	7.5	3520	-12	.026	1.2	80	1.8	-13	.5	8	27.00
10B20LS	1/2 tr. Stereo	7.5	7034	-12	.02	1.0	80	2.5	-13	1.0	8	27.00
3F20	(superceded by 3F20-101)	7.5	2000	-12	.043	1.0	62	1.8	-13	.3	11	31.00
3F20-101	1/2 tr. Stereo	7.5	2000	-12	.043	1.0	62	1.8	-13	.3	13	31.00
3F20-105	1/2 tr. Stereo	7.5	2000	-12	.043	1.0	62	1.8	-13	.3	12	16.00
3FM20	(superceded by 3FM20-108)	7.5	2000	-12	.043	1.0	62	1.8	-13	.3	12	16.00
3FM20-104	1/2 tr. Mono	7.5	2000	-12	.043	1.0	62	1.8	-13	.3	12	16.00
3FM20-108	1/2 tr. Mono	7.5	2000	-12	.043	1.0	62	1.8	-13	.3	12	16.00
2L35S	(superceded by 3L20)	7.5	2460	-12	.03	1.25	50	1.64	-13	.35	9	14.00
3L20	1/2 tr. Mono	7.5	2460	-12	.03	1.25	50	1.64	-13	.35	9	14.00
5L20	(superceded by 7L17)	7.5	5150	-12	.023	1.0	80	2.15	-11	.75	6	14.00
7L17	1/2 tr. Mono	7.5	5150	-12	.023	1.0	80	2.15	-11	.75	7	14.00
7L17U	1/2 tr. Mono	7.5	5150	-12	.023	1.0	80	2.15	-11	.75	7	14.00
9L20S, 10L20S	(superceded by 7L17)	—	—	—	—	—	—	—	—	—	—	—
10L17	(superceded by 7L17)	—	—	—	—	—	—	—	—	—	—	—
10M20A	(superceded by 7L17)	—	—	—	—	—	—	—	—	—	—	—
50QB	(superceded by 5QB)	—	—	—	—	—	—	—	—	—	—	—
5QB	1/4 tr. Stereo	7.5	3340	-12	.025	.5	80	1.9	-8.0	.5	1	30.00

SPECIFICATIONS — ERASE HEADS

PART No.	TYPE (ERASE)	TAPE SPEED	IMPED. (r)	ERASE FREQ. (kc)	ERASE CURRENT	ERASURE (DB) (200 cy. Sat.)	INDUCT (Nom.) (mh)	FIG. No.	LIST PRICE
7EM12A	1/2 tr. Mono	7.5	2,200	80	30	50	5.4	4	11.00
40EM12	1/2 tr. Mono	7.5	10,000	52	10	50	40.0	4	11.00
9QE3	1/4 tr. Stereo	7.5	2,500	75	12.5	60	9	—	14.00
5S1	1/2 tr. Mono	7.5	1,750	62	17	55	5	2	11.00
5SS1	FULL TRACK	7.5	1,750	62	17	55	5	3	15.00
5SS1B	1/2 tr. Stereo	7.5	1,750	62	17	55	5	3	15.00

M M REPLACEMENTS FOR SHURE HEADS
Shure Model # 1 M M Replacement

Recording Heads	Eraser Heads
817	7EM12A
3L20	40EM12
TR-16	7L17
TR-16A	3L20
TR-21C; TR-26	7L17
TR-35	3FM20-108
TE-2; TE-11C	7EM12A
TE-2C	40EM12

Sec. 1340

Stereo-BF-40

Single Stylus Cartridge; Press fits many changer tone arms, also supplied with adapter bracket. 3 or 4 pin.

Stereo-105

Turnover model; Clip-on styli — 4 terminal; Conversion, General Replacement

Stereo-106

Hi Output Turnover model; Clip-on Styli — 4 terminal; One tube amplifier.

DC-422

High Gain Turnover; Cartridge for monaural tone arm; Press fit bracket, Clip-on styli.

DC-500

High Gain Turnover; Cartridge for monaural tone arm; Single screw mounting bracket; Clip-on styli.

Model TX-88

High fidelity cartridge requires no preamp. Stylomatic* stylus assembly snaps in. Range: 30-24000 cps. Output: .4 volt on Columbia RD-103 1/2" mounting centers.

Standard turnover type, 1/2" mounting centers.

Models: T0-284-OV, T0-222, T0-284-P

Front mounting type with two plates and nut for manual tone arm.

Models T0-284-P/FF, T0-222/FF, T0-284-OV/FF

Type RA

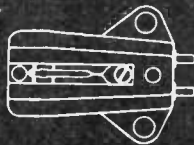
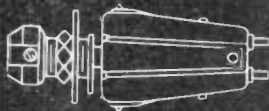
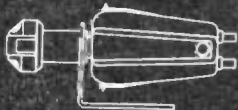
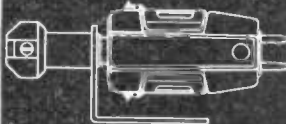
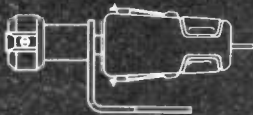
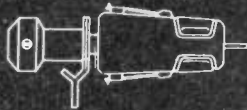
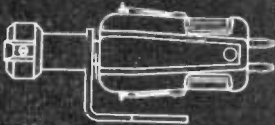
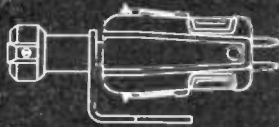
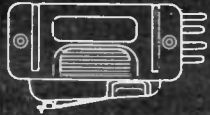
Single stylus changers and tone arm, 9/16" mounting centers.

Models: RA-284-P, RA-284-OV, RA-395-1 w/1.0 mil styli (-2 w/2.0 mil)

Type T0-400

Shaft mounting model for changer with narrow arms.

Models: T0-400-OV, T0-400-P, T0-400-222



* trade mark



Ronette Cartridges and Pickup Arms

Ronette NEW STEREO CARTRIDGES

Designed for Compatible Listening . . .

BINOFLUID BF-40 (Single Stylus) Stereo Cartridge exceeds Monaural and Stereo High Fidelity standards. Dual element cartridge is 100% compatible with standard LP's. Designed for changer and transcription arms.

SPECIFICATIONS:

Channel Separation: 24 to 28 db. Compliance: 3.5
Response: 20 to 15,000 cycles Optimum Stylus Pressure: 4 to 6 grams
Construction: Dual Elements Stylus: .75 mil Sapphire
(diamond available at extra cost)

STEREO OV Turnover Cartridge. Dual non-interacting Duo-Clip sapphire styli. Low distortion.

SPECIFICATIONS:

Output: .35 Volts Compliance: 3.5
Channel Separation: 24 to 28 db. Tracking Force: 4 to 6 grams
Response: 20 to 15,000 cycles

STEREO 105 Turnover Cartridge. Dual non-interacting Duo-Clip sapphire styli. Designed for conversion and general replacement. Low distortion.

SPECIFICATIONS:

Output: .8 Volts
Channel Separation: 20 db.
Tracking force: 6 grams.

STEREO 106 Ultra High Output Turnover Cartridge. Dual non-interacting Duo-Clip sapphire styli. For units with one tube amplifiers. Will track all commercial records. Low distortion.

SPECIFICATIONS

Output: 1.5 Volts minimum
Channel Separation: 15 db.
Compliance: 1.0
Tracking force: 8 grams

Ronette FONOFUID CARTRIDGES

Monaural

Electrical Specifications:

STUDIO MODEL TX-88. Frequency response 30-24,000 cycles; compliance of 5. Output .4 volts on Col. RD 103. Operates as constant velocity device when loaded with 120 K or as conventional crystal cartridge with .5 meg.

PROFESSIONAL MODEL "P". Low IM distortion, wide range; requires only 2-4 grams stylus pressure. Operates as constant velocity device with 120 K ohm load; or as conventional crystal cartridge with .5 meg. load. No hum problem or turntable pulling.

HIGH FIDELITY MODEL "OV". For converting small and medium sized amplifiers for better reproduction. Low IM distortion and high compliance. Drives most amplifiers through high level input. Stylus pressure: 5 grams.

HIGH OUTPUT MODELS T0-222, RA-395. Designed for worn and older type records. Produces a high order of brilliance with a minimum of needle scratch. Designed for all one and two tube amplifiers.

Ronette ACoustically MATCHED FONOFUID TRANSCRIPTION ARM

Stereo and Monaural Models for use with Manually Operated Turntables. Achieves the ultimate in performance with the RONETTE FONOFUID cartridges, both Monaural and Stereo types. New adjusting mechanism offers pressure from one to eight grams. Double ball-bearing swivel imparts high stability and is virtually torsion free; essential qualities for perfect tracking at high stylus velocities and very low stylus pressures. The arm is chromium-plated tubing, fully shielded. Standard arm lengths 12" to 16".

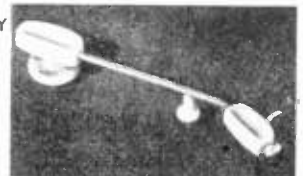
MONAURAL MODELS

Available with:
T0-284P Cartridge
T0-284-OV Cartridge
TX-88 Cartridge

STEREO MODELS

Supplied with
BINOFLUID BF-40 CARTRIDGE
Stereo-OV
Stereo-105

All cartridges supplied with Sapphire Styli. (Diamond styli available at extra cost).



TANDBERG

PELHAM, NEW YORK

GRAMPIAN

DYNAMIC MICROPHONE — TYPE DP4
Uniform, Wide-Range Frequency Response

General Description

The Grampian DP4 dynamic microphone meets the requirements of public address, wire, tape and disc recording, call systems and communication equipment. The microphone is slender and unobtrusive in appearance and will not detract attention from the user. DP4's light weight, a little under 1/2 lb., makes it ideal for the person who wishes to use it as a hand microphone. This high output pressure type dynamic microphone has a uniform, wide range, frequency response which extends from 50 c/s to 15,000 c/s, and therefore reaches the high performance level of all Grampian equipment. 25 ohm, 600 ohm and 50,000 ohm impedance models are available.

Adaptability

The microphone is supplied with an easy to use holder suitable for use with floor, table or desk stands. The holder allows easy removal of the microphone, and 18 feet of lead (supplied) allows the user reasonable mobility. A model with push button or slide switch mounted to the base is available, and provides a microphone ideally suited for call systems. A special switch assembly is also available for use with the microphone when mounted on a floor or table stand.

List Price

Specifications

Frequency Response ... 50 c/s to 15,000 c/s.
Output levels:
Low impedance model 25 ohms — 86 db below 1 volt dyne cm².
Medium impedance model 600 ohms—70 db below 1 volt dyne cm².
High impedance model 50,000 ohms—52 db below 1 volt dyne cm².
Weight of hand microphone 7 3/4 ozs. 219 Kg.
Length of hand microphone 8 1/4" 21 cm.
Diameter overall 1-5 16" 3 cm.
Thread on holder & swivel 3/8" 27 T.P.I.
Finish Supplied with adaptor 5 16" B.S.F. Black and chrome



Grampian DP4 Dynamic Microphone

\$49.50

Grampian Cutterheads for Highest Quality Disc Recordings

Grampian Feedback Cutterhead — Type B 1/D

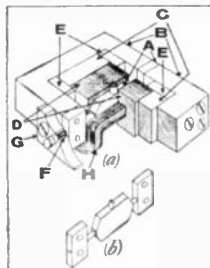
The Grampian B 1/D Feedback Cutterhead, made in London, England is an improved version of the well-known BBC system. This superb cutterhead embodies an internal feedback winding which reduces distortion, flattens frequency response, and stabilizes operation over long periods of time and widely varying environmental conditions. Because it is damped through use of silicone damping fluid (Dow-Corning 200) with a leak-proof seal, temperature and age will not affect it, thus assuring constant performance.

Quality Construction

The Cutter is of the iron vane, balanced armature type. Simplicity of construction makes it a rugged device; there are no springs nor balances to get out of adjustment. A cutaway view is included to show the essential parts of the head.

The ends of the armature "A" (shown separately in the cutaway view) are clamped between two U-shaped steel yokes "B", within which lie two Ticonal magnets "C" and the laminated pole-pieces "D", with their brass clamping blocks "E". The metal at the bottom of the slots at either end of the armature is shaped to form torsion bars which support the active center portion of the armature in the gap between the pole pieces.

To avoid trouble with non-axial deflections, these torsion bars are made as short as possible, consistent with reasonable stress at maximum excursion. Through the center of one of the torsion bars passes the long plain shank of the cutter clamping screw "F"; the thread is carried in an external block "G". The shank has a high torsional compliance so that the presence of the clamping screw does not add appreciably to the mechanical impedance of the armature. The coil "H" lies in the slots in the faces of the pole-pieces, and within the main winding is a second coil which connects to the cathodes of the second stage of a recording amplifier to provide negative feedback. The method of damping the mechanical resonance of the armature (around 10 KC) is to introduce a Silicone Damping Fluid into the air gaps between the armature "A" and the pole-pieces "D". Silicone is unique in that it alone has



the property of maintaining a constant viscosity over a wide temperature variation and length of service. Tests conducted with the cutter proved that the change in level covering a temperature range of 60°F. to 110°F. is no more than 1 db. Heating up of the drive coil, as well as heat transmission from a Thermo-Stylus assembly, had little or no effect. The head will fit any standard lathe and is lightweight to reduce cutter bounce (marbled effect on discs). The front plate cover is tapped to accommodate an adapter for use with heated stylus (sold as necessary) and the chuck fits standard short-shank styli.

Technical Data

Frequency Response—30 cycles to 15,000 ± 2 db. Down no more than 4 db at 20 cycles and 20,000 cycles.
Total RMS Harmonic Distortion—Below 1% at 1000 cycles measured at 7 cm/sec. peak recorded velocity (NARTB standard level).
Matching Impedance—16 ohms.
D.C. Resistance—Main winding 3.7 ohms. Feedback winding 23 ohms.
Inductance—Main winding 1.65 MH.
Turns Ratio—Main winding to Feedback winding 2:5 to 1.
*Audio Power Required—At 1000 cycles to record 7 cm/sec. (2 5/8 inches/sec.) peak recorded velocity (NARTB Standard Level)—1.26 watts or ±31 dbm.
Stability—Change in level less than 1 db from 60°F. to 110°F.
Stylus—Standard short shank 5/8 inches long.
Damping—Dow-Corning Silicone Fluid.
Mounting—Universal mounting for all lathes.
Cover Plate tapped for mounting Fairchild Hot Thermo-Stylus.
*Frequency response measured with PFB-150WA Amplifier, balanced FM Modulator, and Buckman-Meyer Light Pattern.
LIST PRICE of Type B 1/D Feedback Cutterhead \$350.00

Grampian Feedback Cutter System

The Grampian B 1/D cutterhead is incorporated in the Grampian Feedback Recording System which produces the highest quality disc recordings known to date. Complete in every detail of equalization, pre-emphasis, and level correction for all three speeds, this unique system comes ready for instant mounting, turn-on, and operation without the necessity of recalibration, experimentation, etc. To operate the system requires only the sound source on one end and the lathe on the other. Write for more information.

LIST PRICE Complete System \$1,265.00

Grampian Magnetic Cutterhead — Type C (Non-feedback)



Grampian Type C cutterheads are a development from our feedback cutterhead and have similar mechanical and electrical constants but are operated from a single winding. They may be used in conjunction

with any high grade power amplifier.

Quality Construction

The cutterheads are of the balanced armature type, the resonant frequency of the armature being about 9 Kc. This high resonance is achieved by using an armature of pivotless design, the usual pivots being replaced by hollow torsion bars. Since the resonance is so high, the frequency response is fairly flat between 500 c/s to 4,000 c/s, thus making the sensitivity independent of acetate loading, especially when using "hot" stylus technique. The main resonance of the system is damped by the use of Silicone fluid. Contrary to rubber or plastic damping materials, Silicone fluid remains virtually unaffected by changes of temperature.

The price paid for the advantages of the high resonance condition is the increase in the stiffness of the system thus requiring more power to drive it. However, present day techniques make it relatively simple to achieve high power outputs from audio amplifiers with low distortion, and it is recommended that the cutterhead be used in conjunction with an amplifier capable of providing at least 25W output at low distortion.

While normal recording levels may be obtained with an input of 6 watts approx., a much higher peak power is required to deal with transient sounds and the rising frequency response necessary with present day recording characteristics.

An average peak level of 7 volts is required for normal 78 r.p.m. recordings and 3-4 volts for L.P. recordings. Grampian non-feedback cutterheads are available for vertical or horizontal mounting.

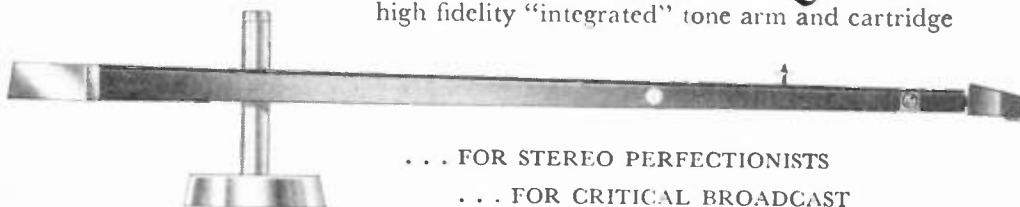
TECHNICAL DATA

SENSITIVITY—3 volts input for 1 cm/sec. at 78 R.P.M.
IMPEDANCE—15 ohms at 1000 c/s.
FREQUENCY RESPONSE—± 3 db — 50 c/s to 10 Kc. — 6 db at 20 Kc.
DISTORTION—2% at 1000 c/s.
WEIGHT—6 1/2 ozs.
STYLUS HOLE—0.064" or 0.625" as required.
LIST PRICE \$225.00

...the incomparable
Shure studio

Stereo Dynetic

high fidelity "integrated" tone arm and cartridge



... FOR STEREO PERFECTIONISTS
... FOR CRITICAL BROADCAST
AND RECORDING APPLICATIONS

The overwhelming first choice of perfectionists who appreciate the full importance of "integrated" tone-arm and cartridge to optimum stereo performance. Tracks at incredibly light $1\frac{1}{2}$ - $2\frac{1}{2}$ grams—with unparalleled fidelity... absolutely minimizes record wear, and CANNOT scratch records! We urge you to make listening tests of this unit before buying any stereo cartridge or arm—you'll hear the difference.

The Studio Stereo Dynetic has a special advantage for those music lovers who like to "index". The cartridge stylus is placed far in front, making it extremely easy for you to position the stylus on the exact spot of the record you want to play.

Still another feature of the Studio Stereo Dynetic is the fact that the stylus can be changed in the home without tools—within ten seconds.

SPECIAL FEATURES

- 1. MINIMIZES RECORD AND NEEDLE WEAR**
Incredibly light tracking— $1\frac{1}{2}$ to $2\frac{1}{2}$ gms.—reduces record and needle wear to absolute minimum.
- 2. DYNETIC PRINCIPLE**
Moving magnet within stationary coils. High permeability shield and hum-bucking arrangement of coils prevent pickup of hum.
- 3. FRICTION FREE SUSPENSION**
Jewel bearings throughout. Cartridge is pivoted on sleeve and cap jeweled bearings. Arm pivot is a ruby thrust bearing.
- 4. SAFETY CONTROL**
Provides for remote retraction of the cartridge and stylus without danger or damage to record and stylus from careless handling.
- 5. DYNAMIC DAMPING**
Arm counterbalance floats on a damped suspension bar. This system provides critical damping (even in the subsonic range) without impeding normal motions of the arm.
- 6. GEOMETRIC CONFIGURATION**
Arm is reinforced, tapered channel of durable aluminum. Dynetic principle permits off-setting the stylus to provide proper tracking angle.
- 7. 10-SECOND STYLUS REPLACEMENT**
Stylus replacement is exceptionally simple and fast—requires no special skill or tools. Unique design assures correct positioning.
- 8. EASE OF INSTALLATION**
The Stereo Studio Dynetic can be used with any high quality transcription type turntable. Arm can be installed on all conventional mounting boards with exceptional ease.
- 9. UNEQUALLED COMPATIBILITY**
Both models M216 and M212 give true high fidelity response whether playing stereo discs stereophonically, monophonic discs monophonically or stereo discs monophonically.
- 10. PRECISION PRODUCTION**
Stereo Studio Dynetic "Integrated" tone arms and cartridges are manufactured under critical tolerances in all performance characteristics and are individually tested electrically, acoustically and mechanically. Each unit must meet or exceed all specifications and standards before it is approved for packaging and shipment.

AUDIOPHILE TECHNICAL INFORMATION

SPECIFICATIONS	M216; M212
Tracking Force	$1\frac{1}{2}$ - $2\frac{1}{2}$ grams
Frequency Response	20-20,000 cps $\pm 2\frac{1}{2}$ db
Channel Separation	over 20 db at 1000 cps
Sensitivity: Output at 1000 cps	4.5 mv per channel (On Westrex/4 Test Record)
Recommended load impedance	50,000 ohms
Compliance: (Vertical, Lateral)	9×10^{-6} cms/dyne
Inductance	400 millihenrys
D.C. Resistance	600 ohms
Needle tip Mass	1.3 milligrams
Stylus	.0007" diamond

DIMENSIONS	Model M216	Model M212
Over-all length:	$14\frac{3}{4}$ "	$11\frac{1}{8}$ "
Stylus tip to center of arm base:	11"	$8\frac{1}{2}$ "
Arm base diameter:	2"	2"
Range of height adjustment:	$1\frac{1}{4}$ "	$1\frac{1}{2}$ "
Arm pivot to turntable center:	$10\frac{1}{8}$ "	$8\frac{1}{4}$ "
Net Weight (arm and cartridge):	11.1 oz.	10.6 oz.

CATALOG NUMBER, PRICES

- Model M216—Studio Stereo Dynetic for records up to 16" including M21 cartridge with Shure .0007" Diamond Stylus
Audiophile Net: \$89.50
- Model M212—Studio Stereo Dynetic for records up to 12" including M21 cartridge with Shure .0007" Diamond Stylus.
Audiophile Net: \$89.50
- Model N21—Studio Stereo Dynetic Cartridge with Shure precision-made .0007" Diamond Stylus.
Audiophile Net: \$49.50
- Model N21—Shure replacement Stereophonic stylus assembly for Model M21, M216, M212; .0007" Diamond tip.
Audiophile Net: \$24.75
- Model A30C—Stereo Cable Assembly for connecting M212 or M216 to preamplifier and amplifiers. Assures maximum performance and greatest ease of installation.
Audiophile Net: \$1.95
- Model A29R—Adapter Plate for use with Model M212 for mounting purposes with the Rek-O-Kut turntable.
Audiophile Net: \$2.40

See Pages 155-161 for additional Shure Products.



WORLD ACCLAIMED SHURE

Stereo Dynetic

COMPATIBLE PHONOGRAPH CARTRIDGES

... for full dimensional realism
with record changers or transcription arms

Painstakingly tested, proved, perfected—these superb Shure Stereo Dynetic moving-magnet cartridges are designed specifically to satisfy the critical ear of the most discriminating music lover... the most exacting audiophile. They separate disc stereo sound channels with incisive clarity. They are singularly smooth throughout the normally audible spectrum... and they are superior to other separate stereo cartridges in the re-creation of clean lows, true-to-performance mid-ranges and brilliant highs. Completely compatible!

The M3D Stereo Professional Dynetic is the premium stereo phono cartridge. It reflects quality control of a high order, based on critical tolerances in all performance characteristics.

The M7D Stereo Custom Dynetic is designed for the economy-conscious consumer who wants a quality Stereo Phono Cartridge at moderate cost.

NOTE: FOR THOSE WHO PREFER MONOPHONIC CARTRIDGES WITH MONOPHONIC RECORDS, Shure offers the outstanding Model M5D Professional Dynetic.

PROFESSIONAL Stereo Dynetic



Model M3D

SPECIFICATIONS

Channel Separation: More than 20db at 1000 cps
Frequency Response: 20 to 15,000 cps (-3db)
Output Voltage: 5 mv per channel at 1000 cps
Recommended Load Impedance: 50,000 ohms
Compliance: Vertical, Lateral 4.0×10^{-6} centimeters per dyne
Tracking Force: 3 to 6 grams
Inductance: 400 millihenrys
D.C. Resistance: 400 ohms
Terminals: 4 terminals. Adaptable to 3 terminal arms
MOUNTING: Standard $1\frac{1}{2}$ " centers.
STYLUS: .0007" diamond stylus.

Model M3D Professional Stereo Dynetic cartridge including .0007" Diamond Stylus Audiophile Net \$45.00
Model M3D Stereo Stylus assembly for M3D, including .0007" Diamond Audiophile Net \$22.50

CUSTOM Stereo Dynetic



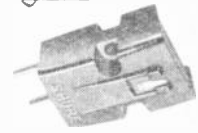
Model M7D

SPECIFICATIONS

Channel Separation: More than 20db at 1000 cps
Frequency Response: 20 to 15,000 cps
Output Voltage: 5 mv per channel at 1000 cps
Recommended Load Impedance: 47,000 ohms
Compliance: Vertical, Lateral 3.5×10^{-6} centimeters per dyne
Tracking Force: 4 to 7 grams
Inductance: 400 millihenrys
D.C. Resistance: 400 ohms
Terminals: 4 terminals. Adaptable to 3 terminal arms
MOUNTING: Standard $1\frac{1}{2}$ " and $7\frac{1}{8}$ " centers.
STYLUS: .0007" diamond stylus.

Model M7D Custom Stereo Dynetic cartridge including .0007" diamond stylus Audiophile Net \$24.00
Model M7D Stereo Stylus assembly for M7D, including .0007" diamond Audiophile Net \$12.00

MONOPHONIC Dynetic



Model M5D

SPECIFICATIONS

Frequency Response: 20 to 20,000 cps
Sensitivity: Output at 1,000 cycles = 21 millivolts for 10 cms sec.
Recommended Load Impedance: 27,000 ohms
Compliance: 3×10^{-6} centimeters per dyne
Tracking Force: 2 to 6 grams
Inductance: 350 millihenrys
D.C. Resistance: 440 ohms
Model M5D has .001" diamond for use with micro-groove records, 33 $\frac{1}{3}$, 45 r.p.m.
Model M6S has .003" sapphire for use with standard records, 78 r.p.m.

Model M5D Monophonic Professional Dynetic Phono Cartridge for LP records including M5D .001" diamond stylus Audiophile Net \$27.50
Model M6S Monophonic Professional Dynetic Phono Cartridge for 78 rpm records including M6S .003" Sapphire stylus Audiophile Net \$15.00
Model M5D Monophonic Professional Dynetic Stylus with .001" diamond tip Audiophile Net: \$16.50
Model M6S Monophonic Professional Dynetic Stylus with .003" sapphire tip Audiophile Net: \$5.00

SHURE BROTHERS, INC., EVANSTON, ILLINOIS, U.S.A.

WHEN REPLACING STYLUS, use only genuine Shure precision-made stylus. Inferior imitations can seriously downgrade the performance of Shure Cartridges.

Printed in U.S.A.

See Pages 155-161 for additional Shure Products.

CRYSTAL and CERAMIC PICKUP CARTRIDGES

Fine Groove Cartridges For 33 1/3, 45 RPM Records

MODEL NO.	ILLUS-TRATION	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WEIGHT	SHURE NEEDLE NO.
WC20 †	Fig. C	Ceramic	\$ 9.50	.58V	2 1/2-3 grams	12,000 cps	2 1/4 grams	A23S
W21F*	Fig. B	Crystal	8.90	1.5V	6 grams	10,000 cps	4 1/2 grams	A63MG
W31AR	Fig. A	Crystal	7.50	2.1V	7 grams	7,500 cps	5 1/2 grams	A53MG



Fig. A



Fig. B

"Twin-Lever" Cartridges For 33 1/3, 45 And 78 RPM Records

MODEL NO.	ILLUS-TRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WEIGHT	SHURE NEEDLE NO.
				MG.	STD.				
WC6 §	Fig. H	Ceramic	\$14.50	.5V	.7V	4-6 grams	15,000 cps	7 grams	A6S
WC6TM* Top Mount	Fig. R	Ceramic	\$14.50	.5V	.7V	4-6 grams	15,000 cps	7 grams	A6S
W9 †	Fig. J	Crystal	9.50	3.5V	5.0V	11 grams	10,000 cps	7 grams	A9
WC10 §	Fig. H	Ceramic	9.50	.78V	1.0V	7 grams	12,000 cps	7 grams	A10S
WC10D §	Fig. H	Ceramic	34.00	.78V	1.0V	7 grams	12,000 cps	7 grams	A10DS



Fig. C



Fig. D



Fig. E

Turnover Cartridges For 33 1/3, 45, And 78 RPM Records

MODEL NO.	ILLUS-TRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WEIGHT	SHURE NEEDLE NO.	
				MG.	STD.				MG.	STD.
W22	Fig. D	Crystal	\$ 9.50	1.2V	1.4V	8 grams	10,000 cps	4 1/2 grams	A65MG	A61A
W22-T	Fig. E	Crystal	10.00	1.2V	1.4V	8 grams	10,000 cps	12 1/2 grams	A65MG	A51A
WC24	Fig. F	Ceramic	8.75	0.6V	0.6V	8 grams	7,000 cps	4 1/2 grams	A53MG	A52A
WC24-T	Fig. G	Ceramic	9.25	0.6V	0.6V	8 grams	7,000 cps	12 1/2 grams	A53MG	A52A
WC25	Fig. K	Ceramic	9.50	.65V	.7V	8 grams	7,000 cps	6 grams	A65MG	A61A
W72 † §	Fig. L	Crystal	8.50	3V	4V	10-15 grams	5,000 cps	7 grams	A69A	A70A



Fig. F



Fig. G



Fig. H



Fig. J

All Purpose Single Needle Cartridges For 33 1/3, 45, 78 RPM Records

MODEL NO.	ILLUS-TRATION	TYPE	LIST PRICE	OUTPUT LEVEL		MIN. NEEDLE FORCE	RESPONSE TO	NET WEIGHT	SHURE NEEDLE NO.
				MG.	STD.				
W26	Fig. B	Crystal	\$ 6.50	.87V	1.0V	8 grams	8,000 cps	4 1/2 grams	A67U
WC38	Fig. A	Ceramic	7.50	.9V	.92V	9 grams	10,000 cps	5 1/2 grams	A58U
W66B	Fig. O	Crystal	7.00	2.0V	2.3V	8 grams	4,500 cps	12 grams	A66U
W70	Fig. P	Crystal	4.95	3.0V	3.8V	10-15 grams	5,000 cps	16 grams	A77U



Fig. K



Fig. L

Standard Cartridges For 78 RPM Records

MODEL NO.	ILLUS-TRATION	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WEIGHT	SHURE NEEDLE NO.
W56N **	Fig. N	Crystal	\$10.00	4.3V	1 oz.	10,000 cps	12 grams	A68D
W68 †	Fig. O	Crystal	7.50	1.6V	1 oz.	4,500 cps	Dual Wt. 25 grams or 12 grams	A62A
W78 ‡	Fig. M	Crystal	5.55	4.0V or 2.0V	1 oz.	6,000 cps	Dual Wt. 25 grams or 12 grams	None



Fig. M



Fig. N



Fig. O



Fig. P

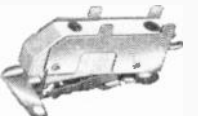


Fig. R

*With .453 Mount for Oak Changer.

**Cutter-Cartridge for Wilcox-Gay "Recordette." Equipped with bifurcated needle.

†Dual-Weight Cartridge. With weight-slug, net weight 25 grams. Without weight-slug, net weight 12 grams.

‡Dual-Weight Cartridge. Has same weight-slug as Model W68, with same net weight differential. In addition, Model W78 has capacitor, furnished as accessory. Without capacitor, output is 4.0 volts. With capacitor, output is 2.0 volts.

§Not a turnover type. Needles are set into tracking position by ingenious "Twin Lever" needle shift system.

¶For Columbia 1623 Highway Hi-Fi Records.

‡Model W9 has Capacitor furnished as accessory. Without Capacitor output is as shown above. With Capacitor output is 1.7 volts for 33 1/3, 45 RPM; 2.5 volts for 78 RPM.

†§Model W72 has a slip-on Capacitor furnished as an accessory. With the Capacitor, output is 2 volts for 78 RPM, 1.5 volts for 33 1/3, 45 RPM. Without the Capacitor, output is 4 volts for 78 RPM, 3 volts for 33 1/3, 45 RPM.

Δ Top mounting for Magnavox cartridge replacement.

Note: For replacement information, write for free Replacement Manual No. RM-59.

See Pages 155-161 for additional Shure Products.

SHURE

MAGNETIC RECORDING HEADS

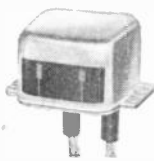


Fig. A
Record-
Playback-
Erase

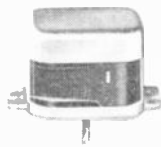


Fig. B
Record-
Playback



Fig. C
Record-
Playback
Also Erase

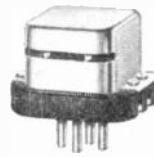


Fig. D
Record-
Playback-
Erase



Fig. E
Record-
Playback-
Erase

TECHNICAL DATA—MAGNETIC TAPE AND WIRE RECORDING HEADS

Model	Recording Speed	Bias & Erase Frequency	Std* Recording Level	Operating Bias Current	Erase** Current	Impedance Erase Coil	Impedance Recording Coil
815 (Fig. A)	3.75" per sec 7.5" per sec 3.75" per sec	25KC 50KC DC	.05 ma .05 ma .095 ma	1.25 ma 1.5 ma .35 ma	27 ma 30 ma 25 ma	750 ohm at 25KC 1300 ohm at 50KC 12 ohm	1450 ohm at 1000 cps 1450 ohm at 1000 cps 180 ohm
815H (Fig. A)	3.75" per sec 3.75" per sec	25KC DC	.03 ma .056 ma	.72 ma .24 ma	27 ma 25 ma	750 ohm at 25KC 12 ohm	5800 ohm at 1000 cps 556 ohm
816 (Fig. B)	3.75" per sec 3.75" per sec	25KC DC	.03 ma .07 ma	.80 ma .26 ma			5500 ohm at 1000 cps 556 ohm
817 (Fig. C)	3.75" per sec 3.75" per sec	25KC DC	.06 ma .175 ma	3.6 ma .42 ma			1860 ohm at 1000 cps 180 ohm
TE2 (Fig. C) Without case	3.75" per sec 3.75" per sec 3.75" per sec	25KC 50KC DC			30 ma 35 ma 25 ma	750 ohm at 25KC 1300 ohm at 50KC 12 ohm	
TR21C (Fig. E)	7.5" per sec	75KC	.040 ma	1.0 ma			4000 ohm at 1000 cps

*Determined in accordance with RTMA Standard REC.-134 August 1949.
**Erase current chosen for 50 db Erasure of Saturated 400 C.P.S. Recording.

Recording Medium—Minnesota Mining & Mfg. Co., Tape No. 111
5RBA1. Pressure Pad Force (Area—.025 sq. in.) Two Ounces.

RECORDING HEAD DIMENSIONS

<p>Models 815, 815H (Fig. A) & 816 (Fig. B) Width 1.240" Depth 1.031" Height .695"</p>	<p>Models TE2 (Fig. C) Width .516" Depth .830" Height .715"</p>
<p>Model 817 (Fig. C) Width .552" Depth .830" Height .765"</p>	<p>Model TR21C (Fig. E) Width .600" Depth .821" Height .775"</p>

NUMERICAL LIST OF SHURE TAPE HEADS USED IN ORIGINAL EQUIPMENT

MODEL	ILLUSTR.	LIST PR.	DESCRIPTION	OPERATING DATA
812	Fig. D	\$ 20.00	Wire Recording Head.	Not Shown
815	Fig. A	15.00	Upper track recording. Low impedance record-playback coil.	See 815
815H	Fig. A	15.00	Upper track recording. High impedance record-playback coil.	See 815H
816	Fig. B	12.00	Upper track recording. High impedance record-playback coil.	See 816
817	Fig. C	9.00	.093" record track width. Low impedance record-playback coil.	See 817
TR5B	Fig. A	17.00	Upper track recording with 14-inch completely insulated leads. Cinch Plug attached.	See 815*
TR5N	Fig. A	16.00	Special Shield. Special Leads. Special Plug.	See 815*
TR5Z-2	Fig. A	18.50	Upper track recording. High impedance record-playback coil.	See 815H
TR6	Fig. B	12.00	Lower track recording. Low impedance record-playback coil.	Not Shown
TR6G	Fig. B	12.00	Lower track recording. High impedance record-playback coil.	See 816**
TR6H	Fig. B	12.00	Upper track recording. Low impedance record-playback coil.	Not Shown
TR16	Fig. C	9.00	.093" record track width. High impedance record-playback coil.	Not Shown
TR26	Fig. C	11.00	.093" record track with (1/4 mil gap). High impedance record-playback coil.	Not Shown
TE2	Fig. C	7.00	Erase head. .116" erase track width.	See TE2
TR21C	Fig. E	14.00	.093" Record Track Width. Record-Playback Coil.	See TR21C

*Operating data only. 815 does not replace.

**Operating data only. 816 does not replace.

Note: For replacement information, write for free Replacement Manual No. RM-59.

See Pages 155-161 for additional Shure Products.

the THORENS

family of fine turntables . . . finest for stereo or mono

TD-124 . . . World's finest turntable for home-music systems

Unique design, and an unparalleled combination of features make the TD-124 unbeatable for true-to-life stereophonic sound. No other turntable is quite like the TD-124; and no other can equal its performance.

Actual comparative tests of the TD-124 and six leading competitive turntables, four of which cost up to \$30 more, showed that the TD-124 has 3db less rumble than the best of these. Examine the mirror-finished precision machining under the TD-124's table — particularly the shaft and bearing — compare these to other tables and you'll see why.

TD-124



\$99.75 Net
Optional base \$9.00
Full one-year guarantee

FEATURES

Twelve-inch, 11½ pound table (outweighs 16" aluminum tables) for lowest wow and flutter. Precision-machined, 4-speed, Thorens Roto-Drive, is adjustable (±3%) for exact musical pitch. Attains full speed within ½ rev., despite weight of main table, because of exclusive Thorens clutch. Clutch also allows starts with stylus resting on record for long noise-free record life. Main table of cast iron provides magnetic shielding against hum for pickup, and light aluminum cover table, plus attractively styled rubber mat, prevents attraction of magnetic pickups. Built-in illuminated strobe allows setting to exact speed while record is playing. Built-in level-bubble and easily accessible leveling device make it easy to keep table level.

Precision 4-pole motor with extra compliant belt-plus-idler provide complete motor vibration isolation. Provision for changing arms

without leaving unsightly marks — just replace low-cost mounting board, available for either 12" or 16" arms in various finishes. After mounting, arm becomes an integral part of the turntable and is automatically leveled when unit is leveled.

Easy to install: The TD-124 requires only 2½" clearance below top of mounting board. Dimensions: 15½" wide x 12½" deep with 12" arm-mounting board. Furnished with line cord and solderplate. Operates on 50- or 60-cycle ac, any voltage from 100 to 250 volts.

Accessories for TD-124

	Net
WBTD Wooden base (walnut, blond or mahogany)	\$9.00
MB-TD Mounting board unfinished	4.50
AS-12 12" tone-arm board (walnut, blond, mahogany, black)	3.00
AS-16 16" tone-arm board (walnut, blond, mahogany, black)	3.75



\$79.95 Net
Full one-year guarantee

The outstanding changer for stereo hi-fi

CD-43NS gives you more operating features than any other changer, plus superlative speed constancy and silence. Arm wired for stereo. Plays 12", 10", and 7" records; intermixes automatically 10" and 12"; will replay any record size. Has control for manual operation. Includes pause and reject control, permitting intermediate record reject plus adjustable pauses between the records on the stack. 3 speeds. Automatically shuts off after last record is played. Adjustable speed — speed selector has integral fine-tuning knob for "exact pitch" adjustment. Rugged 4-pole direct-drive motor with cast-iron frame and mechanical filter to reduce rumble content. Operates on 50- or 60-cycle ac, any voltage from 100 to 250 volts.

Accessories for CD-43NS

	Net
MB Mounting Board	\$3.00
WB Wooden base, mahogany or blond	6.00
45-S 45 RPM record spindle	5.95

All prices are subject to change without notice. All Thorens units are fully guaranteed for one year.

the THORENS

family of fine turntables . . . finest for stereo or mono

TDK-101 . . . a "TD" turntable in kit form

Here's top value, plus top turntable performance, for the music lover who likes to put things together. The TDK-101 is a precision-crafted Thorens transcription turntable in kit form, can be quickly assembled using only common household tools. Yet you get the same fabulous machining you get on the higher priced Thorens TD units. Just compare the main turntable shaft machining on the Thorens with that of any other make and you'll see why the Thorens runs quieter, has less wow, rumble, and flutter.

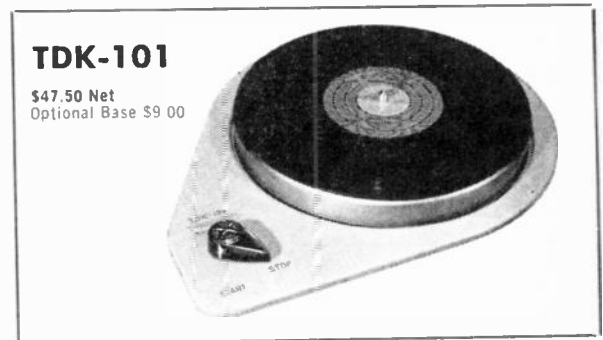
FEATURES

Same basic drive as on more expensive TD units, but single speed, 33 $\frac{1}{3}$ rpm; ultra-compliant belt, plus extra-large idler, provides complete motor isolation and constant-speed operation. Mirror-finish machining on all critical working parts — particularly the main bearing shaft — and single ball-thrust bearing (retained so it can't get lost) insure lowest wow, rumble and flutter. Adjustable speed ($\pm 3\%$, a total of about one musical semitone) while record is playing. Built-in strobe disc allows setting to exact speed. Idler automatically disengaged when unit is switched off. Drive mecha-

nism is completely enclosed; there are no external "string" belts or belt shields. Operates on 115-volt, 60-cycle ac. (50-cycle adapter available.)

Accessories for TDK-101

WBK Base, walnut, blond or mahogany **Net \$9.00**



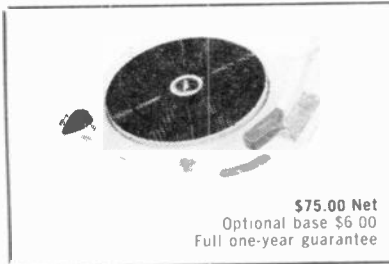
TDK-101

\$47.50 Net
Optional Base \$9.00



TD-184

**Superb TD quality
Dial-O-Matic convenience**



\$75.00 Net
Optional base \$6.00
Full one-year guarantee

TD-184 is a four speed turntable with integral arm, wired for stereo. It features same basic precision-machined, adjustable speed drive as the TD-124 transcription turntable. Semi-automatic operation.

Our dialing motion selects 7", 10" or 12" record size, starts table, and arm literally floats down on air into the first record groove. Adjustable air-damping piston controls lowering speed of arm. Absolutely no connection between arm and table during playing. Featherweight position-trip shuts off player at end of record, idler is automatically disengaged, and arm lifts. Manual-reject control permits shut-off, interruption to playing (with resumption at same point if desired) or completely manual operation. Turntable floats on nylon-seated ball thrust-bearing for absolute minimum wow, rumble and flutter. 2-gm arm tracking and resonance under 17cps equals or exceeds performance of much higher-priced separate arms; five pronged plug-in adapter accommodates all standard stereo or monaural cartridges. Dimensions: 15" wide by 12" deep; extends only 2 $\frac{1}{2}$ " below panel, 3" above. The tone-arm does not extend beyond the base-plate at either back or side, making this unit an ideal replacement where space is at a premium. Operates on 50- or 60-cycle ac, any voltage from 100 to 250. Furnished with line cord and two shielded pickup cables.



TD-134

A TD for maximum performance outstanding economy



\$59.95 Net
Optional base \$6.00
Full one-year guarantee

This 4-speed manual turntable is the biggest value on the market. The TD-134 features integral arm, wired for stereo, and turntable exactly like TD-184 except that semi-automatic features have been omitted to save you money. Same precision adjustable speed drive, same mirror-finish machining, same high-performance arm — an outstanding value for the budget-minded hi-fi enthusiast.

Accessories for TD-184 and TD-134

MBX Mounting board, unfinished **Net \$4.50**
WBX Wooden base (mahogany, blond or walnut) **6.00**



THORENS

SWISS MADE PRODUCTS

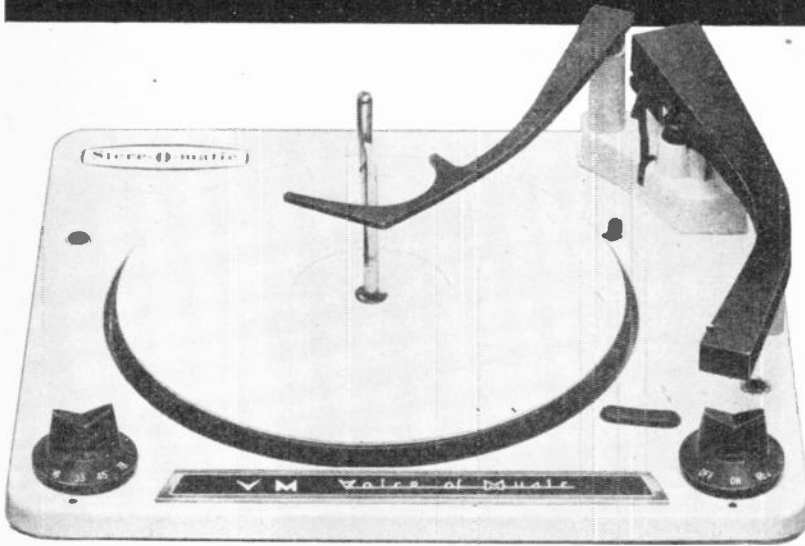
MUSIC BOXES • HI-FI COMPONENTS
SPRING-POWERED SHAVERS • LIGHTERS

All prices are subject to change without notice. All Thorens units are fully guaranteed for one year.

You expected the finest Stereo record changer from **V-M**...

THIS IS IT!

V-M Model 1201--ALL NEW, NEW IN CONVENIENCE, VERSATILITY, FEATURES!
THE STEREO CHANGER WITH TRANSCRIPTION-TURNTABLE PERFORMANCE!



Here, without embroidery, are the FACTS on the ALL-NEW V-M MODEL 1201—The Big Change in Changers!

RUMBLE:

— 48 db for 120 cycle rumble when tested on Columbia XLP414 test record (recorded velocity approximately 3.4 cm/sec. at 1,000 cycles).

MOTOR SPEED:

Constant, positive, permanent for true pitch.

WOW and FLUTTER:

¼% RMS

TURNTABLE:

Balanced to assure constant speed. Bearing materials and finishes controlled for minimum noise friction. Spindle bearing area centerless ground to reduce frictional drag. Idler automatically disengages in "off" position to prevent "flats" or "bumps." Records are lowered gently to spindle shelf. Manual play feature.

TONE ARM:

Resonance-free. Easily adjustable for any cartridge weight. Dual .7 mil and 3 mil needles. Compensated to eliminate variation from

bottom-to-top of stack. Tracking angle variation reduced to 2° maximum. Jewel-type anti-friction bearings eliminate vertical friction.

DIMENSIONS:

- Model 1201—12¾" x 13¾" x 8⁵/₁₆"
- Model 1202—Same (Has 4-pole motor, plug-in head for magnetic cartridge.)
- Model 1227—Same (On plastic base)
- Model 1229—Same (Has 4-pole motor, plug-in head for magnetic cartridge, plastic base pan)

WEIGHT:

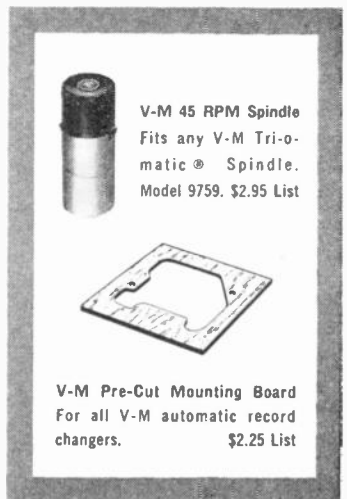
- Models 1201 and 1202—8 lbs.
- Models 1227 and 1229—11 lbs.

ELECTRICAL SPECIFICATIONS:

- 110-120V; 60 cycles A.C.
- Special voltages and frequencies upon request.

APPROVALS:

- Models 1227 and 1229 Listed by Underwriters Laboratories, Inc.



V-M WARRANTS THESE PRODUCTS TO BE FREE OF DEFECTIVE WORKMANSHIP AND MATERIALS UNDER TERMS OF STANDARD V-M PRODUCT WARRANTIES



V-M CORPORATION • BENTON HARBOR, MICHIGAN

World Famous for the Finest in Record Changers, Phonographs and Tape Recorders

**YOUR V-M REP
HAS THE DETAILS—
CALL HIM NOW!**

*T.M. of V-M Corp.

See it!... Hear it!... To Believe it!... The Finest in Sound with WEATHERS STEREO-HIGH FIDELITY SYSTEMS

MC-1 Stereo Pickup System

Features the Stereo-Ramic cartridge and the Micro-Touch Tonearm fully assembled. Hardware and instructions are supplied for mounting the pickup on any manual turntable. Leads plug directly into the phono magnetic input of all preamplifiers.
Audiophile Net: \$35.95 with Diamond; \$48.25 with Sapphire.

Tonearm MT-5

Specifications:
Arm Bearing System Viscous Damping
Tracking Force Easily adjusted 1 to 8 grams
Finish Ebony with gold trim
Overall Length 13 inches
Pivot to Stylus Tip Length 9 1/2"
Recommended Overhang 1/2"
Audiophile Net: \$38.50



StereoRamic Cartridge C-501



Here's an entirely new development in ceramics designed for use in changers and other tonearms. Outperforms even the finest magnetic pickup.

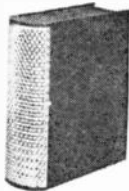
Specifications:
Frequency Response 15-30,000 cps
Compliance 6 x 10⁻⁶ cm/dyne
Dynamic Moving Mass 1.0 milligrams
Tracking Force 1-2 grams—Professional arms
2-6 grams—changers and other type arms
Stylus 0.7 mil diamond or sapphire
Separation 25 db
Signal-to-noise Ratio—60 db
Output per channel 0.25 Volts
7 cm/sec

Audiophile Net:
C-501-D Diamond \$17.50
C-501-S Sapphire \$9.75

Harmony Stereo Speaker

A radically new principle in speaker design. Combines the ultimate in sound production with economy of space. Specifically designed for stereo, the Harmony provides an extremely balanced output of 70 to 15,000 cps. Can be used in pairs or singly as an additional stereo speaker.

Size 3 3/4 x 9 1/2 x 11
Audiophile Net:
SE-50—Single \$29.75 SE-55—Bass 69.50
Pair 59.50 SE-60—Trio 119.50



Synchronous Turntable ML-1



The world's first light-weight turntable utilizing all the advantages of lightness and eliminating the disadvantages of weight and mass. Constructed of aluminum, it is suspended on the quietest, most friction-free bearing yet devised. Requires so little torque, an extremely small 12 pole synchronous motor drives it at constant speed regardless of line or load variation.

Specifications:
Turntable Speed 33 1/2 rpm only (4 speeds optional with SC-1 Electronic Speed Control)
Overall Dimensions 16 3/4" x 15 3/4" x 2 1/2"

Finish Ebony and gold
Rumble -70 db (NARTB)
Flutter 0.1%
Wow 0.15%
Audiophile Net \$59.95
Without Base \$49.95

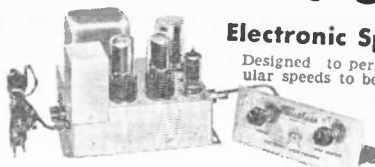
StereoRamic Record Player K-601

Completely assembled, ready to plug into an existing audio system. Its 2.0 gram tracking force and 15-30,000 cps flat response provide superior performance with all types of stereo tracking. Both on the market and under development. Includes Weathers StereoRamic Cartridge with either a sapphire or ebony base in a smooth satin finish with gold anodized turntable and mounting plate.

Audiophile Net:
K-601-D Diamond Stylus \$119.50
K-601-S Sapphire Stylus \$111.75



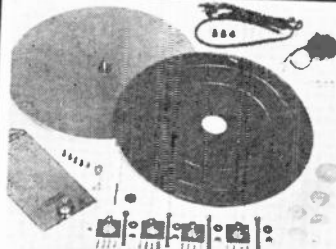
Electronic SpeedControl SC-1



Designed to permit records of all four popular speeds to be played on the ML-1 turntable. The Speed Control is a transistor Oscillator and a vacuum power amplifier. The Oscillator section is 5-3/4" x 2-1/4" x 4" and can be mounted directly on the turntable base. It consists of four coarse adjustments, corresponding to continuous fine tuning. By using electronic techniques to vary the turntable's speed, all noise and backlash associated with mechanical linkage are eliminated. Available fully assembled or in kit form.

Audiophile Net
Fully assembled with its own 6-watt amplifier \$74.50
KSC-1—In kit form with its own 6-watt amplifier; contains all parts and instructions for wiring and installation 49.50

Turntable Kit KL-1



For the "Do-it-yourself" audiophile, this kit is identical with the ML-1 Synchronous Turntable without the motor board and base, and can be assembled with only pliers and a screwdriver. No soldering is necessary.
Audiophile Net \$34.50
P-808 Mounting Motor Board & Plastic Foam Base 5.95

Stylus Gauge P-675

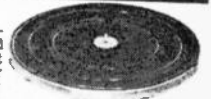


A simple and accurate instrument which allows measurements up to 10 grams. Used for periodic checking of stylus pressure to insure better performance and longer life from stereo records.

Audiophile Net \$2.00

Discushion P-684

A new concept in record mats, designed to protect delicate record surfaces from scratches and contamination. Graduated height ridges permit the record to be suspended by the blank outer rim with no part of the playing surface touching any supporting area.—Audiophile Net \$2.95



PRICE LIST

Stereo Equipment

C-501-D Stereo-Ramic Cartridge with diamond stylus	17.50
C-501-S Stereo-Ramic Cartridge with sapphire stylus	9.75
K-601-D Record Player fully assembled with ML-1 Turntable, MT-5 Tonearm and C-501-D Cartridge	119.50
Same as above with C-501-S Cartridge	111.75
K-601-S Complete StereoRamic Pickup System with MT-5 Tonearm and C-501-D and leads	55.95
MC-1-S Same as above with C-501-S with leads	48.25
ML-1-WB Synchronous Drive Turntable with Base	59.95
ML-1-LB Same as above — less Base	49.95
MT-5 Tonearm wired for StereoRamic Cartridge	38.50
SC-1 Electronic Speed Control with 6-watt amplifier	74.50

Kits

KL-1 Turntable Kit without Base or Platform	34.50
KSC-1 Electronic Speed Control Kit with 6-watt amplifier	49.50

Replacements and Accessories

P-606 StereoRamic Sapphire Stylus	4.50
P-607 StereoRamic Diamond Stylus	12.75
P-675 Stylus Force Gauge (1-10 grams)	2.00
P-680 Viscous-damped Pivot Assembly	15.00
P-681 Viscous Damping Fluid for Tonearm	1.95
P-682 Bearing Lubricant for ML-1 Turntable	1.95
P-684 12" Turntable Pad — "Discushion"	2.95
P-685 Turntable "Coverlet"	2.50
P-801 Replacement Motor	12.00
P-802 Aluminum Platter	.60
P-803 Spring Assemblies (each)	9.00
P-804 Base with Switch	.90
P-805 Tempered Steel Spindle	12.00
P-806 Aluminum Seismic Platform (gold only) Motor Mounting Plate	1.50
P-807 Mercury Vial for Off-On Turntable Switch	12.00
P-808 Mounting Board for KL-1	1.50

Stereo Speakers

SE-50 "HARMONY" Speaker: Single Cordova and Ebony	29.75
SE-55 Hide away Bass	69.50
SE-60 "HARMONY" Trio Cordova and Ebony	119.50
R. C. Crossover Network	10.00
"FIESTA" Speaker: Blonde	62.50
Mahogany	59.95
"DECORATOR" Speaker: Blonde	59.95
Walnut	139.00
Mahogany	139.00

All prices subject to change without notice.
Prices slightly higher West Made in U.S.A.

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Use Index (pg. 2) for Quick, Easy Location of ALL Products

The MASTER — 24th Edition

Net

1960 Webcor Stereo-Diskchangers!

Series 1031

Webcor Imperial Hi-Fi Stereo-Diskchanger

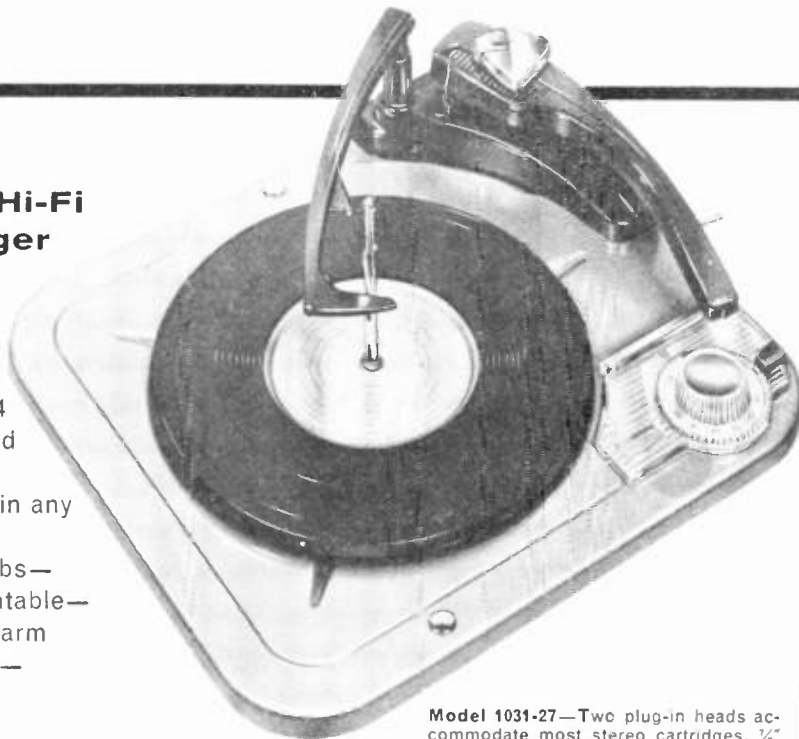
Golden beige and brown

Webcor's finest—plays all 4 speeds, stereo and standard records. 10" and 12" 33 rpm records may be intermixed in any sequence. Has jam-proof mechanism—anti-rumble ribs—heavy 9" rubber matted turntable—automatic shut-off—top-of-arm stylus pressure adjustment—positive manual control.

Model 1031-1—Sonotone Stereo ceramic turnover cartridge. .7 mil Diamond tip for Stereo and standard microgroove records. 3 mil Sapphire tip for 78 rpm records. 4-pole, 4-coil motor. Output: .4 volts per channel at 1,000 cycles.

Model 1031-21—Same as model 1031-1 except has Shure Stereo magnetic cartridge. Output: 10 millivolts per channel at 1,000 cycles. Dual channel pre-amplifier required.

Model 1031-27—Two plug-in heads accommodate most stereo cartridges. $\frac{1}{4}$ " spacing to rear of mounting holes and $\frac{1}{2}$ " in front of mounting holes. 1" wiring on pins for easy cartridge hook-up. 4-pole, 4-coil motor. Minimum Mounting Board Dimensions: 13 $\frac{1}{2}$ " deep x 14 $\frac{1}{2}$ " wide x 9 $\frac{1}{2}$ " high.



Series 1041

Webcor Custom Hi-Fi Stereo-Diskchanger

Golden beige and brown

Budget-price Stereo-Diskchanger has most exclusive Webcor features: anti-rumble ribs—automatic shut-off and positive manual control.

Model TR-1041-1—Astatic ceramic Stereo Cartridge with turnover stylii. .7 mil Diamond tip for Stereo and standard microgroove records. 3 mil Sapphire tip for 78 rpm records.

Output: .4 volts per channel at 1,000 cycles.

Model TR-1041-21—GE Stereo magnetic cartridge with .7 mil Diamond tip. 4-pole motor.

Output: 10 millivolts per channel at 1,000 cycles.

Model TR-1041-27—Two plug-in heads that accommodate most cartridges. 1" wiring on pins for cartridge hook-up. $\frac{1}{2}$ " mounting centers. $\frac{1}{4}$ " spacing to rear, $\frac{1}{2}$ " spacing in front of mounting holes.



Series 1042

Webcor Custom Plug-in Hi-Fi Stereo-Diskchanger

Golden beige and brown

Same as Model 1041—except it is mounted on a handsome base pan, and is ready to plug into any amplifier-speaker system equipped with phono input jacks.

Model TS-1042-1—Same as model 1041-1 except diskchanger is mounted on attractive metal base pan. AC lead is 72" outside pan.

Model TS-1042-21—Same as model 1041-21 except mounted on attractive metal base pan and AC lead is 72" outside pan. Dimensions: 14 $\frac{1}{4}$ " wide, 13 $\frac{1}{4}$ " deep, 9 $\frac{1}{2}$ " high.

Exclusives and Features

Positive Manual: Permits manual record play without activating automatic change cycle.

Jam-proof Mechanism: "Torsion Spring" action permits moving tone arm at any time without jamming or damaging changer.

Exclusive "Anti-Rumble Ribs": Scientifically designed and constructed to absorb vibration for negligible rumble.

Mainplate: Has three compliant shock absorbing springs with dampeners.

Installation: 2 fono cables with 2 pin plugs. AC cord and plug. Pick up and AC leads 36" from clamp. Templates. Operates on 110-120 volts, 60 cycles AC.

Accessories

WEBCOR Mounting Board for Diskchangers: Catalog No. A-1938. Pre-positioned holes for the 3 spring mounting. Durable plywood.

45 RPM Spindle: No. A-1930.

45 RPM Record Inserts: No. RS-46.

Plug-In Head: No. A-1936-T.

Base Pan: No. A-1937-T.

Convert your Webcor changer to an attractive plug-in fonograf with this metal base pan.

WEBCOR, INC.,

Chicago 39, Illinois

Thank You!

When ordering products shown in this book or writing for additional information, please be sure to specify:

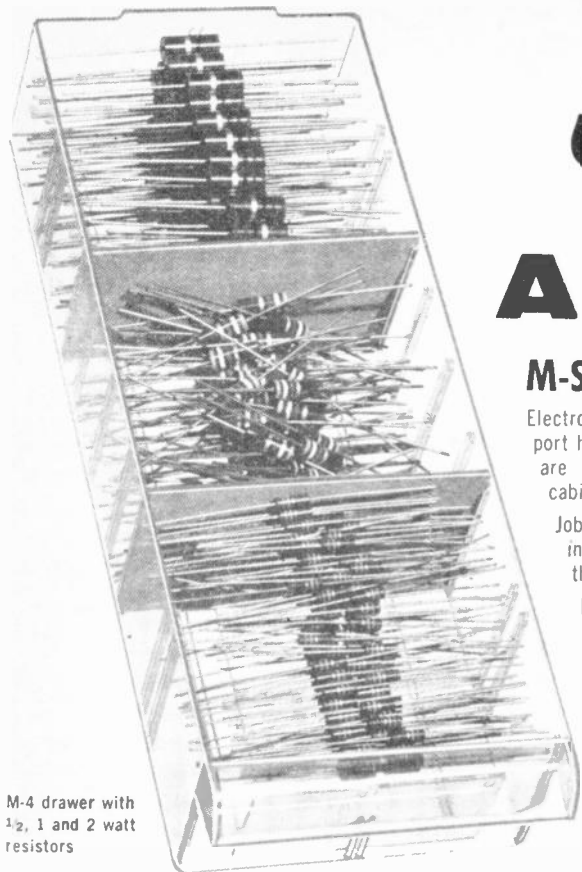
1. **Manufacturer's Catalog Numbers and Page Numbers.**
2. **The Year and Edition of This MASTER.**

This will avoid confusion and expedite delivery.

The
Radio - Electronic
MASTER

Simplify

AKRO-MILS



M-4 drawer with 1/2, 1 and 2 watt resistors

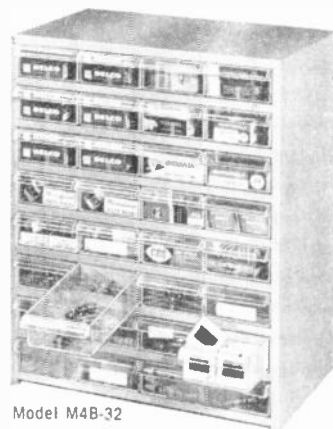
M-SERIES CABINETS

Electronic parts manufacturers report higher sales when small items are merchandised in Akro-Mils cabinets.

Jobbers can spend their time selling parts . . . not looking for them.

Dealers, TV and radio repair men cut their "looking time" by at least 50%.

Flexible drawer partitions to meet specific requirements.



Model M4B-32

All M-Series drawers are 2" deep and 11" long.
M-3 drawers—3" wide. M-4 drawers—4" wide.

M-3 SERIES CABINETS

Model	Drawers	High	Deep	Wide	Weight	Net F.O.B. Akron, O.
M3C-10	10	6 ⁵ / ₁₆ "	11 ¹ / ₁₆ "	17 ¹ / ₄ "	11	\$11.50
M3C-15	15	9"	11 ¹ / ₁₆ "	17 ¹ / ₄ "	14	17.00
M3C-20	20	11 ³ / ₄ "	11 ¹ / ₁₆ "	17 ¹ / ₄ "	18	22.50
M3C-30	30	17 ³ / ₁₆ "	11 ¹ / ₁₆ "	17 ¹ / ₄ "	26	33.50
M3C-40	40	22 ⁵ / ₈ "	11 ¹ / ₁₆ "	17 ¹ / ₄ "	34	44.50
M3C-50	50	28"	11 ¹ / ₁₆ "	17 ¹ / ₄ "	38 ¹ / ₂	56.50

M-3 SERIES FOR 36" SHELVING

M3F-40	40	11 ³ / ₄ "	11 ¹ / ₁₆ "	34 ¹ / ₂ "	34	44.98
M3F-60	60	17 ³ / ₁₆ "	11 ¹ / ₁₆ "	34 ¹ / ₂ "	46	66.98

M-4 SERIES CABINETS

Model	Drawers	High	Deep	Wide	Weight	Net F.O.B. Akron, O.
M4B-8	8	6 ⁵ / ₁₆ "	11 ¹ / ₁₆ "	17 ⁷ / ₈ "	10 ³ / ₄	\$10.98
M4B-12	12	9"	11 ¹ / ₁₆ "	17 ⁷ / ₈ "	14	15.98
M4B-16	16	11 ³ / ₄ "	11 ¹ / ₁₆ "	17 ⁷ / ₈ "	17 ¹ / ₄	20.98
M4B-24	24	17 ³ / ₁₆ "	11 ¹ / ₁₆ "	17 ⁷ / ₈ "	24 ¹ / ₂	31.98
M4B-32	32	22 ⁵ / ₈ "	11 ¹ / ₁₆ "	17 ⁷ / ₈ "	36	41.98
M4B-40	40	28"	11 ¹ / ₁₆ "	17 ⁷ / ₈ "	47	52.98

M-4 SERIES FOR 36" SHELVING

M4E-32	32	11 ³ / ₄ "	11 ¹ / ₁₆ "	35"	36	41.98
M4E-48	48	17 ³ / ₁₆ "	11 ¹ / ₁₆ "	35"	55	64.98

WALL MODEL SWING BINS or PEDESTAL BASE

Holds parts within sight and reach of work areas. Securely attaches to wall, tabletop or ceiling with only two screws. Can be quickly labeled for instant identification. Clear plastic drawers can be divided from 1 to 4 compartments.

Ideal for desks, work tables, counters, counter displays . . . any flat surface. Drawers revolve 360°. Padded, weighted pedestal base can't tip, or mar any surface.

ALL Swing-Bin drawers are 2-1/2" wide, 1-1/16" deep, 9-1/2" long.



Model SP-9 Illustrated

SWING BINS

Model	Drawers	Compartments	Height	Wt.	Net F.O.B. Akron, O.
SC-6	6	24	8-1/4"	2 Lbs.	\$ 2.98
SC-12	12	48	16"	4 Lbs.	4.98
SC-18	18	72	23-5/8"	6 Lbs.	7.98
SC-24	24	96	31"	7 Lbs.	9.98
SC-36	36	144	23-5/8"	10 Lbs.	15.98
SC-48	48	192	31"	12 Lbs.	19.98

Model	Drawers	Compartments	Height	Dia. of Base	Wt.	Net F.O.B. Akron, O.
SP-6	6	24	8-3/4"	5"	5 Lbs.	\$3.98
SP-9	9	36	12-1/8"	6"	6 Lbs.	4.98
SP-12	12	48	15-1/2"	8"	7 Lbs.	6.48

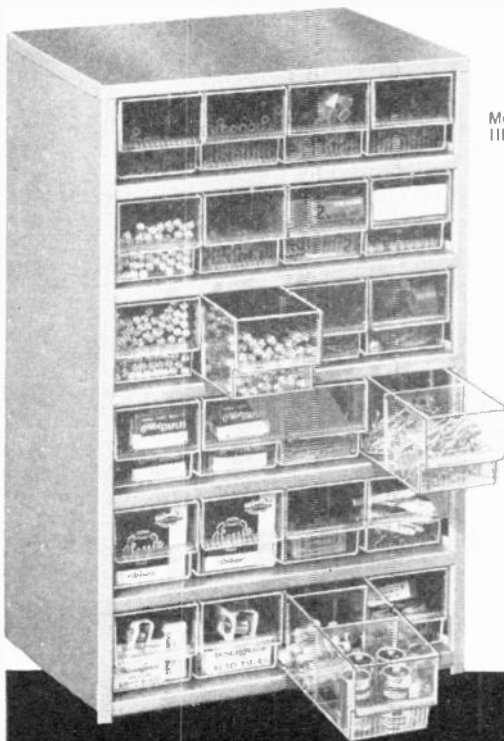
ELECTRONIC PARTS STORAGE

CABINETS

SAVE VALUABLE TIME AND SPACE

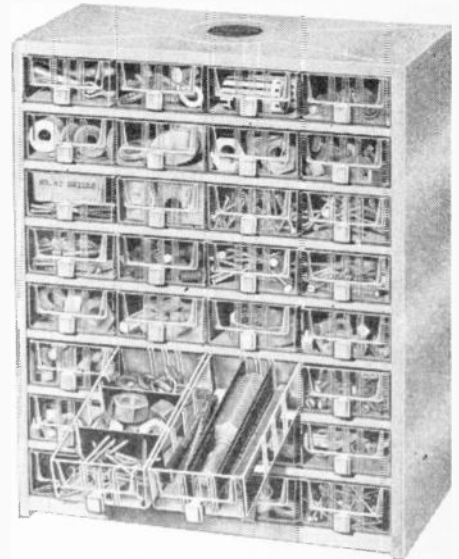
Akro-Mils cabinets allow perfect storage and inventory of all small electronic parts. No more frantic moments wasted searching for small, misplaced items. Drawers can be divided to meet specific needs. Stand on flat surface, can be stacked, or hung from wall. Price includes index labels, dividers, rubber feet.

Unconditional 10-day guarantee, return if not delighted.



Model RS-24
Illustrated

Model J-32
Illustrated



J-SERIES CABINETS

Drawers are 2-3/4" wide, 1-7/16" deep, 5-7/8" long.

ALL models 6" deep. J-8 through J-48 12 1/2" wide. J-64 through J-128 25 3/8" wide.

Model	Drawers	Compartments	Height	Wt.	Net F.O.B. Akron, O.
J-128	128	384	30-1/2"	50 Lbs.	\$52.98
J-96	96	288	22-1/2"	38 Lbs.	41.98
J-64	64	192	15-1/4"	24 Lbs.	23.98
J-48	48	144	22-1/2"	18 Lbs.	18.98
J-32	32	96	15-1/4"	12 Lbs.	11.98
J-24	24	72	12-1/8"	10 Lbs.	9.48
J-20	20	60	10-1/8"	8 Lbs.	7.48
J-16	16	48	8-1/8"	7 Lbs.	6.48
J-12	12	36	6-1/8"	6 Lbs.	4.98
J-8	8	24	4"	4 Lbs.	3.98

RS-SERIES CABINETS

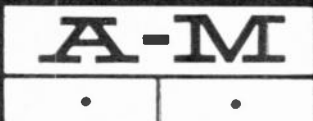
Drawers are 2-7/8" wide, 2-3/4" deep, 10-3/4" long.

ALL models 13-5/16" wide and 11-1/8" deep.

Model	Drawers	Compartments	Height	Wt.	Net F.O.B. Akron, O.
RS-32	32	128	28-1/2"	28 Lbs.	\$37.00
RS-24	24	96	21-1/2"	22 Lbs.	27.00
RS-16	16	64	14-1/2"	16 Lbs.	18.50
RS-12	12	48	11"	12-1/2 Lbs.	13.50
RS-8	8	32	7-1/2"	9-1/2 Lbs.	9.25

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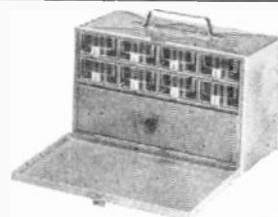
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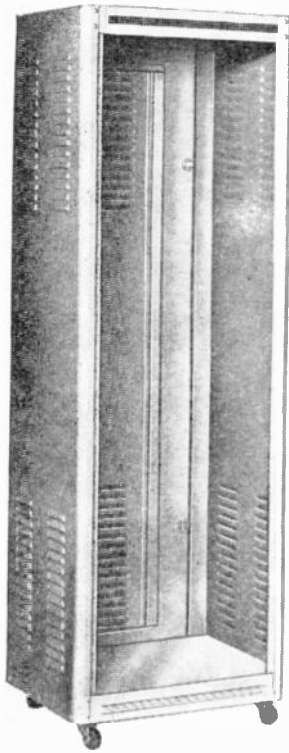




RELAY RACKS



DELUXE RELAY RACKS



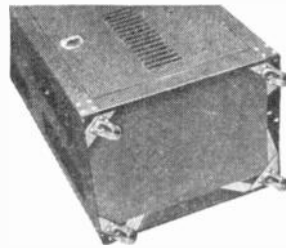
These relay racks are made of 16 gauge steel with 7/64" gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed.

The two sides and the door are well louvered to provide adequate ventilation. The door is hung on sturdy, loose joint hinges; it is held closed by two attractive aluminum die cast plunger type snap action catches. A streamlined appearance is achieved by the use of rounded corners and red lined chrome trim. This relay rack is shipped knocked down and complete with all necessary hardware for assembly. All standard 19" panels will fit these racks. Overall width is 22". Depth 17 1/8". Inside clearance depth in back of panels 16 1/8". Clearance thru rear door 17 3/8". Clearance across panel mounting rails 17 3/4". Panel rails tapped 10/32 with W. E. spacing.

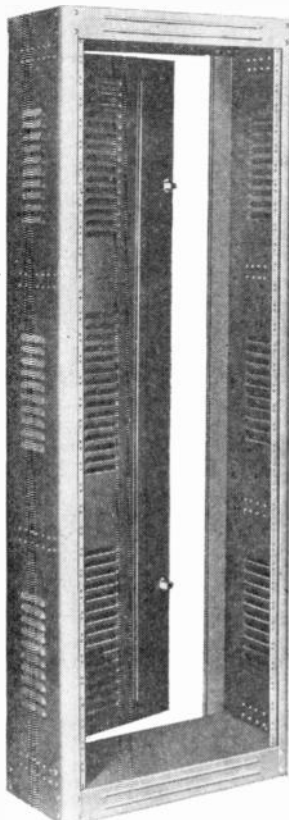
A SPECIAL FEATURE IS THE USE OF FOUR STURDY SUPPORTS IN THE BOTTOM, SO THAT CASTERS CAN BE FASTENED DIRECTLY TO THE BASE, THEREBY ACHIEVING READY MOBILITY.

Bud RC-7756 casters will fit this unit. The casters are not included in the price of the cabinet. CR-2072, CR-2073, CR-2071 and CR-2074 are the same as the racks described above except that the clear inside depth is 21". CR-2072, CR-2073, CR-2071 and CR-2074 units are available in grey hammertone finish only. Black or grey wrinkle finish 10% extra cost.

On the CR-1771, CR-1772, CR-1773, and CR-1774 the units are available in the three standard finishes. Specify by suffix letter "B" for black wrinkle finish; by suffix "G" for grey wrinkle finish and by suffix "HG" for light grey hammertone finish.



Catalog No.	Overall Height	Panel Space	Shipping Weight	Net
CR-1774	42-1/16"	36 3/4"	90 lbs.	\$ 45.17
CR-1771	47-5/16"	42"	95 lbs.	51.10
CR-1772	66-9/16"	61 1/4"	116 lbs.	63.96
CR-1773	82-5/16"	77"	137 lbs.	76.57
CR-2071	47-5/16"	42"	98 lbs.	71.40
CR-2072	66-9/16"	61 1/4"	150 lbs.	89.33
CR-2073	82-5/16"	77"	175 lbs.	106.13
CR-2074	42-1/16"	36 3/4"	91 lbs.	63.10



Space Saver RELAY RACKS

These relay racks are made of 16 gauge steel with 7/64" adjustable panel mounting supports. The recessed panel mounting supports are adjustable (front to rear) at one inch intervals. A sturdy removable rear door is provided.

Sides and door are well louvered to provide adequate ventilation.

THE NEW FEATURE OF THIS RELAY RACK IS THE SHALLOW DEPTH WHICH PROVIDES SPACE SAVING AT INSTALLATION POINT WHILE STILL PROVIDING NECESSARY PANEL HEIGHT AND WIDTH.

This unit is particularly adaptable for use with BUD Panel Mounting Chassis. These relay racks are shipped knocked-down with all necessary hardware for assembly. Standard 19" relay rack panels will fit these units. The relay racks in this series are furnished in Grey Hammertone Enamel only. If Black or Grey Wrinkle finish is desired, an additional charge of 10% must be assessed.

Listed in the table below are Add-A-Racks for use with this series. These Add-A-Racks are made the same as the series used with our Deluxe Relay Racks except that the depth coincides with the SPACE-SAVER RELAY RACK depth.

Overall Depth is 10" Clear Inside Depth is 9" Overall Width is 22"

Catalog No.	Overall Height	Panel Space	Used to Add-A-Rack to	Shipping Weight	Net
RR-1271	47-5/16"	42"		64 lbs.	\$36.60
RR-1272	66-9/16"	61 1/4"		84 lbs.	\$45.85
RR-1273	75-5/16"	70"		93 lbs.	\$53.75
AR-1275			RR-1271	54 lbs.	\$34.90
AR-1276			RR-1272	69 lbs.	\$43.75
AR-1277			RR-1273	76 lbs.	\$51.25

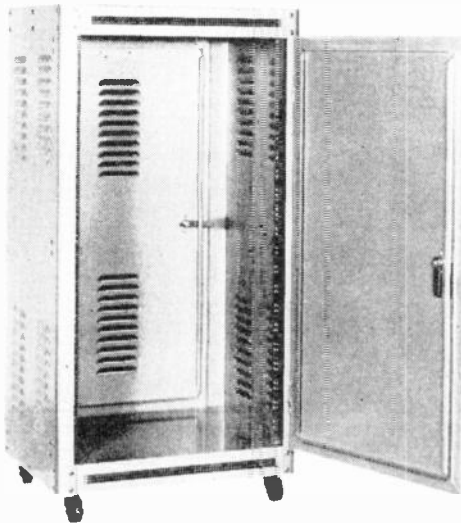
Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 1



RACKS

SUPER DELUXE 2 DOOR RACKS



This relay rack is an entirely new model that consists of a relay rack made of 16 gauge steel with 7/64" gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed. IN ADDITION, THEY ARE ADJUSTABLE FROM FRONT TO BACK IN VARIOUS STOPPING POINTS. THIS ENABLES YOU TO USE THE SPACE IN FRONT AND BEHIND THE PANEL TO ANY DEGREE THAT YOU MAY FIND NECESSARY. Overall width is 22". Depth 17 1/4". Inside clearance depth in back of panels 16 1/8". Clearance thru rear door 17 3/8". Clearance across panel mounting rails 17 3/4". Panel rails tapped 10/32 with W. E. spacing. Clearance behind panels is 15" to 9" in increments of 1 inch.

These racks are fitted with both front and rear doors. The louvred rear door is to cover any of the equipment behind the panel and at the same time provide easy accessibility to it. The front door, flush with front of rack, is to provide a means of concealing dials, knobs, etc., that may be in front of the panel.

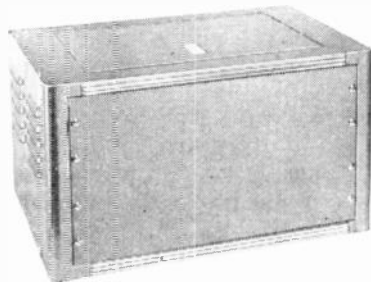
The exclusive Bud feature of supports on the bottom so the casters may be fixed directly to the base, eliminating the need and expense of dollies, is also present in this series of racks.

Bud RC-7756 casters will fit these units. The casters are not included in the price of the cabinet.

If black wrinkle finish is desired, use suffix letter "B." If grey wrinkle finish is desired, use suffix letter "G." If light grey hammered finish is desired, use suffix "HG."

Catalog No.	Overall Height	Panel Space	Shipping Weight	Net
CR-2174	42-1/16"	36 3/4" x 19"	102 lbs.	\$ 64.13
CR-2171	47-5/16"	42" x 19"	117 lbs.	72.65
CR-2172	66-9/16"	61 1/4" x 19"	151 lbs.	93.77
CR-2173	82-5/16"	77" x 19"	183 lbs.	112.56

DELUXE CABINET RACKS



FURNISHED WITH FULL SIZED ALUMINUM RELAY RACK PANEL AT NO EXTRA COST.

These cabinet racks are so made that a professional appearance is given. They are ideal for commercial broadcasters, for sound equipment or test equipment.

The five larger sizes have a hinged rear door, while the smaller sizes have the welded panel in the rear.

No other manufacturer has the wide variety of sizes that are included in the Bud line of deluxe cabinet racks.

Adequate ventilation is assured by means of louvered sides and a 2 1/2" opening in the bottom of the back, which extends the entire width of the cabinet. "No scratch" extended metal feet are embossed on the bottom to minimize marring of the table top or any other equipment that this is placed on.

Combination handle and catch fits flush with top of cabinet. All exposed parts are chrome plated.

Overall Depth	14 3/4"
Overall Width	22"
Clear Inside Depth	14"
Top Door Opening	10 1/2" x 15-3/8"

Catalog No.	Overall Height	Panel Space	Shipping Weight	Net
CR-1726A	8-25/32"	7"	25 lbs.	\$15.28
CR-1711A	10-9/16"	8 3/4"	28 lbs.	16.70
CR-1710A	12-5/16"	10 1/2"	30 lbs.	19.12
CR-1712A	11-1/16"	12 1/4"	32 lbs.	20.12
CR-1739A	15-13/16"	14"	34 lbs.	21.96
CR-1713A	19-5/16"	17 1/2"	38 lbs.	26.22
CR-1727A	22-13/16"	21"	39 1/2 lbs.	28.06
CR-1714A	28-1/16"	26 1/4"	47 1/2 lbs.	30.14
CR-1728A	33-5/16"	31 1/2"	52 lbs.	31.98
CR-1715A*	36-13/16"	35"	60 lbs.	33.65

* These sizes have top and rear doors.

Specify a suffix "B" when black wrinkle is desired, the suffix "G" when grey wrinkle is desired, or the suffix "HG" when light grey hammered is desired.

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

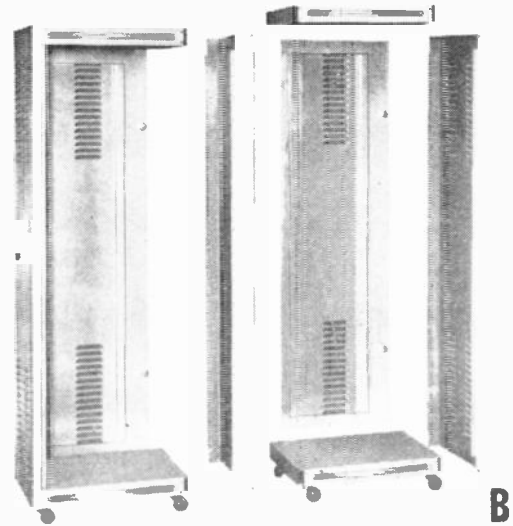
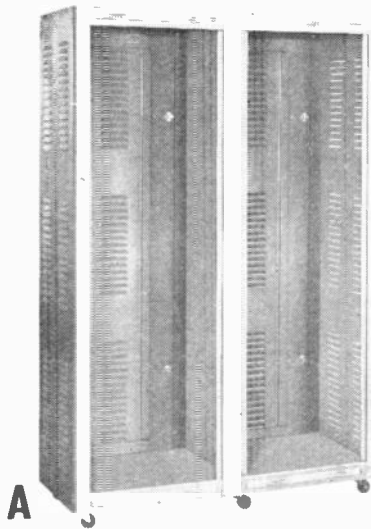
BUD RADIO PAGE 2



RELAY RACKS



ADD-A-RACK SERIES



It always has been necessary to buy special racks without louvres on one side to obtain maximum interior space with a minimum of floor space. Now, you no longer need to buy an entire new cabinet when you want additional space. When multiple rack units are required, we not only offer additional racks at a lower cost, but provide a sturdier, better looking assembly. Only Add-A-Rack series can accomplish this savings.

Illustration A shows the two Add-A-Rack cabinets assembled together. Illustration B shows the unique and ingenious method of adding a unit to your present equipment. Instead of buying an entirely new outfit, you purchase, as a unit, four parts: 1. The door, 2. the top, 3. the bottom, 4. an Add-A-Rack Coupling Unit. The right or left side of your present relay rack is removed and replaced by the Add-A-Rack Coupling Unit. Next, the top and bottom are fastened into place. The side taken from the first

rack is then fastened onto the second rack. Place the additional door into position and you now have two racks, properly and efficiently coupled together. In the same simple way, more racks can be added at any time. Every one will be in a continuous one piece assembly.

Catalog No.	Used to Add-A-Rack to	Shipping Weight	Net
AR-1778	CR-1774	75 lbs.	\$ 44.34
AR-1775	CR-1771	77 lbs.	49.01
AR-1776	CR-1772	100 lbs.	60.96
AR-1777	CR-1773	127 lbs.	74.90
AR-2276	CR-2072	140 lbs.	85.17
AR-2277	CR-2073	160 lbs.	103.75
AR-2278	CR-2074	77 lbs.	60.15
AR-2275	CR-2071	83 lbs.	68.06

If black wrinkle finish is desired, use suffix letter "B." If grey wrinkle finish is desired, use suffix "G." If light grey hammered finish is desired, use suffix "HG."

LEVER TYPE DOOR HANDLES



Chrome plated, die cast handle and plate. Corrosion resistant steel spindle and cam. Easily and quickly attached to the Bud Super Deluxe Relay Rack. Two models available. Catalog No. 9196 is non-locking. Catalog No. 9223 has a lock and two keys.

Catalog No.		Net
9196	Non-locking	\$2.66
9223	With lock	85.00

HANDLE-CATCH SET (Plunger Type)



CL-7777 is an attractive handle catch and catch set. Handle is cast aluminum with chrome plated finish. Snap catch is spring type.

IMPORTANT FEATURE IS THE PLUNGER WHICH ASSURES EFFICIENCY AND EASY OPERATION. Supplied complete with mounting hardware. Actual weight 1 1/2 lb.

Catalog No.	Net
CL-7777	\$1.09

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 3



PRESTIGE RELAY RACKS



Beautiful and practical housings for permanent or mobile instrumentation

NOW WITH ADJUSTABLE PANEL MOUNTING RAILS WHICH CAN BE MOVED FROM FRONT TO BACK IN ONE INCH INCREMENTS.

A standard Prestige Relay Rack consists of the framework, top, bottom, two ball cornered sides and a ball cornered door. Shipped knocked-down with necessary assembly hardware.

Interior servicing is easily accomplished without tearing down rack since sides are attached to frame by means of tongue and slot arrangement at bottom and two screws at top, thus sides are quickly removed.

Drilled and tapped panel mounting rails on all four vertical members of the frame. Standard 19" panels can, if desired, be mounted on all four sides of the rack.

Doors may be mounted to open either from left or right side. Extra doors may be purchased so that doors may be placed on any of four sides.

Panel rails will support 200 lbs. suspended between rails at any vertical position.

Bottom will support 500 lbs.

The base is slotted to accept ball cornered side panels on any of the four sides of the rack.

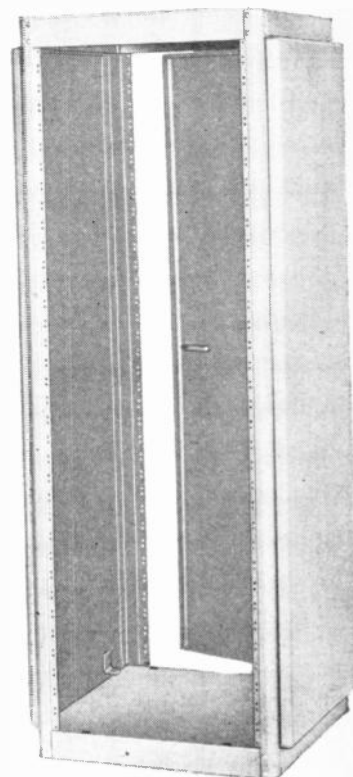
Clearance of ball cornered door and side panels is sufficient to permit their installation over panels without damage to knobs or instrument controls.

Casters may be attached to base to achieve mobility if desired. Base is so designed that casters are recessed and do not detract from appearance of rack.

Knockout holes are provided in the sides of the rack so that two or more may be joined together in series.

Racks will accommodate Bud SD-1717 Sliding Drawer Assembly (shown on Bud Page 18), Bud Console Drawer CD-2210 (shown on Bud Page 21) or "Prestige" Supporting Angles (shown on Bud Page 11).

Finished in grey hammertone.



PRESTIGE CABINET RACKS

Cat. No.	Panel Space	Height	Weight	Net
CR-2280	61-1/4"	66-9/16"	104 lbs.	\$108.35
CR-2281	66-1/2"	71-13/16"	115 lbs.	115.55
CR-2282	77"	82-3/16"	132 lbs.	129.75

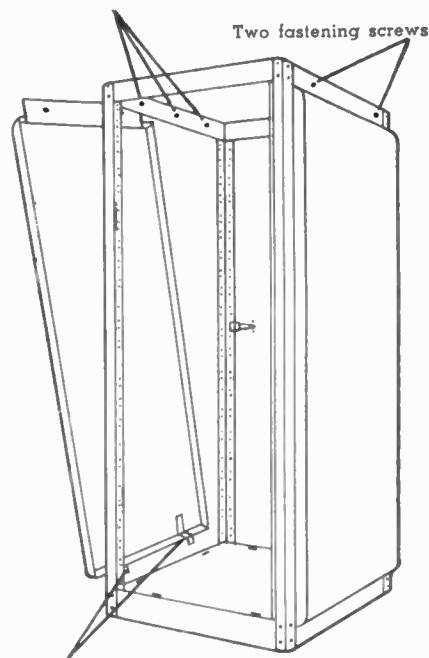
Inside clearance	21-1/8" x 21-1/8"
Overall depth without door	22"
Overall depth with door	23-1/16"
Overall width without side panels	22"
Overall width with side panels	24-1/8"

BALL CORNER DOORS

Cat. No.	Weight	Net
DR-2290 for CR-2280 Rack	22 lbs.	\$13.50
DR-2291 for CR-2281 Rack	25 lbs.	14.40
DR-2292 for CR-2282 Rack	30 lbs.	16.20

Three knock-out holes

Two fastening screws



Tongue and slot holding arrangement

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 4



CABINET RACKS — RELAY RACKS



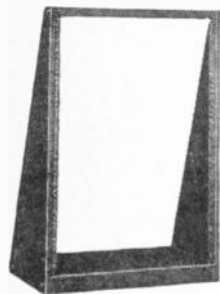
CHASSIS MOUNTING BRACKETS



Mounting brackets are essential to insure proper support of chassis. Mounting flange is 1" wide with 2 mounting holes. These brackets are formed of heavy

gauge steel cut away at the bottom to provide chassis clearance so that the chassis can be mounted flush against the panel. Finished in black enamel only. Chassis mounting bracket Nos. MB-450 and MB-451 are designed for a chassis height of 4". These units are sold in pairs only.

Catalog No.	Height	Depth	Actual Weight	Net
MB-458	6½"	8"	1¼ lbs.	\$1.09 pr.
MB-448	6½"	10"	1¼ lbs.	1.35 pr.
MB-459	6½"	11"	2 lbs.	1.50 pr.
MB-449	6½"	12"	2 lbs.	1.75 pr.
MB-460	6½"	13"	2½ lbs.	1.69 pr.
MB-450	8½"	10"	2¼ lbs.	1.97 pr.
MB-451	8½"	13"	3 lbs.	2.09 pr.

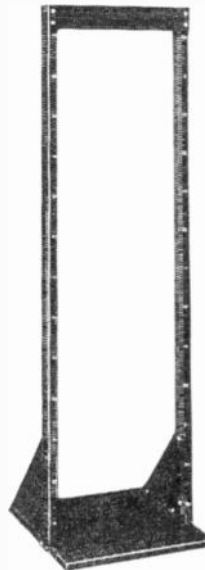


DESK TYPE RELAY RACKS

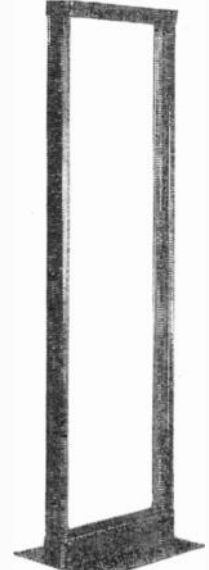
These racks are perfect for table mounting of low and medium powered transmitters, public address systems and other electronic instruments. The rack has a strong chassis for mounting heavy components. These units are shipped knocked down with necessary hardware and are easy to assemble. Depth 12". Panel holes tapped 10/32 with W. E. spacing. Standard 19" wide panels can be used and the panels are set in recess so that no edges are exposed. Black wrinkle or light grey hammertone finish.

Catalog No.	Panel Space	Height	Actual Wt. Lbs.	Net
RR-1248	21" x 19"	24"	15	\$ 9.10
RR-1249	28" x 19"	31"	17	11.19

TELEPHONE TYPE RELAY RACKS



RR-1263
RR-1264
RR-1366



RR-1265

Catalog Nos. RR-1263, RR-1264, RR-1363, RR-1364 & RR-1366 are made of 7/64" steel channels, three inches deep, with cross bars of the same thickness. The design of the base has been improved to incorporate a chassis type bottom, together with the usual side angles, making this rack exceptionally strong and stable.

Holes are provided in the base to accommodate Bud RC-7756 casters. Base is 20" x 22". Clearance between uprights 17½". Panel mounting rails tapped 10/32 with W. E. spacing. Finish black wrinkle or light grey hammertone.

The RR-1265 is a heavy duty rack, suitable for broadcast stations and other commercial installations, where it is desired that exceptionally sturdy construction be utilized. The usual manner of installation is to bolt this unit to the floor.

To emphasize the heavy duty construction, it is necessary to realize that the base is made of two angles 3½" x 5" x ¼", 20¾" long. The channels are 72" long and made of 3" x 1¾" x 3/16" steel plate. The two supporting cross bars are made of ½" x 2-3/32" steel angles. Base is 13" x 20¾". Panel holes are tapped 12-24 with W.E. spacing. Finish black wrinkle only.

Any of the panel chassis shown on Bud Page 12 or the standard relay rack panels shown on Bud Pages 11 and 12 can be used with these racks.

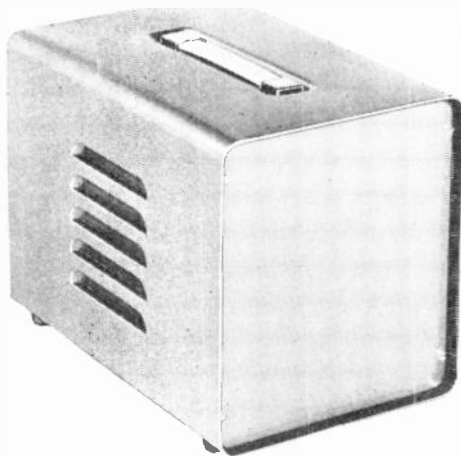
Catalog No.	Height	Panel Space	Shipping Weight lbs.	Net
RR-1263	35-39/64"	31½"	35	\$21.71
RR-1363	40-55/64"	36½"	37	21.96
RR-1264	70-39/64"	66½"	46	24.80
RR-1364	75-55/64"	71¾"	47	25.13
RR-1366	81-7/64"	77"	48	29.98
RR-1265	72-1/4"	66½"	94	54.78

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 5



PORTACABS - CABINET RACKS



PORTACABS

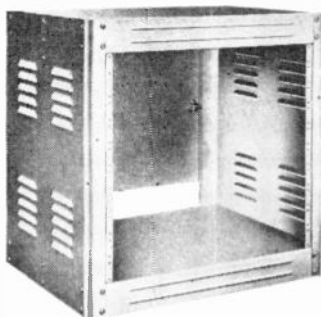
CUSTOM APPEARANCE AND QUALITY ACHIEVED IN STANDARD PRODUCTION MODELS

These attractive and versatile cabinets are desirable as housings for instrumentation requiring highly stylized appearance. The body is of one piece .050 aluminum with contoured corners. Panel is .062 aluminum.

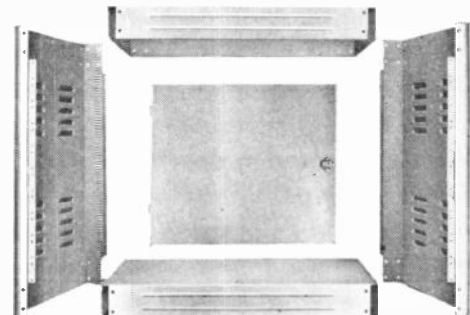
Flexible recessed handle permits easy portability as well as vertical stacking. Well louvred for adequate ventilation. Since louvres point inward, side-to-side placement of cabinets is possible without space loss. Welded back has opening.

Aluminum front panel is recessed 1/2". The perimeter of the panel follows the contour of the body. Four detachable rubber feet furnished. Gray hammer-tone finish only.

Cat. No.	Depth	Width	Height	Recommended BUD Chassis	Opening Rear	Louvres per Side	Weight in lbs.	Net
WA-1540	8"	6 1/4"	8"	AC-402 5" x 7" x 2"	2" x 4 1/2"	1 set	2 1/2	\$ 9.20
WA-1541	12"	8 1/4"	9"	AC-407 7" x 11" x 2"	2" x 6 1/2"	2 sets	3	12.00
WA-1542	8"	10 1/4"	8"	AC-406 7" x 9" x 2"	2" x 8 1/2"	1 set	3 1/2	10.65
WA-1543	18"	11 1/4"	11"	AC-416 10" x 17" x 3"	2" x 9 1/2"	3 sets	4 1/2	13.50
WA-1544	18"	14 1/4"	12"	AC-420 13" x 17" x 3"	2" x 12 1/2"	3 sets	5 1/2	15.50



HEAVY DUTY CABINET RACKS



These Cabinet Racks are designed for installation where increased depth of cabinet is required. The cabinet racks are shipped knocked down with all necessary hardware for quick assembly.

All units have a hinged removable rear door. Adequate ventilation is assured by louvered sides and 2 1/2" x 17 1/2" opening in the bottom of the back. The top and bottom are similar to those furnished with our DeLuxe Relay Rack to provide additional sturdiness when the rack is assembled. Made from 16 gauge steel throughout.

The panel mounting rails are an integral part of the sides thereby facilitating the assembly of the cabinet since less parts are required.

These Heavy Duty Cabinet Racks are furnished in Grey Hammertone only. An additional charge of 10% will be made if Black or Grey Wrinkle Finish is ordered.

For the first time BUD RADIO, INC. is providing Add-A-Rack type mounting for a Cabinet Rack model. Listed in the table shown below are Add-A-Cabs for use with our Heavy Duty Cabinet Rack series. The construction is the same as our Add-A-Rack series except that the panel mounting rails are an integral part of the sides.

Overall Depth is 17 1/8".

Clear Inside Depth is 16 1/4".

Overall Width is 22".

Catalog No.	Overall Height	Panel Space	Used to Add-A-Cab	Shipping Weight	Net
CR-1736	24 1/2"	19 1/4"		18 lbs.	\$26.65
CR-1737	31 1/2"	26 1/4"		55 lbs.	\$28.75
CR-1738	40 1/4"	35"		64 lbs.	\$34.15
ACR-1936	24 1/2"	19 1/4"	CR-1736	11 lbs.	\$25.10
ACR-1937	31 1/2"	26 1/4"	CR-1737	18 lbs.	\$27.10
ACR-1938	40 1/4"	35"	CR-1738	55 lbs.	\$32.55

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 6



"PRESTIGE" VERSA-CABINETS



MODERN STYLING . . . VERSATILE USAGE . . . QUICK ACCESSIBILITY

A standard Prestige Versa-Cabinet consists of the framework, two ball cornered sides, perforated metal back, solid bottom plate and two supporting channels.

The front, back, top, bottom may be quickly removed for access to interior for easy servicing.

Standard 19" panels may be attached to the top, bottom, front or back of cabinet to provide complete closure.

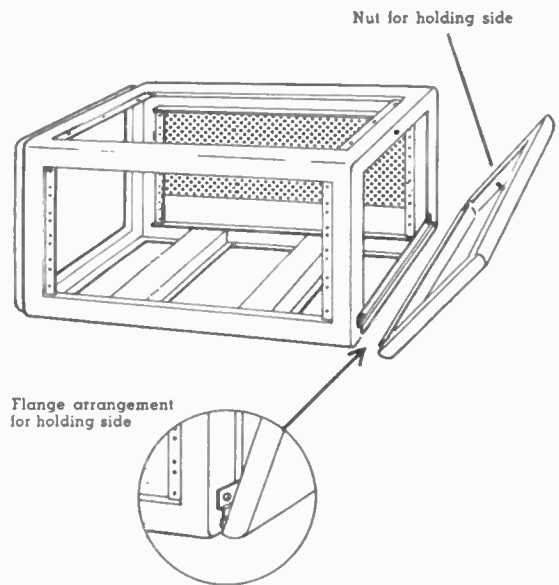
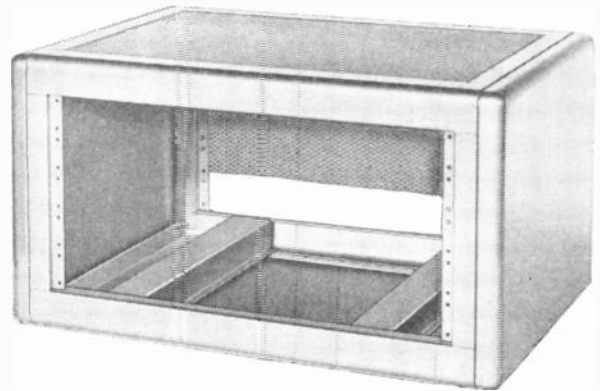
An opening is provided across bottom of back for cable leads, controls or knobs. Size of opening is 1-3/4" x 19". Bud Steel Panel PS-1250 (shown on Bud Page 12) or Aluminum Panel PA-1101 (shown on Bud Page 12) may be used to close opening if desired. Perforated back may be removed and a standard steel or aluminum panel may be used to close back opening entirely.

Sides are attached by means of holding flanges on the bottom of the frame and nut at top.

Handles may be fastened to sides. When the unit is carried by handles, the design of the flange mounting distributes the weight properly for safe carrying. Flange design eliminates possibility of sides becoming accidentally detached while equipment is being carried. Cabinets may be fastened side-to-side in batteries of two or more or may be stacked one on another. Proper provision is made for fastening cabinets together either vertically or horizontally by means of four holes on each side and four holes in top and bottom of frame.

Four rubber feet are regularly supplied to prevent marring of the surface upon which cabinet may be placed.

Finished in grey hammertone.



"PRESTIGE" VERSA-CABINETS

Cat. No.	Panel Space	Height	Weight	Net
PC-1700	5 1/4"	8 3/4"	24 lbs.	\$27.25
PC-1701	7"	10 1/2"	27 lbs.	28.92
PC-1702	8 3/4"	12 1/4"	30 lbs.	30.75
PC-1703	10 1/2"	14"	33 lbs.	33.50
PC-1704	12 1/4"	15 3/4"	36 lbs.	35.25
Clear inside width				22-1/4"
Overall width				23-3/16"
Clear inside depth				15"
Overall depth				15-25/32"

PERFORATED STEEL TOP PANEL

Cat. No.	Size	Weight	Net
PC-1710	12-1/4" x 19"	2-1/2 lbs.	\$2.70

ACCESSORIES

Solid Steel Top Panel	.. PS-1256HG	Page 255
Solid Aluminum Top Panel	PA-1107HG	Page 255
Top Panel with Solid Door	.. PS-616HG	Page 255
Top Panel with Ventilated	.. PS-815HG	Page 255

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

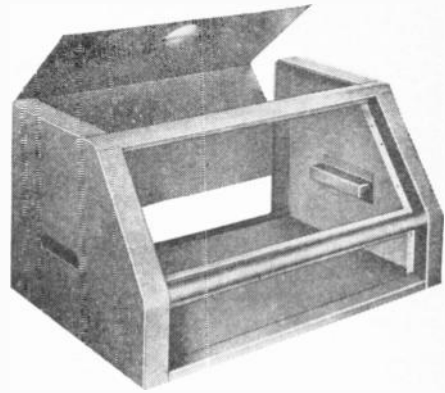
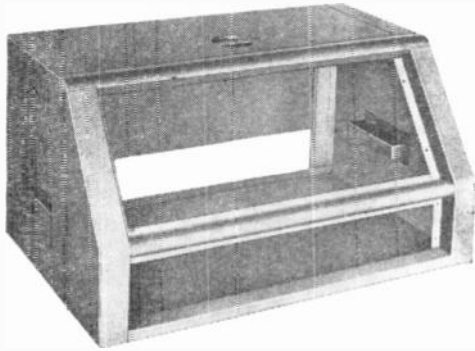
BUD RADIO PAGE 7



"PRESTIGE" CABINETS



SLOPING PANEL "PRESTIGE" CABINETS



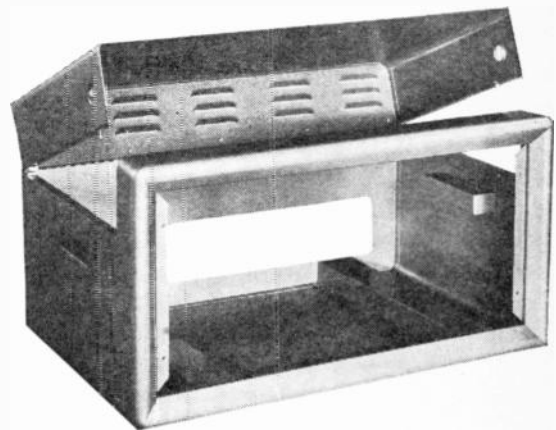
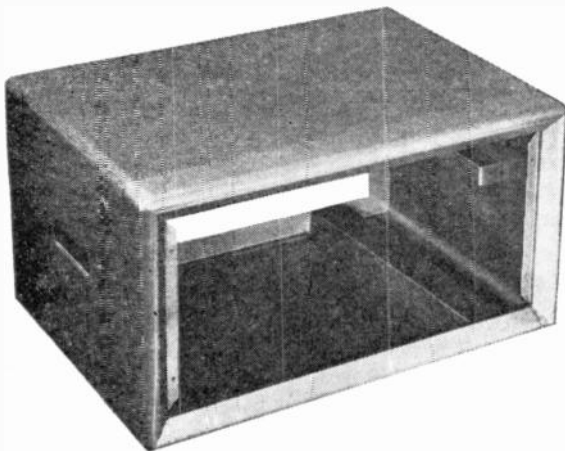
Ventilated top.
 Full top opening — With recessed Handle for easy lift.
 Shielded handles in sides.
 Uses standard 19" relay rack panels.
 Top panel swept-back for easy viewing.
 Rear opening for easy cable or control access.
 Panel trim bar removable permitting installation or removal of panels that have chassis attached.

Cover can be screw fastened into position to minimize tampering with contents of cabinet.
 Grey hammertone finish.

Rear Opening is 2½" x 18" Panel recess is 1¼"
 Top depth is 9" Overall width is 22"

Catalog No.	Overall Height	Panel Space	Overall Depth	Ship. Wgt.	Net
C-1555	11 7/8"	3 1/2" Vertical plus 7" Sloping	14 3/4"	22 lbs.	\$36.00
C-1556	13 3/4"	3 1/2" Vertical plus 8 3/4" Sloping	15 1/2"	25 lbs.	\$38.65
C-1557	14 3/4"	3 1/2" Vertical plus 10 1/2" Sloping	16 1/2"	28 lbs.	\$41.45

STANDARD "PRESTIGE" CABINETS



Solid or perforated hinged cover.
 Finger holes assure easy cover lifting. Cover closes tightly by means of pressure fasteners.
 Two supporting rails furnished. Can be moved laterally to accommodate any width chassis or mounting platform.
 Ventilation is obtained through rear cabinet opening and louvers in rear of cover.
 Carrying is accomplished by means of two recessed, safety shielded handle slots.
 Rear opening for easy cable or control access.
 Bottom has embossed feet to prevent scratching of surface upon which cabinet may rest.
 Uses standard 19" panels.

Made of 16 gauge steel. Grey hammertone finish only.
 Overall width: 21-9/16"; overall depth: 14-7/8"; clear inside depth: 13-7/8"; rear opening: 18" x 3"; cover opening: 21-9/16" x 12-3/4".

Cat. No.	Cover	Over-All Height	Panel Space	Ship. Wgt.	Net
C-1440	Solid	9 1/2"	7"	21 lbs.	\$28.22
C-1441	Solid	11 1/4"	8 3/4"	23 lbs.	30.06
C-1442	Solid	13"	10 1/2"	25 lbs.	32.82
C-1550	Perforated	9 1/2"	7"	20 lbs.	30.56
C-1551	Perforated	11 1/4"	8 3/4"	22 lbs.	32.73
C-1552	Perforated	13"	10 1/2"	24 lbs.	35.57

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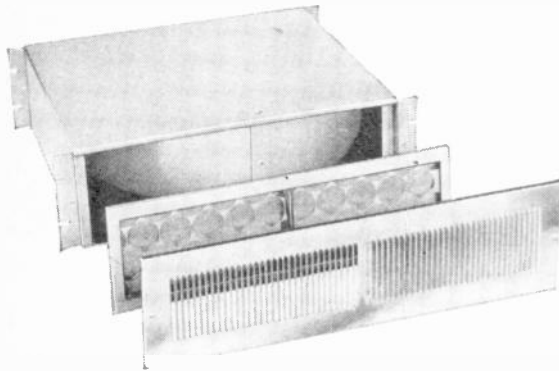
BUD RADIO PAGE 8



CONSOLES — BLOWER



TRANS-AIRE BLOWER



Ideal for use where excessive heat is generated by equipment in an enclosed rack, cabinet or console. It brings in fresh air or exhausts heated air.

The Trans-aire Blower performs better, occupies less space and is the lowest priced unit of equal capacity and performance.

FEATURES:

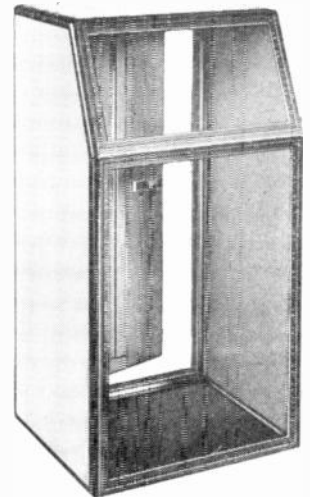
1. Can be used as an exhaust or intake blower depending upon mounting position. Air always flows in the direction of the arrows.
2. Operates on 110 V., 60 cycle current. Delivers either 550 or 250 cfm. air displacement at 0° static pressure. Two-speed 1 10 h.p. motor. Oilite bearings with oil impregnated felt wicks.
3. Oil impregnated, fiber glass disposable filter. Filter can be changed without removing unit from cabinet.
4. Motor is rubber mounted to reduce vibration. Operating noise factor reduced to minimum.
5. Thermal overload protection to prevent overheating. Automatic re-set.
6. May be mounted to rails of standard cabinet or rack. Use of Bud Chassis Supporting angles SA-1349, SA-1350 or CE-2219 is recommended when blower is mounted in rack or cabinet.
7. Unit will operate in any position — vertical or horizontal.
8. Requires only 5 1/4" panel space. Over-all depth—14 1/2". Over-all width—17".

Cat. No.		Weight	Net
B-25	Blower	25 lbs.	\$53.35
BF-26	Replacement Filter	1 lb.	1.50

IMPERIAL Inclined Panel CONSOLE

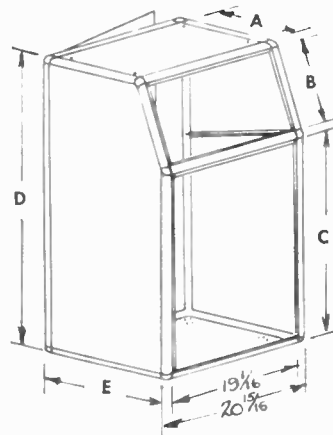
The most graceful of all consoles. Structural members are sturdy aluminum extrusions and all joints are ball-cornered aluminum castings. The inclined panel is set at a 22 1/2° angle for comfortable viewing.

Complete assembly includes framework, top, bottom and two sides. Also included is a reinforced door with concealed hinges and flush mounted latch. The cast brass heavy duty hinges are specifically designed to enable components, blowers, etc. to be mounted on the rear door.



All parts of this console are made from aluminum to give strength while keeping the weight factor in mind. Extrusions which comprise the framework for the top, inclined panel area and front are drilled and tapped to accept standard rack panels. Casters may be attached to the bottom. Standard Bud aluminum panels may be used to enclose the front and inclined panel spaces.

Light grey hammertone sides, top, bottom and back. Black framework.



THIS CONSOLE IS FABRICATED FROM BUD IMLOK EXTRUSIONS SHOWN ON BUD PAGES 22 & 23 STANDARD "a" ALUMINUM SHEETS ARE USED TO ENCLOSE SIDES, TOP AND BOTTOM.

Cat. No.	A	B	C	D	E	Weight in lbs.	Net
BI-1828	12 5/16"	10 9/16"	28 1/16"	40 11/16"	18 5/8"	54 lbs.	\$155.00
BI-2228	15 13/16"	10 9/16"	28 1/16"	40 11/16"	22 1/8"	36 lbs.	170 00
BI-2419	10 9/16"	17 3/16"	24 9/16"	43 21/32"	19 7/32"	38 lbs.	190.00
BI-2421	12 5/16"	17 3/16"	24 9/16"	43 21/32"	21 9/32"	40 lbs	200 00

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BUD RADIO PAGE 9



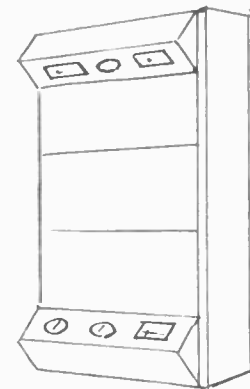
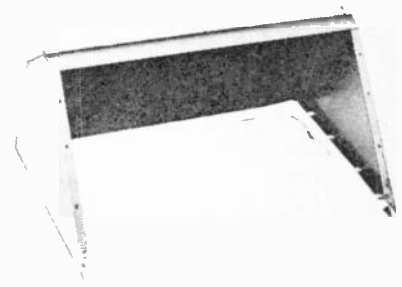
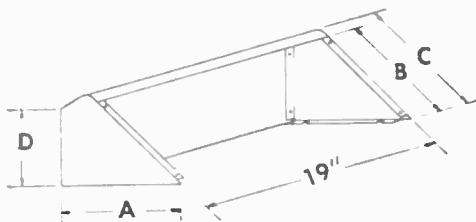
PANEL SUPPORTS-MINIBOXES



DUAL-VIEW PANEL SUPPORTS

Designed for installation on a rack where an oblique view of an instrument panel is desired. ENGINEERED SO THAT THE ENTIRE ASSEMBLY OCCUPIES NO MORE SPACE THAN THE SIZE OF THE SUPPORTED PANEL. For instance, IP-1120 supports a 7" panel and requires only 7" of rack panel space while the IP-1121 supports a 10½" panel and requires only 10½" of rack panel space. An additional feature is the panel support cover which can be removed for easy servicing or installation of instruments.

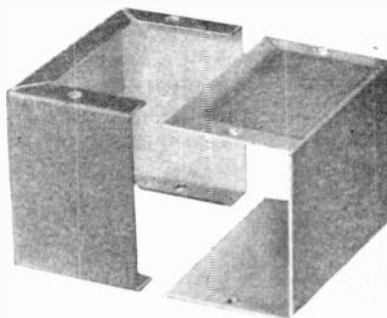
The Dual-View Panel Support is made of heavy gauge steel. It has attractive contoured edges. Furnished knocked-down with necessary assembly hardware. No panel furnished. Bud panels to fit these supports are PS-1253 (steel) and PA-1101 (aluminum) for IP-1120. PS-1255 (steel) and PA-1106 (aluminum) for IP-1121. Choice of Gray Wrinkle, Black Wrinkle or Gray Hammertone finish. Please specify when ordering.



Cat. No.	Supports Panel	Requires Panel Space	A	B	C	D	Weight in lbs.	Net
IP-1120	7" x 19"	7" x 19"	7"	7"	8-1/16"	4 3/8"	3 1/2	\$ 4.15
IP-1121	10½" x 19"	10½" x 19"	10 1/2"	10 1/2"	11-9/16"	6"	6 3/4	5.80

MINIBOXES with SELECTIVE FASTENING

For the first time—a minibox with both snap-lock and screw-type fastening at no extra charge.



A multipurpose aluminum box for use in the fields of communications and electronics. The design permits the installation of more components than is possible in other conventionally designed boxes of the same size.

Two-piece construction, each piece forming three sides. The two sections are held together by the engagement of four circular projections into four matching holes.

A unique mechanical principle enables these projections to be easily and quickly knocked out if screw type assembly is desired.

Flanges assure proper shielding. Four self-tapping screws furnished. Made of .031 aluminum. Available in natural finish or light gray hammertone.

Grey Hammertone		Natural Aluminum					Weight
Cat. No.	Net	Cat. No.	Net	Length	Height	Width	in lbs
CU-2100A	\$.85	CU-3000A	\$.62	2 3/4"	2 1/8"	1 5/8"	1 1/4
CU-2101A	.92	CU-3001A	.62	3 1/4"	2 1/8"	1 5/8"	1 1/4
CU-2102A	.92	CU-3002A	.62	4"	2 1/8"	1 5/8"	1 1/4
CU-2103A	1.00	CU-3003A	.75	4 1/2"	2 1/8"	2 1/8"	1 1/4
CU-2104A	1.09	CU-3004A	.78	5"	2"	2 1/8"	1 1/4
CU-2105A	1.25	CU-3005A	.91	5 1/2"	4"	3"	1 1/2
CU-2106A	1.09	CU-3006A	.82	5 1/4"	3"	2 1/4"	1 1/4
CU-2107A	1.90	CU-3007A	1.47	6"	5"	4"	3/4
CU-2108A	1.82	CU-3008A	1.40	7"	5"	3"	3/4
CU-2109A	2.23	CU-3009A	1.72	8"	6"	3 1/2"	1
CU-2110A	2.59	CU-3010A	2.02	10"	6"	3 1/2"	1 1/4
CU-2111A	3.27	CU-3011A	2.71	12"	7"	4"	1 3/4
CU-2112A	3.50	CU-3012A	2.92	17"	3"	4"	2 1/4
CU-2113A	1.38	CU-3013A	1.15	10"	2"	1 5/8"	1 1/2
CU-2114A	1.70	CU-3014A	1.37	12"	2 1/2"	2 1/4"	3/4
CU-2115A	1.09	CU-3015A	.76	4"	2"	2 3/4"	3/4
CU-2116A	1.00	CU-3016A	.72	4 1/4"	2 1/4"	1 1/2"	3/4
CU-2117A	.81	CU-3017A	.62	3 1/4"	2 1/4"	1 1/8"	1/4

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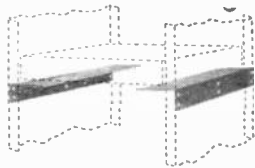
BUD RADIO PAGE 10



ANGLE — SHELVES — PANELS



CHASSIS SUPPORTING ANGLES



Where heavy weights are encountered in chassis construction, the Bud Chassis Supporting Angles will distribute the weight on the sides of the racks to relieve the panel. The angles

are made in two sizes from 7/64" steel. Width 3", height 1 3/8"; mounting hardware furnished. Finished in black enamel only. The drawing shown around the chassis supporting angles in the illustration is intended to show the manner in which the chassis will be supported by these angles. Sold in pairs only.

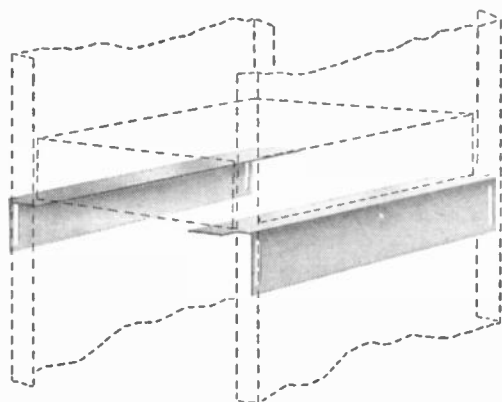
Catalog No.	Length	Actual Weight lbs.	Net
SA-1349	14 1/2"	4	\$2.25 pr.
SA-1350	12"	3	2.17 pr.

RACK SHELVES



Heavy power supplies, modulator units, etc., can be mounted on these rack shelves, which are supported in the cabinet by the chassis supporting angles which are shown to the left. Shelves are 19" wide x 1" high. The shelves are made of heavy gauge steel and are finished in black enamel only.

Catalog No.	Depth	Actual Weight	Net
CB-1976	15"	6 1/2 lbs.	\$3.17
CB-1977	12"	5 1/2 lbs.	2.64

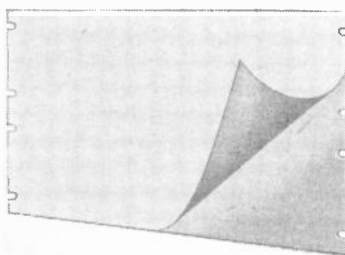


"PRESTIGE" SUPPORTING ANGLES

Designed for attaching to rails of Console Pedestal or Prestige Relay Racks. No drilling is required. Slotted to provide infinite vertical adjustment or leveling. Extend entirely from front to rear to accept full size chassis. Strong enough to support the heaviest power supplies. Finish is black enamel. Drawing illustrates the manner in which the chassis will be supported by the angles. Sold in pairs only.

Cat. No.	Size	Weight	Net
CE-2219	21" x 3" x 3"	7-1 2 lbs.	\$3.00 per pair

"SURFACE-SHIELD" ALUMINUM PANELS



Now . . . naturally bright aluminum panels with blemish-free mill finish.

Each panel is covered on both sides with sturdy self-stick paper to protect against damage. The paper provides an excellent

surface for indicating size and position of drilling or milling. These operations may then be done while the paper is still in place thus minimizing the possibility of surface damage and elimination or surface soil. Paper is not removed until the panel is ready for installation.

Panels available in both 1/8" and 3/16" thicknesses, have standard notching and are 19" wide. Individually wrapped in heavy Kraft-backed cellulose wadding for protection in shipment or storage.

1/8" PANELS

Cat. No.	Ht.	Wt.	Net
SFA-1831	1 3/4"	1/4 lb.	\$.97
SFA-1832	3 1/2"	3/4 lb.	1.34
SFA-1833	5 1/4"	1 lb.	1.80
SFA-1834	7"	1 3/4 lbs.	2.21
SFA-1835	8 3/4"	2 lbs.	2.66
SFA-1836	10 1/2"	2 1/2 lbs.	3.34
SFA-1837	12 1/4"	2 3/4 lbs.	3.85
SFA-1838	14"	3 lbs.	4.45
SFA-1839	15 3/4"	3 1/2 lbs.	4.97
SFA-1840	17 1/2"	4 lbs.	5.47
SFA-1841	19 1/4"	4 1/4 lbs.	5.99
SFA-1842	21"	5 lbs.	6.50

3/16" PANELS

Cat. No.	Ht.	Wt.	Net
SFA-3161	1 3/4"	1/4 lb.	\$ 1.79
SFA-3162	3 1/2"	3/4 lb.	2.36
SFA-3163	5 1/4"	1 lb.	3.17
SFA-3164	7"	1 3/4 lbs.	3.91
SFA-3165	8 3/4"	2 lbs.	4.68
SFA-3166	10 1/2"	2 1/2 lbs.	5.90
SFA-3167	12 1/4"	2 3/4 lbs.	6.80
SFA-3168	14"	3 lbs.	7.85
SFA-3169	15 3/4"	3 1/2 lbs.	8.76
SFA-3170	17 1/2"	4 lbs.	9.67
SFA-3171	19 1/4"	4 1/4 lbs.	10.57
SFA-3172	21"	5 lbs.	11.48

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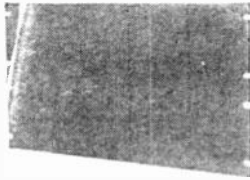
BUD RADIO PAGE 11



PANELS



STANDARD RELAY RACK PANELS



These panels are available in either steel or aluminum. The steel panels are made of high grade steel $\frac{1}{8}$ " thick. Aluminum panels are standard at $\frac{1}{8}$ " thick aluminum. All panels are 19" wide. Aluminum panels $\frac{3}{16}$ " thick are

available at a 60% increase in cost over the standard $\frac{1}{8}$ " panel.

For the first time, we are offering light grey hammered finish panels at no extra charge. Be sure to specify by use of suffix "B" for black wrinkle finish, suffix "G" for grey wrinkle finish or suffix "HG" for light grey hammered finish.

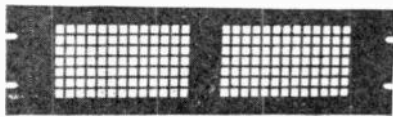
STEEL

Catalog No.	Height	Actual Weight lbs.	Net	Catalog No.	Height	Actual Weight lbs.	Net
PS-1250	13"	11 $\frac{1}{2}$	\$.84	PS-1256	12 $\frac{1}{4}$ "	8 $\frac{1}{2}$	\$2.42
PS-1251	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$	1.00	PS-1257	14"	9 $\frac{1}{2}$	2.81
PS-1252	5 $\frac{1}{2}$ "	3 $\frac{1}{4}$	1.25	PS-1258	15 $\frac{3}{4}$ "	10 $\frac{3}{4}$	3.09
PS-1253	7"	4 $\frac{1}{2}$	1.42	PS-1259	17 $\frac{1}{2}$ "	11 $\frac{3}{4}$	3.51
PS-1254	8 $\frac{3}{4}$ "	6	1.75	PS-1260	19 $\frac{1}{4}$ "	13	3.84
PS-1255	10 $\frac{1}{2}$ "	7	2.09	PS-1261	21"	14 $\frac{1}{2}$	4.26

ALUMINUM

Catalog No.	Height	Actual Weight lbs.	Net	Catalog No.	Height	Actual Weight lbs.	Net
PA-1101	13 $\frac{1}{2}$ "	1 $\frac{1}{2}$	\$1.09	PA-1107	12 $\frac{1}{4}$ "	2 $\frac{3}{4}$	\$4.09
PA-1102	3 $\frac{1}{2}$ "	3 $\frac{1}{4}$	1.42	PA-1108	14"	3	4.76
PA-1103	5 $\frac{1}{2}$ "	1	1.92	PA-1109	15 $\frac{3}{4}$ "	3 $\frac{1}{2}$	5.34
PA-1104	7"	1 $\frac{3}{4}$	2.42	PA-1110	17 $\frac{1}{2}$ "	4	5.85
PA-1105	8 $\frac{3}{4}$ "	2	2.84	PA-1111	19 $\frac{1}{4}$ "	4 $\frac{1}{2}$	6.43
PA-1106	10 $\frac{1}{2}$ "	2 $\frac{1}{2}$	3.59	PA-1112	21"	5	7.01

VENTILATING GRILL PANELS

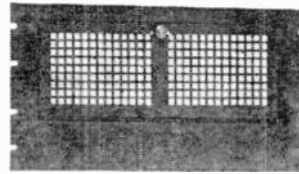


These panels are made of $\frac{1}{8}$ " thick steel. The grill is stamped into the panel itself and is recommended for use where additional ventilation is desirable. All panels are 19" long and are furnished in black or grey wrinkle finish or light grey hammered finish. Please specify by proper suffix the color desired.

Catalog No.	Height	Grill Size	Actual Weight	Net
PS-808	5 $\frac{1}{2}$ "	3 $\frac{3}{8}$ " x 13 $\frac{1}{2}$ "	2 $\frac{1}{2}$ lbs.	\$3.26
PS-809	7"	4 $\frac{7}{8}$ " x 13 $\frac{1}{2}$ "	3 $\frac{1}{2}$ lbs.	3.54
PS-810	8 $\frac{3}{4}$ "	3 $\frac{3}{8}$ " x 13 $\frac{1}{2}$ "	5 lbs.	4.26
PS-811	10 $\frac{1}{2}$ "	5 $\frac{7}{8}$ " x 13 $\frac{1}{2}$ "	5 $\frac{3}{4}$ lbs.	4.51
PS-812	12 $\frac{1}{4}$ "	7 $\frac{3}{8}$ " x 13 $\frac{1}{2}$ "	6 $\frac{1}{4}$ lbs.	4.84

* Allows 3 $\frac{1}{2}$ " space for chassis mounting.

VENTILATED DOOR RACK PANELS

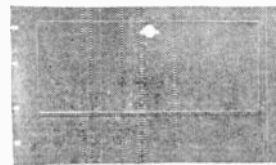


The Bud Ventilated Door Rack Panel has a generous perforated area in the door providing adequate ventilation for adjacent units. Distance from hinged side of opening to bottom 3 $\frac{1}{2}$ ". Distance from

lock side of opening to top 1". The panels are 19" long and are available in either black or grey wrinkle finish or light grey hammered finish. OF SPECIAL INTEREST TO THE USER IS THE NEWLY DESIGNED IMPROVED LOCK ON THIS PANEL. THE LOCK IS A PLUNGER TYPE THAT MAKES CERTAIN IT IS EASY TO OPEN THE DOOR.

Catalog No.	Height	Door Opening	Actual Weight	Net
PS-814	10 $\frac{1}{2}$ "	15 $\frac{3}{8}$ " x 6"	6 lbs.	\$7.52
PS-815	12 $\frac{1}{4}$ "	15 $\frac{3}{8}$ " x 7 $\frac{1}{2}$ "	7 lbs.	8.27

METAL DOOR RACK PANELS



When accessibility to component parts on the chassis is a vital point, this panel is extremely useful. The panels are available in either grey or black wrinkle finish or light grey hammered finish. Please be certain that you specify, by use of the proper suffix, for color when ordering. Panels are made of $\frac{1}{8}$ " sheet steel. Distance from hinged side of opening to bottom 3 $\frac{1}{2}$ ". Distance from lock side of opening to top 1".

Distance from lock side of opening to top 1".

Catalog No.	Height	Door Opening	Actual Weight	Net
PS-615	10 $\frac{1}{2}$ "	15 $\frac{3}{8}$ " x 6"	7 $\frac{1}{4}$ lbs.	\$6.08
PS-616	12 $\frac{1}{4}$ "	15 $\frac{3}{8}$ " x 7 $\frac{1}{2}$ "	8 $\frac{1}{4}$ lbs.	7.52

NEW PANEL CHASSIS



This new series of panel mounting chassis is for professional type installations primarily.

Made of .062" aluminum. The front flange has standard notching suitable for mounting to a rack.

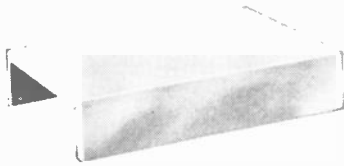
Catalog No.	Width	Depth	Height	Net
CB-1370	19"	5 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	\$2.30
CB-1371	19"	5 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	2.59
CB-1372	19"	5 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	2.84
CB-1373	19"	5 $\frac{1}{2}$ "	7"	3.26
CB-1374	19"	5 $\frac{1}{2}$ "	8 $\frac{3}{4}$ "	3.76
CB-1375	19"	5 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	4.43
CB-1376	19"	5 $\frac{1}{2}$ "	12 $\frac{1}{4}$ "	4.84
CB-1377	19"	5 $\frac{1}{2}$ "	14"	5.34

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BUD RADIO PAGE 12



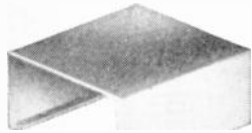
CHASSIS - BOXES



OPEN END CHASSIS

These are primarily intended to be used with the various styles and sizes of Bud Metal Cabinets. These chassis are ideal for any type of small built-up units such as record amplifier, code oscillator, etc. From this you can see that there is a wide variety of applications. The U-shaped construction is used with ends folded over $\frac{3}{8}$ " for additional strength. Made from aluminum (.040) natural finish.

Cat. No.	Depth	Width	Height	Fits Cab No.	Net
CB-38	7"	6"	2"	C-1584	\$1.00
CB-30	5"	7"	1 $\frac{1}{2}$ "		.97
CB-41	7"	7"	1 $\frac{1}{2}$ "	C-973	1.24
CB-39	7"	8"	2"	C-1585	1.17
CB-996	5 $\frac{1}{2}$ "	9"	1 $\frac{1}{2}$ "	C-993	1.09
CB-976	7 $\frac{1}{2}$ "	9"	1 $\frac{1}{2}$ "	C-999, C-1481	1.40
CB-40	7"	10"	2"	C-1586	1.37
CB-997	7"	11"	1 $\frac{1}{2}$ "	C-994, C-1482	1.30
CB-998	7"	13"	1 $\frac{1}{2}$ "	C-995, C-1483	1.59

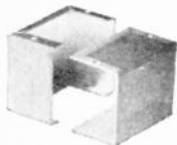


MINIATURE ALUMINUM CHASSIS

These small, open end aluminum chassis are the answer for miniature tube applications or sub-assemblies. They are made of hard aluminum with $\frac{1}{4}$ " flanges on the bottom allowing the chassis to be fastened down, or allowing a bottom plate to be attached. They are extremely useful for a wide variety of applications such as small receivers, narrow band FM adapters or any place where the space is limited.

Cat No.	Depth	Width	Height	Fits Cabinet No.	Net
CB-1623	2 $\frac{3}{8}$ "	2 $\frac{3}{4}$ "	1 $\frac{1}{4}$ "	C-1784	\$.38
CB-1624	1 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "	1"	CU-883	.42
CB-1625	3 $\frac{1}{4}$ "	4 $\frac{1}{2}$ "	2"	C-1788	.48
CB-1626	2 $\frac{3}{4}$ "	4 $\frac{1}{8}$ "	1"	CU-728	.45
CB-1627	3 $\frac{3}{4}$ "	4 $\frac{1}{8}$ "	1 $\frac{1}{2}$ "	CU-729	.45
CB-1628	3"	6 $\frac{1}{8}$ "	1 $\frac{1}{4}$ "	C-1785	.53
CB-1629	5 $\frac{3}{4}$ "	4 $\frac{7}{8}$ "	1 $\frac{1}{2}$ "	CU-1098	.57
CB-1617	4"	3 $\frac{3}{8}$ "	1"	C-1602	.41
CB-1618	4"	4 $\frac{1}{2}$ "	1"	C-1603	.50
CB-1619	4"	5 $\frac{1}{8}$ "	1"	C-1604	.53
CB-1620	4"	6 $\frac{3}{8}$ "	1"	C-1605	.55

HANDY BOXES

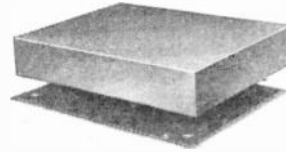


The design of the Handy Box permits a large number of small components to be easily wired or serviced. The cover is held by four self tapping screws. Made from 22 gauge steel and is furnished in black wrinkle finish only.

Catalog No.	Height	Length	Width	Actual Weight lbs.	Net
HB-1621	2 $\frac{1}{4}$ "	4 $\frac{1}{2}$ "	1 $\frac{1}{2}$ "	$\frac{1}{2}$	\$1.15
HB-1622	2"	4"	2 $\frac{3}{4}$ "	$\frac{1}{2}$	1.17

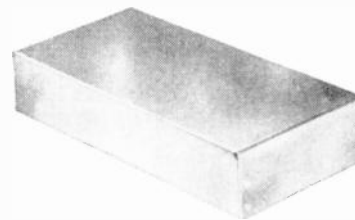
HEAVY DUTY CHASSIS

(Furnished with Bottom Plate)



These chassis, made of 16 gauge steel, are designed for applications requiring unusual sturdiness and where large weights are involved. The bottom plates for these chassis are furnished at no extra charge. Available in either black wrinkle finish or electro-zinc plate. All chassis are 17" wide.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Height	Net	
				Black Wrinkle	Zinc Plated
CB-1758	CB-1765	8"	3"	\$4.26	\$4.76
CB-1760	CB-1767	11"	3"	4.31	4.84
CB-1761	CB-1768	13"	2"	4.84	5.31
CB-1762	CB-1769	13"	3"	4.93	5.43
CB-1763	CB-1770	13"	4"	5.26	5.85



ALUMINUM CHASSIS

The construction and design of these chassis are exactly the same as that of our steel chassis bases. The aluminum chassis are welded on Government approved spot welders that are the same as those used in the welding of aluminum aircraft parts. As a result, you can depend on Bud Aluminum Chassis to do a perfect job and to stand up under all conditions.

Please note that the gauges shown in the table are aluminum gauges.

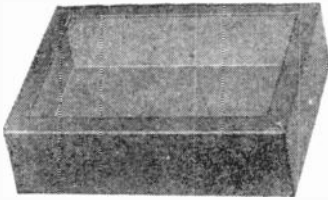
Catalog Number	Depth	Width	Height	Gauge	Net
AC-430	4"	6"	3"	18	\$1.31
AC-431	4"	6"	2"	18	1.10
AC-432	4"	17"	3"	16	2.33
AC-402	5"	7"	2"	18	1.17
AC-429	5"	7"	3"	16	1.42
AC-403	5"	9 $\frac{1}{8}$ "	2"	18	1.24
AC-421	5"	9 $\frac{1}{2}$ "	3"	18	1.60
AC-404	5"	10 $\frac{1}{2}$ "	3"	18	1.63
AC-422	5"	13"	3"	18	1.84
AC-433	6"	17"	3"	16	2.67
AC-405	7"	7"	2"	18	1.35
AC-406	7"	9"	2"	18	1.16
AC-407	7"	11"	2"	18	1.58
AC-408	7"	12"	3"	18	2.00
AC-409	7"	13"	2"	18	1.67
AC-411	7"	15"	3"	16	2.67
AC-423	7"	17"	3"	16	2.75
AC-424	8"	12"	3"	16	2.42
AC-425	8"	17"	2"	16	2.51
AC-412	8"	17"	3"	16	2.84
AC-413	10"	12"	3"	16	2.67
AC-414	10"	14"	3"	16	2.84
AC-415*	10"	17"	2"	16	2.68
AC-416*	10"	17"	3"	16	3.17
AC-426*	11"	17"	2"	14	3.42
AC-417*	11"	17"	3"	14	3.97
AC-418*	12"	17"	3"	14	4.08
AC-419*	13"	17"	2"	14	3.51
AC-420*	13"	17"	3"	14	4.26
AC-427*	10"	17"	4"	14	4.51
AC-428*	13"	17"	4"	14	5.26

* Indicates chassis punched to accommodate Chassis Mounting Brackets.

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CHASSIS - PLATES - BRACKETS



STEEL CHASSIS

These Chassis are made from one piece of steel. All corners are reinforced and spot welded. The four sides are folded at

the bottom for additional strength. This also permits a bottom plate to be attached if desired. As shown in table below, chassis are available in either black wrinkle finish or electro-zinc plated.

STEEL

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Gauge	Net	
						Black Wrinkle	Zinc Plated
CB-628	CB-629	5"	7"	2"	22	\$1.07	\$1.30
CB-644	CB-645	5"	9 1/4"	2 1/4"	22	1.37	1.67
CB-788	CB-776	5"	9 1/4"	1 1/4"	22	1.20	1.69
CB-604	CB-605	5"	10"	3"	22	1.27	1.81
CB-765	CB-756	6"	14"	3"	20	1.75	2.05
CB-789	CB-1191	7"	7"	2"	20	1.20	1.50
CB-790	CB-1192	7"	9"	2"	20	1.10	1.59
CB-791	CB-1193	7"	11"	2"	20	1.15	1.67
CB-792	CB-793	7"	12"	3"	20	1.57	2.05
CB-646	CB-1194	7"	13"	2"	20	1.51	1.92
CB-647	CB-1198	5"	13 1/2"	2 1/2"	20	1.77	2.17
CB-649	CB-1189	7"	15"	3"	20	2.00	2.40
CB-665	CB-666	8 1/2"	15"	3"	20	2.21	2.71
CB-1068	CB-1066	4"	17"	3"	20	1.80	2.11
CB-648	CB-1199	7"	17"	2 1/2"	20	1.99	2.37
CB-757	CB-758	7"	17"	3"	20	2.15	2.59
CB-701	CB-702	8"	10"	2 3/4"	20	1.72	2.02
CB-703	CB-704	8"	12"	2 1/2"	20	1.75	2.24
CB-759	CB-760	8"	12"	3"	20	1.85	2.31
CB-650	CB-774	8"	17"	2"	20	1.70	2.34
CB-651*	CB-775	8"	17"	3"	20	2.05	2.62
CB-652	CB-1195	10"	12"	3"	20	1.89	2.25
CB-653	CB-779	10"	14"	3"	20	2.04	2.44
CB-654*	CB-769	10"	17"	2"	20	2.00	2.39
CB-636*	CB-637	10"	17"	3"	20	2.00	2.81
CB-655*	CB-1196	10"	17"	3"	18	2.54	3.05
CB-656	CB-1197	10"	23"	3"	18	2.86	3.42
CB-657*	CB-770	11"	17"	2"	18	2.35	2.81
CB-658*	CB-771	11"	17"	3"	18	2.77	3.19
CB-663*	CB-661	12"	17"	2"	18	2.11	3.09
CB-664*	CB-662	12"	17"	3"	18	2.91	3.67
CB-659*	CB-772	13"	17"	2"	18	2.91	3.72
CB-660*	CB-773	13"	17"	3"	18	3.11	4.07
CB-640*	CB-641	10"	17"	4"	18	2.92	3.51
CB-642*	CB-643	13"	17"	4"	18	3.92	4.68
CB-625	CB-626	13"	17"	5"	18	4.93	5.93
CB-623	CB-624	10"	17"	5"	18	4.51	5.31

* Indicates chassis punched to accommodate Chassis Mounting Brackets.



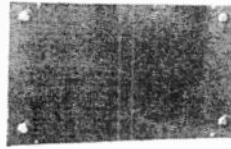
CHASSIS DECKS

These chassis decks are suitable for use in carrying cases, utility cabinets, etc. Each unit is folded over 1 1/2" on the front, 1/2" on the side and is made from steel which has black palladin finish. They are also useful for interstage shielding and supports in regular panel and chassis layouts.

Cat. No.	Width	Depth	Fits Cab. No.	Net
CB-522	4 3/4"	5 1/2"	CU-1098	\$.68
CB-523	4 3/4"	4 1/2"	CU-1099	.65
CB-525	5 3/4"	5 1/2"	CU-1121, CU-1096	.78

CHASSIS BOTTOM PLATES

Steel and Aluminum



These bottom plates make excellent dust covers and protect all wiring and component parts of the chassis. Each plate has four formed bosses to prevent sharp edges from scratching a table top or other surface. Those numbers prefaced by "BP" are steel bottom plates, supplied in black wrinkle finish or electro-zinc plated finish. Those bottom plates prefaced by "BPA" are made of aluminum and have an etched finish.

STEEL

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Fits Chassis	Net	
			Black Wrinkle	Zinc Plated
BP-705	BP-706	5" x 7"	\$.57	\$.69
BP-680	BP-667	5" x 9 1/2"	.62	.75
BP-536	BP-538	5" x 10"	.67	.73
BP-681	BP-668	7" x 7"	.92	.97
BP-682	BP-669	7" x 9"	.91	.99
BP-683	BP-670	7" x 11"	.95	1.07
BP-537	BP-539	7" x 12"	.99	1.12
BP-684	BP-671	7" x 13"	1.02	1.20
BP-685	BP-672	5" x 13 1/2"	.81	1.00
BP-1069	BP-1067	4" x 17"	.81	1.07
BP-686	BP-673	7" x 17"	.90	1.37
BP-707	BP-708	8" x 10"	.92	1.05
BP-709	BP-710	8" x 12"	1.06	1.34
BP-687	BP-674	8" x 17"	.95	1.54
BP-688	BP-675	10" x 12"	.95	1.57
BP-517	BP-514	10" x 11"	1.25	1.33
BP-689	BP-676	10" x 17"	1.20	1.60
BP-690	BP-677	11" x 17"	1.20	1.60
BP-691	BP-678	12" x 17"	1.27	1.87
BP-692	BP-679	13" x 17"	1.47	2.24

ALUMINUM

BPA-1589	5" x 7"	\$.71
BPA-1590	5" x 9 1/2"	.75
BPA-1591	5" x 10"	.75
BPA-1592	7" x 7"	.77
BPA-1593	7" x 9"	.80
BPA-1594	7" x 11"	.90
BPA-1595	7" x 12"	.97
BPA-1596	7" x 13"	1.11
BPA-1597	10" x 17"	1.52
BPA-1598	13" x 17"	2.07

TRIANGULAR MOUNTING BRACKETS



For panel and chassis assemblies where large weights are involved, these triangular mounting brackets, with 3/4" flange, make extremely convenient supports. They are constructed of heavy gauge steel and are furnished in black enamel finish only. These are sold in pairs.

Catalog No.	Height	Depth	Actual Weight lbs.	Net
MB-1266	5"	5"	1	\$1.00
MB-1267	7"	7"	1	1.17
MB-1268	9"	9"	1 1/2	1.42

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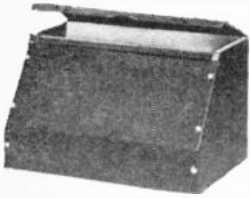
BUD RADIO PAGE 14



CABINETS – CASES



SLOPING PANEL CABINETS

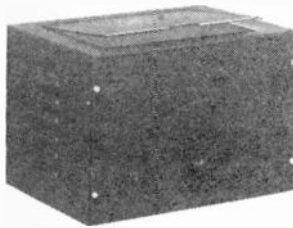


The entire front panel of this cabinet is removable if so desired. **THIS CABINET IS ALSO PROVIDED WITH A HINGED TOP FOR EASY ACCESSIBILITY TO TUBES AND OTHER PARTS THAT ARE MOUNTED ON THE**

CHASSIS, WITHOUT NECESSITATING REMOVAL OF THE FRONT PANEL. These cabinets are finished in black wrinkle enamel or light grey hammertone. Specify with suffix B for black, HG for grey hammertone.

Catalog Number	Height	Width	Depth	Fits Chassis	Net
C-1584	6 1/2"	7-1/16"	7 1/8"	7" x 6" x 2"	\$3.30
C-1585	6 1/2"	9-1/16"	7 1/8"	7" x 8" x 2"	3.75
C-1586	6 1/2"	11-1/16"	7 1/8"	7" x 10" x 2"	4.31
C-1587	8"	8-1/16"	8"	7" x 7" x 2"	4.51
C-1588	8"	10-1/16"	8"	7" x 9" x 2"	5.01
C-1892	8"	13-1/16"	8 3/4"	8" x 12" x 2 1/2"	5.59
C-1893	10"	18-1/16"	10 1/2"	10" x 17" x 3"	7.85
C-1894	8"	14-1/16"	8"	7" x 13" x 2"	5.31
C-1896	9"	18-1/16"	8 1/4"	7" x 17" x 3"	7.68

INSTRUMENT & RECEIVER CABINETS



Each cabinet has an evenly recessed hinge cover with convenient finger lift. The panel in the front of the cabinet is readily attached with self tapping screws. No opening in rear. Louvers provide satisfactory ventilation. For chassis to fit these cabinets, see the

open end chassis listed on Bud Page 13. Finished in black wrinkle enamel only.

Cat. No.	Height	Width	Depth	Net
C-973	7"	8"	8"	\$4.18
C-993	7"	10"	8"	4.84
C-994	7"	12"	8"	5.01
C-995	7"	14"	8"	5.26
C-1190	8"	16"	8"	7.60
C-975	9"	15"	11"	9.19
C-999	12"	18"	12"	9.92

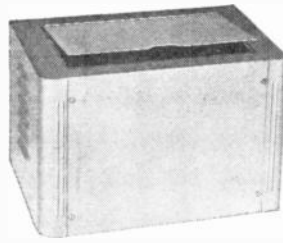


UTILITY HANDLES

These handles are designed to provide sufficient strength and comfortable hand grip. They are made from aluminum tubing and are given an etched aluminum finish.

Catalog No.	Overall Length	Mounting Hole Center	Actual Weight	Net
UH-70A	5 1/2"	4 1/2"	2 oz.	\$.36
UH-71A	3 3/4"	3 1/4"	1 oz.	.30

STREAMLINED CABINETS



Ideal cabinets for electrical or electronic devices not requiring excessive depth. They have recessed hinged cover with convenient finger lift. Panels fit flush with the embossed, rounded corner fronts. All components built into these cabinets are easily accessible.

Bud Open End Chassis are recommended for use in these cabinets.

Overall height is 8" and overall depth is 8 1/4". 3 1/2" high opening is provided across the back for cables or rear controls. Louvred sides provide ample ventilation.

Available in black wrinkle, gray wrinkle or gray hammertone finish. Please specify when ordering. The sizes shown in the table below replace BUD NUMBERS: C-1730, C-1731, C-1746, C-1747, C-1748, C-1781, C-1782, C-1783, C-1789, C-1790, C-1791, C-1792.

Cat. No.	Width	Panel Sp.	Top Opening	Wt.	Net
CD-1480	10 1/2"	8" x 8"	5 3/8" x 7 7/8"	5 3/4 lbs.	\$ 5.90
CD-1481	12 1/2"	8" x 10"	5 3/8" x 9 1/8"	6 lbs.	6.01
CD-1482	14 1/2"	8" x 12"	5 3/8" x 11 1/8"	6 1/2 lbs.	6.31
CD-1483	16 1/2"	8" x 11"	5 3/8" x 13 1/4"	7 lbs.	6.77
CD-1484	18 1/2"	8" x 16"	5 3/8" x 15 7/8"	7 3/4 lbs.	7.36
CD-1485*	20 3/8"	12" x 18"	10 1/2" x 15 1/2"	15 lbs.	14.95

*Has 1/2" vertical chrome strip fastened to corners and is available in grey wrinkle finish only. Note that panel space is 12" x 18" and depth is 12".

CARRYING CASES



These carrying cases have many uses. An easy grip handle is fastened to the top. Front and back panels are removable. Welded construction assures maximum strength where needed, and this unit is also available in aluminum to provide minimum weight where required. For chassis to fit these cabinets, see the chassis decks on Bud Page 14. Prefix "CC" represents steel. Available

in black wrinkle or light grey hammertone finish. Prefix "ACC" represents aluminum. Available with natural finish or light grey hammertone.

STEEL (Black Wrinkle or Grey Hammertone)

Cat. No.	Depth	Width	Height	Net
CC-1095	5"	6"	9"	\$3.01
CC-1091	5"	9"	6"	3.01
CC-1096	6"	7"	12"	4.18
CC-1092	6"	12"	7"	4.18
CC-1097	7"	7 3/4"	15"	4.68
CC-1100	8"	10"	10"	4.84
CC-1093	7"	15"	9"	5.85

ALUMINUM (Natural Finish or Grey Hammertone)

Cat. No.	Depth	Width	Height	Net Natural	Net Grey
ACC-2095	5"	6"	9"	\$3.09	\$3.51
ACC-2091	5"	9"	6"	3.09	3.51
ACC-2096	6"	7"	12"	4.50	5.09
ACC-2092	6"	12"	7"	4.50	5.09

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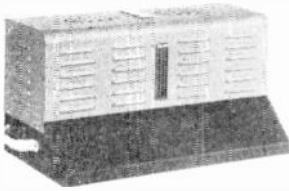
BUD RADIO PAGE 15



FOUNDATIONS-SLIDES-CASES



SLOPING PANEL AMPLIFIER FOUNDATIONS

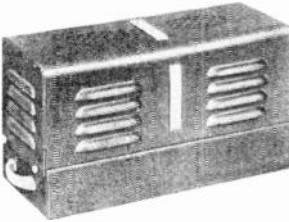


Each foundation consists of a 3 1/2" sloping front chassis on which is mounted a removable top cover. The top cover, 6" high, contains grill cutouts

and louvers for adequate ventilation. All have handles mounted on the chassis. The cover is finished in grey wrinkle with chrome trim, and the chassis is finished in black wrinkle to give a unique and attractive appearance.

Catalog No.	Top Depth	Chassis Width	Chassis Depth	Net
CA-1980	5"	10"	8"	\$ 8.68
CA-1981	7"	12"	10"	9.35
CA-1982	7"	17"	10"	10.69
CA-1983	10"	17"	13"	11.19

STREAMLINED AMPLIFIER FOUNDATIONS

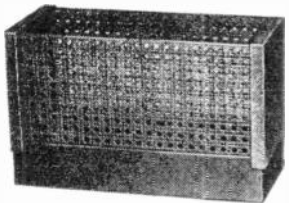


This unit is most often used to obtain beauty in an amplifier and similar apparatus. Each foundation consists of a standard chassis 3" high, on which is mounted a removable top cover. Chrome trim is used to give additional attractiveness to the equipment. Sturdy, easy grip handles are attached to the chassis. Specify with the suffix "B" for black wrinkle finish, "G" for gray wrinkle or "HG" for light gray hammertone.

tractiveness to the equipment. Sturdy, easy grip handles are attached to the chassis. Specify with the suffix "B" for black wrinkle finish, "G" for gray wrinkle or "HG" for light gray hammertone.

Catalog No.	Height	Width	Depth	Net
CA-1750	9"	10-1/16"	5"	\$6.76
CA-1751	9"	12-1/16"	7"	8.02
CA-1752	9"	17-1/16"	7"	8.52
CA-1753	9"	17-1/16"	10"	9.27

AMPLIFIER FOUNDATIONS



This standard Bud Amplifier Foundation consists of a regular chassis on which is attached a perforated metal cover providing all that you require in ventilation. Easy grip handles attached to the chassis.

These units are furnished in black wrinkle finish only.

Cat. No.	Height	Width	Depth	Chassis Height	Net
CA-699	8-5/16"	9 5/8"	5 1/2"	2 1/2"	\$5.61
CA-1125	8-5/16"	13 3/8"	5 1/2"	2 1/2"	6.43
CA-1126	8-5/16"	17 1/2"	7 1/2"	2 1/2"	7.26
CA-1128	8-13/16"	12 1/2"	10 1/2"	3"	7.52

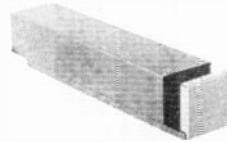
MINIATURE AMPLIFIER FOUNDATION



Designed expressly for use with miniature tubes. Chassis is 5" x 7" x 2". Height is 6". The cover is made of perforated metal. Has streamlined handle. Black wrinkle finish only.

Cat. No.	Weight	Net
CA-1754	1 1/2 lbs.	4.00

MINISLIDES



Ideal for housing components or assemblies where easy access to internally mounted parts is important. Can be mounted in a number of positions in a rack or cabinet. Accessibly is achieved by removing the sliding cover.

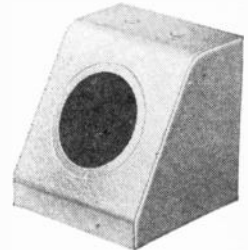
The design of the Minislide Box provides adequate shielding as well as protection from dust. There is an infinite variety of uses for this versatile housing in the electronic field. Fabricated of .050 aluminum.

Furnished in light gray hammertone or natural aluminum. Fastening is by means of four self-tapping screws which are included.

Gray Hammertone		Natural			Wt.		
Cat. No.	Net	Cat. No.	Net	Length	Width	Height	lbs.
MS-2150	\$3.70	MS-3050	\$2.85	13"	3 1/4"	2 5/8"	1
MS-2151	4.30	MS-3051	3.50	13"	5 1/4"	2 5/8"	1 1/2
MS-2152	4.15	MS-3052	3.35	17"	3 1/8"	2 5/8"	1 1/4

UNIVERSAL METER CASE

A new meter case that can accommodate either a 2" or 3" meter.



Center hole is punched for 2" meter and has an easily removed knock-out ring which increases size of hole to fit 3" meter.

One piece, detachable bottom and back fastened to body of case with 2 self tapping screws permits easy installation and servicing of meter. Meter installation is reduced to fraction of former time required.

Two 3/8" knock-out holes in top for installation of feed-through insulators if required. They may also be used for mounting of switches, volume controls, etc.

Size: 4 1/4" high x 4" wide x 4" deep.

Available in steel or aluminum. Gray hammertone finish only.

Catalog Number	Replaces Numbers		Wt.	Net
CM 1935 Steel	CM 1211, CM 1242	Meter Size	1 lb.	\$1.22
	CM 1963, CM 1966	2" or 3"		
CMA 1936 Aluminum	CMA 2065, CMA 2066	2" or 3"	3/4 lb.	1.47

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 16



CABINETS



MINIATURE UTILITY CABINETS (With Attached Chassis)

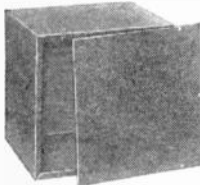


A long sought for item has been a small cabinet with a chassis attached to the front panel. This is indispensable for building electronic devices using miniature tubes or transistors.

Front and rear panels are removable and fastened with self tapping screws that permit easy accessibility. Finished in black wrinkle enamel.

Cat. No.	Height	Width	Depth	CHASSIS SIZE			Net
C-1793	4"	4"	2"	1"	3 1/2"	1 7/8"	\$1.34
C-1794	4"	5"	3"	1"	4 1/2"	2 7/8"	1.48
C-1795	5"	4"	3"	1 1/4"	3 1/8"	2 7/8"	1.02
C-1796	6"	5"	4"	1 3/4"	4 1/4"	3 7/8"	1.70
C-1797	5"	6"	4"	1 1/4"	5 1/4"	3 7/8"	1.92
C-1798	6"	6"	6"	1 3/4"	4 7/8"	5 7/8"	2.17

UTILITY CABINETS



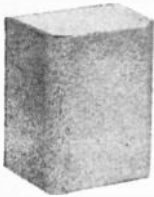
A large number of sizes available makes this line useful for all types of electronic equipment. These cabinets have two removable panels for easy accessibility. Units prefixed by CU are made from cold rolled steel and are finished in black wrinkle

or light grey hammertone. Those prefixed by AU are made from high grade sheet aluminum and have natural finish or light grey hammertone.

STEEL (Black Wrinkle or Grey Hammertone)					
Cat. No.	Depth	Width	Height	Net	
CU-883	2"	4"	4"	\$1.09	
CU-728	3"	5"	4"	1.22	
CU-729	4"	5"	6"	1.38	
CU-1098	6"	6"	6"	2.09	
CU-1099	5"	6"	9"	2.34	
CU-879	7"	8"	10"	3.34	
CU-1124	6"	7"	12"	3.29	
CU-880	8"	10"	10"	4.01	
CU-881	8"	11"	12"	4.34	
CU-882	7"	9"	15"	4.51	

ALUMINUM (Natural or Grey Hammertone)					
Cat. No.	Depth	Width	Height	Natural	Grey
AU-1083	2"	4"	4"	\$1.29	\$1.50
AU-1028	3"	5"	4"	1.37	1.67
AU-1029	4"	5"	6"	1.50	1.84
AU-1039	6"	6"	6"	2.17	2.42
AU-1040	5"	6"	9"	2.51	2.84

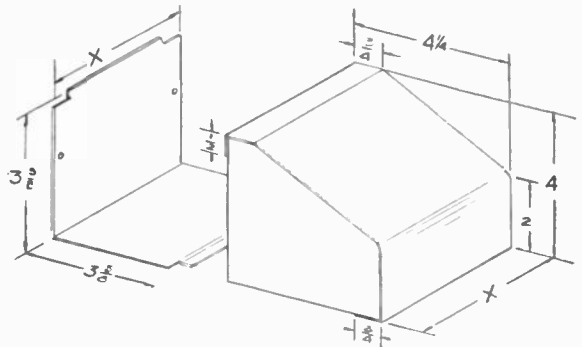
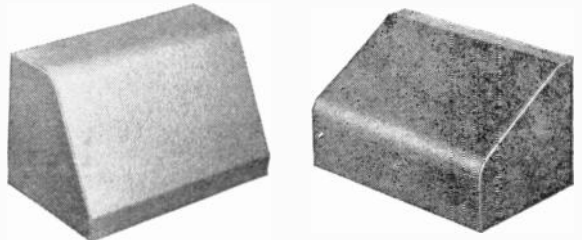
STREAMLINED MULTIPURPOSE CABINET



A handsome streamlined metal cabinet, finished in grey wrinkle enamel only. The back of the cabinet is completely open for ventilation purposes.

Cat. No.	Height	Width	Depth	Use Chassis No.	Net
C-1787	4 1/2"	5 1/2"	3 1/2"	CB-1625	1.70
C-1788	6 1/2"	5 1/2"	3 1/2"	CB-1625	1.75

UNIVERSAL SLOPING PANEL CABINETS



Versatile, streamlined housings with two viewing angles.

FEATURES

One piece, detachable back and bottom fastened to body with two self tapping screws permits easy access for mounting and servicing components.

Fully enclosed and shielded. The opportunity for dust, dirt and moisture entering cabinet is minimized. No danger from exposed wiring.

Components may be mounted on back, bottom, sides or front and still be easily accessible for service or replacement.

Will accommodate a Bud Miniature Aluminum Chassis shown on Bud Page 13.

Available in steel or aluminum. Gray hammertone finish only.

STEEL

Cat. No.	Width (X)	Weight	Net
C 1606	4"	3/4 lb.	\$1.45
C 1607	5"	3/4 lb.	1.55
C 1608	6"	1 1/8 lb.	1.65
C 1609	7"	1 1/8 lb.	1.90

ALUMINUM

Cat. No.	Width (X)	Weight	Net
AC 1610	4"	1/2 lb.	\$1.68
AC 1611	5"	1/2 lb.	1.75
AC 1612	6"	3/4 lb.	1.90
AC 1613	7"	3/4 lb.	2.10

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

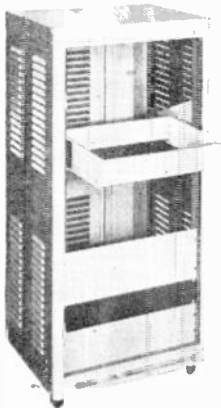
BUD RADIO PAGE 17



DRAWERS-SHELVES



SLIDING DRAWER ASSEMBLY



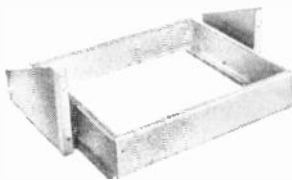
The new Bud S.D. 1717 Sliding Drawer Assembly is easily and quickly assembled and installed in any standard rack. Can't fall out, can't tilt . . . perfectly safe mounting for any object placed on it. Slides easily in and out on ball bearing suspension in the same manner as the drawers in the most expensive steel filing cabinets.

Here are some of the many uses of the Bud Sliding Drawer Assembly:

1. Mounting for record player
2. Base for portable typewriter
3. Mounting for apparatus or instruments
4. Base for writing table
5. Handy drawer space

In addition, there are many other handy uses for this practical drawer.

LOOK AT THESE CONSTRUCTION FEATURES:



Chassis formed from one piece of 14 gauge aluminum. Electrowelded. Chassis size 16 $\frac{3}{4}$ " x 14" x 3" with $\frac{1}{2}$ " flange top and bottom.

Support brackets formed from one piece $\frac{1}{8}$ " aluminum.

Accurately punched to conform with standard panel mounting holes.

Slide rail fastens securely to chassis, slides easily in and out on ball bearings in channel.

Stop screw on slide rail prevents drawer from falling out of channel.

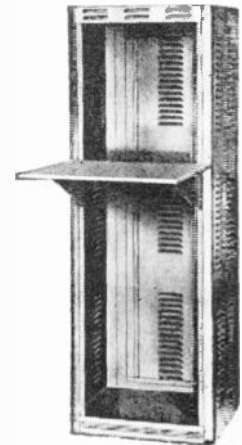
Support brackets and channel finished in etched aluminum.

Chassis finished in light grey hammertone. Will support up to 50 pounds.

Also available, aluminum plate which may be fastened to top of chassis as shelf, desk top or support; or attached to bottom of chassis to form drawer. Size 16 $\frac{3}{4}$ " x 14". Made of 14 gauge aluminum. Light grey hammertone finish. Punched with four mounting holes. Catalog No. T.P.-1718.

Catalog No.	Weight	Net
SD-1717	5 lbs.	\$11.43
TP-1718	1 $\frac{1}{2}$ lbs.	2.56

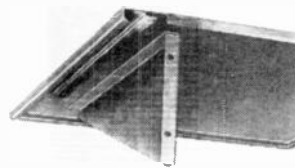
SHELF ASSEMBLY



The BUD SHELF ASSEMBLY immediately adds extra utility to a standard rack and at very little cost. Its practical design and attractive appearance immediately indicate its value and long lasting qualities. This sturdy shelf assembly is useful as a desk, as work space and for numerous other purposes. It is finished in black or grey wrinkle or grey hammertone at no extra cost. Thus it will match the finish on all BUD racks.

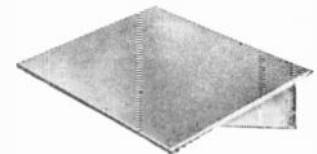
Can't fall off . . . can't tilt . . . the shelf assembly is perfectly safe and will support any reasonable load placed upon it. The shelf portion is supported by two sturdy brackets. These brackets are punched to fit standard panel mounting strips. Besides being low in cost, an outstanding feature is that no panel is needed for support. However, the shelf assembly may be attached over a panel if so desired.

This BUD SHELF ASSEMBLY really provides extra convenience, extra quality and extra value. It should be a part of every rack installation.



Note construction and assembly features. Slides are welded to bottom of shelf to add additional strength and rigidity. Mounting brackets slip in to slides and are fastened with two screws. All necessary hardware is furnished.

The shelf portion of the assembly is 20" x 22" x $\frac{5}{8}$ ", or 16" x 22" x $\frac{5}{8}$ ", formed from 16 gauge steel. There is a $\frac{1}{2}$ " flange around the four sides which adds to the sturdiness. Supporting brackets 7" high, are made from $\frac{1}{8}$ " steel. Overall height of assembly is 7".



Specify black or grey wrinkle or grey hammertone when ordering.

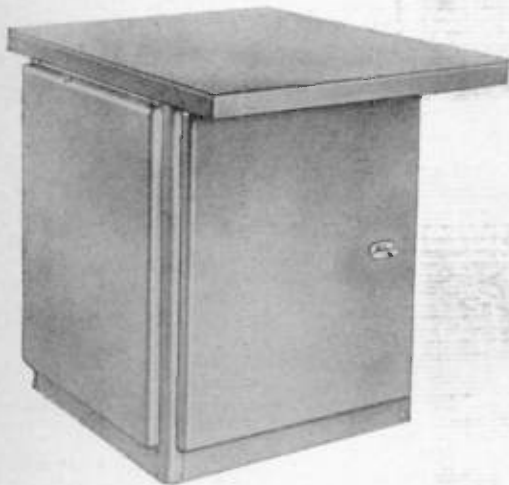
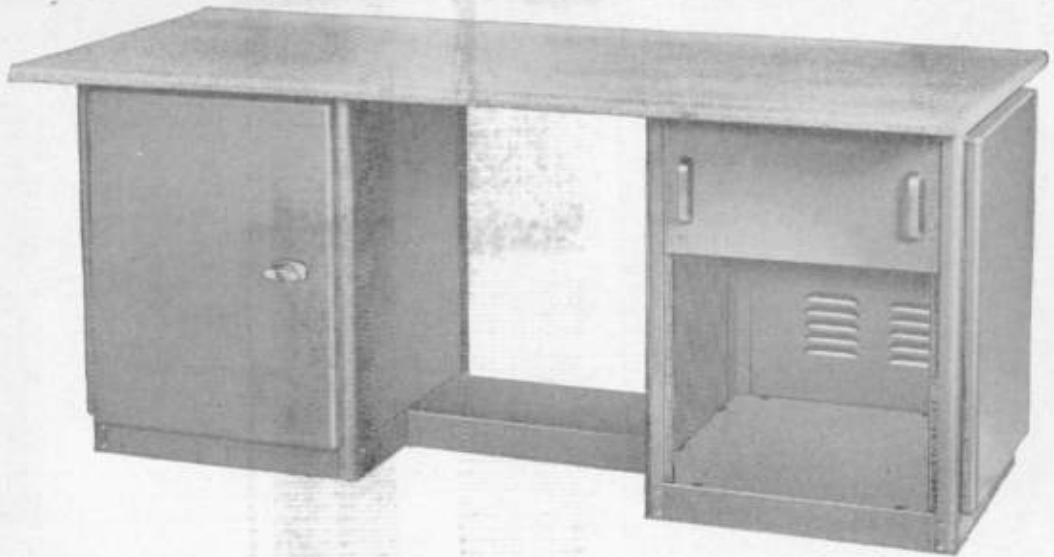
Catalog No.	Size	Weight	Net
SA-1719	16" x 22"	12 lbs.	\$10.40
SA-1720	20" x 22"	15 lbs.	10.55

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 18



CONSOLE ASSEMBLY



A new concept in versatility and utility whereby a number of individual units may be combined to provide housings for electrical or electronic components or instruments. They are also highly adaptable for control and testing centers.

The following pages illustrate and describe the various components which are assembled to create the complete consoles shown on this page.

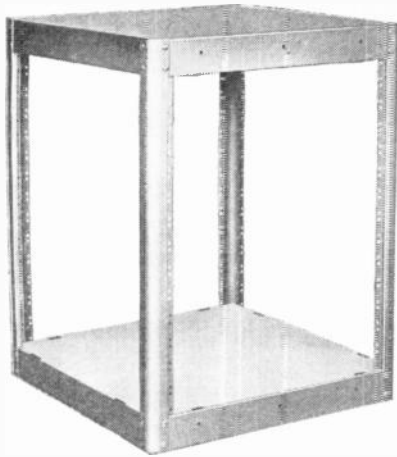


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BUD RADIO PAGE 19



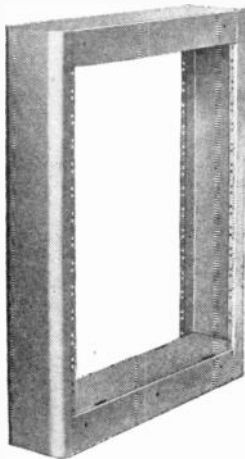
CONSOLE ASSEMBLY



PEDESTAL

Consists of top, bottom and 4 panel mounting channels drilled and tapped to accept standard 19" panels on each of four sides. The bottom is slotted on four sides so that ball cornered sides may be installed on any of four sides. Three knock-out holes are provided on each of two sides for use in assembling pedestals in series, attaching foot rest or mounting top. Bottoms have recessed mounting brackets for hidden caster attachment. Channels will support 200 pounds suspended between them while bottom will support 500 pounds. Shipped knock-down with necessary hardware.

Cat. No.	Size	Weight	Net
CP-2200	22" x 22" x 29 13/16"	35 lbs.	\$36.00

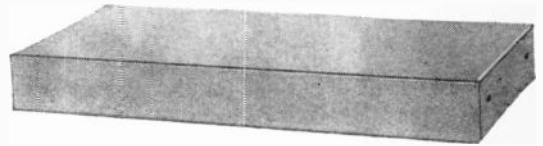


END PEDESTAL

May be used as a housing or as a support. Panel mounting rails are drilled and tapped for mounting panels on each of two sides. Full size solid or louvered panels, ball cornered doors or sides may be easily installed. Bases have hidden caster mounting supports. Used when CT-2206 Table Top is required. This eliminates the need for a second CP-2200 Pedestal.

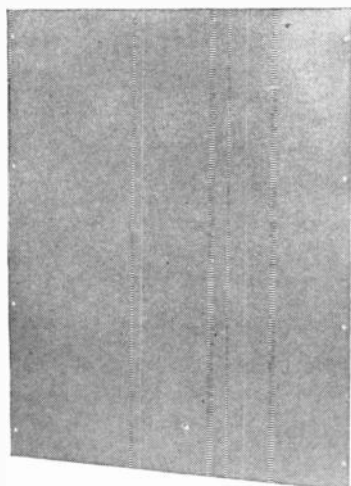
Cat. No.	Size	Weight	Net
CF-2202	16 5/8" x 5" x 19 1/4"	18 lbs.	\$18.95

FOOT REST

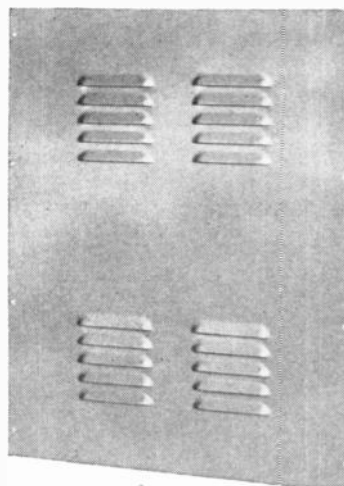


Joins two pedestals or one pedestal and one end pedestal depending on the size top used. Can be adjusted in two positions front to back.

Cat. No.	Size	Weight	Net
CF-2201	22" x 10" x 2 5/8"	7 lbs.	\$3.85



CP-2215



CP-2216

PANELS

Full Sized panels may be used to enclose the openings on any side of either pedestal. They are available either solid or louvered. The louvered panels can be positioned with the louvers pointed down or up, inside or outside the pedestal.

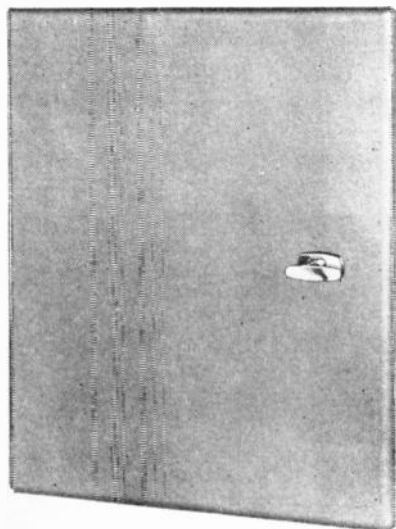
Cat. No. CP-2215	Cat. No. CP-2216
Type Plain	Type Louvered
Size 24-15/32" x 19"	Size 24-15/32" x 19"
Weight 9 lbs.	Weight 9 lbs.
Net \$5.26	Net \$6.00

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BUD RADIO PAGE 20



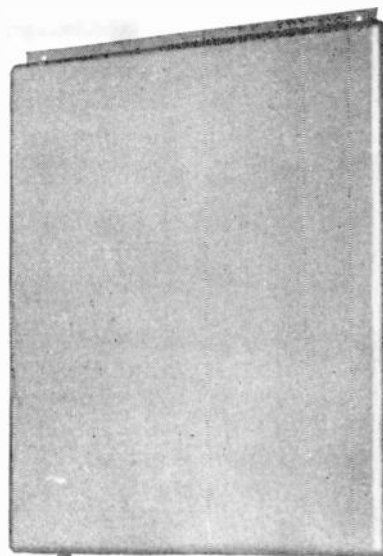
CONSOLE ASSEMBLY



**BALL
CORNERED
DOOR**

Hinge and locking arrangement is such that door may be installed to open from the right or left side of either pedestal and have sufficient clearance for knobs and dials.

Cat. No.	Size	Weight	Net
CD-2220	25 1/16" x 20 1/4" x 1 1/16"	12 lbs.	\$10.95



**BALL
CORNERED
SIDE**

Can be used to enclose any side of either pedestal and greatly enhance the appearance. They are attached by means of a tongue and slot arrangement at the bottom and two screws at the top; thus they are quickly removable from the exterior of pedestal for service or inspection of the interior of the pedestal. They provide sufficient clearance to be installed over knobs and dials.

Cat. No.	Size	Weight	Net
CK-2217	25 1/16" x 20 1/4" x 1 1/16"	11 lbs.	\$8.95

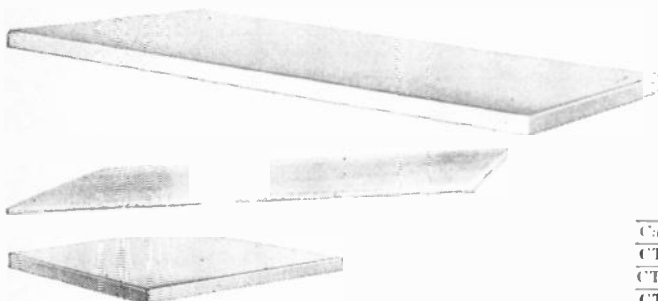
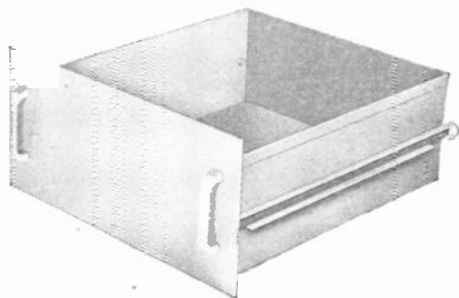


TABLE TOPS

Made of 16 gauge steel available in 3 sizes. Have scratch resistant finish. The tops are adjustable front-to-back in three positions to allow for required overhang in front or rear. They are attached to the pedestals by means of brackets welded to underside of top.

Cat. No.	Size	Weight	Net
CT-2205	25" x 30" x 1 1/16"	15 lbs.	\$22.00
CT-2206	52" x 30" x 1 1/16"	29 lbs.	26.00
CT-2207	69" x 30" x 1 1/16"	38 lbs.	32.10



CONSOLE DRAWER

Fits into pedestal in any position from top to bottom. Slides easily on nylon rollers. Capable of supporting heavy loads. Drawer extends to full depth. Easily removable slides fasten to mounting channels in pedestal. Stops prevent drawer from falling out.

Cat. No.	Size (inside)	Weight	Net
CD-2210	16 3/4" x 6-7/16" x 19 3/8"	23 lbs.	\$32.00

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 21



IMLOK EXTRUSIONS & CONNECTORS



INTERNAL EXTRUSIONS

Cat. No.	Description	Net
BI-2032	12 ft. long, 90° internal extrusion to fit BI-1028, has two panel retaining grooves: for unbraced spans up to 3 ft. long.	\$12.81
BI-2032-3	3 ft. length BI-2032	3.75
BI-2032-6	6 ft. length BI-2032	7.05
BI-2032-9	9 ft. length BI-2032	10.15
BI-2051	12 ft. long, 67 1/2° internal extrusion to fit BI-1017 connector. For use in unbraced spans up to 3 ft.	11.37
BI-2051-3	3 ft. length BI-2051	3.30
BI-2051-6	6 ft. length BI-2051	6.30
BI-2051-9	9 ft. length BI-2051	9.00
BI-2091	12 ft. long, 60° internal extrusion: fits BI-1025 connector.	11.37
BI-2091-3	3 ft. length BI-2091	3.30
BI-2091-6	6 ft. length BI-2091	6.30
BI-2091-9	9 ft. length BI-2091	9.00
BI-2006	12 ft. long, 45° internal extrusion has two 3/4" flanges, one with panel-retaining groove. For flat-topped, sloping front cabinets.	11.66
BI-2006-3	3 ft. length BI-2006	3.38
BI-2006-6	6 ft. length BI-2006	6.45
BI-2006-9	9 ft. length BI-2006	9.23
BI-2071	12 ft. long, 30° internal extrusion: fits BI-1021 connector.	11.37
BI-2071-3	3 ft. length BI-2071	3.30
BI-2071-6	6 ft. length BI-2071	6.30
BI-2071-9	9 ft. length BI-2071	9.00
BI-2031	12 ft. long, 22 1/2° internal extrusion: fits BI-1013 connector.	11.37
BI-2031-3	3 ft. length BI-2031	3.30
BI-2031-6	6 ft. length BI-2031	6.30
BI-2031-9	9 ft. length BI-2031	9.00

SPACER BAR AND TABLE-TOP EXTRUSIONS

BI-2008	12 ft. long, spacer bar extrusion used to subdivide panels or act as cross-bracing members.	\$20.33
BI-2008-3	3 ft. length BI-2008	5.85
BI-2008-6	6 ft. length BI-2008	11.18
BI-2008-9	9 ft. length BI-2008	16.13
BI-2009	12 ft. long, table-top extrusion for use at base of cabinet, as vertical member where double radius between cabinets is undesirable. Has flange with normal retaining groove; other is 1" deep to support table or bench top.	10.25
BI-2009-3	3 ft. length BI-2009	3.00
BI-2009-6	6 ft. length BI-2009	5.70
BI-2009-9	9 ft. length BI-2009	8.10

EXTERNAL SPACER BAR CONNECTORS

BI-1011	This connector specially designed for use with 90° external heavy duty extrusion BI-2034. One leg fits this extrusion as well as all other 90° external extrusions. The other two legs fit BI-2008.	\$1.35
BI-1018	67 1/2° external spacer bar connector: brace or sub-divide walls where BI-1016 is used at corners. One leg fits BI-2041; other two fit any spacer bar 60° version of BI-1018. One leg fits BI-2051; other two fit any spacer bar extrusion.	1.35
BI-1007	45° version of BI-1018. One leg fits BI-2005, BI-2015 or BI-2025; other two fit any spacer bar extrusion.	1.35
BI-1022	30° version of BI-1018. One leg fits BI-2061 extrusion; other two fit any spacer bar extrusion.	1.35
BI-1014	22 1/2° version of BI-1018. One leg fits BI-2021; other two fit any spacer bar extrusion.	1.35

INTERNAL CORNER CONNECTORS

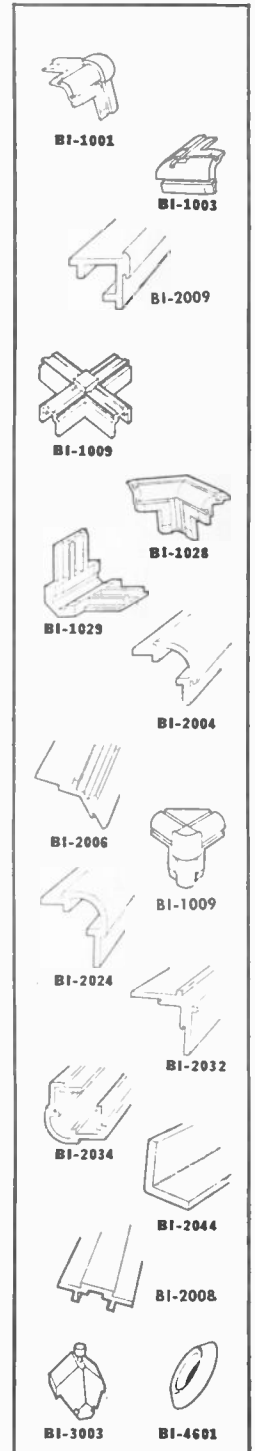
BI-1028	90° internal connector gives an included angle of 90° for L-shaped structures. One leg fits BI-2032 extrusion; other two fit any 90° external extrusion. (BI-2004, BI-2014, BI-2024, BI-2034, BI-2051).	\$1.35
BI-1017	67 1/2° internal connector used where two walls are to meet to include a 67° angle. One leg fits BI-2051 extrusion; other two fit any 90° external extrusion.	1.35
BI-1025	60° version of BI-1017. One leg fits BI-2091; other two fit any 90° external extrusion.	1.35
BI-1006	45° version of BI-1017. One leg fits BI-2006; other two fit any 90° external extrusion. Helps make flat top, sloping front structure.	1.26
BI-1021	30° version of BI-1017. One leg fits BI-2071; other two fit any 90° external extrusion.	1.35
BI-1013	22 1/2° version of BI-1017. One leg fits BI-2031; other two fit any 90° external extrusion.	1.35

INTERNAL SPACER BAR CONNECTORS

BI-1029	90° internal spacer connector permits bracing or sub-division of spans of BI-2032. One leg fits BI-2032 internal extrusion; other two fit BI-2008 spacer bar extrusion.	\$1.35
BI-1019	67 1/2° internal spacer bar connector is companion to BI-1017 for sub-division or cross-bracing. One leg fits BI-2051; other two fit any spacer bar extrusion.	1.35
BI-1027	60° version of BI-1019 above; companion for BI-1025. One leg fits BI-2091; other two fit any spacer bar extrusion.	1.35
BI-1010	45° version of BI-1019; companion for BI-1006. One leg fits BI-2006; other two fit any spacer bar extrusion.	1.35
BI-1023	30° version of BI-1019; companion to BI-1021. One leg fits BI-2031; other two fit any spacer bar extrusion.	1.35
BI-1015	22 1/2° version of BI-1019; companion to BI-1013. One leg fits BI-2031; other two fit any spacer bar extrusion.	1.35

CUTTING JIGS

BI-3003	90° cutting jig permits easy mitering of any 90° external extrusion. Makes assembly quick, easy.	\$15.80
BI-3002	45° cutting jig for mitering any 45° external extrusion.	15.80

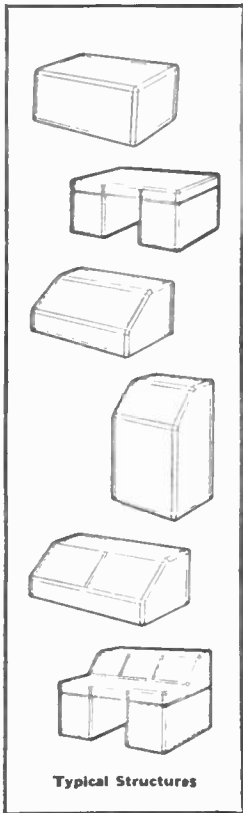


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BUD RADIO PAGE 22



IMLOK EXTRUSIONS & CONNECTORS



Typical Structures

SPECIAL CONNECTORS, ACCESSORIES

No. BI-1003—T-junction connector permits making "T" with 2 lengths of extrusions; also used for picture frame effect. Fits 90° external extrusions.

No. BI-1005—90° table-top or foot connector used in place of radiused corner; has well to hold glass or wood table-top. Used also as foot or as wall mount. One leg fits 90° external extrusion; other two fit BI-2009.

No. BI-1008—Stacking plate for use with BI-1005 to permit stacking.

No. BI-1009—90° spacer bar cruciform connector (see illustration).

No. BI-27A—Handles.

No. BI-4001—Package of 50 friction clips; for assembly without use of screws.

No. BI-4302—Concealed brass hinge fits 90° extrusions; 3 mounting holes take 6-32 or 10-32 screws.

No. BI-4601—Chrome plated ventilation ring for dress-up. Used in addition to slots and louvers. Clips (supplied) into 2 5/8" hole. Has stainless steel gauze.

Cat. No.	Net
BI-1003	\$0.96
BI-1005	1.26
BI-1008	.63
BI-1009	1.76
BI-27A	2.51
BI-4001	1.26
BI-4302	1.76
BI-4601	2.87

System of metal cabinet construction, ideal for research and prototype work, permits quick assembly of cases, cabinets and racks using the simplest of hand tools. Complex structures may be built to your individual requirements using a variety of corner connectors and extrusions held rigidly in place with friction clips or screws. Panels may be cut to size from sheet aluminum or steel, fitted in grooves or screw fastened. No grinding or welding needed. Write for literature.

EXTERNAL CORNER CONNECTORS

Cat. No.	Description	Net
BI-1001	90° basic corner connector for rectangular cabinets. Use with BI-2004, BI-2011, BI-2024, BI-2034, BI-2014, BI-2054 or BI-2064 extrusions.	\$ 0.96
BI-1016	67 1/2° corner connector holds vertical wall and horizontal wall to a third rising at 67 1/2° to the horizontal. One leg fits BI-2041 extrusion; other two fit any 90° external extrusion.	1.35
BI-1021	60° corner connector similar to BI-1016. One leg fits BI-2081; other legs fit any 90° external extrusion.	1.35
BI-1002	45° corner connector similar to BI-1016. One leg fits BI-2005, BI-2015, or BI-2025; other two legs fit any 90° external extrusion.	.96
BI-1020	30° corner connector similar to BI-1016. One leg fits BI-2061; other two legs fit any 90° external extrusion.	1.35
BI-1012	22 1/2° corner connector similar to BI-1016. One leg fits BI-2021; other two legs fit any 90° external extrusion.	1.35

EXTERNAL STANDARD EXTRUSIONS

BI-2004	12 ft. long, 90° external extrusion most used; has panel retaining groove on each flange for 0.950" panels. Ideal for small to medium sized structures with unbraced spaces up to 2 ft. long.	\$ 7.14
BI-2004-3	3 ft. length BI-2004	2.18
BI-2004-6	6 ft. length BI-2004	4.13
BI-2004-9	9 ft. length BI-2004	5.93
BI-2064	12 ft. long, 90° extrusion with panel retaining flange to take 20 gauge panels.	8.27
BI-2061-3	3 ft. length BI-2064	2.40
BI-2061-6	6 ft. length BI-2064	4.58
BI-2061-9	9 ft. length BI-2064	6.53
BI-2041	12 ft. long, 67 1/2° extrusion; companion to BI-1016 for unbraced spans up to 3 ft. long.	11.37
BI-2041-3	3 ft. length BI-2041	3.30
BI-2041-6	6 ft. length BI-2041	6.30
BI-2041-9	9 ft. length BI-2041	9.00
BI-2081	12 ft. long, 60° extrusion; companion to BI-1024 connector. For unbraced spans up to 3 ft. long.	11.37
BI-2081-3	3 ft. length BI-2081	3.30
BI-2081-6	6 ft. length BI-2081	6.30
BI-2081-9	9 ft. length BI-2081	9.00
BI-2005	12 ft. long, 45° extrusion used with BI-1002 connector; for spans up to 2 ft. long.	8.00
BI-2005-3	3 ft. length BI-2005	2.33
BI-2005-6	6 ft. length BI-2005	4.43
BI-2005-9	9 ft. length BI-2005	6.30
BI-2061	12 ft. long, 30° extrusion used with BI-1020 connector.	11.37
BI-2061-3	3 ft. length BI-2061	3.30
BI-2061-6	6 ft. length BI-2061	6.30
BI-2061-9	9 ft. length BI-2061	9.00
BI-2021	12 ft. long, 22 1/2° extrusion used with BI-1012 connector.	11.37
BI-2021-3	3 ft. length BI-2021	3.30
BI-2021-6	6 ft. length BI-2021	6.30
BI-2021-9	9 ft. length BI-2021	9.00
BI-2011	12 ft. long, 90° strengthened extrusion similar to BI-2004 but stronger for use in unbraced spans up to 3 ft. long.	8.27
BI-2011-3	3 ft. length BI-2011	2.40
BI-2011-6	6 ft. length BI-2011	4.58
BI-2011-9	9 ft. length BI-2011	6.53
BI-2015	12 ft. long, 45° external strengthened extrusion used in place of BI-2005 in unbraced spans up to 3 ft. long.	9.65
BI-2015-3	3 ft. length BI-2015	2.78
BI-2015-6	6 ft. length BI-2015	5.33
BI-2015-9	9 ft. length BI-2015	7.65
BI-2054	12 ft. long, 90° strengthened extrusion with two 5/8" extended flanges to take standard 1 1/2" retaining groove at root of flanges.	12.78
BI-2054-3	3 ft. length BI-2054	3.68
BI-2054-6	6 ft. length BI-2054	7.05
BI-2054-9	9 ft. length BI-2054	10.13
BI-2024	12 ft. long, 90° strengthened extrusion with one flange extended 5/8" to fit 1 1/2" panel; other has normal panel-retaining groove.	10.25
BI-2024-3	3ft. length BI-2024	3.00
BI-2024-6	6 ft. length BI-2024	5.70
BI-2024-9	9 ft. length BI-2024	8.10
BI-2025	12 ft. long, 45° strengthened extrusion with one 5/8" extended flange for 1 1/2" panel and one normal panel-retaining groove flange.	10.83
BI-2025-3	3 ft. length BI-2025	3.15
BI-2025-6	6 ft. length BI-2025	6.00
BI-2025-9	9 ft. length BI-2025	8.55
BI-2034	12 ft. long, 90° heavy-duty extrusion takes loadings for spans over 3 ft. long, additional returns reinforce strength. Flanges are both 5/8" deep.	16.79
BI-2034-3	3 ft. length BI-2034	4.88
BI-2034-6	6 ft. length BI-2034	9.30
BI-2034-9	9 ft. length BI-2034	13.28
BI-2044	12 ft. long, 90° reinforcing angle screws to return flanges of BI-2034 for extra rigid, boxed in section. Use with heavy-duty BI-1011 spacer bar and BI-2018 and BI-2028 extrusions to build almost any size structure.	6.66
BI-2044-3	3 ft. length BI-2044	2.15
BI-2044-6	6 ft. length BI-2044	3.68
BI-2044-9	9 ft. length BI-2044	5.25

Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 23



SPECIAL SHEET METAL FABRICATION



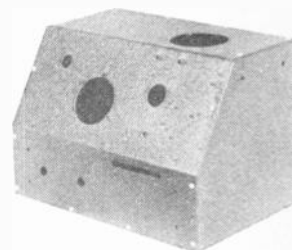
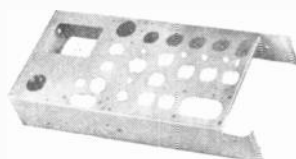
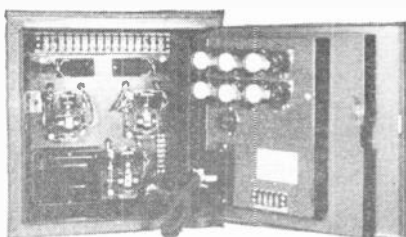
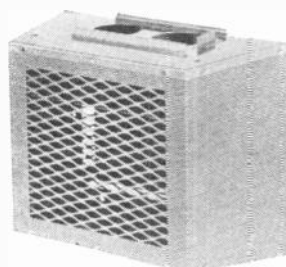
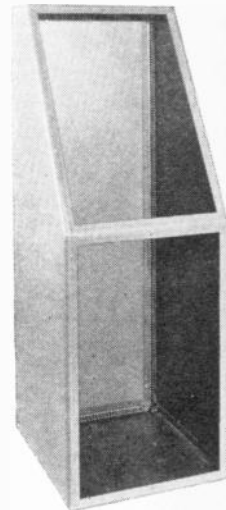
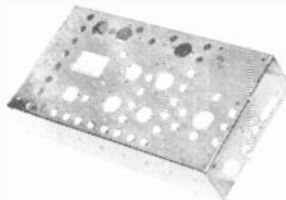
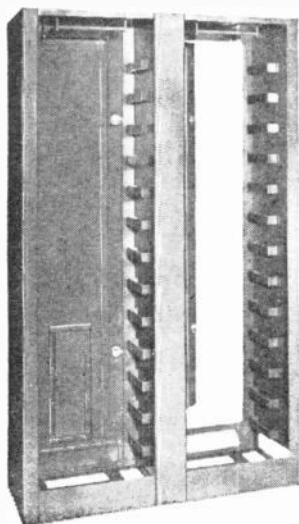
Bud Radio, through its Metal Products Division, offers greatly increased facilities for the production of special sheet metal items. New machinery has been added, departments have been modernized and streamlined, and new methods have been developed.

We make over four hundred different sheet metal products as stock items, which are illustrated elsewhere in this section. Often a slight change in one of our standard items will eliminate the necessity of special tools and dies, thereby reducing costs greatly. Since we produce thousands of sheet metal products, every month, for ourselves and for leading firms throughout the country, we are able to effect economies in production

which mean lower prices and faster delivery. Our expanded facilities, expert workmanship, years of experience and manufacturing "know how" assure high quality products. In addition, our Engineering Staff is always available for consultation and advice. We suggest that you send us your blueprints for estimate or consult your nearest Bud Distributor.

Whether the quantity be one, ten, one hundred, one thousand or many thousands, we are interested in the opportunity to be of service to you.

Illustrated on this page are a few examples of specially fabricated sheet metal products.



Prices subject to change without notice. Only a few of many BUD Products are shown. Write for complete catalog.

BUD RADIO PAGE 24

CALIFORNIA Chassis COMPANY

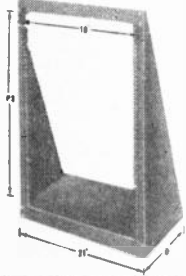
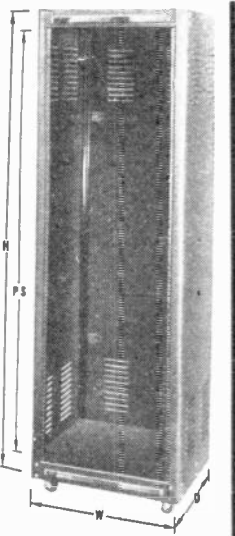
CABINET RACKS

These racks are made entirely of 16 gauge steel except for the heavy steel panel supports. They have universal spacing, the holes being tapped for 10/32" screws. Panels fit into a recess so that the edges do not show. Mounting plate on bottom of rack permits casters to be fastened directly to base for easy mobility. Casters are not included in price of rack but may be ordered separately. No. TC-10.

All standard 19" panels RETMA, Western Electric or Amateur will fit these racks. Double rows of louvers side and rear give ample ventilation.

Finish is black wrinkle, gray wrinkle or silver hammertone. Black will be furnished unless specified otherwise.

CAT. NO.	PANEL SPACE	HEIGHT	WIDTH	DEPTH	SHIP. INSIDE CLEAR.	SHPG. WT. LBS.
CR-36	36¾	42	22	17	15½	90
CR-42	42	47¼	22	17	15½	96
CR-61	61¼	66½	22	17	15½	120
CR-77	77	82¼	22	17	15½	145
CRD-36	36¾	42	22	24	22½	99
CRD-42	42	47¼	22	24	22½	105
CRD-61	61¼	66½	22	24	22½	133
CRD-77	77	82¼	22	24	22½	160



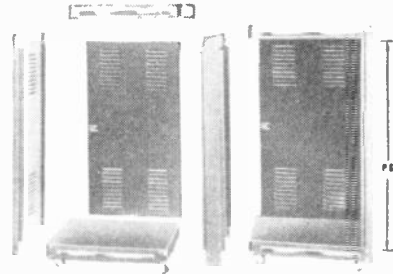
DOR SERIES

This open rack is made of 16 gauge steel. It is useful where the larger, heavier floor model is not necessary.

Mounting holes are on universal centers tapped 10/32".

Cat. No.	Panel Space	Overall Height	Overall Width	Depth	Ship. Wt.
DOR-21	21 x 19	25	21	12	18
DOR-28	28 x 19	32	21	12	19

MULTI RACK SERIES



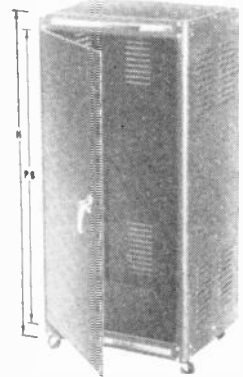
With this unit and a standard rack of the same size one can make a multiple rack or a series of connected racks. Each unit consists of a door, top, bottom, and a multi-rack connecting unit. This must have the same panel space as the unit it is to be used with. All hardware except casters is furnished. Colors are black wrinkle, gray wrinkle or gray hammertone.

FRONT DOOR RACKS

This deluxe rack series has, in addition to the rear door, a front door which completely encloses the panels. Rack strips may be moved towards the rear of the rack to allow space for meters, switches, etc. Rack strips are punched with universal spacing, and tapped 10/32". Casters, TC-10, fit to base of rack, but are not included in price. Finish is black wrinkle (B), Gray wrinkle (G), or gray hammertone (GH). Black wrinkle shipped if no color is specified.

CATALOG NO.	HEIGHT	PANEL SPACE	SHPG. WT.
FDR-36	42	36¾	102
FDR-42	47¼	42	118
FDR-61	66½	61¼	152

CATALOG NO.	PANEL SPACE	FITS SHPG. RACK WT.
MR-36	36¾	CR-36 75
MR-42	42	CR-42 80
MR-61	61¼	CR-61 100
MR-77	77	CR-77 118



DESK CABINET RACKS

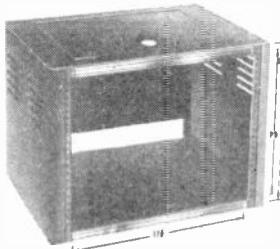
This solid welded, rounded front, deluxe desk cabinet has a professional look as well as being a sturdy utility unit. Embossed feet are on all sizes to reduce marring.

Cabinets have universal punching, accommodating W. E.; RETMA; or Amateur notched panels. Unit is made from 16 ga. steel, has niga 2" opening on bottom rear for ventilation in addition to side louvers.

The five smaller models have solid welded backs. The five larger models have a removable hinged rear door.

All models clear 14½" inside depth — Outside width is 21½". Black wrinkle is standard. If gray wrinkle or gray hammertone is desired please specify. No additional charge.

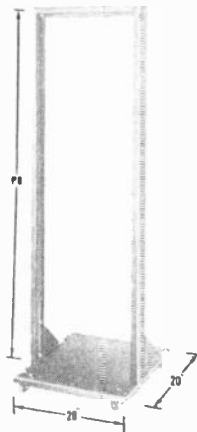
CATALOG NO.	PANEL SPACE	HEIGHT	SHPG. WT.
DCR-7	7	8 1/8	25
DCR-8	8¾	10 1/8	27
DCR-10	10½	12 1/8	29
DCR-12	12¼	14 1/8	31
DCR-14	14	15 3/8	33
DCR-17	17½	19 1/8	37
DCR-21	21	22 3/8	39
DCR-26	26¼	28 3/8	47
DCR-31	31½	33 3/8	51
DCR-35	35	36 3/8	58



OR SERIES

These open racks are constructed so the uppermost panel mounts at the top of the 1/8" steel upright. There is no loss of space at the top. Rack uprights are punched with universal spacing and tapped 10/32". Two brackets of 1/8" steel bind the uprights and a chassis like base into one solid unit.

CATALOG NO.	PANEL SPACE	OVERALL HEIGHT	SHPG. WT.
OR-31	31½	32¾	27
OR-36	36¾	38	28
OR-42	42	43¼	30
OR-61	61¼	62½	37
OR-66	66½	67¾	39
OR-71	71¾	73	41
OR-77	77	78¼	42



SOLID WELDED RACKS

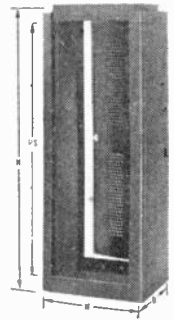
These neat all welded solid racks are constructed entirely of 16 gauge steel.

Panel mounting strips are 1/8" steel punched to accept all standard panels and tapped for 10-32 screws.

Panel mounting screws are concealed by swinging rounded corner trims. These can be removed but normally are pulled forward and swung out to give access to the panel mounting screws. This eliminates usual assembly and disassembly problems encountered. Entire bottom of the unit is flush with the floor.

Below rear door are three 7/8" diameter knockouts to accept 1/2" conduit.

Cat. No.	Panel Space	H	W	D	Depth Inside Clear.	Open. Rear. Wt
WSR-42	42	50 3/8	23 1/4	18 1/4	17 1/8	195 138
WSR-61	61¼	69 3/8	23 1/4	18 1/4	17 1/8	195 150



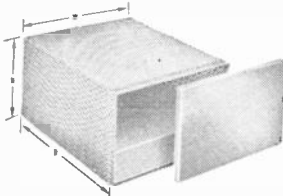
LOW TEMPERATURE CABINETS

This cabinet made of perforated metal with 3/32 holes on 3/16 centers, solves most thermal problems. It is a real space saver, the chassis being almost the size of the cabinet.

Chassis is .063 aluminum and bolts to the rear panel which is welded to the perforated screen. Rear steel panel has rectangular hole in it to allow access to connectors in chassis. Front panel has no screws but is held on by control knobs mounted in chassis.

Chassis and front are one piece when unit is complete and can be easily removed yet cabinet chassis and front panel are solidly held together.

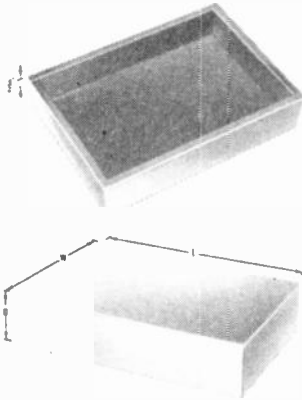
Catalog Number	Cabinet Size			Front Panel	Chassis Size	Hole in Rear Panel
	H	W	D			
LTC-463	4½	x 7 3/16	x 9 3/16	4½ x 7 1/4	6 1/2 x 8 1/2	x 1 1/2 7/8 x 4
LTC-464	4½	x 9 3/16	x 7 3/16	4½ x 9 3/16	8 1/2 x 6 1/2	x 1 1/2 7/8 x 5
LTC-469	5 1/16	x 8 3/4	x 11 3/16	5 5/8 x 8 3/4	8 7/16 x 10 1/2	x 2 1 1/2 x 5
LTC-470	5 1/16	x 11 3/16	x 8 1/16	5 5/8 x 11 3/16	10 1/4 x 8 7/16	x 2 1 1/2 x 6



CALIFORNIA CHASSIS CO. — Lynwood, California

CALIFORNIA Chassis COMPANY

STANDARD ALUMINUM CHASSIS—All chassis are stamped and formed from one piece of material. All four corners welded and sides flanged to accommodate bottom plates.



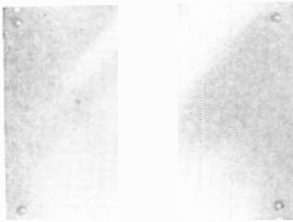
Alu- minum	W	L	D	Gauge	App. Wt.	Alu- minum	W	L	D	Gauge	App. Wt.	Alu- minum	W	L	D	Gauge	App. Wt.
A-134	2 1/2	4 1/2	1	18	1.4	A-106	6	14	3	18	1	A-141	10	17	5	14	3 1/4
A-135	3 1/2	4 1/2	1	18	1.4	A-114	7	13	2	18	4	A-146	11	17	2	16	1 1/2
A-136	3 1/2	5 1/2	1	18	1.4	A-139	5	13	3	18	3 1/4	A-128	11	17	3	14	2 1/2
A-137	4	6	1 1/2	18	1.4	A-107	8	12	2 1/2	18	1	A-127	12	17	2	14	2 1/4
A-154	4	6	2	18	1.4	A-117	7	12	3	18	1	A-123	12	17	3	14	2 1/2
A-149	4	6	3	18	1.4	A-124	8	12	3	18	1	A-126	13	17	2	14	2 1/2
A-138	4	5	2	18	3 1/8	A-124	10	12	3	18	1 1/4	A-111	13	17	3	14	2 3/4
A-121	5 1/2	5 1/2	1	18	1.4	A-129	12	12	3	18	1 1/2	A-112	13	17	4	14	3 1/4
A-101	5	7	2	18	3 1/8	A-115	10	14	3	18	1 1/4	A-142	13	17	5	14	3 1/2
A-150	5	7	3	18	3 1/8	A-130	7	15	3	18	1 1/4	A-133	14	17	3	14	3 1/4
A-147	4	8	2	18	3 1/8	A-125	9	15	3	18	1 1/2	A-131	15	17	4	14	3 3/4
A-119	4 1/2	8	1 1/2	18	3 1/8	A-118	4	17	3	18	1	A-148	15	17	6	14	4
A-122	5	9	1 1/2	18	3 1/8	A-145	6	17	3	18	1 1/4	A-132	10	23	3	16	2 1/2
A-102	5	9 1/2	2 1/2	18	3 1/8	A-144	7	17	2	18	1	A-155	17	17	3	16	2 1/2
A-120	6	8	2	18	3 1/4	A-152	7	17	3	18	1 1/2	A-143	17	17	4	14	4 1/4
A-103	5	10	3	18	1 1/2	A-109	8	17	2	18	1 1/2						
A-104	7	7	2	18	1 1/2	A-116	8	17	3	16	1 1/2						
A-105	7	9	2	18	1 1/2	A-140	10	17	2	16	2 1/4						
A-113	7	11	2	18	1 1/4	A-110	10	17	3	16	2 1/2						
A-106	8	10	2 1/2	18	1	A-153	10	17	4	16	3						

Special chassis made regardless of quantity using a set up charge of \$3.60 plus cost of next larger chassis. Unless specified, all aluminum chassis are etched finish.

ENTIRE LINE OF CHASSIS
DUPLICATED IN STEEL.

USE PREFACE "C" INSTEAD OF
"A" FOR PLATED STEEL CHASSIS.

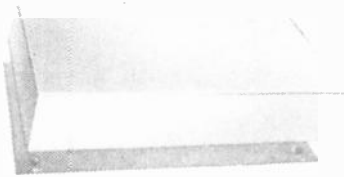
CHASSIS BOTTOM PLATES



CATALOG NO.	SIZE	ALUM. WEIGHT	STEEL WEIGHT
BP-134	2 1/2 x 4 1/2	1 oz.	2 oz.
BP-135	3 1/2 x 4 1/2	2 oz.	1/4 lb.
BP-136	3 1/2 x 5 1/2	2 oz.	1/4 lb.
BP-137	4 x 6	2 oz.	1/4 lb.
BP-138	4 x 5	2 oz.	1/4 lb.
BP-147	4 x 8	1/4 lb.	1/2 lb.
BP-121	5 1/2 x 5 1/2	2 oz.	1/2 lb.
BP-101	5 x 7	2 oz.	1/2 lb.
BP-119	4 1/2 x 8	1/4 lb.	1/2 lb.
BP-122	5 x 9	1/4 lb.	1/2 lb.
BP-102	5 x 9 1/2	1/4 lb.	1/2 lb.
BP-120	6 x 8	1/4 lb.	1/2 lb.
BP-151	6 x 14	1/2 lb.	1 1/4 lb.
BP-103	5 x 10	1/4 lb.	1/2 lb.
BP-104	7 x 7	1/4 lb.	1/2 lb.

HEAVY DUTY CHASSIS 16 GAUGE STEEL

HD-109	6 3/4	8x17x2
HD-116	7 1/2	8x17x3
HD-110	8 1/2	10x17x3
HD-146	8	11x17x2
HD-128	10	11x17x3
HD-126	9 1/2	13x17x2
HD-111	11 1/2	13x17x3
HD-112	12	13x17x4



Bottom Plates Included

CATALOG NO.

SIZE	ALUM. WEIGHT	STEEL WEIGHT
BP-105	7 x 9	1/4 lb. 3/4 lb.
BP-113	7 x 11	1/2 lb. 1 lb.
BP-106	8 x 10	1/4 lb. 3/4 lb.
BP-139	5 x 13	1/4 lb. 1/2 lb.
BP-114	7 x 13	1/2 lb. 1 lb.
BP-107	8 x 12	3/4 lb. 1 1/4 lb.
BP-117	7 x 12	1/2 lb. 1 lb.
BP-108	10 x 12	3/4 lb. 1 1/2 lb.
BP-129	12 x 12	3/4 lb. 1 1/2 lb.
BP-115	10 x 14	3/4 lb. 2 lb.
BP-130	7 x 15	1/2 lb. 1 lb.
BP-125	9 x 15	3/4 lb. 1 1/2 lb.
BP-118	4 x 17	1/2 lb. 1 lb.
BP-145	6 x 17	1/2 lb. 1 lb.
BP-144	7 x 17	1/2 lb. 1 lb.
BP-109	8 x 17	1/2 lb. 1 3/4 lb.
BP-110	10 x 17	3/4 lb. 2 1/2 lb.
BP-128	11 x 17	1 lb. 2 lb.
BP-123	12 x 17	1 1/4 lb. 3 lb.
BP-111	13 x 17	1 1/2 lb. 3 1/4 lb.
BP-133	14 x 17	1 1/2 lb. 3 1/2 lb.
BP-131	15 x 17	1 1/2 lb. 3 1/2 lb.
BP-143	17 x 17	2 lb. 5 lb.
BP-132	10 x 23	1 1/2 lb. 3 1/4 lb.

Steel bottom plates may be supplied in either zinc plate or black enamel — aluminum is caustic etched. Actual size of BP is 1/8" under chassis size which is shown. This allows 1/16" cf set back when attached to bottom of chassis.

CAT. NO.

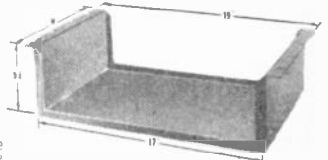
HEIGHT	WEIGHT
PC-110	1 3/4
PC-111	3 1/2
PC-112	5 1/4
PC-113	7
PC-114	8 3/4
PC-115	10 1/2
PC-116	12 1/4
PC-117	14

Larger Sizes On Request
These are constructed so the sharp rib corner is cut to a 45° angle protecting the user's wrist. 16 gauge zinc steel is standard. 14 gauge etched aluminum on request at no added cost.

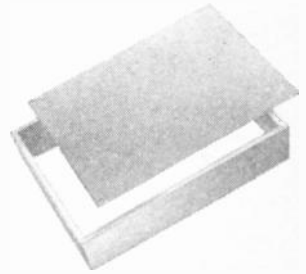
Cat. No.	Weight	Dimensions
RT-1	5 1/4	10x17x3
RT-2	7	13x17x3
RT-3	6 1/2	10x17x4
RT-4	9	13x17x4

Experimenters and the radio amateur when designing, will find it economical to use this type chassis, as the tops and bottoms may be easily replaced or discarded. Steel-Electro Zinc Only.

PANEL CHASSIS



REMOVABLE TOP CHASSIS



TOPS ONLY FOR REMOVABLE TOP CHASSIS

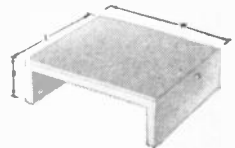
Cat. No.	Weight	Dimensions
T-1	3	10x17
T-2	4	13x17

Made From 16 Gauge Steel — Electro Zinc Finish

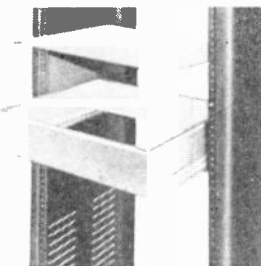
Cat. No.	Weight	W	L	D
EC-1	1	7	6	2
EC-2	3/4	5	7	1 1/2
EC-3	1	5 1/2	9	1 1/2
EC-4	1 1/4	7 1/2	9	1 1/2
EC-5	1 1/2	7	13	1 1/2
EC-6	2 1/4	7 3/4	15	2
EC-7	1	7	8	2
EC-8	1 1/4	7	10	2

These chassis are ideal for any type of unit which is built-up, such as a record changer. Steel — Electro Zinc Only

OPEN END CHASSIS



SLIDING DRAWER CHASSIS



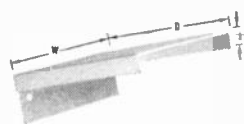
The drawer chassis is used where there is a need to pull out the chassis without disconnecting it from the rack. Chassis rolls in and out on ball bearings in a formed channel. When assembled it forms a rigid unit which will fit any 19" rack. Brackets are 1/8" Aluminum. Chassis and top plate are gauge aluminum. Finish, except for slide rail assembly, is gray hammetone.

Cat. No. Chassis Size Brk. H. Wt.
SD-399 16 3/4 x 14 x 3 6 1/2" 6 1/2"

PLATFORM CHASSIS

These steel platforms are useful as variable level chassis simply by fastening to any side of a carrying case, utility box, etc. They may also be used as shields. Black enamel finish.

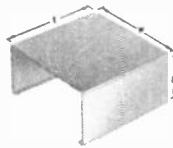
CD-260	4 3/4	5 1/2	CAB-4	1
CD-261	4 3/4	4 1/2	CAB-5	3/4
CD-262	5 3/4	5 1/2	CAB-7	1



MINIATURE ALUMINUM CHASSIS

These are small open end chassis for use where space is limited.

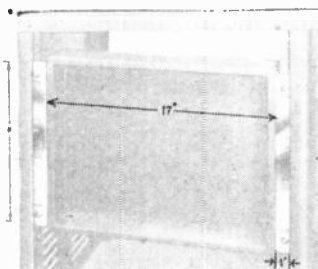
Catalog No.	Width	Length	Depth	Approx. Shpg. Wt.
MA-210	2 5/8	2 3/4	1 1/4	1/4
MA-211	1 3/4	3 1/8	1	1/4
MA-212	3 1/4	4 1/2	2	1/4
MA-213	2 3/4	4 1/8	1	1/4
MA-214	3 3/4	4 1/8	1 1/2	1/4
MA-215	3	6 1/8	1 1/4	1/4



CHASSIS FLANGES

These 1" chassis flanges will convert any 17" chassis to a 19" panel rack chassis. Made of 16 gauge Zinc plated steel.

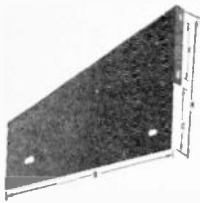
Catalog No.	Height	Shpg. Wt.
CF-12	5 1/4	1/2
CF-13	7	1/2
CF-14	8 3/4	1
CF-15	10 1/2	1
CF-16	12 1/4	1
CF-17	14	1



CALIFORNIA Chassis COMPANY

CHASSIS MOUNTING BRACKETS

To assure the proper support for a chassis a sturdy mounting bracket is used. Flange is 5/8" inside dimension. Elongated hole 3/4" x 1/2" is centered in flange. "X" shows the distance between flange holes. Finished in Zinc plated "C" or Wrinkle "W" may be had at additional cost of 15%.



Enamel	Height	x	Depth	Clearance	Wt.
E-58B	6 1/2	2 1/2	8	3 3/4	1 1/4
E-57B	6 1/2	2 1/2	9	3 3/4	1 1/2
E-48B	6 1/2	2 1/2	10	3 3/4	1 3/4
E-59B	6 1/2	2 1/2	11	3 3/4	1 3/4
E-49B	6 1/2	2 1/2	12	3 3/4	1 3/4
E-60B	6 1/2	2 1/2	13	3 3/4	2
E-50B	8 1/2	3 1/2	10	4 1/4	2 1/2
E-51B	8 1/2	3 1/2	13	4 1/4	3
E-52B	12	7	15	4 1/4	4 1/2
E-53B	14	8	17	5 1/4	5 3/4

TRIANGULAR MOUNTING BRACKETS

Cat. No.	Height	Dimensions
MB-55	1/2	5x5
MB-77	1 1/2	7x7
MB-99	1 3/4	9x9

Steel — Black Enamel Only

CHASSIS SUPPORT ANGLES

These angles when bolted to the sides of a cabinet will support a heavy chassis unit. They are made of 1/8" thick steel and are finished in black enamel only.

Cat. No.	Length	Width	Shpg. Lbs.	Wt.
CA-12	12	3	3	3
CA-14	14 1/2	3	4	4

METER SHIELD

This shield is made of spun aluminum. It will fit over the meter and effectively stops most interference. Furnished with no holes and in natural finish only.

Catalog Number	L	I.D.	O.D.	Meter Size
MSA-2	2 3/8	2 1/8	2 7/8	2
MSA-3	2	2 25/32	3 3/4	3

RELAY RACK PANELS

Regular panels are made from 1/8" steel or aluminum material. Aluminum is 1100 H 14. Notching is either Western Electric (WE) or Amateur (A). Finish Black or Gray Wrinkle or Silver Gray Hammertone. Aluminum is standard and will be sent unless steel is specified. Panels in any material will be furnished 24" wide instead of 19" wide at twice the cost.

Notching		Height	Width	Wt. Alum.	Wt. Steel
Western Electric	Amateur				
PW-10	PA-10	1 3/4	19	1/2	1 1/4
PW-11	PA-11	3 1/2	19	3/4	2 1/4
PW-12	PA-12	5 1/4	19	1 1/4	4
PW-13	PA-13	7	19	1 1/2	4 3/4
PW-14	PA-14	8 3/4	19	2	6
PW-15	PA-15	10 1/2	19	2 1/2	6 3/4
PW-16	PA-16	12 1/4	19	3	8 3/4
PW-17	PA-17	14	19	3 1/2	9 3/4
PW-18	PA-18	15 3/4	19	4	10 3/4
PW-19	PA-19	17 1/2	19	4 1/2	12
PW-20	PA-20	19 1/4	19	5	13
PW-21	PA-21	21	19	5 1/2	15 3/4
PW-22	PA-22	24 1/2	19	6	18 1/2
PW-23	PA-23	26 1/4	19	7	20 1/4

HARD ALUMINUM PANELS

Cat. No.	Height	Width	Wt.
PWHA-10	1 3/4	19	1/2
PWHA-11	3 1/2	19	3/4
PWHA-12	5 1/4	19	1 1/4
PWHA-13	7	19	1 1/2
PWHA-14	8 3/4	19	2 1/2
PWHA-15	10 1/2	19	2 1/2
PWHA-16	12 1/4	19	3
PWHA-17	14	19	3 1/2
PWHA-18	15 3/4	19	4
PWHA-19	17 1/2	19	4 1/2
PWHA-20	19 1/4	19	5
PWHA-21	21	19	5 1/2
PWHA-22	24 1/2	19	6
PWHA-23	26 1/4	19	7

These 1/8" panels are recommended for high quality work. They are 2024T3 aluminum. Notching is Western Electric, but Amateur on request at no added cost. We also carry a complete line of 3/4" or .188 panels. These are all 2024T3.

METER PANELS

All panels are 5 1/4" x 19" x 1/8" steel or aluminum, black or grey wrinkle — designed to handle either 2" or 3" meters. All units Western Electric notch.

ALUMINUM

Cat. No.	Wt.	No. Holes	Dia.
MPA-52	1 1/4	5	2 3/4
MPA-53	1 3/4	5	2 3/4
MPA-33	1 3/4	3	2 1/4
MPA-53	1	5	2 1/4

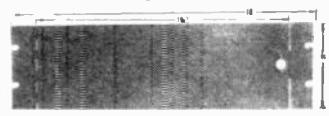
STEEL

Cat. No.	Wt.	No. Holes	Dia.
MPS-32	3	3	2 3/4
MPS-52	2 3/4	5	2 3/4
MPS-33	3 1/2	3	2 1/4
MPS-53	3	5	2 1/4

Small holes are for 2" meters, larger holes are for 3" meters.

SIDE HINGED PANELS

Cat. No.	Height	Wt.
SH-12	5 1/4	4 1/4
SH-13	7	5 1/2
SH-14	8 3/4	6 3/4
SH-15	10 1/2	7 1/4
SH-16	12 1/4	8 3/4



FRONT HINGED DOOR PANEL

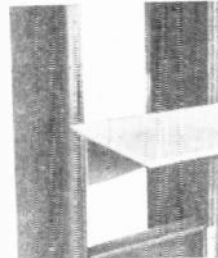
This door gives access to the chassis top. It is free moving and has a substantial catch. Made of 1/8" steel. Please specify finish.



Cat. No.	Height	Door
FH-430	10 1/2	6 x 15 3/8
FH-432	12 1/4	7 1/2 x 15 3/8

EXTERIOR RACK SHELVES

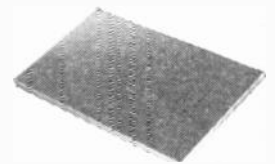
The exterior shelf replaces a panel when a shelf is needed. Unit is composed of a 16 gauge steel shelf with seam welded front corners and two supporting 1/8" steel brackets. All hardware included.



Cat. No.	Shelf Size	Wt.
ER-416	16x22	12
ER-420	20x22	15

INTERIOR RACK SHELVES

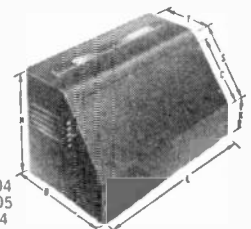
These 16 gauge steel shelves may be supported in the rack by chassis support angles CA-12 or CA-14. They are used to form a strong shelf for modulator units, power supplies etc. Finish black enamel.



Cat. No.	Size	Shpg. Wt.
RS-512	12x19	5 1/2
RS-515	15x19	6 1/2

SLOPING FRONT CABINETS

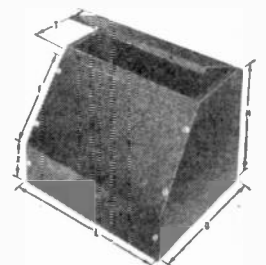
These deluxe all purpose steel cabinets are designed for wide use in the electronic field. Front and top corners are rounded, sides have stainless steel ventilators. Embossed feet to prevent scratching. Gray wrinkle finish.



Catalog No.	D	H	L	T	X	S	C
SFC-42	8	8	8	4 1/4	2 3/4	6	5 1/4 C-104
SFC-44	8	8	10	4 1/4	2 3/4	6	5 1/4 C-105
SFC-46	8	8	14	4 1/4	2 3/4	6	5 1/4 C-114
SFC-48	12	12	18	6	3 1/8	10 3/8	9 1/2 C-110

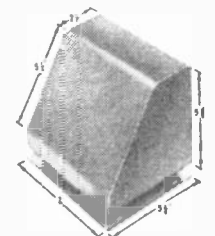
HINGED TOP SLOPING CABINET

This cabinet provides for a complete opening of top and front. Bottom has embossed feet. Rear has opening for connectors. Black wrinkle or Gray hammertone finishes.



ENCLOSED METER CABINET

Enclosed Meter Cabinet bottom is open. Bottom plate with embossed feet and four sheet metal screws included. Gray wrinkle unless other color specified. Available in black wrinkle, silver gray hammertone at no additional cost. Steel or Aluminum.



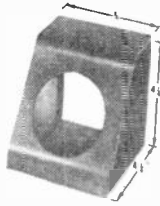
Catalog No. EMC-2

CALIFORNIA CHASSIS CO. — Lynwood, California

CALIFORNIA Chassis COMPANY

METER CABINETS					
Meter Size	Aluminum		Wt.		
	Cat. No.			SMC	Lbs.
2"	4	MC-2	1/2	SMC-2	1 1/2
3"	4	MC-3	1/2	SMC-3	1 1/2
No Holes	4	MC-4	1/2	SMC-4	1 1/2
2"	4	MC-6*	1/2	SMC-6*	1 1/2
3"	4	MC-7*	1/2	SMC-7*	1 1/2
No Holes	7 1/2	MC-8	3/4	SMC-8	2 1/4
3"	6	HAC-MC-7*	3/4	SMC-8	2 1/4

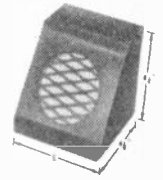
* Indicates it has two 1/2" holes on 3/4" centers at top of cabinet for insulators. 2" meter hole is 2 1/8". 3" meter hole is 2 3/8".



MINIATURE SPEAKER CABINETS

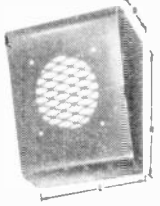
These small meter cabinets are like the MC series except the meter hole is covered by an expanded metal shield. Furnished in steel only. Black wrinkle standard.

Catalog No.	Length	Meter Size	Wt. Lbs.
MS-261	4"	2"	3/4
MS-262	4"	3"	3/4



WALL SPEAKER CASES
These all metal cases have keyslotted holes on the rear for easy mounting. They are also provided with embossed feet on one side. Finish is gray hammertone for ease of cleaning.

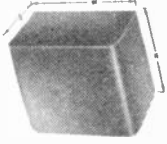
Catalog No.	Speaker Size	Hole Size	H	L	D	Wt.
WS-304	4	3 1/2	7 1/2	6 1/2	4 1/4	1 3/4
WS-305	5	4	1/2	6 1/2	4 1/4	1 3/4
WS-306	6	4 3/4	9 1/2	8	5 1/8	3
WS-308	8	6 1/2	11 1/2	9 1/2	7	4
WS-310	10	8 1/2	13 1/2	11 1/2	8 1/4	5
WS-312	12	10 1/2	15 1/2	13 1/2	9 3/4	6



STREAMLINED MINIATURE CABINETS

This miniature steel cabinet has a radiused face. The base has four embossed feet. There rear is open except for a 1/4" flange down two sides. This gives rigidity as well as a place to attach a back cover. Gray wrinkle standard.

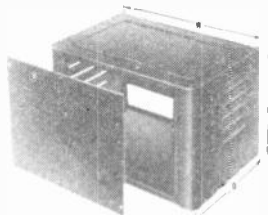
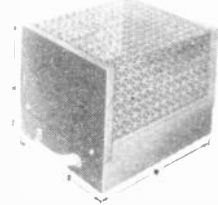
Catalog No.	H	W	D	Wt.
SM-271	4 1/2	5 1/2	3 1/2	1 1/2
SM 272	6 1/2	5 1/2	3 1/2	1 1/2



DELUXE AMPLIFIER FOUNDATION

This foundation is used where the chassis must be covered and appearance is important. Material is steel, finish is black wrinkle. Gray hammertone at no extra cost. Use suffix B or GH.

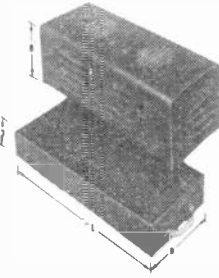
Cat. No.	Length	Depth	Wt.
DA-420	10	5	4 1/2
DA-421	12	7	5
DA-422	17	7	8
DA-423	17	10	9



STREAMLINED INSTRUMENT CABINET

Miniature aluminum chassis MA series are usually used with this cabinet. Black wrinkle is standard.

Catalog No.	Panel Space	Height	Width	Depth	Wt.
SC-31	8x8	8	10 1/2	8 1/4	5 3/4
SC-32	8x10	8	12 1/2	8 1/4	6
SC-33	8x12	8	14 1/2	8 1/4	6 1/2
SC-34	8x14	8	16 1/2	8 1/4	7
SC-35	8x16	8	18 1/2	8 1/4	7 3/4
SC-36	12x18	12	20 1/2	12	15



AMPLIFIER FOUNDATIONS

These consist of a chassis and perforated metal cover. They have ample ventilation. Handles are included in each package. Black wrinkle standard.

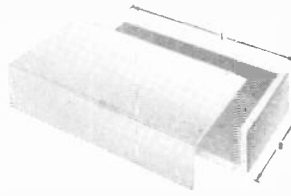
Catalog No.	Height	Width	Depth	Chassis Height	Shpg. Wt.
AF-240*	6	7 3/8	5 1/8	2	2
AF-241	8 3/8	9 3/8	5 1/8	2 1/2	3
AF-242	8 3/8	13 3/8	5 1/8	2 1/2	4 3/8
AF-243	8 3/8	17 1/8	7 1/8	2 1/2	6
AF-244	8 3/8	17 1/8	10 1/8	3	8

* Has one handle only — at top.

UTILITY BOX — REMOVABLE COVER

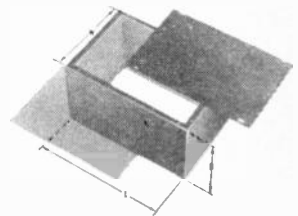
This model allows complete accessibility to the interior of the unit. All work may be completed before cover is installed.

Cat. No.	D	L	H	Covers Only
HA-10	3x4	x1 1/2		HAC-10
HA-11	4x5	x2		HAC-11
HA-12	4x8	x2		HAC-12
HA-13	5x9 1/2	x2 1/2		HAC-13
HA-14	6x12	x2 1/2		HAC-14
HA-15	7x15	x2 1/2		HAC-15



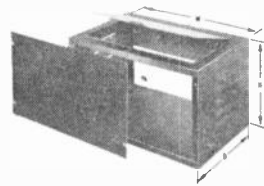
METAL UTILITY CABINETS

Catalog No.	Wt. Stl.	D	W	L	Wt. Alm.
CAB-1	1 3/4	2"	4"	4"	3/8
CAB-2	1	3"	5"	4"	1/2
CAB-3	1 1/2	4"	5"	6"	3/4
CAB-4	2 1/2	6"	6"	6"	1
CAB-5	3 1/4	5"	6"	9"	1 1/4
CAB-6	4 3/4	7"	6"	10"	2
CAB-7	5	6"	7"	12"	2
CAB-8	6	8"	10"	10"	2 1/2
CAB-9	7	8"	11"	12"	2 3/4
CAB-10	7	7"	9"	15"	2 3/4



INSTRUMENT CABINETS

This cabinet has a hinged access door on top and removable front cover. The elimination of the rounded corners gives more inside room. The rear has a 3 1/2" opening for ventilation plus louvers at each end. The open end chassis, E.C. series, is usually used with these cabinets. Black wrinkle only.

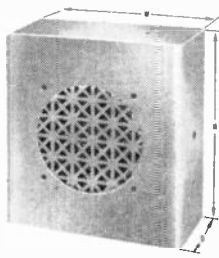


ners gives more inside room. The rear has a 3 1/2" opening for ventilation plus louvers at each end. The open end chassis, E.C. series, is usually used with these cabinets. Black wrinkle only.

Cat. No.	H	W	D	Ship. Wt.
HTC-342	7	8	8	5
HTC-343	7	10	8	5 1/2
HTC-344	7	12	8	5 3/4
HTC-345	7	14	8	6
HTC-346	8	16	8	7
HTC-347	9	15	11	8
HTC-348	12	18	12	14 1/2

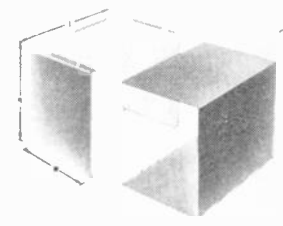
UNIVERSAL SPEAKER HOUSING—This versatile unit can be screwed to the wall or mounted directly to an outlet box. If greater adjustability is desired a yoke or "U" shaped speaker bracket, one of the USHB series, can be used. Speaker openings face front and back for bilateral sound projection. This makes them very adaptable for use in halls or auditoriums. Being of steel they do not weather and are easy to clean. Interior is coated with a sound deadening material. Finish is silver gray hammertone.

Cat. No.	Speak. Size	H	L	D	Wt.
USH-534	4 or 5	7 1/4	6 3/4	3 1/2	2 1/2
USH-535	5 or 6	8 1/4	7 1/2	4	2 3/4
USH-536	6 or 8	10 1/4	9 1/2	5	4 1/2
USH-540	10 or 12	15	13 1/2	7 1/2	9



MINIATURE CABINETS

Aluminum		Etched		Wt.	
Cat. No.	Gray Hammertone	Cat. No.	Aluminum	L	H W
M-51	M-81			2 3/4 x 2 1/8 x 1 5/8	
M-52	M-82			2 3/4 x 2 1/8 x 2 3/4	
M-53	M-83			3 1/4 x 2 1/8 x 1 1/8	
M-54	M-84			3 1/4 x 2 1/8 x 1 5/8	
M-55	M-85			4 x 2 1/4 x 1 5/8	
M-56	M-86			4 x 2 1/4 x 2 1/4	
M-57	M-87			4 x 2 x 2 3/4	
M-58	M-88			4 1/4 x 2 1/4 x 1 1/2	
M-59	M-89			5 x 2 1/4 x 2 1/4	
M-60	M-90			5 x 4 x 3	
M-61	M-91			5 1/4 x 3 x 2 1/8	
M-62	M-92			6 x 5 x 4	
M-63	M-93			7 x 5 x 3	
M-64	M-94			8 x 6 x 3 1/2	
M-65	M-95			10 x 2 x 1 5/8	
M-66	M-96			10 x 6 x 3 1/2	
M-67	M-97			12 x 2 1/2 x 2 1/4	
M-68	M-98			12 x 7 x 4	
M-69	M-99			17 x 5 x 4	



CHROME VENTILATING LOUVERS

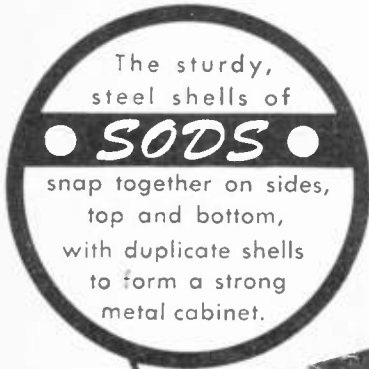
These are made of stainless steel with a high polish finish. They fit our sloping face cabinets but can be adopted to any unit. They fit behind a 2x4 3/8 rectangular hole and mount on 4-27/32 centers. Sold pair with screws.

Catalog No. TRM-40

CALIFORNIA CHASSIS CO. — Lynwood, California

HAKE PRODUCTS, INC.

CINCINNATI 30, OHIO



YOU make up your own
Small Parts Cabinet
 to fit **YOUR NEEDS**

SYSTEMATIC

with

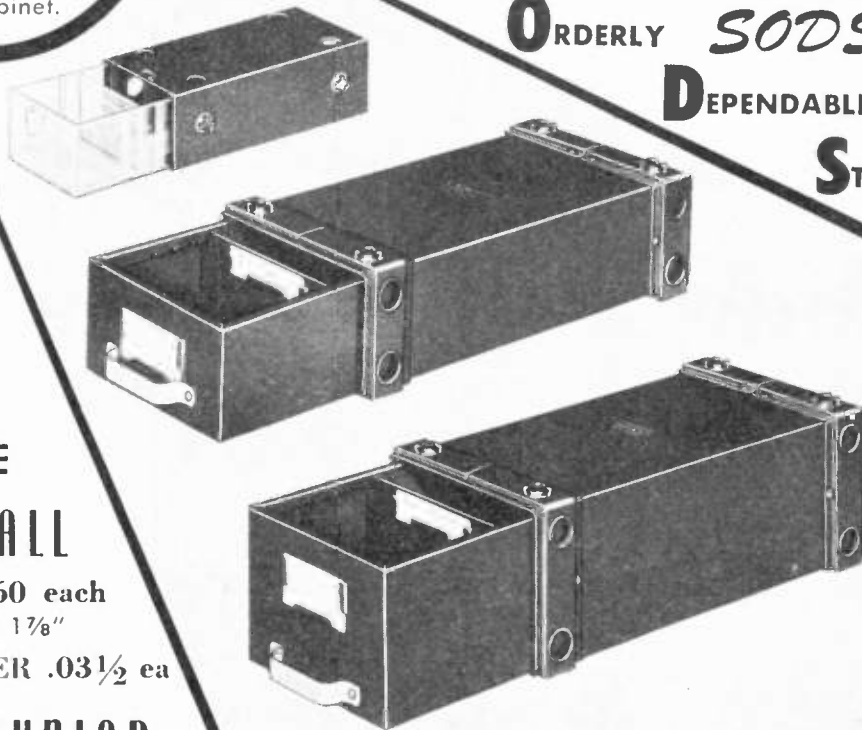
ORDERLY

SODS

DEPENDABLE

STORAGE.

3
SIZES
OF
SODS



AVAILABLE

No. 1 SMALL

SODS \$.60 each

6¹/₈" x 3¹/₈" x 1⁷/₈"

No. 1D DIVIDER .03¹/₂ ea

No. 2 JUNIOR

SODS . . \$3.00 each

11³/₄" x 5¹/₈" x 2¹/₂"

inside measurement.

No. 2D DIVIDER .13¹/₂ each

No. 3 SENIOR

SODS . . \$3.30 each

11³/₄" x 5¹/₈" x 3¹/₂"

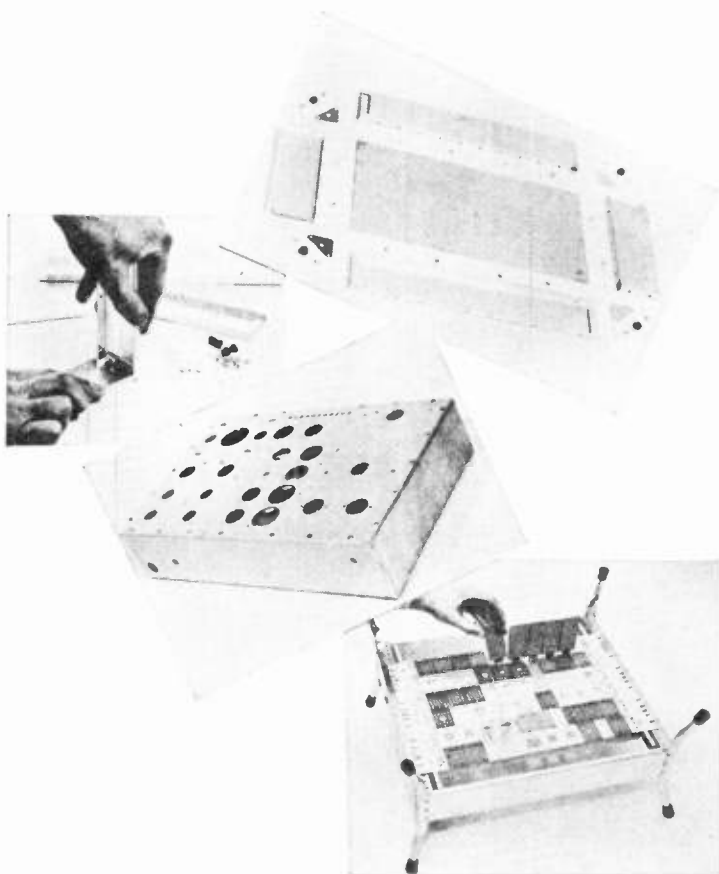
inside measurement.

No. 3D DIVIDER .15 each

ONE DIVIDER INCLUDED IN PRICE OF EACH OF ABOVE DRAWERS. PRICES NET.

- **MODERN** Light weight, functional in design.
- **EFFICIENT** Parts are quickly, easily located.
- **PRACTICAL** You build to suit your needs.
- **SELECTIVE** You have a choice of three sizes.
- **ECONOMICAL** You buy only what you actually need.
- **CONVENIENT** When you need more room.
- **SO SIMPLE** Just add more **SODS**

SODS unique construction is patented—U. S. Pats. #2,482,174 and #2,569,236; they snap together on sides, top and bottom joining one drawer cabinet to another—buttons that hold tight, yet pry apart easily for rearrangement.

SeeZak

SEEZAK Electronic Components are designed with the engineer, technician and ham in mind. Nowhere is the complete versatility excelled. Integrated, modular construction means flexibility and exactness at all times. Starting with the E-X-P-A-N-D-A-B-L-E SEEZAK Chassis, the uniqueness of this patented electronic component line is evident. Sides (rails) and tops (panels) of the SEEZAK Chassis are easily assembled or disassembled . . . thus offering the maximum accessibility for ease of work, and maximum economy for reusability. Completeness of the line is readily evident. Some 211 precision manufactured parts completely integrate and offer maximum versatility to the engineer, technician or ham.

ELECTRONIC COMPONENTS**EXPANDABLE CHASSIS****CIRCUIT ASSEMBLER****BENCH RACKS****PEG BOARDS****PRESTO TERMINALS****E-KONO TERMINALS****RELAY RACK PANELS****MOUNTING PLATES****MINIATURE BRACKETS****STARTER KITS****BENCH RACK KITS****DISPLAY CABINETS****DISPLAY RACKS**

ALSO JOB SHOP FACILITIES TO
FABRICATE SHEETMETAL TO
YOUR SPECIFICATIONS.

BY **RIMAK**
RIMAK INCORPORATED
NORTH HOLLYWOOD, CALIF.

PRICE LIST

EXPANDABLE CHASSIS

Flexibility of the SEEZAK Expandable Chassis readily is apparent when you realize that 315 standard chassis sizes, from 4"x4" to 17"x17", 2", 3", and 4" high, in 1" increments, can be made — plus unlimited combinations. Wiring can be accomplished before the top plate is attached to the rails. Perfect coordination of all precision punched holes is insured through exacting tooling standards. All chassis parts are of aluminum.

PANELS

SEEZAK panels are offered in 105 different sizes, ranging from 4"x4" to 17"x17", in 1" increments in any direction. Panels are nominal dimension, cut $\frac{1}{8}$ " undersize to insure no overhang. Aluminum is 1 gauge heavier than found in normal chassis. Panels are prefixed "P".

RAILS

SEEZAK Rails are packaged in pairs. Available in 14 different lengths, from 4" to 17" nominal dimension, and come in 3 different widths, 2", 3" and 4". Rigid strength is offered through a patented interlocking corner. Rails are prefixed "R".

PROTOTYPE PANELS

SEEZAK Prototype Panels are pre-punched to take various size sockets, and can be used in place of or in conjunction with regular panels. Prototype Panels are prefixed "PT".

RAIL CONNECTORS

SEEZAK Rail Connectors add versatility, making "L" and "U" shaped chassis possible. They come in 2", 3" and 4" lengths. Rail Connectors are prefixed "RC."

SHIELD CLIPS

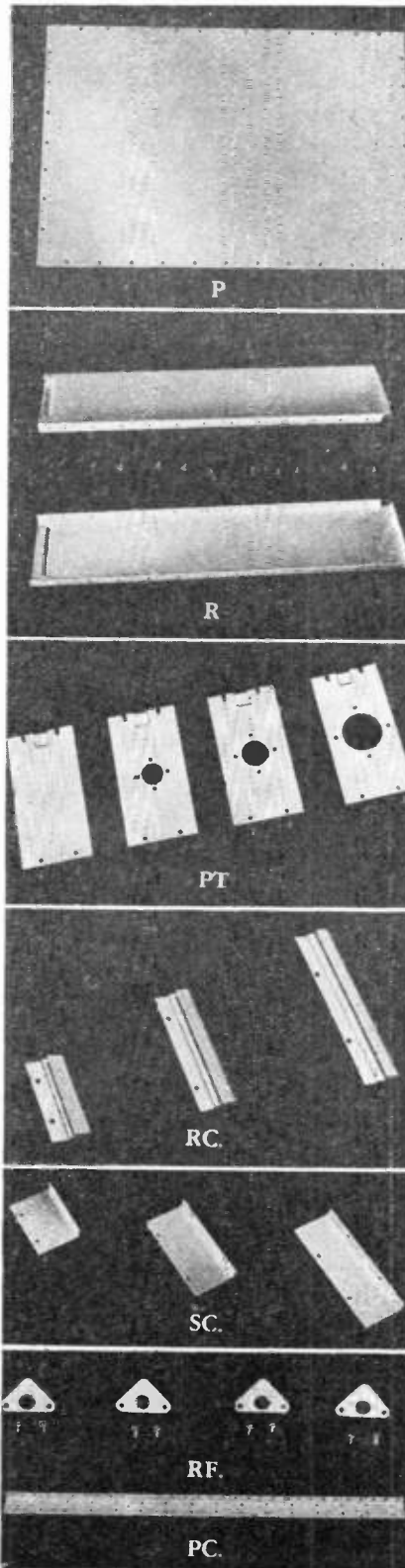
SEEZAK Shield Clips give internal shielding when used in conjunction with a rail 1" shorter than the side rails. They come in 2", 3" and 4" lengths. Shield Clips are prefixed "SC."

RAIL FEET

SEEZAK Rail Feet are designed to give extra chassis strength, combined with cushioned feet. Rail Feet are prefixed "RF."

PANEL COUPLER

SEEZAK Panel Couplers come in 16" standard length, to be cut to desired length by user. They are used to attach two or more panels together. Panel Couplers are prefixed "PC."



PANELS			
Part No.	Price Ea.	Part No.	Price Ea.
P-44	.39	P-811	1.02
P-45	.42	P-812	1.08
P-46	.45	P-813	1.14
P-47	.48	P-814	1.20
P-48	.51	P-815	1.26
P-49	.54	P-816	1.32
P-410	.57	P-817	1.38
P-411	.60	P-99	.99
P-412	.63	P-910	1.05
P-413	.66	P-911	1.11
P-414	.69	P-912	1.17
P-415	.72	P-913	1.23
P-416	.75	P-914	1.29
P-417	.78	P-915	1.35
P-55	.45	P-916	1.41
P-56	.48	P-917	1.47
P-57	.51		
P-58	.54	P-1010	1.20
P-59	.60	P-1011	1.29
P-510	.63	P-1012	1.35
P-511	.69	P-1013	1.44
P-512	.72	P-1014	1.50
P-513	.75	P-1015	1.56
P-514	.81	P-1016	1.62
P-515	.84	P-1017	1.68
P-516	.87		
P-517	.93	P-1111	1.41
P-66	.57	P-1112	1.50
P-67	.60	P-1113	1.59
P-68	.63	P-1114	1.71
P-69	.66	P-1115	1.80
P-610	.72	P-1116	1.89
P-611	.75	P-1117	2.01
P-612	.81	P-1212	1.62
P-613	.84	P-1213	1.74
P-614	.87	P-1214	1.83
P-615	.90	P-1215	1.92
P-616	.93	P-1216	2.04
P-617	.96	P-1217	2.16
P-77	.72	P-1314	1.83
P-78	.75	P-1315	2.01
P-79	.78	P-1316	2.13
P-710	.81	P-1317	2.25
P-711	.84	P-1414	2.37
P-712	.87	P-1415	2.52
P-713	.93	P-1416	2.70
P-714	.99	P-1417	2.85
P-715	1.05	P-1515	2.49
P-716	1.11	P-1516	2.67
P-717	1.17	P-1517	2.85
P-88	.84	P-1616	2.70
P-89	.90	P-1617	2.85
P-810	.96	P-1717	2.97

RAILS	
Part No.	Price Ea.
P-24	.39
R-25	.45
R-26	.48
R-27	.51
R-28	.57
R-29	.63
R-210	.69

2" RAILS Pr.	
Part No.	Price Ea.
P-211	.72
P-212	.78
P-213	.81
P-214	.90
P-215	.93
R-216	.99
R-217	1.05

3" RAILS Pr.	
Part No.	Price Ea.
R-311	.96
R-312	1.05
R-313	1.11
R-314	1.17
R-315	1.23
R-316	1.32
R-317	1.38

4" RAILS Pr.	
Part No.	Price Ea.
R-411	1.20
R-412	1.29
R-413	1.35
R-414	1.44
R-415	1.53
R-416	1.65
R-417	1.74

PROTOTYPE PANELS	
Part No.	Price Ea.
PT-0	.30
PT-7	.35
PT-8	.35
PT-9	.35

RAIL CONNECTOR	
Part No.	Price Ea.
RC-2	.12
RC-3	.15
RC-4	.18

SHIELD CLIP	
Part No.	Price Ea.
SC-2	.12
SC-3	.15
SC-4	.21

PANEL COUPLER	
Part No.	Price Ea.
PC-16	.39

RAIL FEET	
Part No.	Price Ea.
RF-1	.45



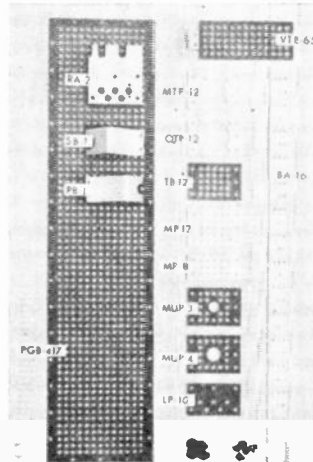
BY RIMAK, NORTH HOLLYWOOD, CALIF.

PRICE LIST

CIRCUIT ASSEMBLER

"Breadboarding" is a key phase of circuit and system designing. With SEEZAK Circuit Assembler, systemized layout without restrictions is accomplished easily. Components can be mounted on individual modules, then easily fastened down, and just as easily removed for layout changes. Same precision and exacting aluminum component design exists in SEEZAK Circuit Assembler as in SEEZAK Chassis. Nomenclature and part number of components are:

- | | |
|---------------------------|----------|
| Body Angle | BA-16 |
| Component Tray | CT-17 |
| End Bracket | EB-23 |
| Lead-in Plate | LP-10 |
| 2" Meter Mounting Plate | MMP-43 |
| 3" Meter Mounting Plate | MMP-44 |
| 1" Mounting Plate | MP-8 |
| 1 1/2" Mounting Plate | MP-12 |
| Miniature Tube Plate | MUP-3 |
| 3/8" Multi-Use Plate | MUP-4 |
| 1/2" Multi-Use Plate | MUP-12 |
| Octal Tube Plate | OT-12 |
| Potentiometer Bracket | PB-1 |
| Rack Adapter | RA-2 |
| 10-32 Rack Mount Screw | RMS-1-32 |
| Rubber Feet | RF-4 |
| Switch Bracket | SB-1 |
| No. 4 Self-tapping Screws | SS-4-40 |
| No. 4 Self-tapping Nuts | SN-4-40 |
| Terminal Board | TB-12 |
| Vertical Terminal Board | VTB-65 |
| SeeZak Stand-Off | SO-3 |



CIRCUIT ASSEMBLER

Part No.	Packaged Price
BA-16	.39 ea.
CT-17	3.45 ea.
EB-23	1.80/pr.
LP-10	2.40/10
MMP-43	.54 ea.
MMP-44	.57 ea.
MP-8	2.40/10
MP-12	2.40/10
MTP-12	2.40/10
MUP-3	2.40/10
MUP-4	2.40/10
OT-12	2.40/10
PB-1	1.50/6
RA-2	2.10/6
RMS-10-32	.30/20
RF-4	.39/20
SB-1	1.50/6
SS-4-40	.90/C
SN-4-40	1.80/C
TB-12	2.40/10
VTB-65	2.40/4
SO-3	1.98/30

Bulk Prices Quoted on Request

TERMINALS

PRESTO TERMINALS: A rugged, silver coated, solder terminal, exactly made to push-in or pull-out where needed and as needed. Presto Terminals are number "T-100"

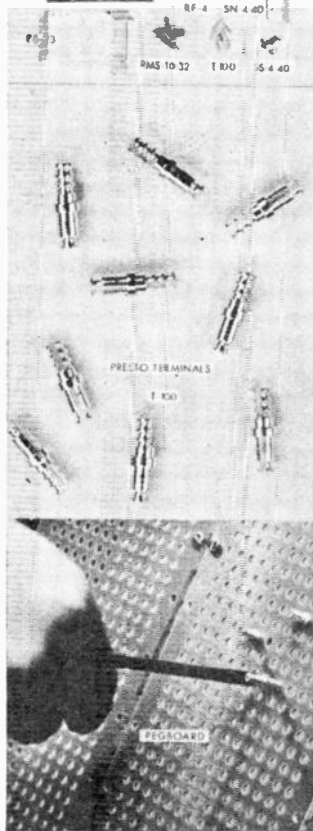
E-KONO TERMINAL: Designed on the same push-in or pull-out principle, the tin-plated E-Kono terminal offers utility and economy. E-Kono Terminals are numbered "E-Kono Term."

TERMINALS

PRESTO—T-100	4.50/C
E-KONO TERMINALS	1.38/C

PEGBOARDS

Literally a sheet of holes", SEEZAK'S Formica Pegboard comes in three sizes, 4"x7", 4"x12" and 4"x17", designed to mesh modularly with the SEEZAK line. Parallel holes, 1/4" on center, accommodate both the Presto and the E-Kono Terminals. Pegboards are prefixed "PGB."



PEGBOARDS

PGB-47	1.38/ea.
PGB-412	1.77/ea.
PGB-417	2.10/ea.

RELAY RACK PANELS

SEEZAK has designed for the engineer, technician and ham a Relay Rack Panel, together with brackets so that a SEEZAK Chassis can be mounted quickly and rigidly. Precision drilled holes mesh perfectly for standard 17" width chassis. Shorter length chassis can be mounted where user desires. SEEZAK Relay Rack Panel comes in one size only, 7"x19", to fit the normal relay rack. Chassis Mounting Brackets, complete with mounting screws and nuts, come in four sizes, CMB-78 for 7" and 8" deep chassis; CMB-910 for 9" and 10" chassis; CMB-1112 for 11" and 12" chassis; CMB-1314 for 13" through 17" chassis. A Chassis Mounting Angle for additional support and place for mounting dust panel is prefixed "CMA" and comes in a standard 16" length.

RELAY RACK PANEL
RRP-719 2.22/ea.

CHASSIS MOUNTING BRACKET

CMB-78	.99/pr.
CMB-910	1.17/pr.
CMB-1112	1.35/pr.
CMB-1314	1.53/pr.

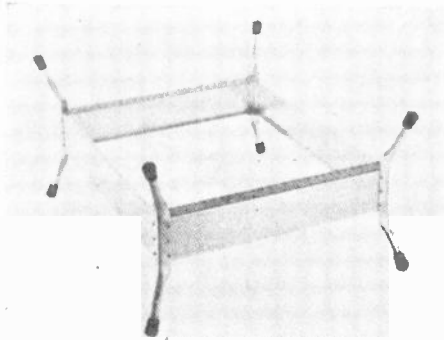
CHASSIS MOUNTING ANGLE

CMA-16	.54/ea.
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PRICE LIST

BENCH RACK

Uniquely created for the engineer, technician and ham is the SEEZAK Bench Rack, offering these features: will not tip over — workability in any position, up, down or upside down — rigid aluminum construction — stainless steel mounting strips tapped per "Universal" rack spacing — patented interlocking corners — accommodates all SEEZAK parts. The Bench Rack comes 17"x20" and allows the most freedom of operation yet devised for breadboarding and system development. It is offered in kit form, or parts may be purchased separately.



BENCH RACK

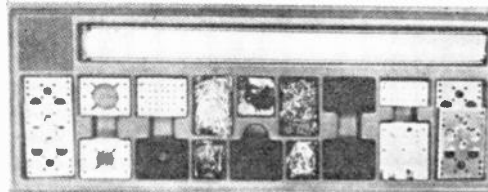
Angle Leg	AL-1	3.90/4
St. Stl. Mtg. Strip	MS-17	5.10/pr.
Rack Rail Side	RR-317	2.40/pr.
Rack Rail End	RR-320	2.70/pr.
Rubber Tips	RT-1	.75/8

BENCH RACK KIT

BR Kit	12.99
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STARTER KIT

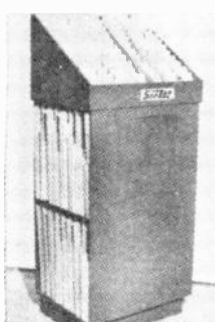
SEEZAK's Starter Kit consists of a useful assortment of all SEEZAK Circuit Assembler component parts. It comes packed in a die-formed, grey plastic tray with a transparent plastic top, suitable for counter-display. The tray is designed to be used as a workbench "reservoir", making it a valuable component itself. This kit comes equipped with a "Quick-Wedge" screwdriver. Total value of the kit is \$21.72.



STARTER KIT

S'r Kit	16.98
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DISPLAY CABINET



A wooden, completely assembled and finished SEEZAK display cabinet has been compactly designed to hold and display all elements of the SEEZAK Expandable Chassis line. There also are places in which to put and display SEEZAK literature. This is a beautiful, useful and eye-catching distributor fixture, available at less than cost to "Stocking Distributors" only with initial stocking order.

DISPLAY RACK



A wrought iron SEEZAK display rack has been compactly designed to hold and display all circuit assembler, bench rack, terminal and pegboard parts in the SEEZAK line. Its unique design makes it readily adaptable to stand alone or be hung on the display cabinet. Places also allow literature to be displayed. Available at no charge to "Stocking Distributors" with initial stocking order and O.E.M. accounts that stock SEEZAK parts.

DISPLAY FIXTURES

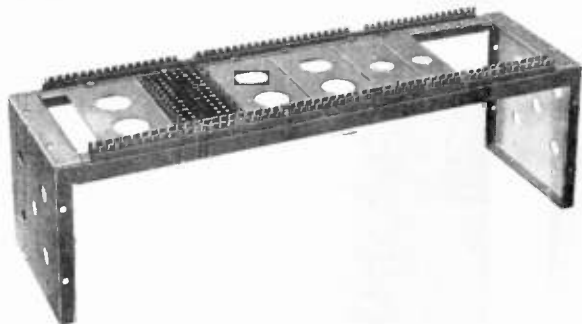
Available only with initial stocking inventory of parts.

Cabinet	25.00/ea.
Initial Cabinet Stock	417.45
Rack	No Charge
Initial Rack Stock	595.18

POLICY NOTES

1. All distributors are franchised, either as "Stocking" or "Non-Stocking."
2. Minimum distributor order after discount is \$10.
3. Shipping charges paid by factory on all orders over \$40 after discount.
4. All prices subject to change without notice.

SPEED-CHASSIS



CHASSIS:

Chassis only 5" wide, 5 1/4" deep, 16 7/8" long; 20 ga. steel heavily cad. plated; 4 insulated tie-point strips, 1 grounded. Ea. **C-100** \$ 4.95

Chassis Kit plus assortment of plates. Ea. Kit. **CK-200** 9.95

Chassis Super-Kit: One chassis kit CK-200 plus rack panel and dust cover. Ea. Kit. **CK-300** 18.95

INDIVIDUAL PLATES FOR:

- Single, 7-pin miniature, 1 1/8" wide, ea. **P-17S** \$.25
 - Double, 7-pin miniature, 1 1/8" wide, ea. **P-17D** .30
 - Single, 7-pin Vector turret lug, 1 1/8" wide, ea. **P-17ST** .45
 - Double, 7-pin Vector turret lug, 1 1/8" wide, ea. **P-17DT** .50
 - Triple, 7-pin Vector turret lug, 1 1/8" wide, ea. **P-17TT** .55
 - Single, 9-pin miniature, 1 5/8" wide, ea. **P-19S** .30
 - Double, 9-pin miniature, 1 5/8" wide, ea. **P-19D** .35
 - Single, 9-pin Vector turret lug, 1 5/8" wide, ea. **P-19ST** .45
 - Double, 9-pin Vector turret lug, 1 5/8" wide, ea. **P-19DT** .50
 - Triple, 9-pin Vector turret lug, 1 5/8" wide, ea. **P-19TT** .55
 - Single, octal, 1 1/2" centers, 2 1/8" wide, ea. **P-28AS** .30
 - Dual of preceding item, ea. **P-28AD** .35
 - Single, octal, 1 1/2" centers, 2 1/8" wide, ea. **P-28BS** .30
 - Dual of preceding item, ea. **P-28BD** .35
 - Volume control, ea. **P-11V** .45
 - Universal transformer (2 req'd), 1 1/8" wide, pr. **P-11T** .65
 - Blank, 1 1/8" wide, ea. **P-11B** .25
 - Blank, 1 5/8" wide, ea. **P-21B** .25
 - Blank, 2 1/8" wide, ea. **P-31B** .30
- (All plates heavily cad. plated 20 ga. steel)
- 11 forklet lugs, ea. side, bakelite, 2 1/8" wide, ea. **BP-31LA** .95

PANELS:

5 1/4" x 19", .024 steel with formed edges, drilled to match tapped holes in rack brackets, gray prime coat finish, ea. **PA-150** 2.75

RACK BRACKETS:

For mounting chassis in st'd rack (2 req'd), pr. **RB-200** 1.80

Same as above except for mounting two chassis together. Pr. **RB-400** 2.00

DUST COVERS:

Gray hammertone finish, with suitable bracket for mounting over chassis, ea. **DC-10** 6.25

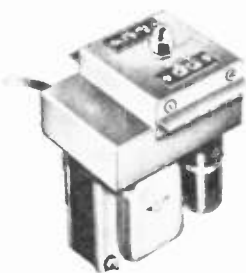
TRANSISTOR KIT:

2 1/8" x 4 1/8" phenolic board, sockets, clamps and terminals, ea. **BP-31TR** 3.90

adjustable POWER SUPPLY



Stacking and place arrangements of the SPEED-CHASSIS are extremely varied; units in combination may be placed side-to-side, end-to-end or one on top another on bench or on panel to serve practically any need. Mounting holes for these arrangements are already punched. The SPEED-CHASSIS are preassembled; controls may be mounted on either end.



POWER SUPPLY:

OUTPUT: Continuously variable 60-425 volts, 6.3 volts AC at 3 amp.; CURRENT: 50 Ma maximum at 275 volts; RIPPLE: 0.5 volts at 50 Ma 275 volts; INPUT VOLTAGE: 105-155 volts AC 50-60 cycle; CONTROLS: Voltage adjustable screw driver slot.

The Model APS-275A Adjustable Voltage Power Supply is designed to operate in the SPEED-CHASSIS, and is easily mounted or removed as required. This compact little unit will supply the average B power and filament power requirements for experimental work with the SPEED-CHASSIS. ea. **APS-275A** 39.95

All prices and specifications subject to change. All prices net F.O.B. Los Angeles

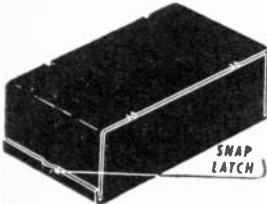
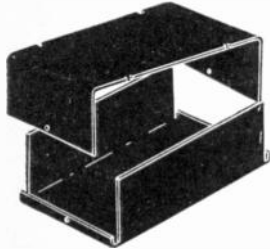
LMB® Box Chassis

The Engineered Precision Line with Interlocking and Flangelocking Construction

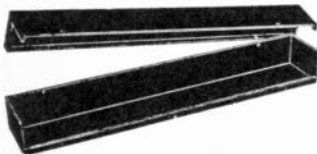
Here is the answer to box chassis needs, for the laboratory, manufacturer, experimenter, or builder. The following L. M. B. Boxes are available from stock in either interlocking (screw fastened) or snap latch. All screw fastenings are drilled and tapped. Self tapping screws are not used. Available colors include natural aluminum, gray or brown hammertone, and black crackle. When ordering specify style and color.

Aluminum used in all LMB products is aircraft quality specifications type 3003-H 14.

Interlocking



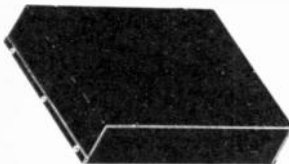
Flangelocking



Endlock



SLIDE COVER



SHIELDED CHASSIS

PRINTED CIRCUIT CHASSIS

Printed circuit chassis are made with a shallow base with a cap cover on the bottom so that it can be removed to work on the assembly without removing the printed circuit from the chassis. All printed circuit chassis are of plain aluminum.



All prices quoted are dealer net. Manufacturers Special Discounts on Application.

INTERLOCKING (SCREW-FASTENED OR SNAP LATCH)

Model	Size	Price	Model	Size	Price
M00	2 1/4" x 1 1/2" x 1 3/8"	.53	138	6 1/4" x 3 1/2" x 2 1/8"	1.23
00Z	2 5/16" x 2 1/8" x 1 3/4"	.59	139	5 1/2" x 3" x 1 1/4"	.93
000	3 1/4" x 2 1/8" x 1 5/8"	.63	*140	3" x 4" x 5"	1.20
00	4" x 2 1/8" x 1 5/8"	.66	140	3" x 4" x 5"	1.50
100	2 3/4" x 2 1/8" x 2 3/8"	.83	*141	6" x 4" x 3"	1.33
101	4" x 2 1/4" x 1 1/4"	.81	141	6" x 4" x 3"	1.68
102	4" x 2" x 2 3/4"	.95	*142	6" x 4" x 5"	1.55
107	4" x 2 1/4" x 2 1/4"	.89	142	6" x 4" x 5"	1.95
108	5" x 2 1/4" x 2 1/4"	.96	143	4" x 4" x 2"	1.23
135	3 3/4" x 3" x 2 1/8"	.90	144	10" x 4" x 2 1/2"	2.02
136	5 1/4" x 3" x 2 1/8"	1.01	145	7" x 5" x 3"	1.95
650	6 1/2" x 2 1/8" x 1 5/8"	.98	146	8" x 6" x 4 1/2"	2.76
137	8" x 3" x 2 3/4"	1.50	15	12" x 2" x 1 3/4"	1.50
850	8 1/2" x 2 1/8" x 1 5/8"	1.26			

SIDELOCK and ENDLOCK CONSTRUCTION

L. M. B. aluminum Box chassis with sidelock and endlock construction are dust proof, semi-water, and rain proof. Sturdy construction and 100% shielded. The following models are available in plain aluminum, or finished in black, gray, or brown. Endlock or sidelock construction:

Model	Size	Price	Model	Size	Price
221	2 3/4" x 3 1/8" x 1 3/8"	1.05	654	6" x 5" x 4"	2.34
321	3 1/4" x 2 1/8" x 1 3/8"	1.05	666	6" x 6" x 6"	3.16
421	4" x 2 1/8" x 1 3/8"	1.05	686	6" x 8" x 6"	3.99
422	4" x 2 1/4" x 2 1/4"	1.20	695	6" x 9" x 5"	3.59
424	4" x 2" x 4"	1.85	753	7" x 5" x 3"	2.39
435	4" x 3" x 5"	2.02	754	7" x 5" x 4"	2.58
444	4" x 4" x 4"	1.75	863	8" x 6" x 3 1/2"	2.67
531	5 1/4" x 3" x 1 1/2"	1.20	865	8" x 6" x 5"	3.33
532	5 1/4" x 3" x 2 1/8"	1.37	1063	10" x 6" x 3 1/2"	3.33
534	5 3/8" x 3" x 4"	1.91	1085	10" x 8" x 5"	4.13
543	5" x 4" x 3"	1.74	1221	12" x 2" x 1 3/4"	1.74
546	5" x 4" x 6"	2.56	1274	12" x 7" x 4"	4.34
645	6" x 4" x 5"	2.43	1754	17" x 5" x 4"	4.92

SLIDE COVER (or dust cover) BOXES

Designed by BROADCAST ENGINEERS

No.	L	W	H	Ea.	No.	L	W	H	Ea.
17—Natural Aluminum	13"	4 1/8"	2 5/8"	\$3.18	18—Gray, Black, Brown	13"	5 1/4"	2 5/8"	\$4.36
17—Gray, Black, Brown	13"	4 1/8"	2 5/8"	3.95	19—Natural Aluminum	17"	3 1/8"	2 5/8"	3.36
18—Natural Aluminum	13"	5 1/4"	2 5/8"	3.51	19—Gray, Black, Brown	17"	3 1/8"	2 5/8"	4.20

SHIELDED CHASSIS

No.	L	W	H	Ea.	No.	L	W	H	Ea.
No. 20 Plain	7 1/2"	7"	2"	\$1.56	No. 21 Anodized	13"	10"	3"	\$5.43
No. 20 Anodized	7 1/2"	7"	2"	1.92	No. 22 Plain	17"	10"	3"	4.73
No. 21 Plain	13"	10"	3"	4.05	No. 22 Anodized	17"	10"	3"	6.23

STANDARD SIZES

Model No.	L	W	D	Mounting Lip	Price
PC 325	3	2	1 1/2	3/8"	ea. .51
PC 635	6	3	1 1/2	3/8"	ea. .60
PC 645	6	4	1 1/2	1/2"	ea. .71
PC 855	8	5	1 1/2	1/2"	ea. .83
PC 10875	10	8	3/4	1/2"	ea. 1.28
PC 12975	12	9	3/4	5/8"	ea. 1.50

Model No.	Size	Mounting Lip	Model No.	Size	Mounting Lip
D 7131	7 x 13 x 1	1/2"	D 541	5 x 4 x 1	1/2"

for use in building with the Danco model for use in building with the Danco models
No. 14 printed amplifier circuit...ea. \$1.09 No. 21, 31, 41 printed preamplifier circuit ea. \$.59

PRICES SUBJECT TO CHANGE

L M B • LOS ANGELES 6, CALIF.

L M B® Box Chassis (Continued)

	Each	DEALER NET Gray, Black, Brown		Each		DEALER NET Gray, Black, Brown	
		Plain	Brown			Plain	Brown
T-F 770	2 1/4 x 2 1/8 x 1 1/8	\$.63	\$.75	T-F 780	5 1/4 x 3 x 2 1/8	.83	\$1.04
T-F 771	2 3/4 x 2 1/8 x 2 3/4	.68	.88	T-F 781	6 x 5 x 4	1.34	1.71
T-F 772	3 1/4 x 2 1/8 x 1 1/8	.66	.78	T-F 782	7 x 5 x 3	1.28	1.73
T-F 773	3 1/2 x 2 1/8 x 1 5/8	.66	.78	T-F 783	8 x 6 x 3 1/2	1.53	2.10
T-F 774	4 x 2 1/8 x 1 1/8	.68	.88	T-F 784	10 x 6 x 3 1/2	1.79	2.37
T-F 775	4 x 2 1/4 x 2 1/4	.71	.90	T-F 785	10 x 2 x 1 1/8	1.01	1.46
T-F 776	4 x 2 x 2 3/4	.74	.93	T-F 786	12 x 2 1/2 x 2 1/4	1.26	1.56
T-F 777	4 1/4 x 2 1/4 x 1 1/2	.74	.93	T-F 787	12 x 7 x 4	2.33	3.21
T-F 778	5 x 2 1/4 x 2 1/4	.75	.96	T-F 788	17 x 5 x 4	2.45	3.22
T-F 779	5 x 4 x 3	.93	1.23				

	Each	PRICES Gray, Black, Brown	
		Plain	Brown
J-870	2 3/4 x 2 1/8 x 1 5/8	\$.67	\$.79
J-871	2 3/4 x 2 1/8 x 2 3/4	.73	.93
J-872	3 1/4 x 2 1/8 x 1 1/8	.70	.82
J-873	3 1/2 x 2 1/8 x 1 5/8	.71	.83
J-874	4 x 2 1/8 x 1 5/8	.73	.93
J-875	4 x 2 1/4 x 2 1/4	.77	.96
J-876	4 x 2 x 2 3/4	.80	.99
J-877	4 1/4 x 2 1/4 x 1 1/2	.80	.99
J-878	5 x 2 1/4 x 2 1/4	.82	1.03
J-879	5 x 4 x 3	1.04	1.34

	Each	PRICES Gray, Black, Brown	
		Plain	Brown
J-880	5 1/4 x 3 x 2 1/8	\$.91	\$1.12
J-881	6 x 5 x 4	1.51	1.88
J-882	7 x 5 x 3	1.45	1.80
J-883	8 x 6 x 3 1/2	1.70	2.27
J-884	10 x 6 x 3 1/2	2.07	2.65
J-885	10 x 2 x 1 5/8	1.11	1.66
J-886	12 x 2 1/2 x 2 1/4	1.41	1.71
J-887	12 x 7 x 4	2.77	3.65
J-888	17 x 5 x 4	2.92	3.69

	ALUM. GAUGE Each	PRICES Gray, Black, or Brown	Plain	or Brown
U-C 971	5x 4x3	.040	1.58	1.85
U-C 972	6x 5x4	.040	2.03	2.35
U-C 973	6x 6x6	.040	2.38	2.82
U-C 974	7x 5x3	.040	2.78	3.25
U-C 975	9x 6x5	.051	3.15	3.63

	ALUM. GAUGE Each	PRICES Gray, Black, or Brown	Plain	or Brown
U-C 977	12x 7x6	.051	4.20	4.95
U-C 978	10x10x8	.051	5.51	6.40
U-C 979	12x11x8	.051	6.59	7.49
U-C 980	15x 9x7	.051	6.68	7.58

SIZES											
No.	L	W	H	No.	L	W	H	No.	L	W	H
M-01	1 1/4"	1"	1"	09	2 5/8"	1 1/2"	1 1/2"	016	2"	1 3/4"	1 3/4"
02	1 1/4"	1"	1"	10	1 3/8"	1 1/4"	1 1/4"	017	2"	1 3/4"	1 1/2"
03	1 1/4"	1 1/2"	1"	11	2"	1 1/4"	1 1/4"	018	2"	2"	1 1/2"
04	1 1/4"	1 1/2"	1"	12	2 1/4"	1 1/4"	1 1/4"	019	2 1/2"	1 3/4"	1 1/2"
05	1 1/2"	1 1/2"	1"	13	1 3/4"	1 1/4"	1 1/4"	020	1 1/2"	1 1/2"	1 1/2"
06	1 1/2"	1 1/2"	1"	14	1 1/2"	1 1/2"	1 1/2"	021	1 1/2"	1 1/2"	1 1/2"
07	1 3/4"	1"	1"	15	2"	1 1/4"	1 1/2"	022	3"	1 3/4"	1 1/2"
08	2 1/4"	1"	1"								

PRICES					
	Plain	Plated	Without Mounting Ears 100 to 999 ea.	Plain	Plated
With Mounting Ears in Lots of 100 to 999 ea.	.45	.60		.38	.53
Covers for LMB Miniature Boxes 100 to 999 ea.					15

UTILITY ENCLOSURES					
No.	L	W	H	Plain	Gray
W-1A	7"	x 5"	x 4 1/2" with built in chassis	\$3.97	\$4.84
W-1B	10"	x 4"	x 3 1/2" with built in chassis	3.97	4.84
W-1C	8 1/2"	x 6 1/8"	x 5" with built in chassis	4.43	5.33
W-1D	18"	x 9"	x 11" will accommodate an 11" x 17" 2", 3" or 4" chassis	9.75	13.13

"AL-CAB" CABINETS for meter cases
or any application where outstanding appearance is needed

No.	D	W	H	Plain	Gray
W-2AP	3 1/2"	x 4"	x 3" with holes	\$1.88	\$2.19
W-2A	3 1/2"	x 4"	x 3 1/2" without holes	1.98	2.29
W-2B	3"	x 7"	x 3 1/2" without holes	2.25	2.76
W-2C	2 3/8"	x 7"	x 3 1/2" without holes	2.93	3.36

Holes in W-2AP, 2B, are 2 1/4", 3 1/4". Same numbers come with 2" and 3" knockouts. For 4 Meters holes and knockouts, add 10% to above prices.

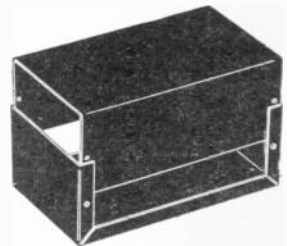
W.M. "AL-CAB" Deluxe Series
All with Built-in Chassis

No.	D	W	H	Plain	Gray
W-2F	7 1/2"	x 4 1/2"	x 5"	\$4.40	\$5.18
W-2G	13"	x 10"	x 5 3/4"	9.36	11.06
W-2H	7"	x 11"	x 6 1/4"	7.38	8.63
W-2J	8"	x 11 1/2"	x 7 1/2"	8.10	9.35

TITE-FIT BOX CHASSIS



JIFFY BOX CHASSIS

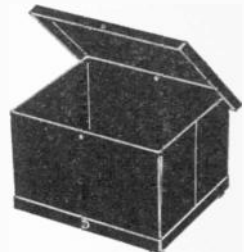


NO SCREWS

Just push together to close and the Catches snap into place—just a slight pressure of the fingers to open.

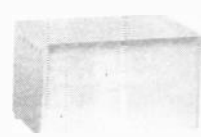
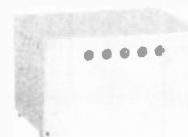
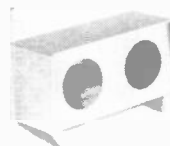
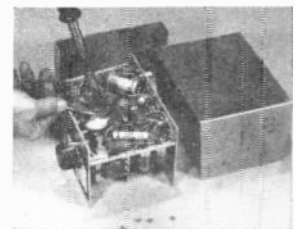
UTILITY BOXES

Give approximately 25% more usable space for building.



MINIATURE BOX CHASSIS

Precision made in steel only, cadmium plated. Made with or without mounting ears. Covers solder in when used in assembly.



PRICES SUBJECT TO CHANGE

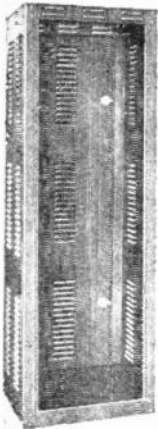


CABINETS CHASSIS

CASES PANELS

MIDDLETOWN IN CONNECTICUT

DE LUXE RELAY RACKS



Middletown De Luxe Relay Racks are made of 16-gauge steel with 1/2" panel supports which are recessed so that edges of panels set flush. Standard 19" panels fit these racks. (See next page.)

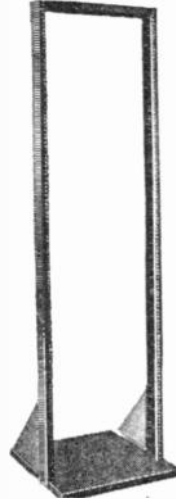
Adequate ventilation is provided by louvers in the two sides, the door and in the top at front and back. Door is hung on sturdy hinges and has snap catches. Racks come with rigid, built-in caster supports. (Casters not included in price of rack.) Furnished in either black or grey wrinkle finish. Shipped knocked down with all necessary hardware.

Rack shelves and supporting angles to fit these Relay Racks are available. Information and prices on request.

Cat. No. (Black Wrinkle)	Overall Size			Panel Size		Dealer Cost
	H	W	D	H	W	
DRR 4236	42 1/16	22	17 1/4	36 3/4	19	\$36.00
DRR 4742	47 3/16	22	17 1/4	42	19	41.40
DRR 6661	66 3/8	22	17 1/4	61 1/4	19	52.50
DRR 8277	82 3/8	22	17 1/4	77	19	63.00

Note: When ordering grey wrinkle, add prefix "G" to catalog number. Dimensions in Inches.

OPEN-TYPE CHANNEL RELAY RACKS



Sturdy construction with rigid supporting members and side angle braces make these racks perfectly suited to all heavy-duty assignments. Made of 1/8" steel channels, 3" deep. Held together with angle cross pieces of the same material. Chassis type base. Drilled and tapped to accommodate conventional 19" panels. (See next page.) Black wrinkle finish. Shipped knocked down with necessary hardware.

Cat. No.	Overall Size			Panel Size		Dealer Cost
	H	W	D	H	W	
OCR 35	35 1/2	21	22	31 1/2	19	\$18.60
OCR 70	70 1/2	21	22	66 1/2	19	21.60

Dimensions in inches.

OPEN-TYPE TABLE RELAY RACKS



For table mounting of power transmitters, P. A. systems and other radio and electronic apparatus. Rack is ruggedly constructed with strong base to accommodate heavy components. Drilled and tapped for conventional 19" wide panels which set in recess so that no edges are exposed. (See next page.)

Shipped knocked down with necessary hardware. Black wrinkle finish.

Catalog Number	Overall Size			Panel Space		Dealer Cost
	H	W	D	H	W	
TRR 24	24	21	12	21	19	\$7.50
TRR 31	31	21	12	28	19	9.30

CASTERS



Catalog Number
CA 234

Dealers Cost
.99 ea.

CHASSIS SUPPORTING BRACKETS



Catalog Number	Size	Dealers Cost
CSB 12	12 x 3 x 3	\$1.85
CSB 14	14 1/2 x 3 x 3	1.95

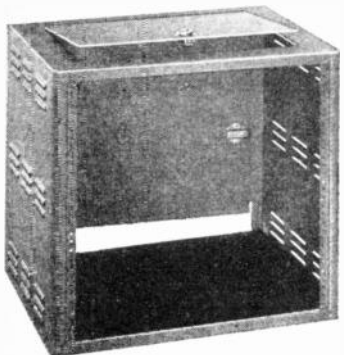
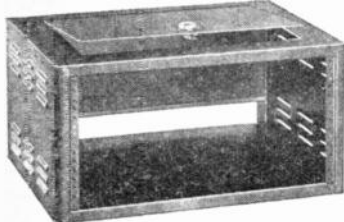
D. C. DELUXE CABINET RACKS — USE 19" RACK PANELS

Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

Features

- * Constructed of 16 gauge steel, electrically welded.
- * Adequate ventilation is provided by sufficient louvers in sides, and ventilation in back.
- * Front Vertical posts rounded.
- * Flush panel mounting (recessed).
- * Drilled and tapped for 10/32" screws on universal centers.
- * Flush door in top fitted with flush snap-lock and piano hinges.
- * Black Wrinkle finish. *Grey Wrinkle if desired.*

Standard 19" panels fit these cabinets. For panel sizes, see listing next page.



CATALOG NUMBER (Black Wrinkle)	OVERALL SIZE			PANEL SPACE		TYPE OF UNIT	DEALER COST
	H	W	D	H	W		
*DC 108	10 1/2	21 1/2	15	8 3/4	19	Single	\$12.60
*DC 1210	12 1/4	21 1/2	15	10 1/2	19	Single	14.40
*DC 1412	14	21 1/2	15	12 1/4	19	Single	15.60
*DC 1514	15 3/4	21 1/2	15	14	19	Single	17.40
*DC 1917	19 1/4	21 1/2	15	17 1/2	19	Double	20.70
**DC 2119	21	21 1/2	15	19 1/4	19	Double	21.90
*DC 2321	22 3/4	21 1/2	15	21	19	Double	22.50
*DC 2826	28	21 1/2	15	26 1/4	19	Triple	24.00
*DC 3635	36 3/4	21 1/2	15	35	19	Quad.	26.70

* Door in Top only.
** Door in Top & Rear.

Note: When ordering grey wrinkle, add prefix "G" to catalog number. Dimensions in Inches.



CABINETS CHASSIS

CASES PANELS

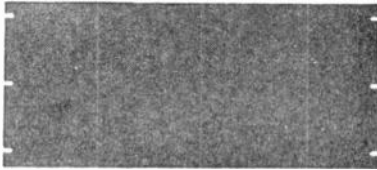
MIDDLETOWN IN CONNECTICUT

RACK PANELS — 19" LONG (Steel and Aluminum)

Middletown Rack Panels are offered in either 1/8" steel or 1/8" aluminum. They are 19" wide and are slotted for conventional W. E. mounting. Twelve standard sizes. Furnished in black or grey wrinkle finish.

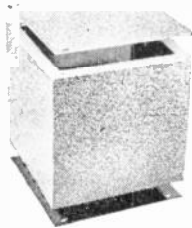
Note: When ordering grey wrinkle, add prefix "G" to catalog number.

*Available on special order. Aluminum panels 3/16" thick available at 60% increase in cost above 1/8" al. panels.



Cat. No. Steel (Bk. Wrinkle)	Dealer Cost	Height	Cat. No. Aluminum (Black Wrinkle)	Dealer Cost
R.P. 1	\$0.78	13 1/4"	A.R.P. 1	\$0.96
R.P. 3	.90	31 1/2"	A.R.P. 3	1.32
R.P. 5	1.14	51 1/2"	A.R.P. 5	1.80
R.P. 7	1.32	71"	A.R.P. 7	2.28
R.P. 8	1.62	83 1/4"	A.R.P. 8	2.70
R.P. 10	1.92	101 1/2"	A.R.P. 10	3.30
R.P. 12	2.25	121 1/4"	A.R.P. 12	3.90
R.P. 14	2.55	141"	A.R.P. 14	4.44
R.P. 15	2.85	153 1/4"	A.R.P. 15	4.92
R.P. 17	3.15	171 1/2"	A.R.P. 17	5.40
R.P. 19	3.51	191 1/4"	A.R.P. 19	5.91
R.P. 21	3.90	211"	A.R.P. 21	6.42
R.P. 26*		26 1/4"	A.R.P. 26*	
R.P. 35*		35"	A.R.P. 35	

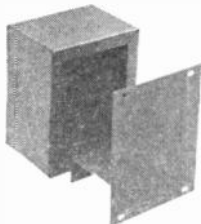
STEEL AND ALUMINUM CASES



These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Steel cases furnished in black wrinkle. Aluminum cases are natural.

STEEL				ALUMINUM			
Catalog Number	W	Size D	H	Dealers Cost	Catalog Number	Dealers Cost	
SC 442	4"	4"	2"	.96	AC 442	\$1.26	
SC 453	4"	5"	3"	1.08	AC 453	1.38	
SC 465	4"	6"	5"	1.26	AC 465	1.60	
SC 564	5"	6"	4"	1.26	AC 564	1.60	
SC 666	6"	6"	6"	1.44	AC 666	1.85	
SC 596	5"	9"	6"	1.80	AC 596	2.50	
SC 1276	12"	7"	6"	2.64	AC 1276	3.75	
SC 1287	12"	7 3/4"	6 1/2"	3.06			
SC 1576	15"	7 3/4"	6 1/2"	3.15			
SC 1597	15"	9"	7"	3.57			

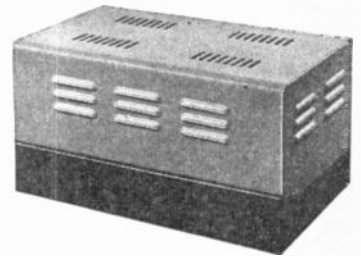
STEEL CASES WITH BUILT IN CHASSIS



Catalog Number	H	W	D	Chassis Size	Dealers Cost
SCWC 442	4	4	2	1 x 2 7/8 x 1 7/8	\$1.15
453	4	5	3	1 x 3 7/8 x 2 7/8	1.25
543	5	4	3	1 1/4 x 2 7/8 x 2 7/8	1.25
654	6	5	4	1 3/4 x 3 7/8 x 3 7/8	1.55
645	5	6	4	1 1/4 x 4 7/8 x 3 7/8	1.55
666	6	6	6	1 3/4 x 4 7/8 x 5 7/8	1.65

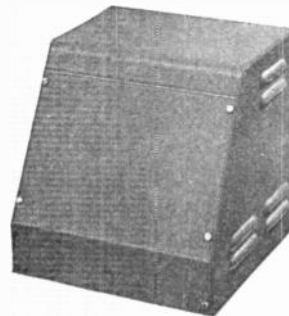
AMPLIFIER FOUNDATIONS—DeLuxe Models

This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvers on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrinkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately. Covers all have a depth of 6"



Cat. No.	Size	Dealer Cost
A.F.-5109	5 x 10 x 9"	\$3.15
A.F.-6149	6 x 14 x 9"	3.90
A.F.-7179	7 x 17 x 9"	4.50
A.F.-10129	10 x 12 x 9"	4.50
A.F.-10179	10 x 17 x 9"	5.16
A.F.-13179	13 x 17 x 9"	6.15

SLOPING FRONT PANEL CABINETS

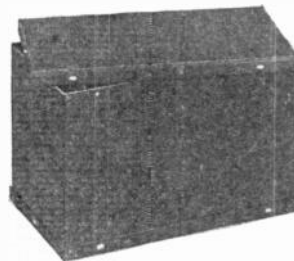


Sloping front panel cabinets have a wide application in the electronic field since they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvers on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

Cat. No.	H.W.D.	Chassis Size	Dealer Cost
S.F.-888	8 x 8 x 8"	7 x 7 x 2"	\$4.14
S.F.-8108	8 x 10 x 8"	7 x 9 x 2"	4.68
S.F.-8128	8 x 12 x 8"	7 x 11 x 2"	4.92
S.F.-8148	8 x 14 x 8"	7 x 13 x 2"	5.10
S.F.-121812	12 x 18 x 12"	10 x 17 x 3"	8.85

STEEL UTILITY CANS



These Utility Cans are ruggedly constructed from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

Cat. No.	Size	Weight	Dealer Cost
U.C.565	5 1/2 x 6 x 5 1/2"	3 lbs.	\$1.50
U.C.596	5 x 9 x 6"	5 lbs.	1.98
U.C.8107	8 x 10 x 7"	6 lbs.	2.85
U.C.81010	8 x 10 x 10"	7 lbs.	3.48
U.C.11128	11 x 12 x 8"	9 lbs.	4.35



CABINETS CHASSIS

CASES PANELS

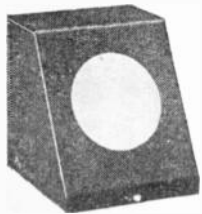
MIDDLETOWN IN CONNECTICUT

METER PANELS



Middletown Meter Panels are made 5/16" high and are made to the same specifications as our Rack Panels—are available to fit 3" meters.

Cat. No.	Holes	Hole Size	Dealer Cost
R.P.M. 33	3	2 3/16"	\$1.44
R.P.M. 35	5	2 3/16"	1.98



METER CASES

These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

Cat. No.	Meter	Hole Size	H.W.D.	Dealer Cost
M.C. 13	Single 3"	2 13/16"	4 1/2 x 4 x 4	\$1.32
M.C. 33	3-3" Meters	2 13/16"	4 1/2 x 11 1/4 x 4	3.24

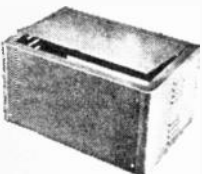
ALUMINUM MIDGET CHASSIS



These small, open-end aluminum chassis are ideal for miniature tube assemblies and all applications where space is limited. Made of prime sheet aluminum with 1/4" flange on bottom for fastening down, or attaching bottom plate. Finish is natural aluminum.

Cat. No.	Size	Dealer Cost	Cat. No.	Size	Dealer Cost
AMC 221	D 2 5/8 W 2 3/4 H 1 1/4	\$.36	AMC 541	D 5 3/4 W 4 7/8 H 1 1/2	\$.57
131	D 1 3/4 W 3 1/8 H 1	.39	431	D 4 W 3 1/8 H 1	.42
342	D 3 1/4 W 4 1/2 H 2	.42	441	D 4 W 4 1/8 H 1	.48
241	D 2 3/4 W 4 1/8 H 1	.42	451	D 4 W 5 1/8 H 1	.51
341	D 3 3/4 W 4 1/8 H 1 1/2	.42	461	D 4 W 6 1/8 H 1	.57
361	D 3 W 6 1/8 H 1 1/2	.51			

ROUNDED CORNER CABINETS

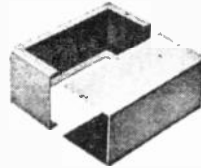


These are deluxe streamlined cabinets with front vertical corners rounded. Flush panel door, hung on full-length piano hinge, provided in top for convenient access. Ventilating louvres on sides. Opening at bottom of rear panel permits easy accessibility for leads, cables, etc. Front panel held in position with self-tapping screws. Grey wrinkle finish. Sturdily built of sheet steel.

Catalog No.	H	Size W	D	Panel Space H	W	Chassis Size D	W	H	Dealer Cost
RC 8108	8	10	8	8	8	7	7	2	\$ 4.05
RC 8128	8	12	8	8	10	7	9	2	4.50
RC 8168	8	16	8	8	14	7	13	2	5.70
RC 91711	9	17	11	9	15	10	14	3	8.70
RC 122012	12	20	12	12	18	10	17	3	10.50

Chassis are not included unless ordered. See chassis listings. Dimensions in Inches.

MULTI-MOUNTS



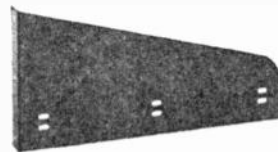
These are all-purpose boxes with an unlimited field of application in radio and electronics. Made from prime sheet aluminum. Two-piece telescoping construction, each half forming three sides. Finish is natural aluminum or grey hammer-tone.

Natural Aluminum				Grey Hammertone		
Catalog Number	Dealer Cost	SIZE H	W	D	Catalog Number	Dealer Cost
MM 122	\$.66	1 5/8	2 3/4	2 1/8	GHMM 122	\$.78
MM 132	.66	1 5/8	3 1/4	2 1/8	GHMM 132	.78
MM 142	.69	1 5/8	4	2 1/8	GHMM 142	.81
MM 242	.90	2 1/4	4	2 1/4	GHMM 242	1.05
MM 252	.93	2 1/4	5	2 1/4	GHMM 252	1.08
MM 354	1.08	3	5	4	GHMM 354	1.26
MM 253	1.05	2 1/8	5 1/4	3	GHMM 253	1.20
MM 465	1.32	4	6	5	GHMM 465	1.50
MM 375	1.44	3	7	5	GHMM 375	1.68
MM 386	2.10	3 1/2	8	6	GHMM 386	2.31
MM 3106	2.61	3 1/2	10	6	GHMM 3106	2.85
MM 4127	3.06	4	12	7	GHMM 4127	3.30
MM 4175	3.60	4	17	5	GHMM 4175	3.90
MM 1102	1.08	1 5/8	10	2	GHMM 1102	1.26
MM 2122	1.44	2 1/4	12	2 1/2	GHMM 2122	1.65
MM 2420	.87	2 3/4	4	2	GHMM 2420	1.02
MM 1420	.90	1 1/2	4 1/4	2 1/4	GHMM 1420	1.05

CHASSIS BRACKETS

Mounting

These brackets are for chassis listed on next page. Front end of the bracket is seven inches high. Finished in black wrinkle.



Catalog Number	Size	Shipping Weight	Dealer Cost
C.B. 8	For 8" Base	2 lbs.	\$.96
C.B. 11	For 11" Base	3 lbs.	1.35
C.B. 13	For 13" Base	3 lbs.	1.62

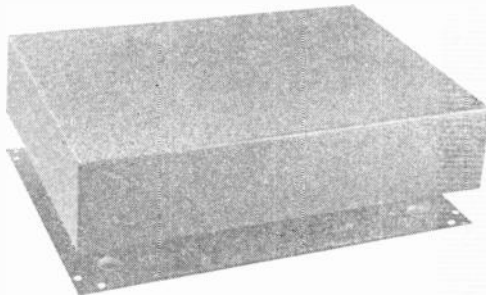


**CABINETS
CHASSIS**

**CASES
PANELS**

MIDDLETOWN IN CONNECTICUT

**CHASSIS AND
BOTTOM PLATES**



HEAVY DUTY CHASSIS
WITH BOTTOM PLATE

HEAVY DUTY CHASSIS

Stock Sizes
Black Wrinkle

Catalog Number	Size	Dealer Cost
H.D. 8172	8 x 17 x 2"	\$ 2.91
H.D. 8173	8 x 17 x 3"	3.09
H.D. 11172	11 x 17 x 2"	3.15
H.D. 11173	11 x 17 x 3"	3.45
H.D. 13172	13 x 17 x 2"	3.72
H.D. 13173	13 x 17 x 3"	4.14
H.D. 13174	13 x 17 x 4"	4.56

Middletown **STANDARD** Steel Chassis are made from one piece of steel, spot welded at all four corners. 22-, 20- and 18-gauge steel is used as indicated in the table. Bottom edges are folded over on four sides for additional rigidity. Black wrinkle finish.

Middletown **HEAVY-DUTY** Steel Chassis are made from one piece of 16-gauge steel, spot welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and drilled to match bottom plates. Ends are drilled to fit standard brackets. Black wrinkle finish. **Bottom plates are supplied with HEAVY-DUTY chassis.**

Middletown **ALUMINUM** Chassis are made from one piece of prime sheet aluminum, 16- and 18-gauge aluminum is used as indicated in the table. The design and construction of these chassis are identical with Middletown blank steel chassis. Natural aluminum finish.

Middletown **BOTTOM PLATES** are drilled and have pressed bumpers at corners. Material is 20-gauge steel. Gauge of aluminum bottom plates match gauge of chassis. Natural finish.

CHASSIS — STEEL AND ALUMINUM

CATALOG NUMBERS		STEEL		SIZE				DEALERS COST	
STANDARD GAUGE	ALUMINUM GAUGE	D	W	H	STEEL	ALUM			
*BS 442	22 ABC 442	18	4	4	\$.84	\$1.05			
BS 462	22 ABC 462	18	4	6	.95	1.28			
BS 463	20 ABC 463	18	4	6	.99	1.24			
BS 4173	20 ABC 4173	16	4	17	1.38	2.31			
BS 572	22 ABC 572	18	5	7	.95	1.05			
BS 573	22 ABC 573	18	5	7	1.02	1.35			
BS 591	22 ABC 591	18	5 1/2	9 1/2	.90	1.41			
BS 592	22 ABC 592	18	5	9 1/2	.95	1.45			
BS 5103	22 ABC 5103	18	5	10	1.14	1.62			
BS 5133	20 ABC 5133	18	5	13	1.45	1.70			
BS 6143	20 ABC 6143	16	6	14	1.38	2.34			
BS 6173	20 ABC 6173	16	6	17	1.65	2.55			
BS 772	22 ABC 772	18	7	7	.99	1.23			
BS 792	22 ABC 792	18	7	9	1.14	1.44			
BS 7112	20 ABC 7112	18	7	11	1.20	1.56			
BS 7123	20 ABC 7123	18	7	12	1.24	1.75			
BS 7132	20 ABC 7132	18	7	13	1.29	1.68			
BS 7153	20 ABC 7153	16	7	15	1.59	2.46			
BS 7173	20 ABC 7173	18	7	17	1.65	2.55			
BS 8123	20 ABC 8123	16	8	12	1.60	2.10			
BS 8172	20 ABC 8172	16	8	17	1.59	2.34			
BS 8173	20 ABC 8173	16	8	17	1.68	2.64			
BS 10123	20 ABC 10123	16	10	12	1.59	2.37			
BS 10143	20 ABC 10143	16	10	14	1.68	2.88			
BS 10172	20 ABC 10172	16	10	17	1.71	2.82			
BS 10173	20 ABC 10173	16	10	17	1.77	3.18			
BS 10174	20 ABC 10174	16	10	17	2.30	3.90			
BS 11172	18 ABC 11172	16	11	17	2.16	3.15			
BS 11173	18 ABC 11173	16	11	17	2.46	3.75			
BS 12172	20 ABC 12172	16	12	17	1.86	3.39			
BS 12173	20 ABC 12173	16	12	17	2.19	3.96			
BS 12174	20 ABC 12174	16	12	17	2.40	4.38			
BS 13172	18 ABC 13172	16	13	17	2.58	3.54			
BS 13173	18 ABC 13173	16	13	17	3.00	4.14			
BS 13174	18 ABC 13174	16	13	17	3.45	4.74			

Steel Chassis available in zinc plate at 10% additional cost
*No flange on 4 x 4 x 2 Chassis

STEEL AND ALUMINUM BOTTOM PLATES

CATALOG NUMBER	SIZE	CATALOG NUMBER	DEALERS COST
STEEL		ALUMINUM	STEEL ALUMINUM
BP 46	4 x 6	ABP 46	.40 .88
BP 417	4 x 17	ABP 417	.60 1.35
BP 57	5 x 7	ABP 57	.42 .82
BP 59B	5 x 9	ABP 59B	.42 .82
BP 59	5 1/2 x 9 1/2	ABP 59	.42 .84
BP 510	5 x 10	ABP 510	.48 .88
BP 513	5 x 13	ABP 513	.70 1.00
BP 614	6 x 14	ABP 614	.66 1.34
BP 617	6 x 17	ABP 617	.74 1.38
BP 77	7 x 7	ABP 77	.48 .88
BP 79	7 x 9	ABP 79	.51 .92
BP 711	7 x 11	ABP 711	.60 .98
BP 712	7 x 12	ABP 712	.60 1.06
BP 713	7 x 13	ABP 713	.66 1.20
BP 715	7 x 15	ABP 715	.72 1.24
BP 717	7 x 17	ABP 717	.78 1.30
BP 812	8 x 12	ABP 812	.80 1.20
BP 817	8 x 17	ABP 817	.81 1.40
BP 1012	10 x 12	ABP 1012	.81 1.40
BP 1014	10 x 14	ABP 1014	.84 1.54
BP 1017	10 x 17	ABP 1017	1.02 1.62
BP 1117	11 x 17	ABP 1117	1.05 2.00
BP 1217	12 x 17	ABP 1217	1.11 2.20
BP 1317	13 x 17	ABP 1317	1.20 2.30

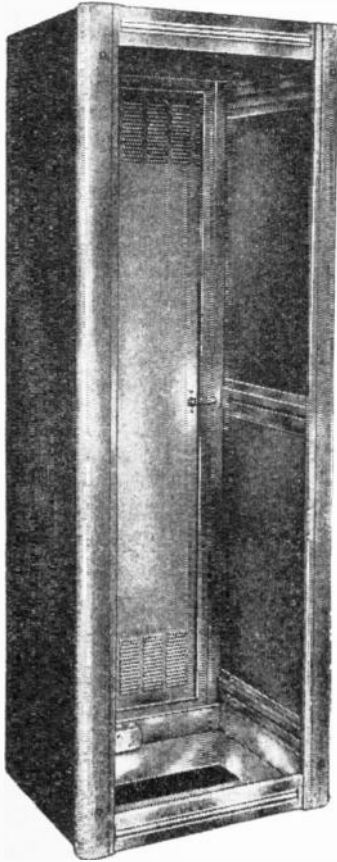
Steel Bottom Plates available in zinc plate at 10% additional cost



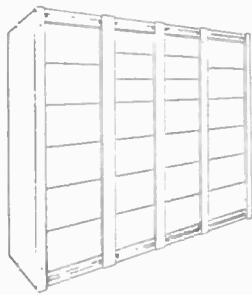
TYPE "C" UNIVERSAL CABINET RACKS

SERIES "PX" & "FX" RACKS WITH SOLID SIDE WALLS FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP FOR SINGLE OR MULTIPLE UNIT ASSEMBLY

WITH REAR DOOR ONLY



No. PX-6718



In this group are shown our standard "PX" type racks, 24" deep. The racks at the end positions are for 24" wide panels, and 19" wide panels are used on the two center racks. Regular width vertical trim strips covering the panel mounting screws are used in this arrangement.

Similar groupings could be made using "PX" racks of the same height in 18" or 24" deep racks, using 19" or 24" wide panels. All of the racks in this group have solid sides.

For over two decades, we have made various types of enclosed relay racks, differing in styling, specifications, and sizes. In presenting our **UNIVERSAL CABINET RACKS**, we offer a line with a complete range of sizes; one which combines all the advantages of racks previously listed; and which introduces new features of design providing greater flexibility and economy in assembly.

The advantages of **UNIVERSAL CABINET RACKS** may be summarized as follows:

DIMENSIONS: Racks are available for 19", 24", or 30" wide panels. Cabinet heights are 42 $\frac{7}{8}$ ", 48 $\frac{1}{4}$ ", 67 $\frac{3}{8}$ ", 76 $\frac{1}{8}$ ", and 83 $\frac{1}{2}$ "; depths available are 18" or 24".

DESIGN: Racks described on *PAR METAL* pages 2 and 3 are of conventional solid side wall construction. A description of racks with open side walls and detachable side panels is given on *PAR METAL* pages 4 and 5.

DOORS: All sizes may be ordered with rear doors only; or with matching front and rear doors.

GROUPING: All racks of the same height may be set up in "gangs" or rows; racks with 19", 24" or 30" wide panels may be intermixed; racks with or without front doors may also be intermixed.

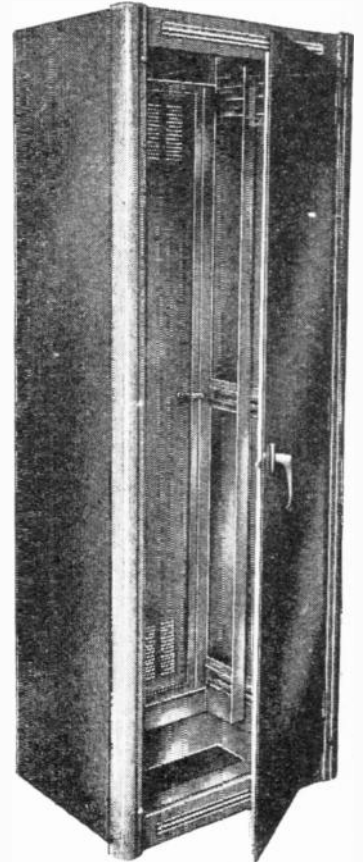
MID-RAIL MOUNTING OF PANELS: The panel mounting angles or "strips" are fully adjustable on all racks, and may be positioned at any location from front to back. Additional panel mounting angles may be easily inserted where needed for mounting terminal boards, etc.

VERTICAL SIDE SUPPORTS: These supports provide a new method for supporting chassis and other equipment in the racks. Installing brackets or shelves is now a simple procedure; the means of attaching such brackets is fully adjustable so that chassis may be accurately lined up with the front panels. No drilling or other fabrication is required. The chassis may then be installed or removed with a minimum of effort. The vertical slide supports also facilitate the installation of special sliding devices obtainable from slide manufacturers.

SLIDING SHELVES AND DRAWERS: Several models are listed on *PAR METAL* page 7. These are constructed for mounting on the front of the racks the same as regular panels.

FINISHES: All racks may be obtained in any of the following standard finishes: **GREY RIPPLE ENAMEL, BLACK RIPPLE ENAMEL, GREY HAMMERTONE ENAMEL, GREY METALLIC ENAMEL, and PRIMER COAT ONLY.** It is essential that the finish required be specified on your order to avoid subsequent inquiry and delay.

WITH FRONT & REAR DOOR



No. FX-6718

TYPE "C" UNIVERSAL CABINET RACKS

**SERIES "PX" & "FX" RACKS WITH SOLID SIDE WALLS
FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP
FOR SINGLE OR MULTIPLE UNIT ASSEMBLY**



CONSTRUCTIONAL SPECIFICATIONS FOR "PX" and "FX" SERIES RACKS

CABINET: Entire cabinet is welded together into one integral unit. Body of cabinet is made from 1/4" thick cold rolled sheet steel; top of cabinet is made from 1/2" thick steel; bottom of cabinet is made from 7/16" thick steel.

PANEL MOUNTING: Angle irons are 1/2" thick structural steel. Holes are accurately drilled and tapped 12/24 thread on standard 1/4" x 1/2" spacings. They may be positioned at any location from front to back. Additional pairs of panel mounting angles may be purchased separately. See PAR METAL page 6 for listings.

DOORS: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

"FULL VENTILATING" type louvers provide adequate ventilation in the rear doors.

HARDWARE: Doors are equipped with die cast "automobile" type sturdy handles. Hinges are of the "slip out" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated mouldings at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in back under door. A rectangular opening is provided in bottom for conduits, leads, etc. "Knock-out" holes are provided at sides for wiring between racks. **LOCKS:** Locking type Lee files are regularly supplied on front and rear of "FX" Series Racks only. They are available on rear doors of "PX" Series Racks at \$1.00 extra.

MODIFICATIONS: Modified doors are available with louvers at TOP or BOTTOM only as required. Tops of cabinets can be supplied with round or rectangular openings, with or without grilles or baffles. Adjustable baffles to limit or increase ventilation in top openings are available. If air filters are required on doors, provision can be made for this purpose. Solid doors may be substituted for louvered doors.

TYPE "PX" SERIES RACKS—WITH REAR DOORS ONLY

Catalog No.	Height	Overall Dimensions			Panel Space	Clear Inside Depth	**Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price
		Width	Depth	Depth						
FOR 19" WIDE PANELS — 18" DEEP										
PX-3718	42 7/8"	22"	18"	36 3/4" x 9"	16 7/8"	7 1/2"	19 1/8"	105	\$ 69.00	
PX-4818	48 1/8"	22"	18"	42 1/4" x 19"	15 7/8"	7 1/2"	19 1/8"	120	80.60	
PX-6718	67 3/8"	22"	18"	61 1/4" x 19"	15 7/8"	7 1/2"	19 1/8"	155	52.20	
PX-7718	76 1/8"	22"	18"	70 7/8" x 19"	15 7/8"	7 1/2"	19 1/8"	170	103.80	
PX-8418	83 1/8"	22"	18"	77 7/8" x 19"	15 7/8"	7 1/2"	19 1/8"	185	115.20	
FOR 19" WIDE PANELS — 24" DEEP RACKS										
PX-4824	48 1/8"	22"	24"	42 1/4" x 19"	22 5/8"	7 1/2"	19 1/8"	140	97.70	
PX-6724	67 3/8"	22"	24"	61 1/4" x 19"	22 5/8"	7 1/2"	19 1/8"	180	112.00	
PX-7724	76 1/8"	22"	24"	70 7/8" x 19"	22 5/8"	7 1/2"	19 1/8"	195	123.50	
PX-8424	83 1/8"	22"	24"	77 7/8" x 19"	22 5/8"	7 1/2"	19 1/8"	210	138.30	
FOR 24" WIDE PANELS — 24" DEEP RACKS										
PX-4827	48 1/8"	27"	24"	42 1/4" x 24"	22 5/8"	22 3/4"	24 1/8"	155	126.20	
PX-6727	67 3/8"	27"	24"	61 1/4" x 24"	22 5/8"	22 3/4"	24 1/8"	200	143.80	
PX-7727	76 1/8"	27"	24"	70 7/8" x 24"	22 5/8"	22 3/4"	24 1/8"	225	155.30	
PX-8427	83 1/8"	27"	24"	77 7/8" x 24"	22 5/8"	22 3/4"	24 1/8"	240	172.30	
FOR 30" WIDE PANELS — 24" DEEP RACKS										
PX-6733	67 3/8"	33"	24"	61 1/4" x 30"	22 5/8"	29 3/4"	30 1/8"	260	173.20	
PX-7733	76 1/8"	33"	24"	70 7/8" x 30"	22 5/8"	29 3/4"	30 1/8"	280	189.00	
PX-8433	83 1/8"	33"	24"	77 7/8" x 30"	22 5/8"	29 3/4"	30 1/8"	300	207.40	

TYPE "FX" SERIES RACKS—WITH FRONT AND REAR DOORS

Catalog No.	Height	Overall Dimensions			Panel Space	*Clear Inside Depth	**Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price
		Width	Depth	Depth						
FOR 19" WIDE PANELS — 18" DEEP										
FX-4818	48 1/8"	22"	18"	42 1/4" x 19"	5 1/2"	7 1/2"	19 1/8"	135	\$ 97.70	
FX-6718	67 3/8"	22"	18"	61 1/4" x 19"	6 1/2"	7 1/2"	19 1/8"	175	115.20	
FX-7718	76 1/8"	22"	18"	70 7/8" x 19"	6 1/2"	7 1/2"	19 1/8"	190	132.20	
FX-8418	83 1/8"	22"	18"	77 7/8" x 19"	6 1/4"	7 1/2"	19 1/8"	205	143.80	
FOR 19" WIDE PANELS — 24" DEEP RACKS										
FX-4824	48 1/8"	22"	24"	42 1/4" x 19"	22 1/4"	7 1/2"	19 1/8"	160	118.00	
FX-6724	67 3/8"	22"	24"	61 1/4" x 19"	22 1/4"	7 1/2"	19 1/8"	205	134.90	
FX-7724	76 1/8"	22"	24"	70 7/8" x 19"	22 1/4"	7 1/2"	19 1/8"	225	152.50	
FX-8424	83 1/8"	22"	24"	77 7/8" x 19"	22 1/4"	7 1/2"	19 1/8"	235	166.80	
FOR 24" WIDE PANELS — 24" DEEP RACKS										
FX-4827	48 1/8"	27"	24"	42 1/4" x 24"	22 1/4"	22 3/4"	24 1/8"	175	146.50	
FX-6727	67 3/8"	27"	24"	61 1/4" x 24"	22 1/4"	22 3/4"	24 1/8"	235	172.90	
FX-7727	76 1/8"	27"	24"	70 7/8" x 24"	22 1/4"	22 3/4"	24 1/8"	265	183.80	
FX-8427	83 1/8"	27"	24"	77 7/8" x 24"	22 1/4"	22 3/4"	24 1/8"	270	207.40	
FOR 30" WIDE PANELS — 24" DEEP RACKS										
FX-6733	67 3/8"	33"	24"	61 1/4" x 30"	22 1/4"	29 3/4"	30 1/8"	295	215.20	
FX-7733	76 1/8"	33"	24"	70 7/8" x 30"	22 1/4"	29 3/4"	30 1/8"	320	236.70	
FX-8433	83 1/8"	33"	24"	77 7/8" x 30"	22 1/4"	29 3/4"	30 1/8"	345	257.20	

*Clearance between front and rear doors

**Indicates clearance between panels between panels

BEFORE ORDERING, PLEASE READ INSTRUCTIONS BELOW:

CORNER TRIMS ("PX" Series Racks): Regular vertical trim strips to cover panel attachment screws supplied as standard. Where sliding drawers are used, "Narrow Type" trim strips should be specified. Where racks are set up in rows, front joining trims of either type are available, if so specified, at same price. Specify if required, otherwise standard corner trims will be supplied with each rack.

CORNER TRIMS ("FX" Series Racks): "Narrow Type" vertical trim strips are standard. Where Series "PX" and "FX" racks are determined in rows, "Narrow Type" trim strips must be used. Front joining trims are available at same price. Specify if required.

FINISH: Black Rippled Enamel is standard. Grey rippled or "Primer Coat" only are optional at same price. Other available finishes (at an additional cost of 10%) are Grey Hammer-tone enamel or Grey Metallic Enamel. **SPECIFY FINISH REQUIRED.**

HOW TO ORDER: Specify CATALOG NUMBER and FINISH on "PX" Series Racks; standard and vertical trim strips (to cover panel attachment screws) will be furnished unless "Narrow Type" trim strips are specified.

PANELS: Panels to fit these racks in 19", 24", and 30" widths are listed on PAR METAL Pages 14 and 15. Grille panels, etc. listed 19" wide can be supplied 24" wide to special order.

ROLLER TRUCKS: Roller trucks to fit these racks are listed on PAR METAL Page 13. **SHELVES:** Vertical shelf supports, brackets, and shelves are listed on PAR METAL Pages 6 and 7.

ALL PRICES ARE F.O.B. LONG ISLAND CITY, NEW YORK

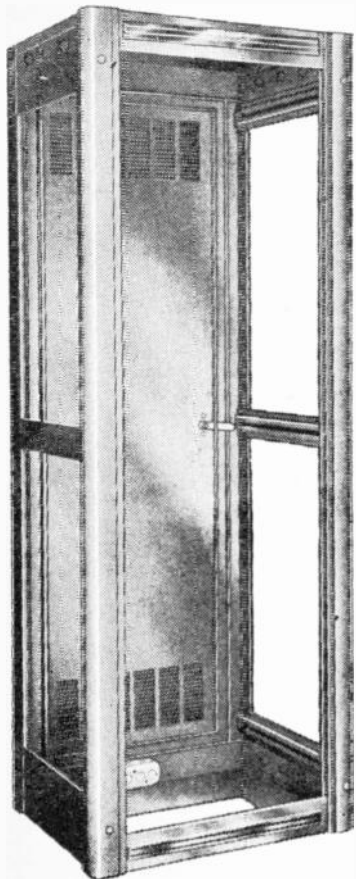
PAR-METAL PRODUCTS CORP. • Long Island City 3, N. Y.



TYPE "C" UNIVERSAL CABINET RACKS

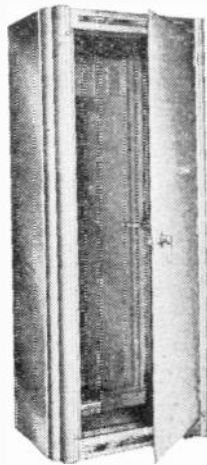
**SERIES "PR" & "FR" RACKS WITH OPEN SIDE WALLS
FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP
FOR SINGLE OR MULTIPLE UNIT ASSEMBLY**

WITH REAR DOOR ONLY

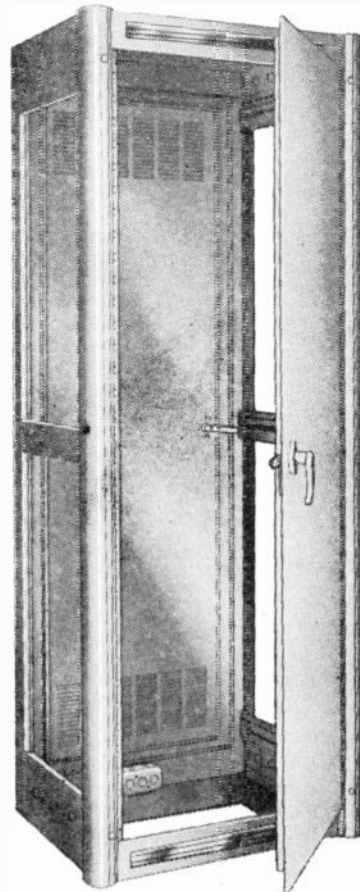


No. PR-6718

WITH FRONT & REAR DOORS



This Cabinet has Detachable Side Panels mounted.



No. FR-6718

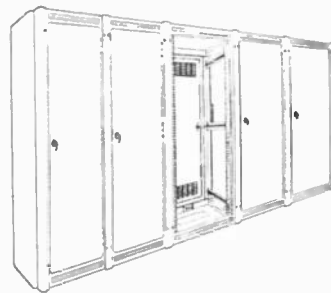
Series "FR" cabinet shown above is equipped with detachable side panels. **Universal Cabinet Racks** illustrated on this page are similar to those on the preceding pages except for construction with **OPEN SIDES** and **DETACHABLE SIDE PANELS**. Illustrations at left and right show these racks with side panels removed.

In the price list on the opposite right-hand page, you will note the last two columns list the matching detachable side panels; prices are **per pair**. The illustrations below are typical assemblies of multiple installations; many others are possible.

UNIVERSAL CABINET RACKS facilitate the location and mounting of chassis supports, shelves, sliding shelves, and standard sliding devices. Panel mounting angles may be positioned at the sides of the racks at any location from front to back.

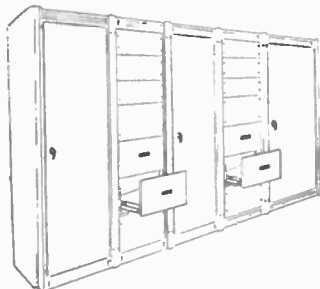
Advantages of "UNIVERSAL" Type Racks may be summarized as follows:

1. A complete line of racks to provide unit row type assembly, or for use as single racks.
2. Racks with or without front doors, for either 19", 24" or 30" wide panels may be used singly, in rows, or intermixed.
3. The panel mounting angles on ALL racks are fully adjustable, and may be set at any position from front to back.
4. Vertical Side Supports (see PAR METAL, Page 6) for attaching chassis brackets, shelves, slides, etc., may be installed without drilling or fitting.
5. Either regular or "Narrow Type" vertical corner trims are available without additional cost.
6. A simplified method is provided for installing standard or custom-built slides.
7. Available finishes are black or grey ripple enamel, primer coat only, grey hammer-tone or grey metallic enamel.



This typical group consists of racks with open sides, using types "PR" and "FR" racks intermixed. Narrow trim strips are used throughout, because racks with front doors are in the assembly.

If "PR" racks (with rear doors only) were in the group exclusively, either regular width or "narrow" type trims could be installed at your option. Detachable side panels are installed on the end racks.



In this group, types "PR" and "FR" racks are intermixed.

Racks for 24" wide panels are used on the ends, whereas the three center racks are for 19" wide panels. Three of the racks have front as well as rear doors. The position of the racks can be interchanged as desired.

Similar groupings can be made with our Solid Sides Cabinets illustrated on PAR METAL Page 2.

PLEASE SPECIFY FINISH DESIRED WITH YOUR ORDER. THANK YOU.

TYPE "C" UNIVERSAL CABINET RACKS

SERIES "PR" & "FR" RACKS WITH OPEN SIDE WALLS FOR 19"-24"-30" WIDE PANELS - 18" & 24" DEEP

FOR SINGLE OR MULTIPLE UNIT ASSEMBLY



CONSTRUCTIONAL SPECIFICATIONS FOR "PR" and "FR" SERIES RACKS

CABINET: Entire cabinet is welded together into one integral unit. Door of cabinet is made from 1/16" thick cold rolled sheet steel; top of cabinet is made from 7/64" thick steel, corner posts and bottom of cabinet is made from 7/8" thick steel.

DETACHABLE SIDE PANELS are formed and welded construction. They are supported by brackets and are fastened by two "cow" type fasteners.

SIDE SHIELDS for use between open walls are available for insertion when needed. See listing and description on PAR METAL page 8.

PANEL MOUNTING: Angle irons are 3/16" thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard 1", 1 1/2" spacings. They may be positioned at any location from front to back. Additional pairs of panel mounting angles may be purchased separately. See PAR METAL page 8 for listings.

DOORS: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are filed to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement. "FULL VENTILATING" type louvers provide adequate ventilation in the rear doors.

HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "flip joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated moldings at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc.

KNOCKOUT HOLES for interconnections **AND BOLTS** for assembling racks in rows are supplied. **LOCKS:** Locking type handles are regularly supplied on front and rear of "FR" Series Racks only. They are available on rear doors of "PR" Series Racks at an extra charge of \$1.00.

MODIFICATIONS: Modified doors are available with louvers at **TOP** or **BOTTOM** only, as required. Detachable side panels may be ordered with louvers to your specifications. Tops of cabinets can be supplied with round or rectangular openings, with or without grilles or bars. Adjustable baffles to limit or increase ventilation in top openings are available. If air filters are required on doors, provision can be made for this purpose.

TYPE "PR" SERIES RACKS—WITH REAR DOORS ONLY

Catalog No.	Overall Dimensions			Panel Space	Clear Inside			Shipping Wt. Lbs.	Net Price	DETACHABLE SIDE PANELS		
	Height	Width	Depth		*Clear Inside Depth	Clear Inside Width (Front)	Clear Inside Width (Rear)			Catalog No.	Sh. Wt. Lbs.	Net Price (Per Pair)
FOR 19" WIDE PANELS — 18" DEEP RACKS												
PR-4818	48 1/8"	22"	18"	42" x 19"	16 1/4"	17 3/4"	19 1/8"	110	\$ 80.60	RS-418	40	\$34.50
PR-6718	67 3/8"	22"	18"	61 1/4" x 19"	16 1/4"	17 3/4"	19 1/8"	150	92.20	RS-618	55	41.40
PR-7718	75 1/8"	22"	18"	70" x 19"	16 1/4"	17 3/4"	19 1/8"	160	103.80	RS-718	60	44.70
PR-8418	83 1/8"	22"	18"	77" x 19"	16 1/4"	17 3/4"	19 1/8"	180	115.20	RS-818	65	48.30
FOR 19" WIDE PANELS — 24" DEEP RACKS												
PR-4824	45 1/8"	22"	24"	42" x 19"	22 5/8"	17 3/4"	19 1/8"	125	97.70	RS-424	50	41.70
PR-6724	67 3/8"	22"	24"	61 1/4" x 19"	22 5/8"	17 3/4"	19 1/8"	165	112.00	RS-624	60	48.30
PR-7724	75 1/8"	22"	24"	70" x 19"	22 5/8"	17 3/4"	19 1/8"	175	123.50	RS-724	65	51.90
PR-8424	83 1/8"	22"	24"	77" x 19"	22 5/8"	17 3/4"	19 1/8"	190	138.30	RS-824	70	55.10
FOR 24" WIDE PANELS — 24" DEEP RACKS												
PR-4827	47 1/8"	27"	24"	42" x 24"	22 5/8"	22 3/4"	24 1/8"	150	126.20	RS-424	50	41.70
PR-6727	67 3/8"	27"	24"	61 1/4" x 24"	22 5/8"	22 3/4"	24 1/8"	185	143.80	RS-624	60	48.30
PR-7727	76 1/8"	27"	24"	70" x 24"	22 5/8"	22 3/4"	24 1/8"	200	155.30	RS-724	65	51.90
PR-8427	83 1/8"	27"	24"	77" x 24"	22 5/8"	22 3/4"	24 1/8"	215	172.30	RS-824	70	55.10
FOR 30" WIDE PANELS — 24" DEEP RACKS												
PR-6733	67 3/8"	33"	24"	61 1/4" x 30"	22 5/8"	28 3/4"	30 1/8"	245	173.20	RS-624	60	48.30
PR-7733	76 1/8"	33"	24"	70" x 30"	22 5/8"	28 3/4"	30 1/8"	270	189.00	RS-724	65	51.90
PR-8433	83 1/8"	33"	24"	77" x 30"	22 5/8"	28 3/4"	30 1/8"	285	207.40	RS-824	70	55.10

TYPE "FR" SERIES RACKS—WITH FRONT AND REAR DOORS

Catalog No.	Overall Dimensions			Panel Space	Clear Inside			Shipping Wt. Lbs.	Net Price	DETACHABLE SIDE PANELS		
	Height	Width	Depth		*Clear Inside Depth	Clear Inside Width (Front)	Clear Inside Width (Rear)			Catalog No.	Sh. Wt. Lbs.	Net Price (Per Pair)
FOR 19" WIDE PANELS — 18" DEEP RACKS												
FR-4818	47 1/8"	22"	18"	42" x 19"	16 1/4"	17 3/4"	19 1/8"	125	\$ 97.70	RS-418	40	\$34.50
FR-6718	67 3/8"	22"	18"	61 1/4" x 19"	16 1/4"	17 3/4"	19 1/8"	170	115.20	RS-618	55	41.40
FR-7718	75 1/8"	22"	18"	70" x 19"	16 1/4"	17 3/4"	19 1/8"	180	132.20	RS-718	60	44.70
FR-8418	83 1/8"	22"	18"	77" x 19"	16 1/4"	17 3/4"	19 1/8"	200	143.80	RS-818	65	48.30
FOR 19" WIDE PANELS — 24" DEEP RACKS												
FR-4824	45 1/8"	22"	24"	42" x 19"	22 1/4"	17 3/4"	19 1/8"	145	118.00	RS-424	50	41.70
FR-6724	67 3/8"	22"	24"	61 1/4" x 19"	22 1/4"	17 3/4"	19 1/8"	190	134.90	RS-624	60	48.30
FR-7724	75 1/8"	22"	24"	70" x 19"	22 1/4"	17 3/4"	19 1/8"	205	152.50	RS-724	65	51.90
FR-8424	83 1/8"	22"	24"	77" x 19"	22 1/4"	17 3/4"	19 1/8"	215	166.80	RS-824	70	55.10
FOR 24" WIDE PANELS — 24" DEEP RACKS												
FR-4827	45 1/8"	27"	24"	42" x 24"	22 1/4"	22 3/4"	24 1/8"	170	146.50	RS-424	50	41.70
FR-6727	67 3/8"	27"	24"	61 1/4" x 24"	22 1/4"	22 3/4"	24 1/8"	220	172.90	RS-624	60	48.30
FR-7727	76 1/8"	27"	24"	70" x 24"	22 1/4"	22 3/4"	24 1/8"	240	183.80	RS-724	65	51.90
FR-8427	83 1/8"	27"	24"	77" x 24"	22 1/4"	22 3/4"	24 1/8"	245	207.40	RS-824	70	55.10
FOR 30" WIDE PANELS — 24" DEEP RACKS												
FR-6733	67 3/8"	33"	24"	61 1/4" x 30"	22 1/4"	28 3/4"	30 1/8"	280	215.20	RS-624	60	48.30
FR-7733	76 1/8"	33"	24"	70" x 30"	22 1/4"	28 3/4"	30 1/8"	310	236.20	RS-724	65	51.90
FR-8433	83 1/8"	33"	24"	77" x 30"	22 1/4"	28 3/4"	30 1/8"	325	257.20	RS-824	70	55.10

*Clearance between front and rear doors.

**Indicates clearance for chassis between panel mounting strips.

BEFORE ORDERING, PLEASE READ INSTRUCTIONS BELOW:

CORNER TRIMS ("PR" Series Racks): Regular vertical trim strips to cover panel attachment screws supplied as standard. Where sliding drawers are used "Narrow Type" trim strips should be specified. Where racks are set up in rows, front joining trims of either type are available, if so specified, at same price. Specify if required, otherwise standard corner trims will be supplied with each rack.

CORNER TRIMS ("FR" Series Racks): "Narrow Type" vertical trim strips are standard. Where Series "PR" and "FR" racks are intermixed in rows, "Narrow Type" trim strips must be used. Front joining trims are available at same price. Specify if required.

FINISH: Black Rippled Enamel is standard. Grey rippled or "Primer Coat" only are optional at same price. Other available finishes (at an additional cost of 10%) are Grey Hammered enamel or Grey Metallic enamel. **SPECIFY FINISH REQUIRED.**

HOW TO ORDER: Specify CATALOG NUMBER and FINISH. On "PR" Series Racks, standard vertical trim strips (to cover panel attachment screws) will be furnished unless "Narrow Type" trim strips are specified. Order Detachable Side Panels if Required.

PANELS: Panels to fit these racks in 19", 24", and 30" widths are listed on PAR METAL Pages 14 and 15. Grille panels, etc. listed 19" wide can be supplied 24" wide to special order.

ROLLER TRUCKS: Roller truck, to fit these racks are listed on PAR METAL Page 13.

SHELVES: Vertical side supports, brackets, and shelves are listed on PAR METAL Pages 6 and 7.

ALL PRICES ARE F.O.B. LONG ISLAND CITY, NEW YORK

PAR-METAL PRODUCTS CORP.

Long Island City 3, N. Y.



UNIVERSAL CABINET RACK ACCESSORIES

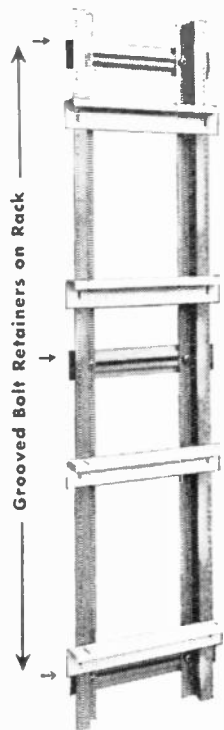
VERTICAL SIDE SUPPORTS

These vertical side supports are supplied in sets of four uprights to fit type "PX," "PR," "FX" and "FR" racks listed on PAR METAL, Pages 2 thru 5. (Cut shows side mounting brackets in place which are sold separately — see listing below).

Uprights are fastened to grooved bolt retainers which hold panel mounting angles in place, and are adjustably mounted from front to back of rack. Holes are drilled and tapped vertically on "universal centers" to provide adequate vertical adjustment for mounting brackets, shelves, and various sliding devices made for electronic equipment.

When installed in racks for 19" wide panels, the clearance between uprights (from right to left) is 17 3/4". On 24" wide panel racks, the clearance is 22 3/4"; on 30" wide panel racks, the clearance is 28 3/4". Uprights are 2 5/8" wide and 1 1/2" deep.

Uprights are made from 1 1/8" steel, finished in aluminum enamel. Each set is supplied with necessary bolts for rack mounting.



Grooved Bolt Retainers on Rack

Cat. No.	Height	To Fit Racks	Sh. Wt. Lbs.	Net Price Set of 4
VS-36	41 1/2"	PX-3718	22	\$14.15
VS-42	46 1/2"	PX, PR, FX, FR-4818, 4824, 4827	25	15.50
VS-61	67 1/2"	PX, PR, FX, FR-6718, 6724, 6727, 6733	55	20.50
VS-70	74 1/2"	PX, PR, FX, FR-7718, 7724, 7727, 7733	39	24.00
VS-77	81 1/2"	PX, PR, FX, FR-8418, 8424, 8427, 8433	45	26.75

SIDE MOUNTING BRACKETS



Brackets BR-118 and Shelf SS-1918

These brackets will fit on Vertical Side Supports as listed above. They are sold in pairs, and slotted to provide vertical adjustment at any height required. Brackets are 2" wide and 1-13/16" high. The vertical face of the bracket is also slotted to match holes in equipment shelves listed below. Where desirable, the horizontal face of the bracket may be bolted to the vertical side supports. They are made from 1/2" steel, with zinc plated finish. Necessary bolts are supplied.

Cat. No.	Length	To Fit Racks	Ship. Wt. Lbs.	Net Price
BR-118	14"	All 18" deep racks	1	\$3.15 per pr.
BR-124	20"	All 24" deep racks	6	4.20 per pr.

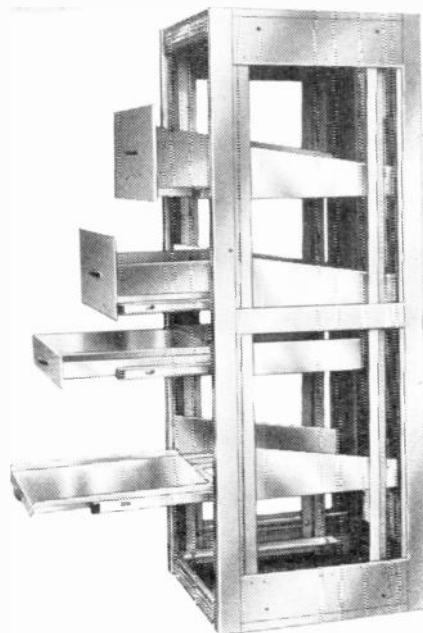
EQUIPMENT SHELVES

These shelves will assemble with the side mounting brackets listed above, to make a complete shelf between Vertical Side Supports. Made from 1/16" steel, zinc plated. Necessary bolts for assembly are included. All shelves are 3/8" high.

Cat. No.	Width	Depth	To Fit Racks	Net Price
SS-1918	17 5/8"	14 1/2"	19" panels - 18" deep	\$3.30
SS-1924	17 5/8"	20 1/2"	19" panels - 24" deep	3.96
SS-2724	22 5/8"	20 1/2"	24" panels - 24" deep	4.68
SS-3324	28 5/8"	20 1/2"	30" panels - 24" deep	6.45

Additional universal cabinet rack accessories are listed on PAR METAL Page 8
ALL PRICES ARE F.O.B. LONG ISLAND CITY, NEW YORK

RACK TYPE SLIDE ASSEMBLIES



All the sliding shelf units listed on the following page are a new improved design, and supercede all previously listed units. The slide carriers on all models are in a vertical position to permit the full load capacity of the slide mechanism. Additional models with higher load capacities are now available.

All sliding shelf units and phono drawer assemblies are now made to accommodate chassis up to 17" wide, eliminating the need for two types of assemblies previously listed. The forward movement of the shelves has been greatly increased, and the full depth of the shelf may now be extended from the rack.

All models are screw mounted to the front panel mounting angles of relay racks, the same as regular panels. Additional holes are provided in the side brackets of the shelf assembly for mounting to our standard vertical side supports. Either method will provide a rigid support; both may be used together where desirable.

CATALOG LISTINGS ARE ON OPPOSITE PAGE.

PANEL MOUNTING ANGLES

These panel mounting angles (or strips) are the same as used in all Universal type racks, and will fit in either PX, FX, PR or FR series racks (see PAR METAL, Pages 2 thru 5). They are supplied with necessary bolts to fit into the grooved retainers which hold the pair of panel mounting angles regularly supplied with each rack.

It is often desirable to use an additional pair of panel mounting angles for mounting chassis, terminal strips, etc. They may be adjusted to any depth within the rack from front to back.



Angle No.	To Fit Racks	Net Price Per Pair
PX-36	PX-3718	\$ 9.50
PX-42	PX, FX, PR, FR-4818, 4824, 4827	11.50
PA-61	PX, FX, PR, FR-6718, 6724, 6727, 6733	15.90
PA-70	PX, FX, PR, FR-7718, 7724, 7727, 7733	18.10
PA-77	PX, FX, PR, FR-8418, 8424, 8427, 8433	19.80

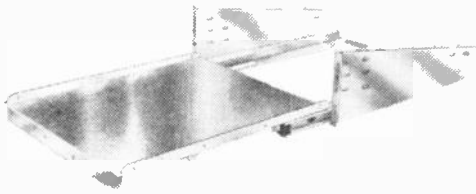
UNIVERSAL CABINET RACK FITTINGS



RACK TYPE SLIDE ASSEMBLIES

(For complete description — see opposite page)

BASIC SLIDE ASSEMBLIES

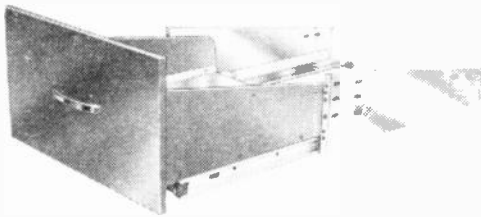


The basic slide assembly illustrated is sold as a complete unit, ready for installation in all 18" or 24" deep racks. Panels may be attached to chassis by using standard brackets or any other convenient method. The panel and chassis assembly is then bolted directly to the slide pan. Formed panels with a minimum height of 7" are recommended.

Four models are listed to fit racks using panels either 19" or 24" wide. The BS-1940 and BS-2419 are identical in size, but have different load capacities. All load capacities are conservatively rated. All parts are zinc plated.

Catalog No.	Usable Width	Usable Depth	Panel Width	Rack Depth	Bracket Height	Shelf Height	Load Capacity	Net Price	Shipping Weight	Replaces Catalog No.
BS-1980	17 $\frac{1}{8}$ "	14"	19"	18"	6 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "	50 lbs.	17.50	24 lbs.	SD-1916, 1920
BS-1940	17 $\frac{1}{8}$ "	20"	19"	24"	6 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "	30 lbs.	24.00	32 lbs.	SD-2016, 2020
BS-2419	17 $\frac{1}{8}$ "	20"	19"	24"	6 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "	60 lbs.	29.00	32 lbs.	NEW
BS-2424	22 $\frac{1}{8}$ "	20"	24"	24"	6 $\frac{1}{2}$ "	13 $\frac{3}{4}$ "	55 lbs.	31.00	35 lbs.	SD-2416, 2420

PHONO DRAWER ASSEMBLIES

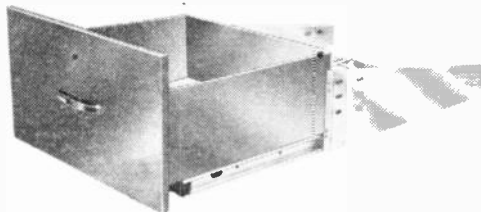


Consists of basic sliding shelf assembly with a drawer front and handle as illustrated. Drawer front is same size as standard formed panel 10 $\frac{1}{2}$ " high. (12 $\frac{1}{4}$ " high drawer fronts are also available.) The 17" width will accommodate almost all standard changers and turntables.

Where metal base pans are available with changers, it is recommended that such pans be used and bolted directly to the shelf. For Garrard changers, we have available a metal base. For other changers and turntables, we can supply open top metal bases in 4" and 5" depths.

Catalog No.	Width	Usable Depth	Height	Panel Height	Panel Width	Rack Depth	Load Capacity	Net Price	Shipping Weight	Replaces Catalog No.
PH-1980	17"	14"	8 $\frac{3}{4}$ "	10 $\frac{1}{2}$ "	19"	18"	45 lbs.	23.50	33 lbs.	PH-1916
PH-1940	17"	20"	8 $\frac{3}{4}$ "	10 $\frac{1}{2}$ "	19"	24"	30 lbs.	30.00	40 lbs.	PH-2020
PH-2419	17"	20"	8 $\frac{3}{4}$ "	10 $\frac{1}{2}$ "	19"	24"	50 lbs.	35.50	40 lbs.	NEW
PH-2424	22"	20"	10 $\frac{1}{2}$ "	12 $\frac{1}{4}$ "	24"	24"	45 lbs.	39.00	44 lbs.	PH-2416

NOTE: Please specify finish of panel front on your order — Available finishes are listed below.



STORAGE DRAWER ASSEMBLIES

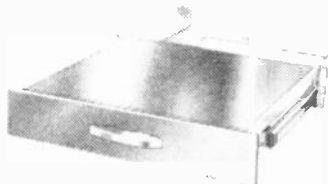
This drawer is similar to our phono drawer except that the sides of the slide are completely enclosed to form a drawer.

They are available either 7" or 10 $\frac{1}{2}$ " high to match standard rack panels of the same height. Three models are listed for racks with 19" panels, and one for 24" wide panels.

Catalog No.	Width	Usable Length	Depth	Panel Height	Panel Width	Rack Depth	Load Capacity	Net Price	Shipping Weight	Replaces Catalog No.
DD-1980	17"	14"	5"	7"	19"	18"	40 lbs.	24.00	33 lbs.	DD-1925
DD-1940	17"	20"	5"	7"	19"	24"	25 lbs.	33.00	42 lbs.	NEW
DD-2419	17"	20"	8"	10 $\frac{1}{2}$ "	19"	24"	45 lbs.	39.50	50 lbs.	NEW
DD-2424	22"	20"	8"	10 $\frac{1}{2}$ "	24"	24"	45 lbs.	44.00	50 lbs.	NEW

NOTE: Please specify finish of panel front on your order — Available finishes are listed below.

DESK SHELF ASSEMBLIES



This assembly effectively provides a retractable writing desk, or may be used for supporting test instruments or other devices.

When not in use, it saves valuable aisle space. The writing surface is charcoal grey micarta. The front requires only 3 $\frac{1}{2}$ " of panel space, and is provided with a drawer pull. It is made for racks using panels either 19" or 24" wide. No. SK-1970 and SK-2419 are identical except for load capacity.

Catalog No.	Shelf Width	Shelf Depth	Writing Surface	Pulls Out	Panel Width	Rack Depth	Load Capacity	Net Price	Shipping Weight
SK-1970	17"	17"	Micarta	16 $\frac{3}{8}$ "	19"	18-24"	36 lbs.	34.00	32 lbs.
SK-2419	17"	17"	Micarta	16 $\frac{3}{8}$ "	19"	18-24"	60 lbs.	39.00	32 lbs.
SK-2424	22"	17"	Micarta	16 $\frac{3}{8}$ "	24"	24"	60 lbs.	46.00	35 lbs.

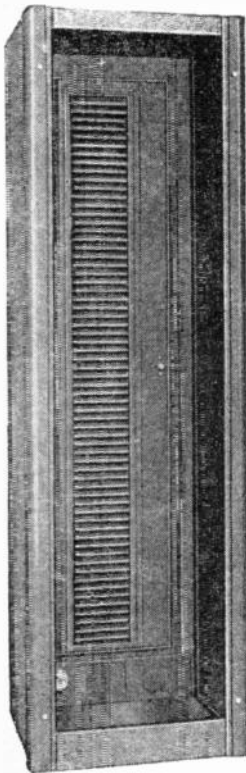
NOTE: Please specify finish of panel front on your order — Available finishes are listed below.

IMPORTANT NOTE: Panel fronts of assemblies on this page may be obtained in black or grey wrinkle, or grey hammertone. Please specify finish.



TYPE "C" STANDARD CABINET RACKS

FOR 19" and 30" WIDE PANELS



No. G-2218

These racks have been a standard unit in the electronic industry for many years, and have been adapted to a broad field of requirements. The construction is essentially the same as our Racks on PAR METAL Pages 2 and 3, and similar specifications would apply as to CABINET, PANEL MOUNTING, DOOR, HARDWARE and OUTLET.

Models G-2218, G-2219 and G-3024 have additional reinforcement at the rear corners, and are suitable for transmitter equipment. The louvers on the rear door are covered with mesh screening in the inside, and additional knockouts are provided for conduit and 4" square duct.

CORNER TRIMS: All racks have quick, detachable, new corner trims, which are fastened to front of rack with two finger type "captive screws." This permits quick, simple removal without the use of screw-drivers, etc.

TO SET UP IN GANGS OR ROWS: The racks may be joined together by means of a flat trim fastened to the front of the adjacent support angles, overlapping both racks. Knockout holes 1 1/8" in diameter are provided at the sides of the racks to permit connections between them.

Racks are regularly shipped with corner trim as illustrated; where specified, the front joining trim is furnished without additional charge in place of the corner trim.

PANELS: Panels 19" and 30" wide to fit these racks are described on PAR METAL Pages 14 and 15.

ROLLER TRUCKS: Truck RT-412 fits 18" deep racks. Roller truck HD-434 will fit rack No. G-3024. Roller trucks are listed on PAR METAL Page 13.

RACK SHELVES: Shelves are listed on PAR METAL Page 13.

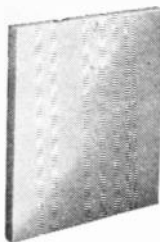
FINISH: Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. Prime coat only is optional in place of ripple enamel finish at no extra charge, if so specified in your order. Grey hammertone enamel is available at an additional charge of 10%.

18" AND 24" DEEP TRANSMITTER RACKS

Catalog No.	Finish	Overall Dimensions	Panel Space	Clear Inside Depth	Clear Inside Width (Front)	Clear Inside Width (Rear)	Shipping Wt. Lbs.	Net Price
G-2218	• Black Ripple	76 1/2" x 22" x 18"	70" x 19"	16 7/8"	17 1/2"	19 1/8"	185	\$115.60
G-2219	• Black Ripple	83 1/8" x 22" x 18"	77" x 19"	16 7/8"	17 1/2"	19 1/8"	200	129.00
G-3024	• Black Ripple	76 1/2" x 33" x 24"	70" x 30"	22 7/8"	28 1/2"	29 1/4"	250	191.80

SIDE SHIELDS FOR PR & FR RACKS (Racks are listed on PAR METAL Pages 4 & 5)

Where our PR, FR, Series Racks are used in groups, it is often desirable to use a shield between racks. Shield fits into upper and lower opening of the rack, each one shielding one half of the side. They are attached with 2 latch screws—no drilling is necessary. One shield per side ONLY is required for Racks 48 1/8" in height.

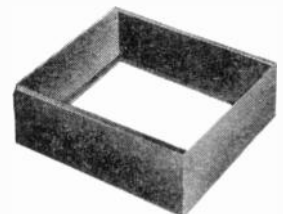


Shield No.	To Fit Rack No.	Height	Size Depth	Net Price Per Shield
P-618	PR-4818	36"	13 1/2"	\$6.50
P-618	PR-6718	26 1/4"	13 1/2"	5.25
P-718	PR-7718	30 1/2"	13 1/2"	5.75
P-818	PR-8418	34"	13 1/2"	6.25
P-124	PR-4824	36"	19 1/2"	8.00
P-124	PR-6724	26 1/4"	19 1/2"	6.25
P-124	PR-7724	30 1/2"	19 1/2"	7.00
P-124	PR-8424	34"	19 1/2"	7.75
P-124	PR-4827	36"	19 1/2"	8.00
P-124	PR-6721, PR-6733	26 1/4"	19 1/2"	6.25
P-124	PR-7727, PR-7733	30 1/2"	19 1/2"	7.00
P-124	PR-8427, PR-8433	34"	19 1/2"	7.75

METAL BASE PANS



MB-88



MB-154, 155

Pans are made from 1/8" steel with open tops. No. MB-88 has brackets for attaching Garrard changers; MB-154 and MB-155 have mounting flanges on top. Finish is grey wrinkle enamel.

Cat No.	Size	To Fit	Net Price
MB-88	15" x 12 1/2" x 3 1/2" to 4"	RC-88 or RC-98	\$5.25
MB-154	15 1/2" x 11 1/2" x 4 1/2"	general use	4.85
MB-155	15 1/2" x 11 1/2" x 5 1/8"	general use	4.85

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TYPE "C" DELUXE CABINET RACKS



FOR 19" WIDE PANELS - 24" DEEP

THESE RACKS will appeal to those who desire to combine rugged construction with modern styling and improved design. Combining furniture steel with dependable workmanship and careful attention to mechanical detail, they have been adapted to a wide range of requirements in the electronic industry.

The design of the vertical posts permits these racks to be installed in rows or "gangs," without the use of front joining strips between the racks. This provides a greater flexibility in their installation, particularly in broadcast stations.

SPECIFICATIONS FOR THESE DELUXE TYPE RACKS

CABINET: Entire cabinet is welded together into one integral unit. Body of cabinet is made from $\frac{1}{8}$ " thick cold rolled sheet steel; top of cabinet is

PANEL MOUNTING: Angle irons are $\frac{3}{16}$ " thick structural steel, holes are accurately drilled and tapped 12/24 thread on standard $1\frac{1}{4}$ "- $\frac{1}{2}$ " spacings, made from $\frac{1}{8}$ " thick steel; bottom is made from $\frac{7}{64}$ " thick steel.

DOOR: Doors are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

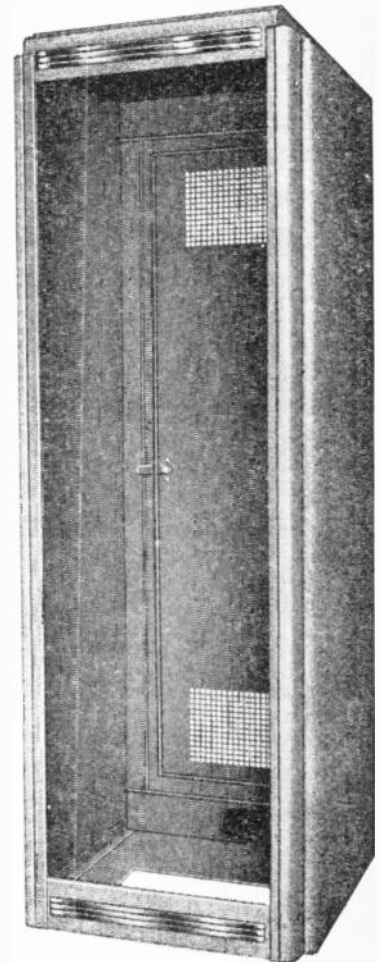
HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. Hinges are of the "slip-joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated mouldings at top and bottom.

OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc.

CORNER TRIMS: All racks have quick detachable corner trims, which are fastened to the rack by means of two "Cowl Type" fasteners on each trim.

PANELS: Panels 19" wide to fit these racks are described on PAR METAL, Pages 14 and 15.

FINISH: Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. The letter "P" before Catalog No. indicates black ripple enamel; the letter "PG" before Catalog No. indicates slate grey ripple enamel.



No. P-6924

OTHER OPTIONAL FINISHES: Primer coat only is available at same price. Other obtainable finishes (at an additional cost of 10%) are grey hammertone enamel, or grey metallic enamel. Use prefix "P" when specifying optional finishes on your order.

ROLLER TRUCKS: Truck RT-420 or HD-420 will fit all racks listed below. See PAR METAL page 15.

RACK SHELF: Shelf R-2224 fits all racks. See PAR METAL page 13.

24" DEEP RACKS

Catalog No	Finish	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Shipping Wt. Lbs.	Net Price
P-6924	• Black Ripple	69 $\frac{3}{8}$ "x23 $\frac{5}{8}$ "x24"	61 $\frac{1}{4}$ "x19"	17 $\frac{3}{4}$ "	19 $\frac{1}{8}$ "	22"	175	\$122.50
P-7824	• Black Ripple	78 $\frac{3}{8}$ "x23 $\frac{5}{8}$ "x24"	70 x19"	17 $\frac{3}{4}$ "	19 $\frac{1}{8}$ "	22"	190	132.30
P-8524	• Black Ripple	85 $\frac{3}{8}$ "x23 $\frac{5}{8}$ "x24"	77 x19"	17 $\frac{3}{4}$ "	19 $\frac{1}{8}$ "	22"	200	148.80

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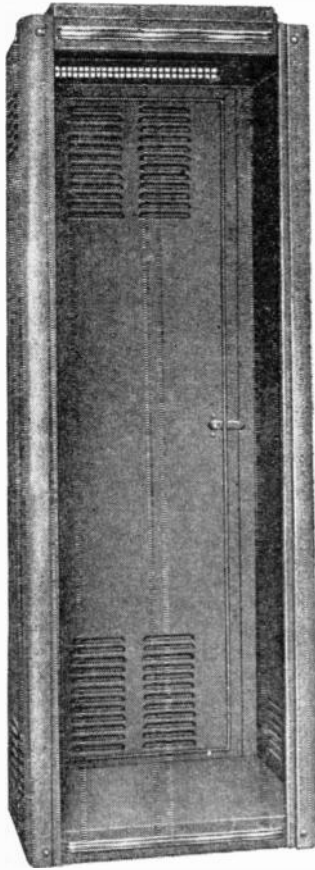
Long Island City 3, N. Y.



TYPE "A" ENCLOSED RELAY RACKS

DELUXE TYPE — FOR 19" WIDE PANELS

WITH REAR DOOR ONLY



No. ER-225

SERIES ER-225 RACKS: These units may be ganged in double or "multi-rack" units. When so ordered, racks are supplied with common intermediate sides which are joined to adjacent tops and bottoms. Solid intermediate sides are supplied. In multiple units, center joining trims are supplied.

THESE DELUXE TYPE "A" RACKS are fully in keeping with modern streamlined styling. Vertical corner trims cover the panel mounting screws, similar to our Type "C" racks. Panels fit into a recess, so that the edges of panels are not exposed when corner trims are removed. Trimmed at top and bottom with chrome finished mouldings.

CABINET: Entire cabinet is constructed of 1/16" thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly.

PANEL MOUNTING: Angle irons are of 7/64" thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

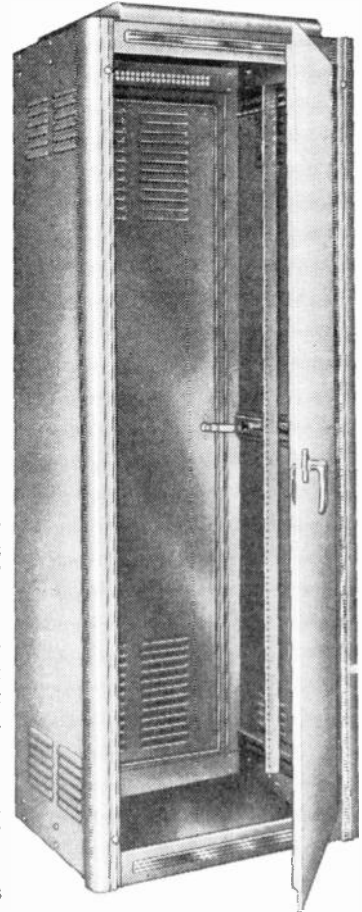
CORNER TRIMS: All racks have quick detachable, new corner trims which are fastened to front with two studs. This provides for rapid, finger-tip removal without the use of screwdrivers, etc.

HARDWARE: Doors are of new design same as our Type "C" commercial racks. "Series ER-225" racks are equipped with "automobile" type non-locking handles on rear doors. On "Series FD-225" racks, similar handles with key locks are used on both front and rear doors. Hinges are the "slip-joint" type so that doors may be easily removed. Front of rack is trimmed with chrome finished mouldings. Screws for mounting panels are supplied.

FINISH: Slate grey ripple finish is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

PANELS: Panels 19" wide to fit these racks are listed on PAR METAL Pages 14 and 15.

WITH FRONT AND REAR DOORS



No. FD-225

SERIES FD-225 RACKS: This series with front and rear doors have adjustable panel mounting angles, which may be located at any distance from front to rear of rack. VERTICAL SIDE SUPPORTS listed on PAR METAL Page 6 will fit into these racks.

S P E C I F I C A T I O N S

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Width (Front)	Clear Inside Width (Rear)	Clear Inside Depth	Shipping Wt. Lbs.	Net Price
ER-223	Rear only	48 1/4 x 22 x 18"	36 3/4 x 19"	17 3/8"	19"	16 3/4"	90	\$ 52.20
ER-225	Rear only	67 3/4 x 22 x 18"	61 1/4 x 19"	17 3/8"	19"	16 3/4"	120	64.35
ER-227	Rear only	83 1/2 x 22 x 18"	77 x 19"	17 3/8"	19"	16 3/8"	140	77.70
FD-223	Front & Rear	48 1/4 x 22 x 18"	36 3/4 x 19"	19 1/8"	19"	*16"	110	66.90
FD-225	Front & Rear	67 3/4 x 22 x 18"	61 1/4 x 19"	19 1/8"	19"	*16"	150	83.10
FD-227	Front & Rear	83 1/2 x 22 x 18"	77 x 19"	19 1/8"	19"	*16"	175	103.95

* clearance between front and rear doors.

ROLLER TRUCK: Roller truck No. RT-412 for Series ER-225 racks; use RT-418 for Series FD-225; both are listed on PAR METAL Page 13.

SHELVES: For Series ER-225 Racks, use shelf No. ER-2212 listed on PAR METAL Page 13. To install shelves in Series FD-225, it is recommended that Vertical Side Supports, Brackets and Shelves listed on PAR METAL Page 6 be used.

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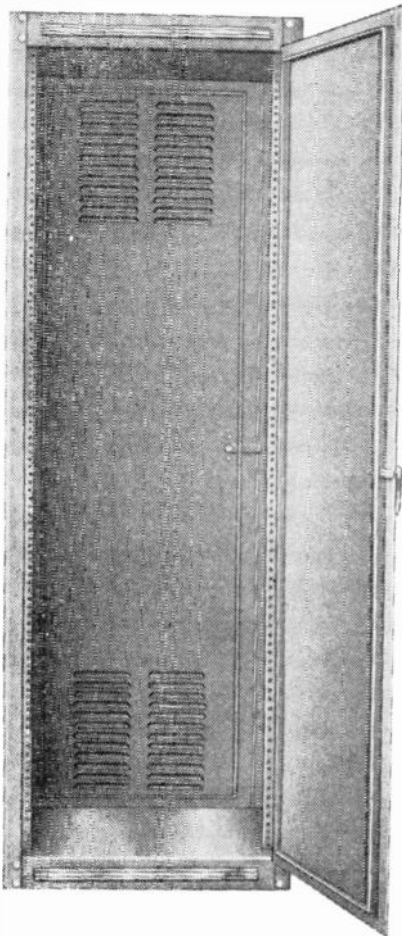
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TYPE "A" ENCLOSED RELAY RACKS



ROUNDED CORNER TYPE — FOR 19" WIDE PANELS

WITH FRONT AND REAR DOORS



No. FD-215

THESE RACKS ARE SIMILAR in construction to our Series ER-225 Racks. They provide a combination of standard functional design and superior construction at a modest price. The vertical front corners are nicely rounded, and the top and bottom are trimmed with red-striped chrome finished mouldings. The panels fit into a recess, so that the edges are not exposed.

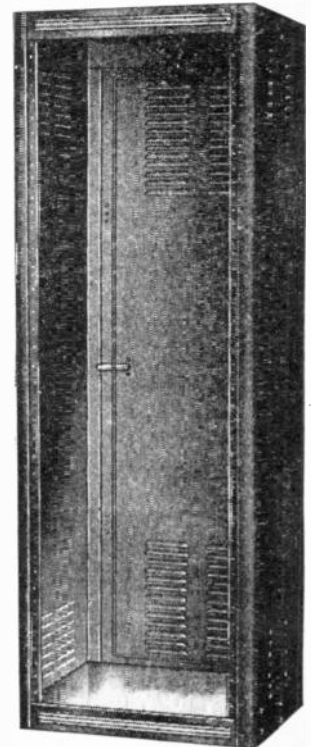
CABINET: Entire cabinet is constructed of 1/16" thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly. Screws for mounting panels are supplied.

PANEL MOUNTING: Angle irons are 7/64" thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

HARDWARE: Doors are of new design same as our Type "C" commercial racks. "Series ER-215" racks are equipped with "automobile" type non-locking handles on rear doors. On "Series FD-215" racks, similar handles with key locks are used on both front and rear doors. Hinges are the "slip-joint" type so that doors may be easily removed. Front of rack is trimmed with chrome finished mouldings. Screws for mounting panels are supplied.

FRONT DOOR RACKS: On Series FD-215 racks, the front panel mounting angles are recessed 2" deep to allow clearance for dials, etc. The clear inside depth behind the panel is 13 1/2".

WITH REAR DOOR ONLY



No. ER-215

S P E C I F I C A T I O N S

Catalog No.	Doors	Overall Dimensions	Panel Space	Clear Inside Depth	Clear Inside Width (Rear)	Clear Inside Width (Front)	Shipping Wt. Lbs.	Net Price
ER-213	Rear only	42 x 22 x 16 1/2"	36 3/4 x 19"	15 1/4"	19"	17 3/4"	85	537.20
ER-215	Rear only	66 1/2 x 22 x 16 1/2"	61 1/4 x 19"	15 1/4"	19"	17 3/4"	110	54.90
ER-217	Rear only	82 1/4 x 22 x 16 1/2"	77 x 19"	15 1/4"	19"	17 3/4"	130	66.30
FD-215	Front & Rear	66 1/2 x 22 x 16 1/2"	61 1/4 x 19"	*13 1/2"	19"	19 1/4"	130	73.92
FD-217	Front & Rear	82 1/4 x 22 x 16 1/2"	77 x 19"	*13 1/2"	19"	19 3/8"	155	89.10

* clearance behind panel.

FINISH: SLATE GREY RIPPLE enamel is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

PANELS: Panels 19" wide to fit these racks are listed on PAR METAL Pages 14 and 15.

RACK SHELVES: For Series ER-215 racks, use shelf No. ER-2112. For Series FD-215 racks, use shelf No. R-2215. Both shelves are listed on PAR METAL Page 13.

ROLLER TRUCK: No. RT-411 will fit all racks listed on this page. Roller trucks are listed on PAR METAL Page 13.

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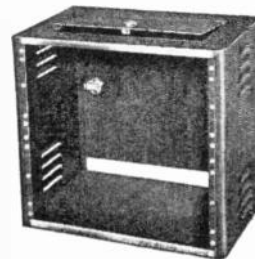
Long Island City 3, N. Y.



TYPE "A" RELAY RACKS

DESK PANEL CABINET RACKS

For Standard 19" Rack Panels



No. DL-1713

In keeping with our other Deluxe racks, the vertical front corners are rounded and the top and bottom are trimmed with red-stripped chrome finished mouldings.

- Panels fit into a recess, so that the edges are not exposed.
- Panel mounting holes are accurately drilled on universal centers, for either type "A" or type "C" panels.
- Holes are tapped for 10-32 machine screws. They may be used with any chassis up to 13"x17" in size. All cabinets are rigidly constructed of $\frac{1}{8}$ " thick cold rolled sheet steel, with all joints electrically welded.
- Louvres provide ample ventilation through sides and back. Piano type hinges are used on the top doors. Panel mounting screws and washers are furnished.

(With door in top only) (not illustrated)

Catalog No.	Cabinet Size	Available Panel Space	Ship. Wt.	Net Price
DL-128	10 1/2" x 21 1/2" x 15" deep	8 3/4" x 19"	25 lbs.	\$14.19
DL-1210	12 1/4" x 21 1/2" x 15" deep	10 1/2" x 19"	26 lbs.	16.05
DL-1225	14" x 21 1/2" x 15" deep	12 1/4" x 19"	29 lbs.	17.25
DL-1413	15 3/4" x 21 1/2" x 15" deep	14" x 19"	30 lbs.	19.05

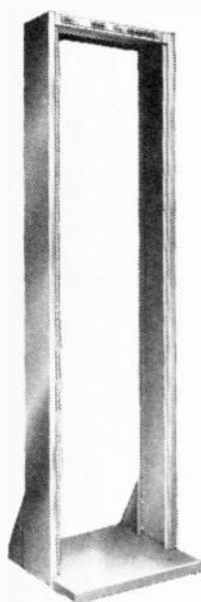
(With door in top and door on rear panel)

Catalog No.	Cabinet Size	Available Panel Space	Ship. Wt.	Net Price
DL-1713	19 1/4" x 21 1/2" x 15" deep	17 1/2" x 19"	35 lbs.	\$21.90
DL-2613	28" x 21 1/2" x 15" deep	26 1/4" x 19"	45 lbs.	25.50
DL-3513	36 3/4" x 21 1/2" x 15" deep	35" x 19"	53 lbs.	28.20

FINISH: BLACK RIPPLE ENAMEL is standard. Slate grey ripple enamel will be supplied without extra charge if so specified in your order. **PANELS:** Type "C" panels to fit these racks are listed on PAR METAL Pages 14 and 15.

RACK SHELF: Rack Shelf No. R-2128 listed on PAR METAL Page 13 will fit these racks. **ROLLER TRUCK:** Roller truck No. RT-410 listed on PAR METAL Page 13 will fit these racks.

DE LUXE TYPE CHANNEL RELAY RACKS



No. RR-197

OUR NEW DELUXE CHANNEL TYPE RELAY RACK extends the utility and applicability of the standard channel relay rack.

The panel space has been changed to 77"x19", to match a standard height used on enclosed cabinet racks.

The upright channels have been modified to an 8" overall depth, which when combined with a formed recess for the panels, greatly increases the rigidity of the rack. Edges of panels are not exposed.

The rack is drilled and tapped for 10-32 screws at both front and back permitting the optional use of either panels, or dish type chassis mounted to the racks at both front and back. The full space of 77"x19" is available on the back, the same as the front.

The clear distance between panel mounting flanges (from front to back) is 6 3/4". It is practicable to use this 6" depth as an enclosure for dish type chassis listed on PAR METAL Page 17. When such chassis are mounted at back, the addition of standard or hinged type panels (see PAR METAL Page 15) will make a rack enclosure with a clear depth of 6 3/4". Top cross-brace is provided with a grille for ventilation where needed.

Top brace and vertical channel members are securely welded together. Base and rear braces are shipped knocked down, with all necessary

bolts for assembly. Panel mounting screws are also supplied.

CATALOG No. RR-197: (for 19" Wide Panels)
 Overall Dimensions: 80 3/8" high, 21 1/8" wide, 26" deep
 Available Panel Space: 77"x19" (at front and rear)
 Clearance between Uprights: 17 5/8"
 Clear Depth in Channel: 6 3/4" inside
 Shipping Weight: 100 lbs. Net Price: \$40.50.

CATALOG No. RR-1924: (for 24" Wide Panels)
 Overall Dimensions: 80 3/8" high, 26 1/8" wide, 26" deep
 Available Panel Space: 77"x24"
 Clearance between Uprights: 22 3/8"
 Clear Depth in Channel: 6 3/4" inside
 Shipping Weight: 115 lbs. Net Price \$52.00

FINISH: Standard finish is black ripple enamel. For grey ripple enamel, add 5%.

PANELS: Panels to fit these racks are listed on PAR METAL pages 14 and 15.

STANDARD TYPE CHANNEL RELAY RACKS

THESE RACKS are sturdily constructed from 7/64" pressed steel, and are braced at the back as illustrated. They have been improved by a formed recess for the panels; the edges of the panels are no longer exposed, and the rigidity of the rack has been greatly increased. The two vertical members and the top cross-brace are securely WELDED TOGETHER.



No. RX-195

Panel mounting holes are accurately drilled on universal centers for either Type "A" or Type "C" panels, tapped for 10-32 machine screws at the front only. An ample supply of panel mounting screws and finishing washers are supplied.

Upright channels are 3" deep with flanges 1 1/8" wide. Clearance between uprights is 17 3/4". Base is 20 3/8" deep and extends both front and rear.

FINISH. BLACK RIPPLE ENAMEL.

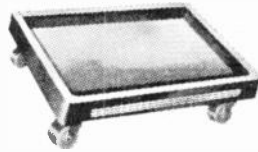
Cat. No.	Overall Size	Panel Space	Shp. Wt. Lbs.	Net Price
RX-195	74 1/8" x 21" x 20 7/8"	71 3/4" x 19"	55	\$23.10
RX-193	39 1/8" x 21" x 20 7/8"	36 3/4" x 19"	45	19.80

MISCELLANEOUS ACCESSORIES



HEAVY DUTY TYPE ROLLER TRUCKS FOR RACKS

Our heavy duty roller trucks are similar in size and design to the standard units, except that they have reinforced bottoms, and are



No. HD-412

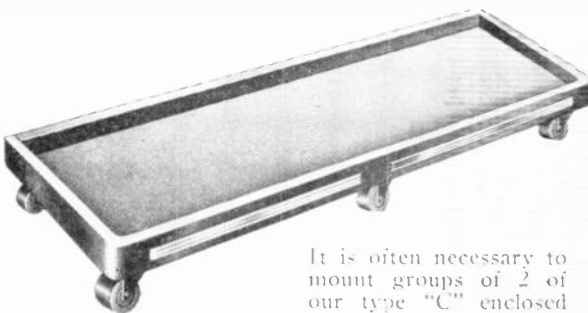
equipped with heavy-duty swivel type casters, with 3" diameter wheels. They are recommended for use on all 24" deep racks, and on other racks where necessary.

Standard finish is grey ripple enamel; black ripple is optional. Also available in grey hammertone or grey metallic enamel at an additional cost of 10%. Shipping weight is 35 lbs.

Catalog No.	Will Fit Rack No.	Par-Metal Page No.	Net Price
HD-412	ER-223, ER-225, ER-227 G-2218, 2219	10 8	\$20.76
HD-418	FD-223, FD-225, FD-227 PX, FX-3718, 4818, 6718, PX-FX-7718, 8118	10 3 3	22.65
HD-420	PX, FX-4824, 6724, 7724, 8124 P, PG-6924, 7824, 8524	3 9	24.00
*HD-425	PR, FR-1818, 6718, 7718, 8118	5	24.15
*HD-426	PR, FR-4824, 6724, 7724, 8124	5	26.70
HD-427	PX, FX-4827, 6727, 7727, 8127	3	27.00
*HD-432	PR, FR-4827, 6727, 7727, 8127	5	29.40
HD-434	PX, FX-6733, 7733, 8133 G-3024	3 8	33.50
*HD-438	PR, FR-6733, 7733, 8133	5	36.80

*For racks with detachable side panels attached to racks.

HEAVY DUTY TYPE DOUBLE WIDTH ROLLER TRUCKS



It is often necessary to mount groups of 2 of our type "C" enclosed racks on roller trucks.

The truck illustrated above is used for that purpose. They are similar to our heavy duty trucks illustrated above except that they have been reinforced with heavier steel because of their greater length.

They are supplied with 6 - 3" diameter wheels with heavy duty type casters. They are available at double the cost of roller trucks for single racks listed above. Please advise finish required. They may be obtained in black or grey ripple, grey hammertone, grey metallic enamel, or primer coat only.

STANDARD TYPE ROLLER TRUCKS FOR RACKS

These trucks are especially designed for use on our Deluxe streamlined racks, and have rounded corners at the front with chrome trim. Overall size is about 2" wider than the racks for better distribution of weight. Castors are ball-bearing swivel-type with 2" rubber composition wheels. Finished in slate grey ripple enamel. Also available in grey hammertone or grey metallic enamel at an additional cost of 10%. Shipping weight is 22 lbs.



No. RT-412

Catalog No.	Will Fit Rack No.	Par-Metal Page No.	Net Price
RT-410	DL-1713, 2613, 3513	12	\$10.08
RT-411	ER-213, ER, FD-215, 217	11	10.56
RT-412	ER-223, ER-225, ER-227 G-2218, 2219	10 8	11.58
RT-418	FD-223, 225, 227 PX, FX-3718, 4818, 6718 PX, FX-7718, 8118	10 3 3	12.90
RT-420	PX, FX-4824, 6724, 8124 P, PG-6924, 7824, 8524	3 9	14.82



No. TR-2520

TABLE TYPE RELAY RACKS

THESE RACKS are intended for table mounting and are useful where a regular floor type heavy duty rack is not required.

The base is constructed of one piece, similar to a chassis. Mounting holes are accurately drilled on universal centers, tapped for 10-32 screws.

They are finished in black ripple enamel and shipped "knocked down" with all necessary screws.

Cat. No.	Overall Size	Panel Space	Shp. Wt. Lbs.	Net Price
TR-2520	24 1/2 x 2"	21x19"	17	\$8.10
TR-3220	31x21x12"	28x19"	20	9.90

SHELVES FOR CABINET RACKS

These shelves are designed to fit into the various enclosed racks listed in this catalog. They are constructed to be mounted inside the rack with side bolt mounting. All shelves are 1" high, and finished in black enamel. Shipping weight of all shelves is 10 lbs.



No. R-2015

Catalog No.	Will Fit Rack No.	Par-Metal Page No.	Shelf Size	Net Price
ER-2112	ER-213, ER-215, ER-217	11	13"x21 1/2"	\$3.60
R-2215	FD-215, FD-217	11	10 5/8"x21 1/2"	3.60
ER-2212	ER-223, ER-225, ER-227	10	15"x21 1/2"	3.60
R-2128	DL-1713, 2613, 3513	12	12"x21 1/2"	2.94
R-2219	G-2218, G-2219	8	16"x21 1/2"	5.19
R-2224	P, PG-6924, 7824, 8524	9	22"x23 1/2"	5.88

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TYPE "C" RACK PANELS 19"-24"-30"-WIDE

Unless otherwise indicated, all panels on this page are uniformly slotted to fit type "C" cabinet racks and all type "A" racks.

They will also fit any other rack equipment having multiple 1 1/4" - 1/2" spacings or what is commonly termed as "W.E. spacing." They may be obtained in

either black ripple enamel or slate grey ripple enamel. Panels can be furnished in grey hammertone, grey metallic enamel, or aluminum grey lacquer at extra charge.

Medium grey enamel to match Utility Desk Assemblies listed on PAR METAL Pages 18 thru 23 is also available for all panels listed on this page.

STANDARD BLANK PANELS 1/8" STEEL



Standard flat panels made from 1/8" thick steel, either 19", 24", or 30" wide. Finished in black or slate grey ripple enamel. Other finishes available as mentioned in page heading, also primer coat only.

19" WIDE PANELS — 1/8" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6600	G-6600	1 3/4"	2	\$.75
6601	G-6601	3 1/2"	3	.90
6602	G-6602	5 1/4"	4	1.14
6603	G-6603	7"	5	1.38
6604	G-6604	8 3/4"	7	1.62
6605	G-6605	10 1/2"	8	1.89
6606	G-6606	12 1/4"	9	2.19
6607	G-6607	14"	10	2.49
6608	G-6608	15 3/4"	12	2.79
6609	G-6609	17 1/2"	13	3.09
6610	G-6610	19 1/4"	14	3.39
6611	G-6611	21"	15	3.69

24" WIDE PANELS — 1/8" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6201	G-6201	3 1/2"	4	\$1.38
6202	G-6202	5 1/4"	6	1.71
6203	G-6203	7"	7	2.01
6204	G-6204	8 3/4"	9	2.43
6205	G-6205	10 1/2"	10	2.91
6206	G-6206	12 1/4"	12	3.24
6207	G-6207	14"	14	3.99
6208	G-6208	15 3/4"	15	4.56
6209	G-6209	17 1/2"	17	4.98
6210	G-6210	19 1/4"	18	5.55
6211	G-6211	21"	20	6.09

30" WIDE PANELS — 1/8" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6301	G-6301	3 1/2"	4	\$1.89
6302	G-6302	5 1/4"	6	2.31
6303	G-6303	7"	8	2.73
6304	G-6304	8 3/4"	10	3.27
6305	G-6305	10 1/2"	12	3.99
6306	G-6306	12 1/4"	14	4.71
6307	G-6307	14"	16	5.37
6308	G-6308	15 3/4"	18	6.00
6309	G-6309	17 1/2"	20	6.72
6310	G-6310	19 1/4"	22	7.44
6311	G-6311	21"	24	8.16

STANDARD BLANK PANELS 1/8" ALUMINUM



Standard flat panels made from 1/8" thick aluminum, either 19", 24", or 30" wide. Finished in black or slate grey ripple enamel. Other finishes available as mentioned in page heading, also primer coat only.

19" WIDE PANELS — 1/8" ALUMINUM

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6675	G-6675	1 3/4"	1	\$.90
6676	G-6676	3 1/4"	1	1.26
6677	G-6677	5 1/4"	2	1.74
6678	G-6678	7"	2	2.22
6679	G-6679	8 3/4"	3	2.70
6680	G-6680	10 1/4"	3	3.21
6681	G-6681	12 1/4"	4	3.78
6682	G-6682	14"	4	4.29
6683	G-6683	15 3/4"	5	4.83
6684	G-6684	17 1/2"	5	5.37
6685	G-6685	19 1/4"	6	5.91
6686	G-6686	21"	7	6.47

24" WIDE PANELS — 1/8" ALUMINUM

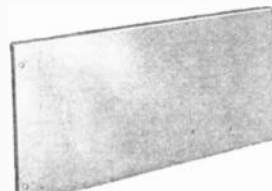
Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6276	G-6276	3 1/4"	1	\$2.28
6277	G-6277	5 1/4"	3	3.00
6278	G-6278	7"	3	3.81
6279	G-6279	8 3/4"	4	4.74
6280	G-6280	10 1/4"	4	5.73
6281	G-6281	12 1/4"	5	6.66
6282	G-6282	14"	5	7.62
6283	G-6283	15 3/4"	6	8.58
6284	G-6284	17 1/2"	6	9.54
6285	G-6285	19 1/4"	8	10.47
6286	G-6286	21"	9	11.40

30" WIDE PANELS — 1/8" ALUMINUM

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
6376	G-6376	3 1/4"	2	\$ 2.73
6377	G-6377	5 1/4"	3	3.96
6378	G-6378	7"	3	5.19
6379	G-6379	8 3/4"	4	6.42
6380	G-6380	10 1/4"	5	7.65
6381	G-6381	12 1/4"	5	8.88
6382	G-6382	14"	6	10.11
6383	G-6383	15 3/4"	7	11.34
6384	G-6384	17 1/2"	7	12.57
6385	G-6385	19 1/4"	8	13.80
6386	G-6386	21"	9	15.00

FORMED BLANK PANELS

These panels are made from 1/16" thick steel, with formed edges to make an overall thickness of 7/16". They are made 19" and 24" wide, with mounting holes on standard centers to fit relay racks. Finishes are black or grey ripple enamel. Other available finishes are mentioned in page heading, also primer coat only.



19" WIDE PANELS — 1/16" STEEL

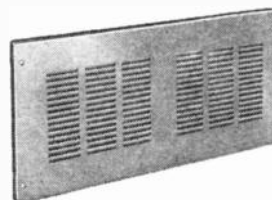
Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
P-601	G-601	3 1/4"	2	\$1.26
P-602	G-602	5 1/4"	2	1.44
P-603	G-603	7"	3	1.65
P-604	G-604	8 3/4"	4	2.01
P-605	G-605	10 1/4"	5	2.46
P-606	G-606	12 1/4"	6	2.88
P-607	G-607	14"	6	3.24
P-608	G-608	15 3/4"	7	3.72
P-609	G-609	17 1/2"	7	4.11
P-610	G-610	19 1/4"	8	4.53
P-611	G-611	21"	9	4.95

24" WIDE PANELS — 1/16" STEEL

Cat. No. Black	Cat. No. Grey	Height	Ship. Wt. Lbs.	Net Price
P-641	G-641	3 1/2"	2	\$1.77
P-642	G-642	5 1/4"	3	2.04
P-643	G-643	7"	4	2.31
P-644	G-644	8 3/4"	5	2.91
P-645	G-645	10 1/2"	6	3.54
P-646	G-646	12 1/4"	7	4.14
P-647	G-647	14"	8	4.62
P-648	G-648	15 3/4"	9	5.22
P-649	G-649	17 1/2"	9	5.82
P-650	G-650	19 1/4"	10	6.45
P-651	G-651	21"	10	7.02

FORMED BLANK PANELS

19" WIDE PANELS — 1/16" STEEL



Formed panels same as above with louvers to match those used in Utility Desk Assemblies. Finished in black or grey ripple enamel. 24" wide panels are also available.

Cat. No. Black	Cat. No. Grey	Size	Ship. Wt. Lbs.	Net Price
PV-603	GV-603	7"	3	\$3.45
PV-604	GV-604	8 3/4"	4	3.90
PV-605	GV-605	10 1/2"	6	4.29
PV-606	GV-606	12 1/4"	6	4.86
PV-611	GV-611	21"	9	7.56

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PAR-METAL PRODUCTS CORP.

Long Island City 3, N. Y.

TYPE "C" RACK PANELS — 19" WIDE



Unless otherwise indicated, these panels are made from 1/8" thick steel and are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple 1 1/4"- 1/2" spacings or what is commonly termed as

"W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in aluminum grey lacquer, grey hammertone, or grey metallic enamel at extra charge.

SIDE HINGED BLANK PANELS

These door panels are made from 1/8" steel, hinged at the sides, with a cowl type fastener to hold the door closed.

Finishes are black or slate grey ripple enamel; other finishes available are mentioned in page heading; also primer coat only. May be mounted on racks with hinges on right or left side.

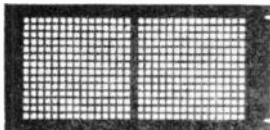
1/8" STEEL



"Cat. Nos.	Panel Size	Clear Opening (Width)	Shp. Wt. Lbs.	Net Price
HP. GP-350	3 1/2 x 19"	15 3/4"	4	\$3.15
HP. GP-525	5 1/4 x 19"	15 3/4"	4	3.27
HP. GP-700	7 x 19"	15 3/4"	5	3.57
HP. GP-875	8 3/4 x 19"	15 3/4"	7	3.84
HP. GP-1050	10 1/2 x 19"	15 3/4"	8	4.14
HP. GP-1225	12 1/4 x 19"	15 3/4"	9	4.41
HP. GP-1400	14 x 19"	15 3/4"	10	4.77
HP. GP-1750	17 1/2 x 19"	15 3/4"	12	6.90
HP. GP-2100	21 x 19"	15 3/4"	15	7.50

*FINISHES: HP denotes black ripple enamel. GP denotes slate grey ripple enamel.

GRILLE PANELS 19" WIDE — 1/8" STEEL



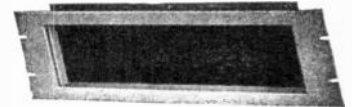
This modern type ventilating grille panel is stamped into the panel itself; it is not a pieced assembly.

Cat. No. Black	Cat. No. Grey	Panel Size	Grille Size	Shipping Wt. Lbs.	Net Price
P-661	G-661	5 1/4"	3 3/8 x 14 3/8"	4	\$2.94
P-662	G-662	7"	4 7/8 x 14 3/8"	5	3.24
P-663	G-663	8 3/4"	6 7/8 x 14 3/8"	6	3.87
P-664	G-664	8 3/4"	*3 7/8 x 14 3/8"	6	3.54
P-665	G-665	10 1/2"	8 3/4 x 14 3/8"	7	4.29
P-666	G-666	10 1/2"	*5 7/8 x 14 3/8"	7	4.02
P-667	G-667	12 1/4"	*7 7/8 x 14 3/8"	8	4.35

* Allows 3 1/2" space at bottom for chassis mounting.

RECESSED METER PANELS 1/8" STEEL

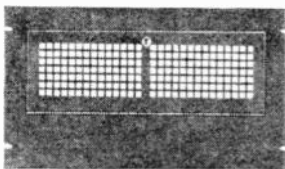
These panels are made so that the meters may be recessed from the front of the panel.



Meters are protected by a plate glass insert, allowing 3/4" clearance in back of panel. A blank bakelite sub-panel is provided. The clear sub-panel space is 4 1/8" x 15" on the 19" wide panel which is sufficient for 4-3" meters. On the 24" and 30" wide panel the clear sub-panel space is 5 3/4" x 20" and 5 3/4" x 26" respectively.

Cat. No. Black	Cat. No. Grey	Size	Shipping Wt. Lbs.	Net Price
P-690	G-690	5 3/4 x 19"	6	\$ 6.93
P-691	G-691	7 x 24"	7	12.60
P-692	G-692	7 x 30"	10	17.40

HINGED DOOR PANELS 19" WIDE — 1/8" STEEL



These panels have flush hinged doors with full length piano hinges; they are equipped with a chrome knob and concealed snap catch. All doors are located 1"

from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired. Available with gridded or solid doors as listed below.

SOLID DOOR PANELS

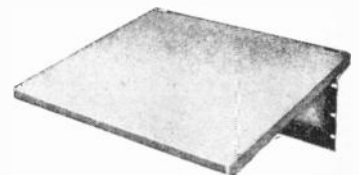
Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Shipping Wt. Lbs.	Net Price
P-670	G-670	8 3/4"	4 3/8 x 15"	7	\$4.92
P-671	G-671	10 1/2"	5 7/8 x 15"	8	5.31
P-672	G-672	12 1/4"	7 3/8 x 15"	9	5.70

GRILLE DOOR PANELS

Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Shipping Wt. Lbs.	Net Price
P-680	G-680	8 3/4"	4 3/8 x 15"	7	\$6.27
P-681	G-681	10 1/2"	5 7/8 x 15"	8	6.75
P-682	G-682	12 1/4"	7 3/8 x 15"	9	7.44

STANDARD DESK PANELS

These standard tables are rigidly made of 1/16" thick furniture steel. The rounded front corners are of seamless construction and the



flanges of the shelf are folded in to provide smooth edges underneath. They are securely mounted to regular 1/8" steel panels, size 10 1/2" x 19". They may be obtained in two sizes and finishes as listed below. The tables are 22" wide to give full working space across the front of the racks when mounted in place. Shipping weight is 25 lbs.

Cat. No.	Width	Depth	Finish	Net Price
BT-2220	22"	20"	Black enamel	\$16.95
BT-2216	22"	16"	Black enamel	15.45
GT-2220	22"	20"	Grey enamel	16.95
GT-2216	22"	16"	Grey enamel	15.45

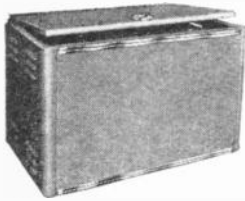
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Long Island City 3, N. Y.

UTILITY DESK CABINETS AMPLIFIER FOUNDATION CHASSIS

DELUXE TYPE CABINETS

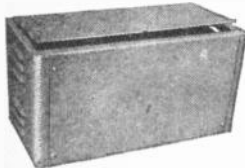


These cabinets make attractive housings for commercial and amateur use. The formed type door, with modern handle, is hinged at the back for full access to the interior. Chrome finished mouldings are mounted on the front at top and bottom. Cabinet has ventilating louvers on each side, and full width opening

at back for leads, etc. Standard finish is slate grey ripple enamel. Prices do not include chassis, which are listed on PAR METAL Page 17.

Catalog No.	Overall Dimensions	Panel Size	For Chassis	Shp. Wt. Lbs.	Net Price
CA-300	9x12 ¹ / ₈ x 8"	8 ¹ / ₂ x10"	7x 9x2"	6	\$ 6.39
CA-301	9x16 ¹ / ₈ x 8"	8 ¹ / ₂ x14"	7x13x2"	7	7.20
CA-302	10x17 ¹ / ₈ x11"	9 ¹ / ₂ x15"	10x14x3"	8	11.40
CA-303	10x20 ¹ / ₈ x 9"	9 ¹ / ₂ x18"	8x17x3"	11	11.40
CA-304	13x20 ¹ / ₈ x12"	12 ¹ / ₂ x18"	10x17x3"	15	12.90

ROUNDED CORNER TYPE CABINETS

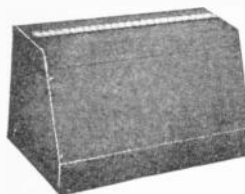


Standard type cabinets are similar in design to those listed above. They have flat type doors, hinged at back to permit full access to the interior. The vertical front corners are rounded; ventilating louvers are stamped in

both sides, and full width opening is provided at the back for leads. Standard finish is slate grey ripple enamel. Prices do not include chassis, which are listed on PAR METAL Page 17.

Catalog No.	Overall Dimensions	Panel Size	For Chassis	Shp. Wt. Lbs.	Net Price
CA-200	8 ¹ / ₂ x10 ¹ / ₈ x 8"	8 ¹ / ₂ x 8"	7x 7x2"	6	\$ 4.65
CA-201	8 ¹ / ₂ x12 ¹ / ₈ x 8"	8 ¹ / ₂ x10"	7x 9x2"	7	5.10
CA-202	8 ¹ / ₂ x16 ¹ / ₈ x 8"	8 ¹ / ₂ x14"	7x13x2"	8	6.00
CA-203	9 ¹ / ₂ x17 ¹ / ₈ x11"	9 ¹ / ₂ x15"	10x14x3"	11	9.45
CA-204	12 ¹ / ₂ x20 ¹ / ₈ x12"	12 ¹ / ₂ x18"	10x17x3"	15	11.25

SLOPING FRONT CABINETS



May be readily adapted as instrument cases for use in studios, laboratories, etc.

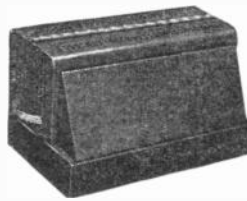
- Top corner is rounded and trimmed with a chrome moulding, and with the slate grey ripple finish makes a very attractive case.
- A chassis may be mounted to a front panel and removed as a unit.

- Rear of case is ventilated, with an opening for connections.
- Prices do not include chassis, which are listed on PAR METAL Page 17.

Catalog No.	Overall Dimensions	For Chassis	Shp. Wt. Lbs.	Net Price
SF-500	8x 8x 8"	7x 7x2"	6	\$ 4.59
SF-501	8x10x 8"	7x 9x2"	7	5.07
SF-502	8x14x 8"	7x13x2"	8	5.46
SF-503	9x18x 8"	7x17x3"	10	7.95
SF-504	12x18x12"	10x17x3"	14	10.20

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SLOPING FRONT TYPE

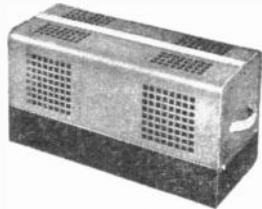


These new foundations follow the latest trend in amplifier design. The combination of sloping front panel and streamlined cover enables you to build up a job similar to that used on commercial deluxe type amplifiers. All parts are finished in slate grey ripple enamel, trimmed with red-stripped chrome finished mouldings and handles.

The front panel is removable and protrudes 3" from the face of the screen cover. Chassis are supplied complete WITH bottom plates.

Cat. No.	Chassis Size	Screen Cover	Shp. Wt. Lbs.	Net Price
F-10120	10x12x3"	6 ¹ / ₂ " high	11	\$ 7.95
F-10170	10x17x3"	6 ¹ / ₂ " high	13	9.00
F-13170	13x17x3"	6 ¹ / ₂ " high	15	10.20

ROUNDED CORNER TYPE



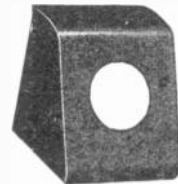
Rounded corners effectively streamline the screen covers of these chassis. Ventilation is obtained through rectangular screen openings. The moulding and handles, finished in chrome with red striping, gives the units a distinctive, modern design.

The screen cover is finished in slate grey ripple enamel to contrast with the black chassis. Chassis are drilled for bottom plates, which are listed on PAR METAL Page 17.

Cat. No.	Chassis Size	Depth of Cover	Shp. Wt. Lbs.	Net Price
DF 510	5x10x3"	6"	7	\$4.86
DF 615	6x14x3"	6"	8	5.28
DF 717	7x17x3"	6"	9	6.27
DF 1012	10x12x3"	6"	9	6.27
DF 1017	10x17x3"	6"	10	7.05
DF 1317	13x17x3"	6"	12	8.46

UTILITY CASES & CANS

STEEL METER CASES

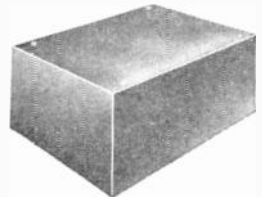


These meter cases may be obtained for 2" and 3" meters, in both single and triple units.

They are substantially made of steel, with welded joints, and black ripple enamel finish. Top front corner is rounded.

Cat. No.	Meters	Meter Hole	Shp. Wt. Lbs.	Net Price
SM-12	Single 2"	2 ¹ / ₄ "	1	\$1.08
SM-32	Three 2"	2 ¹ / ₄ "	2	3.00
SM-13	Single 3"	2 ¹ / ₄ "	1	1.08
SM-33	Three 3"	2 ¹ / ₄ "	2	3.00

STEEL UTILITY CASES



These cases have flat tops and bottoms, which are removable.

Made from 20 gauge sheet steel, with flanged edges and spot-welded corners. Finished in black ripple enamel.

Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price	Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price
MC-442	1x 4x 2"	1	\$.93	MC-8101	8x10x10"	7	\$3.36
MC-453	1x 5x 3"	2	1.11	MC-8107	8x10x 7"	6	2.97
MC-596	7x 9x 6"	4	2.07	MC-1128	11x12x 8"	9	3.96
MC-654	6x 5x 4"	3	1.32	MC-1597	15x 9x 7"	8	4.32
MC-666	6x 6x 6"	3	1.59				

STEEL UTILITY CANS



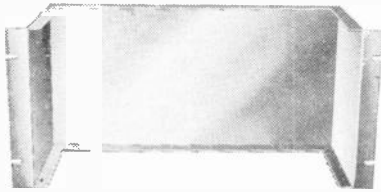
Can be used for monitors, shield cans, etc. Made of sheet steel with spot welded reinforced corners. Tops and bottoms removable with self-tapping screws. Black ripple enamel finish.

Cat. No.	Overall Size	Shp. Wt. Lbs.	Net Price
UC-565	5 ¹ / ₂ x 6x 5 ¹ / ₂ "	3	\$1.59
UC-596	5 x 9x 6"	5	2.04
MC-8107	8 x 10x 7"	6	3.27
MC-8101	8 x 10x 10"	7	3.69
MC-1128	11 x 12x 8"	9	4.35

BLANK CHASSIS BASES



VERTICAL RACK MOUNTING CHASSIS



TO FIT 19" STANDARD RACKS

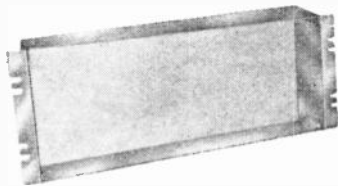
These chassis are suitable for installation in all Universal enclosed relay racks listed on PAR METAL, Pages 2 thru 5 and any other racks which have provision for "mid-rail" mounting. They may also be used on Deluxe channel racks listed on PAR METAL,

Page 12. Material used is 1/16" aluminum, with corners welded for added rigidity. Etched finish on inside and outside. All chassis are 5/4" deep; overall width is 19", chassis width inside is 16 3/8".

Catalog No.	Height	Shipping Wt. Lbs.	Net Price
AC-430	1 3/4"	2	\$2.48
AC-431	3 1/2"	3	2.82
AC-432	5 1/4"	3	3.21
AC-433	7"	4	3.54
AC-434	8 3/4"	5	3.87
AC-435	10 1/2"	5	4.26
AC-436	12 1/4"	6	4.71
AC-437	14"	7	5.22

RACK MOUNTING CHASSIS

TO FIT 19" STANDARD RACKS

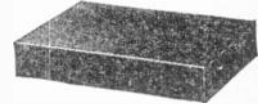


These chassis are fabricated from 1/16" thick aluminum with etched finish, or 1/16" thick steel, zinc plated. Overall length including mounting flanges is 18 3/4". They are designed to mount under 19" wide formed panels listed on PAR METAL, Page 14. The 4 5/16" height is for

use with 5 1/4" high panels, 6 1/16" for 7" high panels, etc. Additional slots are provided in chassis side flanges to clear panel attachment screws. Although chassis are 18 3/4" overall width, they will fit on any relay rack.

ALUMINUM Cat. No.	Net Price	Chassis Dimensions	STEEL Cat. No.	Net Price
AC-402	\$3.98	4-15/16"x17"x3"	SC-402	\$3.06
AC-403	4.54	6-11/16"x17"x3"	SC-403	3.45
AC-404	5.10	8- 7/16"x17"x3"	SC-404	3.84
AC-405	5.64	10- 3/16"x17"x3"	SC-405	4.23
AC-406	6.30	11-15/16"x17"x3"	SC-406	4.59

STEEL BLANK CHASSIS



Stamped from one piece of cold rolled steel, and have four solid sides with welded corners. Bottom edges are flanged in on four sides to provide additional reinforcement, and they are drilled for bottom plates. The chassis are made from #20 gauge steel, except those marked (*) which are stamped from 1/8" steel exactly like our heavy-duty type.

Cat. No. Black Ripple	Cat. No. Zinc Plated	Size	Shp. Wt. Lbs.	Net Price
B-4500	C-4500	5 1/2 x 9 1/2 x 1 1/2"	2	\$.90
B-4507	C-4507	5x 7x2"	2	.99
B-4508	C-4508	5x10x3"	3	1.20
B-4509	C-4509	6x14x3"	4	1.50
B-4510	C-4510	7x 7x2"	2	1.08
B-4511	C-4511	7x 9x2"	2	1.20
B-4512	C-4512	7x11x2"	3	1.26
B-4513	C-4513	7x13x2"	3	1.35
B-4514	C-4514	7x15x3"	4	1.68
B-4518	C-4518	4x17x3"	4	1.44
B-4515	C-4515	7x17x3"	4	1.80
B-4502	C-4502	8x12x3"	5	1.65
B-4531	C-4531	8x17x3"	4	1.65
B-4532	C-4532	8x17x3"	5	1.80
B-4525	C-4525	10x12x3"	4	1.71
B-4524	C-4524	10x14x3"	5	1.80
B-4528	C-4528	10x17x2"	5	1.80
B-4529	C-4529	10x17x4"	7	2.25
B-4526	C-4526	10x17x3"	7	1.95
B-4533*	C-4533*	11x17x2"	7	2.64
B-4534*	C-4534*	11x17x3"	9	2.97
B-4516	C-4516	12x17x2"	5	2.10
B-4517	C-4517	12x17x3"	6	2.31
B-4530	C-4530	12x17x4"	6	2.64
B-4535*	C-4535*	13x17x2"	8	2.85
B-4536*	C-4536*	13x17x3"	9	3.45
B-4537*	C-4537*	13x17x4"	10	3.75
B-4540*	C-4540*	17x17x4"	13	4.44

HEAVY DUTY TYPE STEEL CHASSIS

These heavy duty bases are similar to the standard type chassis bases listed above.

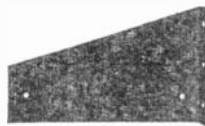
However, they are substantially constructed for "heavy duty" uses since they are formed from one piece of 1/8" sheet steel.

Bottom plates and mounting screws are supplied with each of these chassis.

Ends are drilled to fit standard chassis mounting brackets listed at the right.

Cat. No. Black Ripple	Cat. No. Zinc Plated	Dimensions	Shp. Wt. Lbs.	Net Price
15280	15208	8x17x2"	8	\$3.08
15281	15209	8x17x3"	9	3.48
15282	15218	11x17x2"	9	3.63
15210	15219	11x17x3"	11	3.99
15212	15214	13x17x2"	11	4.05
15213	15215	13x17x3"	12	4.65
15216	15217	13x17x4"	13	4.95
15283	15284	17x17x4"	15	6.09

CHASSIS MOUNTING BRACKETS



No. SB-78

These brackets are made for assembly with our standard or heavy duty type chassis listed on this page. Panels must be at least 7" high. Finished in black enamel. Made from 1/8" thick steel.

Cat. No.	Dimensions	Shp. Wt. Lbs.	Net Price
SB- 78	For 8" Base	2	\$.96
SB-710	For 10" Base	2	1.23
SB-711	For 11" Base	2	1.32
SB-713	For 13" Base	3	1.50
SB-717	For 17" Base & Larger	4	2.31

STEEL BOTTOM PLATES

Bottom plates have holes to match our standard or heavy duty type chassis listed on this page, and have pressed "bumpers" at the corners. Made from #20 gauge steel.

Cat. No. Black Ripple	Cat. No. Zinc Plated	Size	Shp. Wt. Lbs.	Net Price
BP-4507	CP-4507	5x 7"	1	\$0.39
BP-4502	CP-4502	8x12"	1	.84
BP-4500	CP-4500	5 1/2 x 9 1/2"	1	.48
BP-4508	CP-4508	5x10"	1	.48
BP-4509	CP-4509	6x14"	1	.63
BP-4510	CP-4510	7x 7"	1	.57
BP-4511	CP-4511	7x 9"	1	.66
BP-4512	CP-4512	7x11"	1	.69
BP-4513	CP-4513	7x13"	2	.75
BP-4514	CP-4514	7x15"	2	.78
BP-4518	CP-4518	4x17"	2	.60
BP-4515	CP-4515	7x17"	2	.87
BP-4531	CP-4531	8x17"	2	.90
BP-4525	CP-4525	10x12"	2	.87
BP-4524	CP-4524	10x14"	2	.90
BP-4528	CP-4528	10x17"	2	1.08
BP-4533	CP-4533	11x17"	2	1.05
BP-4516	CP-4516	12x17"	3	1.20
BP-4535	CP-4535	13x17"	3	1.26
BP-4540	CP-4540	17x17"	4	1.71

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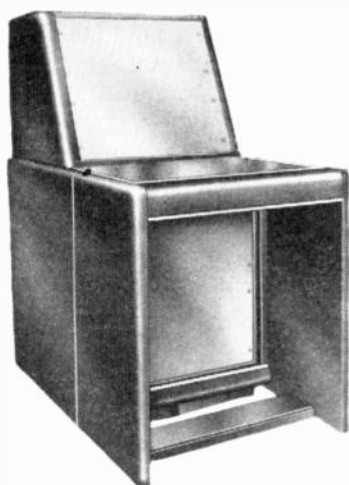
DE LUXE UTILITY DESK ASSEMBLIES

General Description

The combination of a control cabinet mounted on table, desk or similar support usually called a console has been in general use in the electronics industry many years.

While it is obvious that no particular fixed design can serve every requirement, *we have devised a group of standard units*, the combination of which is readily adaptable for specialized applications in control equipment, testing facilities, sound distribution systems and industrial purposes. Our previous models have been functionally redesigned and smartly styled to keep pace with current trends. New modular units have been added, all of which may be grouped or expanded to meet your specific needs.

The *versatile pedestal racks* are the keystone to the entire assembly. They are constructed for heavy duty use, having all the essential features of our type "PR" cabinet racks listed on PAR METAL page 5. This would include panel mounting angles which are adjustable from front to back, and provision for installing chassis mounting brackets and shelves where needed. They offer an efficient utilization of space, complete accessibility for servicing, and are *solidly built* to withstand heavy strains *whether in a laboratory or a moving vehicle*.

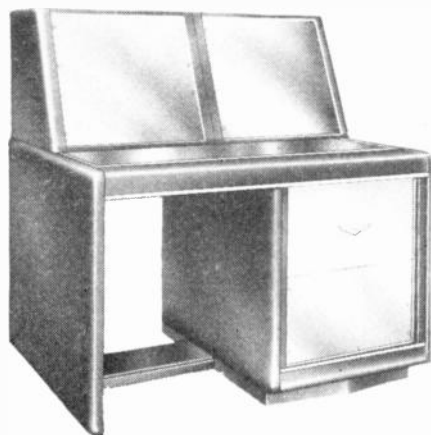


SINGLE UNIT ASSEMBLY

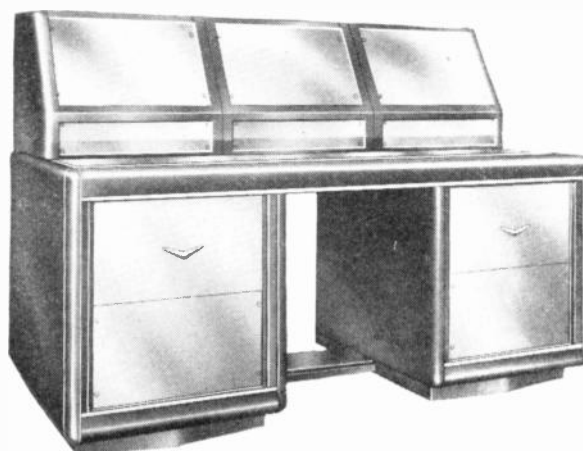
The *new side panels* are readily detachable from the outside. No drilling or fitting is necessary for the assembly of pedestals, cabinets, brackets, shelves or drawers. All panel mounting holes are tapped for screws — no metal screws or clips are used.

Our standard finish is a combination of light and dark gray hammertone enamel. Your desk requirements are easily selected from the group charts on the next page. For the turret, you may choose from four types of control cabinets listed on PAR METAL pages 21 and 22.

Other standard finishes including primer coat only are optional without additional cost.



DOUBLE UNIT ASSEMBLY



TRIPLE UNIT ASSEMBLY

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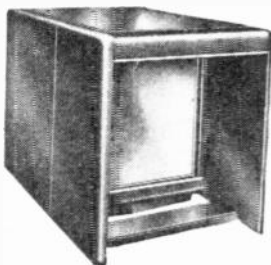
DE LUXE UTILITY DESK ASSEMBLIES



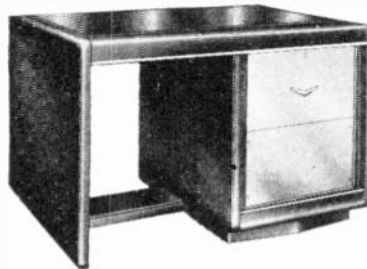
COMPONENT GROUP CHECK LISTS

The group charts below list all necessary and alternate components for single, double, and triple unit assemblies, and also provides a check list to determine your exact requirements.

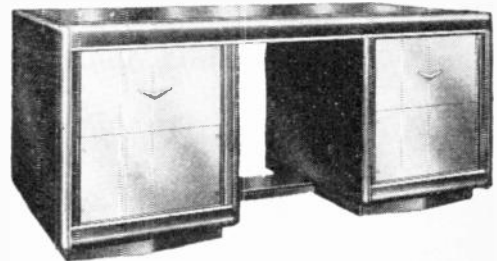
You will note that there are two types of table tops available. You may obtain them with a full depth tabletop (from front to back), or with a short depth tabletop for use with either control or sloping panel mounted on top. For simplicity, these cabinets have been omitted from illustrations on this page; they are full described and listed on PAR METAL pages 21 and 22.



SINGLE UNIT ASSEMBLY



DOUBLE UNIT ASSEMBLY



TRIPLE UNIT ASSEMBLY

FOR SINGLE UNIT ASSEMBLIES

Description	Part No.	Quantity	Par-Metal Page No.	Unit Price	Explanation
Rack Pedestal	PD 224	1	20	\$75.00	
Extension Desk	DSK 24	1	22	55.00	
Exterior Side Panel	FL 24	2	23	14.50	
Full depth tabletop	XT 241	1	23	24.60	For use where our control cabinets are not required.
Short depth tabletop	HT 241	1	23	11.80	Required where our control cabinets are used.
Sliding drawers	Various	Optional	7	As listed	Phono drawers or sliding shelves may also be used.
Panels for front and rear of rack pedestals	Various	As required	23	As listed	Available panel space is 21" high, 19" wide.
Mounting Brackets (in pairs)	CB 24	Optional	23	\$4.20 pair	If needed for interior support of chassis, etc.
Shelf	SS 24	Optional	23	\$4.50	If needed for interior support of chassis, etc.

Overall dimensions of unit: 24½" wide, 39¾" long (front to back), 29-13/16" high.

FOR DOUBLE UNIT ASSEMBLIES

Description	Part No.	Quantity	Par-Metal Page No.	Unit Price	Explanation
Rack Pedestal	PD 234	2	20	\$90.00	
End Pedestal Assembly	DU 34	1	22	42.00	
Exterior Side Panel	EP 34	1	23	16.50	For outside of pedestals.
Interior Side Panel	KP 34	1	23	12.50	For knee space.
Full depth tabletop	WT 342	1	23	46.00	For use where our control cabinets are not required.
Short depth tabletop	HT 342	1	23	18.20	Required where our control cabinets are used.
Sliding drawers	Various	Optional	7	As listed	Phono drawers or sliding shelves may also be used.
Panels for front and rear of rack pedestals	Various	As required	23	As listed	Available panel space is 21" high, 19" wide.
Mounting Brackets	CB 34	Optional	23	\$5.80 pair	If needed for interior support of chassis, etc.
Shelf	SS-34	Optional	23	\$6.40	If needed for interior support of chassis, etc.

Overall dimensions of unit: 46½" wide, 36½" long (front to back), 29-13/16" high.

FOR TRIPLE UNIT ASSEMBLIES

Description	Part No.	Quantity	Par-Metal Page No.	Unit Price	Explanation
Rack Pedestal	PD 234	2	20	\$90.00	
Center Desk Section	CD 34	1	22	19.80	
Exterior Side Panels	EP 34	2	23	16.50	For outside of pedestals at ends.
Interior Side Panels	KP 34	2	23	12.50	For outside of pedestals in knee space.
Full depth tabletop	WT 343	1	23	68.00	For use where our control cabinets are not required.
Short depth tabletop	HT 343	1	23	26.00	Required where our control cabinets are used.
Sliding drawers	Various	Optional	7	As listed	Phono drawers or sliding shelves may also be used.
Panels for front and rear of rack pedestals	Various	Optional	23	As listed	Available panel space is 21" high, 19" wide.
Mounting Brackets	CB 34	Optional	23	\$5.80 pair	If needed for interior support of chassis, etc.
Shelf	SS 34	Optional	23	\$6.40	If needed for interior support of chassis, etc.

Overall dimensions of unit: 68½" wide, 36½" long (front to back), 29-13/16" high.

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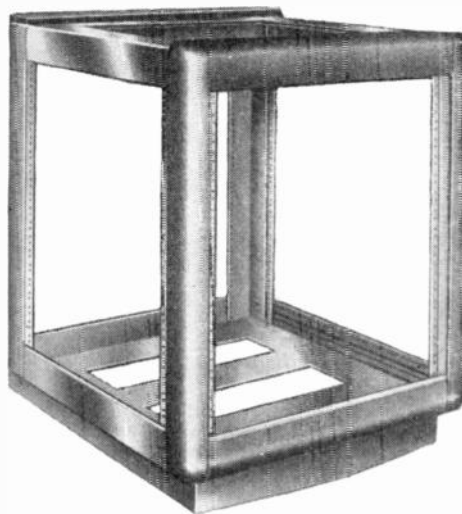
DE LUXE UTILITY DESK ASSEMBLIES

RACK PEDESTALS

The rack pedestal is the principal component used in all single and multiple unit assemblies. It combines the essential features of our *type "PR" racks* listed on PAR METAL page 5, and is attractively styled for any environment.

The corner posts, the top, the bottom, and the step base are made from 7/64" thick steel. All parts are substantially welded to insure the extra strength and stability needed for trouble-free installations, wherever located.

Panel space at front and back is 21" x 19". Panel mounting angles (or "strips") may be located at any position from front to back, and have tapped holes for mounting standard rack panels, sliding shelves, phono drawers, or storage drawers. Additional tapped holes are available at the sides for mounting chassis supports and shelves.



Cat. No. PD-224

Detachable Side Panels, Rack Pedestals, Center Desk Sections, Exterior and Interior Side Panels, Full Depth Tabletops and Short Tabletops, Sliding Drawers, Panels for Front and Rear of Rack Pedestals, Mounting Brackets, Shelves, End Pedestal Assemblies which are used for our Single, Double, and Triple Assemblies are listed in complete detail in *PAR METAL Page 19*.

Where no control or sloping panel cabinets are purchased, the full depth table tops should be used. Where our cabinets are included in your assembly, the short depth table tops should be ordered. Both the pedestal bottom and the step base have openings for entry of cables, etc.

Where these rack pedestals are required as part of complete assemblies, it is advisable to refer to PAR METAL page 19.

CATALOG NO. PD-234 (31¼" deep)

Overall Dimensions (with side panels, front and rear trim) 29-13/16" high, 24½" wide, 36½" deep.

Overall Dimensions (less side panels, front and rear trim) 29" high, 22" wide, 34¼" deep.

Height of pedestal rack (less step base): 26½"

Panel Mounting Space: Front and Back: 21" high x 19" wide.

Clear opening at front and back: 19⅛"

Clear opening between panel mounting angles 17¾"

Clear opening at left and right side: 27⅝" wide, 21" high.

Clear inside depth (front to back): 33"

NET PRICE \$90.00

CATALOG NO. PD-224 (24¼" deep)

Overall Dimensions (with side panels, front and rear trim) 29-13/16" high, 24½" wide, 26½" deep

Overall Dimensions (less side panels, front and rear trim) 29" high, 22" wide, 24¼" deep.

Height of pedestal rack (less step base): 26½"

Panel Mounting Space: Front and Back: 21" high x 19" wide.

Clear opening at front and back: 19⅛"

Clear opening between panel mounting angles: 17¾"

Clear opening at left and right: 17⅝" wide, 21" high.

Clear inside depth (front to back): 23"

NET PRICE \$75.00

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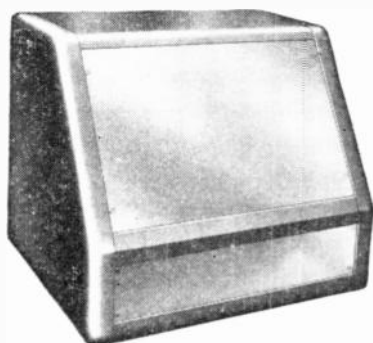
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DE LUXE UTILITY DESK ASSEMBLIES



The desk control cabinets shown below and on the following page are ideal for use in the laboratory, for test equipment and other industrial applications. Each cabinet section is made from 1/16" sheet steel, rigidly welded together—ready for use without a multiplicity of clips, studs, nuts and other fastening devices. Cabinets are made in individual units which are bolted together for multiple unit assemblies. Felt bumpers are supplied where cabinets are used independently. Four different models are listed to cover a wide range of requirements; holes are provided in the bottom for mounting.

Cabinets are regularly supplied with full hinged doors at the back (except Series LS-101, etc.). These doors are equipped with spring catches; locks may be added at an additional cost of \$2.00 per door. Tapped holes are also provided for mounting standard 19" wide panels; panels (blank or ventilated) up to 15 3/4" high are optional at the same price.



SERIES CX-101

DUAL PANEL DESK CONTROL CABINETS

The upper and lower panels are recessed to accommodate any panel up to 7/16" thick. The upper panel is 12 1/4" high set up at a slope of 60° the lower vertical panel is 3 1/2" high.

The top of the cabinet measures 11 5/8" from front to back; they are all 18 7/8" high and 18 7/8" deep. The rear panel opening (each unit) is 15 3/4" x 19" wide.

Cat. No.	Description	*Width	Net Price
CX-101	Single Unit	22"	\$ 50.00
CX-102	Double Unit	44"	95.00
CX-103	Triple Unit	66"	140.00
CX-100	**Added Unit	22"	45.00

**needed to make multiple units of four or more.

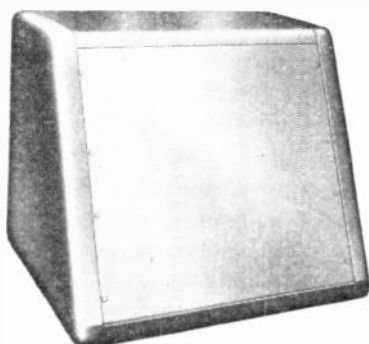
HIGH SLOPE PANEL DESK CABINETS

These cabinets are similar to those above, except that a single sloping front panel is used; the panel size is 17 1/2" x 19" wide. The back has a removable panel size 15 3/4" x 19". The front panel is mounted at an angle of 67°. Cabinets are made from 1/16" sheet steel, with all joints welded together.

The top of the cabinet measures 11 5/8" from front to back; they are all 18 7/8" high and 18 7/8" deep. The inside clearance at bottom of front panel is 17 3/4".

Cat. No.	Description	Width	Net Price
HS-101	Single Unit	22"	\$ 50.00
HS-102	Double Unit	44"	95.00
HS-103	Triple Unit	66"	145.00
HS-100	**Added Unit	22"	45.00

**where needed to make multiple units of four or more.



SERIES HS-101

LOW SLOPE PANEL DESK CABINETS

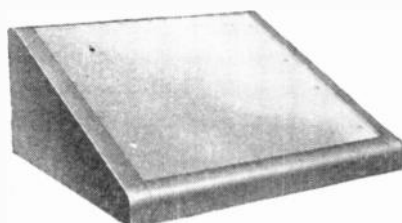
The cabinets are useful where a low sloping panel cabinet is required. The panel size is 17 1/2" x 19"; no panel is supplied for the bottom, which is open. Cabinet is made entirely from 1/16" sheet steel; all joints are welded together.

The cabinets are all 9 1/8" high x 18 7/8" deep.

Bottom opening of each unit is 15 3/4" x 19" wide.

Cat. No.	Description	Width	Net Price
LS-101	Single Unit	22"	\$30.00
LS-102	Double Unit	44"	60.00
LS-103	Triple Unit	66"	90.00
LS-100	*Added Unit	22"	30.00

*where needed to make multiple unit of four or more.



SERIES LS-101

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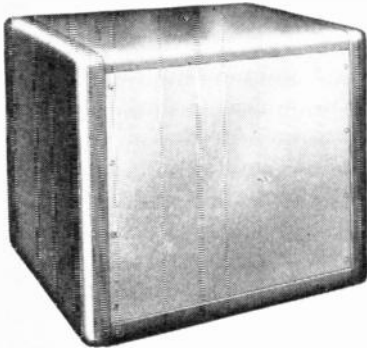
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DE LUXE UTILITY DESK ASSEMBLIES

VERTICAL DESK PANEL CABINETS



SERIES VF-101

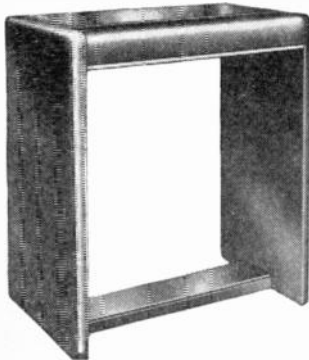
Although similar in design to the cabinets listed on the preceding page, the panels are vertical without slope. These cabinets are useful where maximum interior space is needed for installing equipment. They are regularly supplied with full length hinged door panels at the back equipped with spring catches; locks can be provided at an additional cost of \$2.00 per cabinet.

Blank or ventilated panels may be substituted for the hinged door; any panel 19" wide up to 15 3/4" in height may be used. These cabinets are 18 7/8" high and 18 7/8" deep; the inside clearance (front to back) is 17 3/4"; the front and rear panels are all 15 3/4" x 19" wide.	Cat. No.	Description	Width	Net Price
	VF-101	Single Unit	22"	\$ 40.00
	VF-102	Double Unit	44"	80.00
	VF-103	Triple Unit	66"	120.00
	VF-100	**Added Unit	22"	40.00

**where needed to make multiple units of four or more.

EXTENSION DESK

(For Single Unit Assembly)

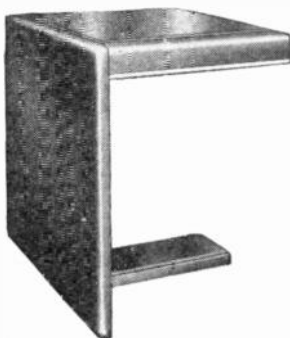


The extension desk illustrated consists of a top, left and right side, and a floor brace. It is attached to the front of a 24" deep rack pedestal (No. PD-224) to make up a single unit assembly as shown on PAR METAL Pages 18 and 19. For formica bonded table tops to fit refer to PAR METAL Page 23.

Cat. No.	For assembly with	Height	Width	Depth	Net Price
DSK-24	Pedestal PD-224	27 13/16"	24 1/2"	15 1/2" (front to back)	\$55.00

END PEDESTAL..

(For Double Unit Assemblies)



This end pedestal is designed to make up a double unit assembly as illustrated on PAR METAL Pages 18 and 19. Where a desk cabinet is used on top the short table top should be used. The full depth table top is available for other adaptations. It may be used at either the right or left side of the pedestal.

Cat. No.	For assembly with	Height	Width	Front to back	Net Price
DU-24	Pedestal PD-224	26 13/16"	23 1/4"	26 1/2"	\$36.00
DU-34	Pedestal PD-234	25 13/16"	23 1/4"	36 1/2"	42.00

CENTER DESK SECTIONS

(For Triple Unit Assemblies)



The center desk section shown is attached between two rack pedestals to make up a triple unit assembly. It consists of a table top support and floor brace illustrated on PAR METAL Page 19. Where our standard desk cabinet is mounted on top, the short size should be used. The full depth table top is available where a turret other than our cabinet is installed.

Cat. No.	For assembly with	Height	Width	Front to back	Net Price
CD-24	Pedestal PD-224	3 5/8"	22"	26 1/2"	\$16.80
CD-34	Pedestal PD-234	3 5/8"	22"	36 1/2"	19.80

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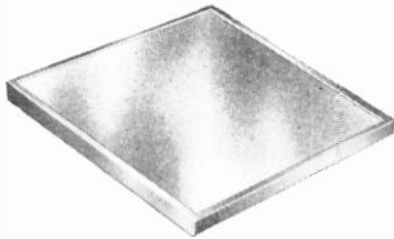
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DE LUXE UTILITY DESK ASSEMBLIES



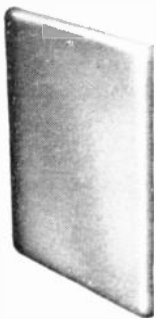
FORMICA BONDED TABLE TOPS



These table tops are made from 3/4" thick plywood surfaced with bonded grey formica. All sizes are edged with a narrow stainless steel moulding. They are inserted in place after assembly of other units. Sizes are as listed below. The short depth is used where our desk cabinets are used on top of the desk assemblies; the full depth should be ordered where a desk only is purchased.

Cat. No.	To fit Pedestal	For use on	Explanation	Depth	Net Price
WT-241	PD 224	Single unit	Less front table extension	Full	\$15.60
XT-241	PD-224	Single unit assembly	With front table extension	Full	24.60
HT-241	PD-224	Single unit assembly	With front table extension	Short	11.80
WT-341	PD 234	Single unit	Less front table extension	Full	23.40
WT-342	PD 234	Double unit assembly		Full	46.00
HT-342	PD-234	Double unit assembly		Short	18.20
WT-343	PD 234	Triple unit assembly		Full	68.00
HT-343	PD-234	Triple unit assembly		Short	26.00

DETACHABLE SIDE PANELS



All panels are made from 1/16" sheet steel. All corners are securely welded and ground smooth. Each panel has cowl fasteners at top and bottom, so that they may be quickly removed to provide complete access to the interior of the pedestals.

Cat. No.	Description	To fit Pedestal	For use on	Net Price
FL-24	Exterior side panel	PD 224	Single unit assemblies	\$14.50
EP-34	Exterior side panel	PD 234	Double and triple unit assemblies	16.50
KP-34	Interior side panel	PD 234	Double and triple unit assemblies	12.50
EP-24	Exterior side panel	PD 224	Less front table extension	15.00
KP-24	Interior side panel	PD-224	Less front table extension	10.50

MOUNTING BRACKETS

These brackets may be mounted on each side of the pedestal. They are slotted to match the lapped holes in the sides of the pedestal, and may be adjusted to any height.



Cat. No.	To Fit Pedestal	Overall Size	Net Price Per Pair
CB-24	PD-224	2 1/2" x 2 3/32" x 18 13/16"	\$4.20
CB-34	PD-234	2 1/2" x 2 3/32" x 28 13/16"	5.80

SHELVES

These shelves are drilled for assembly with Mounting Brackets CB-24 and CB-34. Both shelves are 17 1/2" wide and 5/8" high.



Cat. No.	To Fit Brackets	For Pedestal	Depth	Net Price
SS-24	CB-24	PD-224	22 3/4"	\$4.60
SS-34	CB 34	PD-234	32 3/4"	6.40

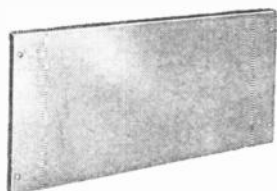
BLANK PANELS

Cat. No.	Length	Width	Net Price
601	3 1/2"	19"	\$1.26
602	5 1/4"	19"	1.44
603	7 "	19"	1.65
604	8 3/4"	19"	2.01
605	10 1/2"	19"	2.88
606	12 1/4"	19"	3.24
607	14 "	19"	3.72
608	15 3/4"	19"	4.11
609	17 1/2"	19"	4.53
610	19 1/4"	19"	4.95
611	21 "	19"	5.50

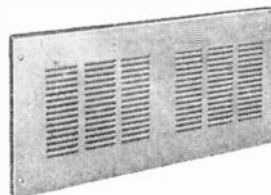
FORMED RACK PANELS—7/16" THICK

These panels are made from 1/16" furniture steel with formed edges to make an overall thickness of 7/16". Holes are on standard 1 1/4"-1 1/2" centers, and they are suitable for use on pedestals or any relay rack.

BLANK



VENTILATED



Ventilated type panels haveouvre type ventilation, as illustrated.

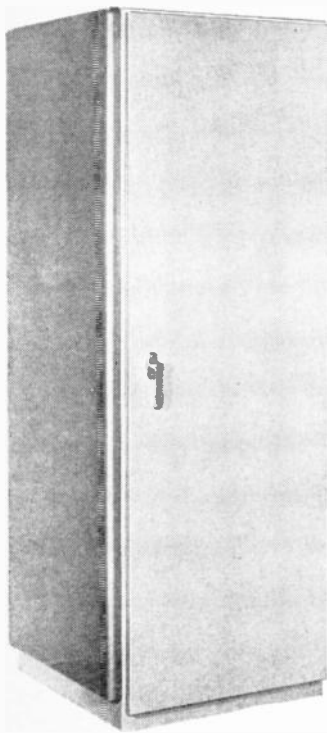
LOUVERED PANELS

Cat. No.	Length	Width	Net Price
V-603	7 "	19"	\$3.45
V-604	8 3/4"	19"	3.90
V-605	10 1/2"	19"	4.29
V-606	12 1/4"	19"	4.86
V-611	21 "	19"	7.56

ALL PRICES ARE F.O.B. LONG ISLAND CITY, NEW YORK

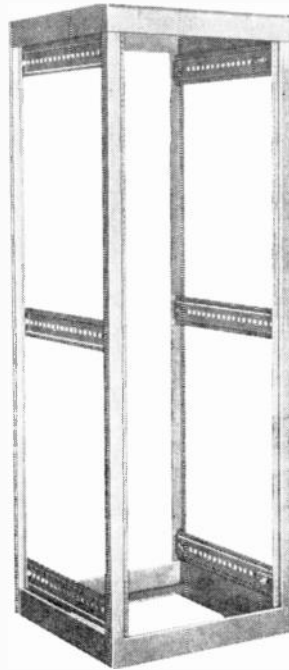
PAR-METAL PRODUCTS CORP. • Long Island City 3, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS



Above unit shown complete with frame, end panels and doors.

PREM-O-RAK®



FRAME — 22" WIDE

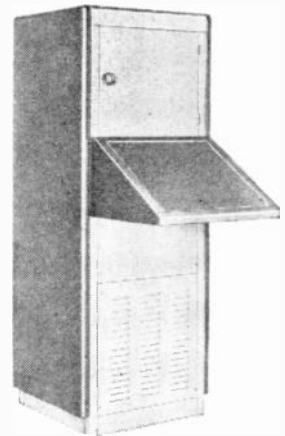
MODULAR TRANSMITTER RACKS

for STANDARD 19" RACK PANELS—22" DEEP
Designed for MULTIPLE INSTALLATIONS and
for use with PREM-O-RAK CONSOLE CABINETS



- Tops of front and rear are rounded.
- Frame Made of 14 gauge steel.
- Supplied with two 3/8" thick panel mounting angles and tapped 12/24 on universal spacings. Adjustable to any desired position.
- Panel mounting angles are held in place at three points by 3/8" carriage bolts.
- Frame completely welded throughout.
- Top of frame is solid. Cutout furnished at no additional charge.
- Knockouts supplied on sides of uprights for use in ganging frames.
- A rectangular cutout is provided in bottom for leads, etc.
- Rectangular knockouts provided on front and rear of uprights of frame to accommodate hinge and handle brackets, so that door can be mounted either left or right hand. Doors can be mounted to front or rear of frame.
- Finished in Gray Hammertone.

Cat. No.	Height	Panel Space	Ship. Wt. Lbs.	Net Resale Price
F-61-22	68"	61 1/4" x 19"	80	\$ 95.85
F-70-22	76 3/4"	70" x 19"	100	112.44
F-77-22	86 3/4"	77" x 19"	110	115.59



This unit consists of
1 Frame
2 End Panels
1 Turret (TUR-3)
1 Flush Door

END PANELS 22" WIDE x 1-11/32" DEEP

- Made of one piece of 16 gauge steel.
- Ball cornered.
- End panels attach to frame by means of a bracket on bottom and held securely by two captive screws on top.
- Panels supplied blank. Louvres furnished at no additional charge.
- Finished in Brown Hammertone.

Cat. No.	Height	Ship. Wt. Lbs.	Net Resale Price
CEP-61-22	64"	30	\$24.00
CEP-70-22	73 3/4"	33	25.80
CEP-77-22	77 3/4"	35	27.90

DOORS 21 1/2" WIDE x 13/16" DEEP

- Made of 16 gauge steel.
- Doors can be mounted either left or right hand by rotating door 180°.
- Doors supplied blank. Louvres furnished at no additional charge.
- Doors hung on slip jointed hinges and equipped with locking handle.
- Finished in Gray Hammertone.

Cat. No.	Height	Ship. Wt. Lbs.	Net Resale Price
DF-61	64-13 16"	28	\$33.60
DF-70	73 3/4"	31	36.00
DF-77	80 3/4"	34	38.40

ORDERING GUIDE

FRAME	Use END PANEL	Use DOOR	Use VERTICAL SIDE SUPPORTS	Use SIDE MOUNTING BRACKETS	Use SHELVES
Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
F-61-22	CEP-61-22	DF-61	PVS-612	SMB-24	S-2419
F-70-22	CEP-70-22	DF-70	PVS-702	SMB-24	S-2419
F-77-22	CEP-77-22	DF-77	PVS-772	SMB-24	S-2419

FLUSH DOORS — 19" WIDE x 1/2" DEEP



- Made of 16 gauge steel.
- Doors can be mounted either left or right hand by rotating door 180°.
- Hinge brackets are punched to accommodate panel mounting angles on cabinets.
- Furnished with attractive round chrome plated handle and snap catch.
- Finished in Gray or Brown Hammertone.

Cat. No.	Height	Ship. Wt. Lbs.	Net Resale Price
CD-17	17 1/2"	7	\$11.34
CD-21	21"	8	12.21
CD-28	28"	10	14.40

For Prem-O-Rak Console Pedestal (CPF-101 Series) and Modular type Transmitter Racks (F and PR Series)

All Prices F.O.B. NEW YORK 59, N. Y.

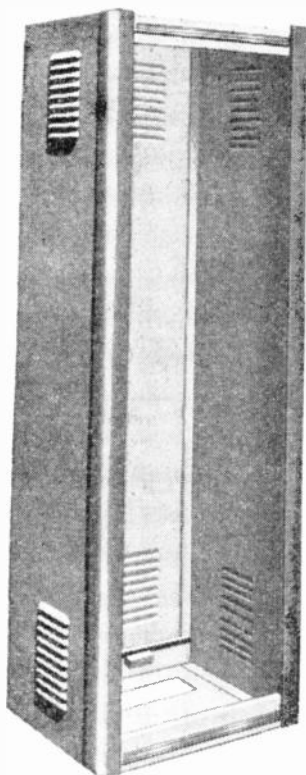
PREMIER Standard PRECISION BUILT METAL HOUSINGS

HEAVY DUTY TRANSMITTER RACKS

FOR 19", 24" AND 30" RACK PANELS — 18" AND 24" DEEP

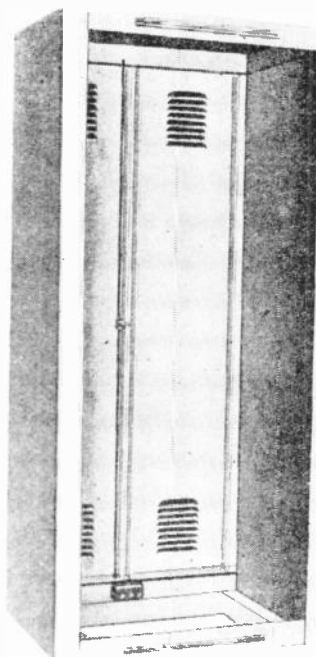


- Rigidly constructed of ± 16 gauge steel with a #12 gauge steel bottom and welded throughout.
- Panel mounting angles are $\frac{3}{16}$ " thick and are tapped 12-24 on Universal spacings.
- Rear doors are hung on sturdy slip-jointed hinges and closed by a chrome handle.
- A rectangular cut-out is made in the bottom for leads, etc.
- RM-7030 Rack supplied with double rear doors and with a 3-point locking device.
- All racks are supplied without louvres on sides unless specified.
- Vertical rounded corner moldings are supplied.
- Tops and bottoms are trimmed with red striped chrome moulding.
- Panel mounting angles are adjustable to any distance from the front by means of channel slides on RMA Racks.
- A Duplex Receptacle and Outlet Box are furnished in the Back Under the Door.
- Racks finished in either black or gray wrinkle, Gray or Brown Hammertone. Black wrinkle furnished if color is not specified.

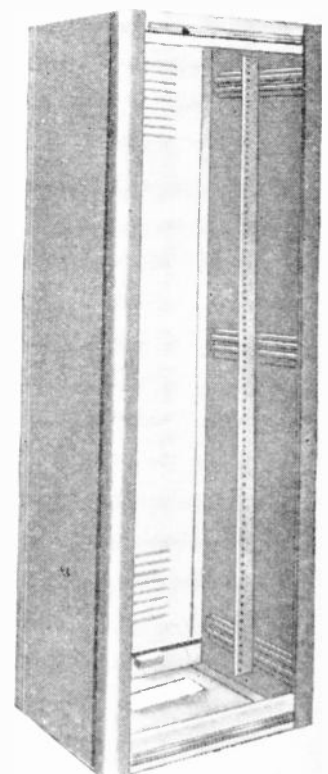


RM MODEL

(Shown with louvres on side)



RM-7030 Model



RMA Model

All RM Racks can be furnished with adjustable panel mounting angles at no additional cost. Specify RMA.

18" DEEP RACKS

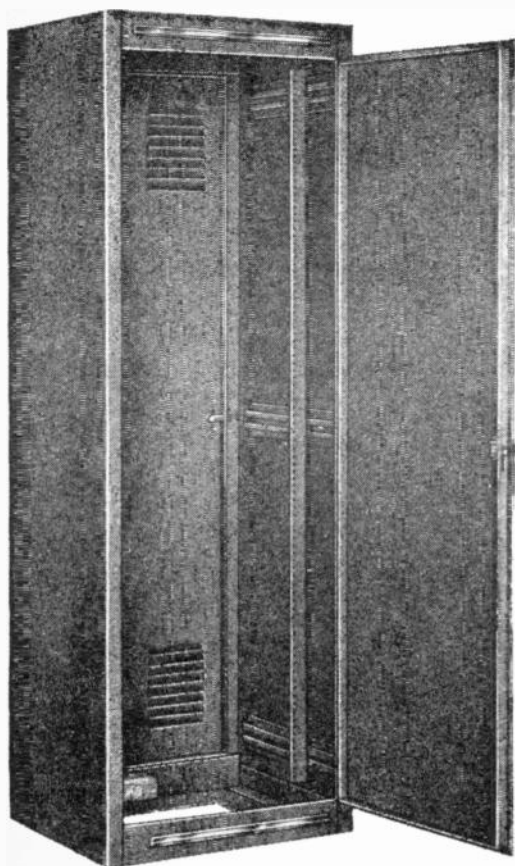
Cat. No.	H x W	Panel Space	Shp. Wt. Lbs.	Net Price
RM-3619	42 $\frac{7}{8}$ x 22"	36 $\frac{3}{4}$ x 19"	100	\$ 66.15
RM-4219	48 $\frac{1}{8}$ x 22"	42 x 19"	130	78.00
RM-6119	67 $\frac{3}{8}$ x 22"	61 $\frac{1}{4}$ x 19"	150	86.01
RM-7618	76 $\frac{1}{8}$ x 22"	70 x 19"	170	105.84
RM-7719	83 $\frac{1}{8}$ x 22"	77 x 19"	190	109.20

24" DEEP RACKS

Cat. No.	H x W	Panel Space	Shp. Wt. Lbs.	Net Price
RM-3619-24	42 $\frac{7}{8}$ x 22"	36 $\frac{3}{4}$ x 19"	110	\$ 84.00
RM-4219-24	48 $\frac{1}{8}$ x 22"	42 x 19"	130	93.05
RM-6119-24	67 $\frac{3}{8}$ x 22"	61 $\frac{1}{4}$ x 19"	175	122.40
RM-7618-24	76 $\frac{1}{8}$ x 22"	70 x 19"	200	132.30
RM-7719-24	83 $\frac{1}{8}$ x 22"	77 x 19"	225	148.86
RM-7030	76 $\frac{1}{8}$ x 33"	70 x 30"	240	191.85
RMA-2742	48 $\frac{1}{4}$ x 27"	42 x 24"	170	120.78
RMA-2761	67 $\frac{3}{8}$ x 27"	61 $\frac{1}{4}$ x 24"	210	137.58
RMA-2770	76 $\frac{1}{8}$ x 27"	70 x 24"	240	148.59
RMA-2777	83 $\frac{1}{8}$ x 27"	77 x 24"	270	165.39

All prices F.O.B. N. Y. 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS



FD Model

HEAVY DUTY TRANSMITTER RACKS WITH FRONT DOORS

FOR 19" AND 24" RACK PANELS—
18" AND 24" DEEP

- Rigidly constructed of #16 gauge steel with a #12 gauge steel bottom and welded throughout.
- Panel mounting angles are $\frac{3}{16}$ " thick and are tapped 12-24 on Universal spacings.
- Rear doors are hung on sturdy slip-jointed hinges and closed by a chrome handle.
- All racks are supplied without louvres on sides and front doors unless specified.
- A rectangular cut-out is made in the bottom for leads, etc.
- Tops and bottoms are trimmed with red striped chrome moulding.
- Supplied with locking handle on front door.
- Panel mounting angles are adjustable to any distance from the front by means of channel slides.
- A Duplex Receptacle and Outlet Box are Furnished in the Back Under the Door.
- Racks finished in either black or gray wrinkle, Gray or Brown Hammertone. Black wrinkle furnished if color is not specified.

18" DEEP RACKS

Cat. No.	H x W	Panel Space	Shp. Wt. Lbs.	Net Price
FD-3619	42 $\frac{7}{8}$ x22"	36 $\frac{3}{4}$ x19"	115	\$102.39
FD-4219	48 $\frac{7}{8}$ x22"	42 x19"	120	108.00
FD-6119	67 $\frac{3}{8}$ x22"	61 $\frac{1}{4}$ x19"	175	115.77
FD-7019	76 $\frac{1}{8}$ x22"	70 x19"	200	132.30
FD-7719	83 $\frac{1}{8}$ x22"	77 x19"	220	142.23

24" DEEP RACKS

Cat. No.	H x W	Panel Space	Shp. Wt. Lbs.	Net Price
FD-3619-24	42 $\frac{7}{8}$ x22"	36 $\frac{3}{4}$ x19"	125	\$100.80
FD-4219-24	48 $\frac{7}{8}$ x22"	42 x19"	150	111.00
FD-6119-24	67 $\frac{3}{8}$ x22"	61 $\frac{1}{4}$ x19"	200	152.16
FD-7019-24	76 $\frac{1}{8}$ x22"	70 x19"	255	158.76
FD-7719-24	83 $\frac{1}{8}$ x22"	77 x19"	270	181.89
FD-2742	48 $\frac{1}{8}$ x27"	42 x24"	180	140.19
FD-2761	67 $\frac{3}{8}$ x27"	61 $\frac{1}{4}$ x24"	230	165.39
FD-2770	76 $\frac{1}{8}$ x27"	70 x24"	260	176.22
FD-2777	83 $\frac{1}{8}$ x27"	77 x24"	290	198.45



Self-Spraying LACQUER Available in 3 Colors

Cat. No.	To Match
SGL-101	Premier Gray Wrinkle
GHL-102	Premier Gray Hammertone
BHL-103	Premier Brown Hammertone

NET PRICE: \$1.95 EACH 12 oz. CAN



CASTERS FOR RACKS AND CABINETS

Made of Plaskite non-marking composition wheel with Ball Bearing Swivel Plate. Packed one set of 4 in box with screws for assembly.

Catalog No.	Wheel Dia.	Net Price
CA-4	2"	\$3.60 set of 4
CA-5	3"	7.20 set of 4

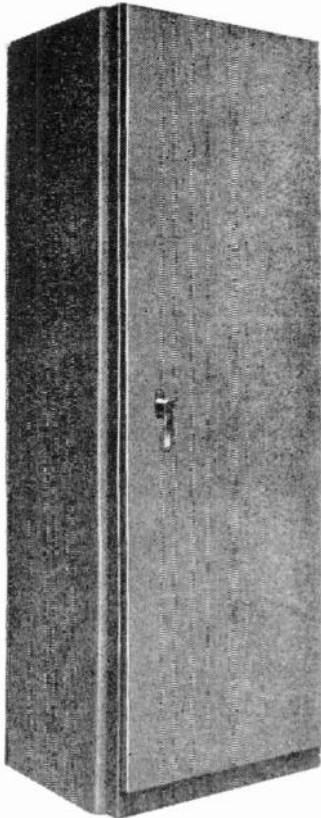
All prices F.O.B. N. Y. 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS

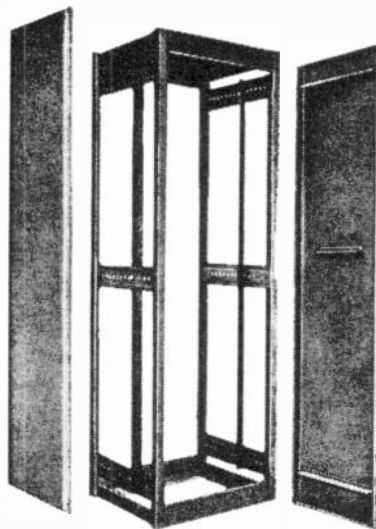
HEAVY DUTY TRANSMITTER RACKS FOR MULTIPLE INSTALLATIONS



For 19", 24" and 30" Wide Panels — 18" and 24" Deep

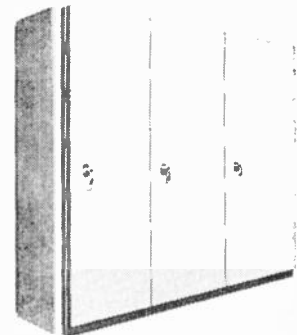


Model PR-77 with SP-77 panels attached



FRAMES AND DOORS

Each unit consists of 1 frame and 2 doors.



3 UNITS IN ASSEMBLY

NOTE:

1. These units can be supplied as a frame only or as a frame and one door only.

← SHOWN WITHOUT FRONT AND REAR DOORS

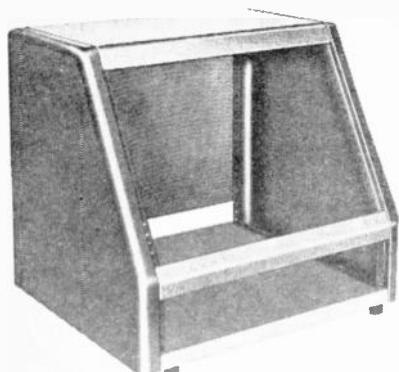
18" DEEP			22" WIDE			24" DEEP		
Catalog No.	Ship. Wt. Lbs.	Net Price	Height	Panel Space	Door Size	Catalog No.	Ship. Wt. Lbs.	Net Price
PR-42	130	\$ 99.60	48 ¹ / ₈	42 x 19	45 ³ / ₁₆ x 21 ¹ / ₂ x 1 ³ / ₁₆	PR-42-24	150	\$123.60
PR-61	140	138.93	67 ³ / ₈	61 ¹ / ₄ x 19	64 ¹³ / ₁₆ x 21 ¹ / ₂ x 1 ³ / ₁₆	PR-61-24	168	166.71
PR-70	150	158.76	76 ¹ / ₈	70 x 19	73 ³ / ₈ x 21 ¹ / ₂ x 1 ³ / ₁₆	PR-70-24	180	190.56
PR-77	165	165.39	83 ¹ / ₈	77 x 19	80 ³ / ₈ x 21 ¹ / ₂ x 1 ³ / ₁₆	PR-77-24	198	202.80
			27" WIDE					
PR-2761	168	159.77	67 ³ / ₈	61 ¹ / ₄ x 24	64 ¹³ / ₁₆ x 26 ¹ / ₂ x 1 ³ / ₁₆	PR-2761-24	202	181.58
PR-2770	180	182.58	76 ¹ / ₈	70 x 24	73 ³ / ₈ x 26 ¹ / ₂ x 1 ³ / ₁₆	PR-2770-24	216	209.96
PR-2777	198	190.20	83 ¹ / ₈	77 x 24	80 ³ / ₈ x 26 ¹ / ₂ x 1 ³ / ₁₆	PR-2777-24	238	218.73
			33" WIDE*					
PR-3361	202	181.58	67 ³ / ₈	61 ¹ / ₄ x 30	64 ¹³ / ₁₆ x 32 ¹ / ₂ x 1 ³ / ₁₆	PR-3361-24	242	208.82
PR-3370	216	209.96	76 ¹ / ₈	70 x 30	73 ³ / ₈ x 32 ¹ / ₂ x 1 ³ / ₁₆	PR-3370-24	259	241.46
PR-3377	238	218.73	83 ¹ / ₈	77 x 30	80 ³ / ₈ x 32 ¹ / ₂ x 1 ³ / ₁₆	PR-3377-24	286	251.54

* Both front and rear supplied with double doors.

SIDE PANELS	18" DEEP				24" DEEP			
	Catalog No.	Size	Ship. Wt. Lbs.	Net Price	Catalog No.	Size	Ship. Wt. Lbs.	Net Price
(Sold individually—NOT as pairs)	SP-42	48 x 15 x 1 ¹ / ₂	20	\$16.56 ea.	SP-42-24	43 x 21 x 1 ¹ / ₂	22	\$21.36 ea.
	SP-61	67 ¹ / ₄ x 15 x 1 ¹ / ₂	23	21.54 ea.	SP-61-24	67 ¹ / ₄ x 21 x 1 ¹ / ₂	28	25.83 ea.
	SP-70	76 x 15 x 1 ¹ / ₂	26	23.16 ea.	SP-70-24	76 x 21 x 1 ¹ / ₂	31	27.78 ea.
	SP-77	83 x 15 x 1 ¹ / ₂	28	24.90 ea.	SP-77-24	83 x 21 x 1 ¹ / ₂	34	30.00 ea.

NEW YORK 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS



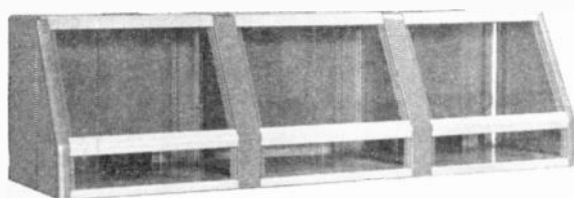
PREM-O-RAK® CONSOLE SLOPING CABINET

- BOTH FRONT AND REAR HAVE ATTRACTIVE BALL CORNERS
- Shipped knocked down with necessary hardware for easy assembly.
- All screws for assembling console are not visible from the outside.
- Both front and rear are tapped for 10/32 machine screws on universal spacings.
- Interlocking removable rear panel made of perforated metal and held in place by four captive screws.
- Made of No. 16 gauge steel.
- Rear panel has 1³/₄" opening on bottom for leads, etc.
- Panels fit into 1/2" recess.
- Base has 6 knockouts for leads and furnished with 4 rubber feet.
- Components may be mounted on base before assembly of rack into a complete unit.
- May be used individually or in multiples.
- Handsomely finished in Two Tone Hammertone — Top, cross-piece and base are Gray Hammertone. Rear and side panels are Brown Hammertone

DIMENSIONS

Width — 21³/₄"
 Height — 18¹/₈"
 Depth — 18"
 Slope — 30° from vertical
 Upper panel space — 12¹/₄" x 19"
 Lower panel space — 3¹/₂" x 19"
 Rear panel space — 15³/₄" x 19"

Cat. No.	Ship. Wt. Lbs.	Net Price
CSC-201	35	\$49.80



DESIGNED FOR MULTIPLE INSTALLATION

The PREM-O-RAK CONSOLE CABINETS can be joined together to make multiple units by means of a center frame section which is bolted to the top, cross-piece and bottom. When ordering multiple units specify number of units, such as Double, Triple, etc.



CENTER FRAME



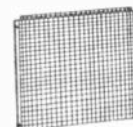
TOP



CROSS-PIECE



BOTTOM

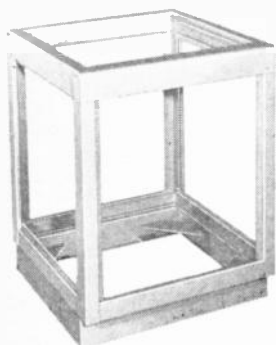


REAR INTERLOCKING PANEL

EXAMPLE:

One Double CSC-201 consists of one CSC-201 and one CMS-301
 One Triple CSC-201 consists of one CSC-201 and two CMS-301
EACH MULTIPLE SECTION (Cat. No. CMS-301) comprises 5 pieces as shown above.

Catalog No.	Shipping Wt. Lbs.	Net Price
CMS-301	26	\$30.00



PREM-O-RAK® CONSOLE PEDESTAL FRAME

- Units are designed for multiple installation.
- Tops of front and rear are rounded.
- Adjustable panel mounting angles front and rear are tapped for 10/32 machine screws on universal spacings.
- Panels fit into 1/2" recess.
- Brackets welded in base and punched to accommodate CA-4 and CA-5 casters.
- Frame made of No. 16 gauge steel; panel mounting angles of 12 gauge steel.
- Finished in Gray Hammertone.

DIMENSIONS

Width — 22" Height — 29¹/₂" without casters
 Depth — 22" 30" with casters
 Front and rear panel space — 21" x 19"
 Top panel space — 17¹/₂" x 19"

Catalog No.	Ship. Wt. Lbs.	Net Price
CPF-101	45	\$56.04

END PANELS

- Made of one piece of No. 16 gauge steel.
- Finished in Brown Hammertone.
- For easy installation and access, the end panels attach to pedestal frame (Cat. No. CPF-101) by means of 2 brackets on bottom and held securely with 2 captive screws on top.



END PANEL

- Ball cornered.
- Finished in Brown Hammertone.

DIMENSIONS

Width — 22"
 Height — 26"
 Depth — 1¹/₂"

Cat. No.	Ship. Wt. Lbs.	Net Price
CPE-401	17	\$15.00

SHORT END PANEL

- Used only when work top is mounted between 2 pedestal frames.
- Finished in Brown Hammertone.

DIMENSIONS

Width — 22", Height — 23",
 Depth — 1¹/₂"

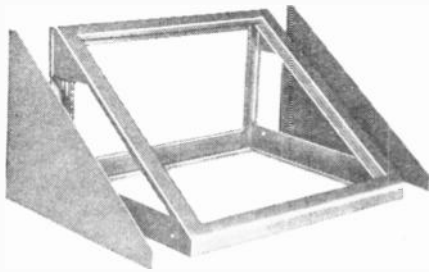
Cat. No.	Ship. Wt. Lbs.	Net Price
CSS-701	15	\$9.00

All prices F.O.B. N. Y. 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS



MODULAR CONSOLE SYSTEM PREM-O-RAK TURRET WITH FLAT SIDE PANELS

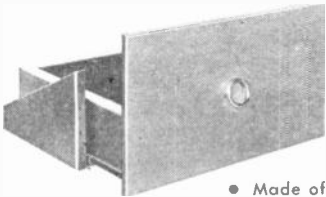


- Made of No. 16 gauge steel.
- All panel openings tapped for 10/32 machine screws on universal spacings.
- Panels fit into 1/2" recess.
- Flat side panels are assembled at factory before shipping.
- Frame finished in Gray Hammertone. Side panels finished in Brown Hammertone.

DIMENSIONS

Width — 22", Height — 12 1/4" or 17 1/2"* or 12 1/4"*
Sloped front panel space is 17 1/2" x 19" when mounted either 35° or 55° from vertical.
Rear panel space — 8 3/4" x 19", Bottom panel space — 14" x 19"
*According to method of mounting.

Catalog No.	Shipping Wt. Lbs.	Net Price
TUR-3	20	\$34.80



SLIDING DRAWER

DIMENSIONS
Drawer size — 17" wide x 16 1/2" deep x 6" high.
Panel size — 10 3/8" x 18 7/8"

- Made of heavy gauge steel.
- Drawer is mounted on ball-bearing suspension slides which can sustain 40 lbs.
- Drawer extends 11" from front of cabinet.
- Entire unit mounts to the rear of the tapped holes of the panel mounting angles of cabinet.
- Furnished with attractive, round, chrome-plated handle.
- Shipped knocked down with all necessary hardware for easy assembly.
- Will fit No. CPF-101 pedestal frames, 18" deep Prem-O-Raks (POR series), F and PR racks (When used with other formed panels — FP and FPL series)

Catalog No.	Shipping Wt. Lbs.	Net Price
D-1916	23	\$18.00



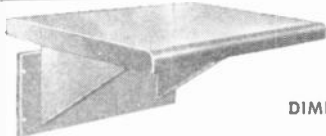
WORK TOP FOR MULTIPLE ASSEMBLY

- Tops of front and rear are rounded.
- Designed for mounting between 2 pedestal frames (CPF-101)
- Made of No. 16 gauge steel.
- Finished in Gray Hammertone.

NOTE: Use Short End Panels for this installation.
(Cat. No. CSS-701)

DIMENSIONS: Width — 22", Depth — 22", Height — 3"

Catalog No.	Shipping Wt. Lbs.	Net Price
CWT-601	14	\$12.60



WRITING SHELF FOR SINGLE UNIT

DIMENSIONS Width — 22"
Depth — 16"
Height — 1 1/2"

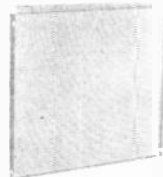
- Rounded front top.
- Made of No. 16 gauge steel.
- Supplied with 2 knockouts on each side which are used for multiple installations.
- Shipped knocked down with all necessary hardware for easy assembly.

Catalog No.	For use with	Ship. Wt. Lbs.	Net Price
CWS-501*	CPF-101	17	\$15.00
CWS-502**	F, PR racks (when used with other formed panels—FP and FPL series)	19	15.75

* Bolted to a standard 7" x 19" formed panel.
** Bolted to a standard 10 1/2" x 19" formed panel.

INTERLOCKING REAR PANELS - 19" Wide

FOR USE WITH PEDESTAL FRAME (Cat. No. CPF-101)



- Made of one piece of No. 20 gauge steel.
- Furnished with 4 captive screws.
- Finished in Brown Hammertone.

PERFORATED

Cat. No.	Height	Ship. Wt. Lbs.	Net Price
PP-17	17 1/2"	5	\$7.50
PP-21	21"	6	8.40

BLANK

Cat. No.	Height	Ship. Wt. Lbs.	Net Price
PS-17	17 1/2"	6	6.00
PS-21	21"	7	6.72

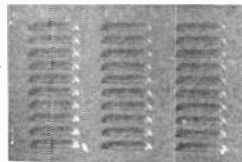
FORMED PANELS - 19" WIDE

- Made of one piece of No. 16 gauge steel, with edges formed for overall depth of 1/2".
- Each panel has only 2 mounting holes on each side.
- Finished in Gray or Brown Hammertone.



BLANK		Ship. Wt. Lbs.	Net Price
Cat. No.	Height		
FP-319	3 1/2"	2	\$1.14
FP-519	5 1/4"	2	1.32
FP-719	7"	3	1.50
FP-819	8 3/4"	4	1.83
FP-1019	10 1/2"	5	2.25

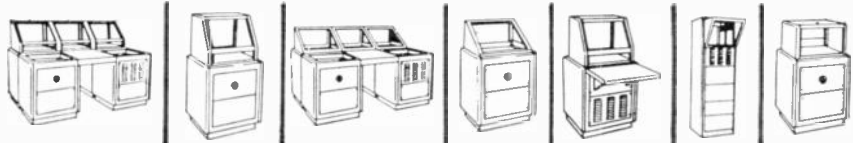
BLANK		Ship. Wt. Lbs.	Net Price
Cat. No.	Height		
FP-1219	12 1/4"	6	\$2.61
FP-1419	14"	6	2.94
FP-1519	15 3/4"	7	3.39
FP-1719	17 1/2"	7	3.75
FP-1919	19 1/4"	8	4.11
FP-2119	21"	9	4.50



LOUVRED

Cat. No.	Height	Ship. Wt. Lbs.	Net Price
FPL-719	7"	3	\$3.15
FPL-819	8 3/4"	4	3.54
FPL-1019	10 1/2"	5	3.90
FPL-1219	12 1/4"	6	4.41
FPL-1419	14"	6	4.74
FPL-1719	17 1/2"	7	5.55
FPL-2119	21"	9	6.90

A few of the unlimited variety of arrangements made possible with the standard, flexible Prem-O-Rak units designed for function and beauty.



All prices F.O.B. N. Y. 59, N. Y.

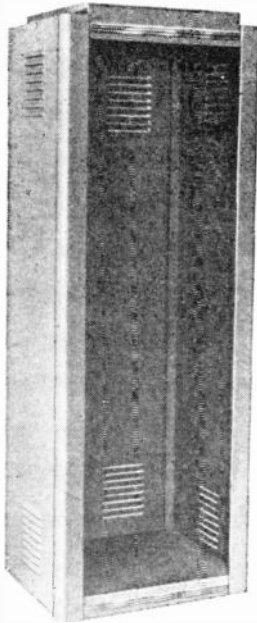
PREMIER Standard PRECISION BUILT METAL HOUSINGS

ENCLOSED RELAY RACKS FOR STANDARD 19" RACK PANELS



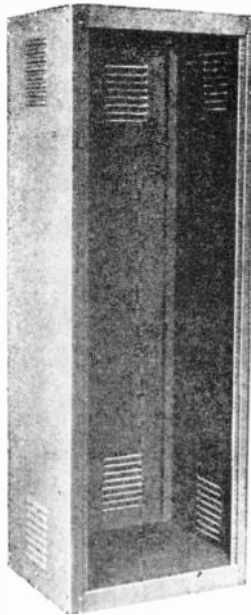
- Rigidly constructed of # 16 gauge cold rolled sheet steel.
- The panel mounting angles are of # 12 gauge steel and are tapped for 10-32 machine screws on Universal spacings.
- Panels fit into a recess so that the edges are not exposed.
- Racks are shipped knocked down with all necessary bolts for easy assembly
- Rear doors are hung on sturdy slip-jointed hinges, and closed by a chrome handle.
- Holes punched in bottom to accommodate CA-4 casters.
- ROUNDED TYPE have front vertical rounded corners.
- STANDARD TYPE have square front vertical corners.
- DELUXE TYPE — The removable vertical corner mouldings are rounded and cover the mounting screws.
- DELUXE TYPE — Top and bottom are trimmed with red stripped chrome finished moulding.
- Cabinets finished in either Black or Gray wrinkle, Gray or Brown Hammertone. If color is not specified, Black Wrinkle will be furnished.

DELUXE TYPE



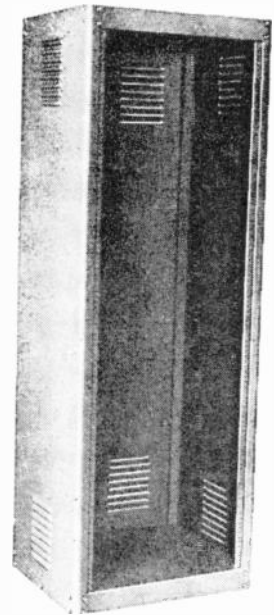
DR Model

STANDARD TYPE



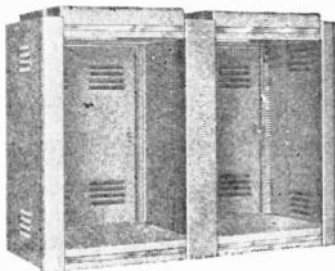
RS Model

ROUNDED TYPE



R Model

MULTIPLE RACK UNITS



One Double DR-3619 Unit in Assembly

The above racks can be joined together to make multiple units by means of a solid center partition which is bolted to the top and bottom. Each multiple section comprises a top, bottom, rear door and center partition. Vertical trim mouldings are supplied on the DR models. When ordering multiple units specify number of units, such as double, triple, quad, etc.

Racks are 22" wide x 18" deep

	Cat. No.	Overall Height	Panel Space	Ship. Wt.—Lbs.	Net Price
DELUXE	DR-3619	43 ⁷ / ₈ "	36 ³ / ₄ "	85	\$54.00
	DR-6119	67 ⁵ / ₈ "	61 ¹ / ₄ "	135	66.00
	DR-7719	83 ³ / ₈ "	77"	160	79.89
STANDARD	RS-3619	41 ⁷ / ₈ "	36 ³ / ₄ "	80	37.89
	RS-6119	66 ³ / ₈ "	61 ¹ / ₄ "	120	56.43
	RS-7719	82 ¹ / ₈ "	77"	140	67.77
ROUNDED	R-3619	41 ⁷ / ₈ "	36 ³ / ₄ "	80	37.89
	R-4219	47 ¹ / ₈ "	42"	90	43.38
	R-6119	66 ³ / ₈ "	61 ¹ / ₄ "	120	56.43
	R-77 9	82 ¹ / ₈ "	77"	140	67.77

Example:

One Double R-3619 consists of one R-3619 and one MR-3619

One Triple RS-3619 consists of one RS-3619 and two MR-3619

One Quad DR-3619 consists of one DR-3619 and three DMR-3619

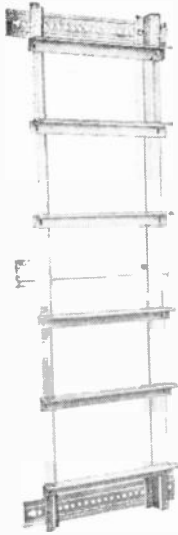
NEW YORK 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS



VERTICAL SIDE SUPPORTS and PANEL MOUNTING ANGLES

To Fit Premier Heavy Duty Transmitter Racks



Vertical Side Supports are made of No. 12 gauge steel and punched 10-32 on Universal spacings. Finished in Aluminum Enamel.

Panel Mounting Angles are made of 3/16" thick steel and punched 12-24 on Universal spacings. Finished in Black or Gray Wrinkle, Gray or Brown Hammetone.

VERTICAL SIDE SUPPORTS

Cat. No.	H.	D.	Net Price Set of 4
PVS-421	42"	1 1/2"	\$15.00
PVS-422	42"	1 3/4"	15.00
PVS-423	42"	2"	15.00
PVS-611	61 1/4"	1 1/2"	19.85
PVS-612	61 1/4"	1 3/4"	19.85
PVS-613	61 1/4"	2"	19.85
PVS-701	70"	1 1/2"	23.10
PVS-702	70"	1 3/4"	23.10
PVS-703	70"	2"	23.10
PVS-771	77"	1 1/2"	25.85
PVS-772	77"	1 3/4"	25.85
PVS-773	77"	2"	25.85
PVS-211	21"	1 1/2"	7.50

SIDE SUPPORTS ARE 2 5/8" WIDE

◆ Inside view of PR Rack showing vertical side supports and side mounting brackets assembled.

TO FIT RACKS

FD & RMA-2742, FD & RMA-4219
PR 42, PR-4224, PR-2742, PR-2742-24
FD & RMA-4224
FD & RMA-2761, FD & RMA-6119
PR-61, 61-24, 2761, 2761-24, 3361, 3361-24, F-61-22
FD & RMA-6124
RMA-7618, 7030, FD-7019, FD & RMA-2770
PR-70, 70-24, 2770, 2770-24, 3370, 3370-24, F-70-22
RMA-7019, FD 7024
FD & RMA-7719, FD & RMA-2777
PR-77, 77-24, 2777, 2777-24, 3377, 3377-24, F-77-22
FD & RMA-7724
CPF-101

PANEL MOUNTING ANGLES

Cat. No.	H.	Angle Size	Net Price Pair
PMA-421	42"	1 1/2 x 1 1/2"	\$12.00
PMA-422	42"	1 3/4 x 1 1/4"	12.00
PMA-423	42"	2 x 1 1/2"	12.00
PMA-611	61 1/4"	1 1/2 x 1 1/2"	15.00
PMA-612	61 1/4"	1 3/4 x 1 1/4"	15.00
PMA-613	61 1/4"	2 x 1 1/2"	15.00
PMA-701	70"	1 1/2 x 1 1/2"	16.80
PMA-702	70"	1 3/4 x 1 1/4"	16.80
PMA-703	70"	2 x 1 1/2"	16.80
PMA-771	77"	1 1/2 x 1 1/2"	18.00
PMA-772	77"	1 3/4 x 1 1/4"	18.00
PMA-773	77"	2 x 1 1/2"	18.00

NOTE:

RMA Cabinets are constructed exactly the same as RM units except panel mounting angles are adjustable, and are furnished at no additional cost.

SIDE MOUNTING BRACKETS



Cat. No.	Length	To Fit Racks	Net Price (Pair)
SMB-18	14"	All 18" PR, FD & RMA Deep Racks	\$3.00
SMB-24	20"	All 24" PR, FD & RMA Deep Racks	3.90

Made of No. 12 Gauge Steel — Finished in Aluminum Enamel

SHELVES

Made of No. 16 Gauge Steel — Finished in Aluminum Enamel

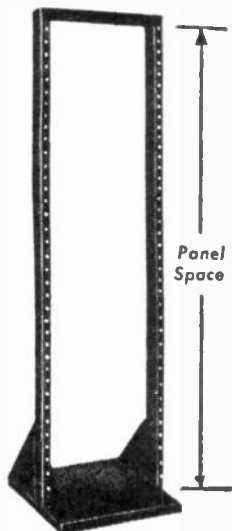
Shelves	Depth	Width	To Fit Racks	Net Price
S-1819	14 1/4"	17 1/2"	19" panels—18" deep	\$3.15
S-2419	20 1/4"	17 1/2"	19" panels—24" deep	3.78
S-2424	20 1/4"	22 1/2"	24" panels—24" deep	4.47
S-2430	20 1/4"	28 1/2"	30" panels—24" deep	5.40

SHELF AND BRACKETS IN POSITION



CHANNEL RELAY RACKS

- Rigidly constructed of #12 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Vertical members and top cross-brace are welded together.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.
- Base punched to accommodate CA-4 casters.

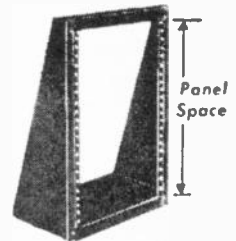


Cat. No.	H.	W.	D.	Panel Space	Shp. Lbs.	Net Price
RR-800	39 1/4"	20"	18 3/8"	36 3/4" x 19"	40	\$20.16
RR-801	74 1/4"	20"	20 7/8"	71 3/4" x 19"	55	24.00
RR-802	79 1/2"	20"	20 7/8"	77" x 19"	60	27.78

All prices F.O.B. N. Y. 59, N. Y.

TABLE TYPE RELAY RACKS

- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in Black Wrinkle.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on Universal Spacings.
- Racks are shipped knocked down with all necessary bolts for easy assembly.



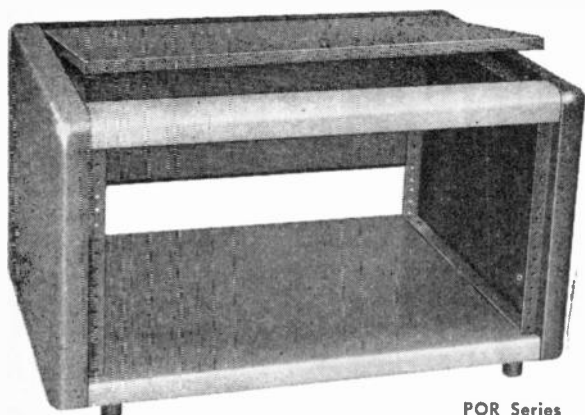
Cat. No.	H.	W.	D.	Panel Space	Shp. Lbs.	Net Price
TR-2119	25"	21"	12"	21 x 19"	17	\$ 8.02
TR-2819	32"	21"	12"	28 x 19"	20	10.03

PREMIER Standard PRECISION BUILT METAL HOUSINGS



The
ARISTOCRAT of
DESK CABINET RACKS

PREM-O-RAK[®]



POR Series

**BOTH FRONT AND REAR OF TOP
HAVE ATTRACTIVE BALL CORNERS.**

SHIPPED KNOCKED-DOWN WITH ALL THE
NECESSARY HARDWARE FOR
EASY ASSEMBLY.

- All screws for assembling PREM-O-RAK are not visible from the outside.
- Both front and rear verticals are tapped for 10/32 machine screws on universal spacings so that panels may be mounted on both front and rear if desired.
- Interlocking removable top made of perforated metal and held in place by only one captive screw.
- Interlocking removable rear panel made of perforated metal and held in place by two captive screws.

- Rigidly constructed of #16 gauge steel.
- Rear panel has 3 1/2" opening on bottom for leads, etc.
- Panels fit into 1/2" recess.
- Base supplied with four rubber feet.

- Components may be mounted on base before assembly of rack into a complete unit.

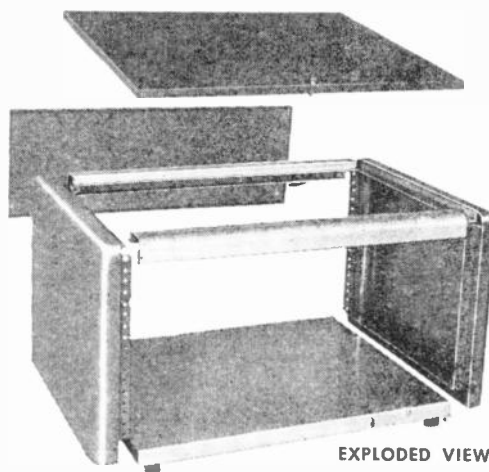
- **HANDSOMELY FINISHED IN TWO-TONE
HAMMERTONE**

Top cross braces and base are Gray Hammer-
tone.

Top and rear panel and side panels are
Brown Hammer-tone.

AVAILABLE IN 20 DIFFERENT SIZES —
FROM 7" to 35" PANEL SPACES.

BOTH 15 1/4" and 18" DEEP
FOR STANDARD 19" PANELS.



EXPLODED VIEW

ALL CABINETS ARE 21 3/4" WIDE

15 1/4" DEEP

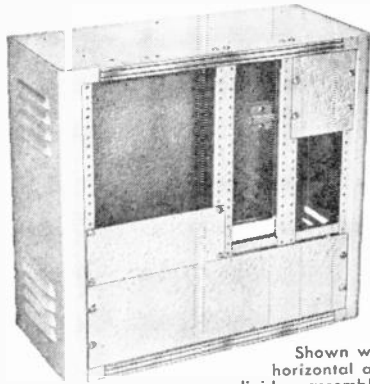
Catalog No.	Overall Height	Panel Space	Ship. Wt. Lbs.	Net Price
POR-7	9 3/8"	7"	22	\$25.20
POR-8	11 1/8"	8 3/4"	24	26.46
POR-10	12 7/8"	10 1/2"	26	30.24
POR-12	14 5/8"	12 1/4"	28	32.76
POR-14	16 3/8"	14"	32	36.54
POR-17	19 7/8"	17 1/2"	40	43.47
POR-21	23 3/8"	21"	44	47.25
POR-26	28 5/8"	26 1/4"	45	51.03
POR-31	33 7/8"	31 1/2"	50	53.55
POR-35	37 3/8"	35"	55	56.70

18" DEEP

Catalog No.	Overall Height	Panel Space	Ship. Wt. Lbs.	Net Price
POR-718	9 3/8"	7"	24	\$27.88
POR-818	11 1/8"	8 3/4"	26	29.30
POR-1018	12 7/8"	10 1/2"	29	33.39
POR-1218	14 5/8"	12 1/4"	31	36.07
POR-1418	16 3/8"	14"	35	40.32
POR-1718	19 7/8"	17 1/2"	44	47.88
POR-2118	23 3/8"	21"	48	52.29
POR-2618	28 5/8"	26 1/4"	49	56.23
POR-3118	33 7/8"	31 1/2"	55	59.69
POR-3518	37 3/8"	35"	60	62.53

NEW YORK 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS



MDK Series

Shown with panels, horizontal and vertical dividers assembled.

MODU-RAK®

12" DEEP MINIATURE DESK RACKS

for modular construction of test equipment

FOR STANDARD 19", 9 1/2" AND 4 3/4" RACK PANELS

- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome moulding.
- Rigidly constructed of No. 16 gauge cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.

21 3/4" WIDE x 12" DEEP

	Catalog No.	Overall Height	Available Panel-Space	Ship. Wt. Lbs.	Net Price
WITH REMOVABLE REAR PANEL	MDK-50	7"	5 1/4 x 19"	16	\$10.71
	MDK-70	8 3/4"	7 x 19"	20	11.07
	MDK-80	10 1/2"	8 3/4 x 19"	21	11.76
	MDK-100	12 1/4"	10 1/2 x 19"	23	13.53
	MDK-120	14"	12 1/4 x 19"	25	14.76
MDK-140	15 3/4"	14 x 19"	29	16.65	
WITH REAR DOOR	MDK-170	19 1/4"	17 1/2 x 19"	36	20.22
	MDK-210	22 3/4"	21 x 19"	39	22.05
	MDK-260	28"	26 1/4 x 19"	40	24.12
	MDK-280	29 3/4"	28 x 19"	41	26.01

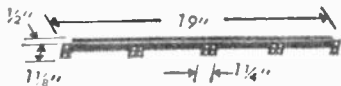
12 1/4" WIDE x 12" DEEP

	Catalog No.	Overall Height	Available Panel-Space	Ship. Wt. Lbs.	Net Price
WITH REMOVABLE REAR PANEL	MDK-50-95	7"	5 1/4 x 9 1/2"	14	10.26
	MDK-70-95	8 3/4"	7 x 9 1/2"	15	10.71
	MDK-80-95	10 1/2"	8 3/4 x 9 1/2"	16	11.43
	MDK-100-95	12 1/4"	10 1/2 x 9 1/2"	17	13.23
	MDK-120-95	14"	12 1/4 x 9 1/2"	18	14.37
MDK-140-95	15 3/4"	14 x 9 1/2"	20	15.81	

- Panel mounting holes are tapped for 10-32 machine screws on Universal Spacings.
- 6 knock-out holes are provided on top and bottom of MDK-70 through MDK 280 series to accommodate angle brackets (Cat. No. AB-2). Two knock-out holes are provided on top and bottom of MDK-50-95 through MDK-140-95 series.
- Rear panel on Models MDK-70 through MDK-140 and MDK-70-95 through MDK-140-95 can be removed from back of cabinet for service.
- Rear doors have snap catches.
- Bolts are not visible from the outside and these units have the same appearance as the welded models.
- FINISHED IN GRAY HAMMERTONE
- SHIPPED KNOCKED-DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY

ACCESSORIES FOR SUBDIVIDING MODU-RAK INTO MODULAR UNITS

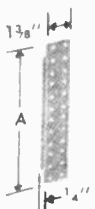
HORIZONTAL DIVIDERS



- Holes punched to accommodate vertical dividers (DV Series) which subdivides MODU-RAK into 9 1/2" and 4 3/4" widths.
- Made of No. 16 gauge steel.
- Finished in gray hammertone.

Catalog No.	Dimensions	Net Price
DH-19	19" x 1 1/8"	\$2.85
DH-95	9 1/2" x 1 1/8"	2.34

VERTICAL DIVIDERS



- Two rows of 10-32 tapped holes punched on Universal spacings.
- Made of No. 16 gauge steel.
- Finished in gray Hammertone.

Cat. No.	"A" Available Panel Mtg. Space	Net Price
DV-5	5 1/4"	\$0.79
DV-7	7"	1.05
DV-8	8 3/4"	1.32
DV-10	10 1/2"	1.62
DV-12	12 1/4"	1.71
DV-14	14"	1.86
DV-17	17 1/2"	2.43
DV-21	21"	2.97
DV-26	26 1/4"	3.69
DV-28	28"	3.90

ANGLE BRACKETS



- Punched to accommodate vertical dividers.
- Made of No. 16 gauge steel.
- Finished in gray hammertone.

Cat. No.	Net Price	sold in pairs only
AB-2	\$.99 pr.	

SPEAKER CABINETS



- Constructed of No. 18 gauge steel with perforated grille spot welded behind the opening.
- Front vertical corners are rounded.
- Supplied with handle.
- Removable back plate has key hole slots for hanging.
- Finished in Black Wrinkle.

Cat. No.	H.	W.	D.	Hole Size	Speaker Size	Ship. Wt. Lbs.	Net Price
SC-1006	10"	10"	6"	4 5/8"	6"	7 3/8	\$4.02
SC-1227	12"	12"	7"	6 1/2"	8"	10	5.04



SB Series SP Series

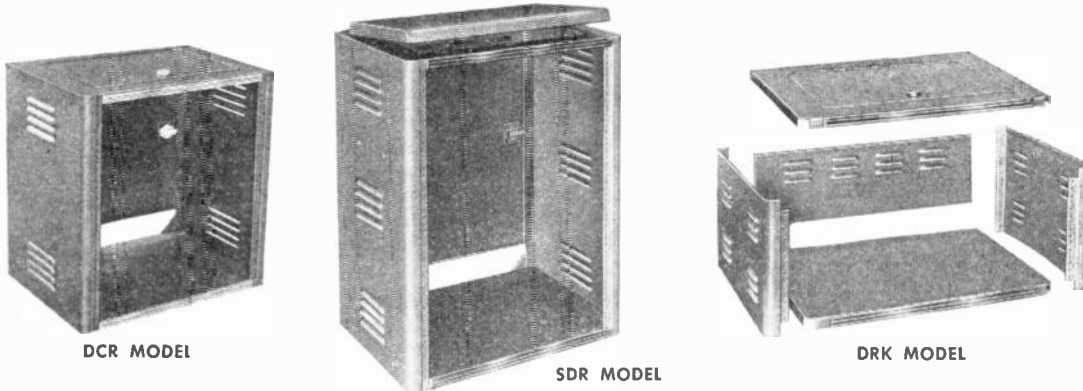
Designed with adjustable mounting brackets for easy installation in walls or acoustical tile ceilings. Speaker plate has beveled edges to give the same appearance as an acoustical tile, and is easily fastened to the speaker box by means of Tinnerman nuts. Box made of #20 gauge steel; plate of #16 gauge steel with perforated grille spot-welded behind the opening. Interior sprayed with special undercoating to eliminate metallic sound. Finished in gray primer.

Catalog No.	W	H	D	SPEAKER BOX Ship. Wt. Lbs.	Net Price
SB-1010	10"	10"	4"	4	5.19
SB-1012	10"	12"	4"	5	5.49
Catalog No.	W.	H.	SPEAKER PLATE Speaker Size	Ship. Wt. Lbs.	Net Price
SP-1212	12"	12"	8"	2 1/2	2.58
SP-1214	12"	14"	8"	3	2.76

NEW YORK 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS

**DESK CABINET RACKS FOR STANDARD 19" RACK PANELS
IN STANDARD, SUPER DELUXE AND KNOCKED DOWN
MODELS — BOTH 15 1/4" AND 18" DEEP**



DCR MODEL

SDR MODEL

DRK MODEL

- Front vertical corners are rounded and the top and bottom are trimmed with red striped chrome finished moulding.
- Rigidly constructed of No. 16 Ga. cold rolled sheet steel.
- Panels fit into a recess so that the edges are not exposed.
- Panel mounting holes are tapped for 10-32 machine screws on Universal Spacings.
- Piano type hinges are used on the top doors, which are provided with snap catches.
- Top door on Models SDR and SDRK open to 90° and have a rounded front corner.
- Models SDRK and DRK are supplied knocked down with all necessary bolts for easy assembly. On these models the bolts are not visible from the outside and have the same appearance as the welded models.
- Gussets welded at bottom of rear on Models 170-350 for additional strength.
- Cabinets finished in either Black or Gray Wrinkle, Gray or Brown Hammetone. Black wrinkle furnished if color is not specified.

ALL CABINETS ARE 21 3/4" WIDE

15 1/4" Deep	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Catalog No.	Net Price	Overall Height	Panel Space	Ship. Wt. Lbs.
WITH DOOR ON TOP ONLY	DCR-70	\$13.20	SDR-70	\$18.99	DRK-70	\$12.51	SDRK-70	\$17.40	8 3/4"	7"	22
	DCR-80	13.89	SDR-80	18.78	DRK-80	13.20	SDRK-80	18.09	10 1/2"	8 3/4"	24
	DCR-100	15.66	SDR-100	20.52	DRK-100	14.97	SDRK-100	19.86	12 1/4"	10 1/2"	26
	DCR-120	16.92	SDR-120	21.75	DRK-120	16.20	SDRK-120	21.06	14"	12 1/4"	28
	DCR-140	18.78	SDR-140	23.64	DRK-140	18.99	SDRK-140	22.95	15 3/4"	14"	32
WITH DOOR ON TOP AND REAR	DCR-170	22.26	SDR-170	27.99	DRK-170	21.57	SDRK-170	26.40	19 1/4"	17 1/2"	40
	DCR-190	23.31	SDR-190	28.20	DRK-190	22.62	SDRK-190	27.48	21"	19 1/4"	42
	DCR-210	24.18	SDR-210	29.25	DRK-210	23.49	SDRK-210	28.29	22 3/4"	21"	44
	DCR-260	26.10	SDR-260	30.99	DRK-260	25.41	SDRK-260	30.24	28"	26 1/4"	45
	DCR-310	27.48	SDR-310	32.34	DRK-310	26.79	SDRK-310	31.71	33 1/4"	31 1/2"	50
	DCR-350	28.86	SDR-350	33.72	DRK-350	28.17	SDRK-350	33.03	36 3/4"	35"	55

18" Deep	Catalog No.	Net Price	Catalog No.	Net Price	Overall Height	Panel Space	Ship. Wt. Lbs.
WITH DOOR ON TOP ONLY	DCR-1880	\$16.71	SDR-1880	\$21.58	10 1/2"	8 3/4"	26
	DCR-18100	18.78	SDR-18100	23.64	12 1/4"	10 1/2"	29
	DCR-18120	20.25	SDR-18120	25.11	14"	12 1/4"	31
	DCR-18140	22.53	SDR-18140	27.42	15 3/4"	14"	35
WITH DOOR ON TOP AND REAR	DCR-18170	26.70	SDR-18170	31.59	19 1/4"	17 1/2"	44
	DCR-18190	27.99	SDR-18190	32.85	21"	19 1/4"	46
	DCR-18210	28.98	SDR-18210	33.87	22 3/4"	21"	48
	DCR-18260	31.29	SDR-18260	36.15	28"	26 1/4"	49
	DCR-18310	32.97	SDR-18310	37.80	33 1/4"	31 1/2"	55
	DCR-18350	34.65	SDR-18350	39.48	36 3/4"	35"	60

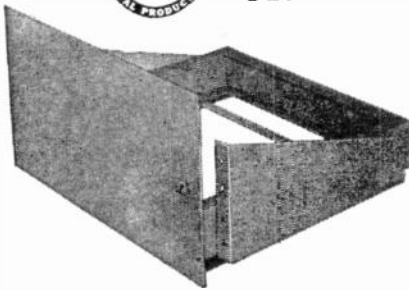
All Prices F.O.B. N. Y. 59, N. Y.

PREMIER Standard PRECISION BUILT METAL HOUSINGS

RACK ACCESSORIES



SLIDING DRAWER TO FIT STANDARD 19" RACKS 15" AND 18" DEEP

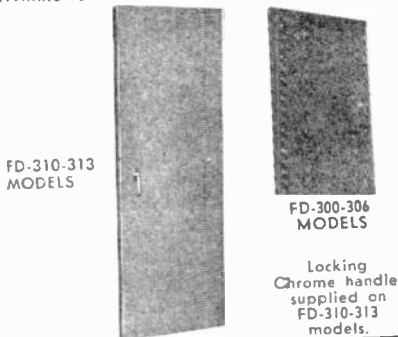


Panel made of #12 gauge steel; chassis of #16 steel and has a 1" flange on top and bottom to accommodate plywood for the record changer. The chassis is mounted on ball-bearing suspension slides which can sustain 40 lbs. Drawer extends 11" from front of cabinet. Entire unit mounts on angle brackets which can be bolted on to the cabinet. Supplied knocked down with all necessary bolts for easy assembly. Locks in place by means of 2 latches. Finished in black or gray wrinkle, and Gray or Brown Hammetone. Black Wrinkle furnished if color is not specified.

Catalog No.	Will Fit Rack No.	Panel Size	Chassis Size	Ship. Wt. Lbs.	Net Price
RD-10	R, RS, DCR-18,	10 3/8" x 18 7/8"	17" x 16 1/2" x 3"	15	\$15.66
RD-12	SDR-18, RM, RMA & FD Models	12 1/8" x 18 7/8"	17" x 16 1/2" x 4"	18	17.40
RD-10-14	DCR, SDR, DRK, RM, RMA & FD	10 3/8" x 18 7/8"	17" x 14" x 3"	14 1/2	15.54
RD-12-14	SDRK, R, RS, DCR-18, SDR-18 Models	12 1/8" x 18 7/8"	17" x 14" x 4"	17	17.25

FRONT DOORS TO FIT STANDARD 19" DESK RACK CABINETS AND ENCLOSED RACKS

Constructed from one piece of #16 gauge steel. Two concealed piano hinges are provided with holes, punched to accommodate universal spacings and are made to fit on top of the panels. Supplied with cylinder lock and angle bracket to hold door in position on FD-300-306. All necessary bolts furnished for easy assembly. Finished in Black or Gray Wrinkle, Gray or Brown Hammetone. Black Wrinkle furnished if color is not specified. All doors are 20 1/2" wide x 1 1/4" deep.



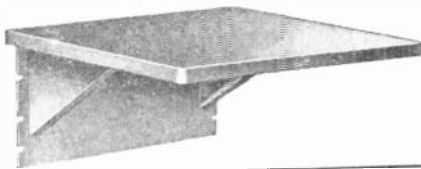
FD-310-313 MODELS

FD-300-306 MODELS

Locking Chrome handle supplied on FD-310-313 models.

Cat. No.	Will Fit Rack No.	Height	Ship Wt. Lbs.	Net Price
FD-300	DCR, DRK, SDR, SDRK-260, 18260	26 1/4"	10	\$12.75
FD-301	DCR, DRK, SDR, SDRK-310, 18310	31 1/2"	11	14.82
FD-302	DCR, DRK, SDR, SDRK-350, 18350	35"	12	16.53
FD-303	DCR, DRK, SDR, SDRK-120, 18120	12 1/4"	6	9.60
FD-304	DCR, DRK, SDR, SDRK-140, 18140	14"	7	10.44
FD-305	DCR, DRK, SDR, SDRK-170, 18170	17 1/2"	8	11.34
FD-306	DCR, DRK, SDR, SDRK-210, 18210	21"	9	12.21
FD-310	R or RS-3619	36 7/8"	13	18.27
FD-311	R-4219	42 1/8"	15	20.85
FD-312	R or RS-6119	61 3/8"	20	24.33
FD-313	R or RS-7719	77 1/8"	24	27.81

DESK PANELS



- Made of No. 16 gauge steel and bolted to a standard steel panel 10 1/2" x 19".
- Front corners are rounded.
- Finished in Black or Gray Enamel, Gray or Brown Hammetone.
- SHIPPED KNOCKED DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY.

Cat. No.	Width	Depth	Ship. Wt. Lbs.	Net Price
DP-1016	22"	16"	20	\$14.91
DP-1020	22"	20"	22	15.24

RACK SHELF



Made of one piece of #16 Ga. Cold Rolled Steel, 1" high. Holes are punched on sides for mounting to rack. Finished in Black or Gray Wrinkle, Gray or Brown Hammetone. Black Wrinkle furnished if color is not specified.

Cat. No.	Will Fit Rack No.	Shelf Size	Ship. Wt. Lbs.	Net Price
RS-1106	All 15 1/4" SDR and DCR Racks	12x21 1/8"	7	\$2.82
RS-1107	R, RS, DR 18" deep RM DCR and SDR Racks	15x21 13/16"	7	3.48
RS-1108	18" deep FD Racks	13x21 13/16"	7	3.15
RS-1109	24" deep RM and FD Racks	22x23 3/8"	7	5.64
RS-1110	RMA-27 and FD-27 Series	22x26 7/8"	8	6.60
RS-1111	MDK Series	10x21 1/8"	6	2.70

Made of #12 gauge steel. Finished in black enamel. Sold in pairs only.



CHASSIS SUPPORTS

Cat. No.	Size	Ship. Wt. Lbs.	Net Price
CS-12	12" x 3 x 3	4	1.92
CS-14	14 1/2" x 3 x 3	5 1/4	2.10

ROLLER TRUCKS FOR RACKS

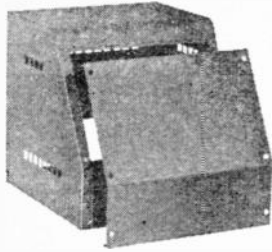


Made from 1 piece of No. 16 Ga. Cold Rolled Steel. Supplied with 2" Dia. Composition Wheels and bolts for easy assembly. Finished in either Black or Gray Wrinkle, Gray or Brown Hammetone and has a red striped Chrome moulding.

Cat. No.	Will Fit Rack No.	Dimensions	Ship. Wt. Lbs.	Net Price
RT-1100	All 15 1/4" Racks	15 3/4" x 22 1/4"	22	\$ 9.93
RT-1101	R, RS, DR, 18" deep RM, FD, PR, DCR and SDR Racks	18 3/4" x 22 3/4"	22	12.57
RT-1102	RR-801 and RR-802	20 1/2" x 21 1/2"	22	13.89
RT-1105	24" deep RM, FD and PR Racks	24 1/2" x 24 1/2"	23	15.60
RT-1110	RMA-27 and FD-27 Series	27 1/2" x 24 1/2"	25	23.33
RT-1111	RM-7030	33 1/2" x 24 1/2"	30	30.00

NEW YORK 59, N. Y.

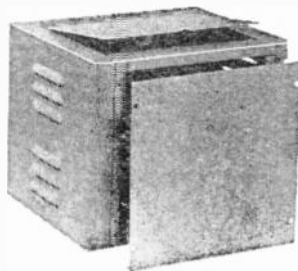
PREMIER Standard PRECISION BUILT METAL HOUSINGS



SLOPING FRONT

Cabinet has rounded top corners and a removable front panel. Back of cabinet is perforated and has opening for leads. Constructed of #20 gauge steel. Finished in Gray Wrinkle.

Catalog No.	H.	W.	D.	Use Chassis No.	Ship. Wt. Lbs.	Net Price
SFC-500	8	8	9	CH-403	6	\$ 4.26
SFC-501	8	10	9	CH-404	7	4.74
SFC-502	8	14	9	CH-406	8	5.07
SFC-503	9	13	3	CH-409	10	7.29
SFC-504	12	18	12	CH-415	14	9.30

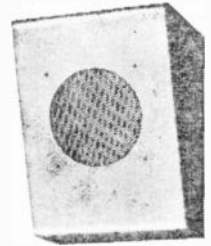


HINGED TOP ROUNDED CORNER TYPE

Cabinet has front vertical rounded corners and a removable front panel. Back of cabinet is louvred and has opening for leads. Constructed of #20 gauge steel. Finished in Gray Wrinkle.

Catalog No.	H.	W.	D.	Panel Size	Use Chassis No.	Ship. Wt. Lbs.	Net Price
HTC-200	8	10	8	8" x 8"	CH-403	6	\$4.19
HTC-201	8	12	8	8" x 10"	CH-404	6 1/2	4.54
HTC-202	8	16	8	8" x 14"	CH-406	11	5.89
HTC-203	9	17	11	9" x 15"	CH-413	6 1/2	9.13
HTC-204	12	20	12	12" x 18"	CH-415	13 1/2	10.80
HTC-205	8	14	8	8" x 12"	CH-405	7 1/4	5.23

METAL WALL SPEAKER BAFFLE

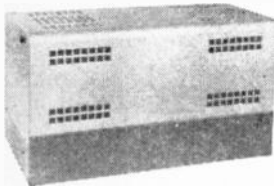


Sturdily constructed of #18 gauge cold rolled steel to eliminate splitting, warping, or cracking. Perforated grille is spot-welded behind speaker opening.

Interior has special undercoating to eliminate metallic sound. Supplied with mounting bracket for simple hanging on wall. Finished in buff enamel or brown hammertone.

Cat. No.	H.	W.	D.	Speaker Size	Net Price
WSB-8	11 1/2	9 1/2	7"	8"	\$5.04
WSB-12	15 1/2	13 1/2	9 3/4"	12"	6.30

AMPLIFIER FOUNDATIONS



STANDARD TYPE

STANDARD TYPE

TOP COVER has perforations, rounded corners and is 6" high. Finished in Gray Wrinkle.

CHASSIS constructed of one piece with corners spot-welded. Finished in Black Wrinkle.

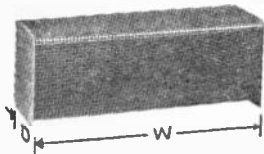
Cat. No.	Chassis Size	Ship. Wt. Lbs.	Net Price
AF-510	5" x 10" x 3"	9	\$4.59
AF-615	6" x 14" x 3"	10	5.29
AF-712	7" x 17" x 3"	10	5.61
AF-717	7" x 17" x 3"	11	6.04
AF-812	8" x 12" x 3"	10	5.61
AF-1012	10" x 12" x 3"	11	6.04
AF-1017	10" x 17" x 3"	13	7.13
AF-1317	13" x 17" x 3"	15	8.58

PERFORATED TYPE COVERS

TOP COVER made of perforated steel and has rounded corners with solid ends. 6" high except PC-57". Finished in Gray Wrinkle. Supplied without chassis.

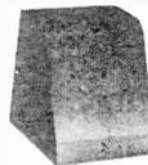
Cat. No.	W.	D.	Use Chassis No.	Ship. Wt. Lbs.	Net Price
*PC-57	7"	5"	ACH or CH-426	1	\$3.06
PC-510	10"	5"	ACH or CH-401	1 1/4	3.12
PC-615	14"	6"	ACH or CH-402	2 3/8	3.60
PC-717	17"	7"	ACH or CH-409	3	3.96
PC-1012	12"	10"	ACH or CH-412	3	4.02
PC-1017	17"	10"	ACH or CH-415	3 1/4	4.95

* 4" high.



PERFORATED TYPE COVERS

STEEL and ALUMINUM Sloping Panel Cabinets

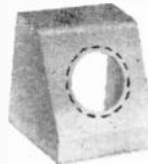


ROUND TOP CORNERS WITH SLOPING FRONT

No. 20 gauge Steel—Black Wrinkle Finish. No. 18 gauge (.040) Aluminum—Natural Aluminum finish.

Cat. No.	W.	H.	D.	Ship. Wt. Lbs.	Net Price	Alum. Cat. No.	Net Price
SPC-1200	4 3/8	4 1/2	4 1/4	3/4	\$1.14	ASPC-1200	\$1.37
SPC-1201	5 3/16	4 1/2	4 1/4	1	1.29	ASPC-1201	1.55
SPC-1202	6 3/16	4 1/2	4 1/4	1	1.47	ASPC-1202	1.76
SPC-1203	7 3/16	4 1/2	4 1/4	1 1/2	1.77	ASPC-1203	2.12

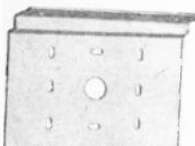
2 in 1 STEEL & ALUMINUM METER CASES



Center Hole for 2" meter increases to 3" meter hole by simply removing a knock-out. Size: 4 3/8" x 4 1/2" x 4 1/4". Supplied with two 1/2" dia. knock-outs. #20 gauge steel - Black Wrinkle Finish, #18 gauge (.040) Aluminum - Natural Aluminum Finish.

Cat. No.	Sh. Wt. Lbs.	Net Price
ALUMINUM ASPC-23	3/4	1.51
STEEL SPC-23	3/4	1.26

WALL SPEAKER MOUNTING PLATE



For Use with WSB-8 and WSB-12 Wall Speaker Baffles

DESIGNED FOR SIMPLE MOUNTING OF SPEAKER BAFFLE TO STANDARD 2" x 4" AND 4" x 4" ELECTRICAL OUTLET BOXES

Bracket has two threaded holes for easy mounting to baffle. Made of No. 16 gauge cold rolled steel and finished in gray primer.

Catalog No. SMP-81296 Net Price

WALL MOUNTING BRACKETS

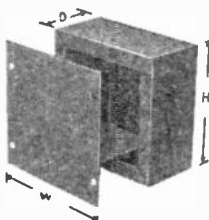


FOR MOUNTING DESK CABINET RACKS ON WALL - REMOVE REAR DOOR AND USE WALL MOUNTING BRACKETS.

Catalog No. WB-19
Net Price \$2.85

Sold in sets only. Finished in Gray Enamel. Shipping Weight 2 1/2 lbs.

STEEL UTILITY CASES WITH CHASSIS ATTACHED

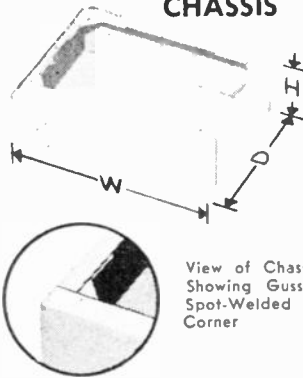


Made of #20 gauge steel with a chassis spot welded to front panel. Front and rear panels are removable. Finished in black wrinkle.

Catalog No.	Height	Width	Depth	Chassis Size	Ship. Wt. Lbs.	Net Price
CA-1400	4"	4"	2"	1 x 2 7/8 x 1 7/8"	1	\$1.22
CA-1401	4"	5"	3"	1 x 3 7/8 x 2 7/8"	1 1/4	1.42
CA-1402	5"	4"	3"	1 1/4 x 2 7/8 x 2 7/8"	1 1/4	1.42
CA-1403	6"	5"	4"	1 3/4 x 3 7/8 x 3 7/8"	2	1.78
CA-1404	5"	6"	4"	1 1/4 x 4 7/8 x 3 7/8"	2	1.78
CA-1405	6"	6"	6"	1 3/4 x 4 7/8 x 5 7/8"	3	1.85

PREMIER Standard PRECISION BUILT METAL HOUSINGS

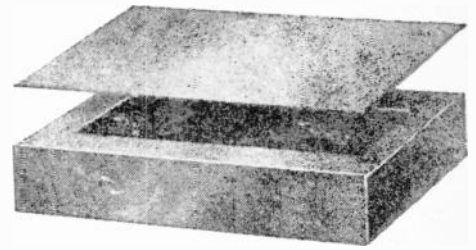
CHASSIS



View of Chassis Showing Gusset Spot-Welded in Corner

STEEL and ALUMINUM BLANK

Chassis are of one piece construction with gussets spot-welded to the bottom flanges for additional strength. Corners have rounded effect and single inside thickness for mounting components. Bottom edges are flanged in on four sides and punched for bottom plates. Steel chassis are made of No. 20 gauge cold rolled steel, except those marked * which are of No. 16 gauge. Steel chassis are finished in either Black Wrinkle or Zinc Plated. Zinc plated furnished if finish is not specified. Aluminum chassis are made of No. 18 gauge (.040) aluminum, except those marked * which are of No. 14 gauge (.064) and have an etched finish.



REMOVABLE TOP

Made of #16 Ga. Cold Rolled Steel. Top and Bottom edges flanged in on four sides. Top plate is removable. Finished in either Black Wrinkle or Zinc Plated. Zinc plated furnished if finish is not specified.

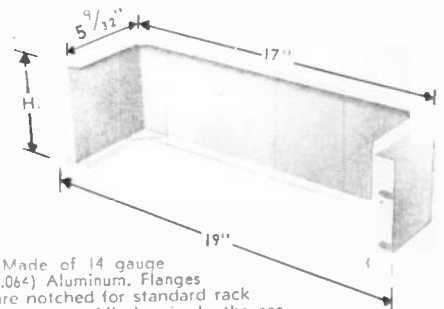
Cat. No.	Size	Ship. Wt. Lbs.	Net Price
RCH-415	10 x 17 x 3	5	\$4.01
RCH-416	10 x 17 x 4	5	4.46
RCH-423	13 x 17 x 3	9	4.20
RCH-424	13 x 17 x 4	10	5.18

REPLACEMENT TOPS

Cat. No.	Size	Ship. Wt. Lbs.	Net Price
RTC-415	10 x 17	2	\$1.56
RTC-423	13 x 17	3	1.92

ALUMINUM VERTICAL PANEL

TO FIT 19" STANDARD RACKS



Made of 14 gauge (.064) Aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5.932". Gussets are spot welded in each corner for greater strength. Etched finish.

Catalog No.	Height	Ship. Wt. Lbs.	Net Price
ACH-1200	1 3/4"	3/4	\$2.55
ACH-1201	3 1/2"	1 3/4	2.79
ACH-1202	5 1/4"	1 1/2	3.04
ACH-1203	7"	2	3.51
ACH-1204	8 3/4"	2 1/4	4.14
ACH-1205	10 1/2"	2 3/4	4.44
ACH-1206	12 1/4"	3	4.95
ACH-1207	14"	3 1/4	5.35

ALUMINUM

Cat. No.	Ship. Wt. Lbs.	Net Price	D.	Size W.	H.
ACH-400	1 1/2	\$1.33	5 1/2"	9 1/2"	1 1/2"
ACH-401	3/4	1.52	5"	10"	3"
ACH-402	1	2.57	6"	14"	3"
ACH-403	1 1/2	1.33	7"	7"	2"
ACH-404	1 1/2	1.39	7"	9"	2"
ACH-405	3/4	1.52	7"	11"	2"
ACH-406	3/4	1.64	7"	13"	2"
ACH-407	1	2.89	7"	15"	3"
ACH-408	1	2.36	4"	17"	3"
ACH-409	1 1/2	2.85	7"	17"	3"
ACH-410	1 1/2	2.89	9"	17"	2"
ACH-411	1 1/2	3.00	8"	17"	3"
ACH-412	1 1/4	2.68	10"	12"	3"
ACH-413	1 1/4	3.40	10"	14"	3"
ACH-414	1 1/4	3.26	10"	17"	2"
ACH-415*	1 7/8	3.65	10"	17"	3"
ACH-416*	2	4.20	10"	17"	4"
ACH-417*	1 3/4	3.48	11"	17"	2"
ACH-418*	2	4.27	11"	17"	3"
ACH-419*	1 7/8	3.81	12"	17"	2"
ACH-420*	2 1/8	4.51	12"	17"	3"
ACH-421*	2 7/8	4.98	12"	17"	4"
ACH-422*	1 7/8	4.02	13"	17"	2"
ACH-423*	2 1/8	4.79	13"	17"	3"
ACH-424*	2 1/2	5.48	13"	17"	4"
ACH-425	7/8	1.64	7"	11"	3"
ACH-426	1/4	1.09	5"	7"	2"
ACH-427	1 1/4	2.91	8 1/2"	15"	3"
ACH-428	1/4	1.50	5"	7"	3"
ACH-429	3/4	1.80	5"	13"	3"
ACH-430	1	2.19	9"	12"	3"
ACH-431	1/4	1.29	4"	6"	2"
ACH-472	1/4	1.33	4"	4"	2"
ACH-433	7/8	1.83	7"	12"	3"
ACH-434	1	2.70	6"	17"	3"
ACH-435*	2 1/2	5.37	10"	23"	3"
ACH-436	1/4	1.09	4"	6"	1 1/2"
ACH-437	3/8	1.13	4"	9"	2"
ACH-438*	3	10.79	17"	17"	4"
—	—	—	10"	17"	5"
—	—	—	13"	17"	5"
ACH-441	1	1.68	8"	10"	2 1/2"

*Made from No. 14 gauge (.064) aluminum.

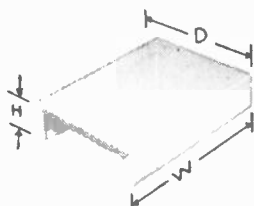
STEEL

Cat. No.	Ship. Wt. Lbs.	Net Price	Cat. No.	Ship. Wt. Lbs.	Net Price
CH-400	1	\$0.91	CH-400	1	\$0.91
CH-401	1 1/4	1.26	CH-401	1 1/4	1.26
CH-402	2 1/4	1.48	CH-402	2 1/4	1.48
CH-403	1 1/4	1.07	CH-403	1 1/4	1.07
CH-404	1 1/4	1.26	CH-404	1 1/4	1.26
CH-405	1 7/8	1.29	CH-405	1 7/8	1.29
CH-406	2	1.40	CH-406	2	1.40
CH-407	2 3/4	1.67	CH-407	2 3/4	1.67
CH-408	2 1/4	1.50	CH-408	2 1/4	1.50
CH-409	3 1/4	1.83	CH-409	3 1/4	1.83
CH-410	2 3/4	1.67	CH-410	2 3/4	1.67
CH-411	5 1/2	1.93	CH-411	5 1/2	1.93
CH-412	2 3/4	1.76	CH-412	2 3/4	1.76
CH-413	3 1/4	1.86	CH-413	3 1/4	1.86
CH-414	3 1/4	1.92	CH-414	3 1/4	1.92
CH-415*	6	2.16	CH-415*	6	2.16
CH-416*	7 1/4	2.39	CH-416*	7 1/4	2.39
CH-417*	5 1/4	2.62	CH-417*	5 1/4	2.62
CH-418*	6 1/4	2.87	CH-418*	6 1/4	2.87
CH-419*	5	1.99	CH-419*	5	1.99
CH-420*	7	2.40	CH-420*	7	2.40
CH-421*	8 1/2	2.62	CH-421*	8 1/2	2.62
CH-422*	6	2.87	CH-422*	6	2.87
CH-423*	7	3.31	CH-423*	7	3.31
CH-424*	10	3.79	CH-424*	10	3.79
CH-425	2 1/4	1.40	CH-425	2 1/4	1.40
CH-426	1	1.04	CH-426	1	1.04
CH-427	3	1.92	CH-427	3	1.92
CH-428	1 1/4	1.06	CH-428	1 1/4	1.06
CH-429	2	1.56	CH-429	2	1.56
CH-430	2 1/4	1.67	CH-430	2 1/4	1.67
CH-431	1	1.01	CH-431	1	1.01
CH-432	1	1.04	CH-432	1	1.04
CH-433	2 1/4	1.46	CH-433	2 1/4	1.46
CH-434	4	1.76	CH-434	4	1.76
CH-435*	10	2.74	CH-435*	10	2.74
CH-436	3/4	1.04	CH-436	3/4	1.04
CH-437	1	1.07	CH-437	1	1.07
CH-438*	13	5.42	CH-438*	13	5.42
CH-439*	8 1/2	2.89	CH-439*	8 1/2	2.89
CH-440*	11	4.26	CH-440*	11	4.26
CH-441	2 1/2	1.42	CH-441	2 1/2	1.42

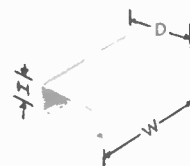
*Made from No. 16 gauge steel.

STEEL OPEN END

Made of #20 gauge steel and zinc plated.



Cat. No.	D.	W.	H.	Sh. Wt. Lbs.	Net Price
CH-1300	7"	6"	2"	1	\$0.80
CH-1301	5"	7"	1 1/2"	3/4	.73
CH-1302	7"	7"	1 1/2"	1	1.16
CH-1303	7"	8"	2"	1	1.03
CH-1304	5 1/2"	9"	1 1/2"	1	.87
CH-1305	7 1/2"	9"	1 1/2"	1	1.16
CH-1306	7"	10"	2"	1 1/4	1.11
CH-1307	7"	11"	1 1/2"	1 1/4	1.25
CH-1308	7"	13"	1 1/2"	1 1/2	1.46
CH-1309	10 3/4"	14"	2"	2 1/2	1.75
CH-1310	7 3/4"	15"	2"	2	1.67



ALUMINUM OPEN END

Made of 18 ga. (.040) Aluminum. Etched Finish.

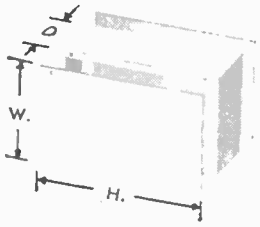
Catalog No.	Depth	Width	Height	Ship. Wt. Lbs.	Net Price
ACH-1350	2 3/8"	2 3/4"	1 1/4"	1/4	\$.37
ACH-1351	1 3/4"	3 1/8"	1"	1/4	.41
ACH-1352	3 1/4"	4 1/2"	2"	1/4	.44
ACH-1353	2 3/4"	4 1/2"	1"	1/4	.44
ACH-1354	3 3/4"	4 1/8"	1 1/2"	1/4	.44
ACH-1355	3"	6 1/8"	1 1/2"	1/4	.52
ACH-1356	5 1/4"	4 7/8"	1 1/2"	1/4	.55
ACH-1357	4"	3 1/8"	1"	1/2	.44
ACH-1358	4"	4 1/8"	1"	1/2	.48
ACH-1359	4"	5 1/8"	1"	1/2	.51
ACH-1360	4"	6 1/8"	1"	1/2	.55

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UTILITY CASES



ALUMINUM

Constructed of #16 ga. (.051) aluminum with flanged edges, spotwelded corners and two removable flat covers. Natural Aluminum finish or Gray Hammertone.

Natural Aluminum Cat. No.	Net Price	Size H. W. D.	Ship. Wt. Lbs.	Gray Hammertone Cat. No.	Net Price
AC-442	\$1.26	4 4 2	1/2	PAC-442	\$1.39
AC-453	1.39	4 5 3	3/4	PAC-453	1.62
AC-564	1.65	5 6 4	1	PAC-564	2.02
AC-596	2.71	5 9 6	1 1/2	PAC-596	3.07
AC-666	1.89	6 6 6	1 1/2	PAC-666	2.11
AC-1276	3.73	12 7 6	2 1/4	PAC-1276	4.14
AC-1597	5.10	15 9 7	3 1/2	PAC-1597	5.65
AC-695	2.71	6 9 5	1 1/2	PAC-695	3.07

STEEL

Constructed of #20 ga. sheet steel with flanged edges, spot-welded corners, and two removable flat covers. Finished in Black Wrinkle.

Catalog No.	H.	W.	D.	Ship. Wt. Lbs.	Net Price
C-442	4	4	2"	7/8	\$0.93
C-453	4	5	3"	1 1/4	1.08
C-564	5	6	4"	1 3/4	1.28
C-596	5	9	6"	3	2.02
C-666	6	6	6"	2 1/4	1.46
C-695	6	9	5"	3	2.02
C-754	7	5	4"	2	1.39
C-8101	8	10	10"	6	3.30
C-1276	12	7	6"	4 1/2	2.74

CHASSIS MOUNTING BRACKETS



- Constructed of No. 16 gauge steel.
- Finished in Black enamel.
- Sold in pairs only.

TRIANGULAR TYPE

Cat. No.	Height	Depth	Ship. Wt. Lbs.	Net Price
TCB-55	5"	5"	1	\$.99
TCB-77	7"	7"	1	1.12
TCB-99	9"	9"	1 1/2	1.36



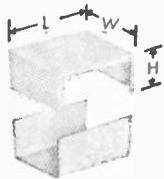
STANDARD

STANDARD TYPE

Cat. No.	H.	D.	Ship. Wt. Lbs.	Net Price
CB-78	6 1/2"	8"	1 1/2	\$0.96
CB-710	6 1/2"	10"	1 3/4	1.29
CB-711	6 1/2"	11"	2	1.39
CB-712	6 1/2"	12"	2 1/8	1.51
CB-713	6 1/2"	13"	2 1/4	1.62
CB-717	6 1/2"	17"	3	2.51
CB-810	8 1/2"	10"	2 3/8	1.91
CB-813	8 1/2"	13"	3	2.02

Notched for 3" Chassis

Notched for 4" Chassis

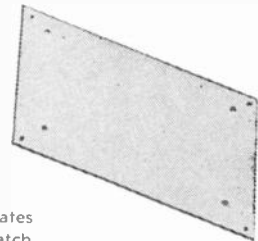


ALUMINUM MINIATURE CASES

A two piece case made of #16 Ga. (.051) aluminum. Natural Aluminum Finish or Gray Hammertone.

Natural Aluminum Cat. No.	Net Price	L	W	H	Ship. Wt. Lbs.	Gray Hammertone Cat. No.	Net Price
AMC-1000	\$.70	2 3/4	2 1/8	1 5/8	1/4	PMC-1000	\$.79
AMC-1001	.70	3 3/4	2 1/8	1 5/8	1/4	PMC-1001	.79
AMC-1002	.73	4	2 1/8	1 5/8	1/4	PMC-1002	.83
AMC-1003	.96	4	2 1/4	2 1/4	3/8	PMC-1003	1.06
AMC-1004	.99	5	2 1/4	2 1/4	3/8	PMC-1004	1.09
AMC-1005	1.17	5	4	3	1/2	PMC-1005	1.23
AMC-1006	1.09	5 1/4	3	2 1/8	1/2	PMC-1006	1.19
AMC-1007	1.39	6	5	4	1	PMC-1007	1.53
AMC-1008	1.56	7	5	3	3/4	PMC-1008	1.69
AMC-1009	2.31	8	6	3 1/2	1 1/8	PMC-1009	2.45
AMC-1010	2.88	10	6	3 1/2	1 1/2	PMC-1010	3.04
AMC-1011	3.24	12	7	4	1 3/4	PMC-1011	3.57
AMC-1012	3.84	17	5	4	2	PMC-1012	4.20
AMC-1013	1.17	10	2	1 1/8	1/2	PMC-1013	1.23
AMC-1014	1.53	12	2 1/2	2 1/4	1/4	PMC-1014	1.65
AMC-1015	.93	4	2	2 3/4	1/4	PMC-1015	1.20
AMC-1016	.96	4 1/4	2 1/4	1 1/2	1/4	PMC-1016	1.06

ALUMINUM AND STEEL BOTTOM PLATES



The bottom plates have holes to match the chassis and have 4 pressed dimples. Steel plates made of No. 20 gauge steel, finished in either Black Wrinkle or Zinc Plated. Aluminum plates made of No. 18 gauge (.040). Natural aluminum finish.

ALUMINUM

Cat. No.	Net Price	Size
ABP-400	\$0.87	5 1/2" x 9 1/2"
ABP-401	.87	5" x 10"
ABP-402	1.32	6" x 14"
ABP-403	.90	7" x 7"
ABP-404	.96	7" x 9"
ABP-405	1.06	7" x 11"
ABP-406	1.32	7" x 13"
ABP-407	1.32	7" x 15"
ABP-408	1.32	4" x 17"
ABP-409	1.36	7" x 17"
ABP-410	1.53	8" x 17"
ABP-412	1.50	10" x 12"
ABP-413	1.37	10" x 14"
ABP-414	1.72	10" x 17"
ABP-418	2.16	11" x 17"
ABP-419	2.28	12" x 17"
ABP-422	2.41	13" x 17"
ABP-423	.87	5" x 7"
ABP-424	.99	5" x 13"
ABP-425	1.32	8" x 12"
ABP-426	.87	4" x 6"
ABP-427	1.14	7" x 12"
ABP-428	1.36	6" x 17"
ABP-429	2.55	10" x 23"
ABP-430	.87	4" x 8"
ABP-431	2.57	17" x 17"
ABP-432	2.41	8 1/2" x 15"
ABP-433	1.14	8" x 10"

STEEL

Cat. No.	Ship. Wt. Lbs.	Net Price
BP-400	1	\$0.41
BP-401	1	.46
BP-402	1	.63
BP-403	1	.46
BP-404	1	.50
BP-405	1	.60
BP-406	2	.66
BP-407	2	.73
BP-408	2	.60
BP-409	2	.77
BP-410	2	.77
BP-412	2	.77
BP-413	2	.80
BP-414	2	1.03
BP-418	3	1.06
BP-419	3	1.11
BP-422	3	1.19
BP-423	1	.41
BP-424	1	.66
BP-425	2	.92
BP-426	1	.41
BP-427	2	.79
BP-428	2	.77
BP-429	2	1.66
BP-430	1	.41
BP-431	4	1.67
BP-432	1 1/2	1.19
BP-433	1	.79



MASKED ALUMINUM PANELS 19" WIDE — 1/8" THICK

Made of bright natural aluminum covered on both sides with special self-adhesive paper. Drilling or milling can be done on paper in place, affording complete damage protection. Paper is removed simply by peeling.

Catalog No.	Height	Ship. Wt. Lbs.	Net Price
MAP-119	1 3/4"	1/2	\$1.01
MAP-319	3 1/2"	1	1.36
MAP-519	5 1/4"	1 1/2	1.86
MAP-719	7"	2	2.24
MAP-819	8 3/4"	2 1/2	2.68
MAP-1019	10 1/2"	3	3.37
MAP-1219	12 1/4"	3 1/2	3.94
MAP-1419	14"	4	4.51
MAP-1519	15 3/4"	4	5.04
MAP-1719	17 1/2"	4 3/4	5.54
MAP-1919	19 1/4"	5	6.08
MAP-2119	21"	6	6.62

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↑ HT. ↓



BLANK RACK PANELS 4 3/4" - 9 1/2" - 19" - 24" - 30" WIDTHS

All 24" and 30" wide blank panels are finished in Black or Gray Wrinkle, Gray or Brown Hammetone. If color is not specified, Black Wrinkle is furnished.

ALL 19" WIDE PANELS ARE FINISHED IN REVERSIBLE COLORS

REVERSIBLE

When ordering just specify Reversible Colors —

Example: Aluminum Panel 8 3/4" x 19" — Black Wrinkle on one side — Gray Wrinkle on other side — order as follows:

ARP-819 Reversible Wrinkle.

Example: Steel Panel 7" x 19" — Gray Hammetone one side — Brown Hammetone other side — order as follows:

RP-719 Reversible Hammetone.

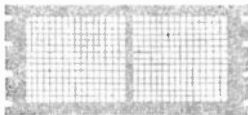
ALUMINUM							
Made of 1/8" Thick Aluminum and finished in Gray Hammetone only.							
4 3/4" Wide				9 1/2" Wide			
Cat. No.	Ship. Wt.	Height	Net Price	Cat. No.	Ship. Wt.	Height	Net Price
ARP-147	1/8	1 3/4"	\$0.50	ARP-195	1/4	1 3/4"	\$0.84
ARP-347	1 4	3 1/2"	.70	ARP-395	1/2	3 1/2"	1.14
ARP-547	3 3/8	5 4"	1.05	ARP-595	3/4	5 4"	1.65
ARP-747	1/2	7"	1.26	ARP-795	1	7"	2.01
				ARP-895	1 1/4	8 3/4"	2.37
				ARP-1095	1 1/2	10 1/2"	3.00
				ARP-1295	1 3/4	12 1/4"	3.48
				ARP-1495	2	14"	3.96

19" WIDE									
Aluminum — 1/8" Thick			Aluminum — 3/16" Thick			Steel — No. 12 Gauge			
Height	Cat. No.	Ship. Wt. Lbs.	Net Price	Cat. No.	Ship. Wt. Lbs.	Net Price	Cat. No.	Ship. Wt. Lbs.	Net Price
1 3/4"	ARP-119	1/2	\$1.01	ARP-119-36	3/4	\$1.62	RP-119	1	\$0.77
3 1/2"	ARP-319	1 1/2	1.36	ARP-319-36	1 1/2	2.11	RP-319	2	.88
5 4"	ARP-519	1 1/2	1.86	ARP-519-36	2 1/2	3.00	RP-519	3	1.09
7"	ARP-719	2	2.24	ARP-719-36	3	3.60	RP-719	4	1.26
8 3/4"	ARP-819	2 1/2	2.68	ARP-819-36	3 3/4	4.29	RP-819	5 1/4	1.54
10 1/2"	ARP-1019	3	3.37	ARP-1019-36	4 1/2	5.40	RP-1019	6 1/4	1.86
12 4"	ARP-1219	3 1/2	3.94	ARP-1219-36	5	6.30	RP-1219	7 1/4	2.21
14"	ARP-1419	4	4.51	ARP-1419-36	6	7.23	RP-1419	8 1/4	2.55
15 3/4"	ARP-1519	4	5.04	ARP-1519-36	6	8.07	RP-1519	9	2.87
17 1/2"	ARP-1719	4 3/4	5.54	ARP-1719-36	7	8.88	RP-1719	10 1/2	3.15
19 2"	ARP-1919	5	6.08	ARP-1919-36	7 1/2	9.75	RP-1919	12	3.50
21"	ARP-2119	6	6.62	ARP-2119-36	9	10.59	RP-2119	12 1/2	3.85

24" WIDE												30" WIDE											
Aluminum — 1/8" Thick				Steel — No. 12 Gauge				Aluminum — 1/8" Thick				Steel — No. 12 Gauge											
Cat. No.	Ship. Wt. Lbs.	Net Price	Height	Cat. No.	Ship. Wt. Lbs.	Net Price	Height	Cat. No.	Ship. Wt. Lbs.	Net Price	Height	Cat. No.	Ship. Wt. Lbs.	Net Price	Height								
ARP-324	1 1/4	\$2.09	3 1/2"	RP-324	2 4	\$1.35	2 4	ARP-330	1 1/2	\$2.77	3 1/2"	RP-330	3	\$1.77	3								
ARP-524	2	3.09	5 1/2"	RP-524	3 1/2	1.65	3 1/2	ARP-530	2 4	4.11	5 1/4"	RP-530	4 1/2	2.19	4 1/2								
ARP-724	2 1/2	3.72	7"	RP-724	4 2	1.89	4 2	ARP-730	3	4.95	7"	RP-730	6	2.52	6								
ARP-824	3	4.44	8 3/4"	RP-824	6 2	2.34	6 2	ARP-830	3 3/4	5.89	8 3/4"	RP-830	8	3.09	8								
ARP-1024	3 1/2	5.58	10 1/2"	RP-1024	7	2.82	7	ARP-1030	4 2	7.44	10 1/2"	RP-1030	9 1/4	3.12	9 1/4								
ARP-1224	4	6.54	12 4"	RP-1224	8	3.33	8	ARP-1230	5	8.67	12 4"	RP-1230	10 1/4	4.41	10 1/4								
ARP-1424	4 1/2	7.47	14"	RP-1424	9	3.81	9	ARP-1430	6	9.93	14"	RP-1430	12	5.07	12								
ARP-1524	5	8.32	15 3/4"	RP-1524	10	4.32	10	ARP-1530	6 1/2	11.10	15 3/4"	RP-1530	13 1/2	5.76	13 1/2								
ARP-1724	5 1/2	9.18	17 1/2"	RP-1724	11	4.74	11	ARP-1730	7	12.24	17 1/2"	RP-1730	15	6.30	15								
ARP-1924	6	10.05	19 4"	RP-1924	12	5.25	12	ARP-1930	7 1/2	13.41	19 4"	RP-1930	18	6.96	18								
ARP-2124	6 1/2	10.95	21"	RP-2124	13	5.79	13	ARP-2130	9	14.56	21"	RP-2130	19	7.71	19								

PANELS — 19" WIDE FINISHED IN EITHER BLACK OR GRAY WRINKLE, GRAY OR BROWN HAMMETONE

Made of No. 12 Gauge Steel If color is not specified, Black Wrinkle is furnished



GRILLE PANELS

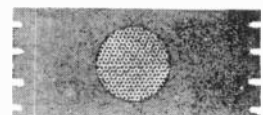
Cat. No.	Grill Size	Height	Ship. Wt. Lbs.	Net Price
GRP-601	3 7/8" x 13 3/8"	5 1/4"	2	\$3.09
GRP-602	3 7/8" x 13 3/8"	7"	2	3.31
GRP-603	5 7/8" x 13 3/8"	8 3/4"	2 1/2	4.00
GRP-604	5 7/8" x 13 3/8"	9 3/4"	2 1/2	3.68
GRP-605	7 7/8" x 13 3/8"	10 1/2"	2 1/2	4.38
GRP-606	5 7/8" x 13 3/8"	10 1/2"	2 1/2	4.00
GRP-607	7 7/8" x 13 3/8"	12 1/4"	3	4.54

* Allows 3 1/2" space at bottom for chassis mounting.



METER PANELS — 5 1/4"

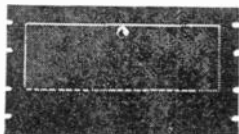
Cat. No.	No. of Meter Holes	Meter Size	Hole Size	Ship. Wt. Lbs.	Net Price
MRP-900	3	2"	2 1/4"	7	\$1.62
MRP-901	5	2"	2 1/4"	7	2.19
MRP-902	3	3"	2 13/16"	7	1.62
MRP-903	5	3"	2 13/16"	7	2.19



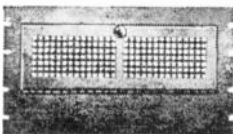
SPEAKER PANELS

A piece of perforated metal is spot-welded behind the opening.

Cat. No.	Height	Spkr. Size	Hole Size	Sh. Wt. Lbs.	Net Price
SRP-819	8 3/4"	6"	4 5/8"	6	\$2.88
SRP-1019	10 1/2"	8"	6 1/2"	8	3.66
SRP-1219	12 1/4"	10"	8 1/2"	9	4.38
SRP-1419	14"	12"	11"	10	5.04



STANDARD TYPE



GRILLE TYPE

DOOR PANELS

Panels have flush hinged doors with piano hinges, and are supplied with a quick turn fastener. Doors are located 1" from top to allow space for chassis at bottom.

STANDARD TYPE				GRILLE TYPE			
Cat. No.	Net Price	Height	Door Size	Ship. Wt. Lbs.	Cat. No.	Net Price	Door Size
DRP-700	\$5.12	8 3/4"	4 1/2" x 15 3/8"	9	GDRP-700	\$6.57	4 1/2" x 15 3/8"
DRP-701	5.48	10 1/2"	6" x 15 3/8"	10	GDRP-701	7.13	6" x 15 3/8"
DRP-702	6.04	12 1/4"	7 1/2" x 15 3/8"	12	GDRP-702	7.86	7 1/2" x 15 3/8"

SIDE HINGED DOOR PANELS

Used for left or right hand opening. Supplied with a quick turn fastener.

Cat. No.	Height	Net Price
SHP-319	3 1/2"	\$3.00
SHP-519	5 4"	3.12
SHP-719	7"	3.42
SHP-819	8 3/4"	3.66
SHP-1019	10 1/2"	3.96
SHP-1219	12 1/4"	4.23
SHP-1419	14"	4.59
SHP-2119	21"	7.26

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AEROVOX

CAPACITORS RESISTORS

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TYPE AFH (85°C) Twist-Prong Electrolytic Capacitors

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The outstanding line of twist-prong electrolytic capacitors with the very latest refinements . . . 85°C operation; improved hermetic sealing; special Types AFHS and PWHS for high ripple current circuits; high-purity aluminum foil construction throughout; either etched or composite-plate depending on electrical requirements. Types PWH and PWHS are special construction for printed wiring.

For use over a wide temperature range with minimum change in capacitance. Designed for filter audio bypass applications in radio-TV and amplifier equipment.

While AFH electrolytics enjoy a tremendous popularity as replacement capacitors for TV receivers, they are rapidly gaining acceptance in many industrial applications.

Capacity tolerances and surge voltage are as listed in EIA Specification No. RS-154.



AFH - SINGLES

AFH No.	Capacity	Voltage	Size
1-00-50	2000	6	1 3/8 x 2
1-01	3000	10	1 3/8 x 3
1-01-25	225	15	3/4 x 2
1-02	1000	15	1 x 3
1-03	2000	15	1 3/8 x 3
1-04	3000	15	1 3/8 x 3
1-05	25	25	3/4 x 2
1-06	40	25	3/4 x 2
1-07	100	25	3/4 x 2
1-08	500	25	1 x 2 1/2
1-10	1000	25	1 3/8 x 2
1-10-10	4	50	3/4 x 2
1-11	100	50	3/4 x 2
1-12	150	50	3/4 x 2
1-13	500	50	1 3/8 x 2 1/2
1-13-05	500	50	1 x 3
1-14	1000	50	1 3/8 x 3 1/2
1-14-50	1500	50	1 3/8 x 4
1-15	25	150	1 x 2
1-16	30	150	1 x 2
1-17	40	150	1 x 2
1-18	50	150	1 x 2
1-19	60	150	1 x 2
1-20 AFHS	80	150	1 x 2
1-21	100	150	1 x 2
1-22 AFHS	120	150	1 x 3
1-22-05 AFHS	120	150	1 3/8 x 2 1/2
1-23 AFHS	140	150	1 x 3
†1-23-01 PWHS	140	150	1 x 3
1-24	150	150	1 x 3
1-24-24 AFHS	200	150	1 x 3 1/2
1-24-25 AFHS	200	150	1 3/8 x 2 1/2
1-24-75 AFHS	300	150	1 3/8 x 3
†1-24-95 PWH	375	165	1 3/8 x 3 1/2
1-25	40	200	1 x 2
†1-25-75 PWH	160	200	1 3/8 x 3
1-26	15	250	1 x 2
1-27	20	250	3/4 x 2
1-28	30	250	3/4 x 2
1-29	40	250	1 x 2

†—Special construction for printed wiring.

AFH - SINGLES - (Continued)

AFH No.	Capacity	Voltage	Size
1-30	60	250	1 x 2 1/2
1-31	80	250	1 x 3
1-31-25	100	250	1 x 3
1-31-75	150	250	1 3/8 x 2 1/2
1-32	15	300	1 x 2
1-33	30	300	1 x 2
1-34	50	300	1 x 2 1/2
1-35	80	300	1 x 3
1-36	100	300	1 x 3 1/2
1-36-05 AFHS	100	300	1 3/8 x 2 1/2
1-37	125	300	1 3/8 x 3
1-37-25 AFHS	150	300	1 3/8 x 3
1-37-30 AFHS	200	300	1 3/8 x 3 1/2
1-38	15	350	1 x 2
1-39	30	350	1 x 2
1-40	40	350	1 x 2 1/2
1-41	50	350	1 x 3
1-42	80	350	1 3/8 x 2 1/2
1-42-10 AFHS	90	350	1 3/8 x 3
1-43 AFHS	125	350	1 3/8 x 3
1-43-20	150	350	1 3/8 x 3 1/2
1-43-80 AFHS	320	350	1 3/8 x 4 1/2
1-44	10	400	3/4 x 2
1-45	20	400	1 x 2
1-46	40	400	1 3/8 x 2
1-47	80	400	1 3/8 x 2 1/2
1-48	10	450	1 x 2
1-49	15	450	1 x 2
1-50	20	450	1 x 2
1-51	30	450	1 x 2 1/2
1-52	40	450	1 x 3
1-53	50	450	1 x 3
1-54	60	450	1 3/8 x 2 1/2
1-55	80	450	1 3/8 x 3
1-55-20	100	450	1 3/8 x 3
1-55-25	125	450	1 3/8 x 4
1-56	30	475	1 x 3
1-56-10	40	475	1 3/8 x 2
1-57	90	475	1 3/8 x 3 1/2
1-58	10	500	1 x 2
1-59	20	500	1 x 2 1/2
1-60	30	500	1 x 3
1-61	40	500	1 x 3 1/2
1-62	80	500	1 3/8 x 3
1-63	90	500	1 3/8 x 3 1/2
1-64	10	525	1 x 2
1-65	10 ohm-30 cps	3 VNP	3/4 x 2
1-66	0.5 ohm-15,750 cps	3 VNP	1 x 2
1-67	1 ohm-60 cps	3 VNP	1 3/8 x 3



DUALS

AFH No.	Capacity	Voltage	Size
2-01	1000-500	6NP	1 3/8 x 2
2-02	1000-1000	15	1 x 3 1/2
2-02-05	250-250	16	1 x 2
2-02-10	500-100	16	1 x 2
†2-02-60 PWH	800-250	16	1 x 2 1/2
2-02-70	1000-500	16	1 x 2 1/2
†2-02-75 PWH	500-200	18	1 x 2
2-03	20-20	25	1 x 2
2-04	40-40	25	1 x 2
2-05	150-50	25	1 x 2
†2-05-25 PWH	250-250	25	1 x 2 1/2
2-06	50-50	50	1 x 2
2-06-20	100-100	50	1 x 2
2-07	20-10	150	1 x 2
2-08	20-20	150	1 x 2
2-09	30-15	150	1 x 2
2-10	30-20	150	1 x 2

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

DUALS — (Continued)

AFH No.	Capacity	Voltage	Size
2-11	30-30	150	1x2
2-12	40-20	150	1x2
2-13	40-30	150	1x2
2-14	40-40	150	1x2
2-15	50-30	150	1x2
†2-15-05 PWH	50-30	150	1x2
2-16	50-50	150	1x2½
2-17	60-60	150	1x3
†2-17-50 PWH	70-30	150	1x2
2-18	75-75	150	1x3
2-19	80-40	150	1x3
†2-19-05 PWH	80-40	150	1x3
2-20	80-80	150	1½x2
2-20-50	125-100	150	1½x2½
2-21 AFHS	200-5	150	1½x2½
†2-21-01 PWH	200-5	150	1½x3
2-22	200-125	150	1½x3
2-22-50	200-150	150	1½x3
2-23	200-200	150	1½x3
2-24	60-60	200	1½x2
2-24-20 AFHS	100-100	200	1½x3
2-24-75	200-5	200	1½x3
2-25	10-10	250	1x2
2-26	20-20	250	1x2
2-27	30-30	250	1x2½
2-28	40-20	250	1x2½
2-29	40-40	250	1x3
2-30 AFHS	150-150	250	1½x4
2-30-25 AFHS	200-15	250	1½x3½
2-30-75 AFHS	200-200	250	1½x4½
2-31	10-10	300	1x2
†2-31-01 PWH	10-10	300	1x2
†2-31-02 PWH	10-10	300	1½x2
2-32	15-15	300	1x2
2-33	50-50	300	1½x2½
2-33-75	80-60	300	1½x2½
2-34	80-80	300	1½x3
2-35	120-20	300	1½x3
2-35-50 AFHS	200-80	300	1½x4
2-36	15-15	350	1x2
2-37	20-20	350	1x2½
2-38	30-20	350	1x3
2-39	30-30	350	1x3
2-40	50-30	350	1½x2½
2-40-80	80-40	350	1½x3
2-41	80-80	350	1½x3½
2-41-10	90-40	350	1½x3
2-41-50	100-100	350	1½x4
2-41-80 AFHS	160-10	350	1½x3
2-43	15-15	400	1x2½
2-43-30	30-10	400	1x3
2-44	60-60	400	1½x3½
2-44-90	75-75	400	1½x4
2-45	80-10	400	1½x3
2-45-10	80-20	400	1½x3
2-45-40	80-60	400	1½x4
2-45-50 AFHS	80-80	400	1½x4
2-45-60	120-40	400	1½x4
2-46	5-5	450	1x2
2-47	10-10	450	1x2
2-48	15-10	450	1x2½
2-49	15-15	450	1x2½
2-50	20-10	450	1x2½
2-51	20-20	450	1x3
2-52	30-10	450	1x3
2-53	30-15	450	1½x2
2-54	30-30	450	1½x2
2-56	40-20	450	1½x2½
2-57	40-40	450	1½x3
2-58	50-40	450	1½x3

†—Special construction for printed wiring.

DUALS — (Continued)

AFH No.	Capacity	Voltage	Size
2-59	50-50	450	1½x3
2-60	60-20	450	1½x3
2-61	60-40	450	1½x3½
2-61-50	60-60	450	1½x4
2-62	80-10	450	1½x3
2-63	80-20	450	1½x3½
2-64	80-40	450	1½x3½
2-64-25	100-40	450	1½x4
2-64-50	15-15	475	1x2½
2-65	30-10	475	1½x2
2-66	40-10	475	1½x2½
2-66-50	80-40	475	1½x4
2-66-60	80-50	475	1½x4
2-67	10-10	500	1x2½
2-69	20-20	500	1½x2½
2-71	30-10	500	1½x2½
2-71-90	40-25	500	1½x3
2-72	40-40	500	1½x3
2-73	60-40	500	1½x3½
2-74	250/1000	10 6	1½x2
2-75	250/2000	10/6	1½x2
2-75-45 PWH	1000 1000	16/10	1x2½
2-75-50	1500 1000	16/10	1½x2
2-76	50 500	150 5	1x3
2-77-05	50/1000	150/10	1x2
2-78	40 150	150/25	1x2
2-78-10	50 150	150 25	1x2½
2-78-25	150 100	150 25	1½x2½
2-78-30	40 20	150 50	1x2
2-78-60 AFHS	150 50	150 50	1x3½
2-79	40 20	250/25	1x2
2-80	50 100	250/50	1½x2
2-81	100 150	250/50	1½x3
2-81-80	35 500	300/6	1x2½
†2-81-95 PWH	2/20	300/25	1x2
2-82	20 20	300/25	1x2
2-82-30	20 40	300/50	1x3
2-82-55	150 100	300/150	1½x4
2-82-57	100/100	300 200	1x4
2-82-60	20 60	300 250	1x3
2-84	20 20	350 25	1x2
2-85	40/20	350 25	1x2½
2-85-70	5/75	350 150	1x3
2-86	40 10	350 200	1½x2
2-86-15	40 10	350 250	1x3
2-86-30	60/80	350 250	1½x3½
2-86-40	30/30	350 300	1x3
2-86-45	35/100	400/50	1x3
2-86-60	40/100	400 50	1½x2
2-86-70	100/30	400 50	1½x3
2-86-75	60 80	400 250	1½x4
2-86-85 AFHS	4/140	400 300	1½x3
2-86-95	100 30	400 350	1½x4
2-87	10 20	450 25	1x2
2-88	20 20	450 25	1x2
2-89	40 20	450 25	1x3
2-90	80 20	450/25	1½x3
2-90-50	50 100	450 50	1½x2½
2-91	80/50	450/50	1½x3
2-91-50	80/100	450/50	1½x3
2-92	10 50	450/100	1½x2
2-93	20/100	450/100	1½x2
2-94	30/40	450/150	1½x2
2-94-30	30/200	450/150	1½x3
2-94-45	80/40	450/200	1½x3
2-94-60	20/50	450/250	1x3
2-94-75 AFHS	20/150	450/250	1½x3
2-94-85	90/200	450/250	1½x4
2-94-90	10/100	450/350	1½x3
2-95	20/80	450/350	1½x3
2-96	40/10	450/350	1½x2
2-97	40/40	450/350	1½x3
2-99	75/50	475/50	1½x3
2-99-75	40/80	475/200	1½x2½



AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

DUALS — (Continued)

AFH No.	Capacity	Voltage	Size
2-99-90 AFHS	80/80	475/250	1 $\frac{3}{8}$ x4
2-100	20/100	475/300	1 $\frac{3}{8}$ x3
2-100-50	20 100	475/400	1 $\frac{3}{8}$ x4
2-101*	40/40	475/400	1 $\frac{3}{8}$ x3
2-101-75	80/20	475/400	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
2-102	80/50	500/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
2-103	60 80	500/150	1 $\frac{3}{8}$ x3
2-104	40/50	500/200	1 $\frac{3}{8}$ x3
2-105	15/20	500/300	1x2 $\frac{1}{2}$
2-106	20/100	500/300	1 $\frac{3}{8}$ x3
2-107	40/40	500/400	1 $\frac{3}{8}$ x3
2-108	0.5 ohm-15,750 cps	12	1 $\frac{3}{8}$ x2
	2.5 ohm-60 cps	6	

TRIPLES

AFH No.	Capacity	Voltage	Size
3-00-50	1500-1500 1500	3	1x3 $\frac{1}{2}$
†3-00-80 PWH	250-250-50	16	1x2
3-00-90	400-100-100	16	1x2
†3-00-93 PWH	500-250-50	16	1x2
3-00-95	500-500-100	16	1x2
3-00-97	1000-500-20	16	1 $\frac{3}{8}$ x2
3-01	20-20-20	25	1x2
3-02	40-40-40	25	1x2
3-03	30-30-30	50	1x2
3-05	20-20-20	150	1x2
†3-05-50 PWH	30-25-20	150	1x2
3-06	30-30-10	150	1x2
3-07	40-20-10	150	1x2
3-08	40-20-20	150	1x2
3-09	40-30-20	150	1x2
3-10	40-40-40	150	1x2 $\frac{1}{2}$
3-11-20	50-40-10	150	1x2 $\frac{1}{2}$
†3-11-30 PWH	50-40-30	150	1x2 $\frac{1}{2}$
3-11-40	50-50-30	150	1x3
3-11-50	50-50-50	150	1x3
3-12	60-40-20	150	1x3
†3-12-10 PWH	70-15-15	150	1x2
3-12-20	70-40-40	150	1x3
3-13	80-40-20	150	1x3
3-13-15	120-80-40	150	1 $\frac{3}{8}$ x3
3-13-30	120-120-40	150	1 $\frac{3}{8}$ x3
3-13-50	200-100-60	150	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-13-60	300-100-80	150	1 $\frac{3}{8}$ x4
3-13-75	200-150-150	200	1 $\frac{3}{8}$ x4
3-13-90 AFHS	250-200-10	200	1 $\frac{3}{8}$ x4
3-14	15-15-10	250	1x2
3-17	20-20-10	250	1x2
3-17-10	20-20-20	250	1x2 $\frac{1}{2}$
3-17-50	30-15-15	250	1x2 $\frac{1}{2}$
3-18	30-20-10	250	1x2 $\frac{1}{2}$
3-19	40-20-10	250	1x3
3-20	40-20-20	250	1x3
3-21	80-80-60	250	1 $\frac{3}{8}$ x3
3-22	10-10-10	300	1x2
3-25	60-20-10	300	1 $\frac{3}{8}$ x2
3-25-40	80-20-10	300	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-25-50	80-40-40	300	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-25-75	100-20-10	300	1 $\frac{3}{8}$ x3
3-26	120-50-40	300	1 $\frac{3}{8}$ x4
†3-26-50 PWHS	150-100-30	300	1 $\frac{3}{8}$ x4
3-27	10-10-10	350	1x2 $\frac{1}{2}$
3-28	20-20-10	350	1x3
3-28-30	30-20-10	350	1x2 $\frac{1}{2}$
3-29	60-40-20	350	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-29-25	60-50-50	350	1 $\frac{3}{8}$ x4
3-29-50	80-60-60	350	1 $\frac{3}{8}$ x4

TRIPLES — (Continued)

AFH No.	Capacity	Voltage	Size
3-29-75	90-40-20	350	1 $\frac{3}{8}$ x4
3-29-85	100-100-10	350	1 $\frac{3}{8}$ x4
3-29-95	120-40-40	350	1 $\frac{3}{8}$ x4
3-29-98	140-140-20	350	1 $\frac{3}{8}$ x4
3-30	10-10-10	400	1x2 $\frac{1}{2}$
3-30-30	40-10-4	400	1x3 $\frac{1}{2}$
3-30-35	40-10-10	400	1x3
3-30-60	80-20-10	400	1 $\frac{3}{8}$ x3
3-30-75	90-10-5	400	1 $\frac{3}{8}$ x3
3-31	10-10-10	450	1x3
3-33	15-15-10	450	1x3
3-34	15-15-15	450	1x3
3-35	20-10-10	450	1x3
3-36	20-20-20	450	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-37	30-20-20	450	1 $\frac{3}{8}$ x3
3-37-95	30-30-10	450	1 $\frac{3}{8}$ x3
3-38	30-30-20	450	1 $\frac{3}{8}$ x3
3-39	30-30-30	450	1 $\frac{3}{8}$ x3
3-41	40-10-10	450	1 $\frac{3}{8}$ x3
3-42	40-30-20	450	1 $\frac{3}{8}$ x3
3-43	40-40-10	450	1 $\frac{3}{8}$ x3
3-43-50	40-40-20	450	1 $\frac{3}{8}$ x3
3-44	40-40-40	450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-44-50	50-40-30	450	1 $\frac{3}{8}$ x4
3-45	60-20-20	450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-45-10	60-30-10	450	1 $\frac{3}{8}$ x3
3-45-25	60-40-20	450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-45-50	80-40-10	450	1 $\frac{3}{8}$ x4
3-46	80-40-20	450	1 $\frac{3}{8}$ x4
3-47	10-10-10	475	1x3
3-47-50	20-20-10	475	1x3 $\frac{1}{2}$
3-48	30-20-20	475	1 $\frac{3}{8}$ x3
3-49	30-30-10	475	1 $\frac{3}{8}$ x3
3-49-10	30-30-20	475	1 $\frac{3}{8}$ x3
3-50	40-10-10	475	1 $\frac{3}{8}$ x3
3-50-05	40-20-20	475	1 $\frac{3}{8}$ x3
3-50-07	40-30-10	475	1 $\frac{3}{8}$ x3
3-50-10	40-30-30	475	1 $\frac{3}{8}$ x4
3-51	10-10-10	500	1x3
3-52	30-20-20	500	1 $\frac{3}{8}$ x3
3-53	40-10-10	500	1 $\frac{3}{8}$ x3
3-54	40-40-10	500	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-54-30	850-400 4	16 11.5RMS	1x2 $\frac{1}{2}$
3-54-40	1000-500 4	16 11.5RMS	1 $\frac{3}{8}$ x2
3-54-50	5 500-200	25/16	1x2
3-55	100/50-25	100/25	1x3
3-57	15-15/1200	150 2	1x2
3-58	30-20 100	150/6	1x2
3-59	20-20/100	150/10	1x2
3-60	20-20/250	150/10	1x2
3-61	30-30 200	150/10	1x2
3-62	40-20/150	150/10	1x2
3-63	40-20/200	150/10	1x2 $\frac{1}{2}$
3-64	40-20/250	150/10	1x2 $\frac{1}{2}$
†3-64-40 PWH	70-30/100	150/10	1x2 $\frac{1}{2}$
3-64-50	80-20 200	150/10	1 $\frac{3}{8}$ x2
3-64-60	80-30/300	150/10	1 $\frac{3}{8}$ x2
†3-64-65 PWH	80-60 250	150 10	1x3
†3-64-70 PWH	80-60 400	150/10	1x3
†3-64-75 PWH	90-40 400	150/10	1x3
3-64-85 AFHS	100-80/200	150/10	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-65	20/250-100	150/15	1 $\frac{3}{8}$ x2
3-66	80-20/100	150/15	1 $\frac{3}{8}$ x2
3-67	20-20/20	150/25	1x2
3-68	20-20/200	150/25	1x3
3-69	30-20/20	150/25	1x2
3-70	30-30/20	150/25	1x2
3-72	40-20/20	150/25	1x2
3-73	40-20/100	150/25	1x3
3-74	40-20/200	150/25	1x3
3-75	40-30/20	150/25	1x2 $\frac{1}{2}$
3-76	40-40/20	150/25	1x2 $\frac{1}{2}$



†—Special construction for printed wiring.

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

TRIPLES — (Continued)

AFH No.	Capacity	Voltage	Size
3-76-50	40-40/200	150/25	1x3
3-76-55	40-40/250	150/25	1x3
3-77	50-30/20	150, 25	1x2½
3-78	50-30/100	150 25	1x3
3-79	50-50/20	150 25	1x3
3-80	60-20/20	150/25	1x2
3-81	60-40/20	150 25	1x2½
†3-81-50 PWH	70-30/20	150, 25	1x2½
3-82	80-40/20	150 25	1x2½
3-82-40	80-40/300	150/25	1¾x2½
3-83	120-60/20	150/25	1¾x2½
3-83-10	10/10-4	150 50	1x2
3-83-95	300-80/200	150, 50	1¾x4
3-84	30-20/20	200/25	1x2
3-84-50	60-5/20	200/50	1x2½
3-85	90-90/20	200/50	1¾x3
3-86	100-10/40	200 50	1¾x2
3-86-50	30-20/40	200/150	1x2½
3-86-80 AFHS	60/200-140	200/150	1¾x4
3-86-90	10-10/100	250/10	1x2
3-87	15-15/20	250/25	1x2
3-88	20-15/20	250/25	1x2
3-89	30-30/20	250/25	1x2½
3-90	70-70/20	250/50	1¾x3
3-91	90-90/20	250/50	1¾x3
3-92	15/20-20	250/150	1x2
3-93	40-20/10	250/150	1¾x2
3-94 AFHS	40-40/10	250/200	1¾x2
3-95	80-80/60	250/200	1¾x3½
3-96-20 AFHS	10/500-500	300/15	1¾x2
3-97	20-20/20	300/25	1x2
3-98	40-15/20	300/25	1x2½
†3-98-60 PWH	60-10/25	300/25	1¾x2
3-98-80	100-10/20	300/25	1¾x3
3-98-90 AFHS	140-10/100	300/25	1¾x3½
3-99	30-30/25	300/50	1x3
3-99-75	100-10/60	300/50	1¾x2½
3-99-80 AFHS	125-20/100	300/50	1¾x3½
3-99-82	125-60/40	300/50	1¾x4
3-99-83	140-100/60	300/50	1¾x3½
3-99-85	200-20/10	300/100	1¾x4
3-99-95	20/150-80	300/150	1¾x3
3-100	40-40/20	300/150	1¾x2
3-100-20	60/200-30	300/150	1¾x4
3-100-40 AFHS	100/200-30	300/150	1¾x4
3-100-60	140-10/200	300/150	1¾x4
3-101	10-10/15	300/250	1x2
3-101-20	60/30-30	300/250	1¾x2½
3-101-40	100/60-20	300/250	1¾x3½
3-101-60	200/60-20	300/250	1¾x4
3-102-90	5/100-40	350/25	1x2
3-103	10-10/20	350/25	1x2
3-104	15-10/20	350/25	1x2
3-105	15-15/20	350/25	1x2½
3-105-50	20-5/100	350/25	1x3
3-106	20-10/20	350/25	1x2½
3-107	20-20/20	350/25	1x2½
3-107-50 AFHS	20/50-50	350/25	1x2
3-108	30-10/20	350/25	1x2½
3-109	30-20/20	350/25	1x3
3-110	30-30/20	350/25	1¾x2
3-110-50	40-20/50	350/25	1x2½
3-111	40-40/50	350/25	1¾x2½
3-111-50	90-40/50	350/25	1¾x3½
3-111-85 AFHS	200-10/50	350/25	1¾x4
3-111-90	10-5/30	350/50	1x2
3-112	10-5/150	350/50	1x3
3-112-10	20-5/150	350/50	1x3
3-112-20	20-10/100	350/50	1x3½
3-112-50	60-5/20	350/50	1x2½
3-112-60 AFHS	80-40/400	350/50	1¾x4

TRIPLES — (Continued)

AFH No.	Capacity	Voltage	Size
3-112-75	150-4/30	350/50	1¾x3
3-112-80	30-20/100	350 75	1¾x2½
3-113	40-20, 10	350/100	1¾x2
3-114-50	30-20/100	350/150	1¾x2½
3-114-52	40-20/10	350 150	1x3
3-114-55	40/200-100	350 150	1¾x3½
3-114-58	60/200-30	350 150	1¾x4
3-114-60	10/40-40	350 200	1x3
3-114-70	30-5/100	350 200	1¾x2½
3-114-80	80-40/100	350 200	1¾x3
3-115	20-10/5	350 250	1x2½
3-116	30/20-10	350 250	1x3
3-117	30-10/20	350 250	1x3
3-118	100-60/20	350/250	1¾x4
3-119	15-15/40	400 25	1x2½
3-120	20-20/20	400 25	1x3
3-121	30-10/150	400 50	1¾x2½
3-122	80-40/150	400/50	1¾x4
3-122-30	100-10/20	400 50	1¾x3½
3-122-80	40/200-60	400/200	1¾x4
3-123	80/20-10	400 300	1¾x3½
3-123-10	20-10/10	400/350	1x3
3-123-30	20-10/40	400/350	1x4
3-123-40	20-20/10	400, 350	1x3
3-123-65	60-30/20	400/350	1¾x3
3-123-80	80-20/10	400/350	1¾x3
3-123-90	100-10/80	400/350	1¾x4
3-124	10-10/10	450/25	1x2
3-125	10-10/20	450/25	1x2
3-127	15-15/20	450/25	1x2½
3-127-10	15-15/40	450, 25	1x2½
3-127-30	20-10/20	450/25	1x2½
3-128	20-15/20	450, 25	1x3
3-129	20-20/20	450/25	1x3
3-129-50	20/500-500	450/25	1¾x3½
3-130	30/100-25	450/25	1¾x2
3-131	30-30/20	450/25	1¾x2½
3-131-30	30-30/125	450/25	1¾x3
3-132	40-20/20	450/25	1¾x2½
3-133	40-40/20	450/25	1¾x3
3-134	40-40/40	450/25	1¾x3
3-134-50	80-10/125	450/25	1¾x3
3-135	80-40/100	450, 25	1¾x4
3-136	10-10/40	450/50	1x2½
3-137	20-10/40	450/50	1x3
3-138	20-10/50	450/50	1x3
3-138-30	30-10/150	450/50	1¾x2½
3-138-40	30-15/150	450/50	1¾x3
3-139	30-30/40	450/50	1¾x3
3-139-50	35-25/100	450/50	1¾x3
3-139-75	40-10/40	450/50	1¾x2½
3-140	40-10/100	450/50	1¾x3
3-140-50	40-30/25	450/50	1¾x2½
3-141	40-40/80	450/50	1¾x3½
3-142	40-40/100	450/50	1¾x3½
3-142-20	60-40/75	450/50	1¾x4
3-142-40	80-20/100	450/50	1¾x4
3-142-50	80-80/50	450/50	1¾x4
3-142-60	80/100-20	450/50	1¾x3
3-142-80	30-30/125	450, 75	1¾x3
3-143	10-10/50	450/100	1¾x2
3-144	30-20/30	450/150	1¾x2½
3-145	40/90-50	450/150	1¾x3
3-146	40-10/80	450/150	1¾x3
3-147	40-40/40	450/150	1¾x3½
3-148	40-10/80	450/200	1¾x3
3-148-40	40-40/60	450/200	1¾x3½
3-148-50	40-40/100	450/200	1¾x4



†—Special construction for printed wiring.

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

TRIPLES — (Continued)

AFH No.	Capacity	Voltage	Size
3-148-80	10 80-80	450/250	1 $\frac{3}{8}$ x3
3-149	20 40-10	450 250	1 $\frac{3}{8}$ x2
3-149-35	80/40-40	450/250	1 $\frac{3}{8}$ x4
3-149-40	5/80-40	450 300	1 $\frac{3}{8}$ x3
3-149-60	10/100-20	450 300	1 $\frac{3}{8}$ x3
3-149-80	15-10 120	450 300	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-150	15-15 10	450 300	1x3
3-151	20/15-10	450 300	1x3
3-152	15-5/15	450/350	1x3
3-152-50	20 15-15	450 350	1x3
3-153	20-20/60	450/350	1 $\frac{3}{8}$ x3
3-153-30	20 40-10	450 350	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-153-60	20/80-10	450/350	1 $\frac{3}{8}$ x3
3-154	40-10 10	450 350	1 $\frac{3}{8}$ x2
3-154-20	40-40 60	450/350	1 $\frac{3}{8}$ x4
3-154-30	40-40 80	450/350	1 $\frac{3}{8}$ x4
3-154-40	50-5/50	450/350	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-154-60	60 20-20	450 350	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-155-15	10-10 150	475/50	1x3
3-155-30	25-10 20	475 50	1x3
3-155-45	40/80-10	475/300	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-155-52	20 20-10	475 350	1x3 $\frac{1}{2}$
3-155-60	20-10/100	475/400	1 $\frac{3}{8}$ x4
3-155-75	40 80-10	475 450	1 $\frac{3}{8}$ x4
3-155-90	30-20/20	500/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-156	10-10 100	500 50	1x3 $\frac{1}{2}$
3-157	20-10/100	500/50	1x4
3-158	30-10 20	500 50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-159	40-40/100	500/200	1 $\frac{3}{8}$ x4
3-160	10-10 5	500 350	1x2 $\frac{1}{2}$
3-160-50	10/40-40	500 450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-161	20-20 60	500 450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-162	40 25/130	150/25/15	1x3
3-162-80	50/100 25	150/50 25	1x2 $\frac{1}{2}$
3-163	100/50 25	150 50 25	1x3
3-164	80 40 50	250/150 50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
†3-164-50 PWH	10/10 20	300 50 25	1x2
3-165	100 60 20	300/150 25	1 $\frac{3}{8}$ x3
3-165-30 AFHS	140 200 100	300/150 50	1 $\frac{3}{8}$ x4
3-165-70 AFHS	100 60 200	300/200 150	1 $\frac{3}{8}$ x4
†3-165-80 PWHs	150/60 200	300 200 150	1 $\frac{3}{8}$ x4
3-165-90	30 25 100	350 25 6	1x2 $\frac{1}{2}$
3-166	20/50/100	350/100/75	1x3
†3-166-25 PWH	125/5 100	350 150 10	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-167	10/50/100	350/150/50	1x3
3-167-25 AFHS	40/80 500	350/200/25	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-167-50	125 5/100	350/200/75	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-168	50/10 500	350 250 5	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-168-50	100/40 5	350 250 50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-169	30/30 20	350 300/25	1x3
3-169-50	30 50 20	350/300/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-169-90	10 40 5	350 300 150	1x2 $\frac{1}{2}$
3-170	20/40 10	350/300/150	1x3 $\frac{1}{2}$
3-170-50	40/20/10	350 300/200	1 $\frac{3}{8}$ x2
3-171	60/40 20	400,300/25	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-172	10 40 10	400 300 150	1 $\frac{3}{8}$ x2
3-173	55/50 80	400/300/250	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-174	10 50 30	400 350 25	1x3
3-174-50	80 80/100	400 350 50	1 $\frac{3}{8}$ x4
3-175	10/50/100	450/150/25	1x3
3-176	40 40/130	450/150/50	1 $\frac{3}{8}$ x3
3-177	40/100 50	450/150/50	1 $\frac{3}{8}$ x3
3-177-20	10/50/100	450/150/75	1x3
3-177-40	20/50/100	450/150/75	1 $\frac{3}{8}$ x2
3-177-50	10/100 200	450 200 25	1x3 $\frac{1}{2}$
3-177-60	10/100 100	450 200 50	1x3 $\frac{1}{2}$
3-177-80	20/80 50	450,200/150	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-178	20 60/100	450/250/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-178-25	10/10 50	450/250/50	1x2 $\frac{1}{2}$
3-178-60 AFHS	50/160 50	450 250 50	1 $\frac{3}{8}$ x4

†—Special construction for printed wiring.

TRIPLES — (Continued)

AFH No.	Capacity	Voltage	Size
3-179	10/40/10	450/300/150	1 $\frac{3}{8}$ x2
3-179-50	30/10/10	450/300/150	1x3
3-180	10 10/20	450/350/25	1x2
3-180-50	10/10/50	450/350/25	1x3
3-181	30/15 40	450/350/25	1x3
3-181-50	30/40 50	450/350/25	1x4
3-182	20/80 100	450/350/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
3-182-80	80 50/100	450 350 200	1 $\frac{3}{8}$ x4
3-183	15 20 20	450/350/250	1 $\frac{3}{8}$ x2
3-184	20/15/10	450/350/300	1x3
3-185	10/30,150	450/400 5	1x3
3-186	30/50/40	450/400/25	1 $\frac{3}{8}$ x3
3-186-80	60/80 20	450 400 250	1 $\frac{3}{8}$ x4
3-186-90	4/40 40	450 400 300	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-187	10/30/30	450 400 300	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-187-20	60 80 20	450 400 350	1 $\frac{3}{8}$ x4
3-187-25	20/50 20	475 50 25	1x3
3-187-50	20/10 500	475 150 25	1 $\frac{3}{8}$ x3
3-187-75	80/80/50	475/150 50	1 $\frac{3}{8}$ x4
3-188	10/100 40	475 200 50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-188-50	40 40 100	475 250 100	1 $\frac{3}{8}$ x3
3-189	20 20 40	475 300 25	1 $\frac{3}{8}$ x2
3-189-40	10 4/100	475/350/50	1x2 $\frac{1}{2}$
3-189-60	20 10 5	475 350 150	1x2 $\frac{1}{2}$
3-189-70	10/4/40	475/350/300	1 $\frac{3}{8}$ x2
3-190	40 40 25	475 450 50	1 $\frac{3}{8}$ x3
3-190-80	10 45 100	475/450/200	1 $\frac{3}{8}$ x3
3-191	10 100 40	500 200 50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-192	40/40/100	500/250/50	1 $\frac{3}{8}$ x3
3-193	20 20 40	500 300 25	1 $\frac{3}{8}$ x2
3-193-25	20/40/100	500 300/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
3-193-75	5 100 200	500 300 150	1 $\frac{3}{8}$ x4
3-194	40,40 25	500 400 50	1 $\frac{3}{8}$ x3

QUADS

AFH No.	Capacity	Voltage	Size
4-01	40-40-40-30	150	1 $\frac{3}{8}$ x2
4-01-40	100-80-60-40	150	1 $\frac{3}{8}$ x3
4-01-55 AFHS	200-200-60-30	175	1 $\frac{3}{8}$ x4
4-01-60	40-40-40-40	200	1 $\frac{3}{8}$ x2
4-01-80	40-20-10-10	300	1 $\frac{3}{8}$ x2
4-02	40-40-20-10	300	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-02-10	40-40-30-20	300	1 $\frac{3}{8}$ x3
4-02-20	60-20-10-5	300	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-02-30	60-40-10-10	300	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-02-45	80-60-20-10	300	1 $\frac{3}{8}$ x4
4-02-60	100-40-20-20	300	1 $\frac{3}{8}$ x4
4-02-70 AFHS	140-100-20-20	300	1 $\frac{3}{8}$ x4 $\frac{1}{2}$
*4-02-75 AFHS	150-100-10-5	300	1 $\frac{3}{8}$ x4
4-02-80	150-150-30-30	300	1 $\frac{3}{8}$ x5
4-02-90	200-20-20-20	300	1 $\frac{3}{8}$ x4
4-03	10-10-10-10	350	1 $\frac{3}{8}$ x2
4-04	40-20-20-10	350	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-04-50	40-40-40-40	350	1 $\frac{3}{8}$ x4
4-05	80-10-10-10	350	1 $\frac{3}{8}$ x3
4-05-50	80-40-10-4	350	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-05-60	100-40-10-10	350	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-05-70	100-40-20-20	350	1 $\frac{3}{8}$ x4
4-06	30-30-20-20	400	1 $\frac{3}{8}$ x3
4-06-25	40-35-10-10	400	1 $\frac{3}{8}$ x3
4-06-40	50-40-30-20	400	1 $\frac{3}{8}$ x4
4-06-75	80-10-10-10	400	1 $\frac{3}{8}$ x3
4-07	80-20-10-10	400	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-08	100-40-10-10	400	1 $\frac{3}{8}$ x4
4-09	5-5-5-5	450	1 $\frac{3}{8}$ x2
4-10	10-10-10-10	450	1 $\frac{3}{8}$ x2
4-13	20-10-10-10	450	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-14	20-20-20-20	450	1 $\frac{3}{8}$ x3
4-15	30-15-15-15	450	1 $\frac{3}{8}$ x3
4-15-10	30-20-20-10	450	1 $\frac{3}{8}$ x3

*Last section to be supplied at 10 MFD when present stock is depleted.



AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

QUADS — (Continued)

AFH No.	Capacity	Voltage	Size
4-15-20	30-30-15-10	450	1 $\frac{3}{8}$ x3
4-15-30	30-30-20-20	450	1 $\frac{3}{8}$ x3
4-15-40	30-30-30-15	450	1 $\frac{3}{8}$ x4
4-16	35-35-10-5	450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-17	40-10-10-10	450	1 $\frac{3}{8}$ x3
4-18	40-20-10-10	450	1 $\frac{3}{8}$ x3
4-18-10	40-35-10-10	450	1 $\frac{3}{8}$ x3
4-18-20	40-40-5-5	450	1 $\frac{3}{8}$ x4
4-18-30	40-40-20-20	450	1 $\frac{3}{8}$ x4
4-18-40	40-40-30-30	450	1 $\frac{3}{8}$ x4
4-18-45	40-40-40-40	450	1 $\frac{3}{8}$ x4
4-18-50	60-20-20-20	450	1 $\frac{3}{8}$ x4
4-18-60	60-30-10-2	450	1 $\frac{3}{8}$ x3
4-18-75	70-10-10-5	450	1 $\frac{3}{8}$ x3
4-18-80	80-10-10-10	450	1 $\frac{3}{8}$ x4
4-19	10-10-10-10	475	1 $\frac{3}{8}$ x2
4-19-10	20-20-10-10	475	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-19-20	20-20-20-20	475	1 $\frac{3}{8}$ x3
4-19-40	40-10-10-10	475	1 $\frac{3}{8}$ x3
4-19-50	40-20-10-10	475	1 $\frac{3}{8}$ x3
4-20	10-10-10-10	500	1 $\frac{3}{8}$ x2
4-20-50	40-40-8-8	500	1 $\frac{3}{8}$ x4
4-20-75	750-600-350/4	16/11.5 RMS	1 $\frac{3}{8}$ x2
4-20-77	750-750-350/4	16/11.5 RMS	1 $\frac{3}{8}$ x2
4-21	30-20-20/200	150/10	1 $\frac{3}{8}$ x2
4-22	40-40-20/200	150/10	1 $\frac{3}{8}$ x2
4-23	60-40-20/200	150/10	1 $\frac{3}{8}$ x2
4-23-50 AFHS	80-80-10/200	150/10	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-23-70	200-30-10/100	150/10	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
†4-23-72 PWH	290-30-10/100	150/10	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-23-75 AFHS	50-20/150-30	150/15	1 $\frac{3}{8}$ x2
4-25	20-20-20/20	150/25	1 $\frac{3}{8}$ x2
4-25-70	20-20/160-40	150/25	1 $\frac{3}{8}$ x2
4-26	30-30-30/40	150/25	1 $\frac{3}{8}$ x2
4-27	40-20-20/20	150/25	1 $\frac{3}{8}$ x2
4-28	40-40-30/20	150/25	1 $\frac{3}{8}$ x2
4-29	40-40-40/20	150/25	1 $\frac{3}{8}$ x2
4-30	40-40/40-40	150/25	1 $\frac{3}{8}$ x2
4-31	40-40-40/100	150/25	1 $\frac{3}{8}$ x2
4-32	40-40-40/160	150/25	1 $\frac{3}{8}$ x2
4-33	40-40/100-100	150/25	1 $\frac{3}{8}$ x2
4-33-20	40-40/200-100	150/25	1 $\frac{3}{8}$ x2
4-33-50 AFHS	50-20-20/200	150/25	1 $\frac{3}{8}$ x2
4-34	50-30-30/100	150/25	1 $\frac{3}{8}$ x2
†4-34-50 PWH	50-40-10/50	150/25	1 $\frac{3}{8}$ x2
4-35	50-50-50/20	150/25	1 $\frac{3}{8}$ x2
4-35-15	60-20-10/20	150/25	1 $\frac{3}{8}$ x2
4-35-25	60-40-20/20	150/25	1 $\frac{3}{8}$ x2
4-35-50 AFHS	60-60-10/60	150/25	1 $\frac{3}{8}$ x2
4-35-75 AFHS	70-40-40/25	150/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-36	75-75-75/30	150/25	1 $\frac{3}{8}$ x3
4-37	80-40-40/20	150/25	1 $\frac{3}{8}$ x2
4-37-10	80-40-40/40	150/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-38	80-40-40/100	150/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
†4-38-20 PWH	100-40-10/50	150/25	1 $\frac{3}{8}$ x2
4-38-30	100-90-60/200	150/25	1 $\frac{3}{8}$ x3
4-38-75	125-125-40/100	150/25	1 $\frac{3}{8}$ x3
4-38-90 AFHS	140-40/50-30	150/50	1 $\frac{3}{8}$ x3
4-38-95 AFHS	200-200-100/10	150/75	1 $\frac{3}{8}$ x4
4-39	40-20-10/20	200/25	1 $\frac{3}{8}$ x2
4-40	40-20-10/20	250/25	1 $\frac{3}{8}$ x2
4-41	100-40-10/100	250/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-42	80-60-40/20	250/150	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-43	10-10-10/20	300/25	1 $\frac{3}{8}$ x2
4-44	40-20-20/25	300/25	1 $\frac{3}{8}$ x2
4-44-20	40-30-20/50	300/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-45	40-40-20/20	300/25	1 $\frac{3}{8}$ x3
4-46	60-40-20/50	300/25	1 $\frac{3}{8}$ x3
4-46-20	60-30-10/60	300/50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-46-35	150-30-30/150	300/50	1 $\frac{3}{8}$ x4
4-46-50	10/200-140-30	300/150	1 $\frac{3}{8}$ x4
4-46-60	10/200-200-30	300/150	1 $\frac{3}{8}$ x4

QUADS — (Continued)

AFH No.	Capacity	Voltage	Size
4-47	40-40-40/20	300/150	1 $\frac{3}{8}$ x3
4-47-50 AFHS	100-10/200-30	300/150	1 $\frac{3}{8}$ x4
4-47-60 AFHS	140-10/200-60	300/150	1 $\frac{3}{8}$ x5
4-47-80 AFHS	120-40-40/10	300/250	1 $\frac{3}{8}$ x4
4-48	10-10-10/20	350/25	1 $\frac{3}{8}$ x2
4-49	20-10-5/20	350/25	1 $\frac{3}{8}$ x2
4-49-25	30-10-5/200	350/25	1 $\frac{3}{8}$ x2
4-50	30-20-20/20	350/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-50-60	40-10/100-25	350/25	1 $\frac{3}{8}$ x2
4-50-90	40-20-5/10	350/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-51	40-20-20/25	350/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-52	40-40-20/20	350/25	1 $\frac{3}{8}$ x3
4-52-05	40-40-30/10	350/25	1 $\frac{3}{8}$ x3
4-53	40-40-40/40	350/25	1 $\frac{3}{8}$ x3
4-53-40	60-5/100-40	350/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-53-90	120-20-10/50	350/25	1 $\frac{3}{8}$ x3
4-54	15-15-15/50	350/50	1 $\frac{3}{8}$ x2
4-55	40-30-10/50	350/50	1 $\frac{3}{8}$ x3
4-56	40-40-40/150	350/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-56-05 AFHS	50-40-20/100	350/50	1 $\frac{3}{8}$ x3
4-56-20	60-5/50-20	350/50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-56-30	60-25-25/100	350/50	1 $\frac{3}{8}$ x3
4-56-45 AFHS	80-40-40/100	350/50	1 $\frac{3}{8}$ x4
4-56-60	100-10-10/20	350/50	1 $\frac{3}{8}$ x3
4-56-65	100-20/50-30	350/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-56-75	100-40-30/50	350/50	1 $\frac{3}{8}$ x4
4-56-80	100-80-10/20	350/50	1 $\frac{3}{8}$ x4
4-56-85	140-20-10/100	350/50	1 $\frac{3}{8}$ x4
4-56-88	200-10/20-5	350/50	1 $\frac{3}{8}$ x4
4-56-90	90-30-5/100	350/75	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-56-92	20-10-5/60	350/200	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-56-93	20/100-100-20	350/200	1 $\frac{3}{8}$ x4
4-56-93.4	30-10-5/100	350/200	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-56-93.5	30-20-5/100	350/200	1 $\frac{3}{8}$ x3
4-56-94	10-10/10-10	350/300	1 $\frac{3}{8}$ x2
4-56-94.8	130-20-10/40	350/300	1 $\frac{3}{8}$ x4
4-56-94.9 AFHS	140/100-20-20	350/300	1 $\frac{3}{8}$ x4 $\frac{1}{2}$
4-56-95 AFHS	160/60-10-4	350/300	1 $\frac{3}{8}$ x4
4-56-96	10-10/25-25	400/25	1 $\frac{3}{8}$ x2
4-57	20-20-20/20	400/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-57-40	80-40-10/20	400/25	1 $\frac{3}{8}$ x4
4-57-50	80-40-30/40	400/25	1 $\frac{3}{8}$ x4
4-57-55	90-40-10/40	400/25	1 $\frac{3}{8}$ x4
4-57-75	40-40-40/150	400/50	1 $\frac{3}{8}$ x4
4-57-85	80-20-10/100	400/50	1 $\frac{3}{8}$ x4
4-57-90 AFHS	100-10/30-20	400/50	1 $\frac{3}{8}$ x3
4-57-92	20-20/100-100	400/100	1 $\frac{3}{8}$ x3
4-57-93 AFHS	80-40-10/100	400/200	1 $\frac{3}{8}$ x4
4-57-95	80-40/40-40	400/200	1 $\frac{3}{8}$ x4
4-58	40-10/80-10	400/250	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-58-50	80/40-20-10	400/300	1 $\frac{3}{8}$ x4
†4-58-65 PWH	40/30-20-20	400/350	1 $\frac{3}{8}$ x3
4-58-75	80-40/40-20	400/350	1 $\frac{3}{8}$ x4
4-59	10-10-10/20	450/25	1 $\frac{3}{8}$ x2
4-60	10-10-10/25	450/25	1 $\frac{3}{8}$ x2
4-61	10-10-10/100	450/25	1 $\frac{3}{8}$ x2
4-62	10-10-10/150	450/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-63	10-10/20-20	450/25	1 $\frac{3}{8}$ x2
4-65	20-10-10/100	450/25	1 $\frac{3}{8}$ x2
4-66	20-15/20-20	450/25	1 $\frac{3}{8}$ x2
4-67	20-20-20/20	450/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-68	30-15-15/40	450/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-69	30-20-20/20	450/25	1 $\frac{3}{8}$ x3
4-70	30-30-10/20	450/25	1 $\frac{3}{8}$ x3
4-70-10	30-30-10/125	450/25	1 $\frac{3}{8}$ x3
4-71	30-30-20/20	450/25	1 $\frac{3}{8}$ x3
4-71-25	30-30/125-125	450/25	1 $\frac{3}{8}$ x3
4-72	40-10-10/250	450/25	1 $\frac{3}{8}$ x3
4-73	40-10-10/300	450/25	1 $\frac{3}{8}$ x3
4-74	40-15-10/25	450/25	1 $\frac{3}{8}$ x3
4-75	40-20-10/20	450/25	1 $\frac{3}{8}$ x3
4-76	40-20-20/20	450/25	1 $\frac{3}{8}$ x3
4-77	40-20-20/40	450/25	1 $\frac{3}{8}$ x3
4-78	40-30-10/20	450/25	1 $\frac{3}{8}$ x3



†—Special construction for printed wiring.

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

QUADS — (Continued)

AFH No.	Capacity	Voltage	Size
4-78-10	40-40-10/20	450/25	1 3/8 x 3 1/2
4-79	40-40-20/20	450/25	1 3/8 x 3 1/2
4-79-10	40-40-40/40	450/25	1 3/8 x 4
4-79-20	60-40-40/10	450/25	1 3/8 x 4
4-79-30	60-50-5/20	450/25	1 3/8 x 4
4-80	20-20-20 100	450/50	1 3/8 x 3
4-81	30-30-15/30	450/50	1 3/8 x 3
4-82	30-30-15/100	450/50	1 3/8 x 3 1/2
4-83	40-20-10/100	450/50	1 3/8 x 3 1/2
4-84	40-40-10 20	450/50	1 3/8 x 3
4-85	40-40 30-10	450/50	1 3/8 x 3
4-85-25	40-40-10/50	450 50	1 3/8 x 4
4-86	60-10-10/20	450 50	1 3/8 x 3
4-86-20	60-30-30 150	450/50	1 3/8 x 4
4-86-25	60-40-10/25	450/50	1 3/8 x 4
4-87	40-40-10 100	450, 100	1 3/8 x 3 1/2
4-88	60-10-10/20	450 150	1 3/8 x 3
4-88-20	35-35-10/10	450/200	1 3/8 x 3 1/2
4-88-40	40-40-30/10	450/200	1 3/8 x 4
4-88-50	40-40/100-60	450/200	1 3/8 x 4
4-88-60	40-20-10/100	450/250	1 3/8 x 4
4-88-70	60-10-10/40	450 250	1 3/8 x 3 1/2
4-88-80	10/100-20-20	450/300	1 3/8 x 3
4-89	20-20/30-30	450/300	1 3/8 x 3
4-90	20-20/20-10	450 350	1 3/8 x 3
4-91	20-20/30-30	450/350	1 3/8 x 3
4-91-50	40-10-10/40	450/350	1 3/8 x 3
4-92	40-10/35-10	450 350	1 3/8 x 3
4-92-50	40-20-20/20	450/350	1 3/8 x 3
4-92-75	40-20 80-10	450/350	1 3/8 x 4
4-93	40-40 30-30	450/350	1 3/8 x 4
4-93-40	5/80-40-25	450/400	1 3/8 x 4
4-93-45	10/80-40-25	450/400	1 3/8 x 4
4-93-50	60/40-20-20	450/400	1 3/8 x 4
4-93-75	30-30-10/20	475/25	1 3/8 x 3
4-94	40-20-10/10	475/25	1 3/8 x 3
4-94-50	20/80-20-10	475/300	1 3/8 x 3 1/2
4-94-60	50-30 20-20	475/300	1 3/8 x 4
4-94-70	10/130-20-10	475/350	1 3/8 x 4
4-94-75	20/60-40-10	475/350	1 3/8 x 3 1/2
4-94-85	30/135-10-10	475/350	1 3/8 x 4
4-94-90	10/80-40-40	475/450	1 3/8 x 4
4-95	20-20-10/10	500/300	1 3/8 x 2 1/2
4-96	50-30-10/20	500/300	1 3/8 x 4
4-96-20	5/25-25/100	75/25/15	1 3/8 x 2
4-96-50	40-40/50/80	250/150/50	1 3/8 x 2 1/2
4-96-75	80-8/40/50	250/150 50	1 3/8 x 2 1/2
4-96-90	10/10/100-20	250/200/25	1 3/8 x 2
4-97	100/40/80-20	300/50/25	1 3/8 x 2 1/2
4-97-30	80-5/60/20	300/150/25	1 3/8 x 3
4-97-40	20/150-150/100	300/150/50	1 3/8 x 3 1/2
4-97-75	100-40/125/50	300/150/50	1 3/8 x 4
4-97-90	150-20/10/250	300/250 50	1 3/8 x 4
4-97-95	100-60/100/100	350/150/10	1 3/8 x 4 1/2
4-98	20/150-80 20	350/150 25	1 3/8 x 3
4-98-50	60/60-30/160	350/150 25	1 3/8 x 3
4-98-70	60-20/80/100	350/150/50	1 3/8 x 3 1/2
4-99	15/80-40 200	350 200 25	1 3/8 x 3
4-99-25	20/160-60-40	350/200/25	1 3/8 x 2 1/2
4-99-50	80-20 20/200	350/200 50	1 3/8 x 3 1/2
†4-99-60 PWH	100-60 60 40	350, 200 75	1 3/8 x 4
4-99-75	20/100-100/10	350/200/100	1 3/8 x 4
4-99-80	80-60/60 10	350/200/150	1 3/8 x 4
4-99-90	60-40/60 20	350/250 150	1 3/8 x 4
4-99-93	50-30/8/20	350/250/200	1 3/8 x 2 1/2
4-99-95	40-20/10/20	350/300/25	1 3/8 x 2
4-100	40/40-20/20	350/300/25	1 3/8 x 3
4-100-08	160 30-30/20	350/300/50	1 3/8 x 4
4-100-10	30-30/40/100	350 300/75	1 3/8 x 3
4-100-20 AFHS	100-60/40/40	350/300/75	1 3/8 x 4

QUADS — (Continued)

AFH No.	Capacity	Voltage	Size
4-100-25	50-25/100 20	400/50/25	1 3/8 x 3
4-100-40	80-40/100 20	400/50/25	1 3/8 x 4
4-100-45	20-10/10, 25	400/100/25	1 3/8 x 2
4-100-50	10-10 40 10	400 200 50	1 3/8 x 2
4-100-65 AFHS	40-40/80/80	400/250 50	1 3/8 x 4
4-100-75	40 120-10/150	400/250/50	1 3/8 x 4
4-100-90	80-10 80 100	400 250 50	1 3/8 x 4
4-101	5-5/50/80	400 300/250	1 3/8 x 3
4-102	10 50-30 30	400 350/25	1 3/8 x 3
4-102-15	50 60-40 20	400/350/25	1 3/8 x 4
4-102-25	80 40-10 10	400/350 25	1 3/8 x 4
4-102-40	20 40/100-10	400 350/50	1 3/8 x 3
4-102-50	20/50-40/80	400 350/50	1 3/8 x 3
4-102-75	30 60-20/100	400/350 50	1 3/8 x 4
4-103	60-40/40 10	400 350/50	1 3/8 x 3 1/2
4-103-40	100-10/20 20	400 350/50	1 3/8 x 4
4-104	40/10 80-10	400 350 250	1 3/8 x 3
4-104-50	60-10/80/10	400/350/250	1 3/8 x 4
4-105-10	10-10 20 60	450 150/25	1 3/8 x 2
4-105-30	20-20/60 100	450 150/25	1 3/8 x 2 1/2
4-105-60	40-40/125/125	450/150/25	1 3/8 x 4
4-106	40/40, 30-10	450/150/50	1 3/8 x 3
4-107	10-10/60/100	450 200/50	1 3/8 x 3
4-107-50	10/80-40/100	450 200/50	1 3/8 x 3
4-108	20 80-20/50	450 200 50	1 3/8 x 3
4-108-10	35-25/20/100	450 200/50	1 3/8 x 3
4-108-30	40/40-40/20	450 250/25	1 3/8 x 3
4-108-40	60 80-40/20	450/250 150	1 3/8 x 4
4-108-50	10-10/10/50	450/300 25	1 3/8 x 2
4-108-60	25 100-10-60	450/300 50	1 3/8 x 3
4-108-70	40 40-40 20	450/300, 150	1 3/8 x 3
4-108-90	10 100-20 20	450 300 200	1 3/8 x 3
4-109	10 60-40/25	450/350/25	1 3/8 x 3 1/2
4-110	10 100-10 20	450 350 25	1 3/8 x 3 1/2
4-111	20/15-15/20	450 350 25	1 3/8 x 2
4-111-50	20 80-50/100	450 350 50	1 3/8 x 4
4-111-60	50 25-25/100	450, 350/50	1 3/8 x 3
4-112	30/40-40/10	450 350, 200	1 3/8 x 3 1/2
4-112-05 AFHS	10 140/100-20	450/350/300	1 3/8 x 4 1/2
4-112-10	20 20/50-20	450/400/50	1 3/8 x 3 1/2
4-112-20	80 40-10 150	450/400/50	1 3/8 x 4
4-112-50	80/10/40-30	450 400/300	1 3/8 x 4
4-112-75	10 100-10/100	475/300/25	1 3/8 x 3 1/2
4-112-80	10/140-4/100	475/300 50	1 3/8 x 4
4-113	15-15/80/40	475/300/50	1 3/8 x 3
4-113-10	10/20/100-50	475/350/25	1 3/8 x 2
4-113-20	10/30-5/80	475/350/50	1 3/8 x 2 1/2
4-113-40	40-10/4/40	475/350/300	1 3/8 x 3
4-113-50	10 80-40/100	475/400/50	1 3/8 x 4
4-113-60	10/50-30/30	475/450/25	1 3/8 x 3
4-113-80	20-10/20/100	475/450/25	1 3/8 x 2 1/2
4-114	10-5/80/40	475/450/50	1 3/8 x 3 1/2
4-114-50	10 40-10/100	475/450 50	1 3/8 x 2 1/2
4-114-55	10 10-4/20	500/300/25	1 3/8 x 2
4-114-60	10 100-30/100	500/300, 25	1 3/8 x 3 1/2
4-114-75	30/10/150-30	500/450/50	1 3/8 x 3
4-114-90	100/60 10/20	300 200/150/50	1 3/8 x 3
4-115	120/20/100/20	300/250/50/25	1 3/8 x 4
4-116	200/20 100 20	300/250 50/25	1 3/8 x 4
4-116-50	40/100/100/25	350/250/50/25	1 3/8 x 3 1/2
4-117	20/40/10/250	350/300/150/50	1 3/8 x 3
4-117-25	20/150 10/250	350/300/250/50	1 3/8 x 4
4-117-40	20/10 10 20	400/350/200/25	1 3/8 x 2
4-117-44	40/80/100/25	400/350/200/50	1 3/8 x 4 1/2
4-117-45	40 80 100/100	400/350/200/50	1 3/8 x 4 1/2
4-117-47	20 10 80 20	400/350/300/25	1 3/8 x 3



†—Special construction for printed wiring.

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

QUADS — (Continued)

AFH No.	Capacity	Voltage	Size
4-117-48	40 30 10 20	400/350/300/25	1 $\frac{3}{8}$ x2
4-117-50	10 10 60/100	450/300/200 50	1 $\frac{3}{8}$ x3
4-117-60	10 40 40/100	450 300 250/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-117-75	30 40 50/200	450/300/250/150	1 $\frac{3}{8}$ x4
4-117-90	10 40 100/100	450/350 250/50	1 $\frac{3}{8}$ x3
4-117-95	30/25/50/200	450/400/250/150	1 $\frac{3}{8}$ x4
4-118	80/10/30/40	450/400/300/150	1 $\frac{3}{8}$ x4
4-118-50	5 60 50/20	450/400/350/25	1 $\frac{3}{8}$ x3
4-118-90	40 40 50 80	475/250/150/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-119	20/40/100/80	475 300/50 25	1 $\frac{3}{8}$ x3
4-120	10 40 80/100	475 350/200/100	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-120-10	20,40 80 100	475/350/200/100	1 $\frac{3}{8}$ x4
4-120-20	10/40 80/100	475/350 300/100	1 $\frac{3}{8}$ x4
4-120-50	10/40/100/10	475/400 50 25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-120-75	10/40 4/100	475,400/350/50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-120-90	10/10 20/200	475 450 150 50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-121	10 10 80 50	475/450 200/50	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
4-121-50	25/20 20 100	475/450/300/50	1 $\frac{3}{8}$ x3
4-122	25/20/40/100	475/450/300/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
4-123	10/60/30/125	475,450/400/50	1 $\frac{3}{8}$ x4

AFH HARDWARE

METAL WASHERS

Cat. No.	Size
MW-1	$\frac{3}{4}$ " d.
MW-2	1" d.
MW-3	1 $\frac{3}{8}$ " d.
MW-4	1" in 1 $\frac{3}{8}$ " hole mounting

BAKELITE WASHERS

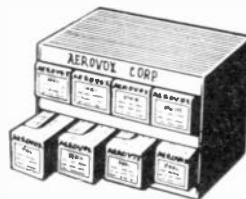
Cat. No.	Size
BW-1	$\frac{3}{4}$ " d.
BW-2	1" d.
BW-3	1 $\frac{3}{8}$ " d.
BW-4	1" in 1 $\frac{3}{8}$ " hole mounting

INSULATING TUBES

Cat. No.	Size
TU-1	1 x 2
TU-2	1 x 2 $\frac{1}{2}$
TU-3	1 x 3
TU-4	1 x 3 $\frac{1}{2}$
TU-5	1 x 4
TU-6	1 $\frac{3}{8}$ x 2
TU-7	1 $\frac{3}{8}$ x 2 $\frac{1}{2}$
TU-8	1 $\frac{3}{8}$ x 3
TU-9	1 $\frac{3}{8}$ x 3 $\frac{1}{2}$
TU-10	1 $\frac{3}{8}$ x 4

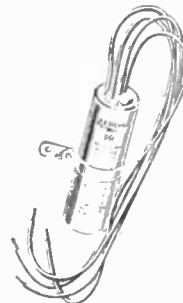
AEROVOX KITS AK-400 AND AK-401

These kits incorporate the sixteen (16) AFH capacitors that are the most popular nationally. Use kits individually (8 pieces) or stack them (16 or more pieces). Stack-a-Lytic metal cabinets can be assembled to form a sturdy one-piece storage rack.



AK-400		
AFH No.	Volt.	Cap.
AFHS 1-22	150	120
AFHS 1-22-05	150	120
AFHS 1-23	150	140
AFHS 1-24-25	150	200
AFHS 1-24-75	150	300
AFH 2-5 [†]	450	20-20
AFH 2-57	450	40-40
AFH 3-44	450	40-40-40

AK-401		
AFH No.	Volt.	Cap.
AFH 1-21	150	100
AFHS 1-37-25	300	150
AFHS 1-43	350	125
AFH 1-52	450	40
AFH 2-19	150	80-40
AFHS 2-21	150	200-5
AFH 2-72	500	40-40
AFH 4-14	450	20-20-20-20



TYPE PR Wax-Filled Tubular Capacitors

Wax-filled electrolytic tubulars in wax-impregnated cardboard tubes. Sections manufactured to same high standards as more expensive metal-cased units. These units are made for exact duplicate replacements in television receivers and antenna rotating devices. Tolerances meet RETMA standards and are manufactured for operating temperatures of 0-65°C. PR numbers designate replacements for Television Receivers, XA numbers designate replacements for Rotators.

TYPE PR SINGLES

PR No.	Capacity	Voltage	Size
XA-4283	70	50 (VAC)	7/8x3
*XA-4098A	70	50 (VAC)	7/8x3
PR 1-050	100	150	1x3 $\frac{1}{2}$
PR 1-075	200	200	1 $\frac{3}{8}$ x3 $\frac{3}{8}$
PR 1-100	140	300	1 $\frac{3}{8}$ x3 $\frac{3}{8}$

TYPE PR DUALS

PR No.	Capacity	Voltage	Size
PR 2-020	200-20	8	$\frac{1}{2}$ x1 $\frac{1}{4}$
PR 2-050	120-120	150	1 $\frac{1}{8}$ x47/8
PR 2-100	200-5	150	1x4
PR 2-120	250-50	150	1 $\frac{3}{8}$ x3 $\frac{1}{4}$
PR 2-200	120-80	200	1 $\frac{3}{8}$ x3
PR 2-275	200-5	200	1 $\frac{3}{8}$ x4 $\frac{1}{8}$
PR 2-300	150-100	300	1 $\frac{3}{8}$ x4 $\frac{1}{2}$
PR 2-400	140-5	350	1 $\frac{1}{4}$ x4 $\frac{1}{8}$
PR 2-600	40/125	200/40	1x3 $\frac{1}{4}$
PR 2-700	50 75	250/50	1 $\frac{1}{8}$ x2 $\frac{3}{4}$
PR 2-725	5/25	300/25	$\frac{3}{4}$ x17/8
PR 2-755	200 100	300/50	1 $\frac{1}{4}$ x4 $\frac{5}{8}$
PR 2-800	2C/100	450/25	1 $\frac{1}{4}$ x2 $\frac{3}{4}$

TYPE PR TRIPLES

PR No.	Capacity	Voltage	Size
PR 3-005	100-100-65	8	5/8x1 $\frac{1}{8}$
PR 3-010	150-150-150	150	1-8x4 $\frac{1}{4}$
PR 3-012	250-200-10	150	1 $\frac{3}{8}$ x43/8
PR 3-020	6C-60-60	300	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
PR 3-025	6C-60-4	350	1 $\frac{3}{8}$ x3 $\frac{1}{4}$
PR 3-030	80-40-20	350	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
PR 3-035	30-10-10	450	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
PR 3-043	250-120 50	150 25	1 $\frac{3}{8}$ x37/8
PR 3-045	100-10/20	300 25	1 $\frac{1}{8}$ x4 $\frac{1}{2}$
PR 3-046	100-100/200	300/25	1 $\frac{1}{2}$ x4 $\frac{1}{2}$
PR 3-046-50	120-40/100	300/50	1 $\frac{3}{8}$ x4
PR 3-047	100-60/100	300/50	1 $\frac{3}{8}$ x4
PR 3-048	100 200-40	300 200	1 $\frac{3}{8}$ x4 $\frac{1}{2}$
PR 3-050	10-10 100	350 50	1 $\frac{1}{4}$ x2 $\frac{1}{2}$
PR 3-053	100-10 50	350/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
PR 3-054	10 200-100	400/150	1 $\frac{3}{8}$ x43/8
PR 3-055	20-10, 150	450/50	1 $\frac{3}{8}$ x3
PR 3-060	20 200-5	450/200	1 $\frac{1}{4}$ x4 $\frac{1}{8}$
PR 3-065	5 80-40	450/400	1 $\frac{3}{4}$ x4 $\frac{1}{4}$
PR 3-070	150/100 80	150/50/25	1 $\frac{3}{8}$ x3
PR 3-080	80/10 100	300 250/50	1 $\frac{3}{8}$ x3 $\frac{1}{2}$
PR 3-090	30 40 125	350/200/25	1 $\frac{3}{8}$ x2 $\frac{1}{4}$
PR 3-100	140/5 200	350/300/200	1 $\frac{1}{2}$ x43/8
PR 3-125	100/40/40	350/300/250	1 $\frac{3}{8}$ x3 $\frac{3}{4}$
PR 3-150	30 50/100	450/150/25	1 $\frac{3}{8}$ x2 $\frac{1}{2}$
PR 3-160	25 100 100	450/150/50	1 $\frac{3}{8}$ x3

* 5" leads. No bracket.

†† Separate sections.

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

TYPE PR QUADS

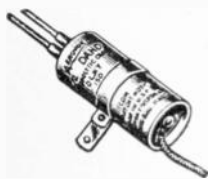
PR No.	Capacity	Voltage	Size
PR 4-125	40-40-40-4	150	1x3
PR 4-175	20-20-20-10	450	1 3/8 x 3 1/2
PR 4-185	40-20-20-10	450	1 3/8 x 3 3/4
PR 4-200	40-40-20-20	450	1 3/8 x 4 1/2
PR 4-220	40-20-20 100	150 25	1 1/16 x 3 3/4
PR 4-225	40-10-10 200	150 35	1 1/8 x 3
PR 4-250	100-80-20 50	300 50	1 3/8 x 4 1/2
PR 4-260	150-100-20/100	300 50	1 3/8 x 5 1/8
PR 4-275	140-4 50-4	300 150	1 3/8 x 3 1/2
PR 4-280	140-5 200-30	300/150	1 1/2 x 4
PR 4-285	140-10-5/200	300/150	1 1/2 x 4 3/8
PR 4-295	80-40-10 40	300 250	1 3/8 x 4
PR 4-300	120-40-40/10	300/250	1 3/8 x 4 1/4
PR 4-350	15-15 150-150	350/150	1 3/8 x 4 1/4
PR 4-450	80-60-20 40	350 300	1 3/8 x 4 3/8

PR 4-500	10-10-10 150	450/50	1 1/4 x 3 3/4
PR 4-600	140/5 200-30	350 300 200	1 1/2 x 4 5/8
PR 4-700	80-10/40/100	400/300/50	1 3/8 x 4
PR 4-800	10/80/40-40	450 300 250	1 3/8 x 3 1/2
PR 4-850	40/100 100 25	350/250/ 50 25	1 3/8 x 3 1/4
PR 4-875	140 5 200/100	350 300/ 200/150	1 1/2 x 4 1/8
PR 4-900	20/120 40 100	450 300/ 250/50	1 3/8 x 4 1/4

TYPE PR QUINTS

PR No.	Capacity	Voltage	Size
PR 5-500	40-20-20-20 50	300 75	1 3/8 x 4

÷ Separate negative furnished for two 10 mfd sections.



TYPE PRS "DANDEE" (85 °C) SINGLES • DUALS • TRIPLES QUADS Metal Can Tubular Electrolytic Capacitors TYPE PRS-AC (AC rated units) NP-PRS (non-polarized units)

Compact, electrolytic tubular capacitors furnished in aluminum cans with cardboard insulating sleeves. Designed for use in television and radio applications where space is at a premium.

Included in this listing are the AC rated units (PRS-AC) and non-polarized units (NP-PRS) for replacement use in cross-over networks and color TV receivers. Also listed are Types PRSB — separate section, dual units for use in specialized applications.

Single section capacitors are furnished with bare tinned copper leads 3 inches long. Negative grounded to case. Multiple units are furnished with insulated, stranded copper leads 5 inches long. Negative is common and grounded to case. Multiple units have common cathode.

Sizes listed are diameters over cardboard insulating sleeve. For actual can size deduct 1/16" from diameter and 3/16" from length. Multiple units are supplied with mounting strap. If mounting strap is required on single units, specify on order.

Tolerance and surge voltage are in accordance with EIA Specification RS-154.

TYPE PRS — SINGLES

PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size
1050	2000	1 1/16 x 2 1/4	1260	25	9/16 x 1 1/4	1440	20	1 1/16 x 1 3/4	1600	4	1 1/16 x 1 1/2	1760	50	1 1/16 x 3 1/4
1100	100	1 1/16 x 1 1/4	1265	50	1 1/16 x 1 1/2	1450	24	1 1/16 x 1 3/4	1610	8	1 1/16 x 1 1/2	1770	60	1 1/4 x 3 3/4
1110	250	1 1/16 x 1 3/4	1270	100	1 1/16 x 1 1/2	1460	30	1 1/16 x 1 1/2	1620	10	1 3/16 x 1 3/4	1780	80	1 1/4 x 3 3/4
1120	500	1 3/16 x 1 3/4	1280	250	1 3/16 x 2 1/4	1470	40	1 3/16 x 1 3/4	1630	12	1 3/16 x 1 3/4	1790	100	1 1/4 x 3 3/4
1130	1000	1 3/16 x 2 1/4	1290	500	1 1/16 x 2 1/2	1480	50	1 3/16 x 1 3/4	1640	16	1 3/16 x 1 3/4	500V		
1140	1500	1 1/16 x 2 1/4	50V			1490	60	1 3/16 x 1 3/4	1650	24	1 3/16 x 1 3/4	1800	4	1 1/16 x 2
1145	2000	1 1/16 x 2 3/4	1300	2	9/16 x 1 1/2	1500	80	1 3/16 x 2 1/4	1660	30	1 3/16 x 2 1/4	1805	8	1 3/16 x 1 3/4
1150	100	1 1/16 x 1 1/2	1310	5	3/4 x 1 1/4	1510	100	1 3/16 x 2 1/4	1670	40	1 3/16 x 2 1/4	1810	10	1 3/16 x 1 3/4
1160	250	1 3/16 x 1 3/4	1320	10	3/4 x 1 1/4	1520	150	1 1/16 x 3	1680	50	1 1/4 x 2 1/4	1815	12	1 3/16 x 2 1/4
1170	500	1 3/16 x 2 1/4	1330	20	1 1/16 x 1 1/4	1530	200	1 1/16 x 3	1690	60	1 1/4 x 2 1/2	1820	16	1 1/4 x 2 1/4
1180	1000	1 1/16 x 3 1/4	1340	25	1 1/16 x 1 1/4	1540	300	1 1/16 x 4	450V			1830	20	1 1/4 x 2 1/4
1200	100	1 3/16 x 1 1/2	1350	50	1 1/16 x 1 3/4	1550	4	1 1/16 x 1 1/4	1700	1	3/8 x 1 1/4	1840	30	1 1/4 x 2 3/4
1210	250	1 3/16 x 2 1/4	1360	100	1 3/16 x 1 3/4	1555	8	1 1/16 x 1 1/2	1705	2	3/8 x 1 1/4	600V		
1220	500	1 3/16 x 2 1/4	1370	150	1 3/16 x 1 3/4	1560	12	1 1/16 x 1 3/4	1710	4	1 1/16 x 1 1/2	1850	8	1 3/16 x 3 1/8
1230	1000	1 1/16 x 2 1/4	1380	250	1 3/16 x 1 3/4	1565	16	1 3/16 x 1 1/2	1715	8	1 3/16 x 1 1/2	1860	10	1 1/16 x 3 1/8
1250	10	3/8 x 1 1/4	1390	500	1 1/8 x 3 3/16	1570	20	1 3/16 x 1 1/2	1720	10	1 3/16 x 1 3/4	1870	12	1 1/8 x 3 3/8
1255	16	3/8 x 1 1/4	150V			1575	30	1 3/16 x 2 1/4	1725	12	1 3/16 x 1 1/2	1880	16	1 1/8 x 3 3/8
			1400	4	3/16 x 1 1/4	1580	40	1 3/16 x 2 1/4	1730	16	1 3/16 x 1 3/4	1890	20	1 7/8 x 3 3/8
			1405	8	1 1/16 x 1 1/4	1585	50	1 3/16 x 2 1/4	1735	20	1 1/8 x 1 3/4	1900	8	1 3/8 x 3 1/8
			1410	10	1 1/16 x 1 1/4	1590	60	1 3/16 x 2 1/4	1740	30	1 1/8 x 2 1/4	1905	10	1 1/8 x 3 1/8
			1420	12	1 1/16 x 1 1/4	1595	100	1 1/16 x 3 3/4	1750	40	1 1/8 x 2 1/2	1910	12	1 1/8 x 3 3/8
			1430	16	1 1/16 x 1 1/2							1915	16	1 1/8 x 3 3/8

TYPE PRS — DUALS

PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size
2050	10-10	1 1/16 x 1 1/4	2170	30-20	1 3/16 x 2 1/4	2250	8-8	1 1/16 x 1 3/4	2350	8-8	1 3/16 x 2 1/4
2075	20-20	1 1/16 x 1 1/4	2175	30-30	1 3/16 x 1 3/4	2260	16-8	1 1/16 x 2 1/4	2360	10-10	1 3/16 x 2 1/4
			2180	40-20	1 3/16 x 1 3/4	2280	16-16	1 3/16 x 1 3/4	2370	16-8	1 3/16 x 2 1/4
			2190	40-30	1 3/16 x 2 1/4	2290	30-30	1 3/16 x 2 3/4	2380	16-16	1 1/8 x 2 1/4
2100	10-10	1 1/16 x 1 1/2	2195	40-40	1 3/16 x 2 1/4	250V			2390	20-20	1 3/16 x 3 3/8
			2200	50-30	1 3/16 x 2 1/4	2300	10-10	1 3/16 x 1 3/4	2400	30-30	1 1/8 x 3 3/4
			2210	50-50	1 3/16 x 2 1/4	2310	16-8	1 3/16 x 1 3/4	2410	40-20	1 1/8 x 3 3/4
2150	8-8	1 1/16 x 1 3/4	2220	80-20	1 3/16 x 2 1/4	2320	16-16	1 3/16 x 2 1/4	2420	40-40	1 1/8 x 4
2155	16-8	1 1/16 x 2 1/4	2230	80-40	1 3/16 x 2 3/4	2330	20-20	1 3/16 x 2 1/4	2430	50-30	1 1/8 x 4
2160	20-10	1 3/16 x 1 1/2	2240	80-50	1 1/4 x 2 3/4	2340	30-30	1 3/16 x 2 1/4			
2165	20-20	1 3/16 x 1 3/4	2245	100-100	1 1/4 x 3 3/4						

AEROVOX

CAPACITORS RESISTORS



ELECTROLYTICS — (Continued)

TYPE PRS — TRIPLES

PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size
		150V	3650	40-40-20	1 1/8 x 2 1/4
3500	20-20-20	1 1/8 x 1 3/4	3675	40-40-40	1 1/8 x 2 1/4
3550	30-20-10	1 1/8 x 1 3/4	3700	50-30-10	1 1/8 x 2 1/4
3560	30-30-20	1 1/8 x 1 3/4	3750	50-30-20	1 1/8 x 2 1/2
3570	30-30-30	1 1/8 x 2 1/4	3800	80-40-20	1 1/8 x 2 1/2
3600	40-20-20	1 1/8 x 2 1/4			450V
3625	40-30-20	1 1/8 x 2 1/4	3900	10-10-10	1 1/8 x 2 3/4

TYPE PRS — MULTIPLE VOLTAGES

PRS No.	Cap. Mfd.	VCDW	Size
4150	40-40/250	150/10	1 1/8 x 2 1/4
4200	20-20/20	150/25	1 1/8 x 1 3/4
4300	30-20/20	150/25	1 1/8 x 1 3/4
4350	30-20/100	150 25	1 1/8 x 2 1/4
4400	40-20/20	150 25	1 1/8 x 1 3/4
4425	40-30/20	150 25	1 1/8 x 2 1/4
4450	40-40 20	150 25	1 1/8 x 1 3/4
4475	40-40/100	150 25	1 1/8 x 2 1/4
4500	50-30/20	150 25	1 1/8 x 1 3/4
4525	50-30 100	150 25	1 1/8 x 2 1/4
4550	50-30/250	150 25	1 1/8 x 2 3/4
4575	50-50/20	150 25	1 1/8 x 2 1/4
4600	80-20/100	150 25	1 1/8 x 2 1/4
4650	80-40 20	150 25	1 1/8 x 2 1/4
4700	20-20 20	450 25	1 1/8 x 2 3/4
*4800	20/100	475 50	1 x 2 1/8

TYPE PRS — B

PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size
		150V	5400	16-16	1 x 3
5200	20-20	1 x 2 1/2			450V
5250	40-20	1 x 3	5500	8-8	1 x 3
		250V	5600	16-8	1 1/8 x 3 1/2
5300	16-8	1 x 2 1/2	5700	16-16	1 3/8 x 3 1/2

* No tube

TYPE PRS — AC Rated — NP-PRS — NON-POLARIZED

PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size	PRS No.	Cap. Mfd.	Size
6200	8	10 VAC 1 1/8 x 1 1/2	7250	500	15 VNP 1 1/8 x 2 1/4	7450	40	150 VNP 1 1/8 x 2 1/4
6400	20	25 VAC 1 1/8 x 1 1/2	7275	1000	1 1/8 x 3 3/4			200 VNP 1 1/8 x 1 1/4
		TYPE NP-PRS Non-Polarized			25 VNP	7500	2	1 1/8 x 1 1/4
		3 VNP	7300	2	1 1/8 x 1 1/2			350 VNP
7050	1000	1 1/8 x 2 1/4	7315	10	3/8 x 1 1/4	7550	5	1 1/8 x 1 3/4
		6 VNP	7330	50	1 1/8 x 1 1/2	7555	10	1 1/8 x 2
7100	500	1 1/8 x 2 1/4	7340	100	1 1/8 x 1 3/4	7560	20	1 1/8 x 2 1/4
		10 VNP			30 VNP			400 VNP
7200	25	3/8 x 1 1/4	7350	20	1 1/8 x 1 1/2	7650	10	1 1/8 x 2
7220	50	1 1/8 x 1 1/2			50 VNP			450 VNP
7240	450	1 1/8 x 2 1/4	7400	2	1 1/8 x 1 1/4			
7245	500	1 1/8 x 1 3/4	7405	4	1 1/8 x 1 1/4	7750	4	1 1/8 x 1 1/2

TYPE XPP — MINIATURIZED METAL-CASED ELECTROLYTICS



OPERATING TEMPERATURE RANGE — minus 20°C to plus 65°C.

CAPACITANCE AT 25°C — minus 10%—plus 250%.

RC PRODUCT AT 25°C — 120 CPS: 500 maximum.

RC product (rated capacitance in mfd. x equivalent series resistance in ohms).

MAXIMUM LEAKAGE:

.15 microamperes/mfd/volt: below 10 volt rating.

.10 microamperes/mfd/volt: above 10 volt rating.

Miniature hermetically-sealed, metal-cased, tubular aluminum electrolytic capacitors.

For use in all transistorized assemblies such as personal portable radios, hearing aids, instruments and many other miniaturized electronic apparatus.

Cap. Mfds.	3VDCW		6VDCW		10VDCW		12VDCW		15VDCW		25VDCW	
	Type No.	Size	Type No.	Size	Type No.	Size	Type No.	Size	Type No.	Size	Type No.	Size
1	XPP-3001	A	XPP-6001	A	XPP-10001	A	XPP-12001	A	XPP-15001	A	XPP-25001	B
2	XPP-3002	A	XPP-6002	A	XPP-10002	A	XPP-12002	A	XPP-15002	A	XPP-25002	B
3	XPP-3003	A	XPP-6003	A	XPP-10003	B	XPP-12003	B	XPP-15003	C	XPP-25003	C
4	XPP-3004	A	XPP-6004	B	XPP-10004	B	XPP-12004	B	XPP-15004	C	XPP-25004	C
5	XPP-3005	A	XPP-6005	B	XPP-10005	B	XPP-12005	B	XPP-15005	C	XPP-25005	C
6	XPP-3006	A	XPP-6006	B	XPP-10006	C	XPP-12006	C	XPP-15006	C	XPP-25006	C
8	XPP-3008	B	XPP-6008	B	XPP-10008	C	XPP-12008	C	XPP-15008	C	XPP-25008	E
10	XPP-3010	C	XPP-6010	C	XPP-10010	C	XPP-12010	C	XPP-15010	C	XPP-25010	E
15	XPP-3015	C	XPP-6015	C	XPP-10015	C	XPP-12015	C	XPP-15015	D	XPP-25015	F
20	XPP-3020	C	XPP-6020	D	XPP-10020	D	XPP-12020	D	XPP-15020	E	XPP-25020	F
25	XPP-3025	C	XPP-6025	D	XPP-10025	E	XPP-12025	E	XPP-15025	E	XPP-25025	F
30	XPP-3030	D	XPP-6030	E	XPP-10030	E	XPP-12030	E	XPP-15030	F		
40	XPP-3040	D	XPP-6040	E	XPP-10040	E	XPP-12040	F	XPP-15040	F		
50	XPP-3050	D	XPP-6050	E	XPP-10050	E	XPP-12050	F	XPP-15050	F		
60	XPP-3060	E	XPP-6060	F								
1C0	XPP-3100	F										

Size			
A	3/8 x 5/8	D	.265 x 7/8
B	3/8 x 3/4	E	3/8 x 3/4
C	.265 x 3/4	F	3/8 x 7/8

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)



TYPE PWE "PEE-WEE" CERAMIC-CASED ELECTROLYTIC CAPACITORS

Miniature ceramic-cased electrolytic capacitors. Encased in dense stearite tubes with special Aerovox plastic end-fill which binds to the ceramic case. Especially suitable for limited space applications in transistorized radios, hearing-aids, instruments, etc.

Operating temperature range is minus 30°C/plus 65°C. Capacitance at 25°C is minus 10% /plus 250%.

Capacity Mfds.	3 VDCW		6 VDCW		10 VDCW		25 VDCW		50 VDCW	
	Type No.	Size	Type No.	Size	Type No.	Size	Type No.	Size	Type No.	Size
1	PWE 3020	A	PWE 6001	A	PWE 10001	A	PWE 25001	A	PWE 50001	A
2	PWE 3025	A	PWE 6002	A	PWE 10002	A	PWE 25002	A	PWE 50002	A
3	PWE 3030	A	PWE 6003	A	PWE 10003	A	PWE 25003	A	PWE 50003	A
5	PWE 3040	A	PWE 6005	A	PWE 10005	A	PWE 25005	A	PWE 50005	B
8	PWE 3050	A	PWE 6008	A	PWE 10008	A	PWE 25008	A	PWE 50008	C
10	PWE 3100	A	PWE 6010	A	PWE 10010	A	PWE 25010	B	PWE 50010	C
15	PWE 3200	A	PWE 6015	A	PWE 10015	A	PWE 25015	C	PWE 50015	D
20	PWE 3250	A	PWE 6020	A	PWE 10020	B	PWE 25020	C	PWE 50020	E
25	PWE 3300	A	PWE 6025	B	PWE 10025	C	PWE 25025	C	PWE 50025	F
30	PWE 3500	A	PWE 6030	B	PWE 10030	C	PWE 25030	D		
40	PWE 3001	A	PWE 6040	C	PWE 10040	C	PWE 25040	D		
50	PWE 3002	B	PWE 6050	C	PWE 10050	D	PWE 25050	E		
100	PWE 3003	C	PWE 6100	E	PWE 10100	F	PWE 25100	G		
200	PWE 3005	E	PWE 6200	F						
250	PWE 3008	F	PWE 6250	G						
300	PWE 3010	F								
500	PWE 3015	G								

Code	Size DXL	Code	Size DXL
A	1/4 x 3/4	E	3/8 x 1
B	1/4 x 7/8	F	3/8 x 1 1/4
C	3/8 x 3/4	G	3/8 x 2
D	3/8 x 7/8		



TYPE B C D UPRIGHT MOUNTING BAKELITE CASED ELECTROLYTICS

Bakelite cased, epoxy end-filled electrolytic capacitors. Upright mounting for replacement in printed wiring, transistorized personal radios and car radios.

Small size and type of mounting make these units ideal for use in any printed wiring circuit.

Bakelite case and epoxy end seal offer good moisture barrier which protects against drying out or leakage of electrolyte.

High purity foil insures long life and low leakage.

Minimum 1" lead length assists in threading connections into printed wiring boards even in tightest spaces.

Positive lead is identified by a +(plus) mark on case. Lead space varies with diameter.

DIAMETER	SPACING
3/8	.187
7/16	.250
1/2	.312

Cap. Mfds.	BCD No.	3VDCW Size	BCD No.	10VDCW Size	BCD No.	6VDCW Size	BCD No.	12VDCW Size	BCD No.	15VDCW Size	BCD No.	25VDCW Size	BCD No.	50 VDCW Size	
1	3001	A	6001	A			12001	A	15001	A	25001	A	50001	A	
2	3002	A	6002	A			12002	A	15002	A	25002	A	50002	A	
3	3003	A	6003	A			12003	A	15003	A	25003	A	50003	A	
4	3004	A	6004	A			12004	A	15004	A	25004	A	50004	A	
5	3005	A	6005	A			12005	A	15005	A	25005	A	50005	A	
6	3006	A	6006	A			12006	A	15006	A	25006	A	50006	A	
8	3008	A	6008	A			12008	A	15008	A	25008	A	50008	A	
10	3010	A	6010	A			12010	A	15010	A	25010	B	50010	B	
15	3015	A	6015	A		10010	A	12015	A	15015	A	25015	B	50015	C
20	3020	A	6020	A			12020	A	15020	A	25020	B	50020	C	
25	3025	A	6025	A		10025	A	12025	A	15025	A	25025	B	50025	D
35	3035	A	6035	A			12035	A	15035	B	25035	C			
50	3050	A	6050	A		10050	B	12050	B	15050	C	25050	D		
75	3075	A	6075	B			12075	C	15075	D	25075	D			
80						10080	C								
100	3100	B	6100	C		10100	C	12100	D	15100	D				
150	3150	C	6150	D				12150	E						
190						10190	E								
200	3200	C	6200	D											
250	3250	D													
300	3300	D													
50-30						10x5030	D								
50-50						10x5050	D								
80-50						10x8050	D								
80-80						10x8080	D								
100-30						6x10030	E								

SIZE CODE

A—3/8 x 5/8	D—1/2 x 3/4
B—3/8 x 3/4	E—1/2 x 7/8
C—7/16 x 3/4	

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)

TYPE SRE "BANTAM" METAL TUBULAR ELECTROLYTICS



Although smaller than the PRS the SRE handles full size loads at operating temperature range of 0°C to 85°C at rated voltage. Hermetically-sealed in aluminum cans and furnished with a carboard insulating sleeve. Negative grounded to can. If required without tube specify type SREN.

Cap.	Size	Cap.	Size	Cap.	Size	Cap.	Size	Cap.	Size	Cap.	Size
	3V		6V		12V		25V		50V		70V
25	3/8 x 1	5	3/8 x 1	50	3/8 x 1 1/8	5	3/8 x 1	1	3/8 x 1	10	3/8 x 1
50	3/8 x 1	25	3/8 x 1	100	1/2 x 1	10	3/8 x 1	2	3/8 x 1	5	150V
100	3/8 x 1	50	3/8 x 1	200	1/2 x 1 1/8	20	3/8 x 1	5	3/8 x 1	10	3/8 x 1 1/8
200	3/8 x 1 1/8	100	1/2 x 1 1/8			25	3/8 x 1	10	3/8 x 1	15	1/2 x 1 1/8
300	1/2 x 1 1/8	250	1/2 x 1 1/8		15V	50	1 2 x 1	15	3/8 x 1 1/8	20	1/2 x 1 1/8
500	1/2 x 1 1/8			100	1/2 x 1 1/8	100	1/2 x 1 1/8	25	1/2 x 1	25	1/2 x 1 1/8



TYPE AEP Plug-in Electrolytic Capacitors

Hermetically sealed, dry electrolytic capacitor furnished in round, aluminum can and 4-pin, octal-base mounting. For quick changes, readily removed and replaced in a standard octal-base tube socket. For use where continuous service is important. They are ideally suited for experimental testing, juke boxes and communication receiver uses. These units are the commercial equivalents of Type CE51's, 2's and 3's, as listed in MIL Specification MIL C62A.

Operating temperature to +65°C. Quadruple element units furnished with ground lug for cathode connection.

Type	Capacity Mfd.	VDCW	Diam. x Hght.
SINGLE ELEMENT UNITS			
AEP400P	2000	15	1 3/8 x 2 1/2
AEP5A	25	25	1 3/32 x 2 1/2
AEP4D	20	150	1 3/32 x 2 1/2
AEP8D	40	150	1 3/32 x 2 1/2
AEP2J	10	450	1 3/32 x 2 1/2

Type	Capacity Mfd.	VDCW	Diam. x Hght.
AEP3J	15	450	1 3/32 x 2 1/2
AEP4J	20	450	1 3/32 x 2 1/2
AEP6J	30	450	1 3/32 x 2 1/2
AEP8J	40	450	1 3/32 x 2 1/2
AEP16J	80	450	1 3/8 x 3 1/2
AEP2L	10	600	1 3/8 x 4 1/4
DUAL ELEMENT UNITS			
AEP44D	20-20	150	1 3/32 x 2 1/2
AEP88D	40-40	150	1 3/32 x 2 1/2
AEP22J	10-10	450	1 3/32 x 2 1/2
AEP44J	20-20	450	1 3/8 x 2 1/2
AEP88J	40-40	450	1 3/8 x 3
TRIPLE ELEMENT UNITS			
AEP444D	20-20-20	150	1 3/32 x 2 1/2
AEP88D4A	40-40-20	150	1 3/32 x 2 1/2
AEP222J	10-10-10	450	1 3/32 x 2 1/2
AEP22J4A	10-1-1-1-1	450	1 3/32 x 2 1/2
AEP44J4A	20-20-20	450	1 3/8 x 2 1/2
AEP444J	20-20-20	450	1 3/8 x 3
AEP822J	40-10-10	450	1 3/8 x 3
QUADRUPLE ELEMENT UNITS			
AEPG444D4A	20-20-20/20	150	1 3/8 x 2 1/2
AEPG2222J	10-10-10-10	450	1 3/8 x 2 1/2
AEPG444J4A	20-20-20-20	450	1 3/8 x 3

TYPE GL and GLS

These ever-popular inverted-mounting, aluminum can units, are furnished with the same high purity materials as the more expensive type E and G. Two separate color-coded leads 4" long, for each section. Inverted chassis mounting can be made, using palmot and threaded neck. Threaded neck size 5/8-18.

Type GL is furnished in 1 3/8" diameter.

Type GLS is similar, except furnished in 1" diameter cans for more compact assemblies

Type GLS to be discontinued when present stock is depleted and replaced with Type GL.



TYPE GL SINGLE ELEMENT

Cap. Mfd.	Size—DxH
TYPE GL600	
600 VDCW	750V. Surge Peak
4	1 3/8 x 4
8	1 3/8 x 4 1/2

Cap. Mfd.	Size—DxH
16	1 3/8 x 4 1/2
TYPE GL475	
475 VDCW	550V. Surge Peak
8	1 3/8 x 3
12	1 3/8 x 3
16	1 3/8 x 3

TYPE GL450 450 VDCW 525V. Surge Peak

4	1 3/8 x 3
8	1 3/8 x 3
10	1 3/8 x 3
12	1 3/8 x 3
16	1 3/8 x 3
20	1 3/8 x 3
30	1 3/8 x 3
40	1 3/8 x 3
80	1 3/8 x 4

DUAL ELEMENT

TYPE GL475	
8-8	1 3/8 x 4
TYPE GL450	
8-8	1 3/8 x 4
10-10	1 3/8 x 4
12-12	1 3/8 x 4
16-8	1 3/8 x 4

Cap. Mfd. Size—DxH

16-16	1 3/8 x 4
20-20	1 3/8 x 4

TRIPLE ELEMENT

TYPE GL450	
8-8-8	1 3/8 x 4
10-10-10	1 3/8 x 4

TYPE GLS SINGLE ELEMENT

Cap. Mfd.	Size—DxH
TYPE GLS450	
450 VDCW	525V. Surge Peak
4	1 x 2 1/16
8	1 x 2 11/16
12	1 x 3 1/4
16	1 x 3 3/4

DUAL ELEMENT

TYPE GLS450	
8-8	1 3/8 x 3

TYPE FF Photo-Flash Capacitors

Selective choice of highest purity materials makes these units ideal for rugged photoflash application calling for lowest leakage requirements. Furnished in molded black plastic container with screw lug terminals. Highly resistant to moisture and oil. Surge voltages and time duty cycles as listed in EIA specification No. RS-154.



Type Number	Cap. Mfd.	Working Voltage	Surge Voltage	Watt Secs.	Size
FF-1	300	450	525	30	2 1/16 x 4 3/8
FF-2	525	450	525	53	2 1/16 x 4 3/8



TYPE WR* Replacement for Wet Electrolytic

Dry electrolytic for replacement of wet electrolytic units. Furnished in round aluminum cans, the range of capacities covers most applications in standard radio receivers and other equipment originally using wet type electrolytic capacitors. 450V. D. C.

Capacity Mfd.	Replacement for	Dia. x Hght.
10	4 to 12 mfd.	1 3/8 x 3
20	16 to 20 mfd.	1 3/8 x 3
30	20 to 30 mfd.	1 3/8 x 3
40	30 to 40 mfd.	1 3/8 x 3

*Type WR to be discontinued when present stock is depleted and replaced with Type GL.

AEROVOX

CAPACITORS RESISTORS

ELECTROLYTICS — (Continued)



TYPE E Hermetically-Sealed, Aluminum, Round Metal-Cased Capacitors

Can be mounted with terminals upright or inverted by use of a ring-type clamp provided with unit. Can is floating, thus having two terminals on single-section capacitors, three on duals, and four on triples.

These units are the equivalent of case style CE31, 2 and 3 of MIL Specification C62A.

SINGLE ELEMENT

Capacity Mfd.	Can Size — Dia. x Hght.
	475 VDCW
10	1 x 2 1/4
20	1 x 2 3/4
40	1 3/8 x 2 3/4
80	1 3/8 x 4 1/4
	250 VDCW
500	2 x 4 1/8
	50 VDCW
10	1 x 1 3/4
25	1 x 1 3/4
	25 VDCW
10	1 x 1 3/4
25	1 x 1 3/4
	1 VNP
1250	1 3/8 x 4 1/4
	DUAL ELEMENT
	450 VDCW
10-10	1 3/8 x 2 1/4
20-20	1 3/8 x 2 3/4
	TRIPLE ELEMENT
	450 VDCW
10-10-10	1 3/8 x 2 1/4
	350 50 VDCW
30-30-50	1 3/8 x 4 1/4
	QUADRUPLE ELEMENT
	350 150 VDCW
20-10/5-5	1 3/8 x 4 1/4



TYPE G Insulated Screw-Mounting Capacitors

Hermetically-sealed aluminum can unit, threaded cover size 7/8—16 with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection through terminal in cover. These units are the equivalent of case style CE41 and 42 of specification MIL C62A.

Cap. Mfd.	Size—DxH	Cap. Mfd.	Size—DxH
SINGLE ELEMENT		DUAL ELEMENT	
TYPE G450		TYPE G450	
450 VDCW	525V. Surge Peak	450 VDCW	525V. Surge Peak
10	1 3/8 x 2 1/4	10-10	1 3/8 x 2 1/4
20	1 3/8 x 2 1/4	20-20	1 3/8 x 2 3/4
40	1 3/8 x 2 3/4		
80	1 3/8 x 4 1/4		
TYPE G500			
500 VDCW	550V. Surge Peak		
10	1 3/8 x 2 3/4		

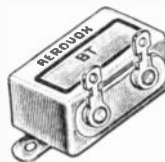


TYPE HCLV High Capacity Low Voltage

Type HCLV Capacitors are high-capacity, low-voltage units for use in electric fence control, motion picture, sound equipment, and other low-voltage applications.

Units are furnished in round, hermetically-sealed aluminum cans and supplied with a cardboard outer insulating tube and mounting ring.

Capacity Mfd.	Dia. x Hght.
	TYPE HCLV12 — 12 VDCW
500	1 3/8 x 2 1/8
1000	1 3/8 x 2 1/8
2000	1 3/8 x 3 1/8
3000	1 3/8 x 4 1/8
4000	1 1/2 x 4 1/8
	TYPE HCLV18 — 18 VDCW
500	1 3/8 x 2 1/8
1000	1 3/8 x 2 1/8
2000	1 3/8 x 3 1/8
4000	1 1/2 x 4 1/8
	TYPE HCLV25 — 25 VDCW
500	1 3/8 x 2 1/8
1000	1 3/8 x 3 1/8
2000	1 3/8 x 4 1/8
3000	1 3/8 x 4 1/8
4000	2 x 4 1/8
	TYPE HCLV50 — 50 VDCW
1000	1 3/8 x 4 1/8
2000	1 3/4 x 4 1/8
3000	2 x 4 1/8
4000	2 1/2 x 4 1/8



TYPE BT Drawn-Case "Bathtub" Electrolytic Capacitors

Hermetically-sealed units designed for rigid mounting in minimum space. Of sturdy construction, these high-quality units are equivalent to the case style CE63 of MIL Specification C62A.

Capacity Mfd.	L x W x H
	TYPE BT500 500 VDCW
4	2 x 2 x 1 1/8
8	2 x 2 x 1 1/8
	TYPE BT450 450 VDCW
8	1 3/4 x 1 x 1
12	1 3/4 x 1 1/4 x 1
16	2 x 1 3/4 x 1
	TYPE BT350 350 VDCW
8	1 3/4 x 1 x 7/8
12	1 3/4 x 1 x 7/8
16	1 3/4 x 1 x 1
20	1 3/4 x 1 1/4 x 1 1/8
	TYPE BT150 150 VDCW
8	1 3/4 x 1 x 7/8
12	1 3/4 x 1 x 7/8
16	1 3/4 x 1 x 7/8
24	1 3/4 x 1 x 7/8
30	1 3/4 x 1 x 1
40	1 3/4 x 1 x 1
	TYPE BT50 50 VDCW
10	1 3/4 x 1 x 7/8
25	1 3/4 x 1 x 7/8
50	1 3/4 x 1 x 7/8
	TYPE BT25 25 VDCW
10	1 3/4 x 1 x 7/8
25	1 3/4 x 1 x 7/8
50	1 3/4 x 1 x 7/8

AEROVOX

CAPACITORS RESISTORS

PAPER



TYPE P88N
† **DURANITE**
Duranite Blue Moulded
Tubular Capacitors

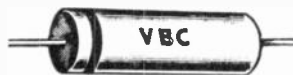
Toughest capacitors ever offered for radio-electronic equipment, DURANITE capacitors. Design, impregnant, processing, and casing insure glove-fitting contact and seal throughout. DURANITE provides a permanent, non-varying, rock-hard casing, does not dry out, does not develop cracks or fissures. Pig-tail leads firmly imbedded, won't pull out, won't work loose. Moisture-proof; operate from sub-zero to over 212°F. Exposure to temperatures of 250°F. will not impair life or performance, no deterioration on the shelf. A white band around one end of the capacitor identifies the outside foil.

Cap. Mfd.	200 V		400 V		600 V		1000 V	
	Size	Size	Size	Size	Size	Size	Size	Size
.0001					A			
.00025					A			
.0004					A			
.0005					A			
.001	A	A			A		A	
.0015	A	A			A		A	
.002	A	A			A		A	
.0022	A	A			A		A	
.003	A	A			A		B	
.0033	A	A			A		B	
.004	A	A			A		B	
.0047	A	A			A		B	
.005	A	A			A		B	
.006	A	A			B		B	
.0068	A	A			B		B	
.007	A	A			B		B	
.0075	A	A			B		B	
.008	A	A			B		B	
.01	A	A			B		B	
.015	A	B			B		D	
.02	B	B			D		E	
.022	B	B			D		E	
.025	B	B			D		E	
.03	B	B			D		E	

Cap. Mfd.	200 V		400 V		600 V		1000 V	
	Size	Size	Size	Size	Size	Size	Size	Size
.033	B		B		E		E	
.04	B		D		E		F	
.047	B		D		E		F	
.05	B		D		E		F	
.06	C		E		F		F	
.068	C		E		F		F	
.075	D		E		F		F	
.1	D		E		F		F	
.15	E		F		F		F	
.2	F		F		G		G	
.22	F		F		G		G	
.25	F		F		G		G	
.27	F		G		H		H	
.33	F		G		H		H	
.47	F		G		H		H	
.5	F		G		H		H	
1.0	H		H					

Size	Length x Dia.	Size	Length x Dia.
A	1 1/8 x 1 1/32	E	1 5/8 x 1 1/32
B	1 3/8 x 1 1/32	F	2 x 2 1/32
D	1 3/8 x 1 1/32	G	2 1/4 x 3/4
		H	2 1/2 x 1

Type VBC Vibrator Buffer Capacitors



Type	Cap. Mfd.	Size
VBC-2	.001	3/8 x 1 1/4
VBC-3	.002	3/8 x 1 1/2
VBC-4	.0022	3/8 x 1 1/2
VBC-5	.003	3/8 x 1 1/2
VBC-6	.0033	3/4 x 1 1/2
VBC-7	.004	3/4 x 1 1/2
VBC-8	.0047	3/4 x 1 1/2
VBC-9	.005	1 1/32 x 1 1/2
VBC-22	.006	1 1/32 x 1 1/2
VBC-23	.0068	1 1/32 x 1 1/2
VBC-24	.007	1 1/32 x 1 1/2

These units are heavy-duty, Hyvol M impregnated, vibrator buffer capacitors in ceramic tubes, specifically designed for severe-service auto-radio applications.

Type	Cap. Mfd.	Size
VBC-25	.0075	1 1/32 x 1 1/2
VBC-26	.008	1 1/32 x 1 1/2
VBC-27	.01	3/4 x 1 1/2
VBC-28	.015	3/8 x 1 3/4
VBC-29	.02	3/8 x 2
VBC-32	.025	3/8 x 2
VBC-33	.03	3/4 x 2
VBC-34	.05	1 1/8 x 2
VBC-35	.015-.015	1 1/8 x 2
VBC-45	.007-3000 WVDC	1 1/8 x 2

Vibrator "HASH" Capacitor VHC36

.5 Mfd. 100 Volts WVDC 1 1/4 x 1 1/8

† "AUTOPASS" Type P-151N Vertical Mounting Bakelite-Cased Paper Capacitors



Aerovox Type P151N capacitors were specifically designed and developed for use in conjunction with printed-wiring assemblies where it is highly desirable to mount capacitors at right angles to the mounting surface thereby conserving valuable space.

Aerolene impregnated and assembled into a molded phenolic case, Type P151N capacitors are then sealed with a thermo-setting end-seal. The end-seal surface is below the outside edges of the plastic case, permitting the capacitor to be mounted flush against the mounting surface. The leads of these capacitors are stiff, and critical spacing is closely held to facilitate their use in mechanized assemblies. Outside foil is identified by wire lead nearest to edge of case or by a paint stripe on the case nearest the outside foil.

Cap.	200	400	600
.001	3/8 x 1	3/8 x 1	3/8 x 1
.0015	3/8 x 1	3/8 x 1	3/8 x 1
.0022	3/8 x 1	3/8 x 1	3/8 x 1
.0033	3/8 x 1	3/8 x 1	3/8 x 1
.0047	3/8 x 1	3/8 x 1	3/8 x 1
.0068	3/8 x 1	3/8 x 1	3/8 x 1 3/8
.01	3/8 x 1	3/8 x 1	3/8 x 1 3/8
.015	3/8 x 1	3/8 x 1 3/8	3/8 x 1 3/8
.022	3/8 x 1 3/8	3/8 x 1 3/8	3/8 x 1 3/8
.033	3/8 x 1 3/8	3/4 x 1 3/8	1/2 x 1 1/4
.047	3/8 x 1 3/8	1/2 x 1 1/4	1/2 x 1 1/2
.068	3/8 x 1 3/8	1/2 x 1 1/2	5/8 x 1 7/8
.1	1/2 x 1 1/4	5/8 x 1 1/4	5/8 x 1 7/8
.15	5/8 x 1 1/4	5/8 x 1 7/8	3/4 x 1 7/8
.22	5/8 x 1 7/8	5/8 x 1 7/8	3/4 x 2 1/32
.33	5/8 x 1 7/8	3/4 x 1 7/8	7/8 x 2 1/32
.47	3/4 x 1 7/8		

Standard Tolerance ±20%. Also available in 10% on special order.

† Trade Mark

AEROVOX CAPACITORS RESISTORS

P A P E R



TYPE P84CM † DURAMIC Ceramic-Cased Tubular Capacitors

New ceramic (dense steatite) encased paper tubular for performance above that of conventional paper tubulars. New thermosetting end-seals for exceptional humidity protection — 250 hour humidity test as per REC-118. Firmly imbedded terminals will not work loose or pull out. Operating temps are -55°C to +85°C. Meets all requirements of EIA Spec. REC-118, hi-temp range, class M.

Cap. Mfd.	200 VDCW Size Dia. x Lgth.	400 VDCW Size Dia. x Lgth.	600 VDCW Size Dia. x Lgth.	1000 VDCW Size Dia. x Lgth.	1600 VDCW Size Dia. x Lgth.	2500 VDCW Size Dia. x Lgth.	6000 VDCW Size Dia. x Lgth.
.0001						3/8 x 1 1/2	3/8 x 1 3/4
.00025						3/8 x 1 1/2	3/8 x 1 3/4
.0005			5/16 x 1		5/16 x 1	3/8 x 1 1/2	7/16 x 1 3/4
.001			5/16 x 1	3/8 x 1	3/8 x 1 1/4	3/8 x 1 1/2	17/32 x 1 3/4
.0015			3/16 x 1	3/8 x 1	3/8 x 1 1/4		
.002			3/16 x 1	3/8 x 1	3/8 x 1 1/4		
.0022			3/16 x 1	3/8 x 1	3/8 x 1 1/4		
.003			3/16 x 1	3/8 x 1	3/8 x 1 1/4	3/16 x 1 1/2	5/8 x 2 1/8
.0033			3/16 x 1	3/8 x 1	7/16 x 1 1/4		
.004			3/16 x 1	3/8 x 1 1/4	7/16 x 1 1/4		
.0047			3/16 x 1	3/8 x 1 1/4	7/16 x 1 1/4		
.005			3/16 x 1	3/8 x 1 1/4	7/16 x 1 1/2	17/32 x 1 9/16	3/4 x 2 1/8
.006			3/16 x 1	3/8 x 1 3/4	17/32 x 1 9/16		
.0068		3/16 x 1	3/8 x 1 1/4	3/8 x 1 1/4	17/32 x 1 9/16		
.007			3/8 x 1 1/4		17/32 x 1 9/16		
.0075			3/8 x 1 1/4	3/8 x 1 1/4	17/32 x 1 9/16		
.008			3/8 x 1 1/4		17/32 x 1 9/16		
.01	3/16 x 1	3/16 x 1	3/8 x 1 1/4	7/16 x 1 1/4	17/32 x 1 9/16	5/8 x 1 7/8	15/16 x 2 1/8
.015	3/8 x 1 1/4	3/8 x 1 1/4	3/8 x 1 1/4	7/16 x 1 1/4	3/8 x 1 7/8		
.02	3/8 x 1 1/4	3/8 x 1 1/4	7/16 x 1 1/4	17/32 x 1 9/16	5/8 x 1 7/8		
.022	3/8 x 1 1/4	3/8 x 1 1/4	7/16 x 1 1/4	17/32 x 1 9/16	3/4 x 2		
.025				17/32 x 1 9/16			
.03	3/8 x 1 1/4	7/16 x 1 1/4	17/32 x 1 9/16	5/8 x 1 7/8	3/4 x 2	13/16 x 2	*1 1/16 x 2 5/8
.033	3/8 x 1 1/4	7/16 x 1 1/4	17/32 x 1 9/16	5/8 x 1 7/8	3/4 x 2		
.04			17/32 x 1 9/16	5/8 x 1 7/8			
.047	7/16 x 1 1/4	7/16 x 1 1/2	17/32 x 1 9/16	5/8 x 1 7/8	13/16 x 2 1/4		
.05	7/16 x 1 1/4	7/16 x 1 1/2	17/32 x 1 9/16	5/8 x 1 7/8	13/16 x 2 1/4	25/32 x 2 5/8	*1 1/16 x 3 1/8
.06				11/16 x 1 7/8			
.068	17/32 x 1 9/16	17/32 x 1 9/16	9/16 x 1 7/8	3/4 x 2	1 x 2 1/4		
.075			5/8 x 1 7/8	3/4 x 2	3/4 x 2		
.1	17/32 x 1 9/16	17/32 x 1 9/16	5/8 x 1 7/8	13/16 x 2 1/4	1 x 2 7/8	*1 x 2 5/8	
.15	17/32 x 1 3/4	5/8 x 1 7/8	3/4 x 2	1 x 2 1/4		*1 x 3/4	
.2	5/8 x 1 7/8	5/8 x 1 7/8	13/16 x 2 1/4	1 x 2 1/4			
.22	5/8 x 1 7/8	5/8 x 1 7/8	13/16 x 2 1/4	1 x 2 7/8			
.25	5/8 x 1 7/8	3/4 x 2	7/8 x 2 1/4	1 x 2 7/8			
.33	3/4 x 2	3/4 x 2	1 x 2 1/4				
.47	13/16 x 2 1/4	13/16 x 2 1/4	1 x 2 7/8				
.5	13/16 x 2 1/4	13/16 x 2 1/4	1 x 2 7/8				
.68	15/16 x 2	1 x 2 1/4	*1 5/16 x 3				
1.0	1 x 2 1/4	1 x 2 7/8					

SPECIAL CLOSE TOLERANCE UNITS FOR HORIZONTAL OSCILLATOR CIRCUIT. P84CM — Tolerance ± 10%		
Cap. Mfd.	600 VDCW Size Dia. x Lgth.	1000 VDCW Size Dia. x Lgth.
.0012	5/16 x 1	3/8 x 1
.0039	5/16 x 1	
.0082	3/8 x 1 1/4	
.018	7/16 x 1 1/4	1/2 x 1 1/2
.025	7/16 x 1 5/8	17/32 x 1 9/16
.027	7/16 x 1 1/2	17/32 x 1 9/16
.033	17/32 x 1 9/16	17/32 x 1 7/8
.039	17/32 x 1 9/16	9/16 x 1 7/8
.057	3/8 x 1 5/8	11/16 x 1 7/8

Cap. Mfd.	10,000 VDCW Size Dia. x Lgth.	12,500 VDCW Size Dia. x Lgth.	15,000 VDCW Size Dia. x Lgth.
.0001	7/16 x 2 1/4		17/32 x 2 1/2
.00025	11/16 x 2 1/4	11/16 x 2 1/4	3/4 x 2 1/2
.0005	11/16 x 2 1/4		7/8 x 2 1/2
.001	3/8 x 2 1/4		*1 x 2 1/2
.003	1 x 2 3/4		*1 1/4 x 3
.005	*1 x 3		*1 3/8 x 3 1/4
.01	*1 3/8 x 3		

* Will be furnished in cardboard tube Type P84M.

TYPE RC Resonant Capacitors



Resonant capacitors for adequate bypassing of IF circuits in order to keep IF frequencies from entering such circuits and causing troublesome squeals and howls. AEROVOX RESONANT CAPACITORS, Series RC, are available in conventional tubular design, wax impregnated and wax sealed as follows:

Catalog No.	Capacity Mfd.	WVDC	DXL
RC2	.05	400	1/2 x 1 1/8
RC3	.1	400	1/2 x 1 5/8
RC4	.2	400	3/8 x 1 7/8

† Trade Mark

AEROVOX

CAPACITORS RESISTORS

PAPER

TYPE P85N Miniaturized Aerolene Capacitors



Miniaturized Aerolene (Hyvol N) impregnated tubular units. Duranite endfill excludes moisture. Designed for personal radios, hearing aids and miniature assemblies requiring maximum performance in minimum size. Operating temperature range —30°C. to +100°C.

Standard Tolerances

.00025 - .001	+ 80	—20%
.0015 - .004	+ 50	—25%
.0047 - .0068	+ 40	—10%
.01 - .05	+ 30	—10%
.068 - up	+ 20	—10%

Cap. Mfd.	200 V	400 V	600 V
.00025	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.0005	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.001	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.0015	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.002	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
*.0022	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.003	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
*.0033	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.004	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
*.0047	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.005	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.006	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.0068	1 ³ / ₆₄ X 1 ⁹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.01	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.015	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.02	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
*.022	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.03	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
*.033	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.04	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
*.047	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.05	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.068	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂
.1	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂	1 ³ / ₆₄ X 2 ¹ / ₃₂

* To be discontinued when present stocks are depleted.

Cap. Mfd.	100 VDCW
.25	.489 x 1 ³ / ₃₂
.50	.645 x 1 ³ / ₃₂

TYPE V84C



AEROFILM (MYLAR*) CAPACITORS

V84C Aerofilm† Tubular Capacitors are high quality units in dense steatite cases. These units have exceptionally high insulation resistance and low dielectric absorption and power factor. They are extremely stable having a relatively small capacitance change with temperature variations over a range of 0 to 85 C. These excellent characteristics are due to the use of Aerofilm (Aerovox's trade name for Mylar* polyester film), finest quality casing material, and an epoxy end fill which will not flow, soften or melt at any operating temperature. Standard tolerance is ±20% but also available in ±5% and ±10%.

Rated Voltage for Temperatures of 85 C. and above:

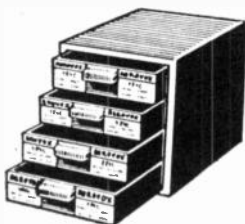
85 C.	200 VDCW	400 VDCW	600 VDCW
125 C.	100 VDCW	300 VDCW	400 VDCW
150 C.	75 VDCW	200 VDCW	300 VDCW

Catalogue No.	Cap. Mfd.	Size	Catalogue No.	Cap. Mfd.	Size	Catalogue No.	Cap. Mfd.	Size
200 VDCW			400 VDCW			600 VDCW		
V84C 2D47	.0047	1/4 x 1 3/16	V84C 4D47	.0047	1/4 x 1 1/2	V84C 6D3	.003	1/4 x 1 3/8
V84C 2D68	.0068	1/4 x 1 3/16	V84C 4D68	.0068	1/4 x 1 1/2	V84C 6D33	.0033	1/4 x 1 3/8
V84C 2S1	.01	1/4 x 1 3/16	V84C 4S1	.01	1/4 x 1 1/2	V84C 6D4	.004	1/4 x 1 3/8
V84C 2S15	.015	1/4 x 1 3/16	V84C 4S15	.015	1/4 x 1 1/2	V84C 6D47	.0047	1/4 x 1 3/8
V84C 2S22	.022	1/4 x 1 3/16	V84C 4S22	.022	3/8 x 1 1/2	V84C 6D5	.005	1/4 x 1 3/8
V84C 2S33	.033	1/4 x 1 1/8	V84C 4S22	.022	3/8 x 1 1/2	V84C 6D68	.0068	1/4 x 1 3/8
V84C 2S47	.047	1/4 x 1 1/8	V84C 4S3	.03	3/8 x 1 1/2	V84C 6S1	.01	3/8 x 1 3/8
V84C 2S5	.05	3/8 x 1 1/8	V84C 4S33	.033	3/8 x 1 1/2	V84C 6S15	.015	3/8 x 1 3/8
V84C 2S68	.068	3/8 x 1 1/8	V84C 4S47	.047	3/8 x 1 1/2	V84C 6S2	.02	3/8 x 1 3/8
V84C 2P1	.1	3/8 x 1 1/2	V84C 4S5	.05	3/8 x 1 1/2	V84C 6S22	.022	3/8 x 1 3/8
V84C 2P15	.15	3/8 x 1 1/2	V84C 4S68	.068	7/8 x 1 1/2	V84C 6S3	.03	3/8 x 1 3/8
V84C 2P22	.22	3/8 x 1 1/2	V84C 4P1	.1	1/2 x 1 1/2	V84C 6S33	.033	3/8 x 1 3/8
V84C 2P25	.25	1/2 x 1 1/2	V84C 4P15	.15	1/2 x 1 1/2	V84C 6S4	.04	1/2 x 1 3/4
V84C 2P33	.33	1/2 x 1 1/2	V84C 4P22	.22	5/8 x 1 1/2	V84C 6S47	.047	1/2 x 1 3/4
V84C 2P47	.47	5/8 x 1 1/2	V84C 4P25	.25	5/8 x 1 1/2	V84C 6S5	.05	1/2 x 1 3/4
V84C 2P68	.68	2 1/8 x 1 3/4	V84C 4P33	.33	1 1/8 x 1 3/4	V84C 6S68	.068	1/2 x 1 3/4
V84C 2W1	1.0	7/8 x 1 7/8	V84C 4P47	.47	3/4 x 2	V84C 6S75	.075	3/4 x 1 3/4
V84C 4D15	.0015	1/4 x 1 3/16	V84C 4P5	.5	3/4 x 2	V84C 6P1	.1	3/4 x 1 3/4
V84C 4D22	.0022	1/4 x 1 3/16	V84C 4P68	.68	3/4 x 2	V84C 6P15	.15	3/4 x 1 3/4
V84C 4D33	.0033	1/4 x 1 3/16	V84C 4W1	1.0	7/8 x 2 3/8	V84C 6P2	.2	1 1/8 x 1 3/4
			600 VDCW					
			V84C 6D1	.001	1/4 x 1 3/8	V84C 6P22	.22	1 1/8 x 1 3/4
			V84C 6D15	.0015	1/4 x 1 3/8	V84C 6P25	.25	1 1/8 x 1 3/4
			V84C 6D2	.002	1/4 x 1 3/8	V84C 6P33	.33	1 1/8 x 1 3/4
			V84C 6D22	.0022	1/4 x 1 3/8	V84C 6P47	.47	1 1/8 x 2 1/4
						V84C 6P5	.5	7/8 x 2 1/4

* Dupont's Registered trade name.

† TRADE MARK

AEROVOX KITS AK-100 and AK-101HS



Most popular 600 volt, 20% tolerance units packaged in a practical four-drawer metal cabinet with four compartments per plastic drawer. Each cabinet designed to stack so that you can add units as needed.

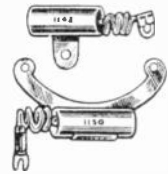
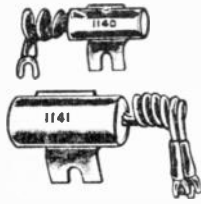
Kit AK-100 consists of 75 V84C capacitors in our twelve most popular values.

Kit AK-101HS contains 76 units consisting of the fourteen values recommended in the Howard W. Sams' PF Reporter "Stock Guide for Popular Replacement Parts."

Kit AK-100				Kit AK-101HS			
Quantity	Cap. Mfd.	Quantity	Cap. Mfd.	Quantity	Cap. Mfd.	Quantity	Cap. Mfd.
5	.001	7	.02	5	.001	5	.02
5	.002	3	.022	3	.0015	3	.022
3	.0022	3	.03	5	.002	3	.033
3	.0047	5	.047	3	.003	10	.047
5	.005	12	.05	10	.0047	3	.068
12	.01	10	.1	10	.01	10	.1
				3	.015	3	.15

AEROVOX CAPACITORS RESISTORS

AUTO-RADIO CAPACITORS



Type	Cap. Mfd.
SINGLE ELEMENT	
Car Generators	
Type 1120	1.0
Type 1140	0.5
DUAL ELEMENT	
Type 1141	0.5-0.5
Ford Auto Radios	
Type 1144	0.5
For 1936 Models	
Type 1150	0.5

Type	Cap. Mfd.
SINGLE ELEMENT	
Motorola Auto Radios	
Type 1466	0008
Ammeter Condenser	
Type 1160	0.5
Gas Gage Filter Condenser	
Type 1143-G	0.05
Oil Gage Filter Condenser	
Type 1142-O	0.25

Note: All auto radio capacitors subject to Federal Excise Tax.

FILTERS

R-F NOISE CAPACITANCE SUPPRESSORS

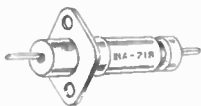


BYPASS
INA-116, INA-117, INA-118

These radio-noise suppression capacitors have been especially designed for use in aircraft, vehicular and industrial electric and electronic fields.

Primary application of the INA-116, INA-117, and INA-118, is as r-f bypass capacitors from line to ground in low voltage DC supply lines. These units are rated at full 150 VDC over temperature range of -55°C. to +71°C. and 60 VDC from -55°C. to +95°C.

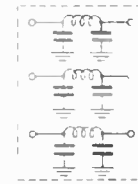
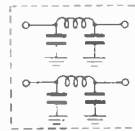
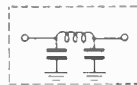
Types INA-218, INA-219, INA-220 and INA-221 are feed-thru capacitors in which the effective section inductance is minimized by the so-called "duct-type" design. Significant reductions can often be realized in size, weight and in some instances, overall cost by the use of feed-thru capacitors as compared to the conventional r-f suppression filter designs. The feed-thru capacitors listed below may be used with good characteristics to 1000 megacycles. Operating temperature range is -55°C. to +85°C.



FEED-THRU
INA-218, INA-219, INA-220, INA-221

Type	Maximum Voltage	Nom. Cap. Rating (Mfd.)	Case Size	Mounting Centers
INA-117	150 VDC	2.0	1 3/4 x 1 x 3/4	2 1/8
INA-116	150 VDC	4.0	1 3/4 x 1 x 1/2	2 1/8
INA-118	150 VDC	10.0	2 x 2 x 7/8	2 3/8
INA-218	115 VAC - 200 VDC	.01	7/16 x 1	1 3/16
INA-219	115 VAC - 200 VDC	.05	7/16 x 2 3/16	1 3/16
INA-220	115 VAC - 200 VDC	.1	3/4 x 1	1 1/8
INA-221	115 VAC - 200 VDC	.25	3/4 x 1 1/16	1 1/4

HEAVY DUTY INDUSTRIAL FILTERS



Current Rating		One Circuit	
Amps	Type	L x W x D	
5	INB-104	4 1/2 x 5 x 3	
10	INB-100	4 1/2 x 5 x 3	
30	INB-101	6 x 6 x 4	
60	INB-121	6 x 6 x 4	
100	INB-123	9 x 9 x 4	
200	INB-125	9 x 9 x 4	

Two Circuit		
Type	L x W x D	
INB-105	6 x 6 x 3	
INB-102	6 x 6 x 3	
INB-103	6 x 9 x 4	
INB-122	6 x 9 x 4	
INB-118	12 x 9 x 4	
INB-126	12 x 9 x 4	

Three Circuit		
Type	L x W x D	
INB-106	4 1/2 x 9 x 3	
INB-107	4 1/2 x 9 x 3	
INB-108	6 x 12 x 4	
INB-119	6 x 12 x 4	
INB-124	16 x 9 x 4	
INB-127	16 x 9 x 4	

AEROVOX

CAPACITORS RESISTORS

FILTERS (Cont'd)

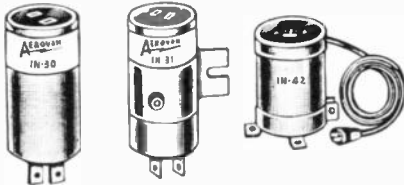
INTERFERENCE FILTERS



TYPE IN-23. Especially used for neon sign fixtures. Convenient mounting bracket. One filter for each fixture. Flexible leads. Also used on small motors. Size: 1 x 2 1/4 inches.

TYPE IN-27. Simple, inexpensive, plug-in unit where interference is slight. Size: 1 3/8 x 1 1/2 inches.

TYPE IN-28. For use where ground is at considerable distance. Most efficient when mounted on appliance. Bracket supplied. Size: 1 3/8 x 2 inches.



TYPE IN-29. Effective plug-in unit for local noise sources of variable character but strong intensity. Especially suited for shavers and other vibrating devices. Sizes: 1 3/8 x 3 inches.

TYPE IN-30. Similar to IN-29 but with greater inductance to handle more severe noise interference. Size: 1 3/8 x 3 inches.

TYPE IN-31. Bracket mounted unit with high inductance. Size: 1 3/8 x 3 inches.

TYPE IN-42. Heavy duty unit for serious interference from power transmission lines, etc. Plugs into outlet. Appliance or radio plugs into receptacle in filter. Mounting ring provided. Rating: 110/220V AC; 6 amps. Size: 2 1/2 inch dia. x 3 3/4 inch.

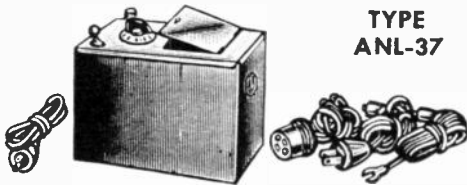


TYPE IN-105. Low-impedance delta connected capacitor for fluorescent light fixture in bathtub case size 1 3/4" x 1" x 3/4" high.

TYPE IN-106. Best filter for fluorescents. Balanced network. Especially suited for radio and television salesrooms. One unit per fixture in series where power leads enter. Metal container with four stranded wire leads. Rating: 125V AC or DC; 2.6 amps. Size: 1 7/8" x 3" x 1 3/8" high.

INTERFERENCE ANALYZER

TYPE ANL-37



The Aerovox Filter Selector eliminates the guess work in determining the proper filter to use. Plugs between interfering device and outlet. Adjust selector switch until noise is eliminated or minimized. Dial then indicates type filter (IN27 thru IN42) to be used.

Unit in handsome, sturdy metal cabinet. Compartment contains necessary attachment plugs and clips. Size: 5 1/2 x 5 1/2 x 8 inches.

UHF-INTERFERENCE FILTERS

These latest filter units provide maximum attenuation from 150 KC well up into the UHF range. And they are extra-rugged, extra-compact, extra-efficient, by any comparison with previous filters.

Primary applications are in r.f. noise suppression work in military or commercial aircraft and for vehicular low-voltage DC applications. Also, for special applications such as battery or low-voltage DC filters, for shield room applications, and for critical equipment.

Available in seven standard types meeting a wide variety of applications. For extraordinary requirements, special filters can be developed and built to your order.

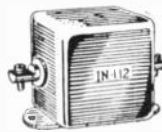


Type	Amps	VDC	L x W x H
IN 148	2.0	150	1 3/8" x 1" x 3/4"
IN 150	3.0	150	1 3/8" x 1" x 1"
IN 151	5.0	150	1 3/8" x 1 1/4" x 1"
IN 152	10.0	150	2 1/4" x 1 1/4" x 1"
IN 153	25.0	150	2" x 2" x 1 3/8"
IN 156	40.0	150	5 1/4" x 1 1/2" x 1 1/8"
IN 154	100.0	150	3 1/4" x 2 3/4" x 2 3/8"

BUILT-IN FILTERS

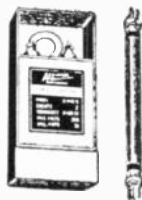
High attenuation type, hermetically sealed units for use where severe interference is encountered and dependability is required. For permanently mounted applications. Aerovox special "Pi type" construction insures efficient radio noise reduction over low frequency broadcast shortwave, and television bands. Suitable for Army-Navy or aircraft equipment where immersion and severe humidity tests must be met.

For single wire unbalanced applications. For two filtering use one filter in each line. Filter case must be securely bonded to the filter appliance and ground for maximum efficiency. These filters when used on high voltage AC should be used only on permanently grounded equipment.



Type	Maximum Voltage	Maximum Amperes	L x W x H
IN 110	250 VAC	5	2" x 2" x 1"
IN 111	250 VAC	10	2" x 2" x 1 1/4"
IN 112	250 VAC	30	3 1/4" x 2 3/8" x 2 7/8"

SCREEN ROOM FILTERS



Screen room filters comply with rigid specifications set up by the designers of the most advanced type screen rooms. All have attenuation equal to or exceeding that of the screen room. Easy mounting arrangements plus high attenuation assure you of the finest equipment specially designed for screen room use. These filters are hermetically sealed and terminals at both ends are shielded using knock-outs for 3/4" and 1" conduit.

1 1/4" diameter mounting hole on all cases is countersunk to permit flush mounting of the filter on the screen room.

Part No.	Curr. (Amps.)	Cir- cuits	CPS	Attenuation vs. Frequency	Size L x W x D	
*S-1076-1	50	1	0-60	100 db from 14 kc to 1000 mc	20" x 3 3/8" x 3 3/8"	
*S-1076-2	50	2	0-60	100 db from 14 kc to 1000 mc	20" x 7 3/4" x 3 3/8"	
*S-1076-3	50	3	0-60	100 db from 14 kc to 1000 mc	20 1/8" x 10 7/8" x 3 1/4"	
S-1142-1	30	1	0-400	100 db from 150 kc to 1000 mc	10 1/8" x 2 7/8" x 2 1/4"	
S-1142-2	30	2	0-400	100 db from 150 kc to 1000 mc	10 1/8" x 4 3/4" x 2 1/4"	
S-1142-3	30	3	0-400	100 db from 150 kc to 1000 mc	10 1/8" x 7" x 2 1/4"	
S-1302-1	100	1	0-60	100 db from 200 kc to 1000 mc	14" x 4 3/8" x 4 3/8"	
*S-1303-1	60	1	0-1000	100 db from 100 kc to 1000 mc	20" x 3 3/8" x 3 3/8"	
S-1304-1	80	1	0-60	100 db from 14 kc to 1000 mc	22" x 4 3/8" x 4 3/8"	
S-1305-1	100	1	0-1000	100 db from 100 kc to 1000 mc	22" x 4 3/8" x 4 3/8"	
S-1361-1	100	1	0-60	100 db from 14 kc to 1000 mc	22" x 4 3/8" x 4 3/8"	
S-1432-1	100	1	0-60	100 db from 100 kc to 1000 mc	22" x 4 3/8" x 4 3/8"	
S-1455-1	100	1	0-60	100 db from 150 kc to 1000 mc	22" x 4 3/8" x 4 3/8"	
					Overall L.	Overall D.
S-1468-A	50	1	0-1000	>60 db/1000 mc to 10000 mc	10 3/4"	7/8"
S-1468-B	100	1	0-1000	>60 db/1000 mc to 10000 mc	10 3/4"	7/8"

*250VAC/DC. All others 500VAC/DC.

AEROVOX CAPACITORS RESISTORS

TYPE JP20
High Voltage
Transmitter
Capacitors

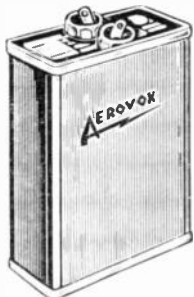


PAPER OIL

High quality oil capacitors for communications, electronic and general DC applications in industrial equipment. Single or parallel grouped from 6000 to 50,000 VDCW. Heavy duty, highest quality precision construction thruout. Aerovox Hyvol impregnated. Hermetically sealed for long life under exacting operating conditions. Single units rated at 30 KV or less normally supplied with capacitor element insulated from ground. Units built to order. Submit full application information when ordering.

SIZE: HEIGHT x WIDTH x DEPTH

Capacity Mfd.	6000 VDCW	7500 VDCW	10,000 VDCW	12,500 VDCW	
.5		11 x 8 x 4		11 x 8 x 4	
1.0		11 x 8 x 4	11 x 8 x 4	11 x 12 x 4	
1.5					
2.0	11 x 8 x 4	11 x 8 x 4	11 x 12 x 4	13 x 12 x 6	
4.0	11 x 12 x 4	13 x 12 x 4	13 x 12 x 6		
5.0	11 x 12 x 4		13 x 12 x 6		
6.0	13 x 12 x 4	13 x 12 x 6		15 x 12 x 9½	
10.0	13 x 12 x 6				
	15,000 VDCW	20,000 VDCW	25,000 VDCW	37,500 VDCW	50,000 VDCW
.1				13 x 13½ x 4	13 x 13½ x 4
.2			11 x 12 x 4	13 x 13½ x 6	15 x 13½ x 8½
.25	11 x 8 x 4	11 x 8 x 4	11 x 12 x 4	15 x 13½ x 8½	15 x 15½ x 15
.5	11 x 12 x 4	11 x 12 x 4	11 x 12 x 6	15 x 13½ x 15	
1.0	13 x 12 x 4	13 x 12 x 6	15 x 12 x 9½		
1.5		15 x 12 x 9½			
2.0	15 x 12 x 9½	15 x 12 x 9½			
3.0	15 x 12 x 9½				
4.0		15 x 14 x 16			



For high-speed flash photography, flash signaling equipment, pulsing and other energy storage use⁵

TYPE PX—Energy Storage Capacitors

VDC Peak	Nominal Cap. Mfd.	Type No.
		22.5 Watt Seconds
1500	20	PX10D1
		50.0 Watt Seconds
2000	28	PX14D3
		75.0 Watt Seconds
2500	24	PX14D2
3000	16	PX18D1
		100.0 Watt Seconds
2500	30	PX15D1
4000	12.5	PX20D1
		Size: Depth x Width x Height
	PX10D1	2½" x 3¼" x 4½"
	PX15D1	4" x 3¼" x 6½"
	ALL OTHERS	4¾" x 3¾" x 4¾"

TYPE JP12
Vertical-Mounting
Oil-Impregnated
Oil-Filled



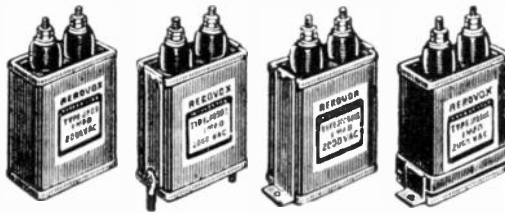
High-voltage, inverted or vertical, immersion-proof unit suitable for such high-voltage circuit applications as in television, cathode-ray tube power supplies, high-voltage rectifiers, or as a high-voltage by-pass capacitor.

Cap. Mfd.	Hght. x Dia.	Cap. Mfd.	Hght. x Dia.	Cap. Mfd.	Hght. x Dia.
	2000 VDCW		4000 VDCW		7500 VDCW
1.0	3¼ x 2¼	.05	2¼ x 2¼	.01	3¼ x 2¼
2.0	5¼ x 2¼	.1	3¼ x 2¼	.02	3¼ x 2¼
		.25	5¼ x 2¼	.03	3¼ x 2¼
	3000 VDCW		6000 VDCW	.05	4¼ x 2¼
.05	2¼ x 2¼	.03	2¼ x 2¼	.1	4¼ x 2¼
.1	2¼ x 2¼	.05	3¼ x 2¼		
.25	3¼ x 2¼	.1	4¼ x 2¼		
.5	3¼ x 2¼				
1.0	5¼ x 2¼				

AEROVOX CAPACITORS RESISTORS

INDUSTRIAL SECTION — STANDARD TYPES

TYPE JPO9



JPO8 JPO9MSB JPO9MS JPO9MB

PAPER CAPACITORS

Immersion-proof units in sturdy, rectangular metal cans. High-voltage, screw-type, pillar terminals fitted with soldering lugs. Use of HYVOL allows exceptionally compact size for capacity, working voltage and safety factor. Intended for heavy-duty, continuous service in transmitters, amplifiers, etc. Operating temperature -55 to +85°C.

Standard tolerance +20 -10%. Other tolerance on request.

Type MB bracket is supplied unless otherwise specified except on units with base sizes 3 3/4" x 3 3/8" and 3 3/4" x 4 1/4" where Type MS bracket is supplied. MSB bracket is available for all sizes on request.

CAPACITY	SIZE	CAPACITY	SIZE	CAPACITY	SIZE	CAPACITY	SIZE	CAPACITY	SIZE
600 V		6.0	1 1/4 x 3 3/4 x 4 3/4	2000 V		3000 V		5000 V	
.5	1 1/8 x 1 3/8 x 2 1/4	8.0	1 3/4 x 3 3/4 x 3 7/8*	.1	1 1/4 x 1 3/8 x 2 1/8	.1	1 1/8 x 2 1/2 x 2	.1	2 1/4 x 3 3/4 x 2 3/4
1.0	1 1/8 x 1 3/8 x 2 1/4	10.0	1 3/4 x 3 3/4 x 4 3/4	.25	1 1/4 x 1 3/8 x 2 1/8	.25	1 3/8 x 2 1/2 x 2 1/2	.25	2 1/4 x 3 3/4 x 3 7/8
2.0	1 1/8 x 1 3/8 x 2 7/8	12.0	2 1/4 x 3 3/4 x 3 7/8	.5	1 1/4 x 1 3/8 x 2 7/8	.5	1 3/8 x 2 1/2 x 3 7/8	.5	2 1/4 x 3 3/4 x 4 1/2
3.0	1 1/8 x 1 3/8 x 3 7/8	15.0	2 1/2 x 3 3/4 x 4 3/4	1.0	1 3/4 x 2 1/2 x 3 1/2	1.0	2 1/4 x 3 3/4 x 3 7/8	1.0	3 3/4 x 4 1/4 x 4 3/8
4.0	1 3/8 x 2 1/2 x 3 1/2			2.0	1 1/4 x 3 3/4 x 4 1/4	2.0	3 3/8 x 3 3/4 x 4 1/8	2.0	3 3/4 x 4 1/8 x 6
5.0	1 1/8 x 1 3/8 x 4 3/4			3.0	1 1/4 x 3 3/4 x 4 3/4	4.0	3 3/4 x 4 1/8 x 4 3/4		
6.0	1 3/8 x 2 1/2 x 4 3/4	1500 V		4.0	2 1/4 x 3 3/4 x 3 7/8			6000 V	
8.0	1 1/4 x 3 3/4 x 3 7/8	.5	1 1/8 x 1 3/8 x 2 7/8	5.0	2 1/4 x 3 3/4 x 4 3/4			.1	2 1/4 x 3 3/4 x 3 7/8
10.0	1 1/4 x 3 3/4 x 4 3/4	1.0	1 3/8 x 1 3/8 x 3 7/8	6.0	3 3/8 x 3 3/4 x 4 1/2	4000 V		.25	2 1/4 x 3 3/4 x 2 3/4
12.0	1 1/2 x 3 3/4 x 4 3/4	2.0	1 3/8 x 2 1/2 x 4 1/4	8.0	3 3/8 x 3 3/4 x 5 1/8*	.1	2 1/4 x 3 3/4 x 2 3/4	1.0	3 3/4 x 4 1/4 x 7 1/2
15.0	1 3/4 x 3 3/4 x 4 3/4	3.0	1 3/8 x 2 1/2 x 4 3/4	10.0	3 3/4 x 3 3/4 x 4 3/4	.25	2 1/4 x 3 3/4 x 2 3/4		
		4.0	1 3/4 x 3 3/4 x 4 3/4	12.0	3 3/4 x 4 1/4 x 4 3/4	.5	2 1/4 x 3 3/4 x 3 7/8		
		5.0	1 3/4 x 3 3/4 x 4 3/4	15.0	3 3/4 x 4 1/4 x 5 1/2	1.0	2 1/4 x 3 3/4 x 5 1/8		
		6.0	1 3/4 x 3 3/4 x 4 3/4		3 3/4 x 4 1/4 x 6 1/2	2.0	3 3/4 x 4 1/4 x 5 1/8	7500 V	
1000 V		8.0	2 1/2 x 3 3/4 x 4 3/4			4.0	3 3/4 x 4 1/4 x 8 1/2	.1	2 1/4 x 3 3/4 x 3 7/8
.1	1 1/8 x 1 3/8 x 1 3/8	10.0	3 3/8 x 3 3/4 x 4 3/4	2500 V				.25	3 3/4 x 4 1/4 x 3 7/8
.25	1 1/8 x 1 3/8 x 2 1/4	12.0	3 3/8 x 3 3/4 x 4 3/4	.5	1 3/8 x 2 1/2 x 3 1/2			.5	3 3/4 x 4 1/4 x 5 1/8
.5	1 1/8 x 1 3/8 x 2 1/4	15.0	3 3/8 x 4 1/4 x 4 3/4	1.0	1 3/4 x 3 3/4 x 3 1/4				
1.0	1 1/8 x 1 3/8 x 2 1/4			2.0	1 3/8 x 3 3/4 x 4 3/4				
2.0	1 1/8 x 1 3/8 x 3 1/8			4.0	3 3/4 x 4 1/4 x 4				
3.0	1 3/8 x 2 1/2 x 3 1/2			10.0	3 3/4 x 4 1/4 x 6 3/8				
4.0	1 3/8 x 2 1/2 x 4 3/4								
5.0	1 1/4 x 3 3/4 x 3 7/8								

*To be supplied in this size until current stock is depleted after which alternate size will be supplied.



TYPE JP10

Cylindrical hermetically sealed can with screwbase molded cover for vertical mounting. These units are Hyvol impregnated and filled for long life and safe operation at temperatures from -55 to +85°C.

Standard units have two terminals, case floating.

Standard tolerance +20% -10%. Other tolerances available on request.

CAPACITY	600 V D C W SIZE	1000 V D C W SIZE	1500 V D C W SIZE
	JP610	JP1010	JP1510
.5			1 1/2 x 2 3/8
1.0		1 1/2 x 2 7/8	1 1/2 x 3 7/8
2.0	1 1/2 x 2 7/8	1 1/2 x 4 1/2	
4.0	1 1/2 x 4 1/2		

AEROVOX

CAPACITORS RESISTORS

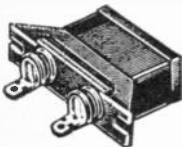
INDUSTRIAL SECTION—STANDARD TYPES (Continued)

TYPE JP16M and JP16MCT



Small corrosion and immersion-proof unit for severe atmospheric and climatic conditions. JP16MCT is standard; JP16M is available in 400 and 600 volts. Operating temperature -55 to +85°C. Dual units have two terminals, case grounded. Standard tolerance +20 -10%. CP06S and CP06F brackets available for JP16M. Base Size 1 1/4 x 1 1/4.

SINGLE CAPACITY	400 VDCW	600 VDCW	1000 VDCW	DUAL CAPACITY	600 VDCW
	HEIGHT	HEIGHT	HEIGHT		HEIGHT
	JP16M, JP416MCT	JP616M, JP616MCT	JP1016MCT		JP616M, JP616MCT
.05		1 1/4	1 1/4	2 x .05	1 1/4
.1	1 1/4	1 1/4	1 1/4	2 x .1	1 1/4
.25	1 1/4	1 1/4	2	2 x .25	2
.5	1 1/4	2	2 1/4	2 x .5	2 1/4
1.0	2	2 1/4			



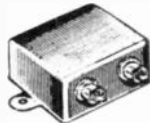
TYPE JP18MCB

Similar to JP16M in construction and electrical characteristics. Because of the difference in the base size type JP18MCB can be supplied with three terminals. Dual units are case floating, triples are case grounded. The size difference also makes these units suitable for use in assemblies where JP16M's do not fit. Operating temperature range -55 to +85°C. Standard tolerance +20 -10%.

Capacity	400 VDCW	600 VDCW	1000 VDCW	Capacity	400 VDCW	600 VDCW	1000 VDCW	Capacity	400 VDCW	600 VDCW	1000 VDCW
	Height	Height	Height		Height	Height	Height		Height	Height	Height
	JP418MCB	JP618MCB	JP1018MCB		JP418MCB	JP618MCB	JP1018MCB		JP418MCB	JP618MCB	JP1018MCB
.01				2 x .01				3 x .01			
.02			1 1/4	2 x .02			1 1/4	3 x .02			1 1/4
.05	1	1 1/4	1 1/4	2 x .05	1	1 1/4	1 1/4	3 x .05	1 1/4	1 1/2	1 1/4
.1	1	1 1/4	1 1/2	2 x .1	1 1/4	1 1/2	2	3 x .1	1 1/4	1 1/2	2 1/4
.25	1 1/4	1 1/2	2	2 x .25	1 1/2	2	2 1/4	3 x .25	2	2 1/4	
.5	1 1/2	2	2 1/2	2 x .5	2 1/4	2 1/4					
1.0	2	2 1/4									

BASE SIZE 1 1/4 x 1 1/4

TYPE JP30M Bathtub Case



High-quality bypass capacitors furnished in drawn metal bathtub cases, hermetically sealed. These units are Hyvol M impregnated for operation at temperatures from -55 to +85°C. They are especially recommended for applications where high reliability and superior performance are required. Typical applications for these rugged units would include marine, aircraft and tropical climates. Standard tolerance +20% -10%.

Capacity	400 VDCW	600 VDCW	1000 VDCW	Capacity	400 VDCW	600 VDCW	1000 VDCW
	Size	Size	Size		Size	Size	Size
	JP430M	JP630M	JP1030M		JP430M	JP630M	JP1030M
.05	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	2 x .05	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
.1	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	2 x .1	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
.25	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	2 x .25	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
.5	1 1/4 x 1 x 3/4	1 1/4 x 1 x 1	2 x 1 1/4 x 3/4	2 x .5	2 x 1 1/4 x 3/4	2 x 1 1/4 x 3/4	2 x 2 x 1 1/4
.75	2 1/4 x 1 1/4 x 3/4	2 1/4 x 1 1/4 x 3/4	2 x 1 1/4 x 3/4	2 x 1.0	2 x 2 x 1 1/4	2 x 2 x 1 1/4	
1.9	2 x 1 1/4 x 3/4	2 x 1 1/4 x 1	2 x 2 x 1 1/4	3 x .05	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
2.0	2 x 2 x 1 1/4	2 x 2 x 1 1/4		3 x .1	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
				3 x .25	2 x 1 1/4 x 3/4	2 x 1 1/4 x 3/4	2 x 2 x 1 1/4
				3 x .5	2 x 2 x 1	2 x 2 x 1 1/4	

* Also available with top terminals, size 2 x 1 1/4 x 3/4, Type JP30MT.

TYPE JP89M

Immersion-proof, oil-impregnated, oil filled units in hermetically sealed metal tubes. Ideal for coupling and bypass functions in transmitters, high-voltage applications and for use in test equipment. Case is insulated, not connected to the capacitor section. Standard units are supplied with cardboard insulating sleeve and radial mounting bracket (Type PB9M). All sizes shown are can sizes. For size over insulating sleeve add 1/4" to diameter and 3/8" to length.



Available in the following style variations:
 JP89M —with cardboard insulating sleeve, radial mtg. bracket.
 JP89MA —with cardboard insulating sleeve and tangential mounting bracket.
 JP89MAP —with plastic insulating sleeve and tangential mtg. bracket.
 JP89MAY —without insulating sleeve but with tangential mounting bracket.
 JP89MP —with plastic insulating sleeve, radial mtg. bracket.
 JP89MX —without mounting bracket but with cardboard insulating sleeve.
 JP89MXP —without mounting bracket but with plastic insulating sleeve.
 JP89MXY —without insulating sleeve or mtg. bracket.
 JP89MY —without insulating sleeve but with radial mounting bracket.

Voltage	Capacity	Can Size	Voltage	Capacity	Can Size	Voltage	Capacity	Can Size
400V	.01	3/4 x 1 1/4	1000V	.03	5/8 x 1 1/4	2500V	.02	3/4 x 2
400V	.02	1/2 x 1 1/4	1000V	.05	5/8 x 1 1/4	2500V	.03	3/4 x 2 1/2
400V	.05	1/2 x 1 1/4	1000V	.1	1 1/4 x 1 1/4	2500V	.05	3/4 x 2 1/2
400V	.1	3/4 x 1 1/4	1000V	.25	1 x 2 1/4	2500V	.1	1 x 3
400V	.25	1 1/4 x 2 1/4	2000V	.001	3/4 x 1 1/4	3000V	.005	3/4 x 1 1/4
400V	.5	1 x 2 1/4	2000V	.005	3/4 x 1 1/4	3000V	.01	3/4 x 1 1/4
600V	.001	3/4 x 1 1/4	2000V	.01	3/4 x 1 1/4	3000V	.02	3/4 x 2
600V	.005	3/4 x 1 1/4	2000V	.015	3/4 x 1 1/4	3000V	.03	1 x 2 1/4
600V	.01	3/4 x 1 1/4	2000V	.02	3/4 x 1 1/4	3000V	.05	1 x 2 1/2
600V	.02	3/4 x 1 1/4	2000V	.03	3/4 x 1 1/4	3000V	.1	1 1/4 x 2 1/4
600V	.05	3/4 x 1 1/4	2000V	.04	3/4 x 2 1/4	4000V	.05	1 1/4 x 3 1/4
600V	.1	3/4 x 1 1/4	2000V	.05	3/4 x 2 1/4	4000V	.1	1 1/4 x 4 1/4
600V	.25	3/4 x 2 1/4	2000V	.1	1 x 2 1/2	6000V	.005	1 x 2 1/2
600V	.5	1 1/4 x 2 1/4	2500V	.005	3/4 x 1 1/4	6000V	.01	1 x 3 1/4
1000V	.01	3/4 x 1 1/4	2500V	.01	3/4 x 1 1/4	6000V	.05	1 1/4 x 5

ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER

AEROVOX

CAPACITORS RESISTORS

INDUSTRIAL SECTION—STANDARD TYPES (Continued)

PAPER SUB-MINIATURES



Tubular, metal-cased capacitors, hermetically sealed with glass terminal end seals. Miniaturized, conventional, foil-paper construction. Especially developed to meet high temperature and minimum space requirements of present day electronic equipment. Designed for rugged long life operation, these units are preferred for many of those applications where reliability is a factor. Impregnated with Hyvol "S" a special, high-temperature-operating, stable, liquid impregnant for operation at elevated temperature. These units are capable of withstanding a voltage breakdown test of twice rated voltage between terminals or between terminals and case for a one-minute period. Ambient temperature shall be plus 25°C, plus or minus 10°C, during this test. Power factor will be less than 1% when measured or referred to a frequency of 1000 cycles per second at 25°C. Types P123S and P123SX are rated for operation over a temperature range of -65°C. to +100°C. Types P323S and P323SX are rigidly processed to assure operation over the temperature range of -65°C. to +125°C. The capacitor sections on types P123S and P323S utilize an inserted tab construction to obtain minimum size. Types P123SX and P323SX utilize extended foil construction for those applications where operation is required at very low AC voltages.

All values are available in ±10% or ±20%.

* Style Variations

Suffix	Description	Suffix	Description	Suffix	Description
G	— One end grounded	T	— Insulated with threaded neck mounting	V	— Insulated with side vertical bracket
—	— Omit G, both ends insulated	GE	— Grounded with axial threaded stud	GB	— Grounded with tangential bracket
GP	— Grounded and plastic sleeve	GR	— Grounded with two radial threaded studs	B	— Insulated with tangential bracket
P	— Insulated with plastic sleeve	R	— Insulated with two radial threaded studs	GBL	— Grounded with tab terminal
GT	— Grounded with threaded neck mounting	GV	— Grounded with side vertical bracket	L	— Insulated with tab terminal

* Style variations and ratings listed below are standard. All others available on special order.

Capacity	P123S P323S	P123SP P323SP	P123SX P323SX	P123SX P P323SX P	Capacity	P123S P323S	P123SP P323SP	P123SX P323SX	P123SX P P323SX P
100 Volts					300 Volts (cont.)				
.001	.175 x 3/4	.237 x 13/16	.175 x 3/4	.237 x 13/16	.033	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16
.0015	.175 x 3/4	.237 x 13/16	.175 x 3/4	.237 x 13/16	.047	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16
.0022	.175 x 3/4	.237 x 13/16	.175 x 3/4	.237 x 13/16	.068	.400 x 7/8	.462 x 13/16	.400 x 1 1/8	.462 x 13/16
.0033	.175 x 3/4	.237 x 13/16	.175 x 3/4	.237 x 13/16	.1	.400 x 1 1/8	.462 x 13/16	.400 x 1 3/8	.462 x 1 3/8
.0047	.175 x 3/4	.237 x 13/16	.175 x 3/4	.237 x 13/16	.15	.400 x 1 3/8	.462 x 1 3/8	.562 x 1 1/8	.624 x 1 3/8
.0068	.175 x 3/4	.237 x 13/16	.195 x 3/4	.257 x 13/16	.22	.562 x 1 1/8	.624 x 1 3/16	.562 x 1 3/8	.624 x 1 3/8
.01	.175 x 3/4	.237 x 13/16	.235 x 3/4	.297 x 13/16	.33	.562 x 1 3/8	.624 x 1 3/16	.562 x 1 3/8	.624 x 1 11/16
.015	.175 x 3/4	.237 x 13/16	.235 x 3/4	.297 x 13/16	.47	.562 x 1 3/8	.624 x 1 3/16	.670 x 1 3/8	.732 x 1 11/16
.022	.195 x 3/4	.257 x 13/16	.312 x 7/8	.374 x 13/16	.68	.670 x 1 1/8	.732 x 1 3/16	.750 x 2 1/8	.812 x 2 3/16
.033	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	1.0	.750 x 2 3/8	.812 x 2 3/16	1.000 x 2 1/8	1.062 x 2 3/16
.047	.312 x 7/8	.374 x 13/16	.312 x 7/8	.374 x 13/16	400 Volts				
.068	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16	.001	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.1	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16	.0015	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.15	.400 x 7/8	.462 x 13/16	.400 x 1 1/8	.462 x 13/16	.0022	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.22	.400 x 1 1/8	.462 x 13/16	.400 x 1 1/8	.462 x 13/16	.0033	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.33	.400 x 1 1/8	.462 x 1 3/16	.562 x 1 1/8	.624 x 1 3/16	.0047	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16
.47	.562 x 1 1/8	.624 x 13/16	.562 x 1 3/8	.624 x 1 3/16	.0068	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16
.68	.562 x 1 1/8	.624 x 1 3/16	.562 x 1 3/8	.624 x 1 11/16	.01	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16
1.0	.562 x 1 3/8	.624 x 1 11/16	.670 x 1 3/8	.732 x 1 11/16	.015	.312 x 7/8	.374 x 13/16	.312 x 7/8	.374 x 13/16
200 Volts					.022	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16
.001	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.033	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16
.0015	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.047	.400 x 7/8	.462 x 13/16	.400 x 1 1/8	.462 x 13/16
.0022	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.068	.400 x 1 1/8	.462 x 13/16	.400 x 1 3/8	.462 x 1 3/8
.0033	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.1	.400 x 1 1/8	.462 x 1 3/16	.562 x 1 1/8	.624 x 13/16
.0047	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.15	.562 x 1 3/8	.624 x 13/16	.562 x 1 3/8	.624 x 13/16
.0068	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.22	.562 x 1 3/8	.624 x 1 3/16	.562 x 1 3/8	.624 x 1 11/16
.01	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	.33	.562 x 1 3/8	.624 x 1 3/16	.670 x 1 3/8	.732 x 1 11/16
.015	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	.47	.670 x 1 1/8	.732 x 1 3/16	.750 x 2 1/8	.812 x 2 3/16
.022	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	.68	.750 x 2 1/8	.812 x 2 3/16	.750 x 2 3/8	.812 x 2 3/8
.033	.312 x 7/8	.374 x 13/16	.312 x 7/8	.374 x 13/16	1.0	1.000 x 1 1/8	1.062 x 1 3/16	1.000 x 2 1/8	1.062 x 2 11/16
.047	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16	600 Volts				
.068	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16	.001	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.1	.400 x 7/8	.462 x 13/16	.400 x 1 1/8	.462 x 13/16	.0015	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.15	.400 x 1 1/8	.462 x 1 3/16	.400 x 1 1/8	.462 x 1 3/16	.0022	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16
.22	.400 x 1 3/8	.462 x 1 3/16	.562 x 1 1/8	.624 x 13/16	.0033	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16
.33	.562 x 1 1/8	.624 x 13/16	.562 x 1 3/8	.624 x 1 3/16	.0047	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16
.47	.562 x 1 3/8	.624 x 1 3/16	.562 x 1 3/8	.624 x 1 11/16	.0068	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16
.68	.562 x 1 3/8	.624 x 1 3/16	.670 x 1 3/8	.732 x 1 11/16	.01	.312 x 7/8	.374 x 13/16	.312 x 7/8	.374 x 13/16
1.0	.670 x 1 3/8	.732 x 1 3/16	.750 x 2 1/8	.812 x 2 3/16	.015	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16
300 Volts					.022	.312 x 7/8	.374 x 13/16	.400 x 7/8	.462 x 13/16
.001	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.033	.400 x 7/8	.462 x 13/16	.400 x 1 1/8	.462 x 13/16
.0015	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.047	.400 x 1 1/8	.462 x 1 3/16	.562 x 1 1/8	.624 x 13/16
.0022	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.068	.400 x 1 3/8	.462 x 1 3/16	.562 x 1 3/8	.624 x 13/16
.0033	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.1	.562 x 1 3/8	.624 x 1 3/16	.562 x 1 3/8	.624 x 1 11/16
.0047	.235 x 3/4	.297 x 13/16	.235 x 3/4	.297 x 13/16	.15	.562 x 1 3/8	.624 x 1 3/16	.670 x 1 3/8	.732 x 1 11/16
.0068	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	.22	.562 x 1 3/8	.624 x 1 3/16	.670 x 1 3/8	.732 x 1 11/16
.01	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	.33	.670 x 1 3/8	.732 x 1 3/16	.750 x 2 1/8	.812 x 2 3/16
.015	.235 x 3/4	.297 x 13/16	.312 x 7/8	.374 x 13/16	.47	.750 x 2 1/8	.812 x 2 3/16	1.000 x 2 1/8	1.062 x 2 3/16
.022	.312 x 7/8	.374 x 13/16	.312 x 7/8	.374 x 13/16	.68	1.000 x 1 1/8	1.062 x 1 3/16	1.000 x 2 1/8	1.062 x 2 11/16

AEROVOX

CAPACITORS RESISTORS

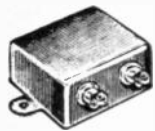


INDUSTRIAL SECTION—STANDARD TYPES (Continued) PAPER SUB-MINIATURES (Continued)

Capacity	P123S G P323S G	P123S GP P323S GP	P123S XG P323S XG	P123S XGP P323S XGP	Capacity	P123S G P323S G	P123S GP P323S GP	P123S XG P323S XG	P123S XGP P323S XGP
100 Volts									
.01	—	—	.235 x 1 1/4	.297 x 3/4	.022	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4
.015	—	—	.235 x 1 1/4	.297 x 3/4	.033	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 1 1/4
.022	—	—	.312 x 1 3/4	.374 x 3/4	.047	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4
.033	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	300 Volts (cont.)				
.047	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4	.0015	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4
.068	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4	.0022	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4
.1	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 1 1/4	.0033	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4
.15	.400 x 1 1/4	.462 x 1 1/4	.400 x 1 1/4	.462 x 1 1/4	.0047	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4
.22	.400 x 1 1/4	.462 x 1 1/4	.400 x 1 1/4	.462 x 1 1/4	.0068	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4
.33	.400 x 1 1/4	.462 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4	.01	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4
.47	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4	.015	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4
.68	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4	.022	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4
1.0	.562 x 1 1/4	.624 x 1 1/4	.670 x 1 1/4	.732 x 1 1/4	.033	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4
200 Volts									
.001	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.047	.400 x 1 1/4	.462 x 3/4	.400 x 1 1/4	.462 x 1 1/4
.0015	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.068	.400 x 1 1/4	.462 x 1 1/4	.400 x 1 1/4	.462 x 1 1/4
.0022	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.1	.400 x 1 1/4	.462 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4
.0033	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.15	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4
.0047	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.22	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4
.0068	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.33	.562 x 1 1/4	.624 x 1 1/4	.670 x 1 1/4	.732 x 1 1/4
.01	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	.47	.670 x 1 1/4	.732 x 1 1/4	.750 x 2 1/4	.812 x 2 1/4
.015	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	.68	.750 x 2 1/4	.812 x 2 1/4	.750 x 2 1/4	.812 x 2 1/4
.022	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	1.0	1.000 x 1 1/4	1.062 x 1 1/4	1.000 x 2 1/4	1.062 x 2 1/4
.033	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4	600 Volts				
.047	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4	.001	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4
.068	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4	.0015	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4
.1	.400 x 1 1/4	.462 x 3/4	.400 x 1 1/4	.462 x 1 1/4	.0022	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4
.15	.400 x 1 1/4	.462 x 1 1/4	.400 x 1 1/4	.462 x 1 1/4	.0033	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4
.22	.400 x 1 1/4	.462 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4	.0047	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4
.33	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4	.0068	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4
.47	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4	.01	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4
.68	.562 x 1 1/4	.624 x 1 1/4	.670 x 1 1/4	.732 x 1 1/4	.015	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4
1.0	.670 x 1 1/4	.732 x 1 1/4	.750 x 2 1/4	.812 x 2 1/4	.022	.312 x 1 3/4	.374 x 3/4	.400 x 1 1/4	.462 x 3/4
300 Volts									
.001	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.033	.400 x 1 1/4	.462 x 3/4	.400 x 1 1/4	.462 x 1 1/4
.0015	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.047	.400 x 1 1/4	.462 x 1 1/4	.400 x 1 1/4	.462 x 1 1/4
.0022	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.068	.400 x 1 1/4	.462 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4
.0033	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.1	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4
.0047	.235 x 1 1/4	.297 x 3/4	.235 x 1 1/4	.297 x 3/4	.15	.562 x 1 1/4	.624 x 1 1/4	.562 x 1 1/4	.624 x 1 1/4
.0068	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	.22	.562 x 1 1/4	.624 x 1 1/4	.670 x 1 1/4	.732 x 1 1/4
.01	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	.33	.670 x 1 1/4	.732 x 1 1/4	.750 x 2 1/4	.812 x 2 1/4
.015	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	.47	.750 x 2 1/4	.812 x 2 1/4	.750 x 2 1/4	.812 x 2 1/4
.022	.235 x 1 1/4	.297 x 3/4	.312 x 1 3/4	.374 x 3/4	.68	1.000 x 1 1/4	1.062 x 1 1/4	1.000 x 2 1/4	1.062 x 2 1/4
.033	.312 x 1 3/4	.374 x 3/4	.312 x 1 3/4	.374 x 3/4	1.0	1.000 x 2 1/4	1.062 x 2 1/4	1.000 x 2 1/4	1.062 x 2 1/4

METALLIZED-PAPER CAPACITORS

TYPE P30Z Bath Tub Case



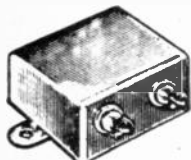
Aerolite Metallized-Paper capacitors. Hyvol K or M impregnated in bathtub, hermetically-sealed metal cases. Meets rigid MIL requirements for moisture immersion and vibration testing.

Standard Tolerance $\pm 20\%$

Cap. Mfd.	Volts	Size
4.0	150	1 1/4 x 1 x 3/4
6.0	150	2 x 1 3/4 x 3/4
8.0	150	2 x 2 x 1
10.0	150	2 x 2 x 1 1/4
12.0	150	2 x 2 x 1 1/4
.5	200	1 1/4 x 1 x 3/4
1.0	200	1 1/4 x 1 x 3/4
2.0	200	1 1/4 x 1 x 3/4
.25	400	1 1/4 x 1 x 3/4

Cap. Mfd.	Volts	Size
.5	400	1 1/4 x 1 x 3/4
1.0	400	1 1/4 x 1 x 3/4
2.0	400	2 x 1 3/4 x 3/4
4.0	400	2 x 2 x 1 1/4
.1	600	1 1/4 x 1 x 3/4
.25	600	1 1/4 x 1 x 3/4
.5	600	1 1/4 x 1 x 3/4
1.0	600	1 1/4 x 1 1/4 x 3/4
2.0	600	2 x 2 x 1

TYPE P30ZN High Temperature Bath Tub Case



AEROVOX type P30ZN Aerolene impregnated metallized-paper capacitors housed in "bathtub" metal cases hermetically sealed. Operating temperature range -65°C. to +100°C. at full rating with operation to +125°C. at 75 percent of voltage rating.

Standard Tolerance $\pm 20\%$

Capacity	150 V	200 V	400 V	600 V
.1		1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
.25		1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
.5		1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4
1.0		1 1/4 x 1 x 3/4	1 1/4 x 1 x 3/4	1 1/4 x 1 1/4 x 3/4
2.0		1 1/4 x 1 x 3/4	2 x 1 1/4 x 1 1/4	2 x 2 x 3/4
3.0	1 1/4 x 1 x 3/4		2 x 1 1/4 x 1 1/4	2 x 2 x 1 1/4
4.0	1 1/4 x 1 x 3/4		2 x 2 x 1	2 x 2 x 1 1/4
5.0	1 1/4 x 1 x 3/4		2 x 2 x 1	
6.0	1 1/4 x 1 1/4 x 3/4		2 x 2 x 1 1/4	
8.0	2 x 1 1/4 x 3/4			
10.0	2 x 1 1/4 x 3/4			
12.0	2 x 2 x 3/4			
15.0	2 x 2 x 1			

AEROVOX

CAPACITORS RESISTORS

INDUSTRIAL SECTION—STANDARD TYPES (Continued) METALLIZED-PAPER CAPACITORS (Continued)

TYPE P82Z Wax Impregnated Cardboard Sleeve



Metallized-paper capacitor in wax impregnated cardboard sleeve. These units are manufactured with metal end caps and extended foil construction for low impedance. Operating temperature, -40°C. to +70°C. Standard tolerance ±20%.

Dimensional Tolerance $\pm \frac{1}{32}$ " on diameter and length

Capacity Mfd.	200 V	400 V	600 V
.01	$\frac{3}{16} \times \frac{3}{8}$	$\frac{1}{4} \times \frac{3}{8}$	$\frac{3}{8} \times \frac{3}{8}$
.02	$\frac{3}{16} \times \frac{3}{8}$	$\frac{1}{4} \times \frac{3}{8}$	$\frac{3}{8} \times \frac{3}{8}$
.03	$\frac{3}{16} \times \frac{3}{8}$	$\frac{1}{4} \times \frac{3}{8}$	$\frac{15}{32} \times \frac{3}{8}$
.05	$\frac{3}{16} \times \frac{3}{8}$	$\frac{15}{32} \times \frac{3}{8}$	$\frac{15}{32} \times \frac{3}{8}$
.1	$\frac{3}{16} \times \frac{3}{8}$	$\frac{15}{32} \times 1\frac{1}{8}$	$\frac{15}{32} \times 1\frac{1}{8}$
.25	$1\frac{1}{32} \times \frac{3}{8}$	$\frac{3}{4} \times 1\frac{1}{8}$	$\frac{3}{4} \times 1\frac{1}{8}$
.5	$1\frac{1}{32} \times 1\frac{1}{8}$	$\frac{3}{4} \times 1\frac{1}{8}$	$2\frac{1}{32} \times 1\frac{1}{8}$
1.0	$\frac{9}{16} \times 1\frac{1}{8}$	$2\frac{1}{32} \times 2\frac{1}{8}$	$2\frac{1}{32} \times 2\frac{1}{8}$
2.0	$\frac{3}{4} \times 1\frac{1}{8}$		

TYPE P83Z Microminiatures

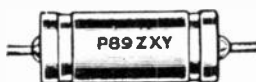


Ultra-small, new metallized-paper dielectric capacitor particularly applicable in the electronic field to replace the low capacity paper units now being used. Hyvol K impregnated in humidity resistant molded thermo-plastic cases.

Standard Tolerance $\pm 25\%$

Capacity Mfd.	Voltage	Case Size (Inches) Dia x Lgth.	Capacity Mfd.	Voltage	Case Size (Inches) Dia x Lgth.
.004	200 VDC	$\frac{3}{16} \times \frac{7}{16}$	.0005	600 VDC	$\frac{3}{16} \times \frac{7}{16}$
.005	200 VDC	$\frac{3}{16} \times \frac{7}{16}$	.0008	600 VDC	$\frac{3}{16} \times \frac{7}{16}$
.01	200 VDC	$\frac{3}{16} \times \frac{7}{16}$	.001	600 VDC	$\frac{3}{16} \times \frac{7}{16}$
.02	200 VDC	$\frac{1}{4} \times \frac{9}{16}$	.002	600 VDC	$\frac{1}{4} \times \frac{9}{16}$
.04	200 VDC	$\frac{1}{4} \times \frac{9}{16}$	.0022	600 VDC	$\frac{1}{4} \times \frac{9}{16}$
.002	400 VDC	$\frac{3}{16} \times \frac{7}{16}$	.0047	600 VDC	$\frac{1}{4} \times \frac{9}{16}$
.003	400 VDC	$\frac{3}{16} \times \frac{7}{16}$	.005	600 VDC	$\frac{1}{4} \times \frac{9}{16}$
.008	400 VDC	$\frac{1}{4} \times \frac{9}{16}$	.0068	600 VDC	$\frac{1}{4} \times \frac{9}{16}$
.01	400 VDC	$\frac{1}{4} \times \frac{9}{16}$			

TYPE P89ZXY Hermetically Sealed Tubulars



Hermetically sealed metallized paper capacitors. Sealed in metal cases with rubber bakelite end seals. Impregnated with Hyvol K or Hyvol M, these units are manufactured for operating temperature of -55°C. to +70°C. without voltage derating and operation up to 95°C. ambient with derating. Standard units are furnished without insulating tube or bracket (P89ZXY). Standard tolerance $\pm 20\%$. Also available in $\pm 10\%$ and $\pm 5\%$ on special order.

Style Variations

- P89Z — with cardboard insulating sleeve and radial mounting bracket
- P89ZXP — without mounting bracket but with plastic insulating sleeve.
- P89ZXY — without insulating sleeve or mounting bracket.
- P89ZY — without insulating sleeve but with radial mounting bracket.

Cap. Mfd.	Size 150 VDC	Size 200 VDC	Size 400 VDC	Size 600 VDC
.01				$\frac{3}{8} \times 1$
.02				$\frac{3}{8} \times 1$
.03			$\frac{3}{8} \times 1$	$\frac{3}{8} \times 1$
.05		$\frac{3}{8} \times 1$	$\frac{3}{8} \times 1$	$\frac{3}{8} \times 1$
.1		$\frac{7}{16} \times 1$	$\frac{7}{16} \times 1\frac{1}{8}$	$\frac{1}{2} \times 1\frac{1}{8}$
.25		$\frac{1}{2} \times 1$	$\frac{3}{8} \times 1\frac{1}{8}$	$\frac{3}{8} \times 1\frac{1}{8}$
.5		$\frac{1}{2} \times 1\frac{1}{8}$	$\frac{3}{8} \times 2$	$\frac{3}{4} \times 2$
1.0		$\frac{3}{8} \times 1\frac{1}{2}$	$\frac{3}{8} \times 2\frac{1}{2}$	$1\frac{1}{8} \times 2\frac{1}{2}$
2.0		$\frac{3}{8} \times 2$	$1 \times 2\frac{1}{2}$	$1\frac{1}{4} \times 2\frac{1}{2}$
3.0	$\frac{3}{4} \times 2$			
4.0	$1\frac{1}{16} \times 2$			
6.0	1×2			

TYPE P92ZN



High Temperature Tubulars

AEROVOX type P92ZN Aerolene impregnated metallized-paper capacitors are modified plastic tubular type. Duranite end-sealed capacitors in paper cases. Operating temperature range is -30°C. +100°C. Dimensional Tolerance $\pm \frac{1}{32}$ " on diameter and length

Capacity	200 V	400 V	600 V
.01	$\frac{3}{16} \times \frac{9}{16}$	$\frac{1}{4} \times 2\frac{1}{32}$	$\frac{9}{32} \times 2\frac{1}{32}$
.02	$\frac{3}{16} \times 2\frac{1}{32}$	$\frac{3}{16} \times 2\frac{1}{32}$	$\frac{3}{8} \times 2\frac{1}{32}$
.03	$\frac{3}{16} \times 2\frac{1}{32}$	$\frac{3}{16} \times 2\frac{1}{32}$	$1\frac{1}{32} \times 2\frac{1}{32}$
.05	$\frac{3}{16} \times 2\frac{1}{32}$	$\frac{3}{16} \times 2\frac{1}{32}$	$1\frac{1}{32} \times 2\frac{1}{32}$
.1	$\frac{9}{32} \times 2\frac{1}{32}$	$\frac{3}{8} \times 1\frac{1}{32}$	$1\frac{1}{32} \times 1\frac{1}{32}$
.25	$\frac{7}{16} \times 2\frac{1}{32}$	$\frac{9}{16} \times 1\frac{1}{32}$	$\frac{7}{8} \times 1\frac{1}{32}$
.5	$1\frac{1}{32} \times 1\frac{1}{32}$	$\frac{3}{4} \times 1\frac{1}{8}$	$1\frac{1}{16} \times 1\frac{1}{8}$
1.0	$\frac{3}{4} \times 1\frac{1}{32}$	$\frac{3}{4} \times 1\frac{1}{8}$	$1\frac{1}{16} \times 1\frac{1}{8}$
2.0	$\frac{3}{4} \times 1\frac{1}{8}$	$1\frac{1}{16} \times 2\frac{1}{8}$	$1\frac{1}{16} \times 2\frac{1}{8}$

TYPE P123ZNN

Low-Voltage Metal-Cased Capacitors

Rated at 50 VDCW



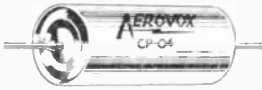
Specifically designed for transistor applications. Housed in tubular metal case with glass terminal seal and extended electrode construction. Exclusive Aerovox type NN solid impregnant enables these units to be used at any voltage up to rated voltage. Temperature range -65°C to +85°C. P123ZNN and P123ZNNP are case insulated. Case grounded construction (P123ZNNNG and P123ZNNNGP) available on special order. Standard tolerance $\pm 20\%$. Suffix "P" denotes plastic insulating tube.

Capacity	P123ZNN	P123ZNNP
.047	.195 x $\frac{1}{16}$	.257 x $\frac{7}{8}$
.068	.195 x $\frac{1}{16}$	.257 x $\frac{7}{8}$
.1	.195 x $\frac{1}{16}$	.257 x 1
.15	.235 x $\frac{1}{16}$	.297 x 1
.22	.312 x $\frac{1}{16}$	.374 x $\frac{7}{8}$
.33	.312 x $1\frac{1}{8}$	.374 x $1\frac{1}{8}$
.47	.312 x $1\frac{1}{8}$	.374 x $1\frac{1}{4}$
.68	.400 x $1\frac{1}{8}$	.462 x $1\frac{1}{8}$
1.0	.400 x $1\frac{1}{8}$	.462 x $1\frac{1}{8}$
1.5	.500 x $1\frac{1}{8}$	.562 x $1\frac{1}{8}$
2.0	.562 x $1\frac{1}{8}$	.624 x $1\frac{1}{8}$
3.0	.562 x $1\frac{1}{8}$	.624 x $1\frac{1}{2}$
4.0	.670 x $1\frac{1}{8}$	.732 x $1\frac{1}{2}$

ALL TYPES ON THIS PAGE AVAILABLE IN CLOSER TOLERANCE ON SPECIAL ORDER

AEROVOX

**CAPACITORS
RESISTORS**



**INDUSTRIAL SECTION — MIL TYPES
MIL-C-25A CAPACITORS**



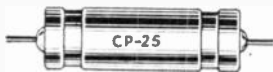
Hermetically sealed tubular capacitors with glass terminal seal and axial wire leads. Characteristic E for operation at -65 to +100°C. Characteristic K for operation at -65 to +125°C. CP04 and CP05 are inserted tab construction; CP08 and CP09 are extended foil construction. Standard tolerance is -10% (K). Also available in ±20% (M).

TYPES CPO4 and CPO5 — Characteristics E and K

CAPACITY	VOLTAGE	CPO4, CHAR. E		CPO4, CHAR. K		CPO5, CHAR. E		CPO5, CHAR. K	
		P123S	P123SG	P323S	P323SG	P123SP	P123SGP	P323SP	P323SGP
		NO TUBE		NO TUBE		PLASTIC TUBE		PLASTIC TUBE	
		Case	Floating	Case	Floating	Case	Floating	Case	Floating
.033	100V	CP04A1EB333K	CP04A3EB333K	CP04A1KB333K	CP04A3KB333K	CP05A1EB333K	CP05A3EB333K	CP05A1KB333K	CP05A3KB333K
.1	100V	CP04A1EB104K	CP04A3EB104K	CP04A1KB104K	CP04A3KB104K	CP05A1EB104K	CP05A3EB104K	CP05A1KB104K	CP05A3KB104K
.15	100V	CP04A1EB154K	CP04A3EB154K	CP04A1KB154K	CP04A3KB154K	CP05A1EB154K	CP05A3EB154K	CP05A1KB154K	CP05A3KB154K
.22	100V	CP04A1EB224K	CP04A3EB224K	CP04A1KB224K	CP04A3KB224K	CP05A1EB224K	CP05A3EB224K	CP05A1KB224K	CP05A3KB224K
.33	100V	CP04A1EB334K	CP04A3EB334K	CP04A1KB334K	CP04A3KB334K	CP05A1EB334K	CP05A3EB334K	CP05A1KB334K	CP05A3KB334K
.47	100V	CP04A1EB474K	CP04A3EB474K	CP04A1KB474K	CP04A3KB474K	CP05A1EB474K	CP05A3EB474K	CP05A1KB474K	CP05A3KB474K
.68	100V	CP04A1EB684K	CP04A3EB684K	CP04A1KB684K	CP04A3KB684K	CP05A1EB684K	CP05A3EB684K	CP05A1KB684K	CP05A3KB684K
1.0	100V	CP04A1EB105K	CP04A3EB105K	CP04A1KB105K	CP04A3KB105K	CP05A1EB105K	CP05A3EB105K	CP05A1KB105K	CP05A3KB105K
.015	200V	CP04A1EC153K	CP04A3EC153K	CP04A1KC153K	CP04A3KC153K	CP05A1EC153K	CP05A3EC153K	CP05A1KC153K	CP05A3KC153K
.022	200V	CP04A1EC223K	CP04A3EC223K	CP04A1KC223K	CP04A3KC223K	CP05A1EC223K	CP05A3EC223K	CP05A1KC223K	CP05A3KC223K
.047	200V	CP04A1EC473K	CP04A3EC473K	CP04A1KC473K	CP04A3KC473K	CP05A1EC473K	CP05A3EC473K	CP05A1KC473K	CP05A3KC473K
.068	200V	CP04A1EC683K	CP04A3EC683K	CP04A1KC683K	CP04A3KC683K	CP05A1EC683K	CP05A3EC683K	CP05A1KC683K	CP05A3KC683K
.1	200V	CP04A1EC104K	CP04A3EC104K	CP04A1KC104K	CP04A3KC104K	CP05A1EC104K	CP05A3EC104K	CP05A1KC104K	CP05A3KC104K
.15	200V	CP04A1EC154K	CP04A3EC154K	CP04A1KC154K	CP04A3KC154K	CP05A1EC154K	CP05A3EC154K	CP05A1KC154K	CP05A3KC154K
.22	200V	CP04A1EC224K	CP04A3EC224K	CP04A1KC224K	CP04A3KC224K	CP05A1EC224K	CP05A3EC224K	CP05A1KC224K	CP05A3KC224K
.33	200V	CP04A1EC334K	CP04A3EC334K	CP04A1KC334K	CP04A3KC334K	CP05A1EC334K	CP05A3EC334K	CP05A1KC334K	CP05A3KC334K
.47	200V	CP04A1EC474K	CP04A3EC474K	CP04A1KC474K	CP04A3KC474K	CP05A1EC474K	CP05A3EC474K	CP05A1KC474K	CP05A3KC474K
.68	200V	CP04A1EC684K	CP04A3EC684K	CP04A1KC684K	CP04A3KC684K	CP05A1EC684K	CP05A3EC684K	CP05A1KC684K	CP05A3KC684K
1.0	200V	CP04A1EC105K	CP04A3EC105K	CP04A1KC105K	CP04A3KC105K	CP05A1EC105K	CP05A3EC105K	CP05A1KC105K	CP05A3KC105K
.01	400V	CP04A1EE103K	CP04A3EE103K	CP04A1KE103K	CP04A3KE103K	CP05A1EE103K	CP05A3EE103K	CP05A1KE103K	CP05A3KE103K
.033	400V	CP04A1EE333K	CP04A3EE333K	CP04A1KE333K	CP04A3KE333K	CP05A1EE333K	CP05A3EE333K	CP05A1KE333K	CP05A3KE333K
.047	400V	CP04A1EE473K	CP04A3EE473K	CP04A1KE473K	CP04A3KE473K	CP05A1EE473K	CP05A3EE473K	CP05A1KE473K	CP05A3KE473K
.068	400V	CP04A1EE683K	CP04A3EE683K	CP04A1KE683K	CP04A3KE683K	CP05A1EE683K	CP05A3EE683K	CP05A1KE683K	CP05A3KE683K
.1	400V	CP04A1EE104K	CP04A3EE104K	CP04A1KE104K	CP04A3KE104K	CP05A1EE104K	CP05A3EE104K	CP05A1KE104K	CP05A3KE104K
.15	400V	CP04A1EE154K	CP04A3EE154K	CP04A1KE154K	CP04A3KE154K	CP05A1EE154K	CP05A3EE154K	CP05A1KE154K	CP05A3KE154K
.22	400V	CP04A1EE224K	CP04A3EE224K	CP04A1KE224K	CP04A3KE224K	CP05A1EE224K	CP05A3EE224K	CP05A1KE224K	CP05A3KE224K
.33	400V	CP04A1EE334K	CP04A3EE334K	CP04A1KE334K	CP04A3KE334K	CP05A1EE334K	CP05A3EE334K	CP05A1KE334K	CP05A3KE334K
.47	400V	CP04A1EE474K	CP04A3EE474K	CP04A1KE474K	CP04A3KE474K	CP05A1EE474K	CP05A3EE474K	CP05A1KE474K	CP05A3KE474K
.68	400V	CP04A1EE684K	CP04A3EE684K	CP04A1KE684K	CP04A3KE684K	CP05A1EE684K	CP05A3EE684K	CP05A1KE684K	CP05A3KE684K
1.0	400V	CP04A1EE105K	CP04A3EE105K	CP04A1KE105K	CP04A3KE105K	CP05A1EE105K	CP05A3EE105K	CP05A1KE105K	CP05A3KE105K
.001	600V	CP04A1EF102K	CP04A3EF102K	CP04A1KF102K	CP04A3KF102K	CP05A1EF102K	CP05A3EF102K	CP05A1KF102K	CP05A3KF102K
.0015	600V	CP04A1EF152K	CP04A3EF152K	CP04A1KF152K	CP04A3KF152K	CP05A1EF152K	CP05A3EF152K	CP05A1KF152K	CP05A3KF152K
.0022	600V	CP04A1EF222K	CP04A3EF222K	CP04A1KF222K	CP04A3KF222K	CP05A1EF222K	CP05A3EF222K	CP05A1KF222K	CP05A3KF222K
.0033	600V	CP04A1EF332K	CP04A3EF332K	CP04A1KF332K	CP04A3KF332K	CP05A1EF332K	CP05A3EF332K	CP05A1KF332K	CP05A3KF332K
.0047	600V	CP04A1EF472K	CP04A3EF472K	CP04A1KF472K	CP04A3KF472K	CP05A1EF472K	CP05A3EF472K	CP05A1KF472K	CP05A3KF472K
.0068	600V	CP04A1EF582K	CP04A3EF582K	CP04A1KF582K	CP04A3KF582K	CP05A1EF582K	CP05A3EF582K	CP05A1KF582K	CP05A3KF582K
.01	600V	CP04A1EF103K	CP04A3EF103K	CP04A1KF103K	CP04A3KF103K	CP05A1EF103K	CP05A3EF103K	CP05A1KF103K	CP05A3KF103K
.015	600V	CP04A1EF153K	CP04A3EF153K	CP04A1KF153K	CP04A3KF153K	CP05A1EF153K	CP05A3EF153K	CP05A1KF153K	CP05A3KF153K
.022	600V	CP04A1EF223K	CP04A3EF223K	CP04A1KF223K	CP04A3KF223K	CP05A1EF223K	CP05A3EF223K	CP05A1KF223K	CP05A3KF223K
.033	600V	CP04A1EF333K	CP04A3EF333K	CP04A1KF333K	CP04A3KF333K	CP05A1EF333K	CP05A3EF333K	CP05A1KF333K	CP05A3KF333K
.047	600V	CP04A1EF473K	CP04A3EF473K	CP04A1KF473K	CP04A3KF473K	CP05A1EF473K	CP05A3EF473K	CP05A1KF473K	CP05A3KF473K
.068	600V	CP04A1EF683K	CP04A3EF683K	CP04A1KF683K	CP04A3KF683K	CP05A1EF683K	CP05A3EF683K	CP05A1KF683K	CP05A3KF683K
.1	600V	CP04A1EF104K	CP04A3EF104K	CP04A1KF104K	CP04A3KF104K	CP05A1EF104K	CP05A3EF104K	CP05A1KF104K	CP05A3KF104K
.15	600V	CP04A1EF154K	CP04A3EF154K	CP04A1KF154K	CP04A3KF154K	CP05A1EF154K	CP05A3EF154K	CP05A1KF154K	CP05A3KF154K
.22	600V	CP04A1EF224K	CP04A3EF224K	CP04A1KF224K	CP04A3KF224K	CP05A1EF224K	CP05A3EF224K	CP05A1KF224K	CP05A3KF224K
.33	600V	CP04A1EF334K	CP04A3EF334K	CP04A1KF334K	CP04A3KF334K	CP05A1EF334K	CP05A3EF334K	CP05A1KF334K	CP05A3KF334K
.47	600V	CP04A1EF474K	CP04A3EF474K	CP04A1KF474K	CP04A3KF474K	CP05A1EF474K	CP05A3EF474K	CP05A1KF474K	CP05A3KF474K
.68	600V	CP04A1EF684K	CP04A3EF684K	CP04A1KF684K	CP04A3KF684K	CP05A1EF684K	CP05A3EF684K	CP05A1KF684K	CP05A3KF684K

MIL-C-25A

TYPES CP-25, CP26, CP27, CP28, CP29



Oil impregnated and filled hermetically sealed tubular capacitors for use in bypass and coupling applications in transmitters and test equipment. Available in 5 case styles, with plastic insulating sleeve and either radial or soldered tangential bracket. Case is floating, but can be furnished grounded on special order. Standard tolerance is ±20% tolerance (M).

CAPACITY	VOLTAGE	P89MX	P89XP	P89MY	P89MP	P89MAY
.1	200V	CP25A1EC104K	CP26A1EC104K	CP27A1EC104K	CP28A1EC104K	CP29A1EC104K
.25	200V	CP25A1EC254K	CP26A1EC254K	CP27A1EC254K	CP28A1EC254K	CP29A1EC254K
.5	200V	CP25A1EC504K	CP26A1EC504K	CP27A1EC504K	CP28A1EC504K	CP29A1EC504K
.003	600V	CP25A1EF302K	CP26A1EF302K	CP27A1EF302K	CP28A1EF302K	CP29A1EF302K
.006	600V	CP25A1EF602K	CP26A1EF602K	CP27A1EF602K	CP28A1EF602K	CP29A1EF602K
.01	600V	CP25A1EF103K	CP26A1EF103K	CP27A1EF103K	CP28A1EF103K	CP29A1EF103K
.02	600V	CP25A1EF203K	CP26A1EF203K	CP27A1EF203K	CP28A1EF203K	CP29A1EF203K
.05	600V	CP25A1EF503K	CP26A1EF503K	CP27A1EF503K	CP28A1EF503K	CP29A1EF503K
.1	600V	CP25A1EF104K	CP26A1EF104K	CP27A1EF104K	CP28A1EF104K	CP29A1EF104K
.25	600V	CP25A1EF254K	CP26A1EF254K	CP27A1EF254K	CP28A1EF254K	CP29A1EF254K
.5	600V	CP25A1EF504K	CP26A1EF504K	CP27A1EF504K	CP28A1EF504K	CP29A1EF504K
.003	1000V	CP25A1EG302K	CP26A1EG302K	CP27A1EG302K	CP28A1EG302K	CP29A1EG302K
.006	1000V	CP25A1EG602K	CP26A1EG602K	CP27A1EG602K	CP28A1EG602K	CP29A1EG602K
.01	1000V	CP25A1EG103K	CP26A1EG103K	CP27A1EG103K	CP28A1EG103K	CP29A1EG103K

AEROVOX

CAPACITORS RESISTORS



INDUSTRIAL SECTION — MIL TYPES TYPE CP70

Characteristics E and F • Porcelain and Riveted Terminals

Oil impregnated and filled, large, rectangular, metal-cased capacitor for heavy-duty, continuous-service applications such as power supplied for transmitters, amplifiers, etc. immersion proof and hermetically sealed. Available with either high-voltage screw-type porcelain-pillar terminals or the space-saving riveted terminal. Pillar terminals have soldering lugs. Standard tolerance $\pm 10\%$ (K). Also available in $\pm 20\%$ tolerance (M). MIL-C-25A mounting brackets are also available for all units.

Capacity	Voltage	CHAR. E JP09M Porc. Term	Case Size and Brkt. Desig.	CHAR. F JP09M Porc. Term	Case Size and Brkt. Desig.	CHAR. E JP09MR Rivet Term	Case Size and Brkt. Desig.	CHAR. F JP09MR Rivet Term	Case Size and Brkt. Desig.
.5	600V	CP70E1EF504K	A2						
1.0	600V	CP70E1EF105K	A2						
2.0	600V	CP70E1EF205K	A4	CP70E1FF205K	A3	CP70B1EF105K	A2	CP70B1FF205K	A3
4.0	600V	CP70E1EF405K	B4	CP70E1FF405K	B3	CP70B1EF205K	A4	CP70B1FF405K	B3
6.0	600V	CP70E1EF605K	C2	CP70E1FF605K	B6	CP70B1EF405K	B4	CP70B1FF605K	B6
8.0	600V	CP70E1EF805K	C3	CP70E1FF805K	C2	CP70B1EF605K	C2	CP70B1FF805K	C2
10.0	600V	CP70E1EF106K	D3	CP70E1FF106K	C4	CP70B1EF805K	C3	CP70B1FF106K	C4
.1	1000V	CP70E1EG104K	A1						
.25	1000V	CP70E1EG254K	A2						
.5	1000V	CP70E1EG504K	A2						
1.0	1000V	CP70E1EG105K	A3	CP70E1FG105K	A2	CP70B1EG105K	A3		
2.0	1000V	CP70E1EG205K	A6	CP70E1FG205K	A5	CP70B1EG205K	A6	CP70B1FG205K	A5
4.0	1000V	CP70E1EG405K	C2	CP70E1FG405K	B6	CP70B1EG405K	C2	CP70B1FG405K	B6
6.0	1000V	CP70E1EG605K	D3	CP70E1FG605K	C4	CP70B1EG605K	D3	CP70B1FG605K	C4
8.0	1000V	CP70E1EG805K	D5			CP70B1EG805K	D5	CP70B1FG805K	D2
10.0	1000V	CP70E1EG106K	E5	CP70E1FG106K	D5	CP70B1EG106K	E5	CP70B1FG106K	D5
12.0	1000V	CP70E1EG126K	E6			CP70B1EG126K	E6	CP70B1FG126K	E4
15.0	1000V	CP70E1EG156K	G2	CP70E1FG156K	F1	CP70B1EG156K	G2	CP70B1FG156K	F1
.5	1500V	CP70E1EH504K	A3			CP70B1EH504K	A3		
1.0	1500V	CP70E1EH105K	A6	CP70E1FH105K	A5	CP70B1EH105K	A6		
2.0	1500V	CP70E1EH205K	B6	CP70E1FH205K	B5	CP70B1EH205K	B5	CP70B1FH205K	B5
4.0	1500V	CP70E1EH405K	D4	CP70E1FH405K	C4	CP70B1EH405K	D4	CP70B1FH405K	C4
6.0	1500V	CP70E1EH605K	E5	CP70E1FH605K	D5	CP70B1EH605K	E5	CP70B1FH605K	D5
8.0	1500V	CP70E1EH805K	F2	CP70E1FH805K	F1	CP70B1EH805K	F2	CP70B1FH805K	F1
10.0	1500V	CP70E1EH106K	G4	CP70E1FH106K	G2	CP70B1EH106K	G4	CP70B1FH106K	G2
12.0	1500V	CP70E1EH126K	J3	CP70E1FH126K	G2	CP70B1EH126K	J3	CP70B1FH126K	G2
15.0	1500V	CP70E1EH156K	J6	CP70E1FH156K	J3	CP70B1EH156K	J6	CP70B1FH156K	J3
.1	2000V	CP70E1EJ104K	B1						
.25	2000V	CP70E1EJ254K	B1						
.5	2000V	CP70E1EJ504K	B2						
1.0	2000V	CP70E1EJ105K	B6	CP70E1FJ105K	B3				
2.0	2000V	CP70E1EJ205K	C4	CP70E1FJ205K	C3				
4.0	2000V	CP70E1EJ405K	E6	CP70E1FJ405K	E3				
6.0	2000V			CP70E1FJ605K	G1				
10.0	2000V			CP70E1FJ106K	J3				
12.0	2000V			CP70E1FJ126K	J5				
15.0	2000V			CP70E1FJ156K	J7				
.5	2500V	CP70E1EK504K	B4	CP70E1FK504K	B3				
1.0	2500V	CP70E1EK105K	D2	CP70E1FK105K	D1				
2.0	2500V	CP70E1EK205K	E5	CP70E1FK205K	D5				
4.0	2500V	CP70E1EK405K	J2						
10.0	2500V	CP70E1EK106K	J10						
.1	3000V	CP70E1EL104K	B2						
.25	3000V	CP70E1EL254K	B3						
.5	3000V	CP70E1EL504K	B6						
1.0	3000V	CP70E1EL105K	E4						
2.0	3000V	CP70E1EL205K	G2	CP70E1FL205K	G1				
4.0	3000V	CP70E1EL405K	J7	CP70E1FL405K	J3				
.1	4000V	CP70E1EM104K	E1						
.25	4000V			CP70E1FM254K	E1				
.5	4000V			CP70E1FM504K	E3				
1.0	4000V			CP70E1FM105K	E6				
2.0	4000V			CP70E1FM205K	J4				
4.0	4000V			CP70E1FM405K	J10				
.1	5000V	CP70E1EM405K	J11						
.25	5000V	CP70E1EN104K	E1						
.5	5000V	CP70E1EN254K	E3						
1.0	5000V	CP70E1EN504K	E6	CP70E1FN504K	E4				
2.0	5000V			CP70E1FN125K	J2				
.1	6000V	CP70D1EP104K	E3	CP70E1FN205K	J6				
.25	6000V	CP70D1EP254K	E5	CP70D1FP104K	E2				
.5	6000V	CP70D1EP504K	J3	CP70D1FP254K	E4				
1.0	6000V								
.1	7500V			CP70D1FP105K	J9				
.25	7500V			CP70D1FR104K	E3				
.5	7500V			CP70D1FR254K	J1				
	7500V			CP70D1FR504K	J4				

A1	1 1/8 x 1 1/8 x 1 1/8	E2	3/4 x 2 1/4 x 3 3/8
A2	1 1/8 x 1 1/8 x 2 1/4	E3	3/4 x 2 1/4 x 4 1/2
A3	1 1/8 x 1 1/8 x 2 7/8	E4	3/4 x 2 1/4 x 4 1/2
A4	1 1/8 x 1 1/8 x 3 1/4	E5	3/4 x 2 1/4 x 4 3/4
A5	1 1/8 x 1 1/8 x 3 7/8	F6	3/4 x 2 1/4 x 5 1/8
A6	1 1/8 x 1 1/8 x 4 3/4	F1	3/4 x 2 1/2 x 4 3/4
B1	2 1/2 x 1 3/8 x 2 1/2	F2	3/4 x 2 1/2 x 5 3/4
B2	2 1/2 x 1 3/8 x 2 7/8	G1	3/4 x 3 1/8 x 4 1/2
B3	2 1/2 x 1 3/8 x 3 1/2	G2	3/4 x 3 1/8 x 4 3/4
B4	2 1/2 x 1 3/8 x 3 7/8	G4	3/4 x 3 1/8 x 5 1/2
B5	2 1/2 x 1 3/8 x 4 1/4	J1	4 1/8 x 3 3/4 x 3 7/8
B6	2 1/2 x 1 3/8 x 4 3/4	J2	4 1/8 x 3 3/4 x 4 3/8
C2	3 3/4 x 1 1/4 x 3 7/8	J3	4 1/8 x 3 3/4 x 4 3/4
C3	3 3/4 x 1 1/4 x 4 1/4	J4	4 1/8 x 3 3/4 x 5 1/4
C4	3 3/4 x 1 1/4 x 4 3/4	J5	4 1/8 x 3 3/4 x 5 1/2
D1	3 3/4 x 1 3/4 x 3 1/4	J6	4 1/8 x 3 3/4 x 6
D2	3 3/4 x 1 3/4 x 3 7/8	J7	4 1/8 x 3 3/4 x 6 1/2
D3	3 3/4 x 1 3/4 x 4	J9	4 1/8 x 3 3/4 x 7 1/2
D4	3 3/4 x 1 3/4 x 4 1/4	J10	4 1/8 x 3 3/4 x 8 1/2
D5	3 3/4 x 1 3/4 x 4 3/4	J11	4 1/8 x 3 3/4 x 9 1/2
E1	3 3/4 x 2 1/4 x 2 3/4		

If MIL brackets are required with units, specify CP07S (spade) or CP07F (footed) and add the bracket designation listed beside the unit.
Example: CP70E1EF504K with CP07SA2 brackets.



TYPE CP41 — Characteristics E and F

Cylindrical, hermetically sealed can with screwbase molded cover for vertical mounting. Operating temperature range $-55 + 85^{\circ}\text{C}$. Solder lug, nonremovable terminals ML designation B). Supplied with mounting nut and lockwasher. Standard tolerance $\pm 10\%$ (K). Also available in $\pm 20\%$ (M).

CAPACITY	VOLTAGE	CHAR. E JP10M	CHAR. F JP10M
2.0	600V	CP41B1EF205K	CP41B1FF205K
4.0	600V	CP41B1EF405K	CP41B1FF405K
1.0	1000V	CP41B1EG105K	CP41B1FG105K
2.0	1000V	CP41B1EG205K	CP41B1FG205K
.5	1500V		CP41B1FH504K
1.0	1500V		CP41B1FH105K

AEROVOX

CAPACITORS RESISTORS



CP63, CP65 — Characteristic E

Compact, oil impregnated and filled, rectangular units. Immersion proof and hermetically sealed. Dual section has case grounded. Channel brackets attached. Standard tolerance on single section units, $\pm 10\%$ (K), on multiple section units $+20 -10\%$ (V).

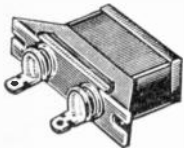
Cap.	Voltage	JP16MCT Top Term.	JP16MCB Bottom Term.
.1	400V	CP63B1EE104K	CP65B1EE104K
.25	400V	CP63B1EE254K	
1.0	400V	CP63B1EE105K	
.05	600V	CP63B1EF503K	CP65B1EF503K
.1	600V	CP63B1EF104K	CP65B1EF104K
.25	600V	CP63B1EF254K	CP65B1EF254K
.5	600V	CP63B1EF504K	CP65B1EF504K
1.0	600V	CP63B1EF105K	CP65B1EF105K
2X.05	600V	CP63B6EF503V	CP65B6EF503V
2X.1	600V	CP63B6EF104V	CP65B6EF104V
2X.25	600V	CP63B6EF254V	CP65B6EF254V
2X.5	600V	CP63B6EF504V	CP65B6EF504V
.01	1000V	CP63B1EG103K	CP65B1EG103K
.02	1000V	CP63B1EG203K	CP65B1EG203K
.05	1000V	CP63B1EG503K	CP65B1EG503K
.1	1000V	CP63B1EG104K	
.25	1000V	CP63B1EG254K	
.5	1000V	CP63B1EG504K	



CP90, CP91 — Characteristic E

New MIL-C-25A type designations for variations of capacitor formerly listed as CP61. Base size CP90— $1\frac{1}{8} \times 1\frac{1}{4}$, CP91— $1\frac{1}{8} \times 5/8$. Brackets must be ordered separately and are not interchangeable. Specify CP090 or CP091. Add S for Spade; F for Footed.

Cap.	Voltage	JP16M No Brackets	JP116M Special No Brackets
.1	400V	CP90B1EE104K	CP91B1EE104K
.25	400V	CP90B1EE254K	CP91B1EE254K
1.0	400V	CP90B1EE105K	CP91B1EE105K
.05	600V	CP90B1EF503K	CP91B1EF503K
.1	600V	CP90B1EF104K	CP91B1EF104K
.25	600V	CP90B1EF254K	CP91B1EF254K
.5	600V	CP90B1EF504K	CP91B1EF504K
1.0	600V	CP90B1EF105K	CP91B1EF105K
2X.05	600V	CP90B6EF503V	CP91B6EF503V
2X.1	600V	CP90B6EF104V	CP91B6EF104V
2X.25	600V	CP90B6EF254V	CP91B6EF254V
2X.5	600V	CP90B6EF504V	CP91B6EF504V
.01	1000V	CP90B1EG103K	CP91B1EG103K
.02	1000V	CP90B1EG203K	CP91B1EG203K
.05	1000V	CP90B1EG503K	CP91B1EG503K
.1	1000V	CP90B1EG104K	CP91B1EG104K
.25	1000V	CP90B1EG254K	CP91B1EG254K
.5	1000V	CP90B1EG504K	CP91B1EG504K

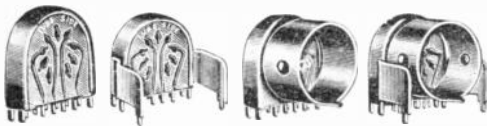


TYPES CP67, CP69 — Characteristics E

Oil impregnated and filled unit, rectangular cased. Similar to CP90 except additional length in base size of $1\frac{3}{4} \times 5/8$ permits 2 or 3 sections, case floating. Single units can also be used for special applications where type CP90 does not fit. Both CP67 and CP69 supplied with channel brackets attached. Standard tolerance on single section units $\pm 10\%$ (K), on multiple section units $+20 -10\%$ (V).

Capacity	Voltage	JP18MCT Top Terminal	JP18MCB Bottom Terminal	Capacity	Voltage	JP18MCT Top Terminal	JP18MCB Bottom Terminal
.05	600V	CP67B1EF503K	CP69B1EF503K	.05	1000V	CP67B1EG503K	CP69B1EG503K
.1	600V	CP67B1EF104K	CP69B1EF104K	.1	1000V		CP69B1EG104K
.25	600V	CP67B1EF254K	CP69B1EF254K	.25	1000V		CP69B1EG254K
.5	600V	CP67B1EF504K	CP69B1EF504K	.5	1000V		CP69B1EG504K
1.0	600V	CP67B1EF105K	CP69B1EF105K	2X.01	1000V		CP69B4EG103V
2X.05	600V	CP67B4EF503V	CP69B4EF503V	2X.02	1000V		CP69B4EG203V
2X.1	600V	CP67B4EF104V	CP69B4EF104V	2X.05	1000V		CP69B4EG503V
2X.25	600V	CP67B4EF254V	CP69B4EF254V	2X.1	1000V		CP69B4EG104V
2X.5	600V	CP67B4EF504V	CP69B4EF504V	2X.25	1000V		CP69B4EG254V
3X.05	600V	CP67B5EF503V	CP69B5EF503V	3X.01	1000V		CP69B5EG103V
3X.1	600V	CP67B5EF104V	CP69B5EF104V	3X.02	1000V		CP69B5EG203V
3X.25	600V	CP67B5EF254V	CP69B5EF254V	3X.05	1000V		CP69B5EG503V
.01	1000V	CP67B1EG103K	CP69B1EG103K	3X.1	1000V		CP69B5EG104V
.02	1000V	CP67B1EG203K	CP69B1EG203K				

** RIGHT ANGLE TUBE SOCKETS



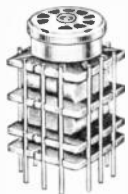
Type A Type AX Type B Type BX
Ordering Example: RA7A = (Type A 7 Pin Socket)

Available in 7-pin and 9-pin types in four styles, these sockets are designed to meet existing MIL Specifications. Active contacts are silver plated and non-fatiguing contact pressure provides proper insertion and withdrawal pressure with a minimum of contact resistance. Ideal for hand or mechanical insertion into printed-wiring boards using simple in-line punched round holes. Templates are furnished with each socket. Long terminals permit use of sockets on wide range of board thickness.

Type A — for general purpose applications.
Type AX — for special applications (military and commercial) where extra strength and rigidity are required.
Type B — same as Type A except tube shield shell added.
Type BX — same as Type AX except tube shield shell added.

RA 7 — 7 pin right angle tube socket. RA 9 — 9 pin right angle tube socket

** MODULIZED STANDARD CIRCUITS



Modules are comprised of uniformly standard, stacked seatite wafers combining the required resistive, capacity and inductive components to form a completely reliable, ruggedly compact electronic circuit.

Based on a study conducted by the National Bureau of Standards, the modules listed below were chosen as representative of circuits appearing in both military and commercial equipment. In all cases, similar functional circuits have been in use for at least 10 years without major improvement. Accessories, such as the twelve position bread board*, the individual module mounting socket† and mounting socket and banana plugs are available to facilitate the inter-connecting of standard circuit modules to form complete electronic sub-assemblies.

Part No.	Description
A1001	Linear Amplifier, Low Level.
A1002	Linear Amplifier, Intermediate.
A1003	Linear Amplifier, Phase inverter-driver.
C1002	Flip-flop, 1 megacycle.
G1001	PRF Multivibrator.

* MBB-12

Part No.	Description
P1001	Video Limiter.
P1002	Low-level Cathode Follower.
P1003	Common Cathode Mixer or Dual Cathode Follower.
P1004	Cascade Intermediate Video Amplifier.
P1005	Triode Video Driver Amplifier.

† MBB-1

Part No.	Description
P1006	Dual High Level Cathode Follower.
R1001	DC Regulator Plus or minus 300V.
R1002	DC Regulator, Plus or Minus 150V.
T1001	Variable Time Delay Monostable Multivibrator.
T1002	Phantastron Delay.

AEROVOX

CAPACITORS RESISTORS

CERAMICS

Hi-Q CAPACITORS

Ceramic disc and tubular capacitors may be roughly divided into two main categories; namely, General Purpose (including By-pass and Coupling) and Temperature Compensating. The Aerovox line furnishes both tubular and disc-type ceramics in both categories as well as many special purpose types, including Stand-off, Feed-thru, High-voltage Cartwheels and Plate Assemblies.

All general purpose units are marked with Aerovox name or trademark, capacity and voltage, if other than standard.

All temperature compensating units are color-coded in accordance with RETMA Specifications REC107A.

Bypass Coupling Capacitors (BPD) are furnished in GMV (Guaranteed Minimum Value) capacity tolerance since in applications such as in screen grid bypassing, capacity is not a critical characteristic. Due to this fact, Hi-K (Hi Dielectric constant) bodies are used, resulting in the smallest size body for a given capacity.

General purpose capacitors (DI-SI-CI), on the other hand, are recommended for circuits where capacity is more critical such as RC networks, etc. Since capacity tolerance in these cases is $\pm 20\%$ or less, Hi-K bodies cannot be used. Therefore, sizes of this type of unit are larger than the bypass coupling type.

Temperature compensating units (NPO, N750 in discs and tubular) are for use in critical applications where capacity must not change appreciably with changes in temperature; for example, resonant

circuits or any other application where stability of capacity is necessary.

Since the temperature coefficient is determined by the ceramic mix, all temperature compensating units are manufactured to standard tolerance

Unless otherwise specified, the tolerance on the temperature coefficient is as follows:

Temp. Coef.	Tolerance PPM
NPO	$\pm 30\%$
N080	$\pm 30\%$
N330	$\pm 500\%$
N750	$\pm 100\%$

It should be noted that this is the tolerance of the temperature coefficient and not on the capacity value

All ceramic capacitors are made by firing the silver electrodes directly to the ceramic dielectric to assure low noise operation. Units are coated with a non-Hygroscopic Phenolic or sealed in Steatite tubes and then impregnated with micro-crystalline wax which helps protect the units from humidity.

The special items such as feed-thru, stand-off, high-voltage cartwheels and printed assemblies are manufactured to complete a full line of ceramic capacitors for replacement as well as industrial use.

Hi-Q DISK CAPACITORS



DISK CAPACITORS Bypass and Coupling

BPD-GMV CAPACITOR Stock Items 1000 VDCW Singles

Type	Cap. Mfd.	Dia.	Type	Cap. Mfd.	Dia.
BPD	.00001	$\frac{3}{16}$	BPD	.0033	$\frac{3}{16}$
BPD	.000015	$\frac{3}{16}$	BPD	.004	$\frac{3}{16}$
BPD	.000022	$\frac{3}{16}$	BPD	.0047	$\frac{1}{32}$
BPD	.000025	$\frac{3}{16}$	BPD	.005	$\frac{1}{32}$
BPD	.000033	$\frac{3}{16}$	BPD	.0068	$\frac{1}{32}$
BPD	.000047	$\frac{3}{16}$	BPD	.01	$\frac{3}{8}$
BPD	.00005	$\frac{3}{16}$	BPD	.015	$\frac{3}{8}$
BPD	.000068	$\frac{3}{16}$	BPD	.02	$\frac{1}{32}$
BPD	.0001	$\frac{3}{16}$	BPD	.03	$\frac{1}{32}$
BPD	.00012	$\frac{3}{16}$	BPD	.05*	$\frac{1}{32}$
BPD	.00015	$\frac{3}{16}$			
BPD	.0002	$\frac{3}{16}$			
BPD	.00027	$\frac{3}{16}$			
BPD	.00033	$\frac{3}{16}$			
BPD	.00047	$\frac{3}{16}$			
BPD	.0005	$\frac{3}{16}$			
BPD	.00068	$\frac{3}{16}$			
BPD	.0008	$\frac{3}{16}$			
BPD	.001	$\frac{3}{16}$			
BPD	.0015	$\frac{3}{16}$			
BPD	.002	$\frac{3}{8}$			
BPD	.0022	$\frac{3}{8}$			
BPD	.0025	$\frac{3}{8}$			

DUALS and TRIPLES

BPD2-2 x .001	$\frac{3}{16}$
BPD2-2 x .0015	$\frac{1}{32}$
BPD2-2 x .002	$\frac{1}{32}$
BPD2-2 x .0022	$\frac{1}{32}$
BPD2-2 x .003	$\frac{3}{8}$
BPD2-2 x .004	$\frac{3}{8}$
BPD2-2 x .0047	$\frac{3}{8}$
BPD2-2 x .01	$\frac{3}{8}$
BPD2-2 x .02	$\frac{1}{32}$
BPD3-3 x .0015	$\frac{3}{8}$
BPD3-3 x .002	$\frac{3}{8}$

* .05MFD can be supplied in 500VDCW only.

DI-DISK CAPACITORS General Purpose



Stock Items 1000 VDCW

Type	Cap. Mmfd.	Dia.	Type	Cap. Mmfd.	Dia.
DI	3.3	$\frac{3}{16}$	DI	250	$\frac{3}{16}$
DI	5	$\frac{3}{16}$	DI	270	$\frac{3}{16}$
DI	6.8	$\frac{3}{16}$	DI	300	$\frac{3}{16}$
DI	8.2	$\frac{3}{16}$	DI	330	$\frac{3}{16}$
DI	10	$\frac{3}{16}$	DI	390	$\frac{3}{16}$
DI	12	$\frac{3}{16}$	DI	470	$\frac{3}{16}$
DI	15	$\frac{3}{16}$	DI	500	$\frac{3}{16}$
DI	18	$\frac{3}{16}$	DI	560	$\frac{3}{16}$
DI	20	$\frac{3}{16}$	DI	680	$\frac{3}{16}$
DI	22	$\frac{3}{16}$	DI	750	$\frac{3}{8}$
DI	25	$\frac{3}{16}$	DI	820	$\frac{3}{8}$
DI	27	$\frac{3}{16}$	DI	1000	$\frac{3}{8}$
DI	30	$\frac{3}{16}$	DI	1200	$\frac{3}{16}$
DI	33	$\frac{3}{16}$	DI	1500	$\frac{3}{16}$
DI	39	$\frac{3}{16}$	DI	1800	$\frac{1}{32}$
DI	47	$\frac{3}{16}$	DI	2000	$\frac{1}{32}$
DI	50	$\frac{3}{16}$	DI	2200	$\frac{1}{32}$
DI	56	$\frac{3}{16}$	DI	2500	$\frac{1}{32}$
DI	68	$\frac{3}{16}$	DI	2700	$\frac{1}{32}$
DI	82	$\frac{3}{16}$	DI	3000	$\frac{1}{16}$
DI	100	$\frac{3}{16}$	DI	3300	$\frac{1}{16}$
DI	120	$\frac{3}{16}$	DI	4000	$\frac{1}{16}$
DI	150	$\frac{3}{16}$	DI	4700	$\frac{3}{8}$
DI	180	$\frac{3}{16}$	DI	5000	$\frac{3}{8}$
DI	200	$\frac{3}{16}$	DI	5600	$\frac{3}{8}$
DI	220	$\frac{3}{16}$	DI	6800	$\frac{1}{32}$
			DI	7500	$\frac{1}{32}$
			DI	10000	$\frac{1}{32}$

Standard tolerance $\pm 10\%$.

AEROVOX CAPACITORS RESISTORS

CERAMICS — (Continued)

Hi-VOLTAGE DISK CAPACITORS

General Purpose



Hi-Q high voltage disk capacitors are available in many capacities and voltage ratings. These types offer many possible uses in TV circuits where voltages above 500 are necessary. They are the ideal units for dependable day-after-day service. Hi-Q has available numerous combinations of capacity, working voltages and physical sizes. These units are manufactured to specific tolerances as listed.

1500 VDCW			1500 VDCW—(Cont'd)			3000 VDCW			6000 VDCW		
Type	Capacity Mmfd.	Dia.	Type	Capacity Mmfd.	Dia.	Type	Capacity Mmfd.	Dia.	Type	Capacity Mmfd.	Dia.
HVD-15	4.7	3/16	HVD-15	820	3/16	HVD-30	82	3/16	HVD-60	10	11/16
HVD-15	6.8	3/16	HVD-15	1000	3/16	HVD-30	100	3/16	HVD-60	15	11/16
HVD-15	10	3/16	HVD-15	1200	3/16	HVD-30	120	3/16	HVD-60	18	11/16
HVD-15	15	3/16	HVD-15	1500	11/16	HVD-30	150	3/16	HVD-60	22	11/16
HVD-15	22	3/16	HVD-15	2200	3/16	HVD-30	180	3/16	HVD-60	30	11/16
HVD-15	33	3/16	HVD-15	3300	3/16	HVD-30	220	3/16	HVD-60	33	11/16
HVD-15	39	3/16	HVD-15	4700	3/16	HVD-30	330	3/16	HVD-60	39	11/16
HVD-15	47	3/16	HVD-15	5600	13/16	HVD-30	390	3/16	HVD-60	47	11/16
HVD-15	56	3/16				HVD-30	470	3/16	HVD-60	56	11/16
HVD-15	68	3/16				HVD-30	560	3/16	HVD-60	68	11/16
HVD-15	82	3/16				HVD-30	680	3/16	HVD-60	82	11/16
HVD-15	100	3/16				HVD-30	820	3/16	HVD-60	100	11/16
HVD-15	120	3/16				HVD-30	1000	3/16	HVD-60	120	11/16
HVD-15	150	3/16				HVD-30	1200	3/16	HVD-60	150	11/16
HVD-15	180	3/16				HVD-30	1500	3/16	HVD-60	180	11/16
HVD-15	220	3/16				HVD-30	2200	3/16	HVD-60	220	11/16
HVD-15	270	3/16				HVD-30	3300	11/16	HVD-60	330	11/16
HVD-15	330	3/16							HVD-60	390	11/16
HVD-15	390	3/16							HVD-60	470	11/16
HVD-15	470	3/16									
HVD-15	560	3/16									
HVD-15	680	3/16									

VIBRATOR BUFFER CAPACITORS — DAC

1600 VDCW — GMV



Vibrator Buffer Capacitors — ceramic disks for use as buffers in car radios and similar equipment, compact, easily assembled, 1/4 the size of previous paper tubular types rated for 1600 VDCW GMV. For use as replacements only when original equipment uses ceramic buffer.

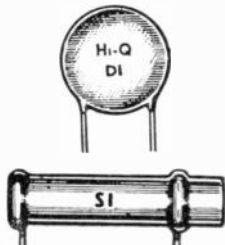
Type	Capacity Mfd.	Diameter	I	Type	Capacity Mfd.	Diameter
DAC-2	.001	11/16		DAC-9	.005	13/16
DAC-3	.002	11/16		DAC-22	.006	13/16
DAC-4	.0022	11/16		DAC-23	.0068	1
DAC-5	.003	11/16		DAC-24	.007	1
DAC-6	.0033	11/16		DAC-25	.0075	1
DAC-7	.004	13/16		DAC-26	.008	1
DAC-8	.0047	13/16		DAC-27	.01	1

Hi-Q TEMPERATURE COMPENSATING DISK CAPACITORS — 500 VDCW

NPO			NPO			N-750			N-750		
Type	Cap. Mmfd.	Dia.	Type	Cap. Mmfd.	Dia.	Type	Capacity Mmfd.	Size	Type	Capacity Mmfd.	Size
NPO-D1	1.0	3/16	NPO-D1	22	7/16	N750-D1	10	5/16	N750-D1	100	13/32
NPO-D1	1.5	3/16	NPO-D1	25	7/16	N750-D1	15	5/16	N750-D1	150	13/32
NPO-D1	2.2	3/16	NPO-D1	33	13/32	N750-D1	20	3/8	N750-D1	200	11/16
NPO-D1	3.0	3/16	NPO-D1	39	13/32	N750-D1	22	3/8	N750-D1	220	11/16
NPO-D1	3.3	3/16	NPO-D1	47	13/32	N750-D1	25	3/8	N750-D1	330	23/32
NPO-D1	4.7	3/16	NPO-D1	50	13/32	N750-D1	33	3/8	N750-D1	360	23/32
NPO-D1	5.0	3/16	NPO-D1	68	11/16	N750-D1	47	3/8	N750-D1	390	23/32
NPO-D1	6.8	3/16	NPO-D1	75	11/16	N750-D1	68	7/16	N750-D1	430	23/32
NPO-D1	8.2	3/16	NPO-D1	100	3/4	N750-D1	75	7/16			
NPO-D1	10	3/16	NPO-D1	120	23/32						
NPO-D1	15	3/8	NPO-D1	150	23/32						
NPO-D1	20	3/8									

Standard Tolerance — up to 10 mmf. ±.5 mmf., above 10 mmf. ±10%

TUBULAR and DISK CAPACITOR SIZES

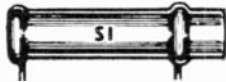


SI TUBULAR		CI TUBULAR		DI DISK	
Designation	Size	Designation	Size	Designation	Diameter
SI-1	.234 x .437	CI-1	.250 x .562	DI-0	1/4
SI-2	.234 x .687	CI-2	.250 x .812	DI-1	3/16
SI-3	.312 x 1.250	CI-3	.340 x 1.320	DI-2	3/8
SI-4	.375 x 1.093			DI-3	7/16
SI-5	.375 x 1.600			DI-4	13/32
SI-6	.375 x 1.968			DI-5	11/16
SI-7	.275 x .875			DI-6	3/4
SI-13	.234 x .468			DI-7	23/32
SI-19	.312 x .937				
SI-22	.280 x .750				
SI-27	.275 x .500				

AEROVOX

CAPACITORS RESISTORS

CERAMICS — (Continued) Hi-Q TUBULAR CAPACITORS



The items listed on this page fall into two type categories. The type SI or "Dog Bone" Durez coated tubular, and the CI which is an insulated tubular made in a ceramic tube.

GENERAL PURPOSE 500 VDCW

Cap. Mmfd.	Size	Cap. Mmfd.	Size		
5	SI-1	CI-1	470	SI-1	CI-1
10	SI-1	CI-1	500	SI-1	CI-1
12	SI-1	CI-1	510	SI-1	CI-1
15	SI-1	CI-1	560	SI-1	CI-1
18	SI-1	CI-1	680	SI-1	CI-1
20	SI-1	CI-1	750	SI-1	CI-1
22	SI-1	CI-1	820	SI-1	CI-2
24	SI-1	CI-1	910	SI-1	CI-2
25	SI-1	CI-1	1000	SI-1	CI-2
27	SI-1	CI-1	1200	SI-2	CI-2
30	SI-1	CI-1	1500	SI-2	CI-2
33	SI-1	CI-1	1800	SI-2	CI-2
39	SI-1	CI-1	2000	SI-2	CI-2
47	SI-1	CI-1	2200	SI-7	CI-3
50	SI-1	CI-1	2400	SI-7	CI-3
51	SI-1	CI-1	2500	SI-7	CI-3
56	SI-1	CI-1	2700	SI-7	CI-3
68	SI-1	CI-1	3000	SI-19	CI-3
75	SI-1	CI-1	3300	SI-19	CI-3
82	SI-1	CI-1	4000	SI-19	CI-3
91	SI-1	CI-1	4700	SI-3	CI-3
100	SI-1	CI-1	5000	SI-3	CI-3
110	SI-1	CI-1	5100	SI-3	CI-3
120	SI-1	CI-1	5600	SI-3	CI-3
150	SI-1	CI-1	6000	SI-3	CI-3
180	SI-1	CI-1	6800	SI-4	
200	SI-1	CI-1	7500	SI-4	
220	SI-1	CI-1	10,000	SI-5	
240	SI-1	CI-1	15,000	SI-6	
250	SI-1	CI-1	17,500	SI-6	
270	SI-1	CI-1	20,000	SI-5 GMV	
300	SI-1	CI-1	25,000	SI-5 GMV	
330	SI-1	CI-1	30,000	SI-6 GMV	
360	SI-1	CI-1	33,000	SI-6 GMV	
390	SI-1	CI-1			

SI-TV Hi-VOLTAGE—6000 VDCW

Cap. Mmfd.	Size	Cap. Mmfd.	Size
4.7	SI-22	24	SI-3
8.2	SI-22	27	SI-3
12	SI-22	30	SI-3
15	SI-22	40	SI-3
18	SI-22	47	SI-3
20	SI-22	50	SI-3
22	SI-22	60	SI-3

Standard Tolerance $\pm 20\%$

General purpose units can be furnished in either of the types listed above while the temperature compensating units (N750-NPO, N080, N330) are furnished only in the SI type.

All units are 500 VDCW with the exception of the SI-TV which are special units manufactured for 6000 VDCW for use in high voltage TV circuits.

Tolerances are as noted.

TEMPERATURE COMPENSATING N750-500 VDCW

Type	Capacity Mmfd.	Size	Type	Capacity Mmfd.	Size
N750-SI	3.3	SI-1	N750-SI	91	SI-2
N750-SI	5	SI-1	N750-SI	100	SI-2
N750-SI	10	SI-1	N750-SI	110	SI-2
N750-SI	12	SI-1	N750-SI	120	SI-7
N750-SI	15	SI-1	N750-SI	130	SI-2
N750-SI	18	SI-1	N750-SI	150	SI-7
N750-SI	20	SI-1	N750-SI	160	SI-7
N750-SI	22	SI-1	N750-SI	180	SI-7
N750-SI	24	SI-1	N750-SI	200	SI-7
N750-SI	25	SI-1	N750-SI	220	SI-7
N750-SI	27	SI-1	N750-SI	240	SI-7
N750-SI	30	SI-1	N750-SI	270	SI-7
N750-SI	33	SI-1	N750-SI	300	SI-19
N750-SI	36	SI-1	N750-SI	330	SI-3
N750-SI	39	SI-1	N750-SI	360	SI-3
N750-SI	43	SI-1	N750-SI	390	SI-3
N750-SI	47	SI-1	N750-SI	430	SI-4
N750-SI	50	SI-1	N750-SI	470	SI-4
N750-SI	51	SI-1	N750-SI	510	SI-4
N750-SI	56	SI-1	N750-SI	560	SI-5
N750-SI	62	SI-1	N750-SI	620	SI-5
N750-SI	68	SI-1	N750-SI	680	SI-5
N750-SI	75	SI-13	N750-SI	750	SI-5
N750-SI	82	SI-13			

Standard Tolerance — up to 10 mmf. ± 5 mmf., above 10 mmf. $\pm 10\%$

N080 — 500 VDCW

Type	Capacity Mmfd.	Size	Type	Capacity Mmfd.	Size
N080-SI	10	SI-1	N080-SI	47	SI-27
N080-SI	22	SI-1	N080-SI	62	SI-27
N080-SI	33	SI-13			

N330 ± 500 ppm

Deflection Yoke Capacitor for silvered mica capacitor replacement

Type	Capacity Mmfd.	Type	Size
N330-SI	47 $\pm 10\%$	1500 VDCW	SI-2
N330-SI	56 $\pm 10\%$	1500 VDCW	SI-2

NPO-SI — 500 VDCW

Type	Capacity Mmfd.	Size	Type	Capacity Mmfd.	Size
NPO-SI	.5	SI-1	NPO-SI	100	SI-7
NPO-SI	.68	SI-1	NPO-SI	110	SI-19
NPO-SI	1.0	SI-1	NPO-SI	120	SI-19
NPO-SI	1.5	SI-1	NPO-SI	130	SI-3
NPO-SI	2	SI-1	NPO-SI	150	SI-3
NPO-SI	2.2	SI-1	NPO-SI	160	SI-4
NPO-SI	3.0	SI-1	NPO-SI	175	SI-4
NPO-SI	3.3	SI-1	NPO-SI	180	SI-4
NPO-SI	4.7	SI-1	NPO-SI	220	SI-5
NPO-SI	5.0	SI-1	NPO-SI	240	SI-5
NPO-SI	6.8	SI-1	NPO-SI	270	SI-5
NPO-SI	8.2	SI-1			
NPO-SI	10	SI-1			
NPO-SI	12	SI-1			
NPO-SI	15	SI-1			
NPO-SI	18	SI-1			
NPO-SI	20	SI-1			
NPO-SI	22	SI-1			
NPO-SI	24	SI-13			
NPO-SI	25	SI-13			
NPO-SI	27	SI-13			
NPO-SI	30	SI-13			
NPO-SI	33	SI-13			
NPO-SI	36	SI-2			
NPO-SI	39	SI-2			
NPO-SI	43	SI-2			
NPO-SI	47	SI-2			
NPO-SI	50	SI-2			
NPO-SI	51	SI-2			
NPO-SI	56	SI-7			
NPO-SI	62	SI-7			
NPO-SI	68	SI-7			
NPO-SI	75	SI-7			
NPO-SI	82	SI-7			
NPO-SI	91	SI-7			

Standard Tolerance — up to 10 mmf. ± 5 mmf., above 10 mmf. $\pm 10\%$
When ordering the above units, designate type and MMFD fully. For

example: NPO - SI-1 5 MMFD. The zero temperature coefficient capacitor is the most stable ceramic commercial capacitor available.

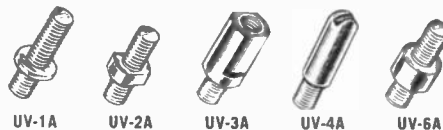
AEROVOX CAPACITORS RESISTORS

CERAMICS Hi-Q HIGH VOLTAGE "CARTWHEEL" CAPACITORS



Hi-Q high voltage "cartwheels" are thoroughly tested units capable of assuring dependable service while withstanding high voltages. This new universal type (UV) offers interchangeable terminals in 5 styles for use in filter and by-pass applications in TV high voltage power supplies.

TERMINAL HARDWARE



Stock Items

Type	Voltage	Cap. Mmfd.
UV-501	10,000 VDCW	500 mmf.
UV-502	20,000 VDCW	500 mmf.
UV-503	30,000 VDCW	500 mmf.

Stock Items — Terminal Hardware

Type	Type
UV-1A	UV-4A
UV-2A	UV-6A
UV-3A	

Hi-Q TUBULAR STAND-OFF CAPACITORS

TYPE MCS



TYPE CS



Hi-Q stand-off capacitors are basically tubular, having as an integral part of their construction, a screw fixture for mounting to the chassis or common ground. Close coupling and their unique construction make them an excellent choice for by-passing high frequencies.

All units are coated with a high temperature enamel, stamped with capacity and supplied with mounting nut, if desired.

The MCS is a quick mounting type which permits high speed mechanical installation. The ceramic tube is enclosed in a cadmium-plated metal case with a specially developed end seal for protection against humidity and temperature changes.

All units are flash tested at 1250 volts D.C. The power factor is under 3% and the insulation resistance is above 7500 megohms.

Stock Items — 500 VDCW

Type	Capacity Mmfd.
CS-1A	50
CS-1A	100
CS-1B	500
CS-1B	1000
CS-1B	1500
CS-2	3000
CS-3	4000

Type	Capacity Mmfd.
CS-4	7500
CIS-1	50
CIS-1	100
CIS-1	500
CIS-1	1000
CIS-2	1500
CIS-2	1500
MCS	1500

Radial leads only
Tolerance $\pm 10\%$ up to and including 500 mmf.
 $\pm 20\%$ above 500 mmf.

* CERAFIL CAPACITORS

Cerafil Capacitors, the smallest ceramic capacitors available anywhere for airborne transistorized circuit applications, and other critical requirements where space and weight are at an absolute premium.

When tested using Cerafil ratings C80 type units will meet or surpass the requirements of MIL-C-11015A.



SPECIFICATIONS:

VOLTAGE—100 VDCW; 300 VDCT
CAPACITY TOLERANCE— $\pm 20\%$
INSULATION RESISTANCE—
100 mfd.—megohms minimum.
TEMPERATURE COEFFICIENT—
(-55°C to $+85^{\circ}\text{C}$)
No voltage $+ 10\%$ to -15%
100 volts applied—
 $+ 10\%$ to -35%
POWER FACTOR—2.5% maximum
OPERATING TEMPERATURE—
 -55°C to $+85^{\circ}\text{C}$
SIZE—overall length may exceed
dimension shown by as much as
 $\frac{1}{16}$ " due to deposit of insulation
material on leads.
All dimensions in inches
LEADS—Tinned Copper
Below .01 mfd.— $\#26$ gauge
.01 mfd. and above $\#22$ gauge
LEAD LENGTHS— $1\frac{1}{2}$ " minimum
MARKING—Color code. No code for
temperature coefficient;
no code for lead designa-
tion since it is ob-
vious.

PART NUMBER	CAP. (Mfd.)	DIMENSIONS (Insulated)		COLOR CODE
		Diam.	Lgth.	
C80V 100AM	.00001	.090	.320	Brown, black, black, black
C80V 220AM	.000022	.090	.320	Red, red, black, black
C80V 330AM	.000033	.090	.320	Orange, orange, black, black
C80V 470AM	.000047	.090	.320	Yellow, violet, black, black
C80V 101AM	.0001	.090	.320	Brown, black, brown, black
C80V 221AM	.00022	.090	.320	Red, red, brown, black
C80V 331AM	.00033	.090	.320	Orange, orange, brown, black
C80V 471AM	.00047	.090	.320	Yellow, violet, brown, black
C80V 102AM	.001	.090	.320	Brown, black, red, black
C80V 502AM	.005	.120	.500	Green, black, red, black
C80V 103AM	.01	.180	.500	Brown, black, orange, black
C80V 203AM	.02	.200	.500	Red, black, orange, black
C80V 503AM	.05	.240	.650	Green, black, orange, black
C80V 104AM	.1	.310	.750	Brown, black, yellow, black

*Trade Mark

AEROVOX CAPACITORS RESISTORS

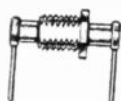
CERAMICS

Hi-Q TUBULAR FEED THRU CAPACITORS

Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by-pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive requirements. All units are 500VDC working, 1250VDC test.



FEED-THRU TYPE CFC

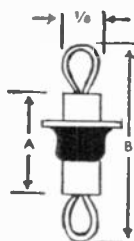


FEED-THRU TYPE CF

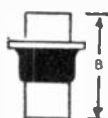
Type	Cap. Mmf.	Thread	Type	Cap. Mmf.	Thread
CFC-1	500 mmf.	12-28	CF-2	1800 mmf.	3/16-24
	1000 mmf.	12-28		2300 mmf.	3/16-24
	1500 mmf.	12-28		3000 mmf.	3/16-24
CF-1	1500 mmf.	1/4-28	CF-3	4000 mmf.	3/16-24
Tolerance ±20%			CF-4	7000 mmf.	3/16-24

Hi-Q EYELET FEED-THRU CAPACITORS

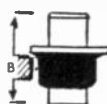
Hi-Q Eyelet Feed-Thru Ceramic Capacitors provide the ultimate in miniaturization. They can be soldered directly to the chassis and provide excellent by-pass performance where space is critical. Especially recommended for use in UHF.



EF-1



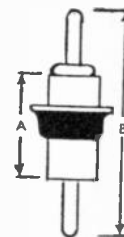
EF-3



EF-4



EF-5



EF-6

Style	Capacity in mmfd.						DCWV	SIZE	
	50	100	200	500	1000	1500		A	B
EF-1	50	100	200	500	1000	1500	500	.375	.750
EF-3	50	100	200	500	1000	1500	500	—	.375
EF-4	50	100	200	500	—	—	250	—	.250
EF-5	50	100	200	500	1000	—	250	—	.250
EF-6	50	100	200	500	1000	1500	500	.375	.875

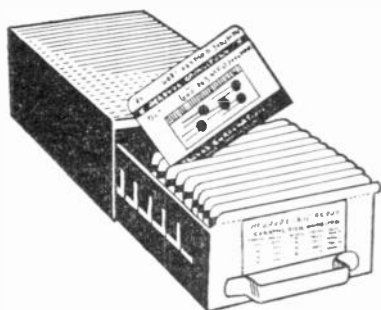
Tolerance ±20% up to and including 500 mmfd.
GMV above 500 mmfd.

AEROVOX KITS—AK-200 and AK-201HS

Most popular 1000 VDCW 10% tolerance general disk ceramics. Packaged in AeroVox VUE PACKS and housed in 3 x 5 metal file cabinet. Cabinets may be stacked when additional kits are purchased.

KIT AK-200 consist of 135 capacitors in our 24 most popular values.

KIT AK-201HS consists of 95 capacitors in the 16 values recommended in the Howard W. Sams' PF Reporter "Stock Guide for Popular Replacement Parts."



Kit AK-200						Kit AK-201HS			
Quan.	Cap. Mmf.	Quan.	Cap. Mmf.	Quan.	Cap. Mmf.	Quan.	Cap. Mmf.	Quan.	Cap. Mmf.
5	10	5	270	5	1500	10	100	5	560
5	47	5	330	5	2000	5	150	5	680
5	50	5	390	5	3000	5	180	10	1000
5	82	5	470	5	3300	5	220	5	1500
10	100	5	500	5	4000	5	270	5	2000
5	150	5	560	5	4700	5	330	5	3000
5	180	5	680	5	5000	5	390	5	4700
5	220	10	1000	10	10000	5	470	10	10000

AEROVOX CAPACITORS RESISTORS

M I C A S

MIL Types CM20, CM30, CM35 AEROVOX Types 1468, 1469, 1467, 1464

Compact precision made mica dielectric capacitors made in accordance with MIL specification C-5A. Molded in low-loss, bakelite, impregnated and color-coded. Tested to meet all MIL requirements. Types 1467 and

1468 are stacked mica and foil units molded in yellow bakelite to meet MIL characteristic B. Types 1464 and 1469 are silvered mica molded in red bakelite, available in characteristics C and D.

Type CM-20 (500 VDCW)

1468LS		1469	
Cap. Mmf.	Type Designation	Cap. Mmf.	Type Designation
1	CM-20B-010	5	CM-20C-050
5	CM-20B-050	10	CM-20C-100
10	CM-20B-100	12	CM-20C-120
12	CM-20B-120	15	CM-20C-150
15	CM-20B-150	18	CM-20C-180
18	CM-20B-180	20	CM-20C-200
20	CM-20B-200	22	CM-20C-220
22	CM-20B-220	24	CM-20C-240
24	CM-20B-240	25	CM-20C-250
25	CM-20B-250	27	CM-20C-270
27	CM-20B-270	30	CM-20C-300
30	CM-20B-300	33	CM-20C-330
33	CM-20B-330	36	CM-20C-360
36	CM-20B-360	39	CM-20C-390
39	CM-20B-390	40	CM-20C-400
40	CM-20B-400	43	CM-20C-430
43	CM-20B-43C	47	CM-20C-470
47	CM-20B-470	50	CM-20C-500
50	CM-20B-500	51	CM-20C-510
51	CM-20B-510	56	CM-20C-560
56	CM-20B-560	62	CM-20C-620
62	CM-20B-620	68	CM-20C-680
68	CM-20B-680	70	CM-20C-700
75	CM-20B-750	75	CM-20C-750
82	CM-20B-820	82	CM-20C-820
91	CM-20B-910	91	CM-20C-910
100	CM-20B-101	100	CM-20C-101
110	CM-20B-111	110	CM-20C-111
120	CM-20B-121	120	CM-20C-121
130	CM-20B-131	130	CM-20C-131
150	CM-20B-151	150	CM-20C-151
160	CM-20B-161	160	CM-20C-161
180	CM-20B-181	180	CM-20C-181
200	CM-20B-201	200	CM-20C-201
220	CM-20B-221	220	CM-20C-221
240	CM-20B-241	240	CM-20D-241
250	CM-20B-251	250	CM-20D-251
270	CM-20B-271	270	CM-20D-271
300	CM-20B-301	300	CM-20D-301
330	CM-20B-331	330	CM-20D-331
350	CM-20B-351	350	CM-20D-351
360	CM-20B-361	360	CM-20D-361
390	CM-20B-391	390	CM-20D-391
400	CM-20B-401	400	CM-20D-401
430	CM-20B-431	430	CM-20D-431
470	CM-20B-471	470	CM-20D-471
500	CM-20B-501	500	CM-20D-501
510	CM-20B-511	510	CM-20D-511
560	CM-20B-561	560	CM-20D-561
600	CM-20B-601	620	CM-20D-621
620	CM-20B-621	680	CM-20D-681
680	CM-20B-681	750	CM-20D-751
750	CM-20B-751	820	CM-20D-821
800	CM-20B-801	910	CM-20D-911
820	CM-20B-821	1000	CM-20D-102
900	CM-20B-901		
910	CM-20B-911		
1000	CM-20B-102		

Type CM-30 (500 VDCW)

1467LS		1464	
Cap. Mmf.	Type Designation	Cap. Mmf.	Type Designation
470	CM-30B-471	470	CM-30D-471
500	CM-30B-501	510	CM-30D-511
510	CM-30B-511	560	CM-30D-561
560	CM-30B-561	620	CM-30D-621
620	CM-30B-621	680	CM-30D-681
680	CM-30B-681	750	CM-30D-751
750	CM-30B-751	800	CM-30D-801
820	CM-30B-821	820	CM-30D-821
910	CM-30B-911	900	CM-30D-901
1000	CM-30B-102	910	CM-30D-911
1100	CM-30B-112	1000	CM-30D-102
1200	CM-30B-122	1100	CM-30D-112
1300	CM-30B-132	1200	CM-30D-122
1500	CM-30B-152	1300	CM-30D-132
1600	CM-30B-162	1500	CM-30D-152
1800	CM-30B-182	1600	CM-30D-162
2000	CM-30B-202	1800	CM-30D-182
2200	CM-30B-222	2000	CM-30D-202
2400	CM-30B-242	2200	CM-30D-222
2500	CM-30B-252	2400	CM-30D-242
2700	CM-30B-272	2500	CM-30D-252
3000	CM-30B-302	2700	CM-30D-272
3300	CM-30B-332	3000	CM-30D-302
3600	CM-30B-362	3300	CM-30D-332
3900	CM-30B-392	3600	CM-30D-362
4000	CM-30B-402	3900	CM-30D-392
4300	CM-30B-432	4000	CM-30D-402
4700	CM-30B-472	4300	CM-30D-432
5000	CM-30B-502	4700	CM-30D-472
5100	CM-30B-512	5000	CM-30D-502
5600	CM-30B-562	5100	CM-30D-512
6000	CM-30B-602	5600	CM-30D-562
6200	CM-30B-622	6200	CM-30D-622
6800	CM-30B-682	6800	CM-30D-682
7000	CM-30B-702	7500	CM-30D-752
7500	CM-30B-752	8000	CM-30D-802
8000	CM-30B-802	8200	CM-30D-822
8200	CM-30B-822	9100	CM-30D-912
9000	CM-30B-902		
9100	CM-30B-912		
10000	CM-30B-103		



Type CM-35 (500 VDCW)

1467LS		1464	
Cap. Mmf.	Type Designation	Cap. Mmf.	Type Designation
3600	CM-35B-362	3600	CM-35D-362
3900	CM-35B-392	3900	CM-35D-392
4000	CM-35B-402	4000	CM-35D-402
4300	CM-35B-432	4300	CM-35D-432
4700	CM-35B-472	4700	CM-35D-472
5000	CM-35B-502	5000	CM-35D-502
5100	CM-35B-512	5100	CM-35D-512
5600	CM-35B-562	5600	CM-35D-562
6200	CM-35B-622	6000	CM-35D-602
6800*	CM-35B-682	6200	CM-35D-622
7000*	CM-35B-702	6800*	CM-35D-682
7500*	CM-35B-752	7000*	CM-35D-702
8000*	CM-35B-802	7500*	CM-35D-752
8200*	CM-35B-822	8000*	CM-35D-802
9100*	CM-35B-912	8200*	CM-35D-822
10000*	CM-35B-103	9100*	CM-35D-912
12000*	CM-35B-123	10000*	CM-35D-103
13000*	CM-35B-133		
14000*	CM-35B-143		
15000*	CM-35B-153		

NOTES

In mica and foil construction the standard tolerance is $\pm 20\%$. Also available in $\pm 10\%$ and $\pm 5\%$. Closest available tolerance up to and including 10 mmf. is ± 1 mmf.; above 10 mmf. $\pm 2\%$ or ± 2 mmf., whichever is greater.

In silver mica the standard tolerance is $\pm 5\%$. Also available in $\pm 2\%$ and $\pm 1\%$. Closest available tolerance up to 10 mmf. is $\pm 1/2$ mmf.; 10 mmf. and up $\pm 1\%$ or ± 1 mmf., whichever is greater.

Nominal Size All CM30 Units — $3/64 \times 3/64 \times 3/32$
 Nominal Size All CM35 Units — $5/64 \times 5/64 \times 3/64$
 Nominal Size All CM20 Units — $4/64 \times 2/64 \times 3/16$

* Capacities are 300 WV. Type Designation 1467XLS and 1464X.

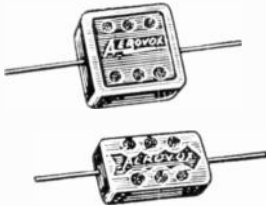
AEROVOX

CAPACITORS RESISTORS

M I C A S — (Continued)

TYPES 1468LS-HV and 1467LS-HV

Designed especially for television, low power transmitters and power amplifier applications, these capacitors feature the highest voltages ever before available in these case sizes. They are furnished to meet characteristic B of the Mil specification. Standard Tolerance is plus and minus 20% and they are tested to meet EIA standards. Units are marked with capacity and working voltage and are tested at double the rated voltage to insure long life.



TYPE 1468LS-HV

Cap. Mmfd.	1000	1500	2000	2500
	VDCW	VDCW	VDCW	VDCW
	2000	3000	4000	5000
	VDCT	VDCT	VDCT	VDCT
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
68	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
75	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
82	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
91	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
110	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
120	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
130	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
150	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
160	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
180	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
220	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
240	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
270	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
330	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
350	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
360	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
430	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
470	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
510	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
560	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
620	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

TYPE 1467LS-HV

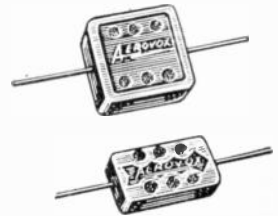
Cap. Mmfd.	1000	1500	2000	2500
	VDCW	VDCW	VDCW	VDCW
	2000	3000	4000	5000
	VDCT	VDCT	VDCT	VDCT
150	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
160	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
180	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
220	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
240	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
270	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
330	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
360	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
390	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
430	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
470	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
510	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
560	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
620	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
680	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
750	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
820	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
910	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1800	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2200	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2400	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2500	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2700	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3600	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3900	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4300	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4700	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5100	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Std. Tolerance ±20%
 Nominal Size— $\frac{3}{16}$ " x $\frac{3}{16}$ " x $\frac{1}{16}$ "—
 1467LS-HV
 Nominal Size— $\frac{1}{4}$ " x $\frac{7}{16}$ " x $\frac{3}{16}$ "—
 1468LS-HV

ALL ITEMS ON THIS PAGE ARE AVAILABLE IN CLOSER TOLERANCES ON SPECIAL ORDER.

SYMBOL INDICATES STOCK ITEMS

TYPES 1441W, 1441WX 1478LS, and 1479



Additional selection of design, sizes and voltages offer the correct Aerovox mica unit for every application—Types 1441W, 1441WX and 1478LS are made in mica and foil construction. Type 1479 is made in silvered mica construction. Units molded in low loss bakelite. (Red used for Type 1479).

TYPE 1441W (Similar to CM-40)

500 VDCW		1000 VDCT	
Cap. Mfd.		Cap. Mfd.	
.0005	<input type="checkbox"/>	.003	<input type="checkbox"/>
.00075	<input type="checkbox"/>	.004*	<input type="checkbox"/>
.001	<input type="checkbox"/>	.005*	<input type="checkbox"/>
.0015	<input type="checkbox"/>	.006*	<input type="checkbox"/>
.002	<input type="checkbox"/>	.007*	<input type="checkbox"/>
.0025	<input type="checkbox"/>	.008*	<input type="checkbox"/>

Size: $1\frac{1}{8}$ " x $\frac{3}{8}$ " x $\frac{3}{16}$ " Compact with wire leads.
 * Thickness $\frac{3}{16}$ "
 Std. Tolerance ±20%

TYPE 1441WX (Similar to CM-40)

300 VDCW		600 VDCT	
Cap. Mfd.		Cap. Mfd.	
.004	<input type="checkbox"/>	.008*	<input type="checkbox"/>
.005	<input type="checkbox"/>	.009*	<input type="checkbox"/>
.006	<input type="checkbox"/>	.01*	<input type="checkbox"/>
.007*	<input type="checkbox"/>		

Size: $1\frac{1}{8}$ " x $\frac{5}{8}$ " x $\frac{3}{16}$ " Compact with wire leads.
 * Thickness $\frac{3}{16}$ "
 Std. Tolerance ±20%

TYPE 1478LS (Similar to CM-25)

500 VDCW		1000 VDCT	
Cap. Mfd.		Cap. Mfd.	
.0005	<input type="checkbox"/>	.0015	<input type="checkbox"/>
.00075	<input type="checkbox"/>	.002	<input type="checkbox"/>
.001	<input type="checkbox"/>		

Size: $1\frac{1}{8}$ " x $\frac{3}{8}$ " x $\frac{3}{16}$ " Midget size with wire leads.
 Std. Tolerance ±20%

TYPE 1479 (Similar to CM25)

500 VDCW		1000 VDCT	
Cap. Mfd.		Cap. Mfd.	
.0001	<input type="checkbox"/>	.0005	<input type="checkbox"/>
.00015	<input type="checkbox"/>	.0007	<input type="checkbox"/>
.0002	<input type="checkbox"/>	.00075	<input type="checkbox"/>
.00025	<input type="checkbox"/>	.0008	<input type="checkbox"/>
.0003	<input type="checkbox"/>	.0009	<input type="checkbox"/>
.00035	<input type="checkbox"/>	.001	<input type="checkbox"/>
.0004	<input type="checkbox"/>		

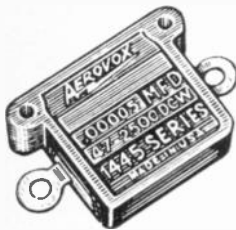
Standard Tolerance ±5%
 Size: $1\frac{1}{8}$ " x $\frac{3}{8}$ " x $\frac{3}{16}$ " provided with wire leads.

AEROVOX

CAPACITORS RESISTORS

M I C A S — (Continued)

TYPES 1445, 1446 and 1447

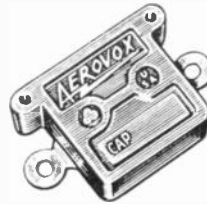


Designed with insulated mounting holes $1\frac{1}{8}$ " apart independent of soldering lugs. Used to shunt meter windings.
Size: $1\frac{1}{8}$ " x $1\frac{3}{8}$ " x $1\frac{1}{2}$ "
Standard Tolerance $\pm 10\%$
 $\pm 5\%$ and $\pm 2\%$ tolerance are available on special order.
Meter Mounting Bracket E available. Specify when ordering.
These units are equivalent to case styles CM45 and CM50 of specification MIL-C5A.

TYPE 1445		TYPE 1446		TYPE 1447	
600 VDCW 1000 VDCT		1200 VDCW 2500 VDCT		2500 VDCW 5000 VDCT	
Cap. Mfd.		Cap. Mfd.		Cap. Mfd.	
.00005	.00005	.00005	.00005	.00005	.00005
.0001	.0001	.0001	.0001	.000075	.0001
.00015	.00015	.00015	.00015	.0001	.0001
.0002	.0002	.0002	.0002	.00015	.00015
.00025	.00025	.00025	.00025	.0002	.0002
.0003	.0003	.0003	.0003	.00025	.00025
.00035	.00035	.00035	.00035	.0003	.0003
.0004	.0004	.0004	.0004	.00035	.00035
.0005	.0005	.0005	.0005	.0004	.0004
.001	.001	.001	.001	.0005	.0005
.0015	.0015	.0015	.0015	.001	.001
.002	.002	.002	.002	.0015	.0015
.0025	.0025	.0025	.0025	.002*	.002*
.003	.003	.003	.003	.0025*	.0025*
.004	.004*	.004*	.004*	.003*	.003*
.005	.005*	.005*	.005*	.004*	.004*
.006	.006*	.006*	.006*	.005*	.005*
.008	.008*	.008*	.008*		
.01	.01*	.01*	.01*		
.015*	.015*	.015*	.015*		
.02*					
.025*					
.03*					
.04*					

*Thickness $\frac{3}{16}$ "

TYPES 1455, 1456 and 1457



Same as Types 1445-47 except for sizes and capacitance ranges. Distance between mounting holes is $1\frac{1}{2}$ ".
Size: $1\frac{1}{4}$ " x $1\frac{5}{8}$ " x $1\frac{1}{32}$ "
Standard Tolerance $\pm 10\%$
 $\pm 5\%$ and $\pm 2\%$ tolerance are available on special order.
Meter Mounting Bracket E available. Specify when ordering.

TYPE 1455		TYPE 1456		TYPE 1457	
600 VDCW 1000 VDCT		1200 VDCW 2500 VDCT		2500 VDCW 5000 VDCT	
Cap. Mfd.	Cap. Mfd.	Cap. Mfd.	Cap. Mfd.	Cap. Mfd.	Cap. Mfd.
.00005	.0025	.00005	.0015	.00005	.0005
.0001	.003	.0001	.002	.000075	.001
.00015	.004	.00015	.0025	.0001	.0015
.0002	.005	.0002	.003	.00015	.002
.00025	.006	.00025	.004	.0002	.0025
.0003	.008	.0003	.005	.00025	.003
.00035	.01	.00035	.006	.0003	.003
.0004	.015	.0004	.008	.00035	.0035
.0005	.02	.0005	.01	.0004	.004
.001	.025	.001	.01		
.0015	.03				
.002					

TYPES 1991 thru 1996 Porcelain-Cased Capacitors



Ideal for high-frequency application. Glazed porcelain case, high temperature wax sealed. Heavy duty power terminals. Minimum power loss due to dielectric absorption. No heating at full load.
Size: 4" overall by 3" high; $2\frac{1}{2}$ " between mounting holes.
Standard Tolerance $\pm 10\%$

Cap. Mfd.	DC Voltage Rating	Type	Maximum Current Capacity—Amperes			
			15 mc	7.5 mc	3750 kc	1875 kc
.00005	12,500	1996	3	2.5	1.5	1
.0001	12,500	1996	5	4	3	2
.00025	12,500	1996	7	8	6	4
.0005	12,500	1996	8	9	8	7
	7,000	1994	7	8	6	4
.001	12,500	1996	9	10	11	12
	7,000	1994	8	9	10	8
	3,500	1992	8	9	8	5
.0015	12,500	1996	9	10	11	12
	7,000	1994	9	9	10	8
	5,000	1993	8	9	9	7
	3,500	1992	8	9	8	5
	2,000	1991	7	8	8	5
.002	12,500	1996	9	12	13	15
	10,000	1995	9	10	11	12
	7,000	1994	9	9	10	10
	5,000	1993	8	9	9	8
	3,500	1992	8	8	9	7
	2,000	1991	7	8	8	6
.003	12,500	1996	9	12	13	15
	10,000	1995	9	11	12	13
	7,000	1994	9	10	10	10
	5,000	1993	8	9	9	8
	3,500	1992	8	8	9	7
	2,000	1991	7	8	8	6
.005	10,000	1995	10	13	14	15
	7,000	1994	9	11	12	11
	5,000	1993	9	11	12	10
	3,500	1992	9	10	11	9
	2,000	1991	8	9	10	8
.01	7,000	1994	10	13	15	15
	5,000	1993	10	13	15	15
	3,500	1992	10	13	14	14
	2,000	1991	10	13	14	14
.02	3,500	1992	10	14	16	17
	2,000	1991	10	14	17	18
.05	3,500	1992	10	14	17	18
	2,000	1991	10	14	16	17
.1	2,000	1991	10	14	17	18

AEROVOX

CAPACITORS RESISTORS

M I C A S — (Continued)

TYPES 1650L, 1651L, 1652L, 1653L and 1654L

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Threaded mounting holes for roundhead screw terminals or plain holes available. Add suffix "A" for plain holes.



TYPE 1650L		TYPE 1652L	
600 VDCW — 1000 VDCT 350 VACW — 700 VACT		2500 VDCW — 5000 VDCT 1750 VACW — 3500 VACT	
.00005	.00005		
.0001	.000075		
.00025	.0001		
.0003	.00015		
.00035	.0002		
.0004	.00025		
.0005	.0003		
.001	.00035		
.0015	.0004		
.002	.0005		
.0025	.001		
.003	.0015		
.004	.002		
.005	.0025		
.006	.003		
.008	.004		
.01	.005		
.015	.006		
.02	.008*		
.025	.01*		
.03			
.04*			
.05*			
.06*			
TYPE 1651L		TYPE 1653L	
1200 VDCW — 2500 VDCT 875 VACW — 1750 VACT		3750 VDCW — 7500 VDCT 2625 VACW — 5250 VACT	
.00005	.00005		
.0001	.000075		
.00025	.0001		
.0003	.00015		
.00035	.0002		
.0004	.00025		
.0005	.0003		
.001	.00035		
.0015	.0004		
.002	.0005		
.0025	.0006		
.003	.00075		
.004	.001		
.005	.0015		
.006	.002		
.008	.0025		
.01	.003		
.015	.0035		
.02*	.004		
.025*	.005		
.03*	.006		
TYPE 1654L		TYPE 1654L	
5000 VDCW — 10,000 VDCT 3500 VACW — 7000 VACT		5000 VDCW — 10,000 VDCT 3500 VACW — 7000 VACT	
.00005	.00005		
.0001	.000075		
.00025	.0001		
.0003	.00015		
.00035	.0002		
.0004	.00025		
.0005	.0003		
.001	.00035		
.0015	.0004		
.002	.0005		
.0025	.0006		
.003	.00075		
.004	.001		
.005	.0015		
.006	.002		
.008	.0025		
.01	.003		
.015	.0035		
.02*	.004		
.025*	.005		
.03*	.006		

These units are equivalent to case styles CM55, CM56, CM60, and CM61 of specification MIL-C-5A. Standard Tolerance $\pm 10\%$

$\pm 5\%$ Tolerance available on special order.

$\pm 2\%$ Tolerance available on special order.

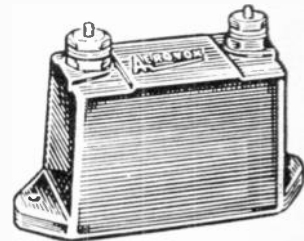
Nominal Size: $1\frac{3}{4}'' \times 1\frac{1}{2}'' \times \frac{3}{16}''$

*Thickness $\frac{3}{4}''$

Ceramic mounting insulators (specify "M") available. 1650-54 series furnished with 6-32 tapped holes for screw mounting.

TYPES 1550L, 1570L and 1590L Potted Transmitting Capacitors

These potted transmitting capacitors in thermo-setting case materials have greater load-carrying capacity than molded-in-thermo-setting case material capacitors. Types 1550 to 1590, inclusive, not only have high voltage rating but afford higher current ratings than equivalent capacitances in thermo-setting case material units. Because of their construction they are made with higher capacitance stability. Furnished only in low-loss thermo-setting case material as standard. Bakelite case mica stack capacitors. These units have highest quality mica sections stacked for greater load carrying capacity. The sections are potted in low-loss bakelite cases and permanently clamped with non-magnetic material.



TYPE 1570L (Similar to CM65)

Cat. No.	Capacity	Test Volts Eff.	Max. Operating Current in Amps.			
			3000 kc	1000 kc	300 kc	100 kc
1570LS-204	.00005	3500	1.3	.6	.15	.05
1570LS-210	.0001	3500	2.0	.9	.3	.1
1570LS-214	.00015	3500	2.2	1.0	.45	.15
1570LS-217	.0002	3500	2.6	1.2	.6	.25
1570LS-219	.00025	3500	2.9	1.6	.7	.25
1570LS-221	.0003	3500	3.2	1.9	.8	.3
1570LS-223	.0004	3500	3.6	2.0	.9	.4
1570LS-226	.0005	3500	3.75	2.0	1.0	.5
1570LS-228	.0006	3500	4.1	2.0	1.2	.6
1570LS-232	.0008	3500	4.6	2.5	1.5	.7
1570LS-234	.001	3500	4.9	3.0	1.6	.8
1570LS-236	.0015	3500	5.8	3.5	2.0	1.0
1570LS-237	.002	3500	6.3	4.0	2.5	1.3
1570LS-240	.003	2500	7.1	5.0	3.0	1.5
1570LS-242	.004	2500	7.6	6.0	3.5	1.6
1570LS-245	.005	2500	8.5	6.5	4.0	2.0
1570LS-248	.006	2500	9.0	7.5	4.5	2.2
1570LS-254	.008	1500	10.0	8.0	5.0	2.3
1570LS-257	.01	1500	10.0	10.0	6.0	2.5
1570LS-260	.02	1500	11.0	10.0	7.0	3.0
1570LS-268	.05	500	8.5	7.5	6.0	3.8
1570LS-273	.1	250	11.0	12.0	10.0	6.0

Type 1570L also manufactured in case style CM65 of Spec. MIL-C-5A. Prices on request.

TYPE 1550L (Similar to CM70)

Cat. No.	Capacity	Test Volts Eff.	Max. Operating Current in Amps.			
			3000 kc	1000 kc	300 kc	100 kc
1550LS-200	.00005	6000	1.5	.7	.2	.07
1550LS-201	.0001	6000	2.5	1.3	.35	.1
1550LS-202	.00015	6000	3.0	1.7	.5	.16
1550LS-203	.0002	6000	3.5	1.8	.7	.3
1550LS-204	.00025	6000	5.0	2.5	1.0	.4
1550LS-206	.0003	6000	5.0	2.5	1.0	.4
1550LS-208	.0004	6000	5.0	2.7	1.1	.5
1550LS-210	.0005	6000	5.0	3.0	1.6	.75
1550LS-212	.0006	6000	5.1	3.1	1.7	.8
1550LS-215	.00075	6000	5.5	3.5	2.1	1.0
1550LS-216	.0008	6000	6.0	4.0	2.1	1.0
1550LS-218	.001	6000	7.0	4.0	2.2	1.0
1550LS-220	.0015	6000	9.0	5.1	3.0	1.6
1550LS-221	.002	6000	9.0	6.0	4.0	1.9
1550LS-222	.002	3000	6.0	4.6	3.0	1.1
1550LS-223	.0025	5000	9.0	6.0	4.0	2.0
1550LS-225	.003	3000	6.5	6.0	4.1	1.6
1550LS-228	.004	3000	10.0	6.5	4.5	2.0
1550LS-230	.005	3000	10.0	6.8	5.0	2.5
1550LS-235	.0075	3000	11.0	8.0	6.5	2.9
1550LS-236	.008	3000	11.0	9.0	6.8	3.0
1550LS-238	.01	2000	11.0	10.0	8.0	4.0
1550LS-239	.015	2000	11.5	11.0	9.0	5.0
1550LS-240	.02	2000	12.5	11.0	10.5	7.0
1550LS-241	.03	2000	13.0	16.0	13.0	7.0
1550LS-242	.04	1500	13.0	16.0	13.0	7.5
1550LS-243	.05	1500	14.0	16.0	13.0	7.5
1550LS-244	.1	1000	16.0	18.0	14.0	9.0
1550LS-247	.25	250	16.0	18.0	14.0	12.0

Type 1550L also manufactured in case style CM70 of Spec. MIL-C-5A. Prices on request. Standard Tolerance for all Transmitting Mica Capacitors is $\pm 5\%$.

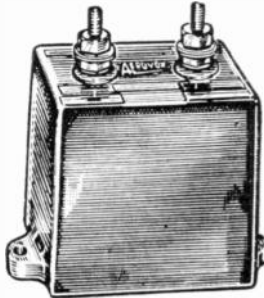
$\pm 2\%$ Tolerance Available on Special Order.

AEROVOX

CAPACITORS RESISTORS

M I C A S — (Continued)

TYPE 1590L — POTTED TRANSMITTING CAPACITORS



Cat. No.	Capacity	Test Volts Eff.	Max. Operating Current in Amps.			
			3000 kc	1000 kc	300 kc	100 kc
1590L-200	.00025	8000	7.0	5.0	2.0	.6
1590L-201	.0005	8000	8.5	6.0	3.0	1.0
1590L-203	.001	8000	10.0	8.5	4.5	2.0
1590L-205	.002	8000	12.0	11.0	8.0	4.0
1590L-207	.003	8000	15.0	15.0	11.0	5.0
1590L-209	.004	8000	16.0	16.0	12.0	6.0
1590L-211	.005	8000	16.0	16.0	13.0	7.0
1590L-213	.006	8000	16.0	18.0	13.0	7.0
1590L-217	.01	8000	17.0	21.0	15.0	9.0
1590L-218	.01	6000	16.0	20.0	15.0	8.0
1590L-219	.02	5000	18.0	22.0	18.0	12.0
1590L-220	.03	4000	18.0	23.0	20.0	13.0
1590L-222	.05	4000	18.0	25.0	23.0	15.0
1590L-223	.05	2000	18.0	25.0	22.0	12.0
1590L-224	.1	2000	18.0	28.0	23.0	15.0
1590L-226	.2	600	18.0	28.0	23.0	15.0
1590L-227	.25	600	18.0	28.0	23.0	15.0
1590L-228	.3	600	18.0	28.0	23.0	15.0
1590L-230	.5	600	18.0	28.0	23.0	15.0
1590L-233	1.0	600	18.0	28.0	23.0	15.0

Standard Tolerance $\pm 5\%$
Also Available in $\pm 2\%$ on Special Order.



TYPES 1940, 1950, 1960, 1970 and 1980 Stack-Mounting Transmitting Capacitors

These stack-mounting transmitting mica capacitors are especially intended for various applications such as grid, plate blocking, coupling, tank, and by-passing functions for higher-powered installations. They are made with a special cylindrical low-loss, glazed ceramic case providing a long creepage path between terminals. They are designed to eliminate corona losses, inside and outside alike, and also provide uniform voltage gradient. The cast-aluminum terminal ends provide low contact resistance between units. These units are conservatively rated to withstand surge voltages above their rated values. They have extremely low power factor so that they can handle large KVA loads without overheating.

TYPE 1940

Catalog No.	Cap. Mfd.	Test Volts Eff.
1940-236	.000075	35000
1940-203	.0001	35000
1940-204	.00015	35000
1940-205	.0002	35000
1940-206	.00025	35000
1940-207	.0003	35000
1940-208	.00035	35000
1940-209	.0004	35000
1940-210	.0005	35000
1940-211	.0006	35000
1940-212	.0007	35000
1940-213	.0008	35000
1940-214	.001	35000
1940-215	.00125	35000
1940-216	.0015	35000
1940-217	.002	30000
1940-218	.0025	25000
1940-219	.003	25000
1940-220	.004	20000
1940-221	.005	20000
1940-222	.006	15000
1940-223	.007	15000
1940-224	.008	15000
1940-225	.01	15000
1940-237	.02	12000
1940-238	.03	10000
1940-239	.04	7500
1940-240	.05	6000
1940-241	.06	6000
1940-242	.07	6000
1940-243	.08	6000
1940-244	.1	5000

TYPE 1950 (Similar to CM75)

Catalog No.	Cap. Mfd.	Test Volts Eff.
1950-202	.00005	6000
1950-204	.0001	6000
1950-207	.0002	6000
1950-209	.0003	6000
1950-212	.0005	6000
1950-216	.001	6000
1950-218	.002	6000
1950-220	.003	6000
1950-222	.005	6000
1950-226	.01	5000
1950-228	.02	3000
1950-231	.05	1500

TYPE 1970 (Similar to CM85)

Catalog No.	Cap. Mfd.	Test Volts Eff.
1970-202	.00005	20,000
1970-203	.0001	20,000
1970-204	.00015	20,000
1970-205	.0002	20,000
1970-210	.0005	20,000
1970-213	.0008	20,000
1970-214	.001	20,000
1970-216	.0015	20,000
1970-217	.002	15,000
1970-220	.004	12,000
1970-221	.005	10,000
1970-225	.01	10,000
1970-227	.02	6,000

TYPE 1960 (Similar to CM80)

Catalog No.	Cap. Mfd.	Test Volts Eff.
1960-202	.00005	15,000
1960-203	.0001	15,000
1960-204	.00015	12,500
1960-205	.0002	12,500
1960-209	.0005	12,500
1960-212	.0008	10,000
1960-213	.001	10,000
1960-214	.0015	10,000
1960-215	.002	10,000
1960-218	.004	8,000
1960-219	.005	8,000
1960-223	.01	7,000
1960-224	.015	5,000
1960-225	.02	4,000

TYPE 1980 (Similar to CM90)

Catalog No.	Cap. Mfd.	Test Volts Eff.
1980-202	.00005	35,000
1980-203	.0001	35,000
1980-204	.00015	35,000
1980-207	.0003	35,000
1980-209	.0004	35,000
1980-210	.0005	35,000
1980-213	.0008	30,000
1980-214	.001	25,000
1980-217	.002	20,000
1980-220	.004	20,000
1980-221	.005	20,000
1980-224	.008	15,000
1980-225	.01	15,000
1980-230	.05	5,000

All units also manufactured in equivalent MIL-C-5A case styles. Prices on request.
Standard tolerance for all units is plus and minus 5%.
Also Available in $\pm 2\%$ on Special Order.

AEROVOX

CAPACITORS RESISTORS

M I C A S — (Continued)

DIPPED, SILVERED MICA CAPACITORS TYPES ADM-15, ADM-19, ADM-20 and ADM-30



Aerovox plastic-coated dipped-mica units exceed many of the advantages of molded mica units, and at the same time are smaller than conventional units. Meeting all the applicable MIL-C-5A Test Standards for molded mica capacitors these unique dipped-mica units offer the following outstanding features:

- High operating temperatures —55°C to +125°C • Excellent long-life characteristics • Improved temperature coefficient range • Radial leads for automatic insertion and plug-in assemblies • Ideal for printed-wiring assemblies • Unsurpassed performance and stability characteristics • Smaller physical size.

Humidity Resistance: these capacitors shall have an insulation resistance of not less than 2,000 megohms after being subjected to the Humidity Resistance Test as outlined in MIL-C-5A. Minimum Insulation Resistance: 25,000 megohms at 25°C; 1000 megohms at 125°C.

Capacitors will be marked with capacity and tolerance. In addition voltage rating will be marked on all units other than 500 volts rating.

CHARACTERISTICS

Standard Tolerance ±5%

ADM-15—from 5 to 20 mmf. Characteristic "C", from 22 to 150 mmf. Characteristic "E", from 160 mmf. and up Characteristic "F".

ADM-19—All capacities listed "F" Characteristic.

ADM-20—All capacities listed "F" Characteristic.

ADM-30—All capacities listed "F" Characteristic.

Minimum tolerance for capacitances up to and including 10 mmf. is ± 1/2 mmf., for all other capacitances ± 1% or 1 mmf. whichever is greater.

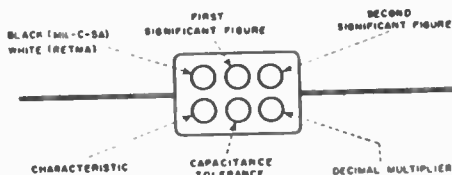
Sizes	L	W	T
ADM-15	1 3/32	3/16	7/32 max.
ADM-19	2 1/32	1 1/32	7/32 max.
ADM-20	3/4	1 1/32	7/32 max.
ADM-30	2 3/32	2 7/32	3/4 max.

Cap. Mmf.	Type Designation	Cap. Mmf.	Type Designation	Type Designation	Cap. Mmf.	Type Designation	Type Designation
5	ADM-15-050	100	ADM-15-101	ADM-19-101	680	ADM-19-681	ADM-20-681
10	ADM-15-100	110	ADM-15-111	ADM-19-111	750	ADM-19-751	ADM-20-751
12	ADM-15-120	120	ADM-15-121	ADM-19-121	820	ADM-19-821	ADM-20-821
15	ADM-15-150	130	ADM-15-131	ADM-19-131	910	ADM-19-911	ADM-20-911
18	ADM-15-180	150	ADM-15-151	ADM-19-151	1000	ADM-19-102	ADM-20-102
20	ADM-15-200	160	ADM-15-161	ADM-19-161	1100	ADM-19-112	ADM-20-112
22	ADM-15-220	180	ADM-15-181	ADM-19-181	1200	ADM-19-122	ADM-20-122
24	ADM-15-240	200	ADM-15-201	ADM-19-201	1300	ADM-19-132	ADM-20-132
27	ADM-15-270	220	ADM-15-221	ADM-19-221	1500	ADM-19-152	ADM-20-152
30	ADM-15-300	240	ADM-15-241	ADM-19-241	1600	ADM-19-162	ADM-20-162
33	ADM-15-330	250	ADM-15-251	ADM-19-251	1800	ADM-19-182	ADM-20-182
36	ADM-15-360	270	ADM-15-271	ADM-19-271	2000	ADM-19-202	ADM-20-202
39	ADM-15-390	300	ADM-15-301	ADM-19-301	2200	ADM-19-222	ADM-20-222
43	ADM-15-430	330	ADM-15-331	ADM-19-331	2400	*ADM-19-242	ADM-20-242
47	ADM-15-470	360	ADM-15-361	ADM-19-361	2500	*ADM-19-252	ADM-20-252
50	ADM-15-500	390	ADM-15-391	ADM-19-391	2700	*ADM-19-272	ADM-20-272
51	ADM-15-510	430	*ADM-15-431	ADM-19-431			
56	ADM-15-560	470	*ADM-15-471	ADM-19-471			
62	ADM-15-620	500	*ADM-15-501	ADM-19-501			
68	ADM-15-680	510	*ADM-15-511	ADM-19-511			
75	ADM-15-750	560		ADM-19-561			
82	ADM-15-820	620		ADM-19-621			
91	ADM-15-910						

Cap. Mmf.	Type Designation	Type Designation
3300	ADM-20-332	
3600	ADM-20-362	
3900	ADM-20-392	
4300	*ADM-20-432	ADM-30-432
4700	*ADM-20-472	ADM-30-472
5000	*ADM-20-502	ADM-30-502
5100	*ADM-20-512	ADM-30-512
5600		ADM-30-562
6200		ADM-30-622
6800		ADM-30-682
7500		ADM-752
8200		ADM-30-822
10000		ADM-30-103
12000		*ADM-30-123
13000		*ADM-30-133
15000		*ADM-30-153

* All items asterisked are rated at 300 VDCW.

COLOR CODE INFORMATION



Color	Capacitance		Tolerance %	Characteristics
	Significant Figure	Decimal Multiplier		
BLACK	0	1	30 (M)	A
BROWN	1	10		B
RED	2	100	2 (G)	C
ORANGE	3	1000	3 (RETMA only)	D
YELLOW	4	-		E
GREEN	5	-	5 (RETMA only)	F
BLUE	6	-		-
VIOLET	7	-		-
GRAY	8	-		-
WHITE	9	-		-
GOLD	-	0.1	5 (MIL-C-5 only) (J)	-
SILVER	-	.01	10 (K)	-
NONE				

MIL-C-5 LETTER DESIGNATION FOR CHARACTERISTIC		
Characteristic	Temperature Coefficient Parts/Million/Degree C. see par. F-2h(1)	Capacitance Drift see par. F-2h(2) (maximum)
A	Not specified	Not specified
B	Not specified	Not specified
C	-200 to +200	±0.5 per cent
D	-100 to +100	±0.3 per cent
E	-20 to +100	±0.1 per cent
F	0 to +70	±(0.05 per cent +0.1 mmf.)

AEROVOX KIT AK300HS



List Price

Selection of close tolerance, silvered mica capacitors in the modern radial lead type packaged in Aerovox VUE PACKS and housed in the same 3x5 metal file drawer used for disc ceramic kits. Kit consist of 10 values, 5 pieces each, and all units are rated at 500 vdcw, ±5% tolerance. Selected by Howard W. Sams' PF Reporter magazine in their "Stock Guide for Popular Replacement Parts."

KIT AK300HS

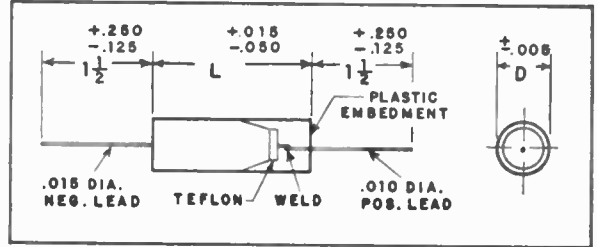
Quan.	Cap. Mmf.	Quan.	Cap. Mmf.
5	ADM-15 100	5	ADM-19 330
5	" 150	5	" 390
5	" 180	5	" 470
5	" 220	5	" 560
5	ADM-19 270	5	" 680

AEROVOX CAPACITORS RESISTORS

TYPE WT WIRE TANTALUM

Type WT capacitors are lead mounted, wire tantalum units manufactured in polarized type only. These units are designed for use where the AC voltage is small with respect to the DC polarizing voltage.

The capacitor consists of a high-purity tantalum anode and a fine silver cathode with specially-selected electrolyte, seal and spacer materials. The case and attached lead form the cathode terminal and are uninsulated. The anode tantalum wire extends through a bushing and is attached to a solderable lead with a welded connection. A thermosetting resin embedment encases the welded joint to provide maximum protection.

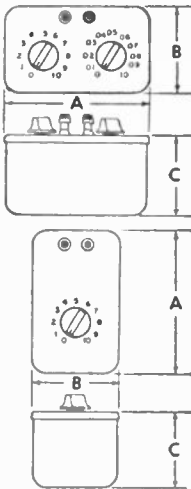


SIZE CHART			
UNINSULATED TYPE WT		INSULATED TYPE WTP	
Case Designation	D (inches)	L (inches)	Case Designation
A	.075"	9/32"	AP
B	.095"	1/4"	BP
C	.125"	3/8"	CP
D	.125"	9/16"	DP

WTP is furnished with a plastic insulating sleeve.

TYPE WT - STOCK VALUES												
Cap Mfd	1 VDCW	Case Size	3 VDCW	Case Size	4 VDCW	Case Size	6 VDCW	Case Size	8 VDCW	Case Size	10 VDCW	Case Size
.1					WT185	A	WT610	A				
.5					WT190	A						WT1350
1.0					WT195	A	WT620	A	WT800	A		WT1410
2.0					WT200	A			WT905	A		
4.0					WT400	A					WT1200	C
8.0			WT165	A	WT550	A						
16.0	WT150	C					WT704	D				
20.0							WT708	D				

Available with plastic insulating sleeve. Specify Aerovox Type WTP.



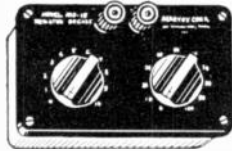
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AEROVOX DECADE BOXES

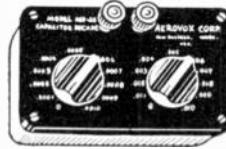
RESISTANCE

CAPACITANCE

INDUCTANCE



ARD



ACD



ALD

Laboratory quality Standards in capacitance, resistance and inductance at a price far below that of equivalent quality Standards. Available in ten units: three resistance decades, three capacitance decades and four inductance decades. Housed in a seamless, drawn steel case coated with grey enamel. Panels are black with the markings engraved in white.

All ratings are maximum and no guarantee can be enforced if ratings are exceeded in any way. Overload can change accuracy or cause actual burn-outs.

Multiple dial units have the highest value multipliers on the left-hand side so that readings are in order exactly as they should be read.

PART NO.	TYPE	DIELECTRIC	DIALS	RANGE	STEPS	ACCURACY ±		RATING	
						1st Dial	2nd Dial	1st Dial	2nd Dial
RESISTANCE									
ARD-15	R	Wire-Wound	2	0 to 110 ohms	1.0 ohm	5%	3%	1.0 Amp.	.5 Amp.
ARD-23	R	Wound Carbon Deposited	2	0 to 11 K	100 ohm	3%	3%	100 Ma.	50 Ma.
ARD-31	R	Carbon Deposited	2	0 to 1.1 meg.	10 K ohms	1%	1%	5 Ma.	2 Ma.
CAPACITANCE									
ACD-13	C	Mica	2	0 to .011 mfd.	.0001 mfd.	3%	3%	600 VDC 220 VAC	600 VDC 220 VAC
ACD-23	C	Oil-Paper	2	0 to 1.1 mfd.	.01 mfd.	3%	3%	600 VDC 220 VAC	600 VDC 220 VAC
ACD-33	C	Oil-Paper	1	0 to 10.0 mfd.	1.0 mfd.	3%	—	600 VDC 220 VAC	—
INDUCTANCE									
ALD-12	L	Toroidal	1	0 to 10 mh.	1.0 mh.	2%	—	250 MaDC	—
ALD-22	L	Toroidal	1	0 to 100 mh.	10.0 mh.	2%	—	79 MaDC	—
ALD-32	L	Toroidal	1	0 to 1.0 hy.	100.0 mh.	2%	—	25 MaDC	—
ALD-42	L	Toroidal	1	0 to 10.0 hy.	1.0 hy.	2%	—	8 MaDC	—

AEROVOX

CAPACITORS RESISTORS

AEROVOX L-C CHECKER—MODEL 97



The Aerovox Model 97 L-C Checker is a highly versatile test instrument capable of testing capacitance in circuit **without removing either lead of the capacitor from the circuit.**

The new Model 97 has been completely redesigned and engineered according to the latest design theories and utilizes the newest techniques of printed-circuitry to achieve the most efficient instrumentation available today to servicemen and technicians. The L-C Checker represents the ultimate in versatility and adaptability in a test instrument.

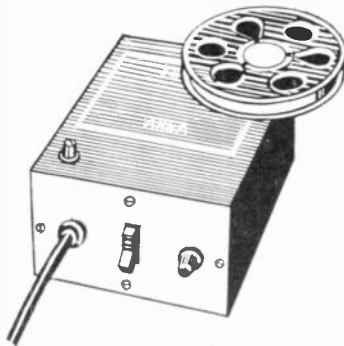
Some of the features of the Model 97 L-C Checker include: extended frequency range from a minimum of 74 kc to a maximum of 44 megacycles; a recessed front panel with an extra-large, easy-to-read dial with magnifying indicator. Finished in an attractive smooth grey, the instrument weighs only 8½ pounds and measures 13" x 8½" x 6" deep and comes furnished with all necessary test cords and probes.

A partial listing of the applications of the Model 97 L-C Checker includes:

1. Checking capacitors in circuit for values of capacitance and relative Q at radio frequency.
2. Checking capacitor insulation resistance (leakage).
3. Checking alignment of radio frequency and intermediate frequency circuits of domestic, marine, and short-wave receivers.
4. Tracking super-het oscillators.
5. Checking alignment of FM-I.F. channels and independent alignment of FM-I.F. transformers.
6. Checking resonant absorption troubles in "all wave" receiver circuits, locating dead spots, etc.
7. Location of resonant points in shorted windings (unused coils) in multi-range oscillators, etc.
8. Checking natural resonant points of r.f. chokes to make sure they are beyond circuit operating range.
9. Checking natural period of antennae and transmission lines.
10. Checking quartz crystals for true or false frequency, operation at harmonics and activity.
11. Checking transmitter buffer, amplifier and tank circuits for parasitic current loops with power off for safety.
12. Tuning of wave traps and filters for harmonic suppression.

Professional Heavy Duty AEROVOX TYPE 710 DEGAUSSER

- Erases magnetic tape without rewinding
- Assures clean, noise-free erasures
- Ideal for instrumentation use
- Improves quality of new tape
- Will erase up to 1" width tapes
- Handles up to 7" and 10" spools
- Heavy gauge steel construction
- Complete with rubber feet, screw-in fuse and 6' rubber covered line cord



SPECIFICATIONS

- Operating Voltage — 110-130 volts, 60 cycles AC
- Current Consumption — 10 Amps
- Switch — Heavy-duty on-off
- Fuse — Screw-in type
- Construction — Heavy gauge steel, gray baked enamel finish.
- Weight — Approximately 15½ lbs.

*E-Z-CODE JUNIOR

Revolutionary New!

MORSE
CODE
TEACHER



This new instrument is not a record, not a tape, not a punched card . . . but a combination of modern printed wiring circuitry, an electric pencil and a completely new technique for learning code.

The radio-telegraph code is printed on a pre-nolic base by the etched copper process and then plated for added durability. Each letter of the code appears in vertical slots with wide and narrow bars of printed wiring acting as the dashes and dots respectively. Each dot and dash of the code is wired to the buzzer in the plastic housing. As the user draws the electric pencil down each slot, the electrical circuit is completed, sounding the dots and dashes of that particular letter.








Connecting two "E-Z-Code Junior" instruments will permit users to "send" to each other over a considerable distance. Connections are simply made with hookup wire to the two connecting clips. A "hide-away" telegraph key is mounted on a hinged flap which folds out of sight when not in use. The set can also be adapted for transmission through oscillators in ham receivers.

Each unit individually packed in attractive, multi-color display carton.

* Trademark

Barco, Inc.

MILWAUKEE 1, WISCONSIN

	CATALOG NO.	CAPACITY -20% + 60%	WORKING VOLTAGE	LIST PRICE	BODY SIZE (actual) Tolerances: Dia. $\pm 1/64$, length $\pm 1/32$ Leads: 1-1/8 in. minimum.
TYPE 0	P3-21	2 mfd.	3 v dc	\$1.00	 1/8 dia. x 15/32 length
	*P6-1	1 mfd.	6 v dc	0.85	
	P6-1.5	1.5 mfd.	6 v dc	1.00	
	*P9-1.25	1.25 mfd.	9 v dc	1.00	
	*P18-1	1 mfd.	18 v dc	1.00	
	P25-.8	0.8 mfd.	25 v dc	1.00	
	P40-.5	0.5 mfd.	40 v dc	1.00	
	P70-.3	0.3 mfd.	70 v dc	1.00	
TYPE 1/2	*PT4-4	4 mfd.	4 v dc	\$0.85	 1/8 dia. x 5/8 length
	*PT8-2	2 mfd.	8 v dc	1.00	
	PT50-.25	0.25 mfd.	50 v dc	1.00	
	PT70-.1	0.1 mfd.	70 v dc	1.00	
TYPE 3/4	*PX3-10I	10 mfd.	3 v dc	\$0.85	 11/64 dia. x 15/32 length
	*PX6-8I	8 mfd.	6 v dc	0.85	
	*P12-5I	5 mfd.	12 v dc	0.85	
	*PX25-2.5I	2.5 mfd.	25 v dc	0.85	
	P70-1	1 mfd.	70 v dc	0.85	
TYPE I-IA	*PT6-2	2 mfd.	6 v dc	\$0.70	 11/64 dia. x 9/16 length ① Body size is 11/64 x 3/4 in.
	PT6-4	4 mfd.	6 v dc	0.70	
	PT12/25-2	2 mfd.	12/25 v dc	0.70	
	*PS12-3I	3 mfd.	12 v dc	0.70	
	*P25-2.5I	2.5 mfd.	25 v dc	0.70	
TYPE II	PT3-32I	32 mfd.	3 v dc	\$0.75	 1/4 dia. x 3/4 length ② Body size is 1/4 x 11/16 in.
	*P3-40I	40 mfd.	3 v dc	0.75	
	*P6-25	25 mfd.	6 v dc	0.75	
	P9-20I	20 mfd.	9 v dc	0.75	
	*P12-16	16 mfd.	12 v dc	0.75	
	*P25-8I	8 mfd.	25 v dc	0.75	
	*P40-5	5 mfd.	40 v dc	0.75	
	*P70-3	3 mfd.	70 v dc	0.75	
	TYPE III	*P3-100	100 mfd.	3 v dc		$1.00	23/64 dia. x 3/4 length
*P6-80I		80 mfd.	6 v dc	1.00	
*P12-50I		50 mfd.	12 v dc	1.00	
*P25-25I		25 mfd.	25 v dc	1.00	
*P70-10I		10 mfd.	70 v dc	1.00	
TYPE IV	P3-200	200 mfd.	3 v dc	\$1.25	 23/64 dia. x 1-9/32 length ③ 19/32 dia. x 1-9/32 length ④ 1/2 dia. x 1-9/32 length
	P6-160	160 mfd.	6 v dc	1.25	
	P12-100I	100 mfd.	12 v dc	1.25	
	P12-250I	250 mfd.	12 v dc	1.25	
	*P25-50I	50 mfd.	25 v dc	1.25	
	P25-100I	100 mfd.	25 v dc	1.25	
	P40-30	30 mfd.	40 v dc	1.25	
	P70-20	20 mfd.	70 v dc	1.25	
TYPE V	PT3-500	500 mfd.	3 v dc	\$1.25	 7/16 dia. x 1-1/8 length ⑤ Body size is 7/16 x 1-3/8 in. ⑥ Body size is 7/16 x 1-5/8 in.
	PT50-25I	25 mfd.	50 v dc	1.25	
	PT150-8I	8 mfd.	150 v dc	1.25	
	PT150-20I	20 mfd.	150 v dc	1.25	

* Indicates fastest selling items which should be stocked heavily.
I Designates insulated covering available; add I to catalog number if desired (I insulated only).



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

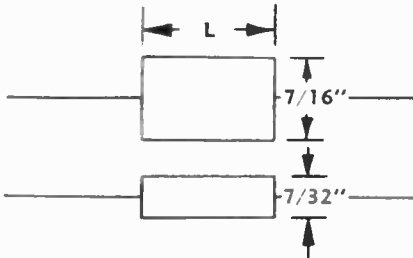
ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

MOLDED FOIL MICA

TYPE CM-19 & 20

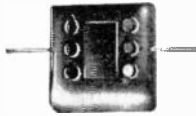


L—CM-19—11/16"; CM-20—25/32"

CM-19



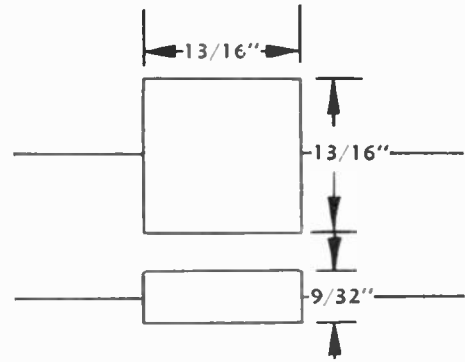
CM-30



Cap. Mmf.	Type Designation	List Price Tolerance		
		"M" ±20%	"K" ±10%	"J" ±5%
2700	CM-20B-272	\$0.95	\$1.05	\$1.19
3000	CM-20B-302	1.00	1.10	1.25
3300	CM-20B-332	1.05	1.16	1.31
3600*	CM-20B-362	1.00	1.10	1.25
3900*	CM-20B-392	1.05	1.16	1.31
4300*	CM-20B-432	1.10	1.21	1.38
4700*	CM-20B-472	1.20	1.32	1.50
5000*	CM-20B-502	1.25	1.38	1.56
5100*	CM-20B-512	1.25	1.38	1.56

Capacities from 5 mmf. to 2700 mmf. can be supplied in CM-19 cases.

TYPE CM-30



T—CM-30—9/32"; CM-35—11/32"

500 VDCW

Cap. Mmf.	Type Designation	List Price Tolerance		
		"M" ±20%	"K" ±10%	"J" ±5%
5	CM-20B-050	\$0.30	\$0.33	\$0.38
10	CM-20B-100	.30	.33	.38
12	CM-20B-120	.30	.33	.38
15	CM-20B-150	.30	.33	.38
18	CM-20B-180	.30	.33	.38
20	CM-20B-200	.30	.33	.38
22	CM-20B-220	.30	.33	.38
24	CM-20B-240	.30	.33	.38
27	CM-20B-270	.30	.33	.38
30	CM-20B-300	.30	.33	.38
33	CM-20B-330	.20	.22	.25
36	CM-20B-360	.20	.22	.25
39	CM-20B-390	.20	.22	.25
43	CM-20B-430	.20	.22	.25
47	CM-20B-470	.20	.22	.25
50	CM-20B-500	.20	.22	.25
51	CM-20B-510	.20	.22	.25
56	CM-20B-560	.20	.22	.25
62	CM-20B-620	.20	.22	.25
68	CM-20B-680	.20	.22	.25
75	CM-20B-750	.20	.22	.25
82	CM-20B-820	.20	.22	.25
91	CM-20B-910	.20	.22	.25
100	CM-20B-101	.20	.22	.25
110	CM-20B-111	.20	.22	.25
120	CM-20B-121	.20	.22	.25
130	CM-20B-131	.25	.28	.31
150	CM-20B-151	.25	.28	.31
160	CM-20B-161	.25	.28	.31
180	CM-20B-181	.25	.28	.31
200	CM-20B-201	.25	.28	.31
220	CM-20B-221	.25	.28	.31
240	CM-20B-241	.30	.33	.38
250	CM-20B-251	.30	.33	.38
270	CM-20B-271	.30	.33	.38
300	CM-20B-301	.30	.33	.38
330	CM-20B-331	.30	.33	.38
360	CM-20B-361	.30	.33	.38
390	CM-20B-391	.30	.33	.38
430	CM-20B-431	.30	.33	.38
470	CM-20B-471	.30	.33	.38
500	CM-20B-501	.30	.33	.38
510	CM-20B-511	.30	.33	.38
560	CM-20B-561	.35	.39	.44
620	CM-20B-621	.35	.39	.44
680	CM-20B-681	.35	.39	.44
750	CM-20B-751	.35	.39	.44
820	CM-20B-821	.40	.44	.50
910	CM-20B-911	.45	.50	.56
1000	CM-20B-102	.45	.50	.56
1100	CM-20B-112	.50	.55	.63
1200	CM-20B-122	.50	.55	.63
1300	CM-20B-132	.50	.55	.63
1500	CM-20B-152	.60	.66	.75
1600	CM-20B-162	.60	.66	.75
1800	CM-20B-182	.70	.77	.88
2000	CM-20B-202	.75	.83	.94
2200	CM-20B-222	.80	.88	1.00
2400	CM-20B-242	.85	.94	1.06
2500	CM-20B-252	.90	.99	1.13

Cap. Mmf.	Type Designation	List Price Tolerance		
		"M" ±20%	"K" ±10%	"J" ±5%
510	CM-30-B-511	\$0.30	\$0.36	\$0.39
560	CM-30-B-561	.30	.36	.39
620	CM-30-B-621	.30	.36	.39
680	CM-30-B-681	.30	.36	.39
750	CM-30-B-751	.30	.36	.39
820	CM-30-B-821	.30	.36	.39
910	CM-30-B-911	.30	.36	.39
1000	CM-30-B-102	.35	.39	.44
1100	CM-30-B-112	.35	.39	.44
1200	CM-30-B-122	.35	.39	.44
1300	CM-30-B-132	.35	.39	.44
1500	CM-30-B-152	.40	.44	.50
1600	CM-30-B-162	.40	.44	.50
1800	CM-30-B-182	.45	.50	.56
2000	CM-30-B-202	.45	.50	.56
2200	CM-30-B-222	.45	.50	.56
2400	CM-30-B-242	.50	.55	.63
2500	CM-30-B-252	.50	.55	.63
2700	CM-30-B-272	.50	.55	.63
3000	CM-30-B-302	.60	.66	.75
3300	CM-30-B-332	.60	.66	.75
3600	CM-30-B-362	.60	.66	.75
3900	CM-30-B-392	.65	.75	.85
4300	CM-30-B-432	.65	.75	.85
4700	CM-30-B-472	.65	.75	.85
5000	CM-30-B-502	.70	.81	.91
5100	CM-30-B-512	.70	.81	.91
5600	CM-30-B-562	.70	.81	.91
6200	CM-30-B-622	.90	1.04	1.17

TYPE CM-35

6800*	CM-35-B-682	\$0.95	\$1.05	\$1.19
7500*	CM-35-B-752	1.00	1.10	1.25
8200*	CM-35-B-822	1.15	1.27	1.44
9100*	CM-35-B-912	1.15	1.27	1.44
10000*	CM-35-B-103	1.40	1.54	1.75
12000*	CM-35-B-123	1.60	1.76	2.00
15000*	CM-35-B-153	2.00	2.20	2.50
6800	VCM-35-B-682	1.05	1.16	1.31
7500	VCM-35-B-752	1.15	1.27	1.44
8200	VCM-35-B-822	1.30	1.43	1.62
9100	VCM-35-B-912	1.30	1.43	1.62
10600	VCM-35-B-103	1.55	1.71	1.94

All capacitors marked with * are 300WV.



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

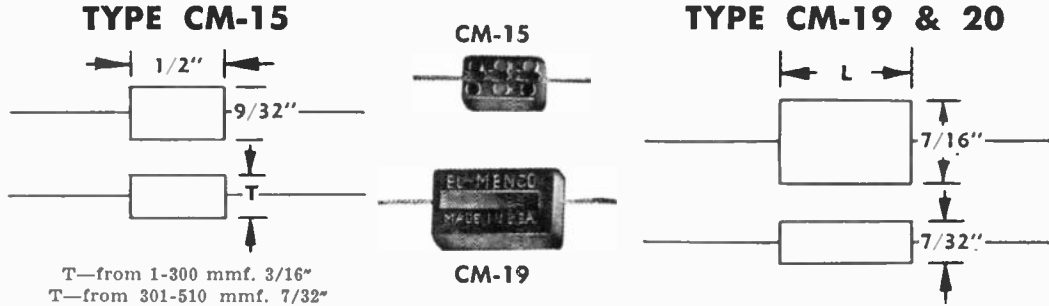
MAIN OFFICE: ARCO ELECTRONICS INC. NEW YORK 13, N. Y.

ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC. DALLAS 19, TEXAS

ARCO CAPACITORS INC. LOS ANGELES 35, CALIFORNIA

MOLDED SILVERED MICA



500 VDCW				
Cap. Mmf.	Designation Type	List Price	Tolerance	
			5% "J"	2% "G"
1	CM-15-C-010†	\$0.40		
2	CM-15-C-020†	.40		
3	CM-15-C-030†	.40		
5	CM-15-C-050†	.40		
10	CM-15-C-100	.40		
12	CM-15-C-120	.40		
15	CM-15-C-150	.40		
18	CM-15-C-180	.40		
20	CM-15-C-200	.40		
22	CM-15-C-220	.40		
24	CM-15-E-240	.40		
27	CM-15-E-270	.40	\$0.46	
30	CM-15-E-300	.40	.46	
33	CM-15-E-330	.40	.46	
36	CM-15-E-360	.40	.46	
39	CM-15-E-390	.40	.46	
43	CM-15-E-430	.40	.46	
47	CM-15-E-470	.40	.46	
50	CM-15-E-500	.40	.46	\$0.50
51	CM-15-E-510	.40	.46	.50
56	CM-15-E-560	.40	.46	.50
62	CM-15-E-620	.40	.46	.50
68	CM-15-E-680	.40	.46	.50
75	CM-15-E-750	.40	.46	.50
82	CM-15-E-820	.45	.52	.56
91	CM-15-E-910	.45	.52	.56
100	CM-15-E-101	.45	.52	.56
110	CM-15-E-111	.45	.52	.56
120	CM-15-E-121	.45	.52	.56
130	CM-15-E-131	.45	.52	.56
150	CM-15-E-151	.45	.52	.56
160	CM-15-E-161	.50	.58	.63
180	CM-15-E-181	.50	.58	.63
200	CM-15-E-201	.50	.58	.63
220	CM-15-E-221	.55	.63	.69
240	CM-15-E-241	.55	.63	.69
250	CM-15-E-251	.55	.63	.69
270	CM-15-E-271	.60	.69	.75
300	CM-15-E-301	.60	.69	.75
330	CM-15-E-331	.65	.75	.81
360	CM-15-E-361	.70	.81	.88
390	CM-15-E-391	.70	.81	.88
430*	CM-15-E-431	.75	.86	.94
470*	CM-15-E-471	.80	.92	1.00
500*	CM-15-E-501	.80	.92	1.00
510*	CM-15-E-511	.80	.92	1.00

NOTES—* Voltage Rating 300 VDCW.
† Closest Tolerance ±0.5 mmf.

SPECIFICATIONS NOTES:
±½% tolerance available above 100 mmf. at double ±5% list price.
CM15, available "F" characteristic above 33 mmf.
CM19, 20 available "E" characteristic above 33 mmf.
CM19, 20 available "F" characteristic above 56 mmf.

500 VDCW				
Cap. Mmf.	Type Designation	List Price	Tolerance	
			±5% "J"	±2% "G"
5	CM-20C-050	\$0.40		
10	CM-20C-100	.40		
12	CM-20C-120	.40		
15	CM-20C-150	.40		
18	CM-20C-180	.40		
20	CM-20C-200	.40		
22	CM-20C-220	.40		
24	CM-20C-240	.40		
27	CM-20C-270	.40	\$0.46	
30	CM-20C-300	.40	.46	
33	CM-20C-330	.40	.46	
36	CM-20C-360	.40	.46	
39	CM-20C-390	.40	.46	
43	CM-20C-430	.40	.46	
47	CM-20C-470	.40	.46	
50	CM-20C-500	.40	.46	\$0.50
51	CM-20C-510	.40	.46	.50
56	CM-20C-560	.40	.46	.50
62	CM-20C-620	.40	.46	.50
68	CM-20C-680	.40	.46	.50
75	CM-20C-750	.40	.46	.50
82	CM-20C-820	.40	.46	.50
91	CM-20C-910	.40	.46	.50
100	CM-20C-101	.40	.46	.50
110	CM-20C-111	.45	.52	.56
120	CM-20C-121	.45	.52	.56
130	CM-20C-131	.45	.52	.56
150	CM-20C-151	.45	.52	.56
160	CM-20C-161	.45	.52	.56
180	CM-20C-181	.45	.52	.56
200	CM-20D-201	.45	.52	.56
220	CM-20D-221	.45	.52	.56
240	CM-20D-241	.55	.63	.69
250	CM-20D-251	.55	.63	.69
270	CM-20D-271	.55	.63	.69
300	CM-20D-301	.55	.63	.69
330	CM-20D-331	.55	.63	.69
360	CM-20D-361	.55	.63	.69
390	CM-20D-391	.65	.75	.81
430	CM-20D-431	.65	.75	.81
470	CM-20D-471	.70	.81	.88
500	CM-20D-501	.70	.81	.88
510	CM-20D-511	.70	.81	.88
560	CM-20D-561	.75	.86	.94
620	CM-20D-621	.75	.86	.94
680	CM-20D-681	.80	.92	1.00
750	CM-20D-751	.80	.92	1.00
820	CM-20D-821	.85	.98	1.06
910	CM-20D-911	.85	.98	1.06
1000	CM-20E-102	.90	1.04	1.13
1100	CM-20E-112	.90	1.04	1.13
1200	CM-20E-122	1.00	1.15	1.25
1300	CM-20E-132	1.00	1.15	1.25
1500	CM-20E-152	1.10	1.27	1.38
1600	CM-20E-162	1.10	1.27	1.38
1800	CM-20E-182	1.20	1.38	1.50
2000	CM-20E-202	1.30	1.50	1.63
2200	CM-20E-222	1.40	1.61	1.71
2400	CM-20E-242	1.45	1.67	1.81
2500	CM-20E-252	1.50	1.73	1.88



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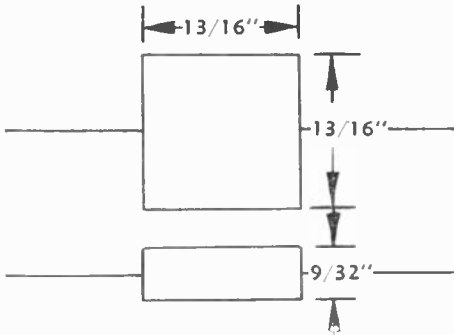
TYPE CM-19 & 20

500 VDCW

Cap. Mmf.	Type Designation	List Price Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
2700	CM-20E-272	1.60	1.84	2.00
3000	CM-20E-302	1.80	2.07	2.25
3300	CM-20E-332	1.90	2.19	2.38
3600*	CM-20E-362	1.90	2.19	2.38
3900*	CM-20E-392	2.00	2.30	2.50
4300*	CM-20E-432	2.10	2.42	2.63
4700*	CM-20E-472	2.20	2.53	2.75
5000*	CM-20E-502	2.30	2.65	2.88
5100*	CM-20E-512	2.30	2.65	2.88

Capacities from 5 mmf. to 2700 mmf. can be supplied in CM-19 cases.

TYPE CM-30



500 VDCW

Cap. Mmf.	Type Designation	List Price Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
510	CM-30-E-511	\$0.70	\$0.81	\$0.88
560	CM-30-E-561	.75	.86	.94
620	CM-30-E-621	.75	.86	.94
680	CM-30-E-681	.80	.92	1.00
750	CM-30-E-751	.80	.92	1.00
820	CM-30-E-821	.85	.98	1.06
910	CM-30-E-911	.90	1.04	1.13
1000	CM-30-E-102	1.00	1.15	1.25
1100	CM-30-E-112	1.00	1.15	1.25
1200	CM-30-E-122	1.15	1.32	1.44
1300	CM-30-E-132	1.15	1.32	1.44
1500	CM-30-E-152	1.25	1.44	1.56
1600	CM-30-E-162	1.25	1.44	1.56
1800	CM-30-E-182	1.25	1.44	1.56
2000	CM-30-E-202	1.35	1.55	1.69
2200	CM-30-E-222	1.35	1.55	1.69
2400	CM-30-E-242	1.60	1.84	2.00
2500	CM-30-E-252	1.60	1.84	2.00
2700	CM-30-E-272	1.80	2.07	2.25
3000	CM-30-E-302	1.90	2.19	2.38
3300	CM-30-E-332	1.90	2.19	2.38
3600	CM-30-E-362	2.00	2.30	2.50
3900	CM-30-E-392	2.00	2.30	2.50
4300	CM-30-E-432	2.10	2.42	2.63
4700	CM-30-E-472	2.10	2.42	2.63
5000	CM-30-E-502	2.15	2.47	2.69
5100	CM-30-E-512	2.15	2.47	2.69
5600	CM-30-E-562	2.25	2.59	2.81
6200	CM-30-E-622	2.40	2.76	3.00

NOTE: All above "SILVERED MICA" units can be supplied in "F" Characteristic at no extra cost. For ±1/2% Tolerance double the 5% List prices.

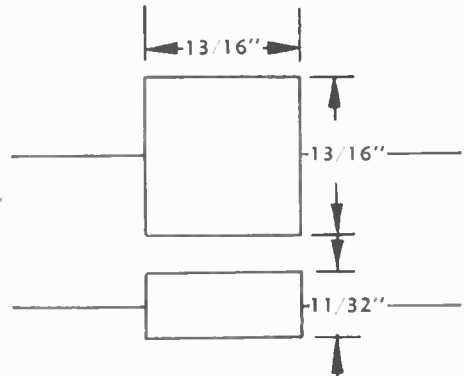
All Type CM-42 units can be supplied in "F" characteristic at no extra cost. For ±1/2% Tolerance double the 1% list price.

CM-30



CM-42

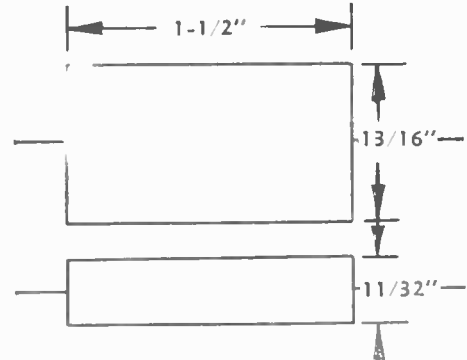
TYPE CM-35



500 VDCW

Cap. Mmf.	Type Designation	List Price Tolerance		
		"J" ±5%	"G" ±2%	"F" ±1%
6800*	CM-35-E-682	\$2.65	\$3.05	\$3.31
7500*	CM-35-E-752	2.80	3.22	3.50
8200*	CM-35-E-822	3.00	3.45	3.75
9100*	CM-35-E-912	3.20	3.68	4.00
10000*	CM-35-E-103	3.50	4.03	4.38
12000*	CM-35-E-123	4.25	4.89	5.31
15000*	CM-35-E-153	5.00	5.75	6.25
6800	VCM-35-E-682	2.90	3.34	3.62
7500	VCM-35-E-752	3.00	3.51	3.81
8200	VCM-35-E-822	3.20	3.68	4.13
9100	VCM-35-E-912	3.40	4.03	4.38
10000	VCM-35-E-103	3.65	4.43	4.81

TYPE CM-42



500 VDCW

12000	CM-42-E-123	3.90	4.49	4.88
13000	CM-42-E-133	4.20	4.83	5.25
15000	CM-42-E-153	4.80	5.52	6.00
16000	CM-42-E-163	5.10	5.87	6.38
18000	CM-42-E-183	5.70	6.56	7.13
20000	CM-42-E-203	6.30	7.25	7.88
22000	CM-42-E-223	6.90	7.94	8.63
24000	CM-42-E-243	7.50	8.63	9.38
25000	CM-42-E-253	7.80	8.97	9.75
27000*	CM-42-E-273	7.50	8.63	9.38
30000*	CM-42-E-303	7.80	8.97	9.75
33000*	CM-42-E-333	8.50	9.78	10.63
36000*	CM-42-E-363	9.50	10.93	11.88
39000*	CM-42-E-393	10.50	12.08	13.13

All capacities marked with * are 300WV.

ARCO ELECTRONICS INC.

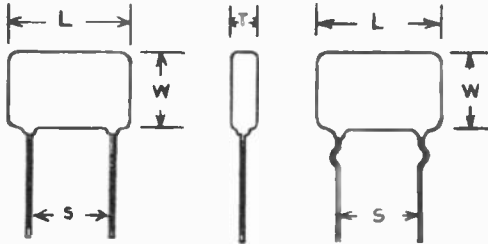
ELMENCO CAPACITORS

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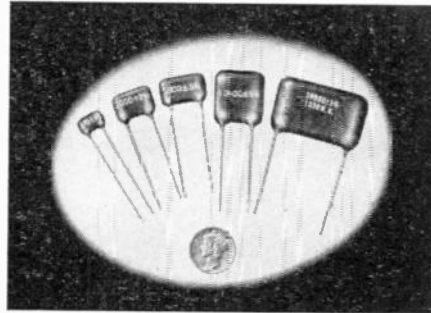
ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA



All ELMENCO Dur-Mica capacitors can be obtained with either straight or crimped leads as per line drawings above. The dimension from the bottom of the crimp to the coated portion of the lead is approximately 5/32 in all case sizes. Minimum length of crimped leads is 1/4". Lead sizes for both straight and crimped leads are identical except for the DM-15. Crimped lead DM-15 capacitors have #20 gage wire.



TYPE DM-15

500VDCW

	DM-15	DM-19	DM-20	DM-30	DM-40	DM-42
S (± 1/32)	15 64	11, 32	7/16	7, 16	19 32	1-1/16
WIRE LEAD	#22	#20	#20	#18	#18	#18

CASE SIZES — DUR-MICA SERIES

Case Size	Cap. mmf.	Volt. VDCW	L max.	W max.	T max.
DM-15	10	500	.446	.351	.163
	40	500	.448	.355	.166
	100	500	.451	.360	.175
	200	500	.457	.372	.190
	400	500	.470	.395	.220
	400	300	.457	.365	.190
	600	300	.463	.371	.204
820	300	.470	.378	.220	
DM-19	100	500	.622	.476	.178
	200	500	.624	.478	.180
	500	500	.628	.482	.186
	1000	500	.636	.490	.197
	2000	500	.652	.506	.219
	3000	500	.668	.520	.240
	3000	300	.655	.510	.223
	4000	300	.665	.520	.240
DM-20	200	500	.722	.463	.181
	600	500	.726	.469	.189
	1000	500	.730	.475	.196
	2000	500	.740	.490	.215
	3000	500	.750	.505	.234
	4300	500	.766	.525	.258
	4300	300	.750	.511	.233
	5000	300	.755	.520	.242
	6200	300	.763	.533	.258
DM-30	3000	500	.757	.845	.238
	5000	500	.765	.855	.253
	7000	500	.773	.865	.268
	10000	500	.783	.879	.290
	10000	300	.780	.855	.273
	15000	300	.798	.868	.302
	20000	300	.815	.880	.330
DM-40	3000	500	.927	.659	.220
	5000	500	.938	.682	.247
	10000	500	.965	.740	.315
	13000	300	.962	.693	.263
	15000	300	.990	.725	.305
DM-42	10000	500	1.385	.833	.237
	20000	500	1.406	.851	.287
	30000	500	1.426	.868	.337
	40000	500	1.446	.886	.384
	40000	300	1.431	.880	.357
	50000	300	1.446	.918	.396
	63000	300	1.466	.963	.442

Cap. Mmf.	Type Designation	± 10% "K"	List Price	Tolerance ± 5% "J"	± 2% "G"	± 1% "F"
1	DM-15-C10±	\$0.25				
2	DM-15-020±	.25				
3	DM-15-030±	.25				
5	DM-15-050±	.25				
10	DM-15-100	.25	\$0.28			
12	DM-15-120	.25	.28			
15	DM-15-150	.25	.28			
18	DM-15-180	.25	.28			
20	DM-15-200	.25	.28			
22	DM-15-220	.25	.28			
24	DM-15-240	.25	.28			
27	DM-15-270	.25	.28	\$0.33		
30	DM-15-300	.25	.28	.33		
33	DM-15-330	.25	.28	.33		
36	DM-15-360	.25	.28	.33		
39	DM-15-390	.25	.28	.33		
43	DM-15-430	.25	.28	.33		
47	DM-15-470	.25	.28	.33		
50	DM-15-500	.25	.28	.33	\$0.40	
51	DM-15-510	.25	.28	.33	.40	
56	DM-15-560	.25	.28	.33	.40	
62	DM-15-620	.25	.28	.33	.40	
68	DM-15-680	.25	.28	.33	.40	
75	DM-15-750	.25	.28	.33	.40	
82	DM-15-820	.25	.28	.33	.40	
91	DM-15-910	.25	.28	.33	.40	
100	DM-15-101	.25	.28	.33	.40	
110	DM-15-111	.30	.33	.39	.48	
120	DM-15-121	.30	.33	.39	.48	
130	DM-15-131	.30	.33	.39	.48	
150	DM-15-151	.30	.33	.39	.48	
160	DM-15-161	.35	.39	.46	.56	
180	DM-15-181	.35	.39	.46	.56	
200	DM-15-201	.35	.39	.46	.56	
220	DM-15-221	.40	.44	.52	.64	
240	DM-15-241	.40	.44	.52	.64	
250	DM-15-251	.40	.44	.52	.64	
270	DM-15-271	.45	.50	.59	.72	
300	DM-15-301	.45	.50	.59	.72	
330	DM-15-331	.50	.55	.65	.80	
360	DM-15-361	.50	.55	.65	.80	
390	DM-15-391	.55	.61	.72	.88	
430*	DM-15-431	.55	.61	.72	.88	
470*	DM-15-471	.60	.66	.78	.96	
500*	DM-15-501	.60	.66	.78	.96	
510*	DM-15-511	.60	.66	.78	.96	
560*	DM-15-561	.65	.72	.85	1.04	
620*	DM-15-621	.70	.77	.91	1.12	
680*	DM-15-681	.75	.83	.98	1.20	
750*	DM-15-751	.80	.88	1.04	1.28	
820*	DM-15-821	.85	.94	1.11	1.36	
910**	DM-15-911	.95	1.05	1.24	1.43	
1000**	DM-15-102	1.00	1.10	1.30	1.60	

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.



ARCO ELECTRONICS INC.

ELMENDO CAPACITORS

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ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

TYPE DM-19 500VDCW

Cap. Mmf.	Type Designation	List Price Tolerance			
		± 10% "K"	± 5% "J"	± 2% "G"	± 1% "F"
100	DM-19-101	\$0.25	\$0.28	\$0.30	\$0.38
110	DM-19-111	.30	.33	.36	.45
120	DM-19-121	.30	.33	.36	.45
130	DM-19-131	.30	.33	.36	.45
150	DM-19-151	.30	.33	.36	.45
160	DM-19-161	.30	.33	.36	.45
180	DM-19-181	.30	.33	.36	.45
200	DM-19-201	.30	.33	.36	.45
220	DM-19-221	.30	.33	.36	.45
240	DM-19-241	.35	.39	.42	.53
250	DM-19-251	.35	.39	.42	.53
270	DM-19-271	.40	.44	.48	.60
300	DM-19-301	.40	.44	.48	.60
330	DM-19-331	.40	.44	.48	.60
360	DM-19-361	.45	.50	.54	.68
390	DM-19-391	.45	.50	.54	.68
430	DM-19-431	.45	.50	.54	.68
470	DM-19-471	.50	.55	.60	.75
500	DM-19-501	.50	.55	.60	.75
510	DM-19-511	.50	.55	.60	.75
560	DM-19-561	.55	.61	.66	.83
620	DM-19-621	.55	.61	.66	.83
680	DM-19-681	.60	.66	.72	.90
750	DM-19-751	.60	.66	.72	.90
820	DM-19-821	.60	.66	.72	.90
910	DM-19-911	.65	.72	.78	.98
1000	DM-19-102	.70	.77	.84	1.05
1100	DM-19-112	.70	.77	.84	1.05
1200	DM-19-122	.75	.83	.90	1.13
1300	DM-19-132	.80	.88	.96	1.20
1500	DM-19-152	.85	.94	1.02	1.28
1600	DM-19-162	.90	.99	1.08	1.35
1800	DM-19-182	1.00	1.10	1.20	1.50
2000	DM-19-202	1.10	1.21	1.32	1.65
2200	DM-19-222	1.20	1.32	1.44	1.80
2400	DM-19-242	1.30	1.43	1.56	1.95
2500	DM-19-252	1.35	1.49	1.62	2.03
2700	DM-19-272	1.40	1.54	1.68	2.10
3000	DM-19-302	1.50	1.65	1.80	2.25

TYPE DM-20 500VDCW

680	DM-20-601	\$0.50	\$0.55	\$0.60	\$0.75
750	DM-20-751	.50	.55	.60	.75
820	DM-20-821	.50	.55	.60	.75
910	DM-20-911	.55	.61	.66	.83
1000	DM-20-102	.60	.66	.72	.90
1100	DM-20-112	.60	.66	.72	.90
1200	DM-20-122	.65	.72	.78	.98
1300	DM-20-132	.70	.77	.84	1.05
1500	DM-20-152	.75	.83	.90	1.13
1600	DM-20-162	.80	.88	.96	1.20
1800	DM-20-182	.90	.99	1.08	1.35
2000	DM-20-202	.95	1.05	1.14	1.43
2200	DM-20-222	1.05	1.16	1.26	1.58
2400	DM-20-242	1.10	1.21	1.32	1.65
2500	DM-20-252	1.10	1.21	1.32	1.65
2700	DM-20-272	1.20	1.32	1.44	1.80
3000	DM-20-302	1.30	1.43	1.56	1.95
3300	DM-20-332	1.40	1.54	1.68	2.10
3600	DM-20-362	1.50	1.65	1.80	2.25
3900	DM-20-392	1.60	1.76	1.92	2.40
4300	DM-20-432	1.70	1.87	2.04	2.55
4700	DM-20-472	1.80	1.98	2.16	2.70
5000*	DM-20-502	1.75	1.93	2.10	2.63
5100*	DM-20-512	1.80	1.98	2.16	2.70
5600*	DM-20-562	1.90	2.09	2.28	2.85
6200*	DM-20-622	2.00	2.20	2.40	3.00
6800**	DM-20-682	2.10	2.31	2.52	2.73
7500**	DM-20-752	2.20	2.42	2.64	3.30
8200**	DM-20-822	2.50	2.75	3.00	3.75

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.

NOTE

Characteristics on above units are as follows:
DM-15 "C" Characteristic from 1 to 20 Mmf.
DM-15 "E" Characteristic from 22 to 51 Mmf.
DM-15 "F" Characteristic from 56 and up.
All capacities listed above in DM-19 and DM-20 are "F" Characteristic.
For ±1/2% from 100 Mmf. up double the list price of the 5% units.
† Minimum Tolerance ±0.5 Mmf.

TYPE DM-30 500VDCW

Cap. Mmf.	Type Designation	List Price Tolerance			
		± 10% "K"	± 5% "J"	± 2% "G"	± 1% "F"
4300	DM-30-432	\$1.60	\$1.76	\$1.92	\$2.08
4700	DM-30-472	1.70	1.87	2.04	2.21
5000	DM-30-502	1.75	1.93	2.10	2.28
5100	DM-30-512	1.75	1.93	2.10	2.28
5600	DM-30-562	1.80	1.98	2.16	2.34
6200	DM-30-622	1.90	2.09	2.28	2.47
6800	DM-30-682	2.10	2.31	2.52	2.73
7500	DM-30-752	2.30	2.53	2.76	2.99
8200	DM-30-822	2.50	2.75	3.00	3.25
9100	DM-30-912	2.70	2.97	3.24	3.51
10000	DM-30-103	3.00	3.30	3.60	3.90
12000	DM-30-123	3.50	3.85	4.20	4.55
13000	DM-30-133	3.75	4.13	4.50	4.88
15000	DM-30-156	4.25	4.68	5.10	5.53
16000	DM-30-163	4.50	4.95	5.40	5.85
18000	DM-30-183	5.00	5.50	6.00	6.50
20000	DM-30-203	5.50	6.05	6.60	7.15
22000*	DM-30-223	5.70	6.27	6.84	7.41
24000*	DM-30-243	6.15	6.77	7.38	8.00
25000*	DM-30-253	6.40	7.04	7.68	8.32
27000*	DM-30-273	6.85	7.54	8.22	8.91
30000**	DM-30-303	7.50	8.25	9.00	9.75
33000**	DM-30-333	8.25	9.08	9.90	10.73
26000	DM-30-363	9.00	9.90	10.80	11.70

TYPE DM-40 500VDCW

In this case size series is available, but it is not carried as a standard stock item as yet. Add 15% to list prices for M-30 values with comparable specifications to determine the DM-40 list price. Delivery time is four weeks.

TYPE DM-42 500VDCW

10000	DM-42-103	\$3.30	\$3.80	\$4.13
12000	DM-42-123	3.90	4.49	4.83
13000	DM-42-133	4.20	4.83	5.25
15000	DM-42-153	4.80	5.52	6.00
16000	DM-42-163	5.10	5.87	6.33
18000	DM-42-183	5.70	6.56	7.13
20000	DM-42-203	6.30	7.25	7.83
22000	DM-42-223	6.90	7.94	8.63
24000	DM-42-243	7.50	8.63	9.38
25000	DM-42-253	7.80	8.97	9.75
27000	DM-42-273	8.40	9.66	10.50
30000	DM-42-303	9.30	10.70	11.63
33000	DM-42-333	10.20	11.73	12.75
36000	DM-42-363	11.10	12.77	13.83
39000	DM-42-393	12.00	13.80	15.00
43000	DM-42-433	13.00	14.95	16.23
47000	DM-42-473	14.00	16.25	17.50
50000*	DM-42-503	15.00	17.42	18.75
51000*	DM-42-513	15.00	17.42	18.75
56000*	DM-42-563	16.00	18.75	20.25
62000*	DM-42-623	17.00	19.95	21.75
68000**	DM-42-683	18.00	21.51	23.33
75000**	DM-42-753	19.00	23.46	25.50
82000**	DM-42-823	20.40	23.46	25.50

TYPE DM-43 500 VDCW

50000	DM-43-503	\$14.50	\$16.68	\$18.13
51000	DM-43-513	14.80	17.02	18.50
56000	DM-43-563	16.20	18.63	20.25
62000	DM-43-623	17.90	20.58	22.38
68000	DM-43-683	19.50	22.43	24.33
75000*	DM-43-753	16.00	18.40	20.00
82000*	DM-43-823	17.50	20.13	21.88
91000*	DM-43-913	19.00	21.85	23.75
100000*	DM-43-104	21.00	24.15	26.25
110000**	DM-43-114	17.00	19.55	21.25
120000**	DM-43-124	18.50	21.28	23.13
130000**	DM-43-134	20.00	23.00	25.00

All capacities marked with * are 300WV.
All capacities marked with ** are 100WV.

NOTE

All capacities listed above in DM-30, DM-40 and DM-42 case sizes are "F" characteristic. For ±1/2% tolerance, double the ±5% list price.



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ELMENCO CAPACITORS

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ARCO ELECTRONICS INC.
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ARCO CAPACITORS INC.
 LOS ANGELES 35, CALIFORNIA

Demand for smaller units in higher voltages designed to meet the requirements for TELEVISION, POWER AMPLIFIERS, LOW POWER TRANSMITTERS, and various INDUSTRIAL USES has increased. EL-MENCO designed and produced units listed below are especially adaptable to compact circuits where space is an important factor. Their acceptance has been overwhelming by the various manufacturers of TELEVISION RECEIVERS.

In many cases, these units will do the work of capacitors molded in CM-45, CM-50, and CM-55 cases without breaking down. NO SPECIAL MOUNTINGS ARE NECESSARY; just wire right into the circuit.

The capacitors are molded in low-loss Phenolic Resin in CM-20, CM-35, CM-42 cases and tested at double the branded voltage. They are tested for dielectric strength, insulation resistance, temperature coefficient capacitance drift, susceptibility to humidity, and length of life, according to RMA Standards. All units are wax-dipped for protection against salt water immersion.

VCM-20 HI-VOLTAGE MOLDED SILVER MICA

CHARACTERISTICS "B" - "C" & "D"

Cap. Mmf.	Type Designation	2000 VOLTS DC TEST 1000 VOLTS DC WKG. TOLERANCE LIST PRICE					3000 VOLTS DC TEST 1500 VOLTS DC WKG. TOLERANCE LIST PRICE					5000 VOLTS DC TEST 2500 VOLTS DC WKG. TOLERANCE LIST PRICE				
		"M" ±20%	"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%	"M" ±20%	"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%	"M" ±20%	"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%
5	VCM-20-050	\$0.30	\$0.35	\$0.45							\$0.35	\$0.40				
10	VCM-20-100	.30	.35	.45							.35	.40	.50			
12	VCM-20-120	.30	.35	.45							.35	.40	.50			
15	VCM-20-150	.30	.35	.45							.35	.40	.50			
18	VCM-20-180	.30	.35	.45							.35	.40	.50			
20	VCM-20-200	.30	.35	.45							.35	.40	.50			
22	VCM-20-220	.30	.35	.45							.35	.40	.50			
24	VCM-20-240	.30	.35	.45							.35	.40	.50			
27	VCM-20-270	.30	.35	.45	\$0.52						.35	.40	.50	\$0.58		
30	VCM-20-300	.30	.35	.45	.52		\$0.35	\$0.40	.50	\$0.58	.40	.46	.60	.69		
33	VCM-20-330	.30	.35	.45	.52		.35	.40	.50	.58	.40	.46	.60	.69		
36	VCM-20-360	.30	.35	.45	.52		.35	.40	.50	.58	.40	.46	.60	.69		
39	VCM-20-390	.30	.35	.45	.52		.35	.40	.50	.58	.40	.46	.60	.69		
43	VCM-20-430	.30	.35	.45	.52		.35	.40	.50	.58	.40	.46	.60	.69		
47	VCM-20-470	.30	.35	.45	.52		.35	.40	.55	.63	.40	.46	.70	.81		
50	VCM-20-500	.30	.35	.45	.52	\$0.56	.35	.40	.55	.63	\$0.69	.40	.46	.70	.81	\$0.88
51	VCM-20-510	.30	.35	.45	.52	.56	.35	.40	.55	.63	.69	.40	.46	.70	.81	.88
56	VCM-20-560	.30	.35	.45	.52	.56	.35	.40	.55	.63	.69	.40	.46	.70	.81	.88
62	VCM-20-620	.30	.35	.45	.52	.56	.35	.40	.55	.63	.69	.40	.46	.70	.81	.88
68	VCM-20-680	.30	.35	.45	.52	.56	.35	.40	.55	.63	.69	.45	.52	.80	.92	1.00
75	VCM-20-750	.30	.35	.45	.52	.56	.35	.40	.55	.63	.69	.50	.58	.90	1.04	1.13
82	VCM-20-820	.30	.35	.45	.52	.56	.35	.40	.55	.63	.69	.50	.58	.90	1.04	1.13
91	VCM-20-910	.35	.40	.50	.58	.63	.40	.46	.60	.69	.75	.50	.58	.90	1.04	1.13
100	VCM-20-101	.35	.40	.50	.58	.63	.40	.46	.60	.69	.75	.55	.66	1.00	1.15	1.25
110	VCM-20-111	.35	.40	.50	.58	.63	.40	.46	.60	.69	.75	.60	.72	1.10	1.27	1.38
120	VCM-20-121	.35	.40	.50	.58	.63	.40	.46	.60	.69	.75	.60	.72	1.20	1.38	1.50
130	VCM-20-131	.35	.40	.50	.58	.63	.40	.46	.60	.69	.75	.60	.72	1.20	1.38	1.50
150	VCM-20-151	.35	.40	.50	.58	.63	.40	.46	.70	.81	.88	.65	.78	1.30	1.50	1.63
160	VCM-20-161	.35	.40	.55	.63	.69	.40	.46	.70	.81	.88	.70	.84	1.40	1.61	1.75
180	VCM-20-181	.35	.40	.55	.63	.69	.40	.46	.70	.81	.88	.70	.84	1.40	1.61	1.75
200	VCM-20-201	.40	.46	.55	.63	.69	.45	.52	.80	.92	1.00	.80	.96	1.60	1.84	2.00
220	VCM-20-221	.40	.46	.60	.69	.75	.45	.52	.80	.92	1.00	.85	1.02	1.60	1.84	2.00
240	VCM-20-241	.40	.46	.60	.69	.75	.45	.52	.80	.92	1.00					
250	VCM-20-251	.40	.46	.65	.75	.81	.55	.66	1.00	1.15	1.25					
270	VCM-20-271	.40	.46	.65	.75	.81	.55	.66	1.00	1.15	1.25					
300	VCM-20-301	.45	.52	.70	.81	.88	.60	.72	1.10	1.27	1.38					
330	VCM-20-331	.45	.52	.70	.81	.88	.60	.72	1.10	1.27	1.38					
360	VCM-20-361	.45	.52	.70	.81	.88	.60	.72	1.15	1.32	1.44					
390	VCM-20-391	.45	.52	.70	.81	.88	.65	.78	1.15	1.32	1.44					
430	VCM-20-431	.50	.58	.75	.86	.94	.65	.78	1.20	1.38	1.50					
470	VCM-20-471	.50	.58	.75	.86	.94	.70	.84	1.25	1.44	1.56					
500	VCM-20-501	.50	.58	.75	.86	.94	.70	.84	1.30	1.50	1.63					
510	VCM-20-511	.50	.58	.75	.86	.94	.70	.84	1.30	1.50	1.63					
560	VCM-20-561	.55	.66	.80	.92	1.00	.80	.96	1.35	1.55	1.69					
620	VCM-20-621	.55	.66	.85	.98	1.06										
680	VCM-20-681	.60	.72	.90	1.04	1.13										
750	VCM-20-751	.60	.72	.95	1.09	1.19										
820	VCM-20-821	.65	.78	1.00	1.15	1.25										
910	VCM-20-911	.70	.84	1.05	1.21	1.31										
1000	VCM-20-102	.75	.90	1.10	1.27	1.38										
1100	VCM-20-112	.80	.92	1.20	1.38	1.50										
1200	VCM-20-122	.85	.98	1.25	1.44	1.56										
1300	VCM-20-132	.90	1.04	1.30	1.50	1.63										

PLEASE SPECIFY WORKING VOLTAGE RATING WHEN ORDERING



ARCO ELECTRONICS INC.
ELMENCO CAPACITORS

MAIN OFFICE ARCO ELECTRONICS INC. NEW YORK 13, N. Y.	ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS	ARCO ELECTRONICS INC. DALLAS 19, TEXAS	ARCO CAPACITORS INC. LOS ANGELES 35, CALIFORNIA
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**VCM-35 & 42 HI-VOLTAGE
REGULAR FOIL MICA**

**VCM-35 & 42 HI-VOLTAGE
SILVERED MICA**

Cap. Mmf.	Type Designation	"B" CHARACTERISTIC						"C" - "D" - "E" - "F" CHARACTERISTIC								
		2000VDC Test 1000VDC Wkg. List Price		3000VDC Test 1500VDC Wkg. List Price		5000VDC Test 2500VDC Wkg. List Price		2000VDC Test 1000VDC Wkg. List Price		3000VDC Test 1500VDC Wkg. List Price		5000VDC Test 2500VDC Wkg. List Price				
		"M" ±20%	"K" ±10%	"M" ±20%	"K" ±10%	"M" ±20%	"K" ±10%	"J" ±5%	"G" ±2%	"F" ±1%	"J" ±5%	"G" ±2%	"F" ±1%	"J" ±5%	"G" ±2%	"F" ±1%
240	VCM-35-241					\$0.60	\$0.69							\$1.20	\$1.38	\$1.50
250	VCM-35-251					.60	.69							1.20	1.38	1.50
270	VCM-35-271					.60	.69							1.20	1.38	1.50
300	VCM-35-301					.65	.75							1.30	1.50	1.63
330	VCM-35-331					.65	.75							1.30	1.50	1.63
360	VCM-35-361					.75	.86							1.50	1.73	1.88
390	VCM-35-391					.80	.92							1.60	1.84	2.00
430	VCM-35-431					.80	.92							1.60	1.84	2.00
470	VCM-35-471					.80	.92							1.60	1.84	2.00
500	VCM-35-501					.85	.98							1.70	1.96	2.13
510	VCM-35-511					.85	.98							1.70	1.96	2.13
560	VCM-35-561					.90	1.04							1.80	2.07	2.25
620	VCM-35-621															
680	VCM-35-681			\$0.75	\$0.86						\$1.50	\$1.73	\$1.88			
750	VCM-35-751			.75	.86						1.50	1.73	1.88			
820	VCM-35-821			.85	.98						1.70	1.96	2.13			
910	VCM-35-911			.90	1.04						1.80	2.07	2.25			
1000	VCM-35-102			.90	1.04						1.80	2.07	2.25			
1100	VCM-35-112	\$0.60	\$0.69	.95	1.09			\$1.20	\$1.38	\$1.50	1.90	2.19	2.38			
1200	VCM-35-122	.65	.75	1.10	1.27			1.30	1.50	1.63	2.20	2.53	2.75			
1300	VCM-35-132	.65	.75	1.15	1.32			1.30	1.50	1.63	2.30	2.65	2.88			
1500	VCM-35-152	.75	.86	1.30	1.50			1.50	1.73	1.88	2.60	2.99	3.25			
1600	VCM-35-162	.80	.92	1.30	1.50			1.60	1.84	2.00	2.60	2.99	3.25			
1800	VCM-35-182	.80	.92	1.45	1.67			1.60	1.84	2.00	2.90	3.34	3.63			
2000	VCM-35-202	.85	.98	1.60	1.84			1.70	1.96	2.13	3.20	3.68	4.00			
2200	VCM-35-222	.95	1.09	1.70	1.96			1.90	2.19	2.38	3.40	3.91	4.25			
2400	VCM-35-242	1.05	1.21	1.80	2.07			2.10	2.42	2.63	3.60	4.14	4.50			
2700	VCM-35-272	1.05	1.21	2.00	2.30			2.10	2.42	2.63	4.00	4.60	5.00			
3000	VCM-35-302	1.15	1.32	2.20	2.53			2.30	2.65	2.88	4.40	5.06	5.50			
3300	VCM-35-332	1.20	1.38	2.30	2.65			2.40	2.76	3.00	4.60	5.29	5.75			
3600	VCM-35-362	1.35	1.55					2.70	3.10	3.38						
3900	VCM-35-392	1.40	1.61					2.80	3.22	3.50						
4300	VCM-35-432	1.50	1.73					3.00	3.45	3.75						
4700	VCM-35-472	1.65	1.90					3.30	3.80	4.13						
5000	VCM-35-502	1.75	2.00					3.40	3.91	4.25						
5100	VCM-35-512	1.75	2.00					3.40	3.91	4.25						
5600	VCM-35-562	2.00	2.30					3.80	4.37	4.75						
6200	VCM-42-622	2.10	2.42					4.30	4.95	5.38						
6800	VCM-42-682	2.20	2.53					4.60	5.29	5.75						
7500	VCM-42-752	2.30	2.65					4.90	5.64	6.13						
8200	VCM-42-822	2.40	2.76					5.30	6.10	6.63						
9100	VCM-42-912	2.60	2.99					5.80	6.67	7.25						
10000	VCM-42-103	2.80	3.22					6.30	7.25	7.88						
12000	VCM-42-123	3.00	3.45					7.30	8.40	9.13						
13000	VCM-42-133	3.50	4.03					8.00	9.20	10.00						
15000	VCM-42-153	4.00	4.60					9.00	10.35	11.25						
16000	VCM-42-163	4.50	5.18					9.60	11.04	12.00						

NOTE:—All above units can be supplied in characteristic "C", "D", "E", "F" at the above list prices.

WHEN ORDERING PLEASE SPECIFY WORKING VOLTAGE RATING

REGULAR FOIL MICA
Designate VCM-35B

SILVERED MICA
Designate VCM-35C-D-E or F

ARCO ELECTRONICS INC.

ELMENDO CAPACITORS



MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

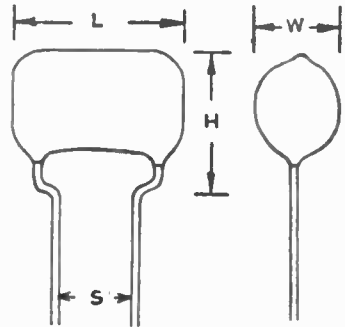
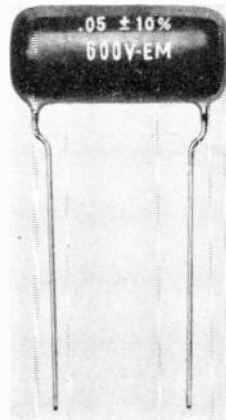
ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA



The new ELMENDO Mylar*-Paper Capacitors represent a double break-through in capacitor design. A level of reliability which meets computer and missile requirements has been achieved in a design normally used and priced for the radio-TV market. As a result, these ELMENDO dipped Mylar*-Paper capacitors can be used in the most critical applications with a substantial saving in cost.

ELMENDO dipped tubulars are non-inductively wound and vacuum dipped to obtain solid impregnation and a rugged moisture-proof coat. Special winding design provides insulation resistance comparable to competitive polyester film units.



DIMENSIONS FOR DP TYPE CAPACITORS

SPECIFICATIONS

CAPACITANCE RANGES:	see table below.	tolerance ±10%.
VOLTAGE RATINGS:	100VDCW, 200VDCW, 400VDCW, 600VDCW, 1600VDCW, (1000VDCW upon request).	
INSULATION RESISTANCE:	@ 25°C.: 5000 megohm-microfarads or 100,000 megohms minimum, whichever is the lesser. @ 110°C.: 70 megohm-microfarads or 1400 megohms minimum, whichever is the lesser.	
POWER FACTOR:	1.0% maximum at 1kc.	
TEMPERATURE RANGE:	-55°C. to +110° with no voltage derating.	
CAPACITANCE CHANGE VS. TEMPERATURE:	From 25°C. to -55° (-9.0% max.) From 25°C. to +110°C. (+10.0% max.)	

	L	H	W	S
DP-1	3/4	11/16	7/16	1/4
DP-2	7/8	3/4	1/2	7/16
DP-3	1-1/4	7/8	5/8	23/32
DP-4	1-11/32	15/16	11/16	27/32
DP-5	1-9/16	1-1/16	7/8	1-3/32

L, H, and W dimensions are maximum and include highest capacitance values in each size. Since dipped unit size varies with size of winding, lower capacities will have smaller dimensions, particularly in values of "H" and "W". If size is critical, inquiry as to exact size for value required is recommended. For example, although maximum "H" dimension of a DP-5 is 1-1/16", some units will have a corresponding size of only 13/16". Tabulation of size vs. capacity similar to "DM" mica units will be published when completed.

LONG TERM OPERATING STABILITY AT FULL RATED VOLTAGE AND RATED TEMPERATURE EXTREMES IS ±2% MAXIMUM.
* Du Pont Trademark

Cap. Mfd.	Part No.	List Price	Cap. Mfd.	Part No.	List Price	Cap. Mfd.	Part No.	List Price	Cap. Mfd.	Part No.	List Price
100VDCW			.33	2DP-5-334	\$0.70	.0025	6DP-1-252	\$0.35	.075	6DP-4-753	\$0.55
.005	1DP-1-502	\$0.35	.47	2DP-5-474	.85	.0027	6DP-1-272	.35	.082	6DP-4-823	.55
.006	1DP-1-602	.35	.5	2DP-5-504	.85	.003	6DP-1-302	.35	.1	6DP-4-104	.55
.0068	1DP-1-682	.35	400V			.0033	6DP-1-332	.35	.15	6DP-5-154	.70
.0075	1DP-1-752	.35	.01	4DP-1-103	.35	.0039	6DP-1-392	.35	.2	6DP-5-204	.80
.01	1DP-1-103	.35	.015	4DP-1-153	.35	.004	6DP-1-402	.35	.22	6DP-5-224	.80
.015	1DP-1-153	.35	.02	4DP-2-203	.35	.0047	6DP-1-472	.35	.25	6DP-5-254	.85
.02	1DP-1-203	.35	.022	4DP-2-223	.40	.005	6DP-1-502	.35	1600V		
.022	1DP-1-223	.35	.025	4DP-2-253	.40	.0056	6DP-1-562	.35	.001	16DP-1-102	.55
.025	1DP-1-253	.35	.03	4DP-2-303	.40	.006	6DP-1-602	.40	.0015	16DP-1-152	.55
.03	1DP-1-303	.35	.033	4DP-2-333	.40	.0068	6DP-1-682	.40	.0018	16DP-1-182	.55
.033	1DP-2-333	.35	.04	4DP-3-403	.40	.0075	6DP-2-752	.40	.002	16DP-1-202	.55
.04	1DP-2-403	.40	.047	4DP-3-473	.40	.008	6DP-2-802	.40	.0022	16DP-2-222	.55
.047	1DP-2-473	.40	.05	4DP-3-503	.40	.0082	6DP-2-822	.40	.0025	16DP-2-252	.55
.05	1DP-2-503	.40	.056	4DP-3-563	.40	.01	6DP-2-103	.40	.003	16DP-2-302	.55
.056	1DP-2-563	.40	.068	4DP-3-683	.50	.012	6DP-2-123	.40	.0033	16DP-2-332	.55
.068	1DP-2-683	.40	.075	4DP-3-753	.50	.015	6DP-2-153	.40	.004	16DP-2-402	.55
.075	1DP-2-753	.45	.1	4DP-3-104	.50	.02	6DP-2-203	.40	.0047	16DP-2-472	.55
.1	1DP-2-104	.45	.15	4DP-4-154	.55	.022	6DP-2-223	.40	.005	16DP-2-502	.55
.15	1DP-3-154	.45	.2	4DP-4-204	.65	.025	6DP-3-253	.45	.006	16DP-3-602	.60
.2	1DP-3-204	.50	.22	4DP-5-224	.65	.027	6DP-3-273	.45	.007	16DP-3-702	.60
.22	1DP-3-224	.50	.25	4DP-5-254	.70	.03	6DP-3-303	.45	.0075	16DP-3-752	.60
.25	1DP-3-254	.55	.27	4DP-5-274	.70	.033	6DP-3-333	.45	.008	16DP-3-802	.60
200V			600V			.039	6DP-3-393	.45	.0082	16DP-3-822	.60
.1	2DP-3-104	.45	.001	6DP-1-102	.35	.04	6DP-3-403	.45	.001	16DP-3-103	.60
.15	2DP-3-154	.50	.0012	6DP-1-122	.35	.047	6DP-3-473	.50	.015	16DP-4-153	.65
.2	2DP-4-204	.55	.0015	6DP-1-152	.35	.05	6DP-3-503	.50	.02	16DP-4-203	.70
.22	2DP-4-224	.55	.002	6DP-1-202	.35	.056	6DP-3-563	.50	.022	16DP-4-223	.70
.25	2DP-4-254	.60	.0022	6DP-1-222	.35	.06	6DP-4-603	.55	.025	16DP-4-253	.70
						.068	6DP-4-683	.55	.03	16DP-4-303	.70



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

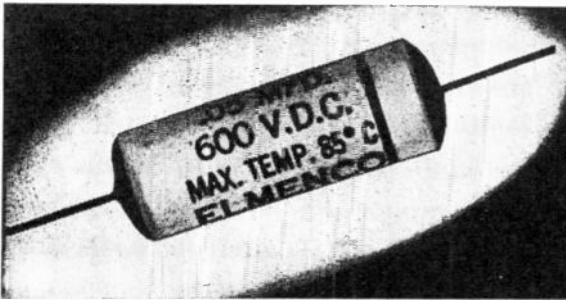
MAIN OFFICE: ARCO ELECTRONICS INC. NEW YORK 13, N. Y.

CHICAGO 5, ILLINOIS

DALLAS 19, TEXAS

LOS ANGELES 35, CALIFORNIA

PAPER DIELECTRIC CAPACITORS CP TYPE



MINERAL OIL IMPREGNATION NON INDUCTIVE WINDING SYNTHETIC RESIN END SEALS — STEATITE CASE

The Steatite tube and baked synthetic resin end-fill provide a seal which rivals that of hermetically sealed construction, resulting in a dependability and longevity previously unequalled. Whether in operation or on the shelf, this paper tubular capacitor will maintain its excellent characteristics for years.

El-Menco CP type paper tubular capacitors are sealed into Steatite Tubes which serve to insulate the capacitor electrically as well as against moisture and heat. The capacitor insert is impregnated with Mineral Oil, thereby assuring long life at 85° C operating conditions. This feature insures successful operation at the high ambient temperatures existing in small, compact enclosures.

The Non-inductively wound paper and foil units are sealed in the Ceramic Tubes by means of baked Synthetic Resin End Fills which cannot melt at any conceivable operating temperature. The end fills will not dissolve in wax, permitting the capacitors to be potted without damage to the insert. Leads are of tinned copper 2 1/4" long.

DIMENSIONS FOR CP TYPE CAPACITORS

	Max. Diameter	Max. Length
CP-1	23/64"	1-1/8"
CP-2	27/64"	1-3/8"
CP-3	31/64"	1-3/8"
CP-4	9/16"	1-5/8"
CP-5	3/4"	2"
CP-6	51/64"	2"

Part numbers can be read as follows: First one or two numbers indicate voltage rating in hundreds of volts. CP indicates type of capacitor. Next number between the dashes indicates case size. Last three digits indicate capacity, the first two being significant figures and the last the decimal multiplier.

Cap. Mfd.	Part No.	List Price	Cap. Mfd.	Part No.	List Price	Cap. Mfd.	Part No.	List Price	Cap. Mfd.	Part No.	List Price
200VDCW			600VDCW			600VDCW			1000VDCW		
.02	2CP-1-203	\$0.30	.001	6CP-1-102	\$0.30	.075	6CP-5-753	\$0.50	.05	10CP-5-503	\$0.55
.022	2CP-1-223	.30	.0012	6CP-1-122	.30	.082	6CP-5-823	.50	.056	10CP-5-563	.60
.05	2CP-3-503	.35	.0015	6CP-1-52	.30	.1	6CP-5-104	.50	.068	10CP-5-683	.65
.1	2CP-4-104	.45	.002	6CP-1-202	.30	.15	6CP-5-154	.60	.075	10CP-6-753	.65
.15	2CP-4-154	.50	.0022	6CP-1-222	.30	.2	6CP-6-204	.70	.1	10CP-6-104	.70
.2	2CP-5-204	.55	.0025	6CP-1-252	.30	.22	6CP-6-224	.75			
.22	2CP-5-224	.55	.0027	6CP-1-272	.30	.25	6CP-6-254	.75	1600VDCW		
.25	2CP-5-254	.55	.003	6CP-1-302	.30	.33	6CP-7-334	.95	.001	16CP-2-102	.55
.33	2CP-6-334	.65	.0033	6CP-1-332	.30	.47	6CP-7-474	1.25	.0015	16CP-2-152	.55
.47	2CP-6-474	.75	.0039	6CP-1-392	.30	.5	6CP-7-504	1.25	.002	16CP-2-202	.55
.5	2CP-6-504	.75	.004	6CP-1-402	.30				.0022	16CP-2-222	.55
400VDCW			.0047	6CP-1-472	.30	1000VDCW			.0025	16CP-3-252	.55
.01	4CP-1-103	.30	.005	6CP-1-502	.30	.001	10CP-1-102	.40	.003	16CP-3-302	.55
.015	4CP-2-153	.30	.0056	6CP-1-562	.30	.0015	10CP-1-152	.40	.0033	16CP-3-332	.55
.02	4CP-2-203	.35	.006	6CP-2-602	.30	.002	10CP-1-202	.40	.004	16CP-3-402	.55
.022	4CP-2-223	.35	.0068	6CP-2-682	.35	.0022	10CP-1-222	.40	.0047	16CP-3-472	.55
.025	4CP-3-253	.35	.0075	6CP-2-752	.35	.0025	10CP-1-252	.40	.005	16CP-3-502	.55
.03	4CP-3-303	.35	.008	6CP-2-802	.35	.003	10CP-1-302	.40	.006	16CP-4-602	.55
.033	4CP-3-333	.35	.0082	6CP-2-822	.35	.0033	10CP-2-332	.40	.0068	16CP-4-682	.55
.04	4CP-4-403	.40	.01	6CP-2-103	.35	.004	10CP-2-402	.40	.007	16CP-4-702	.60
.047	4CP-4-473	.40	.012	6CP-2-123	.35	.0047	10CP-2-472	.40	.0075	16CP-4-752	.60
.05	4CP-4-503	.40	.015	6CP-2-153	.35	.005	10CP-2-502	.40	.008	16CP-4-802	.60
.056	4CP-4-563	.40	.02	6CP-3-203	.35	.006	10CP-2-602	.40	.01	16CP-4-103	.60
.068	4CP-4-683	.45	.022	6CP-3-223	.35	.0068	10CP-2-682	.40	.015	16CP-5-153	.65
.075	4CP-4-753	.45	.025	6CP-3-253	.40	.0075	10CP-2-752	.40	.02	16CP-5-203	.65
.1	4CP-4-104	.45	.03	6CP-4-303	.45	.01	10CP-2-103	.45	.022	16CP-5-223	.65
.15	4CP-5-154	.55	.033	6CP-4-333	.45	.015	10CP-3-153	.45	.025	16CP-5-253	.65
.2	4CP-6-204	.60	.04	6CP-4-403	.45	.02	10CP-4-203	.45	.03	16CP-5-303	.65
.22	4CP-6-224	.60	.047	6CP-4-473	.45	.022	10CP-4-223	.45	.033	16CP-5-333	.65
.25	4CP-6-254	.65	.05	6CP-4-503	.45	.025	10CP-4-253	.45	.04	16CP-6-403	.70
.33	4CP-7-334	.85	.056	6CP-4-563	.45	.03	10CP-4-303	.45	.047	16CP-6-473	.70
.47	4CP-7-474	1.05	.06	6CP-5-603	.50	.033	10CP-5-333	.55	.05	16CP-6-503	.70
.5	4CP-7-584	1.05	.068	6CP-5-683	.50	.04	10CP-5-403	.55			
						.047	10CP-5-473	.55			

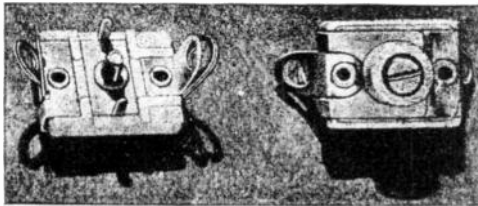


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ELMENCO CAPACITORS

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TRIMMERS

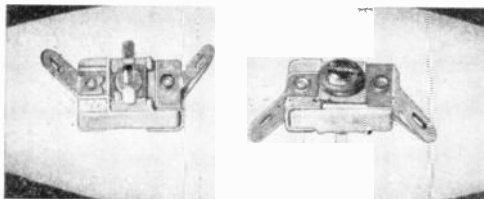
- The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.
- The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.
- El-Menco Trimming Condensers are treated for resistance to humidity and for permanence of capacity setting.
- Trimmers shown here are standard sizes and capacities.
- Voltage 350 VDCT — 175 VDCW.



TYPE 46 STANDARD TRIMMER 3/4" x 5/8"

TYPE 46—STANDARD TRIMMER

TYPE 46W		GUARANTEED RANGE		LIST PRICE
NUMBER PART	PLATES NUMBER OF	At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	
460	1 1/4 Pl.	15	1.5	\$0.40
461	1 3/4 Pl.	30	2.7	.40
462	2 Pl.	80	5	.45
463	3 Pl.	180	9	.50
464	4 Pl.	280	25	.55
465	5 Pl.	380	50	.60
466	6 Pl.	480	80	.65
467	7 Pl.	580	110	.75
468	8 Pl.	680	140	.80
469	9 Pl.	780	170	.85



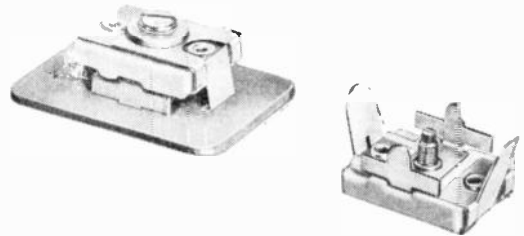
TYPE 40 MINIATURE TRIMMER 3/8" x 9/16"

TYPE 40—MINIATURE TRIMMER

TYPE 40		GUARANTEED RANGE		LIST PRICE
NUMBER PART	PLATES NUMBER OF	At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	
400	1 1/4 Pl.	7	0.9	\$0.40
402	2 Pl.	20	1.5	.45
403	3 Pl.	35	3	.50
404	4 Pl.	60	5	.55

**Metal Mounting Brackets
For These Trimmers Can Be
Supplied From Stock**

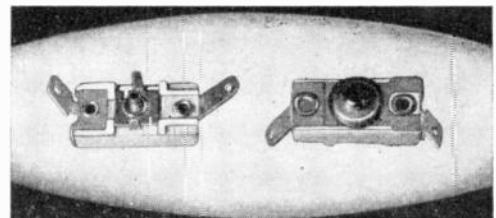
ANNOUNCING THE NEW PRINTED CIRCUIT TRIMMER



The Elmenco Type 46 trimmer series has been adapted for printed circuit techniques through alteration of terminals and mounting configuration. The holes in the terminal lugs are removed since necessity for hook-up is eliminated. The resulting solid terminals have greatly increased spring action, allowing the trimmer to be "snapped-in" the circuit and firmly held until soldered.

This printed circuit trimmer, available at present only in the Type 46 style, is identified by the prefix letter "PC". All capacitance ranges listed for Type 46 are available, designated as part numbers PC460 through PC468.

For list price add \$0.05 to list price of standard Type 46 trimmer.



TYPE 42 MIDGET TRIMMER 3/8" x 3/4"

TYPE 42—MIDGET TRIMMER

TYPE 42		GUARANTEED RANGE		LIST PRICE
NUMBER PART	PLATES NUMBER OF	At Tight Cap. Will Be More Than MMF.	At 3 Turns Open Cap. Will Be Less Than MMF.	
420	1 1/4 Pl.	12	1	\$0.40
421	1 3/4 Pl.	25	2	.40
422	2 Pl.	40	4	.45
423	3 Pl.	100	7	.50
424	4 Pl.	150	14	.55
425	5 Pl.	200	24	.60
426	6 Pl.	250	37	.65
427	7 Pl.	300	55	.75
428	8 Pl.	350	70	.80
429	9 Pl.	400	90	.85

	LIST PRICE
Bracket for mounting 1 Trimmer	\$0.15
Bracket for mounting 2 Trimmers .....	.18
Bracket for mounting 3 Trimmers .....	.21
Bracket for mounting 4 Trimmers24
Bracket for mounting 5 Trimmers27
Bracket for mounting 6 Trimmers30



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DALLAS 19, TEXAS

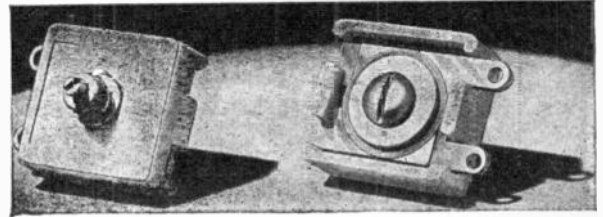
ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

Single and Dual PADDERS

EL-MENCO PADDING CONDENSERS have been acclaimed by engineers as the finest development in adjustable mica condensers.

The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.



TYPE 30 AND TYPE 30-M PADDER 7/8" x 15/16"

TYPE 30 500 Volts DC Flash-Test — 250 WVDC

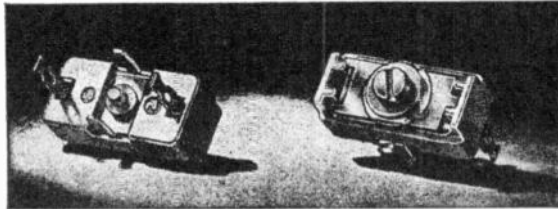
PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At 1 1/2 Inch Pounds Cap. Will Be More Than MMF.	At 2 1/2 Turns Open Cap. Will Be Less Than MMF.	
302	2 Pl.	130	15	\$0.80
303	3 Pl.	340	65	.85
304	4 Pl.	550	100	.90
305	5 Pl.	760	190	1.00
306	6 Pl.	970	275	1.10
307	7 Pl.	1180	350	1.20
308	8 Pl.	1390	450	1.25
309	9 Pl.	1600	550	1.35
310	10 Pl.	1890	650	1.45
311	11 Pl.	2110	780	1.55
312	12 Pl.	2330	880	1.65
313	13 Pl.	2605	1150	1.75
314	14 Pl.	2830	1300	1.85
315	15 Pl.	3055	1400	1.95

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 1 1/4 to 1 3/4 Mil Mica films.

TYPE 30-M 1000 Volts DC Flash-Test — 500 Working Volts DC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At 1 1/2 Inch Pounds Cap. Will Be More Than MMF.	At 2 1/2 Turns Open Cap. Will Be Less Than MMF.	
302-M	2 Pl.	120	15	\$0.80
303-M	3 Pl.	320	65	.90
304-M	4 Pl.	500	100	.95
305-M	5 Pl.	690	180	1.05
306-M	6 Pl.	880	265	1.15
307-M	7 Pl.	1070	340	1.25
308-M	8 Pl.	1260	425	1.30
309-M	9 Pl.	1415	525	1.40
310-M	10 Pl.	1600	615	1.50
311-M	11 Pl.	1786	730	1.60
312-M	12 Pl.	1970	800	1.70
313-M	13 Pl.	2155	1000	1.80
314-M	14 Pl.	2340	1100	1.90
315-M	15 Pl.	2525	1200	2.00

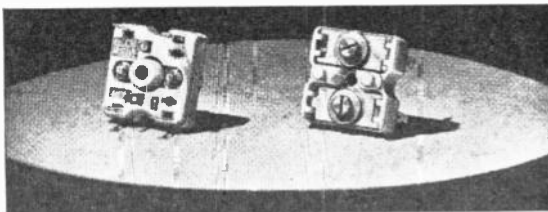
Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2 1/4 Mil Mica.



TYPE 58 PADDER 1" x 15/32" 175VDCW

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	
582	2 Pl.	80	7.5	\$0.55
583	3 Pl.	160	19	.60
584	4 Pl.	240	50	.65

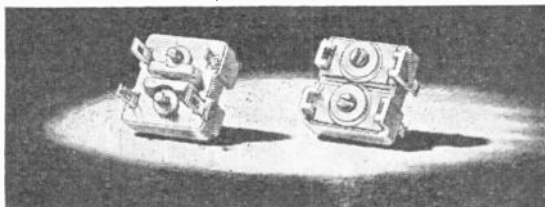
◀ TYPE 58 Padder is a single variable trimmer section provided with a two-pronged staple mounting for attachment to bracket or chassis. Base is made of lowest loss steatite and the mica is India Ruby.



TYPE 50 DUAL PADDER 175VDCW
(will fit any size shield having dimensions exceeding 1-1/16" x 1-1/16")

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	
502	2 Pl.	80	7.5	\$0.85
503	3 Pl.	160	19	1.00
504	4 Pl.	240	50	1.15

◀ TYPE 50 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 1 1/8" x 1 1/8".



TYPE 60 DUAL PADDER 175VDCW
(will fit any size shield having dimensions exceeding 3/4" x 3/4")

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE		LIST PRICE
		At Tight Cap. Will Be More Than MMF.	At 2 Turns Open Cap. Will Be Less Than MMF.	
602	2 Pl.	55	7	\$0.80
603	3 Pl.	100	15	.95
604	4 Pl.	160	35	1.10
605	5 Pl.	220	60	1.25

◀ TYPE 60 Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 3/4" x 3/4".



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ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

ARCO PRECISION CAPACITORS — TOLERANCE $\pm 0.1\%$

HERMETICALLY SEALED IN BATHTUB ENCLOSURES TO MEET THE MOST STRINGENT ENVIRONMENTAL SPECIFICATIONS

STABILIZED SILVERED MICA TYPE CPM

TOLERANCE: $\pm 0.1\%$
VOLTAGE: 500VDCW*
POWER FACTOR: 0.1% max. at 1 kc.
TEMP. RANGE: -55 to $+125^{\circ}\text{C}$.
TEMP. COEF.: $+40 \pm 15$ ppm/ $^{\circ}\text{C}$.
STABILITY: $\pm 0.05\%$ at maximum rated operating conditions.

Cap. mfd.	Part Number	Case Size**	List Price
.01	5CPM-103	B	\$23.40
.015	5CPM-153	B	26.40
.02	5CPM-203	B	28.90
.025	5CPM-253	C	31.70
.03	5CPM-303	C	34.40
.033	5CPM-333	C	36.00
.04	5CPM-403	C	39.50
.047	5CPM-473	D	43.30
.05	5CPM-503	D	44.50
.06	5CPM-603	D	49.30
.07	5CPM-703	D	54.20
.08	5CPM-803	D	58.90
.09	5CPM-903	E	63.20
.1	5CPM-104	E	69.40
.15	5CPM-154	E	79.20
.2	5CPM-204	F	87.10
.25	5CPM-254	F	102.00
.3	5CPM-304	G	122.00
.33	5CPM-334	G	132.00
.4	5CPM-404	G	154.00
.47	5CPM-474	G	179.00
.5	5CPM-504	G	190.00

* 100VDCW to 1.0 mfd.
 300VDCW to .68 mfd.
 1000VDCW to .33 mfd.
 available to special order.

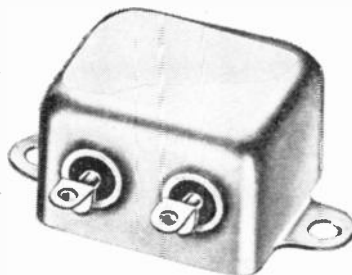
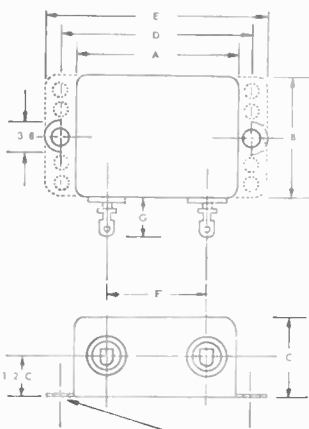
STABILIZED POLYSTYRENE TYPE CPP

TOLERANCE: $\pm 0.1\%$
VOLTAGE: 400VDCW*
POWER FACTOR: 0.02% max. at 1 kc.
TEMP. RANGE: -55 to $+85^{\circ}\text{C}$.
TEMP. COEF.: -120 ± 15 ppm/ $^{\circ}\text{C}$.
DIELECTRIC ABSORPTION: 0.1% max.
INSULATION RESISTANCE: 10^{12} min.
STABILITY: $\pm 0.05\%$ at maximum rated operating conditions.

Cap. Mfd.	Part Number	Case Size**	List Price
.05	4CPP-503	B	\$40.50
.06	4CPP-503	B	41.30
.07	4CPP-703	C	42.00
.08	4CPP-803	C	42.70
.09	4CPP-903	C	43.20
.1	4CPP-104	C	43.70
.15	4CPP-154	C	48.00
.2	4CPP-204	D	52.50
.25	4CPP-254	D	55.70
.3	4CPP-304	E	60.60
.33	4CPP-334	E	63.00
.4	4CPP-404	E	68.70
.47	4CPP-474	E	74.30
.5	4CPP-504	E	76.30
.6	4CPP-604	F	82.70
.75	4CPP-754	F	93.10
1.0	4CPP-105	F	119.00
1.5	4CPP-155	F	144.00
2.0	4CPP-205	G	164.00
2.5	4CPP-255	G	184.00

*600VDCW and 1000VDCW also available on special order.

BOTH TYPES CPM AND CPP MAY BE OBTAINED IN VALUES OTHER THAN LISTED ABOVE UPON REQUEST.



2 MOUNTING HOLES

Case B — .120 D
 CASES C-F — 3/16 D
 CASE G — 8 HOLES — 3/16 D
 (See Dotted Lines)

DIMENSIONAL TABULATION (Case Size Designation)

**Case Letter	A'	B'	C'	D'	E'	F'	G'
B	1 1/8	1	1 1/8	1 1/8	1 3/4	1/2	3/16
C	1 3/8	1	7/8	2 1/8	2 1/2	3/4	3/16
D	1 3/4	1 1/4	1 1/8	2 1/8	2 1/2	3/4	3/16
E	2	2	1	2 3/8	2 3/8	1	19/32
F	2	2	1 3/4	2 3/8	2 3/8	1	19/32
G	3 1/8	2 3/8	2 1/8	3 3/8	4	1 1/2	19/32



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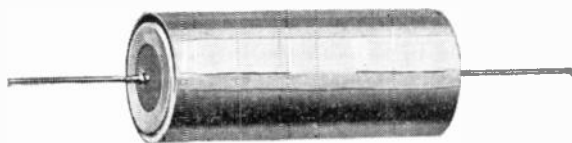
ARCO POLYSTYRENE DIELECTRIC CAPACITORS

Arco Polystyrene Dielectric Capacitors are designed for use in precision networks, servo systems, analog computer circuits, and a wide variety of applications calling for high stability, high insulation resistance, low dielectric absorption, and low dissipation factor. All units are tested 100% for voltage, tolerance, insulation resistance, and dissipation factor. In addition, all capacitors are subjected to an accelerated life test to guarantee high reliability. Arco polystyrenes are hermetically sealed in non-magnetic enclosures with compression glass seals.

SPECIFICATIONS

Capacitance range—.002 to 5.0 mfd.
Voltage ratings—100VDCW thru 1000VDCW
Temperature range—-55 to +85°C.
Temperature coefficient— -120 ± 15 ppm/°C.
Dissipation factor—0.02% max. at 25°C.
0.04% max. at 85°C.
Dielectric absorption—0.1% max.

Insulation resistance—
100 & 200VDCW— 10^5 megohm-microfarads minimum
400VDCW & up — 10^6 megohm-microfarads minimum
Stability— $\pm 0.1\%$ maximum drift long term under full rated operating conditions.
Standard Tolerance $\pm 5\%$
(For closer tolerance see notes below)

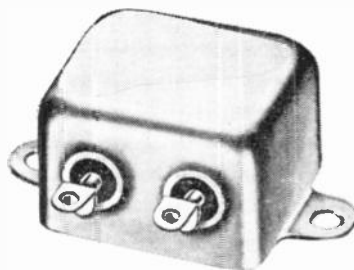


TYPE PT TUBULARS
100 VDCW

Cap. mfd.	Part Number	Size	List Price
.01	1PT-103	7/8 x .312D	\$4.50
.015	1PT-153	7/8 x .312	4.50
.022	1PT-223	7/8 x .312	4.50
.033	1PT-333	1 x .312	4.60
.047	1PT-473	1 x .400	4.70
.068	1PT-683	1 x .400	4.90
.1	1PT-104	1 1/8 x .400	5.30
.15	1PT-154	1 7/8 x .500	6.00
.22	1PT-224	1 7/8 x .500	7.00
.33	1PT-334	1 3/4 x .562	8.00
.47	1PT-474	1 7/8 x .670	9.00
.68	1PT-684	1 7/8 x .750	12.00
1.0	1PT-105	1 1/4 x 1.00	16.00

400 VDCW

Cap. mfd.	Part Number	Size	List Price
.0047	4PT-472	7/8 x .312D	\$4.50
.0068	4PT-682	7/8 x .312	4.50
.01	4PT-103	1 x .312	4.50
.015	4PT-153	1 x .400	4.60
.022	4PT-223	1 x .400	4.70
.033	4PT-333	1 1/8 x .400	5.00
.047	4PT-473	1 1/8 x .500	5.50
.068	4PT-683	1 1/8 x .500	6.00
.1	4PT-104	1 1/4 x .562	7.00
.15	4PT-154	1 7/8 x .670	8.00
.22	4PT-224	1 7/8 x .750	11.00
.33	4PT-334	1 3/4 x 1.00	14.00



TYPE PB BATHTUBS

Cap. mfd.	Voltage	Part Number	Size	List Price
0.5	400	4PB-504	2 x 2 x 1	\$18.00
0.68	400	4PB-684	2 x 2 x 1 3/4	23.00
1.0	400	4PB-105	2 x 2 x 1 3/4	30.00
1.5	400	4PB-155	3 1/4 x 2 7/8 x 2 1/8	43.00
2.0	400	4PB-205	3 1/4 x 2 7/8 x 2 1/8	55.00
2.5	400	4PB-255	3 1/4 x 2 7/8 x 2 1/8	66.00
3.3	200	4PB-335	3 1/4 x 2 7/8 x 2 1/8	80.00
5.0	200	4PB-505	3 1/4 x 2 7/8 x 2 1/8	110.00

NOTES:

Non-standard capacitance values not listed are available on special order. Use next highest list price shown for cost.

Voltage ratings of 200VDCW, 600VDCW, and 1000VDCW available.

Close tolerances:

Type PT tubulars—
for $\pm 2\%$ add 30% to list price.
for $\pm 1\%$ add 100% to list price.

Type PB bathtubs—
for $\pm 2\%$ add 20% to list price.
for $\pm 1\%$ add 50% to list price.

TOLERANCE AS LOW AS $\pm 0.1\%$ AVAILABLE ON SPECIAL ORDER.



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CERAMIC DISC CAPACITORS

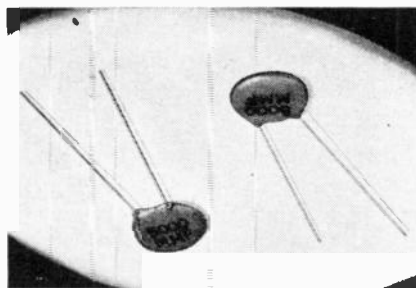
GENERAL PURPOSE

(5-470 mmf $\pm 10\%$ tol.
470-10000 mmf $\pm 20\%$
above 10,000 $+80/-20\%$)

TYPE CCD

1000 VDCW

Cap. mmf.	Part Number	List Price
5	CCD-050	\$0.25
10	CCD-100	0.25
12	CCD-120	0.25
15	CCD-150	0.25
18	CCD-180	0.25
20	CCD-200	0.25
22	CCD-220	0.25
25	CCD-250	0.25
27	CCD-270	0.25
30	CCD-300	0.25
33	CCD-330	0.25
39	CCD-390	0.25
47	CCD-470	0.25
50	CCD-500	0.25
56	CCD-560	0.25
68	CCD-680	0.25
75	CCD-750	0.25
82	CCD-820	0.25
100	CCD-101	0.25
120	CCD-121	0.25
150	CCD-151	0.25
180	CCD-181	0.25
200	CCD-201	0.25
220	CCD-221	0.25
250	CCD-251	0.25
270	CCD-271	0.25
300	CCD-301	0.25
330	CCD-331	0.25
390	CCD-391	0.25
470	CCD-471	0.25
500	CCD-501	0.25
560	CCD-561	0.25
680	CCD-681	0.25
750	CCD-751	0.25
820	CCD-821	0.25
1000	CCD-102	0.25
1200	CCD-122	0.25
1500	CCD-152	0.25
2000	CCD-202	0.25
2200	CCD-222	0.25
2500	CCD-252	0.25
2700	CCD-272	0.25
3000	CCD-302	0.25
3300	CCD-332	0.25
3900	CCD-392	0.25
4700	CCD-472	0.25
5000	CCD-502	0.25
5600	CCD-562	0.30
6800	CCD-632	0.30
8200	CCD-822	0.30
*10000	CCD-103	0.30
*12000	CCD-123	0.35
*15000	CCD-153	0.35
*20000	CCD-203	0.40
*30000	CCD-303	0.40
*500VDCW		



NEW TEMPERATURE STABLE

See Curve Below

$\pm 10\%$ Tolerance

TYPE CCS

1000 VDCW

Cap. mmf.	Part Number	List Price
150	CCS-151	\$0.50
180	CCS-181	0.50
200	CCS-201	0.50
220	CCS-221	0.50
250	CCS-251	0.50
270	CCS-271	0.50
300	CCS-301	0.50
330	CCS-331	0.50
390	CCS-391	0.50
470	CCS-471	0.50
500	CCS-501	0.50
560	CCS-561	0.50
520	CCS-621	0.50
680	CCS-681	0.50
750	CCS-751	0.50
820	CCS-821	0.50
1000	CCS-102	0.50
1200	CCS-122	0.50
1500	CCS-152	0.50
1800	CCS-182	0.50
2000	CCS-202	0.50
2200	CCS-222	0.50
2500	CCS-252	0.50
2700	CCS-272	0.50
3000	CCS-302	0.50
3300	CCS-332	0.60
3900	CCS-392	0.60
4700	CCS-472	0.60

TEMPERATURE COMPENSATING

$\pm 10\%$ Tolerance

NPO — TYPE CCTO

1000 VDCW

Cap. mmf.	Part Number	List Price
2.2	CCTO-2R2	\$0.50
3.3	CCTO-3R3	0.50
4.7	CCTO-4R7	0.50
5.0	CCTO-050	0.50
6.8	CCTO-6R8	0.50
10	CCTO-100	0.50
12	CCTO-120	0.50
15	CCTO-150	0.50
18	CCTO-180	0.50
20	CCTO-200	0.50
22	CCTO-220	0.50
24	CCTO-240	0.50
27	CCTO-270	0.50
30	CCTO-300	0.50
33	CCTO-330	0.50
36	CCTO-360	0.50
39	CCTO-390	0.50
47	CCTO-470	0.50
51	CCTO-510	0.55
56	CCTO-560	0.55
68	CCTO-680	0.55
75	CCTO-750	0.55
82	CCTO-820	0.55
100	CCTO-101	0.55

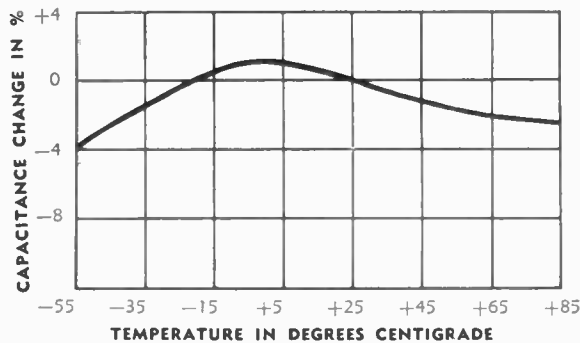
N750 — TYPE CCTN

1000 VDCW

Cap. mmf.	Part Number	List Price
5	CCTN-050	\$0.50
10	CCTN-100	0.50
15	CCTN-150	0.50
22	CCTN-220	0.50
27	CCTN-270	0.50
33	CCTN-330	0.50
39	CCTN-390	0.50
47	CCTN-470	0.50
56	CCTN-560	0.50
62	CCTN-620	0.50
68	CCTN-680	0.50
75	CCTN-750	0.50
82	CCTN-820	0.50
100	CCTN-101	0.50
120	CCTN-121	0.50
150	CCTN-151	0.50
200	CCTN-201	0.50
220	CCTN-221	0.50
270	CCTN-271	0.50
300	CCTN-301	0.50

Other temperature coefficient values from N080 to N5600 available on special order.

TYPICAL CURVE
CAPACITANCE CHANGE WITH TEMPERATURE



CERAMIC DISC SIZE TABULATION

Max. Diam.	Capacitance Range (mmf.)			
	CCD	CCS	CCTO	CCTN
.290	5-1200	150-330	2.2-12	5-27
.406	1500-3000	390-750	15-30	33-68
.570	3300-5000	820-2000	33-68	75-150
.660	5600-6800	2200-3000	75-82	200-220
.800	8200-30000	3300-4700	100	270

Maximum Thickness—5/32"
Lead Spacing—1/4" for .290 & .406 discs
3/8" for .570 and larger



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

ARCO CM-15 MINIATURE MICA CAPACITOR KIT #1

FOR EXPERIMENTAL WORK



THESE MINIATURES FIT INTO THE SMALLEST AREA CAPACITOR SIZE (9/32" x 1/2" x 3/16")

SPECIAL KIT LIST PRICE

ONLY \$90⁰⁰

DON'T GET CAUGHT SHORT!

ALWAYS HAVE THE CORRECT CAPACITY ON HAND!

This Handy Kit consists of 46 most commonly used Capacitors . . . five of each capacity as listed on page P-991 packed in individual tuck boxes, properly identified for permanent use.

The complete set of capacitors amounts to \$111.50 at list prices. You get the entire set for *only* \$90.00.

COMPARE THE COST!



THESE KITS CONTAIN FIVE EACH OF THE FOLLOWING ELMENCO MICA CAPACITORS (500 V D C W)

CM20 Cap. mmf.	CM20 Cap. mmf.	CM20 Cap. mmf.	CM20 Cap. mmf.	CM30 Cap. mmf.	CM35 Cap. mmf.
5	39	120	390	1100	3600
10	43	130	430	1200	3900
12	47	150	470	1300	4300
15	51	160	510	1500	4700
18	56	180	560	1600	5100
20	62	200	620	1800	5600
22	68	220	680	2000	6200
24	75	240	750	2200	6800*
27	82	270	820	2400	7500*
30	91	300	910	2700	8200*
33	100	330	1000	3000	9100*
36	110	360	3600	3300	10000*

300VDCW

PER MIL-C-5 SPECIFICATIONS

MIL-C-5 ARCO SILVERED MICA KIT #3

SPECIAL KIT LIST PRICE
\$325

Purchased individually the total list price value of the capacitors contained in this kit would be . . . **\$385**

This kit contains the complete range of ELMENCO silvered molded mica capacitors from 5 mmf. to 10,000 mmf. manufactured in accordance with MIL-C-5 specifications. All units are of letters "C", "D" or "E" characteristics as specified and letter "J" (5%) tolerance and are MIL color coded.

SPECIAL KIT LIST PRICE

\$140

Purchased individually the total list price value of the capacitors contained in this kit would be . . . **\$158⁴⁰**



MIL-C-5 ARCO REG. FOIL MICA KIT #2

This kit contains the complete range of ELMENCO regular foil molded mica capacitors from 5 mmf. to 10,000 mmf. manufactured in accordance with MIL-C-5 specifications. All units are of the letter "B" characteristics and letter "K" (10%) tolerance and are MIL color coded.



ARCO ELECTRONICS INC.

ELMENDO CAPACITORS

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ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

**FOR: ENGINEERING LABS • GOVERNMENTAL AGENCIES • EXPERIMENTAL LABS
SCHOOLS, ETC.**

DUR-MICA the silvered mica capacitor coated with a specially developed plastic coating for extra durability... provides maximum protection at environmental extremes of moisture and temperature.



ARCO DM-15 KIT #10

This handy kit consists of five of each DM-15 capacity as listed. All are 500 VDCW and $\pm 5\%$ tolerance... packed in individual transparent plastic snap boxes, properly identified for ease of handling.

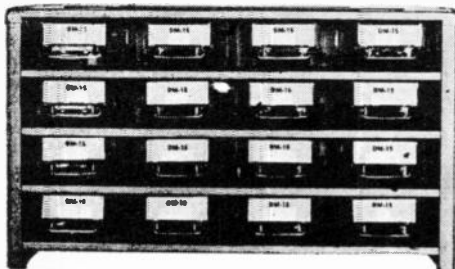
SPECIAL KIT LIST PRICE \$95.00

Purchased individually the total list price value of the capacitors contained in this kit would be — **\$103.31**

CAP. MMF.	TYPE DESIGNATION	CAP. MMF.	TYPE DESIGNATION
1	DM-15-010†	91	DM-15-910
2	DM-15-020†	100	DM-15-101
3	DM-15-030†	110	DM-15-111
5	DM-15-050†	120	DM-15-121
10	DM-15-100	130	DM-15-131
12	DM-15-120	150	DM-15-151
15	DM-15-150	160	DM-15-161
18	DM-15-180	180	DM-15-181
20	DM-15-200†	200	DM-15-201
22	DM-15-220	220	DM-15-221
24	DM-15-240	240	DM-15-241
27	DM-15-270	250	DM-15-251
30	DM-15-300	270	DM-15-271
33	DM-15-330	300	DM-15-301
36	DM-15-360	330	DM-15-331
39	DM-15-390	360	DM-15-361
43	DM-15-430	390	DM-15-391
47	DM-15-470	430*	DM-15-431
50	DM-15-500	470*	DM-15-471
51	DM-15-510	500*	DM-15-501
56	D.V.-15-560	510*	DM-15-511
62	DM-15-620	560*	DM-15-561
68	DM-15-680	620*	DM-15-621
75	DM-15-750	680*	DM-15-681
82	DM-15-820	750*	DM-15-751
		820*	DM-15-821

* All capacitors marked with * are 300WV.
† Minimum tolerance ± 0.5 mmf.

ARCO MINIATURE DM-15 CAPACITOR STOCK PACKAGE



Distinctive Steel Cabinet With Plastic Pull-Out Drawers Supplied FREE With DM-15 Package.

A complete stock of DM-15 capacitors (fifty-one items) totaling 2100 capacitors: fifty each of the most used values and 25 each of the others. Capacity range is 1-820 mmf., tolerance $\pm 5\%$ or ± 0.5 mmf., whichever is greater.

SPECIAL LIST PRICE \$596

Purchased individually the total list price value of the capacitors contained in this package would be — **\$715**



ARCO DUR-MICA KIT #11

This Kit contains five each of the following listed DUR-MICA capacitors, all 500 VDCW and $\pm 5\%$ tolerance; or ± 0.5 mmf., whichever is greater. Packed in individual transparent plastic snap boxes, properly identified for ease of handling.

SPECIAL KIT LIST PRICE \$250.00

Purchased individually the total list price value of the capacitors contained in this kit would be — **\$286.35**

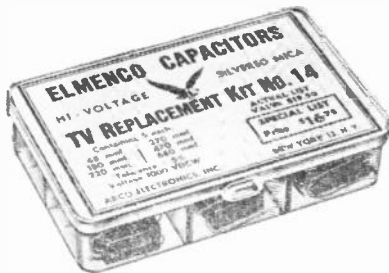
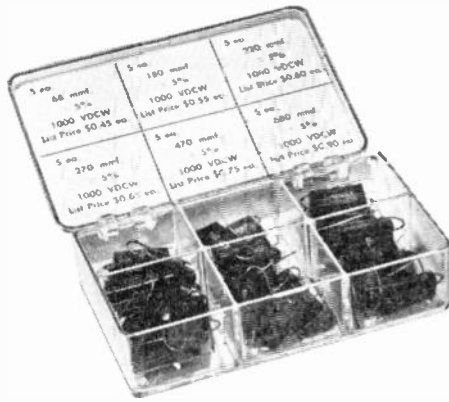
CAP. MMF.	TYPE DESIGNATION	CAP. MMF.	TYPE DESIGNATION
2	DM 15-020M	360	DM19-361J
5	DM 15-050K	390	DM19-391J
10	DM15-100J	430	DM19-431J
12	DM 15-120J	470	DM19-471J
15	DM15 150J	510	DM19-511J
18	DM 15 180J	560	DM19-561J
20	DM 15-200J	620	DM19-621J
22	DM15-220J	680	DM20-681J
24	DM15 240J	750	DM20-751J
27	DM 15-270J	820	DM20-821J
30	DM 15-300J	910	DM20-911J
33	DM 15-330J	1000	DM20-102J
36	DM 15-360J	1100	DM20-112J
39	DM 15-390J	1200	DM20-122J
43	DM 15-430J	1300	DM20-132J
47	DM 15-470J	1500	DM20-152J
51	DM 15-510J	1600	DM20-162J
56	DM 15-560J	1800	DM20-182J
62	DM 15-620J	2000	DM20-202J
68	DM 15-680J	2200	DM20-222J
75	DM 15-750J	2400	DM20-242J
82	DM 15-820J	2700	DM20-272J
91	DM 15-910J	3000	DM20-302J
100	DM 15-101J	3300	DM20-332J
110	DM 15-111J	3600	DM20-362J
120	DM 15-121J	3900	DM20-392J
130	DM 15-131J	4300	DM20-432J
150	DM 15-151J	4700	DM30-472J
160	DM 19-161J	5100	DM30-512J
180	DM 19-181J	5600	DM30-562J
200	DM 19-201J	6200	DM30-622J
220	DM 19-221J	6800	DM30-682J
240	DM 19-241J	7500	DM30-752J
270	DM 19-271J	8200	DM30-822J
300	DM 19-301J	9100	DM30-912J
330	DM 19-331J	10000	DM30-103J



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ELMENCO CAPACITORS

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ARCO TV HI-VOLTAGE REPLACEMENT KIT #14

(For Resale To Service Dealers)

AVAILABLE FOR THE FIRST TIME!
 An Assortment Of The Most
 Popular

ELMENCO

HI-VOLTAGE SILVERED MICA CAPACITORS

USED IN ALL TV CIRCUITS

Actual
List
Value
\$19.50

SPECIAL
LIST PRICE
\$16⁷⁵

CONTAINS 5 EACH
OF:

- 68 mmf. 270 v.m.f.
- 180 mmf. 470 v.m.f.
- 270 mmf. 1000 VDCW
- 470 mmf. 1000 VDCW
- 680 mmf. 1000 VDCW

- ALL SILVERED MICA • ALL 1000 WORKING VOLTS
- ALL -5% TOLERANCE • ALL CAPACITIES, TOLERANCES AND VOLTAGES IMPRINTED ON EACH UNIT
- HANDY COMPACT PLASTIC CONTAINER



ARCO TV REPLACEMENT "HI-VOLT" Stock Package

A complete distributor stock
assortment of the most popular

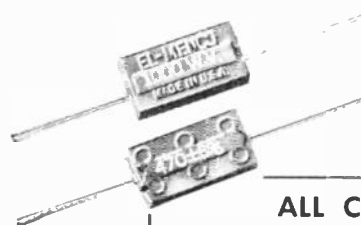
ELMENCO

HI-VOLTAGE SILVERED MICA CAPACITORS

USED IN ALL TV CIRCUITS

A complete stock of HI-VOLTAGE capacitors (forty-nine items) totaling 1180 capacitors: 40 each of the most used values and 20 each of the others. Capacity range:— 5 mmf to 56 mmf 1500 VDCW, 62 mmf to 1000 mmf 1000 VDCW.

- ALL SILVERED MICA
- ALL 5% TOLERANCE
- ALL HI-VOLTAGE CAPACITORS
- FULL 20 DRAWER
COMPACT STEEL CABINET FREE!



SPECIAL
LIST PRICE
\$575.00

Purchased individually
the total list price would
be **\$689.90**

ALL CAPACITIES
TOLERANCES & VOLTAGES
IMPRINTED ON EACH UNIT



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

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ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

"TV-1000" HI-VOLTAGE STOCK PACKAGE

(For Resale To Service Dealers)

A complete stock assortment of 101 of the most popular

ELMENCO SILVERED MICA HI-VOLTAGE CAPACITORS

USED IN ALL TV CIRCUITS
All $\pm 5\%$ Tolerance

List Price \$63.00



CAPACITIES
TOLERANCES
& VOLTAGES
IMPRINTED ON
EACH UNIT

FREE! THIS HANDY 8 DRAWER STURDY METAL CABINET

GIVEN FREE WITH EVERY "TV-1000" HI-VOLTAGE STOCK PACKAGE ORDER



FREE Cabinet
\$4.95 VALUE

CONTENTS

Quantity	Cap. mmf.	Voltage Rating	Quantity	Cap. mmf.	Voltage Rating
3	5	1500	3	150	1000
3	10	1500	4	180	1000
3	15	1500	4	220	1000
2	20	1500	3	250	1000
3	22	1500	4	270	1000
2	27	1500	3	300	1000
2	30	1500	4	330	1000
2	33	1500	3	360	1000
3	39	1500	3	390	1000
4	47	1500	4	470	1000
3	50	1500	3	510	1000
4	56	1500	3	560	1000
4	68	1000	4	680	1000
4	82	1000	4	820	1000
2	91	1000	3	1000	1000
3	100	1000			
2	120	1000			

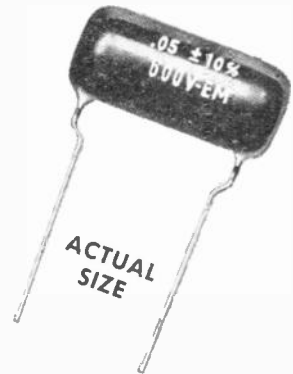
"DP-600" TUBULAR STOCK PACKAGE

A complete stock assortment of 125 of the most popular

ELMENCO



MYLAR*-PAPER CAPACITORS



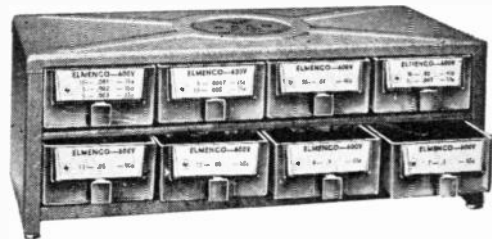
ACTUAL SIZE

LIST PRICE \$54.00

FREE! THIS HANDY 8 DRAWER

STURDY METAL CABINET

Given FREE with every Stock Package Order.



\$4.95 VALUE

CONTENTS

10	.001	30	.01
5	.002	10	.02
5	.003	10	.047
5	.0047	25	.05
10	.005	15	.1

ALL $\pm 10\%$ TOLERANCE

A TOTAL OF 125 ASSORTED 600 VOLT ELMENCO DP MYLAR*-PAPER CAPACITORS.

* Du Pont Trademark

ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

FOR RESALE TO SERVICE DEALERS



MYLAR*-PAPER
BY-PASS
CAPACITOR
KIT #15

A Revolutionary low cost quality capacitor that can be installed with complete confidence.

FEATURES

- MINIATURIZED (50% smaller)
- High Temperature Operation
- Superior Moisture Resistance
- Long Life and High Reliability
- High Insulation Resistance
- All Values $\pm 10\%$ Tolerance
- Transistor & Printed Circuit Application

LIST PRICE **\$16.50**

ARCO KIT #15 CONTENTS

4 each — .001 — 600V	3 each — .02 — 600V
3 each — .002 — 600V	3 each — .03 — 600V
3 each — .003 — 600V	3 each — .047 — 600V
4 each — .005 — 600V	6 each — .05 — 600V
6 each — .01 — 600V	4 each — .1 — 600V

ARCO BY-PASS CAPACITOR KIT #9

1 ea. 4 ea. 1 ea. 4 ea.	1 ea. 4 ea.
60V 305 600V 600V	60V 600V
4 ea. 6 ea. 2 ea. 2 ea.	2 ea. 2 ea.
60V 60V 60V 60V	60V 60V
1 ea. 1 ea. 1 ea. 1 ea.	1 ea. 1 ea.
60V 60V 60V 60V	60V 60V

LIST PRICE

CP-Type

\$14.50

Mineral Oil Impregnation
Non Inductive Winding
Synthetic Resin
End Seals
Steatite Case



A low cost, practical assortment of fast moving sizes for service replacement!

CONTENTS

4 ea. — .001 — 600V	3 ea. — .02 — 600V
3 ea. — .002 — 600V	3 ea. — .03 — 600V
3 ea. — .003 — 600V	3 ea. — .047 — 600V
4 ea. — .005 — 600V	6 ea. — .05 — 600V
6 ea. — .01 — 600V	4 ea. — .1 — 600V

ARCO STANDARD PAPER TUBULAR CAPACITOR KIT #7

CP-Type

SPECIAL KIT LIST PRICE

\$45.00



Purchased individually the total list price value of the capacitors would be — **\$47.50**

This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES

PART NUMBER	CAPACITY MFD.	WORKING VOLTAGE
6CP-1-102	.061	600
6CP-1-152	.0615	600
6CP-1-202	.062	600
6CP-1-222	.0622	600
6CP-1-252	.0625	600
6CP-1-302	.063	600
6CP-1-332	.0633	600
6CP-1-402	.064	600
6CP-1-472	.0647	600
6CP-1-502	.065	600
6CP-2-602	.066	600
6CP-2-682	.0668	600
6CP-2-752	.0675	600
6CP-2-103	.01	600
6CP-2-153	.015	600
6CP-3-203	.02	600
6CP-3-223	.022	600
6CP-4-303	.03	600
6CP-4-333	.033	600
6CP-4-403	.04	600
6CP-4-473	.047	600
6CP-4-503	.05	600
6CP-5-104	.1	600
4CP-6-254	.25	400
2CP-6-504	.5	200



MYLAR*-PAPER
BUFFER

CAPACITOR KIT #16

GUARANTEED AGAINST 3200 VOLTS SURGE IN ALL AUTO RADIO APPLICATIONS.

• **MINIATURIZED**

- 50% Smaller Than Other Brands
- All Values $\pm 10\%$ Tolerance
- High Temperature Operation
- Superior Moisture Resistance
- Long Life and High Reliability
- High Insulation Resistance

CONTENTS

3 ea. — .001 — 1600V	4 ea. — .007 — 1600V
2 ea. — .002 — 1600V	4 ea. — .008 — 1600V
2 ea. — .003 — 1600V	2 ea. — .01 — 1600V
2 ea. — .005 — 1600V	2 ea. — .02 — 1600V
4 ea. — .006 — 1600V	2 ea. — .05 — 1600V

ALL VALUES $\pm 10\%$ TOLERANCE

* Du Pont Trademark

LIST PRICE **\$16.35**



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

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NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

ARCO TYPE 46 TRIMMER KIT #5

This Kit Contains 24 of Each
Trimmer Listed Below



TYPE 46W	PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE	
			At Tight Cap. Will Be More Than MMF.	At 1/2 Turns Open Cap. Will Be Less Than MMF.
	460	1 1/4 Pl.	15	1.5
	461	1 3/4 Pl.	30	2.7
	462	2 Pl.	80	5
	463	3 Pl.	180	9
	464	4 Pl.	280	25
	465	5 Pl.	380	50
	466	6 Pl.	480	80
	467	7 Pl.	580	110
	468	8 Pl.	680	140
	469	9 Pl.	780	170

The total list price for all units included in the kit is \$142.80.

Yet you may have this complete kit for only

SPECIAL KIT
LIST PRICE

\$120⁰⁰

A complete stock of trimmers and padders is provided in these compact, easily handled, and readily accessible kits. Always have a full line of El-Menco trimmers and padders available for immediate use.

ARCO TYPE 30 PADDER KIT #6

This Kit Contains 12 Each
of Padders Listed Below

The total list price for all units included in the kit is \$223.80.

Yet you may have this complete kit for only

SPECIAL KIT
LIST PRICE

\$195⁰⁰



ARCO TYPE 30M PADDER KIT #6M

This Kit Contains 12 Each
of Padders Listed Below

The total list price for all units included in the kit is \$231.60

Yet you may have this complete kit for only

SPECIAL KIT
LIST PRICE

\$200⁰⁰

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE	
		At 1 1/2 Inch Pounds Cap. Will Be More Than MMF.	At 2 1/2 Turns Open Cap. Will Be Less Than MMF.
302	2 Pl.	130	15
303	3 Pl.	340	65
304	4 Pl.	550	100
305	5 Pl.	760	190
306	6 Pl.	970	275
307	7 Pl.	1180	350
308	8 Pl.	1390	450
309	9 Pl.	1600	550
310	10 Pl.	1890	650
311	11 Pl.	2110	780
312	12 Pl.	2330	880
313	13 Pl.	2605	1150
314	14 Pl.	2830	1300
315	15 Pl.	3055	1400

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE	
		At 1 1/2 Inch Pounds Cap. Will Be More Than MMF.	At 2 1/2 Turns Open Cap. Will Be Less Than MMF.
302-M	2 Pl.	120	15
303-M	3 Pl.	320	65
304-M	4 Pl.	500	100
305-M	5 Pl.	690	180
306-M	6 Pl.	880	265
307-M	7 Pl.	1070	340
308-M	8 Pl.	1260	425
309-M	9 Pl.	1415	525
310-M	10 Pl.	1600	615
311-M	11 Pl.	1785	730
312-M	12 Pl.	1970	800
313-M	13 Pl.	2155	1000
314-M	14 Pl.	2340	1100
315-M	15 Pl.	2525	1200



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

MINIMITE* TYPE MM

Miniature Metal-Cased Tubular Electrolytics

"SM"* Safety Margin Construction



- Hermetically sealed aluminum-cased tubulars. Small and light. Ideal for under-cassis mounting in compact, tight assemblies.
- Designed for withstand high surge voltages and high ripple currents. Stable capacitance characteristics. Long service life.
- Exceptionally low leakage. Terminal tab connections provide permanent low-resistance contact for life of the unit.
- Outer insulating tube. Dials have centered mounting strap, and 6 leads (common negative).

SINGLE MINIMITE (2 leads)

Cat. No.	Cap. Mf.	WVDC	1 Dia x L.	List Price
MM-30-3	300	3	.81 x 1.16	\$.95
MM-30-3	500	3	.81 x 1.16	1.35
MM-30-6	300	6	.81 x 1.16	.95
MM-100-6	1000	6	.81 x 1.16	1.20
MM-30-6	500	6	.81 x 1.16	\$1.55
MM-10-10-6	1000	6	.81 x 1.16	1.90
MM-100-10	100	10	.81 x 1.16	1.25
MM-100-15	100	15	.81 x 1.16	1.25
MM-200-15	200	15	.81 x 1.16	1.75
MM-300-15	300	15	.81 x 1.16	2.50
MM-100-15	1000	15	.81 x 1.16	1.00
MM-10-25	50	25	.81 x 1.16	1.00
MM-20-25	25	25	.81 x 1.16	1.00
MM-30-25	50	25	.81 x 1.16	1.10
MM-100-25	100	25	.81 x 1.16	1.35
MM-200-25	250	25	.81 x 1.16	1.70
MM-300-25	300	25	.81 x 1.16	2.40
MM-4-50	4	50	.81 x 1.16	.95
MM-10-50	10	50	.81 x 1.16	1.00
MM-20-50	20	50	.81 x 1.16	1.00
MM-30-50	30	50	.81 x 1.16	1.20
MM-100-50	100	50	.81 x 1.16	1.40
MM-4-150	4	150	.81 x 1.16	1.00
MM-8-150	8	150	.81 x 1.16	1.00
MM-10-150	10	150	.81 x 1.16	1.15
MM-20-150	20	150	.81 x 1.16	1.20
MM-30-150	30	150	.81 x 1.16	1.30
MM-40-150	40	150	.81 x 1.16	1.35
MM-50-150	50	150	.81 x 1.16	1.40
MM-80-150	80	150	.81 x 1.16	1.60
MM-100-150	100	150	.81 x 1.16	1.75
MM-150-150	150	150	.81 x 1.16	1.90
MM-200-150	200	150	.81 x 1.16	2.05
MM-8-250	8	250	.81 x 1.16	1.15
MM-16-250	16	250	.81 x 1.16	1.30
MM-20-250	20	250	.81 x 1.16	1.35
MM-40-250	40	250	.81 x 1.16	1.55
MM-8-350	8	350	.81 x 1.16	1.20
MM-10-350	10	350	.81 x 1.16	1.25
MM-20-350	20	350	.81 x 1.16	1.45
MM-4-450	4	450	.81 x 1.16	1.15
MM-8-450	8	450	.81 x 1.16	1.15
MM-10-450	10	450	.81 x 1.16	1.30
MM-12-450	12	450	.81 x 1.16	1.35
MM-16-450	16	450	.81 x 1.16	1.40
MM-20-450	20	450	.81 x 1.16	1.55
MM-30-450	30	450	.81 x 1.16	1.70
MM-40-450	40	450	.81 x 1.16	1.80
MM-50-450	50	450	.81 x 1.16	2.05
MM-60-450	60	450	.81 x 1.16	2.30
MM-80-450	80	450	.81 x 1.16	2.80
MM-8-500	8	500	.81 x 1.16	1.30
MM-16-500	16	500	.81 x 1.16	1.50
MM-20-500	20	500	.81 x 1.16	1.60

†† DUAL MINIMITE

(3 leads, Common Negative)

MM-2x20-150	20-20	150	.81 x 1.16	\$1.55
MM-2x30-150	30-30	150	.81 x 1.16	1.80
MM-2x40-150	40-40	150	.81 x 1.16	1.85
MM-2x50-150	50-50	150	.81 x 1.16	1.95
MM-2x30-150	30-30	150	.81 x 1.16	2.10
MM-8040-150	80-40	150	.81 x 1.16	2.20
MM-2x8-450	8-8	450	.81 x 1.16	1.85
MM-2x10-450	10-10	450	.81 x 1.16	1.85
MM-16B-450	16-8	450	.81 x 1.16	1.95
MM-2x16-450	16-16	450	.81 x 1.16	2.25
MM-2x20-450	20-20	450	.81 x 1.16	2.50
MM-2x40-450	40-40	450	.81 x 1.16	3.40

*Dimensions are for metal tubes. Add .5" to diameter and .5" to length for dimensions over cardboard insulating tubes.

† Supplied with radial mounting strap.

*TRADE MARK

TYPE ET

Subminiature Electrolytics

"SM"* Safety Margin Construction



- Industry's widest range of values.
- Conservative ratings in subminiature cases.
- Hermetically sealed for reliable operation in all climates.
- Dependable 85°C. operation.
- Stable capacitance characteristics due to extremely pure foil and special high-gain etch process.
- Exceptionally low leakage current.
- Low-resistance terminal tab connection.

Cat. No.	Rating Cap.	Volts	Size	List Price Each
ET-25-3	25	3	.81 x 1.16	\$0.85
ET-50-3	50	3	.81 x 1.16	.95
ET-100-3	100	3	.81 x 1.16	1.10
ET-150-3	150	3	.81 x 1.16	1.10
ET-200-3	200	3	.81 x 1.16	1.25
ET-300-3	300	3	.81 x 1.16	1.30
ET-5-6	5	6	.81 x 1.16	.80
ET-25-6	25	6	.81 x 1.16	.85
ET-50-6	50	6	.81 x 1.16	.95
ET-75-6	75	6	.81 x 1.16	1.00
ET-100-6	100	6	.81 x 1.16	1.20
ET-125-6	125	6	.81 x 1.16	1.20
ET-50-15	50	15	.81 x 1.16	1.00
ET-100-15	100	15	.81 x 1.16	1.25
ET-5-25	5	25	.81 x 1.16	1.00
ET-10-25	10	25	.81 x 1.16	1.00
ET-20-25	20	25	.81 x 1.16	1.00
ET-25-25	25	25	.81 x 1.16	1.00
ET-50-25	50	25	.81 x 1.16	1.10
ET-1-50	1	50	.81 x 1.16	.90
ET-2-50	2	50	.81 x 1.16	.90
ET-4-50	4	50	.81 x 1.16	1.00
ET-5-50	5	50	.81 x 1.16	1.00
ET-10-50	10	50	.81 x 1.16	1.00
ET-15-50	15	50	.81 x 1.16	1.00
ET-20-50	20	50	.81 x 1.16	1.05
ET-25-50	25	50	.81 x 1.16	1.05
ET-10-90	10	90	.81 x 1.16	1.10
ET-5-100	5	100	.81 x 1.16	1.00
ET-10-100	10	100	.81 x 1.16	1.00
ET-1-150	1	150	.81 x 1.16	1.00
ET-2-150	2	150	.81 x 1.16	1.00
ET-4-150	4	150	.81 x 1.16	1.00
ET-5-150	5	150	.81 x 1.16	1.00
ET-8-150	8	150	.81 x 1.16	1.05
ET-10-150	10	150	.81 x 1.16	1.05
ET-12-150	12	150	.81 x 1.16	1.10
ET-4-250	4	250	.81 x 1.16	1.00

*TRADE MARK

TYPE EK

Miniature Ceramic Cased Electrolytics



Astron Type EK ceramic cased subminiature electrolytics are small capacitors, designed for all industrial and commercial applications. Using a steatite case, they are second only to hermetically sealed metal cased units in moisture and humidity resistance. High capacity, low voltage and extremely small size are the features that make the Astron EK highly suitable for application in transistorized circuitry and miniature electronic instruments and equipment.

Cat. No.	WVDC	Cap. Mf.	1 Dia. x L.	List Price
EK-2-1	1	2	.1800 x .2	\$1.25
EK-5-3	3	5	.1800 x .2	1.25
EK-10-3	3	10	.1800 x .2	1.25
EK-35-3	3	35	.2700 x .2	1.25
EK-40-3	3	40	.2700 x .2	1.25
EK-50-3	3	50	.2700 x .2	1.25
EK-75-3	3	75	.2700 x .2	1.50
EK-90-3	3	90	.2700 x .2	1.50
EK-8-6	6	8	.1800 x .2	1.25
EK-10-6	6	10	.1800 x .2	1.25
EK-20-6	6	20	.2700 x .2	1.25
EK-25-6	6	25	.2700 x .2	1.25
EK-50-6	6	50	.2700 x .2	1.50
EK-65-6	6	65	.2700 x .2	1.50
EK-10-8	8	10	.2700 x .2	1.35
EK-10-10	10	10	.2700 x .2	1.35
EK-15-10	10	15	.2700 x .2	1.35
EK-25-10	10	25	.2700 x .2	1.35
EK-50-10	10	50	.2700 x .2	1.50
EK-65-10	10	65	.2700 x .2	1.50
EK-80-10	10	80	.2700 x .2	1.50
EK-100-10	10	100	.2700 x .2	1.70
EK-5-12	12	5	.1800 x .2	1.35
EK-20-12	12	20	.2700 x .2	1.35
EK-6-15	15	6	.1800 x .2	1.35
EK-20-15	15	20	.2700 x .2	1.50
EK-30-15	15	30	.2700 x .2	1.50
EK-1-16	16	1	.1800 x .2	1.50
EK-10-16	16	10	.2700 x .2	1.35
EK-12-16	16	12	.2700 x .2	1.35
EK-10-20	20	10	.2700 x .2	1.35
EK-12-20	20	12	.2700 x .2	1.35
EK-4-25	25	4	.1800 x .2	1.35
EK-10-25	25	10	.2700 x .2	1.45
EK-10-30	30	10	.2700 x .2	1.45
EK-4-50	50	4	.1800 x .2	1.65

Note: Other ratings available on request.



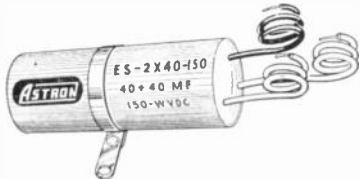
capacitors

ASTRON CORPORATION

EAST NEWARK, N. J.

TYPE ES

Cardboard-Cased Electrolytics



- Dual and triple-section units. Can be used in place of costlier metal-can types of equal rating in television, radio, radio-phonos and other equipment. 65°C. operation.
- Sections wrapped in plastic film. Lasting protection from moisture, humidity, severest climatic conditions. High-melting-point wax fill.
- Centered radial mounting strap. Plastic insulated wire leads, 6" long. Color coding on tubes.
- Overall wax coating for added protection against moisture and humidity.

DUAL UNITS (Common Negative)

Cat. No.	Cap. Mf. WVDC	D. x L.	List Price
ESD-140	10 + 10/50	3/8x2 3/4	\$1.40
ESD-150	8 + 8/50	3/8x2 3/4	1.45
ESD-155	20 + 20/150	3/4x2 1/2	1.65
ESD-156	30 + 20/150	3/4x2 1/2	1.70
ESD-160	30 + 30/150	7/8x2 1/2	1.80
ESD-163	10 + 20/150	7/8x2 1/2	1.75
ESD-165	40 + 40/150	1 x 2 1/2	1.85
ESD-170	50 + 30/150	1 x 2 1/2	1.95
ESD-175	50 + 50/150	1 x 3	2.10
ESD-190	80 + 40/150	1 1/8 x 3	2.25
ESD-250	10 + 10/250	7/8x2 1/2	1.80
ESD-255	20 + 20/250	7/8x2 1/2	1.85
ESD-450	4 + 8/150	1 x 2 1/2	1.70
ESD-455	20 + 20/450	1 1/8 x 3 1/4	2.50
ESD-475	40 + 40/450	1 3/8 x 3 1/2	3.40

TRIPLE UNITS (Common Negative)

Cat. No.	Cap. Mf. WVDC	D. x L.	Price
EST-555	20 + 20 + 20/150	1 x 2 1/2	\$2.20
EST-560	10 + 20 + 20/150	1 x 2 1/2	2.25
EST-570	40 + 30 + 20/150	1 x 2 1/2	2.35
EST-575	10 + 10 + 20/150	1 x 3	2.35
EST-580	10 + 10 + 40/150	1 x 3 1/4	2.45
EST-585	60 + 10 + 20/150	1 x 3 1/4	2.40
EST-595	80 + 10 + 20/150	1 1/8 x 3 1/4	2.50
EST-610	40 + 10 + 150 + 20/25	1 x 2 1/2	1.95
EST-620	40 + 30 + 150 + 20/25	1 x 2 1/2	2.30
EST-625	40 + 40 + 150 + 40/25	1 x 3 1/4	2.40
EST-640	50 + 30 + 150 + 100/25	1 x 3 1/4	2.50
EST-655	50 + 30 + 150 + 200/10	1 x 3 1/4	2.55



TYPE EY

Twist-Prong Electrolytics

"SM" Safety Margin Construction

- Widest choice of singles, and dual, triple and quadruple capacitance-voltage combinations in smallest practical aluminum can sizes.
- Ideal for replacement in television, radio and other high quality electronic equipment where high ripple and high surge voltages are encountered.
- Hermetically sealed. Designed for 85°C. operation.
- Quick, easy, firm mounting through chassis slots or slotted plates for insulated or grounded connection. Mounting prong ring serves as common negative terminal.
- Terminal coding clearly stamped on container.
- Individually packaged for the service trade, including metal and phenolic mounting plates.

SINGLE UNITS

Cat. No.	Cap. Mf. / WVDC	Dia. x Length	List Price
EYS-90	2000 6	3/8x2	2.55
EYS-100	1000 15	1 x 3	2.55
EYS-105	2000 15	1 3/8x3	3.45
EYS-108	3000 15	1 3/8x3	3.50
EYS-115	100 25	1 x 2	1.60
EYS-120	500 25	1 x 3	2.55
EYS-125	1000 25	1 3/8x3	3.55
EYS-130	500 50	1 3/8x2 1/2	2.65
EYS-131	1000 50	1 3/8x3	3.75
EYS-133	1500 50	1 3/8x4	3.75
EYS-135	50 150	1 x 2	1.65
EYS-140	80 150	1 x 2	1.85
EYS-145	100 150	1 x 2	2.00
EYS-150	120 150	1 x 2 1/2	2.10
EYS-151	120 150	1 3/8x3	2.10
EYS-155	140 150	1 x 3	2.15
EYS-160	150/150	1 x 3	2.15
EYS-161	200 150	1 3/8x2 1/2	2.45
EYS-162	300 150	1 3/8x3	2.80
EYS-165	15 250	1 x 2	1.55
EYS-170	30 250	1 x 2	1.70
EYS-175	40 250	1 x 2	1.80
EYS-180	60 250	1 x 2 1/2	2.05
EYS-185	80 250	1 x 3	2.15
EYS-186	100 250	1 x 2 1/2	2.10
EYS-190	150 250	1 3/8x2 1/2	3.70
EYS-1901	200 250	1 3/8x3	3.95
EYS-1902	80 300	1 x 3	2.55
EYS-191	100 300	1 3/8x2 1/2	2.90
EYS-193	150 300	1 3/8x3	3.50
EYS-195	30/350	1 x 2	1.90
EYS-200	40 350	1 x 2 1/2	2.00
EYS-205	50 350	1 x 3	2.10
EYS-215	80 350	1 3/8x2 1/2	2.85
EYS-220	125 350	1 3/8x3	2.65
EYS-222	150/350	1 3/8x3 1/2	3.95
EYS-225	80/400	1 3/8x2 1/2	2.95
EYS-230	10/450	1 x 2	1.55
EYS-235	20 450	1 x 2	1.75
EYS-240	30 450	1 x 2 1/2	1.95
EYS-245	40/450	1 x 3	2.05
EYS-246	50 450	1 x 3 1/2	2.35
EYS-247	60 450	1 3/8x2 1/2	2.60
EYS-250	90 450	1 3/8x3	3.05
EYS-251	100/450	1 3/8x3	3.45
EYS-253	125/450	1 3/8x4	4.25
EYS-255	30/475	1 x 3	2.00
EYS-260	40/475	1 3/8x2	2.50
EYS-265	90 475	1 3/8x3 1/2	3.50
EYS-266	10/500	1 x 2	1.60
EYS-267	20/500	1 x 2 1/2	1.85

SINGLE UNITS (Cont.)

Cat. No.	Cap. Mf. / WVDC	Dia. x Length	List Price
EYS-268	30 500	1 x 3	2.00
EYS-269	40 500	1 x 3 1/2	2.50
EYS-270	80 500	1 3/8x3 1/2	3.20
EYS-271	90 500	1 3/8x3 1/2	3.50

DUAL UNITS

Cat. No.	Cap. Mf. / WVDC	Dia. x Length	List Price
EYD-500	1000-1000 15	1 3/8x3	4.40
EYD-505	150-50 25	1 x 2	1.75
EYD-506	50-50 50	1 x 2	1.70
EYD-507	100-25 50	1 x 2	1.85
EYD-508	20-20 150	1 x 2	1.70
EYD-510	30-30 150	1 x 2	1.75
EYD-511	40-20 150	1 x 2	1.80
EYD-512	40-30 150	1 x 2	1.85
EYD-513	40-40 150	1 x 2	1.90
EYD-514	50 30 150	1 x 2	2.00
EYD-515	50 50 150	1 x 2 1/2	1.95
EYD-5151	60-60 150	1 x 2 1/2	2.35
EYD-5152	75-75 150	1 x 3	2.60
EYD-5153	80-40 150	1 x 2 1/2	2.30
EYD-5154	80-80 150	1 3/8x2	2.65
EYD-516	125-100 150	1 3/8x2 1/2	3.50
EYD-517	200-5 150	1 3/8x2 1/2	2.75
EYD-520	200-200/150	1 3/8x3 1/2	4.00
EYD-525	20-20 250	1 x 2	1.90
EYD-530	40-40 250	1 x 2 1/2	2.50
EYD-532	150-150 250	1 3/8x4	5.15
EYD-531	200-200 250	1 3/8x4 1/2	6.10
EYD-540	80-80/300	1 3/8x3 1/2	4.05
EYD-545	120-20 300	1 3/8x3	3.80
EYD-547	120-40 300	1 3/8x3 1/2	4.35
EYD-550	15-15 350	1 x 2	2.25
EYD-555	20-20 350	1 x 2 1/2	2.35
EYD-556	30-30/350	1 x 3	2.90
EYD-557	50-30 350	1 3/8x2 1/2	3.15
EYD-558	80-20 350	1 3/8x2 1/2	3.50
EYD-559	80-40 350	1 3/8x3	3.95
EYD-560	80-80 350	1 3/8x3 1/2	4.70
EYD-5601	90-40/350	1 3/8x3	4.30
EYD-561	100 100/350	1 3/8x4	6.15
EYD-562	160-10/350	1 3/8x3 1/2	4.30
EYD-563	40-10/400	1 3/8x2 1/2	2.50
EYD-5631	80-60/400	1 3/8x3 1/2	4.85
EYD-564	5 5/450	1 x 2	1.60
EYD-565	10-10/450	1 x 2	1.90
EYD-566	15 15 450	1 x 2 1/2	2.25
EYD-567	20 10 450	1 x 2 1/2	2.25
EYD-575	20 20/450	1 x 3	2.55
EYD-576	30 10 450	1 x 3	2.50
EYD-580	30 30 450	1 3/8x2 1/2	3.05
EYD-581	40 20 450	1 3/8x2 1/2	3.00
EYD-585	40 40 450	1 3/8x3	3.45
EYD-586	50 50/450	1 3/8x3	3.85



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

ACTUAL SIZE



TYPE TES

Solid Electrolyte Tantalum Capacitors

The Astron Type TES solid electrolyte tantalum capacitor is a subminiature metal case, hermetically sealed unit, containing solid materials only. A new development in solid state technology allows the use of a semiconductor electrolyte, resulting in capacitors of improved reliability over a wide range of environmental conditions.

The tantalum oxide dielectric endows these capacitors with long shelf life and stability even at maximum rated temperature. The solid manganese dioxide electrolyte can never leak or corrode even if the seals are damaged or destroyed. The dissipation factor is low over the temperature range of -80°C. to +85 C. and the capacitor variation averages ±3% of the 25°C. value. TES capacitors are polar units. The case is the negative terminal.

STANDARD RATINGS

Catalog No.	Cap. Mfd.	Case*	Catalog No.	Cap. Mfd.	Case*	Catalog No.	Cap. Mfd.	Case*	Catalog No.	Cap. Mfd.	Case*
6 VDC WORKING, 8 VDC SURGE			10 VDC WORKING, 13 VDC SURGE			20 VDC WORKING, 23 VDC SURGE			35 VDC WORKING, 40 VDC SURGE		
TES-01-6	.01	A	TES-1M-10	1.	A	TES-0047-20	.0047	A	TES-68-35	.68	A
TES-015-6	.015	A	TES-1.5M-10	1.5	A	TES-0068-20	.0068	A	TES-1M-35	1.	A
TES-022-6	.022	A	TES-2.2M-10	2.2	A	TES-01-20	.01	A	TES-1.5M-35	1.5	B
TES-033-6	.033	A	TES-3.3M-10	3.3	A	TES-02-20	.02	A	TES-2.2M-35	2.2	C
TES-047-6	.047	A	TES-4.7M-10	4.7	A	TES-03-20	.03	A	TES-3.3M-35	3.3	C
TES-068-6	.068	A	TES-6.8M-10	6.8	B	TES-047-20	.047	A	TES-4.7M-35	4.7	C
TES-1-6	1.	A	TES-10M-10	10.	C	TES-068-20	.068	A	TES-6.8M-35	6.8	C
TES-15-6	15.	A	TES-15M-10	15.	C	TES-1-20	1.	A	TES-10M-35	10.	D
TES-22-6	22.	A	TES-22M-10	22.	C	TES-15-20	15.	A	TES-15M-35	15.	D
TES-33-6	33.	A	TES-33M-10	33.	C	TES-22-20	22.	A			
TES-47-6	47.	A	TES-47M-10	47.	D	TES-33-20	33.	A			
TES-68-6	.68	A	TES-68M-10	68.	D	TES-47-20	47.	A			
TES-1M-6	1.	A	15 VDC WORKING, 13 VDC SURGE			TES-68-20	.68	A			
TES-1.5M-6	1.5	A	TES-0047-15	.0047	A	TES-1M-29	1.	A			
TES-2.2M-6	2.2	A	TES-0068-15	.0068	A	TES-1.5M-20	1.5	A			
TES-3.3M-6	3.3	A	TES-01-15	.01	A	TES-2.2M-20	2.2	A			
TES-4.7M-6	4.7	A	TES-015-15	.015	A	TES-3.3M-20	3.3	B			
TES-6.8M-6	6.8	A	TES-022-15	.022	A	TES-4.7M-20	4.7	C			
TES-10M-6	10.	B	TES-033-15	.033	A	TES-6.8M-20	6.8	C			
TES-15M-6	15.	C	TES-047-15	.047	A	TES-10M-20	10.	C			
TES-22M-6	22.	C	TES-068-15	.068	A	TES-15M-20	15.	C			
TES-33M-6	33.	C	TES-1-15	1.	A	TES-22M-20	22.	D			
TES-47M-6	47.	C	TES-15-15	15.	A	TES-33M-20	33.	D			
TES-68M-6	68.	D	TES-22-15	22.	A						
TES-100M-6	100.	D	TES-33-15	33.	A						
10 VDC WORKING, 13 VDC SURGE			15 VDC WORKING, 13 VDC SURGE			35 VDC WORKING, 40 VDC SURGE			Notes to Standard Ratings		
TES-01-10	.01	A	TES-47-15	47.	A	TES-0047-35	.0047	A	I—Standard capacity tolerance is plus or minus 20%. For plus or minus 10% tolerance, add tolerance designation to catalog number; Ex.—TES-15M-20-10.		
TES-015-10	.015	A	TES-68-15	.68	A	TES-0068-35	.0068	A	II—For insulating sleeve add (I ²) designation to catalog number; Example—TES1-15M-20.		
TES-022-10	.022	A	TES-1M-15	1.	A	TES-01-35	.01	A	III—If capacitance values other than those listed above are required, they should be chosen from the following standard numbers: 10, 12, 15, 18, 22, 27, 33, 39, 47, 56, 68, 82, 100.		
TES-033-10	.033	A	TES-1.5M-15	1.5	A	TES-015-35	.015	A	IV—Higher capacities and voltages than those shown above will be available in the near future.		
TES-047-10	.047	A	TES-2.2M-15	2.2	A	TES-022-35	.022	A	CASE SIZES—INCHES		
TES-068-10	.068	A	TES-3.3M-15	3.3	A	TES-033-35	.033	A			
TES-1-10	1.	A	TES-4.7M-15	4.7	B	TES-047-35	.047	A			
TES-15-10	15.	A	TES-6.8M-15	6.8	C	TES-068-35	.068	A			
TES-22-10	22.	A	TES-10M-15	10.	C	TES-1-35	1.	A			
TES-33-10	33.	A	TES-15M-15	15.	C	TES-15-35	15.	A			
TES-47-10	47.	A	TES-22M-15	22.	C	TES-22-35	22.	A			
TES-68-10	.68	A	TES-33M-15	33.	D	TES-33-35	33.	A			
			TES-47M-15	47.	D	TES-47-35	47.	A			

TYPE E

Metal Screw-Base Electrolytics

"SM" Safety Margin Construction

SINGLE UNITS (2 leads)

Cat. No.	Mf.	WVDC	D. x L.	List Price
E-12-250	12	250	1x2 1/2	\$2.05
E-25-250	25	250	1x3 1/2	2.05
E-8-450	8	450	1 3/8 x 3 1/2	2.20
E-12-450	12	450	1 3/8 x 3 1/2	2.40
E-16-450	16	450	1 3/8 x 3 1/2	2.45
E-20-450	20	450	1 3/8 x 3 1/2	2.75
E-30-450	30	450	1 3/8 x 3 1/2	3.00
E-40-450	40	450	1 3/8 x 3 1/2	3.15

High Voltage Series Wound Units

Cat. No.	Mf.	WVDC	D. x L.	List Price
E-4-600	4	600	1 3/8 x 3 1/2	\$2.95
E-8-600	8	600	1 3/8 x 3 1/2	3.15
E-16-600	16	600	1 3/8 x 3 1/2	3.75

DUAL UNITS (4 leads) and TRIPLE UNITS (6 leads)

Cat. No.	Mf.	WVDC	D. x L.	List Price
E-2x8-450	8+8	450	1 3/8 x 3 1/2	\$3.00
E-2x16-450	16+16	450	1 3/8 x 3 1/2	3.55
E-3x8-450	8+8+8	450	1 3/8 x 3 1/2	5.00

* Trade Mark

MILITARY TYPES TO MIL C-62A

MIL TYPES, CE61, CE62, CE63, CE64

ASTRON Catalog Number	ASTRON Cat. No. based on Spec. JAN-C-62	Cap. Mf.	WVDC	List Price
ED-100-15	AS-CE63C101E	100	15	\$4.75
ED-25-25	AS-CE63C250F	25	25	4.50
ED-50-25	AS-CE63C500F	50	25	4.60
ED-75-25	AS-CE63C750F	75	25	4.75
ED-25-50	AS-CE63C250G	25	50	4.55
ED-50-50	AS-CE63C500G	50	50	4.70
ED-10-100	AS-CE63C100H	10	100	4.55
ED-25-100	AS-CE63C250H	25	100	4.75
ED-10-150	AS-CE63C100J	10	150	4.55
ED-20-150	AS-CE63C200J	20	150	4.70
ED-10-200	AS-CE63C100K	10	200	4.65
ED-15-200	AS-CE63C150K	15	200	4.75
ED-10-250	AS-CE63C100M	10	250	4.70
ED-12-250	AS-CE63C120M	12	250	4.75
ED-10-300	AS-CE63C100N	10	300	4.75
ED-8-350	AS-CE63C080P	8	350	4.70
ED-6-400	AS-CE63C060Q	6	400	4.70
ED-4-450	AS-CE63F040R	4	450	4.65

NOTE: For Jan Type CE61—order (EDG) single terminal on side case grounded, same list price.
 For Jan Type CE62—order (EDGT) single terminal on top case grounded. Same list price.
 For Jan Type CE63—order (ED) two terminals on side. Same list price.
 For Jan Type CE64—order (EDPT) two terminal units with terminals on top. Same list price.
 (All items listed are furn. in case size 1-13 16x1x7/8 in accord. with MIL-C-62)



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

METEOR* TYPE TQF (CPO4)

**Glass-to-Metal Sealed
SUBMINIATURE TUBULARS
125°C. Operation**

- Inserted tab construction provides smallest paper-foil capacitors available. Ideal where resonant losses are secondary to small size.
- No voltage derating necessary over entire operating temperature range —65°C. to +125°C.
- Excellent capacitance stability over entire temperature range.
- Available in a variety of construction styles to meet your specific needs, as follows:

**CPO4* CP10*
CPO5* CP11*
of
MIL C-25A**



Cat. No.	Cap. Mf.	Dia. x Length
300 VOLTS DC WORKING (Cont.)		
TQF-3-01	.01	.235x 3/4
TQF-3-015	.015	.235x 3/4
TQF-3-022	.022	.312x 7/8
TQF-3-027	.027	.312x 7/8
TQF-3-033	.033	.312x 7/8
TQF-3-047	.047	.312x 7/8
TQF-3-068	.068	.400x 7/8
TQF-3-1	.1	.400x1 1/8
TQF-3-15	.15	.400x1 3/8
TQF-3-22	.22	.562x1 1/8
TQF-3-27	.27	.562x1 3/8
TQF-3-33	.33	.562x1 3/8
TQF-3-47	.47	.562x1 7/8
TQF-3-68	.68	.670x1 7/8
TQF-3-1M	1.0	.750x2 1/8

Cat. No.	Cap. Mf.	Dia. x Length
100 VOLTS DC WORKING		
TQF-1-001	.001	.235x 3/4
TQF-1-0015	.0015	.235x 3/4
TQF-1-0022	.0022	.235x 3/4
TQF-1-0033	.0033	.235x 3/4
TQF-1-0047	.0047	.235x 3/4
TQF-1-0068	.0068	.235x 3/4
TQF-1-01	.01	.235x 3/4
TQF-1-015	.015	.235x 3/4
TQF-1-022	.022	.235x 3/4
TQF-1-027	.027	.235x 3/4
TQF-1-033	.033	.235x 3/4
TQF-1-047	.047	.312x 7/8
TQF-1-068	.068	.312x 7/8
TQF-1-1	.1	.312x 7/8
TQF-1-15	.15	.400x 7/8
TQF-1-22	.22	.400x1 1/8
TQF-1-27	.27	.400x1 3/8
TQF-1-33	.33	.400x1 3/8
TQF-1-47	.47	.562x1 1/8
TQF-1-68	.68	.562x1 3/8
TQF-1-1M	1.0	.562x1 7/8

Cat. No.	Cap. Mf.	Dia. x Length
200 VOLTS DC WORKING (Cont.)		
TQF-2-0033	.0033	.235x 3/4
TQF-2-0047	.0047	.235x 3/4
TQF-2-0068	.0068	.235x 3/4
TQF-2-01	.01	.235x 3/4
TQF-2-015	.015	.235x 3/4
TQF-2-022	.022	.235x 3/4
TQF-2-027	.027	.312x 7/8
TQF-2-033	.033	.312x 7/8
TQF-2-047	.047	.312x 7/8
TQF-2-068	.068	.400x 7/8
TQF-2-1	.1	.400x 7/8
TQF-2-15	.15	.400x1 1/8
TQF-2-22	.22	.400x1 3/8
TQF-2-27	.27	.562x1 1/8
TQF-2-33	.33	.562x1 1/8
TQF-2-47	.47	.562x1 3/8
TQF-2-68	.68	.562x1 7/8
TQF-2-1M	1.0	.670x1 7/8

Cat. No.	Cap. Mf.	Dia. x Length
400 VOLTS DC WORKING		
TQF-4-001	.001	.235x 3/4
TQF-4-0015	.0015	.235x 3/4
TQF-4-0022	.0022	.235x 3/4
TQF-4-0033	.0033	.235x 3/4
TQF-4-0047	.0047	.235x 3/4
TQF-4-0068	.0068	.235x 3/4
TQF-4-01	.01	.235x 3/4
TQF-4-015	.015	.312x 7/8
TQF-4-022	.022	.312x 7/8
TQF-4-027	.027	.312x 7/8
TQF-4-033	.033	.312x 7/8
TQF-4-047	.047	.400x 7/8
TQF-4-068	.068	.400x1 1/8
TQF-4-1	.1	.400x1 3/8
TQF-4-15	.15	.562x1 1/8
TQF-4-22	.22	.562x1 3/8
TQF-4-27	.27	.562x1 7/8
TQF-4-33	.33	.562x1 7/8
TQF-4-47	.47	.670x1 7/8
TQF-4-68	.68	.750x2 1/8
TQF-4-1M	1.0	1x1 7/8

Cat. No.	Cap. Mf.	Dia. x Length
200 VOLTS DC WORKING		
TQF-2-001	.001	.235x 3/4
TQF-2-0015	.0015	.235x 3/4
TQF-2-0022	.0022	.235x 3/4

Cat. No.	Cap. Mf.	Dia. x Length
300 VOLTS DC WORKING		
TQF-3-001	.001	.235x 3/4
TQF-3-0015	.0015	.235x 3/4
TQF-3-0022	.0022	.235x 3/4
TQF-3-0033	.0033	.235x 3/4
TQF-3-0047	.0047	.235x 3/4
TQF-3-0068	.0068	.235x 3/4

Cat. No.	Cap. Mf.	Dia. x Length
600 VOLTS DC WORKING		
TQF-6-001	.001	.235x 3/4
TQF-6-0015	.0015	.235x 3/4
TQF-6-0022	.0022	.235x 3/4
TQF-6-0033	.0033	.235x 3/4
TQF-6-0047	.0047	.235x 3/4
TQF-6-0068	.0068	.235x 3/4
TQF-6-01	.01	.312x 7/8
TQF-6-015	.015	.312x 7/8
TQF-6-022	.022	.312x 7/8
TQF-6-027	.027	.400x 7/8
TQF-6-033	.033	.400x 7/8
TQF-6-047	.047	.400x 1 1/8
TQF-6-068	.068	.400x 1 3/8
TQF-6-1	.1	.562x 1 1/8
TQF-6-15	.15	.562x 1 3/8
TQF-6-22	.22	.562x 1 7/8
TQF-6-27	.27	.670x 1 7/8
TQF-6-33	.33	.670x 1 7/8
TQF-6-47	.47	.750x 2 1/8
TQF-6-68	.68	1x1 7/8

VARIATIONS

CIRCUIT 1	CAPACITOR SECTION INSULATED FROM THE CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY SIZES SHOWN IN LISTINGS	Basic unit in floating construction. Sizes as shown in listings.	CPO4 (1)	TQF
	Basic unit with tangential soldered-on bracket. Add suffix (A).	CP10 (1)	TQF-A
	Basic unit with soldered-on L type bracket. Add suffix (B).	—	TQF-B
	Screw neck mounting type. Available in same ratings as TQF. Minimum in case diameter .400".	CP11 (1)	TQF-S
FOR INSULATED BODY ADD 1/16" TO DIAMETER AND LENGTH OF TQF SIZES LISTED	Internally insulated ("floating" construction) with plastic outer sleeve (P).	CPO5 (4)	TQFP
CIRCUIT 3	CAPACITOR SECTION GROUNDED TO CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY DEDUCT 1/16" FROM LENGTH OF UNITS LISTED	Basic unit—Grounded construction.	CPO4 (3)	TQ
	Basic TQ unit with soldered on tangential (A) bracket.	CP10 (4)	TQ-A
	Basic TQ unit with soldered on L type bracket (B).	—	TQ-B
	Screw neck mounting type. Available in same ratings as TQ. Minimum case diameter is .400". Stud base mounting type. Available in same ratings as TQ.	CP11 (3)	TQ-S
FOR INSULATED BODY ADD 1/16" TO DIAMETER OF TQF SIZES LISTED	Grounded construction, with plastic outer sleeve (P).	CPO5 (2)	TQP

Cat. No.	Cap. Mf.	Dia. x Length
1000 VOLTS DC WORKING		
TQF-10-001	.001	.400x 7/8
TQF-10-0015	.0015	.400x 7/8
TQF-10-0022	.0022	.400x 7/8
TQF-10-0033	.0033	.400x 7/8
TQF-10-0047	.0047	.400x 7/8
TQF-10-0068	.0068	.400x 7/8
TQF-10-01	.01	.400x 7/8
TQF-10-015	.015	.400x 7/8
TQF-10-022	.022	.400x1 1/8
TQF-10-027	.027	.400x1 3/8
TQF-10-033	.033	.400x1 3/8
TQF-10-047	.047	.562x1 1/8
TQF-10-068	.068	.562x 3/8
TQF-10-1	.1	.562x 5/8
TQF-10-15	.15	.670x1 5/8
TQF-10-22	.22	.750x2 1/8
TQF-10-27	.27	.750x2 5/8
TQF-10-33	.33	.750x2 5/8
TQF-10-47	.47	1.000x2 1/8

See complete military listings page 401.



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

METEOR* SUBMINIATURE PAPER CAPACITORS

For 125°C. Operation without voltage derating

- Amazingly small sizes, compact and light-weight units.
- Highly dependable operation at temperatures up to 125°C. without voltage derating.
- Exceptional capacitance stability, less than 5% change, over entire temperature range of -65°C. to +125°C., due to use of ASTRON-developed high-temperature impregnant X-250*.
- High insulation resistance, low power factor, unusually low resonance loss. High test voltage indicates extra margin of safety in operation.

- Built to exceed stringent requirements of Specification MIL-C-25A.
- Positive hermetic closure of the metal cases is assured by glass-to-metal solder seal terminals.
- Tubulars supplied in a variety of construction and mounting styles to meet your specific needs: extended foil or inserted tab; capacitor section grounded to case or insulated from case; plastic outer sleeve, will soldered-on tangential or L type bracket screw neck mounting style; or stud-base mounting style.

TYPE AQF (50V)
SUBMINIATURE GLASS-TO-METAL
SEALED TUBULARS
For Transistorized Applications
50 Volt Rating —
Extended Foil Construction



- SMALLER SIZE THAN LOWEST RATING AVAILABLE IN MIL-C-25A
- MEETS ELECTRICAL AND ENVIRONMENTAL REQUIREMENTS OF MIL-C-25A
- SUPPLIED TO COMPLY WITH CHARACTERISTICS E OR K OF MIL-C-25A
- CONTINUOUS OPERATION OVER TEMPERATURE RANGE OF -65°C. TO 125°C. WITHOUT DERATING
- EXCELLENT CAPACITANCE TEMPERATURE STABILITY

Designed to fill the need for a high quality capacitor for use primarily in transistor and other low voltage applications. These capacitors offer the outstanding advantage of smaller sizes without any loss in performance or electrical and physical characteristics in accordance with MIL-C-25A.

1000 VOLTS DC WORKING

AQF-5-027	.027	.235x3 $\frac{1}{2}$
AQF-5-068	.068	.312x3 $\frac{1}{2}$
AQF-5-1	.1	.312x3 $\frac{1}{2}$
AQF-5-27	.27	.400x3 $\frac{1}{2}$
AQF-5-47	.47	.500x1 $\frac{1}{2}$
AQF-5-1M	1.0	.562x1 $\frac{1}{2}$
AQF-5-2M	2.0	.750x2 $\frac{1}{2}$

METEOR* TYPE AQF (CPO8)
Glass-to-Metal Sealed
SUBMINIATURE
TUBULARS

CPO8* and CPO9* MIL C-25A



Cat. No. Cap. Mf. Dia. x Lgth.

100 VOLTS DC WORKING

AQF-1-001	.001	.235x3 $\frac{1}{2}$
AQF-1-0015	.0015	.235x3 $\frac{1}{2}$
AQF-1-0022	.0022	.235x3 $\frac{1}{2}$
AQF-1-0033	.0033	.235x3 $\frac{1}{2}$
AQF-1-0047	.0047	.235x3 $\frac{1}{2}$
AQF-1-01	.01	.235x3 $\frac{1}{2}$
AQF-1-015	.015	.235x3 $\frac{1}{2}$
AQF-1-022	.022	.312x3 $\frac{1}{2}$
AQF-1-033	.033	.312x3 $\frac{1}{2}$
AQF-1-047	.047	.312x3 $\frac{1}{2}$
AQF-1-068	.068	.400x3 $\frac{1}{2}$
AQF-1-1	.1	.400x3 $\frac{1}{2}$
AQF-1-15	.15	.400x3 $\frac{1}{2}$
AQF-1-22	.22	.400x3 $\frac{1}{2}$
AQF-1-27	.27	.562x1 $\frac{1}{2}$
AQF-1-33	.33	.562x1 $\frac{1}{2}$
AQF-1-47	.47	.562x1 $\frac{1}{2}$
AQF-1-56	.56	.562x1 $\frac{1}{2}$
AQF-1-68	.68	.562x1 $\frac{1}{2}$
AQF-1-1M	1.0	.670x1 $\frac{1}{2}$

200 VOLTS DC WORKING

AQF-2-001	.001	.235x3 $\frac{1}{2}$
AQF-2-0015	.0015	.235x3 $\frac{1}{2}$
AQF-2-0022	.0022	.235x3 $\frac{1}{2}$
AQF-2-0033	.0033	.235x3 $\frac{1}{2}$
AQF-2-0047	.0047	.235x3 $\frac{1}{2}$
AQF-2-0068	.0068	.235x3 $\frac{1}{2}$

Cat. No.	Cap Mf.	Dia. x Lgth.
AQF-2-01	.01	.12x3 $\frac{1}{8}$
AQF-2-015	.015	.312x3 $\frac{1}{8}$
AQF-2-022	.022	.12x3 $\frac{1}{8}$
AQF-2-033	.033	.12x3 $\frac{1}{8}$
AQF-2-047	.047	.400x3 $\frac{1}{8}$
AQF-2-056	.056	.400x3 $\frac{1}{8}$
AQF-2-068	.068	.400x3 $\frac{1}{8}$
AQF-2-1	.1	.400x1 $\frac{1}{2}$
AQF-2-15	.15	.400x1 $\frac{1}{2}$
AQF-2-22	.22	.562x1 $\frac{1}{2}$
AQF-2-27	.27	.562x1 $\frac{1}{2}$
AQF-2-33	.33	.562x1 $\frac{1}{2}$
AQF-2-47	.47	.62x1 $\frac{1}{2}$
AQF-2-56	.56	.70x1 $\frac{1}{2}$
AQF-2-68	.68	.70x1 $\frac{1}{2}$
AQF-2-1M	1.0	.750x2 $\frac{1}{2}$

300 VOLTS DC WORKING

AQF-3-001	.001	.235x3 $\frac{1}{2}$
AQF-3-0015	.0015	.235x3 $\frac{1}{2}$
AQF-3-0022	.0022	.235x3 $\frac{1}{2}$
AQF-3-0033	.0033	.235x3 $\frac{1}{2}$
AQF-3-0047	.0047	.35x3 $\frac{1}{2}$
AQF-3-01	.01	.12x3 $\frac{1}{8}$
AQF-3-015	.015	.12x3 $\frac{1}{8}$
AQF-3-022	.022	.312x3 $\frac{1}{2}$
AQF-3-033	.033	.400x3 $\frac{1}{2}$
AQF-3-47	.47	.400x3 $\frac{1}{2}$
AQF-3-068	.068	.400x1 $\frac{1}{2}$
AQF-3-1	.1	.400x1 $\frac{1}{2}$
AQF-3-15	.15	.562x1 $\frac{1}{2}$
AQF-3-22	.22	.562x1 $\frac{1}{2}$
AQF-3-27	.27	.562x1 $\frac{1}{2}$
AQF-3-33	.33	.562x1 $\frac{1}{2}$
AQF-3-47	.47	.670x1 $\frac{1}{2}$
AQF-3-56	.56	.750x2 $\frac{1}{2}$
AQF-3-68	.68	.750x2 $\frac{1}{2}$
AQF-3-1M	1.0	.750x2 $\frac{1}{2}$

400 VOLTS DC WORKING

AQF-4-001	.001	.235x3 $\frac{1}{2}$
AQF-4-0015	.0015	.235x3 $\frac{1}{2}$
AQF-4-0022	.0022	.235x3 $\frac{1}{2}$
AQF-4-0033	.0033	.235x3 $\frac{1}{2}$
AQF-4-0047	.0047	.312x3 $\frac{1}{2}$
AQF-4-0068	.0068	.312x3 $\frac{1}{2}$
AQF-4-01	.01	.312x3 $\frac{1}{2}$
AQF-4-015	.015	.312x3 $\frac{1}{2}$
AQF-4-022	.022	.400x3 $\frac{1}{2}$
AQF-4-033	.033	.400x3 $\frac{1}{2}$
AQF-4-047	.047	.400x1 $\frac{1}{2}$
AQF-4-068	.068	.400x1 $\frac{1}{2}$
AQF-4-1	.1	.562x1 $\frac{1}{2}$
AQF-4-15	.15	.562x1 $\frac{1}{2}$
AQF-4-22	.22	.562x1 $\frac{1}{2}$
AQF-4-27	.27	.670x1 $\frac{1}{2}$
AQF-4-33	.33	.670x1 $\frac{1}{2}$
AQF-4-47	.47	.750x2 $\frac{1}{2}$

600 VOLTS DC WORKING

AQF-6-001	.001	.235x3 $\frac{1}{2}$
AQF-6-0015	.0015	.235x3 $\frac{1}{2}$
AQF-6-0022	.0022	.235x3 $\frac{1}{2}$
AQF-6-0033	.0033	.312x3 $\frac{1}{2}$
AQF-6-0047	.0047	.312x3 $\frac{1}{2}$
AQF-6-0068	.0068	.312x3 $\frac{1}{2}$
AQF-6-01	.01	.312x3 $\frac{1}{2}$
AQF-6-015	.015	.400x3 $\frac{1}{2}$
AQF-6-022	.022	.400x3 $\frac{1}{2}$
AQF-6-033	.033	.400x1 $\frac{1}{2}$
AQF-6-047	.047	.400x1 $\frac{1}{2}$
AQF-6-068	.068	.562x1 $\frac{1}{2}$
AQF-6-1	.1	.562x1 $\frac{1}{2}$
AQF-6-15	.15	.562x1 $\frac{1}{2}$
AQF-6-22	.22	.670x1 $\frac{1}{2}$
AQF-6-27	.27	.750x2 $\frac{1}{2}$
AQF-6-33	.33	.750x2 $\frac{1}{2}$
AQF-6-47	.47	.750x2 $\frac{1}{2}$

1000 VOLTS DC WORKING

AQF-10-001	.001	.400x3 $\frac{1}{2}$
AQF-10-0015	.0015	.400x3 $\frac{1}{2}$
AQF-10-0022	.0022	.400x3 $\frac{1}{2}$
AQF-10-0033	.0033	.400x3 $\frac{1}{2}$
AQF-10-0047	.0047	.400x3 $\frac{1}{2}$
AQF-10-0068	.0068	.400x3 $\frac{1}{2}$
AQF-10-01	.01	.400x3 $\frac{1}{2}$
AQF-10-015	.015	.400x1 $\frac{1}{2}$
AQF-10-022	.022	.400x1 $\frac{1}{2}$
AQF-10-033	.033	.562x1 $\frac{1}{2}$
AQF-10-047	.047	.562x1 $\frac{1}{2}$
AQF-10-068	.068	.562x1 $\frac{1}{2}$
AQF-10-1	.1	.670x1 $\frac{1}{2}$
AQF-10-15	.15	.670x1 $\frac{1}{2}$
AQF-10-22	.22	.750x2 $\frac{1}{2}$
AQF-10-33	.33	1.000x2 $\frac{1}{2}$
AQF-10-47	.47	1.000x2 $\frac{1}{2}$

VARIATIONS

CIRCUIT 1	CAPACITOR SECTION INSULATED FROM THE CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY SIZES SHOWN IN LISTINGS	Basic unit in floating construction. Sizes as shown in listings.	CPO8 (1)	AQF
	Basic unit with tangential soldered-on bracket. Add suffix (A).	—	AQF-A
	Basic unit with soldered-on L type bracket. Add suffix (B).	—	AQF-B
	Screw neck mounting type. Available in same ratings as AQF. Minimum in case diameter .400".	—	AQFS
FOR INSULATED BODY ADD 1/16" TO DIAMETER AND LENGTH OF AQF SIZES LISTED	Internally insulated ("Floating" Construction) with plastic outer sleeve (P).	CPO9 (1)	AQFP
CIRCUIT 3	CAPACITOR SECTION GROUNDED TO CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY DEDUCT 1/16" FROM LENGTH OF UNITS LISTED	Basic unit—Grounded construction.	CPO8 (3)	AQ
	Basic AQ unit with soldered-on tangential (A) bracket.	—	AQ-A
	Basic AQ unit with soldered-on L type bracket (B).	—	AQ-B
	Screw neck mounting type. Available in same ratings as AQ. Minimum case diameter is .400".	—	AQS
FOR INSULATED BODY ADD 1/16" TO DIAMETER OF AQF SIZES LISTED	Grounded construction, with plastic outer sleeve (P).	—	AQV
		CPO9 (3)	AQP

* See complete military listings page 402.



capacitors

ASTRON CORPORATION

EAST NEWARK, N. J.

METALITE[®]

Metalized Paper Capacitors for 65°C. and 85°C. Operation

METALITE CAPACITORS

Feature:

- Ultra-compact sizes. Light weight. Ideal for miniaturization applications, and portable, mobile and airborne equipment.
- As much as 75% reduction in size over conventional paper-foil capacitors.
- Self-healing — the ability to withstand high dielectric stresses. METALITE capacitors can be subjected to momentary overvoltages and surges over and over again without danger of permanent failure.
- Temperature Range (Metal cased units) -65°C. to +85°C.; (cardboard cased Type ML) -55°C. to +65°C.
- Excellent RF characteristics. Low RF impedance due to small sizes and short current path. Low power factor.
- Wide variety of applications: RF and audio bypass circuits, noise suppression filters and systems, instruments, and various types of communication equipment where small size, light weight and the self-healing feature are especially desirable characteristics to meet specific circuit requirements.
- Interchangeability with standard paper-foil capacitor designs when operated within published ratings and circuit requirements.

METALITE[®] TYPE MQCF

85°C. Operation



Glass-to-Metal Sealed SUBMINIATURE TUBULARS

- Smallest paper capacitor type available.
- Temperature Range —65°C. to +85°C.
- Non-inductively wound. Mineral wax impregnated and filled. Tinned, non-ferrous metal cases.
- Capacitor section grounded to case (Type MQC) with glass-to-metal terminal at one end. Available also with capacitor section insulated from case (Type MQCF) with glass-to-metal terminal at each end.
- Lead length 1 3/4" minimum. Standard capacitance tolerance: ±20%.

VARIATIONS AVAILABLE

CAPACITOR SECTION INSULATED FROM CASE

Glass-to-Metal Terminal at both ends Circuit 1

UNINSULATED BODY	MQCF	— Basic internally insulated unit as listed.
	MQCF-A	— with tangential (A) soldered-on bracket.
	MQCF-B	— with L-type (B) soldered on bracket.
	MQCFS	— Screw neck vertical-mounting type. Same ratings as MQC. Minimum diameter .400".

INSULATED BODY Add 1/16" to dia. and length of MQCF sizes listed.	MQCFP	— Basic internally insulated unit with pastic outer sleeve (P).
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CAPACITOR SECTION GROUNDED TO CASE

Glass-to-Metal Terminal at one end Circuit 3

	TYPE & DESCRIPTION	
UNINSULATED BODY Sizes shown in listings Deduct 1/16" from length of MQCF sizes listed.	MQC	— Basic type
	MQC-A	— with tangential (A) soldered-on bracket.
	MQC-B	— with L-type (B) soldered on bracket.
	MQCS	— screw neck vertical-mounting type. Same ratings as MQC. Minimum dia. .400".
	MQV	— Stud base vertical-mounting type. Same ratings and sizes as Type MQC.
INSULATED BODY Add 1/16" to dia. of MQCF sizes listed.	MQCP	— Basic grounded construction as listed with plastic outer sleeve (P).

Cat. No. Cap. Mf. Dia. x Lgth.

150 VOLTS DC WORKING

MQCF-1.5-4M	4.0	1x1 1/8
MQCF-1.5-6M	6.0	1x1 1/8
MQCF-1.5-8M	8.0	1x2 3/8

200 VOLTS DC WORKING

MQCF-2-01	.01	.235x1 3/8
MQCF-2-02	.02	.235x1 3/8
MQCF-2-033	.033	.235x1 3/8
MQCF-2-04	.04	.235x1 3/8
MQCF-2-05	.05	.235x1 3/8
MQCF-2-1	.1	.312x1 3/8
MQCF-2-15	.15	.400x1 3/8
MQCF-2-2	.2	.400x1 3/8
MQCF-2-25	.25	.400x1 3/8
MQCF-2-33	.33	.400x1 3/8
MQCF-2-5	.5	.400x1 3/8
MQCF-2-68	.68	.562x1 3/8
MQCF-2-1M	1.0	.562x1 3/8
MQCF-2-1.5M	1.5	.562x1 3/8
MQCF-2-2M	2.0	.562x1 3/8

400 VOLTS DC WORKING

MQCF-4-01	.01	.235x1 3/8
MQCF-4-02	.02	.235x1 3/8
MQCF-4-03	.03	.312x1 3/8
MQCF-4-04	.04	.312x1 3/8
MQCF-4-05	.05	.312x1 3/8
MQCF-4-1	.1	.400x1 3/8
MQCF-4-15	.15	.562x1 3/8
MQCF-4-2	.2	.562x1 3/8
MQCF-4-25	.25	.562x1 3/8
MQCF-4-33	.33	.562x1 3/8
MQCF-4-5	.5	.562x1 3/8
MQCF-4-68	.68	.670x1 3/8
MQCF-4-1M	1.0	.670x2 3/8
MQCF-4-1.5M	1.5	1x2 3/8
MQCF-4-2M	2.0	1x2 3/8
MQCF-4-4M	4.0	1 1/8x2 3/8

600 VOLTS DC WORKING

MQCF-6-01	.01	.235x1 3/8
MQCF-6-015	.015	.312x1 3/8
MQCF-6-02	.02	.312x1 3/8
MQCF-6-03	.03	.312x1 3/8
MQCF-6-04	.04	.312x1 3/8
MQCF-6-05	.05	.312x1 3/8
MQCF-6-1	.1	.400x1 3/8
MQCF-6-15	.15	.562x1 3/8
MQCF-6-22	.22	.562x1 3/8
MQCF-6-25	.25	.562x1 3/8
MQCF-6-33	.33	.670x1 3/8
MQCF-6-5	.5	.670x1 3/8
MQCF-6-68	.68	.670x2 3/8
MQCF-6-1M	1.0	.750x2 3/8
MQCF-6-2M	2.0	1x2 3/8

STANDARD CAPACITANCE TOLERANCE: ±20%.



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

TYPE MQZF

Transistor Metallized Paper Capacitors



Catalog Number	WVDC	Cap. Mfd.	Dia. $\pm 1/64"$ (Inches) D	Length $\pm 1/32"$ (Inches) L
MQZF .5-047	50	.047	.195	11/16
MQZF .5-068	50	.068	.195	13/16
MQZF .5-1	50	.1	.235	11/16
MQZF .5-15	50	.15	.235	13/16
MQZF .5-22	50	.22	.235	1
MQZF .5-33	50	.33	.312	1
MQZF .5-47	50	.47	.312	1
MQZF .5-68	50	.68	.400	1
MQZF .5-1M	50	1.0	.400	1
MQZF .5-1.5M	50	1.5	.500	1-1/8
MQZF .5-2M	50	2.0	.562	1-1/8
MQZF .5-4M	50	4.0	.670	1-11/32
MQZF .5-6M	50	6.0	.670	1-15/16
MQZF .5-8M	50	8.0	.750	1-15/16

NOTE:

- Standard MQZF is supplied in "floating" construction.
- Grounded construction is available upon request. Specify Type MQZ. Subtract 1/16" from length of sizes listed.
- For plastic insulating outer sleeve (P) specify MQZFP or MQZP.
 - (A) For floating type add 1/16" to diameter and length of sizes listed.
 - (B) For grounded units add 1/16" to diameter of sizes listed.
- Standard tolerance of Type MQZF is $\pm 20\%$; special tolerances of $\pm 10\%$ and $\pm 5\%$ available upon request. Specify by adding tolerance numerals to part number. Example: MQZF-.5-1M-10.

METALITE® TYPE ML

Cardboard Tubulars
65°C. Operation



- Temperature Range -55°C. to $+65^{\circ}\text{C.}$
- Microcrystalline hydrocarbon wax impregnated.
- Sturdy, wax-impregnated cardboard tubes. Strong terminal connections, metal end caps. Units can be point-to-point connected and supported by own leads.
- Wire leads 1 1/2" long.
- Overall mineral wax coating for added protection against moisture and humidity.
- Standard capacitance tolerance: -20% $+30\%$.

Catalog No.	Cap. Mf.	Diameter x Length	
200 VOLTS DC WORKING			
ML-2-01	.01	3/8	5/8
ML-2-02	.02	3/8	5/8
ML-2-03	.03	3/8	5/8
ML-2-05	.05	3/8	5/8
ML-2-1	.1	3/8	5/8
ML-2-25	.25	15/32	5/8
ML-2-5	.5	15/32	1-1/8
ML-2-1M	1.0	9/16	1-1/8
ML-2-2M	2.0	5/8	1-5/8
400 VOLTS DC WORKING			
ML-4-01	.01	3/8	5/8
ML-4-02	.02	3/8	5/8
ML-4-03	.03	3/8	5/8
ML-4-05	.05	15/32	5/8
ML-4-1	.1	15/32	1-1/8
ML-4-25	.25	9/16	1-1/8
ML-4-5	.5	5/8	1-5/8
ML-4-1M	1.0	23/32	2-1/8
600 VOLTS DC WORKING			
ML-6-01	.01	3/8	5/8
ML-6-02	.02	3/8	5/8
ML-6-03	.03	15/32	5/8
ML-6-05	.05	15/32	5/8
ML-6-1	.1	15/32	1-1/8
ML-6-25	.25	5/8	1-1/8
ML-6-5	.5	23/32	1-5/8
ML-6-1M	1.0	23/32	2-1/8

Standard Capacitance Tolerance: -20% $+30\%$.



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

METALITE® TYPE MRF Metal Cased Tubulars

85°C. Operation



- Temperature Range -65°C. to +85°C.
- Mineral wax impregnated and filled.
- Hermetically sealed. Neoprene-phenolic end discs.
- Type MRF supplied with capacitor section insulated from case. Also available with section grounded to case (Type MRG).
- Lead length 1 3/4" minimum.
- Standard capacitance tolerance: ±20%.

Cat. No.	Cap. Mf.	Dia. x Length
150 VOLTS DC WORKING		
MRF-1.5-4M	4.0	1 x 1 1/8
MRF-1.5-6M	6.0	1 x 1 1/8
MRF-1.5-8M	8.0	1 1/2 x 1 1/8
MRF-1.5-10M	10.0	1 1/2 x 1 1/8
200 VOLTS DC WORKING		
MRF-2-05	.05	3/8 x 7/8
MRF-2-1	.1	3/8 x 7/8
MRF-2-25	.25	3/8 x 7/8
MRF-2-5	.5	1/2 x 1 3/8
MRF-2-1M	1.0	.670 x 1 3/8
MRF-2-2M	2.0	.670 x 1 3/8
400 VOLTS DC WORKING		
MRF-4-03	.03	3/8 x 7/8
MRF-4-05	.05	3/8 x 7/8
MRF-4-1	.1	3/8 x 7/8
MRF-4-25	.25	.670 x 1 3/8
MRF-4-5	.5	.670 x 1 3/8
MRF-4-1M	1.0	1 x 2 3/8
MRF-4-2M	2.0	1 x 2 3/8
MRF-4-3M	3.0	1 1/2 x 2 3/8
MRF-4-4M	4.0	1 1/2 x 2 3/8
600 VOLTS DC WORKING		
MRF-6-01	.01	3/8 x 7/8
MRF-6-02	.02	3/8 x 7/8
MRF-6-03	.03	3/8 x 7/8
MRF-6-05	.05	3/8 x 7/8
MRF-6-1	.1	1/2 x 1 3/8
MRF-6-2	.2	.670 x 1 3/8
MRF-6-25	.25	.670 x 1 3/8
MRF-6-5	.5	.670 x 1 3/8
MRF-6-1M	1.0	1 x 2 3/8
MRF-6-2M	2.0	1 1/2 x 2 3/8
MRF-6-3M	3.0	1 1/2 x 2 3/8

VARIATIONS AVAILABLE

CAPACITOR SECTION INSULATED FROM CASE CIRCUIT 1

TYPE AND DESCRIPTION

TYPE AND DESCRIPTION	MRF
UNINSULATED BODY Sizes shown in listings	MRF — Basic type as listed. MRF-Y — with radial (Y) bracket. MRF-A — with tangential (A) soldered-on bracket.
INSULATED BODY Add 3/16" to length and 1/16" to dia.	MRFP — Basic type, with plastic sleeve (P). MRFP-Y — with plastic sleeve (P) and radial (Y) bracket.

CAPACITOR SECTION GROUNDED TO CASE CIRCUIT 3

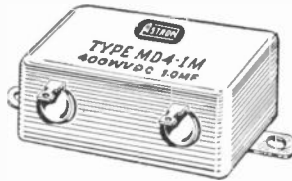
TYPE AND DESCRIPTION

TYPE AND DESCRIPTION	MRG
UNINSULATED BODY deduct 3/16" from length shown in listings	MRG — Basic grounded section unit. MRG-Y — with radial (Y) bracket. MRG-A — with tangential (A) soldered-on bracket.
INSULATED BODY add 3/16" to length and 1/16" to dia. shown in listings	MRGP — Basic grounded section type with plastic sleeve (P). MRGP-Y — with plastic sleeve (P) and radial (Y) bracket.

Standard capacitance tolerance: ±20%
Other tolerances are available.

METALITE® TYPE MD Bathtub Capacitors

85°C. Operation



- Units meet MIL tests for moisture resistance, thermal cycle immersion and vibration.
- Single units have two terminals; dual units have three terminals, one terminal common negative.
- Standard position of terminals on side. Also available with terminals on top (Type MDT) or bottom (Type MDB).
- Standard capacitance tolerance: ±20%.

- Compact sizes. Light weight. Up to 75% reduction in sizes over conventional paper-foil capacitors.
- Temperature Range -65°C. to +85°C.
- Space-saving metallized paper dielectric makes possible wider choice of high capacitance ratings than ever before obtainable in bathtub cases.
- Hermetically sealed. Silicone rubber compression seal lug terminals.

Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.
150 VOLTS DC WORKING			
MD-1.5-4M	4.0	1 3/8 x 1 x 7/8	2 1/4
MD-1.5-6M	6.0	2 x 1 3/8 x 7/8	2 1/4
MD-1.5-8M	8.0	2 x 2 x 7/8	2 3/4
MD-1.5-10M	10.0	2 x 2 x 7/8	2 3/4
MD-1.5-12M	12.0	2 x 2 x 1	2 3/4
MD-1.5-16M	1.0	2 x 2 x 1 3/8	2 3/4
MD-1.5-18M	18.0	2 x 2 x 1 1/2	2 3/4
MD-1.5-2x4M	4.0-4.0	2 x 2 x 7/8	2 3/4
MD-1.5-2x6M	6.0-6.0	2 x 2 x 1	2 3/4
200 VOLTS DC WORKING			
MD-2-5	.5	1 3/8 x 1 x 3/4	2 1/4
MD-2-1M	1.0	1 3/8 x 1 x 3/4	2 1/4
MD-2-2M	2.0	1 3/8 x 1 x 3/4	2 1/4
MD-2-2x1M	1.0-1.0	1 3/8 x 1 x 3/4	2 1/4
MD-2-2x2M	2.0-2.0	1 3/8 x 1 x 3/4	2 1/4
400 VOLTS DC WORKING			
MD-4-25	.25	1 3/8 x 1 x 3/4	2 1/4
MD-4-5	.5	1 3/8 x 1 x 3/4	2 1/4
MD-4-1M	1.0	1 3/8 x 1 x 3/4	2 1/4
MD-4-2M	2.0	2 x 2 x 1 3/8 x 7/8	2 3/4
MD-4-4M	4.0	2 x 2 x 1 1/2	2 3/4
MD-4-6M	6.0	2 x 2 x 1 3/8	2 3/4
MD-4-2x5	5-.5	1 3/8 x 1 x 3/4	2 1/4
MD-4-2x1M	1.0-1.0	1 3/8 x 1 x 3/4	2 1/4
MD-4-2x2M	2.0-2.0	2 x 2 x 1 3/8	2 3/4
600 VOLTS DC WORKING			
MD-6-1	1	1 3/8 x 1 x 3/4	2 1/4
MD-6-25	.25	1 3/8 x 1 x 3/4	2 1/4
MD-6-5	.5	1 3/8 x 1 x 3/4	2 1/4
MD-6-1M	1.0	1 3/8 x 1 1/4 x 7/8	2 1/4
MD-6-2M	2.0	2 x 2 x 1	2 3/4
MD-6-3M	3.0	2 x 2 x 1 3/8	2 3/4
MD-6-4M	4.0	2 x 2 x 1 1/2	2 3/4
MD-6-2x25	25-.25	1 3/8 x 1 x 3/4	2 1/4
MD-6-2x5	5-.5	1 3/8 x 1 1/4 x 7/8	2 1/4
MD-6-2x1M	1.0-1.0	2 x 2 x 1	2 3/4

STANDARD CAPACITANCE TOLERANCE: ±20%.

METALITE® TYPE MXJ in Terneplate Cases

85°C. Operation



Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.	Cat. No.	Cap. Mf.	L. x W. x H.	Mtg. Ctr.
400 VOLTS DC WORKING				150 VOLTS DC WORKING			
MXJ-6-1M	1.0	1 3/8 x 1 x 1 3/8	2	MXJ-1.5-4M	4.0	1 3/8 x 1 x 1 3/8	2
MXJ-6-2M	2.0	1 3/8 x 1 x 2 3/8	2	MXJ-1.5-10M	10.0	1 3/8 x 1 x 2 3/8	2
MXJ-6-4M	4.0	1 3/8 x 1 x 3 3/8	2	MXJ-1.5-12M	12.0	1 3/8 x 1 x 2 3/8	2
MXJ-6-6M	6.0	1 3/8 x 1 x 4 3/8	2	MXJ-1.5-15M	15.0	1 3/8 x 1 x 3 3/8	2
MXJ-6-8M	8.0	2 1/2 x 1 3/8 x 3 3/8	2 3/4	MXJ-1.5-20M	20.0	1 3/8 x 1 x 4 3/8	2
MXJ-6-10M	10.0	2 1/2 x 1 3/8 x 4 3/8	2 3/4	MXJ-1.5-25M	25.0	2 1/2 x 1 3/8 x 4 3/8	2 3/4
MXJ-6-15M	15.0	3 3/8 x 1 1/4 x 4 3/8	4	MXJ-1.5-30M	30.0	2 1/2 x 1 3/8 x 4 3/8	2 3/4
MXJ-6-20M	20.0	3 3/8 x 1 1/4 x 4 3/8	4	MXJ-1.5-50M	50.0	2 1/2 x 1 3/8 x 4 3/8	2 3/4
STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.							
100 VOLTS DC WORKING				400 VOLTS DC WORKING			
MXJ-1-100M	100.0	3 3/8 x 1 1/4 x 4 3/8	4	MXJ-4-2M	2.0	1 3/8 x 1 x 2 1/8	2
				MXJ-4-4M	4.0	1 3/8 x 1 x 2 1/8	2
				MXJ-4-6M	6.0	1 3/8 x 1 x 3 3/8	2
				MXJ-4-8M	8.0	1 3/8 x 1 x 4 3/8	2
				MXJ-4-10M	10.0	2 1/2 x 1 3/8 x 3 3/8	2 3/4
				MXJ-4-20M	20.0	2 1/2 x 1 3/8 x 4 3/8	2 3/4
				MXJ-4-30M	30.0	3 3/8 x 1 1/4 x 4 3/8	4



capacitors

ASTRON CORPORATION

EAST NEWARK, N. J.

NEW COMET* TYPE MBP

Molded Plastic Metallized Paper Tubulars

125°C. Operation



- First, molded plastic metallized paper tubular capacitor . . . ever!
- Tough, metallized paper capacitor sections for miniature size, self-healing characteristics, light weight and dependable operation.
- Impervious immersion-proof shell is unaffected by any heat and/or moisture condition.
- Exclusive bonded seal locks out environmental effects . . . locks in performance.
- Solid thermosetting impregnant for reliable operation over temperature range of -65°C. to ±125°C. . . . vacuum impregnation guarantees uniformity of units.
- Firmly implanted leads won't pull or melt out . . . makes soldering in tight places easy!

Cat. No.	Cap. Mf.	Dia. x Length	List Price
MBP-2-01	.01	3/8 x 1	\$.65
MBP-2-02	.02	3/8 x 1	.65
MBP-2-03	.03	3/8 x 1	.65
MBP-2-047	.047	3/8 x 1	.65
MBP-2-05	.05	3/8 x 1	.65
MBP-2-1	.1	3/8 x 1	.70
MBP-2-2	.2	3/8 x 1 1/4	.80
MBP-2-25	.25	3/8 x 1 1/4	.90
MBP-2-33	.33	7/16 x 1 1/8	.95
MBP-2-47	.47	1/2 x 1 1/8	1.05
MBP-2-5	.5	1/2 x 1 5/8	1.05
MBP-2-68	.68	1/2 x 1 5/8	1.20
MBP-2-1M	1.0	5/8 x 1 7/8	1.30
MBP-2-2M	2.0	5/8 x 1 7/8	1.80
MBP-4-01	.01	3/8 x 1	.70
MBP-4-02	.02	3/8 x 1	.70
MBP-4-03	.03	3/8 x 1	.70
MBP-4-047	.047	3/8 x 1 1/4	.70
MBP-4-05	.05	3/8 x 1 1/4	.70
MBP-4-1	.1	7/16 x 1 1/4	.80
MBP-4-2	.2	1/2 x 1 5/8	.90
MBP-4-25	.25	1/2 x 1 5/8	1.00
MBP-4-33	.33	5/8 x 1 7/8	1.10
MBP-4-47	.47	5/8 x 1 7/8	1.15
MBP-4-5	.5	5/8 x 1 7/8	1.15
MBP-6-01	.01	3/8 x 1	.70
MBP-6-02	.02	3/8 x 1	.70
MBP-6-03	.03	3/8 x 1 1/4	.80
MBP-6-047	.047	3/8 x 1 1/4	.80
MBP-6-05	.05	3/8 x 1 1/4	.80
MBP-6-068	.068	7/16 x 1 1/4	.85
MBP-6-1	.1	1/2 x 1 5/8	.90
MBP-6-2	.2	5/8 x 1 7/8	1.00
MBP-6-25	.25	5/8 x 1 7/8	1.10

*TRADE MARK

METALITE® HY-MET* TYPE MLL

Cardboard Tubulars

85°C. Operation



- Sturdy cardboard cased units. Temperature Range -55° to +100°C. Solid thermosetting impregnant.
- Exceptional strength. Metal end caps. Units can be point-to-point connected and supported by own leads. Leads 1 1/2" minimum length.
- Overall mineral wax coat provides added protection against moisture and humidity.
- Standard capacitance tolerance: -20% +30%.

200 VOLTS DC WORKING

Cat. No.	Cap. Mf.	Dia. x Length
MLL-2-01	.01	3/8 x 5/8
MLL-2-02	.02	3/8 x 5/8
MLL-2-03	.03	3/8 x 5/8
MLL-2-05	.05	3/8 x 5/8
MLL-2-1	.1	3/8 x 5/8
MLL-2-25	.25	3/2 x 5/8
MLL-2-5	.5	3/2 x 1 1/8
MLL-2-1M	1.0	1 1/8 x 1 1/8
MLL-2-2M	2.0	5/8 x 1 5/8

400 VOLTS DC WORKING

MLL-4-01	.01	3/8 x 5/8
MLL-4-02	.02	3/8 x 5/8
MLL-4-03	.03	3/8 x 5/8
MLL-4-05	.05	3/2 x 5/8
MLL-4-1	.1	3/2 x 1 1/8
MLL-4-25	.25	1 1/8 x 1 1/8
MLL-4-5	.5	5/8 x 1 5/8
MLL-4-1M	1.0	3/2 x 2 1/8

600 VOLTS DC WORKING

MLL-6-01	.01	3/8 x 5/8
MLL-6-02	.02	3/8 x 5/8
MLL-6-03	.03	3/2 x 5/8
MLL-6-05	.05	3/2 x 5/8
MLL-6-1	.1	3/2 x 1 1/8
MLL-6-25	.25	5/8 x 1 1/8
MLL-6-5	.5	3/2 x 1 5/8
MLL-6-1M	1.0	3/2 x 2 1/8

CAPACITANCE TOLERANCE: -20% +30%.

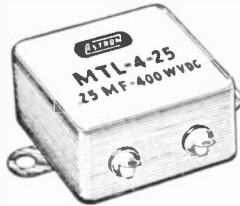
*TRADE MARK



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

METALITE® HY-MET* TYPE MTL
Subminiature Bathhtub Capacitors 125°C. Operation



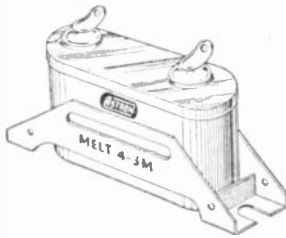
Cat. No.	Cap. Mf.	L. x W x H.
200 VOLTS DC WORKING		
MTL-2-1	.1	1 1/8 x 1 x 1/2
MTL-2-25	.25	1 1/8 x 1 x 1/2
MTL-2-5	.5	1 1/8 x 1 x 1/2
MTL-2-1M	1.0	1 1/8 x 1 x 1/2
MTL-2-2M	2.0	1 1/8 x 1 x 1/16

Cat. No.	Cap. Mf.	L. x W x H.
400 VOLTS DC WORKING		
MTL-4-1	.1	1 1/8 x 1 x 1/2
MTL-4-25	.25	1 1/8 x 1 x 1/2
MTL-4-5	.5	1 1/8 x 1 x 1/16
600 VOLTS DC WORKING		
MTL-6-1	.1	1 1/8 x 1 x 1/2
MTL-6-25	.25	1 1/8 x 1 x 1/2
MTL-6-5	.5	1 1/8 x 1 x 1/16

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.

*TRADE MARK

METALITE® HY-MET* TYPE MEL
Compact Seamless Cases
125°C. Operation



Cat. No.	Cap. Mf.	L. x W. x H.*
SINGLE UNITS — 2 terminals		
150 VOLTS DC WORKING		
MELT-1-5-3M	3.0	1.788x.619x1 1/2
MELT-1-5-4M	4.0	1.788x.619x2
MELT-1-5-6M	6.0	1.788x.619x2 1/2
200 VOLTS DC WORKING		
MELT-2-2M	2.0	1.788x.619x1
400 VOLTS DC WORKING		
MELT-4-5	.5	1.788x.619x1
MELT-4-1M	1.0	1.788x.619x1 1/2
MELT-4-2M	2.0	1.788x.619x2 1/2
MELT-4-3M	3.0	1.788x.619x2 3/4

Cat. No.	Cap. Mf.	L. x W. x H.*
600 VOLTS DC WORKING		
MELT-6-5	.5	1.788x.619x1
MELT-6-1M	1.0	1.788x.619x1 3/4
MELT-6-2M	2.0	1.788x.619x2 3/4

Cat. No.	Cap. Mf.	L. x W. x H.*
DUAL UNITS — 3 terminals		
200 VOLTS DC WORKING		
MELT-2-2x1M	1.0-1.0	1.788x.619x1
MELT-2-2x2M	2.0-2.0	1.788x.619x2

Cat. No.	Cap. Mf.	L. x W. x H.*
400 VOLTS DC WORKING		
MELT-4-2x1M	1.0-1.0	1.788x.619x2 1/4

Cat. No.	Cap. Mf.	L. x W. x H.*
600 VOLTS DC WORKING		
MELT-6-2x1M	1.0-1.0	1.788x.619x2 3/4

CAPACITANCE TOLERANCE: ±20%. *Add 1/32" to height for bracket.

*TRADE MARK

METALITE® HY-MET* TYPE MQLF
Glass-to-Metal Sealed
SUBMINIATURE TUBULARS
125°C. Operation



- Smallest paper capacitors available for the given ratings.
- Solid thermosetting impregnant. Temperature Range: -65°C. to +125°C.
- Tinned, non-ferrous metal cases. Hermetically sealed.
- Non-inductively wound. Capacitor section grounded to case, glass-to-metal seal terminal at one end. Available also with section insulated from case with glass-to-metal terminal at each end (Type MQLF).

VARIATIONS AVAILABLE

CAPACITOR SECTION INSULATED FROM CASE
Glass-to-Metal Terminal at both ends Circuit 1

TYPE AND DESCRIPTION	
UNINSULATED BODY	MQLF — Basic internally insulated unit as listed.
	MQLF-A — with tangential (A) soldered-on bracket. Example: MQLF 2-1-A.
	MQLF-B — with L-type (B) soldered on bracket. Example: MQLF 2-1-B.
	MQLFS — screw neck vertical mounting type. Same ratings as MQL. Minimum diameter .400". Example: MQLFS-2-1.
INSULATED BODY Add 1/16" to dia. of length of MQLF sizes listed	MQLFP — Basic internally insulated unit with plastic outer sleeve (P). Example: MQLFP 2-1.

CAPACITOR SECTION GROUNDED TO CASE
Glass-to-Metal Terminal at one end Circuit 3

TYPE AND DESCRIPTION	
UNINSULATED BODY Sizes shown in listings Deduct 1/16" from length of MQLF sizes listed	MQL — Basic type.
	MQL-A — with tangential (A) soldered-on bracket. Example: MQL-2-1-A.
	MQL-B — with L-type (B) soldered-on bracket. Example: MQL-2-1-B.
	MQLS — screw neck vertical-mounting type. Same ratings as Type MQL. Minimum diameter .400". Example: MQLS 2-1.
	MQLV — Stud base vertical-mounting type. Same ratings and size as type MQL. Example: MQLV-2-1.
INSULATED BODY Add 1/16" to dia. of MQLF sizes listed	MQLP — Basic grounded construction as listed, with plastic outer sleeve (P). Example: MQLP-2-1.

Cat. No.	Cap. Mf.	Dia. x Length
150 VOLTS DC WORKING		
MQLF-1.5-4M	4.0	1x1-13-16
MQLF-1.5-6M	6.0	1x1-13-16
MQLF-1.5-8M	8.0	1x2-5-16

Cat. No.	Cap. Mf.	Dia. x Length
200 VOLTS DC WORKING		
MQLF-2-01	.01	.235x13-16
MQLF-2-022	.022	.235x13-16
MQLF-2-033	.033	.235x13-16
MQLF-2-047	.047	.235x13-16
MQLF-2-05	.05	.235x13-16
MQLF-2-068	.068	.232x13-16
MQLF-2-1	.1	.232x13-16
MQLF-2-15	.15	.232x13-16
MQLF-2-22	.22	.232x13-16
MQLF-2-25	.25	.232x13-16
MQLF-2-33	.33	.400x13-16
MQLF-2-47	.47	.400x13-16
MQLF-2-5	.5	.400x13-16
MQLF-2-68	.68	.500x13-16
MQLF-2-1M	1.0	.562x13-16
MQLF-2-2M	2.0	.562x1-13-16

Cat. No.	Cap. Mf.	Dia. x Length
400 VOLTS DC WORKING		
MQLF-4-01	.01	.235x13-16
MQLF-4-022	.022	.235x13-16
MQLF-4-033	.033	.232x13-16
MQLF-4-047	.047	.232x13-16
MQLF-4-05	.05	.232x13-16
MQLF-4-068	.068	.400x13-16
MQLF-4-1	.1	.400x13-16
MQLF-4-25	.25	.500x13-16
MQLF-4-22	.22	.500x13-16
MQLF-4-33	.33	.562x1-5-16
MQLF-4-47	.47	.562x1-13-16
MQLF-4-5	.5	.562x1-13-16
MQLF-4-68	.68	.670x1-13-16
MQLF-4-1M	1.0	.670x2-5-16
MQLF-4-2M	2.0	1 x2-5-16

Cat. No.	Cap. Mf.	Dia. x Length
600 VOLTS DC WORKING		
MQLF-6-01	.01	.235x13-16
MQLF-6-022	.022	.232x13-16
MQLF-6-033	.033	.400x13-16
MQLF-6-047	.047	.400x13-16
MQLF-6-05	.05	.400x13-16
MQLF-6-068	.068	.400x13-16
MQLF-6-1	.1	.400x13-16
MQLF-6-15	.15	.500x13-16
MQLF-6-22	.22	.562x1-5-16
MQLF-6-25	.25	.562x1-5-16
MQLF-6-33	.33	.562x1-13-16
MQLF-6-47	.47	.670x1-13-16
MQLF-6-5	.5	.670x1-13-16
MQLF-6-68	.68	.670x2-5-16
MQLF-6-1M	1.0	.750x2-5-16
MQLF-6-2M	2.0	1 x2-5-16

STANDARD CAPACITANCE TOLERANCE: ±20%. Other tolerances are available.



capacitors

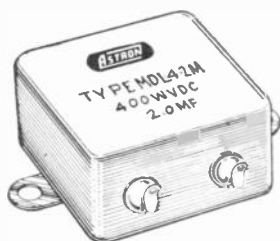
ASTRON CORPORATION

EAST NEWARK, N. J.

METALITE® HY-MET* TYPE MDL

Bathtub Capacitors

125°C. Operation



- Higher capacitance ratings than ever before offered in same size MIL Style CP53-55 cases in conventional paper-foil types.
- Solid thermosetting plastic impregnant enables operation to 125°C. Temperature Range: -65°C. to +125°C.
- Hermetically sealed. Lug type glass-to-metal sealed terminals.
- Standard position of terminals is on side. Can be supplied with top terminals (Type MDLT) or bottom terminals (Type MDLB).
- Standard capacitance tolerance: ±20%.

*TRADE MARK

Cat. No. Cap. Mf. L. x W. x H.

150 VOLTS DC WORKING

MDL-1.5-3M	3.0	1 3/4 x 1 x 7/8
MDL-1.5-4M	4.0	1 3/4 x 1 x 7/8
MDL-1.5-5M	5.0	1 3/4 x 1 x 7/8
MDL-1.5-6M	6.0	1 3/4 x 1 1/4 x 7/8
MDL-1.5-8M	8.0	2 x 1 3/4 x 3/4
MDL-1.5-10M	10.0	2 x 1 3/4 x 3/4
MDL-1.5-12M	12.0	2 x 2 x 7/8
MDL-1.5-15M	15.0	2 x 2 x 1
MDL-1.5-18M	18.0	2 x 2 x 1 1/4
MDL-1.5-20M	20.0	2 x 2 x 1 1/2

200 VOLTS DC WORKING

MDL-2-1	.1	1 3/4 x 1 x 3/4
MDL-2-25	.25	1 3/4 x 1 x 3/4
MDL-2-5	.5	1 3/4 x 1 x 3/4
MDL-2-1M	1.0	1 3/4 x 1 x 3/4
MDL-2-2M	2.0	1 3/4 x 1 x 3/4

400 VOLTS DC WORKING

MDL-4-1	.1	1 3/4 x 1 x 3/4
MDL-4-25	.25	1 3/4 x 1 x 3/4
MDL-4-5	.5	1 3/4 x 1 x 3/4
MDL-4-1M	1.0	1 3/4 x 1 x 3/4
MDL-4-2M	2.0	2 x 1 3/4 x 3/4
MDL-4-3M	3.0	2 x 1 3/4 x 3/4
MDL-4-4M	4.0	2 x 2 x 1
MDL-4-5M	5.0	2 x 2 x 1 1/4
MDL-4-6M	6.0	2 x 2 x 1 1/2

600 VOLTS DC WORKING

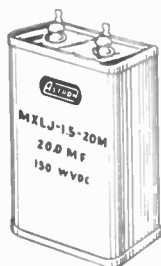
MDL-6-1	.1	1 3/4 x 1 x 3/4
MDL-6-25	.25	1 3/4 x 1 x 3/4
MDL-6-5	.5	1 3/4 x 1 x 3/4
MDL-6-1M	1.0	2 x 1 3/4 x 3/4
MDL-6-2M	2.0	2 x 2 x 3/8
MDL-6-3M	3.0	2 x 2 x 1 1/8
MDL-6-4M	4.0	2 x 2 x 1 3/8

STANDARD CAPACITANCE TOLERANCE: ±20%. OTHER TOLERANCES ARE AVAILABLE

METALITE® HY-MET* TYPE MXLJ

In Terneplate Cases

125°C. Operation



- Higher capacitance than ever before achieved in MIL Style CP70 cases, due to use of metallized paper sections.
- Temperature range -65°C. to +125°C. due to use of solid thermosetting impregnant.
- Hermetically sealed. Glass-to-metal sealed lug terminals.
- Exceptionally small sizes for the given ratings. Size reductions of 50% to 75% over equal ratings in conventional paper-foil units.
- Spade bolt "J" brackets supplied with each unit for convenient, rigid mounting.
- Standard capacitance tolerance: ±20%.

*TRADE MARK

Cat. No. Cap. Mf. L. x W. x H.

150 VOLTS DC WORKING

MXLJ-1.5-4M	4.0	1 3/4 x 1 x 1 1/8
MXLJ-1.5-10M	10.0	1 3/4 x 1 x 2 1/8
MXLJ-1.5-12M	12.0	1 3/4 x 1 x 2 7/8
MXLJ-1.5-15M	15.0	1 3/4 x 1 x 3 3/8
MXLJ-1.5-20M	20.0	1 3/4 x 1 x 4 3/8
MXLJ-1.5-25M	25.0	2 1/2 x 1 1/8 x 3
MXLJ-1.5-30M	30.0	2 1/2 x 1 1/8 x 3 7/8
MXLJ-1.5-50M	50.0	2 1/2 x 1 1/8 x 4 3/8

400 VOLTS DC WORKING

MXLJ-4-2M	2.0	1 3/4 x 1 x 2 1/8
MXLJ-4-4M	4.0	1 3/4 x 1 x 2 7/8
MXLJ-4-6M	6.0	1 3/4 x 1 x 3 7/8
MXLJ-4-8M	8.0	1 3/4 x 1 x 4 3/8
MXLJ-4-10M	10.0	2 1/2 x 1 1/8 x 3 7/8
MXLJ-4-20M	20.0	2 1/2 x 1 1/8 x 4 3/8
MXLJ-4-30M	30.0	3 3/4 x 1 1/8 x 4 3/8

600 VOLTS DC WORKING

MXLJ-6-1M	1.0	1 3/4 x 1 x 1 1/8
MXLJ-6-2M	2.0	1 3/4 x 1 x 2 3/8
MXLJ-6-4M	4.0	1 3/4 x 1 x 3 7/8
MXLJ-6-6M	6.0	1 3/4 x 1 x 4 3/8
MXLJ-6-8M	8.0	2 1/2 x 1 1/8 x 3 7/8
MXLJ-6-10M	10.0	2 1/2 x 1 1/8 x 4 3/8
MXLJ-6-15M	15.0	3 1/4 x 1 1/4 x 4 3/8
MXLJ-6-20M	20.0	3 3/4 x 1 3/4 x 4 1/4

STANDARD CAPACITANCE TOLERANCE: ±20%. OTHER TOLERANCES ARE AVAILABLE.



capacitors

ASTRON CORPORATION

EAST NEWARK, N. J.

**FLAT MINIATURE MYLAR*
DIELECTRIC CAPACITORS**



Cat. No.	Cap. Mds.	L	T	W
XPF-1.5-01	.01	3/4"	3/32"	9/32"
XPF-1.5-015	.015	3/4"	3/16"	3/16"
XPF-1.5-022	.022	3/4"	1/4"	3/8"
XPF-1.5-033	.033	3/4"	3/32"	11/32"
XPF-1.5-047	.047	3/4"	1/4"	3/8"
XPF-1.5-068	.068	7/8"	3/32"	3/8"
XPF-1.5-082	.082	7/8"	1/4"	13/32"

Cat. No.	Cap. Mds.	L	T	W
XPF-1.5-1	.1	7/8"	3/32"	7/16"
XPF-1.5-15	.15	1"	3/16"	7/16"
XPF-1.5-22	.22	1 1/4"	3/16"	15/32"
XPF-1.5-33	.33	1 1/4"	3/8"	17/32"
XPF-1.5-47	.47	1 3/8"	3/8"	17/32"
XPF-1.5-68	.68	1 5/8"	7/16"	19/32"
XPF-1.5-82	.82	1 5/8"	7/16"	5/8"
XPF-1.5-1M	1.0M	1 7/8"	15/32"	5/8"

Standard Tolerance $\pm 20\%$.

* Reg. Dupont Trade Mark

**ROUND MINIATURE MYLAR*
DIELECTRIC CAPACITORS**



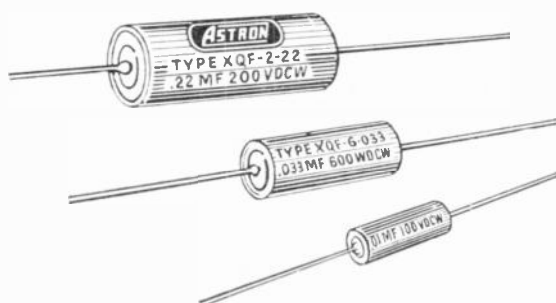
Cat. No.	Cap. Mfds.	L	Dia.
XPR-1.5-01	.01	3/4"	.230
XPR-1.5-015	.015	3/4"	.270
XPR-1.5-022	.022	3/4"	.310
XPR-1.5-033	.033	3/4"	.280
XPR-1.5-047	.047	3/4"	.330
XPR-1.5-068	.068	7/8"	.320
XPR-1.5-082	.082	7/8"	.350

Cat. No.	Cap. Mfds.	L	Dia.
XPR-1.5-1	.1	7/8"	.380
XPR-1.5-15	.15	1"	.390
XPR-1.5-22	.22	1 1/4"	.390
XPR-1.5-33	.33	1 1/4"	.460
XPR-1.5-47	.47	1 3/8"	.500
XPR-1.5-68	.68	1 5/8"	.530
XPR-1.5-82	.82	1 5/8"	.580
XPR-1.5-1M	1.0	1 7/8"	.580

Standard Tolerance $\pm 20\%$.

* Reg. Dupont Trade Mark

**SERIES "X"
MYLAR-PLUS
CAPACITORS**



SERIES "X" MYLAR-PLUS CAPACITORS

Astron's new series "X" Mylar capacitors are engineered for reliable operation up to 150° without derating. These miniaturized, metal tubulars provide exceptional capacitance stability, excellent insulation resistance, power factor and long life. The XQF series are designed to meet MIL-C-25A specifications.

WVDC	Catalog Number	Cap. Mf.	Dia. x Length
50	XQF-5-0047	.0047	.235 x 1 1/16
	XQF-5-01	.01	.235 x 1 1/16
	XQF-5-022	.022	.235 x 1 1/16
	XQF-5-033	.033	.235 x 1 1/16
	XQF-5-047	.047	.312 x 1 1/16
	XQF-5-1	.1	.400 x 1 1/16
	XQF-5-22	.22	.400 x 1 1/16
	XQF-5-27	.27	.400 x 1 1/16
	XQF-5-47	.47	.562 x 1 1/16
	XQF-5-1M	1.0	.562 x 1 1/16
100	XQF-1-0047	.0047	.235 x 1 1/16
	XQF-1-01	.01	.235 x 1 1/16
	XQF-1-022	.022	.312 x 1 1/16
	XQF-1-033	.033	.312 x 1 1/16
	XQF-1-047	.047	.312 x 1 1/16
	XQF-1-1	.1	.400 x 1 1/16
	XQF-1-22	.22	.562 x 1 1/16
	XQF-1-27	.27	.562 x 1 1/16
	XQF-1-47	.47	.562 x 1 1/16
	XQF-1-1M	1.0	.750 x 1 1/16
200	XQF-2-0047	.0047	.235 x 1 1/16
	XQF-2-01	.01	.235 x 1 1/16
	XQF-2-022	.022	.312 x 1 1/16
	XQF-2-033	.033	.400 x 1 1/16
	XQF-2-047	.047	.400 x 1 1/16
	XQF-2-1	.1	.400 x 1 1/16
	XQF-2-22	.22	.562 x 1 1/16
	XQF-2-27	.27	.670 x 1 1/16
	XQF-2-47	.47	.750 x 1 1/16
	XQF-2-1M	1.0	1 x 2 3/16
400	XQF-4-0047	.0047	.235 x 1 1/16
	XQF-4-01	.01	.312 x 1 1/16
	XQF-4-022	.022	.312 x 1 1/16
	XQF-4-033	.033	.400 x 1 1/16
	XQF-4-047	.047	.400 x 1 1/16
	XQF-4-1	.1	.562 x 1 1/16
	XQF-4-22	.22	.670 x 1 1/16
	XQF-4-27	.27	.750 x 1 1/16
	XQF-4-47	.47	.750 x 2 3/16
	600	XQF-6-0047	.0047	.235 x 1 1/16
XQF-6-01		.01	.312 x 1 1/16
XQF-6-022		.022	.400 x 1 1/16
XQF-6-033		.033	.400 x 1 1/16
XQF-6-047		.047	.400 x 1 1/16
XQF-6-1		.1	.562 x 1 1/16
XQF-6-22		.22	.750 x 1 1/16
XQF-6-27		.27	.750 x 2 3/16
XQF-6-47		.47	1 x 2 3/16

STANDARD CAPACITANCE TOLERANCE: $\pm 20\%$. Closer tolerances can be supplied.



capacitors

ASTRON CORPORATION

EAST NEWARK, N. J.

METALLIZED MYLAR* CAPACITORS



ASTRON TYPE RLR metallized Mylar* capacitors provide reliable operation even under adverse conditions in spite of their smaller size and lower cost.

Type RLR is an uncased unit, with a tough, protective Mylar* wrap and epoxy end seal . . . ideal for potted assembly, military and commercial applications.

WVDC	Catalog Number	Mfd. Cap.	Dia. x Lgth.
	RLR 2-01	.01	.155" x 5/8"
	RLR 2-012	.012	.165" x 5/8"
	RLR 2-015	.015	.180" x 5/8"
	RLR 2-018	.018	.190" x 5/8"
	RLR 2-022	.022	.205" x 5/8"
	RLR 2-027	.027	.220" x 5/8"
	RLR 2-047	.047	.200" x 3/4"
	RLR 2-068	.068	.220" x 3/4"
200	RLR 2-1	.1	.255" x 3/4"
	RLR 2-15	.15	.227" x 11/8"
	RLR 2-22	.22	.202" x 11/8"
	RLR 2-33	.33	.305" x 11/8"
	RLR 2-47	.47	.355" x 11/8"
	RLR 2-56	.56	.380" x 11/8"
	RLR 2-68	.68	.415" x 11/8"
	RLR 2-1M	1.0	.490" x 11/8"
	RLR 2-1.5M	1.5	.470" x 1 1/8"
	RLR 2-2M	2.0	.535" x 1 1/8"
	RLR 2-3M	3.0	.595" x 1 1/8"
	RLR 2-6M	6.0	.825" x 1 1/8"

Cap. Tolerance ±20%.

* Reg. Dupont Trade Mark

MYLAR* METALLIZED CAPACITORS



ASTRON TYPE RQL combines in a miniature hermetically sealed case the outstanding attributes of reliability at high temperatures — 125°C without derating — with significant savings of space. They will find their main applications in military reliability equipment and in critical industrial circuits.

Type RQL Mylar* metallized capacitors are available in various military case and mounting styles.

WVDC	Catalog Number	Cap. Mfd.	Dia. x Lgth. in inches
200	RQL 2-01	.010	.235 x 1 1/16
	RQL 2-012	.012	.235 x 1 1/16
	RQL 2-015	.015	.235 x 1 1/16
	RQL 2-018	.018	.235 x 1 1/16
	RQL 2-022	.022	.235 x 1 1/16
	RQL 2-027	.027	.235 x 1 1/16
	RQL 2-033	.033	.235 x 1 1/16
	RQL 2-039	.039	.312 x 1 1/16
	RQL 2-047	.047	.312 x 1 1/16
	RQL 2-056	.056	.312 x 1 1/16
	RQL 2-068	.068	.312 x 1 1/16
	RQL 2-082	.082	.312 x 1 1/16
	RQL 2-1	.1	.312 x 1 1/16
	RQL 2-12	.12	.312 x 1 1/16
	RQL 2-15	.15	.312 x 1 1/16
	RQL 2-18	.18	.400 x 1 1/16
	RQL 2-22	.22	.400 x 1 1/16
	RQL 2-27	.27	.400 x 1 1/16
	RQL 2-33	.33	.400 x 1 1/16
	RQL 2-39	.39	.500 x 1 1/16
	RQL 2-47	.47	.500 x 1 1/16
	RQL 2-56	.56	.500 x 1 1/16
	RQL 2-68	.68	.500 x 1 1/16
	RQL 2-82	.82	.562 x 1 1/16
	RQL 2-1. M	1.0	.562 x 1 1/16
	RQL 2-1.5 M	1.5	.562 x 1 1/16
	RQL 2-2. M	2.0	.670 x 1 1/16
	RQL 2-3. M	3.0	.670 x 1 1/16
RQL 2-4. M	4.0	.750 x 1 1/16	
RQL 2-5. M	5.0	1.00 x 1 1/16	
RQL 2-6. M	6.0	1.00 x 1 1/16	
RQL 2-8. M	8.0	1.00 x 1 1/16	
RQL 2-10. M	10.0	1.00 x 2 1/16	
RQL 2-12. M	12.0	1.00 x 2 1/16	
400	RQL 4-01	.010	.312 x 1 1/16
	RQL 4-012	.012	.312 x 1 1/16
	RQL 4-015	.015	.312 x 1 1/16
	RQL 4-018	.018	.312 x 1 1/16
	RQL 4-022	.022	.312 x 1 1/16
	RQL 4-027	.027	.312 x 1 1/16
	RQL 4-033	.033	.312 x 1 1/16
	RQL 4-039	.039	.400 x 1 1/16
	RQL 4-047	.047	.400 x 1 1/16
	RQL 4-056	.056	.400 x 1 1/16
	RQL 4-068	.068	.400 x 1 1/16

* Reg. Dupont Trade Mark

WVDC	Catalog Number	Cap. Mfd.	Dia. x Lgth. in inches
400	RQL 4-082	.082	.500 x 1 1/16
	RQL 4-1	.1	.500 x 1 1/16
	RQL 4-12	.12	.500 x 1 1/16
	RQL 4-15	.15	.500 x 1 1/16
	RQL 4-18	.18	.562 x 1 1/16
	RQL 4-22	.22	.562 x 1 1/16
	RQL 4-27	.27	.562 x 1 1/16
	RQL 4-33	.33	.562 x 1 1/16
	RQL 4-39	.39	.670 x 1 1/16
	RQL 4-47	.47	.670 x 1 1/16
	RQL 4-56	.56	.670 x 1 1/16
	RQL 4-68	.68	.670 x 1 1/16
	RQL 4-82	.82	.750 x 1 1/16
	RQL 4-1. M	1.0	.750 x 1 1/16
RQL 4-1.5 M	1.5	1.00 x 1 1/16	
RQL 4-2 M	2.0	1.00 x 1 1/16	
RQL 4-3. M	3.0	1.00 x 2 1/16	
600	RQL 6-01	.010	.312 x 1 1/16
	RQL 6-012	.012	.312 x 1 1/16
	RQL 6-015	.015	.312 x 1 1/16
	RQL 6-018	.018	.312 x 1 1/16
	RQL 6-022	.022	.312 x 1 1/16
	RQL 6-027	.027	.312 x 1 1/16
	RQL 6-033	.033	.312 x 1 1/16
	RQL 6-039	.039	.400 x 1 1/16
	RQL 6-047	.047	.400 x 1 1/16
	RQL 6-056	.056	.400 x 1 1/16
	RQL 6-068	.068	.400 x 1 1/16
	RQL 6-082	.082	.500 x 1 1/16
	RQL 6-1	.1	.500 x 1 1/16
	RQL 6-12	.12	.562 x 1 1/16
RQL 6-15	.15	.562 x 1 1/16	
RQL 6-18	.18	.562 x 1 1/16	
RQL 6-22	.22	.562 x 1 1/16	
RQL 6-27	.27	.562 x 1 1/16	
RQL 6-33	.33	.562 x 1 1/16	
RQL 6-39	.39	.670 x 1 1/16	
RQL 6-47	.47	.670 x 1 1/16	
RQL 6-56	.56	.670 x 1 1/16	
RQL 6-68	.68	.670 x 1 1/16	
RQL 6-82	.82	1.00 x 1 1/16	
RQL 6-1. M	1.0	1.00 x 1 1/16	
RQL 6-1.5 M	1.5	1.00 x 2 1/16	
RQL 6-2. M	2.0	1.00 x 2 1/16	
RQL 6-2.5 M	2.5	1.00 x 2 1/16	



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

TYPE TQF

MILITARY
TYPE

CP04 CP10
CP05 CP11
MIL-C-25A



Commercial
Equivalent

TEMPERATURE CHARACTERISTICS E AND K CIRCUIT 1

(Capacitor Section Insulated From Case)

	Commercial Equivalent	Cap. Mfd.	Dia. x Length
100 VOLTS			
AS-CP04A1-B333M	TQF-1-033	.033	.235 x 3/4
AS-CP04A1-B104M	TQF-1-1	.1	.312 x 7/8
AS-CP04A1-B154M	TQF-1-15	.15	.400 x 7/8
AS-CP04A1-B224M	TQF-1-22	.22	.400 x 1 1/8
AS-CP04A1-B334M	TQF-1-33	.33	.400 x 1 3/8
AS-CP04A1-B474M	TQF-1-47	.47	.562 x 1 7/8
AS-CP04A1-B684M	TQF-1-68	.68	.562 x 1 7/8
AS-CP04A1-B105M	TQF-1-1M	1.0	.562 x 1 7/8
200 VOLTS			
AS-CP04A1-C153M	TQF-2-015	.015	.235 x 3/4
AS-CP04A1-C223M	TQF-2-022	.022	.235 x 3/4
AS-CP04A1-C473M	TQF-2-047	.047	.312 x 7/8
AS-CP04A1-C683M	TQF-2-068	.068	.312 x 7/8
AS-CP04A1-C104M	TQF-2-1	.1	.400 x 7/8
AS-CP04A1-C154M	TQF-2-15	.15	.400 x 1 1/8
AS-CP04A1-C224M	TQF-2-22	.22	.400 x 1 3/8
AS-CP04A1-C334M	TQF-2-33	.33	.562 x 1 7/8
AS-CP04A1-C474M	TQF-2-47	.47	.562 x 1 7/8
AS-CP04A1-C684M	TQF-2-68	.68	.562 x 1 7/8
AS-CP04A1-C105M	TQF-2-1M	1.0	.670 x 1 7/8

	Commercial Equivalent	Cap. Mfd.	Dia. x Length
400 VOLTS			
AS-CP04A1-E103M	TQF-4-01	.01	.235 x 3/4
AS-CP04A1-E333M	TQF-4-033	.033	.312 x 7/8
AS-CP04A1-E473M	TQF-4-047	.047	.400 x 7/8
AS-CP04A1-E683M	TQF-4-068	.068	.400 x 1 1/8
AS-CP04A1-E104M	TQF-4-1	.1	.400 x 1 3/8
AS-CP04A1-E154M	TQF-4-15	.15	.562 x 1 7/8
AS-CP04A1-E224M	TQF-4-22	.22	.562 x 1 7/8
AS-CP04A1-E334M	TQF-4-33	.33	.562 x 1 7/8
AS-CP04A1-E474M	TQF-4-47	.47	.670 x 1 7/8
AS-CP04A1-E684M	TQF-4-68	.68	.750 x 2 1/8
AS-CP04A1-E105M	TQF-4-1M	1.0M	1.000 x 1 7/8

	Commercial Equivalent	Cap. Mfd.	Dia. x Length
600 VOLTS			
AS-CP04A1-F102M	TQF-6-001	.001	.235 x 3/4
AS-CP04A1-F152M	TQF-6-0016	.0015	.235 x 3/4
AS-CP04A1-F222M	TQF-6-0022	.0022	.235 x 3/4
AS-CP04A1-F332M	TQF-6-0033	.0033	.235 x 3/4
AS-CP04A1-F472M	TQF-6-0047	.0047	.235 x 3/4
AS-CP04A1-F682M	TQF-6-0068	.0068	.235 x 3/4
AS-CP04A1-F103M	TQF-6-01	.01	.312 x 7/8
AS-CP04A1-F153M	TQF-6-015	.015	.312 x 7/8
AS-CP04A1-F223M	TQF-6-022	.022	.312 x 7/8
AS-CP04A1-F333M	TQF-6-033	.033	.400 x 7/8
AS-CP04A1-F473M	TQF-6-047	.047	.400 x 1 1/8
AS-CP04A1-F683M	TQF-6-068	.068	.400 x 1 3/8
AS-CP04A1-F104M	TQF-6-1	.1	.562 x 1 7/8
AS-CP04A1-F154M	TQF-6-15	.15	.562 x 1 7/8
AS-CP04A1-F224M	TQF-6-22	.22	.562 x 1 7/8
AS-CP04A1-F334M	TQF-6-33	.33	.670 x 1 7/8
AS-CP04A1-F474M	TQF-6-47	.47	.750 x 2 1/8
AS-CP04A1-F684M	TQF-6-68	.68	1.000 x 1 7/8

	Commercial Equivalent	Cap. Mfd.	Dia. x Length
1000 VOLTS			
AS-CP04A1-G153M	TQF-10-015	.015	.400 x 7/8
AS-CP04A1-G223M	TQF-10-022	.022	.400 x 1 1/8
AS-CP04A1-G333M	TQF-10-033	.033	.400 x 1 3/8
AS-CP04A1-G473M	TQF-10-047	.047	.562 x 1 7/8
AS-CP04A1-G683M	TQF-10-068	.068	.562 x 1 7/8
AS-CP04A1-G104M	TQF-10-1	.1	.562 x 1 7/8
AS-CP04A1-G154M	TQF-10-15	.15	.670 x 1 7/8
AS-CP04A1-G224M	TQF-10-22	.22	.750 x 2 1/8
AS-CP04A1-G334M	TQF-10-33	.33	.750 x 2 1/8
AS-CP04A1-G474M	TQF-10-47	.47	1.000 x 2 1/8

VARIATIONS

CIRCUIT 1	CAPACITOR SECTION INSULATED FROM THE CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY SIZES SHOWN IN LISTINGS	Basic unit in floating construction. Sizes as shown in listings.	CP04 (1)	TQF
	Basic unit with tangential soldered-on bracket. Add suff x (A).	CP10 (1)	TQF-A
	Basic unit with soldered-on L type bracket. Add suff x (B).	--	TQF-B
	Screw neck mounting type. Available in same ratings as TQF. Minimum in case diameter .400".	CP11 (1)	TQFS
FOR INSULATED BODY ADD 1/16" TO DIAMETER AND LENGTH OF TQF SIZES LISTED	Internally insulated ("Floating" Construction) with plastic outer sleeve (P).	CP05 (1)	TQFP
CIRCUIT 3	CAPACITOR SECTION GROUNDED TO CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY DEDUCT 1/16" FROM LENGTH OF UNITS LISTED	Basic unit — Grounded construction.	CP04 (3)	TQ
	Basic TQ unit with soldered-on tangential (A) bracket.	CP10 (3)	TQ-A
	Basic TQ unit with soldered-on L type bracket (B).	--	TQ-B
	Screw neck mounting type. Available in same ratings as TQ. Minimum case diameter is .400".	CP11 (3)	TQS
	Stud base mounting type Available in same ratings as TQ.	--	TQV
FOR INSULATED BODY ADD 1/16" TO DIAMETER OF TQF SIZES LISTED	Grounded construction, with plastic outer sleeve (P).	CP05 (3)	TQP

See complete commercial listings page 391.



capacitors

ASTRON CORPORATION

EAST NEWARK, N. J.

**TYPE AQF
MILITARY
TYPE**

**CP08
CP09
MIL-C-25A**



Commercial
Equivalent

**TEMPERATURE CHARACTERISTICS E AND K
CIRCUIT 1**

(Capacitor Section Insulated From Case)

100 VOLTS	Commercial Equivalent	Cap. Mfd.	Dia. x Length
AS-CP08A1-B103M	AQF-1-01	.01	.235 x 3/4
AS-CP08A1-B153M	AQF-1-015	.015	.235 x 3/4
AS-CP08A1-B473M	AQF-1-047	.047	.312 x 7/8
AS-CP08A1-B104M	AQF-1-1	.1	.400 x 7/8
AS-CP08A1-B154M	AQF-1-15	.15	.400 x 1 1/8
AS-CP08A1-B224M	AQF-1-22	.22	.400 x 1 1/8
AS-CP08A1-B334M	AQF-1-33	.33	.562 x 1 1/8
AS-CP08A1-B474M	AQF-1-47	.47	.562 x 1 1/8
AS-CP08A1-B684M	AQF-1-68	.68	.562 x 1 1/8
AS-CP08A1-B105M	AQF-1-1M	1.0	.670 x 1 1/2

200 VOLTS	Commercial Equivalent	Cap. Mfd.	Dia. x Length
AS-CP08A1-C472M	AQF-2-0047	.0047	.235 x 3/4
AS-CP08A1-C682M	AQF-2-0068	.0068	.235 x 3/4
AS-CP08A1-C223M	AQF-2-022	.022	.312 x 7/8
AS-CP08A1-C333M	AQF-2-033	.033	.312 x 7/8
AS-CP08A1-C473M	AQF-2-047	.047	.400 x 7/8
AS-CP08A1-C683M	AQF-2-068	.068	.400 x 7/8
AS-CP08A1-C104M	AQF-2-1	.1	.400 x 1 1/8
AS-CP08A1-C154M	AQF-2-15	.15	.400 x 1 1/8
AS-CP08A1-C224M	AQF-2-22	.22	.562 x 1 1/8
AS-CP08A1-C334M	AQF-2-33	.33	.562 x 1 1/8
AS-CP08A1-C474M	AQF-2-47	.47	.562 x 1 1/8
AS-CP08A1-C684M	AQF-2-68	.68	.670 x 1 1/2
AS-CP08A1-C105M	AQF-2-1M	1.0	.750 x 2 1/4

400 VOLTS	Commercial Equivalent	Cap. Mfd.	Dia. x Length
AS-CP08A1-E332M	AQF-4-0033	.0033	.235 x 3/4
AS-CP08A1-E153M	AQF-4-015	.015	.312 x 7/8
AS-CP08A1-E333M	AQF-4-033	.033	.400 x 7/8
AS-CP08A1-E473M	AQF-4-047	.047	.400 x 1 1/8
AS-CP08A1-E683M	AQF-4-068	.068	.400 x 1 1/8
AS-CP08A1-E104M	AQF-4-1	.1	.562 x 1 1/8
AS-CP08A1-E154M	AQF-4-15	.15	.562 x 1 1/8
AS-CP08A1-E224M	AQF-4-22	.22	.562 x 1 1/8
AS-CP08A1-E334M	AQF-4-33	.33	.670 x 1 1/2
AS-CP08A1-E474M	AQF-4-47	.47	.750 x 2 1/4

600 VOLTS	Commercial Equivalent	Cap. Mfd.	Dia. x Length
AS-CP08A1-F102M	AQF-6-001	.001	.235 x 3/4
AS-CP08A1-F152M	AQF-6-0015	.0015	.235 x 3/4
AS-CP08A1-F222M	AQF-6-0022	.0022	.235 x 3/4
AS-CP08A1-F332M	AQF-6-0033	.0033	.312 x 7/8
AS-CP08A1-F472M	AQF-6-0047	.0047	.312 x 7/8
AS-CP08A1-F682M	AQF-6-0068	.0068	.312 x 7/8
AS-CP08A1-F103M	AQF-6-01	.01	.400 x 7/8
AS-CP08A1-F153M	AQF-6-015	.015	.400 x 7/8
AS-CP08A1-F223M	AQF-6-022	.022	.400 x 7/8
AS-CP08A1-F333M	AQF-6-033	.033	.400 x 1 1/8
AS-CP08A1-F473M	AQF-6-047	.047	.400 x 1 1/8
AS-CP08A1-F683M	AQF-6-068	.068	.562 x 1 1/8
AS-CP08A1-F104M	AQF-6-1	.1	.562 x 1 1/8
AS-CP08A1-F154M	AQF-6-15	.15	.562 x 1 1/8
AS-CP08A1-F224M	AQF-6-22	.22	.670 x 1 1/2
AS-CP08A1-F334M	AQF-6-33	.33	.750 x 2 1/4
AS-CP08A1-F474M	AQF-6-47	.47	.750 x 2 1/4

1000 VOLTS	Commercial Equivalent	Cap. Mfd.	Dia. x Length
AS-CP08A1-G102M	AQF-10-001	.001	.400 x 7/8
AS-CP08A1-G152M	AQF-10-0015	.0015	.400 x 7/8
AS-CP08A1-G222M	AQF-10-0022	.0022	.400 x 7/8
AS-CP08A1-G332M	AQF-10-0033	.0033	.400 x 7/8
AS-CP08A1-G472M	AQF-10-0047	.0047	.400 x 7/8
AS-CP08A1-G682M	AQF-10-0068	.0068	.400 x 7/8
AS-CP08A1-G103M	AQF-10-01	.01	.400 x 7/8
AS-CP08A1-G153M	AQF-10-015	.015	.400 x 1 1/8
AS-CP08A1-G223M	AQF-10-022	.022	.400 x 1 1/8
AS-CP08A1-G333M	AQF-10-033	.033	.562 x 1 1/8
AS-CP08A1-G473M	AQF-10-047	.047	.562 x 1 1/8
AS-CP08A1-G683M	AQF-10-068	.068	.562 x 1 1/8
AS-CP08A1-G104M	AQF-10-1	.1	.670 x 1 1/2
AS-CP08A1-G154M	AQF-10-15	.15	.670 x 1 1/2
AS-CP08A1-G224M	AQF-10-22	.22	.750 x 2 1/4
AS-CP08A1-G334M	AQF-10-33	.33	1 000 x 2 1/2
AS-CP08A1-G474M	AQF-10-47	.47	1 000 x 2 1/2

VARIATIONS

CIRCUIT 1	CAPACITOR SECTION INSULATED FROM THE CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY SIZES SHOWN IN LISTINGS	Basic unit in floating construction. Sizes as shown in listings.	CP08 (1)	AQF
	Basic unit with tangential soldered-on bracket. Add suffix (A).	—	AQF-A
	Basic unit with soldered-on L type bracket. Add suffix (B).	—	AQF-B
	Screw neck mounting type. Available in same ratings as AQF.	—	AQFS
	Minimum in case diameter .400".		
FOR INSULATED BODY ADD 1/16" TO DIAMETER AND LENGTH OF AQF SIZES LISTED	Internally insulated ("Floating" Construction) with plastic outer sleeve (P).	CP09 (1)	AQFP

CIRCUIT 3	CAPACITOR SECTION GROUNDED TO CASE	MIL STYLE	ASTRON TYPE
UNINSULATED BODY DEDUCT 1/16" FROM LENGTH OF UNITS LISTED	Basic unit — Grounded construction.	CP08 (3)	AQ
	Basic AQ unit with soldered-on tangential (A) bracket.	—	AQ-A
	Basic AQ unit with soldered-on L type bracket (B).	—	AQ-B
	Screw neck mounting type. Available in same ratings as AQ. Minimum case diameter is .400".	—	AQS
	Stud base mounting type. Available in same ratings as AQ.	—	AQV
FOR INSULATED BODY ADD 1/16" TO DIAMETER OF AQF SIZES LISTED	Grounded construction, with plastic outer sleeve (P).	CP09 (3)	AQP

See complete commercial listings page 392.



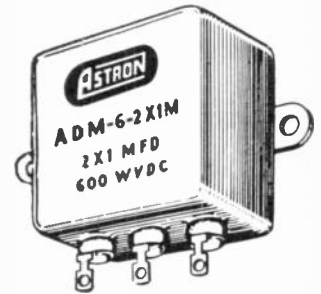
capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

CP25
thru
CP29
of
MIL C-25A



CP53
thru
CP55
of
MIL C-25A



TYPE ARMF Oil Filled Metal Tubulars 85°C. Operation

- Non-inductively wound. Mineral oil impregnated and filled. Hermetically sealed.
- Excellent capacitance stability and low power factor over entire temperature range -55°C. to +85°C.
- Units listed are internally insulated from case. Also available with capacitor section grounded to case (Type ARMG) and in accordance with all Specification MIL-C-25A styles CP25-26-27-28-29.
- Wire leads 1 1/2" long. Standard capacitance tolerance ±20%.

Military Number	Astron Type	Cap. Mf.	Dia. x Length
200 VOLTS DC WORKING			
AS-CP25A1EC104M	ARMF-2-1	.1	5/8 x 1 3/8
AS-CP25A1EC254M	ARMF-2-25	.25	3/4 x 2 1/8
AS-CP25A1EC504M	ARMF-2-5	.5	1 x 2 1/8
600 VOLTS DC WORKING			
AS-CP25A1EF302M	ARMF-6-003	.003	7/16 x 1 1/8
AS-CP25A1EF602M	ARMF-6-006	.006	7/16 x 1 1/8
AS-CP25A1EF103M	ARMF-6-01	.01	7/16 x 1 1/8
AS-CP25A1EF203M	ARMF-6-02	.02	7/16 x 1 1/8
AS-CP25A1EF503M	ARMF-6-05	.05	5/8 x 1 1/2
AS-CP25A1EF104M	ARMF-6-1	.1	5/8 x 1 7/8
AS-CP25A1EF254M	ARMF-6-25	.25	1 x 2 1/8
AS-CP25A1EF504M	ARMF-6-5	.5	1 x 2 5/8
1000 VOLTS DC WORKING			
AS-CP25A1EG302M	ARMF-10-003	.003	5/8 x 1 1/8
AS-CP25A1EG602M	ARMF-10-006	.006	5/8 x 1 1/8
AS-CP25A1EG103M	ARMF-10-01	.01	5/8 x 1 1/8
AS-CP25A1EG203M	ARMF-10-02	.02	5/8 x 1 1/2
AS-CP25A1EG503M	ARMF-10-05	.05	3/4 x 1 5/8
AS-CP25A1EG104M	ARMF-10-1	.1	1 x 1 7/8
AS-CP25A1EG254M	ARMF-10-25	.25	1 x 2 5/8
1500 VOLTS DC WORKING			
AS-CP25A1EH302M	ARMF-15-003	.003	1 x 1 1/4
AS-CP25A1EH602M	ARMF-15-006	.006	1 x 1 1/4
AS-CP25A1EH103M	ARMF-15-01	.01	1 x 1 1/4
AS-CP25A1EH203M	ARMF-15-02	.02	1 x 1 5/8
AS-CP25A1EH503M	ARMF-15-05	.05	1 x 1 7/8
AS-CP25A1EH104M	ARMF-15-1	.1	1 x 2 1/8

VARIATIONS AVAILABLE

CAPACITOR SECTION INSULATED FROM CASE

Circuit 1

ASTRON TYPE AND DESCRIPTION	MIL STYLE
UNINSULATED BODY (sizes shown in listings)	CP25
ARMF-Y — with radial (Y) bracket. Example: ARMF-2-1Y.	CP27
ARMF-A — with tangential (A) soldered on bracket. Example: ARMF-2-1A.	CP29
INSULATED BODY add 1/16" to length and 1/16" to dia.	CP26
ARMFP-Y — with plastic sleeve (P) and radial (Y) bracket. Example: ARMFP-2-1Y.	CP28

CAPACITOR SECTION GROUNDED TO CASE

Circuit 3

ASTRON TYPE AND DESCRIPTION	MIL STYLE
UNINSULATED BODY deduct 1/8" from length in above listings	CP25
ARMG-Y — with radial (Y) bracket. Example: ARMG-2-1Y.	CP27
ARMG-A — with tangential (A) soldered on bracket. Example: ARMG-2-1A.	CP25
INSULATED BODY add 1/16" to length and 1/16" to dia. in above listings	CP26
ARMGP-Y — with plastic sleeve (P) and radial (Y) bracket. Example: ARMGP-2-1Y.	CP28

TYPE ADM Bath Tub Paper Capacitors 85°C. Operation

- Non-inductively wound. Mineral oil impregnated and filled. Hermetically sealed.
- Operating temperature range -55°C. to +85°C.
- Built to comply with strict requirements of MIL-C-25A. Silicone rubber compression-seal lug terminals. Completely immersion-proof.

- Single units have two terminals; duals have three terminals (one common); triple units have three terminals (case common).
- Standard position of Type ADM terminals is on side (MIL-C-25A Style CP53). Available also with terminals on top (ASTRON Type ADMT or MIL Style CP54) and bottom terminals (ASTRON Type ADMB or MIL Style CP55).
- Cap. Tolerance: ±20%.

Military Number	Astron Type	L. x W. x H.
100 VOLTS DC WORKING		
AS-CP53B1EB105M	ADM-1-1M	1 1/4 x 1 x 7/8
AS-CP53B1EB205M	ADM-1-2M	2 x 1 3/4 x 7/8
AS-CP53B1EB405M	ADM-1-4M	2 x 2 x 1 1/8
200 VOLTS DC WORKING		
AS-CP53B1EC504M	ADM-2-5	1 3/8 x 1 x 7/8
AS-CP53B1EC105M	ADM-2-1M	2 x 1 3/4 x 7/8
AS-CP53B1EC205M	ADM-2-2M	2 x 2 x 1
400 VOLTS DC WORKING		
AS-CP53B1EE504M	ADM-4-5	1 3/8 x 1 x 7/8
AS-CP53B1EE105M	ADM-4-1M	2 x 1 3/4 x 7/8
AS-CP53B5EE504M	ADM-4-3x5	2 x 2 x 1 1/8

600 VOLTS DC WORKING

AS-CP53B1EF503M	ADM-6-05	1 3/8 x 1 x 3/4
AS-CP53B1EF104M	ADM-6-1	1 3/4 x 1 x 3/4
AS-CP53B1EF254M	ADM-6-25	1 3/8 x 1 x 3/4
AS-CP53B1EF504M	ADM-6-5	1 3/8 x 1 x 1
AS-CP53B1EF105M	ADM-6-1M	2 x 1 3/4 x 1
AS-CP53B1EF205M	ADM-6-2M	2 x 2 x 1 1/8 *
AS-CP53B4EF503M	ADM-6-2x05	1 3/8 x 1 x 3/4
AS-CP53B4EF104M	ADM-6-2x1	1 3/8 x 1 x 3/4
AS-CP53B4EF254M	ADM-6-2x25	1 3/8 x 1 x 1
AS-CP53B4EF504M	ADM-6-2x5	2 x 1 3/4 x 1
AS-CP53B4EF105M	ADM-6-2x1M	2 x 2 x 1 1/8 *
AS-CP53B5EF503M	ADM-6-3x05	1 3/8 x 1 x 3/4
AS-CP53B5EF104M	ADM-6-3x1	1 3/8 x 1 x 7/8
AS-CP53B5EF254M	ADM-6-3x25	2 x 1 3/4 x 7/8
AS-CP53B5EF504M	ADM-6-3x5	2 x 2 x 1 1/8 *

1000 VOLTS DC WORKING

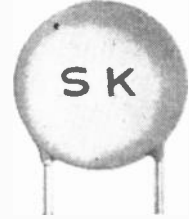
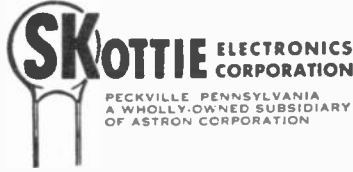
AS-CP53B1EG503M	ADM-10-05	1 3/8 x 1 x 3/4
AS-CP53B1EG104M	ADM-10-1	1 3/4 x 1 x 3/4
AS-CP53B1EG254M	ADM-10-25	1 3/8 x 1 x 7/8
AS-CP53B1EG504M	ADM-10-5	2 x 1 3/4 x 7/8
AS-CP53B1EG105M	ADM-10-1M	2 x 2 x 1 1/8
AS-CP53B4EG503M	ADM-10-2x05	1 3/8 x 1 x 3/4
AS-CP53B4EG104M	ADM-10-2x1	1 3/8 x 1 x 3/4
AS-CP53B4EG254M	ADM-10-2x25	2 x 1 3/4 x 7/8
AS-CP53B4EG504M	ADM-10-2x5	2 x 2 x 1 1/8
AS-CP53B5EG503M	ADM-10-3x05	1 3/8 x 1 x 3/4
AS-CP53B5EG104M	ADM-10-3x1	2 x 1 3/4 x 7/8
AS-CP53B5EG254M	ADM-10-3x25	2 x 2 x 1 1/8



capacitors

ASTRON CORPORATION
EAST NEWARK, N. J.

TEMPERATURE COMPENSATING
CERAMIC CAPACITORS
DISC (TCD)



CHARACTERISTICS AND APPLICATIONS: Changes in ambient temperature affect the values of the various components which make up any receiver. This alters the exact frequency of resonance as is illustrated by some "drifty" tuners which must be retuned after they have warmed up. It is possible to control this by introducing reactive components of such temperature characteristics that if of such values as to offset the undesired changes.

Available Capacitance-temperature characteristics range from a change of plus 100 parts per million per degree centigrade (P100) to a negative change of 5600 parts per million (N5600).

MAXIMUM CAPACITANCES (MMFD) VS. SIZE

SKOTTIE STYLE: Max. Dia. Raw Disc	TCD-4 .290" 4/16"	TCD-5 .410" 5/16"	TCD-8 .570" 8/16"	TCD-10 .670" 10/16"	TCD-12 .790" 12/16"
Temperature Coefficient	Minimum & Maximum	Max.	Max.	Max.	Max.
P100	0 to 6	9	28	—	—
NPO	1 to 15	34	56	100	115
NO30	1 to 16	35	56	100	125
NO80	3 to 17	36	60	105	140
N150	3 to 18	40	75	110	150
N220	3 to 23	52	80	120	160
N330	3 to 25	56	90	135	170
N470	3 to 30	60	120	150	200
N750	3 to 45	82	150	200	300
N1500	20 to 65	150	200	250	330
N2200	20 to 100	160	250	275	470
N3300	20 to 175	234	598	910	1100
N4700	30 to 275	300	657	1000	1210
N5600	40 to 350	381	900	1090	1325

SPECIFICATIONS: TCD

WORKING VOLTAGE: 500 V D.C. (Higher voltages available)

TEST VOLTAGE (Fleisch): 1000 V D.C.

"Q": Over 1000 at 1 mc/pulse, for capacitances of 15 mmfd and up.

INITIAL LEAKAGE RESISTANCE: Over 10000 megohms.

CAPACITANCE TOLERANCE: At 25°C: ±5% ±10% ±20% (special tolerances available).

INSULATION: Durez - vacuum-wax impregnated.

LEADS: No. 22 tinned copper (.026" diameter).

CODING: Capacitance, tolerance, and temperature coefficient stamped on disc.

PRINTED CIRCUIT CONSTRUCTION AVAILABLE ON ALL TYPES.

ALL-PURPOSE CERAMIC CAPACITORS

SKOTTIE STYLE TXD all purpose ceramics provide the highest available capacitances at 250°C. In the smallest possible size. These capacitors exhibit less capacitance change with temperature than the limits specified in the EIA RS-198 specification for Z5U ceramics. This specification allows a maximum capacitance change of +22% and -56% along a temperature range of +10°C. to +85°C.

CAPACITANCES (MMFD) VS. SIZE

SKOTTIE STYLE: Max. Dia. Raw Disc	TXD-4 .290" 4/16"	TXD-5 .410" 5/16"	TXD-8 .570" 8/16"	TXD-10 .670" 10/16"	TXD-12 .790" 12/16"	
Standard Values: (others available)	120 mmf 150 " 750 " 800 " 820 " 470 " 500 " 560 "	680 mmf " " " " " " " " " " " " " "	.0018 mfd " " " " " " " " " " " " " "	.0047 mfd " " " " " " " " " " " " " "	.01 mfd " " " " " " " " " " " " " "	.02 mfd " " " " " " " " " " " " " "
					.02 +80 -20% 2 x .005	

SPECIFICATIONS: TXD, TSD, TFD

WORKING VOLTAGE: 500 W.V.D.C. (Higher voltages available)

TEST VOLTAGE (Fleisch): 2000 W.V.D.C.

POWER FACTOR: 1.5% Maximum at 1kc (initial).

CAPACITANCE: Measured at 25°C. an RMS voltage between 0.5 and 5.0 and a frequency of 1kc.

INITIAL INSULATION RESISTANCE: Over 10000 megohms.

INSULATION: Durez - vacuum-wax impregnated.

LEADS: No. 22 tinned copper (.026" diameter).

CODING: Manufacturer's identification, capacitance and tolerance stamped on disc.

CAPACITANCE TOLERANCES: Available as shown.

SKOTTIE STYLE TSD: Stable Capacitance Ceramics afford the best available linearity of capacitance with temperature for an extended temperature range. These units are notable for extremely low aging rate and excellent dielectric strength. The standard 500 V.D.C. working voltage rating is ultra conservative.

TEMPERATURE COEFFICIENT OF CAPACITANCE

Temperature Range	Max. % Cap. Change from 25°C. Value
-55°C to +85°C	+3% to -7.5%
-30°C to +85°C	+3% to -3%
+10°C to +85°C	+3% to -3%
+10°C to +125°C	+5% to -7.5%

CAPACITANCE (MMFD) VS. SIZE

SKOTTIE STYLE: Max. Dia. Raw Disc	TSD-4 .290" 4/16"	TSD-5 .410" 5/16"	TSD-8 .570" 8/16"	TSD-10 .670" 10/16"	TSD-12 .790" 12/16"
Max. Capacitance (mmfd)	500	1200	2200	3000	5000

CAPACITANCE (MMFD) VS. SIZE

SKOTTIE STYLE: Max. Capacitance (mmfd) Max. Dia. Raw Disc	TFD-4 .290" 4/16"	TFD-5 .410" 5/16"	TFD-8 .570" 8/16"	TFD-10 .670" 10/16"	TFD-12 .790" 12/16"
	1000	2000	3500	5000	10000

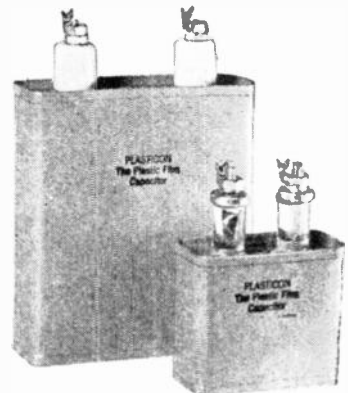
(Specify desired Capacitance)

(Specify desired Capacitance)



PLASTICON DC RECTANGULARS

Mineral oil impregnated and filled. Hermetically sealed. Can be operated in any position, continuously at 10% over rated voltage up to +40° C. Tolerance 10%. Ambient temperature range -40° C. to 105° C. Insulators: Two ceramic type bushings for standard temperature range. Two soldered-in metallized glass insulators for extended temperature range. All DC rectangulars have 8-32 screw and hex nut terminals with removable hot-tinned solder lugs. Case: Rectangular base, lead coated steel with heavy finish of grey organic lacquer.



Mfr's No	Cap. Mfd.	Volts DC	Dimensions - Inches			Term. Height	Dist. Bet. Ter.	Net
			Height	Width	Depth			
AOC6C1	1.0	600	2 1/8	1 3/4	1	5/8	1 1/2	\$ 2.69
AOC6C2	2.0	600	2 3/4	1 3/4	1	5/8	1 1/2	3.25
AOC6C4	4.0	600	3 1/2	2 1/2	1 1/8	5/8	1 1/8	4.04
AOC6C8	8.0	600	4	3 3/4	1 1/4	5/8	1 1/8	6.10
AOC6C10	10.0	600	4	3 3/4	1 3/8	5/8	2	6.85
AOC1M1	1.0	1000	2 3/8	1 3/4	1	5/8	1 1/2	2.60
AOC1M2	2.0	1000	3	2 1/2	1 1/8	5/8	1 1/8	3.47
AOC1M4	4.0	1000	4 5/8	2 1/2	1 1/8	5/8	1 1/8	4.24
AOC1M8	8.0	1000	4 3/4	3 3/4	1 3/4	5/8	2	5.99
AOC1M10	10.0	1000	4 3/4	3 3/4	2 1/8	5/8	2	6.91
AOC2M05	0.5	2000	2 3/4	1 3/4	1	5/8	1 1/2	3.14
AOC2M1	1.0	2000	4 1/2	1 3/4	1	5/8	1 1/2	3.81
AOC2M2	2.0	2000	3 1/4	3 3/4	1 1/4	5/8	2	4.42
AOC2M4	4.0	2000	3 1/2	3 3/4	2 1/4	5/8	2	5.99
AOC3M1	1.0	3000	4	2 1/2	1 1/8	1 1/8	1 1/8	7.84
AOC3M2	2.0	3000	4 3/8	3 3/4	1 1/4	1 1/8	2	9.98
AOC3M4	4.0	3000	4 5/8	3 3/4	2 1/4	1	2	13.80
AOC4M1	1.0	4000	4	3 3/4	1 1/4	1 1/4	2	17.82
AOC4M2	2.0	4000	4	3 3/4	1 3/4	1 1/4	2	21.38
AOC4M4	4.0	4000	4	3 3/4	4 1/8	1 1/4	2	32.69
AOC5M1	1.0	5000	4	3 3/4	1 3/4	2 1/4	2	21.38
AOC5M2	2.0	5000	3 1/4	3 3/4	4 1/8	1 1/8	2	26.73
AOC10M1	1.0	10000	4 5/8	3 3/4	4 1/8	2 1/4	2	57.02

PLASTICON TEFLON CAPACITORS FOR 200° C. APPLICATIONS

POWER FACTOR @ 25°C05%
 @ 165°C07%

TEMPERATURE COEFFICIENT -70°C to 200°C ... -200 ppm/°C.

INSULATION RESISTANCE @25°C 500,000 meg x mfd.
 But need not exceed 10,000,000 megohms

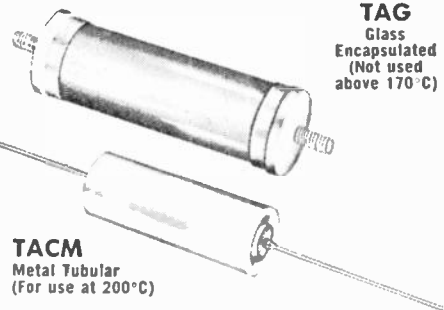
@ 165°C 7,000 meg. x mfd.
 But need not exceed 50,000 megohms

@ 170°C 4,000 meg. x mfd.
 But need not exceed 25,000 megohms

@ 200°C 1,000 meg. x mfd.
 But need not exceed 5,000 megohms

DIELECTRIC ABSORPTION @25°C02%

TAC
 CP-70
 Type
 Can
 (For use
 at 200°C)



TAG
 Glass
 Encapsulated
 (Not used
 above 170°C)

TACM
 Metal Tubular
 (For use at 200°C)

VOLTAGE RANGE 200 to 1,000 vdc.

CAPACITANCE RANGE TAG, TACM — .001 to 1.0 mfd
 TAC — 1 mfd and above.



Condenser Products Company

Division of New Haven Clock & Watch Company

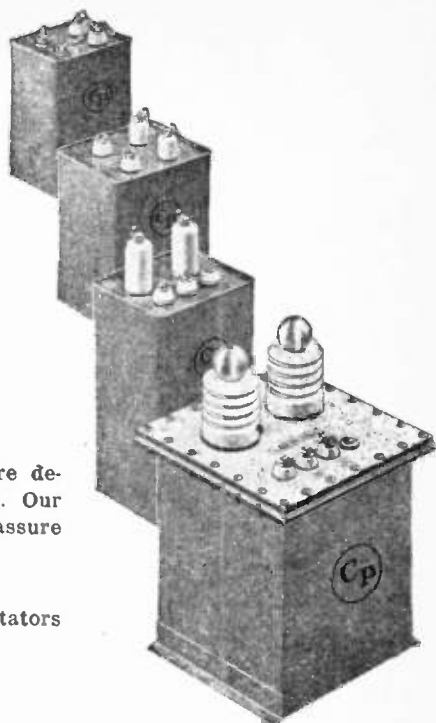
MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks



HiVolt POWER SUPPLIES

Where size and weight must
be kept to a minimum —

These hermetically-sealed, self-contained power supplies are designed for Hi Voltage low current DC for many applications. Our exclusive engineering techniques and oil-filled construction assure smaller, lighter, more flexible units.



APPLICATIONS :

- radiation counters
- spectrographic analyzers
- projection television sets
- dust and electrostatic precipitators
- oscilloscopes
- display tubes, etc.

Model #	Output Voltage	Rated Output Current	Max. Output Current	% Ripple at Rated Current	Circuit	Case Size	Weight
PS 2-2M60	2 KV DC	20 ma	50 ma	1.5	Half Wave	3 1/4 x 3 3/8 x 5 1/2	4.5 pounds
PS 5-5M60	5 KV DC	50 ma	50	1.5	Half Wave	3 1/2 x 4 3/8 x 6	9 pounds
PS10-1M60V	0-12 KV DC	10 ma	1.75ma	3.0	Full Wave Doubler	3 1/2 x 4 3/8 x 8	11.5 pounds
PS15-1M60V	0-15 KV DC	10 ma	1.75ma	3.0	Full Wave Doubler	3 1/2 x 4 3/8 x 9	12 pounds
PS30-1M60V	0-30 KV DC	10 ma	1.5 ma	3.0	Full Wave Doubler	7 x 7 x 8 1/4	25 pounds
PS50-2M60VT	0-50 KV DC	20 ma	40 ma	1.5	Full Wave Tripler	12 1/2 x 12 1/2 x 12 1/2	30 pounds

- NOTES: *The PS 50 supply has a separate accessible compartment for the rectifier tubes.
1. HiVolt Supplies are rated at 118 V AC input, 60 cycles.
 2. HiVolt Supplies for 400 cycle operation are also available for aircraft use, built to military specifications.
 3. HiVolt Supplies are engineered for various applications. Send us your requirements.



LABORATORY GRADE PLASTICON CAPACITORS

Low dielectric absorption, .01-.02% residual. Low dissipation factor, .0002-.0003 at 1 MC. Constant Q and capacitance, from DC to 100 KC. High insulation resistance, 10¹² ohms/mfd. average. Negative temp. coefficient, minus 400-500 ppm/°C. Rated voltage 500 V DC. Resistance and absorption readings taken at 200 V DC. 2% and 5% standard tolerances, 1% to order. Type LAG Glassmike style. Type LAC rectangular metal can.

No.	Mfd.	Dimensions	List Price 5% Tolerance
LAG101	.0001	1 1/8 x 1"	\$ 6.25
LAG201	.0002	1 1/8 x 1"	6.33
LAG501	.0005	1 1/8 x 1"	6.50
LAG102	.001	3/4 x 1"	6.67
LAG202	.002	3/4 x 1"	6.83
LAG502	.006	3/4 x 1"	7.25
LAG103	.01	3/8 x 1"	7.75
LAG203	.02	3/8 x 1"	8.50
LAG503	.05	1 3/8 x 1"	9.33
LAC104	.1	2 1/4 x 1 3/8 x 1"	12.83
LAC204	.2	2 1/4 x 2 1/2 x 1 1/8"	13.83
LAC504	.5	4 x 2 1/2 x 1 1/8"	15.83
LAC105	1.	4 1/2 x 3 3/4 x 1 1/4"	27.50
LAC205	2.	4 1/2 x 3 3/4 x 2 1/4"	40.83
LAC505	5.	6 x 4 1/8 x 3 3/4"	88.33



Condenser Products Company

Division of New Haven Clock & Watch Company

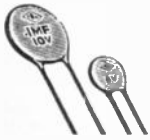
MANUFACTURERS: Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks

Centralab[®]

Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CERAMIC CAPACITORS LOW VOLTAGE CAPACITORS FOR TRANSISTOR CIRCUIT APPLICATIONS



ULTRA KAPS**

Types UK and UK10 miniature ceramic disc capacitors are designed to meet the small size, high capacitance demands of transistor circuitry. Engineered specifically for by-pass and coupling the Ultra-Kap** is ideally suited for any low voltage use requiring extremely high capacities and low power factors. Double Durez insulation with high vacuum wax impregnation to withstand extreme temperature, humidity and vibration. UK10 series primarily used in transistorized portable radios. Stamped with capacity and voltage. Packaged — 2 capacitors per package.

**Trademark

Type UK (3 V.D.C.W.)

Cap. Mfd.	Cat. No.	Diam.	Max. Thickness	Nom. Lead Spacing	Tol.	Max. PF @ 1 KC	List Price
.1	UK-104	3/16"	.156"	3/16"	GMV	3%	\$.90
.22	UK-224	1/4"	.156"	1/4"	GMV	3%	.55
.47	UK-474	3/8"	.156"	3/8"	GMV	3%	.55
1.0	UK-105	9/16"	.156"	3/8"	GMV	3%	.75
2.2	UK-225	3/4"	.156"	3/8"	GMV	3%	.90

Type UK10 (10 V.D.C.W.)

Cap. Mfd.	Cat. No.	Diam.	Max. Thickness	Nom. Lead Spacing	Tol.	Max. PF @ 1 KC	List Price
.05	UK10-503	1/4"	.156"	1/4"	+80—20%	5%	\$.55
.1	UK10-104	3/8"	.156"	3/8"	+80—20%	5%	.55
.2	UK10-204	9/16"	.156"	3/8"	+80—20%	10%	.75
.47	UK10-474	3/4"	.156"	3/8"	+80—20%	10%	.90



TYPE DA AND DDA

Types DA and DDA are designed for high capacity, low voltage demands of transistor circuitry. Proven by use in transistor radio receivers. Double Durez insulation with high vacuum wax impregnation. Stamped with capacity. Packaged 5 capacitors per package.

Type DA "Transistor Circuit" Plate Capacitors 30 V.D.C.W. — 50 V.D.C. test

Cap. Mfd.	Cat. No.	Square	Size Thick	Nom. Lead Spacing	Tolerance	List Price
.02	DA-203	1/2"	.140"	1/4"	+100—20%	\$.40
.05	DA-503	1/2"	.160"	3/32"	+100—20%	.65
.1	DA-104	1/2"	.187"	7/32"	+100—20%	.95

Type DDA "Transistor Circuit" Disc Capacitors 75 V.D.C.W. — 150 V.D.C. test

Cap. Mfd.	Cat. No.	Nom. Diam.	Thick	Nom. Lead Spacing	Tolerance	List Price
.05	DDA-503	3/8"	5/32"	3/8"	+80—30%	\$.50
.1	DDA-104	3/8"	5/32"	3/8"	+80—30%	.90



TYPE DM MIN-KAPS

150 V.D.C.W. — 300 V.D.C. test

Miniature plate capacitors 17/32" long, 7/32" wide, 7/64" thick. Triple Durez insulated. Stamped with capacity. Packaged 5 units

per package except DM-103 and DM2-502 which are packaged singly.

Cap. Mmf.	Cat. No.	V.D.C.W.	Tolerance	List Price
100	DM-101	150	+50—20%	\$.35
200	DM-201	150	+50—20%	.35
300	DM-301	150	+50—20%	.35
500	DM-501	150	+50—20%	.35
Mfd.				
.001	DM-102	150	+50—20%	.45
.002	DM-202	150	+50—20%	.45
.003	DM-302	150	+80—20%	.45
.005	DM-502	150	+80—20%	.45
.01	DM-103	150	+80—20%	.65
2 x .005	DM2-502	150	+80—20%	.90



TYPE DDM MIN-KAPS

150 V.D.C.W. — 300 V.D.C. test

Designed for applications where voltages are higher and proper safety factors will not permit the use of lower voltage units. Double Durez insulated. Stamped with capacity. Packaged 5 units per package.

Cap. Mfd.	Cat. No.	Diam.	Thick	Nom. Lead Spacing	Tolerance	List Price
.005	DDM-502	3/8"	.146"	1/2"	+60—40%	\$.50
.01	DDM-103	3/8"	.146"	1/2"	+60—40%	.50
.02	DDM-203	3/8"	.166"	3/8"	+60—40%	.90
2 x .01	DDM2 103	3/8"	.166"	3/32"	+60—40%	.90



TYPE DD2-DD3 DUO-KAPS

600 V.D.C.W. — 1200 V.D.C. test

Type DD2 — single disc dual capacity. Double Durez insulation. Stamped with capacity. Packaged 5 units per package.

Cap. Mfd.	Cat. No.	Nom. Diam.	Thick	Nom. Lead Spacing	Tolerance	List Price
2 x .001	DD2-102	3/8"	5/32"	3/32"	GMV	\$.40
2 x .0015	DD2-152	9/16"	5/32"	1/8"	GMV	.40
2 x .005	DD2-502	3/8"	5/32"	3/8"	+80—20%	.40

Type DD3 — Dual disc — Two capacitors in the space required for one standard unit and shielded to minimize stray capacities between discs. Double Durez insulation. Stamped with capacity. Packaged 5 units per package.

Patented Shielded Construction

Cap. Mfd.	Cat. No.	Nom. Diam.	Thick	Nom. Lead Spacing	Tolerance	List Price
2 x .001	DD3-102	3/8"	7/32"	3/32"	GMV	\$.40
2 x .0015	DD3-152	9/16"	7/32"	3/32"	GMV	.40
2 x .002	DD3 202	9/16"	7/32"	3/32"	GMV	.50
2 x .005	DD3 502	9/16"	7/32"	3/8"	GMV	.50
2 x .01	DD3-103	9/16"	7/32"	3/8"	GMV	.50

TYPE DF FLAT PLATE HI-KAPS 600 V.D.C.W. — 1200 V.D.C. test

High capacity, low mass weight, unusual thin design plus inherent Centralab ceramic stability and permanence have made these units extremely popular as by-pass and filter capacitors and are excellent for audio coupling applications. No. 20 tinned wire leads. Packaged 5 units per package.

Cap. Mfd.	Cat. No.	Max. Dimensions	Nom. Lead Spacing	Tolerance	List Price
.03	DF-303	1 1/16" x 1 1/16" x 7/32"	7/8"	GMV	\$.90
.04	DF-403	1 3/16" x 1 3/16" x 7/32"	7/8"	GMV	.90
.05	DF-503	1 7/16" x 1 7/16" x 7/32"	7/8"	GMV	.90
.075	DF-753	1 7/8" x 1 7/8" x 1 1/8"	7/8"	GMV	1.25
.1	DF-104	1 7/8" x 1 7/8" x 1 1/4"	7/8"	+80—20%	1.25

Centralab[®]

Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CERAMIC CAPACITORS (Cont'd)



DD-303, DD-403, DD-503) which are 600 V.D.C.W. Type ID 500 V.D.C.W.

CERAMIC DISC HI-KAPS[®]

Centralab ceramic disc capacitors ideal for by-pass, coupling and filter applications Type DD 1000 V.D.C. (except DD6-103, DD-153, DD-203,

Cap. Mmf.	Cat. No.	Cat. No.	Tolerance	Diam.
3.3	DD-3R3	ID-3R3	±.5 Mmf.	1/4"
5	DD-050	ID-050	±10%	1/4"
6	DD-060	ID-060	±10%	1/4"
6.8	DD-6R8	ID-6R8	±10%	1/4"
7.5	DD-7R5	ID-7R5	±10%	1/4"
8	DD-080	ID-080	±10%	1/4"
10	DD-100	ID-100	±10%	1/4"
12	DD-120	ID-120	±10%	1/4"
15	DD-150	ID-150	±10%	1/4"
18	DD-180	ID-180	±10%	1/4"
20	DD-200	ID-200	±10%	1/4"
22	DD-220	ID-220	±10%	1/4"
24	DD-240	ID-240	±10%	1/4"
25	DD-250	ID-250	±10%	1/4"
27	DD-270	ID-270	±10%	1/4"
30	DD-300	ID-300	±10%	1/4"
33	DD-330	ID-330	±10%	1/4"
39	DD-390	ID-390	±10%	1/4"
47	DD-470	ID-470	±10%	1/4"
50	DD-500	ID-500	±10%	1/4"
51	DD-510	ID-510	±10%	1/4"
56	DD-560	ID-560	±10%	1/4"
68	DD-680	ID-680	±10%	1/4"
75	DD-750	ID-750	±10%	1/4"
82	DD-820	ID-820	±10%	1/4"
91	DD-910	ID-910	±10%	1/4"
100	DD-101	ID-101	±10%	1/4"
120	DD-121	ID-121	±10%	1/4"
130	DD-131	ID-131	±10%	1/4"
150	DD-151	ID-151	±10%	1/4"
180	DD-181	ID-181	±10%	1/4"
200	DD-201	ID-201	±10%	1/4"
220	DD-221	ID-221	±10%	1/4"
240	DD-241	ID-241	±10%	1/4"
250	DD-251	ID-251	±10%	1/4"
270	DD-271	ID-271	±10%	1/4"
300	DD-301	ID-301	±10%	1/4"
330	DD-331	ID-331	±10%	1/4"
350	DD-351	ID-351	±10%	1/4"
360	DD-361	ID-361	±10%	1/4"
390	DD-391	ID-391	±10%	1/4"
400	DD-401	ID-401	±10%	1/4"
470	DD-471	ID-471	±10%	1/4"
470	DD-471G	ID-00047	GMV	1/4"
500	DD-501	ID-501	±10%	1/4"
510	DD-511	ID-511	±10%	1/4"
560	DD-561	ID-561	±10%	1/4"
600	DD-601	ID-601	±10%	1/4"
680	DD-681	ID-681	±10%	1/4"
750	DD-751	ID-751	±10%	1/4"
800	DD-801	ID-00008	GMV	1/4"
820	DD-821	ID-821	±10%	1/4"
910	DD-911	ID-911	±10%	1/4"

Cap. Mfd.	Cat. No.	Cat. No.	Tolerance	Diam.
.001	DD-102	ID-102	±10%	3/8"
.001	DD-102G	ID-001	GMV	3/8"
.0012	DD-122	ID-122	±10%	3/8"
.0012	DD-122G	ID-0012	GMV	3/8"
.0013	DD-132	ID-132	±10%	3/8"
.0015	DD-152	ID-152	±10%	3/8"
.0015	DD-152G	ID-0015	GMV	3/8"
.0016	DD-162	ID-162	±10%	3/8"
.0018	DD-182	ID-182	±10%	3/8"
.002	DD-202	ID-002	GMV	3/8"
.0022	DD-222	ID-0022	GMV	3/8"
.0025	DD-252	ID-0025	GMV	3/8"
.0027	DD-272	ID-0027	GMV	3/8"
.003	DD-302	ID-003	GMV	3/8"
.0033	DD-332	ID-0033	GMV	3/8"
.0039	DD-392	ID-0039	GMV	3/8"
.004	DD-402	ID-004	GMV	3/8"
.0043	DD-432	ID-0043	GMV	3/8"
.0047	DD-472	ID-4722	±20%	3/8"
.0047	DD-472G	ID-0047	GMV	3/8"
.005	DD-5022	.....	±20%	3/8"

Cap. Mmf.	Cat. No.	Cat. No.	Tolerance	Diam.
.0M5	DD-502	ID-005	GMV	9/8"
.0C56	DD-562	ID-0056	GMV	9/8"
.0D68	DD-682	ID-0068	GMV	9/8"
.0075	DD-752	ID-0075	GMV	9/8"
.0C82	DD-822	ID-0082	GMV	5/8"
.01	DD6-103	ID-011	GMV	5/8"
.01	*DD-1032		±20%	3/8"
.01		ID-1032	±20%	5/8"
.01	DD-103		GMV	3/8"
.015	*DD-153	ID-015	+80%—20%	7/8"
.02		ID-203	GMV	5/8"
.02	*DD-203	ID-02	+80%—20%	7/8"
.03	*DD-503	ID-03	+80%—20%	7/8"
.04	*DD-403	ID-04	+80%—20%	7/8"
.05	**DD 503	ID-05	+80%—20%	7/8"

Type DD: List Price \$1.25 package of 5 except *\$1.50 package of 5 and **\$2.50 package of 5.

Type ID: Prices per Centralab industrial price schedule for industrial distributors.

DD30 AND DD60 HIGH VOLTAGE HI-KAPS[®]

DD30 (3KV) and DD60 (6KV) high voltage disc Hi-Kaps are highly efficient for by-pass and coupling in high frequency circuits under extreme temperature and humidity. All units ±20% tolerance. DD30 series — 3000 volts DC working, 6000 volts DC test. DD60 series — 6000 volts DC working, 12000 volts DC test, double coated durez insulation.

Cap. Mmf.	Cat. No.	Diam.	Cat. No.	Diam.
4.7	DD30-4R7	1/4"	DD60-4R7	3/8"
6.8	DD30-6R8	1/4"	DD60-6R8	3/8"
8.2	DD30-8R2	1/4"	DD60-8R2	3/8"
10	DD30-100	1/4"	DD60-100	3/8"
12	DD30-120	1/4"	DD60-120	3/8"
15	DD30-150	1/4"	DD60-150	3/8"
22	DD30-220	1/4"	DD60-220	3/8"
25	DD30-250	1/4"	DD60-250	3/8"
27	DD30-270	1/4"	DD60-270	3/8"
30	DD30-300	1/4"	DD60-300	3/8"
33	DD30-330	1/4"	DD60-330	3/8"
35	DD30-390	1/4"	DD60-390	3/8"
47	DD30-470	1/4"	DD60-470	3/8"
50	DD30-500	1/4"	DD60-500	3/8"
56	DD30-560	1/4"	DD60-560	3/8"
68	DD30-680	1/4"	DD60-680	3/8"
75	DD30-750	1/4"	DD60-750	3/8"
82	DD30-820	1/4"	DD60-820	3/8"
100	DD30-101	1/4"	DD60-101	3/8"
120	DD30-121	1/4"	DD60-121	3/8"
150	DD30-151	1/4"	DD60-151	3/8"
180	DD30-181	1/4"	DD60-181	3/8"
200	DD30-201	1/4"	DD60-201	3/8"
220	DD30-221	1/4"	DD60-221	3/8"
250	DD30-251	1/4"	DD60-251	3/8"
270	DD30-271	1/4"	DD60-271	3/8"
300	DD30-301	1/4"	DD60-301	3/8"
330	DD30-331	1/4"	DD60-331	3/8"
390	DD30-391	1/4"	DD60-391	3/8"
400	DD30-401	1/4"	DD60-401	3/8"
470	DD30-471	1/4"	DD60-471	3/8"
500	DD30-501	1/4"	DD60-501	3/8"
560	DD30-561	1/4"	DD60-561	3/8"
680	DD30-681	1/4"	DD60-681	3/8"
750	DD30-751	1/4"	DD60-751	3/8"
820	DD30-821	1/4"	DD60-821	3/8"

Cap. Mfd.	Cat. No.	Diam.	Cat. No.	Diam.
.001	DD30-102	3/8"	**DD60-102	3/8"
.0012	DD30-122	3/8"	**DD60-122	3/8"
.0015	DD30-152	3/8"	**DD60-152	3/8"
.002	DD30-202	3/8"	**DD60-202	3/8"
.0022	DD30-222	3/8"	**DD60-222	3/8"
.0025	DD30-252	3/8"		
.0027	DD30-272	3/8"		
.003	*DD30-302	3/8"		
.0033	*DD30-332	3/8"		
.0039	*DD30-392	3/8"		
.0047	*DD30-472	3/8"		
.005	*DD30-502	3/8"		

Type DD30: List Price \$2.00 per pkg. of 5, except **\$2.50 per pkg. of 5.

Type DD60: List Price \$2.50 per pkg. of 5, except **\$4.25 per pkg. of 5.

Centralab®

Milwaukee 7, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CERAMIC CAPACITORS (Cont'd)

TC TEMPERATURE COMPENSATING TUBULARS



TC capacitors are used mostly in frequency determining circuits. 600 volts DC working, 1200 volts DC test. Made to JAN-C-20A specifications.

TCZ TUBULAR HI-KAPS®

NPO or Zero TC show Zero capacitance change over temperature range -20° to +85°C. Left end coded black.

Cap. Mmf.	Tolerance	Cat. No.	Size Type
.5	±.25 mmf	TCZ-R5	CC20
.68	±.25 mmf	TCZ-R68	CC20
1.0	±.25 mmf	TCZ-1	CC20
1.5	±.25 mmf	TCZ-1R5	CC20
2.2	±.25 mmf	TCZ-2R2	CC20
3.3	±.25 mmf	TCZ-3R3	CC20
4.7	±.5 mmf	TCZ-4R7	CC20
6.8	±.5 mmf	TCZ-6R8	CC20
10	±.5 mmf	TCZ-10	CC20
12	±2%	TCZ-12	CC20
15	±2%	TCZ-15	CC20
18	±2%	TCZ-18	CC20
20	±2%	TCZ-20	CC20
22	±2%	TCZ-22	CC20
24	±2%	TCZ-24	CC20
25	±2%	TCZ-25	CC20
27	±2%	TCZ-27	CC20
30	±2%	TCZ-30	CC20
33	±2%	TCZ-33	CC20
36	±2%	TCZ-36	CC20
39	±2%	TCZ-39	CC20
43	±2%	TCZ-43	CC25
47	±2%	TCZ-47	CC25
50	±2%	TCZ-50	CC25
51	±2%	TCZ-51	CC25
56	±2%	TCZ-56	CC25
62	±2%	TCZ-62	CC25
68	±2%	TCZ-68	CC25
75	±2%	TCZ-75	CC25
82	±2%	TCZ-82	CC25
91	±2%	TCZ-91	CC32
100	±2%	TCZ-100	CC32
110	±5%	*TCZ-110	CC35
120	±5%	*TCZ-120	CC35
130	±5%	*TCZ-130	CC35
150	±5%	*TCZ-150	CC35
160	±5%	**TCZ-160	CC35
180	±5%	**TCZ-180	CC35
200	±5%	**TCZ-200	CC35
220	±5%	**TCZ-220	CC35
240	±5%	**TCZ-240	CC45
270	±5%	**TCZ-270	CC45
300	±5%	**TCZ-300	CC45

List Price \$5.50 ea., except \$.75 ea. and **\$1.00 ea.

TCN TUBULAR HI-KAPS®

N750 TC Capacitors. Show negative capacity of minus 750 parts per million per degree C rise in temperature. Left end coded violet.

Cap. Mmf.	Tolerance	Cat. No.	Size Type
3.3	±.5 mmf	TCN-3R3	CC20
5	±.5 mmf	TCN-5	CC20
10	±.5 mmf	TCN-10	CC20
12	±2%	TCN-12	CC20
15	±2%	TCN-15	CC20
18	±2%	TCN-18	CC20
20	±2%	TCN-20	CC20
22	±2%	TCN-22	CC20
24	±2%	TCN-24	CC20
25	±2%	TCN-25	CC20
27	±2%	TCN-27	CC20
30	±2%	TCN-30	CC20
33	±2%	TCN-33	CC20
36	±2%	TCN-36	CC20
39	±2%	TCN-39	CC20
43	*±2%	TCN-43	CC20
47	±2%	TCN-47	CC20
50	±2%	TCN-50	CC20
51	±2%	TCN-51	CC20
56	±2%	TCN-56	CC20
62	±2%	TCN-62	CC20
68	±2%	TCN-68	CC20
75	±2%	TCN-75	CC20
82	±2%	TCN-82	CC20
91	±2%	TCN-91	CC20
100	±2%	TCN-100	CC20
110	±5%	TCN-110	CC25
120	±5%	TCN-120	CC25
130	±5%	TCN-130	CC25
150	±5%	TCN-150	CC25
160	±5%	TCN-160	CC25
180	±5%	TCN-180	CC25
200	±5%	TCN-200	CC25
220	±5%	TCN-220	CC32
240	±5%	TCN-240	CC32
270	±5%	TCN-270	CC32
300	±5%	*TCN-300	CC35
330	±5%	*TCN-330	CC35
360	±5%	*TCN-360	CC35
390	±5%	*TCN-390	CC35
430	±5%	*TCN-430	CC35
470	±5%	*TCN-470	CC35
510	±5%	**TCN-510	CC35
560	±5%	**TCN-560	CC35
620	±5%	**TCN-620	CC45
680	±5%	**TCN-680	CC45
750	±5%	**TCN-750	CC45

List Price \$5.50 ea., except \$.75 ea. and **\$1.00 ea.

SIZE

- CC20 — Radial leads. Body Dimension .200" Dia. x .400" length
- CC25 — Radial leads. Body Dimension .200" Dia. x .690" length
- CC32 — Radial leads. Body Dimension .225" Dia. x .860" length
- CC35 — Radial leads. Body Dimension .285" Dia. x 1.165" length
- CC45 — Radial leads. Body Dimension .285" Dia. x 1.625" length

TCA — N330 TC UNITS

Cap. Mmf.	Tolerance	CRL Cat. No.	Size Type
10	±.5 mmf	TCA-10	CC20
15	±2%	TCA-15	CC20
22	±2%	TCA-22	CC20
33	±2%	TCA-33	CC20
47	±2%	TCA-47	CC20
68	±2%	TCA-68	CC20
100	±2%	TCA-100	CC25

List Price Type TCA \$5.50 ea.

TCL — N1500 TC UNITS

Cap. Mmf.	Tolerance	CRL Cat. No.	Size Type
10	±.5 mmf	TCL-10	CC20
15	±2%	TCL-15	CC20
22	±2%	TCL-22	CC20
33	±2%	TCL-33	CC20
47	±2%	TCL-47	CC20
68	±2%	TCL-68	CC20
100	±2%	TCL-100	CC20

List Price Type TCL \$5.50 ea.

TEMPERATURE COMPENSATING DISC CAPACITORS

Centralab's disc type temperature compensating capacitors are fast becoming the most popular unit to replace mica types in all applications. Because of the inherent stability of TC ceramic dielectric material and smaller size, Centralab DTZ and DTN find many applications in frequency determining and resonant circuits — BETTER THAN MICA FOR ALL APPLICATIONS. All 600 volt DC working, 1200 volts DC test.

TYPE DTZ — NPO OR ZERO TC DISC HI-KAPS

Cap. Mmf.	Cat. No.	Tolerance	Diameter	Thickness
1.5	DTZ-1R5	±.5 mmf	1/4"	3/32"
2.2	DTZ-2R2	±.5 mmf	3/16"	3/32"
3.3	DTZ-3R3	±.5 mmf	3/16"	3/32"
4.7	DTZ-4R7	±.5 mmf	1/4"	3/32"
6.8	DTZ-6R8	±.5 mmf	1/4"	3/32"
10	DTZ-10	±5%	1/4"	3/32"
15	DTZ-15	±5%	1/4"	3/32"
20	DTZ-20	±5%	3/8"	3/32"
22	DTZ-22	±5%	3/8"	3/32"
25	DTZ-25	±5%	3/8"	3/32"
33	DTZ-33	±5%	3/8"	3/32"
47	DTZ-47	±5%	3/8"	3/32"
50	DTZ-50	±5%	3/8"	3/32"
68	DTZ-68	±5%	3/8"	3/32"
75	DTZ-75	±5%	9/16"	3/32"
82	DTZ-82	±5%	9/16"	3/32"
100	DTZ-100	±5%	9/16"	3/32"
120	*DTZ-120	±5%	9/16"	3/32"
150	*DTZ-150	±5%	3/4"	3/32"
180	*DTZ-180	±5%	9/16"	7/32"
200	*DTZ-200	±5%	9/16"	7/32"
220	*DTZ-220	±5%	5/8"	7/32"
270	**DTZ-270	±5%	5/8"	7/32"

List Price \$5.50 ea., except \$.60 ea., **\$.80 ea.

TYPE DTN — N750 TC DISC HI-KAPS

Cap. Mmf.	Cat. No.	Tolerance	Diameter	Thickness
5	DTN-5	±.5 mmf	1/4"	3/32"
10	DTN-10	±.5 mmf	3/16"	3/32"
15	DTN-15	±5%	3/16"	3/32"
20	DTN-20	±5%	1/4"	3/32"
22	DTN-22	±5%	1/4"	3/32"
25	DTN-25	±5%	1/4"	3/32"
33	DTN-33	±5%	1/4"	3/32"
47	DTN-47	±5%	1/4"	3/32"
68	DTN-68	±5%	3/8"	3/32"
75	DTN-75	±5%	3/8"	3/32"
100	DTN-100	±5%	3/8"	3/32"
150	DTN-150	±5%	9/16"	3/32"
200	DTN-200	±5%	9/16"	3/32"
220	DTN-220	±5%	9/16"	3/32"
330	DTN-330	±5%	5/8"	3/32"

List Price \$5.50 ea.

Centralab®

Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CERAMIC CAPACITORS (Cont'd)

DD6 TUBULAR CERAMIC BC HI-KAPS®



These ceramic tubular Hi-Kaps are primarily for by-pass and coupling or filter applications. Double coated durez insulation. 600 volts DC working, 1200 volts DC tested. Packaged 5 per package.

Cap. Mmf.	Tolerance	Size	Cat. No.	Cap. Mmf.	Tolerance	Size	Cat. No.
3	±.5 mmf	A	D6-030	330	±10%	A	D6-331
5	±10%	A	D6-050	390	±10%	A	D6-391
10	±10%	A	D6-100	400	±10%	A	D6-401
12	±10%	A	D6-120	470	±10%	A	D6-471
15	±10%	A	D6-150	500	±10%	A	D6-501
18	±10%	A	D6-180	560	±10%	B	D6-561
20	±10%	A	D6-200	600	±10%	B	D6-601
22	±10%	A	D6-220	680	±10%	B	D6-681
25	±10%	A	D6-250	750	±20%	A	D6-751
27	±10%	A	D6-270	820	±20%	A	D6-821
33	±10%	A	D6-330	Mfd.			
39	±10%	A	D6-390	.001	±20%	A	D6-102
40	±10%	A	D6-400	.0012	±20%	A	D6-122
47	±10%	A	D6-470	.0015	±20%	A	D6-152
50	±10%	A	D6-500	.0018	±20%	A	D6-182
56	±10%	A	D6-560	.002	±20%	B	D6-202
68	±10%	A	D6-680	.0022	±20%	B	D6-222
75	±10%	A	D6-750	.0025	GMV	B	D6-252
82	±10%	A	D6-820	.0027	GMV	B	D6-272
91	±10%	A	D6-910	.003	GMV	B	D6-302
100	±10%	A	D6-101	.0033	GMV	B	D6-332
120	±10%	A	D6-121	.004	GMV	B	D6-402
150	±10%	A	D6-151	.0047	GMV	C	D6-472
180	±10%	A	D6-181	.005	GMV	C	D6-502
200	±10%	A	D6-201	.0056	GMV	C	*D6-562
220	±10%	A	D6-221	.0068	GMV	D	*D6-682
250	±10%	A	D6-251	.0075	GMV	D	*D6-752
270	±10%	A	D6-271	.01	GMV	D	*D6-103
300	±10%	A	D6-301				

BODY DIMENSIONS

A = .260" diam. x .460" length C = .280" diam. x .900" length
 B = .260" diam. x .790" length D = .330" diam. x 1.210" length

List Price: \$1.25 package of 5, except *\$2.75 package of 5.

TYPE DD16 — HI-KAP BUFFERS

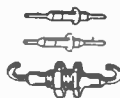
**1600 V.D.C.W. — 3000 V.D.C.T.,
 1500 V.A.C test in accordance with
 U.L. requirements**



Hi-K ceramic material double coated with special phenolic resin durez insulation against humidity and vibration. Used mostly as buffers in auto radio sets.

Cap. Mfd.	Cat. No.	Diam.	Thick.	Tolerance	List Price Pkg. of 5
.003	DD16-302	3/4"	1/4"	GMV	\$1.75
.004	DD16-402	7/8"	1/4"	GMV	1.75
.005	DD16-502	7/8"	1/4"	GMV	1.75
.006	DD16-602	7/8"	1/4"	GMV	1.75
.007	DD16-702	7/8"	1/4"	GMV	1.75
.0075	DD16-752	7/8"	1/4"	GMV	1.75
.008	DD16-802	7/8"	1/4"	GMV	1.75
.01	DD16-103	7/8"	1/4"	GMV	1.75
.015	DD16-153	7/8"	1/4"	+80—20%	3.00

CERAMIC FEED-THRU CAPACITORS



Type FT bushing mounted capacitors are specifically designed for high frequency circuits where in addition to feed-thru, a capacity ground to either chassis or shield as desired. Type MFT is a condensed version of above where space is at a premium. Voltage 500 volts DC working — 1000 volts DC test for both styles.

TYPE FT			TYPE MFT		
Cap. Mmf.	Cat. No.	Tolerance	Cap. Mmf.	Cat. No.	Tolerance
500	FT-500	±20%	50	MFT-50	±10%
1000	FT-1000	±20%	100	MFT-100	±10%
1500	FT-1500	+50—20%	500	MFT-500	±20%
1800	FT-1800	+50—20%	1000	MFT-1000	GMV
2300	FT-2300	+50—20%			

List Price: \$1.00 ea.

List Price: \$.50 ea.

TYPE ZA AND ZB Button-Style Ceramics



Type ZA and ZB, solder sealed button type ceramic capacitors provide accurate, dependable, long life replacements for old style mica "button" capacitors. The shell is effective at ground potential in all styles. Voltage — 500 volts DC working — 1000 volts DC test. Mounting ZA — stand-off type has No. 3 — 48 thread tapped base and ground terminal. ZB — Feed-Thru style with 3 solder lugs.

TYPE ZA — TAPPED Ground Terminal

Cap. Mmf.	Cat. No.	Tolerance
15	ZA-150	±10%
50	ZA-500	±10%
500	ZA-501	±20%
1000	ZA-102	GMV

List Price: \$1.25 ea.

TYPE ZB — RIM TYPE Feed-Thru

Cap. Mmf.	Cat. No.	Tolerance
15	ZB-150	±10%
50	ZB-500	±10%
500	ZB-501	±20%
1000	ZB-102	GMV

List Price: \$1.25 ea.

TYPE RC — TUBE-R-CAP**



The Tube-R-Cap is a radial lead ceramic tubular capacitor and resistor in parallel in the same space as a tubular capacitor alone. Permanent bonding of the resistor and capacitor minimizes chance of shorts or opens. Ideal for printed circuit boards. Typical uses are Grid Resistor, Cathode By-pass, Resistor loaded tuned circuit, plate load resistor with R.F. by-pass and tone compensation.

Cat. No.	C1 Mmf.	Tolerance	R1 Ohms	Tolerance	Max. Lgth.	Max. Diam.
RC-421	56	±10%	47K	±20%	.503"	.260"
RC-428	150	GMV	3.3 Meg.	±30%	.790"	.260"
RC-431	330	±20%	220K	±20%	.790"	.260"
RC-465	470	±20%	470K	±20%	.503"	.260"
RC-471	470	GMV	.3-1 Meg.	—	.910"	.280"
RC-476	800	GMV	22K	±20%	.503"	.260"
RC-485	4700	+80—20%	180	±20%	.790"	.260"
RC-490	4700	+80—20%	.75-1.5 Meg.	—	.910"	.330"

List Price: \$1.50 package of 5.

**Trademark

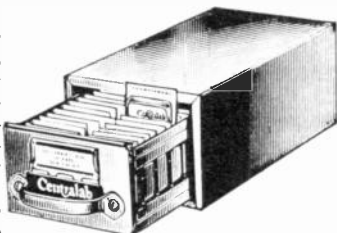
Centralab[®]

Milwaukee 1, Wisconsin In Canada: 669 Bayview Ave., Toronto, Ontario

CERAMIC CAPACITORS (Cont'd)

CERAMIC CAPACITOR KITS

Each of these kits contain a carefully balanced inventory of disc or tubular capacitors required most in replacement applications. All kits utilize the sturdy, convenient Centralab patented plastic package. Value desired can easily be located and removed from these clearly labeled reusable packages. Packages are housed in a 6" x 4" x 11" one drawer heavy gauge steel cabinet, finished with durable blue enamel.



KIT NO. DDK-200 200 Disc Capacitors, 31 Assorted Values

Cap. Mmf.	Qty.	Cat. No.	Cap. Mmf.	Qty.	Cat. No.
5	5	DD-050	330	5	DD-331
10	5	DD-100	390	5	DD-391
25	5	DD-250	470	5	DD-471
33	5	DD-330	500	5	DD-501
47	5	DD-470	680	5	DD-681
50	5	DD-500	Mfd.		
68	5	DD-680	.001	15	DD-102
100	10	DD-101	.0015	5	DD-152
120	5	DD-121	.003	5	DD-302
150	5	DD-151	.0047	5	DD-472
180	5	DD-181	.005	5	DD-5022
200	10	DD-201	.005	10	DD-502
220	5	DD-221	.01	5	DD6-103
250	5	DD-251	.01	15	DD-103
270	5	DD-271	.01	5	DD-1032
300	5	DD-301	.02	15	DD-203

List Price: \$51.00

KIT NO. D6K-200 200 Tubular Capacitors, 27 Assorted Values All 600 V.D.C.W.

Cap. Mmf.	Qty.	Cat. No.	Cap. Mmf.	Qty.	Cat. No.
5	5	D6-050	250	5	D6-251
10	10	D6-100	270	5	D6-271
15	5	D6-150	330	5	D6-331
22	5	D6-220	390	5	D6-391
25	5	D6-250	470	5	D6-471
33	5	D6-330	500	15	D6-501
47	5	D6-470	680	5	D6-681
50	10	D6-500	Cap. Mfd.		
82	5	D6-820	.001	15	D6-102
100	15	D6-101	.0015	5	D6-152
150	5	D6-151	.002	10	D6-202
180	5	D6-181	.0047	5	D6-472
200	5	D6-201	.005	15	D6-502
220	5	D6-221	.01	15	D6-103

List Price: \$54.50

KIT NO. HVK-150 150 High Voltage Capacitors, 17 Assorted Values 1.6 KV, 3 KV and 6 KV

Cap. Mmf.	Qty.	Cat. No.	Cap. Mfd.	Qty.	Cat. No.
.003	10	DD16-302	.002	5	DD30-202
.004	10	DD16-402	.001	5	DD60-102
.005	10	DD16-502	.0015	5	DD60-152
.006	10	DD16-602	Mmf.		
.007	10	DD16-702	47	5	DD30-470
.0075	10	DD16-752	100	5	DD30-101
.008	10	DD16-802	470	5	DD30-471
.01	20	DD16-103	82	5	DD60-820
.015	10	DD16-153	100	5	DD60-101
.001	5	DD30-102	500	5	DD60-501

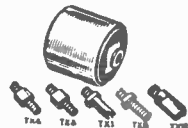
List Price: \$63.50

KIT NO. TCK-80

80 Temperature Compensating Capacitors 28 Assorted Values, All 600 V.D.C.W.

Cap. Mmf.	Qty.	Cat. No.	Cap. Mmf.	Qty.	Cat. No.
3.3	2	TCN-3R3	.68	2	TCZ-R68
5	2	TCN-5	1	2	TCZ-1
10	2	TCN-10	1.5	2	TCZ-1R5
15	2	TCN-15	2.2	2	TCZ-2R2
20	2	TCN-20	3.3	2	TCZ-3R3
22	2	TCN-22	4.7	2	TCZ-4R7
33	2	TCN-33	6.8	2	TCZ-6R8
39	2	TCN-39	10	2	TCZ-10
47	2	TCN-47	12	2	TCZ-12
50	2	TCN-50	15	2	TCZ-15
51	2	TCN-51	18	2	TCZ-18
56	2	TCN-56	20	2	TCZ-20
82	2	TCN-82	22	2	TCZ-22
100	2	TCN-100	33	2	TCZ-33
150	2	TCN-150	47	2	TCZ-47
180	2	TCN-180	50	2	TCZ-50
330	2	TCN-330	51	2	TCZ-51
390	2	TCN-390	82	2	TCZ-82
470	2	TCN-470	100	2	TCZ-100
750	2	TCN-750	180	2	TCZ-180

List Price: \$44.00



TYPE TV-20 HI-VO-KAPS[®]

TOLERANCE: +50-20%.

MATERIAL: Hi-K Ceramic. Molded plastic insulation.

TERMINALS: Attachable — see illustration.

MARKING: Stamped with capacity, voltage and part number.

PACKAGING: Singly without terminals — terminals ordered separately under TX numbers.

Type TV-20 (less terminals)

Cap. Mmf.	V.D.C.W.	V.D.C.T.	Catalog Number
500	20,000	35,000	TV 20

List Price: \$1.85

Precision Attachable Terminals

Type	Thread	Catalog Number
Slotted Rod	...	TX 1
Female tap	6-32	TX 2
Male threaded	6-32	TX 3
Short male threaded	8-32	TX 4
Long male threaded	8-32	TX 5

List Price: \$.50 pkg. of 5.

TYPE TV-207 HI-VO-KAPS[®]

(with terminals)

Each TV-207 includes one TV-20 and 1 each: TX-1, TX-4, TX-5; 2 each: TX-2, TX-3 per carton or handy "Shelf-Pak" containing 5 individual cartoned TV-20's.

List Price: \$2.25

TVK-5-50 KIT



Handy serviceman's kit of Hi-Vo-Kaps[®] and attachable terminal in hinged clear plastic box. Each kit contains 5 each: TV-20; 10 each: TX-1, TX-2, TX-3, TX-4, TX-5 attachable terminals.

List Price: \$11.25

FIXED TERMINAL HI-VO-KAPS[®]

30KV Working — 45KV Test

Cap. Mmf.	V.D.C.W.	V.D.C.T.	Terminals	Cat. No.
500	30,000	45,000	2-rod type	TV1-503
500	30,000	45,000	2-8-32 male thrd.	TV8-503

List Price: \$3.30

Centralab®

Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CERAMIC CAPACITORS (Cont'd)

CERAMIC TRIMMER CAPACITORS

Centralab Ceramic Trimmers are small in size, light in weight and are easily mounted. Equal stability over 180° rotation is maintained even under adverse environmental conditions.

Simplicity of mechanical design makes Centralab Ceramic Tubular Trimmer Capacitors a dependable and economical approach to fine tuning. They are specifically designed to compensate for variations in tube capacities. Because of this smooth linear rate of capacity change, the ceramic tubular trimmer has also found ready acceptance in precision applications. All units 600 volts DC working — 1200 volts DC test.



TYPE 820 TRIMMER

Mounting holes (with bracket removed) clear No. 4 machine screws. Basic dimensions: $5/8''$ wide x $27/32''$ long.

Cap. Mmf.	Cat. No.	Cap. Mmf.	Cat. No.
1.0 to 3.5	820D	35.0 to 55.0	820E*
2.5 to 6.0	820A	55.0 to 75.0	820F*
5.0 to 20.0	820B	70.0 to 90.0	820G*
7.0 to 35.0	820C		*Less bracket.

List Price: \$1.20 ea.



TYPE 822 CERAMIC TRIMMER

Mounting holes clear No. 4 machine screws. Basic body size $41/64''$ wide x $27/32''$ long.

NPO or Zero TC		N650 or Negative TC	
Cap. Mmf.	Cat. No.	Cap. Mmf.	Cat. No.
1.5 to 3	822 DZ	2.0 to 6.0	822 DN
1.5 to 7	822 EZ	4.0 to 30.0	822 EN
2.0 to 7.5	822 CZ	4.5 to 25.0	822 CN
2.5 to 13.0	822 BZ	7.0 to 45.0	822 BN
3.0 to 12.0	822 FZ	8.0 to 50.0	822 AN
4.5 to 25.0	822 AZ		

List Price: \$1.50 ea.



TYPE 823 CERAMIC TRIMMER

Mounting studs are set in base, tapped for No. 4-40 machine screws. Body size $13/16''$ wide x $11/32''$ long.

NPO or Zero TC		N650 or Negative TC	
Cap. Mmf.	Cat. No.	Cap. Mmf.	Cat. No.
5.0 to 12	823 EZ	5.0 to 15	823 FN
6 to 25	823 DZ	8 to 25	823 EN
10 to 50	823 BZ	8 to 50	823 DN
12 to 62	823 AZ	10 to 100	823 BN
		20 to 125	823 AN

List Price: \$3.50 ea.

Centralab types 824 and 826 available on special order.



TYPE 827 TRIMMER

High grade phenolic mounting plate. Two .122"-.125" mounting holes spaced $5/16''$. Can be mounted on chassis through $9/16''$ dia. hole. Body size — $17/32''$ x $3/4''$.

Cap. Mmf.	Cat. No.	Cap. Mmf.	Cat. No.
2.5 to 7	827A	6.0 to 30	827C
3.5 to 12	827B	7.0 to 35	827D

List Price: \$1.25 ea.



TYPE 833 CERAMIC TRIMMER

Mounting holes clear No. 4 machine screws. Basic body size $41/64''$ wide x $27/32''$ long.

NOTE: CV11D — Series listed below are approved per MIL-C-81A. CV11A — Series manufactured to meet MIL-C-81A. Approval still pending.

NPO or Zero TC			N650 or Negative TC		
Cap. Mmf.	Cat. No.	to MIL-C-81A Number	Cap. Mmf.	Cat. No.	to MIL-C-81A Number
1.5 to 7	833 FZ	CV11A070	2 to 6	833 DN	CV11D060
3 to 12	833 FZ	CV11A120	4 to 30	833 EN	CV11D300
4.5 to 25	833 AZ	CV11A250	7 to 45	833 BN	CV11D450

List Price: \$2.50 ea.



TYPE 829 CERAMIC TRIMMER

Mounting is by means of a locknut against metal panel or chassis, which has been punched with slot.

Capacity Range Mmf.	Body Length	Cat. No.	List Price
.5 to 3.	$1/2''$	829-3	\$.50
1. to 4.	$3/8''$	829-4	.50
1. to 6.	$3/8''$	829-6	.50
1. to 7.5	$3/4''$	829-7	.60
1.5 to 10	$3/4''$	829-10	.60

TRANSMITTING CAPACITORS

Centralab's transmitting capacitors are designed primarily for transmitters, induction heaters, electronic welding equipment, x-ray, diathermy and other high voltage, high frequency circuits. These capacitors have extremely low power factor and stable retace characteristics. Long leakage paths and rugged mechanical construction are afforded by the "double cup" design. Current ratings are listed for each unit.



TYPE 850-858 — 5 KV AND 7.5 KV

TOLERANCE: 850 type $\pm 10\%$; 858 type $\pm 20\%$.

DIMENSIONS: $13/16''$ diameter, $5/8''$ long.

MOUNTING: S Series: $1/8''$ long hex studs tapped 6-32 thread. SL Series: $3/16''$ long solder lugs with 6-32 tapped hole.

Cap. Mmf.	Volts D.C.W.	Temp. Coeff.	R. F. Load at 30 MC.†	Cat. No. Stud Type	Cat. No. Lug Type
25	7,500	NPO	7 amps.	850S 25Z	850SL-25Z
50	7,500	NPO	10 amps.	850S-50Z	850SL-50Z
50	7,500	N750	8.8 amps.	850S 50N	850SL-50N
75	7,500	N750	10 amps.	850S-75N	850SL-75N
100	5,000	N750	9.8 amps.	850S-100N	850SL-100N
500	5,000	HI-K	.....	858S-500	.....
1,000	5,000	HI-K	.....	858S-1000	.....

List Price: \$4.50 ea.



TYPE 853, 854, 855 — 5 KV

TOLERANCE: $\pm 10\%$.

DIMENSIONS: 853 — $9/16''$ dia. x $11/2''$ long.

854 — $7/16''$ dia. x $7/16''$ long.

855 — $3/16''$ dia. x $3/8''$ long.

MOUNTING: 853, 854, 855; $11/2''$ axial wire leads. 853A, 854A, 855A: axial screw terminals tapped 2-56.

Cap. Mmf.	Volts D.C.W.	Temp. Coeff.	R. F. Load at 30 MC.†	Cat. No. Lead Type	Cat. No. Tap Type
3	5,000	NPO	1.8 amps.	855 3Z	855A-3Z
5	5,000	NPO	1.8 amps.	855 5Z	855A-5Z
10	5,000	NPO	1.8 amps.	854 10Z	854A-10Z
10	5,000	N750	3.2 amps.	855 10N	855A-10N
20	5,000	NPO	2.8 amps.	853 20Z	853A-20Z
20	5,000	N750	3.2 amps.	854-20N	854A-20N
40	5,000	N750	5.6 amps.	853 40N	853A-40N

List Price: \$3.00 ea.

TYPE 857 — 7.5 KV AND 15 KV

TOLERANCE: $\pm 10\%$.

DIMENSIONS: Diameter $11/32''$, $15/16''$ long.

MOUNTING: Axial screw terminals, 10-32 NF-2 thread. $1/4''$ deep full thread. Both ends.

Cap. Mmf.	Volts D.C.W.	Temp. Coeff.	R. F. Load at 30 MC.†	Catalog Number	List Price
25	15,000	NPO	12 amps.	857 25Z	\$14.00
50	15,000	NPO	12 amps.	857-50Z	14.00
100	15,000	N750	14.4 amps.	857-100N	12.00
200	7,500	N750	18.2 amps.	857-200N	12.00

TYPE 859 — 15 AND 20 KV

TOLERANCE: $\pm 10\%$.

DIMENSIONS Overall length $27/8''$ nom., diameter 2'' nom.

MOUNTING: Terminal ends tapped 10-32 — $7/16''$ deep both ends.

Cap. Mmf.	Volts D.C.W.	Tolerance	Temp. Coeff.	R. F. Load at 30 MC.†	Catalog Number	List Price
50	20,000	$\pm 10\%$	NPO	30 amps.	859S-50Z	
100	20,000	$\pm 10\%$	NPO	30 amps.	859S-100Z	
250	20,000	$\pm 10\%$	N750	30 amps.	859S-250N	
500	15,000	$\pm 10\%$	N3300	30 amps.	859S-500N	

List Price: \$90.00 ea.

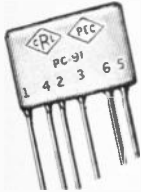
†Typical RF characteristics. These are not specific ratings.



Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

PACKAGED ELECTRONIC CIRCUITS



Packaged Electronic Circuits are electronic sub-assemblies of component parts including capacitors, resistors, and wiring printed and bonded to a rugged ceramic base plate.

SINGLE RESISTOR

Cat. No.	R1	List
PC-2	2 Meg.	\$.70

DUAL RESISTOR

Cat. No.	R1	R2	List
PC-21	500K	110K	\$.70

RESISTOR-CAPACITOR

Cat. No.	R1	C1	List
PC-30	250K	1000 mmf	\$.70
PC-33	1 Meg.	1000 mmf	.70
PC-36	100K	100 mmf	.70
PC-37	470K	100 mmf	.70
PC-60	270K	100 mmf	.70

(See Senior Compentrol C2-200.)

Cat. No.	R1	C2	List
PC-61	270K	300 mmf	.70

(See Senior Compentrol C2-200.)

Cat. No.	R1	C2	List
PC-341	63K	3300 mmf	1.00

DIODE LOAD FILTERS

Cat. No.	R1	C1	C2	List
PC-50	47K	100 mmf	100 mmf	\$.60
PC-51	47K	150 mmf	150 mmf	.60
PC-52	47K	50 mmf	50 mmf	.60
PC-326	100K	100 mmf	100 mmf	1.00

TRIODE COUPLATES®

Cat. No.	R1	R2	C1	C2 & C3	List
PC-70	500K	500K	5000 mmf	250 mmf	\$.70
PC-71	250K	500K	5000 mmf	250 mmf	.70
PC-80	500K	500K	.01 mfd	250 mmf	.75
PC-81	250K	500K	.01 mfd	250 mmf	.75
PC-84	500K	500K	.01 mfd	500 mmf	.75
PC-82	470K	1 Meg.	.01 mfd	.....	.75

PENTODE COUPLATES®

Cat. No.	R1	R2	R3	C1	C2	C3	List
PC-90	4.7 Meg.	1 Meg.	2.2 Meg.	5000 mmf	50 mmf	2000 mmf	\$.90
PC-91	4.7 Meg.	1 Meg.	2.2 Meg.	5000 mmf	100 mmf	5000 mmf	.90
PC-92	4.7 Meg.	1 Meg.	2.2 Meg.	5000 mmf	100 mmf	2000 mmf	1.00

VERTICAL INTEGRATORS

Cat. No.	R1	R2	R3	C1	C2	C3	List
PC-100	22K	8.2K	8.2K	2000 mmf	5000 mmf	5000 mmf	\$1.10
PC-104	22K	8.2K	8.2K	2000 mmf	5000 mmf	5000 mmf	1.00

(Special construction to reduce stray capacities.)

VERTICAL INTEGRATORS

Cat. No.	R1	R2	R3	R4	C1	C2	C3	C4	List
PC-101	22K	8.2K	22K	.01 mfd	2000 mmf	5000 mmf	5000 mmf	5000 mmf	\$1.10
PC-312	47K	47K	68K	100K	180 mmf	800 mmf	800 mmf	130 mmf	1.00

VERTICAL INTEGRATORS

Cat. No.	R1	R2	C1	C2	C3	List
PC-105	8.2K	8.2K	2000 mmf	5000 mmf	5000 mmf	\$1.00
PC-106	22K	10K	4700 mmf	4700 mmf	.....	1.00

TELEVISION I.F. FILTER

Cat. No.	R1	R2	C1	C2	List
PC-110	1000	820	5000 mmf	5000 mmf	\$1.00
PC-111	220	1000	5000 mmf	5000 mmf	1.00

AUDIO DETECTOR COUPLATES®

Cat. No.	R1	R2	R3	C1	C2	C3 & C5	C4	List
PC-150	6.8 Meg.	470K	470K	2000 mmf	220 mmf	250 mmf	5000 mmf	\$1.00
PC-151	6.8 Meg.	470K	470K	5000 mmf	220 mmf	250 mmf	5000 mmf	1.00
PC-154	6.8 Meg.	470K	470K	2000 mmf	220 mmf	500 mmf	5000 mmf	1.00
PC-159	10 Meg.	470K	470K	5000 mmf	220 mmf	250 mmf	5000 mmf	1.00
PC-157	6.8 Meg.	470K	470K	2000 mmf	220 mmf	250 mmf	5000 mmf	1.00
PC-158	6.8 Meg.	470K	470K	5000 mmf	220 mmf	250 mmf	5000 mmf	1.00

PENTODE DETECTOR COUPLATE®

Cat. No.	R1	R2	R3	R4	C1	C2	C3	C4	C5	List
PC-160	4.7 Meg.	1 Meg.	3.3 Meg.	10 Meg.	2000 mmf	150 mmf	.01 mfd	150 mmf	5000 mmf	\$1.00
PC-165	4.7 Meg.	1 Meg.	3.3 Meg.	10 Meg.	2000 mmf	150 mmf	.01 mfd	150 mmf	5000 mmf	1.00

(Special construction to reduce stray capacities.)

Cat. No.	R1	R2	R3	R4	C1	C2	C3	C4	C5	List
PC-166	4.7 Meg.	1 Meg.	2.2 Meg.	4.7 Meg.	2000 mmf	150 mmf	.01 mfd	150 mmf	5000 mmf	\$1.00
PC-327	4.7 Meg.	1 Meg.	3.3 Meg.	10 Meg.	1000 mmf	68 mmf	5000 mmf	68 mmf	2500 mmf	1.25
PC-328	4.7 Meg.	1 Meg.	3.3 Meg.	10 Meg.	2000 mmf	150 mmf	.01 mfd	150 mmf	5000 mmf	1.25

SPECIALS

Cat. No.	R1	C1	C2	List
PC-175	4.7 Meg.	250 mmf	.01 mfd	\$1.00

Cat. No.	R1	R2	C1	C2	List
PC-176	82K	39K	1000 mmf	2000 mmf	\$1.00

Cat. No.	R1	R2	C1	List
PC-177	150K	47K	1 Meg.	.01 mfd \$1.00

Cat. No.	R1	R2	C1	List
PC-178	15K	270K	150 mmf	\$1.00

Cat. No.	R1	R2	C1	C2	List
PC-179	150	220	5000 mmf	5000 mmf	\$1.00
PC-329	330	27K	5000 mmf	2000 mmf	1.00

Cat. No.	R1	C1	C2	List
PC-184	270K	.01 mfd	150 mmf	\$1.00

Cat. No.	R1	C1	C2	List
PC-185	4.7 Meg.	.01 mfd	50 mmf	\$1.00

Cat. No.	R1	C1	C2	C3	List
PC-186	22K	1000 mmf	4000 mmf	.01 mfd	\$1.00

Cat. No.	R1	R2	R3	R4	C1	C2	C3	List
PC-190	100K	470K	1000	100K	4700 mmf	4700 mmf	100 mmf	\$1.00

SYNC. TAKE-OFF COUPLATE®

Cat. No.	R1	R2	R3	C1	C2	C3	List
PC 260	10K	330K	2.2 Meg.	270 mmf	.01 mfd	25 mmf	\$1.00
PC-262	10K	220K	2.2 Meg.	270 mmf	.01 mfd	25 mmf	1.00
PC-263	Omit	220K	2.2 Meg.	270 mmf	.01 mfd	25 mmf	1.00
PC 264	10K	330K	2.2 Meg.	270 mmf	.01 mfd	9.5 mmf	1.00
PC-330	Omit	470K	2.2 Meg.	150 mmf	.01 mfd	25 mmf	1.00

SPECIALS

Cat. No.	R1	R2	R3	C1	C2	C3	List
PC-304	47K	10K	10K	390 mmf	2200 mmf	5000 mmf	\$1.00

Cat. No.	R1	R2	R3	R4	R5	R6	R7	C1	C2	List
PC-305	470K	470K	470K	470K	100K	47K	100K	500 mmf	500 mmf	\$1.00

Cat. No.	R1	R2	R3	R4	C1	C2	C3	List
PC-306	10K	10K	10K	1 Meg.	4000 mmf	.01 mfd	.01 mfd	\$1.00

Cat. No.	R1	C1	C2	List
PC-307	4.7 Meg.	220K	1000 mmf	.014 mfd \$1.00

Centralab[®]

Milwaukee 1, Wisconsin In Canada: 669 Bayview Ave., Toronto, Ontario

PACKAGED ELECTRONIC CIRCUITS (Cont'd)

HORIZONTAL OSCILLATOR

Cat. No.	R1	R2	R3	C1	C2	C3	C4	List
PC-308	10K	39K	5.6K	1000 mmf	1500 mmf	390 mmf	3000 mmf	\$1.00

RETTRACE-SUPPRESSION COUPLATE[Ⓜ]

Cat. No.	R1	R2	C1	C2	List
PC 309	10K	1 Meg.	5000 mmf	.01 mfd	\$1.00
PC 314	2.7K	56K	.01 mfd	.01 mfd	1.00

AUDIO COUPLATE[Ⓜ]

Cat. No.	R1	R2	C1	C2	C3	List
PC 310	1.5 Meg.	10 Meg.	5000 mmf	410 mmf	3000 mmf	\$1.00

VERTICAL FEED-BACK

Cat. No.	R1	R2	C1	C2	C3	List
PC 311	100K	100K	1000 mmf	1000 mmf	2000 mmf	\$1.00
PC-312	See Listing under VERTICAL INTEGRATOR PC-101.					1.00

AUDIO DETECTOR COUPLATE[Ⓜ]

Cat. No.	R1	R2	R3	C1	C2	C3 & C5	C4	List
PC 313	6.8 Meg.	470K	470K	5000 mmf	220 mmf	375 mmf	5000 mmf	\$1.00
PC 315	6.8 Meg.	470K	470K	2000 mmf	400 mmf	221 mmf	5000 mmf	1.00
PC 331	6.8 Meg.	470K	470K	2000 mmf	400 mmf	220 mmf	5000 mmf	1.00

SYNC. TAKE-OFF COUPLATE[Ⓜ]

Cat. No.	R1	R2	C1	C2	C3	List
PC 316	2.2 Meg.	470K	800 mmf	.01 mfd	470 mmf	\$1.00

AUDIO COUPLATE[Ⓜ]

Cat. No.	R1	R2	R3	C1	C2	List
PC 317	6.8 Meg.	470K	1 Meg.	6800 mmf	.01 mfd	\$1.00

PENTODE DETECTOR COUPLATE[Ⓜ]

Cat. No.	R1	R2	R3	R4	C1	C2	C3	C4	C5	List
PC 318	4.7 Meg.	1 Meg.	3.3 Meg.	10 Meg.	5000 mmf	150 mmf	.01 mfd	150 mmf	500 mmf	\$1.25

PHASE COMPARATOR

Cat. No.	R1	R2	R3	R4	C1	C2	C3	List
PC 319	680K	680K	4.7 Meg.	220K	82 mmf	100 mmf	1000 mmf	\$1.25

SPECIALS

Cat. No.	R1	R2	R3	C1	C2	C3	List
PC 320	100K	100K	100K	1000 mmf	150 mmf	150 mmf	\$1.00
Cat. No.	R1	R2	C1	C3	List		
PC 321	10K	220K	680 mmf	5000 mmf	\$1.00		
Cat. No.	R1	R2	R3	C1	C2	List	
PC 322	4.7 Meg.	4.7 Meg.	4.7 Meg.	1500 mmf	1500 mmf	\$1.00	
Cat. No.	R1	R2	R3	C1	C2	C3	List
PC 323	4.7 Meg.	4.7 Meg.	4.7 Meg.	3000 mmf	250 mmf	400 mmf	\$1.00
Cat. No.	R1	R2	C1	C2	C3	C4	List
PC 324	50K	50K	4500 mmf	4500 mmf	100 mmf	200 mmf	\$1.00
(Replacement plate for C1-60, C1-60-S, C2-60 Compentrols.)							
Cat. No.	R1	R2	C1	C2	C3	C4	List
PC 325	100K	100K	2500 mmf	2500 mmf	50 mmf	100 mmf	1.00
(Replacement plate for C1-70, C1-70-S, C2-70, C2-100 and C2-200 Compentrols.)							

- PC-326 See Listing under DIODE LOAD FILTERS PC-50. **1.00**
- PC-327 | See Listing under PENTODE DETECTOR **1.25**
- PC-328 | COUPLATES[Ⓜ] PC-160. **1.25**
- PC-329 See Listing under SPECIAL PC-179. **1.00**
- PC-330 See Listing under SYNC. TAKE-OFF PC-260. **1.00**
- PC-331 | See Listing under AUDIO DETECTOR **1.00**
COUPLATE[Ⓜ] PC-313.

SPECIALS

Cat. No.	R1	R2	C1	C2	C3	List
PC-332	4.7 Meg.	220K	1000 mmf	1000 mmf	3300 mmf	\$1.00

Cat. No.	R1	C1	C2	List
PC-333	38.4K	.01 mfd	.012 mfd	\$1.00

Cat. No.	R1	C1	C2	C3	List
PC 334	22K	1000 mmf	4000 mmf	.01 mfd	\$1.00

RETTRACE SUPPRESSION

Cat. No.	R1	R2	C1	C2	List
PC 336	10K	1 Meg.	5000 mmf	2000 mmf	\$1.00

PHASE COMPARATOR

Cat. No.	R1	R2	R3	R4	C1	C2	C3	List
PC 337	100K	680K	4.7 Meg.	220K	82 mmf	200 mmf	1500 mmf	\$1.00

SYNC. TIME K NETWORK

Cat. No.	R1	R2	R3	C1	C2	List
PC 338	1 Meg.	2.2 Meg.	270K	330 mmf	330 mmf	\$1.00
PC 339	270K	2.2 Meg.	560K	330 mmf	330 mmf	1.00

AGC VOLTAGE DIVIDER

Cat. No.	R1	R2	R3	R4	R5	List
PC-340	22K	680K	1.2 Meg.	82K	820K	\$1.00
PC-341	See Listing under RESISTOR CAPACITOR PC-30.					1.00

FM RATIO DETECTOR

Cat. No.	R1	R2	R3	R4	R5	R6	List
PC-342	150C	6.8K	68K	6.8K	1 Meg.	68	\$1.25
C1: 300 mmf, C2: 1000 mmf, C3: 300 mmf, C4: 300 mmf							

DIODE-PENTODE COUPLATE[Ⓜ]

Cat. No.	R1	R2	R3	R4	List
PC-343	4.7 Meg.	1 Meg.	3.3 Meg.	1C Meg.	\$1.25
C1: 2000 mmf, C2: 220 mmf, C3: 10,000 mmf, C4: 150 mmf, C5: 5000 mmf					

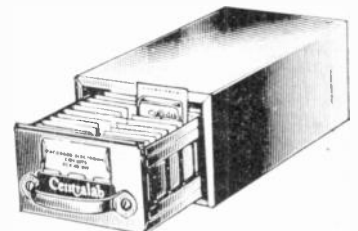
MINIATURE AUDIO AMPLIFIERS

Complete 3-stage audio amplifier for hearing aids, miniature radios, etc.

Cat. No.	List
PC 200 less tubes	\$15.00
PC-201 with 3 subminiature tubes	25.00
PC-202 Zero bias output; added tone circuit, no tubes	17.50
PC-203 Zero bias output; added tone circuit, with tubes	32.00
PC 204 Grid bias output; added tone circuit, no tubes	17.50
PC-205 Grid bias output; added tone circuit, with tubes	33.50

KIT NO. PCK-40

Balanced inventory of 40 PEC's in the 13 most frequently used types. Heavy duty cabinet 6" x 4" x 11" included.

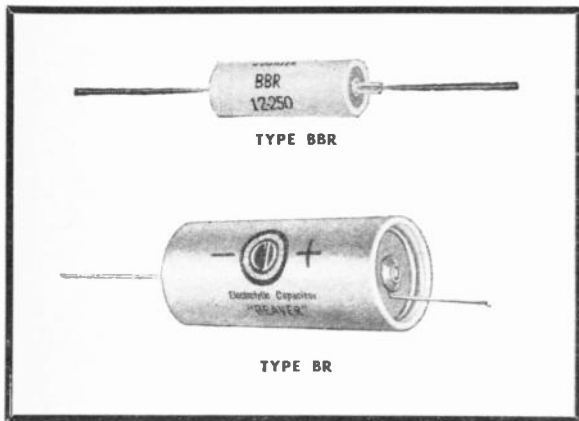


Qty.	Cat. No.	Qty.	Cat. No.
2	PC 81	2	PC 106
2	PC 91	5	PC 150
10	PC 100	2	PC 151
5	PC 101	2	PC-158
2	PC 104	2	PC 159
2	PC 105	2	PC 160
		2	PC-165

List Price: \$40.80



"BLUE BEAVER" ELECTROLYTIC TUBULARS



BBR

Type BBR "BLUE BEAVERS," miniature versions of the BR, are especially popular for cramped space installations in television receivers, hearing aids, miniature radios and other small assemblies. They are hermetically sealed in tubular aluminum containers with cardboard sleeve and ideally suited to meet requirements in low voltage circuits. NEGATIVE TERMINAL IS GROUND TO CAN.

TEMPERATURE RANGE: to +85°C.

BBR Cat. No.	Cap. Mfd.	*Can Size—Inches Diam. x Length	List Price	Net Price
BBR 25-3	25	3 Volts 3/8 x 1 1/16	\$.85 .95	\$.51 .57
BBR 50-3	50	3/8 x 1 1/8		
BBR 5-6	5	6 Volts 3/8 x 1 1/16	.80	.48
BBR 25-6	25	3/8 x 1 1/8	.85	.51
BBR 50-6	50	3/8 x 1 1/8	.95	.57
BBR 100-6	100	1/2 x 1 1/8	1.20	.72
BBR 250-6	250	1/2 x 1 1/2	1.35	.81
BBR 100-15	100	15 Volts 1/2 x 1 1/8	1.25	.75
BBR 10-25	10	25 Volts 3/8 x 1 1/16	1.00	.60
BBR 20-25	20	3/8 x 1 1/8	1.00	.60
BBR 25-25	25	3/8 x 1 1/8	1.00	.60
BBR 50-25	50	1/2 x 1 1/8	1.10	.66
BBR 100-25	100	1/2 x 1 1/2	1.35	.81
BBR 1-50	1	50 Volts 3/8 x 1 1/16	.90	.54
BBR 2-50	2	3/8 x 1 1/8	.90	.54
BBR 4-50	4	3/8 x 1 1/8	1.00	.60
BBR 5-50	5	3/8 x 1 1/8	1.00	.60
BBR 10-50	10	3/8 x 1 1/2	1.00	.60
BBR 25-50	25	1/2 x 1 1/2	1.05	.63
BBR 10-90	10	90 Volts 1/2 x 1 1/8	1.10	.66
BBR 16-90	16	1/2 x 1 1/8	1.10	.66
BBR 4-150	4	150 Volts 3/8 x 1 1/16	1.00	.60
BBR 8-150	8	1/2 x 1 1/8	1.05	.63
BBR 10-150	10	1/2 x 1 1/8	1.10	.66
BBR 12-150	12	1/2 x 1 1/8	1.10	.66
BBR 16-150	16	1/2 x 1 1/2	1.15	.69
BBR 20-150	20	1/2 x 1 1/2	1.20	.72
BBR 4-250	4	250 Volts 1/2 x 1 1/8	1.00	.60
BBR 8-250	8	1/2 x 1 1/2	1.15	.69
BBR 12-250	12	1/2 x 1 1/2	1.25	.75

*For Overall Size add 1/16" to Diam. and 5/32" to Length.

BR

Type BR is the compact unit in aluminum can with cardboard outer sleeve. Fits neatly into the cramped quarters, self-supported by rigid finned copper leads. Larger sizes may be further supported by a metal strap. NEGATIVE TERMINAL IS GROUND TO CAN.

TEMPERATURE RANGE—to +85°C except 500 V. D.C., to +65°C.

BR Cat. No.	Cap. Mfd.	*Can Size—Inches Diam. x Length	List Price	Net Price
BR 500-6	500	6 D.C. W. Volts 3/4 x 1 11/16	\$1.55	\$.93
BR 1000-6	1000	7/8 x 2	1.90	1.14
BR 2000-6	2000	1 x 2 1/2	2.30	1.38
BR 2501	250	15 D.C. W. Volts 3/4 x 1 11/16	1.55	.93
BR 5001	500	7/8 x 2	1.75	1.03
BR 10001	1000	1 x 2	2.30	1.38
BR 20001	2000	1 x 3	3.20	1.92
BR 2502	250	25 D.C. W. Volts 7/8 x 1 11/16	1.70	1.02
BR 5002	500	1 x 2	2.30	1.38
BR 505	50	50 D.C. W. Volts 3/4 x 1 11/16	1.20	.72
BR 1005	100	7/8 x 2	1.40	.84
BR 1505	150	7/8 x 2	1.55	.93
BR 2505	250	1 x 2	1.75	1.03
BR 5005	500	1 x 3	2.40	1.44
BR 2515	25	150 V. D.C. 3/4 x 1 7/16	1.25	.75
BR 3015	30	3/4 x 1 7/16	1.30	.78
BR 4015	40	3/4 x 1 11/16	1.35	.81
BR 5015	50	7/8 x 1 11/16	1.40	.84
BR 6015	60	7/8 x 2	1.50	.90
BR 8015	80	7/8 x 2	1.60	.96
BR 10015	100	1 x 2 1/2	1.75	1.03
BR 15015	150	1 x 3	1.90	1.14
BR 20015	200	1 x 3	2.20	1.32
BR 30015	300	1 x 4 1/16	2.55	1.53
BR 1625	16	250 V. D.C. 3/4 x 1 11/16	1.30	.78
BR 2025	20	3/4 x 1 11/16	1.35	.81
BR 3025	30	7/8 x 1 11/16	1.45	.87
BR 4025	40	7/8 x 2	1.55	.93
BR 5025	50	1 x 2	1.70	1.02
BR 6025	60	1 x 2 1/2	1.80	1.08
BR 20025	200	1 3/8 x 3 3/8	3.50	2.10
BR 435	4	350 V. D.C. 5/8 x 1 7/16	1.05	.63
BR 835	8	5/8 x 1 11/16	1.20	.72
BR 1235	12	3/4 x 1 11/16	1.30	.78
BR 1635	16	7/8 x 1 11/16	1.40	.84
BR 2035	20	7/8 x 2	1.45	.87
BR 3035	30	1 x 2	1.65	.99
BR 4035	40	1 x 2 1/2	1.75	1.05
BR 5035	50	1 x 2 1/2	1.85	1.11
BR 6035	60	1 x 2 1/2	1.95	1.17
BR 8035	80	1 x 3 1/16	2.10	1.26
BR 10035	100	1 x 4 1/16	2.30	1.38
BR 145	1	450 V. D.C. 5/8 x 1 11/16	1.10	.66
BR 245	2	5/8 x 1 11/16	1.10	.66
BR 445	4	5/8 x 1 7/16	1.15	.69
BR 845	8	3/4 x 1 7/16	1.25	.75
BR 1045	10	3/4 x 1 11/16	1.30	.78
BR 1245	12	3/4 x 1 11/16	1.35	.81
BR 1645	16	7/8 x 2	1.40	.84
BR 2045	20	7/8 x 2	1.55	.93
BR 3045	30	1 x 2 1/2	1.70	1.02
BR 4045	40	1 x 2 1/2	1.80	1.08
BR 5045	50	1 x 3	2.10	1.26
BR 6045	60	1 x 3 1/16	2.35	1.41
BR 8045	80	1 x 4 1/16	2.80	1.68
BR 10045	100	1 x 4 1/16	3.20	1.92
BR 450	4	500 V. D.C. 5/8 x 1 11/16	1.20	.72
BR 850	8	3/4 x 1 11/16	1.30	.78
BR 1250	12	7/8 x 2 1/16	1.40	.84
BR 1650	16	1 x 2	1.50	.90
BR 2050	20	1 x 2	1.60	.96
BR 3050	30	1 x 2 1/2	1.75	1.05

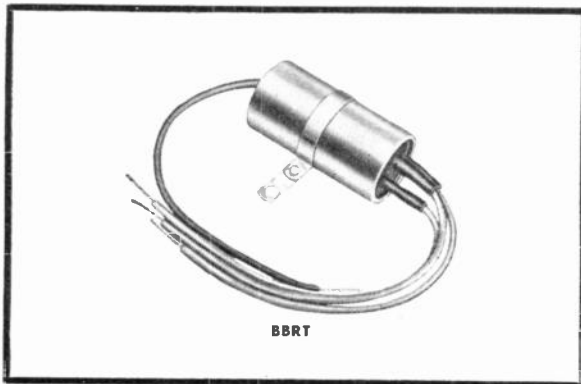
*For Overall Size add 1/16" to Diam. and 3/16" to Length.

LOW CAPACITY BRHV HIGH VOLTAGE

BRHV Cat. No.	Cap. Mfd.	OVERALL Size—Inches Diam. x Length	List Price	Net Price
BRHV 604	4	600 D.C. W. Volts 1 1/16 x 2 7/16	\$1.95	\$1.17
BRHV 608	8	1 1/16 x 3 3/16	2.10	1.26
BRHV 610	10	1 1/16 x 3 3/16	2.20	1.32
BRHV 612	12	1 1/16 x 3 3/16	2.40	1.44
BRHV 616	16	1 1/16 x 3 3/16	2.55	1.53
BRHV 620	20	1 1/16 x 3 3/16	2.70	1.62
BRHV 708	8	700 D.C. W. Volts 1 1/16 x 3 3/16	2.20	1.32
BRHV 710	10	1 1/16 x 3 3/16	2.35	1.41
BRHV 712	12	1 1/16 x 3 11/16	2.45	1.47
BRHV 716	16	1 1/16 x 4 1/16	2.65	1.59

CORNELL DUBILIER

MULTI-SECTION TUBULAR ELECTROLYTICS



BBRT

A series of compact, tubular METAL-CASED, CARDBOARD SLEEVED electrolytics—specially sealed against heat and humidity.

Featuring—

- ◆ Direct-to-terminal internal lead construction reduces possibility of shorts. (Pure aluminum wires crimped securely together with outer leads within aluminum stud terminals.)
- ◆ New high-insulation vinylite covered leads—generous 7 inches long.
- ◆ Sections sealed in aluminum tube for protection against moisture getting in, or electrolyte drying out.
- ◆ Wax impregnated cardboard outer insulation sleeve.
- ◆ Rubber diaphragm-type vent insures ideal vent action under all conditions.
- ◆ **IDEAL FOR OPERATION AT TEMPERATURES UP TO 85° C.**

BBRD — Dual Common Negative

BBRD Cat. No.	Cap. Mfd.	D.C. W. Volts	Can† Size—Inches Dia. x Lgth.	List Price	Net Price
BBRD 2202	20-20	25	3/4 x 1 1/2	\$1.40	\$.84
BBRD 115	10-10	50	3/4 x 1 1/2	1.40	.84
BBRD 2115	20-10	150	3/4 x 1 1/2	1.55	.93
BBRD 2215	20-20	150	3/4 x 1 1/2	1.65	.99
BBRD 3215	30-20	150	3/4 x 1 1/2	1.70	1.02
BBRD 3315	30-30	150	3/4 x 1 1/2	1.80	1.08
BBRD 4215	40-20	150	3/4 x 1 1/2	1.75	1.05
BBRD 4315	40-30	150	3/4 x 2	1.80	1.08
BBRD 4415	40-40	150	3/4 x 2	1.85	1.11
BBRD 5315	50-30	150	3/4 x 2	1.95	1.17
BBRD 5515	50-50	150	1 x 2	2.10	1.26
BBRD 8415	80-40	150	1 x 2 1/2	2.25	1.35
BBRD 8515	80-50	150	1 x 2 1/2	2.30	1.38
*BBRD 0183.7	100-50	150	1 x 3	3.00	1.80
*BBRD 0101.5	100-100	150	1 x 3	3.20	1.92
*BBRD 0196	200-5	200	1 x 4 1/2	3.50	2.10
BBRD 8D25	8-8	250	3/4 x 1 1/2	1.60	.96
BBRD 16825	16-8	250	3/4 x 2	1.70	1.02
BBRD 16D25	16-16	250	3/4 x 2	1.80	1.08
BBRD 2225	20-20	250	1 x 1 1/2	1.85	1.11
BBRD 3325	30-30	250	1 x 2 1/2	2.25	1.35
*BBRD 7V225	75-20	250	1 x 3	2.60	1.56
*BBRD 0242	80-10	250	1 x 3	2.55	1.53
*BBRD 0246	120-80	250	1 3/8 x 3 1/2	4.00	2.40
*BBRD 0286	150-100	300	1 3/8 x 4 1/2	5.25	3.15
*BBRD 0334	140-5	350	1 1/2 x 4 1/2	4.15	2.49
BBRD 8D45	8-8	450	3/4 x 1 1/2	1.70	1.02
BBRD 16845	16-8	450	1 x 2 1/2	2.00	1.20
BBRD 16D45	16-16	450	1 x 2 1/2	2.25	1.35
*BBRD 2245	20-20	450	1 x 3	2.50	1.50
*BBRD 3345	30-30	450	1 1/8 x 3 1/2	3.00	1.80
*BBRD 4445	40-40	450	1 x 4 1/2	3.40	2.04
*BBRD 0376	60, 125	200, 50	1 x 3	3.25	1.95
BBRD 0646	20, 100	450, 25	1 x 2 1/2	2.20	1.32
*BBRD 0632	40, 50	450, 50	1 x 3 1/2	3.00	1.80
*BBRD 0722	80, 100	450, 50	1 3/8 x 3 1/2	3.75	2.25
*BBRD 0707	30, 50	450, 200	1 1/8 x 2 1/2	2.85	1.71

†For OVERALL size add 1/16" to Diam. and 3/16" to length.

All above Packed—5 Units per Carton, except those marked (*) which are individual Carton Packed.

BBRT — Triple-Common Negative

BBRT Cat. No.	Cap. Mfd.	D.C. W. Volts	Can† Size—Inches Dia. x Lgth.	List Price	Net Price
BBRT 22215	20-20-20	150	3/8 x 1 1/2	\$2.20	\$1.32
BBRT 32V215	30-25-20	150	3/8 x 2	2.25	1.35
BBRT 33315	30-30-30	150	1 x 2	2.35	1.41
BBRT 42215	40-20-20	150	1 x 1 1/2	2.25	1.35
BBRT 43215	40-30-20	150	1 x 2	2.35	1.41
BBRT 44215	40-40-20	150	1 x 2	2.35	1.41
BBRT 44415	40-40-40	150	1 x 2 1/2	2.45	1.47
BBRT 53215	50-30-20	150	1 x 2	2.45	1.47
*BBRT 84215	80-40-20	150	1 x 3	2.75	1.65
*BBRT 0126.5	150-150-150	150	1 3/8 x 4 1/2	4.75	2.85
*BBRT 7V4125	75-40-10	250	1 1/4 x 3	3.45	2.07
*BBRT 0185	40-40-40	300	1 1/4 x 3	4.60	2.76
*BBRT 0196	120-40-10	300	1 3/8 x 3 1/2	4.85	2.91
*BBRT 0235	60-60-5	350	1 3/8 x 3 1/2	4.25	2.55
*BBRT 11145	10-10-10	450	1 x 2 1/2	2.45	1.47
*BBRT 16T45	16-16-16	450	1 1/8 x 3	3.10	1.86
BBRT 4415X25	40-40, 250	150, 10	1 x 2 1/2	2.60	1.56
BBRT 5315X20	50-30, 200	150, 10	1 x 2 1/4	2.55	1.53
BBRT 5315C	50-30, 20	150, 25	1 x 1 1/2	2.35	1.41
BBRT 5515C	50-50, 20	150, 25	1 x 2 1/2	2.50	1.50
BBRT 8415C	80-40, 20	150, 25	1 x 2 1/2	2.65	1.59
BBRT 3215C10	30-20, 100	150, 25	1 x 2	2.35	1.41
BBRT 2215C	20-20, 20	150, 25	3/8 x 1 1/2	2.05	1.23
BBRT 3315C	30-30, 20	150, 25	3/8 x 2	2.20	1.32
BBRT 4215C	40-20, 20	150, 25	1 x 1 1/2	2.15	1.29
BBRT 4315C	40-30, 20	150, 25	1 x 1 1/2	2.20	1.32
BBRT 4415C	40-40, 20	150, 25	1 x 1 1/2	2.25	1.35
BBRT 5315C10	50-30, 100	150, 25	1 x 2 1/4	2.45	1.47
*BBRT 5315C25	50-30, 250	150, 25	1 x 3	3.10	1.86
BBRT 8215C10	80-20, 100	150, 25	1 x 2 1/2	2.75	1.65
BBRT 2225C	20-20, 20	250, 25	1 x 2	2.25	1.35
BBRT 4225C	40-20, 20	250, 25	1 x 2 1/4	2.55	1.53
BBRT 4425C	40-40, 20	250, 25	1 x 2 1/4	2.90	1.74
*BBRT 0733	80-10, 100	300, 50	1 3/8 x 3 1/2	4.05	2.43
*BBRT 0878	140-5, 200	350, 200	1 1/2 x 4 1/2	6.70	4.02
*BBRT 2245C	20-20, 20	450, 25	1 x 3	2.90	1.74
*BBRT 1238	5, 80-40	450, 400	1 3/8 x 3 1/2	4.55	2.73
*BBRT 1411	30, 50, 100	450, 150, 25	1 1/8 x 3	3.70	2.22

BBRQ — Quadruple-Common Negative

BBRQ Cat. No.	Cap. Mfd.	D.C. W. Volts	Can† Size—Inches Dia. x Lgth.	List Price	Net Price
*BBRQ 111145	10-10-10-10	450	1 x 3	\$3.20	\$1.92
*BBRQ 222245	20-20-20-20	450	1 1/8 x 4 1/2	4.50	2.70
*BBRQ 0125	20-20-20-10	450	1 3/8 x 3 1/2	4.25	2.55
*BBRQ 0170.5	40-20-20-10	450	1 3/8 x 3 1/2	4.70	2.82
*BBRQ 0174	40-40-20-20	450	1 3/8 x 4 1/2	5.45	3.27
BBRQ 33215C	30-30-20, 20	150, 25	1 x 2	2.90	1.74
BBRQ 42215C	40-20-20, 20	150, 25	1 x 2	2.85	1.71
BBRQ 44315C	40-40-30, 20	150, 25	1 x 2 1/2	3.00	1.80
BBRQ 53215C	50-30-20, 20	150, 25	1 x 2 1/2	3.05	1.83
*BBRQ 55515C	50-50-50, 20	150, 25	1 x 3	3.45	2.07
*BBRQ 0789.4	140-5, 200-30, 20	300, 150	1 1/2 x 4 1/2	5.15	3.09
*BBRQ 0385	120-40-40, 10	300, 250	1 3/8 x 3 1/2	6.20	3.72
*BBRQ 22245C	20-20-20, 20	450, 25	1 3/8 x 3 1/2	4.05	2.43
*BBRQ 0695.3	10, 20-20-10	450, 350	1 3/8 x 3	3.50	2.10
*BBRQ 0789.5	80-60, 40-20	350, 300, 150	1 3/8 x 3 1/2	7.65	4.59
*BBRQ 0925	140, 5, 200-30, 20	350, 300, 200	1 1/2 x 4 1/2	7.65	4.59
*BBRQ 0805	80, 10, 40, 100	400, 300, 50	1 3/8 x 3 1/2	5.45	3.27
*BBRQ 0926.5	10, 80, 40, 40	450, 300, 250	1 3/8 x 3 1/2	4.95	2.97
*BBRQ 0954	10, 80, 40, 100	450, 300, 250, 50	1 3/8 x 3 1/2	4.80	2.88
BBRQ 0934.5	20, 120, 40, 100	450, 300, 250, 50	1 3/8 x 4 1/2	6.15	3.69

EDL — Dual SEPARATE Section

Type EDL Capacitors are dual units in CARDBOARD TUBE containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the tube casing.

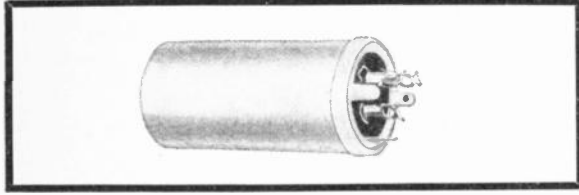
TEMPERATURE RANGE: to +65°C.

EDL Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Lgth.	List Price	Net Price
*EDL 221555	20-20	150	1 1/2 x 2 1/2	\$1.65	\$.99
*EDL 331555	30-30	150	1 x 2 1/2	1.80	1.08
*EDL 421555	40-20	150	1 x 2 1/2	1.75	1.05
*EDL 431555	40-40	150	1 1/8 x 2 1/2	1.85	1.11
*EDL 531555	50-30	150	1 1/8 x 2 1/2	1.95	1.17
*EDL 331555	50-50	150	1 3/8 x 3 1/2	2.10	1.26
*EDL 841555	80-40	150	1 1/8 x 3 1/2	2.25	1.35

CORNELL DUBILIER



TWIST-PRONG BASE ELECTROLYTICS



Small round-can TWIST-PRONG electrolytic units. Each is furnished with a bakelite and a metal mounting washer.

X types are especially designed for SELENIUM RECTIFIER circuit applications. ONLY THIS TYPE SHOULD BE USED FOR THIS SERVICE.

TEMP. RANGE: to 475 V.D.C.W. +85°C.
over 475 V.D.C.W. +65°C.

★ PREFERRED TYPE SINGLE SECTION

Single Section Cap./Volts	Rotational Stack No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
10 Ohms 30 CPS.	A0010	3/4 x 2	\$2.50	\$1.50
.5 Ohms 15,750 CPS.	A0020	1 x 2	2.75	1.65
1 Ohms 60 CPS.	A0030	1 3/4 x 3	3.50	2.10
★ 2000 6	A0040	1 3/4 x 2	2.55	1.53
3000/10	A0050	1 3/4 x 2 1/2	3.65	2.19
★ 225/13	A0053	3/4 x 2	1.75	1.05
★ 1000/13	A0060	1 x 2 1/2	2.55	1.53
★ 2000/15	A0070	1 3/4 x 2 1/2	3.45	2.07
★ 3000/13	A0080	1 3/4 x 3	3.50	2.10
★ 40/25	A0090	3/4 x 2	1.35	.81
100/25	A0100	3/4 x 2	2.00	1.20
500/25	A0110	1 x 2 1/2	3.20	1.92
★ 500 25	A0120	1 x 2	2.55	1.53
★ 1000 25	A0130	1 3/4 x 2	3.55	2.13
★ 100/30	A0140	3/4 x 2	1.65	.99
★ 150/30	A0150	1 x 2	1.80	1.08
★ 500/30	A0160	1 3/4 x 2	2.65	1.59
★ 1000/30	A0170	1 3/4 x 3 3/4	3.75	2.25
★ 1500/30	A0174	1 3/4 x 4 1/4	3.85	2.31
★ 30/150	A0180	3/4 x 2	1.55	.93
40/150	A0190	1 x 2	2.00	1.20
40/150	XA0191	3/4 x 2	2.00	1.20
★ 50/150	A0200	1 x 2	1.65	.99
60/150	A0220	1 x 2	2.20	1.32
80/150	A0230	1 x 2	2.30	1.38
★ 80/150	XA0231	1 x 2	1.85	1.11
100/150	A0240	1 x 2 1/2	2.50	1.50
★ 100/150	XA0241	1 x 2 1/2	2.00	1.20
★ 120/150	XA0248	1 x 2 1/2	2.05	1.23
★ 120/150	A0250	1 3/4 x 2	2.05	1.23
150/150	A0260	1 x 3	2.70	1.62
★ 150/150	XA0261	1 x 3	2.15	1.29
★ 200/150	XA0262	1 3/4 x 2 1/2	2.45	1.47
★ 200/150	XA0262.1	1 x 3 3/4	2.45	1.47
★ 300/150	XA0263	1 3/4 x 3	2.80	1.68
80/200	XA0265	1 3/4 x 2	2.45	1.47
★ 120/200	XA0265.3	1 3/4 x 2	2.80	1.68
150/200	XA0266	1 3/4 x 2 1/2	3.50	2.10
★ 20/250	A0270	3/4 x 2	1.60	.96
30/250	A0280	1 x 2	2.15	1.29
40/250	A0290	1 x 2	2.25	1.35
★ 40/250	XA0291	1 x 2	1.80	1.08
60/250	A0300	1 x 2 1/2	2.55	1.53
80/250	A0310	1 x 3	2.70	1.62
★ 100/250	XA0312	1 x 3	2.70	1.62
★ 150/250	XA0315	1 3/4 x 2 1/2	3.10	1.86
★ 200/250	XA0318	1 3/4 x 3	3.95	2.37
50/300	A0320	1 x 2 1/2	2.55	1.53
60/300	XA0324	1 x 2 1/2	2.65	1.59
80/300	A0330	1 x 3	3.20	1.92
★ 80/300	XA0331	1 x 3	2.55	1.53
★ 100/300	A0340	1 3/4 x 3	2.90	1.74
★ 100/300	A0350	1 x 3 3/4	2.90	1.74
★ 150/300	XA0355	1 3/4 x 3	3.50	2.10

SINGLE SECTION

Single Section Cap./Volts	Rotational Stack No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
15/350	A0360	1 x 2	\$2.05	\$1.23
★ 30/350	A0370	1 x 2	1.90	1.14
★ 40/350	A0380	1 x 2 1/2	2.00	1.20
★ 50/350	A0390	1 x 3	2.10	1.26
80/350	A0400	1 3/4 x 2 1/2	3.55	2.13
★ 80/350	XA0401	1 3/4 x 2 1/2	2.80	1.68
125/350	A0410	1 3/4 x 3	4.55	2.73
★ 125/350	XA0411	1 3/4 x 3	3.65	2.19
★ 150/350	XA0415	1 3/4 x 3 3/4	3.95	2.37
80/400	A0420	1 3/4 x 3	3.70	2.22
★ 10/450	A0430	1 x 2	1.55	.93
10/450	A0440	3/4 x 2	1.95	1.17
15/450	A0450	1 x 2	2.15	1.29
★ 20/450	A0460	1 x 2	1.80	1.08
★ 30/450	A0470	1 x 2 1/2	1.95	1.17
★ 40/450	A0480	1 x 3	2.05	1.23
★ 50/450	A0490	1 x 3 3/4	2.35	1.41
★ 60/450	A0500	1 3/4 x 2 1/2	2.60	1.56
★ 80/450	A0510	1 3/4 x 3	3.05	1.83
★ 100/450	A0512	1 3/4 x 3	3.45	2.07
★ 125/450	A0514	1 3/4 x 4 1/4	3.75	2.25
★ 40/475	A0516	1 3/4 x 2	2.50	1.50
★ 10/500	A0520	1 x 2	1.60	.96
★ 20/500	A0530	1 x 2 1/2	1.85	1.11
25/500	A0532	1 x 2 1/2	2.45	1.47
30/500	A0540	1 x 3	2.50	1.50
★ 30/500	XA0541	1 x 3	2.00	1.20
★ 40/500	A0550	1 x 3 3/4	2.50	1.50
★ 80/500	A0560	1 3/4 x 3 3/4	3.20	1.92
★ 90/500	A0570	1 3/4 x 3 3/4	3.50	2.10

DUAL SECTION

.5 Ohms 15,750 CPS. 2.5 Ohms 60 CPS. 1000-500 6 VNP	Rotational Stack No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
★ 1000-1000/15	B0010	1 3/4 x 2	4.90	2.94
★ 1000-1000/15	B0020	1 3/4 x 2	4.80	2.88
★ 500-100/20	B0030	1 x 3 3/4	4.40	2.64
20-20/25	B0040	1 3/4 x 2 1/2	4.40	2.64
40-40/25	B0045	1 x 2	3.15	1.89
150-50/25	B0050	1 x 2	1.80	1.08
★ 50-50/50	B0060	1 x 2	2.00	1.20
★ 100-100 50	B0070	1 x 2	2.40	1.44
20-20 150	B0080	1 x 2	1.70	1.02
★ 20-20 150	B0085	1 x 2	2.10	1.26
★ 30-20 150	B0090	1 x 2	2.15	1.29
30-30 150	XB0091	1 x 2	1.70	1.02
★ 40-20, 150	B0100	1 x 2	2.20	1.32
★ 40-30, 150	B0110	1 x 2	1.85	1.11
40-40 150	B0120	1 x 2	1.80	1.08
★ 40-40, 150	B0130	1 x 2	1.85	1.11
★ 50-30, 150	B0140	1 x 2	2.40	1.44
50-50/150	XB0141	1 x 2	1.90	1.14
★ 50-50/150	B0150	1 x 2	2.00	1.20
★ 60-60/150	B0160	1 x 2 1/2	2.70	1.62
★ 75-75 150	XB0161	1 x 2 1/2	2.15	1.29
80-40/150	B0165	1 x 3	2.35	1.41
★ 80-40/150	B0170	1 x 3	2.60	1.56
★ 80-80/150	B0180	1 x 2 1/2	2.90	1.74
100-100/150	XB0181	1 x 2 1/2	2.30	1.38
★ 125-100/150	XB0183	1 3/4 x 2	2.65	1.59
150-150 150	XB0184	1 3/4 x 2 1/2	4.05	2.43
200-5/150	XB0184.5	1 3/4 x 2 1/2	3.50	2.10
★ 200-125/150	XB0185	1 3/4 x 3	4.40	2.64
★ 200-200 150	B0186	1 3/4 x 2 1/2	3.40	2.04
★ 60-60/200	XB0187	1 3/4 x 3 3/4	3.75	2.25
★ 100-100 200	XB0188	1 3/4 x 3 3/4	3.75	2.25
★ 200-5/200	XB0189	1 3/4 x 3 3/4	4.00	2.40
10-10/250	B0190	1 3/4 x 2	2.55	1.53
★ 20-20, 250	XB0194	1 3/4 x 3	3.50	2.10
30-30/250	XB0196	1 3/4 x 2 1/2	2.70	1.62
	B0200	1 x 2	2.15	1.29
	B0210	1 x 2	1.90	1.14
	B0220	1 x 2 1/2	2.90	1.74

CORNELL DUBILIER

TWIST-PRONG BASE ELECTROLYTICS

*** PREFERRED TYPE TRIPLE SECTION**

TRIPLE SECTION

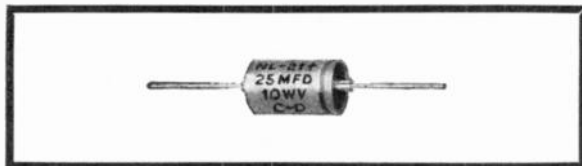
Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price	Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
* 20-10-10/450	C0260	1 x 3	\$2.95	\$1.77	* 200-20/300 10/100	C0735	1 3/8 x 4 1/2	\$4.90	\$2.94
* 20-20-20/450	C0270	1 3/8 x 2 1/2	3.60	2.16	10-5 350 30/50	C0739	1 x 2 1/2	3.85	2.31
* 30-20-20/450	C0280	1 3/8 x 3	3.85	2.31	10-5 350 150/50	C0740	1 x 3	4.05	2.43
30-30-20/450	C0290	1 3/8 x 3	6.15	3.69	10-10/350 20/25	C0750	1 x 2	3.40	2.04
* 30-30-30/450	C0300	1 3/8 x 3	4.35	2.61	10-15/350 20/25	C0760	1 x 2	3.75	2.25
* 30-60-10/450	C0310	1 3/8 x 3 3/8	4.50	2.70	* 15-10/350 20/25	C0770	1 x 2	2.50	1.50
* 40-10-10/450	C0320	1 3/8 x 3	3.35	2.01	* 20-4 350 100/25	C0773	1 x 2 1/2	2.60	1.56
* 40-30-20 450	C0330	1 3/8 x 3	4.30	2.58	* 20-5 350 150 50	C0775	1 x 3	2.95	1.77
* 40-40-10, 450	C0340	1 3/8 x 3	4.20	2.52	* 20-10 350 20/25	C0780	1 x 2	2.55	1.53
* 40-40-20/450	C0344	1 3/8 x 3 3/8	4.45	2.67	* 20-10 350 5/250	C0790	1 x 2	2.55	1.53
* 40-40-40/450	C0350	1 3/8 x 3 3/8	4.90	2.94	* 20-20, 350 20/25	C0800	1 x 2 1/2	2.80	1.68
* 50-40-30 450	C0355	1 3/8 x 3 3/8	4.90	2.94	* 30-5 350 100/200	C0806	1 3/8 x 2 1/2	6.00	3.60
* 60-20-20 450	C0360	1 3/8 x 3 3/8	4.60	2.76	30-10/350 20/25	C0810	1 x 2 1/2	4.30	2.58
* 60-40-20 450	C0365	1 3/8 x 3 3/8	5.00	3.00	30-10 350 20/250	C0820	1 x 3	4.60	2.76
* 80-40-20, 450	C0370	1 3/8 x 4 1/8	5.40	3.24	* 30-20/350 20/25	C0830	1 x 3	3.10	1.86
* 30-30-20 475	C0371	1 3/8 x 3	4.75	2.85	* 30-20/350 100/150	C0835	1 3/8 x 2 1/2	4.00	2.40
* 40-20-20 475	C0372	1 3/8 x 3	4.75	2.85	* 30-30/350 20/25	C0840	1 3/8 x 2	3.40	2.04
* 40-30-10, 475	C0373	1 3/8 x 3	4.50	2.70	40-20/350 10/100	C0850	1 3/8 x 2	4.30	2.58
* 40-30-30, 475	C0374	1 3/8 x 3 3/8	5.15	3.09	20-40/350 10/150	C0860	1 x 3	4.80	2.88
* 10-10-10, 500	C0380	1 x 3	2.70	1.62	40-40 350 50/25	C0870	1 3/8 x 2 1/2	5.65	3.39
* 30-20-20 500	C0390	1 3/8 x 3	4.20	2.52	* 80-40 350 400/50	XC0874	1 3/8 x 4 1/8	5.65	3.39
* 40-10-10 500	C0400	1 3/8 x 3	3.90	2.34	* 100-60 350 20/250	C0875	1 3/8 x 4 1/8	5.50	3.30
* 40-40-10 500	C0410	1 3/8 x 3 3/8	5.05	3.03	* 20-20 400 10/350	C0876	1 x 3	3.00	1.80
* 15-15/150 1200/1.5	C0420	1 x 2	3.00	1.80	30-10/400 150/50	C0880	1 3/8 x 2 1/2	5.10	3.06
20-20/150 20 25	C0430	1 x 2	3.30	1.98	* 60-30 400 20/350	C0885	1 3/8 x 3	4.55	2.73
20-20/150 20 25	XC0431	1 x 2	3.30	1.98	* 80-40/400 150/50	C0890	1 3/8 x 3 3/8	5.15	3.09
20-20/150 100/10	C0440	1 x 2	3.55	2.13	* 100-10/400 20 50	C0894	1 3/8 x 3 3/8	4.50	2.70
20-20 150 250 10	C0450	1 x 2	3.90	2.34	* 100-10 400 80 350	C0896	1 3/8 x 4 1/8	6.10	3.66
30-30 150 20 25	C0460	1 x 2	3.55	2.13	15-5 450 15 350	C0900	1 x 3	4.30	2.58
30-30 150 200 10	C0470	1 x 2	3.75	2.25	* 10-10/450 20 25	C0910	1 x 2	2.40	1.44
40-20 150 20 25	C0480	1 x 2	3.45	2.07	* 10-10 450 40 50	C0920	1 x 2 1/2	2.50	1.50
* 40-20 150 20 25	XC0481	1 x 2	2.30	1.38	10-10/450 50 100	C0930	1 3/8 x 2	4.00	2.40
40-20/150 100 25	C0490	1 x 2	3.75	2.25	15-15/450 20 25	C0940	1 x 2 1/2	4.15	2.49
40-20/150 100 10	C0500	1 x 2	3.60	2.16	* 15-15/450 40 25	C0945	1 x 2 1/2	2.75	1.65
* 40-20/150 200 25	C0510	1 x 2 1/2	2.70	1.62	15-15/450 10 300	C0950	1 x 3	4.35	2.61
* 40-20 150 200 10	C0520	1 x 2	2.40	1.44	* 20-10 450 20 25	C0960	1 x 2 1/2	2.70	1.62
40-20 150 250 10	C0530	1 x 2	4.05	2.43	* 20-10 450 50 50	C0970	1 x 3	2.85	1.71
40-30 150 20 25	C0540	1 x 2	3.55	2.13	20-15 450 20 25	C0980	1 x 3	4.35	2.61
40-40 150 20 25	C0550	1 x 2	3.60	2.16	* 20-20, 450 20 25	C0990	1 x 3	3.05	1.83
* 40-40 150 20 25	XC0551	1 x 2	2.40	1.44	20-20, 450 100 50	C0992	1 3/8 x 2 1/2	5.25	3.15
* 40-40 150 250 25	XC0555	1 x 3	3.15	1.89	20-20 450 60 350	C1000	1 3/8 x 3	6.10	3.66
* 50-30 150 20 25	C0560	1 x 2	2.50	1.50	* 30-10 450 150 50	C1005	1 3/8 x 2 1/2	3.50	2.10
* 50-30 150 100 25	C0570	1 x 2 1/2	2.70	1.62	30-20, 450 30 150	C1010	1 3/8 x 2 1/2	5.25	3.15
* 50-50 150 20 25	C0580	1 x 2 1/2	2.65	1.59	* 30-30 450 20 25	C1020	1 3/8 x 2 1/2	3.55	2.13
60-20 150 20 25	C0590	1 x 2	3.85	2.31	30-30 450 40 50	C1030	1 3/8 x 3	5.50	3.30
60-40 150 20 25	C0600	1 x 2 1/2	4.00	2.40	* 30-30 450 125, 25	C1034	1 3/8 x 3	3.95	2.37
* 80-30 150 300 10	XC0602	1 3/8 x 2	3.15	1.89	* 35-25 450 100, 50	C1036	1 3/8 x 3	3.95	2.37
80-30 150 300 25	XC0604	1 3/8 x 2 1/2	5.50	3.30	* 40-10/450 100 50	C1040	1 3/8 x 3	4.30	2.58
* 80-40 150 20 25	C0610	1 x 2 1/2	2.80	1.68	* 40-10 450 80 200	C1030	1 3/8 x 3	3.90	2.34
* 80-40 150 300 25	XC0613	1 3/8 x 2 1/2	3.70	2.22	* 40-20 450 20 25	C1060	1 3/8 x 2 1/2	3.50	2.10
* 80-60/150 250 10	XC0615	1 3/8 x 2 1/2	3.40	2.04	* 40-40 450 20 25	C1070	1 3/8 x 3	3.95	2.37
* 100-80 150 200 10	XC0618	1 3/8 x 2 1/2	3.60	2.16	* 40-40 450 40 25	C1080	1 3/8 x 3	3.95	2.37
120-60 150 20 25	C0620	1 3/8 x 2 1/2	5.05	3.03	* 40-40 450 100 50	C1090	1 3/8 x 3 3/8	4.30	2.58
* 300-80 150 200 50	C0626	1 3/8 x 4 1/8	4.95	2.97	* 40-40 450 40 150	C1100	1 3/8 x 3 3/8	4.10	2.46
30-20 200 20 25	C0630	1 x 2	3.85	2.31	* 40-40 450 60 200	C1102	1 3/8 x 3 3/8	4.45	2.67
* 30-20 200 40 150	C0632	1 x 2 1/2	2.70	1.62	* 40-40 450 80 350	C1103	1 3/8 x 4 1/8	5.55	3.33
40-80 200 100 50	C0634	1 3/8 x 3	5.25	3.15	* 50-5 450 50 350	C1103.5	1 3/8 x 3 3/8	4.25	2.53
* 60-5 200 20 50	C0636	1 x 2 1/2	2.50	1.50	* 60-40 450 75 50	C1104	1 3/8 x 3 3/8	4.60	2.76
100-10 200 40 50	C0640	1 3/8 x 2	4.75	2.85	* 80-10 450 125 25	C1106	1 3/8 x 3 3/8	4.40	2.64
* 15-15 250 20 25	C0650	1 x 2	2.35	1.41	* 80-20 450 100 50	C1108	1 3/8 x 4 1/8	4.80	2.88
20-15 250 20 25	C0660	1 x 2	3.55	2.13	* 80-40 450 100 25	C1110	1 3/8 x 4 1/8	5.10	3.06
* 30-30 250 20 25	C0670	1 x 2 1/2	2.80	1.68	* 20-10 475 100 400	C1114	1 3/8 x 4 1/8	5.25	3.15
40-40 250 10 200	C0674	1 x 3	4.45	2.67	10-10 500 100 50	C1120	1 x 3	4.30	2.58
70-70 250 20 50	C0680	1 3/8 x 3	5.85	3.51	10-10 500 4 350	C1130	1 x 2 1/2	3.75	2.25
80-80 250 10 450	C0690	1 3/8 x 3 3/8	6.30	3.78	* 20-10 500 100 50	C1150	1 x 3 3/8	3.30	1.98
* 90-90 250 20 50	C0695	1 3/8 x 3	4.60	2.76	20-20 500 60 400	C1160	1 3/8 x 3 3/8	7.20	4.32
10-10 300 15 250	C0700	1 x 2	3.70	2.22	* 20-20 500 60, 450	C1162	1 3/8 x 3 3/8	4.85	2.91
20-20 300 20 25	C0710	1 x 2	4.15	2.49	* 40 475 80-10 450	C1167	1 3/8 x 4 1/8	5.50	3.30
30-30 300 25 50	C0720	1 x 3	4.35	2.61	30-10 500 20 50	C1170	1 3/8 x 2 1/2	4.65	2.79
40-15/300 20 25	C0730	1 x 3	4.45	2.67	* 40-40 500 100/200	C1180	1 3/8 x 4 1/8	5.85	3.51
40-20 300 20 25	XC0732	1 x 2 1/2	4.65	2.79	100, 100 50-25/25	C1190	1 x 3	4.00	2.40
* 100-10 300 60 50	C0733	1 3/8 x 2 1/2	4.05	2.43	20 150 250-100/15	C1200	1 3/8 x 2	4.35	2.61
* 140-10 300 200 150	C0734	1 3/8 x 4 1/8	5.50	3.30	* 60, 200 200-140 150	XC1202	1 3/8 x 4 1/8	4.80	2.88
* 140-100 300 60 50	C0734.3	1 3/8 x 4 1/8	6.05	3.63	* 10, 300 500-500, 15	XC1204	1 3/8 x 2 1/2	3.90	2.34

CORNELL



DUBILIER

ULTRA SMALL ALUMINUM-CASED ELECTROLYTICS



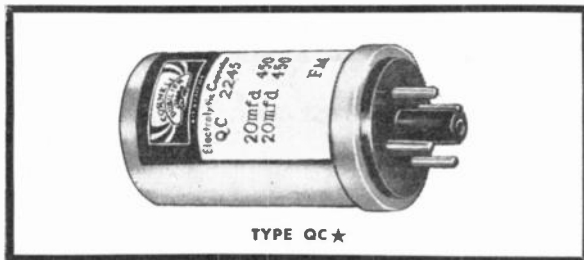
The Type NL Capacitors are hermetically sealed aluminum foil electrolytic capacitors. They are housed in aluminum containers.

Despite their extremely small size, the construction is very rugged and lends itself to applications where little space is available. They are especially suitable for printed circuit applications.

TEMPERATURE RANGE: -20°C. to +65°C.

NL Cat. No.	Cap. Mfd.	WVDC	Can Size—Inches Dia. x Length	List Price	Net Price
NL 5-1	5	1	3/16 x 1/2	\$1.00	\$.60
NL 2-3	2	3	3/16 x 1/2	1.00	.60
NL 10-3	10	3	1/4 x 3/8	1.00	.60
NL 25-3	25	3	1/4 x 3/8	1.00	.60
NL 40-3	40	3	1/4 x 3/8	1.00	.60
NL 50-3	50	3	1/4 x 3/8	1.00	.60
NL 110-3	110	3	3/8 x 3/4	1.10	.66
NL 200-3	200	3	3/8 x 1	1.20	.72

PLUG-IN ELECTROLYTIC



TYPE QC ★

Type QC Capacitors are hermetically sealed in round aluminum containers with a four-pin octal base. Ideally suited for experimental, testing, juke box, government communication receiver uses and applications where quick capacitor changes are required. Ground lugs are furnished with all multiple-section units for cathode connection.

TEMPERATURE RANGE: to +85°C; except, +65°C at 500 V.D.C.W.

SINGLES

QC Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
QC 1045	10	450	1 1/32 x 2 1/2	\$4.05	\$2.43
QC 2045	20	450	1 1/32 x 2 1/2	4.30	2.58
QC 4045	40	450	1 3/8 x 2 1/2	4.55	2.73
QC 8045	80	450	1 3/8 x 3 1/2	5.55	3.33
QC 4050	40	500	1 3/8 x 2 1/2	5.00	3.00

DUALS

QC 2215	20-20	150	1 1/32 x 2 1/2	4.20	2.52
QC 4415	40-40	150	1 1/32 x 2 1/2	4.40	2.64
QC 5515	50-50	150	1 1/32 x 2 1/2	4.65	2.79
QC 8815	80-80	150	1 3/8 x 2 1/2	5.15	3.09
QC 1145	10-10	450	1 1/32 x 2 1/2	4.40	2.64
QC 2245	20-20	450	1 1/32 x 2 1/2	5.05	3.03
QC 3345	30-30	450	1 3/8 x 3	5.55	3.33
QC 4445	40-40	450	1 3/8 x 3 1/2	5.90	3.54
QC 2250	20-20	500	1 3/8 x 2 1/2	5.30	3.18

TRIPLES

QC 22215	20-20-20	150	1 1/32 x 2 1/2	4.85	2.91
QC 44415	40-40-40	150	1 3/8 x 2 1/2	5.10	3.06
QC 11145	10-10-10	450	1 1/32 x 2 1/2	5.10	3.06
QC 22245	20-20-20	450	1 3/8 x 3	6.10	3.66
QC 4245C	40-20-20	450/25	1 3/8 x 3	6.00	3.60
QC 11150	10-10-10	500	1 3/8 x 2 1/2	5.30	3.18

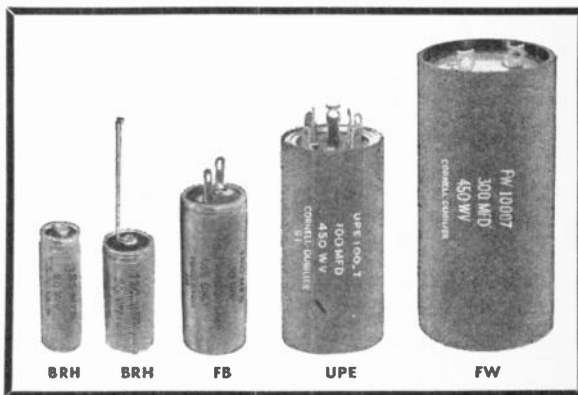
QUADRUPLES

QC 11145C	10-10-10-20	450/25	1 3/8 x 2 1/2	5.65	3.39
QC 33145C	30-30-10-20	450/50	1 3/8 x 4 1/4	6.85	4.11

★ When JAN-C-62 units must be supplied, order according to specific CE type designations.

NL 1-6	1	6	3/16 x 1/2	1.00	.60
NL 2-6	2	6	3/16 x 1/2	1.00	.60
NL 3-6	3	6	3/16 x 1/2	1.00	.60
NL 4-6	4	6	3/16 x 3/8	1.00	.60
NL 5-6	5	6	3/16 x 3/8	1.00	.60
NL 8-6	8	6	1/4 x 3/8	1.05	.63
NL 10-6	10	6	1/4 x 3/8	1.05	.63
NL 15-6	15	6	1/4 x 3/8	1.05	.63
NL 20-6	20	6	1/4 x 3/8	1.05	.63
NL 25-6	25	6	1/4 x 3/8	1.05	.63
NL 30-6	30	6	3/8 x 3/8	1.10	.66
NL 40-6	40	6	3/8 x 3/8	1.10	.66
NL 50-6	50	6	3/8 x 3/8	1.10	.66
NL 60-6	60	6	3/8 x 3/4	1.10	.66
NL 100-6	100	6	3/8 x 7/8	1.20	.72
NL 10-10	10	10	1/4 x 3/4	1.05	.63
NL 15-10	15	10	1/4 x 3/4	1.05	.63
NL 25-10	25	10	3/8 x 3/4	1.05	.63
NL 50-10	50	10	3/8 x 3/4	1.15	.69
NL 100-10	100	10	3/8 x 1	1.25	.75
NL 5-15	5	15	1/4 x 3/8	1.10	.66
NL 10-15	10	15	1/4 x 3/8	1.10	.66
NL 20-15	20	15	3/8 x 3/8	1.15	.69
NL 30-15	30	15	3/8 x 3/8	1.20	.72
NL 5-25	5	25	1/4 x 3/8	1.10	.66
NL 6-25	6	25	1/4 x 3/8	1.10	.66
NL 10-25	10	25	3/8 x 3/8	1.15	.69
NL 15-25	15	25	3/8 x 3/8	1.15	.69
NL 20-25	20	25	3/8 x 3/8	1.20	.72
NL 5-50	5	50	1/4 x 3/8	1.15	.69
NL 10-50	10	50	3/8 x 3/8	1.20	.72
NL 20-50	20	50	3/8 x 3/8	1.20	.72

HIGH VOLTAGE PHOTOFLASH



Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Length	Watt Seconds	List Price	Net Price
XBO455*	100 (2 x 50)	450	1 3/8 x 3	10	\$3.85	\$2.31
FB 10063*	200	450	2 1/16 x 4 1/2	20	6.85	4.11
FW 10005†	200	500	2 1/16 x 4 3/8	25	10.50	6.30
FW 10007†	300	450	2 1/16 x 4 3/8	30	10.50	6.30
FWS 10000†	300	450	2 1/16 x 4 3/8	30	11.50	6.90
FA 10300*	400	450	2 1/16 x 4 1/2	40	17.95	10.77
FWSN 10001†	525	450	2 1/16 x 4 3/8	53	22.60	13.56

LOW VOLTAGE PHOTOFLASH

Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Length	List Price	Net Price
BRE 10001 †	40	150	3/4 x 1 1/16	\$1.35	\$.81
FB 10077 †	100	30	1 x 2 11/16	3.35	2.01
BRH 10062 †	125	25	5/8 x 1 11/16	1.35	.81
BRH 10067 †	150	50	3/4 x 1 11/16	1.35	.81
BRH 2525 †	250	25	1 1/16 x 1 3/8	1.70	1.02

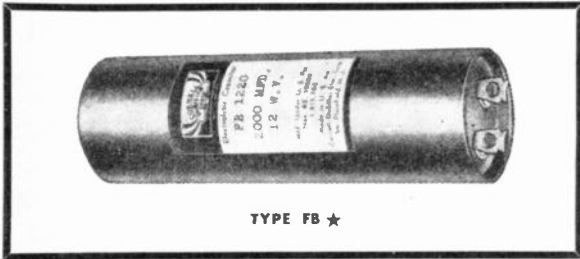
* Aluminum can with cardboard sleeve. † Bakelite Case—Screw Terminals.
‡ Aluminum can—no sleeve. †† Bakelite Case—Solder Lug Terminals.

CORNELL



DUBILIER

**HIGH-CAPACITY
LOW-VOLTAGE
ELECTROLYTICS**



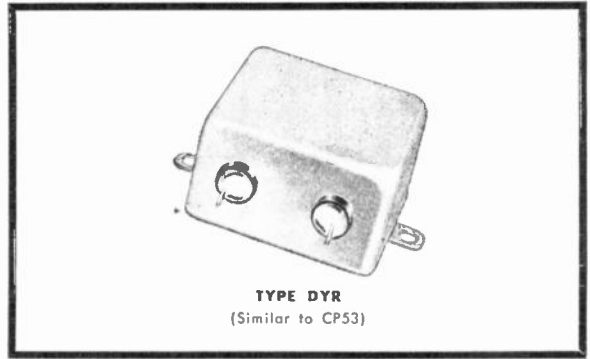
TYPE FB ★

Type FB capacitors in round cardboard sleeved aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits.

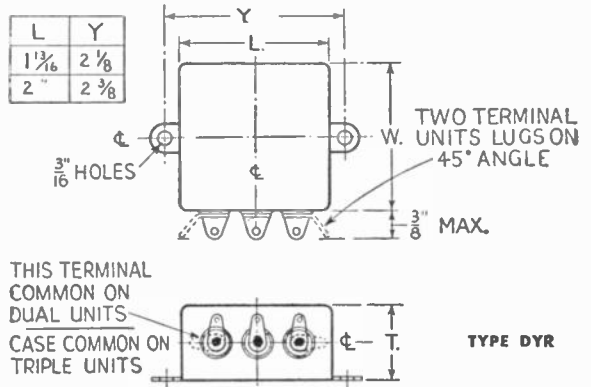
TEMPERATURE RANGE: to +85°C.

FB	Cat. No.	Cap. Mfd.	D.C. W. Volts	Can†† Size—Inches Dia. x Lgth.	List Price	Net Price
FB 1005		500	10	1 3/8 x 2 3/8	\$3.10	\$1.86
FB 1010		1000	10	1 3/8 x 2 3/8	3.55	2.13
FB 1015		1500	10	1 3/8 x 2 3/8	3.75	2.23
FB 1020		2000	10	1 3/8 x 2 3/8	3.95	2.37
FB 1030		3000	10	1 3/8 x 3 1/8	4.35	2.61
FB 1040		4000	10	1 3/8 x 4 1/8	4.75	2.85
FB 1050		5000	10	1 1/2 x 4 1/8	5.15	3.09
FB 1060		6000	10	1 3/4 x 4 1/8	7.50	4.50
FB 1205		500	12	1 3/8 x 2 3/8	3.20	1.92
FB 1210		1000	12	1 3/8 x 2 3/8	3.75	2.23
FB 1215		1500	12	1 3/8 x 2 3/8	3.95	2.37
FB 1220		2000	12	1 3/8 x 3 1/8	4.15	2.49
FB 1225		2500	12	1 3/8 x 3 1/8	4.85	2.91
FB 1230		3000	12	1 3/8 x 4 1/8	5.05	3.03
FB 1240		4000	12	1 1/2 x 4 1/8	5.25	3.13
FB 1260		6000	12	2 x 4 1/8	9.35	5.61
FB 1505		500	15	1 3/8 x 2 3/8	3.25	1.95
FB 1510		1000	15	1 3/8 x 2 3/8	3.80	2.28
FB 1515		1500	15	1 3/8 x 2 3/8	4.00	2.40
FB 1520		2000	15	1 3/8 x 3 1/8	4.70	2.82
FB 1530		3000	15	1 3/8 x 4 1/8	5.15	3.09
FB 1540		4000	15	1 1/2 x 4 1/8	8.10	4.86
FB 1560		6000	15	2 x 4 1/8	10.00	6.00
FB 1805		500	18	1 3/8 x 2 3/8	3.00	1.80
FB 1810		1000	18	1 3/8 x 2 3/8	3.90	2.34
FB 1820		2000	18	1 3/8 x 3 1/8	4.90	2.94
FB 1840		4000	18	1 1/2 x 4 1/8	8.45	5.07
FB 2005		500	20	1 3/8 x 2 3/8	3.40	2.04
FB 2010		1000	20	1 3/8 x 3 1/8	4.10	2.46
FB 2020		2000	20	1 3/8 x 4 1/8	5.20	3.12
FB 2040		4000	20	2 x 4 1/8	8.75	5.25
FB 2505		500	25	1 3/8 x 2 3/8	3.55	2.13
FB 2510		1000	25	1 3/8 x 3 1/8	4.80	2.88
FB 2520		2000	25	1 3/8 x 4 1/8	5.75	3.45
FB 2530		3000	25	1 3/4 x 4 1/8	8.00	4.80
FB 2540		4000	25	2 x 4 1/8	9.50	5.70
FB 2550		5000	25	2 1/2 x 4 1/8	11.00	6.60
FB 3005		500	30	1 3/8 x 3 1/8	3.60	2.16
FB 3010		1000	30	1 3/8 x 4 1/8	4.90	2.94
FB 3020		2000	30	1 3/4 x 4 1/8	7.40	4.44
FB 3030		3000	30	2 x 4 1/8	8.95	5.37
FB 3040		4000	30	2 1/2 x 4 1/8	10.50	6.30
FB 3505		500	35	1 3/8 x 3 1/8	3.70	2.22
FB 3510		1000	35	1 3/8 x 4 1/8	5.00	3.00
FB 3520		2000	35	1 3/4 x 4 1/8	8.00	4.80
FB 3530		3000	35	2 x 4 1/8	9.50	5.70
FB 3540		4000	35	2 1/2 x 4 1/8	11.00	6.60
FB 4005		500	40	1 3/8 x 3 1/8	3.80	2.28
FB 4010		1000	40	1 3/8 x 4 1/8	6.50	3.90
FB 4020		2000	40	1 3/4 x 4 1/8	9.00	5.40
FB 4030		3000	40	2 x 4 1/8	10.50	6.30
FB 4040		4000	40	2 1/2 x 4 1/8	11.50	6.90
FB 5005		500	50	1 3/8 x 3 1/8	3.90	2.34
FB 5010		1000	50	1 3/8 x 4 1/8	7.00	4.20
FB 5020		2000	50	1 3/4 x 4 1/8	9.10	5.46
FB 5030		3000	50	2 x 4 1/8	11.50	6.90
FB 5040		4000	50	2 1/2 x 4 1/8	12.50	7.50

**METAL CASED DYKANOL
PAPER CAPACITORS**



TYPE DYR
(Similar to CP53)



Type DYR Dykanol Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling under all humidity conditions. They are built to meet MIL-C25A performance and test requirements and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications.

TEMPERATURE RANGE: -55°C to +85°C.

STANDARD TOLERANCE: +20%, -10%.

DYR	Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
600 V. D.C. Work.					
DYR 6005		.05	1 13/16 x 1 x 3/8	\$2.90	\$1.74
DYR 6010		.1	1 13/16 x 1 x 3/8	2.95	1.77
DYR 6025		.25	1 13/16 x 1 x 3/8	3.10	1.86
DYR 6050		.5	1 13/16 x 1 x 3/8	3.30	1.98
DYR 6100		1	2 x 1 13/16 x 3/8	3.75	2.23
DYR 6200		2	2 x 2 x 1 1/8	5.00	3.00
DYR 60055		.05-.05	1 13/16 x 1 x 3/8	3.65	2.19
DYR 6011		.1-.1	1 13/16 x 1 x 3/8	3.70	2.22
DYR 6022X		.25-.25	1 13/16 x 1 x 3/8	3.75	2.23
DYR 6055		.5-.5	2 x 1 3/8 x 3/8	4.30	2.58
DYR 6110		1-.1	2 x 2 x 1 1/8	5.30	3.18
DYR 6111		.1-.1	1 13/16 x 1 x 3/8	4.20	2.52
DYR 6222		.25-.25-.25	2 x 1 3/8 x 1 13/16	4.75	2.85
DYR 6555		.5-.5-.5	2 x 2 x 1 1/8	5.75	3.45
1000 V. D.C. Work.					
DYR 10005		.05	1 13/16 x 1 x 3/8	3.05	1.83
DYR 10010		.1	1 13/16 x 1 x 3/8	3.15	1.89
DYR 10025		.25	1 13/16 x 1 x 3/8	3.25	1.95
DYR 10050		.5	2 x 1 3/8 x 3/8	3.55	2.13
DYR 10100		1	2 x 2 x 1 1/8	4.40	2.64
DYR 100055		.05-.05	1 13/16 x 1 x 3/8	3.85	2.31
DYR 10011		.1-.1	1 13/16 x 1 x 3/8	4.00	2.40
DYR 10022		.25-.25	2 x 1 3/8 x 3/8	4.20	2.52
DYR 10055		.5-.5	2 x 2 x 1 1/8	5.45	3.27
DYR 10111X		.1-.1	2 x 1 3/8 x 3/8	4.60	2.76
DYR 10222		.25-.25-.25	2 x 2 x 1 1/8	5.50	3.30

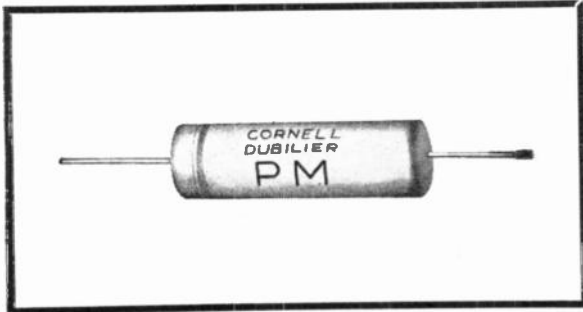
††For Overall Size add 1/16" to Diam. and 3/8" to Length. ★ When JAN-C-62 units must be supplied, order according to specific CE type designations.

CORNELL



DUBILIER

**MOLDED MYLAR*
TUBULARS**



C-D type PM is a MYLAR* dielectric, high temperature, moisture resistant, thermoset MOLDED† tubular capacitor. High Insulation Resistance. Low RF Impedance. See special "PM KIT."

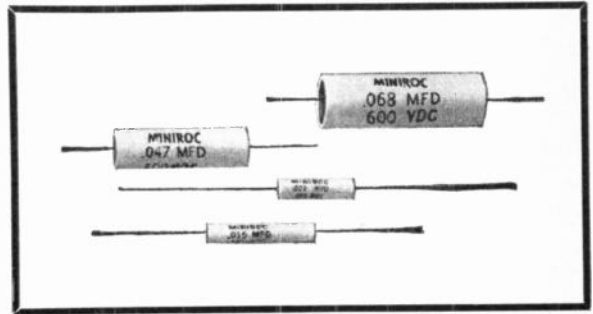
TEMPERATURE RANGE: -55°C to +130°C.

Derate by 10% at 100°C. Derate by 50% at 130°C. Full rating at 85°C.

PM	Cat. No.	Cap. Mfd.	Dimensions—Inches Diameter x Length	List Price	Net Price
200 V. D.C.W.					
PM 252		.02	3/8 x 1 1/4	\$.25	\$.15
PM 2547		.047	3/8 x 1 1/4	.25	.15
PM 255		.05	3/8 x 1 1/4	.25	.15
PM 2P1		.10	1/2 x 1 1/2	.35	.21
PM 2P15		.15	1/2 x 1 1/2	.35	.21
PM 2P22		.22	1/2 x 1 1/2	.40	.24
PM 2P25		.25	1/2 x 1 1/2	.45	.27
PM 2P47		.47	3/8 x 1 3/8	.60	.36
PM 2P5		.50	3/8 x 1 3/8	.60	.36
PM 2W1		1.00	3/4 x 2 1/4	.95	.57
400 V. D.C.W.					
PM 451		.01	3/8 x 1 1/4	.25	.15
PM 4515		.015	3/8 x 1 1/4	.25	.15
PM 452		.02	3/8 x 1 1/4	.25	.15
PM 4522		.022	3/8 x 1 1/4	.30	.18
PM 4533		.033	3/8 x 1 1/4	.30	.18
PM 4547		.047	3/8 x 1 1/4	.30	.18
PM 455		.05	3/8 x 1 1/4	.30	.18
PM 4568		.068	1/2 x 1 1/2	.35	.21
PM 4P1		.10	1/2 x 1 1/2	.35	.21
PM 4P15		.15	5/8 x 1 1/2	.40	.24
PM 4P22		.22	5/8 x 1 1/2	.50	.30
PM 4P25		.25	5/8 x 1 1/2	.55	.33
PM 4P33		.33	1 1/8 x 1 1/2	.65	.39
PM 4P47		.47	3/4 x 2 1/4	.80	.48
PM 4P5		.50	3/4 x 2 1/4	.85	.51
PM 4P68		.68	1 x 2 1/8	1.15	.69
PM 4W1		1.00	1 x 2 1/8	1.45	.87
600 V. D.C.W.					
PM 6T1		.0001	3/8 x 1 1/4	.25	.15
PM 6T25		.00025	3/8 x 1 1/4	.25	.15
PM 6T4		.0004	3/8 x 1 1/4	.25	.15
PM 6T5		.0005	3/8 x 1 1/4	.25	.15
PM 6D1		.001	3/8 x 1 1/4	.25	.15
PM 6D15		.0015	3/8 x 1 1/4	.25	.15
PM 6D2		.002	3/8 x 1 1/4	.25	.15
PM 6D22		.0022	3/8 x 1 1/4	.25	.15
PM 6D33		.0033	3/8 x 1 1/4	.25	.15
PM 6D33		.0033	3/8 x 1 1/4	.25	.15
PM 6D4		.004	3/8 x 1 1/4	.25	.15
PM 6D47		.0047	3/8 x 1 1/4	.25	.15
PM 6D5		.005	3/8 x 1 1/4	.25	.15
PM 6D5		.006	3/8 x 1 1/4	.25	.15
PM 6D6		.0068	3/8 x 1 1/4	.30	.18
PM 6D68		.0068	3/8 x 1 1/4	.30	.18
PM 6S1		.01	3/8 x 1 1/4	.30	.18
PM 6S15		.015	3/8 x 1 1/4	.30	.18
PM 6S2		.02	3/8 x 1 1/4	.30	.18
PM 6S22		.022	3/8 x 1 1/4	.30	.18
PM 6S3		.03	3/8 x 1 1/4	.35	.21
PM 6S33		.033	3/8 x 1 1/4	.35	.21
PM 6S4		.04	3/8 x 1 1/4	.35	.21
PM 6S47		.047	1/2 x 1 1/2	.40	.24
PM 6S5		.05	1/2 x 1 1/2	.40	.24
PM 6S5		.06	1/2 x 1 1/2	.40	.24
PM 6S6		.068	1/2 x 1 1/2	.40	.24
PM 6S68		.068	1/2 x 1 1/2	.45	.27
PM 6P1		.10	5/8 x 1 1/2	.55	.33
PM 6P15		.15	5/8 x 1 1/2	.65	.39
PM 6P2		.20	5/8 x 1 1/2	.65	.39
PM 6P22		.22	5/8 x 1 1/2	.75	.45
PM 6P25		.25	1 1/8 x 1 1/2	.90	.54
PM 6P33		.33	3/4 x 2 1/4	1.15	.69
PM 6P47		.47	3/4 x 2 1/4	1.15	.69
PM 6P5		.50	3/4 x 2 1/4	1.20	.72

*Dupont TM.

**STEATITE-CASED
MYLAR***



Cornell-Dubilier "MINIROC" tubular capacitors are high quality, sub-miniature, high temperature components in non-metallic (Steatite) cases. Fabricated from DuPont "Mylar" polyester film dielectric material.

- ◆ **STEATITE CASES:** Conform to JAN-1-10. Carefully processed for maximum protection against moisture.
- ◆ **MOISTURE RESISTANT:** Exceeds MIL-C-91 requirements.
- ◆ **POLYKANE END FILL:** Anchors lead wires and sections securely, will not crack, soften, or flow.
- ◆ **NON-INDUCTIVE:** Extended foil construction insures low resistance connections and low RF impedance.
- ◆ **WIDE TEMPERATURE RANGE:** Rated from -55°C to +130°C.
- ◆ **STRONG CONSTRUCTION:** Withstands extremes of soldering temperature without damage to the case material, moisture seal, lead connections, or electrical performance.

*DU PONT trade mark.

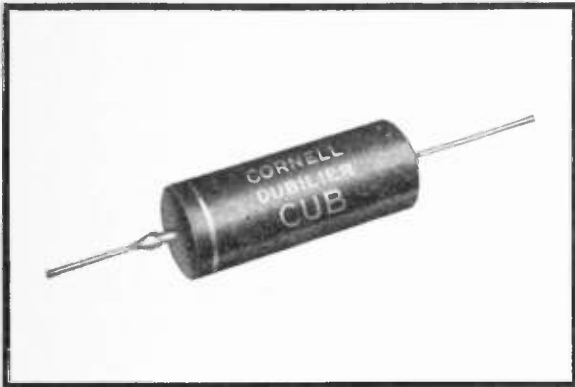
STM	Cat. No.	Cap. Mfd.	Dimensions—Inches Diameter x Length	List Price	Net Price
100 V. D.C.W.					
STM 1D1		.001	.170 x 3/8	\$.80	\$.48
STM 1D15		.0015	.170 x 3/8	.80	.48
STM 1D22		.0022	.170 x 3/8	.80	.48
STM 1D33		.0033	.170 x 3/8	.85	.51
STM 1D47		.0047	.170 x 3/8	.85	.51
STM 1D68		.0068	.170 x 3/8	.85	.51
STM 1S1		.01	.170 x 3/8	.90	.54
STM 1S15		.015	.190 x 3/4	.90	.54
STM 1S22		.022	.190 x 1 1/16	.90	.54
STM 1S33		.033	1/4 x 1 1/16	.95	.57
STM 1S47		.047	1/4 x 1 1/16	.95	.57
STM 1S68		.068	1/2 x 1 1/16	1.00	.60
STM 1P1		.10	5/8 x 1 1/16	1.00	.60
400 V. D.C.W.					
STM 4D1		.001	.170 x 3/4	.80	.48
STM 4D15		.0015	.170 x 3/4	.80	.48
STM 4D22		.0022	.190 x 3/4	.85	.51
STM 4D33		.0033	.170 x 1 1/16	.85	.51
STM 4D47		.0047	.170 x 1 1/16	.85	.51
STM 4D68		.0068	.190 x 1 1/16	.90	.54
STM 4S1		.01	1/4 x 1 1/16	.90	.54
STM 4S15		.015	1/4 x 1 1/16	.90	.54
STM 4S22		.022	1/2 x 1 1/16	.95	.57
STM 4S33		.033	3/8 x 1 1/16	.95	.57
STM 4S47		.047	3/8 x 1 1/4	1.00	.60
STM 4S68		.068	1/2 x 1 1/4	1.00	.60
STM 4P1		.10	1/2 x 1 1/4	1.00	.60
600 V. D.C.W.					
STM 6D1		.001	.170 x 3/4	.80	.48
STM 6D15		.0015	.190 x 3/4	.85	.51
STM 6D22		.0022	.190 x 1 1/16	.85	.51
STM 6D33		.0033	.190 x 1 1/16	.85	.51
STM 6D47		.0047	1/4 x 1 1/16	.85	.51
STM 6D68		.0068	1/4 x 1 1/16	.90	.54
STM 6S1		.01	5/8 x 1 1/16	.90	.54
STM 6S15		.015	5/8 x 1 1/16	.95	.57
STM 6S22		.022	3/8 x 1 1/16	.95	.57
STM 6S33		.033	3/8 x 1 1/4	1.00	.60
STM 6S47		.047	1/2 x 1 1/4	1.10	.66
STM 6S68		.068	1/2 x 1 1/2	1.20	.72
STM 6P1		.10	9/16 x 1 1/2	1.50	.90

CORNELL



DUBILIER

MOLDED TUBULAR
"The CUB"



The Cornell-Dubilier "CUB" is an outstandingly superior molded paper tubular capacitor recommended for general replacement service. Sold exclusively through C-D electronic parts Distributors.

The "CUB" possesses characteristics, especially as to CAPACITANCE STABILITY, that will meet the wide and demanding applications found in critical industrial, military and experimental electronic equipment.

- ◆ Extra Hard, Non-Inflammable Bakelite Case
- ◆ Dry Assembly — Sealed After Impregnation
- ◆ Survives 30 Cycles JAN And MIL Temperature & Immersion Tests
- ◆ 50% Greater Resistance To Humidity
- ◆ 15%-25% Greater Voltage Breakdown
- ◆ Extra Strong Copper-weld Leads Eliminate Breakage

TEMP. RANGE: HT Compound —40°C to +90°C
 Dykanol "C" —55°C to +100°C

THE CUB

CUB	Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
200 V. D.C.					
CUB 2S2		.02	3/8 x 1	\$.25	\$.15
CUB 2S47		.047	7/16 x 1 1/4	.25	.15
CUB 2S5		.05	7/16 x 1 1/4	.25	.15
CUB 2P1		.1	7/16 x 1 1/4	.35	.21
CUB 2P15		.15	9/16 x 1 1/2	.35	.21
CUB 2P22		.22	11/16 x 1 3/8	.40	.24
CUB 2P25		.25	11/16 x 1 3/8	.40	.24
CUB 2P47		.47	11/16 x 1 3/8	.60	.36
CUB 2P5		.5	11/16 x 1 3/8	.60	.36
CUB 2W1		1.0	3/4 x 2 1/4	.90	.54
400 V. D.C.					
CUB 4S1		.01	3/8 x 1	.25	.15
CUB 4S2		.02	7/16 x 1 1/4	.25	.15
CUB 4S22		.022	7/16 x 1 1/4	.25	.15
CUB 4S47		.047	7/16 x 1 1/4	.30	.18
CUB 4S5		.05	7/16 x 1 1/4	.30	.18
CUB 4S68		.068	9/16 x 1 1/2	.35	.21
CUB 4P1		.1	9/16 x 1 1/2	.35	.21
CUB 4P15		.15	11/16 x 1 3/8	.35	.21
CUB 4P22		.22	11/16 x 1 3/8	.40	.24
CUB 4P25		.25	11/16 x 1 3/8	.40	.24
CUB 4P47		.47	3/4 x 2 1/4	.60	.36
CUB 4P5		.5	3/4 x 2 1/4	.60	.36
*ST 4W1		1.0	1 x 2 1/2	.90	.54

THE CUB

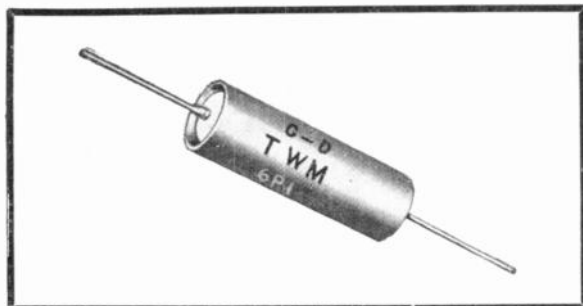
CUB	Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
600 V. D.C.					
CUB 6T1		.0001	3/8 x 1	\$.25	\$.15
CUB 6T25		.00025	3/8 x 1	.25	.15
CUB 6T4		.0004	3/8 x 1	.25	.15
CUB 6T5		.0005	3/8 x 1	.25	.15
CUB 6D1		.001	3/8 x 1	.25	.15
CUB 6D15		.0015	3/8 x 1	.25	.15
CUB 6D2		.002	3/8 x 1	.25	.15
CUB 6D22		.0022	3/8 x 1	.25	.15
CUB 6D3		.003	3/8 x 1	.25	.15
CUB 6D33		.0033	3/8 x 1	.25	.15
CUB 6D4		.004	3/8 x 1	.25	.15
CUB 6D47		.0047	3/8 x 1	.25	.15
CUB 6D5		.005	3/8 x 1	.25	.15
CUB 6D6		.006	7/16 x 1 1/4	.25	.15
CUB 6D68		.0068	7/16 x 1 1/4	.30	.18
CUB 6S1		.01	7/16 x 1 1/4	.30	.18
CUB 6S15		.015	7/16 x 1 1/4	.30	.18
CUB 6S2		.02	7/16 x 1 1/4	.30	.18
CUB 6S22		.022	7/16 x 1 1/4	.30	.18
CUB 6S3		.03	7/16 x 1 1/4	.35	.21
CUB 6S33		.033	9/16 x 1 1/2	.35	.21
CUB 6S4		.04	9/16 x 1 1/2	.35	.21
CUB 6S47		.047	9/16 x 1 1/2	.40	.24
CUB 6S5		.05	9/16 x 1 1/2	.40	.24
CUB 6S6		.06	11/16 x 1 3/8	.40	.24
CUB 6S68		.068	11/16 x 1 3/8	.40	.24
CUB 6P1		.1	11/16 x 1 3/8	.45	.27
CUB 6P2		.2	3/4 x 2 1/4	.55	.33
CUB 6P22		.22	3/4 x 2 1/4	.55	.33
CUB 6P25		.25	3/4 x 2 1/4	.55	.33
*ST 6P5		.5	1 x 2 1/2	.80	.48
1000 V. D.C.					
CUB 10T5		.0005	3/8 x 1	.50	.30
CUB 10D1		.001	3/8 x 1	.50	.30
CUB 10D15		.0015	3/8 x 1	.50	.30
CUB 10D2		.002	3/8 x 1	.50	.30
CUB 10D22		.0022	3/8 x 1	.50	.30
CUB 10D3		.003	3/8 x 1	.50	.30
CUB 10D4		.004	7/16 x 1 1/4	.50	.30
CUB 10D47		.0047	7/16 x 1 1/4	.50	.30
CUB 10D5		.005	7/16 x 1 1/4	.50	.30
CUB 10D68		.0068	7/16 x 1 1/4	.50	.30
CUB 10S1		.01	7/16 x 1 1/4	.50	.30
CUB 10S15		.015	9/16 x 1 1/2	.50	.30
CUB 10S2		.02	9/16 x 1 1/2	.50	.30
CUB 10S22		.022	9/16 x 1 1/2	.50	.30
CUB 10S3		.03	9/16 x 1 1/2	.50	.30
CUB 10S33		.033	11/16 x 1 3/8	.50	.30
CUB 10S47		.047	11/16 x 1 3/8	.60	.36
CUB 10S5		.05	11/16 x 1 3/8	.60	.36
CUB 10S68		.068	11/16 x 1 3/8	.65	.39
CUB 10P1		.1	3/4 x 2 1/4	.75	.45
1600 V. D.C.					
CUB 16T5		.0005	7/16 x 1 1/4	.65	.39
CUB 16D1		.001	7/16 x 1 1/4	.65	.39
CUB 16D15		.0015	7/16 x 1 1/4	.65	.39
CUB 16D2		.002	7/16 x 1 1/4	.65	.39
CUB 16D22		.0022	7/16 x 1 1/4	.65	.39
CUB 16D3		.003	7/16 x 1 1/4	.65	.39
CUB 16D33		.0033	7/16 x 1 1/4	.65	.39
CUB 16D4		.004	7/16 x 1 1/4	.65	.39
CUB 16D47		.0047	7/16 x 1 1/4	.65	.39
CUB 16D5		.005	7/16 x 1 1/4	.65	.39
CUB 16D6		.006	9/16 x 1 1/2	.65	.39
CUB 16D68		.0068	9/16 x 1 1/2	.65	.39
CUB 16D7		.007	9/16 x 1 1/2	.65	.39
CUB 16D75		.0075	9/16 x 1 1/2	.65	.39
CUB 16D8		.008	9/16 x 1 1/2	.65	.39
CUB 16S1		.01	9/16 x 1 1/2	.70	.42
CUB 16S15		.015	9/16 x 1 1/2	.70	.42
CUB 16S2		.02	11/16 x 1 3/8	.70	.42
CUB 16S22		.022	11/16 x 1 3/8	.70	.42
CUB 16S3		.03	11/16 x 1 3/8	.70	.42
CUB 16S4		.04	3/4 x 2 1/4	.70	.42
CUB 16S5		.05	3/4 x 2 1/4	.70	.42
6000 V. D.C.					
CUB 60T5		.0005	9/16 x 1 1/2	1.35	.81
CUB 60D1		.001	9/16 x 1 1/2	1.35	.81
CUB 60D5		.005	11/16 x 1 3/8	1.35	.81
10,000 V. D.C.					
CUB 100T5		.0005	11/16 x 1 3/8	1.50	.90
12,500 V. D.C.					
CUB 125T25		.00025	11/16 x 1 3/8	1.70	1.02

*Furnished as a "BUDROC" unit.

CORNELL DUBILIER



MINIATURE METAL-CASED TUBULARS "DEMICONS"



Cornell-Dubilier DEMICONS are hermetically sealed in metal cases, with glass-to-metal seal terminals and are available in a wide variety of mounting styles, impregnants, tolerances, and internal construction. See Bulletins 147A and 151.

STANDARD TOLERANCE: $\pm 20\%$.

TEMPERATURE RANGE:

TWH	High Temperature wax	-40°C to +85°C.
TWC	"Dykanol C"	-55°C to +85°C.
TWU	"Dykanol U"	-55°C to +125°C.
TWMA	"Mylar" polyester film	-55°C to +160°C.†

†Full Rating at 85°C.
†Derate to 90% at 100°C.
†Derate to 50% at 125°C.
†Derate to 33% at 160°C.

PRICES shown below are for BASIC STYLE—UNGROUND. *Registered Cornell-Dubilier trade mark. **Registered Dupont trade mark.

"BASIC" STYLE UNGROUNDED

TWH	Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWH 1D1		.001	100	.175 x 3/4	\$2.25	\$1.35
TWH 1D47		.0047	100	.175 x 3/4	2.30	1.38
TWH 1S1		.01	100	.175 x 3/4	2.30	1.38
TWH 1S22		.022	100	.175 x 3/4	2.30	1.38
TWH 1S47		.047	100	.235 x 3/4	2.35	1.41
TWH 1P1		.1	100	.312 x 7/8	2.50	1.50
TWH 1P22		.22	100	.400 x 7/8	2.55	1.53
TWH 1P47		.47	100	.400 x 1 1/8	2.70	1.62
TWH 1W1		1.0	100	.562 x 1 1/8	3.20	1.92
TWH 2D1		.001	200	.235 x 3/4	2.35	1.41
TWH 2D47		.0047	200	.235 x 3/4	2.40	1.44
TWH 2S1		.01	200	.235 x 3/4	2.40	1.44
TWH 2S22		.022	200	.235 x 3/4	2.40	1.44
TWH 2S47		.047	200	.312 x 7/8	2.50	1.50
TWH 2P1		.1	200	.312 x 7/8	2.60	1.56
TWH 2P47		.47	200	.562 x 1 1/8	2.95	1.77
TWH 2W1		1.0	200	.562 x 1 1/8	3.30	1.98
TWH 4D1		.001	400	.235 x 3/4	2.40	1.44
TWH 4D47		.0047	400	.235 x 3/4	2.45	1.47
TWH 4S1		.01	400	.235 x 3/4	2.50	1.50
TWH 4S22		.022	400	.312 x 7/8	2.55	1.53
TWH 4S47		.047	400	.312 x 7/8	2.55	1.53
TWH 4P1		.1	400	.400 x 1 1/8	2.70	1.62
TWH 4P47		.47	400	.562 x 1 1/8	3.35	2.01
TWH 4W1		1.0	400	.750 x 2 1/8	3.90	2.34

TWC	Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWC 1D1		.001	100	.175 x 3/4	\$2.30	\$1.38
TWC 1D47		.0047	100	.175 x 3/4	2.35	1.41
TWC 1S1		.01	100	.175 x 3/4	2.40	1.44
TWC 1S22		.022	100	.195 x 3/4	2.40	1.44
TWC 1S47		.047	100	.312 x 7/8	2.50	1.50
TWC 1P1		.1	100	.312 x 7/8	2.60	1.56
TWC 1P47		.47	100	.562 x 1 1/8	3.00	1.80
TWC 1W1		1.0	100	.562 x 1 1/8	3.40	2.04
TWC 2D1		.001	200	.235 x 3/4	2.40	1.44
TWC 2D47		.0047	200	.235 x 3/4	2.45	1.47
TWC 2S1		.01	200	.235 x 3/4	2.50	1.50
TWC 2S22		.022	200	.235 x 3/4	2.50	1.50
TWC 2S47		.047	200	.312 x 7/8	2.60	1.56
TWC 2P1		.1	200	.400 x 7/8	2.70	1.62
TWC 2P22		.22	200	.400 x 1 1/8	2.90	1.74
TWC 2P47		.47	200	.562 x 1 1/8	3.25	1.95

TWC (cont'd)

	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWC 2W1	1.0	200	.670 x 1 1/8	\$3.80	\$2.28
TWC 4D1	.001	400	.235 x 3/4	2.50	1.50
TWC 4D47	.0047	400	.235 x 3/4	2.50	1.50
TWC 4S1	.01	400	.235 x 3/4	2.55	1.53
TWC 4S22	.022	400	.312 x 7/8	2.65	1.59
TWC 4S47	.047	400	.400 x 7/8	2.75	1.65
TWC 4P1	.1	400	.400 x 1 1/8	2.90	1.74
TWC 4P22	.22	400	.562 x 1 1/8	3.25	1.95
TWC 4P47	.47	400	.670 x 1 1/8	3.75	2.25
TWC 6D1	.001	600	.235 x 3/4	2.50	1.50
TWC 6D47	.0047	600	.235 x 3/4	2.55	1.53
TWC 6S1	.01	600	.312 x 7/8	2.65	1.59
TWC 6S22	.022	600	.312 x 7/8	2.70	1.62
TWC 6S47	.047	600	.400 x 1 1/8	2.80	1.68
TWC 6P1	.1	600	.562 x 1 1/8	3.10	1.86
TWC 6P22	.22	600	.562 x 1 1/8	3.45	2.07
TWC 6P47	.47	600	.750 x 2 1/8	4.05	2.43

TWU	Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWU 1D1		.001	100	.175 x 3/4	\$2.60	\$1.56
TWU 1D47		.0047	100	.175 x 3/4	2.60	1.56
TWU 1S1		.01	100	.175 x 3/4	2.65	1.59
TWU 1S22		.022	100	.195 x 3/4	2.65	1.59
TWU 1S47		.047	100	.312 x 7/8	2.80	1.68
TWU 1P1		.1	100	.312 x 7/8	2.90	1.74
TWU 1P47		.47	100	.562 x 1 1/8	3.35	2.01
TWU 1W1		1.0	100	.562 x 1 1/8	3.80	2.28
TWU 2D1		.001	200	.235 x 3/4	2.70	1.62
TWU 2D47		.0047	200	.235 x 3/4	2.75	1.65
TWU 2S1		.01	200	.235 x 3/4	2.80	1.68
TWU 2S22		.022	200	.235 x 3/4	2.80	1.68
TWU 2S47		.047	200	.312 x 7/8	2.90	1.74
TWU 2P1		.1	200	.400 x 7/8	3.00	1.80
TWU 2P22		.22	200	.400 x 1 1/8	3.20	1.92
TWU 2P47		.47	200	.562 x 1 1/8	3.60	2.16
TWU 2W1		1.0	200	.670 x 1 1/8	4.25	2.55
TWU 4D1		.001	400	.235 x 3/4	2.80	1.68
TWU 4D47		.0047	400	.235 x 3/4	2.80	1.68
TWU 4S1		.01	400	.235 x 3/4	2.85	1.71
TWU 4S22		.022	400	.312 x 7/8	2.95	1.77
TWU 4S47		.047	400	.400 x 7/8	3.05	1.83
TWU 4P1		.1	400	.400 x 1 1/8	3.25	1.95
TWU 4P22		.22	400	.562 x 1 1/8	3.60	2.16
TWU 4P47		.47	400	.670 x 1 1/8	4.20	2.52
TWU 6D1		.001	600	.235 x 3/4	2.80	1.68
TWU 6D47		.0047	600	.235 x 3/4	2.85	1.71
TWU 6S1		.01	600	.312 x 7/8	2.95	1.77
TWU 6S22		.022	600	.312 x 7/8	3.00	1.80
TWU 6S47		.047	600	.400 x 1 1/8	3.15	1.89
TWU 6P1		.1	600	.562 x 1 1/8	3.50	2.10
TWU 6P22		.22	600	.562 x 1 1/8	3.90	2.34
TWU 6P47		.47	600	.750 x 2 1/8	4.55	2.73

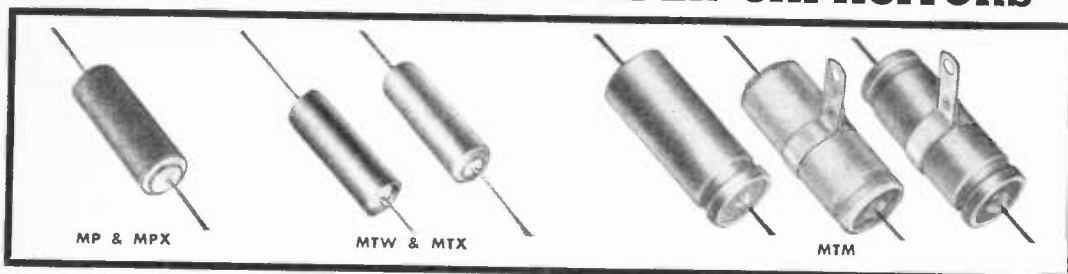
TWMA	Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
TWMA 1S1		.01	100	.235 x 7/8	\$3.10	\$1.86
TWMA 1S22		.022	100	.312 x 7/8	3.10	1.86
TWMA 1S47		.047	100	.312 x 7/8	3.25	1.95
TWMA 1P1		.1	100	.400 x 7/8	3.35	2.01
TWMA 4D47		.0047	400	.235 x 7/8	3.25	1.95
TWMA 4S1		.01	400	.312 x 7/8	3.30	1.98
TWMA 4S22		.022	400	.400 x 7/8	3.40	2.04
TWMA 4S47		.047	400	.400 x 1	3.55	2.13
TWMA 4P1		.1	400	.562 x 1 1/8	3.75	2.25
TWMA 4P22		.22	400	.562 x 1 1/8	4.20	2.52
TWMA 4P47		.47	400	.670 x 1 1/8	4.85	2.91
TWMA 4W1		1.0	400	.750 x 2 1/2	5.85	3.51
TWMA 6D47		.0047	600	.312 x 1	3.30	1.98
TWMA 6S1		.01	600	.312 x 1	3.40	2.04
TWMA 6S22		.022	600	.400 x 1	3.50	2.10
TWMA 6S47		.047	600	.400 x 1 1/8	3.65	2.19
TWMA 6P1		.1	600	.562 x 1 1/8	4.05	2.43
TWMA 6P22		.22	600	.670 x 1 1/8	4.50	2.70
TWMA 6P47		.47	600	.750 x 2 1/8	5.30	3.18
TWMA 6W1		1.0	600	1 x 2 11/16	7.00	4.20

CORNELL



DUBILIER

COMPACT METALIZED-PAPER CAPACITORS



Cornell-Dubilier self-healing, metalized paper capacitors have better electrical characteristics and extra long service life. Units are light and compact.

"PUP" units have bare wire leads securely anchored in metal end-caps, wax-impregnated and dip-sealed against humidity. All units are extended foil—non-inductive wound for low impedance at high frequencies, have high insulation resistance, low power factor and small capacity change with temperature and life.

"METAPUPS" are one piece metal tubular cased, pressure sealed by spin-over on synthetic rubber gaskets.

"SEALPUPS" are a high quality metalized paper capacitor, designed for smallest size and positive seal against moisture. They are hermetically sealed in metal cases with solder—seal glass terminals. Especially recommended in military and commercial equipment where miniature size and light weight are paramount.

For further data on other style C-D metalized capacitors, write for Bulletins 142-3-4, 152 and 152-1.

TEMPERATURE RANGE: -40°C to $+60^{\circ}\text{C}$.

"PUP" METAL END-CAP CARDBOARD TUBULARS

MP	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
MP 2S5	.05	200	$\frac{3}{8} \times \frac{5}{8}$	\$.75	\$.45	
MP 2P1	.1	200	$\frac{3}{8} \times \frac{5}{8}$	.79	.47
MP 2P25	.25	200	$\frac{11}{16} \times \frac{5}{8}$	1.14	.68	
MP 2P5	.5	200	$\frac{11}{16} \times 1\frac{1}{8}$	1.33	.80	
MP 2W1	1.0	200	$\frac{9}{16} \times 1\frac{1}{8}$	1.78	1.07	
MP 2W2	2.0	200	$\frac{5}{8} \times 1\frac{1}{8}$	2.42	1.45	
MP 4S5	.05	400	$\frac{11}{16} \times \frac{5}{8}$	.79	.47
MP 4P1	.1	400	$\frac{11}{16} \times 1\frac{1}{8}$	.83	.50
MP 4P25	.25	400	$\frac{1}{2} \times 1\frac{1}{8}$	1.25	.75	
MP 4P5	.5	400	$\frac{3}{8} \times 1\frac{1}{8}$	1.58	.94	
MP 4W1	1.0	400	$\frac{21}{32} \times 2\frac{1}{8}$	2.20	1.32	
MP 6S1	.01	600	$\frac{3}{8} \times \frac{5}{8}$	.75	.45
MP 6P1	.1	600	$\frac{11}{16} \times 1\frac{1}{8}$	.97	.58
MP 6P25	.25	600	$\frac{5}{8} \times 1\frac{1}{8}$	1.53	.92	
MP 6P5	.5	600	$\frac{21}{32} \times 1\frac{1}{8}$	1.92	1.15	
MP 6W1	1.0	600	$\frac{21}{32} \times 2\frac{1}{8}$	2.39	1.43	

TEMPERATURE RANGE: -55°C to $+95^{\circ}\text{C}$.
"METAPUP" ONE-PIECE METAL TUBULARS
 STYLE A (Ungrounded)

MTM	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
MTM 2S5	.05	200	$\frac{3}{8} \times 1\frac{1}{16}$	\$2.03	\$1.22	
MTM 2P1	.1	200	$\frac{7}{16} \times 1\frac{1}{16}$	2.11	1.27	
MTM 2P25	.25	200	$\frac{1}{2} \times 1\frac{1}{16}$	2.34	1.40	
MTM 2P5	.5	200	$\frac{1}{2} \times 1\frac{1}{4}$	2.56	1.54	
MTM 2W1	1.0	200	$\frac{3}{8} \times 1\frac{1}{8}$	3.00	1.80	
MTM 2W2	2.0	200	$\frac{5}{8} \times 1\frac{1}{8}$	3.73	2.24	
MTM 4S5	.05	400	$\frac{7}{16} \times 1\frac{1}{16}$	2.11	1.27	
MTM 4P1	.1	400	$\frac{5}{8} \times 1\frac{1}{4}$	2.25	1.35	
MTM 4P25	.25	400	$\frac{3}{8} \times 1\frac{1}{4}$	2.61	1.57	
MTM 4P5	.5	400	$\frac{5}{8} \times 1\frac{1}{8}$	2.92	1.75	
MTM 4W1	1.0	400	$\frac{3}{4} \times 2\frac{1}{8}$	3.70	2.22	
MTM 4W2	2.0	400	$1 \times 2\frac{1}{8}$	5.31	3.19	
MTM 6S1	.01	600	$\frac{3}{8} \times 1\frac{1}{16}$	2.17	1.30	
MTM 6P1	.1	600	$\frac{1}{2} \times 1\frac{1}{8}$	2.34	1.40	
MTM 6P25	.25	600	$\frac{5}{8} \times 1\frac{1}{8}$	2.89	1.73	
MTM 6P5	.5	600	$\frac{3}{4} \times 1\frac{1}{8}$	3.25	1.95	
MTM 6W1	1.0	600	$1\frac{1}{8} \times 2\frac{1}{8}$	4.25	2.55	
MTM 6W2	2.0	600	$1\frac{1}{4} \times 2\frac{1}{8}$	6.10	3.66	

*DEDUCT 10¢ from List Price for Basic GROUNDED style.

TEMPERATURE RANGE: -55°C to $+95^{\circ}\text{C}$.
"SEALPUP" GLASS-METAL END-SEALED TUBULARS
 STYLE A (Ungrounded)

MTW	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
MTW 2S5	.05	200	.235 x $\frac{3}{4}$	\$2.43	\$1.46	
MTW 2P1	.1	200	.312 x $\frac{3}{4}$	2.53	1.52	
MTW 2P25	.25	200	.312 x $1\frac{1}{16}$	2.77	1.66	
MTW 2P5	.5	200	.400 x $1\frac{1}{16}$	3.03	1.82	
MTW 2W1	1.0	200	.562 x $1\frac{1}{4}$	3.27	1.96	
MTW 2W15	1.5	200	.562 x $1\frac{3}{4}$	4.62	2.77	
MTW 2W2	2.0	200	.562 x $1\frac{3}{4}$	4.62	2.77	
MTW 4S5	.05	400	.400 x $\frac{3}{4}$	2.45	1.47	
MTW 4P1	.1	400	.400 x $1\frac{1}{16}$	2.65	1.59	
MTW 4P25	.25	400	.562 x $1\frac{1}{16}$	3.08	1.85	
MTW 4P5	.5	400	.562 x $1\frac{3}{4}$	3.68	2.21	
MTW 4W1	1.0	400	.670 x $2\frac{1}{4}$	3.92	2.35	
MTW 6S1	.01	600	.312 x $\frac{3}{4}$	2.48	1.49	
MTW 6P1	.1	600	.500 x $1\frac{1}{4}$	2.75	1.65	
MTW 6P25	.25	600	.670 x $1\frac{3}{8}$	3.25	1.95	
MTW 6P5	.5	600	.750 x $1\frac{3}{4}$	3.80	2.28	
MTW 6W1	1.0	600	.750 x $2\frac{1}{4}$	4.22	2.53	

*DEDUCT 50¢ from List Price for Basic GROUNDED style.

CORNELL DUBILIER



HIGH TEMPERATURE Metalized-Paper CAPACITORS

- **POLYKANE-IMPREGNATED:** This impregnant insures excellent electrical properties over long service life.
- **MOISTURE RESISTANT:** MTX tubulars have the finest glass-to-metal solder seal terminals for maximum protection against moisture. MPX tubulars have POLYKANE-impregnated paper tubes, bonded securely to the POLYKANE fill. An external flash wax dip provides an increased moisture seal for extra long storage and service conditions under extremes of humidity.
- **NON-LEAKING:** "POLYKANE" is a solid thermosetting plastic that will not soften, crack, or leak at the maximum temperature. No oil or wax is used internally with these units.

MPX†—HIGH TEMPERATURE Paper-Cased TUBULARS

STANDARD TOLERANCE: +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

TEMP. RANGE: —35°C to +100°C

MPX Cat. No.	Cap. Mfd.	Voltage DCW	Size Inches Dia. x Length	List Price	Net Price
MPX 2S5	.05	200	1/4 x 1 13/16	\$.75	\$.45
MPX 2P1	.10	200	5/16 x 1 13/16	.79	.47
MPX 2P25	.25	200	13/32 x 1 13/16	1.14	.68
MPX 2P5	.50	200	13/32 x 1 1/8	1.33	.80
MPX 2W1	1.0	200	9/16 x 1 1/2	1.78	1.07
MPX 2W2	2.0	200	3/8 x 1 1/2	2.42	1.45
MPX 4S5	.05	400	3/8 x 1 13/16	.79	.47
MPX 4P1	.10	400	3/8 x 1 1/8	.83	.50
MPX 4P25	.25	400	9/16 x 1 1/2	1.25	.75
MPX 4P5	.50	400	5/8 x 1 3/8	1.58	.94
MPX 4W1	1.0	400	1 1/16 x 1 3/8	2.20	1.32
MPX 4W2	2.0	400	7/8 x 2 3/8	3.10	1.86
MPX 6S1	.01	600	1/4 x 1 13/16	.75	.45
MPX 6P1	.10	600	1/4 x 1 1/8	.97	.58
MPX 6P25	.25	600	3/8 x 1 3/16	1.53	.92
MPX 6P5	.50	600	1 1/16 x 1 1/2	1.92	1.15
MPX 6W1	1.0	600	1 1/16 x 1 3/8	2.39	1.43
MPX 6W2	2.0	600	1 x 2 3/8	3.42	2.04

MTX†—HIGH TEMPERATURE Metal-Cased‡ TUBULARS

STYLE BASIC (Ungrounded)

STANDARD TOLERANCE: +40 —20% to 1 mfd.
+30 —20% over 1 mfd.

TEMP. RANGE: —55°C to +130°C

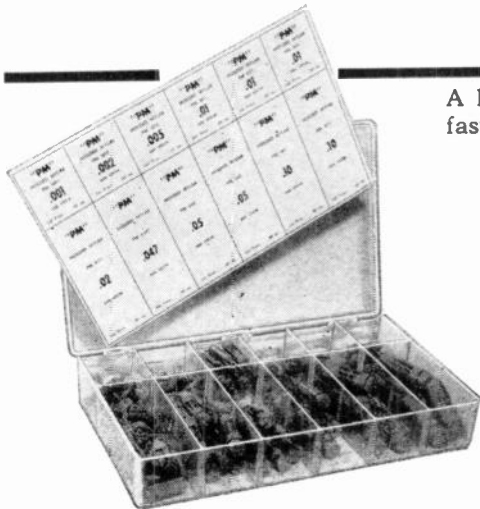
MTX Cat. No.	Cap. Mfd.	Voltage DCW	Size Inches Diam. x Length	List Price	Net Price
MTX 2S5	.05	200	.235 x 1 13/16	2.37	1.42
MTX 2P1	.10	200	.312 x 1 13/16	2.47	1.48
MTX 2P25	.25	200	.312 x 1 1/8	2.70	1.62
MTX 2P5	.50	200	.400 x 1 1/8	2.97	1.78
MTX 2W1	1.0	200	.562 x 1 1/8	3.20	1.92
MTX 2W1P5	1.5	200	.562 x 1 1/16	4.55	2.73
MTX 2W2	2.0	200	.562 x 1 13/16	4.55	2.73
MTX 4S5	.05	400	.312 x 1 13/16	2.38	1.43
MTX 4P1	.10	400	.400 x 1 1/8	2.58	1.55
MTX 4P25	.25	400	.500 x 1 1/8	3.03	1.82
MTX 4P5	.50	400	.562 x 1 13/16	3.63	2.18
MTX 4W1	1.0	400	.670 x 2 3/16	3.87	2.32
MTX 6S1	.01	600	.312 x 1 13/16	2.42	1.45
MTX 6P1	.10	600	.400 x 1 1/8	2.70	1.62
MTX 6P25	.25	600	.562 x 1 13/16	3.20	1.92
MTX 6P5	.50	600	.670 x 1 13/16	3.72	2.23
MTX 6W1	1.0	600	.750 x 2 3/16	4.17	2.50

†For High Temperature Metalized Paper Capacitors in "BATHTUB" TYPE cases (Type SBX)—See Bulletin 152-1.

‡Other Styles available—See Bulletins NB-142, 3, 4 and 152.
*DEDUCT 50¢ from List for Basic GROUNDED style.

"The PM"

MYLAR Molded Tubular CAPACITOR KIT



A handy quick-select assortment of 80 of the fastest moving C-D "PM" MYLAR tubulars

IN A

crystal clear plastic . . . hinged-cover . . . compartment type case (11x6 1/2 x 1 1/8) . . . the clean, orderly way of stocking capacitors . . . and service parts, too!

YOU GET THE CASE AND THE CAPACITORS

ALL FOR THE PRICE OF THE CAPACITORS ALONE.

"PM" KIT List Price \$26.40 Net \$15.84

	CONTAINS:	
10 — .001	6 — .002	10 — .005
12 — .01	10 — .02	10 — .047
12 — .05	10 — .10	All 600V

Keep a KIT in your field-service bag and one on your service-bench. They're great too — for screws, nuts and small parts.

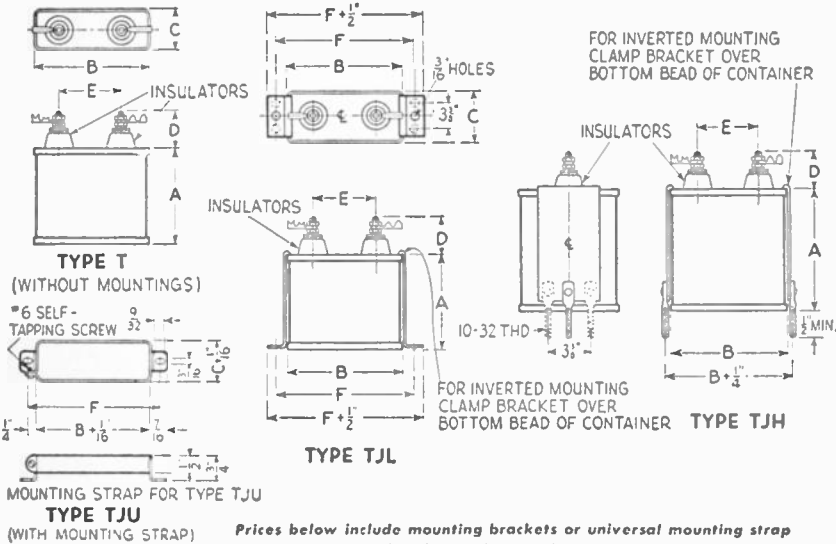
ORDER YOUR "PM" MYLAR KITS FROM YOUR C-D DISTRIBUTOR . . . NOW!

CORNELL



DUBILIER

DYKANOL TRANSMITTING CAPACITORS



Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows:

TYPE T—(Basic unit) without mountings.
TYPE TJH—With screw spade-lug brackets.

TYPE TJL—With mounting foot brackets.
TYPE TJU—With universal mounting strap.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

TEMPERATURE RANGE: -55°C to $+85^{\circ}\text{C}$. STANDARD TOLERANCE: $\pm 10\%$.

T Cat. No.	Cap. Mfd.	Dimensions—Inches					List Price	Net Price	
		A	B	C	D	E	F		
600 V. D.C. Working									
T 6005	.5	2 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	\$4.70	\$2.82
T 6010	1	2 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	5.80	3.48
T 6020	2	2 7/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	7.15	4.29
T 6030	3	3 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	8.25	4.95
T 6040	4	3 3/8	1 1/2	1 1/2	3/8	1 1/2	3	9.10	5.46
T 6050	5	4 1/8	1 1/2	1 1/2	3/8	1 1/2	3	10.45	6.27
T 6060	6	4 3/8	2 1/2	1 3/4	3/8	1 1/2	3	11.30	6.78
T 6080	8	3 1/2	3/4	1 1/2	3/8	2	4 1/2	13.50	8.10
T 6100	10	4 1/8	3/4	1 1/2	3/8	2	4 1/2	15.15	9.09
1000 V. D.C. Working									
T 10001	.1	2	1 1/2	1 1/2	3/8	1 1/2	2 1/4	4.15	2.49
T 10002	.25	2 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	4.70	2.82
T 10003	.5	2 3/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	5.45	3.18
T 10010	1	2 3/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	6.35	3.81
T 10020	2	4	1 1/2	1 1/2	3/8	1 1/2	2 1/4	8.25	4.95
T 10030	3	3 1/2	2 1/2	1 3/4	3/8	1 1/2	3	9.65	5.79
T 10040	4	4 1/8	2 1/2	1 3/4	3/8	1 1/2	3	10.45	6.27
T 10050	5	3 1/2	3/4	1 1/2	3/8	2	4 1/2	12.65	7.59
T 10060	6	4 1/8	3/4	1 1/2	3/8	2	4 1/2	14.05	8.43
T 10080	8	4 3/8	3/4	1 1/2	3/8	2	4 1/2	15.15	9.09
T 10100	10	4 1/8	3/4	1 1/2	3/8	2	4 1/2	16.80	10.08
T 10120	12	3 1/2	3/4	2 1/2	3/8	2	4 1/2	18.15	10.89
T 10150	15	4 1/8	3/4	2 1/2	3/8	2	4 1/2	20.10	12.06
1500 V. D.C. Working									
T 15005	.5	2 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	6.35	3.81
T 15010	1	2 3/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	7.45	4.47
T 15020	2	4 1/8	2 1/2	1 3/4	3/8	1 1/2	3	10.20	6.12
T 15030	3	4 1/8	2 1/2	1 3/4	3/8	1 1/2	3	12.40	7.44
T 15040	4	4 3/8	3/4	1 1/2	3/8	2	4 1/2	14.05	8.43
T 15050	5	4 3/8	3/4	1 1/2	3/8	2	4 1/2	15.15	9.09
T 15060	6	4 3/8	3/4	1 1/2	3/8	2	4 1/2	17.05	10.23
T 15080	8	4 3/8	3/4	2 1/2	3/8	2	4 1/2	20.90	12.54
T 15100	10	4 3/8	3/4	2 1/2	3/8	2	4 1/2	25.05	15.03
T 15120	12	4 3/8	3/4	2 1/2	3/8	2	4 1/2	27.25	16.35
T 15150	15	4 3/8	3/4	2 1/2	3/8	2	4 1/2	30.00	18.00

NOTES—* Type TJU units are not furnished in these larger sizes.
† Types TJL and TJH units furnished with two mounting holes or spade lugs 3/8" apart. All other units furnished with a single mounting hole or spade lug centered on each bracket.

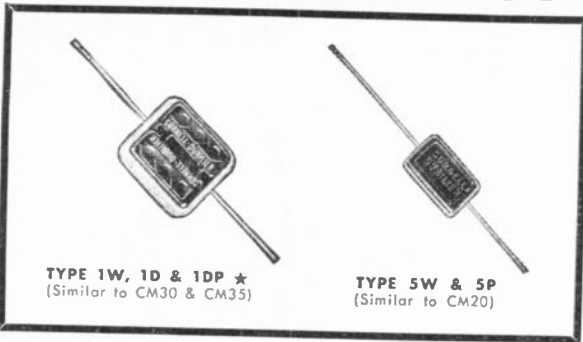
T Cat. No.	Cap. Mfd.	Dimensions—Inches					List Price	Net Price	
		A	B	C	D	E	F		
2000 V. D.C. Working									
T 20001	.1	2 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	\$6.60	\$3.96
T 20002	.25	2 1/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	7.15	4.29
T 20003	.5	2 3/8	1 1/2	1 1/2	3/8	1 1/2	2 1/4	7.45	4.47
T 20010	1	3 3/8	2 1/2	1 3/4	3/8	1 1/2	3	9.10	5.46
T 20020	2	4	3 1/2	1 3/4	3/8	2	4 1/2	10.75	6.43
T 20030	3	4 1/8	3 1/2	1 3/4	3/8	2	4 1/2	13.20	7.92
T 20040	4	3 1/2	3 1/2	2 1/2	3/8	2	4 1/2	15.15	9.09
T 20050	5	4 3/8	3 1/2	2 1/2	3/8	2	4 1/2	16.80	10.08
T 20060	6	4 3/8	3 1/2	2 1/2	3/8	2	4 1/2	20.10	12.06
T 20080	8	4 3/8	3 1/2	2 1/2	3/8	2	4 1/2	25.05	15.03
T 20100	10	4 3/8	3 1/2	2 1/2	3/8	2	4 1/2	30.55	18.33
T 20120	12	5 1/8	3 1/2	2 1/2	3/8	2	4 1/2	33.30	19.98
2500 V. D.C. Working									
T 25005	.5	3 1/8	3 1/2	1 1/2	3/8	2	4 1/2	11.55	6.93
T 25010	1	3 3/8	3 1/2	1 1/2	3/8	2	4 1/2	13.20	7.92
T 25020	2	4 3/8	3 1/2	1 1/2	3/8	2	4 1/2	21.45	12.87
T 25040	4	4	3 3/4	4 1/2	3/8	2	4 1/2	30.00	18.00
T 25100A	10	6 3/8	3 3/4	4 1/2	3/8	2	4 1/2	75.10	45.06
3000 V. D.C. Working									
T 30001	.1	2	1 1/2	1 1/2	3/8	1 1/2	1	14.05	8.43
T 30002	.25	2 1/8	2 1/2	1 1/2	3/8	1 1/2	3	14.85	8.91
T 30003	.5	3 3/8	2 1/2	1 1/2	3/8	1 1/2	3	16.80	10.08
T 30010	1	3 3/8	3 1/2	1 1/2	3/8	2	4 1/2	20.10	12.06
T 30020	2	4 3/8	3 1/2	1 1/2	3/8	2	4 1/2	25.05	15.03
T 30040	4	4 3/8	3 1/2	1 1/2	3/8	2	4 1/2	36.85	22.11
4000 V. D.C. Working									
T 40001	.1	2 3/8	3 1/2	2 1/2	3/8	2	4 1/2	18.00	10.80
T 40002	.25	2 3/8	3 1/2	2 1/2	3/8	2	4 1/2	20.00	12.00
T 40003	.5	4	3 1/2	2 1/2	3/8	2	4 1/2	23.00	13.80
T 40010	1	5	3 1/2	2 1/2	3/8	2	4 1/2	29.00	17.40
T 40020	2	5	3 1/2	4 1/2	3/8	2	4 1/2	39.00	23.40
T 40040A	4	8	3 1/2	4 1/2	3/8	2	4 1/2	66.85	40.11
5000 V. D.C. Working									
T 50005	.5	4 1/8	3 3/4	2 1/2	3/8	2	4 1/2	25.00	15.00
T 50010	1	4 1/8	3 3/4	2 1/2	3/8	2	4 1/2	34.00	20.40
T 50020	2	6	3 3/4	4 1/2	3/8	2	4 1/2	52.00	31.20
6000 V. D.C. Working									
T 60001	.1	2 3/8	3 3/4	2 1/2	3/8	2	4 1/2	27.00	16.20
T 60010A	1	8	3 3/4	4 1/2	3/8	2	4 1/2	49.00	29.40

For higher voltage units, from 6,000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

CORNELL DUBILIER



MOLDED MIDGET MICA



Types 1W, 1D, and 5W are specially adapted to functions in low-voltage radio receiving circuits. Individually tested for capacity and voltage breakdown and designed to give dependable service where small size units are required.

STANDARD TOLERANCE: ±20%.

Also available, on order, in plus or minus 10%, 5%, 3% and 2% tolerance ratings (or within 1 mmfd.—whichever is greater). For capacity tolerance of: 10% add 10% to list prices; 5% add 20% to list prices; 3% add 40% to list prices; 2% add 75% to list prices.

SIZES: 1W— $\frac{1}{16}$ " x $\frac{1}{16}$ " x $\frac{1}{4}$ "
 1D— $\frac{1}{16}$ " x $\frac{1}{16}$ " x $\frac{5}{16}$ "
 5W— $\frac{5}{64}$ " x $\frac{1}{32}$ " x $\frac{7}{32}$ "

Cap. Mfd.	500 V. D.C. W.—1000 V. D.C. T.			List Price	Net Price
	Type 5W Cat. No.	Type 1W Cat. No.	Type 1D Cat. No.		
.000005	5W 5V5				
.00001	5W 5Q1			\$.25	\$.15
.000012	5W 5Q12			.25	.15
.000015	5W 5Q13			.25	.15
.000018	5W 5Q18			.25	.15
.00002	5W 5Q2			.25	.15
.000022	5W 5Q22			.25	.15
.000024	5W 5Q24			.25	.15
.000025	5W 5Q25			.25	.15
.000027	5W 5Q27			.25	.15
.00003	5W 5Q3			.25	.15
.000033	5W 5Q33			.25	.15
.000036	5W 5Q36			.25	.15
.000039	5W 5Q39			.25	.15
.00004	5W 5Q4			.20	.12
.000043	5W 5Q43			.20	.12
.000047	5W 5Q47			.20	.12
.00005	5W 5Q5			.20	.12
.000051	5W 5Q51			.20	.12
.000056	5W 5Q56			.20	.12
.000062	5W 5Q62			.20	.12
.000068	5W 5Q68			.20	.12
.00007	5W 5Q7			.20	.12
.000075	5W 5Q75			.20	.12
.000082	5W 5Q82			.20	.12
.000091	5W 5Q91			.20	.12
.0001	5W 5T1			.20	.12
.00011	5W 5T11			.20	.12
.00012	5W 5T12			.20	.12
.00013	5W 5T13			.20	.12
.00015	5W 5T15			.20	.12
.00016	5W 5T16			.20	.12
.00018	5W 5T18			.20	.12
.0002	5W 5T2			.20	.12
.00022	5W 5T22			.25	.15
.00024	5W 5T24			.25	.15
.00025	5W 5T25			.25	.15
.00027	5W 5T27			.25	.15
.0003	5W 5T3			.25	.15
.00033	5W 5T33			.25	.15
.00036	5W 5T36			.25	.15
.00039	5W 5T39			.25	.15
.0004	5W 5T4			.25	.15
.00043	5W 5T43			.25	.15
.00047	5W 5T47			.25	.15
.0005	5W 5T5			.25	.15
.00051	5W 5T51			.25	.15
.00056	5W 5T56			.25	.15
.0006	5W 5T6			.25	.15
.00062	5W 5T62			.25	.15
.00068	5W 5T68			.25	.15
.0007	5W 5T7			.25	.15
.00075	5W 5T75			.25	.15
.0008	5W 5T8			.25	.15

5W, 1W (cont'd)

Cap. Mfd.	500 V. D.C. W.—1000 V. D.C. T.			List Price	Net Price
	Type 5W Cat. No.	Type 1W Cat. No.	Type 1D Cat. No.		
.00082	5W 5T82				
.0009	5W 5T9			\$.25	\$.15
.00091	5W 5T91			.25	.15
.001	5W 5D1			.25	.15
.0011	5W 5D11			.30	.18
.0012	5W 5D12			.30	.18
.0013	5W 5D13			.30	.18
.0015	5W 5D15			.30	.18
.0016	5W 5D16			.30	.18
.0018	5W 5D18			.30	.18
.002	5W 5D2			.40	.24
.0022		1W 5D22		.40	.24
.0024		1W 5D24		.45	.27
.0025		1W 5D25		.45	.27
.0027		1W 5D27		.45	.27
.003		1W 5D3		.50	.30
.0033		1W 5D33		.50	.30
.0036		1W 5D36		.50	.30
.0039		1W 5D39		.55	.33
.004		1W 5D4		.55	.33
.0043		1W 5D43		.55	.33
.0047		1W 5D47		.60	.36
.005		1W 5D5		.60	.36
.0051		1W 5D51		.60	.36
.0056		1W 5D56		.60	.36
.006		1W 5D6		.75	.45
.0062		1W 5D62		.75	.45
.0068			1D 5D68	.75	.45
.007			1D 5D7	.90	.54
.0075			1D 5D75	.90	.54
.008			1D 5D8	1.00	.60
.0082			1D 5D82	1.00	.60
.009			1D 5D9	1.00	.60
.0091			1D 5D91	1.00	.60
.01			1D 551	1.20	.72

"HIVOMIKE"†

High Voltage Molded Midget Mica Capacitors

Where high voltage, capacitance stability and high Q are important and units of the smallest size are requisite, the "HIVOM'KE" is ideal. Recommended for commercial—civilian and military uses under Characteristic "B." Voltage ratings actually exceed those required under JAN C-5.

TYPE 5P (JAN CM20 Case $\frac{5}{64}$ " x $\frac{15}{32}$ " x $\frac{7}{32}$ ")

Type	Cap. Mfd.	Voltage D.C. Working	List Price	Net Price
5P25Q1	.00001	2500	\$.35	\$.21
5P25Q2	.00002	2500	.35	.21
5P25Q3	.00003	2500	.40	.24
5P25Q5	.00005	2500	.40	.24
5P25Q75	.000075	2500	.50	.30
5P25T1	.0001	2500	.55	.33
5P25T15	.00015	2500	.65	.39
5P25T2	.0002	2500	.80	.48
5P15Q1	.00001	1500	.35	.21
5P15Q2	.00002	1500	.35	.21
5P15Q3	.00003	1500	.35	.21
5P15Q5	.00005	1500	.35	.21
5P15Q75	.000075	1500	.35	.21
5P15T1	.0001	1500	.40	.24
5P15T15	.00015	1500	.40	.24
5P15T2	.0002	1500	.45	.27
5P15T25	.00025	1500	.55	.33
5P15T3	.0003	1500	.60	.36
5P15T47	.00047	1500	.70	.42
5P15T5	.0005	1500	.70	.42

TYPE 1DP (JAN CM35 Case $\frac{13}{16}$ " x $\frac{13}{16}$ " x $\frac{5}{16}$ ")

Type	Cap. Mfd.	Voltage D.C. Working	List Price	Net Price
1DP25T25	.00025	2500	.60	.36
1DP25T3	.0003	2500	.65	.39
1DP25T5	.0005	2500	.85	.51
1DP25T75	.00075	2500	1.10	.66
1DP25D1	.001	2500	1.40	.84
1DP25D12	.0012	2500	1.50	.90
1DP25D15	.0015	2500	1.85	1.11
1DP25D18	.0018	2500	2.20	1.32
1DP25D2	.002	2500	2.30	1.38
1DP15T75	.00075	1500	.80	.48
1DP15D1	.001	1500	.90	.54
1DP15D12	.0012	1500	1.10	.66
1DP15D15	.0015	1500	1.30	.78
1DP15D18	.0018	1500	1.45	.87
1DP15D2	.002	1500	1.60	.96

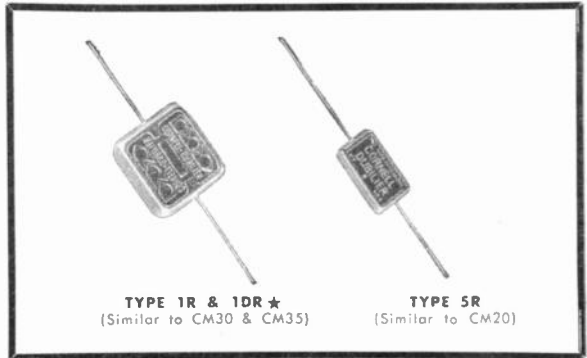
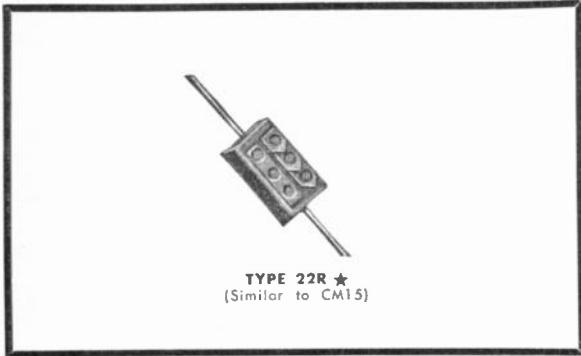
†For Complete Listings—See Bulletin 422-3.

★When JAN-C-5 unit must be supplied, order according to specific CM type designations listed in C-D Mica Bulletin—Series 422.

CORNELL DUBILIER



"SILVER-MIKE" MOLDED MIDGET MICA



HIGH-STABILITY "SILVER-MIKE"† UNITS

Type 22R miniature "Silver-Mike" capacitors are especially adapted for use in circuits where accuracy and stability of capacity is of prime importance. They are rated at 500 volts D.C.W. and tested at 1,000 volts D.C., molded in low-loss red plastic and fully protected against physical damage or changes in characteristics due to varying atmospheric conditions.

STANDARD TOLERANCE ±5%, but in no instance less than ±1mmf. For capacity Tolerance of: 20% deduct 10% from List; 10% deduct 5% from List; 3% add 10% to List; 2% add 15% to List; 1% add 25% to List. (Applies also to 1R, 1DR, and 5R.)

SIZE: 1/2" x 1/4" x 3/16"

Types 1R, 1DR, and 5R "Silver-Mike" capacitors are designed for use in high Q electronic circuits where frequency stability and minimum loss must be maintained. Ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers, tuning circuits and other similar applications.

SIZES: 5R—5/16" x 1/32" x 7/32"
1R—13/16" x 13/16" x 1/4"
1DR—13/16" x 13/16" x 3/16" See Notes bottom of column 1.

1R, 1DR, 5R

22 R

22R	Cat. No.	Cap. Mfd.	List Price	Net Price
22R 5V2		.000002	\$.40	\$.24
22R 5V5		.000005	.40	.24
22R 5Q1		.00001	.40	.24
22R 5Q12		.000012	.40	.24
22R 5Q15		.000015	.40	.24
22R 5Q18		.000018	.40	.24
22R 5Q2		.00002	.40	.24
22R 5Q22		.000022	.40	.24
22R 5Q24		.000024	.40	.24
22R 5Q25		.000025	.40	.24
22R 5Q27		.000027	.40	.24
22R 5Q3		.00003	.40	.24
22R 5Q33		.000033	.40	.24
22R 5Q36		.000036	.40	.24
22R 5Q39		.000039	.40	.24
22R 5Q4		.00004	.40	.24
22R 5Q43		.000043	.40	.24
22R 5Q47		.000047	.40	.24
22R 5Q5		.00005	.40	.24
22R 5Q51		.000051	.40	.24
22R 5Q56		.000056	.40	.24
22R 5Q62		.000062	.40	.24
22R 5Q68		.000068	.40	.24
22R 5Q7		.00007	.40	.24
22R 5Q75		.000075	.40	.24
22R 5Q82		.000082	.40	.24
22R 5Q91		.000091	.40	.24
22R 5T1		.0001	.40	.24
22R 5T11		.00011	.45	.27
22R 5T12		.00012	.45	.27
22R 5T13		.00013	.45	.27
22R 5T15		.00015	.45	.27
22R 5T16		.00016	.45	.27
22R 5T18		.00018	.45	.27
22R 5T2		.0002	.45	.27
22R 5T22		.00022	.45	.27
22R 5T24		.00024	.45	.27
22R 5T25		.00025	.45	.27
22R 5T27		.00027	.55	.33
22R 5T3		.0003	.55	.33
22R 5T33		.00033	.55	.33
22R 5T36		.00036	.65	.39
22R 5T39		.00039	.65	.39
22R 5T43		.00043	.65	.39
22R 5T47		.00047	.70	.42
22R 5T51		.00051	.70	.42

Cap. Mfd.	500 V. D.C. W.—1000 V. D.C. T.			List Price	Net Price
	Type 5R Cat. No.	Type 1R Cat. No.	Type 1DR Cat. No.		
.00027	5R 5T27			\$.55	\$.33
.0003	5R 5T3			.55	.33
.00033	5R 5T33			.55	.33
.00036	5R 5T36			.65	.39
.00039	5R 5T39			.65	.39
.0004	5R 5T4			.65	.39
.00043	5R 5T43			.65	.39
.00047	5R 5T47			.70	.42
.0005	5R 5T5			.70	.42
.00051	5R 5T51			.70	.42
.00056		1R 5T56		.85	.51
.0006		1R 5T6		.85	.51
.00062		1R 5T62		.85	.51
.00068		1R 5T68		.85	.51
.0007		1R 5T7		.85	.51
.00075		1R 5T75		.95	.57
.0008		1R 5T8		.95	.57
.00082		1R 5T82		.95	.57
.0009		1R 5T9		1.00	.60
.00091		1R 5T91		1.00	.60
.001		1R 5D1		1.10	.66
.0011		1R 5D11		1.10	.66
.0012		1R 5D12		1.35	.81
.0013		1R 5D13		1.35	.81
.0015		1R 5D15		1.35	.81
.0016		1R 5D16		1.35	.81
.0018		1R 5D18		1.35	.81
.002		1R 5D2		1.35	.81
.0022		1R 5D22		1.80	1.08
.0024		1R 5D24		1.80	1.08
.0025		1R 5D25		1.80	1.08
.0027		1R 5D27		2.05	1.23
.003		1R 5D3		2.05	1.23
.0033		1R 5D33		2.05	1.23
.0036		1R 5D36		2.15	1.29
.0039		1R 5D39		2.15	1.29
.004		1R 5D4		2.15	1.29
.0043		1R 5D43		2.15	1.29
.0047		1R 5D47		2.25	1.35
.005			1DR 5D5	2.25	1.35
.0051			1DR 5D51	2.25	1.35
.0056			1DR 5D56	2.25	1.35
.0062			1DR 5D62	2.25	1.35
			(300 V. D.C. W.—600 V. D.C. T.)		
.0068			1DR 3D68	2.50	1.50
.007			1DR 3D7	2.50	1.50
.0075			1DR 3D75	2.50	1.50
.008			1DR 3D8	2.50	1.50
.0082			1DR 3D82	2.50	1.50
.009			1DR 3D9	2.50	1.50
.0091			1DR 3D91	2.50	1.50
.01			1DR 3S1	2.50	1.50

Notes On Ordering 5R, 1R, 1DR Units

Standard capacity tolerance is 5% (or within 1 mmfd.—whichever is greater). Also available, on special order, in tolerance ratings of plus

or minus 3%, add 10% to list prices, 2% add 15% to list prices and 1% add 25% to list prices. All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

†Reg. U.S. Pat. Off.

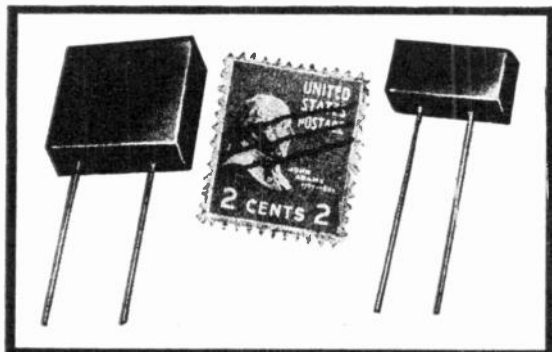
*When JAN-C-5 unit must be supplied, order according to specific CM type designations listed in C-D Mica Bulletin—Series 422.

CORNELL



DUBILIER

"Super"
ENCAPSULATED Molded-Case MIDGET MICA CAPACITORS



Cornell-Dubilier "SUPER MICADONS" represent an entirely new conception in Midget Mica Capacitor construction. The vastly improved design and construction of the new "C-D SUPER MICADONS" now makes it possible to produce miniature units of greatly increased capacitance and superior quality over conventional units of the same case size. Every characteristic desirable in a mica capacitor has been incorporated into one compact, miniature sized unit. No mica capacitor of conventional design has achieved this comprehensive quality.

SEE ENG. BUL. 160 FOR DETAILED DATA AND COMPLETE LISTINGS.

Type	1A	5A	22A
SIZES:	1AD	5A	22A
in			
inches			

TEMPERATURE RANGE: -55°C to +130°C.

STANDARD TOLERANCE: ±5%; ±2% can also be supplied from stock when specified; ±½% and ±1% available on special order.

For ±2% Tol. add 15% to List.
 For ±1% Tol. add 25% to List.
 For ±½% Tol. add 50% to List.

CHARACTERISTICS*: All types are supplied from stock as follows:

- From 1 to 24 mmfd. in Char. "C".
- From 24 to 51 mmfd. in Char. "E".
- From 51 to 41,000 mmfd. in Char. "E".
- From 51 to 41,000 mmfd. ALSO AVAILABLE in Char. "F" on special order.

22A - 5A - 1A - 1AD
 All units 500 VDCW, except as noted.

Type 22A	Cap. Mfd.	List* Price	Net* Price
22A5V5	.000005	\$.40	\$.34
22A5Q1	.00001	.40	.34
22A5Q12	.000012	.40	.34
22A5Q15	.000015	.40	.34
22A5Q18	.000018	.40	.34
22A5Q2	.00002	.40	.34
22A5Q22	.000022	.40	.34
22A5Q24	.000024	.40	.34
22A5Q27	.000027	.40	.34
22A5Q3	.000030	.40	.34
22A5Q33	.000033	.40	.34
22A5Q36	.000036	.40	.34
22A5Q39	.000039	.40	.34
22A5Q43	.000043	.40	.34
22A5Q47	.000047	.40	.34
22A5Q51	.000051	.40	.34
22A5Q56	.000056	.40	.34
22A5Q62	.000062	.40	.34
22A5Q68	.000068	.40	.34

TYPE 22A	Cap. Mfd.	List* Price	Net* Price
22A5Q75	.000075	.40	.34
22A5Q82	.000082	.40	.34
22A5Q91	.000091	.40	.34
22A5T1	.0001	.40	.34
22A5T11	.00011	.45	.37
22A5T12	.00012	.45	.37
22A5T13	.00013	.45	.37
22A5T15	.00015	.45	.37
22A5T16	.00016	.45	.37
22A5T18	.00018	.45	.37
22A5T2	.0002	.45	.37
22A5T22	.00022	.45	.37
22A5T24	.00024	.45	.37
22A5T27	.00027	.55	.33
22A5T3	.0003	.55	.33
22A5T33	.00033	.55	.33
22A5T36	.00036	.65	.39
22A5T39	.00039	.65	.39
22A5T43	.00043	.65	.39
22A5T47	.00047	.70	.42
22A5T51	.00051	.70	.42
22A5T56	.00056	.85	.51
22A5T62	.00062	.85	.51
22A5T68	.00068	.85	.51
22A5T75	.00075	.95	.57
22A5T82	.00082	.95	.57
22A5T91	.00091	1.00	.60
22A5D1	.001	1.10	.66

Type 5A

Type 5A	Cap. Mfd.	List* Price	Net* Price
5A5D11	.0011	1.10	.66
5A5D12	.0012	1.35	.81
5A5D13	.0013	1.35	.81
5A5D15	.0015	1.35	.81
5A5D16	.0016	1.35	.81
5A5D18	.0018	1.35	.81
5A5D2	.002	1.35	.81
5A5D22	.0022	1.80	1.08
5A5D24	.0024	1.80	1.08
5A5D27	.0027	2.05	1.23
5A5D3	.003	2.05	1.23
5A5D33	.0033	2.05	1.23
5A5D36	.0036	2.15	1.29

Type 1A

Type 1A	Cap. Mfd.	List* Price	Net* Price
1A5D39	.0039	2.15	1.29
1A5D43	.0043	2.15	1.29
1A5D47	.0047	2.25	1.35
1A5D51	.0051	2.25	1.35
1A5D56	.0056	2.25	1.35
1A5D62	.0062	2.25	1.35
1A5D68	.0068	2.50	1.50
1A5D75	.0075	2.50	1.50
1A5D82	.0082	2.50	1.50
1A5D91	.0091	2.50	1.50
1A5S1	.01	2.50	1.50
1A5S11	.011	2.80	1.68
1A5S12	.012	3.05	1.83
1A5S13	.013	3.05	1.83
1A5S15	.015	3.05	1.83

Type 1AD

Type 1AD	Cap. Mfd.	List* Price	Net* Price
1AD5S16	.016	3.55	2.13
1AD5S18	.018	3.55	2.13
1AD5S2	.02	3.55	2.13
1AD5S22	.022	4.35	2.61
1AD5S24	.024	4.35	2.61
1AD5S27	.027	4.55	2.73
1AD5S3	.03	4.55	2.73
†1AD3S33	.033	5.85	3.51
†1AD3S36	.036	5.85	3.51
†1AD3S39	.039	5.85	3.51
†1AD3S4	.040	5.85	3.51

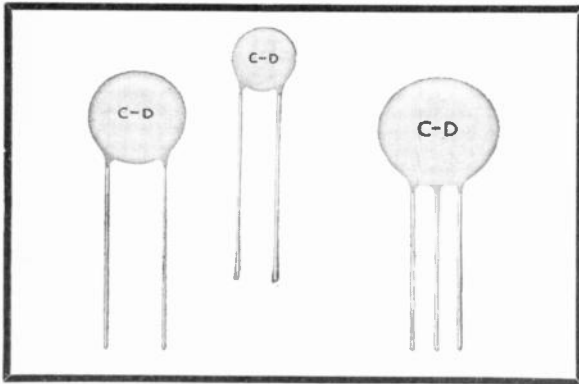
*PRICES cover CHARACTERISTICS "C" or "E"; for CHAR. "F" add 25¢ each to List Price.

†Rated at 300 VDCW.

CORNELL



DUBILIER



THE CERAMIC WITH THE MILLION DOLLAR BODY

- Small, space-saving and lightweight.
- Available in all popular capacities.
- Guaranteed minimum capacity tolerance.
- Adapted for wide variety of applications.
- Minimized eddy current losses due to construction.
- Low inductance, stable, dependable performance.
- Available with temperature compensating characteristics.

General Purpose DISC HIGH K

TYPE: BYA — BYB

VOLTAGE: 1000 VDCW, except as noted.

TOLERANCE: GMC, except as noted.

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
470	BYA10T47	.4	.12	\$.20	\$.12
500	BYA10T5	.4	.12	.20	.12
680	BYA10T68	.4	.12	.20	.12
820	BYA10T82	.4	.12	.20	.12
1000	BYA10D1	.4	.12	.20	.12
†1000	BYA10D1M	.4	.12	.20	.12
1500	BYA10D15	.4	.12	.20	.12
2000	BYA10D2	.4	.12	.20	.12
2200	BYA10D22	.4	.12	.20	.12
2500	BYA10D25	.4	.12	.20	.12
2700	BYA10D27	.4	.12	.20	.12
3000	BYA10D3	.4	.12	.20	.12
3300	BYA10D33	.4	.12	.20	.12
4000	BYA10D4	.4	.12	.20	.12
†4700	BYA10D47M	.4	.12	.25	.15
5000	BYA10D5	.4	.12	.25	.15
†5000	BYA10D5M	.4	.12	.25	.15
6800	BYA10D68	.4	.12	.25	.15
*10000	BYA6S1	.4	.12	.25	.15
10000	BYA10S1	.4	.12	.25	.15
†10000	BYA10S1M	.4	.12	.25	.15
15000	BYA10S15	.4	.12	.25	.15
*20000	BYB6S2	.4	.12	.25	.15
*30000	BYB6S3	.4	.12	.45	.27
*40000	BYB6S4	.4	.12	.50	.30

*Rated at 600 VDCW.

†Tolerance ±20%.

General Purpose DISC UNSHIELDED

TYPE: BYC

VOLTAGE: 600 VDCW

TOLERANCE: GMC

TEMPERATURE RANGE: -55°C to +85°C.

DUALS

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
2 x 1000	BYC6DD1	.4	.12	\$.40	\$.24
2 x 1500	BYC6DD15	.4	.12	.40	.24
2 x 2000	BYC6DD2	.4	.12	.40	.24
2 x 2200	BYC6DD22	.4	.12	.40	.24
2 x 2500	BYC6DD25	.4	.12	.40	.24
2 x 3000	BYC6DD3	.4	.12	.45	.27
2 x 4000	BYC6DD4	.4	.12	.45	.27
2 x 4700	BYC6DD47	.4	.12	.45	.27
2 x 5000	BYC6DD5	.4	.12	.45	.27

General Purpose DISC SHIELDED

TYPE: BYD

VOLTAGE: 600 VDCW

TOLERANCE: GMC

TEMPERATURE RANGE: -55°C to +85°C.

DUALS

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
2 x 1000	BYD6DD1	.4	.12	\$.40	\$.24
2 x 2000	BYD6DD2	.4	.12	.45	.27
2 x 5000	BYD6DD5	.4	.12	.45	.27
2 x 10000	BYD6DS1	.4	.12	.50	.30

General Purpose DISC CLOSE TOLERANCE

TYPE: L

VOLTAGE: 1000 VDCW

TOLERANCE: ±10%, except as noted, to 390 mmfd. incl.

±20%, 400 mmfd. and over.

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
13.3	L10V33	.4	.12	\$.25	\$.15
15.0	L10V5	.4	.12	.25	.15
†6.8	L10V68	.4	.12	.25	.15
7.0	L10V7	.4	.12	.25	.15
8.0	L10V8	.4	.12	.25	.15
10	L10Q1	.4	.12	.25	.15
12	L10Q12	.4	.12	.25	.15
15	L10Q15	.4	.12	.25	.15
18	L10Q18	.4	.12	.25	.15
20	L10Q2	.4	.12	.25	.15
22	L10Q22	.4	.12	.25	.15
24	L10Q24	.4	.12	.25	.15
25	L10Q25	.4	.12	.25	.15
27	L10Q27	.4	.12	.25	.15
30	L10Q3	.4	.12	.25	.15
33	L10Q33	.4	.12	.25	.15
39	L10Q39	.4	.12	.25	.15
47	L10Q47	.4	.12	.25	.15
50	L10Q5	.4	.12	.25	.15
51	L10Q51	.4	.12	.25	.15

†Tolerance ±.5 Mmfd.

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CORNELL DUBILIER

"TINYMIKE" CERAMIC CAPACITORS

TYPE: L (cont'd)

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
56	L10Q56	9/32	3/32	\$.25	\$.15
68	L10Q68	9/32	3/32	.25	.15
75	L10Q75	9/32	3/32	.25	.15
82	L10Q82	9/32	3/32	.25	.15
91	L10Q91	9/32	3/32	.25	.15
100	L10T1	9/32	3/32	.25	.15
110	L10T11	9/32	3/32	.25	.15
120	L10T12	9/32	3/32	.25	.15
130	L10T13	9/32	3/32	.25	.15
150	L10T15	9/32	3/32	.25	.15
180	L10T18	9/32	3/32	.25	.15
200	L10T2	9/32	3/32	.25	.15
220	L10T22	9/32	3/32	.25	.15
240	L10T24	9/32	3/32	.25	.15
250	L10T25	9/32	3/32	.25	.15
270	L10T27	9/32	3/32	.25	.15
300	L10T3	9/32	3/32	.25	.15
330	L10T33	9/32	3/32	.25	.15
350	L10T35	9/32	3/32	.25	.15
360	L10T36	9/32	3/32	.25	.15
390	L10T39	9/32	3/32	.25	.15
400	L10T4	9/32	3/32	.25	.15
420	L10T42	9/32	3/32	.25	.15
470	L10T47	9/32	3/32	.25	.15
500	L10T5	9/32	3/32	.25	.15
510	L10T51	9/32	3/32	.25	.15
560	L10T56	9/32	3/32	.25	.15
600	L10T6	9/32	3/32	.25	.15
620	L10T62	9/32	3/32	.25	.15
680	L10T68	9/32	3/32	.25	.15
750	L10T75	9/32	3/32	.25	.15
800	L10T8	9/32	3/32	.25	.15
820	L10T82	9/32	3/32	.25	.15
910	L10T91	9/32	3/32	.25	.15
1000	L10D1	9/32	3/32	.25	.15
1200	L10D12	9/32	3/32	.25	.15
1300	L10D13	9/32	3/32	.25	.15
1500	L10D15	9/32	3/32	.25	.15
1600	L10D16	9/32	3/32	.25	.15
1800	L10D18	9/32	3/32	.25	.15
2000	L10D2	9/32	3/32	.25	.15
2200	L10D22	9/32	3/32	.25	.15
2500	L10D25	9/32	3/32	.25	.15
2700	L10D27	9/32	3/32	.25	.15
3000	L10D3	9/32	3/32	.25	.15
3300	L10D33	9/32	3/32	.25	.15
3900	L10D39	9/32	3/32	.25	.15
4000	L10D4	9/32	3/32	.25	.15
4300	L10D43	9/32	3/32	.25	.15
4700	L10D47	9/32	3/32	.25	.15
5000	L10D5	9/32	3/32	.30	.18
5100	L10D51	9/32	3/32	.30	.18

**General Purpose DISC
HIGH VOLTAGE**

TYPE: HVA — HVB — HVC

VOLTAGE: 1600 VDCW

TEMPERATURE RANGE: -55°C to +85°C.

TOLERANCE: 4.7 to 100 mmfd. incl. ±10%, except as noted.
150 to 1000 mmfd. incl. ±20%.
1200 to 6800 mmfd. incl. GMC.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
4.7	HVA16V47	3/8	7/32	\$.30	\$.18
6.8	HVA16V68	3/8	7/32	.30	.18
10	HVA16Q1	3/8	7/32	.30	.18
12	HVA16Q12	3/8	7/32	.30	.18
15	HVA16Q15	3/8	7/32	.30	.18

TYPE: HVA — HVB — HVC (Cont'd)

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
18	HVA16Q18	3/8	7/32	\$.30	\$.18
20	HVA16Q2	3/8	7/32	.30	.18
22	HVA16Q22	3/8	7/32	.30	.18
33	HVA16Q33	3/8	7/32	.30	.18
47	HVA16Q47	3/8	7/32	.30	.18
56	HVA16Q56	3/8	7/32	.30	.18
62	HVA16Q62	3/8	7/32	.30	.18
68	HVA16Q68	3/8	7/32	.30	.18
82	HVA16Q82	3/8	7/32	.30	.18
100	HVA16T1	3/8	7/32	.30	.18
150	HVB16T15	3/8	7/32	.30	.18
180	HVB16T18	3/8	7/32	.30	.18
220	HVB16T22	3/8	7/32	.30	.18
300	HVB16T3	3/8	7/32	.30	.18
330	HVB16T33	3/8	7/32	.30	.18
390	HVB16T39	3/8	7/32	.30	.18
470	HVB16T47	3/8	7/32	.30	.18
680	HVB16T68	3/8	7/32	.30	.18
1000	HVB16D1	3/8	7/32	.30	.18
1200	HVC16D12	3/8	7/32	.30	.18
1500	HVC16D15	3/8	7/32	.30	.18
2000	HVC16D2	3/8	7/32	.30	.18
2200	HVC16D22	3/8	7/32	.30	.18
3300	HVC16D33	3/8	7/32	.30	.18
4700	HVC16D47	3/8	7/32	.30	.18
6800	HVC16D68	3/8	7/32	.30	.18

†Tolerance ±.5 Mmfd.

**High Voltage DISC
for BUFFER Applications**

TYPE: HVE

VOLTAGE: 1600 VDCW

TOLERANCE: GMC, except as noted.

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
3000	HVE16D3	3/4	7/32	\$.35	\$.21
4000	HVE16D4	3/4	7/32	.35	.21
5000	HVE16D5	3/4	7/32	.35	.21
6000	HVE16D6	3/4	7/32	.35	.21
7000	HVE16D7	3/4	7/32	.35	.21
7500	HVE16D75	3/4	7/32	.35	.21
8000	HVE16D8	3/4	7/32	.35	.21
10000	HVE16S1	3/4	7/32	.35	.21
†15000	HVE16S15	3/4	7/32	.60	.36

†Tolerance +80%, -20%.

**Low Voltage Miniature DISC
for TRANSISTOR CIRCUITRY**

TYPE: H

VOLTAGE: 50 VDCW

TOLERANCE: +100%, -0%, except as noted.

TEMPERATURE RANGE: +10°C to +85°C.

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
.001	H-05D1	.290	1/4	\$.45	\$.27
.005	H-05D3	.350	1/4	.45	.27
.01	H-05S1	.350	1/4	.65	.39
.02	H-05S2	.500	1/4	.65	.39
.025	H-05S25	.500	1/4	.65	.39
*.05	H-05S5	.625	1/4	.70	.42
*.10	H-05P1	.625	3/16	.90	.54

*Tolerance +80%, -20%.

CORNELL DUBILIER



"TINYMIKE" CERAMIC CAPACITORS

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB — HVC

VOLTAGE: 2000 VDCW

TEMPERATURE RANGE: -55°C to +85°C.

TOLERANCE: 4.7 to 82 mmfd. incl. ±10%, except as noted.
100 to 1500 mmfd. incl. ±20%.
2000 to 6000 mmfd. incl. GMC.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
4.7	HVA20V47	3/4	7/32	\$.35	\$.21
6.8	HVA20V68	3/4	7/32	.35	.21
10	HVA20Q1	3/4	7/32	.35	.21
15	HVA20Q15	3/4	7/32	.35	.21
22	HVA20Q22	3/4	7/32	.35	.21
33	HVA20Q33	3/4	7/32	.35	.21
39	HVA20Q39	3/4	7/32	.35	.21
47	HVA20Q47	3/4	7/32	.35	.21
56	HVA20Q56	3/4	7/32	.35	.21
62	HVA20Q62	3/4	7/32	.35	.21
68	HVA20Q68	3/4	7/32	.35	.21
75	HVA20Q75	3/4	7/32	.35	.21
82	HVA20Q82	3/4	7/32	.35	.21
100	HVB20T1	3/4	7/32	.35	.21
120	HVB20T12	3/4	7/32	.35	.21
150	HVB20T15	3/4	7/32	.35	.21
180	HVB20T18	3/4	7/32	.35	.21
200	HVB20T2	3/4	7/32	.35	.21
220	HVB20T22	3/4	7/32	.35	.21
270	HVB20T27	3/4	7/32	.35	.21
300	HVB20T3	3/4	7/32	.35	.21
330	HVB20T33	3/4	7/32	.35	.21
390	HVB20T39	3/4	7/32	.35	.21
470	HVB20T47	3/4	7/32	.35	.21
500	HVB20T5	3/4	7/32	.35	.21
560	HVB20T56	3/4	7/32	.35	.21
680	HVB20T68	3/4	7/32	.35	.21
1000	HVC20D1	3/4	7/32	.35	.21
1500	HVC20D15	3/4	7/32	.35	.21
2000	HVC20D2	3/4	7/32	.35	.21
2200	HVC20D22	3/4	7/32	.35	.21
3300	HVC20D33	3/4	7/32	.35	.21
4700	HVC20D47	3/4	7/32	.35	.21
5000	HVC20D5	3/4	7/32	.35	.21
6000	HVC20D6	3/4	7/32	.40	.24

†Tolerance ±.5 Mmfd.

High Voltage DISC for DEFLECTION YOKE Applications

TYPE: HVD

VOLTAGE: 2000 VDCW

TOLERANCE: ±10%

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
15	HVD20Q15	3/8	7/32	\$.35	\$.21
18	HVD20Q18	3/8	7/32	.35	.21
20	HVD20Q2	3/8	7/32	.35	.21
22	HVD20Q22	3/8	7/32	.35	.21
33	HVD20Q33	3/8	7/32	.35	.21
39	HVD20Q39	3/8	7/32	.35	.21
47	HVD20Q47	3/8	7/32	.35	.21
62	HVD20Q62	3/8	7/32	.35	.21
68	HVD20Q68	3/8	7/32	.35	.21
75	HVD20Q75	3/8	7/32	.35	.21
82	HVD20Q82	3/8	7/32	.35	.21
91	HVD20Q91	3/8	7/32	.35	.21

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB — HVC

VOLTAGE: 3000 VDCW

TEMPERATURE RANGE: -55°C to +85°C.

TOLERANCE: 4.7 to 60 mmfd. incl. ±10%, except as noted;
68 to 1000 mmfd. incl. ±20%; 1500 to 4000 mmfd. incl. GMC.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
4.7	HVA30V47	3/4	7/32	\$.40	\$.24
6.8	HVA30V68	3/4	7/32	.40	.24
10	HVA30Q1	3/4	7/32	.40	.24
12	HVA30Q12	3/4	7/32	.40	.24
15	HVA30Q15	3/4	7/32	.40	.24
22	HVA30Q22	3/4	7/32	.40	.24
33	HVA30Q33	3/4	7/32	.40	.24
39	HVA30Q39	3/4	7/32	.40	.24
47	HVA30Q47	3/4	7/32	.40	.24
50	HVA30Q5	3/4	7/32	.40	.24
60	HVA30Q6	3/4	7/32	.40	.24
68	HVB30Q68	3/4	7/32	.40	.24
100	HVB30T1	3/4	7/32	.40	.24
120	HVB30T12	3/4	7/32	.40	.24
150	HVB30T15	3/4	7/32	.40	.24
180	HVB30T18	3/4	7/32	.40	.24
200	HVB30T2	3/4	7/32	.40	.24
220	HVB30T22	3/4	7/32	.40	.24
250	HVB30T25	3/4	7/32	.40	.24
270	HVB30T27	3/4	7/32	.40	.24
300	HVB30T3	3/4	7/32	.40	.24
330	HVB30T33	3/4	7/32	.40	.24
390	HVB30T39	3/4	7/32	.40	.24
470	HVB30T47	3/4	7/32	.40	.24
500	HVB30T5	3/4	7/32	.40	.24
680	HVB30T68	3/4	7/32	.40	.24
1000	HVC30D1	3/4	7/32	.40	.24
1500	HVC30D15	3/4	7/32	.40	.24
2000	HVC30D2	3/4	7/32	.40	.24
2200	HVC30D22	3/4	7/32	.40	.24
3300	HVC30D33	3/4	7/32	.40	.24
4000	HVC30D4	3/4	7/32	.40	.24

†Tolerance ±.5 Mmfd.

General Purpose DISC HIGH VOLTAGE

TYPE: HVA — HVB

VOLTAGE: 5000 VDCW

TOLERANCE: ±20%

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
4.7	HVA50V47	3/8	7/32	\$.45	\$.27
10	HVA50Q1	3/8	7/32	.45	.27
22	HVA50Q22	3/8	7/32	.45	.27
47	HVB50Q47	3/8	7/32	.45	.27
100	HVB50T1	3/8	7/32	.45	.27
220	HVB50T22	3/8	7/32	.45	.27
330	HVB50T33	3/8	7/32	.45	.27
470	HVB50T47	3/8	7/32	.45	.27

CORNELL DUBILIER

"TINYMIKE" CERAMIC CAPACITORS

Temperature Compensating DISC Coefficient NPO

TYPE: C

VOLTAGE: 1000 VDCW

TOLERANCE: ±10%, except as noted.

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
11.5	C10V15C	9/32	5/32	\$.50	\$.30
12.0	C10V2C	9/32	5/32	.50	.30
12.2	C10V22C	9/32	5/32	.50	.30
13.0	C10V3C	9/32	5/32	.50	.30
13.3	C10V33C	9/32	5/32	.50	.30
14.0	C10V4C	9/32	5/32	.50	.30
14.7	C10V47C	9/32	5/32	.50	.30
5.0	C10V5C	9/32	5/32	.50	.30
6.0	C10V6C	9/32	5/32	.50	.30
6.8	C10V68C	9/32	5/32	.50	.30
7.0	C10V7C	9/32	5/32	.50	.30
8.0	C10V8C	9/32	5/32	.50	.30
8.2	C10V82C	9/32	5/32	.50	.30
9.0	C10V9C	9/32	5/32	.50	.30
10	C10Q1C	9/32	5/32	.50	.30
12	C10Q12C	3/4	5/32	.50	.30
13	C10Q13C	3/4	5/32	.50	.30
15	C10Q15C	3/4	5/32	.50	.30
18	C10Q18C	3/4	5/32	.50	.30
20	C10Q2C	3/4	5/32	.50	.30
22	C10Q22C	19/32	5/32	.50	.30
24	C10Q24C	19/32	5/32	.50	.30
25	C10Q25C	19/32	5/32	.50	.30
27	C10Q27C	19/32	5/32	.50	.30
30	C10Q3C	19/32	5/32	.50	.30
33	C10Q33C	19/32	5/32	.50	.30
36	C10Q36C	19/32	5/32	.50	.30
43	C10Q39C	19/32	5/32	.50	.30
43	C10Q43C	19/32	5/32	.50	.30
47	C10Q47C	19/32	5/32	.50	.30
50	C10Q5C	3/4	5/32	.55	.33
51	C10Q51C	3/4	5/32	.55	.33
56	C10Q56C	3/4	5/32	.55	.33
62	C10Q62C	3/4	5/32	.55	.33
68	C10Q68C	3/4	5/32	.55	.33
75	C10Q75C	3/4	5/32	.55	.33
82	C10Q82C	3/4	5/32	.55	.33
91	C10Q91C	7/8	5/32	.55	.33
100	C10T1C	7/8	5/32	.55	.33

†Tolerance ±.5 Mmfd.

Temperature Compensating DISC Coefficient N750

TYPE: C

VOLTAGE: 1000 VDCW

TOLERANCE: ±10%

TEMPERATURE RANGE: -55°C to +85°C.

SINGLES

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
5.0	C10V5U	9/32	5/32	\$.50	\$.30
6.0	C10V6U	9/32	5/32	.50	.30
6.8	C10V68U	9/32	5/32	.50	.30
7.0	C10V7U	9/32	5/32	.50	.30
8.0	C10V8U	9/32	5/32	.50	.30
8.2	C10V82U	9/32	5/32	.50	.30
9.0	C10V9U	9/32	5/32	.50	.30
10	C10Q1U	9/32	5/32	.50	.30
12	C10Q12U	9/32	5/32	.50	.30
13	C10Q13U	9/32	5/32	.50	.30
15	C10Q15U	9/32	5/32	.50	.30
18	C10Q18U	9/32	5/32	.50	.30
20	C10Q2U	9/32	5/32	.50	.30
22	C10Q22U	9/32	5/32	.50	.30
24	C10Q24U	9/32	5/32	.50	.30

TYPE: C (cont'd)

Cap. Mmfd.	Cat. No.	Dia. Max. (Inches)	Thick. Max. (Inches)	List Price	Net Price
25	C10Q25U	9/32	5/32	\$.50	\$.30
27	C10Q27U	9/32	5/32	.50	.30
30	C10Q3U	9/32	5/32	.50	.30
33	C10Q33U	9/32	5/32	.50	.30
36	C10Q36U	9/32	5/32	.50	.30
39	C10Q39U	3/8	5/32	.50	.30
43	C10Q43U	3/8	5/32	.50	.30
47	C10Q47U	3/8	5/32	.50	.30
50	C10Q5U	3/8	5/32	.50	.30
51	C10Q51U	3/8	5/32	.50	.30
56	C10Q56U	3/8	5/32	.50	.30
62	C10Q62U	3/8	5/32	.50	.30
68	C10Q68U	3/8	5/32	.50	.30
75	C10Q75U	19/32	5/32	.50	.30
82	C10Q82U	19/32	5/32	.50	.30
91	C10Q91U	19/32	5/32	.50	.30
100	C10T1U	19/32	5/32	.50	.30
110	C10T11U	19/32	5/32	.50	.30
120	C10T12U	19/32	5/32	.50	.30
130	C10T13U	19/32	5/32	.50	.30
150	C10T15U	19/32	5/32	.50	.30
160	C10T16U	3/4	5/32	.55	.33
175	C10T175U	3/4	5/32	.55	.33
180	C10T18U	3/4	5/32	.55	.33
200	C10T2U	3/4	5/32	.55	.33
220	C10T22U	3/4	5/32	.55	.33
240	C10T24U	3/4	5/32	.55	.33
270	C10T27U	3/4	5/32	.55	.33
300	C10T3U	7/8	5/32	.55	.33
330	C10T33U	7/8	5/32	.55	.33



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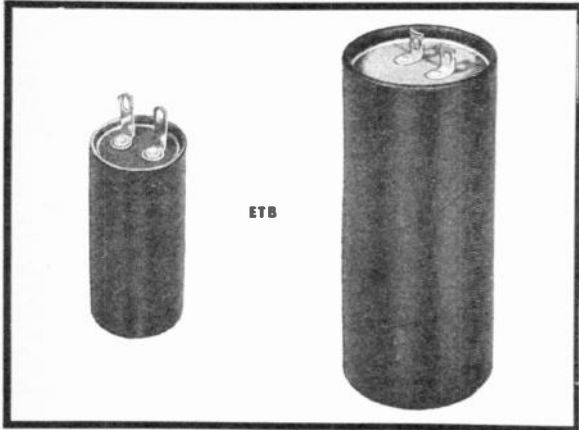
"THE CAPACITOR"

South Plainfield, New Jersey

CORNELL DUBILIER

MOTOR START CAPACITORS A. C. Electrolytic Types

Over 25 years of design, development and engineering are represented in present-day CORNELL-DUBILIER MOTOR CAPACITORS. Only the highest-purity materials, the most modern processing techniques and most rigid quality controls are built-in to C-D Motor Capacitors. Ratings, styles and sizes are available for any known REPLACEMENT application. Consistent Dependability and Long Life are characteristic of these C-D units.



C-D types ETB, EBJ, ETLJ and ETRJ are identical in appearance, differing only in their respective VOLTAGE ratings. Units are housed in round aluminum containers and supplied with a black "electrical" kraft cardboard external sleeve. Terminals are combination solder-lug and self-tapping screw, except for the 1" and 1 1/8" diameter containers, in which case only solder-lug type terminals are furnished. End-Caps and/or Mounting Brackets are available on order.

TYPE ETB—110 VOLTS A.C. 50-60 CYCLES

ETB Cat. No.	Cap. Mfd. Min.-Max.	Can† Dimensions—Ins. Dia. x Length	List Price	Net Price
ETB-20	20-24	1 3/8 x 2 3/8	\$2.05	\$1.23
ETB-35	32-36	1 3/8 x 2 3/8	2.10	1.26
ETB-40	38-46	1 3/8 x 2 3/8	2.10	1.26
ETB-45	43-48	1 3/8 x 2 3/8	2.10	1.26
ETB-55-1	53-60	1 3/8 x 2 3/8	2.15	1.29
ETB-70-2	64-72	1 3/8 x 2 3/8	2.25	1.35
ETB-75-3	70-78	1 3/8 x 2 3/8	2.40	1.44
ETB-80-1	75-84	1 3/8 x 2 3/8	2.55	1.53
ETB-90-1	86-96	1 3/8 x 2 3/8	2.65	1.59
ETB-100	97-107	1 3/8 x 3 1/8	2.80	1.68
ETB-110-1	107-129	1 3/8 x 2 3/8	2.85	1.71
ETB-115	108-120	1 3/8 x 3 1/8	2.85	1.71
ETB-115-3	108-120	1 3/8 x 2 3/8	2.85	1.71
ETB-130-3	124-138	1 3/8 x 2 3/8	2.95	1.77
ETB-130-4	124-138	1 3/8 x 2 3/8	2.95	1.77
ETB-135	124-149	1 3/8 x 3 1/8	2.95	1.77
ETB-145-3	130-157	1 3/8 x 3 1/8	2.95	1.77
ETB-150-1	137-162	1 3/8 x 3 1/8	3.10	1.86
ETB-155-4	145-162	1 3/8 x 3 1/8	3.20	1.92
ETB-170-2	158-191	1 3/8 x 3 1/8	3.25	1.95
ETB-175-5	161-180	1 3/8 x 3 1/8	3.25	1.95
ETB-200-1	189-210	1 3/8 x 3 1/8	3.70	2.22
ETB-200-4	189-210	1 3/8 x 4 1/8	3.70	2.22
ETB-205-2	194-216	1 3/8 x 4 1/8	3.90	2.34
ETB-210-3	192-232	1 3/8 x 4 1/8	3.90	2.34
ETB-215	190-240	1 3/8 x 3 1/8	3.90	2.34
ETB-225-5	216-240	1 3/8 x 4 1/8	4.05	2.43
ETB-225-6	216-240	1 1/2 x 3 1/8	4.05	2.43
ETB-230-2	233-281	1 1/2 x 4 1/8	4.50	2.70
ETB-255-2	243-270	1 1/2 x 4 1/8	4.70	2.82
ETB-285	270-300	1 3/4 x 4 1/8	4.75	2.85
ETB-310-1	297-330	2 x 3 1/8	4.85	2.91
ETB-315-1	282-340	2 x 3 1/8	5.20	3.12
ETB-340-2	324-360	1 3/4 x 4 1/8	5.40	3.24
ETB-400	378-420	2 x 4 1/8	6.00	3.60
ETB-450-1	432-480	2 x 4 1/8	6.95	4.17
ETB-460-1	413-498	2 x 4 1/8	6.95	4.17
ETB-525	485-580	2 1/2 x 4 1/8	7.70	4.62
ETB-600	560-640	2 1/2 x 4 1/8	8.30	4.98
ETB-675	640-720	2 1/2 x 4 1/8	8.90	5.34

ETB (SPECIAL TYPES)—To fit in MOTOR END BELLS 110 VOLTS A.C. 60 CYCLES

ETB Cat. No.	Cap. Mfd. Min. Max.	Can† Dimensions—Ins. Dia. x Length	List Price	Net Price
ETB-70-3	64-72	1 3/8 x 2 3/8	\$2.25	\$1.35
ETB-78-2	72-87	1 3/8 x 2 3/8	2.50	1.50
ETB-95-1	86-106	1 3/8 x 2 3/8	2.60	1.56
ETB-110-1	107-129	1 3/8 x 2 3/8	2.85	1.71
ETB-130-3	124-138	1 3/8 x 2 3/8	2.95	1.77

TYPE EBJ—110 VOLTS A.C. 50-60 CYCLES

EBJ Cat. No.	Cap. Mfd. Min.-Max.	Can† Dimensions—Ins. Dia. x Length	List Price	Net Price
EBJ-15	15-20	1 x 2 1/8	\$2.05	\$1.23
EBJ-20	20-24	1 x 2 1/8	2.05	1.23
EBJ-25	25-30	1 x 2 1/8	2.10	1.26
EBJ-35	30-36	1 x 2 1/8	2.10	1.26
EBJ-40	36-42	1 x 2 1/8	2.10	1.26
EBJ-45	43-48	1 x 2 1/8	2.10	1.26
EBJ-50	47-58	1 x 2 1/8	2.10	1.26
EBJ-65	59-71	1 x 2 1/8	2.15	1.29
EBJ-78	72-88	1 x 2 3/8	2.30	1.38
EBJ-95	88-106	1 1/8 x 2 3/8	2.60	1.56
EBJ-110	107-129	1 1/8 x 2 3/8	2.85	1.71
EBJ-130	124-138	1 1/8 x 2 3/8	2.95	1.77
EBJ-145	130-156	1 3/8 x 2 3/8	2.95	1.77
EBJ-155	145-162	1 3/8 x 2 3/8	3.20	1.92
EBJ-170	158-191	1 3/8 x 2 3/8	3.25	1.95
EBJ-210	189-227	1 3/8 x 2 3/8	3.90	2.34
EBJ-225	216-240	1 3/8 x 3 1/8	4.05	2.43
EBJ-255	243-270	1 3/8 x 3 1/8	4.70	2.82
EBJ-285	270-324	1 3/8 x 4 1/8	4.75	2.85
EBJ-340	324-360	1 3/8 x 4 1/8	5.40	3.24
EBJ-380	340-408	1 3/8 x 4 1/8	5.55	3.33
EBJ-400	378-420	1 3/8 x 4 1/8	6.00	3.60
EBJ-440	400-480	1 3/8 x 4 1/8	6.05	3.63
EBJ-500	460-540	1 3/8 x 4 1/8	6.75	4.17
EBJ-575	540-600	1 3/8 x 4 1/8	7.90	4.62
EBJ-650	590-700	1 3/8 x 4 1/8	8.30	4.98
EBJ-675	640-720	2 x 4 1/8	8.90	5.34

TYPE ETRJ—125 VOLTS A.C. 50-60 CYCLES

ETRJ Cat. No.	Cap. Mfd. Min.-Max.	Can† Dimensions—Ins. Dia. x Length	List Price	Net Price
ETRJ-15	15-20	1 x 2 1/8	\$2.25	\$1.35
ETRJ-20	20-24	1 x 2 1/8	2.25	1.35
ETRJ-25	25-30	1 x 2 1/8	2.25	1.35
ETRJ-35	30-36	1 x 2 1/8	2.30	1.38
ETRJ-40	36-42	1 x 2 1/8	2.30	1.38
ETRJ-45	43-48	1 1/8 x 2 1/8	2.30	1.38
ETRJ-50	47-58	1 1/8 x 2 1/8	2.35	1.41
ETRJ-65	59-71	1 1/8 x 2 1/8	2.40	1.44
ETRJ-78	72-88	1 1/8 x 2 1/8	2.60	1.56
ETRJ-95	88-106	1 1/8 x 2 1/8	2.75	1.65
ETRJ-110	107-129	1 1/8 x 2 1/8	3.15	1.89
ETRJ-130	124-138	1 1/8 x 2 1/8	3.25	1.95
ETRJ-145	130-156	1 3/8 x 2 1/8	3.25	1.95
ETRJ-155	145-162	1 3/8 x 2 1/8	3.65	2.19
ETRJ-170	161-180	1 3/8 x 3 1/8	3.85	2.31
ETRJ-210	189-227	1 3/8 x 4 1/8	4.30	2.58
ETRJ-225	216-240	1 3/8 x 4 1/8	4.65	2.79
ETRJ-255	243-270	1 3/8 x 4 1/8	5.20	3.12
ETRJ-285	270-324	1 3/8 x 4 1/8	5.40	3.24
ETRJ-340	324-360	1 3/8 x 4 1/8	5.80	3.48
ETRJ-380	340-408	1 3/8 x 4 1/8	6.50	3.90
ETRJ-400	378-420	1 3/8 x 4 1/8	6.75	4.05
ETRJ-440	400-480	1 3/8 x 4 1/8	6.85	4.11
ETRJ-500	460-540	1 3/8 x 4 1/8	8.95	5.37
ETRJ-575	540-600	2 x 4 1/8	9.65	5.79
ETRJ-650	590-700	2 x 4 1/8	10.40	6.24

†For Overall Size add 1/16" to Diam. and 3/8" to Length.

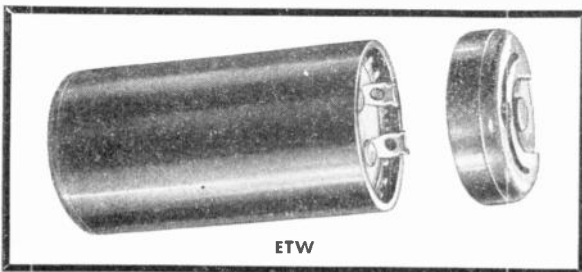
CORNELL DUBILIER

MOTOR START CAPACITORS A. C. Electrolytic Types

TYPE ETLJ—220 VOLTS A.C. 50-60 CYCLES (Similar in appearance to ETB)

ETLJ Cat. No.	Cap. Mfd. Min.-Max.	Can Dimensions—Ins. Dia. x Length	List Price	Net Price
ETLJ-20	20-24	1 3/4 x 2 3/8	\$4.40	\$2.64
ETLJ-25	25-30	1 3/4 x 2 3/8	4.60	2.76
ETLJ-35	30-36	1 3/4 x 2 3/8	4.90	2.94
ETLJ-40	36-42	1 3/4 x 3 1/8	5.30	3.18
ETLJ-45	43-48	1 3/4 x 3 1/8	5.55	3.33
ETLJ-50	47-58	1 3/4 x 3 1/8	5.65	3.39
ETLJ-65	59-71	1 3/4 x 4 1/8	6.35	3.81
ETLJ-78	72-88	1 3/4 x 4 1/8	7.00	4.20
ETLJ-95	88-106	1 3/4 x 4 1/8	7.65	4.59
ETLJ-110	107-129	1 3/4 x 4 1/8	8.60	5.16
ETLJ-130	124-138	2 x 4 1/8	11.00	6.60
ETLJ-145	130-156	2 x 4 1/8	11.30	6.78
ETLJ-155	145-162	2 x 4 1/8	11.85	7.11

†For Overall Size add 1/16" to Diam. and 3/8" to Length.



ETW

TYPE ETW, ETWJ—110 VOLTS A.C. 50-60 CYCLES

These types are housed in a tubular MOLDED BAKELITE CASE with self-tapping screw terminals. Also available with single end-cap and designated ETWJC—with end-cap and bracket Type ETWJCB.

ETWJ Cat. No.	Cap. Mfd. Min.-Max.	Overall Dimensions—Inches Dia. x Length	List Price	Net Price
ETWJ-5010	47-58	1 7/8 x 2 3/8	\$2.10	\$1.26
ETWJ-6510	59-71	1 7/8 x 2 3/8	2.15	1.29
ETWJ-7810	72-88	1 7/8 x 2 3/8	2.30	1.38
ETWJ-9510	88-106	1 7/8 x 2 3/8	2.50	1.56
ETWJ-11010	107-129	1 7/8 x 2 3/8	2.85	1.71
ETWJ-13010	124-138	1 7/8 x 2 3/8	2.95	1.77
ETWJ-14510	130-156	1 7/8 x 2 3/8	2.95	1.77
ETWJ-15510	145-162	1 7/8 x 2 3/8	3.20	1.92
ETWJ-17010	158-191	1 7/8 x 2 3/8	3.25	1.95
ETWJ-21010	189-227	1 7/8 x 3 1/8	3.90	2.34
ETWJ-22510	216-240	1 7/8 x 3 1/8	4.05	2.43
ETWJ-25510	243-270	1 13/16 x 3 1/8	4.70	2.82
ETWJ-28510	270-324	1 13/16 x 3 1/8	4.75	2.85
ETWJ-34010	324-360	1 13/16 x 3 1/8	5.40	3.24
ETWJ-38010	340-408	1 13/16 x 3 1/8	5.55	3.33
ETWJ-40010	378-420	1 13/16 x 3 1/8	6.00	3.60
ETWJ-44010	400-480	1 13/16 x 3 1/8	6.05	3.63
ETWJ-50010	460-540	1 13/16 x 4 1/8	6.95	4.17
ETWJ-57510	540-600	1 13/16 x 4 1/8	7.70	4.62
ETWJ-65010	590-700	1 13/16 x 4 1/8	8.30	4.98

125 VOLTS A.C. 50-60 CYCLES

ETWJ Cat. No.	Cap. Mfd. Min.-Max.	Overall Dimensions—Inches Dia. x Length	List Price	Net Price
ETWJ-3025	47-58	1 7/8 x 2 3/8	\$2.35	\$1.41
ETWJ-6525	59-71	1 7/8 x 2 3/8	2.40	1.44
ETWJ-7825	72-88	1 7/8 x 2 3/8	2.60	1.56
ETWJ-9525	88-106	1 7/8 x 2 3/8	2.75	1.65
ETWJ-11025	107-129	1 7/8 x 2 3/8	3.15	1.89
ETWJ-13025	124-138	1 7/8 x 2 3/8	3.25	1.95
ETWJ-14525	130-156	1 7/8 x 2 3/8	3.25	1.95
ETWJ-15525	145-162	1 7/8 x 2 3/8	3.65	2.19
ETWJ-17025	158-191	1 7/8 x 2 3/8	3.85	2.31
ETWJ-21025	189-227	1 7/8 x 3 1/8	4.30	2.58
ETWJ-22525	216-240	1 7/8 x 3 1/8	4.65	2.79
ETWJ-25525	243-270	1 13/16 x 3 1/8	5.20	3.12
ETWJ-28525	270-324	1 13/16 x 3 1/8	5.40	3.24
ETWJ-34025	324-360	1 13/16 x 3 1/8	5.80	3.48
ETWJ-38025	340-408	1 13/16 x 3 1/8	6.50	3.90
ETWJ-40025	378-420	1 13/16 x 3 1/8	6.75	4.05
ETWJ-44025	400-480	1 13/16 x 3 1/8	6.85	4.11
ETWJ-50025	460-540	1 13/16 x 4 1/8	8.95	5.37
ETWJ-57525	540-600	1 13/16 x 4 1/8	9.65	5.79
ETWJ-65025	590-700	1 13/16 x 4 1/8	10.40	6.24

TYPE ETW

For AIR CONDITIONING AND REFRIGERATION Applications.
BAKELITE CASED (Similar in appearance to ETB)

ETW Cat. No.	Cap. Mfd. Min.-Max.	V A C	Overall Dimensions—Ins. Dia. x Lgth.	List Price	Net Price
ETW-8610	86-103	110	1 7/8 x 3 3/8	\$2.65	\$1.59
ETW-16110	161-193	110	1 13/16 x 3 3/8	3.25	1.95
ETW-24310	243-270	110	1 13/16 x 4 1/8	4.70	2.82
ETW-28210	282-340	110	1 13/16 x 4 1/8	5.20	3.12
ETW-8650	86-103	250	2 1/8 x 4 3/8	8.93	5.36
ETW-9050	90-108	250	2 1/8 x 4 3/8	7.55	4.53
ETW-9550	95-115	250	2 1/8 x 4 3/8	9.38	5.63
ETW-10850	108-120	250	2 1/8 x 4 3/8	9.80	5.88
ETW-12150	121-145	250	2 1/8 x 4 3/8	10.08	6.05
ETW-13550	135-151	250	2 1/8 x 4 3/8	10.26	6.16
ETW-14550	145-162	250	2 1/8 x 4 3/8	10.40	6.24
ETW-15850	158-191	250	2 1/8 x 4 3/8	15.52	9.30
ETW-19550	195-220	250	2 1/8 x 4 3/8	16.10	9.65
ETW-2732	27-35	320	2 1/8 x 4 3/8	5.60	3.36
ETW-5532	55-68	320	2 1/8 x 4 3/8	7.90	4.74
ETW-8132	81-90	320	2 1/8 x 4 3/8	10.80	6.48
ETW-10832	108-120	320	2 1/8 x 4 3/8	9.60	5.76
ETW-12432	124-138	320	2 1/8 x 4 3/8	14.50	8.70
ETW-13032	130-156	320	2 1/8 x 4 3/8	15.00	9.00

CAPS & BRACKETS FOR ETB, ETBJ, ETLJ, ETRJ

BOTTOM CAPS		TOP CAPS		BRACKETS			
Can Size D x L	Cat. No.	Cat. No.	List Price	Net Price	Cat. No.	List Price	Net Price
1 1/2 x 2 1/2	29432-1J	29432-2J	\$.25	\$.15	55145-J	\$.60	\$.36
1 3/8 x 2 1/8	18437-J	29183-1	.25	.15	19245-1J	.60	.36
1 3/8 x 2 3/8	18437-J	29183-1	.25	.15	19245-1J	.60	.36
1 3/8 x 3 1/8	18437-J	29183-1	.25	.15	19245-1J	.60	.36
1 3/8 x 4 1/8	18437-J	29183-1	.25	.15	20423-1J	.60	.36
1 1/2 x 3 1/2	27512-J	29183-2	.25	.15	19244-3J	.60	.36
1 1/2 x 4 1/2	27512-J	29183-2	.25	.15	20764-2J	.60	.36
1 3/4 x 3 3/4	18438-J	29183-3	.25	.15	19246-1J	.60	.36
1 3/4 x 4 1/4	18438-J	29183-3	.25	.15	20424-1J	.60	.36
2 x 3 3/8	18439-J	29183-4	.30	.18	20331-2J	.60	.36
2 x 4 1/2	18439-J	29183-4	.30	.18	20425-1J	.60	.36
2 1/2 x 3 3/8	18440-J	29183-5	.35	.21	19244-17J	.60	.36
2 1/2 x 4 1/4	18440-J	29183-5	.35	.21	20426-1J	.60	.36

NOTE: If units, PRE-ASSEMBLED at our factory, with CAPS and BRACKETS are required, add suffix CB to CAPACITOR Catalog No. (Ex. ETBCB-215).

CAPS & BRACKETS FOR ETW, ETWJ

CAPS				BRACKETS		
Case Size D x L	Cat. No.	List Price	Net Price	Cat. No.	List Price	Net Price
1 7/8 x 2 3/8	30066	\$.25	\$.15	34946-2	\$.40	\$.24
1 7/8 x 3 1/8	30066	.25	.15	34946	.40	.24
1 13/16 x 3 3/8	34618-3	.35	.21	34946-1	.40	.24
1 13/16 x 4 1/8	34618-3	.35	.21	34946-1	.40	.24
2 1/8 x 4 3/8	34618-2	.35	.21	34946-1	.40	.24
2 3/8 x 4 3/8	34618-4	.35	.21	34946-1	.40	.24

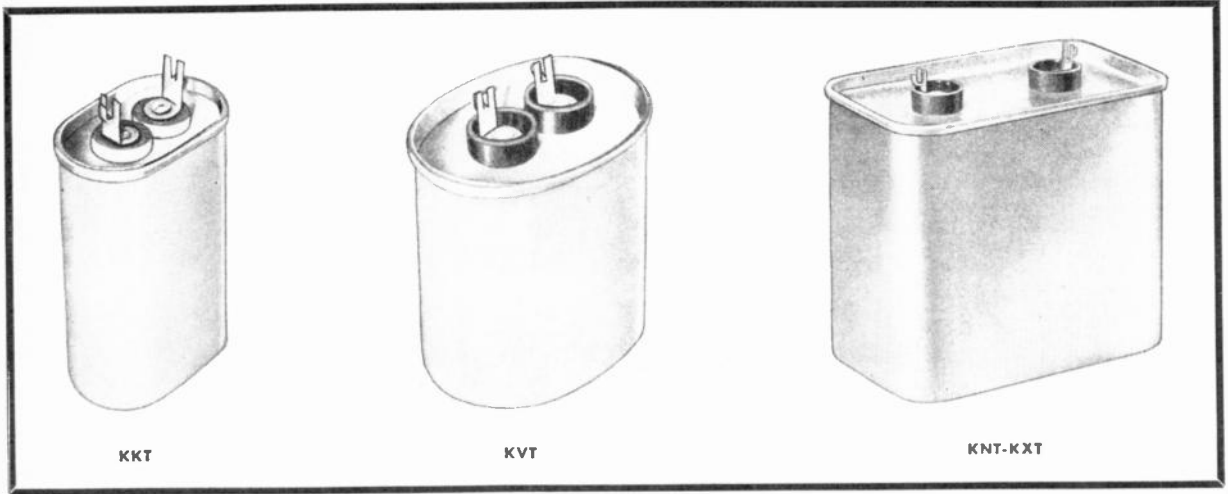
MOTOR START CAPACITOR REPLACEMENT GUIDE

Use	To Replace	Use	To Replace	Use	To Replace
ETB-55-1	ETB-55	ETB-145-3	ETB-145	ETB-210-3	ETB-210
ETB-55-1	ETB-55-2	ETB-145-3	ETB-145-1	ETB-225-5	ETB-225
ETB-70-2	ETB-70	ETB-145-3	ETB-145-2	ETB-225-5	ETB-225-3
ETB-70-2	ETB-70-1	ETB-150-1	ETB-150	ETB-225-6	ETB-225-1
ETB-75-3	ETB-75	ETB-155-4	ETB-155	ETB-225-6	ETB-225-2
ETB-75-3	ETB-75-2	ETB-155-4	ETB-155-1	ETB-225-6	ETB-225-4
ETB-78-2	ETB-78	ETB-155-4	ETB-155-3	ETB-250-2	ETB-250-1
ETB-78-2	ETB-78-1	ETB-170-2	ETB-170	ETB-255-2	ETB-255-1
ETB-80-1	ETB-80	ETB-170-2	ETB-170-1	ETB-255-2	ETB-255-3
ETB-90-1	ETB-90	ETB-175-5	ETB-175	ETB-285	ETB-285-3
ETB-90-1	ETB-90-2	ETB-175-5	ETB-175-2	ETB-310-1	ETB-310
ETB-95-1	ETB-95	ETB-175-5	ETB-175-3	ETB-315-1	ETB-315
ETB-110-1	ETB-110	ETB-175-5	ETB-175-4	ETB-340-2	ETB-340
ETB-115	ETB-115-1	ETB-175-5	ETB-175-6	ETB-450-1	ETB-450
ETB-130-3	ETB-130	ETB-200-4	ETB-200	ETB-460-1	ETB-460
ETB-130-3	ETB-130-1	ETB-200-1	ETB-200-3	ETB-460-1	ETB-460-2
ETB-130-3	ETB-130-2	ETB-205-2	ETB-205		
ETB-135	ETB-135-1	ETB-205-2	ETB-205-1		

NOTE: In some cases the smaller physical size unit ETBJ (see Page P-987), having the same electrical rating, can be selected as a replacement.

CORNELL DUBILIER

MOTOR RUN CAPACITORS A. C. Paper-Oil (Dykanol) Types



Types KKT and KVT are housed in OVAL drawn-case containers, and furnished with forked lug terminals set in cup insulators. The principal difference between these two types is simply in the

case size. Types KNT and KXT are housed in RECTANGULAR, deep-drawn, no seam, solderless terne plate cases. The principal difference between these two types is in the case sizes.

for Air Conditioning Applications

236 VOLTS A.C. OPERATING 50-60 CYCLES

Cat. No.	Cap. Mfd.	Can Size—Inches High x Deep x Wide	List Price	Net Price
KKT-23B20	2	2 x 1 ¹ / ₁₆ x 2 ³ / ₁₆	\$4.10	\$2.46
KKT-2330	3	2 ¹ / ₄ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	4.15	2.49
KKT-23A40	4	2 ⁷ / ₈ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	4.50	2.70
KKT-23A50	5	3 ¹ / ₈ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	4.95	2.97
KVT-23A75	7.5	2 ¹ / ₂ x 2 ¹ / ₄ x 2 ¹ / ₁₆	8.65	5.19
KVT-23B100	10	3 x 2 ¹ / ₄ x 2 ¹ / ₁₆	10.50	6.30
KVT-23150	15	4 ¹ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	11.70	7.02
KVT-23C200	20	4 ¹ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	19.20	11.52
KXT-23A250	25	6 ¹ / ₄ x 2 ³ / ₁₆ x 2 ¹ / ₁₆	21.60	12.96
KXT-23A300	30	6 ¹ / ₄ x 2 ³ / ₁₆ x 2 ¹ / ₁₆	21.85	13.11

370 VOLTS A.C. OPERATING 50-60 CYCLES

Cat. No.	Cap. Mfd.	Can Size—Inches High x Deep x Wide	List Price	Net Price
KKT-3720	2	2 ¹ / ₄ x 1 ¹ / ₁₆ x 2 ³ / ₁₆	\$4.45	\$2.67
KKT-3730	3	2 ⁷ / ₈ x 1 ¹ / ₁₆ x 2 ³ / ₁₆	4.50	2.70
KKT-3740	4	3 ³ / ₈ x 1 ¹ / ₁₆ x 2 ³ / ₁₆	4.75	2.85
KKT-3750	5	4 ³ / ₈ x 1 ¹ / ₁₆ x 2 ³ / ₁₆	6.25	3.75
KVT-3775	7.5	3 x 2 ¹ / ₄ x 2 ¹ / ₁₆	9.50	5.70
KVT-37A100	10	3 ³ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	10.75	6.45
KVT-37A125	12.5	4 ¹ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	12.85	7.71
KVT-37A150	15	4 ³ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	13.35	8.01
KVT-37A175	17.5	5 ³ / ₁₆ x 2 ¹ / ₄ x 2 ¹ / ₁₆	14.00	8.40
KVT-37200	20	6 ¹ / ₄ x 2 ³ / ₁₆ x 2 ¹ / ₁₆	17.25	10.35
KXT-37250	25	6 ¹ / ₄ x 2 ³ / ₁₆ x 2 ¹ / ₁₆	21.25	12.75
KNT-37200	20	3 ³ / ₄ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	22.00	13.20
KNT-37250	25	4 ¹ / ₁₆ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	23.60	14.16
KNT-37300	30	5 ³ / ₁₆ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	24.40	14.64
KNT-37350	35	6 ¹ / ₄ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	27.40	16.44
KNT-37400	40	6 ³ / ₄ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	37.10	22.26
KNT-37450	45	8 x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	42.30	25.38

350 VOLTS A.C. OPERATING 50-60 CYCLES

Cat. No.	Cap. Mfd.	Can Size—Inches High x Deep x Wide	List Price	Net Price
KKT-3A020	2	2 x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	\$4.45	\$2.67
KKT-3B030	3	2 ¹ / ₂ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	4.50	2.70
KKT-3B040	4	3 ¹ / ₈ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	4.75	2.85
KKT-3050	5	3 ³ / ₈ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	5.75	3.45
KKT-3060	6	3 ³ / ₈ x 1 ⁵ / ₁₆ x 2 ³ / ₁₆	7.60	4.56
KVT-3G100	10	3 x 2 ¹ / ₄ x 2 ¹ / ₁₆	12.60	7.56
KVT-3C150	15	4 ¹ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	13.35	8.01
KVT-3200	20	5 ³ / ₁₆ x 2 ¹ / ₄ x 2 ¹ / ₁₆	18.15	10.89
KXT-3350	35	6 ³ / ₄ x 2 ³ / ₁₆ x 2 ¹ / ₁₆	27.40	16.44

440 VOLTS A.C. OPERATING 50-60 CYCLES

Cat. No.	Cap. Mfd.	Can Size—Inches High x Deep x Wide	List Price	Net Price
KKT-48020	2	2 ¹ / ₄ x 1 ¹ / ₁₆ x 2 ³ / ₁₆	\$5.35	\$3.21
KKT-4040	4	3 ³ / ₈ x 1 ¹ / ₁₆ x 2 ³ / ₁₆	6.35	3.81
KVT-48050	5	2 ¹ / ₂ x 2 ¹ / ₄ x 2 ¹ / ₁₆	8.25	4.95
KVT-4100	10	4 ¹ / ₈ x 2 ¹ / ₄ x 2 ¹ / ₁₆	11.25	6.75
KVT-4150	15	6 ¹ / ₄ x 2 ¹ / ₄ x 2 ¹ / ₁₆	15.55	9.33
KNT-4200	20	4 ³ / ₁₆ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	22.15	13.29
KNT-4250	25	5 ³ / ₁₆ x 2 ⁷ / ₈ x 4 ⁹ / ₁₆	26.75	16.05

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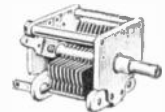
STANDARD VARIABLE CAPACITORS

"RMC" CAPACITORS

FEATURES—The "RMC" was designed specifically for applications requiring an "MC" type tuning capacitor with very rigid construction. Its sturdy frame consists of heavy gauge aluminum end panels held together by three aluminum tie rods. It has a brass sleeve front bearing and a single ball thrust rear bearing for smooth tuning and a high degree of resetability. The rotor contact is a forked silver plated phosphor bronze spring wiping against a wide disc on the rotor. The plate shape and other constructional features are the same as on the "MC". Tapped holes in front panel and in mounting feet, as well as additional brackets for inverted mounting, permit a wide variety of assembly methods.

SPECIFICATIONS—Straight line capacity. Air gap is 0.0247" nominal. Tested at 1000 V, R.M.S., 60 cycles.

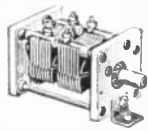
CODE	CAPACITY*		
	Max.	Min.	PLATES
RMC-50-S	50	7.5	7
RMC-100-S	105	9.5	14
RMC-140-S	145.5	11.0	19
RMC-325-S	325	17	43



RMC

* Nominal Values.

"VU" CAPACITORS



VU

FEATURES—The "VU" is a multiply designed VHF tuning capacitor using completely original concepts. With its conventional "bump constant" circuit, rather than tuned cavity technique, can be efficiently used up to 500 mc/megacycles. In addition to employing the capacitor sections in series to eliminate the rotor wiper, the design also utilizes Pyrex balls to form precision bearings and to completely isolate the rotor. Thus, noise generated by rubbing metal to metal contacts and variable resistance paths in the bearings have been totally eliminated. Circuit connections are made to threaded studs on each stator. This permits vacuum tube and inductor to minimize circuit inductance. The symmetrical design is ideal for tuned circuits operating up to 500 mc/megacycles.

CONSTRUCTION—Rotors and stators are of brass with plates soldered in precisely located grooves and then silver plated to increase the "Q" of the capacitor. The insulation is silicone treated steatite. All lengthwise frame members are of brass to minimize temperature effects. Base mounting brackets are provided. **SPECIFICATIONS**—The capacity characteristic approaches a straight line frequency curve as indicated by nominal values in table. Air gap is .0068" nominal. Tested at 500 V, R.M.S., 60 cycles, between rotor and each stator.

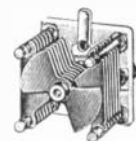
CODE	SERIES CAPACITY*		PLATES SECTION	DIAL % ROTATION	EFFECTIVE SERIES CAPACITY			DIAL % ROTATION	EFFECTIVE SERIES CAPACITY		
	Eff.	Min.			VU-20	VU-30	VU-45		VU-20	VU-30	VU-45
VU-20	22.5	3.55	11	0	0	0	0	70	11.0	15.7	22.4
				10	1.55	1.5	1.15	80	14.05	20.55	29.35
VU-30	31.5	3.5	15	20	1.55	2.2	3.15	90	18.6	26.05	37.2
				30	2.75	3.85	5.45	100	22.5	31.5	45.0
VU-45	45.0	3.8	21	40	4.9	5.85	8.35	Cap. T.L. ±15MMFD, or 13 1/4% whichever is greater			
				50	6.9	8.4	12.0	SPECIALLY CALIBRATED UNITS ONLY			
				60	8.35	11.65	16.65				

* Nominal Values.

"BFC" CAPACITORS

FEATURES—The "BFC" "butterfly" type capacitor has very low minimum capacity, low inductance and isolated rotor for use in VHF applications as a series capacitor with no rotor connection. For dual split stator capacitor use, it has a low-loss positive rotor contact. Mechanical and electrical symmetry and stator terminal locations minimize circuit inductance. **CONSTRUCTION**—Brass rotors and stators are soldered and nickel plated. The contact wiper is heavy silver plated phosphor bronze. Tapped studs on the silicone treated steatite front panel permit mounting the capacitor without grounding the rotor. The sleeve type bearing is nickel-plated brass. **SPECIFICATIONS**—Stral in line capacity, 90° rotation from minimum to maximum capacity position. Air gap is 0.0067" nominal. Tested at 1200 V, R.M.S., 60 cycles between rotor and each stator.

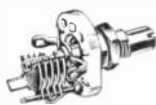
High Speed Ball-Bearing Models Also Are Available.



CODE	CAPACITY SECTION*		SERIES CAPACITY*		PLATES	
	Max.	Min.	Max.	Min.	Rotor	Each Stator
BFC-12	11.5	3.1	7.6	2.2	4	3
BFC-25	25.1	4.8	14.1	2.9	7	6
BFC-38	40.1	6.2	20.6	3.6	10	9
BFC-50	52.4	7.6	27.1	4.5	13	12

* Nominal Values.

"MAC" CAPACITORS



MAC

FEATURES—The "MAC" provides the low minimum capacity essential for use as a trimmer in the VHF range. It was engineered to achieve the smallest dimensions practical to meet the requirements of a miniaturized component.

CONSTRUCTION—Its silicone treated steatite base is only 3/4" x 5/8". Rotor and stator are soldered assemblies and are of brass, nickel plated. Rotor and stator terminals are positioned to permit short leads. The threaded bearing is provided with flat sides to permit single hole mounting.

SPECIFICATIONS—Straight line capacity. Screwdriver adjustment. Air gap is 0.017" nominal. Tested at 850 V, R.M.S., 60 cycles.

CODE	CAPACITY*			DIFFERENTIAL TYPE	CAPACITY SECT *		
	Max.	Min.	PLATES		CODE	Max.	Min.	PLATES
MAC-5	5.4	1.3	5	MAC-5-5	5.4	1.3	7
MAC-10	9.6	1.5	9	MAC-10-10	9.6	1.5	13
MAC-15	15.8	1.9	15	MAC-15-15	15.8	1.9	22
MAC-20	21.5	2.2	21	MAC-20-20	21.5	2.2	31
MAC-30	30.0	2.5	27				

* Nominal Values.

HAMMARLUND

STANDARD VARIABLE CAPACITORS

"APC" CAPACITORS

FEATURES—The "APC" trimmer capacitor originated by Hammarlund over twenty years ago is still widely recognized as the standard capacitor of its type. Its use is indicated in all classes of equipment where a compact, high quality air dielectric trimmer is required. It was designed to resist effects of temperature, moisture and vibration. Silicone treated steatite insulation is used to insure high leakage resistance.

CONSTRUCTION—Brass rotor and stator plates are soldered to brass supports. Nickel plated phosphor bronze wiper assures positive rotor contact. All metal parts are nickel-plated. Terminals are hot-rod dipped. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding the rotor.



APC

SPECIFICATIONS—Straight line capacity characteristic. Available either with hexagonal collar on slotted shaft to permit rotor adjustments to be made with wrench or screwdriver or with 1/2" extended shaft for knob control or shaft coupling. "APC-C" Lock Type now also available through distributors. Air Gap is 0.0135" nominal. Tested at 600 V. R.M.S., 60 cycles.

CODE	CAPACITY*		PLATES
	Max	Min	
APC-15	17.	2.8	5
APC-25	25.	3.0	7
APC-50	50.	3.9	14
APC-75	75.	4.6	20
APC-100	100.	5.5	27
APC-140	140.	6.7	37

* Nominal Values.

"MAPC" CAPACITORS

FEATURES—The "MAPC" capacitor is representative of Hammarlund's efforts to meet the demand for smaller dependable components. It is a scaled-down version of the popular "APC" with everything reduced except the quality and performance characteristics. For example, an "MAPC" is about half the size and weight of an "APC." Lower minimum capacities and low inductance make the "MAPC" suitable for VHF use. **CONSTRUCTION**—The standard "APC" construction is used in this capacitor. Rotors and stators are fabricated by soldering brass plates to supporting members and nickel-plating the assemblies. Nickel-plated phosphor bronze wiper assures positive rotor contact. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding rotor.

SPECIFICATIONS—Straight line capacity. Available either with screwdriver or socket wrench adjustment or with 7/16" extended shaft for knob control or shaft coupling. "MAPC-C" Lock Type now also available through distributors. Air Gap is 0.0135" nominal. Tested at 600 V. R.M.S., 60 cycles.

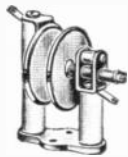
CODE	CAPACITY*		PLATES
	Max.	Min.	
MAPC-15	15.	2.3	6
MAPC-25	25.	2.6	10
MAPC-35	35.	2.9	14
MAPC-50	50.	3.2	19
MAPC-75	75.	3.9	29
MAPC-100	100.	4.5	38
MAPC-140	140.	5.5	52

* Nominal Values.



MAPC

"NZ-10" CAPACITORS



NZ-10

FEATURES The "NZ-10" is a compact transmitter neutralizing capacitor designed for easy and accurate adjustment. The rotor is attached to a fine-thread lead screw which may be adjusted with smooth and precise action by a screwdriver and locked securely by a readily accessible clamping screw. A stop prevents shifting of plates at maximum capacity. Long leakage paths to ground from both rotor and stator are provided. Glazed steatite insulators and smoothly rounded aluminum plates minimize flashover.

SPECIFICATIONS—Capacity is adjustable from 2.3 to 10 mmf. Peak voltage rating is 1400 V. at maximum capacity (minimum gap) position.

"FC" and "FNC" COUPLINGS



FEATURES—The "FC 16-S" is an insulated flexible coupling designed to provide for mechanical coupling of shafts even though angularly misaligned. The smallest dimensions have been incorporated consistent with the rugged construction necessary for general service. A high degree of electrical isolation is achieved through the use of silicone impregnated steatite insulation. Flashover voltage is approximately 5000 V. R.M.S. Brass hubs and spring

temper phosphor bronze flexible arms are nickel plated. An exclusive and important feature of this coupling is its characteristic of uniform slotted thrust through 560° of rotation. This eliminates tendency to vibrate at high speeds, minimizes bearing wear and assures accurate tracking.

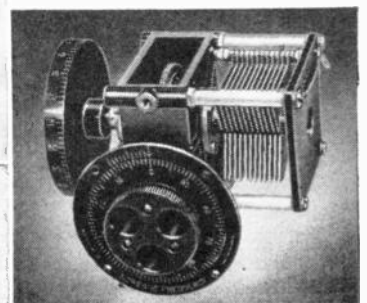
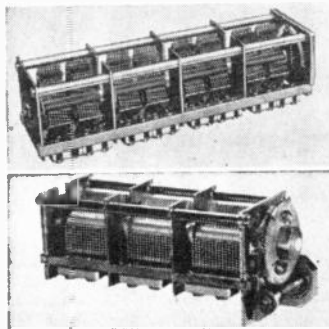
The "FNC-16-S" is a non-insulated coupling for use where electrical continuity between shafts is required. The flexible arms are held securely to a nickel plated brass ring instead of an insulator.

STANDARD STOCK TYPES
 CODE FC-16-S Insulated flexible coupling
 CODE FNC-16-S Non insulated flexible coupling

SPECIAL VARIABLE CAPACITORS FOR ALL NEEDS

HAMMARLUND CUSTOM ENGINEERED CAPACITORS

Hammarlund has for many years been considered the foremost designer and producer of variable capacitors for special military, scientific and precision applications. Should you have a special capacitor requirement, your engineers will find the services of our capacitor design group to be of inestimable value. Illustrated are two communications receiver multiple section tuning capacitors and a single-section frequency meter capacitor. All of these capacitors feature exceptionally precise calibration accuracy, the highest possible degree of resetability, essentially zero temperature coefficient, close tolerances on starting and running torque, high "Q" under adverse operating conditions and complete freedom from noise. To produce these and similar capacitor designs involve the techniques of metal lurgy, gearing, finishing, bearing design, ceramics, vibration and shock—to mention but a few. These techniques are possessed to a high degree here at Hammarlund.



Should you have need for facilities such as ours, we will welcome your inquiry.

HAMMARLUND

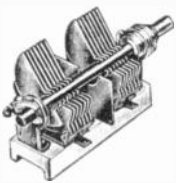
STANDARD VARIABLE CAPACITORS

"MC" and "MCD" CAPACITORS

FEATURES—The "MC" is a versatile single section tuning capacitor designed to give the equipment engineer a choice of mountings, connections and capacity characteristics. The threaded brass front bearing and tapped aluminum end capacitors have a straight line capacity characteristic. "MC-M" units have offset plates resulting in a "Midline" characteristic which more closely approximates "Midline" units. All Hammarlund "MC" capacitors have silver-plate insulation, soldered nickel plated brass rotors and stators, rotor shaft supported on bearings at both front and rear of capacitor. The "MCD" is a split stator panel mounted capacitor with all the "MC" features. Stators have terminal caps and are tested at 1000 V. R.M.S., 60 cycles. Wide spaced types have 0.0215" nominal air gap and are tested at 1750 V. R.M.S., 60 cycles. Wide spaced ("X") types have 0.0715" nominal air gap and are tested at 1750 V. R.M.S., 60 cycles.



MC



MCD

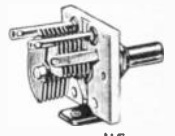
CODE	CAPACITY*		PLATES/SECTION	CODE	CAPACITY SECT *		PLATES/SECTION
	Max.	Min.			Max.	Min.	
MC-20-S	20.	5.5	3	MC-20-SX	20.	6.8	7
MC-35-S	35.	6.0	5	MC-35-MX	32.	7.8	11
MC-50-S	50.	6.3	7	MC-35-SX	32.	8.5	11
MC-50-M	50.	6.3	7	MC-50-MX	53.	10.5	19
MC-75-S	89.	7.3	11	MC-50-SX	53.	11.5	19
MC-75-M	89.	8.0	11	MC-100-SX	101.	16.5	35
MC-100-M	100.	7.7	14	MCD-100-M	100.	5.5	7
MC-100-S	100.	8.3	14	MCD-100-S	101.	6.3	14
MC-140-M	140.	9.0	19	MCD-140-M	140.	7.0	14
MC-140-S	140.	10.0	19	MCD-100-SX	101.	7.8	19
MC-200-M	200.	19.3	27	MCD-140-M	140.	6.0	11
MC-250-M	250.	12.0	31	MCD-35-SX	31.	6.8	11
MC-325-M	320.	13.5	43				

M-Midline plates. S-Straightline plates. X Wide-Spaced. *Nominal Values.

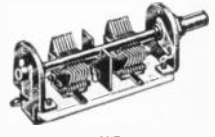
"HF" and "HFD" CAPACITORS

SINGLE SECTION CAPACITOR—The "HF" is a single section tuning capacitor employing "APC" rotor and stator design. Extra long sleeve bearing and positive contact nickel plated phospor bronze wiper make this unit ideally suited to high frequency applications. Silicone treated sealtite insulation. Single hole or base mounting. Special spacing, capacity values, finishes and other modifications are available to manufacturers on special order.

DOUBLE SECTION CAPACITOR—The "HFD" dual capacitors, like the "HF" singles, incorporate advanced features providing for maximum efficiency at high frequency. Soldered brass plates are nickel-plated. Aluminum front and rear end panels are mounted on a heavy silicone treated teatite base. Wide front and rear bearings with individual silver plated spring tempered wipers for each section a sure long life and maximum contact efficiency. Single hole panel mounting or base mounting. Electrostatic shield between sections. Terminals are provided on both sides of each stator to permit mounting tube and inductor on opposite sides. **SPECIFICATIONS**—Straight line capacity. Single spaced types (HF and HFD) have 0.015" air gap and are tested at 600 V. R.M.S., 60 cycles. Wide spaced types (HF-X and HFD-X) have 0.045" air gap and are tested at 1000 V. R.M.S., 60 cycles.



HF



HFD

CODE	CAPACITY*		PLATES/SECTION	CODE	CAPACITY*		PLATES/SECTION
	Max.	Min.			Max.	Min.	
HF-15	17.5	2.8	5	HF-30-X	30.	5.2	20
HF-35	36.	3.2	10	HFD-25	25.0	2.9	7
HF-50	52.	3.7	14	HFD-50	52.	3.6	14
HF-100	102.	5.3	27	HFD-100	102.	5.0	27
HF-140	142.	6.3	37	HFD-140	142.	6.0	37
HF-15-X	15.	3.6	10	HFD-15-X	16.	3.8	11
				HFD-30-X	28.5	5.0	19

D-Split stator. X-Wide-Spaced. *Nominal Values.

MACBF CAPACITORS

FEATURES—The "MACBF" is a miniaturized butterfly capacitor providing extremely low capacity for the VHF range. It is of the straight-line capacity type. **CONSTRUCTION**—Rotor and stator of brass, solder assembled, and nickel-plated. Base is of silicone treated sealtite. Terminals are hot-tinned dipped. Threaded insulating with flared sides for panel or chassis mounting. **SPECIFICATIONS**—Straight line capacity. Screwdriver adjustment. Air gap is 0.017" nominal. Tested at 880 V. R.M.S., 60 cycles.



MACBF

CODE	Part No.	CAPACITY (per section)		No. of PLATES	
		Max. ±10%	Min. ±15%	Rotor	Stator
MACBF-3	34604-G1	3.1	1.3	3	4
MACBF-5	34604-G2	5.0	1.6	5	8
MACBF-8	34604-G3	7.9	2.0	8	14
MACBF-11	34604-G4	10.8	2.4	11	20

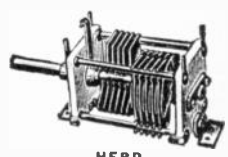
"HFA" and "HFBD" CAPACITORS

SINGLE SECTION CAPACITOR—The "HFA" is a single section tuning capacitor similar to the "HF" except that larger plates permit wider air-gaps for the same capacitance values. Resultant higher breakdown ratings extend the use of the capacitor into the high frequency low-power transmitter field. A threaded sleeve bearing permits the bearing provides an efficient rotor connection.

DOUBLE SECTION CAPACITOR—The "HFBD" is a dual, balanced rotor transmitting capacitor employing front and rear panels plus a ball-thrust rear bearing, but other incorporating constructional features identical to the smaller "HFA". An insulated shaft extension safeguards operating personnel from the high voltages which may be applied to the rotor. The small size, rugged construction, balanced rotor and range of capacitance values and breakdown voltages make this capacitor ideally suited to many applications.



HFA



HFBD

CODE	CAPACITY**		SPAC-ING	PLATES/SEC-TION	CODE	CAPACITY**		SPAC-ING	PLATES/SEC-TION
	Max.	Min.				Max.	Min.		
HFA-100-A	102.	4.5	0.020	19	HFA-100-B†	100.	7.5	0.030	27
HFA-140-A	145.	6.0	0.020	27	HFA-15-E	16.	4.0	0.070	9
HFA-200-A	200.0	8.0	0.020	34	HFBD-50-C	50.	9.0	0.050	11
HFA-10-B	9.	2.3	0.030	3	HFBD-100-C	105.	14.0	0.050	23
HFA-15-B	16.	2.8	0.030	5	HFBD-35-E*	37.	9.5	0.070	11
HFA-25-B	25.	3.0	0.030	7	HFBD-65-E*	63.	12.5	0.070	19
HFA-50-B	50.	4.3	0.030	14					

60 cycle voltage: "HFA"—"A", 500 V. R.M.S. "B" 1200 V. R.M.S. "E" 1750 V. R.M.S. "HFBD"—"C" 1500 V. R.M.S. "E" 3000 V. R.M.S.; plates have rounded edges. Hfas front and rear supporting panels. **Nominal Values.

SPECIFICATIONS—Straight line capacity. Air gaps and test voltages are as indicated in table. However, "HFBD" breakdown voltages are doubled and capacitance values approximately halved when stator sections are connected in series.

precision film capacitors

for all industrial, military and commercial applications

For economy . . . for quality . . . Specify EFCON plastic film capacitors. They have earned an enviable reputation for dependability and high level performance in filters, timing circuits, analog and digital computers . . . plus many other applications.



STYLE Z



STYLE ZL



STYLE WL



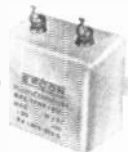
STYLE V



STYLE C



STYLE F



STYLE T



STYLE N



TYPE AG
STYLE S



HIGH STABILITY
TYPE RH

TYPE DESIGNATION

Symbol	Dielectric Material	Case Description	Temperature Range
MC	Mylar*	Impregnated Cordb'd Tube	-60°C to +85°C
MD	Mylar*	Epoxy Encapsulated	-60°C to +150°C
MH	Mylar*	Hermetically Sealed	-60°C to +85°C
MHH	Mylar*	Hermetically Sealed	-60°C to +125°C
PC	Polystyrene	Impregnated Cordb'd Tube	-65°C to +85°C
PH	Polystyrene	Hermetically Sealed	-65°C to +85°C
RH	Polystyrene	Hermetically Sealed	-55°C to +85°C
TH	Teflon	Hermetically Sealed	-65°C to +200°C
AG	Special Plastic	Glass Cased "Glasscon"®	-60°C to +125°C

* DuPont Trademark

STYLE AND DESCRIPTION

Capacitor Section Insulated From Case (Glass-to-Metal Terminal At Each End)	Capacitor Section Grounded To Case (Glass-to-Metal Terminal At One End)	Other Styles
Z — internally insulated (floating construction).	A — as per Style Z, with one end grounded.	T — bathtub construction.
V — with tangential soldered-on bracket.	D — with tangential soldered-on bracket.	N — upright rectangular container construction.
W — screw neck mounting type (minimum case diameter is .312").	C — screw neck mounting type (min. case diam. is .312").	P — internally insulated, parallel leads one end.
F — parallel leads (for printed circuits).	B — as per Style A above, with plastic outer sleeve.	S — axial screw studs ("Glasscon" only).
Y — internally insulated (floating construction) with plastic outer sleeve.	M — axial stud at grounded end.	R — epoxy end fill.
O — internally insulated, parallel leads, one end with angle bracket for mounting.	K — as per Style Q, with one end grounded.	Add "L" after the basic style designating letter for solder lug terminals instead of axial leads (except styles F, S and R and types MC, MD and PC).
Q — as per Style Z, with double stud mounting on case body.		

FOR IMMEDIATE DELIVERY ON STOCK ITEMS CONTACT YOUR NEAREST EFCON DISTRIBUTOR OR

EFCON DISTRIBUTOR SALES
92-15 172nd Street
Jamaica 33, New York

FOR COMPLETE TECHNICAL AND ENGINEERING DATA ON THE TYPES AND STYLES ILLUSTRATED, WRITE TO:

EFCON's prime stock-in-trade lies in providing precise capacitance values for precise circuit applications . . . the closest tolerances in the industry . . . the highest reliability. Thanks to advanced engineering and special production techniques EFCON capacitors are consistently made to tolerances closer than $\pm 1\%$. . . and available in capacitance value from .001 mfd. to 10 mfd. EFCON capacitors feature the lowest dissipation factor of any film capacitors. They are tested at a D.C. voltage of at least 200 percent of rated voltage at 25 C.

You no longer need compromise circuit design because of unusual requirements in capacitance value, tolerance, case size or configuration. EFCON specializes in filling your "odd ball" design needs in single units or by the thousands . . . non-standard units costing no more than standard units.

New York 12, N. Y. INDUSTRY'S PRIME SOURCE FOR CLOSE TOLERANCE AND/OR NON-STANDARD VALUE CAPACITORS.



ELECTRONICS DISTRIBUTOR DIVISION
ERIE RESISTOR CORPORATION — ERIE, PA.

ERIE GENERAL PURPOSE CERAMICONS®

ERIE CERAMICONS are small fixed capacitors consisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature. Erie Ceramicon is outstanding because of their excellent high frequency characteristics, small size, rugged construction and availability in a wide range of capacity values.

*These capacitors meet performance specifications of EIA Standard No. RS—
 198 FOR BOTH CLASS 1 AND CLASS 2*



"GP"® GENERAL PURPOSE CERAMICONS

are ideally suited for such applications as coupling and by-passing, in circuits where temperature coefficient is not important—in other words for all receiver applications except in frequency determining circuits. Working voltage—500 volts D.C.

Order by Catalog Number from Table Below

500 VDCW—STOCK ITEMS—1500 VDC TEST

STANDARD TOLERANCE ± 10% 5 MMF THROUGH 1500 MMF

±20% 1800 MMF THROUGH 2200 MMF

+80% —20% 2500 MMF THROUGH 10,000 MMF

Catalog No.	Cap. MMF	Body Style
GP-5	5	315
GP-10	10	315
GP-12	12	315
GP-15	15	315
GP-18	18	315
GP-20	20	315
GP-22	22	315
GP-24	24	315
GP-25	25	315
GP-27	27	315
GP-30	30	315
GP-33	33	315
GP-39	39	315
GP-47	47	315
GP-50	50	315
GP-51	51	315
GP-56	56	315
GP-68	68	315
GP-75	75	315
GP-82	82	315
GP-100	100	315
GP-110	110	315
GP-120	120	315
GP-150	150	315
GP-180	180	315
GP-200	200	315
GP-220	220	315
GP-240	240	315
GP-250	250	315

Catalog No.	Cap. MMF	Body Style
GP-270	270	315
GP-300	300	315
GP-330	330	315
GP-360	360	315
GP-390	390	315
GP-470	470	315
GP-500	500	315
GP-510	510	315
GP-560	560	315
GP-680	680	315
GP-750	750	315
GP-820	820	315
GP-1,000	1,000	316
GP-1,200	1,200	316
GP-1,500	1,500	316
GP-1,800	1,800	316
GP-2,000	2,000	316
GP-2,200	2,200	316
GP-2,500	2,500	316
GP-2,700	2,700	316
GP-3,000	3,000	316
GP-3,300	3,300	316
GP-4,000	4,000	316
GP-4,700	4,700	316
GP-5,000	5,000	316
GP-5,600	5,600	316
GP-6,000	6,000	316
GP-6,800	6,800	316
GP-7,500	7,500	316
GP-10,000	10,000	316

Note: "Ceramicon" and "GP Ceramicon" are registered trade names and refer to ceramic dielectric capacitors manufactured only by Erie Resistor Corporation.

ELECTRONICS DISTRIBUTOR DIVISION

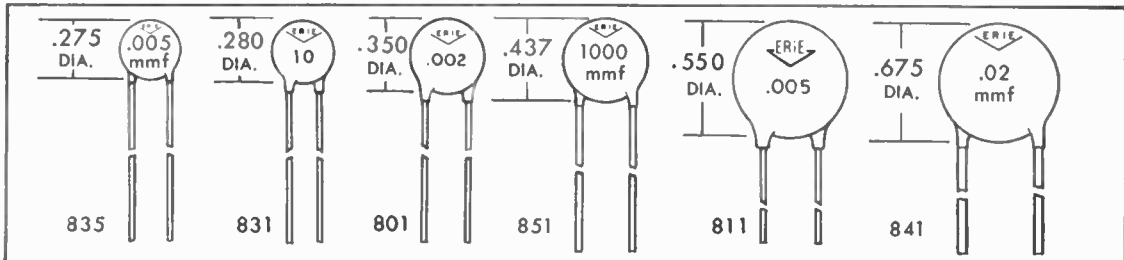
ERIE RESISTOR CORPORATION — ERIE, PA.



ERIE DISC CERAMICONS®

Erie Disc Ceramicons consist of a flat ceramic dielectric with silver fired onto the dielectric. Lead wires are firmly soldered to the silver electrodes, and the unit is given a

protective coating of phenolic. Low series inductance assures efficient high frequency operation.



Order by Catalog Number from Table Below
600 VDCW — STOCK ITEMS — 1500 VDC TEST

HIGH STABILITY GENERAL PURPOSE CERAMICONS ± 10%

Catalog No.	Capacity	Body Style
ED-5	5 mmf	831
ED-10	10 mmf	831
ED-12	12 mmf	831
ED-15	15 mmf	831
ED-18	18 mmf	831
ED-20	20 mmf	831
ED-22	22 mmf	831
ED-24	24 mmf	831
ED-25	25 mmf	831
ED-27	27 mmf	831
ED-30	30 mmf	831
ED-33	33 mmf	831
ED-39	39 mmf	831
ED-47	47 mmf	831
ED-50	50 mmf	831
ED-51	51 mmf	831
ED-56	56 mmf	831
ED-68	68 mmf	831
ED-75	75 mmf	831
ED-82	82 mmf	831
ED-91	91 mmf	831
ED-100	100 mmf	831
ED-120	120 mmf	831

Catalog No.	Capacity	Body Style
ED-150	150 mmf	831
ED-180	180 mmf	831
ED-200	200 mmf	831
ED-220	220 mmf	831
ED-240	240 mmf	831
ED-250	250 mmf	831
ED-270	270 mmf	831
ED-300	300 mmf	831
ED-330	330 mmf	831
ED-360	360 mmf	831
ED-390	390 mmf	831
ED-470	470 mmf	831
ED-500	500 mmf	801
ED-510	510 mmf	801
ED-560	560 mmf	801
ED-680	680 mmf	801
ED-750	750 mmf	851
ED-820	820 mmf	851
ED-910	910 mmf	851
ED-1000	1000 mmf	851
ED-1200	1200 mmf	811
ED-1500	1500 mmf	811
ED-1800	1800 mmf	811

HI-K BY-PASS AND COUPLING CERAMICONS GMV

Catalog No.	Capacity	Body Style
ED-.00047	.00047 mfd	831
ED-.0008	.0008 mfd	831
ED-.001	.001 mfd	801
ED-.0012	.0012 mfd	801
ED-.0015	.0015 mfd	801
ED-.002	.002 mfd	801
ED-.0022	.0022 mfd	851
ED-.0025	.0025 mfd	851
ED-.0027	.0027 mfd	851
ED-.003	.003 mfd	851
ED-.0033	.0033 mfd	851
ED-.004	.004 mfd	811
ED-.0047	.0047 mfd	811
ED-.005	.005 mfd	811
ED-.0068	.0068 mfd	811
ED-.01	.01 mfd	811
ED-.015	.015 mfd	841
ED-.02	.02 mfd	841

MIL-C-11015A
DISC CERAMICONS
+ 100% — 20% TOLERANCE

MIL Designation	Body Style	Capacity
CK60Y471Z	831	470
CK60Y681Z	831	680
CK60Y821Z	831	820
CK61Y102Z	801	1000
CK61Y152Z	801	1500
CK62Y222Z	811	2200
CK62Y322Z	811	3300
CK62Y472Z	811	4700
CK63Y103Z	841	10000

HI-K DUAL CERAMICONS GMV

Catalog No.	Capacity	Body Style
ED2-.001	2x.001 mfd	812
ED2-.002	2x.002 mfd	812
ED2-.003	2x.003 mfd	822
ED2-.004	2x.004 mfd	822
ED2-.005	2x.005 mfd	822

TRANSISTOR DISC CERAMICONS®
TYPE "ET-8" 100 VDCW
+ 80% — 20% TOLERANCE

Catalog No.	Capacity	Body Style
ET8-.005	.005 MFD	835
ET8-.01	.01 MFD	805
ET8-.02	.02 MFD	855
ET8-.025	.025 MFD	815
ET8-.033	.033 MFD	815
ET8-.039	.039 MFD	815
ET8-.05	.05 MFD	815*
ET8-.047	.047 MFD	845
ET8-.05	.05 MFD	845
ET8-.1	.1 MFD	845*

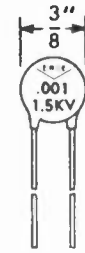
* Dual Ceramicons



ERIE HIGH VOLTAGE DISC CERAMICONS[®]

Designed to employ the same basic diameters that have been standardized in 600 volt capacitors. Careful and detailed life testing has been accomplished over a long period of time to establish required dielectric thicknesses

to assure conservative ratings in the high voltage line. They differ in appearance from lower voltage units in having greater thickness, the degree of difference depending on voltage rating.



HD15-1000

1500 VDCW—STOCK ITEMS—± 20% TOLERANCE

Catalog No.	Capacity MMF
HD15-4R7	4.7
HD15-6R8	6.8
HD15-10	10
HD15-15	15
HD15-22	22
HD15-33	33
HD15-47	47
HD15-68	68
HD15-82	82
HD15-100	100
HD15-150	150
HD15-180	180

Catalog No.	Capacity MMF
HD15-220	220
HD15-330	330
HD15-470	470
HD15-680	680
HD15-820	820
HD15-1000	1000
HD15-1500	1500
HD15-2200	2200
HD15-3300	3300
HD15-4700	4700
HD15-5600	5600
HD15-6200	6200

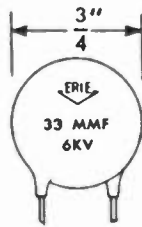


HD3-47

3000 VDCW—STOCK ITEMS—± 20% TOLERANCE

Catalog No.	Capacity MMF
HD3-4R7	4.7
HD3-6R8	6.8
HD3-10	10
HD3-15	15
HD3-22	22
HD3-33	33
HD3-47	47
HD3-56	56
HD3-68	68
HD3-82	82
HD3-100	100

Catalog No.	Capacity MMF
HD3-150	150
HD3-220	220
HD3-330	330
HD3-470	470
HD3-680	680
HD3-820	820
HD3-1000	1000
HD3-1500	1500
HD3-2200	2200
HD3-3300	3300



HD6-33

6000 VDCW—STOCK ITEMS—± 20% TOLERANCE

Catalog No.	Capacity MMF
HD6-4R7	4.7
HD6-6R8	6.8
HD6-10	10
HD6-15	15
HD6-22	22
HD6-33	33
HD6-39	39
HD6-47	47
HD6-56	56
HD6-68	68

Catalog No.	Capacity MMF
HD6-82	82
HD6-100	100
HD6-150	150
HD6-180	180
HD6-220	220
HD6-330	330
HD6-470	470
HD6-680	680
HD6-820	820

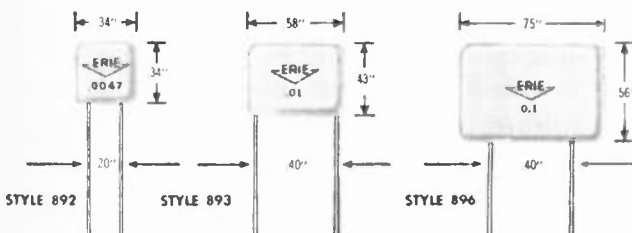
ERIE HIGH CAPACITY MINIATURE CERAMICONS[®]

By employing basically new methods of construction, Erie is able to offer high capacitance Ceramicons in small size for transistor and other miniaturized circuitry.

Rectangular in shape—for the most capacity in the smallest space—these Plate Ceramicons are available in sizes and capacitance values as tabled below.

Voltage Rating: 200 VDC @ 85° C. Leads: #22 Hot Tinned

STOCK ITEMS



Erie Part No.	Capacity MFD	Cap Tol.
892-.0022	.0022	± 20%
892-.0033	.0033	± 20%
892-.0047	.0047	± 20%
893-.0068	.0068	± 20%
893-.01	.01	± 20%
896-.015	.015	± 20%
896-.022	.022	± 20%
896-.033	.033	± 20%
896-.047	.047	+ 80% - 20%
896-.068	.068	+ 80% - 20%
896-.1	.1	+ 80% - 20%



TEMPERATURE COMPENSATING CERAMICONS®

Erie Ceramicons are capacity-sensitive to temperature in varying pre-determined degrees, and because of this characteristic have found wide-spread application as temperature-compensating elements in circuits which must be frequency-stabilized over wide temperature ranges. They are also manufactured with practically no thermal sensitivity for use in applications requiring a capacitor whose value is not affected by temperature.

NPO TEMPERATURE COEFFICIENT CERAMICONS®

NPO Temperature Coefficient Ceramicons are highly recommended for frequency determining applications where no capacity change with change in temperature is desired. "Q" for NPO Ceramicons above 30 mmf is 1000 or higher. Below 30 mmf "Q" decreases slightly as capacity decreases. Working voltage — 600 volts D. C.

Order by Catalog Number from Table Below

STOCK ITEMS — 600 VDCW

Catalog No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TCO-.5	0.5	0.25 mmf	±250	301 or A
TCO-.68	0.68	0.25 mmf	±250	301 or A
TCO-1	1.0	0.25 mmf	±250	301 or A
TCO-1.5	1.5	0.25 mmf	±250	301 or A
TCO-2.2	2.2	0.25 mmf	±120	301 or A
TCO-3	3.0	0.25 mmf	±120	301 or A
TCO-3.3	3.3	0.50 mmf	±120	301 or A
TCO-4.7	4.7	0.50 mmf	±60	301 or A
TCO-5	5.0	0.50 mmf	±60	301 or A
TCO-6.8	6.8	0.50 mmf	±60	301 or A
TCO-8.2	8.2	0.50 mmf	±60	301 or A
TCO-10	10	0.50 mmf	±30	301 or A
TCO-12	12	5%	±30	315 or K
TCO-15	15	5%	±30	315 or K
TCO-18	18	5%	±30	315 or K
TCO-20	20	5%	±30	315 or K
TCO-22	22	5%	±30	315 or K
TCO-24	24	5%	±30	316 or L
TCO-25	25	5%	±30	316 or L
TCO-27	27	5%	±30	316 or L
TCO-30	30	5%	±30	316 or L
TCO-33	33	5%	±30	316 or L
TCO-36	36	5%	±30	316 or L
TCO-39	39	5%	±30	316 or L

Catalog No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TCO-43	43	5%	±30	316 or L
TCO-47	47	5%	±30	338
TCO-50	50	5%	±30	338
TCO-51	51	5%	±30	338
TCO-56	56	5%	±30	337
TCO-62	62	5%	±30	337
TCO-68	68	5%	±30	337
TCO-75	75	5%	±30	337
TCO-82	82	5%	±30	337
TCO-91	91	5%	±30	337
TCO-100	100	5%	±30	337
TCO-110	110	5%	±30	333
TCO-120	120	5%	±30	333
TCO-130	130	5%	±30	333
TCO-150	150	5%	±30	334
TCO-160	160	5%	±30	334
TCO-175	175	5%	±30	334
TCO-180	180	5%	±30	334
TCO-200	200	5%	±30	334
TCO-220	220	5%	±30	335
TCO-240	240	5%	±30	335
TCO-270	270	5%	±30	335
TCO-300	300	5%	±30	335

PARALLELING TC AND CAPACITIES

A wide range of capacitance values and temperature coefficients can be obtained by using Erie NPO capacitors in parallel with either N330 or N750 units. The following

formulae are used in determining the capacitance of the various temperature compensating units that are required to obtain any desired temperature coefficient and capacitance:

$$1. \frac{(\text{Capacitance in MMF}) (\text{Temp. Coef. Required})}{*750} =$$

Capacitance in MMF of the N750 unit to be used (use nearest standard capacitance value)

$$2. (\text{Total Capacitance Required}) \text{ minus the value found in step 1} = \text{capacitance in MMF of the NPO unit to be used.}$$

3. The total desired capacitance and temperature coefficient are obtained by connecting the units found in steps 1 and 2 in parallel.

*If an N330 unit is to be used in parallel with an NPO unit, substitute 330 for 750 in this equation.



NEGATIVE TEMPERATURE COEFFICIENT CERAMICONS®

N330 and N750 units provide temperature compensation to eliminate drift. Positive and Negative Temperature Coefficient Ceramicons P100 through N1500 are available on special order through your distributor. See table on page 7 for other values and styles.

ERIE TUBULAR TYPE N330 CERAMICONS®

Order by Catalog Number from Table Below

STOCK ITEMS — 600 VDCW

Catalog No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC3-1	1.0	0.5 mmf	±250	301 or A
TC3-1.5	1.5	0.5 mmf	±250	301 or A
TC3-2.2	2.2	0.5 mmf	±120	301 or A
TC3-3.3	3.3	0.5 mmf	±120	301 or A
TC3-3.9	3.9	0.5 mmf	±120	301 or A
TC3-4.7	4.7	0.5 mmf	±60	301 or A
TC3-5.6	5.6	0.5 mmf	±60	301 or A
TC3-6.8	6.8	0.5 mmf	±60	301 or A
TC3-8.2	8.2	0.5 mmf	±60	301 or A
TC3-10	10	0.5 mmf	±60	301 or A
TC3-12	12	5%	±60	315 or K
TC3-15	15	5%	±60	315 or K
TC3-18	18	5%	±60	315 or K
TC3-22	22	5%	±60	315 or K
TC3-27	27	5%	±60	315 or K

Catalog No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC3-33	33	5%	±60	315 or L
TC3-39	39	5%	±60	316 or L
TC3-47	47	5%	±60	316 or L
TC3-56	56	5%	±60	316 or L
TC3-68	68	5%	±60	316 or L
TC3-82	82	5%	±60	338
TC3-100	100	5%	±60	337
TC3-120	120	5%	±60	337
TC3-150	150	5%	±60	337
TC3-180	180	5%	±60	333
TC3-220	220	5%	±60	334
TC3-270	270	5%	±60	334
TC3-330	330	5%	±60	334
TC3-390	390	5%	±60	335
TC3-470	470	5%	±60	335

ERIE TUBULAR TYPE N750 CERAMICONS®

Order by Catalog Number from Table Below

STOCK ITEMS — 600 VDCW

Catalog No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC7-2.2	2.2	0.5 mmf	±120	301 or A
TC7-3.3	3.3	0.5 mmf	±120	301 or A
TC7-5	5	0.5 mmf	±120	301 or A
TC7-6.8	6.8	0.5 mmf	±120	301 or A
TC7-10	10	0.5 mmf	±120	301 or A
TC7-12	12	5%	±120	315 or K
TC7-15	15	5%	±120	315 or K
TC7-18	18	5%	±120	315 or K
TC7-20	20	5%	±120	315 or K
TC7-22	22	5%	±120	315 or K
TC7-24	24	5%	±120	315 or K
TC7-25	25	5%	±120	315 or K
TC7-27	27	5%	±120	315 or K
TC7-30	30	5%	±120	315 or K
TC7-33	33	5%	±120	315 or K
TC7-36	36	5%	±120	315 or K
TC7-39	39	5%	±120	315 or K
TC7-43	43	5%	±120	315 or K
TC7-47	47	5%	±120	315 or K
TC7-50	50	5%	±120	315 or K
TC7-51	51	5%	±120	315 or K
TC7-56	56	5%	±120	315 or K
TC7-62	62	5%	±120	315 or K
TC7-68	68	5%	±120	316 or L
TC7-75	75	5%	±120	316 or L

Catalog No.	Cap. MMF	Cap. Tol.	TC Tol.	Body Size
TC7-82	82	5%	±120	316 or L
TC7-91	91	5%	±120	316 or L
TC7-100	100	5%	±120	316 or L
TC7-110	110	5%	±120	316 or L
TC7-120	120	5%	±120	316 or L
TC7-130	130	5%	±120	337
TC7-150	150	5%	±120	337
TC7-160	160	5%	±120	337
TC7-180	180	5%	±120	337
TC7-200	200	5%	±120	337
TC7-220	220	5%	±120	337
TC7-240	240	5%	±120	337
TC7-270	270	5%	±120	337
TC7-300	300	5%	±120	333
TC7-330	330	5%	±120	333
TC7-360	360	5%	±120	333
TC7-390	390	5%	±120	334
TC7-430	430	5%	±120	334
TC7-470	470	5%	±120	334
TC7-510	510	5%	±120	334
TC7-560	560	5%	±120	334
TC7-620	620	5%	±120	335
TC7-680	680	5%	±120	335
TC7-750	750	5%	±120	335

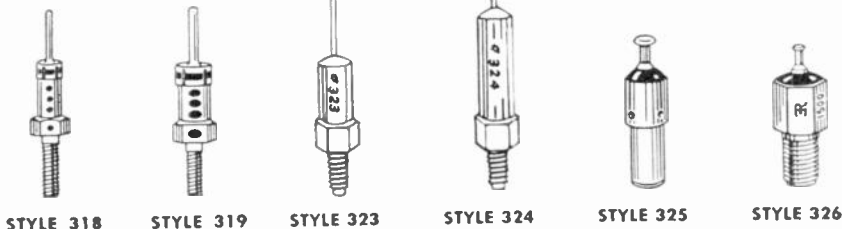
ELECTRONICS DISTRIBUTOR DIVISION
ERIE RESISTOR CORPORATION — ERIE, PA.



ERIE STAND-OFF CERAMICONS®

Stand-off Ceramicons, an original Erie development, are now widely used for the dual purposes of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for V.H.F. and U.H.F. applications, due to their low-inductance electrical paths and resultant high resonant frequency.

Order by Part Number from Table
 500 VDCW — STOCK ITEMS — ± 20%



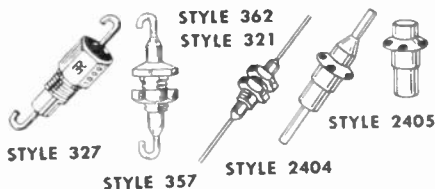
Erie Part No.	Capacity MMF
318-471	470
318-501	500
319-471	47
319-501	500
319-102	1000
323-500	50
323-101	100
323-501	500
324-102	1000
324-152	1500
325-102	1000
325-152	1500
326-102	1000
326-152	1500

ERIE FEED-THRU CERAMICONS®

These very practical feed-thru capacitors are highly recommended for by-passing R.F. to ground in feed-thru applications. Wire terminals of Style 362 and hook type terminals of Style 327 are sufficiently rugged to serve as tie points for several connections, for supporting other circuit elements, and long enough for point to point wiring. Style 327 is hermetically sealed and ruggedized, and is primarily for military and similar commercial usage.

Order by Part Number
 from Table Below
 500 VDCW — STOCK
 ITEMS — ± 20%

Erie Part No.	Capacity MMF
321-102	1000
327-102	1000
357-102	1000
357-152	1500
357-202	2000 GMV
362-102	1000
362-152	1500
362-202	2000 GMV
2404-500	50
2404-101	100
2404-102	1000 GMV
2405-501	500
2405-102	1000 GMV



ERIE SERVICE KITS

ERIE DISC & GP CERAMICON® KITS



Here's what you get in this ERIE Service Kit, designed for the convenience, automatic inventory, and efficiency of the service man:

- 100 High Stability ERIE Disc or Tubular Ceramicons
- 18 Popular Values
- Handy, Convenient 18 Section Plastic Storage Case



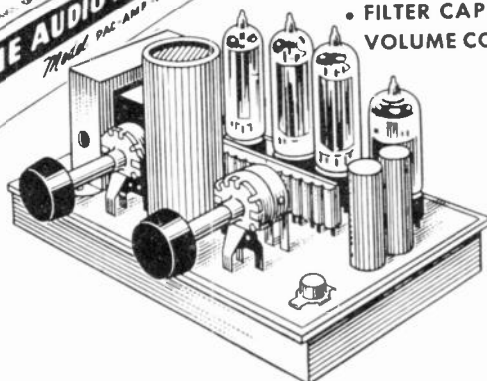
ERIE AUDIO-AMPLIFIER KIT . . . featuring "PAC" and an ERIE Printed Wiring Board

With these Plug-in Components:

- ERIE "PAC" (Pre-Assembled Components)
- ERIE PRINTED BOARD
- OUTPUT TRANSFORMER
- FILTER CAPACITOR
- VOLUME CONTROL and SWITCH
- TUBE SOCKETS
- CAPACITORS
- TONE CONTROL
- TUBES

SPECIFICATIONS FOR ERIE STANDARD AUDIO-AMPLIFIER

- Frequency Response: 30 cycles to 12,000 cycles +0, -3.5 db.
- Sensitivity: 0.56 volt RMS (input at 1 KC) for 2 watt output.
- Power Output: 2 watts
- Input Impedance: 2 megohms.
- Output Impedance: 4 ohms.
- AC Power Consumption: 17 watts.
- Overall Dimensions: 6 5/8" L x 4 3/8" W x 3 7/8" H.
- Shipping Weight: 2 lbs.

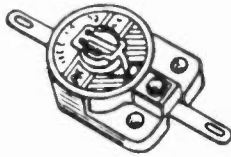




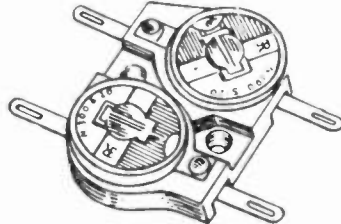
ERIE CERAMICON[®] TRIMMERS

These trimmers have been well known for years for their stability under the most exacting conditions. The top of the base and underside of the titanium dioxide rotor are lapped optically flat, thus eliminating air space variations with temperature. Fired silver electrodes are applied to top of base and rotor, so that capacity is changed by varying the

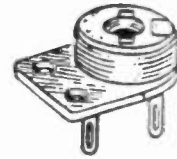
amount of overlap. Capacity change per degree of rotation is approximately constant, resulting in a smoothness of adjustment not possible with compression type trimmers, where the greater part of capacity change is concentrated close to one end of adjustment.



STYLE TS2A



STYLE TD2A



STYLE 557
Patented

Order by Catalog Number from Table Below
STOCK ITEMS — 500 VDCW

Catalog No.	Capacity Range (MMF)	Temperature Coefficient
TS-A	1.5-7	NPO
TS-B	3-12	NPO
TS-C	4-30	N500
TS-D	5-20	N300
TS-E	7-45	N500
TD-A	1.5-7	NPO
TD-B	3-12	NPO
TD-C	4-30	N500
TD-D	5-20	N300
TD-E	7-45	N500
557-A	1.5-7	NPO
557-B	3-12	NPO
557-F	5-25	NPO
557-G	5-30	N750
557-H	8-50	N750

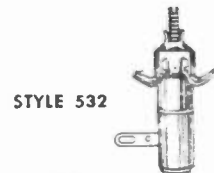
MIL-C-81A Trimmers		
CV11A070	1.5-7	NPO
CV11A120	3-12	NPO
CV11A250	4.5-25	NPO
CV11B130	3-13	N300
CV11B200	5-20	N300
CV11C300	4-30	N500
CV11C450	7-45	N500
CV11D300	4-30	N650
CV11D450	7-45	N650
CV11D500	8-50	N650

ERIE TUBULAR TRIMMERS

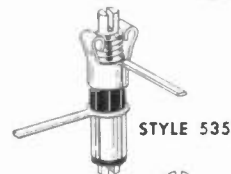
These are compact, economical Tubular Trimmers that are ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Styles 532 and 535 have molded plastic dielectric. Styles 3115-01 and 3139-01 have ceramic dielectric.

Order by Catalog Number from Table Below
STOCK ITEMS — 500 VDCW

Catalog No.	Capacity Range (MMF)	Panel Thickness
532-A	0.5-5	.040" to .065"
532-B	1-8	.040" to .065"
535-C	0.7-3	up to .050"
3115-D	0.5-3	.025" to .065"
3115-E	1-4	.025" to .065"
3139-D	0.5-3	.025" to .065"
3139-E	1-4	.025" to .065"



STYLE 532



STYLE 535



STYLE 3139-01
STYLE 3115-01

ELECTRONICS DISTRIBUTOR DIVISION
ERIE RESISTOR CORPORATION — ERIE, PA.

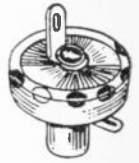


ERIE BUTTON®
SILVER-MICA CAPACITORS

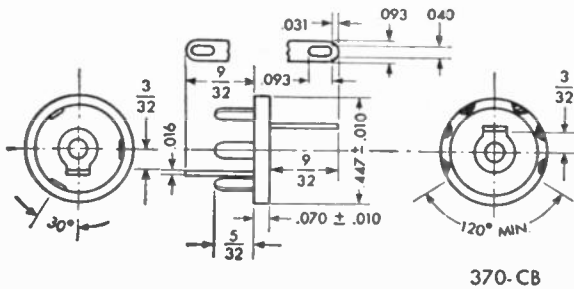


STYLE CB

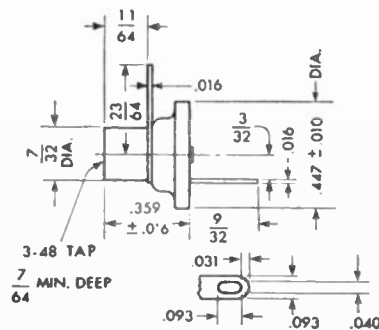
These are midget silver-mica capacitors, for use where compact size, minimum series inductance, and high leakage resistance are essential. They offer high stability of capacitance over the full temperature range - 55°C. to + 85°C. Erie button silver-mica capacitors are unmatched for V.H.F. and U.H.F. work. "Q" at 1 MC is not less than 1000 above 100 MMF; not less than 700 between 50 and 100 MMF; not less than 500 below 50 MMF. Type 370-CB has ring type metal shell with three soldering ears. High potential terminal at either end for feed-thru connection. Type 370-FA is fastened to chassis with 3-48 screw. Meet MIL-C-10950-B characteristics "B" or "D" specification.



STYLE FA



370-CB



370-FA

Order by Part Number from Table Below

STOCK ITEMS — 500 VDCW

Part No. FA Styles	Part No. CB Styles	Cap. MMF	Tol.
370-FA-150K 370-FA-150J	370-CB-150K 370-CB-150J	15 15	10% 5%
370-FA-250K 370-FA-250J	370-CB-250K 370-CB-250J	25 25	10% 5%
370-FA-500K 370-FA-500J	370-CB-500K 370-CB-500J	50 50	10% 5%
370-FA-101K 370-FA-101J	370-CB-101K 370-CB-101J	100 100	10% 5%
370-FA-151K 370-FA-151J	370-CB-151K 370-CB-151J	150 150	10% 5%
370-FA-201K 370-FA-201J	370-CB-201K 370-CB-201J	200 200	10% 5%

Part No. FA Styles	Part No. CB Styles	Cap. MMF	Tol.
370-FA-251K 370-FA-251J	370-CB-251K 370-CB-251J	250 250	10% 5%
370-FA-301K 370-FA-301J	370-CB-301K 370-CB-301J	300 300	10% 5%
370-FA-401K 370-FA-401J	370-CB-401K 370-CB-401J	400 400	10% 5%
370-FA-501K 370-FA-501J	370-CB-501K 370-CB-501J	500 500	10% 5%
370-FA-751K 370-FA-751J	370-CB-751K 370-CB-751J	750 750	10% 5%
370-FA-102K 370-FA-102J	370-CB-102K 370-CB-102J	1000 1000	10% 5%

"Button" is a registered trade name of Erie Resistor Corporation



CORNING FUSION-SEALED FIXED CAPACITORS

It is generally recognized that the fused construction of the basic glass dielectric capacitive element used in Corning Glass Works' capacitors provides outstanding electrical performance under standard environmental conditions. To this basic element, now has been successfully added a glass encapsulation process with glass-to-metal seals at the leads. The resultant impervious unit insures reliable performance even in extremely severe environments, particularly those involving moisture or vibration.

Corning's New CYF Capacitors are guaranteed to be four times better than MIL specs require on moisture resistance.

Here are two new capacitors that are practically

indestructible.

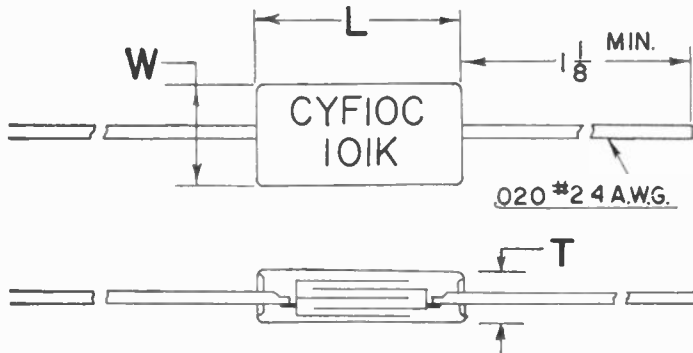
CYF's will withstand MIL-STD 202A moisture conditions for over 1,000 hours with no sign of deterioration.

CYF10's and CYF15's do better on all counts for the specifications set forth in MIL-C-11272A.

CYF10's are available in 5-150 uuf at 500VDC and 160-240 uuf at 300VDC at 125°C.

CYF15's are available in 160-510 uuf at 500VDC and 560-1200 uuf at 300VDC at 125°C.

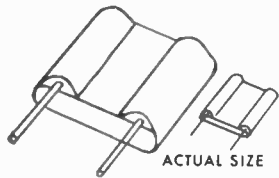
If you need high reliability and miniaturization, the CYF's—the only FUSION-SEALED Capacitors available—are worth looking into.



	CYF-10	CYF-15
L	$1\frac{1}{32} \pm \frac{3}{64}$	$1\frac{5}{32} \pm \frac{3}{64}$
W	$1\frac{1}{64} \pm \frac{1}{32}$	$1\frac{7}{64} \pm \frac{1}{32}$
T	$\frac{5}{64} \pm \frac{1}{32}$	$\frac{7}{64} \pm \frac{3}{64}$

CORNING FIXED GLASS CAPACITORS...TYPE WL-4

Truly miniature fixed capacitors—



- Specially designed for printed circuits
- Stable under high temperatures, moisture, long shelf life . . .

COMPLETE RELIABILITY UNDER EXTREME CONDITIONS

Corning has developed these miniature glass dielectric capacitors for vertical mounting on printed circuit boards. These truly miniature fixed glass capacitors possess outstanding behavior characteristics that suggest use in critical applications and under high temperatures. If you're concerned with guided missile development, nuclear equipment, and other high reliability systems, these glass capacitors offer you much.

THE DIELECTRIC

A homogeneous, low-loss, uniformly produced continuous ribbon of glass; no foreign inclusions, no cracks, no imperfections to degrade the performance of the capacitor.

CONSTRUCTION

Only four simple elements: The glass dielectric; the metal foil plates; the wire terminal leads; and high temperature solder. After stacking the many layers of dielectric glass and metal foil plates, they are sealed together at a high temperature and pressure as an integral, rugged, monolithic unit. The wire leads are soldered directly to the foil plates with high temperature solder.

CHARACTERISTICS

Corning miniature fixed glass capacitors are manufactured to conform to the performance requirements of Military Specification MIL-C-11272A.

VOLTAGE RATINGS

The DC working voltage is a full 300 volts over the temperature range from -55 to +125°C.

CAPACITANCE

From 1 to 1,000 mmf.

CAPACITANCE TOLERANCE

Standard tolerance is $\pm 10\%$ or ± 0.25 uuf whichever is greater. Also available as $\pm 5\%$, $\pm 2\%$, $\pm 1\%$, but in no case less than ± 0.25 mmf.

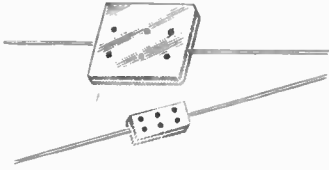
ELECTRONICS DISTRIBUTOR DIVISION

ERIE RESISTOR CORPORATION — ERIE, PA.

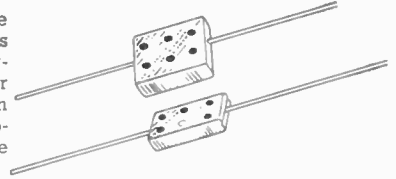
National Distributors for Corning Glass Works Electronic Components



CORNING MINIATURE FIXED CAPACITORS



Developed through Corning research, these truly miniature fixed glass capacitors possess outstanding behavior characteristics that suggest use in critical applications and under high temperatures. If you're concerned with guided missile development, nuclear equipment, and other high reliability systems, these glass capacitors offer you much.



THE DIELECTRIC

A homogeneous, low-loss, uniformly produced continuous ribbon of glass; no foreign inclusions, no cracks, no imperfections to degrade the performance of the capacitor.

THE CASE

The glass case, used only to anchor the wire leads, is of the same glass composition as the dielectric; thus, the capacitor performance is a function only of the superior dielectric properties of the glass and not of any enclosing or potting material or impregnant.

CONSTRUCTION

Only three simple elements: The glass dielectric and case of identical glass composition; the metal foil plates; the wire terminal leads. After assembly, the many layers of dielectric glass, the metal foil plates, the glass case, and the wire leads are sealed together at a high temperature and pressure as an integral, rugged, monolithic unit. Thus, the properties of the capacitor are those of the closely controlled dielectric, and are not determined by assembly method or affected by any subsequent treatment.

CHARACTERISTICS

Corning Fixed Glass Dielectric Capacitors, Types CY10, CY15, CY20, and CY30, are designed and manufactured to conform to the requirements of Military Specification MIL-C-11272A.

STABILITY

Capacitance Drift — As defined by MIL-C-11272A is less than 0.1% or 0.1 uuf whichever is greater; it is very nearly zero and is generally within the accuracy of measurements.

Temperature Coefficient — Is fixed and therefore predictable and retracable. It is within the limits of $+140 \pm 25$ ppm/°C. as defined by MIL-C-11272A from -55°C . to $+85^\circ\text{C}$. and referred to $+25^\circ\text{C}$. (See figures 1 and 2.) The difference in temperature coefficient between any units at any given temperature is less than 15 ppm/°C.

INSULATION RESISTANCE

When measured under the conditions specified in MIL-C-11272A, the insulation resistance will be found to be greater than 10^{11} ohms; that is, above the range of most standard measuring equipment.

INDUCTANCE

Because of the direct connection of the wire leads to the foil plates, the inductance is less and therefore the self-resonant frequency is higher than for other similar capacitors.

DIELECTRIC ABSORPTION

The dielectric absorption is extremely low; the percentage of charge reappearing after discharge is less than 0.1%.

MOISTURE RESISTANCE

The glass capacitor meets the temperature cycling, immersion, and 10-day moisture resistance tests which are prescribed in the military standards MIL-C-11272A for capacitors which must meet stringent environmental requirements.

VOLTAGE RATINGS

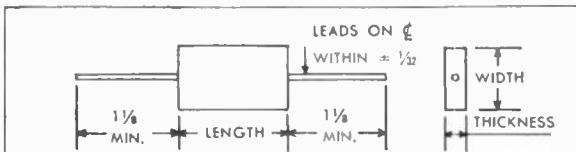
Standard ratings based on continuous operation in ambient temperatures from -55°C . to $+85^\circ\text{C}$. and from -55°C . to $+125^\circ\text{C}$. are shown in figure 2. Higher voltage ratings may be made available upon request.

CAPACITANCE

From 1 to 10,000 uuf in standard sizes as shown in figure 2. Higher capacitances in special forms available upon request.

TYPE	CAPACITANCE RANGE (UUF)	
	DC WORKING VOLTAGE	
	300 V. — 85 C. 180 V. — 125 C.	500 V. — 85 C. 350 V. — 125 C.
CY10	160 — 240	1 — 150
CY15	560 — 1200	5 — 510
CY20	3600 — 5100	560 — 3300
CY30	6800 — 10,000	3600 — 6200

FIGURE 2



TYPE	LENGTH (in inches)	WIDTH (in inches)	THICKNESS (in inches)	WIRE SIZE (in inches)	WEIGHT (Grams)
CY10	$1\frac{1}{32} \pm \frac{3}{64}$	$1\frac{1}{4} \pm \frac{1}{32}$	$\frac{3}{64} \pm \frac{1}{32}$	0.020 -24 AWG	0.25-0.50
CY15	$1\frac{1}{32} \pm \frac{3}{64}$	$1\frac{3}{4} \pm \frac{1}{32}$	$\frac{3}{64} \pm \frac{3}{64}$	0.025 -22 AWG	0.75-1.25
CY20	$4\frac{3}{64} \pm \frac{1}{16}$	$2\frac{3}{4} \pm \frac{3}{64}$	$\frac{3}{64} \pm \frac{3}{64}$	0.032 -20 AWG	2.50-4.00
CY30	$4\frac{3}{64} \pm \frac{1}{16}$	$\frac{3}{4} \pm \frac{3}{64}$	$\frac{3}{64} \pm \frac{3}{64}$	0.032 -20 AWG	5.00-7.00

FIGURE 1

MINIATURIZATION

The glass capacitor offers a higher degree of miniaturization than any other high quality capacitor. The volume of Type CY10 is only about 0.005 cubic inches; further reductions to as little as one-tenth of the volume of the standard wire lead types can be realized where wire lead terminals are not required. For physical dimensions see figure 1.

CAPACITANCE TOLERANCE

Standard tolerance is $\pm 5\%$ or ± 0.25 uuf whichever is greater. Also available as $\pm 10\%$, $\pm 2\%$, $\pm 1\%$, but in no case less than ± 0.25 uuf.

DIELECTRIC LOSS

Losses are extremely low. The dissipation factor at 1 kc. and 25°C . is in the order of 0.05% and is not dependent on capacitance. Losses remain relatively low at elevated temperatures.

LIFE

The shelf life change in capacitance is very small, and even at the elevated temperature of the 125°C . life test of MIL-C-11272A the recorded change in capacitance is less than 1% in 2,000 hours.

EXPOSURE TO RADIATION

These capacitors have been found to withstand high levels of X-radiation without permanent damage or degradation of electrical properties.

ELECTRONICS DISTRIBUTOR DIVISION

ERIE RESISTOR CORPORATION — ERIE, PA.
National Distributors for Corning Glass Works Electronic Components



CORNING GLASS TRIMMER CAPACITORS
MIDGET ROTARY TYPE

Corning Midget Rotary Trimmer Capacitors offer outstanding performance coupled with economy. Midget trimmers are available in a variety of mounting types to cover the ranges of 0.3 to 3.0 mmfd., 1 to 8.0 mmfd., and 1 to 12.0 mmfd. respectively.

ELECTRICAL CHARACTERISTICS
CORNING MIDGET
ROTARY TRIMMER CAPACITORS





Temperature Coefficient of Capacitance
(Solid or Split Bushing Types Only)
Brass core units — Approx. 200 ± 50 ppm/°C.
Invar core units — Approx. 50 ± 50 ppm/°C.

Power Factor of the Dielectric — 0.16%

Direct Current Breakdown Voltage
500 volts for all types with core at the maximum capacity position.

Dimensions — O.D. — .252"-.270"		
Height (Chassis to Top of Glass)	Push-On	Split-Bushing
1 — 12 mmf	1 1/4" ± 1/2"	1 1/2" ± 1/2"
1 — 8 mmf	1 1/4" ± 1/2"	1 1/2" ± 1/2"
.5 — 3 mmf	1 1/4" ± 1/2"	1 1/4" ± 1/2"

MIDGET TRIMMER CAPACITOR WITH ROTARY TUNING MOTION

 <p>I. Push-On Mount with Saddle Clip, Brass Core</p> <table border="1"> <thead> <tr> <th>Part No.</th> <th>Range mmf.</th> </tr> </thead> <tbody> <tr> <td>680000</td> <td>.5 — 3</td> </tr> <tr> <td>680001</td> <td>1 — 8</td> </tr> <tr> <td>680002</td> <td>1 — 12</td> </tr> </tbody> </table>	Part No.	Range mmf.	680000	.5 — 3	680001	1 — 8	680002	1 — 12	 <p>II. Push-On Mount with Wire Lead, Brass Core</p> <table border="1"> <thead> <tr> <th>Part No.</th> <th>Range mmf.</th> </tr> </thead> <tbody> <tr> <td>680003</td> <td>.5 — 3</td> </tr> <tr> <td>680004</td> <td>1 — 8</td> </tr> <tr> <td>680005</td> <td>1 — 12</td> </tr> </tbody> </table>	Part No.	Range mmf.	680003	.5 — 3	680004	1 — 8	680005	1 — 12
Part No.	Range mmf.																
680000	.5 — 3																
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680002	1 — 12																
Part No.	Range mmf.																
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 <p>III. Push-On Mount with Solder Spots, Brass Core</p> <table border="1"> <thead> <tr> <th>Part No.</th> <th>Range mmf.</th> </tr> </thead> <tbody> <tr> <td>680006</td> <td>.5 — 3</td> </tr> <tr> <td>680007</td> <td>1 — 8</td> </tr> <tr> <td>680008</td> <td>1 — 12</td> </tr> </tbody> </table>	Part No.	Range mmf.	680006	.5 — 3	680007	1 — 8	680008	1 — 12	 <p>IV. Split-Bushing Mount with Pan Terminal, Invar Core</p> <table border="1"> <thead> <tr> <th>Part No.</th> <th>Range mmf.</th> </tr> </thead> <tbody> <tr> <td>680073</td> <td>.5 — 3</td> </tr> <tr> <td>680071</td> <td>1 — 8</td> </tr> <tr> <td>680072</td> <td>1 — 12</td> </tr> </tbody> </table>	Part No.	Range mmf.	680073	.5 — 3	680071	1 — 8	680072	1 — 12
Part No.	Range mmf.																
680006	.5 — 3																
680007	1 — 8																
680008	1 — 12																
Part No.	Range mmf.																
680073	.5 — 3																
680071	1 — 8																
680072	1 — 12																

MIDGET DIRECT TRAVERSE TYPE

For those applications where sheer ruggedness is desired in addition to thermal stability and a smooth tuning characteristic, a direct traverse type of trimmer capacitor is recommended. Standard units are supplied with either a pan type terminal or a wire wrap-around terminal.

This basic direct traverse trimmer motion is used in single-ended trimmers having the following ratings:

- 0.5 to 3.0 mmfd. 1.0 to 8.0 mmfd.
- 1.0 to 7.5 mmfd. 1.0 to 12.0 mmfd.

TEMPERATURE COEFFICIENT OF CAPACITANCE

With *Invar Core* — Plus 50 ± 50 ppm/°C.
With *Brass Core* — Plus 50-200 ± 50 ppm/°C.
Minimum Q at Max. C. (1 1/2 turns from end cap) — 500 checked on a Boonton 160-A Q-Meter at 50 Mcs.
Dielectric Strength (glass only) 1000 volts D.C. with core set at mid-capacity position.
Safe Operating Temperature Range — From -55° C. to 125° C.
Rated D.C. Breakdown Voltage (Core set at Max. C. position) 500 volts.



CODE NO.	Capacity Range mmfds.	Core Material	Terminal	Max. C Stop	Electrical Selection
682023	0.5-3.0	I	Pan	Yes	Special
682024	0.5-3.0	I	Pan	Yes	None
682025	0.5-3.0	I	Pan	Yes	None
682026	0.5-3.0	I	Pan	No	None
682048	1.0-12.0	I	Pan	No	Special
682049	1.0-12.0	I	Pan	Yes	Special
682053	1.0-7.5	I	Pan	Yes	Special
682054	1.0-7.5	I	Pan	Yes	None
682055	1.0-7.0	I	Pan	Yes	None
682056	1.0-8.0	I	Pan	No	None
682060	1.0-8.0	I	Wire	No	None
682061	1.0-8.0	I	Wire	No	Special
682062	1.0-8.0	Br	Wire	No	None
682063	1.0-8.0	I	Pan	No	None
682064	1.0-8.0	I	Pan	No	Special
682065	1.0-8.0	Br	Pan	No	None
682075	1.0-8.0	I	Wire	Yes	Special

FILM CAPACITORS, INC.

F-C-I HIGH VOLTAGE CAPACITORS

F-C-I Type D capacitors employ a newly developed plastic film dielectric which, with suitable processing, produces capacitors which are better, smaller and cheaper than could ever be produced before. The table below shows the electrical properties of these capacitors. In view of these excellent characteristics, it is evident that F-C-I Type D capacitors are suitable for practically every type of high

voltage D.C. application. With these capacitors available, it is no longer necessary to stock groups of units each outstanding in only one property. F-C-I Type D capacitors are furnished in glass tubes with hermetically sealed metal end caps and either threaded studs or wire leads. Sizes not listed here can be furnished upon request. Ask for our quotation.

NOW FURNISHED IN STEATITE CASES — NO BREAKAGE... NO LEAKAGE

Cat. No.	Capacity MFD.	Working Volts DC	Dimensions Dia.	L	List Price	Cat. No.	Capacity MFD.	Working Volts DC	Dimensions Dia.	L	List Price
D6-6-10	.01	600	1/2	1 3/8	\$ 2.80	D6-100-1	.001	10 KV	5/8	1 1/8	\$ 7.20
D6-6-20	.02	600	1/2	1 3/8	2.80	D6-100-2	.002	10 KV	5/8	1 1/8	7.40
D6-6-50	.05	600	1/2	1 3/8	2.90	D6-100-5	.005	10 KV	5/8	2 1/8	8.50
D6-6-100	.10	600	1/2	1 3/8	3.00	D6-100-10	.01	10 KV	7/8	2 1/8	9.20
D6-6-250	.25	600	1/2	2 3/8	3.20	D6-100-20	.02	10 KV	1	2 1/8	11.40
D6-6-500	.50	600	1	2 3/8	3.60	D6-100-50	.05	10 KV	1 1/2	2 1/8	14.60
D6-6-1000	1.00	600	1 1/4	2 3/8	3.90	D6-150-1	.001	15 KV	5/8	2 3/8	13.80
D6-10-10	.01	1000	1/2	1 3/8	2.90	D6-150-2	.002	15 KV	7/8	2 3/8	14.60
D6-10-20	.02	1000	1/2	1 3/8	2.90	D6-150-5	.005	15 KV	7/8	2 3/8	17.00
D6-10-50	.05	1000	1/2	1 3/8	2.90	D6-150-10	.01	15 KV	1 1/4	2 1/8	20.00
D6-10-100	.10	1000	1/2	2 3/8	3.10	D6-150-20	.02	15 KV	1 1/4	4 3/4	22.00
D6-10-250	.25	1000	7/8	2 3/8	3.10	D6-150-50	.05	15 KV	1 1/2	4 3/4	26.00
D6-10-500	.50	1000	1	2 3/4	3.30	D6-200-05	.0005	20 KV	5/8	2 3/8	18.00
D6-20-2	.002	2000	1/2	1 3/8	2.90	D6-200-1	.001	20 KV	3/4	2 3/8	19.00
D6-20-5	.005	2000	1/2	1 3/8	2.90	D6-200-2	.002	20 KV	3/4	2 1/8	21.00
D6-20-10	.01	2000	1/2	1 3/8	2.90	D6-200-5	.005	20 KV	1	2 1/8	22.50
D6-20-20	.02	2000	1/2	1 3/8	2.90	D6-200-10	.01	20 KV	1 1/2	2 1/8	24.00
D6-20-50	.05	2000	1 1/4	1 3/8	2.90	D6-200-20	.02	20 KV	1 1/2	4 3/4	27.00
D6-20-100	.10	2000	1 1/4	2 3/8	3.10	D6-300-02	.0002	30 KV	5/8	3	20.00
D6-20-250	.25	2000	1	2 3/8	3.50	D6-300-05	.0005	30 KV	5/8	3	21.00
D6-20-500	.50	2000	1 1/4	2 3/8	4.10	D6-300-1	.001	30 KV	7/8	3	23.50
D6-30-2	.002	3000	1/2	1 3/8	4.10	D6-300-2	.002	30 KV	3/4	4 3/4	26.00
D6-30-5	.005	3000	1/2	1 3/8	4.10	D6-300-5	.005	30 KV	1 1/4	4 3/4	28.00
D6-30-10	.01	3000	1/2	1 3/8	4.30	D6-300-10	.01	30 KV	1 1/4	6 7/8	35.00
D6-30-20	.02	3000	1 1/4	1 3/8	5.00	D6-400-01	.0001	40 KV	5/8	3	20.50
D6-30-50	.05	3000	1 1/4	2 3/8	5.50	D6-400-02	.0002	40 KV	5/8	3	21.50
D6-30-100	.10	3000	7/8	2 3/8	6.00	D6-400-05	.0005	40 KV	3/4	3	22.50
D6-30-250	.25	3000	1 1/4	2 3/8	6.60	D6-400-1	.001	40 KV	3/4	4 3/4	26.00
D6-50-5	.005	5 KV	5/8	1 1/4	6.50	D6-400-2	.002	40 KV	1	4 3/4	28.00
D6-50-10	.01	5 KV	3/4	1 1/4	6.80	D6-400-5	.005	40 KV	1 1/2	4 3/4	33.00
D6-50-20	.02	5 KV	3/4	2 1/8	7.20	D6-500-01	.0001	50 KV	5/8	4 1/4	22.50
D6-50-50	.05	5 KV	7/8	2 1/8	7.60	D6-500-02	.0002	50 KV	5/8	4 1/4	23.50
D6-50-100	.10	5 KV	1 1/4	2 1/8	8.50	D6-500-05	.0005	50 KV	3/4	4 1/4	24.50
D6-75-1	.001	7 1/2 KV	5/8	1 1/4	6.50	D6-500-1	.001	50 KV	3/4	6 7/8	28.00
D6-75-2	.002	7 1/2 KV	5/8	1 1/4	6.80	D6-500-2	.02	50 KV	7/8	6 7/8	31.50
D6-75-5	.005	7 1/2 KV	3/4	1 1/4	7.00	D6-500-5	.005	50 KV	1 1/4	6 7/8	36.00
D6-75-10	.01	7 1/2 KV	3/4	2 1/8	7.50	D6-600-01	.0001	60 KV	5/8	4 1/4	23.50
D6-75-20	.02	7 1/2 KV	7/8	2 1/8	8.60	D6-600-02	.0002	60 KV	5/8	4 1/4	24.50
D6-75-50	.05	7 1/2 KV	1 1/4	2 1/8	11.10	D6-600-05	.0005	60 KV	7/8	4 1/4	28.00
D6-75-100	.10	7 1/2 KV	1 1/2	2 1/8	12.50	D6-600-1	.001	60 KV	7/8	6 7/8	34.00
						D6-600-2	.002	60 KV	1 1/4	6 7/8	36.50
						D6-600-5	.005	60 KV	1 1/4	13	41.50



ELECTRICAL PROPERTIES OF F-C-I TYPE D CAPACITORS

Operating Range	-55° C to +125° C
Voltage Range, D.C.	600 Volts to 60KV; higher on order
Capacitance Range	.0001 MF to 0.1 MF
Power Factor	0.5% at 1 KC
I.R. at Room Temperature	10 ⁶ Megohm-Microfarads
Dielectric Absorption	0.1%
Temperature Coefficient	+500 PPM/° C
Capacitance Stability	0.5%
Voltage Derating at 65° C	None
Voltage Derating at 85° C	30%
Voltage Derating at 105° C	50%
Voltage Derating at 125° C	66%

FILM CAPACITORS, INC.

MINIATURE POLYSTYRENE AND MYLAR® CAPACITORS HERMETICALLY SEALED — CLOSE TOLERANCE

F-C-I miniature polystyrene and "Mylar" capacitors are furnished in metal shells hermetically sealed with metal-glass compression type seals. The capacitor elements are non-inductively wound, and wire leads are carefully soldered to the swaged, extended foils to minimize self-

inductance, power factor and noise. Characteristics of the polystyrene capacitors are given on pg. P-1156. The Mylar dielectric capacitors are characterized by high insulation resistance (10^9 megohm-microfarads at 20° C); 0.5% power factor; and a temperature coefficient of +500 PPM/° C.

POLYSTYRENE

PART No.	CAP. MFD.	SIZE		LIST PRICE
		L	D	
100 VWDC				
A4-1-10	.01	1	.235	\$4.00
A4-1-15	.015	1	.235	4.00
A4-1-22	.022	1	.312	4.00
A4-1-33	.033	1	.312	4.10
A4-1-47	.047	1	.400	4.15
A4-1-68	.068	1	.400	4.20
A4-1-100	.10	1½	.400	4.40
A4-1-220	.22	1¾	.562	4.80
A4-1-330	.33	1¾	.670	5.25
A4-1-470	.47	1¾	.670	5.60
200 VWDC				
A4-2-10	.01	1	.312	4.00
A4-2-15	.015	1	.312	4.00
A4-2-22	.022	1	.400	4.10
A4-2-33	.033	1	.400	4.10
A4-2-47	.047	1¾	.400	4.15
A4-2-68	.068	1¾	.400	4.15
A4-2-100	.10	1¾	.562	4.50
A4-2-220	.22	1¾	.562	5.20
A4-2-330	.33	1¾	.750	5.80
A4-2-470	.47	1¾	1.00	6.10
400 VWDC				
A4-4-10	.01	1	.312	4.00
A4-4-15	.015	1	.400	4.00
A4-4-22	.022	1	.400	4.10
A4-4-33	.033	1¾	.400	4.25
A4-4-47	.047	1¾	.400	4.35
A4-4-68	.068	1¾	.562	4.50
A4-4-100	.10	1¾	.562	4.90
A4-4-220	.22	1¾	.750	5.45
A4-4-330	.33	1¾	.750	6.30
A4-4-470	.47	1¾	1.00	7.20
600 VWDC				
A4-6-10	.01	1	.400	4.00
A4-6-15	.015	1¾	.400	4.00
A4-6-22	.022	1¾	.562	4.25
A4-6-33	.033	1¾	.562	4.25
A4-6-47	.047	1¾	.670	4.50
A4-6-68	.068	1¾	.562	4.80
A4-6-100	.10	1¾	.670	5.10
A4-6-220	.22	1¾	.750	5.45
A4-6-330	.33	2¾	1.00	6.30
A4-6-470	.47	2¾	1.00	7.20

Prices listed above are for ±5% tolerance. For ±2% tolerance, add 20% and for ±1% tolerance, add 50% to these prices. These capacitors are also available in ceramic shells with epoxy resin end fill. Write for prices.

®Du Pont Trade Mark

MYLAR

PART No.	CAP. MFD.	SIZE		LIST PRICE
		L	D	
100 VWDC				
HD4-1-10	.01	1	.235	\$2.25
HD4-1-15	.015	1	.235	2.25
HD4-1-22	.022	1	.235	2.25
HD4-1-33	.033	1	.312	2.25
HD4-1-47	.047	1	.312	2.25
HD4-1-68	.068	1	.400	2.35
HD4-1-100	.10	1	.400	2.40
HD4-1-220	.22	1¾	.400	2.60
HD4-1-330	.33	1¾	.562	2.65
HD4-1-470	.47	1¾	.562	2.75
HD4-1-1000	1.0	1¾	.670	3.40
200 VWDC				
HD4-2-10	.01	1	.235	2.25
HD4-2-15	.015	1	.235	2.25
HD4-2-22	.022	1	.312	2.25
HD4-2-33	.033	1	.312	2.25
HD4-2-47	.047	1	.400	2.35
HD4-2-68	.068	1	.400	2.40
HD4-2-100	.10	1¾	.400	2.55
HD4-2-220	.22	1¾	.562	2.65
HD4-2-330	.33	1¾	.670	2.70
HD4-2-470	.47	1¾	.670	4.10
HD4-2-1000	1.0	1¾	1.00	4.70
400 VWDC				
HD4-4-10	.01	1	.312	2.90
HD4-4-15	.015	1	.312	2.90
HD4-4-22	.022	1	.400	3.00
HD4-4-33	.033	1	.400	3.05
HD4-4-47	.047	1¾	.400	3.05
HD4-4-68	.068	1¾	.400	3.40
HD4-4-100	.10	1¾	.562	3.45
HD4-4-220	.22	1¾	.670	4.00
HD4-4-330	.33	1¾	.750	4.15
HD4-4-470	.47	1¾	1.00	4.50
HD4-4-1000	1.0	2¾	1.00	5.70
600 VWDC				
HD4-6-10	.01	1	.400	3.65
HD4-6-15	.015	1	.400	3.70
HD4-6-22	.022	1¾	.400	3.75
HD4-6-33	.033	1¾	.400	3.80
HD4-6-47	.047	1¾	.562	3.85
HD4-6-68	.068	1¾	.562	3.90
HD4-6-100	.10	1¾	.670	4.00
HD4-6-220	.22	1¾	1.00	5.00
HD4-6-330	.33	1¾	1.00	6.00
HD4-6-470	.47	2¾	1.00	7.00

The capacitors listed above are suitable for continuous operation at 125° C without derating. For 85° C operation, 100 volt series HD capacitors may be operated at 200 volts; 200 volt capacitors at 400 volts; 400 volt capacitors at 600 volts; and 600 volt capacitors at 1000 volts. To correctly designate 85° C capacitors, omit the letter "H" in the part number, and correct the single number standing for the voltage rating.

Prices listed above are for ±5% tolerance. For ±2% tolerance, add 20% and for ±1% tolerance, add 50% to these prices. These capacitors are also available in ceramic shells with epoxy resin end fill. Write for prices.

We are set up to produce these capacitors in any quantity to any odd value of capacitance at close tolerance for manufacturers of filter networks, R-C networks and the like. Write for information.

FILM CAPACITORS, INC.

HIGH CAPACITANCE MYLAR® CAPACITORS HERMETICALLY SEALED—HIGH INSULATION RESISTANCE

F-C-I Series D-2 capacitors are Mylar dielectric capacitors which possess extremely high insulation resistance, together with good power factor and dielectric absorption. The insulation resistance runs well over 10⁶ megohm-microfarads at room temperature, even for the highest values of capacitance. The power factor and the dielectric

absorption are both on the order of 0.5%. These properties make Series D-2 capacitors extremely useful in computers of moderate precision, in timing circuits, and similar types of circuitry. Standard tolerance is ±10%, and closer tolerances are available on order. (Case sizes indicated below are in inches.) (D3 indicates bathtub case.)

CAP. MFD.	100 VWDC				200 VWDC				300 VWDC				400 VWDC				600 VWDC			
	CASE SIZE L W H	LIST PRICE	CASE SIZE L W H	LIST PRICE	CASE SIZE L W H	LIST PRICE	CASE SIZE L W H	LIST PRICE	CASE SIZE L W H	LIST PRICE	CASE SIZE L W H	LIST PRICE	CASE SIZE L W H	LIST PRICE						
0.5 CAT #	1 3/4 1 3/4	\$ 3.00	D3-1-500	1 3/4 1 3/4	\$ 3.00	D3-2-500	1 3/4 1 1/2	\$ 3.20	D3-3-500	1 3/4 1 1/2	\$ 3.38	D3-4-500	1 1/2 1 1/2	\$ 3.38	D3-6-500					
1.0 CAT #	1 3/4 1 3/4	3.12	D3-1-1000	1 3/4 1 1/2	3.12	D3-2-1000	1 3/4 1 1/2	4.95	D2-3-1000	1 3/4 1 1/2	5.37	D2-4-1000	1 1/2 1 1/2	5.50	D2-6-1000					
2.0 CAT #	1 3/4 1 1/2	4.00	D3-1-2000	1 3/4 1 1/2	5.12	D2-2-2000	1 3/4 1 1/2	6.35	D2-3-2000	1 3/4 1 1/2	6.60	D2-4-2000	2 1/2 1 1/2	7.60	D2-6-2000					
5.0 CAT #	1 3/4 1 1/2	6.35	D2-1-5000	1 3/4 1 3/4	7.00	D2-2-5000	2 1/2 1 1/2	9.50	D2-3-5000	3 1/2 1 1/2	11.25	D2-4-5000	3 1/2 1 1/2	11.25	D2-6-5000					
10.0 CAT #	2 1/2 1 1/4	11.00	D2-1-10000	2 1/2 1 1/4	11.60	D2-2-10000	3 3/4 1 3/4	17.75	D2-3-10000	3 3/4 1 3/4	19.75	D2-4-10000	3 3/4 1 3/4	24.70	D2-6-10000					
20.0 CAT #	3 3/4 1 3/4	18.80	D2-1-20000	3 3/4 1 3/4	20.30	D2-2-20000	4 1/2 3 3/4	29.40	D2-3-20000	4 1/2 3 3/4	32.50	D2-4-20000	4 1/2 3 3/4	42.50	D2-6-20000					
25.0 CAT #	3 3/4 1 3/4	22.20	D2-1-25000	3 3/4 1 3/4	23.70	D2-2-25000	4 1/2 3 3/4	36.10	D2-3-25000	4 1/2 3 3/4	39.00	D2-4-25000	4 1/2 3 3/4	51.50	D2-6-25000					

METALLIZED PAPER CAPACITORS

Available in voltages from 150 VWDC to 600 VWDC and capacitance values from .01 to 50 MF at 85° C and 125° C. Units can be furnished in case types and sizes which are standard in the industry.

METALLIZED MYLAR CAPACITORS

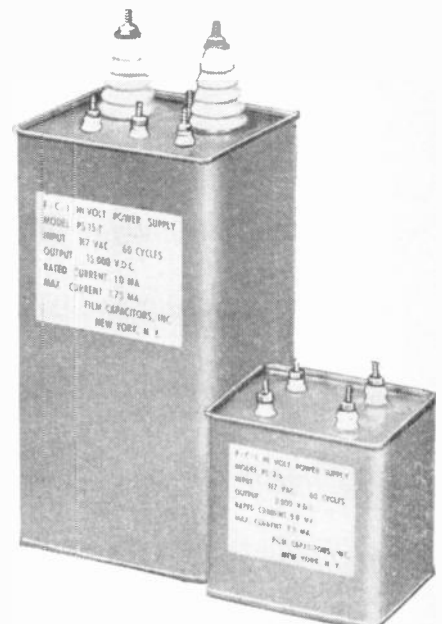
Available in voltages from 100 VWDC to 600 VWDC and capacitance values from .01 to 50 MF at 85° C and 125° C. Units can be furnished in all types of cases.

HIGH VOLTAGE PACKAGED POWER SUPPLIES

Completely enclosed and hermetically sealed power supplies operating on 115 v.c.t., 60 or 100 cycle, AC input. Output ranges from 2,000 vdc to 50,000 vdc. Standard sizes as follows:

PART No.	OUTPUT VOLTAGE	RATED CURRENT OUTPUT	MAX. CURRENT OUTPUT
PS-25	2 KVDC	5 MA	7.5 MA
PS-55	5 KVDC	5 MA	7.5 MA
PS-12T	12KVDC	1 MA	1.75 MA
PS-15T	15 KVDC	1 MA	1.75 MA
PS-30T	30 KVDC	1 MA	1.75 MA
PS-50T	50 KVDC	2 MA	4 MA

® Du Pont Trade Mark



Jennings VACUUM

Vacuum Variable Capacitors

FIG.	TYPE		CAPACITY MMFD	PEAK VOLTAGE KILOVOLTS	RMS AMPERES ^①		NOMINAL DIMENSIONS ^②		
	NICKEL	COPPER			NICKEL	COPPER	LENGTH	DIAMETER	
2 to 5 KV	E	UCSL	4-250	3, 5		30	4 ¹ / ₈	2 ¹ / ₄	
	B	USL	5-500	3, 5		40	5 ¹ / ₂	2 ³ / ₈	
	B	USLS	5-465 shorting	3, 5		40	5 ⁵ / ₈	2 ³ / ₈	
	B	USL	10-1000	3, 5		40	5	3 ¹ / ₈	
	A	UCSL	5-750, 7-1000	3, 5		42	7 ⁹ / ₈	3 ¹ / ₈	
	A	UCSL	20-2000, 50-3000	2, 3		42	8 ³ / ₈	3 ¹ / ₈	
7.5 to 15 KV	E	UCSB	5-100	7.5, 10, 15		40	4 ⁷ / ₈	2 ³ / ₈	
	I	UCSV	8-110, 125-250	7.5, 10, 15		50	5 ¹ / ₄	2 ⁷ / ₈	
	K	ATCS	10-150, 15-200	7.5, 10, 15		20	7	3 ¹ / ₈	
	L	UCS	5-200, 10-300	7.5, 10, 15		42	8 ³ / ₄	2 ⁵ / ₈	
	L	UCS	10-400, 25-500	7.5, 10, 15		42	9	3 ¹ / ₈	
	A	UCSF	5-250, 12-500	7.5, 10, 15		45	7 ³ / ₄	3 ⁵ / ₈	
	H	UCSX	25-700, 25-1000	7.5, 10, 15		45	9 ⁷ / ₈	3 ³ / ₄	
	M	UCSXF	12-1000, 15-1200	7.5, 10, 15		45	10	4 ³ / ₈	
	M	UCSXF	20-1500, 50-2000	7.5, 10, 12		45	10	5 ¹ / ₈	
10 to 20 KV	C	ECS	2-8, 3-30	10, 15		20	4	1 ³ / ₈	
	K T	TC	5-25	20	10.5	20	6 ⁵ / ₈	2 ¹ / ₄	
	K	AT	ATC	10-50, 15-75	20, 30	10.5	20	6 ⁷ / ₈	3 ¹ / ₈
	F	U	UC	50-250	10, 15, 20	21	60	11 ¹ / ₂	5
	D	UX	UXC	25-500	10, 15, 20	21	60	14	5
	M		UXCF	10-250, 20-500	10, 15, 20		60	9 ⁷ / ₈	4 ³ / ₈
	J	VMM	VMMC	50-1000, 100-2000	10, 15	35	125	15 ⁷ / ₈	6 ¹ / ₈
	G		VMMC	100-5000	7.5, 10, 15		125	19	9 ¹ / ₄
35 to 60 KV	I	UCSVH	8-35	25, 35		40	4 ³ / ₄	3	
	F	UH	UHC	10-75, 75-150	35, 45, 55, 60	21	60	12	5
	D	UXH	UXHC	25-150	35, 45, 55	21	60	14 ⁵ / ₈	5
	H		UCSXH	10-200	35, 45		45	10	4 ¹ / ₂
	M		UCSXHF	25-450	35, 40		60	10 ¹ / ₂	5 ¹ / ₈
	J		VMMHC	10-250, 25-450, 30-650	35, 45, 55		125	17	8 ¹ / ₈
	N		VMMHCW	25-250, 50-400	35, 45, 55		500	17	9 ⁵ / ₈
120 KV	G		VMMHC	60-1000	35, 40, 45		125	19 ³ / ₈	9 ¹ / ₄
	G		VMMHC	25-200	120		125	20 ¹ / ₄	9 ¹ / ₄



① Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.
 ② Nominal Dimensions are for the largest unit of each type.
 NOTE: A series of adjustable capacitors are available to cover the range of 8 to 1000 mmfd at 10 KV.

Vacuum Transfer Relays



Jennings Type	RA1	RA4	RB1	RB2A	RB3	RB4	RE6B
Contact arrangement	SPDT	4PDT	SPDT	2PDT	2PDT	4PDT	SPDT
Rated operating voltage—dc or 60 cycle 16 mc	300v	300v	10 kv 8 kv	20 kv 10 kv	20 kv 8 kv	20 kv 10 kv	25 kv 15 kv
Test voltage between terminals— dc or 60 cycle	2000v	2000v	18 kv	30 kv	21 kv	25 kv	35 kv
Test voltage common to common— dc or 60 cycle				30 kv	22 kv	25 kv	
Test voltage terminals to ground— dc or 60 cycle	3000v	3000v	15 kv	30 kv	25 kv	25 kv	35 kv
Continuous current—rms amps— dc or 60 cycle	30, 40 amps	30, 40 amps	28 amps	20 amps	28 amps	20 amps	25 amps
2.5 mc			9 amps	14 amps	10 amps	10 amps	
16 mc			8 amps	8 amps	8 amps	8 amps	9 amps
Contact resistance	.01 ohms	.01 ohms	.01 ohms	.01 ohms	.01 ohms	.01 ohms	.01 ohms
Contact capacitance	17 mmfd	17 mmfd	1 mmfd	1 mmfd	1 mmfd	1 mmfd	1 mmfd
Capacitance to ground	11 mmfd	11 mmfd	2.5 mmfd max	2.5 mmfd max	2.5 mmfd max	2.5 mmfd max	2.5 mmfd max
Operate times	18-25 msec	18-25 msec	9 to 12 ms	12-16 ms	12-20 ms	25-45 ms	17-25 ms
Release times	2-9 msec	2-9 msec	6 to 9 ms	3 to 4 ms	4 to 8 ms	4 to 10 ms	3-8 ms
DC actuating coil—power voltage	3.1 watts 26.5 vdc	3.1 watts 25.5 vdc	3.6 watts 26.5 vdc	3 watts 26.5 vdc	5.8 watts 26.5 vdc	5.3 watts 26.5 vdc	5.8 watts 26.5 vdc
Shock	50G-11 ms	50G-11 ms	30G-11 ms	30G-11 ms	30G-11 ms	30G-11 ms	30G-11 ms
Vibration	30G to 2000 cps	30G to 2000 cps	20G to 2000 cps	10G to 1000 cps	5G to 2000 cps	10G to 5000 cps	10G to 500 cps

CAPACITORS & RELAYS

Vacuum Fixed Capacitors

FIG.	TYPE		CAPACITY	PEAK VOLTAGE	RMS AMPERES ^①		NOMINAL DIMENSIONS ^②		
	NICKEL	COPPER	MMFD	KILOVOLTS	NICKEL	COPPER	LENGTH	DIAMETER	
2 to 5 KV	L	JCSL	100, 250	3, 5		35	2 ⁵ / ₈	1 ⁷ / ₈	
	M	JSLF	250, 450	3, 5		30	1 ³ / ₄	1 ⁷ / ₈	
	B	JSLF	1000, 1500, 2000	3, 5		30	1 ⁵ / ₈	3 ¹ / ₈	
	B	JCSL	500, 750, 1000, 1500, 2000	2, 3		42	4	2 ⁷ / ₈	
7.5 to 15 KV	M	JCSF	25, 40, 80, 120, 150	7.5, 10, 15		30	1 ⁵ / ₈	1 ⁵ / ₈	
	L	JCS2	10, 20, 25, 50, 75, 100, 150	7.5, 10, 15		20	3 ¹ / ₈	1 ⁷ / ₈	
	B	JCS1	25, 50, 75, 100, 150	7.5, 10, 15		50	3 ³ / ₄	2 ¹ / ₈	
	B	JCS	250, 400, 500	7.5, 10, 15		42	4	3 ¹ / ₈	
	A	JCS	900, 1000	7.5, 10, 12		42	4 ⁵ / ₈	3 ⁵ / ₈	
	D	MC1	500, 750, 1000	10, 15		75	4 ¹ / ₈	4 ¹ / ₈	
	C	M	MC	500, 750, 1000	10, 15, 20	21	120	8 ³ / ₈	5
	J	MM	MMC	1500, 2000	10, 15	35	125	9 ¹ / ₄	6 ¹ / ₈
	F		MMC1	2000	10, 15		125	5	6 ¹ / ₈
	E		MMC	3000, 4000, 5000	10, 15		125	13	9 ¹ / ₄
17 to 30 KV	K	Y	1, 2, 3, 4, 5	17		7	3 ¹ / ₄	3 ₄	
	K	X	5, 10, 15, 20, 25	17		7	3 ¹ / ₄	1 ¹ / ₈	
	N	W	6, 12, 25, 50, 100	20, 25		10.5	4 ⁵ / ₈	2 ¹ / ₄	
	I		VCCA	6, 12, 25, 50, 75, 100, 150	20, 30		60	4 ¹ / ₂	2 ³ / ₈
	I	VC	VCCE	6, 12, 25, 50, 75, 100, 150	20, 30, 35		14	6 ¹ / ₂	2 ⁵ / ₈
	I	VC	VCCE	200, 250	20, 30		14	6 ¹ / ₂	2 ⁵ / ₈
	M		JMF	50, 75, 100	20, 30		40	2 ³ / ₄	2 ¹ / ₈
	H		JC2	25, 50, 75, 100	20, 30		42	4	3 ¹ / ₄
	C	ML	MLC	500, 750, 1000	25, 30	21	125	9 ¹ / ₄	5
	35 to 60 KV	A		JHC	75	50, 60		42	4	3^{1}/_{2}
G			JC3	20, 40, 50, 60	35, 45, 55, 60		140	8 ¹ / ₄	3 ¹ / ₂
G			JC4	75, 100, 125	35, 45, 55, 60		175	9 ¹ / ₄	5
G			JC5	200	35, 45, 55, 60		225	11 ¹ / ₄	7
J			MMHC	450	35, 45, 55		125	9 ¹ / ₄	6 ¹ / ₈
E			MMHC	1000	35, 40, 45		150	13	9 ¹ / ₄



Type JCSF
150 mmfd
15 kv



Type JCSL
1500 mmfd
5 kv



Type MMC
2000 mmfd
15 kv

① Current ratings can usually be doubled with forced air cooling. Water cooled units are also available.

② Nominal Dimensions are for the largest unit of each type.

NOTE: Intermediate capacities, feed-thru capacitors, and glass insulators are available.

The all copper construction of Vacuum Fixed Capacitors give high current ratings, long life and stability of operation.

Vacuum Coaxial Relays

FOR 50 OHM 3/8" LINES



TYPE RC 20 VACUUM RELAY

A SPDT impulse actuated relay suitable for use at frequencies up to 1100 mc at 50 kw peak power. Switch contacts are in a high vacuum and therefore remain absolutely free of any corrosion or oxidation.

TYPE RC 10 VACUUM RELAY

A SPST latching relay for use at frequencies up to 50 mc at 50 kw average power. Simple fittings are available that permit assembling multiple units in crossbar networks in a minimum of space. As an example a 4 x 5 (4 inputs, 5 outputs) network can be assembled occupying less than 9 cu. ft. of space.

TYPE RC 20 SPDT VACUUM RELAY

Characteristic Impedance: 50 ohms
Power Rating: 30 kw average at 216 mc
Suitable for 50 kw peak power TV transmitters
Frequency Range: 0 to 1100 mc
VSWR: 1.02 max. for VHF television frequencies;
1.05 at 400 mc; 1.25 max. to 1100 mc
Crosstalk: Greater than -100 db isolation
Actuating Power: 25 psi air pressure controlled by 115 vac. solenoids

TYPE RC 10 LATCHING VACUUM RELAY

Characteristic Impedance: 50 ohms
Power Rating: 50 kw average to 60 mc
Frequency Range: 0 to 100 mc
VSWR: 1.02 max. at 30 mc; 1.05 max. at 60 mc
Crosstalk: Greater than -60 db isolation at 60 mc
Actuating Voltage: 24, 48, 115 vdc
Actuator: Latching type
Position Indicators: SPDT or DPDT micro-switches

High Voltage Measuring Equipment

MODEL JP 325 HIGH VOLTAGE PROBE
VOLTAGE RATINGS: 40, 50, or 60 KV peak
VOLTAGE DIVISION RATIO: 325 to 1 to termination of 3 ft. of RG-58 A U cable.
INPUT IMPEDANCE:
Resistance: above 10¹² ohms.
Capacitance: 4 mmfd
FREQUENCY RESPONSE: High frequency limited by that of measuring instrument. (Internal resonances are above 200 mc.) Low frequency response is 100 cps if operating into 10 megohm shunt resistance; 1000 cps if operating into 1 megohm shunt resistance.



MODEL J-1003 HIGH VOLTAGE VACUUM TUBE VOLTMETER
for use in pulse, rf and 60 cycle circuits at voltages up to 100 KV.
VOLTAGE RANGES (peak volts full scale):
Single Ended: 2.5, 5, 10, 25, 50 KV.
Double Ended: 2.5, 5, 10, 25, 50, 100 KV.
(By using Type JCD Series capacitor, these ranges can be more than doubled.)

OSCILLOSCOPE CONNECTION:
300 to 1 division ratio
FREQUENCY RESPONSE: 10 cycles to 20 megacycles at full rated voltage and up to 50 megacycles for lower voltages with low harmonic content.
INPUT IMPEDANCE: 10¹² ohms and 4 mmfd.
CALIBRATION ACCURACY: -3% of full scale.
POWER SUPPLY: 117 volt, 50, 60 cy.
DIMENSIONS: 16¹/₂" x 11" x 9"



Jennings VACUUM SWITCHES



R5C



R1G



R6G



RH5G



RH7G

Types R and RH Vacuum Switches

VACUUM SWITCH RATINGS

For RF and DC Transfer Switching

Jennings Type	R5C	R1	R1K	R2	R8	RH7
Test Voltage (300 kc dry)—peak kv	20, 30	40, 50	30, 40	50, 60	70, 85, 95	85, 100
Operating Voltage—peak kv	15	30	20	40	30 to 85	85
Continuous Current (rms amp)—dc	50	50, 100	100, 200	50, 100	100, 200	50, 400
— 300 kc	30	35	100	35	100	200
— 10 mc	25	25	50	25	50	60
— 30 mc		15	25	15	25	25
RF Interrupting Power—kilowatts	50	250	500	250	1000	1000

①DC continuous currents may be increased as shown by using special connectors.

For DC Switching Under Load or Capacitor Discharging

Jennings type	R4C	R5C	R1G	R6G	R2G	R8G	R9G	RH1G	RH4G	RH2G	RH7G	RH5G
Test voltage (60 cycles dry)—pk kv	15, 20	20, 30	40, 50	40, 50	50, 60	50, 70	50, 70	35, 45	30, 40	30, 50	85, 100	50, 70
Max. operating voltage—pk kv	5	15	20	20	30	50	60	20	10	20	70	30
Continuous current I_c —DC amp	50 100	50	50 100	100 250	50 100	100 200	100 200	50 400	50 600	50 600	50 400	50 600
DC interruption I_c —power in kw	7.5	25	50	50	50	50	100	200	250	250	200	250
—Current in amp.	250 28 VDC	10	20, 50	50	20	50	100	200	250	250	200	250
Capacitor discharge decaying to 30% in 1 millsec. or less— initial amp. peak kv			500 30	1000 25	500 40	1000 50	1500 60	5000 30	10,000 20	20,000 30	5000 70	20,000 40

①DC continuous currents may be increased as shown by using special connectors.

②For DC interruption in continuous operation, neither power nor current rating should be exceeded. DC current interruption may be increased by addition of capacitance across switch contacts.

For 60 Cycle Power Switching

Jennings type	R6G	R8G	R9G	RH1G	RH4G	RH2G	RH5G	RH7G	RL7G	RL10G
Recommended max. load voltage for max. operating recovery voltage @ 50 amps-rms kv	27	31	35	13.5	5	13.5	31	38	35	40
Load break 70% PF to 600 amps (grounded wye) rms kv	15.5	18	24.5	8.5	3.2	8.5	18	33	29.5	37
Grounded Y capacitor switching at 50 amps-rms kv	13.5	15.5	17.5	6.75	2.5	6.75	15.5	19	17.5	20
Grounded Y capacitor switching at rated thermal current—rms kv	12.5	12	14.75	4.75	1.6	4.25	9	15	12	17
Thermal current (for 30° C. rise) rms amps	100, 250	200	250	400	600	600	600	400	600	600
Max. recovery voltage at rated thermal current load—rms kv	25	24.5	29.5	9.5	3.2	8.5	18	30.5	24.5	34
Overload or fault interrupter circuit breaker 3 phase simultaneous break line to line—present recommended duty) rms kv			15.5	5	0.6	5	12	21.5	15.5	34.5
Max. interrupting current (10 times) rms amps.	1500 @ 9kv	1500 @ 14kv	2000 @ 17.5kv	2000 @ 6kv	4000 @ 2.5kv	4000 @ 5kv	4000 @ 12kv	2000 @ 21.5kv	4000 @ 15.5kv	4000 @ 18kv
Withstand voltage (60 cycle 1 min. dry) rms kv	36	36	50	19	19	36	50	60 80	50	60 80
Impulse voltage (1½ x 40 micro sec. NEMA) pk kv	95	95	110	60	60	95	110	150	110	150 180
Short time surge currents NEMA—4 sec. rms amps. NEMA—½ cy + 10 cy. @ 70% rms amps	2500 5000	2000 4000	2500 5000	2500 5000	5000 10000	5000 20000	5000 20000	2500 5000	5000 20000	5000 20000

①Type R6A modification is available for longer life with lower continuous current ratings of 50, 100 amps.

Relays using Vacuum Switches

Type R and RH Vacuum Switches are available from Jennings mounted as relays for indoor use. They may be mounted with contacts normally open or normally closed or two switches may be mounted in a single pole double throw arrangement. Either ac or dc solenoids may be used. Insulation between the switch and its actuating solenoid is provided by a 2 to 12 inch puller rod providing 40 to 140 kv insulation. CE grade phenolic laminate is recommended for dc or 60 cycle use. Grade G7 silicone glass laminate is recommended for radio frequency applications.

JENNINGS RADIO MANUFACTURING CORPORATION • SAN JOSE 8, CALIF.



CAPACITORS

for
Radio-Electronic Applications

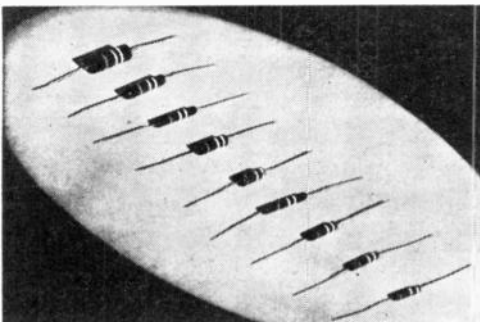
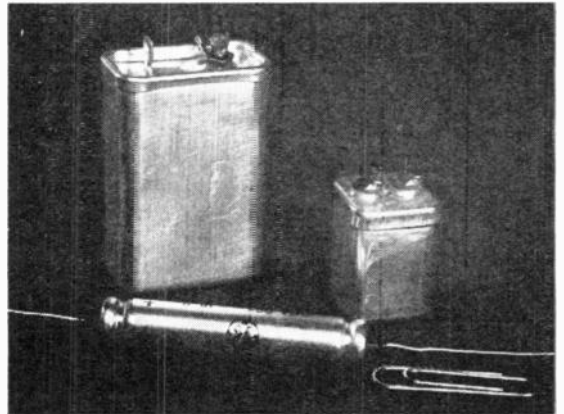
Tantalytic* Capacitors for 125 C Operation

General Electric offers three types of Tantalytic capacitors: the cylindrical-case design, the standard rectangular design, and the KSR* Tantalytic unit for maximum microfarad values in minimum size and weight. These units (polar or nonpolar, with plain or etched foil) can operate from -55 C to +125 C.

This combination provides unequalled choice of ratings with up to 150 volts d-c, and microfarad values from 0.25 to 3500 (depending on type and voltage) in a single case. Capacitors are foil type with liquid electrolyte.

Write for Bulletins GEA-6258, GEA-6766, GEC-808.

* Registered trade-mark of the General Electric Co.



Molded PVZ* Tubular Capacitors

General Electric molded PVZ tubular capacitors have applications in computers, missiles, telephone equipment, and other high-grade military and commercial electronic equipment. Ratings: 100 to 400 volts d-c. Can be supplied from 0.00047 to 0.022 μ f in the 400-volt range and from 0.00047 to 0.15 μ f in the 100-volt range. Tolerances: $\pm 5\%$, $\pm 10\%$, $\pm 20\%$. Temperature range is from -55 C to +125 C.

Write for Bulletin GEC-1452.

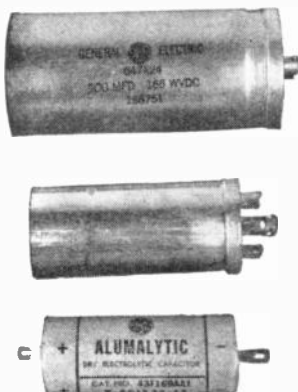
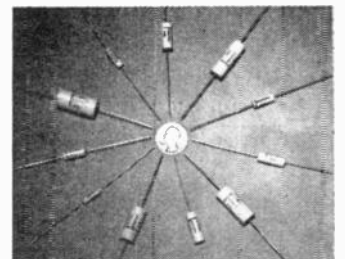
* Registered trade-mark of the General Electric Co.

Lectrofilm† — B Tubular Capacitors

A new line of low-cost, high-reliability capacitors for military and commercial use, these nonmetallic-cased, polyester-film dielectric units are designed for a minimum 5-year life in a variety of electronic applications where size, weight, cost, and reliability give them an advantage over metal-clad tubulars or molded-case units. Minimum insulation resistance at 85 C is 10,000 megohms. They are rated at 100 to 600 volts d-c from -55 C to +85 C, and 50 to 400 volts d-c up to 125 C. Capacitance ranges from 0.001 to 0.68 microfarad.

Write for Bulletin GEC-1518.

† Trade-mark of the General Electric Co.



D-C Alumalytic* Capacitors

For radio, television, and other communications equipment, General Electric offers quality aluminum electrolytic capacitors in a variety of ratings and sizes to meet most industry needs.

The "twist-tab" and "bayonet-pin" styles have voltage ratings from 10 to 450 volts d-c at 5 to 500 microfarads. The tubular units, single or dual section, with a choice of leads and terminals, are available at 3 to 450 volts d-c and 5 to 300 microfarads.

Computer-grade Alumalytic capacitors offer extremely high capacitance per unit volume. Ratings are from 3 to 450 volts d-c and 10 to 150,000 microfarads. These high-quality filter capacitors are designed for computer circuits where reliability and long operating life are essential at temperatures from -20 C to +65 C.

Write for Bulletin GEA-6819.

* Registered trade-mark of the General Electric Co.

DRY ELECTROLYTIC CAPACITORS



P. R. MALLORY & CO., INC. · INDIANAPOLIS



FP-WP Dry Electrolytic Capacitors

For use at ambient temperatures up to 85°C in filter and by-pass circuits in radio, TV and industrial electronics. Sealed in aluminum cans with twist-prong, lug construction. FP types have Mallory exclusive Fabricated Plates. WP have special etched plates. All feature low RF impedance and minimum coupling between sections. Separate anode terminals. Case is common cathode.

FP-WP Singles††

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
WP510	.5Z/15750 cycles	3V	1 x 2	\$2.20
WP540	1.0Z/60 cycles	3V	1 3/8 x 3	4.00
WP505	10Z/30 cycles	3V	3/4 x 2	2.00
WP035	225	15	3/4 x 2	1.75
WP039	1000	15	1 x 2 1/2	2.55
WP041	2000	15	1 3/8 x 2 1/2	3.45
WP042	3000	15	1 3/8 x 3	3.50
WP052	40	25	3/4 x 2	1.35
WP055	100	25	1 x 2	1.60
WP057	500	25	1 x 2 1/2	2.55
WP059	1000	25	1 3/8 x 2	3.55
WP063	4	50	3/4 x 2	1.25
WP064	100	50	1 x 2	1.65
WP064.2	150	50	1 x 2	1.80
WP065	500	50	1 3/8 x 2	2.65
WP066	500	50	1 x 3	2.65
WP068	1500	50	1 3/8 x 4	3.85
FP113	30	150	3/4 x 2	1.55
FP115	50	150	1 x 2	1.65
FP116	100	150	1 x 2 1/2	2.00
FP116.5	120	150	1 x 3	2.05
FP116.6	120	150	1 3/8 x 2	2.05
FP117	150	150	1 x 3	2.15
FP117.5	150	150	1 3/8 x 2	2.15
FP118	200	150	1 3/8 x 2 1/2	2.45
FP119	300	150	1 3/8 x 3	2.80
FP121	120	200	1 3/8 x 2	2.35
FP123	500	200	1 3/8 x 4	3.65
FP125	15	250	3/4 x 2	1.55
FP126	200	250	1 3/8 x 3	4.05
FP128	80	300	1 x 3	2.55
FP129.1	100	300	1 x 3	2.90
FP131	150	300	1 3/8 x 3	3.50
FP135	30	350	1 x 2	1.90
FP137	50	350	1 x 2 1/2	2.10
FP137.2	60	350	1 x 3	2.20
FP138	80	350	1 3/8 x 2 1/2	2.85
FP139	80	350	1 3/8 x 3	3.95
FP140	125	350	1 3/8 x 4	5.75
FP141	320	450	3/4 x 2	1.55
FP142	10	450	1 x 2	1.70
FP143	15	450	1 x 2	1.80
FP144	20	450	1 x 2 1/2	1.95
FP145	30	450	1 x 2 1/2	2.05
FP146	40	450	1 3/8 x 2 1/2	2.80
FP148	60	450	1 3/8 x 2 1/2	3.05
FP149	80	450	1 3/8 x 3	3.45
FP150	100	450	1 x 2	1.60
FP171	10	500	1 x 2	1.85
FP173	20	500	1 x 2 1/2	2.00
FP175	30	500	1 x 2 1/2	2.00
FP176	40	500	1 3/8 x 2	2.50
FP177	40	500	1 x 3	2.50
FP187	90	500	1 3/8 x 3	3.50

††Numerical Sequence by Voltage

FP-WP—Duals

WP200.1	1000-1000	15-15	1 x 3	\$4.40
WP200.2	1000-2000	25-15	1 3/8 x 3	6.45
WP200.21	1000-500	16-16	1 x 2 1/2	3.80
WP200.23	1500-1000	16-10	1 3/8 x 2	4.25
WP200.5	500-100	20-20	1 x 2	2.75
WP200.7	500-200	20-20	1 x 2	3.00
WP200	1000-1000	15-15	1 3/8 x 2 1/2	4.40
WP200.5	500-100	20-20	1 x 2	2.75
WP200.6	500-500	16-16	1 x 2	3.25
WP201.1	40-40	25-25	1 x 2	1.55
WP202.1	50-50	50-50	1 x 2	1.70
WP202.5	100-100	50-50	1 x 2	2.10
WP204	250-1000	10-6	1 3/8 x 2	2.85
WP205	.5Z-2.5Z/15750C-60C	12-6V	1 3/8 x 4	3.60

FP-WP—Duals—Continued

Catalog Number	Capacity Mfd.	Working Volts—DC	Size D L	List Price
WP205.6	50-500	150-5	1 x 2 1/2	\$2.35
WP206	50-150	150-25	1 x 2 1/2	2.20
FP208	20-20	150-150	1 x 2	1.70
FP211	30-30	150-150	1 x 2	1.85
FP210	40-20	150-150	1 x 2	1.80
FP212	40-40	150-150	1 x 2 1/2	1.90
FP213	50-30	150-150	1 x 2	2.00
FP214	50-50	150-150	1 x 2 1/2	2.15
FP214.5	75-75	150-150	1 3/8 x 2	2.60
FP214.6	75-75	150-150	1 x 4	2.60
FP215	125-100	150-150	1 3/8 x 2 1/2	3.40
FP216	80-40	150-150	1 x 3	2.30
FP216.1	200-5	200-200	1 3/8 x 2 1/2	2.75
WP216.2	80-40	150-150	1 x 2 1/4	2.30
FP216.3	200-150	150-150	1 3/8 x 4	3.75
FP216.4	200-200	150-150	1 3/8 x 4	4.00
FP216.6	60-60	200-200	1 x 3	2.55
FP216.8	40-25	250-150	1 x 2 1/2	2.15
FP217	20-20	250-250	1 x 2	1.90
FP221	40-40	250-250	1 x 3	2.50
FP217.7	150-150	250-250	1 3/8 x 4	5.15
FP217.7.4	200-200	250-250	1 3/8 x 4	6.00
FP217.8	20-60	300-250	1 x 3	2.75
WP217.8.5	35-50	300-6	1 x 2 1/2	2.80
FP217.8.6	30-20	300-50	1 x 2	1.90
FP217.8.7	40-40	300-300	1 3/8 x 2	2.95
FP217.8.8	50-10	300-300	1 3/8 x 2	2.55
FP217.9	75-75	300-300	1 3/8 x 3	3.80
FP218	120-20	300-300	1 3/8 x 3	4.00
FP223	5-75	350-150	1 x 3	2.10
FP225	15-15	350-350	1 x 2	2.25
FP227	20-20	350-350	1 x 2 1/2	2.30
FP227.3	30-30	350-350	1 x 3	2.90
WP227.3.5	80-80	350-350	1 x 3	3.50
FP227.4	80-20	350-350	1 3/8 x 2 1/2	3.50
FP227.5	80-40	350-350	1 3/8 x 3	3.60
FP227.6	80-80	350-350	1 3/8 x 4	4.70
FP227.7	100-100	350-350	1 3/8 x 4	6.15
FP229	35-100	400-50	1 x 3	2.60
FP229.2	40-4	400-350	1 x 3	2.35
FP229.3	75-75	400-400	1 3/8 x 4	4.85
FP229.4	80-40	400-400	1 3/8 x 4	4.70
FP229.5	120-40	400-400	1 3/8 x 4	5.25
FP229.5.5	40-100	450-50	1 x 4	2.80
FP229.6	50-100	450-50	1 3/8 x 2 1/2	3.00
FP229.8	80-100	450-50	1 3/8 x 3	3.75
FP229.9	30-200	450-150	1 3/8 x 3	3.50
FP244	80-50	450-50	1 3/8 x 3	3.50
FP230	20-50	450-250	1 x 3	2.80
FP235	20-80	450-350	1 3/8 x 2 1/2	3.65
FP550*	10-80	450-400	1 3/8 x 3	3.45
FP230.3	40-10	450-300	1 x 3	2.60
FP230.6	10-100	450-350	1 3/8 x 3	4.00
WP230.9	5-5	450-450	1 x 2	1.70
FP231	10-10	450-450	1 x 2	1.90
FP231.3	20-10	450-450	1 x 2 1/2	2.20
FP234	20-20	450-450	1 x 3	2.55
FP237	30-30	450-450	1 3/8 x 2 1/2	3.05
FP238	40-40	450-450	1 3/8 x 3	3.45
FP239	50-40	450-450	1 3/8 x 3	3.65
FP240††	50-50	450-450	1 3/8 x 3	3.85
FP242	60-20	450-450	1 3/8 x 3	3.50
FP242.5	60-60	450-450	1 3/8 x 4	4.50
FP245	80-10	450-450	1 3/8 x 3	3.60
FP245.2	80-20	450-450	1 3/8 x 3	3.90
FP245.3	80-30	450-450	1 3/8 x 4	4.15
FP247	100-40	450-450	1 3/8 x 4	4.85
FP250	40-80	475-200	1 3/8 x 2 1/2	3.65
FP252	80-80	475-250	1 3/8 x 4	4.75
FP255	20-100	475-300	1 3/8 x 3	3.95
FP256	20-100	475-400	1 3/8 x 4	4.50
FP258	15-15	475-475	1 x 2 1/2	2.35
FP259	30-10	475-475	1 x 3	2.60
FP260	40-10	475-475	1 3/8 x 3	3.10
FP262	40-40	475-475	1 3/8 x 3	4.30
FP263	60-40	475-475	1 3/8 x 4	4.55
FP264.5	80-40	475-475	1 3/8 x 4	5.05
FP266	80-50	475-475	1 3/8 x 4	5.20
FP277*	60-80	500-150	1 3/8 x 3	3.75
FP280*	40-50	500-200	1 3/8 x 2 1/2	3.30
FP282	10-10	500-500	1 x 2 1/2	1.95
FP283	30-10	500-500	1 3/8 x 2	2.60
FP284	30-30	500-500	1 3/8 x 2 1/2	3.25
FP288*	40-40	500-500	1 3/8 x 3	4.30
FP290	40-60	500-500	1 3/8 x 3 1/2	4.55

DRY ELECTROLYTIC CAPACITORS

P. R. MALLORY & CO., INC. - INDIANAPOLIS



FP-WP Quads—Continued

Catalog Number	Capacity Mfd.	Working Volts - DC	Size D L	List Price
FP431.2	40-40-10-25	450-450-450-50	1 3/8 x 3	\$4.70
FP431.3	40-40-10-50	450-450-450-50	1 3/8 x 4	3.55
FP431.4	60-40-10-25	450-450-450-50	1 3/8 x 4	5.25
FP431.7	40-40-10-100	450-450-450-100	1 3/8 x 4	5.30
FP433	60-10-10-20	450-450-450-150	1 3/8 x 3	4.60
FP432.4	40-40-30-10	450-450-450-200	1 3/8 x 4	5.35
FP432.9	40-20-10-100	450-450-450-250	1 3/8 x 4	5.85
FP433.2	40-10-10-40	450-450-450-350	1 3/8 x 3	4.75
FP433.4	40-20-20-20	450-450-450-350	1 3/8 x 3	5.00
WP433.6	5-5-5-5	450-450-450-450	1 3/8 x 2	3.00
FP434	10-10-10-10	450-450-450-450	1 3/8 x 2	3.35
FP434.5	20-10-10-10	450-450-450-450	1 3/8 x 2	3.70
FP444	20-20-20-20	450-450-450-450	1 3/8 x 3	4.70
FP444.4	30-15-15-15	450-450-450-450	1 3/8 x 3	4.45
FP444.5	30-30-20-10	450-450-450-450	1 3/8 x 3	4.60
FP444.5.4	20-40-4-20	450-450-450-450	1 3/8 x 3	4.65
FP444.6	30-30-15-10	450-450-450-450	1 3/8 x 3	4.70
FP444.8	30-30-20-20	450-450-450-450	1 3/8 x 3	5.20
FP444.9	30-30-30-15	450-450-450-450	1 3/8 x 4	5.30
FP445	35-35-10-5	450-450-450-450	1 3/8 x 3	4.60
FP446	40-35-10-10	450-450-450-450	1 3/8 x 3	4.80
FP447	40-40-20-20	450-450-450-450	1 3/8 x 4	5.55
FP447.5	40-40-30-30	450-450-450-450	1 3/8 x 4	6.05
FP448	60-20-20-20	450-450-450-450	1 3/8 x 4	5.65
FP448.5	60-30-10-2	450-450-450-450	1 3/8 x 3	5.10
FP449	70-10-10-5	450-450-450-450	1 3/8 x 3	4.75
FP450	80-10-10-10	450-450-450-450	1 3/8 x 4	5.05
FP450.5	40-40-50-80	475-250-150-50	1 3/8 x 3	5.00
FP451	10-100-10-100	475-300-300-25	1 3/8 x 3	4.90
FP451.3	10-4-140-100	475-300-300-50	1 3/8 x 4	5.30
FP452	20-80-20-10	475-300-300-300	1 3/8 x 3	5.00
FP452.5	10-20-50-100	475-350-25-25	1 3/8 x 2	3.45
FP453	20-40-80-100	475-350-200-100	1 3/8 x 4	5.45
FP453.4	10-40-80-100	475-350-300-100	1 3/8 x 4	5.55
FP453.8	10-30-5-80	475-350-350-50	1 3/8 x 2 1/2	3.70
FP454.2	20-60-40-10	475-350-350-350	1 3/8 x 3	5.20
FP454.4	10-130-20-10	475-350-350-350	1 3/8 x 4	5.90
FP454.6	10-40-4-100	475-400-350-50	1 3/8 x 2 1/2	4.05
FP454.8	40-80-10-100	475-400-400-50	1 3/8 x 4	5.80
FP455.5	25-20-20-100	475-450-300-50	1 3/8 x 2 1/2	4.55
FP456	25-20-40-100	475-450-300-50	1 1/8 x 3	4.95
FP456.5	10-60-30-125	475-450-400-50	1 3/8 x 4	5.55
FP455	10-50-30-30	475-450-450-25	1 1/8 x 3	4.75
FP457*	10-40-10-20	475-450-450-50	1 3/8 x 2 1/2	3.95
FP459	10-40-10-100	475-450-450-50	1 3/8 x 2 1/2	4.30
FP461	15-15-80-40	475-475-300-50	1 3/8 x 3	4.80
FP463	50-30-20-20	475-475-300-300	1 3/8 x 4	5.70
FP464.9	40-10-4-40	475-475-350-350	1 3/8 x 3	4.95
FP467	20-10-20-100	475-475-450-25	1 3/8 x 2 1/2	4.20
FP474	10-10-10-10	475-475-475-475	1 3/8 x 2	3.50
FP474.5	20-20-10-10	475-475-475-475	1 3/8 x 2 1/2	4.35
FP475	20-20-20-20	475-475-475-475	1 3/8 x 3	5.20
FP475.5	40-10-10-10	475-475-475-475	1 3/8 x 3	4.65
FP476	40-20-10-10	475-475-475-475	1 3/8 x 3	5.10
FP485	10-10-20-4	500-300-300-300	1 3/8 x 2	3.30
FP490	30-10-150-30	475-400-400-50	1 3/8 x 2 1/2	4.20
FP495	40-10-8-8	500-500-500-500	1 3/8 x 4	5.70

Electrolytic Capacitors for Printed Circuits—Continued

Catalog No.	Capacity Mfd.	Working Volts - DC	Size D L	List Price
PWP200.4	800-250	20-20	1 x 2 1/2	\$4.00
PWP201.15	1000-1000	25-25	1 3/8 x 2 1/2	6.50
PWP214.4	80-40	150-150	1 x 2 1/2	2.25
PFP214.7	100-50	150-150	1 x 3	2.70
PFP216.45	50-100	200-150	1 3/8 x 2	2.80
PFP216.5	40-20	200-200	1 x 2	2.05
PFP216.1	200-5	200-200	1 3/8 x 2 1/2	3.60
PFP217.1	2-20	300-25	1 x 2	1.45
PFP217.86	10-10	300-300	1 3/8 x 2	1.95
PFP284	30-30	500-500	1 3/8 x 2 1/2	3.25
PWP300.3	250-250-50	16-16-16	1 x 2	3.25
PFP302.38	70-30-100	150-150-10	1 x 2 1/2	2.80
PWP302.55	80-60-250	150-150-10	1 x 3	3.40
PFP302.75	90-40-400	150-150-10	1 x 3	3.50
PFP311.1	40-20-20	150-150-25	1 x 2	2.30
PFP311.12	70-30-20	150-150-25	1 x 2 1/2	4.00
PFP311.53	40-60-60	150-150-150	1 3/8 x 3	3.05
PFP311.63	50-30-40	150-150-150	1 x 2 1/2	3.20
PWP311.75	80-60-20	150-150-150	1 x 3	3.10
PFP326.4	60-10-25	300-300-25	1 3/8 x 2	3.75
PFP326.15	10-10-20		1 x 2	2.25
PFP326.76	150-100-30	300-300-300	1 3/8 x 4	5.10
PWP327.95	20-20-1000	350-350-15	1 3/8 x 2 1/2	4.25
PFP330.4	10-10-60	350-350-300	1 3/8 x 2	3.20
PFP330.6	20-20-20	350-350-350	1 x 3	3.20
PFP330.8	40-40-40	350-350-350	1 3/8 x 3	5.55
PFP333.15	40-30-20	400-350-300	1 3/8 x 2 1/2	4.95
PFP368.9	40-30-8	450-450-150	1 3/8 x 2 1/2	3.75
PFP411.9	60-60-40-10	150-150-150-150	1 3/8 x 2 1/2	3.65
PFP419.42	20-20-20-100	300-300-300-150	1 3/8 x 2 1/2	4.55
PFP420.17	40-20-10-100	350-350-350-50	1 3/8 x 2 1/2	4.30
PFP420.52	40-30-20-20	400-350-350-350	1 3/8 x 3	4.95
PFP397.5	40-40-60	500-200-50	1 3/8 x 2 1/2	3.95
PFP397.7	40-40-20	500-350-250	1 3/8 x 3	4.45



"PET" and "PET-A" Aluminum Electrolytic Capacitor



Mallory's type "PET" and "PET-A" aluminum electrolytic capacitors are a new (and smaller) version of the famous Mallory FP, WP, and TC capacitors. They were designed primarily for printed circuit applications, or any electronic application where high quality and small size is essential. A new low-impedance electrolyte was developed to give the "PET" series longer shelf life in high temperatures, longer operating life, and outstanding capacitance stability.

The leads of the "PET" are securely welded to the capacitor tabs. There are two styles available, a single-ended style (PET), and an axial lead style (PET-A). The temperature range is -30° to +85° C. Both styles are enclosed in a plastic case with an epoxy end-seal.

Electrolytic Capacitors for Printed Circuits

The PFP capacitor is identical in quality and performance to the Mallory FP type, the basic difference being in the mounting arrangement. All PFP units incorporate the straight lug type printed circuit terminals.

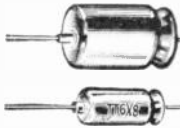
Catalog Number	Capacity Mfd.	Working Volts - DC	Size D L	List Price
PWP030	750	6	3/4 x 2	\$1.95
PWP031	2500	10	1 x 3	2.90
PWP036	100	15	3/4 x 2	1.95
PWP056	100	25	1 x 2	2.30
PWP060	1500	25	1 x 3	3.75
PWP063.9	100	50	3/4 x 2	1.65
PWP067	1250	50	1 1/8 x 3	3.75
PFP116.8	140	150	1 x 2 1/2	2.10
PFP122	160	200	1 1/8 x 2 1/2	2.85
PFP176.5	40	500	1 x 3	2.50
PFP144	20	450	1 x 2	1.80
PWP200.6	500-100	20-20	1 x 2	2.95
PWP201.13	400-200	25-25	1 x 2	3.00
PWP201.3	1500-1500	25-25	1 3/8 x 3	6.90
PFP213.1	50-30	150-150	1 x 2	2.00
PFP216.4	200-200	150-150	1 3/8 x 3	4.00
PFP214.3	70-30	150-150	1 x 2	2.20

Catalog No.	Capacity Mfd.	Working Volts - DC	Size D L	List Price
PET118	8	3	3/8 x 5/8	\$1.45
PET122	15	3	3/8 x 5/8	1.45
PET130	30	3	3/8 x 3/4	1.45
PET140	40	3	3/8 x 3/4	1.50
PET1260	60	6	7/16 x 3/4	1.60
PET1340	10	10	3/8 x 5/8	1.45
PET1400	100	10	1/2 x 7/8	1.80
PET1500	100	12	7/16 x 1 1/8	1.90
PET1535	6	15	3/8 x 5/8	1.50
PET1570	20	15	3/8 x 5/8	1.55
PET1575	50	15	7/16 x 7/8	1.65
PET1760	10	25	3/8 x 3/4	1.55
PET1930	2	50	3/8 x 5/8	1.50
PET1935	4	50	3/8 x 3/4	1.65
PET1960	25	50	7/16 x 7/8	1.65
PET1980	50	50	1/2 x 1 1/8	1.85
PET2290	100-40	6-3	1/2 x 3/4	2.10
PET2370	50-50	10-10	1/2 x 7/8	2.15
PET2410	200-20	8-8	1/2 x 1 1/4	2.45
PET3400	100-100-65	8-8-8	5/8 x 1	2.60
PET-A190	750	3	5/8 x 1 3/8	1.95
PET-A1575	65	16	7/16 x 1 1/8	1.70
PET-A2300	250-100	7-3	1/2 x 1 1/2	2.45
PET-A2385	80-50	10-10	1/2 x 1 1/8	2.25
PET-A2395	100-40	10-3	1/2 x 1	2.25

DRY ELECTROLYTIC CAPACITORS

P. R. MALLORY & CO. Inc.
MALLORY

P. R. MALLORY & CO., INC. · INDIANAPOLIS



Subminiature Aluminum Electrolytic Capacitors

Mallory's new subminiature electrolytic capacitors are outstanding in their application to the very small size portable radios, hearing aids, portable TV, test instru-

ments, and military communications equipment. Small in size, but designed to take it, they use etched plate of high purity aluminum.

Type	Capacity	Voltage	Size Dia. Length	List Price
TT 1 x 5	5	1	3/16 x 1/2	\$1.35
TT 3 x 10	10	3	3/16 x 3/8	1.35
TT 3 x 25	25	3	1/4 x 3/8	1.35
TT 3 x 40	40	3	1/4 x 3/8	1.35
TT 3 x 110	110	3	3/8 x 3/4	1.50
TT 6 x 2	2	6	3/16 x 1/2	1.35
TT 6 x 3	3	6	1/4 x 3/8	1.35
TT 6 x 4	4	6	3/16 x 1/2	1.35
TT 6 x 5	5	6	3/16 x 1/2	1.35
TT 6 x 8	8	6	3/16 x 3/8	1.40
TT 6 x 10	10	6	3/16 x 3/8	1.40
TT 6 x 15	15	6	1/4 x 3/8	1.40
TT 6 x 25	25	6	1/4 x 3/8	1.40
TT 6 x 30	30	6	3/8 x 3/8	1.50
TT 6 x 40	40	6	3/8 x 3/8	1.50
TT 6 x 50	50	6	3/8 x 3/8	1.50
TT 6 x 60	60	6	3/8 x 3/8	1.50
TT 10 x 15	15	10	1/4 x 3/4	1.40
TT 10 x 25	25	10	3/8 x 3/8	1.40
TT 12 x 1	1	12	3/16 x 1/2	1.40
TT 12 x 2	2	12	3/16 x 1/2	1.40
TT 12 x 3	3	12	3/16 x 3/8	1.40
TT 12 x 5	5	12	3/16 x 3/8	1.40
TT 12 x 10	10	12	1/4 x 3/8	1.40

Type	Capacity	Voltage	Size Dia. Length	List Price
TT 15 x 10	10	15	1/4 x 3/8	\$1.50
TT 15 x 20	20	15	3/8 x 3/8	1.55
TT 15 x 50	50	15	3/8 x 3/8	1.65
TT 15 x 100	100	15	7/16 x 1 1/8	1.70
TT 15 x 30	30	15	3/8 x 3/4	1.60
TT 25 x 5	5	25	1/4 x 3/8	1.50
TT 25 x 8	8	25	3/8 x 3/8	1.50
TT 25 x 15	15	25	3/8 x 3/8	1.55
TT 25 x 20	20	25	3/8 x 3/4	1.60
TT 25 x 25	25	25	3/8 x 3/4	1.60
TT 50 x 4	4	50	1/4 x 3/8	1.55
TT 50 x 5	5	50	1/4 x 3/8	1.55
TT 50 x 10	10	50	3/8 x 3/8	1.60
TT 50 x 20	20	50	3/8 x 3/8	1.60
TT 50 x 35	35	50	3/8 x 1 3/8	1.65
TT 80 x 4	4	80	1/4 x 3/8	1.60
TT 150 x 1	1	150	1/4 x 3/8	1.60
TT 150 x 2	2	150	1/4 x 3/8	1.60
TT 150 x 3	3	150	3/8 x 3/8	1.60
TT 150 x 4	4	150	3/8 x 3/8	1.60
TT 150 x 5	5	150	3/8 x 3/8	1.60
TT 150 x 8	8	150	3/8 x 3/8	1.60
TT 150 x 12	12	150	3/8 x 1 1/2	1.60
TT 350 x 2	2	350	3/8 x 1 1/8	1.75

Plastic Cased High Capacity and Non-Polarized Electrolytic Capacitors



HC types are for use with dry disc rectifiers, in such applications as; movie equipment and electric fence power supplies. NP types are non-polarized for intermittent AC service.

Catalog Number	Capacity Mfd.	DC Wkg. Volts	Size D L	List Price
HC1020	2000	10	1 7/16 x 3 3/8	\$3.95
HC1040	4000	10	1 13/16 x 3 3/8	4.75
HC10100	10000	10-15	2 1/16 x 4 3/8	8.25
HC1060A*	6000	10	1 1/2 x 4 1/2	5.55
HC1520	2000	15	1 7/16 x 3 3/8	4.70
HC1540	4000	15	1 13/16 x 3 3/8	5.50
HC1560	6000	15	1 13/16 x 4 3/8	6.30
HC2050-50	5000-5000	20	1 13/16 x 4 3/8	12.60
HC2060	6000	20-30	2 1/16 x 4 3/8	8.65
HC2510	1000	25	1 7/16 x 3 3/8	4.85
HC2520	2000	25	1 13/16 x 3 3/8	5.75
HC2540	4000	25	1 13/16 x 4 3/8	6.75
HC4040	4000	40-60	2 1/16 x 4 3/8	9.50
HC5005	500	50	1 7/16 x 3 3/8	3.90
HC5010	1000	50	1 13/16 x 3 3/8	6.40
HC5020	2000	50	1 13/16 x 4 3/8	8.75
HC5040	4000	50	2 1/16 x 4 3/8	11.10
HC15010	1000	150	2 1/16 x 4 3/8	10.50
HC20005	500	200	2 1/16 x 4 3/8	9.80
HC45003**	300	450	2 1/16 x 4 3/8	10.50
FF45052**	525	450	2 1/16 x 4 3/8	22.50
NP1225	200	125	1 13/16 x 4 3/8	5.00
NP1235	300	125	2 1/16 x 4 3/8	5.75
NP1255	500	125	2 1/16 x 4 3/8	7.50
NP3003	15	300	1 7/16 x 3 3/8	3.75
NP3014	100	300	1 13/16 x 4 3/8	6.75
NP3025	200	300	2 1/16 x 4 3/8	9.50
NP4505	50	450	1 13/16 x 3 3/8	7.50
NP4510	100	450	2 1/16 x 4 3/8	11.60

*This unit in Aluminum Case

**Designed for Photoflash Application

Octal Base Plug-in Electrolytic Capacitors

Designed for military and communication equipment Parts replacement, also very useful for the designer and builder. Replacement of a filter is no more difficult than replacing a tube with these new plug-in units.

Catalog Number	Capacity Mfd.	Voltage DC	Size D L	List Price
PB110	20	150	1 5/32 x 2 1/2	\$3.95
PB114	40	150	1 5/32 x 2 1/2	4.10
PB139	100	450	1 3/8 x 3 1/2	5.85
PB142	10	450	1 5/32 x 2 1/2	4.05
PB144	20	450	1 5/32 x 2 1/2	4.30
PB146	40	450	1 3/8 x 4 1/4	4.55
PB149	80	450	1 3/8 x 4 1/4	5.55
PB208	20-20	150-150	1 5/32 x 2 1/2	4.20
PB212	40-40	150-150	1 5/32 x 2 1/2	4.35
PB234	20-20	450-450	1 3/8 x 2 1/2	5.05
PB238	40-40	450-450	1 3/8 x 4 1/4	5.95
PB311.2	20-20-20	150-150-150	1 5/32 x 2 1/2	4.80
PB345.8	20-20-20	450-450-25	1 3/8 x 2 1/2	5.55
PB375.8	10-10-10	450-450-450	1 5/32 x 2 1/2	5.10

New Mallory-RMC Discaps®
Ceramic Disc Capacitors
See Mallory Page 10

TANTALUM ELECTROLYTIC CAPACITORS

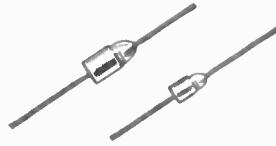
P. R. MALLORY & CO., INC. - INDIANAPOLIS

P. R. MALLORY & CO. INC.
MALLORY

"TAS" Solid Electrolyte Tantalums

Type TAS Capacitors feature an extremely small tantalum anode on which is formed a tantalum oxide film. The electrolyte is a solid, semi-conducting material that is not subject to corrosion or leakage. The "TAS" capacitors were designed to operate over a range of -80° to +125° C. The TAS meets the requirements for miniaturized or transistorized military or commercial electronic or computer equipment, battery powered radio and communications equipment, and in test instruments, hearing aids, and recorders.

Catalog Number	Capacity Mfd.	Voltage DC		Size Length Dia.
		Wkg.	Surge	
TASP 33-35	.33	35	40	.250 x .125
TASP 33-25	.33	25	30	.250 x .125
TASP 33-15	.33	15	18	.250 x .125
TASP 33-10	.33	10	13	.250 x .125
TASP 33-6	.33	6	8	.250 x .125
TASP 47-35	.47	35	40	.250 x .125
TASP 47-25	.47	25	30	.250 x .125
TASP 47-15	.47	15	18	.250 x .125
TASP 47-10	.47	10	13	.250 x .125
TASP 47-6	.47	6	8	.250 x .125
TASP 68-35	.68	35	40	.250 x .125
TASP 68-25	.68	25	30	.250 x .125
TASP 68-15	.68	15	18	.250 x .125
TASP 68-10	.68	10	13	.250 x .125
TASP 68-6	.68	6	8	.250 x .125
TAS 1-35	1	35	40	.250 x .125
TAS 1-25	1	25	30	.250 x .125
TAS 1-15	1	15	18	.250 x .125
TAS 1-10	1	10	13	.250 x .125
TAS 1-6	1	6	8	.250 x .125
TAS1P 5-35	1.5	35	40	.250 x .125
TAS1P 5-25	1.5	25	30	.250 x .125
TAS1P 5-15	1.5	15	18	.250 x .125
TAS1P 5-10	1.5	10	13	.250 x .125
TAS1P 5-6	1.5	6	8	.250 x .125
TAS2P 2-35	2.2	35	40	.325 x .175
TAS2P 2-25	2.2	25	30	.250 x .125
TAS2P 2-15	2.2	15	18	.250 x .125
TAS2P 2-10	2.2	10	13	.250 x .125
TAS2P 2-6	2.2	6	8	.250 x .125
TAS3P 3-35	3.3	35	40	.325 x .175
TAS3P 3-25	3.3	25	30	.325 x .175
TAS 3-3-20	3.3	20	23	.175 x .438
TAS3P 3-15	3.3	15	18	.250 x .125
TAS3P 3-10	3.3	10	13	.250 x .125
TAS3P 3-6	3.3	6	8	.250 x .125
TAS4P 7-35	4.7	35	40	.325 x .175
TAS4P 7-25	4.7	25	30	.325 x .175
TAS 4-7-20	4.7	20	23	.438 x .175
TAS4P-15	4.7	15	18	.438 x .175
TAS4P 7-10	4.7	10	13	.250 x .125
TAS4P 7-6	4.7	6	8	.250 x .125
TAS6P 8-35	6.8	35	40	.325 x .175
TAS6P 8-25	6.8	25	30	.325 x .175
TAS 6-8-20	6.8	20	23	.438 x .175
TAS6P 8-15	6.8	15	18	.438 x .175
TAS6P 8-10	6.8	10	13	.438 x .175
TAS6P 8-6	6.8	6	8	.250 x .125
TAS 10-35	10	35	40	.325 x .175
TAS 10-25	10	25	30	.325 x .175
TAS 10-20	10	20	23	.438 x .175
TAS 10-15	10	15	18	.438 x .175
TAS 10-10	10	10	13	.438 x .175
TAS 10-6	10	6	8	.438 x .175
TAS 15-35	15	35	40	.438 x .313
TAS 15-25	15	25	30	.325 x .175
TAS 15-20	15	15	18	.438 x .175
TAS 15-15	15	15	18	.438 x .175
TAS 15-10	15	10	13	.438 x .175
TAS 15-6	15	6	8	.438 x .175
TAS 22-35	22	35	40	.438 x .313
TAS 22-25	22	25	30	.438 x .313
TAS 22-15	22	15	18	.438 x .175
TAS 22-10	22	10	13	.438 x .175
TAS 22-6	22	6	8	.438 x .175
TAS 33-35	33	35	40	.625 x .313
TAS 33-25	33	25	30	.438 x .313
TAS 33-15	33	15	18	.438 x .313



Type "TNT" Tantalum Capacitor

The type TNT capacitor is a subminiature polarized tantalum electrolytic capacitor designed for use where space is at a premium yet large mfd-volt ratings are required. Although occupying only .006 cubic inches volume, it will withstand rugged environmental conditions found in both military and commercial aircraft control equipment. Other applications are in miniaturized units such as hearing aids, extremely small consumer and military radios, and printed circuit package assemblies. TNT's are mounted by their leads which are: negative lead, tinned copper wire of .0159 diameter; and positive lead, tinned nickel wire of .0126 diameter.

Catalog Number	Capacity Mfd.	Volts DC	Size	
			Length	Dia.
TNT 8-50	8	50	1/2	x .145
TNT 15-30	15	30	1/2	x .145
TNT 25-15	25	15	1/2	x .145
TNT 50-6	50	6	1/2	x .145
TNT 80-3	80	3	1/2	x .145

Type "STNT" Subminiature Tantalum Capacitor

The type "STNT" is a subminiature tantalum capacitor incorporating a sintered pellet anode. It occupies only .005 cubic inches of volume . . . the largest capacity per unit volume available. It offers excellent shelf life, extremely long, trouble free operating life, and construction designed to withstand severe environmental conditions. Temperature range is -55° to +85° C.

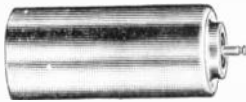
Catalog Number	Capacity Mfd.	Volts DC	Size	
			Length	Dia.
STNT 2-50	2	50	3/16	x .145
STNT 4-50	4	50	3/16	x .145
STNT 6-35	6	35	3/16	x .145
STNT 12-15	12	15	3/16	x .145
STNT 25-6	25	6	3/16	x .145
STNT 40-3	40	3	3/16	x .145

Catalog Number	Capacity Mfd.	Voltage DC		Size Length Dia.
		Wkg.	Surge	
TAS 33-10	33	10	13	.438 x .175
TAS 33-6	33	6	8	.438 x .175
TAS 40-10	40	10	13	.438 x .175
TAS 47-35	47	35	40	.625 x .313
TAS 47-25	47	25	30	.438 x .313
TAS 47-15	47	15	18	.438 x .313
TAS 47-10	47	10	13	.438 x .175
TAS 47-6	47	6	8	.438 x .175
TAS 68-35	68	35	40	.625 x .313
TAS 68-25	68	25	30	.625 x .313
TAS 68-15	68	15	18	.438 x .313
TAS 68-10	68	10	13	.438 x .313
TAS 68-6	68	6	8	.438 x .175
TAS 100-25	100	25	30	.625 x .313
TAS 100-15	100	15	18	.625 x .313
TAS 100-10	100	10	13	.438 x .313
TAS 100-6	100	6	8	.438 x .313
TAS 150-15	150	15	18	.625 x .313
TAS 150-10	150	10	13	.625 x .313
TAS 150-6	150	6	8	.438 x .313
TAS 220-10	220	10	13	.625 x .313
TAS 220-6	220	6	8	.438 x .313
TAS 330-6	330	6	8	.625 x .313

TANTALUM ELECTROLYTIC CAPACITORS



P. R. MALLORY & CO., INC. - INDIANAPOLIS



**XT Type
Tantalum Capacitors**

Application—Originally designed to meet the exacting requirements of geophysical, well drilling and other applications where a ruggedly constructed, hermetically sealed electrolytic capacitor was necessary. The possible applications for the present models of the Mallory tantalum capacitors are unlimited in circuit designs requiring rugged use and wide variations in temperature.

Description—The Mallory metal encased tantalum capacitor is the answer to applications calling for a capacitor designed to withstand temperatures ranging from -55°C. to +200°C. The XT type is enclosed in a hermetically sealed steel case which will withstand 100 hours of 20% salt spray at 95°F without harmful corrosion. The case is sealed with a glass-to-metal end seal.

The standard case diameter for all XT types is 5/8". The height will vary from 1/2" to 4 1/16", depending on capacity and voltage ratings.

Terminals—Provided with a wrap-around terminal for easy soldering.

Mounting—Mounting hardware is not supplied with the capacitor. The variety of applications for this capacitor is not conducive to a single means of mounting. Insulating material, such as Teflon, etc., should be used between the capacitor and mounting bracket where the cathode is not at chassis potential. **CAUTION:** Soldering to any part of the case is not recommended.

Type XT

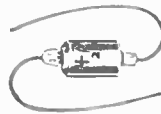
Catalog Number	Mfd.	DC Volts		Max. Ohms		Height (In.)
		175°C.	85°C.	ESR	IMP	
XTL120	120	12	18	2.8	45	1/2
XTH240	240	12	18	2.5	35	1 1/16
XTHS240	240	12	18	2.5	35	1 1/16
XTL75	75	20	30	2.7	50	1/2
XTH150	150	20	30	2.7	40	1 1/16
XTL40	40	38	60	2.7	75	1/2
XTLS40	40	38	60	2.7	75	1/2
XTL40A	40	38	60	2.7	75	1/2
XTH80	80	38	60	2.7	50	1 1/16
XTL25	25	60	100	2.7	100	1/2
XTH50	50	60	100	2.7	70	1 1/16
XTL12	12	120	180	5.6	200	27 32
XTHS12	12	120	180	5.6	200	27 32
XTH25	25	120	180	5.3	140	1 1/4
XTH25A	25	120	180	5.3	140	1 1/4
XTL8	8	180	270	8.3	300	1 3/16
XTL8A	8	180	270	8.3	300	1 3/16
XTH16	16	180	270	8.3	210	1 13 16
XTH16A	16	180	270	8.3	210	1 13 16
XTL6	6	240	360	11	400	1 17 32
XTL6	6	240	360	11	400	1 17 32
XTL6A	6	240	360	11	400	1 17 32
XTH12	12	240	360	10	280	2 3 8
XTHS12	12	240	360	11	280	2 3 8
XTH12A	12	240	360	11	280	2 3 8
XTL5	5	300	450	13	500	1 29 32
XTH10	10	300	450	13	350	2 15 16
XTL4	4	360	540	16.6	600	2 1
XTH8	8	360	540	16.6	420	3 1 2
XTH8A	8	360	540	16.6	420	3 1 2
XTL3.5	3.5	420	630	18.9	700	2 19 32
XTH7	7	420	630	18.9	490	4 1 16

For Screw Terminal and Nut—add "s" to part number and add \$0.65 each for any quantity

For 100% Environmental Testing add \$1.55 each for any quantity. Prices are for 175°C. maximum. For 200°C. ratings, add "X" to part number and add 10% to base price. i.e.: XTL-120 becomes XTLX-120

Cathode Tab can be supplied at no extra charge—add "A" to part number. i.e.: XTL-120A

**For Current Tantalum Prices
contact your Mallory Distributor
or P. R. Mallory & Co. Inc.**



**Mallory Type TAP
Silverlytic Capacitor**

Description—The Mallory type TAP Silverlytic Capacitor is the result of intensive development and research and is designed to meet the most rigid specifications for performance, stability, and reliability. It possesses extremely long operational life, double seal construction, "a case within a case," and excellent low temperature characteristics. Operating temperature for the TAP is -55°C. to +85°C. DC leakage is less than 1 microampere after 10 minutes of rated voltage. Capacity tolerance for the TAP is -15% to +75%.

Terminals—Axial leads 1 1/2" long, tinned for easy soldering.

Mounting—Designed for mounting with attached leads.

TAP (Pellet Type)

Catalog Number	Capacity Mfd.	Volts DC	Size	
			Dia.	Length
TAP125-1M	1.5	125	7 32	x 3 8
TAP100-2	2	100	7 32	x 3 8
TAP75-3M	3.5	75	7 32	x 3 8
TAP60-4	4	60	7 32	x 3 8
TAP50-5	5	50	7 32	x 3 8
TAP40-6	6	40	7 32	x 3 8
TAP30-8	8	30	7 32	x 3 8
TAP25-10	10	25	7 32	x 3 8
TAP211-90	11	90	7 32	x 3 8
TAP20-12	12	20	7 32	x 3 8
TAP15-15	15	15	7 32	x 3 8
TAP215-75	15	75	7 32	x 3 8
TAP10-20	20	10	7 32	x 3 8
TAP220-60	20	60	7 32	x 3 8
TAP225-50	25	50	7 32	x 3 8
TAP6-30	30	6	7 32	x 3 8
TAP230-40	30	40	7 32	x 3 8
TAP240-30	40	30	7 32	x 3 8
TAP270-15	70	15	7 32	x 3 8
TAP2100-10	100	10	7 32	x 3 8
TAP2140-6	140	6	7 32	x 3 8



**M-2 Hi Temperature
Tantalum Capacitors**

The Mallory M-2 Hi Temperature Tantalum Capacitor is a new miniature tantalum that is interchangeable with units now in use. It operates at temperatures as high as 150°C. high operating voltage at 125°C. and is ruggedly designed. Its small dimensions are: Length .500 max.; diameter .484.

Catalog Number	Capacity Mfd.	DC Working Voltage		
		85°C	125°C	150°C
M2-11	11	90	80	75
M2-15	15	75	67	62
M2-20	20	60	50	48
M2-25	25	50	42	40
M2-40	40	32	25	23
M2-70	70	15	13	12
M2-100	100	10	8	7
M2-140	140	6	5	4

Type "HAT" Micro-Miniature Tantalum Capacitor

An extremely small (.270 long, .062 dia.) sintered pellet—not wire—anode tantalum capacitor with an operating temperature range of -20° to +65°C.

Catalog Number	Capacity Mfd.	Volts DC	Color Code
HAT 16	16	1	Clear
HAT 8	8	2	Grey
HAT 4	4	4	Yellow
HAT 2	2	8	Red
HAT 1	1	16	Brown

Sec. 1500

DRY ELECTROLYTIC AND PLASTIC TUBULAR CAPACITORS



P. R. MALLORY & CO., INC. · INDIANAPOLIS

Molded Tubular Paper Capacitors

Cases are molded from high grade mineral-filled bakelite, effectively sealed against moisture ingress and mechanical shock, by Epoxy Resin. (See Mallory Catalog 557 for more complete listing.)

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
Working Voltage 400 V.D.C., Test 1000 V.D.C.			
GEM-421	.001	5/16 x 1	\$.25
GEM-425	.005	5/16 x 1	.25
GEM-411	.01	5/16 x 1	.25
GEM-4115	.015	3/8 x 1 1/4	.25
GEM-412	.02	3/8 x 1 1/4	.25
GEM-4122	.022	3/8 x 1 1/4	.30
GEM-4125	.025	3/8 x 1 1/4	.30
GEM-413	.03	3/8 x 1 1/4	.30
GEM-4133	.033	7/16 x 1 1/4	.30
GEM-414	.04	7/16 x 1 1/4	.30
GEM-4147	.047	7/16 x 1 1/4	.30
GEM-415	.05	7/16 x 1 1/4	.30
GEM-416	.06	1/2 x 1 1/2	.35
GEM-4168	.068	1/2 x 1 1/2	.35
GEM-401	.1	1/2 x 2 3/8	.40
GEM-4015	.15	3/4 x 2 1/8	.45
GEM-402	.2	3/4 x 2 1/4	.45
GEM-4022	.22	3/4 x 2 1/4	.45
GEM-4025	.25	3/4 x 2 1/4	.50
GEM-4033	.33	3/4 x 2 1/4	.60
GEM-4047	.47	1 x 2 3/8	.80
GEM-405	.5	1 x 2 3/8	.80
GEM-41	1.0	1 x 2 3/8	1.25

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
Working Voltage 600 V.D.C., Test 1500 V.D.C.			
GEM-621	.001	5/16 x 1	\$.25
GEM-6215	.0015	5/16 x 1	.25
GEM-622	.002	5/16 x 1	.25
GEM-6222	.0022	5/16 x 1	.25
GEM-6225	.0025	5/16 x 1	.25
GEM-623	.003	5/16 x 1	.25
GEM-6233	.0033	5/16 x 1	.25
GEM-624	.004	5/16 x 1	.25
GEM-6247	.0047	5/16 x 1	.25
GEM-625	.005	3/8 x 1 1/4	.25
GEM-626	.006	3/8 x 1 1/4	.25
GEM-6268	.0068	3/8 x 1 1/4	.30
GEM-627	.007	3/8 x 1 1/4	.30
GEM-628	.008	3/8 x 1 1/4	.30
GEM-6282	.0082	3/8 x 1 1/4	.30
GEM-611	.01	3/8 x 1 1/4	.30
GEM-6112	.012	3/8 x 1 1/4	.30
GEM-6115	.015	3/8 x 1 1/4	.30
GEM-612	.02	7/16 x 1 1/4	.30
GEM-6122	.022	7/16 x 1 1/4	.30
GEM-6125	.025	7/16 x 1 1/4	.35
GEM-613	.03	7/16 x 1 1/4	.35
GEM-6133	.033	1/2 x 1 1/2	.35
GEM-614	.04	1/2 x 1 1/2	.40
GEM-6147	.047	1/2 x 1 1/2	.40
GEM-615	.05	3/4 x 1 1/2	.40
GEM-6156	.056	3/4 x 1 1/2	.40
GEM-616	.06	3/4 x 1 1/2	.45
GEM-6168	.068	3/4 x 1 1/2	.45
GEM-601	.1	3/4 x 2 1/4	.70
GEM-602	.2	3/4 x 2 1/4	.70
GEM-6022	.22	3/4 x 2 1/4	.70
GEM-6025	.25	1 x 2 3/8	.80
GEM-6027	.27	1 x 2 3/8	.80
GEM-6047	.47	1 x 2 3/8	.80
GEM-605	.5	1 x 2 3/8	.80
GEM-61	1.0	1 x 2 3/8	1.25

Catalog Number	Capacity Mfd.	Size Dia. Length	List Price
Working Voltage 1600 V.D.C., Test 3200 V.D.C.			
GEM-1621	.001	3/8 x 1 1/4	\$.65
GEM-16215	.0015	3/8 x 1 1/4	.65
GEM-1622	.002	3/8 x 1 1/4	.65
GEM-16225	.0025	7/16 x 1 1/4	.65
GEM-1623	.003	7/16 x 1 1/4	.55
GEM-16233	.0033	7/16 x 1 1/4	.55
GEM-1624	.004	7/16 x 1 1/4	.55
GEM-16247	.0047	1/2 x 1 1/4	.55
GEM-1625	.005	1/2 x 1 1/2	.55
GEM-16256	.0056	1/2 x 1 1/4	.65
GEM-1626	.006	1/2 x 1 1/2	.55
GEM-16268	.0068	1/2 x 1 1/2	.65
GEM-1627	.007	1/2 x 1 1/2	.55
GEM-16275	.0075	1/2 x 1 1/2	.55
GEM-1628	.008	1/2 x 1 1/2	.60
GEM-16282	.0082	1/2 x 1 1/2	.65
GEM-1611	.01	1/2 x 1 1/2	.60
GEM-161125	.0125	3/4 x 1 1/2	.70
GEM-16122	.022	3/4 x 1 1/2	.75
GEM-1612	.02	3/4 x 1 1/2	.70
GEM-1613	.03	3/4 x 1 1/2	.70
GEM-1614	.04	3/4 x 2 1/4	.70
GEM-1615	.05	3/4 x 1 1/2	.70
GEM-1616	.06	3/4 x 2 1/4	.70

Molded Tubular Capacitors for Printed Circuits (Type ACE)—(Single Ended)

Constructed to the same exacting specifications as the Mallory GEM line. Designed primarily for replacement use in automation and printed circuit radio and TV applications. Leads use 20 and 18 gage wire of double tinned "Copperweld" construction.

Catalog Number	Capacity Mfd.	Voltage DC	Size Dia. Length	List Price
ACE6215	.0015	600	3/8 x 1	\$.30
ACE6222	.0022	600	3/8 x 1	.30
ACE6233	.0033	600	3/8 x 1	.30
ACE6115	.015	600	3/8 x 1 1/4	.35
ACE6122	.022	600	7/16 x 1 1/4	.40
ACE6133	.033	600	1/2 x 1 1/4	.40
ACE6168	.068	600	3/8 x 1 1/4	.50
ACE6015	.15	600	3/8 x 1 1/4	.60
ACE1011	.01	1000	7/16 x 1 1/4	.55
ACE10115	.015	1000	1/2 x 1 1/4	.55
ACE10133	.033	1000	3/8 x 1 1/4	.60
ACE1014	.04	1000	3/8 x 1 1/4	.65
ACE1621	.001	1600	3/8 x 1 1/4	.65
ACE1622	.002	1600	3/8 x 1 1/4	.65

AC Motor Starting Capacitors

PSU type—motor start capacitor featuring round moisture-proof plastic case.



Catalog Number	Mfd. New	Rating Old	Volts AC	Size D L	List Price
PSU2010*	20	20-24	110	1 7/16 x 2 3/8	\$2.05
PSU2610*	26	26-30	110	1 7/16 x 2 3/8	2.10
PSU3210*	32	32-36	110	1 7/16 x 2 3/8	2.10
PSU3810*	38	38-42	110	1 7/16 x 2 3/8	2.10
PSU4310*	43	43-48	110	1 7/16 x 2 3/8	2.10
PSU5310	53	53-60	110	1 7/16 x 3 3/8	2.15
PSU6410	64	64-72	110	1 7/16 x 3 3/8	2.25
PSU7010	70	70-78	110	1 7/16 x 3 3/8	2.40
PSU7510	75	75-84	110	1 7/16 x 3 3/8	2.55
PSU8610	86	86-96	110	1 7/16 x 3 3/8	2.65
PSU9710	97	97-107	110	1 7/16 x 3 3/8	2.80
PSU10810	108	108-120	110	1 7/16 x 2 3/8	2.85
PSU12410	124	124-148	110	1 7/16 x 2 3/8	2.95
PSU13010	130	130-157	110	1 7/16 x 2 3/8	2.95
PSU14510	145	145-162	110	1 7/16 x 2 3/8	3.20
PSU16110	161	161-180	110	1 7/16 x 2 3/8	3.25
PSU19410	194	194-216	110	1 7/16 x 3 3/8	3.90
PSU20010*	200	200-220	110	1 7/16 x 3 3/8	3.90
PSU21610	216	216-240	110	1 7/16 x 3 3/8	4.05
PSU24310	243	243-270	110	1 13/16 x 3 3/8	4.70
PSU27010	270	270-300	110	1 13/16 x 3 3/8	4.75
PSU32410	324	324-360	110	1 13/16 x 3 3/8	5.40
PSU34010	340	340-412	110	1 13/16 x 3 3/8	5.55
PSU37810	378	378-420	110	1 13/16 x 3 3/8	6.00
PSU40010	400	400-450	110	1 13/16 x 3 3/8	6.05
PSU43010	430	430-485	110	1 13/16 x 4 3/8	6.95
PSU48510	485	485-540	110	1 13/16 x 4 3/8	7.60
PSU7225	72	125	125	1 7/16 x 3 3/8	2.55
PSU10825	108	125	125	1 7/16 x 3 3/8	3.05
PSU27325	273	125	125	1 13/16 x 4 3/8	5.50
PSU18965	189	165	165	1 13/16 x 4 3/8	7.25
PSU21665	216	165	165	1 13/16 x 4 3/8	7.50
PSU2520	25	25-30	220	1 7/16 x 2	4.60
PSU3220	32	32-36	220	1 7/16 x 2	4.90
PSU3820	38	38-42	220	1 7/16 x 2 3/8	5.30
PSU4320	43	43-48	220	1 13/16 x 3 3/8	5.55
PSU5020	50	50	220	1 13/16 x 3 3/8	5.65
PSU5320	53	53-60	220	1 13/16 x 3 3/8	5.75
PSU6420	64	64-72	220	1 13/16 x 3 3/8	6.75
PSU7020	70	70-78	220	1 13/16 x 3 3/8	7.00
PSU7520	75	75-84	220	1 13/16 x 3 3/8	7.35
PSU8620	86	86-96	220	1 13/16 x 4 3/8	7.65
PSU10820	108	220	220	2 1/16 x 4 3/8	7.65
PSU12120	121	220	220	2 1/16 x 4 3/8	8.60
PSU14120	141	220	220	1 1/16 x 4 3/8	9.35
PSU14120R†	141	220	220	2 1/16 x 4 3/8	9.60
PSU5050	50	250	250	1 13/16 x 3 3/8	5.75
PSU7550	75	250	250	1 13/16 x 4 3/8	7.25
PSU8150	81	250	250	1 13/16 x 4 3/8	7.50
PSU12150	121	250	250	2 1/16 x 4 3/8	10.25
PSU13550	135	250	250	2 1/16 x 4 3/8	11.25
PSU14150	141	250	250	2 1/16 x 4 3/8	11.50
PSU2730	27	27-32	330	1 13/16 x 3 3/8	6.50
PSU10830†	108	330	330	2 1/16 x 4 3/8	13.95
PSU12730	127	330	330	2 1/16 x 4 3/8	15.45
PSU13530R†	135	330	330	2 1/16 x 4 3/8	16.20
PSU13530	135	333	333	2 1/16 x 4 3/8	15.95

*Cases will not accommodate PI. caps and HB brackets.
†R designates Resistor across Terminals.

AC Motor Running Capacitors

Have sealed metal cases. Non-inflammable oil impregnation. For continuous AC duty. Not suitable for DC. Capacity tolerance $\pm 10\%$.



Catalog Number	Cap. Mfd.	Volts AC	Size Dia. Length	List Price
RP-3301	1	330	1 3/8 x 1 7/8	\$4.20
RP-3302	2	330	1 3/8 x 3 3/16	5.20
RP-3303	3	330	2 x 2 1/8	5.55
RP-3304	4	330	2 x 2 7/8	6.20
RP-3305	5	330	2 x 3 3/8	6.80
RP-3306	6	330	2 x 3 7/8	7.50
RP-3307	7	330	2 x 4 3/8	7.90
RP-3308	8	330	2 x 5 1/8	8.35
RP-3310	10	330	2 1/2 x 4 9/16	9.55
RP-3312	12	330	2 2 x 5 3/16	10.90
RP-3315	15	330	2 1/2 x 6 1/16	13.80

Types OP (Oval)

Catalog Number	Cap. Mfd.	Volts AC	H	Size W L	List Price
OP240	2	440	1 1/16	2 5/32 x 2 3/4	\$5.00
OP7X36	7.5	236	1 1/16	2 5/32 x 4 3/8	8.60
OP340	3	440	1 1/16	2 5/32 x 3 3/8	5.40
OP540	4	440	1 1/16	2 5/32 x 3 3/4	5.95
OP7X40	7.5	440	1 1/16	2 5/32 x 4 3/4	7.30
*OPR2040B	20	440	2 7/32	3 27/32 x 3 13/32	9.70
*OPR2570B	25	370	2 7/32	3 27/32 x 4 9/16	20.75
*OPR4070	40	370	2 7/32	3 27/32 x 4 9/16	22.05
*OPR4070	40	370	2 7/32	3 27/32 x 4 9/16	34.75
*OPR4570	45	370	2 7/32	3 27/32 x 4 9/16	39.60

*Rectangular can

Steel-Cased, Oil-Filled Capacitors



Oil impregnated, single, dual, and triple section units housed in rugged, hermetically sealed, hot-finished steel cases. Single sections have two terminals.

Dual section units have three terminals with left terminal common, and both are internally insulated from case. Triple units have three terminals with common ground to case. All terminals protrude in a row on one long side of case.

Catalog Number	Cap. Mfd.	Working Volts DC	H	Size* W L X	List Price
CB401	.05	400	3/4	1 x 1 13/16 x 2 1/8	\$2.25
CB402	.1	400	3/4	1 x 1 13/16 x 2 1/8	4.85
CB403	.25	400	3/4	1 x 1 13/16 x 2 1/8	2.25
CB404	.5	400	7/8	1 x 1 3/4 x 2 1/8	2.40
CB405	1.0	400	3/4	1 x 1 3/4 x 2 1/8	2.85
CB406	2.0	400	1 1/8	2 x 2 x 2 3/8	3.60
CB601	.05	600	3/4	1 x 1 13/16 x 2 1/8	2.90
CB602	.1	600	3/4	1 x 7/8 x 1 3/4 x 2 1/8	2.65
CB603	.25	600	3/4	1 x 1 x 1 3/4 x 2 1/8	2.80
CB604	.5	600	7/8	1 x 1 1/4 x 1 3/4 x 2 1/8	3.00
CB605	1.0	600	7/8	1 x 1 1/4 x 2 x 2 3/8	3.40
CB606	2.0	600	1 1/8	2 x 2 x 2 3/8	5.00
CB1001	.05	1000	3/4	1 x 1 x 1 13/16 x 2 1/8	3.05
CB1002	.1	1000	3/4	1 x 7/8 x 1 3/4 x 2 1/8	2.85
CB1003	.25	1000	3/4	1 x 1 1/4 x 1 3/4 x 2 1/8	2.95
CB1004	.5	1000	7/8	1 x 1 3/4 x 2 x 2 3/8	3.20
CB1005	1.0	1000	1 1/8	2 x 2 x 2 3/8	4.40
CB401	.05-.05	400	3/4	1 x 1 x 1 13/16 x 2 1/8	3.25
CB402	.1-.1	400	3/4	1 x 1 x 1 13/16 x 2 1/8	3.40
CB403	.25-.25	400	3/4	1 x 1 1/4 x 1 3/4 x 2 1/8	3.25
CB404	.5-.5	400	3/4	1 x 1 3/4 x 2 x 2 3/8	3.75
CB406	1.0-1.0	400	1 1/8	2 x 2 x 2 3/8	4.70
CB601	.05-.05	600	3/4	1 x 1 x 1 13/16 x 2 1/8	3.65
CB602	.1-.1	600	3/4	1 x 7/8 x 1 3/4 x 2 1/8	3.35
CB603	.25-.25	600	1	1 x 1 x 1 13/16 x 2 1/8	3.75
CB604	.5-.5	600	1	1 x 1 x 1 3/4 x 2 x 2 3/8	4.30
CB605	1.0-1.0	600	1 1/8	2 x 2 x 2 3/8	5.30
CB1001	.05-.05	1000	3/4	1 x 1 x 1 13/16 x 2 1/8	3.85
CB1002	.1-.1	1000	7/8	1 x 1 x 1 13/16 x 2 1/8	4.00
CB1003	.25-.25	1000	7/8	1 x 1 3/4 x 2 x 2 3/8	4.20
CB1004	.5-.5	1000	1 1/8	2 x 2 x 2 3/8	5.45
CBT402	3X .1	400	7/8	1 x 1 x 1 13/16 x 2 1/8	5.30
CBT403	3X .25	400	3/4	1 x 1 3/4 x 2 x 2 3/8	4.00
CBT404	3X .5	400	1	1 x 1 3/4 x 2 x 2 3/8	4.75
CBT602	3X .1	600	7/8	1 x 1 x 1 3/4 x 2 1/8	3.80
CBT603	3X .25	600	7/8	1 x 1 3/4 x 2 x 2 3/8	4.75
CBT604	3X .5	600	1 1/8	2 x 2 x 2 3/8	5.75
CBT1002	3X .1	1000	7/8	1 x 1 3/4 x 2 x 2 3/8	4.60
CBT1003	3X .25	1000	1 1/8	2 x 2 x 2 3/8	5.50

*H—Height; W—Width; L—Length; X—Mounting Centers.

Mallory-RMC® Discaps® Ceramic Caps

Mallory-RMC Discaps are produced by the world's largest manufacturer of ceramic disc capacitors to the smallest size still maintaining top quality. They are rated at 1000 v voltage (except where otherwise indicated) and will withstand the rated voltage. Discaps are constructed of Durez phenolite vacuum wax which allows the capacitors to maintain rated capacity and leakage characteristics throughout wide ranges of temperature and humidity variations.

Catalog Number	Cap. Mfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
50 Volt—Type TA DISCAPS				
TA-250	5000	+80% -20%	1 1/32	\$0.40
TA-110	10000	+80% -20%	1 1/32	.40
TA-120	20000	+80% -20%	1 1/2	.40
TA-125	25000	+80% -20%	1 1/2	.40
TA-150	50000	+80% -20%	5/8	.65
TA-010	100000	+80% -20%	5/8	.95

Catalog Number	Cap. Mfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
100 Volt—Type BT DISCAPS				
BT-250	5000	+80% -20%	1 1/32	\$0.40
BT-110	10000	+80% -20%	1 1/32	.40
BT-120	20000	+80% -20%	1 1/2	.40
BT-125	25000	+80% -20%	1 1/2	.40
BT-150	50000	+80% -20%	5/8	.50
BT-010	100000	+80% -20%	5/8	.90

Catalog Number	Cap. Mfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt Type "C" NPO DISCAPS				
CNO-510	1	±5% mmfd.	1/4	\$0.50
CNO-515	1.5	±5% mmfd.	1/4	.50
CNO-522	2.2	±5% mmfd.	1/4	.50
CNO-533	3.3	±5% mmfd.	1/4	.50
CNO-547	4.7	±5% mmfd.	1/4	.50
CNO-568	6.8	±5% mmfd.	1/4	.50
CNO-410	10	±5%	1/4	.50
CNO-412	12	±5%	1/4	.50
CNO-415	15	±5%	1/4	.50
CNO-418	18	±5%	5/16	.50
CNO-422	22	±5%	5/16	.50
CNO-425	25	±5%	5/16	.50
CNO-427	27	±5%	5/16	.50
CNO-433	33	±5%	1/2	.50
CNO-439	39	±5%	1/2	.50
CNO-447	47	±5%	1/2	.50
CNO-450	50	±5%	1/2	.55
CNO-456	56	±5%	1/2	.55
CNO-468	68	±5%	1/2	.55
CNO-475	75	±5%	5/8	.55
CNO-482	82	±5%	5/8	.55
CNO-310	100	±5%	3/4	.55
CNO-312	120	±5%	7/8	.65
CNO-315	150	±5%	7/8	.75
CNO-318	180	±5%	3/4	.60
CNO-320	200	±5%	3/4	.70
CNO-322	220	±5%	15/16	.70
CNO-327	270	±5%	15/16	.80

Catalog Number	Cap. Mfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt—Type "C" N750				
CN7-522	2.2	±5% mmfd.	1/4	\$0.50
CN7-533	2.3	±5%	1/4	.50
CN7-547	4.7	±5%	1/4	.50
CN7-550	5	±5%	1/4	.50
CN7-568	6.8	±5%	1/4	.50
CN7-410	10	±5%	1/4	.50
CN7-412	12	±5%	1/4	.50
CN7-415	15	±5%	1/4	.50
CN7-418	18	±5%	1/4	.50
CN7-420	20	±5%	1/4	.50
CN7-422	22	±5%	1/4	.50
CN7-427	27	±5%	1/4	.50
CN7-433	33	±5%	1/4	.50
CN7-439	39	±5%	1/4	.50
CN7-447	47	±5%	1/4	.50
CN7-456	56	±5%	1/4	.50
CN7-468	68	±5%	1/4	.50
CN7-475	75	±5%	1/4	.50
CN7-482	82	±5%	1/2	.50
CN7-310	100	±5%	1/2	.50
CN7-312	120	±5%	1/2	.50
CN7-315	150	±5%	1/2	.50
CN7-318	180	±5%	5/8	.55
CN7-320	200	±5%	3/4	.55
CN7-322	220	±5%	3/4	.50
CN7-327	270	±5%	3/4	.55
CN7-333	330	±5%	7/8	.55



Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt - Bypass or General Purpose DISCAPS - Type "B"				
B-315	150	GMV	9/32	\$0.25
B-318	180	GMV	9/32	.25
B-322	220	GMV	9/32	.25
B-327	270	GMV	9/32	.25
B-333	330	GMV	9/32	.25
B-339	390	GMV	9/32	.25
B-347	470	GMV	9/32	.25
B-350	500	GMV	9/32	.25
B-356	560	GMV	9/32	.25
B-368	680	GMV	9/32	.25
B-382	820	GMV	9/32	.25
B-210	1000	GMV	9/32	.25
B-212	1200	GMV	9/32	.25
B-215	1500	GMV	3/8	.25
B-218	1800	GMV	3/8	.25
B-220	2000	GMV	3/8	.25
B-222	2200	GMV	3/8	.25
B-227	2700	GMV	3/8	.25
B-233	3300	GMV	9/16	.25
B-240	4000	GMV	9/16	.25
B-247	4700	GMV	19/32	.30
B-850	5000	GMV	19/32	.30
B-256	5600	GMV	19/32	.30
B-260	6000	GMV	19/32	.30
B-268	6800	GMV	5/8	.30
R-282	8200	GMV	5/8	.30
B-110	10000	GMV	3/4	.30
B-115	15000	+80% -20%	29/32	.30
B-120	20000	+80% -20%	29/32	.30

Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt - AC Line and Buffer DISCAPS - Type "U"				
UAC-210	.001	GMV	3/8	\$0.35
UAC-220	.002	GMV	9/16	.35
UAC-222	.0022	GMV	9/16	.35
UAC-230	.003	GMV	9/16	.35
UAC-233	.0033	GMV	9/16	.35
UAC-240	.004	GMV	9/16	.35
UAC-247	.0047	GMV	13/16	.35
UAC-250	.005	GMV	13/16	.35
UAC-260	.006	GMV	13/16	.35
UAC-270	.007	GMV	13/16	.35
UAC-275	.0075	GMV	13/16	.35
UAC-280	.008	GMV	13/16	.35
UAC-110	.01	GMV	29/32	.35
UAC-120	.02	GMV	29/32	.40
UAC-2X110	2X.01	GMV	29/32	.45

Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt - Temperature Stabilizing DISCAPS - Type "JL"				
JL-315	150	±10%	9/32	\$0.50
JL-322	220	±10%	9/32	.50
JL-333	330	±10%	9/32	.50
JL-347	470	±10%	29/64	.50
JL-356	560	±10%	29/64	.50
JL-368	680	±10%	29/64	.50
JL-375	750	±10%	29/64	.50
JL-382	820	±10%	17/32	.50
JL-210	1000	±10%	17/32	.50
JL-212	1200	±10%	17/32	.50
JL-215	1500	±10%	17/32	.50
JL-218	1800	±10%	17/32	.50
JL-220	2000	±10%	5/8	.50
JL-222	2200	±10%	5/8	.50
JL-233	3300	±10%	47/64	.50
JL-239	3900	±10%	47/64	.50
JL-247	4700	±10%	7/8	.55
JL-250	5000	±10%	7/8	.55

**See Mallory's new
 Silicon Rectifiers
 Rectifiers (Non-Tube Types) Page 1025**

Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
2000 Volt - Type 2HV DISCAPS				
2HV-310	100	±20%	5/8	\$0.35
2HV-312	120	±20%	5/8	.35
2HV-315	150	±20%	3/4	.35
2HV-322	220	±20%	3/4	.35
2HV-327	270	±20%	7/8	.35
2HV-333	330	±20%	9/16	.35
2HV-347	470	±20%	9/16	.35
2HV-356	560	GMV	5/8	.35
2HV-368	680	GMV	5/8	.35
2HV-375	750	GMV	5/8	.35
2HV-382	820	GMV	5/8	.35
2HV-210	1000	GMV	9/16	.55
2HV-212	1200	GMV	9/16	.55
2HV-215	1500	GMV	9/16	.55
2HV-218	1800	GMV	9/16	.55
2HV-222	2200	GMV	9/16	.55
2HV-233	3300	GMV	7/8	.55
2HV-239	3900	GMV	7/8	.55
2HV-247	4700	GMV	7/8	.70
2HV-268	6800	GMV	7/8	.70
2HV-110	10000	GMV	3/8	.70

Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
3000 Volt - Hi-Voltage DISCAPS - Type 3HV				
3HV-322	220	±20%	3/4	\$0.40
3HV-327	270	±20%	3/4	.40
3HV-333	330	±20%	3/4	.40
3HV-347	470	±20%	3/4	.40
3HV-356	560	GMV	3/4	.40
3HV-368	680	GMV	3/4	.40
3HV-375	750	GMV	3/4	.40
3HV-382	820	GMV	3/4	.40
3HV-210	1000	GMV	3/4	.40
3HV-212	1200	GMV	7/8	.40
3HV-215	1500	GMV	7/8	.40
3HV-218	1800	GMV	7/8	.40
3HV-222	2200	GMV	7/8	.40
3HV-233	3300	GMV	7/8	.40
3HV-239	3900	GMV	7/8	.40
3HV-247	4700	GMV	7/8	.40

Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
6000 Volt - Hi-Voltage DISCAPS - Type 6HV				
6HV-310	100	±20%	3/4	\$0.50
6HV-312	120	±20%	3/4	.50
6HV-315	150	±20%	3/4	.50
6HV-322	220	±20%	3/4	.50
6HV-327	270	±20%	7/8	.50
6HV-333	330	±20%	7/8	.50
6HV-347	470	±20%	7/8	.50
6HV-356	560	GMV	7/8	.50
6HV-368	680	GMV	7/8	.50
6HV-375	750	GMV	7/8	.50
6HV-382	820	GMV	7/8	.50
6HV-210	1000	GMV	7/8	.50

Catalog Number	Cap. Mmf.	Capacity Tolerance	Size Dia.	List Price (ea.)
2000 Volt - Hi-Voltage Deflection Yoke - Type 2DY				
2DY-547	4.7	±10%	1/4	\$0.35
2DY-668	6.8	±10%	1/4	.35
2DY-410	10	±10%	1/4	.35
2DY-412	12	±10%	1/4	.35
2DY-415	15	±10%	1/4	.35
2DY-422	22	±10%	5/16	.35
2DY-427	27	±10%	5/16	.35
2DY-433	33	±10%	5/16	.35
2DY-439	39	±10%	5/16	.35
2DY-447	47	±10%	5/16	.35
2DY-456	56	±10%	1/2	.35
2DY-468	68	±10%	1/2	.35
2DY-482	82	±10%	1/2	.35
2DY-310	100	±10%	5/8	.35

MALLORY RMC DISCAPS®

MALLORY
P. R. MALLORY & CO. INC.

P. R. MALLORY & CO., INC. - INDIANAPOLIS

Catalog Number	Cap. Mmfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
3000 Volt—Hi-Voltage Deflection Yoke—Type 3DY				
3DY-547	4.7	±10%	5/16	\$0.40
3DY-568	6.8	±10%	5/16	.40
3DY-410	10	±10%	5/16	.40
3DY-412	12	±10%	5/16	.40
3DY-415	15	±10%	5/16	.40
3DY-422	22	±10%	1/2	.40
3DY-427	27	±10%	1/2	.40
3DY-433	33	±10%	5/8	.40
3DY-439	39	±10%	5/8	.40
3DY-447	47	±10%	5/8	.40
3DY-456	56	±10%	5/8	.40
3DY-468	68	±10%	5/8	.40
3DY-482	82	±10%	5/8	.40
3DY-310	100	±10%	3/4	.40

Catalog Number	Cap. Mmfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
6000 Volt—Hi-Voltage Deflection Yoke—Type 6DY				
6DY-547	4.7	±10%	3/4	\$0.55
6DY-568	6.8	±10%	3/4	.55
6DY-410	10	±10%	3/4	.55
6DY-412	12	±10%	3/4	.55
6DY-415	15	±10%	3/4	.55
6DY-422	22	±10%	3/4	.55
6DY-427	27	±10%	3/4	.55
6DY-433	33	±10%	7/8	.55
6DY-439	39	±10%	7/8	.55
6DY-447	47	±10%	7/8	.55
6DY-456	56	±10%	7/8	.55
6DY-468	68	±10%	7/8	.55

Catalog Number	Cap. Mmfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt—General Purpose DISCAPS—Type "GP"				
GP-533	3.3	±.25 mmfd.	1/4	\$0.25
GP-550	5.0	±.25 mmfd.	1/4	.25
GP-568	6.8	±5%	1/4	.25
GP-580	8.0	±5%	1/4	.25
GP-410	10	±10%	1/4	.25
GP-412	12	±10%	1/4	.25
GP-415	15	±10%	1/4	.25
GP-418	18	±10%	1/4	.25
GP-420	20	±10%	1/4	.25
GP-422	22	±10%	1/4	.25
GP-425	25	±10%	1/4	.25
GP-427	27	±10%	1/4	.25
GP-430	30	±10%	1/4	.25
GP-433	33	±10%	1/4	.25
GP-439	39	±10%	1/4	.25
GP-447	47	±10%	1/4	.25
GP-450	50	±10%	1/4	.25
GP-456	56	±10%	5/16	.25
GP-468	68	±10%	5/16	.25
GP-475	75	±10%	5/16	.25
GP-482	82	±10%	5/16	.25
GP-491	91	±10%	5/16	.25
GP-310	100	±10%	5/16	.25
GP-312	120	±10%	5/16	.25
GP-313	130	±10%	5/16	.25
GP-315	150	±10%	1/4	.25
GP-318	180	±10%	1/4	.25
GP-320	200	±10%	1/4	.25
GP-322	220	±10%	1/4	.25
GP-324	240	±10%	1/4	.25
GP-325	250	±10%	1/4	.25
GP-327	270	±10%	1/4	.25
GP-330	300	±10%	1/4	.25
GP-333	330	±10%	1/4	.25
GP-335	350	±10%	1/4	.25
GP-336	360	±10%	1/4	.25
GP-339	390	±10%	1/4	.25
GP-340	400	±10%	1/4	.25
GP-347	470	±10%	1/4	.25
GP-350	500	±10%	1/4	.25
GP-356	560	±10%	1/4	.25
GP-360	600	±10%	1/4	.25

*600 WVDC

PRINTED IN U.S.A.

Catalog Number	Cap. Mmfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt General Purpose DISCAPS—Type "GP"—Continued				
GP-368	680	±10%	1/4	\$0.25
GP-375	750	±10%	5/16	.25
GP-382	820	±10%	5/16	.25
GP-210	1000	±10%	5/16	.25
GP-212	1200	±10%	1/2	.25
GP-215	1500	±10%	1/2	.25
GP-216	1600	±10%	1/2	.25
GP-218	1800	±10%	1/2	.25
GP-220	2000	±10%	1/2	.25
GP-222	2200	±10%	1/2	.25
GP-225	2500	±20%	1/2	.25
GP-227	2700	±20%	1/2	.25
GP-230	3000	±20%	1/2	.25
GP-233	3300	±20%	1/2	.25
GP-239	3900	±20%	1/2	.25
GP-240	4000	±20%	1/2	.25
GP-243	4300	±20%	1/2	.25
GP-247	4700	±20%	1/2	.25
GP-250	5000	±20%	1/2	.30
GP-256	5600	±20%	5/8	.30
GP-268	6800	±20%	5/8	.30
GP-275	7500	±20%	5/8	.30
GP-110	10000	±20%	5/8	.30
GP-115	15000	±20%	5/8	.30
GP-120	20000	±20%	1 5/16	.30
*GP-130	30000	±20%	1 5/16	.60
*GP-140	40000	±20%	1 5/16	.65
*GP-150	50000	+80% -20%	1 5/16	.70

Catalog Number	Cap. Mmfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
1000 Volt—DUAL SHIELDED TYPES				
B2X210	2X .001	±20%	5/16	\$1.10
B2X215	2X .0015	±20%	3/8	1.10
B2X220	2X .002	±20%	3/8	1.10
B2X230	2X .003	±20%	3/8	1.10
B2X250	2X .005	±20%	3/8	1.10
*B2X110	2X .01	±20%	3/8	1.10

Catalog Number	Cap. Mmfd.	Capacity Tolerance	Size Dia.	List Price (ea.)
600 Volt—Type SM Miniature DISCAPS				
SM-210	.001	GMV	.235	\$0.20
SM-215	.0015	GMV	.290	.20
SM-250	.005	-20%	.390	.20
SM-110	.01	+80%	.510	.20
SM-120	.02	-20%	.675	.30
		+80%		



Universal High Voltage Ceramic Capacitor

This new HV offers a superior design and construction with high insulation resistance and low power factor. A feature of the HV line is the choice of terminal styles (included in each package) designed to meet all TV assembly requirements.

Standard Tolerance: +50% -20%

	HV20035U	HV30035U
Cap. mmfd.	500	500
WVDC	20,000	30,000
Flash Test	30,000	40,000
Body size		
overall height	1.068"	1.381"
diameter	.950"	1.375"
height	.937"	1.250"
Terminal Stud Dia.	.250"	.250"
Suggested List price	\$1.85	\$3.00



PLANET SALES CORPORATION

BLOOMFIELD, NEW JERSEY

Universal Replacement Type Capacitors

"LYTICAP"

Single Section Electrolytics — Type "L"

Hermetically sealed in aluminum tubes, covered with red Kraftboard insulating jackets — tinned brass leads, guaranteed for one year.

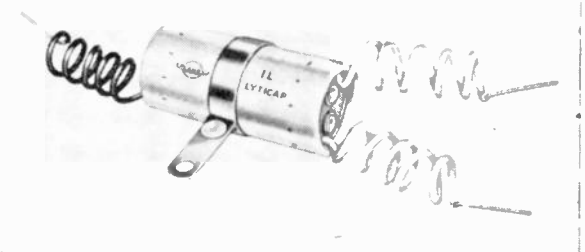


CAT. NO.	MFD.	SIZE*	LIST PRICE
500 WVDC			
L-5-500	5	3/4 x 1 5/8	\$1.25
L-10-500	10	3/4 x 2 1/8	1.35
L-20-500	20	1 x 2 3/8	1.60
L-30-500	30	1 x 2 1/2	1.75
450 WVDC			
L-4-450	4	5/8 x 1 5/8	1.15
L-8-450	8	3/4 x 1 5/8	1.25
L-10-450	10	3/4 x 1 5/8	1.30
L-12-450	12	7/8 x 1 5/8	1.35
L-16-450	16	7/8 x 2 1/8	1.40
L-20-450	20	1 x 2 1/8	1.55
L-30-450	30	1 x 2 3/8	1.70
L-40-450	40	1 x 2 1/2	1.80
L-50-450	50	1 1/4 x 2 1/2	2.10
L-60-450	60	1 1/4 x 2 1/2	2.40
L-80-450	80	1 3/8 x 2 1/2	2.80
L-100-450	100	1 3/8 x 2 1/2	3.20
350 WVDC			
L-8-350	8	5/8 x 1 5/8	1.20
L-16-350	16	7/8 x 1 5/8	1.40
L-20-350	20	7/8 x 1 5/8	1.45
L-30-350	30	7/8 x 2 1/8	1.65
L-40-350	40	1 x 2 1/8	1.75
250 WVDC			
L-5-250	5	5/8 x 1 5/8	1.00
L-10-250	10	5/8 x 1 5/8	1.20
L-20-250	20	3/4 x 1 5/8	1.35
L-24-250	24	3/4 x 1 5/8	1.35
L-30-250	30	3/4 x 1 5/8	1.45
L-40-250	40	7/8 x 1 3/4	1.55
150 WVDC			
L-5-150	5	5/8 x 1 1/8	\$1.00
L-8-150	8	1/2 x 1 5/8	1.05
L-10-150	10	1/2 x 1 5/8	1.05
L-16-150	16	5/8 x 1 5/8	1.15
L-20-150	20	5/8 x 1 5/8	1.20
L-30-150	30	3/4 x 1 5/8	1.30
L-40-150	40	3/4 x 1 5/8	1.35

CAT. NO.	MFD.	SIZE*	LIST PRICE
150 WVDC (Cont'd)			
L-50-150	50	3/4 x 2 1/8	1.40
L-80-150	80	7/8 x 2 1/8	1.60
L-100-150	100	7/8 x 2 3/8	1.75
L-150-150	150	1 x 2 1/8	1.90
L-200-150	200	1 1/8 x 3 1/8	2.20
50 WVDC			
L-1-50	1	1/2 x 1 1/8	.90
L-2-50	2	1/2 x 1 1/8	.90
L-3-50	3	1/2 x 1 1/8	.90
L-5-50	5	1/2 x 1 1/8	1.00
L-10-50	10	1/2 x 1 1/8	1.00
L-25-50	25	1/2 x 1 5/8	1.05
L-50-50	50	5/8 x 1 5/8	1.20
L-100-50	100	3/4 x 1 5/8	1.40
L-150-50	150	7/8 x 1 5/8	1.55
L-250-50	250	1 x 2 1/8	1.75
L-500-50	500	1 x 3	2.75
25 WVDC			
L-10-25	10	1/2 x 1 1/8	1.00
L-25-25	25	1/2 x 1 5/8	1.00
L-50-25	50	5/8 x 1 5/8	1.10
L-100-25	100	5/8 x 1 5/8	1.35
L-250-25	250	7/8 x 2 1/8	1.70
L-500-25	500	1 x 2 3/8	2.30
15 WVDC			
L-1000-15	1000	1 x 3	2.30
12 WVDC			
L-100-12	100	5/8 x 1 1/8	1.20
L-250-12	250	3/4 x 2 1/8	1.45
L-500-12	500	7/8 x 2 3/8	1.70
6 WVDC			
L-500-6	500	3/4 x 1 5/8	1.55
L-1000-6	1000	7/8 x 2 1/8	1.90
L-1500-6	1500	7/8 x 2 3/8	2.10
L-2000-6	2000	1 x 2 3/8	2.30
3 WVDC			
L-500-3	500	5/8 x 1 5/8	1.55
L-1000-3	1000	7/8 x 2 1/8	1.80
L-1500-3	1500	7/8 x 2 1/8	2.10
L-2000-3	2000	1 x 2 3/8	2.30

Dual Section Electrolytics — Type "IL"

Hermetically sealed in aluminum tubes with completely flexible leads. U/L Approved, plastic coated leads are rivetted directly to the condenser end disc, eliminating the use of rigid terminal risers, allowing capacitor to fit into smaller space and eliminating lead breakage. IL capacitors have wrap around mounting strap and are common negative, guaranteed for one year.



CAT. NO.	MFD.	SIZE*	LIST PRICE
450 WVDC			
IL-2x8-450	8+8	7/8 x 2 3/8	\$1.70
IL-2x20-450	20+20	1 1/4 x 2 1/2	2.50
IL-2x30-450	30+30	1 1/4 x 2 1/2	3.00
IL-2x40-450	40+40	1 3/8 x 2 1/2	3.40

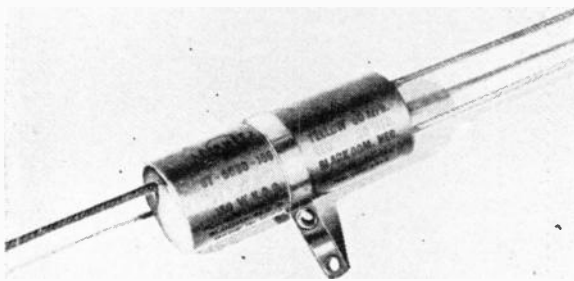
* Dimensions are for metal tubes. Add .001" to diameter and 1/8" to length for over all dimensions over cardboard insulating tube.

CAT. NO.	MFD.	SIZE*	LIST PRICE
150 WVDC			
IL-2x20x150	20+20	7/8 x 1 1/8	1.45
IL-2x30-150	30+30	7/8 x 1 1/8	1.80
IL-40x20-150	40+20	7/8 x 5/8	1.75
IL-2x40-150	40+40	7/8 x 2	1.85
IL-50x30-150	50+30	7/8 x 2	1.95
IL-2x50-150	50+50	1 x 2	2.10
IL-80x40-150	80+40	1 x 2 3/8	2.25

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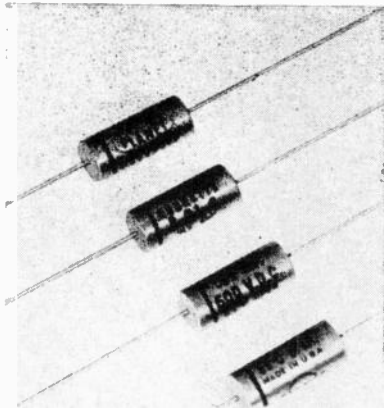
Universal Replacement Type Capacitors

Cardboard Tube Electrolytics — Type "CT"

Constructed in strong red cardboard tubes, wax impregnated — long insulated stranded leads of U/L approved wire — high temperature wax end-fill — wrap around mounting strap. Guaranteed for one year.

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
DUAL UNITS — COMMON NEGATIVE				
CT-2x20-150	20+20	150	3/4 x 2 1/2	\$1.65
CT-2x30-150	30+30	150	7/8 x 2 1/2	1.80
CT-4020-150	40+20	150	7/8 x 2 1/2	1.75
CT-2x40-150	40+40	150	1 x 2 1/2	1.85
CT-5030-150	50+30	150	1 x 2 1/2	1.95
CT-2x50-150	50+50	150	1 x 3	2.10
CT-8040-150	80+40	150	1 x 3 1/4	2.25

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
TRIPLE UNITS — COMMON NEGATIVE				
CT-3x20-150	20+20+20	150	1 x 2 1/2	\$2.20
CT-302520-150	30+25+30	150	1 x 2 1/2	2.25
CT-3x30-150	30+30+30	150	1 x 3	2.35
CT-402020-150	40+20+20	150	1 x 3	2.25
CT-403020-150	40+30+20	150	1 x 3	2.35
CT-404020-150	40+40+20	150	1 x 3	2.40
CT-3x40-150	40+40+40	150	1 x 3 1/4	2.45
CT-503020-150	50+30+20	150	1 x 3	2.45
CT-804020-150	80+40+20	150	1 x 3 3/8	2.75
CT-302	30+20/20	150/25	1 x 2 1/2	2.10
CT-303	40+30/20	150/25	1 x 3	2.20
CT-304	50+50/20	150/25	1 x 3 1/4	2.50
CT-305	50+30/20	150/25	1 x 3	2.35



All Purpose Paper Capacitors

"ROCKETTES"

Planet ROCKETTES are impregnated and jacketed with a HARD-as-ROCK plastic which will not dry out, shrink away from the leads nor develop fissures nor cracks, thus guaranteeing against the entrance of moisture and guaranteeing good shelf life and long service life. The coiled heads of the leads are securely soldered to the foil, which is imbedded in the same plastic used as an impregnant, making it impossible for them to work loose or pull out. ROCKETTES have exceptionally high insulation resistance which is maintained proportionately over the entire temperature range of -30° to $+85^{\circ}$ C.

CAT. NO.	MFD.	SIZE	LIST PRICE
600 WVDC			
R-001-6	.001	1 1/2 x 1	\$.25
R-002-6	.002	1 1/2 x 1	.25
R-003-6	.003	3/8 x 1	.25
R-004-6	.004	3/8 x 1	.25
R-0047-6	.0047	3/8 x 1	.25
R-005-6	.005	3/8 x 1	.25
R-006-6	.006	3/8 x 1	.25
R-01-6	.01	7/8 x 1	.30
R-02-6	.02	7/8 x 1 1/4	.30
R-03-6	.03	7/8 x 1 1/2	.35
R-04-6	.04	1 1/2 x 1 1/2	.35
R-047-6	.047	1/2 x 1 3/8	.40
R-05-6	.05	1 1/2 x 1 3/8	.40
R-1-6	.1	1 1/2 x 1 3/8	.45

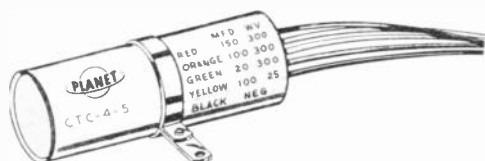
CAT. NO.	MFD.	SIZE	LIST PRICE
600 WVDC (Cont'd)			
R-2-6	.2	1 1/2 x 2	.55
R-25-6	.25	1 1/2 x 2	.55
R-5-6	.5	1 1/2 x 2 1/8	.80
1600 WVDC			
R-001-16	.001	7/8 x 1 1/8	.55
R-002-16	.002	3/8 x 1 1/8	.55
R-003-16	.003	7/8 x 1 1/4	.55
R-005-16	.005	1/2 x 1 1/4	.55
R-0075-16	.0075	7/8 x 1 1/4	.60
R-008-16	.008	7/8 x 1 1/4	.60
R-01-16	.01	7/8 x 1 1/2	.60
R-02-16	.02	7/8 x 1 3/4	.60
R-05-16	.05	1 1/2 x 2	.70

All Prices Subject to Change Without Notice



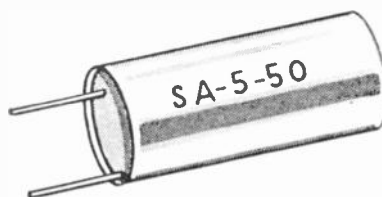
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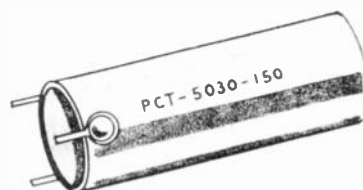
Type "CTC" . . . cardboard tube electrolytics especially designed for exact replacement in television sets . . . one end closed . . . long insulated leads out other end . . . sealed with high melting point wax . . . guaranteed for one year . . . individually packaged.

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
CTC-1-5	300	150	1 ³ / ₈ x 3 ⁷ / ₈	\$2.55
CTC-1-10	150	200	1 ¹ / ₂ x 3 ³ / ₄	3.95
CTC-1-15	200	200	1 ³ / ₈ x 3 ³ / ₈	2.90
CTC-1-20	140	300	1 ³ / ₈ x 3 ¹ / ₂	3.15
CTC-1-25	200	300	1 ¹ / ₂ x 4	3.95
CTC-2-5	200-5	150	1 x 3 ⁷ / ₈	2.65
CTC-2-6	200+5	200	1 ³ / ₈ x 3 ³ / ₈	3.55
CTC-2-15	250+50	150	1 ³ / ₈ x 3	3.25
CTC-3-1	30 1000+1000	100/15	1 ³ / ₈ x 3 ¹ / ₂	3.60
CTC-3-5	5 80+40	450 400	1 ³ / ₈ x 4 ¹ / ₈	4.55
CTC-3-3	250-120 50	150 25	1 ³ / ₈ x 3 ⁷ / ₈	4.40
CTC-3-4	250+200 · 10	150	1 ³ / ₈ x 3 ⁵ / ₈	4.60
CTC-4-5	150 · 100 · 20 100	300 25	1 ⁵ / ₈ x 5 ¹ / ₄	7.65
CTC-4-10	120+40 · 40 10	300 250	1 ³ / ₈ x 4 ⁵ / ₈	6.20
CTC-4-15	140 5 200 · 30	350 300 200	1 ⁵ / ₈ x 4 ³ / ₈	7.65
CTC-4-20	80 - 60 40 20	350 300 150	1 ⁵ / ₈ x 4 ¹ / ₂	5.90
CTC-4-25	10 80 40 100	450 /300 /250 50	1 ³ / ₈ x 4 ¹ / ₈	4.80
CTC-4-30	20 120 40 100	450 300 /250 50	1 ¹ / ₂ x 4 ³ / ₈	6.15
CTC-4-35	10/80/40+40	450/300/250	1 ³ / ₈ x 4 ³ / ₈	4.95
CTC-4-40	40 · 40 · 20 · 20	450	1 ¹ / ₂ x 4 ³ / ₈	5.45



Type "SA" . . . small single section electrolytics for printed circuit boards . . . hermetically sealed in aluminum tubes covered with red kraftboard insulating jackets . . . extra heavy tinned terminals anchored for proper spacing by a high melting point wax . . . for 85°C operation . . . individually packaged. Recommended for TV, radio and industrial applications . . . guaranteed for one year.

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
SINGLES				
SA-8-3	8	3	⁹ / ₁₆ x 1 ¹ / ₁₀	\$1.05
SA-50-6	50	6	¹¹ / ₁₆ x 1 ³ / ₄	1.05
SA-100-6	100	6	⁹ / ₁₆ x 1 ¹ / ₁₆	1.30
SA-5-10	5	10	⁹ / ₁₆ x 1 ⁷ / ₁₆	1.05
SA-25-10	25	10	⁹ / ₁₆ x 1 ⁷ / ₁₆	1.10
SA-10-25	10	25	⁹ / ₁₆ x 1 ⁷ / ₁₆	1.10
SA-50-25	50	25	1 ¹ / ₁₆ x 2 ¹ / ₈	1.20
SA-100-25	100	25	²³ / ₃₂ x 2	1.45
SA-1-50	1	50	⁹ / ₁₆ x 1 ⁷ / ₁₆	1.00
SA-4-50	4	50	⁹ / ₁₆ x 1 ⁷ / ₁₆	1.10
SA-10-50	10	50	⁹ / ₁₆ x 1 ⁷ / ₁₆	1.10
SA-25-50	25	50	¹⁹ / ₃₂ x 2	1.15
SA-50-50	50	50	1 ¹ / ₁₆ x 2 ¹ / ₈	1.30
SA-100-50	100	50	²⁷ / ₃₂ x 2	1.50



Type "PCT" . . . constructed in strong red cardboard tubes, wax impregnated, one end closed printed circuit board terminals.

Type "PCTL" . . . has insulated lead out top providing for low voltage section.

For 65°C operation . . . recommended for table and clock radios . . . individually packaged . . . guaranteed for one year.

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
DUALS				
PCT-2-5	50 · 30	150	1 x 2 ¹ / ₂	1.95
PCT-2-10	50 · 50	150	1 x 3	2.10
PCT-2-15	75 · 30	150	1 x 3	2.20
PCT-2-20	100 + 50	150	1 x 3 ⁵ / ₈	2.50
TRIPLES				
PCTL-3-5	40 · 20 5	150 25	1 x 2 ³ / ₄	2.20
PCTL-3-10	60-20 5	150 /25	1 x 3	2.40

All Prices Subject to Change Without Notice

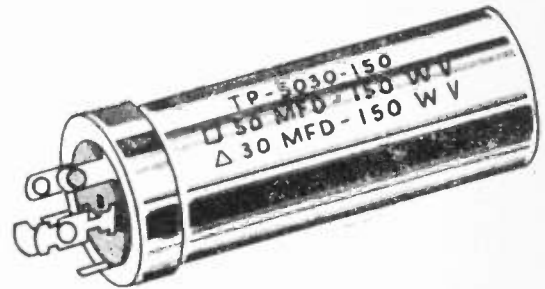
PLANET SALES CORPORATION

BLOOMFIELD, NEW JERSEY



Type "TP" . . . twist-prong can electrolytics with mounting ring and solder lug terminals. The mounting ring is grounded by two spot welded connections to the negative tab . . . for 85°C operation . . . complete with metal grounding plate . . . individually packaged. Guaranteed for one year.

Type "PTP" . . . same as Type "TP" except made with printed circuit board terminals.



CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
SINGLES				
TP-1-5	2000	12	1 x 3 1/2	\$3.25
PTP-1-10	1000	15	1 x 2 1/2	2.55
PTP-1-15	50	150	1 x 2 1/2	1.65
TP-1-20	80	150	1 x 2	1.85
PTP-1-25	100	150	1 x 2 1/2	2.00
TP-1-30	120	150	1 x 3	2.15
TP-1-31	120	150	1 3/8 x 2 1/2	2.15
PTP-1-35	140	150	1 x 3 1/2	2.15
TP-1-40	150	150	1 3/8 x 2 1/2	2.15
TP-1-45	150	150	1 x 3	2.15
TP-1-50	200	150	1 3/8 x 2 1/2	2.45
TP-1-55	300	150	1 3/8 x 3	2.80
PTP-1-60	150	165	1 x 3 1/2	2.35
PTP-1-65	375	165	1 3/8 x 3 1/2	4.25
PTP-1-70	80	175	1 x 2 1/2	1.95
TP-1-75	125	350	1 3/8 x 3 1/2	3.90
TP-1-80	10	450	1 x 2	1.55
TP-1-85	20	450	1 x 2	1.80
TP-1-90	40	450	1 x 3	2.05
TP-1-95	80	450	1 3/8 x 3	3.05
DUALS				
PTP-2-5	500+150	15	1 x 2	\$3.25
PTP-2-10	250+250	16	1 x 2	2.50
PTP-2-15	70+30	150	1 x 2 1/8	2.20
TP-2-20	50-50	150	1 x 2 1/2	2.15
PTP-2-25	50-30	150	1 x 2	2.00
TP-2-30	50+30	150	1 x 2	2.00
TP-2-35	40+40	150	1 x 2	1.90
TP-2-40	20+20	150	1 x 2	1.70
TP-2-45	100+80	200	1 3/8 x 2 1/2	3.35
TP-2-50	200-5	200	1 3/8 x 2 1/2	3.40
TP-2-55	30+30	250	1 x 2 1/2	2.75
TP-2-60	200+15	250	1 3/8 x 2 1/2	4.00
TP-2-65	30+10	300	1 x 3	2.40
TP-2-70	60/10	300/200	1 x 3	3.15
TP-2-75	125/100	350/10	1 3/8 x 3 1/2	5.20

CAT. NO.	MFD.	WVDC	SIZE	LIST PRICE
TP-2-80	5/100	350/50	1 x 2	\$1.90
PTP-2-85	10/10	350/50	1 x 2	2.00
TP-2-90	100/80	350/175	1 3/8 x 3 1/2	4.60
TP-2-95	100-50	350	1 3/8 x 3 1/2	5.80
TP-2-100	100+100	350	1 3/8 x 4	6.15
TP-2-105	140+20	350	1 3/8 x 4	4.30
TP-2-110	30+10	400	1 x 3	2.95
TP-2-115	10+10	450	1 x 2	1.90
TP-2-120	20+20	450	1 x 3	2.55
TP-2-125	40+40	450	1 3/8 x 3	3.45
TRIPLES				
TP-3-5	90+40/400	150/10	1 x 3 1/2	\$5.25
PTP-3-10	70+30/10	150/25	1 x 2 1/2	2.55
TP-3-15	40+40+40	150	1 x 2 1/2	2.60
PTP-3-20	50+25+150	150	1 3/8 x 2 1/2	3.75
TP-3-25	50+50+50	150	1 x 3	3.00
TP-3-30	40+20+20	250	1 x 3	2.90
TP-3-35	30+10/20	300/25	1 x 3	4.15
PTP-3-40	60+10/25	300/25	1 3/8 x 2	4.85
PTP-3-45	30/25/100	350/25/6	1 x 2 1/2	4.65
PTP-3-50	125/5/100	350/150/10	1 3/8 x 3 1/2	6.60
PTP-3-51	60/200-300	300/150	1 3/8 x 4	5.00
TP-3-55	20+20/20	350/25	1 x 2 1/2	2.90
TP-3-60	100+100/25	350/25	1 3/8 x 4 1/2	7.00
TP-3-65	80+40/100	350/50	1 3/8 x 4	6.50
TP-3-70	10/40+40	350/200	1 x 3	3.25
TP-3-75	80+40+40	350	1 3/8 x 4	7.95
TP-3-80	30+10/20	400/25	1 x 3	2.85
TP-3-85	40+40+40	450	1 3/8 x 3 1/2	4.90
QUADS				
PTP-4-5	250+30+20/100	150/10	1 3/8 x 3 1/2	\$5.30
PTP-4-9	60+100/100/100	350/150/10	1 3/8 x 5	8.50
PTP-4-10	100+60/60/40	350/200/75	1 3/8 x 4 1/2	8.50
TP-4-15	40+40+10/100	450/50	1 3/8 x 3 1/2	5.45
TP-4-20	20+20+20+20	450	1 3/8 x 3	4.50
TP-4-25	30+30+30+30	450	1 3/8 x 4	5.65

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RESISTORS • RHEOSTATS • TAP SWITCHES
RELAYS • TANTALUM CAPACITORS
VARIABLE TRANSFORMERS • RF CHOKES

TAN-O-MITE® TANTALUM CAPACITORS

Tantalum electrolytic capacitors are distinguished for their extremely high capacitance and small size. They offer excellent performance under wide temperature extremes (−55°C to +125°C) and feature unusual stability in shelf life and performance. The three types available satisfy a wide range of industrial and military applications and are intended for coupling, filter and bypass applications where capacitance tolerance is not critical.

SERIES TF TANTALUM FOIL TYPE

Polar and Non-Polar Types

The only type available as a polar or non-polar unit. Non-polar units are intended for DC applications where reversals of potential occur or for AC applications at limited voltage; polar units are intended for applications where reversals of potential do not occur. However, polar units will withstand reversals up to 3.75 VDC. These foil type units have closer capacitance tolerance (±20%), better leakage and power factor characteristics than wire type units. Supplied in three case sizes. Series TF capacitors offer a capacitance range from .25 to 140 mfd. Working voltages to 150 volts are available depending upon capacity.

CASE SIZE	D	L
J	$\frac{3}{16}$ "	$\frac{11}{16}$ "
K	$\frac{9}{16}$ "	$\frac{7}{8}$ "
L	$\frac{1}{4}$ "	$1\frac{3}{16}$ "

SERIES TF STOCK VALUES*

Polar Units Only

For Non-Polar units or Unlisted Values, Inquire of Factory.

Mfd.	WVDC	Stock No.*	Mfd.	WVDC	Stock No.*
0.5	150	R5J150	7	150	7L150
1	75	1J75	10	30	10K30
1.5	50	1R5J50	12	25	12K25
2	150	2K150	14	75	14L75
2.5	30	2R5J30	20	50	20L50
3	25	3J25	25	10	25K10
4	75	4K75	30	30	30L30
4.5	15	4R5J15	35	6	35K6
5	60	5K60	35	25	35L25
6	50	6K50	100	6	100L6

*Letters J, K or L in Stock No. indicates case size.

NET PRICES—QUANTITY DISCOUNTS OFFERED

CASE SIZE	J	K	L
	\$5.04	7.72	12.60

SERIES TW TANTALUM WIRE TYPE

Polar Type Only

The smallest subminiature electrolytic capacitors available. Axial leads are 2" long. Units are insulated with Mylar plastic sleeve. These polar type units are used in DC circuits where capacitance value can exceed nominal circuit requirements considerably (standard tolerance is −0 +100%). Wide use in hearing aids and other subminiature apparatus. Operating temperature range: −55°C to +85°C. Eight of eleven available case sizes are stocked in various ratings. For sizes and ratings not listed, consult factory.

SIZE	D ±.005	L ±.005
TJ	.060	.190
HJ	.075	.190
T	.080	.203
S	.080	.234
M	.100	.218
B	.131	.375*
C	.131	.562*
E	.131	.812*

*L tolerance on these is −.005 +.015.

SERIES TW STOCK VALUES

Mfd	DC WV*	Stock No.	Net Price	Mfd	DC WV*	Stock No.	Net Price	
0.1	20	R1TJ20	\$1.61	6	1.25	6HJ1R25	\$1.61	
	20	R1T20	1.61		8	1	881	1.61
	60	R1M60	1.61			1.25	881R25	1.61
0.2	150	R2E150	3.06	4	8M4	1.61		
	0.5	16	R5TJ16		1.61	8	10B8	1.68
20		R5S20	1.61	16	10C16	1.68		
80		R5B80	1.77	30	10E30	3.06		
1.0	8	1TJ8	1.61	15	1	15M1	1.61	
	10	1T10	1.61		1.25	15M1R25	1.61	
	20	1M20	1.61	20	2	20B2	1.68	
	60	1B60	1.77		6	25C6	1.68	
	80	1C80	2.19		10	30E10	3.06	
2	4	2HJ4	1.61	30	2	50C2	1.68	
	8	2S8	1.61		4	60E4	3.06	
	40	2B40	1.77	60	2	75E2	2.52	
3	1.25	3TJ1R25	1.61		75	4		
	4	3HJ4	1.61					
	4	3T4	1.61					
4	80	3E80	3.06	30	5C30	2.19		
	3	4T3	1.61		60	5E60	3.06	
	4	4S4	1.61					
5	20	4B20	1.68					

*Capacitor may be operated at any voltage less than that shown in the table. MIDDLE LETTER IN CATALOG NO. INDICATES PHYSICAL SIZE.

SERIES TS TANTALUM SLUG TYPE—Polar Type Only

SERIES TS STOCK VALUES



The "slug" type of tantalum capacitor utilizes a porous anode of sintered tantalum. 1½" axial leads. For "polar applications," these capacitors offer the closest capacitance tolerance combined with lowest leakage current, lowest power factor and minimum temperature coefficient characteristics. Exceed the vibration test requirements of MIL-C-3965B, Grade 3, as well as MIL shock tests. Stocked in two shapes: Hat shaped (Styles UB and UC, 15/32" x 5/16" diameter, overall); straight-sided (Style SUB, 15/32" x 3/16" diam.). "UB" and "SUB" have operating temperature range of −55 C to +85 C; "UC" extends to +125°C. See table. One capacitance tolerance all styles: "S," −15 +20%.

Mfds.	WV DC	85°C Style UB		85°C Style SUB		125°C Style UC	
		Stock No.	Stock No.	Stock No.	Stock No.		
30	6	30UB68	30SUB68	4	30UC48		
	8	25UB88	25SUB88	5	25UC58		
	10	20UB108	20SUB108	7	20UC78		
15	15	15UB158	15SUB158	10	15UC108		
	10	10UB258	10SUB258	15	10UC158		
	8	8UB308	8SUB308	20	8UC208		
5	50	5UB508	5SUB508	30	5UC308		
	4	60	4UB608	40	4UC408		
	3.5	75	3R5UB758	3R5SUB758	50	3R5UC508	
2	100	2UB1008	2SUB1008	70	2UC708		
	125	1R75UB1258	1R75SUB1258	85	1R75UC858		
NET PRICE		\$3.50	\$3.50	\$4.90			

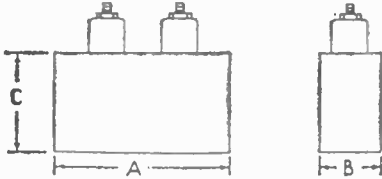


Plastic Capacitors, INC.

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- Mfrs. of
- Plastic Film Capacitors
- Pulse Forming Networks
- High Voltage Power Supplies
- Paper Dielectric Capacitors

New **TYPE LK** *New*
DC FILTER CAPACITORS



Type LK capacitors are an entirely new design which have been proved by rigorous testing in the laboratory and by usage in the field for several years. This is the first listing to be published.

Type LK capacitors are smaller and have a reliability factor which is unexcelled. Their primary usage is for DC filtering and DC blocking applications.

Temperature Range is \pm thus 65°C to 105°C. With full rated voltare from -65°C to 85°C.

Life 2500 hours at rated voltage at 85°C.

Case is the CP70 style term plate metal, primed and finished with a synthetic enamel.

ENVIRONMENTAL and other testing may be performed per MIL-C-25A, Characteristic E. Type LK exceeds the best characteristics of paper capacitors in a much smaller size. Comparison of sizes will show that the volume is much less than required for MIL-C-25A equivalents in Characteristic F and are better than characteristic E quality.

PART NUMBER	CAP. MFD	VOLTS DC	CASE SIZE			PART NUMBER	CAP. MFD	VOLTS DC	CASE SIZE		
			A	B	C				A	B	C
LK10-504	0.5	1000	1 3/4	1	2 1/8	LK 50-503	.05	5000	1 3/4	1	2 1/8
LK10-105	1.0	1000	1 3/4	1	2 1/8	LK 50-104	0.1	5000	1 3/4	1	2 1/8
LK10-205	2	1000	1 3/4	1	3 1/2	LK 50-254	.25	5000	1 3/4	1	3
LK10-405	4	1000	1 3/4	1	5 3/4	LK 50-504	.5	5000	1 3/4	1	4 3/4
LK10-605	6	1000	2 1/2	1 3/16	5	LK 50-105	1.0	5000	2 1/2	1 3/16	5
LK10-805	8	1000	2 1/2	1 3/16	6 1/4	LK 50-205	2	5000	3 3/4	1 1/4	5 3/4
LK10-106	10	1000	3 3/4	1 1/4	4 1/4	LK 50-405	4	5000	3 3/4	2 1/4	6
LK10-126	12	1000	3 3/4	1 1/4	5 3/4	LK 50-605	6	5000	3 3/4	3 3/16	6 1/4
LK10-156	15	1000	3 3/4	1 3/4	5 1/4	LK 50-805	8	5000	4 9/16	3 3/4	5 3/4
LK10-206	20	1000	3 3/4	1 3/4	6 3/4	LK 50-106	10	5000	4 9/16	3 3/4	6 3/4
LK20-104	0.1	2000	1 3/4	1	2 1/8	LK 60-503	.05	6000	3 3/4	1 1/4	2 1/4
LK20-254	.25	2000	1 3/4	1	2 1/8	LK 60-104	0.1	6000	3 3/4	1 1/4	2 1/4
LK20-504	.5	2000	1 3/4	1	2 1/8	LK 60-254	.25	6000	3 3/4	1 1/4	2 1/2
LK20-105	1.0	2000	1 3/4	1	3 1/4	LK 60-504	.5	6000	3 3/4	1 1/4	4 1/4
LK20-205	2	2000	2 1/2	1 3/16	3 1/2	LK 60-105	1.0	6000	3 3/4	1 1/4	6 1/2
LK20-405	4	2000	2 1/2	1 3/16	5 1/2	LK 60-205	2	6000	3 3/4	2 1/4	6 1/4
LK20-605	6	2000	3 3/4	1 1/4	5	LK 60-405	4	6000	4 9/16	3 3/4	6
LK20-805	8	2000	3 3/4	1 3/4	4 1/2	LK 60-605	6	6000	8	4	7
LK20-106	10	2000	3 3/4	1 3/4	5 1/4	LK 60-805	8	6000	8	4	9 1/4
LK20-126	12	2000	3 3/4	1 3/4	6 1/4	LK 60-106	10	6000	8	4	9 1/4
LK20-156	15	2000	3 3/4	2 1/4	6	LK 80-503	.05	8000	3 3/4	1 1/4	2 1/4
LK30-104	0.1	3000	1 3/4	1	2 1/8	LK 80-104	0.1	8000	3 3/4	1 1/4	2 1/2
LK30-254	.25	3000	1 3/4	1	2 1/2	LK 80-254	.25	8000	3 3/4	1 1/4	3 3/4
LK30-504	.5	3000	1 3/4	1	3 1/4	LK 80-504	.5	8000	3 3/4	1 1/4	5 3/4
LK30-105	1.0	3000	1 3/4	1	5 1/4	LK 80-105	1.0	8000	3 3/4	1 3/4	7
LK30-205	2	3000	2 1/2	1 3/16	5 1/2	LK 80-205	2	8000	3 3/4	3 3/16	7
LK30-405	4	3000	3 3/4	1 3/4	4 3/4	LK 80-405	4	8000	4 9/16	3 3/4	5 1/4
LK30-605	6	3000	3 3/4	2 1/4	5 1/4	LK 80-605	6	8000	8	4	11
LK30-805	8	3000	3 3/4	3 3/16	5	LK 80-805	8	8000	13 1/2	4 1/8	9 1/4
LK30-106	10	3000	3 3/4	3 3/16	5 3/4	LK 80-106	10	8000	13 1/2	4 1/8	11
LK40-503	.05	4000	1 3/4	1	2 1/8	LK100-503	.05	10KV	3 3/4	1 3/4	2 1/4
LK40-104	0.1	4000	1 3/4	1	2 1/4	LK100-104	0.1	10KV	3 3/4	1 3/4	2 1/4
LK40-254	.25	4000	1 3/4	1	2 3/4	LK100-254	.25	10KV	3 3/4	1 3/4	3 3/4
LK40-504	.5	4000	1 3/4	1	4	LK100-504	.5	10KV	3 3/4	1 3/4	5 1/2
LK40-105	1.0	4000	2 1/2	1 3/16	4	LK100-105	1.0	10KV	3 3/4	2 1/4	7 1/4
LK40-205	2	4000	2 1/2	1 3/16	6 3/4	LK100-205	2	10KV	4 9/16	3 3/4	7 1/4
LK40-405	4	4000	3 3/4	1 3/4	6	LK100-405	4	10KV	8	4	9 1/4
LK40-605	6	4000	3 3/4	2 1/4	6 1/2	LK100-605	6	10KV	8	4	11
LK40-805	8	4000	3 3/4	3 3/16	6	LK100-805	8	10KV	13 1/2	4 1/8	9 1/4
LK40-106	10	4000	3 3/4	4 9/16	5 1/4	LK100-106	10	10KV	13 1/2	4 1/8	11

HIGH VOLTAGE POWER PACKS

HV STANDARD TYPE have as their major feature special tube wells which permit easy access for replacement of the rectifier tubes. 118 V 60 cycles input.

The HV STANDARD TYPE is designed for sea level to 10,000 feet operation in the temperature range of minus 40°C to plus 70°C. They must be operated in an upright position.

The height indicated is the height including the terminals.

We do not guarantee rectifier tube life.

PART NUMBER	OUTPUT		CASE SIZE		OVERALL HEIGHT	NET PRICE
	KV	MA.	L	W		
HV50-502	0-5	5	6 5/8	4 3/8	7 1/4	\$ 89.40
HV100-102	0-10	1	7 1/2	5	7 1/4	108.00
HV100-502	0-10	5	8 1/4	6	8 1/4	120.00
HV150-102	0-15	1	7 1/2	5	8	110.00
HV150-502	0-15	5	8 1/4	6	8	130.00
HV200-102	0-20	1	7 1/2	5	8 1/2	138.00
HV200-502	0-20	5	10 1/4	7	12 3/4	191.40
HV300-102	0-30	1	8 3/4	6 3/4	11	207.00
HV300-502	0-30	5	10 1/4	7	12 3/4	222.00
HV500-502	0-50	5	12 1/2	11	17 1/2	426.00
HV750-202	0-75	2	19	11 1/2	20	744.00

HV SELENIUM RECTIFIER TYPE

HV SELENIUM RECTIFIER TYPE is smaller than the HV SEALED TUBE. INPUT 118 volts 60 to 400 cycles. HV SELENIUM RECTIFIER TYPE is designed to avoid rectifier tube failures by the use of long life selenium rectifiers with an estimated life of 20,000 hours at 50°C temperature. Lower ambient temperature will increase life.

PART NUMBER	OUTPUT		CASE SIZE			NET PRICE
	KV	MA.	L	W	H	
HV20-202S	2	2	3 3/4	3 3/16	5	\$ 45.00
HV50-302S	0-5	3	3 3/4	4 9/16	5 1/2	70.40
HV100-102S	0-12	1	3 3/4	4 9/16	7 1/2	102.30
HV150-102S	0-15	1	3 3/4	4 9/16	8 1/2	134.00

HV SEALED TUBE TYPE HV SEALED TUBE TYPE is smaller than the HV STANDARD TYPE. INPUT 118 volts 60 to 400 cycles.

PART NUMBER	OUTPUT		CASE SIZE			NET PRICE
	KV	MA.	L	W	H	
HV20-202H	2	2	3 3/4	3 3/16	5 1/2	\$ 34.00
HV50-302H	5	3	3 3/4	4 9/16	6	74.40
HV100-102H	0-12	1	3 3/4	4 9/16	8	93.60
HV150-102H	0-15	1	3 3/4	4 9/16	9	108.00



Plastic Capacitors, INC.

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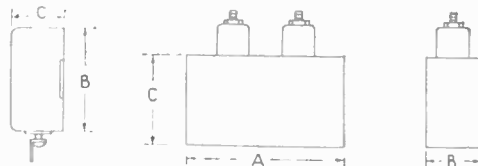
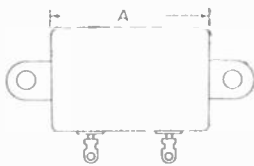
- Mfrs. of
- Plastic Film Capacitors
 - Pulse Forming Networks
 - High Voltage Power Supplies
 - Paper Dielectric Capacitors

POLYSTYRENE CAPACITORS

Polystyrene Capacitors feature extremely low dielectric absorption, very high stability, ultra high resistance and low temperature coefficient. Dielectric absorption is less than 0.02% and resistance is greater than one million megohms x mfd or one million megohms for values less than one mfd. Temperature coefficient is negative 80 PPM/°C. Standard capacitance tolerance is 5% but tolerances as low as 0.1% are available in the type PA and PD and as low as .2% in the type PG, PM and PT.

Other Style containers (now shown) available are the Type PM which are tubular metal clad miniatures which are hermetically sealed and Type PT a tubular steatite style which has an epoxy end seal.

For further information write for Polystyrene Capacitor Catalog.



TYPE PG capacitors are hermetically sealed in glass tubes (providing a long leakage path) with tinplated ferrules solder - sealed to the glass.

TYPE PA capacitors are the bathtub style container, suitably protected for corrosion, hermetically sealed and the capacitor elements are extended foil (non-inductive) construction.

TYPE PD capacitors are the CP70 style containers, suitably protected for corrosion, hermetically sealed, and the capacitor elements are extended foil (non-inductive) construction.

TYPE PD - CP70 STYLE CONTAINER

PART NUMBER	CAP. MFD	VOLTS DC	A	CASE SIZE B	C	LIST PRICE
PD1-105	1	100	1 3/4	1	2 1/8	\$ 7.90
PD1-205	2	100	1 3/4	1	2 1/8	9.60
PD1-405	4	100	2 1/2	1 3/16	2 1/2	14.30
PD1-505	5	100	2 1/2	1 3/16	3	16.50
PD1-605	6	100	2 1/2	1 3/16	3 1/2	19.00
PD1-805	8	100	3 3/4	1 1/4	3	24.00
PD1-106	10	100	3 3/4	1 3/4	3 1/2	28.20
PD1-126	12	100	3 3/4	1 3/4	3	33.20
PD1-156	15	100	3 3/4	1 3/4	3 1/2	40.00
PD1-206	20	100	3 3/4	2 1/4	3 1/2	52.00
PD2-105	1	200	1 3/4	1	3	9.40
PD2-205	2	200	2 1/2	1 3/16	3	13.00
PD2-405	4	200	3 3/4	1 1/4	4	22.80
PD2-505	5	200	3 3/4	1 1/4	4	26.80
PD2-605	6	200	3 3/4	1 3/4	4	32.00
PD2-805	8	200	3 3/4	1 3/4	4	41.00
PD2-106	10	200	3 3/4	2 1/4	4	44.00
PD2-126	12	200	3 3/4	3 3/16	4	58.50
PD2-156	15	200	3 3/4	3 3/16	4	72.00

PART NUMBER	CAP. MFD	VOLTS DC	A	CASE SIZE B	C	LIST PRICE
PD2-206	20	200	4 9/16	3 3/4	4	\$94.00
PD4-504	0.5	400	1 3/4	1	2 1/2	9.50
PD4-105	1	400	2 1/2	1 3/16	2 1/2	13.50
PD4-205	2	400	3 3/4	1 1/4	3	26.00
PD4-405	4	400	3 3/4	1 3/4	3 1/2	38.60
PD4-505	5	400	3 3/4	2 1/4	3 1/2	48.00
PD4-605	6	400	3 3/4	3 3/16	3	56.00
PD4-805	8	400	4 9/16	3 3/4	3	72.00
PD4-106	10	400	4 9/16	3 3/4	3 1/2	87.00
PD6-254	.25	600	3 3/4	1	2 1/2	9.50
PD6-504	.5	600	1 3/4	1	4	12.40
PD6-105	1	600	2 1/2	1 3/16	4	19.00
PD6-205	2	600	3 3/4	2 1/4	3	25.00
PD6-405	4	600	3 3/4	3 3/16	4	61.00
PD6-505	5	600	3 3/4	3 3/16	5 1/2	69.50
PD6-605	6	600	3 3/4	3 3/16	5 1/2	82.00
PD6-805	8	600	3 3/4	3 3/16	7 1/2	105.00
PD6-106	10	600	4 9/16	3 3/4	7 1/2	144.00

TYPE PA - BATHTUB CONTAINER

PART NUMBER	CAP. MFD	VOLTS DC	A	CASE SIZE B	C	LIST PRICE
PA05-254	0.25	50	1 1/8	1	13/16	\$ 4.50
PA05-404	0.4	50	1 1/8	1	13/16	4.50
PA05-504	0.5	50	1 3/4	1	3/4	5.70
PA05-604	0.6	50	1 3/4	1	3/4	5.90
PA05-804	0.8	50	1 3/4	1	3/4	6.10
PA05-105	1.0	50	1 3/4	1 1/4	7/8	8.70
PA05-205	2	50	2	1 3/4	7/8	12.30
PA05-405	4	50	2	2	1 1/4	14.50
PA1-204	0.2	100	1 1/8	1	13/16	4.30
PA1-254	0.25	100	1 1/8	1	13/16	4.50
PA1-404	0.4	100	1 3/4	1	3/4	4.70
PA1-504	0.5	100	1 3/4	1	3/4	4.90
PA1-604	0.6	100	1 3/4	1 1/4	7/8	5.10
PA1-804	0.8	100	2	1 3/4	7/8	5.40
PA1-105	1.0	100	2	1 3/4	7/8	6.10
PA1-205	2.0	100	2	1 1/2	1 1/8	8.70
PA2-104	0.1	200	1 1/8	1	13/16	4.30
PA2-204	0.2	200	1 3/4	1	3/4	4.60
PA2-254	0.25	200	1 3/4	1	3/4	4.80
PA2-404	0.4	200	1 3/4	1 1/4	7/8	5.40
PA2-504	0.5	200	2	1 3/4	7/8	6.10
PA2-604	0.6	200	2	1 3/4	7/8	6.50

PART NUMBER	CAP. MFD	VOLTS DC	A	CASE SIZE B	C	LIST PRICE
PA2-804	0.8	200	2	1 3/4	7/8	\$ 7.20
PA2-105	1.0	200	2	2	1 1/8	8.80
PA4-503	0.05	400	1 1/8	1	13/16	4.50
PA4-104	0.1	400	1 3/4	1	3/4	4.80
PA4-204	0.2	400	1 3/4	1 1/4	7/8	5.60
PA4-254	0.25	400	1 3/4	1 1/4	7/8	6.00
PA4-404	0.4	400	2	1 3/4	7/8	7.80
PA4-504	0.5	400	2	1 3/4	7/8	8.60
PA4-604	0.6	400	2	2	1 1/8	9.10
PA4-804	0.8	400	2	2	1 1/8	10.60
PA4-105	1.0	400	2	2	1 1/4	12.80
PA6-103	0.01	600	1 1/8	1	13/16	4.50
PA6-203	0.02	600	1 1/8	1	13/16	4.50
PA6-403	0.04	600	1 3/4	1	3/4	4.60
PA6-503	0.05	600	1 3/4	1	3/4	4.80
PA6-603	0.06	600	1 3/4	1	3/4	5.00
PA6-803	0.08	600	1 3/4	1 1/4	7/8	5.40
PA6-104	0.1	600	1 3/4	1 1/4	7/8	5.70
PA6-204	0.2	600	2	1 3/4	7/8	6.20
PA6-254	0.25	600	2	1 3/4	7/8	6.90
PA6-404	0.4	600	2	2	1 1/8	12.40
PA6-504	0.5	600	2	2	1 1/4	14.40

TYPE PG - GLASS CONTAINER

PART NUMBER	CAP. MFD	VOLTS DC	DIMENSIONS		LIST PRICE
			LGTH.	DIA.	
PG1-103	.01	100	1	19/32	\$ 4.60
PG1-203	.02	100	1	19/32	4.60
PG1-503	.05	100	1 3/4	19/32	6.30
PG1-104	0.1	100	1 3/4	3/4	8.30
PG1-254	0.25	100	1 3/4	29/32	10.50
PG1-504	0.5	100	2 1/2	1 1/8	12.60
PG1-105	1.0	100	3 1/2	1 3/8	15.30
PG2-502	.005	200	1	3/4	5.30
PG2-103	.01	200	1	3/4	5.30
PG2-203	.02	200	1	3/4	5.30
PG2-503	.05	200	1	29/32	7.50
PG2-104	0.1	200	1 3/4	29/32	9.20
PG2-254	0.25	200	1 3/4	1 3/8	11.50
PG2-504	0.5	200	2 1/2	1 3/8	13.20
PG4-502	.005	400	1	3/4	6.30
PG4-103	.01	400	1	3/4	6.30
PG4-203	.02	400	1	13/16	7.60
PG4-503	.05	400	1 3/4	29/32	9.60

PART NUMBER	CAP. MFD	VOLTS DC	DIMENSIONS		LIST PRICE
			LGTH.	DIA.	
PG4-104	0.1	400	2 1/2	1 1/8	12.00
PG4-254	0.25	400	3 1/2	1 3/8	14.50
PG6-102	.001	600	1	3/4	6.30
PG6-202	.002	600	1	3/4	6.30
PG6-502	.005	600	1	3/4	6.30
PG6-103	.01	600	1	3/4	6.80
PG6-203	.02	600	1	29/32	6.80
PG6-503	.05	600	1 1/2	1 1/8	10.60
PG6-104	0.1	600	1 1/2	1 3/8	13.20
PG10-102	.001	1000	1	3/4	7.60
PG10-202	.002	1000	1	3/4	8.60
PG10-502	.005	1000	1 3/4	3/4	9.80
PG10-103	.01	1000	1 3/4	13/16	10.60
PG10-203	.02	1000	1 3/4	29/32	11.60
PG10-503	.05	1000	3 1/2	29/32	12.40
PG10-104	0.1	1000	3 1/2	1 1/8	13.30
PG10-204	0.2	1000	3 1/2	1 3/8	14.40

THE ABOVE ARE PARTIAL LISTINGS. WRITE FOR COMPLETE ENGINEERING INFORMATION.

PYRAMID PYRAMID ELECTRIC COMPANY • DARLINGTON, S.C.

Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L
3 VOLTS DC WORKING			ML20-6	20.	1/4 x 5/8	ML10-15	10.	1/4 x 5/8	ML10-25	10.	3/8 x 5/8
ML25-3	20.	1/4 x 5/8	ML30-6	30.	3/8 x 5/8	ML20-15	20.	1/4 x 3/4	ML15-25	15.	3/8 x 3/4
ML50-3	50.	1/4 x 3/4	ML40-6	40.	3/8 x 5/8	ML30-15	30.	3/8 x 3/4	ML20-25	20.	3/8 x 3/4
ML75-3	75.	3/8 x 3/4	ML50-6	50.	3/8 x 3/4	ML40-15	40.	3/8 x 7/8	ML30-25	30.	3/8 x 1
ML100-3	100.	3/8 x 3/4	ML75-6	75.	3/8 x 3/4	ML50-15	50.	3/8 x 7/8	ML100-25	100.	3/4 x 1 3/8
6 VOLTS DC WORKING			ML100-6	100.	3/8 x 7/8	25 VOLTS DC WORKING			50 VOLTS DC WORKING		
ML1-6	1.	1/4 x 1/2	ML1-15	1.	1/4 x 1/2	ML1-25	1.	1/4 x 5/8	ML1-50	1.	1/4 x 5/8
ML2-6	2.	1/4 x 1/2	ML2-15	2.	1/4 x 5/8	ML2-25	2.	1/4 x 5/8	ML2-50	2.	1/4 x 5/8
ML4-6	4.	1/4 x 5/8	ML4-15	4.	1/4 x 5/8	ML4-25	4.	1/4 x 5/8	ML4-50	4.	1/4 x 3/4
ML5-6	5.	1/4 x 5/8	ML5-15	5.	1/4 x 5/8	ML5-25	5.	1/4 x 5/8	ML5-50	5.	1/4 x 3/4
ML6-6	6.	1/4 x 5/8	ML6-15	6.	1/4 x 5/8	ML6-25	6.	1/4 x 3/4	ML6-50	6.	3/8 x 3/4
ML8-6	8.	1/4 x 5/8	ML8-15	8.	1/4 x 5/8	ML8-25	8.	1/4 x 3/4	ML8-50	8.	3/8 x 3/4
ML10-6	10.	1/4 x 5/8							ML10-50	10.	3/8 x 1
									ML20-50	20.	3/8 x 1

TYPE ML MINIATURE ELECTROLYTIC CAPACITORS

Designed for 65° C. operation. Hermetically sealed in aluminum cases. Low leakage and long shelf life. Ideally suited for transistorized radio receivers, hearing aids, portable TV sets, and miniaturized circuit requirements.



Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L
10 VOLTS DC WORKING			PFB-2000-15	2000	1 1/2 x 3 3/8	30 VOLTS DC WORKING		
PFB-500-10	500	1 1/2 x 2 3/4	PFB-3000-15	3000	1 1/2 x 4 3/8	PFB-500-30	500	1 1/2 x 3 3/8
PFB-1000-10	1000	1 1/2 x 2 3/4	PFB-4000-15	4000	1 1/2 x 4 3/8	PFB-1000-30	1000	1 1/2 x 4 3/8
PFB-1500-10	1500	1 1/2 x 2 3/4	PFB-6000-15	6000	2 1/2 x 4 1/2	PFB-2000-30	2000	1 1/2 x 4 3/8
PFB-2000-10	2000	1 1/2 x 2 3/4	18 VOLTS DC WORKING			PFB-3000-30	3000	2 1/2 x 4 3/8
PFB-3000-10	3000	1 1/2 x 3 3/8	PFB-500-18	500	1 1/2 x 2 3/4	PFB-4000-30	4000	2 1/2 x 4 3/8
PFB-4000-10	4000	1 1/2 x 4 3/8	PFB-1000-18	1000	1 1/2 x 2 3/4	35 VOLTS DC WORKING		
PFB-5000-10	5000	1 1/2 x 4 3/8	PFB-2000-18	2000	1 1/2 x 3 3/8	PFB-500-35	500	1 1/2 x 3 3/8
PFB-6000-10	6000	1 1/2 x 4 3/8	PFB-4000-18	4000	1 1/2 x 4 3/8	PFB-1000-35	1000	1 1/2 x 4 3/8
12 VOLTS DC WORKING			20 VOLTS DC WORKING			PFB-2000-35	2000	1 1/2 x 4 3/8
PFB-500-12	500	1 1/2 x 2 3/4	PFB-500-20	500	1 1/2 x 2 3/4	PFB-3000-35	3000	2 1/2 x 4 3/8
PFB-1000-12	1000	1 1/2 x 2 3/4	PFB-1000-20	1000	1 1/2 x 3 3/8	40 VOLTS DC WORKING		
PFB-1500-12	1500	1 1/2 x 2 3/4	PFB-2000-20	2000	1 1/2 x 4 3/8	PFB-500-40	500	1 1/2 x 3 3/8
PFB-2000-12	2000	1 1/2 x 3 3/8	PFB-4000-20	4000	2 1/2 x 4 3/8	PFB-1000-40	1000	1 1/2 x 4 3/8
PFB-2500-12	2500	1 1/2 x 3 3/8	25 VOLTS DC WORKING			PFB-2000-40	2000	1 1/2 x 4 3/8
PFB-3000-12	3000	1 1/2 x 4 3/8	PFB-500-25	500	1 1/2 x 2 3/4	PFB-3000-40	3000	2 1/2 x 4 3/8
PFB-4000-12	4000	1 1/2 x 4 3/8	PFB-1000-25	1000	1 1/2 x 3 3/8	50 VOLTS DC WORKING		
PFB-6000-12	6000	2 1/2 x 4 3/8	PFB-2000-25	2000	1 1/2 x 4 3/8	PFB-500-50	500	1 1/2 x 3 3/8
15 VOLTS DC WORKING			PFB-3000-25	3000	1 1/2 x 4 3/8	PFB-1000-50	1000	1 1/2 x 4 3/8
PFB-500-15	500	1 1/2 x 2 3/4	PFB-4000-25	4000	2 1/2 x 4 3/8	PFB-2000-50	2000	1 1/2 x 4 3/8
PFB-1000-15	1000	1 1/2 x 2 3/4	PFB-5000-25	5000	2 1/2 x 4 3/8	PFB-3000-50	3000	2 1/2 x 4 3/8
PFB-1500-15	1500	1 1/2 x 2 3/4						

TYPE PFB HIGH CAPACITANCE LOW-VOLTAGE ELECTROLYTIC CAPACITORS

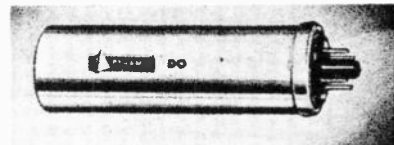


Pyramid's PFB is the ideal electrolytic capacitor for use in applications where high-capacitance at low-voltage is required.

Designed for 85° C. operation. Assembled in hermetically sealed round plastic cases. For use in applications requiring high capacitance at low working voltages, as in motion-picture sound equipment.

TYPE DO PLUG-IN ELECTROLYTIC CAPACITORS

Designed for 85° C. operation. Hermetically sealed in round aluminum containers. Provided with four pins (Nos. 1, 3, 5, 7) on standard octal base. Plugs into standard 8-pin octal socket. Ideally suited for any application where quick capacitor changes are required. Grounding lug supplied for grounding case to chassis. (In accordance with military standards, a low variable resistance exists between pin 1 (negative) and the case; to ground pin 1, a direct ground connection must be made from the corresponding lug on the socket.)



Catalog Number	Cap. in UF	Volts DC Working	Inches D x L	Catalog Number	Cap. in UF	Volts DC Working	Inches D x L	Catalog Number	Cap. in UF	Volts DC Working	Inches D x L
SINGLE-CAPACITOR UNITS				DO-D40-150	40-40	150	1 1/2 x 2 1/2	DO-T40-150	40-40-40	150	1 1/2 x 2 1/2
DO-100-350	100.	350	1 3/8 x 3	DO-D50-150	50-50	150	1 1/2 x 2 1/2	DO-T10-450	10-10-10	450	1 1/2 x 2 1/2
DO-10-450	10.	450	1 3/8 x 3	DO-D80-150	80-80	150	1 3/8 x 2 1/2	DO-T20-450	20-20-20	450	1 3/8 x 3
DO-20-450	20.	450	1 3/8 x 2 1/2	DO-D10-450	10-10	450	1 3/8 x 2 1/2	DO-3001	40-20-20	450-25	1 3/8 x 3
DO-40-450	40.	450	1 3/8 x 2 1/2	DO-D20-450	20-20	450	1 3/8 x 2 1/2	DO-T10-500	10-10-10	500	1 3/8 x 2 1/2
DO-80-450	80.	450	1 3/8 x 3 1/2	DO-D30-450	30-30	450	1 3/8 x 3	QUADRUPLE-CAPACITOR UNITS			
DO-40-500	40.	500	1 3/8 x 2 1/2	DO-D40-450	40-40	450	1 3/8 x 3 1/2	DO-4001	10-10-10-20	450-25	1 3/8 x 2 1/2
DUAL-CAPACITOR UNITS				DO-D20-500	20-20	500	1 3/8 x 2 1/2	DO-4002	30-30-10-20	450-50	1 3/8 x 4 1/4
DO-D20-150	20-20	150	1 3/8 x 2 1/2	TRIPLE-CAPACITOR UNITS							
				DO-T20-150	20-20-20	150	1 3/8 x 2 1/2				

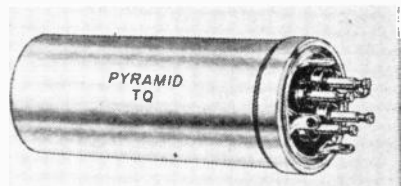
TYPE TQ TELEPHONE-QUALITY ELECTROLYTIC CAPACITORS

Capacitance in MFD.	WV DC	Inches D x L
SINGLE SECTION		
2000	6	1 3/8 x 2 1/2
1000	15	1 x 4
500	25	1 x 4
200	50	1 x 3 1/2
100	150	1 x 4
50	250	1 x 3
20	350	1 x 2 1/2
50	350	1 x 4
20	450	1 x 3
50	450	1 3/8 x 3
DUAL SECTION		
50+50	150	1 x 4
20+20	250	1 x 3 1/2
10+10	450	1 x 4
20+20	450	1 3/8 x 3 1/2
40+40	450	1 3/8 x 4
TRIPLE SECTION		
50+50+50	150	1 3/8 x 4
40+40+40	250	1 3/8 x 4
20+20+20	350	1 3/8 x 4
20+20+20	450	1 3/8 x 4

- FEATURES**
1. Designed for high reliability electronic equipment, telephone networks, and industrial control systems.
 2. Wide temperature range: -20° C. to +85° C.
 3. Hermetically sealed aluminum can.
 4. Low leakage current.
 5. Long life, trouble free operation.
 6. Manufactured under quality controlled conditions.

From raw material to finished product, the Pyramid type TQ is manufactured under controlled conditions and constant supervision.

Capacitance, voltage and terminal identification are stamped on the aluminum cans. The capacitor is closed by a molded piece with special silver-plated terminals which are permanently identified by molded numerals.



Present day electronic equipment, telephone network systems, and industrial control systems, where a high degree of reliability is essential, require capacitors having a long life.

Pyramid Electric Company introduces type TQ, a high quality electrolytic capacitor which will meet the requirements of design engineers today and for some time to come.



TYPE TAK TANTALUM CAPACITORS

Pyramid TAK Tantalum slug capacitors are miniaturized to provide maximum space economy. Pyramid Tantalum capacitors have cylindrical cases and contain a non-corrosive electrolyte. Due to the special construction and materials used in the manufacture of Pyramid Tantalum capacitors, these units are both seep and vibration proof. In addition this type of capacitor assures long service life and corrosion resistance; made to meet MIL-C-3965 specifications, Style CL 46.

Voltage Range	Temperature	Type No.
3V to 100V	-55°C to + 100 C (without de-rating)	TAK
101V to 125V	-55 C to + 85 C (without de-rating)	TAK
3V to 85V	-55 C to + 125 C (without de-rating)	TAK-H

Pyramid TAK capacitors are available in the following tolerances:

From + 50% to — 15%	—5% are available upon request.
From + 20% to — 15%	

Size and Ratings:

TAK Capacitors are supplied in the can sizes as follows:

- $3/8" \times 7/32" \pm .03$ dia. This size may contain up to 250 Microfarad-Volts.
- $1/2" \times 7/32" \pm .03$ dia. This size may contain up to 1250 Microfarad-Volts.
- $1/2" \times 7/32" \pm .03$ dia. This size may contain up to 3200 Microfarad-Volts.
- $11/16" \times 9/32" \pm .03$ dia. This size may contain up to 4500 Microfarad-Volts.
- $4/64" \times 3/8" \pm .03$ dia. This size may contain up to 5625 Microfarad-Volts.

For further information, contact Pyramid Engineering Department, Darlington, South Carolina

Capacitance in Mfd.	Inches D x L	Capacitance in Mfd.	Inches D x L
100 WVDC		5 WVDC	
700	1 3/8 x 4 1/8	8,000	1 3/8 x 4 1/8
1,700	2 x 4 1/8	20,000	2 x 4 1/8
3,000	2 1/2 x 4 1/8	31,000	2 1/2 x 4 1/8
4,200	3 x 4 1/8	45,000	3 x 4 1/8
150 WVDC		10 WVDC	
450	1 3/8 x 4 1/8	6,500	1 3/8 x 4 1/8
1,000	2 x 4 1/8	16,000	2 x 4 1/8
1,800	2 1/2 x 4 1/8	25,000	2 1/2 x 4 1/8
3,000	3 x 4 1/8	40,000	3 x 4 1/8
250 WVDC		15 WVDC	
250	1 3/8 x 4 1/8	5,500	1 3/8 x 4 1/8
600	2 x 4 1/8	13,500	2 x 4 1/8
1,000	2 1/2 x 4 1/8	21,000	2 1/2 x 4 1/8
1,600	3 x 4 1/8	33,000	3 x 4 1/8
300 WVDC		25 WVDC	
200	1 3/8 x 4 1/8	3,200	1 3/8 x 4 1/8
400	2 x 4 1/8	8,000	2 x 4 1/8
750	2 1/2 x 4 1/8	12,500	2 1/2 x 4 1/8
1,100	3 x 4 1/8	17,000	3 x 4 1/8
350 WVDC		35 WVDC	
170	1 3/8 x 4 1/8	2,000	1 3/8 x 4 1/8
375	2 x 4 1/8	5,000	2 x 4 1/8
700	2 1/2 x 4 1/8	8,000	2 1/2 x 4 1/8
1,000	3 x 4 1/8	12,000	3 x 4 1/8
400 WVDC		50 WVDC	
140	1 3/8 x 4 1/8	1,600	1 3/8 x 4 1/8
325	2 x 4 1/8	4,000	2 x 4 1/8
575	2 1/2 x 4 1/8	6,500	2 1/2 x 4 1/8
850	3 x 4 1/8	10,000	3 x 4 1/8

Types CQMS & CQMLS are units with insulating paper tubes, add 1/16" to diameter and 3/8" to length.

Types CQMV & CQMLV are units with insulating plastic tubes, add 1/16" to diameter and 1/4" to length.

TYPE CQM COMPUTER QUALITY ELECTROLYTIC CAPACITORS

FEATURES

- High reliability, ideally suited for computer requirements.
- Highest purity aluminum used.
- Molded terminals for tight permanent seal.
- Low leakage current.
- Long shelf life.
- Low equivalent series resistance.



Computer circuits require electrolytic capacitors of the highest reliability. Pyramid type CQM capacitors, designed to operate at -20 C. to -65 C., fill this requirement. They are made with electrodes of the highest purity aluminum obtainable (99.99%) and specially formulated electrolytes.

Carefully inspected materials, coupled with controlled manufacturing methods, produce a capacitor capable of meeting the most exacting computer specification.

The capacitors are made in high purity aluminum containers hermetically sealed with molded tops held in place by rolling the can rim securely over a buna rubber gasket. The terminals are molded into the top. These terminals and the buna rubber gasketing insure a tight, permanent seal.

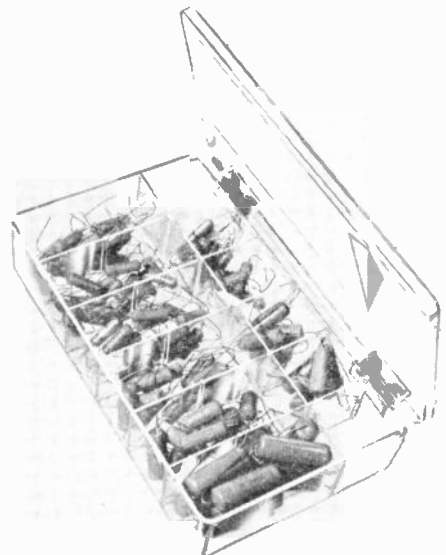
Two types of terminals are available: (1) a screw type terminal with tapped inserts, (CQM); (2) a lug type terminal, with anti-rotational locks, swaged to solid aluminum inserts, (CQML). Internal connections to the aluminum inserts are made with straps of the same high purity aluminum as the electrodes. This feature contributes to low leakage and long shelf life.

PYRAMID "GOLD STANDARD" ASSORTMENT

Featuring an assortment of 100 popular "GOLD STANDARD" Mylar capacitors with standard capacity tolerance of ±10%.

- Contains:
- 15 ea. .001 Mfd @ 600 VDCW
 - 10 ea. .002 Mfd @ 600 VDCW
 - 5 ea. .0047 Mfd @ 600 VDCW
 - 15 ea. .005 Mfd @ 600 VDCW
 - 15 ea. .01 Mfd @ 600 VDCW
 - 10 ea. .02 Mfd @ 600 VDCW
 - 5 ea. .047 Mfd @ 600 VDCW
 - 15 ea. .05 Mfd @ 600 VDCW
 - 10 ea. .1 Mfd @ 600 VDCW

1 PLASTIC BOX WITH 12 COMPARTMENTS, FREE





PYRAMID ELECTRIC COMPANY • DARLINGTON, S.C.

Catalog Number	Cap in UF	Inches D x L	Catalog Number	Cap in UF	Inches D x L	Catalog Number	Cap in UF	Inches D x L
200 VOLTS DC WORKING			600 VOLTS DC WORKING			400 VOLTS DC WORKING		
IMP2-S2	.02	3/8x1 1/4	IMP4-P1	.1	1 1/2x1 1/2	IMP6-T1	.0001	1 x1
IMP2-S47	.047	3/8x1 1/4	IMP4-P15	.15	5/8x1 7/8	IMP6-T25	.00025	1 x1
IMP2-S5	.05	3/8x1 1/4	IMP4-P22	.22	5/8x1 7/8	IMP6-T4	.0004	1 x1
IMP2-P1	.1	1 x1 1/4	IMP4-P25	.25	5/8x1 7/8	IMP6-T5	.0005	1 x1
IMP2-P15	.15	1 1/2x1 1/2	IMP4-P47	.47	3/4x2 1/4	IMP6-D1	.001	1 x1
IMP2-P25	.25	5/8x1 7/8	IMP4-P5	.5	3/4x2 1/4	IMP6-D15	.0015	1 x1
IMP2-P47	.47	5/8x1 7/8			IMP6-D2	.002	1 x1	
IMP2-P5	.5	5/8x1 7/8			IMP6-D22	.0022	1 x1	
IMP2-1	1.	3/4x2 1/4			IMP6-D3	.003	1 x1	
					IMP6-D33	.0033	1 x1	
					IMP6-D4	.004	1 x1	
					IMP6-D47	.0047	1 x1	

TYPE IMP MOLDED TABULAR PAPER CAPACITORS

Noninductive extended-foil section molded in nonflammable thermosetting plastic. High insulation resistance. Excellent power factor. Withstands standard RETMA Humidity-resistance Test. Extremely rugged. Very long life.



Temperature Rating:	Standard Tolerance:
-40 C. to +100 C.	.0001-.001 UF: -25% to +60%
	.0011-.009 UF: -20% to +40%
	.01 -1.0 UF: -20% to +20%

*Supplied in mineral-oil impregnated ceramic-case units.

TYPE CT CERAMIC-CASED TUBULAR PAPER CAPACITORS



Temperature Rating:	Standard Tolerance:
-40 C. to +85 C.	.0001-.009 UF: -25% to +60%
	.0011-.009 UF: -20% to +40%
	.01 -1.0 UF: -20% to +20%

Noninductive extended-foil section assembled in finest grade ceramic (steatite) tube. Tinned leads firmly imbedded. Permanently sealed against moisture and humidity. End-seals cannot soften or melt even at more than 85° C. temperatures.

Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L	Catalog Number	Cap. in UF	Inches D x L
200 VOLTS DC WORKING			600 VOLTS DC WORKING			1,000 VOLTS DC WORKING			1,600 VOLTS DC WORKING (Buffer Capacitors)		
CT2-S5	.05	3/8x1 3/8	CT6-T5	.0005	1 x1 1/8	CT6-P22	.22	1 1/2x2	CT10-S4	.04	5/8x2
CT2-P15	.15	5/8x2	CT6-D1	.001	1 x1 1/8	CT6-P25	.25	1 1/2x2	CT10-S47	.047	5/8x2
CT2-P2	.2	5/8x2	CT6-D15	.0015	1 x1 1/8	CT6-P5	.5	1 1/2x2 1/8	CT10-S5	.05	5/8x2
CT2-P22	.22	5/8x2	CT6-D2	.002	1 x1 1/8	CT10-D1	.001	3/8x1 1/8	CT10-S68	.068	3/4x2
CT2-P25	.25	5/8x2	CT6-D22	.0022	1 x1 1/8	CT10-D15	.0015	3/8x1 1/8	CT10-F1	.1	1 1/2x2
CT2-P5	.5	1 1/2x2	CT6-D3	.003	1 x1 1/8	CT10-D2	.002	3/8x1 1/8	CT10-P15	.15	1 1/2x2 1/4
CT2-1	1.0	1 1/2x2	CT6-D33	.0033	1 x1 1/8	CT10-D22	.0022	3/8x1 1/8	CT10-F2	.2	1 1/2x2 1/8
400 VOLTS DC WORKING			CT6-D4	.004	1 x1 1/8	CT10-D3	.003	3/8x1 1/8			
CT4-S1	.01	1 x1 1/8	CT6-D47	.0047	1 x1 1/8	CT10-D33	.0033	3/8x1 1/8			
CT4-S15	.015	3/8x1 3/8	CT6-D5	.005	1 x1 1/8	CT10-D4	.004	3/8x1 1/8			
CT4-S2	.02	3/8x1 3/8	CT6-D6	.006	3/8x1 3/8	CT10-D47	.0047	3/8x1 1/8			
CT4-S22	.022	3/8x1 3/8	CT6-D68	.0068	3/8x1 3/8	CT10-D5	.005	3/8x1 1/8			
CT4-S25	.025	1 x1 1/8	CT6-S1	.01	3/8x1 3/8	CT10-D56	.0056	3/8x1 1/8			
CT4-S3	.03	1 x1 1/8	CT6-S15	.015	3/8x1 3/8	CT10-D6	.006	3/8x1 1/8			
CT4-S33	.033	1 x1 1/8	CT6-S2	.02	1 x1 3/8	CT10-D68	.0068	3/8x1 1/8			
CT4-S4	.04	1 x1 1/8	CTS-S22	.022	1 x1 3/8	CT10-D7	.007	3/8x1 1/8			
CT4-S47	.047	1 x1 1/8	CT6-S25	.025	1 x1 3/8	CT10-D75	.0075	3/8x1 1/8			
CT4-S5	.05	1 x1 1/8	CT6-S3	.03	1 x1 5/8	CT10-D8	.008	3/8x1 1/8			
CT4-S68	.068	1 x1 1/8	CT6-S33	.033	1 x1 5/8	CT10-D82	.0082	3/8x1 1/8			
CT4-P1	.1	1 x1 1/8	CT6-S4	.04	1 x1 5/8	CT10-S1	.01	3/8x1 1/8			
CT4-P15	.15	3/4x2	CT6-S47	.047	1 x1 5/8	CT10-S15	.015	1 x1 1/8			
CT4-P2	.2	1 x2	CT6-S5	.05	1 x1 5/8	CT10-S2	.02	1 x1 1/8			
CT4-P22	.22	1 x2	CT6-S68	.068	3/8x2	CT10-S22	.022	1 x1 1/8			
CT4-P25	.25	1 x2	ST6-P1	.1	3/8x2	CT10-S25	.025	1 x1 1/8			
CT4-P5	.5	1 x2 1/8	CT6-P15	.15	3/4x2	CT10-S3	.03	1 x1 1/8			
			CT6-P2	.2	3/4x2	CT10-S33	.033	3/8x2			

PYRAMID MODEL RC-1 NEW RESISTANCE-CAPACITY-RATIO BRIDGE TESTER



Budget priced... outstanding quality instrument... the RC-1 saves you both time and money. Precision-engineered, Pyramid's new model RC-1, Resistance-Capacity-Ratio Bridge Tester has a special low voltage bridge and stable vacuum tube amplifier for safe testing low voltage electrolytics such as commonly used in transistorized receivers. Pyramid's RC-1, Resistance-Capacity-Ratio Bridge Tester is a functionally designed, sturdy, compact, lightweight unit, ideal for use by technicians, servicemen and engineers in radio, television (color as well as black and white), industrial electronics and all related fields.

PYRAMID MODEL RC-1 FEATURES:

- Special 3 volt amplifier for checking low voltage electrolytics used in miniaturized equipment such as transistor radios, etc.
- Capacity Ranges—from 10 mmfd. to 2000 mfd.
- Resistance—from .5 ohms to 200 megohms in 4 ranges.
- Ratio Test—provides quick reactance or resistance ratio between any two capacitors, inductors or resistors—range: .05 to 1 and 20 to 1. It can be used also to determine turns ratio of transformer windings within this range.
- Leakage Tests—handles all types of capacitors at rated voltages between 0 and 500V DC.
- Power Factor—0 to 60% (on capacitors from .1 mfd to 2000 mfd).
- Capacitor Test Voltages—variable between 0 and 500V DC in 17 steps.

Shipping Weight: 11 lbs. Overall Dimensions: Length 6 1/2", Depth 6", Height 7 7/8".
For further information, see your Pyramid distributor.
PYRAMID ELECTRIC COMPANY, UNION CITY, N. J.

PYRAMID PYRAMID ELECTRIC COMPANY • DARLINGTON, S.C.

Table listing capacitor specifications: Catalog Number, Cap. in UF, Inches D x L, and various models like PTIM6-D3, PTIM6-D5, etc.

TYPE PTIM METAL TUBULAR OIL PAPER CAPACITORS. Noninductively wound section assembled in hermetically sealed metal tubular case. PTIM Variations: PTIM Basic type similar to MIL Type CP25, PTIMV (CP26), etc.



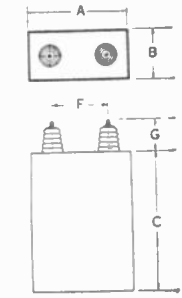
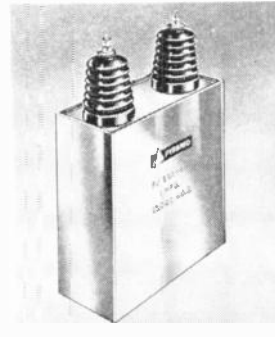
Temperature Rating: -55°C. to +85°C. Standard Tolerance: -10% to +20%

Section assembled in container of heavy gage steel, welded oil tight and hot tinned. Mineral oil impregnated and mineral oil filled. Case and terminals are bonded together.

TYPE PJ HIGH-VOLTAGE OIL-PAPER CAPACITORS

Table listing capacitor specifications for 6,000, 7,500, 10,000, and 12,500 volts DC working, including models like PJ60-2, PJ60-4, etc.

Table listing capacitor specifications for 15,000, 20,000, and 25,000 volts DC working, including models like PJ125-1, PJ125-2, etc.



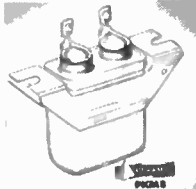
Temperature Range: -55° C. to + 85° C. Capacity Tolerance: - 5% to + 15%.

Table listing capacitor specifications for 400, 1,000, and 600 volts DC working, including models like PKM4-S5, PKM4-P1, etc.

TYPE PKM SMALL-BASE OIL-PAPER CAPACITORS

Section assembled in hermetically sealed tin-coated container. Mineral-oil impregnated and filled. Lug-type terminal seals. Suitable for use in compact equipment.

Temperature Rating: -55°C. to +85°C. Standard Tolerance: -10% to +20%



PKM VARIATIONS: PKM Basic type similar to MIL Type CP61. PKMF with CP06F footed bracket. PKMS with CP06S spade bracket. PKMT Similar to CP63 with channel bracket on end opposite terminals. PKMB Similar to CP65 with channel bracket on same end as terminals.

PKMT, PKMB Channel Bracket Dimensions: Overall Length: 2 1/4". Overall Width: 49/64". Length bet. Mounting Slot Centers: 1 1/8". Mounting Slot Width: 3/16".

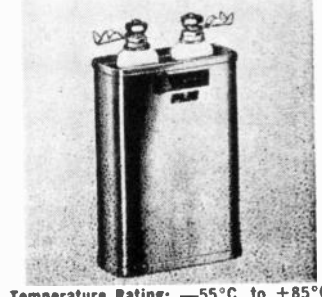
Section assembled in lacquer-finished terneplate case. Mineral-oil impregnated and filled. Ceramic terminal insulators with screw studs. Designed for heavy-duty continuous service.

TYPE PLM HIGH-VOLTAGE OIL-PAPER CAPACITORS

Table listing capacitor specifications for 600 and 1,000 volts DC working, including models like PLM6-P5, PLM10-P1, etc.

Table listing capacitor specifications for 1,500 and 2,000 volts DC working, including models like PLM15-P5, PLM15-2, etc.

Table listing capacitor specifications for 2,500, 3,000, and 4,000 volts DC working, including models like PLM20-12, PLM25-P5, etc.



Temperature Rating: -55°C. to +85°C. Standard Tolerance: +10%. PLM VARIATIONS: PLM Similar to MIL Type CP70. PLMF With CP07S footed bracket. PLMS With CP07S spade bracket. PLMU With universal mounting bracket. PLMR With riveted solder-lub MIL Type B terminals (furnished only through 2,000 VDCW rating).



HERMETICALLY SEALED

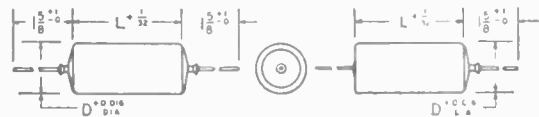
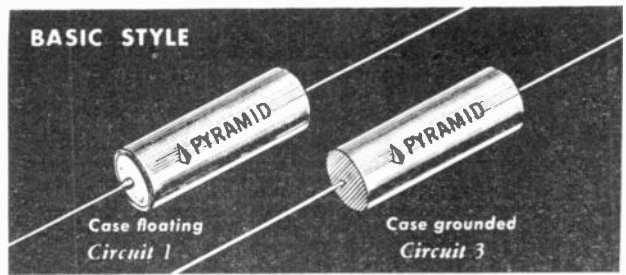
subminiature

TUBULAR PAPER CAPACITORS

for 125° C operation at full rating

Pyramid "GLASSEAL" capacitors are subminiature metal cased tubular units which have been designed to meet severe and rigid operating requirements, especially where an important design consideration is limited space.

"GLASSEALS" have proven themselves to be unsurpassed in reliability over the entire operating temperature range from -55° C to + 125° C. Rigid inspection throughout the manufacturing processes assure their continued excellence.



Pyramid "GLASSEALS" are available in a variety of impregnants, and internal constructions hermetically sealed with glass-to-metal end seals in non-magnetic metal tubular cases. They are available in many mounting styles. See Engineering Catalog PG-3 for full details. Pyramid "GLASSEALS" are manufactured in accordance with MIL-C-25/1B and may be secured with MIL designations CFC4, 05, 08, 09, 10 and .1 whenever required.

STANDARD TOLERANCE: ± 20%

INSERTED TAB CONSTRUCTION
PGIH | **EPGIH** EXTENDED FOIL CONSTRUCTION
PGH | **EPGH** CASE GROUNDED

H HALOWAX IMPREGNANT
 TEMPERATURE RANGE -40° C. to +85° C.

DIMENSIONS IN INCHES

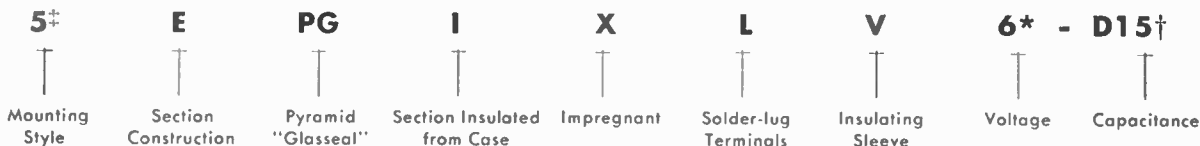
V D C	Cap. in Mfd.	PGIH* PGH D x L	EPGIH* EPGH D x L	Cap. in Mfd.	PGIH* PGH D x L	EPGIH* EPGH D x L	Cap. in Mfd.	PGIH* PGH D x L	EPGIH* EPGH D x L	Cap. in Mfd.	PGIH* PGH D x L	EPGIH* EPGH D x L
100	.001	.175x	.175x	.0068	.175x	.175x	.047	.235x	.312x	.25	400x	400x1
200	.001	.235x	.235x	.0068	.235x	.235x	.047	.312x	.312x	.25	400x1	400x1
300	.001	.235x	.235x	.0068	.235x	.235x	.047	.312x	.400x	.25	400x1	562x1
400	.001	.235x	.235x	.0068	.235x	.312x	.047	.312x	.400x	.25	562x1	562x1
100	.0012	.175x	.175x	.0082	.175x	.195x	.05	.235x	.312x	.27	400x1	400x1
200	.0012	.235x	.235x	.0082	.235x	.235x	.05	.312x	.312x	.27	400x1	562x1
300	.0012	.235x	.235x	.0082	.235x	.312x	.05	.312x	.400x	.27	562x1	562x1
400	.0012	.235x	.235x	.0082	.235x	.312x	.05	.312x	.400x	.27	562x1	562x1
100	.0015	.175x	.175x	.01	.175x	.195x	.056	.312x	.312x	.33	400x1	400x1
200	.0015	.235x	.235x	.01	.235x	.235x	.056	.312x	.400x	.33	400x1	562x1
300	.0015	.235x	.235x	.01	.235x	.312x	.056	.312x	.400x	.33	562x1	562x1
400	.0015	.235x	.235x	.01	.235x	.312x	.056	.400x	.400x1	.33	562x1	562x1
100	.0018	.175x	.175x	.012	.175x	.235x	.068	.312x	.312x	.39	400x1	562x1
200	.0018	.235x	.235x	.012	.235x	.312x	.068	.312x	.400x	.39	562x1	562x1
300	.0018	.235x	.235x	.012	.235x	.312x	.068	.312x	.400x	.39	562x1	562x1
400	.0018	.235x	.235x	.012	.235x	.312x	.068	.400x	.400x1	.39	562x1	670x1
100	.0022	.175x	.175x	.015	.175x	.235x	.082	.312x	.312x	.47	400x1	562x1
200	.0022	.235x	.235x	.015	.235x	.312x	.082	.312x	.400x	.47	562x1	562x1
300	.0022	.235x	.235x	.015	.235x	.312x	.082	.400x	.400x1	.47	562x1	670x1
400	.0022	.235x	.235x	.015	.235x	.312x	.082	.400x1	.400x1	.47	562x1	670x1
100	.0027	.175x	.175x	.018	.175x	.235x	.1	.312x	.400x	.5	400x1	562x1
200	.0027	.235x	.235x	.018	.235x	.312x	.1	.312x	.400x	.5	562x1	562x1
300	.0027	.235x	.235x	.018	.235x	.312x	.1	.400x	.400x1	.5	562x1	562x1
400	.0027	.235x	.235x	.018	.312x	.312x	.1	.400x1	.400x1	.5	562x1	670x1
100	.0033	.175x	.175x	.022	.175x	.235x	.12	.312x	.400x	.56	562x1	562x1
200	.0033	.235x	.235x	.022	.235x	.312x	.12	.400x	.400x1	.56	562x1	562x1
300	.0033	.235x	.235x	.022	.235x	.312x	.12	.400x1	.400x1	.56	562x1	670x1
400	.0033	.235x	.235x	.022	.312x	.312x	.12	.400x1	.562x1	.56	670x1	750x2
100	.0039	.175x	.175x	.027	.195x	.312x	.15	.312x	.400x	.69	562x1	562x1
200	.0039	.235x	.235x	.027	.235x	.312x	.15	.400x	.400x1	.68	562x1	562x1
300	.0039	.235x	.235x	.027	.312x	.312x	.15	.400x1	.400x1	.68	562x1	670x1
400	.0039	.235x	.235x	.027	.312x	.400x	.15	.400x1	.562x1	.68	670x1	750x2
100	.0047	.175x	.175x	.033	.195x	.312x	.18	.400x	.400x1	.82	562x1	562x1
200	.0047	.235x	.235x	.033	.235x	.312x	.18	.400x1	.400x1	.82	562x1	670x1
300	.0047	.235x	.235x	.033	.312x	.312x	.18	.400x1	.562x1	.82	670x1	750x2
400	.0047	.235x	.235x	.033	.312x	.400x	.18	.562x1	.562x1	.82	750x2	750x2
100	.0056	.175x	.175x	.039	.235x	.312x	.22	.400x	.400x1	1.0	562x1	562x1
200	.0056	.235x	.235x	.039	.312x	.312x	.22	.400x1	.400x1	1.0	562x1	670x1
300	.0056	.235x	.235x	.039	.312x	.400x	.22	.400x1	.562x1	1.0	670x1	750x2
400	.0056	.235x	.312x	.039	.312x	.400x	.22	.562x1	.562x1	1.0	750x2	750x2



PYRAMID ELECTRIC COMPANY • DARLINGTON, S.C.

“GLASSEAL” CATALOG NUMBERING SYSTEM

BASIC TYPE



*VOLTAGE Expressed in hundreds, as 6—600 Volts D.C.

†CAPACITANCE Expressed in Microfarads, as D15—.0015 D15—.0015 S15—.015 P15—.15 I—1.0

CASE FLOATING Add $\frac{1}{8}$ inch to length.

PGIM* PGIX* PGM PGX	EPGIM* EPGIX* EPGM EPGX	EXTENDED FOIL CONSTRUCTION	M X
MINERAL OIL IMPREGNANT TEMPERATURE RANGE —55° C. to +85° C.	SYNTHETIC OIL IMPREGNANT TEMPERATURE RANGE —55° C. to +125° C.		

CASE GROUNDED

DIMENSIONS IN INCHES

V D C	Cap. in Mfd.	PGIM* PGIX* PGM PGX D x L	EPGIM* EPGIX* EPGM EPGX D x L	Cap. in Mfd.	PGIM* PGIX* PGM PGX D x L	EPGIM* EPGIX* EPGM EPGX D x L	Cap. in Mfd.	PGIM* PGIX* PGM PGX D x L	EPGIM* EPGIX* EPGM EPGX D x L	Cap. in Mfd.	PGIM* PGIX* PGM PGX D x L	EPGIM* EPGIX* EPGM EPGX D x L
100	.001	.175x .175	.175x .175	.0068	.175x .175	.195x .195	.047	.312x .312	.312x .312	.25	.400x1 .400x1	.400x1 .400x1
200	.001	.235x .235	.235x .235	.0068	.235x .235	.235x .235	.047	.312x .312	.312x .312	.25	.400x1 .400x1	.562x1 .562x1
300	.001	.235x .235	.235x .235	.0068	.235x .235	.312x .312	.047	.312x .312	.400x .400x	.25	.562x1 .562x1	.562x1 .562x1
400	.001	.235x .235	.235x .235	.0068	.235x .235	.312x .312	.047	.400x .400x	.400x1 .400x1	.25	.562x1 .562x1	.670x1 .670x1
600	.001	.235x .235	.235x .235	.0068	.235x .235	.312x .312	.047	.400x1 .400x1	.400x1 .400x1	.25	.562x1 .562x1	.670x1 .670x1
1000	.001	.400x .400	.400x .400	.0068	.400x .400	.400x .400	.047	.562x1 .562x1	.562x1 .562x1	.25	.750x2 .750x2	.750x2 .750x2
100	.0012	.175x .175	.175x .175	.0082	.175x .175	.235x .235	.05	.312x .312	.312x .312	.27	.400x1 .400x1	.562x1 .562x1
200	.0012	.235x .235	.235x .235	.0082	.235x .235	.312x .312	.05	.312x .312	.400x .400x	.27	.562x1 .562x1	.562x1 .562x1
300	.0012	.235x .235	.235x .235	.0082	.235x .235	.312x .312	.05	.312x .312	.400x .400x	.27	.562x1 .562x1	.562x1 .562x1
400	.0012	.235x .235	.235x .235	.0082	.235x .235	.312x .312	.05	.400x .400x	.400x1 .400x1	.27	.562x1 .562x1	.670x1 .670x1
600	.0012	.235x .235	.235x .235	.0082	.312x .312	.312x .312	.05	.400x1 .400x1	.400x1 .400x1	.27	.670x1 .670x1	.750x2 .750x2
1000	.0012	.400x .400	.400x .400	.0082	.400x .400	.400x .400	.05	.562x1 .562x1	.562x1 .562x1	.27	.750x2 .750x2	1.000x2 1.000x2
100	.0015	.175x .175	.175x .175	.01	.175x .175	.235x .235	.056	.312x .312	.400x .400x	.33	.400x1 .400x1	.562x1 .562x1
200	.0015	.235x .235	.235x .235	.01	.235x .235	.312x .312	.056	.312x .312	.400x .400x	.33	.562x1 .562x1	.562x1 .562x1
300	.0015	.235x .235	.235x .235	.01	.235x .235	.312x .312	.056	.400x .400x	.400x1 .400x1	.33	.562x1 .562x1	.670x1 .670x1
400	.0015	.235x .235	.235x .235	.01	.235x .235	.312x .312	.056	.400x1 .400x1	.562x1 .562x1	.33	.670x1 .670x1	.750x2 .750x2
600	.0015	.235x .235	.235x .235	.01	.312x .312	.312x .312	.056	.400x1 .400x1	.400x .400x	.33	.750x2 .750x2	1.000x2 1.000x2
1000	.0015	.400x .400	.400x .400	.01	.400x .400	.400x .400	.056	.562x1 .562x1	.562x1 .562x1	.33	.750x2 .750x2	1.000x2 1.000x2
100	.0018	.175x .175	.175x .175	.012	.175x .175	.235x .235	.068	.312x .312	.400x .400x	.39	.562x1 .562x1	.562x1 .562x1
200	.0018	.235x .235	.235x .235	.012	.235x .235	.312x .312	.068	.312x .312	.400x .400x	.39	.562x1 .562x1	.562x1 .562x1
300	.0018	.235x .235	.235x .235	.012	.235x .235	.312x .312	.068	.400x .400x	.400x1 .400x1	.39	.562x1 .562x1	.670x1 .670x1
400	.0018	.235x .235	.235x .235	.012	.312x .312	.312x .312	.068	.400x1 .400x1	.400x1 .400x1	.39	.670x1 .670x1	.750x2 .750x2
600	.0018	.235x .235	.235x .235	.012	.312x .312	.400x .400	.068	.400x1 .400x1	.562x1 .562x1	.39	.750x2 .750x2	.750x2 .750x2
1000	.0018	.400x .400	.400x .400	.012	.400x .400	.400x1 .400x1	.068	.562x1 .562x1	.562x1 .562x1	.39	1.000x2 1.000x2	1.000x2 1.000x2
100	.0022	.175x .175	.175x .175	.015	.175x .175	.235x .235	.082	.312x .312	.400x .400x	.47	.562x1 .562x1	.562x1 .562x1
200	.0022	.235x .235	.235x .235	.015	.235x .235	.312x .312	.082	.400x1 .400x1	.400x1 .400x1	.47	.562x1 .562x1	.562x1 .562x1
300	.0022	.235x .235	.235x .235	.015	.235x .235	.312x .312	.082	.400x1 .400x1	.400x1 .400x1	.47	.562x1 .562x1	.670x1 .670x1
400	.0022	.235x .235	.235x .235	.015	.312x .312	.312x .312	.082	.400x1 .400x1	.562x1 .562x1	.47	.670x1 .670x1	.750x2 .750x2
600	.0022	.235x .235	.235x .235	.015	.312x .312	.400x .400	.082	.562x1 .562x1	.562x1 .562x1	.47	.750x2 .750x2	.750x2 .750x2
1000	.0022	.400x .400	.400x .400	.015	.400x .400	.400x1 .400x1	.082	.562x1 .562x1	.670x1 .670x1	.47	1.000x2 1.000x2	1.000x2 1.000x2
100	.0027	.175x .175	.175x .175	.018	.175x .175	.235x .235	.1	.312x .312	.400x .400x	.5	.562x1 .562x1	.562x1 .562x1
200	.0027	.235x .235	.235x .235	.018	.235x .235	.312x .312	.1	.400x .400x	.400x1 .400x1	.5	.562x1 .562x1	.562x1 .562x1
300	.0027	.235x .235	.235x .235	.018	.312x .312	.312x .312	.1	.400x1 .400x1	.400x1 .400x1	.5	.562x1 .562x1	.670x1 .670x1
400	.0027	.235x .235	.235x .235	.018	.312x .312	.400x .400	.1	.400x1 .400x1	.562x1 .562x1	.5	.670x1 .670x1	.750x2 .750x2
600	.0027	.235x .235	.312x .312	.018	.312x .312	.400x .400	.1	.562x1 .562x1	.562x1 .562x1	.5	.750x2 .750x2	.750x2 .750x2
1000	.0027	.400x .400	.400x .400	.018	.400x1 .400x1	.400x1 .400x1	.1	.562x1 .562x1	.670x1 .670x1	.5	.750x2 .750x2	.750x2 .750x2
100	.0033	.175x .175	.175x .175	.022	.195x .195	.312x .312	.12	.400x .400x	.400x1 .400x1	.56	.562x1 .562x1	.562x1 .562x1
200	.0033	.235x .235	.235x .235	.022	.235x .235	.312x .312	.12	.400x1 .400x1	.400x1 .400x1	.56	.562x1 .562x1	.670x1 .670x1
300	.0033	.235x .235	.235x .235	.022	.312x .312	.312x .312	.12	.400x1 .400x1	.562x1 .562x1	.56	.670x1 .670x1	.750x2 .750x2
400	.0033	.235x .235	.235x .235	.022	.312x .312	.400x .400	.12	.562x1 .562x1	.562x1 .562x1	.56	.750x2 .750x2	.750x2 .750x2
600	.0033	.235x .235	.312x .312	.022	.312x .312	.400x .400	.12	.562x1 .562x1	.562x1 .562x1	.56	1.000x1 1.000x1	1.000x2 1.000x2
1000	.0033	.400x .400	.400x .400	.022	.400x1 .400x1	.400x1 .400x1	.12	.670x1 .670x1	.670x1 .670x1	.56	1.000x1 1.000x1	1.000x2 1.000x2
100	.0039	.175x .175	.175x .175	.027	.235x .235	.312x .312	.15	.400x .400x	.400x1 .400x1	.68	.562x1 .562x1	.562x1 .562x1
200	.0039	.235x .235	.235x .235	.027	.312x .312	.312x .312	.15	.400x1 .400x1	.400x1 .400x1	.68	.562x1 .562x1	.670x1 .670x1
300	.0039	.235x .235	.235x .235	.027	.312x .312	.400x .400	.15	.400x1 .400x1	.562x1 .562x1	.68	.670x1 .670x1	.750x2 .750x2
400	.0039	.235x .312	.312x .312	.027	.312x .312	.400x .400	.15	.562x1 .562x1	.562x1 .562x1	.68	.750x2 .750x2	.750x2 .750x2
600	.0039	.235x .312	.312x .312	.027	.400x .400	.400x1 .400x1	.15	.562x1 .562x1	.562x1 .562x1	.68	1.000x1 1.000x1	1.000x2 1.000x2
1000	.0039	.400x .400	.400x .400	.027	.400x1 .400x1	.562x1 .562x1	.15	.670x1 .670x1	.670x1 .670x1	.68	1.000x1 1.000x1	1.000x2 1.000x2
100	.0047	.175x .175	.175x .175	.033	.235x .235	.312x .312	.18	.400x1 .400x1	.400x1 .400x1	.82	.562x1 .562x1	.670x1 .670x1
200	.0047	.235x .235	.235x .235	.033	.312x .312	.312x .312	.18	.400x1 .400x1	.562x1 .562x1	.82	.670x1 .670x1	.750x2 .750x2
300	.0047	.235x .235	.235x .235	.033	.312x .312	.400x .400	.18	.562x1 .562x1	.562x1 .562x1	.82	.750x2 .750x2	.750x2 .750x2
400	.0047	.235x .312	.312x .312	.033	.312x .312	.400x .400	.18	.562x1 .562x1	.562x1 .562x1	.82	1.000x1 1.000x1	1.000x2 1.000x2
600	.0047	.235x .312	.312x .312	.033	.400x .400	.400x1 .400x1	.18	.562x1 .562x1	.670x1 .670x1			
1000	.0047	.400x .400	.400x .400	.033	.400x1 .400x1	.562x1 .562x1	.18	.750x2 .750x2	.750x2 .750x2			
100	.0056	.175x .195	.195x .195	.039	.312x .312	.312x .312	.22	.400x1 .400x1	.400x1 .400x1	1.0	.562x1 .562x1	.670x1 .670x1
200	.0056	.235x .235	.235x .235	.039	.312x .312	.400x .400	.22	.400x1 .400x1	.562x1 .562x1	1.0	.670x1 .670x1	.750x2 .750x2
300	.0056	.235x .312	.312x .312	.039	.312x .312	.400x .400	.22	.562x1 .562x1	.562x1 .562x1	1.0	.750x2 .750x2	.750x2 .750x2
400	.0056	.235x .312	.312x .312	.039	.400x .400	.400x1 .400x1	.22	.562x1 .562x1	.562x1 .562x1	1.0	1.000x1 1.000x1	
600	.0056	.235x .312	.312x .312	.039	.400x1 .400x1	.400x1 .400x1	.22	.562x1 .562x1	.670x1 .670x1			
1000	.0056	.400x .400	.400x .400	.039	.562x1 .562x1	.562x1 .562x1	.22	.750x2 .750x2	.750x2 .750x2			



CASE FLOATING Add $\frac{1}{16}$ inch to length.

EXTENDED FOIL CONSTRUCTION

EPGIR*
EPGR

CASE GROUNDED

R

RESIN (SOLID) IMPREGNANT
TEMPERATURE RANGE —55° C. to +125° C.

V D C	Cap. in Mfd.	EPGIR* EPGR D x L	Cap. in Mfd.	EPGIR* EPGR D x L	Cap. in Mfd.	EPGIR* EPGR D x L	DIMENSIONS IN INCHES	
							Cap. in Mfd.	EPGIR* EPGR D x L
100	.001	.175x	.0068	.195x	.047	.312x	.25	400x1
200	.001	.235x	.0068	.235x	.047	.400x	.25	.562x1
300	.001	.235x	.0068	.312x	.047	.400x	.25	.562x1
400	.001	.235x	.0068	.312x	.047	.400x1	.25	.562x1
600	.001	.235x	.0068	.312x	.407	.400x1	.25	.610x1
100	.0012	.175x	.0082	.235x	.05	.312x	.27	.562x1
200	.0012	.235x	.0082	.312x	.05	.400x	.27	.562x1
300	.0012	.235x	.0082	.312x	.05	.400x	.27	.562x1
400	.0012	.235x	.0082	.312x	.05	.400x1	.27	.670x1
600	.0012	.235x	.0082	.312x	.05	.400x1	.27	.750x2
100	.0015	.175x	.01	.235x	.056	.400x	.33	.562x1
200	.0015	.235x	.01	.312x	.056	.400x	.33	.562x1
300	.0015	.235x	.01	.312x	.056	.400x1	.33	.562x1
400	.0015	.235x	.01	.312x	.056	.400x1	.33	.670x1
600	.0015	.235x	.01	.312x	.056	.562x1	.33	.750x2
100	.0018	.175x	.012	.235x	.068	.400x	.25	.670x1
200	.0018	.235x	.012	.312x	.068	.400x	.39	.562x1
300	.0018	.235x	.012	.312x	.068	.400x1	.39	.562x1
400	.0018	.235x	.012	.312x	.068	.400x1	.39	.670x1
600	.0018	.235x	.012	.400x	.068	.562x1	.39	.750x2
100	.0022	.175x	.015	.235x	.082	.400x	.39	.750x2
200	.0022	.235x	.015	.312x	.082	.400x1	.47	.562x1
300	.0022	.235x	.015	.312x	.082	.400x1	.47	.562x1
400	.0022	.235x	.015	.312x	.082	.562x1	.47	.670x1
600	.0022	.235x	.015	.400x	.082	.562x1	.47	.750x2
100	.0027	.175x	.018	.312x	.1	.400x	.47	.750x2
200	.0027	.235x	.018	.312x	.1	.400x1	.5	.562x1
300	.0027	.235x	.018	.312x	.1	.400x1	.5	.562x1
400	.0027	.235x	.018	.400x	.1	.562x1	.5	.670x1
600	.0027	.312x	.018	.400x	.1	.562x1	.5	.750x2
100	.0033	.175x	.022	.312x	.12	.400x1	.5	.750x2
200	.0033	.235x	.022	.312x	.12	.400x1	.56	.562x1
300	.0033	.235x	.022	.312x	.12	.562x1	.56	.670x1
400	.0033	.235x	.022	.400x	.12	.562x1	.56	.750x2
600	.0033	.312x	.022	.400x	.12	.562x1	.56	.750x2
100	.0039	.175x	.027	.312x	.15	.400x1	.68	.562x1
200	.0039	.235x	.027	.312x	.15	.400x1	.68	.670x1
300	.0039	.235x	.027	.400x	.15	.562x1	.68	.750x2
400	.0039	.312x	.027	.400x	.15	.562x1	.68	.750x2
600	.0039	.312x	.027	.400x1	.15	.562x1	.68	.750x2
100	.0047	.175x	.033	.312x	.18	.400x1	.82	.670x1
200	.0047	.235x	.033	.312x	.18	.562x1	.82	.750x2
300	.0047	.235x	.033	.400x	.18	.562x1	.82	.750x2
400	.0047	.312x	.033	.400x	.18	.562x1	.82	.750x2
600	.0047	.312x	.033	.400x1	.18	.670x1	.82	.750x2
100	.0056	.195x	.039	.312x	.22	.400x1	1.0	.670x1
200	.0056	.235x	.039	.400x	.22	.562x1	1.0	.750x2
300	.0056	.312x	.039	.400x	.22	.562x1	1.0	.750x2
400	.0056	.312x	.039	.400x1	.22	.562x1	1.0	.750x2
600	.0056	.312x	.039	.400x1	.22	.670x1	1.0	.750x2

MILITARY DESIGNATION BREAKDOWN	CP	04	A	1	E	B	333	K	MILITARY TYPES
	Style	Case	Terminal	Circuit	Characteristic	Voltage	Capacitance	Tolerance	
				1	E	B = 100 V.	E = 400 V.	K = ± 10%	
				3	K	C = 200 V.	F = 600 V.	M = ± 20%	
						G = 1000 V.			
CP04A1K — PGIX	CP10A1K — 7PGIX	CP05A1E — PGMV	CP08A1K — EPGIX	CP08A1E — EPGIM	CP11A1K — 3PGIX				
CP04A3K — PGX	CP10A3K — 7PGXA	CP05A3E — PGMV	CP08A3K — EPGX	CP08A3E — EPGM	CP11A3K — 3PGXA				
CP05A1K — PGIXV	CP04A1E — PGM	CP10A1E — 7PGIM	CP09A1K — EPGIXV	CP09A1E — EPGIMV	CP11A1E — 3PGIM				
CP05A3K — PGXV	CP04A3E — PGM	CP10A3E — 7PGMA	CP09A3K — EPGXV	CP09A3E — EPGMV	CP11A3E — 3PGMA				

MIL-C-25A Designation	100 V.				200 V.				400 V.				600 V.						
	102	152	222	332	472	682	103	153	223	333	473	683	104	154	224	334	474	684	105
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
				.001	.001	.001	.001	.001											
				.0015	.0015	.0015	.0015	.0015											
				.0022	.0022	.0022	.0022	.0022											
				.0033	.0033	.0033	.0033	.0033											
				.0047	.0047	.0047	.0047	.0047											
				.0068	.0068	.0068	.0068	.0068											
				.01	.01	.01	.01	.01											
				.015	.015	.015	.015	.015											
				.022	.022	.022	.022	.022											
		.033		.033	.033	.033	.033	.033		.033									
				.047	.047	.047	.047	.047											
				.068	.068	.068	.068	.068											
	.1			.1	.1	.1	.1	.1											
	.15	.15		.15	.15	.15	.15	.15		.15	.15	.15		.15	.15	.15		.15	.15
	.22	.22		.22	.22	.22	.22	.22		.22	.22	.22		.22	.22	.22		.22	.22
	.33	.33		.33	.33	.33	.33	.33		.33	.33	.33		.33	.33	.33		.33	.33
	.47	.47		.47	.47	.47	.47	.47		.47	.47	.47		.47	.47	.47		.47	.47
	.68	.68		.68	.68	.68	.68	.68		.68	.68	.68		.68	.68	.68		.68	.68
	1.	1.	1.	1.	1.	1.	1.	1.		1.	1.	1.		1.	1.	1.		1.	1.

Capacitance in Mfd.

SANGAMO CAPACITORS

ELECTROLYTIC CAPACITORS



TYPES MT MTD-MTH electrolytic

SANGAMO Type MT electrolytic capacitors are especially designed for television and other electronic applications where operation at 85°C is required. They are sealed in aluminum containers which are encased in heavy insulating sleeves on which polarity is clearly indicated. Low voltage units utilize etched cathodes to maintain uniform capacity when they are subjected to combined conditions of heat and ripple currents. The MTH is provided with a mounting strap and is designed for electronic applications requiring high capacity in low voltage D.C. circuits such as cathode by pass circuits and filters for low voltage, high current power supplies.

SINGLE SECTION

Catalog Number	Capacitance In Mfd.	Working Volts D.C.	Diam. In Inches	Length In Inches	List Price
MTH-0610	100	6	5.8 x 1.1	1.16	\$1.20
MTH-0625	250	6	5.8 x 1.1	1.16	1.35
MTH-0650	500	6	3.4 x 2.5	1.16	1.55
MTH-06100	1000	6	1 x 1.3	1.16	1.90
MTH-06150	1500	6	1 x 2.5	1.16	2.10
MTH-1210	100	12	5.8 x 1.9	1.16	1.20
MTH-1225	250	12	3.1 x 1.3	1.16	1.50
MTH-1250	500	12	1.8 x 2.5	1.16	1.70
MTH-12100	1000	12	5.8 x 1.9	1.16	1.85
MTH-12150	1500	12	1.4 x 1.3	1.16	1.95
MTH-1510	100	15	1.9 x 2.5	1.16	1.75
MTH-1525	250	15	3.4 x 1.9	1.16	1.90
MTH-1550	500	15	7.8 x 1.3	1.16	2.30
MTH-15100	1000	15	1 x 2.5	1.16	2.40
MTH-2510	100	25	7.8 x 1.9	1.16	1.60
MTH-2525	250	25	5.8 x 1.1	1.16	1.80
MTH-2550	500	25	5.8 x 1.1	1.16	1.90
MTH-25100	1000	25	5.8 x 1.1	1.16	2.00
MT-0210	10	25	5.8 x 1.1	1.16	1.00
MT-0220	20	25	5.8 x 1.1	1.16	1.00
MT-0225	25	25	5.8 x 1.1	1.16	1.10
MT-0250	50	25	5.8 x 1.5	1.16	1.20
MT-02100	100	25	3.1 x 1.9	1.16	1.60
MT-02100	100	25	5.8 x 1.1	1.16	1.60
MT-C502	2	50	5.8 x 1.1	1.16	1.60
MT-301	4	50	5.8 x 1.1	1.16	1.60
MT-1010	10	50	5.8 x 1.1	1.16	1.60
MT-0520	20	50	5.8 x 1.5	1.16	1.05
MT-0525	25	50	5.8 x 1.5	1.16	1.20
MT-0550	50	50	3.4 x 1.9	1.16	1.10
MT-05100	100	50	7.8 x 1.9	1.16	1.60
MT-1504	4	150	5.8 x 1.1	1.16	1.05
MT-1508	8	150	5.8 x 1.5	1.16	1.15
MT-1510	10	150	5.8 x 1.5	1.16	1.10
MT-1512	12	150	5.8 x 1.5	1.16	1.15
MT-1516	16	150	5.8 x 1.9	1.16	1.20
MT-1520	20	150	3.4 x 1.9	1.16	1.30
MT-1530	30	150	5.8 x 1.9	1.16	1.35
MT-1540	40	150	3.4 x 1.13	1.16	1.40
MT-1550	50	150	7.8 x 1.13	1.16	1.55
MT-1580	80	150	1 x 1.13	1.16	1.75
MT-1580	80	150	1 x 2.5	1.16	1.90
MT-15100	100	150	1 x 2.7	1.16	1.90
MT-15150	150	150	5.8 x 1.1	1.16	1.00
MT-2504	4	250	5.8 x 1.9	1.16	1.15
MT-2508	8	250	5.8 x 1.13	1.16	1.25
MT-2512	12	250	5.8 x 1.13	1.16	1.30
MT-2516	16	250	3.4 x 1.9	1.16	1.35
MT-2520	20	250	3.4 x 1.13	1.16	1.45
MT-2520	20	250	7.8 x 1.13	1.16	1.45
MT-2530	30	250	7.8 x 2.5	1.16	1.55
MT-2540	40	250	7.8 x 2.5	1.16	1.55
MT-25100	100	250	1 x 2.7	1.16	2.45
MT-3508	8	350	3.4 x 1.9	1.16	1.20

SINGLE SECTION (Cont.)

Catalog Number	Capacitance In Mfd.	Working Volts D.C.	Diam. In Inches	Length In Inches	List Price
MT-3512	12	350	3.4 x 1.13	1.16	1.30
MT-3516	16	350	7.8 x 1.13	1.16	1.40
MT-4502	2	450	5.8 x 1.1	1.16	1.10
MT-4504	4	450	5.8 x 1.5	1.16	1.15
MT-4508	8	450	3.4 x 1.9	1.16	1.25
MT-4510	10	450	3.4 x 1.9	1.16	1.30
MT-4512	12	450	7.8 x 1.9	1.16	1.35
MT-4516	16	450	7.8 x 1.13	1.16	1.40
MT-4520	20	450	1 x 2.5	1.16	1.55
MT-4530	30	450	1 x 2.7	1.16	1.70
MT-4540	40	450	1 x 2.7	1.16	2.10
MT-4550	50	450	1 x 3.1	1.16	2.80
MT-4580	80	450	1 x 3.1	1.16	1.35
MT-4710	10	475	7.8 x 1.9	1.16	1.60
MT-4720	20	475	1 x 1.13	1.16	1.60

DUAL SECTION

Catalog Number	Capacitance In Mfd.	Working Volts D.C.	Diam. In Inches	Length In Inches	List Price
MTD-0210	10-10	25	7.8 x 1.1	1.16	\$1.40
MTD-0220	20-20	25	7.8 x 1.1	1.16	1.45
MTD-0510	10-10	50	7.8 x 1.5	1.16	1.40
MTD-301	10-10	50	1 x 1.13	1.16	1.95
MTD-301	50-30	150	1 x 1.13	1.16	1.75
MTD-302	40-20	150	1 x 1.13	1.16	2.25
MTD-303	80-40	150	1 x 2.7	1.16	1.80
MTD-302	40-30	150	1 x 1.13	1.16	1.80
MTD-304	40-30	150	7.8 x 1.9	1.16	1.70
MTD-305	30-20	150	7.8 x 1.1/16	1.16	1.50
MTD-1508	8-8	150	3.4 x 1.9	1.16	1.80
MTD-1516	15-15	150	3.4 x 1.9	1.16	1.65
MTD-1520	20-20	150	3.4 x 1.9	1.16	1.80
MTD-1530	30-30	150	7.8 x 1.9	1.16	1.85
MTD-1540	40-40	150	1 x 1.13	1.16	2.10
MTD-1550	50-50	150	1 x 1.13	1.16	1.80
MTD-2516	16-16	250	1 x 1.13	1.16	1.85
MTD-2520	20-20	250	1 x 1.13	1.16	2.25
MTD-2520	20-20	350	1 x 2.7	1.16	2.00
MTD-3520	20-20	350	1 x 1.13	1.16	1.70
MTD-308	8-16	450	7/8 x 1.13/16	1.16	1.85
MTD-4508	8-8	450	1 x 1.13	1.16	1.85
MTD-4510	10-10	450	1 x 2.7	1.16	2.50
MTD-4520	20-20	450	1 x 3.3	1.16	3.00
MTD-4530	30-30	450	1 x 3.1	1.16	3.00
MTD-4540	40-40	450	1 x 3.1	1.16	3.40

NOTE: Dimensions are for metal cases. Add 1/16" to diameter and 3/16" to length for cardboard insulating sleeve.

TYPE MMT electrolytic

SANGAMO Type MMT miniature tubular electrolytic capacitors are designed for use in miniaturized equipment and are ideally suited to meet the precise operating requirements of low voltage circuits. They are small in physical size and are self supporting by means of reinforced bare tinned copper wire leads. The Type MMT capacitors are contained in drawn aluminum tubes encased in fitted cardboard insulating sleeves on which the polarity is clearly marked.

Catalog Number	Capacitance Mfd.	Working Voltage DC	Diameter In Inches	Length In Inches	List Price
MMT-325	25	3	3/8	1 1/16	\$.85
MMT-350	50	3	3/8	1 1/16	.95
MMT-605	5	6	3/8	1 1/16	.80
MMT-625	25	6	3/8	1 1/16	.85
MMT-650	50	6	3/8	1 1/16	.95
MMT-680	80	6	1/2	1 1/16	1.20
MMT-610	100	6	1/2	1 1/16	1.00
MMT-0210	10	25	3/8	1 1/16	1.00
MMT-0220	20	25	3/8	1 1/16	1.00
MMT-0240	40	25	1/2	1 1/16	1.10
MMT-0250	50	25	1/2	1 1/16	1.10
MMT-0505	5	50	3/8	1 1/16	1.00

Catalog Number	Capacitance Mfd.	Working Voltage DC	Diameter In Inches	Length In Inches	List Price
MMT-0510	10	50	3/8	1 1/16	1.00
MMT-0520	20	50	1/2	1 1/16	1.00
MMT-0530	30	50	1/2	1 1/16	1.05
MMT-1505	5	150	3/8	1 1/16	1.00
MMT-1508	8	150	1/2	1 1/16	1.00
MMT-1510	10	150	1/2	1 1/16	1.05
MMT-1510	10	150	1/2	1 1/16	1.05
MMT-3003	3	300	3/8	1 1/16	1.00
MMT-4501	1	450	1/2	1 1/16	1.00
MMT-4502	2	450	1/2	1 1/16	1.00
MMT-4503	3	450	1/2	1 1/16	1.00

NOTE: Dimensions are for metal cases. Add 1/16 inch to diameter and 3/16 inch to length for cardboard insulating sleeves.

SANGAMO CAPACITORS

ELECTROLYTIC CAPACITORS

TYPE PL electrolytic—continued . . .

QUADRUPLE SECTION

Stock Number	Catalog Number	Capacity Mfd.	Working Volts DC	Can Size	List Price	Stock Number	Catalog Number	Capacity Mfd.	Volts DC Working	Can Size	List Price
Q-282	PLQ-8155	20 80-50 100	450 350-350 50	1 $\frac{1}{2}$ "x4	6.90	Q-440	PLQ-8241	20 40 100 80	475/300/50/25	1 $\frac{1}{2}$ "x3	4.45
Q-285	PLQ-8156	30 40-40 10	450 350-350 200	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	7.75	Q-442	PLQ-82415	10 40 100 10	475/400 50 25	1 $\frac{1}{2}$ "x2 $\frac{1}{2}$	6.00
Q-287	PLQ-8157	40 30 15 50	450 350 300/50	1 $\frac{1}{2}$ "x3	6.55	Q-445	PLQ-8242	10 10 80 50	475/450/200/60	1 $\frac{1}{2}$ "x3	5.80
Q-290	PLQ-8158	80 10 30 40	450 400 300/150	1 $\frac{1}{2}$ "x4	7.90	*Q-446	PLQ-82421	10/40 4/100	475 400 350 50	1 $\frac{1}{2}$ "x2 $\frac{1}{2}$	4.05
Q-295	PLQ-8159	10-10 20-20	450-450 25-25	1 $\frac{1}{2}$ "x2	4.45	*Q-450	PLQ-8243	25 20 20/100	475 450/300 50	1 $\frac{1}{2}$ "x3	4.60
*Q-300	PLQ-816	20-15 20-20	450-450 25-25	1 $\frac{1}{2}$ "x2	3.45	Q-455	PLQ-8244	25 20 40 100	475 450 300 50	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	7.45
Q-301	PLQ-8161	20-20 20-15	450-450 25-25	1 $\frac{1}{2}$ "x2	4.45	*Q-460	PLQ-8246	10 60 30 125	475 450 400 50	1 $\frac{1}{2}$ "x4	5.55
Q-305	PLQ-817	20-20 20-20	450-450 25-25	1 $\frac{1}{2}$ "x2	4.55	*Q-465	PLQ-8247	15-15 80 40	475-475 300/50	1 $\frac{1}{2}$ "x3	4.80
Q-306	PLQ-8171	20-10 40 500	450-450/200/50	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	7.25	*Q-467	PLQ-8248	40-10 4 40	475-475 350 300	1 $\frac{1}{2}$ "x3	4.95
*Q-307	PLQ-8172	35-25 20/100	450-450 200 50	1 $\frac{1}{2}$ "x3	4.65	Q-470	PLQ-8249	10-5 80 40	475-475 450 50	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	7.35
Q-308	PLQ-8173	20-10 40 100	450-450/250/50	1 $\frac{1}{2}$ "x2 $\frac{1}{2}$	7.05	Q-475	PLQ-8250	30-30-10 20	475-475-475 25	1 $\frac{1}{2}$ "x3	6.85
Q-310	PLQ-8175	40-40 10 50	450-450 300 50	1 $\frac{1}{2}$ "x3	7.05	Q-480	PLQ-825	40-20-10 10	475-475-475 25	1 $\frac{1}{2}$ "x3	7.30
Q-315	PLQ-818	20-20 30-30	450-450 300-300	1 $\frac{1}{2}$ "x3	6.75	*Q-485	PLQ-826	20-20-10 10	475-475-475 300	1 $\frac{1}{2}$ "x2 $\frac{1}{2}$	4.30
Q-320	PLQ-819	40-10 35-10	450-450 350-350	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	6.90						
*Q-325	PLQ-8195	40-40 30-30	450-450 350-350	1 $\frac{1}{2}$ "x4	5.90						
*Q-330	PLQ-820	10-10-10 20	450-450-450 25	1 $\frac{1}{2}$ "x2	3.15						
Q-335	PLQ-8202	10-20-10 100	450-450-450 25	1 $\frac{1}{2}$ "x2 $\frac{1}{2}$	5.55						
*Q-340	PLQ-8205	20-20-20 20	450-450-450 25	1 $\frac{1}{2}$ "x2 $\frac{1}{2}$	4.15						
Q-345	PLQ-82055	30-20-20 20	450-450-450 25	1 $\frac{1}{2}$ "x3	6.60						
Q-350	PLQ-82057	30-30-10 20	450-450-450 25	1 $\frac{1}{2}$ "x3	6.55						
Q-355	PLQ-8206	30-30-20 20	450-450-450 25	1 $\frac{1}{2}$ "x3	7.00						
*Q-360	PLQ-8207	40 10-10 250	450-450-450 25	1 $\frac{1}{2}$ "x3	4.70						
Q-365	PLQ-82075	40-15-10 20	450-450-450 25	1 $\frac{1}{2}$ "x3	6.15						
*Q-370	PLQ-8208	40-20-20 20	450-450-450 25	1 $\frac{1}{2}$ "x3	4.60						
*Q-375	PLQ-8209	40-20-20 40	450-450-450 25	1 $\frac{1}{2}$ "x3	4.65						
*Q-380	PLQ-821	40-30-10 20	450-450-450 25	1 $\frac{1}{2}$ "x3	4.50						
*Q-385	PLQ-8215	40-40-10 20	450-450-450 25	1 $\frac{1}{2}$ "x3	4.70						
*Q-390	PLQ-8216	40-40-40 40	450-450-450 25	1 $\frac{1}{2}$ "x4	5.50						
*Q-395	PLQ-8217	20-20-20 100	450-450-450 50	1 $\frac{1}{2}$ "x3	4.55						
*Q-400	PLQ-822	30-30-15 30	450-450-450 50	1 $\frac{1}{2}$ "x3	4.55						
*Q-405	PLQ-8225	40-20-10 100	450-450-450 50	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	4.80						
*Q-410	PLQ-8226	40-40-10 25	450-450-450 50	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	4.70						
*Q-415	PLQ-8227	40-40-10 100	450-450-450 100	1 $\frac{1}{2}$ "x4	5.55						
Q-420	PLQ-823	10-10-10 10	450-450-450 150	1 $\frac{1}{2}$ "x2	4.75						
Q-425	PLQ-8235	20-10-10 10	450-450-450 150	1 $\frac{1}{2}$ "x3	4.85						
Q-426	PLQ-8236	40-30-30 5	450-450-450 150	1 $\frac{1}{2}$ "x3	5.10						
*Q-430	PLQ-824	60-10-10 20	450-450-450 150	1 $\frac{1}{2}$ "x3	4.55						
Q-432	PLQ-824.5	35-35-10 10	450-450-450 200	1 $\frac{1}{2}$ "x3	6.90						
*Q-435	PLQ-8240	40 10 50 80	475 250 150 50	1 $\frac{1}{2}$ "x3 $\frac{1}{2}$	5.00						
Q-436	PLQ-82401	10 140-4 100	475 300-300 50	1 $\frac{1}{2}$ "x4	7.00						

NOTE—Each unit is supplied with a bakelite and metal mounting plate.

NOTE—Cardboard insulating sleeves supplied at extra cost.

TYPE KCT CARDBOARD INSULATING SLEEVES

for TYPE PL CAPACITORS

Catalog Number	Can Size In Inches		List Price
	Diameter	Length	
KCT-1	1	2	.06
KCT-2	1	2 1/2	.06
KCT-3	1	3	.06
KCT-4	1	4	.06
KCT-5	1 3/8	2	.06
KCT-6	1 3/8	2 1/2	.06
KCT-7	1 3/8	3	.06
KCT-8	1 3/8	3 1/2	.06
KCT-9	1 3/8	4	.06

* Items listed with asterisk indicate popular items which are readily available from stock.

Catalog Number	Capacitance Mfd.	Working Voltage DC	Diameter In Inches	Length In Inches	List Price
SINGLE SECTION					
TR-620	2500	6	1 3/8	2 1/2	\$ 8.75
TR-621	1000	15	1	4	8.25
TR-02500	500	25	1	4	9.50
TR-05200	200	50	1	4	7.95
TR-15100	100	150	1	3 1/2	8.40
TR-2550	50	250	1	3	7.55
TR-3520	20	350	1	2 1/2	7.30
TR-3550	50	350	1	4	8.00
TR-4520	20	450	1	3	7.60
TR-4550	50	450	1	3	8.75
DUAL SECTIONS					
TRD-1550	50 50	150	1	4	8.90
TRD-2520	20-20	250	1	3 1/2	8.85
TRD-4510	10-10	450	1	4	8.50
TRD-4520	20-20	450	1 3/8	3 1/2	9.55
TRD-4540	40-40	450	1 3/8	4	10.70
TRIPLE SECTIONS					
TRT-1550	50-50-50	150	1 3/8	4	10.35
TRT-2540	40-40-40	250	1 3/8	4	10.75
TRT-3520	20-20-20	350	1 3/8	4	10.45
TRT-4520	20-20-20	450	1 3/8	4	11.05

TYPE TR high reliability electrolytics

(99.99% High Purity Foil)



SANGAMO Type TR "High Reliability" electrolytic capacitors are specially designed and manufactured for applications requiring an extremely high level of reliability over long periods of time. The Type TR is ideally suited for low-frequency filter, by-pass and coupling applications in communications equipment, electronic industrial controls, laboratory test instruments, computers and similar equipment where a high degree of reliability over a period of 10 years is essential to the operation of the equipment in which it is used. The SANGAMO Type TR "High Reliability" capacitors are designed to operate throughout the temperature range from -20°C to +85°C.

SANGAMO CAPACITORS



TYPE EM
motor starting

MOTOR STARTING CAPACITOR

The SANGAMO Type EM Motor Starting Capacitor is contained in an aluminum can and is supplied with a heavy cardboard insulating sleeve. Designed for heavy-duty motor starting applications, the Type EM will give maximum performance under ex-

treme environmental conditions. The connecting terminals are lug type with threaded holes containing a #6-32 machine screw. Connecting wires can be secured with the screw or the screw removed and the wires soldered.

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
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110 VOLTS AC

EMS11021E	21-25	1 3/8	2 5/8	\$ 2.05
EMS11025E	25-30	1 3/8	2 5/8	2.10
EMS11030E	30-36	1 3/8	2 5/8	2.10
EMS11036E	36-43	1 3/8	2 5/8	2.10
EMS11043E	43-53	1 3/8	2 5/8	2.10
EMS11047E	47-56	1 3/8	2 5/8	2.15
EMS11053E	53-64	1 3/8	2 5/8	2.25
EMS11064E	64-77	1 3/8	2 5/8	2.30
EMS11072E	72-88	1 3/8	2 5/8	2.65
EMS11088E	88-108	1 3/8	2 5/8	2.85
EMS11108E	108-130	1 3/8	2 5/8	2.95
EMS11214E	124-149	1 3/8	2 5/8	2.95
EMS11130E	130-156	1 3/8	2 5/8	3.20
EMS11145E	145-175	1 3/8	2 5/8	3.25
EMS11189E	189-227	1 3/8	3 1/8	3.75
EMS11216E	216-259	1 3/4	3 1/8	4.05
EMS11233E	233-280	1 3/4	3 1/8	4.50
EMS11243E	243-292	1 3/4	3 1/8	4.70
EMS11270E	270-324	1 3/4	3 1/8	4.75
EMS11340E	340-408	1 3/4	3 1/8	5.65
EMS11378E	378-440	1 3/4	4 1/8	6.70
EMS11400E	400-480	1 3/4	4 1/8	6.80
EMS11430E	430-516	1 3/4	4 1/8	6.95
EMS11460E	460-552	2	4 1/8	7.60
EMS11540E	540-648	2	4 1/8	8.20
EMS11590E	590-708	2	4 1/8	8.80

125 VOLTS AC

EMS12021E	21-25	1 3/8	2 5/8	\$ 2.25
EMS12025E	25-30	1 3/8	2 5/8	2.25
EMS12036E	30-36	1 3/8	2 5/8	2.30
EMS12043E	43-53	1 3/8	2 5/8	2.30
EMS12047E	47-56	1 3/8	2 5/8	2.35
EMS12053E	53-64	1 3/8	2 5/8	2.40
EMS12064E	64-77	1 3/8	2 5/8	2.60
EMS12072E	72-88	1 3/8	2 5/8	2.75
EMS12088E	88-108	1 3/8	2 5/8	2.85
EMS12108E	108-130	1 3/8	2 5/8	2.95
EMS12124E	124-149	1 3/8	2 5/8	3.25
EMS12130E	130-156	1 3/8	2 5/8	3.25
EMS12145E	145-175	1 3/8	3 1/8	3.65
EMS12161E	161-193	1 3/8	3 1/8	3.85
EMS12189E	189-227	1 3/8	3 1/8	4.65
EMS12216E	216-259	1 3/4	3 1/8	5.00
EMS12233E	233-280	1 3/4	3 1/8	5.20
EMS12243E	243-292	1 3/4	3 1/8	5.20
EMS12270E	270-324	1 3/4	3 1/8	5.40
EMS12340E	340-408	1 3/4	4 1/8	6.50
EMS12378E	378-440	1 3/4	4 1/8	6.70
EMS12400E	400-480	1 3/4	4 1/8	6.80
EMS12430E	430-516	1 3/4	4 1/8	6.95
EMS12460E	460-552	2	4 1/8	9.60
EMS12540E	540-648	2	4 1/8	10.35
EMS12590E	590-708	2	4 1/8	10.35

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
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160 VOLTS AC

EMS16021E	21-25	1 3/8	2 5/8	\$ 2.90
EMS16025E	25-30	1 3/8	2 5/8	2.95
EMS16030E	30-36	1 3/8	2 5/8	3.00
EMS16036E	36-43	1 3/8	2 5/8	3.05
EMS16043E	43-53	1 3/8	2 5/8	3.15
EMS16047E	47-56	1 3/8	3 1/8	3.20
EMS16053E	53-64	1 3/8	3 1/8	3.45
EMS16064E	64-77	1 3/4	3 1/8	3.70
EMS16072E	72-88	1 3/4	3 1/8	3.85
EMS16088E	88-108	1 3/4	3 1/8	4.60
EMS16108E	108-130	1 3/4	3 1/8	4.90
EMS16124E	124-149	1 3/4	4 1/8	5.65
EMS16130E	130-156	1 3/4	4 1/8	5.65
EMS16145E	145-175	1 3/4	4 1/8	5.95
EMS16161E	161-193	1 3/4	4 1/8	6.80
EMS16189E	189-227	2	4 1/8	7.65
EMS16216E	216-259	2	4 1/8	7.95
EMS16233E	233-280	2 1/2	4 1/8	8.40
EMS16243E	243-292	2 1/2	4 1/8	8.70
EMS16270E	270-324	2 1/2	4 1/8	9.60

220 VOLTS AC

EMS22021E	21-25	1 3/8	2 5/8	\$ 4.40
EMS22025E	25-30	1 3/8	2 5/8	4.60
EMS22030E	30-36	1 3/8	2 5/8	4.95
EMS22036E	36-43	1 3/8	3 1/8	5.25
EMS22043E	43-53	1 3/8	3 1/8	5.55
EMS22047E	47-56	1 3/4	3 1/8	5.65
EMS22053E	53-64	1 3/4	3 1/8	5.75
EMS22064E	64-77	1 3/4	3 1/8	6.70
EMS22072E	72-88	1 3/4	3 1/8	7.00
EMS22088E	88-108	2	3 1/8	7.60
EMS22108E	108-130	2	3 1/8	8.45
EMS22124E	124-149	2	4 1/8	9.00
EMS22130E	130-156	2	4 1/8	9.40
EMS22145E	145-175	2	4 1/8	10.00
EMS22161E	161-193	2	4 1/8	11.10

320 VOLTS AC

EMS32021E	21-25	1 1/8	3 1/8	\$ 4.90
EMS32025E	25-30	1 3/4	3 1/8	5.05
EMS32030E	30-36	1 3/4	3 1/8	5.35
EMS32036E	36-43	1 3/4	3 1/8	5.65
EMS32043E	43-53	2	3 1/8	5.90
EMS32047E	47-56	2	3 1/8	6.50
EMS32053E	53-64	2	3 1/8	6.70
EMS32064E	64-77	2	4 1/8	7.80
EMS32072E	72-88	2	4 1/8	8.10
EMS32088E	88-108	2 1/2	4 1/8	9.85
EMS32108E	108-130	2 1/2	4 1/8	11.75

NOTE—When units are supplied with sleeve, add 5/8" to length and 1/16" to diameter for overall dimensions.

MOTOR STARTING CAPACITOR



TYPE MJ
motor starting

The SANGAMO Type MJ Motor Starting capacitor is contained in a black plastic case and is supplied, at extra cost, with a plastic end cap. Designed for heavy-duty motor starting applications, the Type MJ will give maximum performance under extreme en-

vironmental conditions. The connecting terminals are lug type with threaded holes containing a #6-32 machine screw. Connecting wires can be secured with the screw or the screw removed and the wires soldered.

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
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110 VOLTS AC

MJS11021E	21-25	1 7/16	2 3/4	\$ 2.05
MJS11025E	25-30	1 7/16	2 3/4	2.10
MJS11030E	30-36	1 7/16	2 3/4	2.10
MJS11036E	36-43	1 7/16	2 3/4	2.10
MJS11043E	43-53	1 7/16	2 3/4	2.10
MJS11047E	47-56	1 7/16	2 3/4	2.15
MJS11053E	53-64	1 7/16	2 3/4	2.15
MJS11064E	64-77	1 7/16	2 3/4	2.25
MJS11072E	72-88	1 7/16	2 3/4	2.30
MJS11088E	88-108	1 7/16	2 3/4	2.65
MJS11108E	108-130	1 7/16	2 3/4	2.85
MJS11124E	124-149	1 7/16	2 3/4	2.95
MJS11130E	130-156	1 7/16	2 3/4	2.95
MJS11145E	145-175	1 7/16	3 3/8	3.20
MJS11189E	189-227	1 7/16	3 3/8	3.75
MJS11216E	216-259	1 13/16	3 3/8	4.05
MJS11233E	233-280	1 13/16	3 3/8	4.50
MJS11243E	243-292	1 13/16	3 3/8	4.70
MJS11270E	270-324	1 13/16	3 3/8	4.75
MJS11340E	340-408	1 13/16	3 3/8	5.65
MJS11378E	378-440	1 13/16	3 3/8	6.00
MJS11400E	400-480	2 1/16	3 3/8	6.05
MJS11430E	430-516	2 1/16	3 3/8	6.95
MJS11460E	460-552	2 1/16	3 3/8	7.60
MJS11540E	540-648	2 1/16	4 3/8	8.20
MJS11590E	590-708	2 1/16	4 3/8	8.80

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
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125 VOLTS AC

MJS12021E	21-25	1 7/16	2 3/4	\$ 2.25
MJS12025E	25-30	1 7/16	2 3/4	2.25
MJS12030E	30-36	1 7/16	2 3/4	2.30
MJS12036E	36-43	1 7/16	2 3/4	2.30
MJS12043E	43-53	1 7/16	2 3/4	2.30
MJS12047E	47-56	1 7/16	2 3/4	2.35
MJS12053E	53-64	1 7/16	2 3/4	2.40
MJS12064E	64-77	1 7/16	2 3/4	2.60
MJS12072E	72-88	1 7/16	2 3/4	2.75
MJS12088E	88-108	1 7/16	2 3/4	2.90
MJS12108E	108-130	1 7/16	2 3/4	3.15
MJS12124E	124-149	1 7/16	2 3/4	3.25
MJS12130E	130-156	1 7/16	3 3/8	3.25
MJS12145E	145-175	1 7/16	3 3/8	3.65
MJS12161E	161-193	1 7/16	3 3/8	3.85
MJS12189E	189-227	1 7/16	3 3/8	4.30
MJS12216E	216-259	1 13/16	3 3/8	4.65
MJS12233E	233-280	1 13/16	3 3/8	5.00
MJS12243E	243-292	1 13/16	3 3/8	5.20
MJS12270E	270-324	1 13/16	3 3/8	5.40
MJS12340E	340-408	1 13/16	3 3/8	6.50
MJS12378E	378-440	1 13/16	3 3/8	6.70
MJS12400E	400-480	2 1/16	3 3/8	6.80
MJS12430E	430-516	2 1/16	3 3/8	8.10
MJS12460E	460-552	2 1/16	3 3/8	8.95
MJS12540E	540-648	2 1/16	4 3/8	9.60
MJS12590E	590-708	2 1/16	4 3/8	10.35

SANGAMO CAPACITORS

TYPE MJ MOTOR STARTING CAPACITOR (continued)

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
160 VOLTS AC				
MJS16021E	21-25	1 7/16	2 3/4	\$ 2.90
MJS16025E	25-30	1 7/16	2 3/4	2.95
MJS16030E	30-36	1 7/16	2 3/4	3.00
MJS16036E	36-43	1 7/16	2 3/4	3.05
MJS16043E	43-53	1 7/16	2 3/4	3.15
MJS16047E	47-56	1 7/16	2 3/4	3.20
MJS16053E	53-64	1 7/16	3 3/8	3.45
MJS16064E	64-77	1 13/16	3 3/8	3.70
MJS16072E	72-88	1 13/16	3 3/8	3.85
MJS16088E	88-108	1 13/16	3 3/8	4.60
MJS16108E	108-130	1 13/16	3 3/8	4.90
MJS16124E	124-149	2 1/16	3 3/8	5.55
MJS16130E	130-156	2 1/16	3 3/8	5.65
MJS16145E	145-175	2 1/16	3 3/8	5.95
MJS16161E	161-193	2 1/16	3 3/8	6.80
MJS16189E	189-227	2 1/16	4 3/8	7.65
MJS16216E	216-259	2 1/16	4 3/8	7.95
MJS16233E	233-280	2 1/16	4 3/8	8.10
MJS16243E	243-292	2 1/16	4 3/8	8.25
MJS16270E	270-324	2 9/16	4 3/8	8.65

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
220 VOLTS AC				
MJS22021E	21-25	1 7/16	2 3/4	\$ 4.40
MJS22025E	25-30	1 7/16	2 3/4	4.60
MJS22030E	30-36	1 7/16	2 3/4	4.95
MJS22036E	36-43	1 7/16	2 3/4	5.25
MJS22043E	43-53	1 7/16	3 3/8	5.55
MJS22047E	47-56	1 13/16	3 3/8	5.65
MJS22053E	53-64	1 13/16	3 3/8	5.75
MJS22064E	64-77	1 13/16	3 3/8	6.70
MJS22072E	72-88	1 13/16	3 3/8	7.00
MJS22088E	88-108	1 13/16	3 3/8	7.80
MJS22108E	108-130	2 1/16	3 3/8	7.80
MJS22124E	124-149	2 1/16	4 3/8	8.25
MJS22130E	130-156	2 1/16	4 3/8	8.55
MJS22145E	145-175	2 1/16	4 3/8	10.00
MJS22161E	161-193	2 1/16	4 3/8	10.95

Catalog Number	Capacitance Mfd.	Diameter In Inches	Length In Inches	List Price
320 VOLTS AC				
MJS32021E	21-25	1 13/16	3 3/8	\$ 4.90
MJS32025E	25-30	1 13/16	3 3/8	5.05
MJS32030E	30-36	1 13/16	3 3/8	5.35
MJS32036E	36-43	1 13/16	3 3/8	5.65
MJS32043E	43-53	2 1/16	3 3/8	5.90
MJS32047E	47-56	2 1/16	3 3/8	6.50
MJS32053E	53-64	2 1/16	3 3/8	6.70
MJS32064E	64-77	2 1/16	4 3/8	7.80
MJS32072E	72-88	2 1/16	4 3/8	8.10
MJS32088E	88-108	2 9/16	4 3/8	10.15
MJS32108E	108-130	2 9/16	4 3/8	12.40

NOTE: To include end cap in overall length, add .512 inches to capacitor length.



TYPE MJ END-CAP

Diam. In Inches	List Price
1 7/16	.25
1 13/16	.30
2 1/16	.35
2 9/16	.35

ELECTROLYTIC CAPACITORS

TYPE SL electrolytic



The SANGAMO Type SL electrolytic capacitor is designed primarily as a direct replacement unit. The Type SL is completely insulated from the container; the negative connections being made to one of the insulated leads extending through the threaded neck of the can.

Catalog Number	Capacity in Mfd.	Working Voltage DC	Diam. In Inches	Length In Inches	List Price
SINGLE SECTION					
SL-2512	12	250	1	x 2 1/2	\$1.75
SL-2525	25	250	1	x 3 1/2	1.95
SL-4508	8	450	1 3/8	x 2 1/2	2.20
SL-4512	12	450	1 3/8	x 2 1/2	2.40
SL-4516	16	450	1 3/8	x 2 1/2	2.45
SL-4520	20	450	1 3/8	x 2 1/2	2.70
SL-4530	30	450	1 3/8	x 3 1/2	3.00
SL-4540	40	450	1 3/8	x 4 1/4	3.15
MULTIPLE SECTION (Common Negative)					
SLD-4508	8-8	450	1 3/8	x 2 1/2	3.00
SLD-4516	16-16	450	1 3/8	x 3 1/2	3.55
SLT-4508	8-8-8	450	1 3/8	x 3 1/2	5.00
HIGH VOLTAGE SECTIONS (series wound)					
SL-6004	4	600	1 3/8	x 3 1/2	2.95
SL-6008	8	600	1 3/8	x 4 1/4	3.15
SL-6016	16	600	1 3/8	x 4 1/4	3.75

TYPE TS electrolytic



Ideally suited for all applications where quick capacitor changes are required, the SANGAMO Type TS units are equipped with a four-pin octal base mounting for use with standard octal base tube sockets. The base pins are molded in the base/elite base and nickel-plated to prevent corrosion and insure good contact with the socket terminals.

Catalog Number	Capacitance in Mfd.	Working Voltage DC	Diam. In Inches	Length In Inches	List Price
SINGLE SECTION					
TS-1520	20	150	1 3/8	x 2 1/2	\$3.95
TS-1540	40	150	1 3/8	x 2 1/2	4.10
TS-4510	10	450	1 3/8	x 2 1/2	4.05
TS-4520	20	450	1 3/8	x 2 1/2	4.30
TS-4540	40	450	1 3/8	x 2 1/2	4.55
TS-4580	80	450	1 3/8	x 4 1/4	5.55
DUAL SECTIONS					
TSD-1520	20-20	150	1 3/8	x 2 1/2	\$4.20
TSD-1540	40-40	150	1 3/8	x 2 1/2	4.40
TSD-4510	10-10	450	1 3/8	x 2 1/2	4.40
TSD-4520	20-20	450	1 3/8	x 2 1/2	5.05
TRIPLE SECTIONS					
TST-4510	10-10-10	450	1 3/8	x 2 1/2	5.10
TST-901	20-20-20	450-450-25	1 3/8	x 2 1/2	5.55

ELECTROLYTIC CAPACITOR



TYPE BTE electrolytic

The SANGAMO Type BTE electrolytic capacitor is ideally suited for filter and by-pass circuits. The Type BTE cartridges are first sealed in aluminum cases and then encased in corrosion-resistant, hot tinned steel cases

which provide a complete hermetic seal under extreme weather conditions. All units are equipped with compression type silicone rubber sealed terminals. Mounting flanges with 3 16" holes are provided at each end.

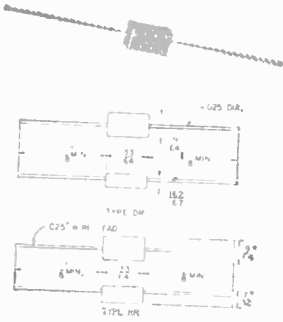
Catalog Number	Capacitance in Mfd.	Working Voltage DC	Dimensions In Inches			List Price
			W	L	H	
BTE-0225	25	25	1 x 1 13/16	x 15/16		\$4.50
BTE-0250	50	25	1 x 1 13/16	x 15/16		4.60
BTE-0275	75	25	1 x 1 13/16	x 15/16		4.75
BTE-0525	25	50	1 x 1 13/16	x 15/16		4.55
BTE-0550	50	50	1 x 1 13/16	x 15/16		4.70
BTE-1510	10	150	1 x 1 13/16	x 15/16		4.65

Catalog Number	Capacitance in Mfd.	Working Voltage DC	Dimensions In Inches			List Price
			W	L	H	
BTE-1520	20	150	1 x 1 13/16	x 15/16		4.70
BTE-2510	10	250	1 x 1 13/16	x 15/16		4.70
BTE-2512	12	250	1 x 1 13/16	x 15/16		4.75
BTE-3508	8	350	1 x 1 13/16	x 15/16		4.75
BTE-4504	4	450	1 x 1 13/16	x 15/16		5.50

SANGAMO CAPACITORS

MICA CAPACITORS

TYPE RR-DR silvered mica



SANGAMO Mica Capacitors are designed for use in electronic circuits where frequency stability and minimum losses must be maintained. These capacitors are fabricated from the finest India Ruby mica which is rigidly tested to provide the long life, and high factor of safety specified for these units.

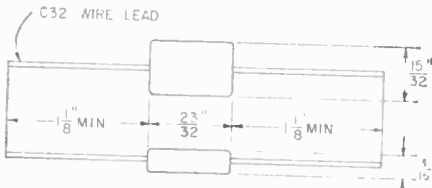
TYPE RR-DR (125°C) 500 W.V.D.C. 1000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		5% J	2% G	1% F
DR-1410	10	.40		
DR-1412	12	.40		
DR-1415	15	.40		
DR-1418	18	.40		
DR-1420	20	.40		
DR-1422	22	.40		
DR-1424	24	.40		
DR-1427	27	.40	.46	
DR-1430	30	.40	.46	
DR-1433	33	.40	.46	

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		5% J	2% G	1% F
DR-1436	36	.40	.46	
DR-1439	39	.40	.46	
DR-1443	43	.40	.46	
DR-1447	47	.40	.46	
DR-1450	50	.40	.46	
DR-1451	51	.40	.46	.50
DR-1456	56	.40	.46	.50
DR-1462	62	.40	.46	.50
DR-1468	68	.40	.46	.50
DR-1475	75	.40	.46	.50
DR-1482	82	.45	.52	.56
DR-1491	91	.45	.52	.56
DR-1310	100	.45	.52	.56
DR-1311	110	.45	.52	.56
DR-1312	120	.45	.52	.56
DR-1313	130	.45	.52	.56
DR-1315	150	.45	.52	.56
DR-1316	160	.50	.58	.63
DR-1318	180	.50	.58	.63
DR-1320	200	.50	.58	.63
DR-1322	220	.55	.63	.69
DR-1324	240	.55	.63	.69
DR-1325	250	.55	.63	.69
DR-1327	270	.60	.69	.75
DR-1330	300	.60	.75	.81
RR-1333	330	.65	.75	.81
RR-1336	360	.70	.81	.88
RR-1339	390	.70	.81	.88
*RR-06343	430	.75	.92	1.00
*RR-06347	470	.80	.92	1.00
*RR-06350	500	.80	.92	1.00
*RR-06351	500	.80	.92	1.00

NOTE: * Voltage rating 300 WVDC—(TVDC-600V)
NOTE: Standard Tolerance - 5%, but not less than ±1.0 mmf.
NOTE: Normally supplied in "C" characteristic, available in other characteristics on request.

TYPE K-KR mica



TYPE K (125°C) 500 W.V.D.C. 1000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		M ±20%	K ±10%	J ±5%
K-1550	5	\$0.30		
K-1410	10	.30		
K-1412	12	.30	.33	
K-1415	15	.30	.33	
K-1418	18	.30	.33	
K-1420	20	.30	.33	.38
K-1422	22	.30	.33	.38
K-1424	24	.30	.33	.38
K-1427	27	.30	.33	.38
K-1430	30	.30	.33	.38
K-1433	33	.20	.22	.25
K-1436	36	.20	.22	.25
K-1439	39	.20	.22	.25
K-1443	43	.20	.22	.25
K-1447	47	.20	.22	.25
K-1450	50	.20	.22	.25
K-1451	51	.20	.22	.25
K-1456	56	.20	.22	.25
K-1462	62	.20	.22	.25
K-1468	68	.20	.22	.25

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		M ±20%	K ±10%	J ±5%
K-1475	75	.20	.22	.25
K-1482	82	.20	.22	.25
K-1491	91	.20	.22	.25
K-1310	100	.20	.22	.25
K-1312	120	.20	.22	.25
K-1313	130	.25	.28	.31
K-1315	150	.25	.28	.31
K-1316	160	.25	.28	.31
K-1318	180	.25	.28	.31
K-1320	200	.25	.28	.31
K-1322	220	.25	.28	.31
K-1324	240	.30	.33	.38
K-1325	250	.30	.33	.38
K-1327	270	.30	.33	.38
K-1330	300	.30	.33	.38
K-1333	330	.30	.33	.38
K-1336	360	.30	.33	.38
K-1339	390	.30	.33	.38
K-1340	400	.30	.33	.38
K-1343	430	.30	.33	.38
K-1347	470	.30	.33	.38
K-1350	500	.30	.33	.38
K-1351	510	.30	.33	.38
K-1356	560	.35	.39	.44
K-1360	600	.35	.39	.44
K-1362	620	.35	.39	.44
K-1368	680	.35	.39	.44
K-1370	700	.35	.39	.44
K-1375	750	.35	.39	.44
K-1380	800	.35	.39	.44
K-1382	820	.40	.44	.50
K-1390	900	.45	.50	.56
K-1391	910	.45	.50	.56
K-1210	1000	.45	.50	.56

NOTE: Standard Tolerance ±20% but not less than ±1.0 mmf.
NOTE: Normally supplied in "C" characteristic, available in other characteristics on request.

SANGAMO CAPACITORS

MICA CAPACITORS

TYPE KR Silvered Mica (continued)

TYPE KR
(125°C)
500 W.V.D.C. 1000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		J ±5%	G ±2%	F ±1%
KR-1410	10	.40		
KR-1412	12	.40		
KR-1415	15	.40		
KR-1418	18	.40		
KR-1420	20	.40		
KR-1422	22	.40		
KR-1424	24	.40		
KR-1427	27	.40		
KR-1430	30	.40		
KR-1433	33	.40		
KR-1436	36	.40		
KR-1439	39	.40		
KR-1443	43	.40		
KR-1447	47	.40		
KR-1450	50	.40	.46	
KR-1451	51	.40	.46	
KR-1456	56	.40	.46	
KR-1462	62	.40	.46	
KR-1468	68	.40	.46	
KR-1475	75	.40	.46	
KR-1482	82	.40	.46	
KR-1491	91	.40	.48	
KR-1310	100	.40	.46	.50
KR-1311	110	.45	.52	.58
KR-1312	120	.45	.52	.56
KR-1313	130	.45	.52	.56
KR-1316	160	.45	.52	.56
KR-1318	180	.45	.52	.56
KR-1320	200	.45	.52	.56
KR-1322	220	.45	.52	.56
KR-1324	240	.55	.63	.69
KR-1325	250	.55	.63	.69
KR-1327	270	.55	.63	.69
KR-1333	330	.55	.63	.69
KR-1336	360	.55	.63	.69
KR-1339	390	.65	.75	.81
KR-1340	400	.65	.75	.81
KR-1343	430	.65	.75	.81
KR-1347	470	.70	.81	.88
KR-1350	500	.70	.81	.88
KR-1351	510	.70	.81	.88
KR-1356	560	.75	.86	.94
KR-1360	600	.75	.86	.94
KR-1362	620	.75	.86	.94
KR-1368	680	.80	.92	1.00
KR-1370	700	.80	.92	1.00
KR-1375	750	.80	.92	1.00
KR-1380	800	.80	.92	1.00
KR-1382	820	.85	.98	1.06
KR-1390	900	.85	.98	1.06
KR-1391	910	.85	.98	1.06
KR-1210	1000	.90	1.04	1.13
KR-1211	1100	.90	1.04	1.13
KR-1212	1200	1.00	1.15	1.25
KR-1213	1300	1.00	1.15	1.25
KR-1215	1500	1.10	1.27	1.38

NOTE: Standard Tolerance ±5%, but not less than ±1.0 mmf.
NOTE: Normally supplied in "C" characteristic, available in other characteristics on request.

TYPE KR (High Voltage)
2500 W.V.D.C. 5000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance			
		M ±20%	K ±10%	J ±5%	F ±1%
KR-5415	15	\$0.35	\$0.40	\$0.	\$0.
KR-5418	18	.35	.40		

Catalog Number	Capacity Mmfd.	List Price Tolerance				
		M ±20%	K ±10%	J ±5%	G ±2%	F ±1%
KR-5420	20	.35	.40	.50		
KR-5422	22	.35	.40	.50		
KR-5424	24	.35	.40	.50		
KR-5427	27	.35	.40	.50		
KR-5430	30	.40	.46	.60		
KR-5433	33	.40	.46	.60		
KR-5436	36	.40	.46	.60		
KR-5439	39	.40	.46	.60		
KR-5443	43	.40	.46	.60		
KR-5447	47	.40	.46	.70		
KR-5450	50	.40	.46	.70		
KR-5451	51	.40	.46	.70	.81	
KR-5456	56	.40	.46	.70	.81	
KR-5462	62	.40	.46	.70	.81	
KR-5468	68	.45	.52	.80	.92	
KR-5475	75	.50	.58	.90	1.04	
KR-5482	82	.50	.58	.90	1.04	
KR-5491	91	.50	.58	.90	1.04	
KR-5310	100	.55	.66	1.00	1.15	1.25
KR-5311	110	.60	.72	1.10	1.27	1.38
KR-5312	120	.60	.72	1.20	1.38	1.50
KR-5315	150	.65	.78	1.30	1.50	1.63
KR-5316	160	.70	.84	1.40	1.61	1.75
KR-5318	180	.70	.84	1.40	1.61	1.75

1500 W.V.D.C. 3000 T.V.D.C.

KR-3475	75	\$0.35	\$0.40	\$0.55	\$0.63	\$0.
KR-3482	82	.35	.40	.55	.63	
KR-3491	91	.40	.46	.60	.69	
KR-3310	100	.40	.46	.60	.69	.75
KR-3311	110	.40	.46	.60	.69	.75
KR-3312	120	.40	.46	.60	.69	.75
KR-3313	130	.40	.46	.60	.69	.75
KR-3315	150	.40	.46	.70	.81	.88
KR-3316	160	.40	.46	.70	.81	.88
KR-3318	180	.40	.46	.70	.81	.88
KR-3320	200	.45	.52	.80	.92	1.00
KR-3322	220	.45	.52	.80	.92	1.00
KR-3324	240	.45	.52	.80	.92	1.00
KR-3325	250	.55	.66	1.00	1.15	1.25
KR-3327	270	.55	.66	1.00	1.15	1.25
KR-3330	300	.60	.72	1.10	1.27	1.38
KR-3333	330	.60	.72	1.10	1.27	1.38
KR-3336	360	.60	.72	1.15	1.32	1.44
KR-3339	390	.65	.78	1.15	1.32	1.44
KR-3343	430	.65	.78	1.15	1.32	1.44
KR-3347	470	.70	.84	1.25	1.44	1.56

1000 W.V.D.C. 2000 T.V.D.C.

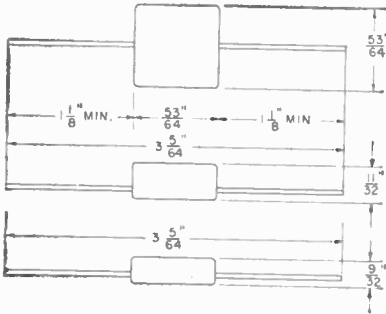
KR-2312	120	\$0.35	\$0.40	\$0.50	\$0.58	\$0.63
KR-2313	130	.35	.40	.50	.58	.63
KR-2315	150	.35	.40	.50	.58	.63
KR-2316	160	.35	.40	.55	.63	.69
KR-2318	180	.35	.40	.55	.63	.69
KR-2320	200	.40	.46	.55	.63	.69
KR-2322	220	.40	.46	.60	.69	.75
KR-2324	240	.40	.46	.60	.69	.75
KR-2325	250	.40	.46	.65	.75	.81
KR-2327	270	.40	.46	.65	.75	.81
KR-2330	300	.45	.52	.70	.81	.88
KR-2333	330	.45	.52	.70	.81	.88
KR-2336	360	.45	.52	.70	.81	.88
KR-2339	390	.45	.52	.70	.81	.88
KR-2343	430	.50	.58	.75	.86	.94
KR-2347	470	.50	.58	.75	.86	.94
KR-2350	500	.50	.58	.75	.86	.94
KR-2351	510	.50	.58	.75	.86	.94
KR-2356	560	.55	.66	.80	.92	1.00
KR-2362	620	.55	.66	.85	.98	1.06
KR-2368	680	.60	.72	.90	1.04	1.13

NOTE: Standard Tolerance ±20%, but not less than ±1.0 mmf.
NOTE: Normally supplied in "C" characteristic, available in other characteristics on request.

SANGAMO CAPACITORS

MICA CAPACITORS

TYPE C-CR



TYPE C (125°C)

500 W.V.D.C. 1000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		M -20%	K 0%	J +5%
9 32" MAX. THICKNESS				
C-1347	470	\$0.30	\$0.36	\$0.39
C-1350	500	.30	.36	.39
C-1351	510	.30	.36	.39
C-1356	560	.30	.36	.39
C-1362	620	.30	.36	.39
C-1368	680	.30	.36	.39
C-1375	750	.30	.36	.39
C-1380	800	.30	.36	.39
C-1382	820	.30	.36	.39
C-1390	900	.30	.36	.39
C-1391	910	.30	.36	.39
C-1210	1000	.35	.39	.44
C-1211	1100	.35	.39	.44
C-1212	1200	.35	.39	.44
C-1213	1300	.35	.39	.44
C-1215	1500	.40	.44	.50
C-1216	1600	.40	.44	.50
C-1218	1800	.45	.50	.56
C-1220	2000	.45	.50	.56
C-1222	2200	.45	.50	.56
C-1224	2400	.50	.55	.63
C-1225	2500	.50	.55	.63
C-1227	2700	.50	.55	.63
C-1230	3000	.60	.66	.75
C-1233	3300	.60	.66	.75
11 32" MAX. THICKNESS				
C-1236	3600	.60	.66	.75
C-1239	3900	.65	.75	.85
C-1240	4000	.65	.75	.85
C-1243	4300	.65	.75	.85
C-1247	4700	.65	.75	.85
C-1250	5000	.70	.81	.91
C-1251	5100	.70	.81	.91
C-1256	5600	.70	.81	.91
C-1260	6000	.70	.81	.91
C-1262	6200	.90	1.04	1.17
*C-06268	6800	.95	1.05	1.19
*C-06275	7500	1.00	1.10	1.25
C-06280	8000	1.00	1.10	1.25
C-06282	8200	1.15	1.27	1.44
C-06290	9000	1.15	1.27	1.44
*C-06110	10000	1.40	1.54	1.75
*C-06112	12000	1.60	1.76	2.00
*C-06115	15000	2.00	2.20	2.50

NOTE: *300 WVDC—(600 TVDC)
NOTE: Standard Tolerance ±20%
NOTE: Normally supplied in "B" characteristic.

TYPE CR (125°C)

500 W.V.D.C. 1000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		J +5%	G -2%	F +1%
9 32" MAX. THICKNESS				
CR-1347	470	\$0.70	\$0.81	\$0.88
CR-1350	500	.70	.81	.88
CR-1351	510	.70	.81	.88
CR-1356	560	.75	.86	.94
CR-1362	620	.75	.86	.94
CR-1368	680	.80	.92	1.00
CR-1375	750	.80	.92	1.00
CR-1380	800	.80	.92	1.00
CR-1382	820	.85	.96	1.04
CR-1390	900	.90	1.04	1.13
CR-1391	910	.90	1.04	1.13
CR-1210	1000	1.00	1.15	1.25
CR-1211	1100	1.00	1.15	1.25
CR-1212	1200	1.15	1.32	1.44
CR-1213	1300	1.15	1.32	1.44
CR-1215	1500	1.25	1.44	1.56
CR-1216	1600	1.25	1.44	1.56
CR-1218	1800	1.25	1.44	1.56
CR-1220	2000	1.35	1.55	1.69
CR-1222	2200	1.35	1.55	1.69
CR-1224	2400	1.60	1.84	2.00
CR-1225	2500	1.60	1.84	2.00
CR-1227	2700	1.80	2.07	2.25
CR-1230	3000	1.90	2.19	2.38
CR-1233	3300	1.90	2.19	2.38
11 32" MAX. THICKNESS				
CR-1236	3600	2.00	2.30	2.50
CR-1239	3900	2.00	2.30	2.50
CR-1240	4000	2.00	2.30	2.50
CR-1243	4300	2.10	2.42	2.63
CR-1247	4700	2.10	2.42	2.63
CR-1250	5000	2.15	2.47	2.69
CR-1251	5100	2.15	2.47	2.69
CR-1256	5600	2.25	2.59	2.81
CR-1260	6000	2.30	2.65	2.90
CR-1262	6200	2.40	2.76	3.00
*CR-06268	6800	2.65	3.05	3.31
CR-06275	7500	2.80	3.22	3.50
CR-06280	8000	2.80	3.22	3.50
CR-06282	8200	3.00	3.45	3.75
*CR-06290	9000	3.00	3.45	3.75
*CR-06110	10000	3.50	4.03	4.38
*CR-06112	12000	4.25	4.89	5.31
*CR-06115	15000	5.00	5.75	6.25

NOTE: 300 WVDC—(600 TVDC)
NOTE: Standard Tolerance ±5%, but not less than 1.0 mmf.
NOTE: Normally supplied in "C" characteristic, available in other characteristics on request.

TYPE CR (HIGH VOLTAGE) 3000 W.V.D.C. 6000 T.V.D.C.

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		J +5%	G -2%	F +1%
11 32" MAX. THICKNESS 125°C				
CR-6312	120	1.40	1.61	1.72
CR-6315	150	1.40	1.61	1.72
CR-6316	160	1.40	1.61	1.72
CR-6318	180	1.45	1.67	1.81
CR-6320	200	1.45	1.67	1.81
CR-6324	240	1.50	1.72	1.87
CR-6325	250	1.50	1.72	1.87
CR-6327	270	1.50	1.72	1.87
CR-6330	300	1.62	1.87	2.04
CR-6333	330	1.62	1.87	2.04
CR-6336	360	1.87	2.16	2.35
CR-6339	390	2.00	2.30	2.50
CR-6343	430	2.00	2.30	2.50
CR-6347	470	2.00	2.30	2.50
CR-6350	500	2.13	2.45	2.66
CR-6351	510	2.13	2.45	2.66
CR-6356	560	2.25	2.57	2.81
CR-6352	620	2.37	2.74	2.98
CR-6368	680	2.63	3.03	3.30
CR-6375	750	2.76	3.15	3.44

SANGAMO CAPACITORS

MICA CAPACITORS

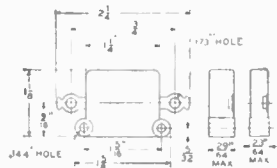
TYPE CR (HIGH VOLTAGE) continued

Catalog Number	Capacity Mmfd	List Price Tolerance		
		J ±5%	G ±2%	F -1%
CR-6382	820	2.87	3.32	3.60
CR-6391	910	3.37	3.87	4.23
CR-6210	1000	3.50	4.01	4.37
CR-6211	1100	3.50	4.01	4.37
CR-6212	1200	3.75	4.32	4.70
CR-6213	1300	4.12	4.75	5.15
CR-6215	1500	4.62	5.25	5.80
2500 W.V.D.C. 5000 T.V.D.C.				
CR-5324	240	\$1.20	\$1.38	\$1.50
CR-5325	250	1.20	1.38	1.50
CR-5327	270	1.20	1.38	1.50
CR-5330	300	1.30	1.50	1.63
CR-5333	330	1.30	1.50	1.63
CR-5336	360	1.50	1.73	1.88
CR-5390	390	1.60	1.84	2.00
CR-5343	430	1.60	1.84	2.00
CR-5347	470	1.60	1.84	2.00
CR-5350	500	1.70	1.96	2.13
CR-5351	500	1.70	1.96	2.13
CR-5356	560	1.80	2.07	2.25
CR-5362	620	1.90	2.19	2.38
CR-5368	680	2.10	2.42	2.63
CR-5375	750	2.20	2.53	2.75
CR-5382	820	2.30	2.65	2.88
CR-5391	910	2.70	3.10	3.38
CR-5210	1000	2.80	3.22	3.50
CR-5211	1100	2.80	3.22	3.50
CR-5212	1200	3.00	3.45	3.75
CR-5213	1300	3.30	3.80	4.13
CR-5215	1500	3.70	4.20	4.63
CR-5216	1600	4.00	4.60	5.00
CR-5218	1800	4.30	4.80	5.20
CR-5220	2000	4.60	5.20	5.60
2000 W.V.D.C. 4000 T.V.D.C.				
CR-4343	430	1.25	1.44	1.56
CR-4347	470	1.25	1.44	1.56
CR-4350	500	1.35	1.55	1.69
CR-4351	510	1.35	1.55	1.69
CR-4356	560	1.44	1.66	1.80
CR-4362	620	1.53	1.76	1.91
CR-4368	680	1.87	2.16	2.35
CR-4375	750	1.87	2.16	2.35
CR-4382	820	2.12	2.45	2.66
CR-4391	910	2.25	2.57	2.81

Catalog Number	Capacity Mmfd.	List Price Tolerance		
		J ±5%	G ±2%	F ±1%
CR-4210	1000	2.25	2.57	2.81
CR-4211	1100	2.37	2.74	2.97
CR-4212	1200	2.76	3.16	3.44
CR-4213	1300	2.87	3.31	3.59
CR-4215	1500	3.25	3.73	4.06
CR-4216	1600	3.25	3.73	4.06
CR-4218	1800	3.62	4.17	4.54
CR-4220	2000	4.00	4.57	5.00
CR-4222	2200	4.25	4.90	5.30
CR-4224	2400	4.50	5.16	5.63
1500 W.V.D.C. 3000 T.V.D.C.				
CR-3368	680	\$1.50	\$1.73	\$1.88
CR-3375	750	1.50	1.73	1.88
CR-3382	820	1.70	1.96	2.13
CR-3391	910	1.80	2.07	2.25
CR-3210	1000	1.80	2.07	2.25
CR-3211	1100	1.90	2.19	2.38
CR-3212	1200	2.20	2.53	2.75
CR-3213	1300	2.30	2.65	2.88
CR-3215	1500	2.60	2.99	3.25
CR-3216	1600	2.60	2.99	3.25
CR-3218	1800	2.90	3.34	3.63
CR-3220	2000	3.20	3.68	4.00
CR-3222	2200	3.40	3.91	4.25
CR-3224	2400	3.60	4.14	4.50
CR-3227	2700	4.00	4.60	5.00
CR-3223	3000	4.40	5.06	5.50
CR-3233	3300	4.60	5.29	5.75
1000 W.V.D.C. 2000 T.V.D.C.				
CR-2211	1100	\$1.20	\$1.38	\$1.50
CR-2212	1200	1.30	1.50	1.63
CR-2213	1300	1.30	1.50	1.63
CR-2215	1500	1.50	1.73	1.88
CR-2216	1600	1.60	1.84	2.00
CR-2218	1800	1.60	1.84	2.00
CR-2220	2000	1.70	1.96	2.13
CR-2222	2200	1.90	2.19	2.38
CR-2224	2400	2.10	2.42	2.63
CR-2227	2700	2.10	2.42	2.63
CR-2223	3000	2.30	2.65	2.88
CR-2233	3300	2.40	2.76	3.00

NOTE: Standard tolerance ±5%, but not less than ±1.0 mmf.
NOTE: Normally supplied in "C" characteristic, available in other characteristics on request.

TYPE H mica



600 W.V.D.C.—1200 T.V.D.C.

Catalog Number	Capacitance Mmfd.	List Price
H-T1450	.00005	\$1.20
H-T1310	.0001	1.20
H-T1320	.0002	1.20
H-T1325	.00025	1.20
H-T1330	.0003	1.20
H-T1340	.0004	1.20
H-T1350	.0005	1.20
H-T1210	.001	1.20
H-T1215	.0015	1.20
H-T1220	.002	1.30
H-T1225	.0025	1.30
H-T1230	.003	1.45
H-T1240	.004	1.50
H-T1250	.005	1.55
H-T1260	.006	1.80

1200 W.V.D.C.—2500 T.V.D.C.

Catalog Number	Capacitance Mmfd.	List Price
H-T1270	.007	1.85
H-T1280	.008	1.90
H-T1110	.01	2.15
PH-K1115	.015	2.65
H-K1120	.02	3.05
H-K1125	.025	3.60
H-K1130	.03	4.45
1200 W.V.D.C.—2500 T.V.D.C.		
H-T2450	.00005	1.60
H-T2310	.0001	1.60
H-T2320	.0002	1.60
H-T2325	.00025	1.60
H-T2330	.0003	1.60
H-T2340	.0004	1.60
H-T2250	.0005	1.60
H-T2210	.001	1.80
H-T2215	.0015	2.30
H-T2220	.002	2.40
H-T2225	.0025	2.80
H-T2230	.003	3.05
PH-K2240	.004	3.05
PH-K2250	.005	3.30
PH-K2260	.006	3.30
PH-K2280	.008	3.85
H-K2110	.01	5.10

SANGAMO CAPACITORS

MICA CAPACITORS

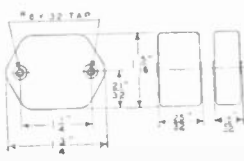
TYPE H mica — continued . . .

2500 W.V.D.C.—5000 T.V.D.C.

Catalog Number	Capacitance Mfds.	List Price
H-T5450	.00005	1.90
H-T5310	.0001	1.90
H-T5320	.0302	1.90
H-T5325	.00025	2.20
H-T5330	.0023	2.25
H-T5340	.0004	2.30
H-T5350	.0005	2.40
H-T5210	.001	2.80
H-T5215	.0015	3.55
H-T5215	.002	4.15
H-K5220	.033	4.90
H-K5230	.034	5.65
H-K5240	.035	6.40
H-K5250	.036	6.40

NOTE— $\frac{29}{64}$ inches thick.
 NOTE—For meter mounting bracket, add letter "E" to type designation. (Example: HE-T1450). Add \$20 to List Price and specify case size.
 NOTE—Standard tolerance $\pm 10\%$. B Characteristic unless otherwise specified.
 NOTE—For 5% Tolerance add 10% to list prices.
 For 2% Tolerance add 50% to list price.

TYPE A mica



Catalog Number	Capacitance Mfds.	List Price
A-T1450	.00005	\$1.45
A-T1310	.0001	1.45
A-T1315	.00015	1.45
A-T1320	.0002	1.45
A-T1325	.00025	1.45
A-T1350	.0005	1.45
A-T1210	.001	1.65
A-T1220	.002	1.70
A-T1225	.0025	1.85
A-T1230	.003	2.00
A-T1240	.004	2.10
A-T1250	.005	2.20
A-T1260	.006	2.45
A-T1280	.008	2.80
A-T1110	.01	3.05
A-T1115	.015	3.55
A-T1120	.02	4.35
A-T1125	.025	4.55
A-T1130	.03	5.85
*A-K1140	.04	7.10
*A-K1150	.05	8.05
*A-K1160	.06	8.05

1200 W.V.D.C.—2500 T.V.D.C.

Catalog Number	Capacitance Mfds.	List Price
A-T2450	.00005	1.60
A-T2310	.0001	1.60
A-T2315	.00015	1.60
A-T2320	.0002	1.60
A-T2325	.00025	1.60
A-T2350	.0005	1.60
A-T2210	.001	1.90
A-T2220	.002	2.50
A-T2225	.0025	2.80
A-T2230	.003	2.95
A-T2230	.004	3.10
A-T2240	.005	3.30
A-T2250	.006	3.45
A-T2260	.008	4.10
A-T2280	.008	4.70
A-T2110	.01	4.70

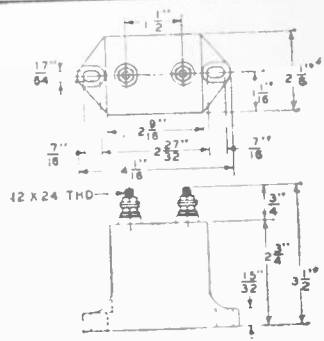
Catalog Number	Capacitance Mfds.	List Price
*A-K2115	.015	5.80
*A-K2120	.02	7.05
*A-K2125	.025	7.90
*A-K2130	.03	8.10

2500 W.V.D.C.—5000 T.V.D.C.

Catalog Number	Capacitance Mfds.	List Price
A-T5450	.00005	1.90
A-T5310	.0001	1.90
A-T5325	.00025	2.15
A-T5350	.0005	2.55
A-T5210	.001	2.90
A-T5220	.002	4.25
A-T5225	.0025	4.60
A-T5230	.003	5.10
A-T5240	.004	5.65
*A-T5250	.005	6.20
*A-T5260	.006	6.35
*A-T5280	.008	6.85
*A-T5110	.01	7.30
*A-T5115	.015	8.05

NOTE— $\frac{3}{4}$ inches thick.
 NOTE—Stand-off insulators are available if desired. Add \$20 to List Price.
 NOTE—If .144 inch clearance holes are desired, designate by adding letter "A" to Type Number. (Example: AA-T1450).
 NOTE—Standard Tolerance $\pm 10\%$. B characteristic unless otherwise specified.

TYPE E mica



Catalog Number	Capacitance Mfds.	Test Volts D.C.	List Price
E-1245	.00005	12500	\$18.00
E-1231	.0001	12500	18.00
E-12325	.00025	12500	18.00
E-1235	.0005	12500	18.00
E-1221	.001	12500	18.00
E-12215	.0015	12500	21.00
E-1222	.002	12500	25.00
E-1022	.002	10000	26.00
E-1023	.003	10000	29.00
E-1024	.004	10000	32.40
E-1025	.005	10000	32.40
E-721	.001	7000	16.10
E-722	.002	7000	21.00
E-723	.003	7000	23.00
E-711	.01	7000	34.00
E-3524	.004	3500	21.30
E-3525	.005	3500	21.30
E-3511	.01	3500	32.40
E-3512	.02	3500	32.40
E-3515	.05	3500	37.60
E-215	.05	2000	32.20
E-201	.1	2000	37.60

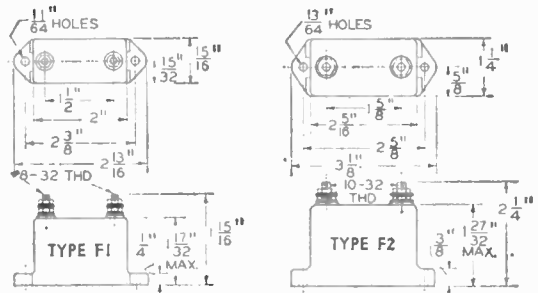
NOTE—Available in $\pm 20\%$ tolerance only. This type capacitor specifically designed for amateur use only. Not recommended for commercial applications.

SANGAMO CAPACITORS

MICA CAPACITORS

TYPES F1-F2-F3 mica

Types F1, F2, and F3 capacitors, the smallest of the Sangamo line of transmitting types, possess a range of voltage and current ratings suitable for many applications. They are housed in low loss molded bakelite cases. The mica and foil sections are permanently clamped, vacuum impregnated, and installed in the case in such a manner as to provide stable characteristics and adequate moisture proofing.



TYPE F1

Catalog Number	Capacitance Mfds.	Peak Working Voltage D.C.	List Price
F1-331	.0001	3000	\$12.60
F1-332	.0002	3000	12.60
F1-3325	.00025	3000	12.60
F1-335	.0005	3000	12.60
F1-321	.001	3000	12.60
F1-322	.002	3000	12.60
F1-223	.003	2000	12.60
F1-224	.004	2000	12.60
F1-225	.005	2000	12.60
F1-226	.006	2000	12.60
F1-1528	.008	1500	12.60
F1-111	.01	1000	12.60
F1-112	.02	1000	14.30
F1-0215	.05	250	14.30
F1-0201	.1	250	15.10

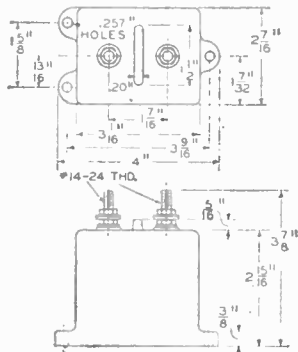
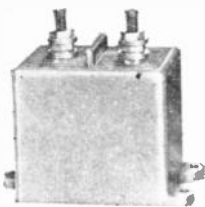
TYPE F2

Catalog Number	Capacitance Mfds.	Peak Working Voltage D.C.	List Price
F2-531	.0001	5000	\$17.30
F2-5325	.00025	5000	17.30
F2-535	.0005	5000	17.30
F2-536	.0006	5000	17.30
F2-521	.001	5000	17.30
F2-522	.002	5000	17.30
F2-523	.003	5000	17.30
F2-325	.005	3000	17.30
F2-326	.006	3000	17.30
F2-211	.01	2000	17.30
F2-212	.02	2000	17.30
F2-1515	.05	1500	17.30
F2-0501	.1	500	19.20
F2-0202	.2	250	25.25
F2-02025	.25	250	27.90

TYPE F3

Catalog Number	Capacitance Mfds.	Peak Working Voltage D.C.	List Price
F3-8325	.00025	8000	\$35.25
F3-835	.0005	8000	35.25
F3-821	.001	8000	39.25
F3-822	.002	8000	39.25
F3-825	.005	8000	48.60
F3-811	.01	8000	55.20
F3-415	.05	4000	61.85
F3-201	.1	2000	48.60
F3-06025	.25	600	44.60
F3-0605	.5	600	52.55
F3-0410	1.0	400	81.85

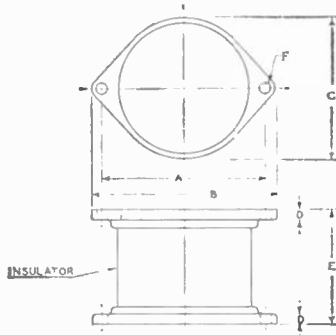
NOTE—Standard tolerance $\pm 5\%$.
NOTE—B Characteristic in stock only.
NOTE—For $\pm 2\%$ tolerance, add 20% to List Price.



TYPES G1-G2-G3-G4 mica



Type G ceramic cased capacitors are intended for service where highest voltage and R.F. Current ratings are required, such as in commercial transmitting or induction heating applications. All possible steps are taken in design and manufacturing operations to insure permanence of quality. Current ratings of these four sizes as well as detailed information on the Type G5 will be supplied upon request. Terminal plates are designed to permit any usual connecting or mounting practices.



TYPES G1, G2, G3, and G4

TYPE G MICA CAPACITOR DIMENSIONS - INCHES

Type	A	B	C	D	E	F
G1	3 1/4	3 13/16	2 13/16	1/4	2 1/2	17/64
G2	4 1/4	5	3 1, 2	1/4	3	.272*
G3	5 3/4	6 1/2	5	3/8	4	.377
G4	5 3/4	6 1/2	5	3/8	5 3/4	.377
G5	8	9	6 3/4	1/2	10	13/32

NOTE: Standard tolerance all Type G Capacitors $\pm 5\%$, B characteristic.

SANGAMO CAPACITORS

MICA CAPACITORS

TYPES G1-G2-G3-G4 mica (continued)

TYPE G1

Catalog Number	Capacitance Mfd.	Peak Working Voltage D.C.	List Price
G1-641	.00001	6000	\$ 35.45
G1-645	.00005	6000	38.20
G1-631	.0001	6000	40.60
G1-632	.0002	6000	40.60
G1-634	.0004	6000	44.35
G1-635	.0005	6000	46.65
G1-621	.001	6000	46.65
G1-6215	.0015	6000	48.90
G1-622	.002	6000	48.90
G1-623	.003	6000	50.60
G1-624	.004	6000	50.60
G1-625	.005	6000	50.60
G1-526	.006	5000	51.45
G1-511	.01	5000	51.45
G1-4115	.015	4000	51.45
G1-312	.02	3000	51.45

TYPE G2

Catalog Number	Capacitance Mfd.	Peak Working Voltage D.C.	List Price
G2-1031	.0001	10000	\$ 65.55
G2-10315	.00015	10000	65.55
G2-1032	.0002	10000	65.55
G2-10325	.00025	10000	65.55
G2-1035	.0005	10000	65.55

Catalog Number	Capacitance Mfd.	Peak Working Voltage D.C.	List Price
G2-1C21	.001	10000	65.55
G2-1C212	.0012	10000	65.55
G2-1C215	.0015	10000	65.55
G2-1C22	.002	10000	65.55
G2-2C3	.003	8000	65.55
G2-2C4	.004	8000	65.55
G2-2C5	.005	5000	65.55
G2-2C6	.006	5000	69.15
G2-2C7	.01	5000	69.15
G2-2C8	.015	4000	69.15
G2-2C9	.02	3000	69.15

TYPE G3

Catalog Number	Capacitance Mfd.	Peak Working Voltage D.C.	List Price
G3-2045	.00005	20000	\$110.90
G3-2031	.0001	20000	121.00
G3-2032	.0002	20000	131.00
G3-20325	.00025	20000	131.00
G3-2033	.0003	20000	131.00
G3-2035	.0005	20000	137.15
G3-2038	.0008	20000	137.15
G3-2021	.001	20000	141.50
G3-15215	.0015	15000	143.20
G3-1523	.003	15000	143.20
G3-1524	.004	15000	151.25
G3-1C25	.005	10000	151.25
G3-1026	.006	10000	151.25

Catalog Number	Capacitance Mfd.	Peak Working Voltage D.C.	List Price
G3-1028	.008	10000	151.25
G3-1011	.01	10000	151.25
G3-512	.02	5000	151.25
G3-313	.03	3000	151.25

TYPE G4

Catalog Number	Capacitance Mfd.	Peak Working Voltage D.C.	List Price
G4-3043	.00003	30000	\$167.90
G4-3045	.00005	30000	167.90
G4-3031	.0001	30000	210.30
G4-30315	.00015	30000	210.30
G4-30325	.00025	30000	221.16
G4-3038	.0005	30000	221.16
G4-3021	.001	30000	221.16
G4-25215	.0015	25000	229.10
G4-2022	.002	20000	229.10
G4-2023	.003	20000	229.10
G4-2024	.004	20000	229.10
G4-1525	.005	15000	242.00
G4-2025	.005	15000	234.35
G4-1526	.006	20000	238.00
G4-1228	.008	12000	252.25
G4-1011	.01	10000	260.00
G4-612	.02	6000	272.44
G4-514	.04	5000	272.44

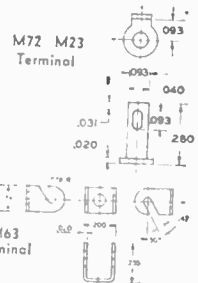
TYPE M silvered mica button capacitors

Small and light in weight SANGAMO Type M Silvered Mica button capacitors are designed particularly for application in high frequency circuits. Their high "Q" is indicative of their low loss. These units meet all requirements for V.H.F. and U.H.F. applications and are constructed to be electrically and mechanically stable. The silver plated case design performs the dual purpose

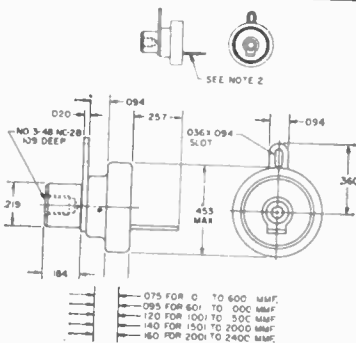
of shielding and being the low potential terminal. The high potential terminal through the center of the capacitor allows 360 degrees electrical current distribution, resulting in extremely low series inductance and more efficient performance in high frequency applications. Normally furnished in characteristic "D" in 500 working volts D.C.



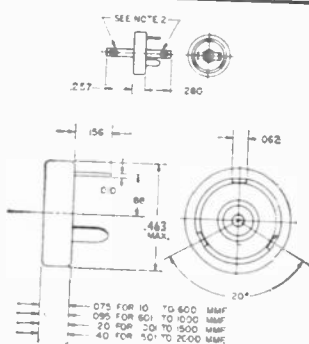
Catalog Number	Capacitance Mfd.	Capacitance Tolerance	List Price	Catalog Number	Capacitance Mfd.	Capacitance Tolerance	List Price
M-415K	15	10%	\$1.55	M-325K	250	10%	1.55
M-415J	15	5%	1.95	M-325J	250	5%	1.95
M-425K	25	10%	1.55	M-330K	300	10%	1.65
M-425J	25	5%	1.95	M-330J	300	5%	2.10
M-450K	50	10%	1.55	M-340K	400	10%	1.70
M-450J	50	5%	1.95	M-340J	400	5%	2.15
M-310K	100	10%	1.55	M-350K	500	10%	1.80
M-310J	100	5%	1.95	M-350J	500	5%	2.30
M-315K	150	10%	1.55	M-375K	750	10%	2.60
M-315J	150	5%	1.95	M-375J	750	5%	3.35
M-320K	200	10%	1.55	M-210K	1000	10%	3.15
M-320J	200	5%	1.95	M-210J	1000	5%	3.95



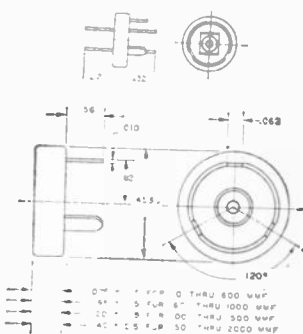
NOTE 1—For complete Catalog Number add 23 for Type 23, 63 for Type 63 and 72 for Type 72. Example: M23415K.
 NOTE 2—Types M23, M63 and M72 are provided with terminals as shown. For other terminal configurations and a complete listing of SANGAMO Button Type Capacitors, refer to Engineering Catalog 2311-A.



TYPE M72



TYPE M23



TYPE M63

SANGAMO CAPACITORS

PAPER CAPACITORS



TYPE S Subminiature hermetically sealed paper dielectric metal tubular capacitors

TYPE SBA

CONSTRUCTION: Inserted Tab—No Insulating Sleeve
OPERATING TEMPERATURE: -55°C to +125°C



Catalog Number	Capacitance Mfd.	Working Voltage D.C.	Diameter in Inches	Length in Inches	List Price
SBA1K01102	.001	100	.235	3/4	\$3.30
SBA1K01152	.0015	100	.235	3/4	3.30
SBA1K01222	.0022	100	.235	3/4	3.30
SBA1K01332	.0033	100	.235	3/4	3.30
SBA1K01472	.0047	100	.235	3/4	3.35
SBA1K01682	.0068	100	.235	3/4	3.35
SBA1K01103	.01	100	.235	3/4	3.35
SBA1K01153	.015	100	.235	3/4	3.40
SBA1K01223	.022	100	.235	3/4	3.40
SBA1K01333	.033	100	.235	3/4	3.50
SBA1K01473	.047	100	.312	7/8	3.55
SBA1K01683	.068	100	.312	7/8	3.55
SBA1K01104	.1	100	.312	7/8	3.60
SBA1K01154	.15	100	.400	7/8	3.80
SBA1K01224	.22	100	.400	1 1/8	3.90
SBA1K01334	.33	100	.400	1 3/8	4.20
SBA1K01474	.47	100	.562	1 1/8	4.35
SBA1K01684	.68	100	.562	1 3/8	4.60
SBA1K01105	1.0	100	.562	1 7/8	4.70
SBA1K02102	.001	200	.235	3/4	3.35
SBA1K02152	.0015	200	.235	3/4	3.35
SBA1K02222	.0022	200	.235	3/4	3.40
SBA1K02332	.0033	200	.235	3/4	3.40
SBA1K02472	.0047	200	.235	3/4	3.45
SBA1K02682	.0068	200	.235	3/4	3.45
SBA1K02103	.01	200	.235	3/4	3.50
SBA1K02153	.015	200	.235	3/4	3.55
SBA1K02223	.022	200	.235	3/4	3.55
SBA1K02333	.033	200	.312	7/8	3.65
SBA1K02473	.047	200	.312	7/8	3.70
SBA1K02683	.068	200	.312	7/8	3.75
SBA1K02104	.1	200	.400	7/8	3.85
SBA1K02154	.15	200	.400	1 1/8	4.00
SBA1K02224	.22	200	.400	1 3/8	4.00
SBA1K02334	.33	200	.562	1 1/8	4.40
SBA1K02474	.47	200	.562	1 3/8	4.65
SBA1K02684	.68	200	.562	1 7/8	4.80
SBA1K02105	1.0	200	1.0	1 7/8	5.35
SBA1K04102	.001	400	.235	3/4	3.55
SBA1K04152	.0015	400	.235	3/4	3.55
SBA1K04222	.0022	400	.235	3/4	3.60
SBA1K04332	.0033	400	.235	3/4	3.60
SBA1K04472	.0047	400	.235	3/4	3.65
SBA1K04682	.0068	400	.235	3/4	3.65
SBA1K04103	.01	400	.235	3/4	3.70
SBA1K04153	.015	400	.312	7/8	3.70
SBA1K04223	.022	400	.312	7/8	3.75
SBA1K04333	.033	400	.312	7/8	3.80
SBA1K04473	.047	400	.400	7/8	3.90
SBA1K04683	.068	400	.400	1 1/8	4.00
SBA1K04104	.1	400	.400	1 3/8	4.20
SBA1K04154	.15	400	.562	1 1/8	4.35
SBA1K04224	.22	400	.562	1 3/8	4.50
SBA1K04334	.33	400	.562	1 7/8	4.70
SBA1K04474	.47	400	.670	1 7/8	5.35
SBA1K04684	.68	400	.750	2 1/8	5.60
SBA1K04105	1.0	400	1.0	1 7/8	6.50
SBA1K06102	.001	600	.235	3/4	3.60
SBA1K06152	.0015	600	.235	3/4	3.65
SBA1K06222	.0022	600	.235	3/4	3.65
SBA1K06332	.0033	600	.235	3/4	3.65
SBA1K06472	.0047	600	.235	3/4	3.70
SBA1K06682	.0068	600	.235	3/4	3.70
SBA1K06103	.01	600	.312	7/8	3.75
SBA1K06153	.015	600	.312	7/8	3.75
SBA1K06223	.022	600	.312	7/8	3.85
SBA1K06333	.033	600	.400	7/8	4.00
SBA1K06473	.047	600	.400	1 1/8	4.00
SBA1K06683	.068	600	.400	1 3/8	4.20
SBA1K06104	.1	600	.562	1 1/8	4.45
SBA1K06154	.15	600	.562	1 3/8	4.60
SBA1K06224	.22	600	.562	1 7/8	4.95
SBA1K06334	.33	600	.670	1 7/8	5.35
SBA1K06474	.47	600	.750	2 1/8	5.80
SBA1K06684	.68	600	1.0	1 7/8	6.10

NOTE—Standard Tolerance ±20%.

TYPE SDA

CONSTRUCTION: Extended Foil—No Insulating Sleeve
OPERATING TEMPERATURE: -55°C to +125°C



Catalog Number	Capacitance Mfd.	Working Voltage D.C.	Diameter in Inches	Length in Inches	List Price
SDA1K01102	.001	100	.235	3/4	\$3.45
SDA1K01152	.0015	100	.235	3/4	3.45
SDA1K01222	.0022	100	.235	3/4	3.45
SDA1K01332	.0033	100	.235	3/4	3.50
SDA1K01472	.0047	100	.235	3/4	3.50
SDA1K01682	.0068	100	.235	3/4	3.55
SDA1K01103	.01	100	.235	3/4	3.60
SDA1K01153	.015	100	.235	3/4	3.60
SDA1K01223	.022	100	.312	7/8	3.65
SDA1K01333	.033	100	.312	7/8	3.65
SDA1K01473	.047	100	.312	7/8	3.80
SDA1K01683	.068	100	.400	7/8	3.80
SDA1K01104	.1	100	.400	7/8	3.90
SDA1K01154	.15	100	.400	1 1/8	3.90
SDA1K01224	.22	100	.400	1 3/8	4.10
SDA1K01334	.33	100	.562	1 1/8	4.45
SDA1K01474	.47	100	.562	1 3/8	4.65
SDA1K01684	.68	100	.562	1 5/8	4.85
SDA1K01105	1.0	100	.670	1 5/8	5.35
SDA1K02102	.001	200	.235	3/4	3.55
SDA1K02152	.0015	200	.235	3/4	3.55
SDA1K02222	.0022	200	.235	3/4	3.60
SDA1K02332	.0033	200	.235	3/4	3.60
SDA1K02472	.0047	200	.235	3/4	3.65
SDA1K02682	.0068	200	.235	3/4	3.65
SDA1K02103	.01	200	.312	7/8	3.70
SDA1K02153	.015	200	.312	7/8	3.80
SDA1K02223	.022	200	.312	7/8	3.80
SDA1K02333	.033	200	.312	7/8	3.85
SDA1K02473	.047	200	.400	7/8	3.85
SDA1K02683	.068	200	.400	7/8	3.95
SDA1K02104	.1	200	.400	1 1/8	4.00
SDA1K02154	.15	200	.400	1 3/8	4.20
SDA1K02224	.22	200	.562	1 1/8	4.35
SDA1K02334	.33	200	.562	1 3/8	4.65
SDA1K02474	.47	200	.562	1 5/8	4.90
SDA1K02684	.68	200	.670	1 5/8	5.25
SDA1K02105	1.0	200	.750	2 1/8	5.65
SDA1K04102	.001	400	.235	3/4	3.70
SDA1K04152	.0015	400	.235	3/4	3.70
SDA1K04222	.0022	400	.235	3/4	3.80
SDA1K04332	.0033	400	.235	3/4	3.85
SDA1K04472	.0047	400	.312	7/8	3.85
SDA1K04682	.0068	400	.312	7/8	3.90
SDA1K04103	.01	400	.312	7/8	3.95
SDA1K04153	.015	400	.312	7/8	4.00
SDA1K04223	.022	400	.400	7/8	4.00
SDA1K04333	.033	400	.400	7/8	4.10
SDA1K04473	.047	400	.400	1 1/8	4.15
SDA1K04683	.068	400	.400	1 3/8	4.30
SDA1K04104	.1	400	.562	1 1/8	4.40
SDA1K04154	.15	400	.562	1 3/8	4.95
SDA1K04224	.22	400	.562	1 5/8	5.00
SDA1K04334	.33	400	.670	1 5/8	5.10
SDA1K04474	.47	400	.750	2 1/8	5.65
SDA1K06102	.001	600	.235	3/4	3.75
SDA1K06152	.0015	600	.235	3/4	3.75
SDA1K06222	.0022	600	.235	3/4	3.80
SDA1K06332	.0033	600	.312	7/8	3.85
SDA1K06472	.0047	600	.312	7/8	3.90
SDA1K06682	.0068	600	.312	7/8	3.95
SDA1K06103	.01	600	.312	7/8	4.00
SDA1K06153	.015	600	.400	7/8	4.10
SDA1K06223	.022	600	.400	7/8	4.20
SDA1K06333	.033	600	.400	1 1/8	4.25
SDA1K06473	.047	600	.400	1 3/8	4.30
SDA1K06683	.068	600	.562	1 1/8	4.55
SDA1K06104	.1	600	.562	1 3/8	4.80
SDA1K06154	.15	600	.562	1 5/8	5.20
SDA1K06224	.22	600	.670	1 5/8	5.60
SDA1K06334	.33	600	.750	2 1/8	5.95
SDA1K06474	.47	600	.750	2 3/8	6.40

NOTE—Standard Tolerance ±20%.

SANGAMO CAPACITORS

PAPER CAPACITORS



TYPES 40-41-42-43 paper

SANGAMO Types 40 and 41 paper dielectric capacitors are ideal for use in high voltage filter applications. The Type 40 and 41 are impregnated with Diacel to provide an R₁₀ characteristic (±35% at 100°C) capacitance change at low temp. Type 42 and 43 are physically identical to Type 40 and 41 respectively, except mineral oil is used as an impregnant to derive an R₁₀ characteristic (±25% at 100°C) capacitance change at low temp. and the case length is larger.

Catalog Number	Capacitance Mfd.	Working Volts D.C.	Diameter In. Inches	Length In. Inches		List Price
				Type 40-41	Type 42-43	
TYPE 40-42						
4-06-1	1	600	1 1/2	1 5/8	2	\$3.95
4-06-2	2	600	1 1/2	2 3/8	2 7/8	4.60
4-06-3	4	600	1 1/2	3 5/8	5 1/4	6.50
4-10-1	1	1000	1 1/2	2 3/8	2 1/8	4.50
4-10-2	2	1000	1 1/2	3 5/8	5	6.00
4-15-.25	.25	1500	1 1/2	2 3/8	2 7/8	5.25
4-15-.5	.5	1500	1 1/2	3 3/8	4 1/2	6.20

Catalog Number	Capacitance Mfd.	Working Volts D.C.	Diameter In. Inches	Length In. Inches		List Price
				Type 40-41	Type 42-43	
TYPE 41-43						
4-06-1	1	600	1 1/2	1 5/8	2	4.70
4-06-2	2	600	1 1/2	2 3/8	2 7/8	5.40
4-06-4	4	600	1 1/2	3 5/8	5 1/4	7.10
4-10-1	1	1000	1 1/2	2 3/8	2 7/8	5.00
4-10-2	2	1000	1 1/2	3 5/8	5	6.30
4-15-.25	.25	1500	1 1/2	2 3/8	2 7/8	5.65
4-15-.5	.5	1500	1 1/2	3 3/8	4 1/2	6.30

NOTE—Complete Catalog Number includes type designation.
Example: 4206-1
NOTE—Standard Tolerance: ±20%, ±10%

TYPE 50 paper



SANGAMO Type 50 paper dielectric capacitors are primarily intended for bypass applications. They are non-inductively wound, supplied in fractional capacitance values and will provide efficient and continuous operation in coupling and bypass circuits. These capacitors are impregnated with mineral oil and may be operated under severe humidity conditions at temperatures between -55°C and 85°C.



TYPE 60-62-64

Catalog Number	Capacitance Mfd.	Length In. Inches	Width In. Inches	Thickness In. Inches	List Price Type 62	List Price Type 64
600 W.V.D.C.						
6-V06-01	.01	1 1/16	1 5/16	.725	\$3.40	\$3.80
6-V03-05	.05	1 1/16	1 5/16	.725	3.45	3.85
6-V06-1	.1	1 3/8	1 5/16	.725	3.70	4.10
6-V06-.25	.25	1 5/8	1 5/16	.725	3.60	4.30
6-V03-.5	.5	2	1 5/16	.725	4.0	4.60
6-V06-1.0	1.0	2 3/4	1 5/16	.725	4.75	5.15
6-V03-2.0	2.0	2 1/4	1 3/16	1.188	6.00	6.40

Catalog Number	Capacitance Mfd.	Length In. Inches	Width In. Inches	Thickness In. Inches	List Price Type 62	List Price Type 64
1000 W.V.D.C.						
6-V10-.05	.05	1 3/8	1 5/16	.725	3.40	3.90
6-V10-.1	.1	1 3/8	1 5/16	.725	3.40	4.10
6-V10-.25	.25	2	1 5/16	.725	4.10	4.40
6-V10-.5	.5	2 3/4	1 5/16	.725	4.10	4.50
6-V10-1.0	1.0	2 1/4	1 3/16	1.188	5.00	5.10

NOTE—Complete Catalog Number will include Type designation.
Example: 6V06-01
NOTE—Type 60 without bracket; Type 62 with channel bracket, 2 terminals at the top; Type 64 with channel bracket, 2 terminals at the bottom.
NOTE—Type 60 can be furnished with spade (S) or footed (F) bracket. When ordering, state type of bracket desired following Catalog Number. Add \$-.50 to list price.
NOTE—Overall bracket dimensions for Type 62-64: Length 2 5/16", width .760". Mounting screw slots center-to-center 1 5/16".

TYPE 66-68

Catalog Number	Capacitance Mfd.	Length In. Inches	Width In. Inches	Thickness In. Inches	List Price
600 W.V.D.C.					
6-V06-.05	.05	1 1/16	1 3/4	.580	\$3.55
6-V06-.1	.1	1 1/16	1 3/4	.580	3.60
6-V06-.25	.25	1 1/2	1 3/4	.580	3.90
6-V03-.5	.5	2	1 3/4	.80	4.15

TYPE 50 PAPER

Catalog Number	Capacitance Mfd.	Length In. Inches	Width In. Inches	Height In. Inches	List Price
600 W.V.D.C.					
5006-.05	.05	1 13/16	1	3/4	\$2.90
5006-.1	.1	1 13/16	1	3/4	2.95
5006-.25	.25	1 13/16	1	3/4	3.10
5006-.5	.5	1 13/16	1	7/8	3.30
5006-1	1.0	2	1 3/4	1 1/8	3.75
5006-2	2.0	2	2	1 1/8	5.00
5006-2x.05	.05-.05	1 13/16	1	3/4	3.65
5006-2x.1	.1-.1	1 13/16	1	3/4	3.70
5006-2x.25	.25-.25	1 13/16	1	7/8	3.75
5006-2x.5	.5-.5	2	1 3/4	7/8	4.30
5006-3x.1	1.0-1.0	2	2	1 1/8	5.30
5006-3x.5	.25-.25-25	2	1 3/4	7/8	4.20
5006-3x.5	.5-.5-5	2	2	1 1/8	4.75
5006-3x.5	.5-.5-5	2	2	1 1/8	5.75

Catalog Number	Capacitance Mfd.	Length In. Inches	Width In. Inches	Height In. Inches	List Price
1000 W.V.D.C.					
5010-.05	.05	1 13/16	1	3/4	3.05
5010-.1	.1	1 13/16	1	3/4	3.15
5010-.25	.25	1 13/16	1	7/8	3.25
5010-.5	.5	2	1 3/4	7/8	3.55
5010-1	1.0	2	2	1 1/8	4.40
5010-2x.05	.05-.05	1 13/16	1	3/4	4.00
5010-2x.1	.1-.1	1 13/16	1	7/8	4.20
5010-2x.25	.25-.25	2	1 3/4	1 1/8	5.45
5010-2x.5	.5-.5	2	2	7/8	4.60
5010-3x.1	.1-.1-1	2	1 3/4	7/8	4.60
*5010-3x.25	.25-.25-.25	2	2	1 1/8	5.50

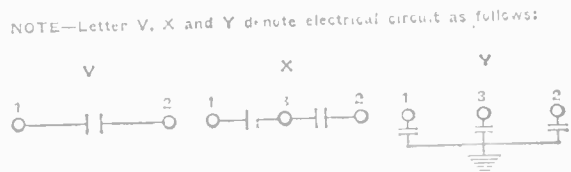
NOTE: *For bottom or top terminal, case size becomes 2" x 2" x 1 1/4".
NOTE: Standard capacity tolerance: ±20%-10%.
NOTE: Units supplied with side terminals unless otherwise specified.
NOTE: For top terminals add the letters "RT" following the catalog number.
NOTE: For bottom terminals add the letters "RB" following the catalog number.

TYPES 60-62-64-66-68

SANGAMO Type 60, 62, 64, 66, and 68 noninductively wound paper capacitors are impregnated with mineral oil and hermetically sealed in drawn metal cans. The mineral oil assures dependable service between the wide temperature range of -55°C and +85°C. The standard capacitance tolerance is ±20%, ±10%. Mounting brackets are supplied as shown.

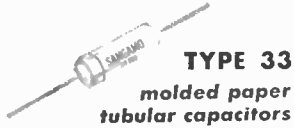
Catalog Number	Capacitance Mfd.	Length In. Inches	Width In. Inches	Thickness In. Inches	List Price
600 W.V.D.C.					
6-V06-1.0	1.0	2 3/4	1 3/4	.580	4.75
6-V06-X.05	.05-.05	1 1/16	1 3/4	.580	3.75
6-V06-2X.1	.1-.1	1 1/2	1 3/4	.580	4.65
6-V06-2X.25	.25-.25	2	1 3/4	.580	4.70
6-V06-2X.5	.5-.5	2 3/4	1 3/4	.580	5.45
6-V06-3X.05	.05-.05-.05	1 1/2	1 3/4	.580	5.60
6-V06-3X.1	.1-.1-1	1 1/2	1 3/4	.580	5.60
6-V06-3X.25	.25-.25-.25	2 3/4	1 3/4	.580	5.80
1000 W.V.D.C.					
6-V10-.05	.05	1 1/16	1 3/4	.580	3.75
6-V10-.1	.1	1 1/2	1 3/4	.580	4.00
6-V10-.25	.25	2	1 3/4	.580	4.10
6-V10-.5	.5	2 3/4	1 3/4	.580	4.35
6-V10-2X.05	.05-.05	1 1/2	1 3/4	.580	4.90
6-V10-2X.1	.1-.1	2	1 3/4	.580	5.15
6-V10-2X.25	.25-.25	2 3/4	1 3/4	.580	5.75
6-V10-3X.05	.05-.05-.05	1 1/2	1 3/4	.580	6.20
6-V10-3X.1	.1-.1-1	2 1/2	1 3/4	.580	6.20

NOTE—Overall bracket dimensions for Type 66-68: Length 2 1/16", width .840". Mounting screw slots center-to-center 2 1/8".
NOTE—Complete Catalog Number will include Type designation.
Example: 66V06-.05.
NOTE—Type 66 with channel bracket and the terminals at the top; Type 68 with channel bracket and the terminals at the bottom.



SANGAMO CAPACITORS

PAPER CAPACITORS



TYPE 33
molded paper
tubular capacitors

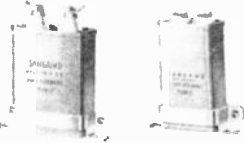
The SANGAMO "Telechief" is molded in humidity to provide more stable capacitance values, unsurpassed moisture resistance, excellent seal and operation up to 250°C. Small in physical size and rugged in construction, this tubular paper capacitor is especially adaptable to television, auto radio, AC DC sets and other uses. The leads are firmly embedded in the hard plastic case and have been specially designed to resist breakage.

Catalog Number	Capacitance Mfd.	Working Volts D.C.	Diameter In Inches	Length In Inches	List Price
33C221	.001	200	5 16	1	\$.25
330225	.005	200	5 16	1	.25
33C211	.01	200	3 8	1 1/8	.25
330212	.02	200	3 8	1 1/8	.25
33C2147	.047	200	7 16	1 1/4	.25
33C215	.05	200	7 16	1 1/4	.25
3302C1	.1	200	1 2	1 1/2	.35
3302015	.15	200	9 16	1 5/8	.35
3302022	.22	200	9 16	2	.40
3302025	.25	200	5 8	2	.45
3302047	.47	200	3 4	2	.60
330205	.5	200	3 4	2	.60
330421	.001	400	5 16	1	.25
330425	.005	400	5 16	1	.25
330411	.01	400	3 8	1 1/8	.25
330412	.02	400	7 16	1 3/16	.25
3304122	.022	400	7 16	1 3/16	.30
3304147	.047	400	15 32	1 1/2	.30
330415	.05	400	15 32	1 1/2	.30
3304168	.068	400	1 2	1 1/2	.35
330401	.1	400	9 16	1 5/8	.35
3304015	.15	400	9 16	2	.40
330402	.2	400	5 8	2	.40
3304022	.22	400	5 8	2	.40
3304025	.25	400	5 8	2	.40

Catalog Number	Capacitance Mfd.	Working Volts D.C.	Diameter In Inches	Length In Inches	List Price
330635	.0005	600	5 16	1	.25
330621	.001	600	5 16	1	.25
3306215	.0015	600	5 16	1	.25
330622	.002	600	5 16	1	.25
3306222	.0022	600	5 16	1	.25
3306225	.0025	600	5 16	1	.25
330623	.003	600	5 16	1	.25
3306233	.0033	600	5 16	1	.25
330624	.004	600	5 16	1	.25
3306247	.0047	600	5 16	1	.25
330625	.005	600	5 16	1	.25
330626	.006	600	3 8	1 1/8	.25
3306268	.0068	600	3 8	1 1/8	.30
330628	.008	600	7 16	1 3/16	.30
330611	.01	600	7 16	1 3/16	.30
3306115	.015	600	7 16	1 3/16	.30
330612	.02	600	7 16	1 1/4	.30
3306122	.022	600	7 16	1 1/4	.30
330613	.03	600	15 32	1 1/2	.35
3306123	.033	600	15 32	1 1/2	.35
330614	.04	600	1 2	1 1/2	.35
3306147	.047	600	1 2	1 1/2	.40
330615	.05	600	1 2	1 1/2	.40
330616	.06	600	9 16	1 5/8	.40
3306168	.068	600	9 16	1 5/8	.45
330601	.1	600	9 16	2	.45
3306015	.15	600	5 8	2	.50
33 602	.2	600	3 4	2	.55
3306022	.22	600	3 4	2	.55
3306025	.25	600	3 4	2	.55

NOTE—Standard capacitance tolerance:
.0005 Mfd. to .01 Mfd.— ± 60%, ± 20%
.01 Mfd. to .15 Mfd.— ± 20%, ± 20%
.15 Mfd. and up— ± 20%, ± 10%

NOTE—Additional capacitance values in the 200 and 400 volt ratings can be supplied on request.



TYPE 71
paper

SANGAMO Type 71 paper dielectric capacitors are impregnated with Diaclor—a specially compounded, chemically pure, chlorinated dielectric oil. SANGAMO Diaclor is a synthetic impregnant whose characteristics can be controlled with great uniformity and possesses a high dielectric constant, high resistivity, low power factor, high di-

electric strength and is non-flammable and non-explosive. The Type 71 is an excellent choice in medium and high voltage circuits where light weight per unit volume is an important factor. Each unit is finished with grey lacquer paint over a zinc chromate under coat.

Catalog Number	Capacitance Mfd.	Working Voltage D.C.	Height In Inches	Width In Inches	Thickness In Inches	List Price	Catalog Number	Capacitance Mfd.	Working Voltage D.C.	Height In Inches	Width In Inches	Thickness In Inches	List Price
7106-.5	.5	600	1 5/8	1 13/16	1 1/16	\$ 4.70	7125-1	1	2500	5 1/8	3 3/4	2 1/4	13.20
7106-1	1	600	2	1 13/16	1 1/16	5.80	7125-2	2	2500	3 1/4	3 3/4	1 1/4	21.45
7106-2	2	600	2 3/4	1 13/16	1 1/16	7.15	7125-4	4	2500	4 3/4	3 3/4	1 3/4	30.00
7106-4	4	600	2 7/8	2 1/2	1 3/16	9.10	7125-10	10	2500	6	3 3/4	4 9/16	75.10
7106-6	6	600	3 3/4	2 1/2	1 3/16	11.30	7130-.1	.1	3000	2	2 1/2	1 3/16	14.05
7106-8	8	600	3 1/4	3 3/4	1 1/4	13.50	7130-.25	.25	3000	2 1/2	2 1/2	1 3/16	14.85
7106-10	10	600	3 7/8	3 3/4	1 1/4	15.15	7130-.5	.5	3000	3 3/4	2 1/2	1 3/16	16.80
7110-.1	.1	1000	1 5/8	1 13/16	1 1/16	4.15	7130-1	1	3000	4 1/4	3 3/4	1 1/4	20.10
7110-.25	.25	1000	1 5/8	1 13/16	1 1/16	4.70	7130-2	2	3000	4 1/2	3 3/4	2 1/4	25.05
7110-.5	.5	1000	2	1 13/16	1 1/16	4.95	7130-4	4	3000	4 1/4	3 3/4	4 9/16	36.85
7110-1	1	1000	2 1/8	1 13/16	1 1/16	6.35	7140-.1	.1	4000	3 1/4	3 3/4	1 3/4	18.50
7110-2	2	1000	3 7/8	1 13/16	1 1/16	8.25	7140-.25	.25	4000	3 1/4	3 3/4	1 3/4	20.00
7110-4	4	1000	4 1/8	2 1/2	1 3/16	10.45	7140-.5	.5	4000	3 1/2	3 3/4	1 3/4	22.50
7110-6	6	1000	3 7/8	3 3/4	1 1/4	14.05	7140-1	1	4000	4 1/4	3 3/4	2 1/4	29.25
7110-8	8	1000	4 5/8	3 3/4	1 1/4	15.15	7140-2	2	4000	5 1/2	3 3/4	3 3/16	38.50
7110-10	10	1000	4 1/4	3 3/4	1 3/4	16.80	7140-4	4	4000	7	3 3/4	4 9/16	60.00
7110-12	12	1000	3 7/8	3 3/4	2 1/4	18.15	7150-.1	.1	5000	3 1/4	3 3/4	1 3/4	19.25
7110-15	15	1000	4 5/8	3 3/4	2 1/2	20.10	7150-.25	.25	5000	3 1/4	3 3/4	1 3/4	22.00
7115-.5	.5	1500	2 1/4	1 13/16	1 1/16	6.35	7150-.5	.5	5000	4 1/4	3 3/4	2 1/4	24.50
7115-1	1	1500	3 1/4	1 13/16	1 1/16	7.45	7150-1	1	5000	4 1/4	3 3/4	4 9/16	34.00
7115-2	2	1500	3 5/8	2 1/2	1 3/16	10.20	7150-2	2	5000	5 3/4	3 3/4	4 9/16	51.00
7115-4	4	1500	4 1/4	3 3/4	1 1/4	14.05	7160-.1	.1	6000	3 1/4	3 3/4	1 3/4	27.50
7115-6	6	1500	4 1/2	3 3/4	1 3/4	17.05	7160-.25	.25	6000	4 1/4	3 3/4	1 3/4	32.00
7115-8	8	1500	4 5/8	3 3/4	2 1/2	20.90	7160-.5	.5	6000	5 1/8	3 3/4	2 1/4	45.00
7115-10	10	1500	4 1/8	3 3/4	3 3/16	25.05	7160-1	1	6000	5	3 3/4	4 9/16	49.00
7115-12	12	1500	4 3/4	3 3/4	3 3/16	27.25	7175-.1	.1	7500	3 7/8	3 3/4	1 3/4	29.00
7115-15	15	1500	4 1/4	3 3/4	4 9/16	30.00	7175-.25	.25	7500	4 1/2	3 3/4	2 1/4	34.50
7120-.1	.1	2000	1 5/8	1 13/16	1 1/16	6.60	7175-.5	.5	7500	6	3 3/4	3 3/16	67.00
7120-.25	.25	2000	2	1 13/16	1 1/16	7.15							
7120-.5	.5	2000	2 7/8	1 13/16	1 1/16	7.45							
7120-1	1	2000	3 1/4	2 1/2	1 3/16	9.10							
7120-2	2	2000	3 3/4	3 3/4	1 1/4	10.75							
7120-4	4	2000	3 3/4	3 3/4	2 1/4	15.15							
7120-6	6	2000	4 3/4	3 3/4	2 1/2	20.10							
7120-8	8	2000	4 3/4	3 3/4	3 3/16	25.05							
7120-10	10	2000	4 3/4	3 3/4	4 9/16	30.55							
7120-12	12	2000	5 1/8	3 3/4	4 9/16	33.30							
7125-.5	.5	2500	2 7/8	2 1/2	1 3/16	11.55							

NOTE—All units supplied with spade type mounting bracket. Universal wrap-around or footed bracket may be substituted. Designate Bracket by adding Type Letter to Catalog Number. Example: 7106C-.5.

NOTE—All units 1500 W.V.D.C. and below are supplied with riveted silicone rubber bushing solder terminals. All units above 1500 W.V.D.C. are supplied with ceramic pillar terminals with removable solder lugs.

NOTE—Standard tolerance ±10%.

SANGAMO CAPACITORS

PAPER CAPACITORS



TYPE 75
motor-run
and ballast
capacitors

SANGAMO Type 75 paper dielectric capacitors are impregnated with Diaclor and designed for continuous A.C. duty in ambient temperatures up to 75 C. They are

recommended for use in motor-run, ballast and light-duty power factor correction applications.

Cat. No.	Capacitance Mfds.	Working Voltage A.C.	Base Dimension			Terminal Spacing ±1/16	List Price
			W ±1/16	D ±1/16	H ±1/16		
7522-1	1	220	1-13/16	1- 1/16	1-5/8	13 16	\$ 4.40
7522-2	2	220	1-13/16	1- 1/16	2-1/4	13 16	5.55
7522-3	3	220	1-13/16	1- 1/16	2-7/8	13 16	6.10
7522-3.75	3.75	220	1-13/16	1- 1/16	3-1/4	13 16	6.50
7522-4	4	220	1-13/16	1- 1/16	3-1/4	13 16	6.70
7522-5	5	220	2- 1/2	1- 3/16	2-7/8	1-1/8	7.25
7522-6	6	220	2- 1/2	1- 3/16	3-1/2	1-1/8	8.00
7522-7.5	7.5	220	2- 1/2	1- 3/16	3-7/8	1-1/8	8.45
7522-8	8	220	2- 1/2	1- 3/16	3-7/8	1-1/8	8.75
7522-10	10	220	2- 1/2	1- 3/16	4-3/4	1-1/8	10.35
7522-12	12	220	3- 3/4	1- 1/4	3-7/8	2	11.10
7522-15	15	220	3- 3/4	1- 1/4	4-1/4	2	13.60
7522-20	20	220	3- 3/4	1- 3/4	4	2	18.35
7522-25	25	220	3- 3/4	2- 1/4	4-1/8	2	21.45
7533-1	1	330	1-13/16	1- 1/16	2-1/8	13 16	5.00
7533-2	2	330	1-13/16	1- 1/16	2-7/8	13 16	5.60
7533-3	3	330	1-13/16	1- 1/16	3-7/8	13 16	6.80
7533-4	4	330	1-13/16	1- 1/16	4-3/4	13 16	7.60
7533-5	5	330	2- 1/2	1- 3/16	3-1/2	1-1/8	8.00
7533-6	6	330	2- 1/2	1- 3/16	3-7/8	1-1/8	9.10
7533-7	7	330	3- 3/4	1- 1/4	3-1/4	2	10.00
7533-9	9	330	3- 3/4	1- 1/4	3-7/8	2	11.60
7533-10	10	330	3- 3/4	1- 1/4	3-7/8	2	12.15
7533-12	12	330	3- 3/4	1- 3/4	3-7/8	2	13.00
7533-15	15	330	3- 3/4	1- 3/4	4-1/4	2	15.90
7533-20	20	330	3- 3/4	2- 1/4	4-1/2	2	20.40
7533-25	25	330	3- 3/4	2- 1/2	4-3/4	2	24.85
7533-30	30	330	3- 3/4	3- 3/16	4-1/2	2	27.20
7544-1	1	440	1-13/16	1- 1/16	2-1/4	13/16	5.65
7544-2	2	440	1-13/16	1- 1/16	3-1/4	13/16	6.00
7544-3	3	440	1-13/16	1- 1/16	4-3/4	13/16	7.70

Cat. No.	Capacitance Mfds.	Working Voltage A.C.	Base Dimension			Terminal Spacing ±1/16	List Price
			W ±1/16	D ±1/16	H ±1/16		
7544-4	4	440	2- 1/2	1- 3/16	3-7/8	1-1/8	8.25
7544-5	5	440	2- 1/2	1- 3/16	4-3/4	1-1/8	10.00
7544-6	6	440	3- 3/4	1- 1/4	4-1/8	2	10.70
7544-8	8	440	3- 3/4	1- 1/4	4-1/4	2	12.10
7544-10	10	440	3- 3/4	2- 1/4	3-3/8	2	13.85
7544-12	12	440	3- 3/4	2- 1/4	3-7/8	2	16.30
7544-15	15	440	3- 3/4	2- 1/4	4-1/2	2	19.25
7544-20	20	440	3- 3/4	3- 3/16	4-1/8	2	23.75
7544-25	25	440	3- 3/4	3- 3/16	4-3/4	2	28.35
7544-30	30	440	3- 3/4	3- 3/16	5-1/2	2	32.35
7566-1	1	660	1-13/16	1- 1/16	3-7/8	13/16	6.10
7566-2	2	660	2- 1/2	1- 3/16	3-7/8	1-1/8	7.70
7566-4	4	660	3- 3/4	1- 1/4	4-3/4	2	11.15
7566-5	5	660	3- 3/4	1- 3/4	4-1/4	2	12.00

Cat. No.	Capacitance Mfds.	Working Voltage A.C.	Base Dimension			Terminal Spacing ±1/16	List Price
			W ±1/16	D ±1/16	H ±1/16		
7566-6	6	660	3- 3/4	1- 3/4	4-3/4	2	14.50
7566-8	8	660	3- 3/4	2- 1/4	3-7/8	2	18.10
7566-10	10	660	3- 3/4	3- 3/16	4-1/8	2	19.70

NOTE—All units supplied with riveted silicone rubber bushing terminals with solder lugs. Cup type terminal insulator available at no extra cost.

NOTE—Standard Tolerance ±10%.

NOTE—Spade type bracket supplied with all units.



TYPE 80
motor-run and
ballast capacitors

The SANGAMO Type 80 paper dielectric capacitor is designed for continuous duty in fluorescent light ballast, heating, ventilating and air conditioning motor run applications. The Type 80 is impregnated with Diaclor and

hermetically sealed in oval, drawn, metal containers with silicone rubber bushing solder terminals. They are used generally wherever motor-run or light-duty factor correction capacitors are required.

Catalog Number	Capacitance Mfds.	Working Voltage A.C.	Base Dim.		Height H	List Price
			W	D		
8022-2	2	236	2-1/16	1-1/4	2- 1/4	\$ 5.50
8022-3	3	236	2-1/16	1-1/4	2- 1/4	6.10
8022-4	4	236	2-1/16	1-1/4	2- 7/8	6.70
8022-5	5	236	2-1/16	1-1/4	2- 7/8	7.25
8022-6	6	236	2-1/16	1-1/4	3- 3/4	8.00
8022-7.5	7.5	236	2-13/16	2-1/8	2-17/32	8.40
8022-10	10	236	2-13/16	2-1/8	3- 1/32	10.30
8022-15	15	236	2-13/16	2-1/8	4- 5/32	13.60
8022-20	20	236	2-13/16	2-1/8	4- 5/32	18.35
8033-2	2	330	2-1/16	1-1/4	2- 1/4	5.60
8033-3	3	330	2-1/16	1-1/4	2- 1/4	6.70
8033-3.75	3.75	330	2-1/16	1-1/4	3- 1/8	7.40
8033-4	4	330	2-1/16	1-1/4	3- 1/8	7.60
8033-5	5	330	2-1/16	1-1/4	3- 3/4	8.00
8033-6	6	330	2-1/16	1-1/4	3- 3/4	9.00
8033-7	7	330	2-13/16	2-1/8	3 1/32	10.00
8033-7.5	7.5	330	2-13/16	2-1/8	3 1/32	10.50
8033-8	8	330	2-13/16	2-1/8	3- 3/8	11.00
8033-10	10	330	2-13/16	2-1/8	3- 3/8	12.15
8033-12.5	12.5	330	2-13/16	2-1/8	4-5/32	13.55
8033-14.5	14.5	330	2-13/16	2-1/8	4-21/32	15.45
8033-15	15	330	2-13/16	2-1/8	4-21/32	15.90

Catalog Number	Capacitance Mfds.	Working Voltage A.C.	Base Dim.		Height H	List Price
			W	D		
8033-17.5	17.5	330	2-13/16	2-1/8	5- 3/16	\$18.15
8033-20	20	330	2-13/16	2-1/8	5- 3/16	20.30
8044-2	2	440	2-1/16	1-1/4	2- 1/4	6.00
8044-3	3	440	2-1/16	1-1/4	3- 1/8	7.70
8044-4	4	440	2-1/16	1-1/4	3- 3/4	8.25
8044-5	5	440	2-13/16	2-1/8	2-17/32	10.00
8044-6	6	440	2-13/16	2-1/8	2-25/32	10.70
8044-7	7	440	2-13/16	2-1/8	3-13/32	11.40
8044-7.5	7.5	440	2-13/16	2-1/8	3-13/32	12.15
8044-8	8	440	2-13/16	2-1/8	3-25/32	12.70
8044-10	10	440	2-13/16	2-1/8	4- 5/32	13.75
8044-12.5	12.5	440	2-13/16	2-1/8	5- 3/16	16.80
8044-15	15	440	2-13/16	2-1/8	6- 1/4	19.20
8066-1	1	660	2-1/16	1-1/4	2- 1/4	6.20
8066-2	2	660	2-1/16	1-1/4	3- 3/4	7.90
8066-3	3	660	2-13/16	2-1/8	2-25/32	9.25
8066-4	4	660	2-13/16	2-1/8	3- 3/8	11.10
8066-5	5	660	2-13/16	2-1/8	4- 5/32	12.00
8066-6	6	660	2-13/16	2-1/8	4-21/32	14.50

NOTE—Type 80 not a stock item. Minimum order quantity is 10 of any value.
NOTE—Cup type terminal insulator available at no extra cost.
NOTE—Add 3/32" to above dimensions for lip on can.

Vitramon[®] CAPACITORS

WIDE TEMPERATURE RANGE
STABLE • HUMIDITY IMMUNITY
RUGGED • LOW LOSS
LOW NOISE • MINIATURE

AXIAL SERIES (-A)

CY13C.....-A (MS 15826) — CY17C.....-A (MS 15833)
CY22C.....-A (MS 15825) — CY32C.....-A (MS 16096)

TYPE	Dimensions, Inches $\pm 1/32''$	
	B	C
CY13C.....-A	3/8	15/64
CY17C.....-A	17/32	17/64
CY22C.....-A	29/32	7/16
CY32C.....-A	29/32	13/16

AXIAL/RADIAL SERIES (-AR)

CY13C.....-AR — CY17C.....-AR — CY22C.....-AR
CY32C.....-AR

TYPE	Dimensions, Inches $\pm 1/64''$	
	B	C
CY13C.....-AR	3/8	3/16
CY17C.....-AR	1/2	9/32
CY22C.....-AR	13/16	29/64
CY32C.....-AR	27/32	27/32

RADIAL SERIES (-R)

TYPE	Dimensions, Inches $\pm 1/64''$	
	B	C
CY13C.....-R	3/8	3/16
CY17C.....-R	1/2	9/32

COAXIAL SERIES

MARKING ON THIS SURFACE

MONOLITHIC — REQUIRES NO HERMETIC SEAL

Only two materials go into "VITRAMON" Capacitors... porcelain enamel for the dielectric and encasing insulation... fine silver for the electrodes. Perfectly bonded, the two become, effectively, one homogenous unit...

Stable over a Wide Temperature Range.

The solid block of "quality porcelain" in which the silver electrodes are immersed makes "VITRAMON" Capacitors both

Rugged and Vaporproof



Pure materials plus perfect bonding combine to eliminate both *Loss and Noise.*

Finally... their unique construction allows for "layering" the electrodes so that much greater active dielectric area can be squeezed into the same cubic content... They're *Miniature.*

The most famous names in electronics use "VITRAMON" Capacitors in guided missiles, jet ignition, proximity fuses, and in radar, servo, guidance, fire control, telemetering and carrier telephone systems.

STANDARD TYPES AND VALUES

All series A, AR, and R are available in the following values from factory or distributor stocks in 10%, 5%, 2% and 1% tolerances.

CY13C -A or -AR

0.5 to 200 mmf at 500 vdc
220 to 300 mmf at 300 vdc

CY17C -A or -AR

220 to 470 mmf at 500 vdc
510 to 1000 mmf at 300 vdc

CY22C -A or -AR

510 to 1000 mmf at 500 vdc
1100 to 2400 mmf at 300 vdc*

CY32C -A or -AR

1100 to 3300 mmf at 500 vdc
3600 to 6800 mmf at 300 vdc* *

CY13C -R

0.5 to 22 mmf at 500 vdc
24 to 100 mmf at 300 vdc
110 to 220 mmf at 100 vdc
240 to 510 mmf at 50 vdc

CY17C -R

300 to 620 mmf at 100 vdc
680 to 1200 mmf at 50 vdc

*2200 and 2400 not available in -A Series

**6200 and 6800 not available in -AR Series

HIGH RELIABILITY SPECIFICATION S-1002

Every capacitor ordered under High Reliability Specification S-1002 undergoes tests encompassing 300,000 UNIT HOURS OF LIFE AT 125°C. to assure an A.Q.L. 12 times higher than Mil Specifications—and every shipment against an S-1002 order is accompanied by tabulated results to verify extreme reliability.

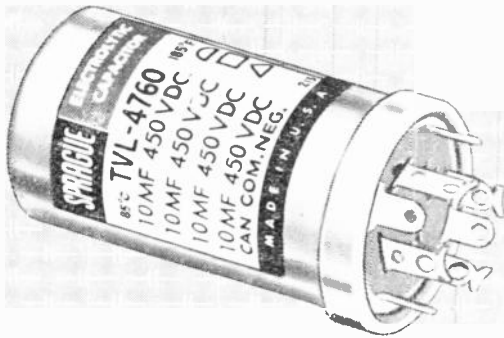
Vitramon[®]

INCORPORATED

BOX 544 • BRIDGEPORT 1, CONN.

SPRAGUE CAPACITORS

TVL TWIST-LOK® ELECTROLYTICS



- Especially Designed for Tough TV and Radio Replacement Applications
- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance
- Stand Up Under Extremely High Temperatures and High Surge Voltages as well as in High Ripple Selenium Rectifier Circuits
- Easy to Mount—A Twist of the Tabs Locks Unit Firmly in Place
- Furnished Complete with Bakelite and Metal Mounting Plates
- Designed for 85°C (185°F) Operation

Bold type indicates popular items and light type indicates less popular items. An asterisk (*) indicates that the item is available only on special order, but can be readily replaced with a more popular item.

μF	WVDC	Dia. x Length	Cat. No.	List	μF	WVDC	Dia. x Length	Cat. No.	List
SINGLE UNITS					20	250	1 x 2	TVL-1509	\$1.60
.5Ω @15.75 KC 3N.P.		1 x 2	TVL-1010	\$2.65	* 30	250	1 x 2	TVL-1516	2.15
1Ω @60 CPS 3N.P.		1 1/2 x 2 1/2	TVL-1015	4.00	40	250	1 x 2	TVL-1519	1.80
10Ω @30 CPS 3N.P.		1 1/2 x 2	TVL-1020	2.75	* 50	250	1 x 2 1/2	TVL-1522	2.45
*1000	6	1 1/2 x 2	TVL-1112	2.40	60	250	1 x 3	TVL-1525	2.55
2000	6	1 1/2 x 2	TVL-1115	2.55	* 80	250	1 x 3 1/2	TVL-1530	2.70
*1000	10	1 x 2 1/2	TVL-1125	3.20	100	250	1 x 3	TVL-1535	2.70
*3000	10	1 1/2 x 2 1/2	TVL-1140	3.65	150	250	1 1/2 x 2 1/2	TVL-1540	3.10
225	15	3/4 x 2	TVL-1160	1.75	200	250	1 1/2 x 2 1/2	TVL-1547	3.65
1000	15	1 x 2 1/2	TVL-1165	2.55	15	300	1 x 2	TVL-1560	2.00
*1500	15	1 x 3	TVL-1167	3.45	* 30	300	1 x 2	TVL-1563	2.20
2000	15	1 1/2 x 2	TVL-1168	3.45	* 50	300	1 x 2 1/2	TVL-1567	2.55
3000	15	1 1/2 x 3	TVL-1170	3.50	60	300	1 x 3	TVL-1570	2.65
4000	15	1 1/2 x 3 1/2	TVL-1173	3.75	80	300	1 x 3 1/2	TVL-1573	2.55
* 25	25	3/4 x 2	TVL-1207	1.55	100	300	1 x 4	TVL-1578	2.90
* 40	25	3/4 x 2	TVL-1210	1.35	125	300	1 1/2 x 3 1/2	TVL-1580	3.50
* 50	25	1 x 2	TVL-1211	1.70	150	300	1 1/2 x 3 1/2	TVL-1584	3.50
* 100	25	3/4 x 2	TVL-1215	2.00	250	300	1 1/2 x 4	TVL-1590	5.55
500	25	1 x 2	TVL-1220	2.55	* 10	350	1 x 2	TVL-1605	1.90
1000	25	1 1/2 x 2	TVL-1230	3.55	15	350	1 x 2	TVL-1608	2.05
4	50	3/4 x 2	TVL-1305	1.55	* 20	350	1 x 2	TVL-1612	2.20
25	50	3/4 x 2	TVL-1308	1.70	30	350	1 x 2	TVL-1617	1.90
100	50	3/4 x 2	TVL-1317	1.65	40	350	1 x 2	TVL-1621	2.00
150	50	3/4 x 2 1/2	TVL-1320	1.80	50	350	1 x 2	TVL-1622	2.10
250	50	1 x 2 1/2	TVL-1324	2.00	60	350	1 x 3	TVL-1624	2.20
500	50	1 1/2 x 2 1/2	TVL-1330	2.65	80	350	1 1/2 x 2	TVL-1630	2.85
1000	50	1 1/2 x 3 1/2	TVL-1338	3.75	125	350	1 1/2 x 3 1/2	TVL-1638	3.95
1500	50	1 1/2 x 4	TVL-1341	3.85	*140	350	1 1/2 x 4	TVL-1641	4.95
* 10	150	1 x 2	TVL-1403	1.65	150	350	1 1/2 x 4	TVL-1642	3.95
* 20	150	1 x 2	TVL-1405	1.80	* 10	400	1 x 2	TVL-1655	1.90
* 25	150	1 x 2	TVL-1407	1.90	* 20	400	1 x 2	TVL-1660	2.20
30	150	1 x 2	TVL-1408	1.55	* 40	400	1 1/2 x 2	TVL-1663	3.15
* 40	150	1 x 2	TVL-1412	2.00	* 50	400	1 1/2 x 2 1/2	TVL-1666	2.75
50	150	1 x 2	TVL-1415	1.65	* 80	400	1 1/2 x 3	TVL-1675	3.70
* 60	150	1 x 2	TVL-1417	2.20	*100	400	1 1/2 x 3 1/2	TVL-1679	4.25
80	150	1 x 2 1/2	TVL-1420	1.85	4	450	1 x 2	TVL-1702	1.40
* 80	150	1 1/2 x 2	TVL-1421	2.30	10	450	1 x 2	TVL-1705	1.55
100	150	1 x 2 1/2	TVL-1423	2.00	15	450	1 x 2	TVL-1709	1.70
* 110	150	1 x 3	TVL-1424	2.70	20	450	1 x 2	TVL-1714	1.80
120	150	1 x 2 1/2	TVL-1425	2.15	25	450	1 x 2 1/2	TVL-1716	2.40
120	150	1 1/2 x 2 1/2	TVL-1426	2.15	30	450	1 x 2 1/2	TVL-1720	1.95
140	150	1 x 3	TVL-1428	2.15	40	450	1 x 3	TVL-1725	2.05
150	150	1 x 3	TVL-1429	2.15	50	450	1 x 3	TVL-1728	2.35
150	150	1 1/2 x 3	TVL-1430	2.15	60	450	1 1/2 x 2 1/2	TVL-1730	2.60
200	150	1 1/2 x 4	TVL-1431	2.45	80	450	1 1/2 x 2 1/2	TVL-1735	3.05
300	150	1 1/2 x 3 1/2	TVL-1434	2.80	100	450	1 1/2 x 3	TVL-1750	3.45
* 40	200	1 x 2	TVL-1460	2.15	125	450	1 1/2 x 4	TVL-1760	3.85
* 160	200	1 1/2 x 3	TVL-1473	3.15	* 20	475	1 x 2 1/2	TVL-1807	2.30
* 15	250	1 x 2	TVL-1505	1.95	* 30	475	1 x 3	TVL-1810	2.50

SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Lgth.	Cat. No.	List	μF	WVDC	Dia. x Lgth.	Cat. No.	List
60-60	400-400	1 3/8 x 4	TVL-2668	\$5.50	* 40-40	475-475	1 3/8 x 3	TVL-2830	\$5.40
75-75	400-400	1 3/8 x 4	TVL-2670	6.05	* 60-40	475-475	1 3/8 x 4	TVL-2840	5.70
* 80-10	400-400	1 3/8 x 3 1/2	TVL-2672	4.25	* 80-40	475-475	1 3/8 x 4	TVL-2850	6.30
* 80-20	400-400	1 3/8 x 3	TVL-2673	4.55	80-50	475-475	1 3/8 x 4	TVL-2851	5.20
* 80-40	400-400	1 3/8 x 4	TVL-2675	5.15	80-50	500-50	1 3/8 x 3 1/2	TVL-2907	4.75
80.60	400.400	1 3/8 x 3	TVL-2677	4.70	60-80	500-150	1 3/8 x 3	TVL-2916	4.70
120.40	400.400	1 3/8 x 4	TVL-2679	5.25	40-50	500-200	1 3/8 x 3	TVL-2920	4.20
					15-20	500-300	1 x 2 1/2	TVL-2922	2.90
10.20	450.25	1 x 2	TVL-2701	1.70	20-100	500-300	1 3/8 x 3	TVL-2924	4.90
20-20	450-25	1 x 2	TVL-2702	2.50	* 40-40	500-400	1 3/8 x 3	TVL-2926	4.70
20-100	450-25	1 x 2 1/2	TVL-2703	2.75	4-4	500-500	1 x 2 1/2	TVL-2931	2.15
40-20	450-25	1 x 3	TVL-2704	3.05	10.10	500.500	1 x 2 1/2	TVL-2933	1.95
* 80-10	450-25	1 3/8 x 3	TVL-2705	4.25	20.20	500.500	1 3/8 x 2 1/2	TVL-2935	2.85
* 80-20	450-25	1 3/8 x 3	TVL-2706	4.25	30.10	500.500	1 3/8 x 3	TVL-2936	2.60
10-100	450-50	1 x 2 1/2	TVL-2708	2.55	30.30	500.500	1 3/8 x 3	TVL-2937	3.25
30-25	450-50	1 x 2 1/2	TVL-2708.3	2.90	40-25	500-500	1 3/8 x 3	TVL-2939	4.55
40-50	450-50	1 x 3 1/2	TVL-2708.8	3.75	40.40	500.500	1 3/8 x 3	TVL-2940	4.30
40.100	450.50	1 x 3 1/2	TVL-2709	2.80	60.40	500.500	1 3/8 x 3 1/2	TVL-2944	4.60
50.100	450.50	1 3/8 x 2 1/2	TVL-2709.3	3.00					
80.50	450.50	1 3/8 x 3	TVL-2710	3.50					
80.100	450.50	1 3/8 x 3	TVL-2711	3.75					
10-50	450-100	1 3/8 x 2	TVL-2712	2.55					
20-100	450-100	1 3/8 x 2	TVL-2713	3.65	1500-1500-1500	3-3-3	1 x 3 1/2	TVL-3015	\$9.00
30-40	450-150	1 3/8 x 2	TVL-2714	3.65	40-500-500	25-10-10	1 x 2 1/2	TVL-3202	5.05
30.200	450.150	1 3/8 x 3	TVL-2715	3.50	20.20.20	25.25.25	1 x 2	TVL-3210	1.95
40-150	450-150	1 3/8 x 3	TVL-2716	4.30	40-40-40	25-25-25	1 x 2	TVL-3230	3.20
80-50	450-150	1 3/8 x 3	TVL-2717	4.70	30-30-30	50-50-50	1 x 2	TVL-3320	3.25
80-60	450-150	1 3/8 x 3 1/2	TVL-2718	5.20					
* 80-40	450-200	1 3/8 x 3	TVL-2720	4.75	20-250-100	150-15-15	1 3/8 x 2	TVL-3403	4.35
20.50	450.250	1 x 3	TVL-2722	2.80	40-25-130	150-25-15	1 x 3	TVL-3404	4.95
40.10	450.300	1 x 3	TVL-2724	2.60	50-100-20	150-50-25	1 x 3	TVL-3405	4.30
10-100	450-350	1 3/8 x 3 1/2	TVL-2727	5.00	100-50-25	150-50-25	1 x 3	TVL-3407	4.50
* 20-80	450-350	1 3/8 x 3 1/2	TVL-2730	4.55	15.15-1200	150.150.2	1 x 2	TVL-3410	3.15
25-15	450-350	1 x 3	TVL-2732	3.20	30-20-100	150-150-6	1 x 2	TVL-3412	3.60
40.10	450.350	1 3/8 x 2	TVL-2735	2.60	20-20-100	150-150-10	1 x 2	TVL-3413	3.55
* 40-20	450-350	1 3/8 x 2 1/2	TVL-2736	3.55	20-20-250	150-150-10	1 x 2	TVL-3413.2	3.90
* 40-40	450-350	1 3/8 x 3	TVL-2737	4.15	30-30-200	150-150-10	1 x 2	TVL-3413.3	3.75
30-20	450-400	1 x 3	TVL-2741	3.40	40.20.150	150.150.10	1 x 2	TVL-3413.4	2.40
					* 40-20-200	150-150-10	1 x 2 1/2	TVL-3413.5	3.75
5.5	450.450	1 x 2	TVL-2748	1.70	40-20-250	150-150-10	1 x 2 1/2	TVL-3413.6	4.05
10.10	450.450	1 x 2	TVL-2750	1.90	40-40-100	150-150-10	1 x 2 1/2	TVL-3413.7	3.75
* 15-10	450-450	1 x 2 1/2	TVL-2752	2.80	* 40-40-250	150-150-10	1 x 2 1/2	TVL-3413.8	5.65
15.15	450.450	1 x 2 1/2	TVL-2753	2.25	* 80-20-200	150-150-10	1 3/8 x 2	TVL-3414	4.30
20.10	450.450	1 x 2 1/2	TVL-2754	2.25	80.30.300	150.150.10	1 3/8 x 2	TVL-3414.2	3.15
20.20	450.450	1 x 3	TVL-2755	2.55	90-40-400	150-150-10	1 3/8 x 2 1/2	TVL-3414.5	5.25
30.10	450.450	1 x 3	TVL-2757	2.40	100-20-200	150-150-10	1 3/8 x 2 1/2	TVL-3414.6	4.95
* 30-10	450-450	1 3/8 x 2	TVL-2757.2	3.00	100.80.200	150.150.10	1 3/8 x 2 1/2	TVL-3414.7	3.60
30-15	450-450	1 3/8 x 2	TVL-2758	3.30	60-40-400	150-150-15	1 3/8 x 2	TVL-3414.8	4.80
30.30	450.450	1 3/8 x 2 1/2	TVL-2759	3.05	80-20-100	150-150-15	1 3/8 x 2	TVL-3414.9	4.20
40-5	450-450	1 x 3	TVL-2760	3.20					
* 40-15	450-450	1 3/8 x 2 1/2	TVL-2761	3.50	* 20-20-20	150-150-25	1 x 2	TVL-3415	3.30
40.20	450.450	1 3/8 x 2 1/2	TVL-2762	3.25	20-20-200	150-150-25	1 x 3	TVL-3416	3.90
40.40	450.450	1 3/8 x 3	TVL-2764	3.45	30-20-20	150-150-25	1 x 2	TVL-3417	3.40
* 50-40	450-450	1 3/8 x 3	TVL-2766	4.50	30-30-20	150-150-25	1 x 2	TVL-3419	3.45
50.50	450.450	1 3/8 x 3	TVL-2767	3.85	40.20.20	150.150.25	1 x 2 1/2	TVL-3422	2.30
60.20	450.450	1 3/8 x 3	TVL-2768	3.55	40-20-100	150-150-25	1 x 3	TVL-3423	3.75
60.40	450.450	1 3/8 x 3 1/2	TVL-2770	3.95	* 40-20-200	150-150-25	1 x 2 1/2	TVL-3423.2	2.70
60.60	450.450	1 3/8 x 3 1/2	TVL-2772	4.50	* 40-30-20	150-150-25	1 x 2	TVL-3424	3.55
80.10	450.450	1 3/8 x 3	TVL-2776	3.60	* 40-30-25	150-150-25	1 x 2 1/2	TVL-3425	3.55
80.20	450.450	1 3/8 x 3	TVL-2776.5	3.90	40.40.20	150.150.25	1 x 2	TVL-3426	2.40
80.30	450.450	1 3/8 x 4	TVL-2777	4.20	40.40.200	150.150.25	1 x 3	TVL-3426.3	2.80
80.40	450.450	1 3/8 x 3 1/2	TVL-2778	5.05	40.40.250	150.150.25	1 x 3	TVL-3426.4	3.15
100.40	450.450	1 3/8 x 4	TVL-2780	4.85	50.30.20	150.150.25	1 x 2 1/2	TVL-3426.7	2.50
					50.30.100	150.150.25	1 x 3	TVL-3427	2.70
10-20	475-25	1 x 2	TVL-2802	2.15	50-30-200	150-150-25	1 3/8 x 2	TVL-3428	4.35
75-50	475-50	1 3/8 x 3	TVL-2804	4.55	50-30-300	150-150-25	1 x 3	TVL-3429	5.10
40-80	475-200	1 3/8 x 2 1/2	TVL-2807	4.55	50.50.20	150.150.25	1 x 3	TVL-3430	2.65
* 20-100	475-300	1 3/8 x 3 1/2	TVL-2810	4.95	50-50-200	150-150-25	1 x 3	TVL-3430.7	4.60
20.100	475.400	1 3/8 x 4	TVL-2813	4.50	60-20-20	150-150-25	1 x 2	TVL-3431	3.85
40-40	475-400	1 3/8 x 3	TVL-2815	4.70	60.40.200	150.150.25	1 x 3	TVL-3431.3	3.05
15.15	475.475	1 x 2 1/2	TVL-2820	2.35	60-60-100	150-150-25	1 3/8 x 2	TVL-3431.4	4.60
30.10	475.475	1 x 3	TVL-2824	2.60	80-20-20	150-150-25	1 x 3	TVL-3431.5	4.00
40.10	475.475	1 3/8 x 2 1/2	TVL-2827	3.10	80-30-300	150-150-25	1 3/8 x 2	TVL-3431.8	5.50

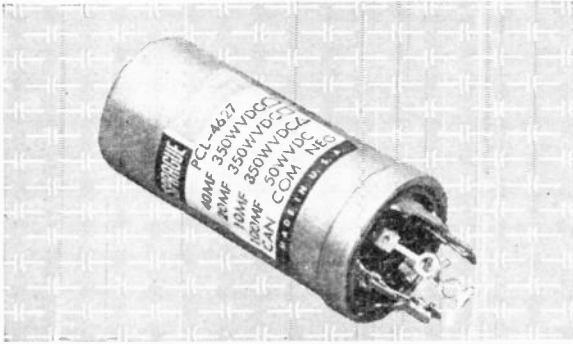
SPRAGUE CAPACITORS

TVL TWIST-LOK ELECTROLYTICS, continued

μF	WVDC	Dia. x Lgth.	Cat. No.	List	μF	WVDC	Dia. x Lgth.	Cat. No.	List
80.40-20	150-150-25	1 x 2½	TVL-3432	\$2.80	10.500-500	300-15-15	1½ x 2½	TVL-3553	\$3.90
80.40-300	150-150-25	1½ x 2½	TVL-3432.4	3.70	20-10-10	300-75-25	1 x 2	TVL-3555	3.55
120-60-20	150-150-25	1½ x 2½	TVL-3432.6	5.05	100-60-20	300-150-25	1½ x 3	TVL-3560	6.30
* 10-10-10	150-150-150	1 x 2	TVL-3432.8	3.10	20-150-80	300-150-150	1½ x 3	TVL-3560.2	3.95
20-20-20	150-150-150	1 x 2	TVL-3433	2.30	100-150-30	300-150-150	1½ x 4	TVL-3560.4	7.45
30-30-10	150-150-150	1 x 2	TVL-3435	2.85	100-200-30	300-150-150	1½ x 4	TVL-3560.6	5.20
40-20-10	150-150-150	1 x 2	TVL-3436	2.35	100-200-60	300-150-150	1½ x 4	TVL-3560.5	5.00
40-20-20	150-150-150	1 x 2½	TVL-3437	2.40	* 20-80-10	300-250-200	1½ x 2½	TVL-3561	5.20
40-30-20	150-150-150	1 x 2	TVL-3438	2.50	16-20-20	300-250-250	1 x 3	TVL-3561.3	3.90
40-40-40	150-150-150	1 x 3½	TVL-3440	2.60	* 40-80-40	300-250-250	1½ x 3	TVL-3561.5	6.30
50-20-20	150-150-150	1 x 2½	TVL-3440.4	3.85	60-30-30	300-250-250	1½ x 2½	TVL-3561.7	5.65
50-40-10	150-150-150	1 x 2½	TVL-3441	2.55	100-60-20	300-250-250	1½ x 4	TVL-3562	4.90
50-50-10	150-150-150	1½ x 2	TVL-3441.7	4.05	200-60-20	300-250-250	1½ x 4	TVL-3563	5.50
50-50-50	150-150-150	1 x 3	TVL-3442	3.00	* 20-20-20	300-300-25	1 x 2½	TVL-3565	4.15
50-50-50	150-150-150	1½ x 3	TVL-3442.1	4.50	40-15-20	300-300-25	1 x 3	TVL-3570	4.45
60-40-20	150-150-150	1 x 3	TVL-3443	2.75	* 40-20-20	300-300-25	1½ x 2	TVL-3573	4.65
60-40-30	150-150-150	1½ x 2	TVL-3443.1	4.20	140-10-100	300-300-25	1½ x 3½	TVL-3573.3	6.70
60-50-50	150-150-150	1½ x 2	TVL-3443.2	4.65	30-30-25	300-300-50	1 x 3	TVL-3573.6	4.35
70-15-15	150-150-150	1 x 2½	TVL-3443.3	2.70	100-10-60	300-300-50	1½ x 2½	TVL-3574	4.05
70-40-40	150-150-150	1 x 3	TVL-3443.4	4.05	125-20-100	300-300-50	1½ x 3	TVL-3574.5	7.35
80-20-20	150-150-150	1 x 3½	TVL-3443.6	4.20	125-60-40	300-300-50	1½ x 4	TVL-3574.6	7.35
80-30-10	150-150-150	1 x 3	TVL-3443.8	2.75	200-20-10	300-300-100	1½ x 4	TVL-3575	4.90
80-40-20	150-150-150	1 x 3	TVL-3444	2.90	40-40-20	300-300-150	1½ x 2	TVL-3577	5.40
80-80-80	150-150-150	1½ x 3	TVL-3446	5.65	10-10-15	300-300-250	1 x 2	TVL-3578	3.70
100-30-10	150-150-150	1 x 3	TVL-3447	3.05	10-10-10	300-300-300	1 x 2	TVL-3580	2.40
120-80-40	150-150-150	1½ x 3½	TVL-3448	3.80	60-20-10	300-300-300	1½ x 2	TVL-3581	3.45
120-120-40	150-150-150	1½ x 3	TVL-3448.2	4.05	* 80-20-10	300-300-300	1½ x 2½	TVL-3582	5.70
150-50-25	150-150-150	1½ x 3	TVL-3449	5.40	80-40-40	300-300-300	1½ x 2½	TVL-3583	4.75
200-100-60	150-150-150	1½ x 3½	TVL-3450	4.55	120-50-40	300-300-300	1½ x 4	TVL-3585	5.85
* 200-140-60	150-150-150	1½ x 4	TVL-3451	6.70	160-60-20	300-300-300	1½ x 4	TVL-3587	8.20
200-150-150	150-150-150	1½ x 4	TVL-3452	7.50	200-140-20	300-300-300	1½ x 4	TVL-3589	10.60
* 80-40-50	200-100-50	1½ x 2½	TVL-3460	4.60	4-100-40	350-25-25	1 x 2	TVL-3603	3.40
40-40-20	200-150-25	1 x 3	TVL-3461	3.90	5-100-40	350-25-25	1 x 2	TVL-3604	3.55
60-200-140	200-150-150	1½ x 4	TVL-3461.4	4.80	40-100-25	350-50-25	1½ x 2	TVL-3604.3	4.80
* 20-20-20	200-200-25	1 x 2	TVL-3462	3.45	10-50-100	350-100-75	1 x 3	TVL-3605	4.30
* 30-20-20	200-200-25	1 x 2	TVL-3463	3.85	20-50-100	350-100-75	1 x 3	TVL-3606	3.10
30-20-40	200-200-25	1 x 2	TVL-3464	3.85	10-10-250	350-150-15	1 x 2½	TVL-3607	4.15
60-5-20	200-200-50	1 x 2½	TVL-3467	2.50	10-50-100	350-150-50	1 x 3½	TVL-3608	2.85
80-10-20	200-200-50	1 x 3	TVL-3471	2.80	40-80-500	350-200-25	1½ x 3½	TVL-3609	7.60
80-40-100	200-200-50	1½ x 3	TVL-3472	5.25	125-5-100	350-200-75	1½ x 3½	TVL-3610	5.30
* 90-90-20	200-200-50	1½ x 3	TVL-3474	5.70	50-10-500	350-250-5	1½ x 2½	TVL-3611	5.55
* 100-10-40	200-200-50	1½ x 2	TVL-3475	4.75	50-10-1000	350-250-5	1½ x 2½	TVL-3611.2	6.10
30-20-40	200-200-150	1 x 2½	TVL-3477	2.70	* 20-30-20	350-250-25	1 x 3	TVL-3612	4.20
* 20-20-20	200-200-200	1 x 2½	TVL-3480	3.75	30-20-100	350-250-50	1 x 3	TVL-3613	4.90
30-20-20	200-200-200	1 x 2½	TVL-3481	4.05	* 30-20-10	350-250-250	1 x 3½	TVL-3615	4.50
50-30-30	200-200-200	1½ x 2	TVL-3485	4.75	10-80-25	350-300-25	1½ x 3	TVL-3617	5.10
* 40-40-20	250-150-25	1½ x 2	TVL-3504	4.05	30-30-20	350-300-25	1 x 3	TVL-3620	3.15
80-40-50	250-150-50	1½ x 2½	TVL-3506	2.35	30-50-20	350-300-25	1½ x 2½	TVL-3621	5.40
* 15-20-20	250-150-150	1 x 2	TVL-3507	3.60	10-40-5	350-300-150	1 x 2½	TVL-3618	4.30
60-40-20	250-200-25	1½ x 2	TVL-3508	4.95	20-40-10	350-300-150	1 x 3½	TVL-3619	4.75
15-15-20	250-250-25	1 x 2	TVL-3510	2.35	* 40-20-10	350-300-200	1½ x 2	TVL-3623	4.95
* 20-15-20	250-250-25	1 x 2½	TVL-3511	3.55	10-10-1400	350-350-3	1½ x 3	TVL-3626	4.90
30-30-20	250-250-25	1 x 3	TVL-3513	2.80	* 10-10-20	350-350-25	1 x 2	TVL-3628	3.40
60-60-25	250-250-25	1 x 3½	TVL-3514	5.70	15-10-20	350-350-25	1 x 2½	TVL-3630	2.50
* 70-70-20	250-250-50	1½ x 3	TVL-3515	5.85	* 15-15-20	350-350-25	1 x 2½	TVL-3632	4.05
90-90-20	250-250-50	1½ x 3	TVL-3516	4.60	20-5-30	350-350-25	1 x 2	TVL-3633	3.70
* 40-20-10	250-250-150	1½ x 2	TVL-3517	4.15	20-5-100	350-350-25	1 x 3	TVL-3633.3	2.60
40-40-10	250-250-200	1½ x 2	TVL-3520	4.45	20-10-20	350-350-25	1 x 2½	TVL-3634	2.55
* 80-80-60	250-250-200	1½ x 3½	TVL-3525	6.75	20-20-20	350-350-25	1 x 2	TVL-3635	2.90
15-15-10	250-250-250	1 x 2	TVL-3530	3.70	30-10-20	350-350-25	1 x 2½	TVL-3635.5	4.60
20-20-10	250-250-250	1 x 2	TVL-3531	3.75	30-20-20	350-350-25	1 x 2	TVL-3636	3.10
20-20-20	250-250-250	1 x 2	TVL-3532	2.60	30-20-40	350-350-25	1 x 3	TVL-3636.2	4.75
30-15-10	250-250-250	1 x 2½	TVL-3534	4.05	30-30-20	350-350-25	1½ x 2	TVL-3636.3	3.40
30-15-15	250-250-250	1 x 2	TVL-3535	4.15	40-5-30	350-350-25	1½ x 2	TVL-3636.4	4.35
* 30-20-10	250-250-250	1 x 2	TVL-3537	4.05	40-40-50	350-350-25	1½ x 2½	TVL-3636.5	5.65
40-20-10	250-250-250	1 x 2½	TVL-3539	4.30	90-40-50	350-350-25	1½ x 3½	TVL-3636.7	7.35
40-20-20	250-250-250	1 x 3½	TVL-3540	2.90	200-10-50	350-350-25	1½ x 4	TVL-3636.8	5.25
80-10-10	250-250-250	1 x 3	TVL-3543	3.20	10-5-30	350-350-50	1 x 2	TVL-3637	3.30
80-80-60	250-250-250	1½ x 3	TVL-3545	4.90	* 10-5-150	350-350-50	1 x 3	TVL-3638	4.05
					20-5-150	350-350-50	1 x 3	TVL-3638.1	2.95

SPRAGUE CAPACITORS

PCL PRINT-LOK* ELECTROLYTICS WITH UNIVERSAL PRINTED WIRING BOARD MOUNTING BASE



- Will Fit All Sets with Just a Touch of the Pliers—Replace Standard Twist-Prong Units as Well as Printed Wiring Board Types
- Simple Instructions Supplied with Each Unit
- Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance
- Withstand Extremely High Temperatures, High Surge Voltages, and High Ripple Currents
- Designed for 85°C (185°F) Operation

*Trademark

μF	WVDC	D. x L.	Cat. No.	List
140	150	1 x 2 1/2	PCL-1428	\$2.15
375	165	1 3/8 x 3 1/2	PCL-1440	3.00
160	200	1 3/8 x 2 7/8	PCL-1473	3.15
20	450	1 x 2	PCL-1714	1.80
250-250	16-16	1 x 2	PCL-2170	2.75
800-250	16-16	1 x 2 1/2	PCL-2180	3.35
50-30	150-150	1 x 2	PCL-2432	2.00
80-30	150-150	1 x 2	PCL-2441	2.25
80-4C	150-150	1 x 3	PCL-2442	2.30
200-5	150-150	1 3/8 x 2 1/2	PCL-2444	2.70
2-20	300-25	1 x 2	PCL-2553	1.45
10-1C	300-50	1 x 2	PCL-2556.8	1.60
150-100	300-150	1 3/8 x 4	PCL-256C.3	4.50
10-1C	300-300	1 3/8 x 2	PCL-256E	1.75
70-30-100	150-150-10	1 x 2	PCL-3411	2.80
80-60-250	150-150-10	1 x 2 1/2	PCL-3414.3	3.40
80-60-400	150-150-10	1 x 3	PCL-3414.4	3.65
90-40-400	150-150-10	1 x 3	PCL-3414.5	3.50
80-20-20	150-150-25	1 x 2 1/2	PCL-3415.5	2.70

μF	WVDC	D. x L.	Cat. No.	List
40-20-20	150-150-25	1 x 2	PCL-3422	\$2.30
70-30-20	150-150-25	1 x 2 1/2	PCL-3431.1	2.70
30-30-30	150-150-150	1 x 2	PCL-3435.1	2.50
40-40-20	150-150-150	1 x 2 1/4	PCL-3439	2.50
50-30-20	150-150-150	1 x 2	PCL-3440.5	2.60
50-40-30	150-150-150	1 x 2 1/2	PCL-3441.2	2.70
60-60-40	150-150-150	1 3/8 x 2	PCL-3443.5	3.10
70-15-15	150-150-150	1 x 2	PCL-3443.3	2.70
10-10-20	300-50-25	1 x 2	PCL-3554	2.10
150-60-200	300-200-150	1 3/8 x 4	PCL-3560.8	5.95
150-100-30	300-300-300	1 3/8 x 4	PCL-3586	6.35
125-5-100	350-150-10	1 3/8 x 3 1/2	PCL-3606.5	4.60
40-30-20	400-350-300	1 3/8 x 2 1/2	PCL-3672.5	3.95
290-30-10-100	150-150-150-10	1 3/8 x 3 1/8	PCL-4414.4	4.50
50-40-10-50	150-150-150-25	1 3/8 x 2	PCL-4424.6	3.15
100-40-10-50	150-150-150-25	1 3/8 x 2	PCL-4436.5	3.70
60-60-40-10	150-150-150-150	1 3/8 x 2	PCL-4443.5	3.65
100-60-60-40	350-350-200-75	1 3/8 x 4	PCL-4608.9	6.55
40-20-10-100	350-350-350-50	1 3/8 x 2 1/2	PCL-4627	4.35
40-30-20-20	400-350-350-350	1 3/8 x 2 1/2	PCL-4708.5	4.95

SCREWBASE 'LYTICS

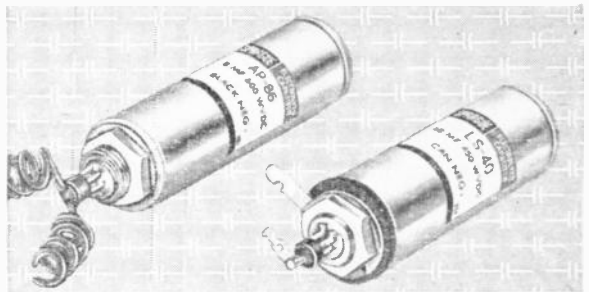
Type PLS—The Capacitor Sections Have Separate Positive Leads and a Common Negative Lead

Types LS and SC—Lug Connection is Positive, Can is Negative

Type CL—The Can is Insulated from the Sections . . . There are Separate Positive and Negative Leads

Type WR—These Capacitors are Designed to Replace Wet Electrolytics . . . They Will Withstand Extremely High A-C Ripples . . . Have Lug Terminals

Type AP—Sections are Connected in Series . . . Insulated Leads



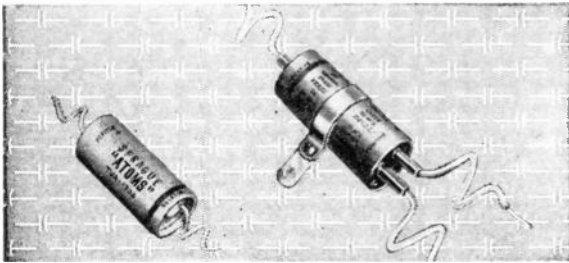
μF	Diam. x Length	Cat. No.	List
TYPE PLS—450 WVDC, 525 V Surge			
4	1 3/8 x 2 7/16	PLS-4	\$2.00
8	1 3/8 x 2 7/16	PLS-8	2.20
12	1 3/8 x 2 7/16	PLS-12	2.40
16	1 3/8 x 2 7/16	PLS-16	2.45
20	1 3/8 x 2 7/16	PLS-20	2.70
25	1 3/8 x 3 7/16	PLS-25	2.90
30	1 3/8 x 2 1 1/2	PLS-30	3.00
40	1 3/8 x 3 7/16	PLS-40	3.15
4+8	1 3/8 x 2 1 1/2	PLS-48	2.95
8+8	1 1/2 x 2 1 1/2	PLS-88	3.00
8+16	1 1/2 x 2 1 1/2	PLS-816	3.30
16+16	1 1/2 x 3 1 1/2	PLS-216	3.55
8+8+8	1 1/2 x 2 1 1/2	PLS-888	5.00

μF	Diam. x Length	Cat. No.	List
TYPE LS—450 WVDC, 525 V Surge			
8	1 3/8 x 2 1 1/2	LS-8	\$2.20
12	1 3/8 x 2 1 1/2	LS-12	2.40
16	1 3/8 x 2 1 1/2	LS-16	2.45
20	1 3/8 x 2 1 1/2	LS-20	2.70
25	1 3/8 x 3 7/16	LS-25	2.90
30	1 3/8 x 3 7/16	LS-30	3.00
40	1 3/8 x 3 1 1/2	LS-40	3.15
8-8	1 3/8 x 2 1/4	LS-88	3.00
TYPE CL—475 WVDC, 600 V Surge			
8	1 3/8 x 4 7/16	CL-8	2.75
16	1 1/2 x 4 7/16	CL-16	3.15
8+8	1 1/2 x 4 1 1/2	CL-88	4.10

μF	Diam. x Length	Cat. No.	List
TYPE SC—475 WVDC, 600 V Surge			
4	1 x 3 7/16	SC-4	\$2.55
8	1 3/8 x 4 7/16	SC-8	2.75
12	1 3/8 x 4 7/16	SC-12	2.95
16	1 1/2 x 4 7/16	SC-16	3.15
8+8	1 3/8 x 4 1/4	SC-88	4.10
TYPE WR—500 WVDC, 600 V Surge			
8	1 3/8 x 2 7/16	WR-8	2.85
16	1 3/8 x 2 7/16	WR-16	3.30
25	1 3/8 x 2 1 1/2	WR-25	3.75
TYPE AP—600 WVDC, 800 V Surge			
4	1 x 4 7/16	AP-46	2.95
8	1 3/8 x 4 7/16	AP-86	3.15
16	1 1/2 x 4 7/16	AP-16	3.75

SPRAGUE CAPACITORS

ATOM® ELECTROLYTICS



- The Smallest Dependable Dry Electrolytic—The Only Small Size Capacitor Designed for 85°C (185°F) operation In Voltages To 450 WVDC
- Whether For AC-DC Sets, Auto Radios, Home Radio-phon Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements—No Dual Inventory Problems
- Small Enough To Fit Anywhere, Work Anywhere
- Have Low Leakage And Long Shelf Life
- Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
- Metal Case Construction with Outer Insulating Tube

μF	WVDC	Diam. x Length*	Cat. No.	List
SINGLE UNITS				
50	6	3/8 x 1 1/4	TVA-1100	\$.95
100	6	1/2 x 1 1/8	TVA-1101	1.20
250	6	5/8 x 1 7/8	TVA-1102	1.35
500	6	5/8 x 2 3/8	TVA-1103	1.55
1000	6	1 1/16 x 2 3/8	TVA-1104	1.90
1500	6	1 3/16 x 2 1 1/8	TVA-1105	2.10
2000	6	1 3/8 x 2 1 1/8	TVA-1106	2.30
100	12	3/8 x 1 3/8	TVA-1130	1.20
250	12	5/8 x 1 1 1/8	TVA-1131	1.45
500	12	3/4 x 1 1 1/8	TVA-1132	1.70
1000	12	1 3/16 x 2 3/8	TVA-1133	2.25
100	15	5/8 x 1 3/8	TVA-1160	1.25
250	15	5/8 x 1 1 1/8	TVA-1161	1.55
500	15	1 1/16 x 2 3/8	TVA-1162	1.75
1000	15	7/8 x 2 3/8	TVA-1163	2.30
2	25	3/8 x 1 1/4	TVA-1201	.90
5	25	3/8 x 1 1/4	TVA-1203	1.00
10	25	3/8 x 1 1/4	TVA-1204	1.00
25	25	3/8 x 1 1/4	TVA-1205	1.00
50	25	3/8 x 1 3/8	TVA-1206	1.10
100	25	3/8 x 1 1 1/8	TVA-1207	1.35
250	25	3/4 x 1 1 1/8	TVA-1208	1.70
500	25	7/8 x 2 3/8	TVA-1209	2.30
1	50	3/8 x 1 1/4	TVA-1300	.90
2	50	3/8 x 1 1/4	TVA-1301	.90
5	50	3/8 x 1 1/4	TVA-1303	1.00
10	50	3/8 x 1 1/4	TVA-1304	1.00
20	50	7/16 x 1 3/8	TVA-1305.5	1.00
25	50	7/16 x 1 3/8	TVA-1306	1.05
50	50	7/16 x 1 1 1/8	TVA-1308	1.20
100	50	5/8 x 1 1 1/8	TVA-1310	1.40
150	50	3/4 x 1 1 1/8	TVA-1311	1.55
250	50	1 3/16 x 1 1 1/8	TVA-1312	1.75
500	50	1 x 1 1 1/8	TVA-1315	2.40
4	150	3/8 x 1 1/4	TVA-1402	1.00
5	150	3/8 x 1 1/4	TVA-1403	1.00
8	150	3/8 x 1 3/8	TVA-1405	1.05
10	150	3/8 x 1 3/8	TVA-1406	1.05
12	150	1/2 x 1 5/8	TVA-1407	1.10
16	150	7/16 x 1 1 1/8	TVA-1409	1.15
20	150	7/16 x 1 1 1/8	TVA-1410	1.20
25	150	5/8 x 1 1 1/8	TVA-1411	1.25
30	150	5/8 x 1 1 1/8	TVA-1412	1.30
40	150	3/4 x 1 1 1/8	TVA-1413	1.35
50	150	1 3/16 x 1 1 1/8	TVA-1414	1.40
60	150	7/8 x 1 1 1/8	TVA-1415	1.50
80	150	7/8 x 1 1 1/8	TVA-1418	1.60
100	150	7/8 x 2 3/8	TVA-1420	1.75
150	150	1 x 2 3/8	TVA-1422	1.90
200	150	1 1/16 x 3 1 1/8	TVA-1423†	2.20
300	150	1 3/8 x 3 3/8	TVA-1425†	2.55
200	200	1 3/8 x 3 3/8	TVA-1480†	2.90
4	250	7/16 x 1 5/8	TVA-1501	1.00
8	250	1/2 x 1 5/8	TVA-1503	1.15
10	250	5/8 x 1 1 1/8	TVA-1504	1.20

μF	WVDC	Diam. x Length*	Cat. No.	List
12	250	3/16 x 1 1 1/8	TVA-1505	\$1.25
16	250	5/8 x 1 1 1/8	TVA-1507	1.30
20	250	1 1/16 x 1 1 1/8	TVA-1508	1.35
30	250	1 1/16 x 2 3/8	TVA-1510	1.45
40	250	3/4 x 2 3/8	TVA-1511	1.55
50	250	3/4 x 2 3/8	TVA-1512	1.70
60	250	1 3/16 x 2 3/8	TVA-1513	1.80
140	300	1 3/8 x 3 3/8	TVA-1575†	3.15
4	350	1/2 x 1 5/8	TVA-1601	1.05
8	350	5/8 x 1 1 1/8	TVA-1603	1.20
10	350	1 1/16 x 1 1 1/8	TVA-1604	1.25
12	350	1 1/16 x 1 1 1/8	TVA-1605	1.30
16	350	3/4 x 1 1 1/8	TVA-1607	1.40
20	350	1 3/16 x 1 1 1/8	TVA-1608	1.45
30	350	1 3/16 x 2 3/8	TVA-1610	1.65
40	350	7/8 x 2 3/8	TVA-1611	1.75
60	350	1 x 2 3/8	TVA-1613	1.95
1	450	7/16 x 1 1/8	TVA-1700	1.10
2	450	7/16 x 1 5/8	TVA-1701	1.10
4	450	7/16 x 1 1 1/8	TVA-1702	1.15
8	450	1 1/16 x 1 1 1/8	TVA-1704	1.25
10	450	1 1/16 x 1 1 1/8	TVA-1705	1.30
12	450	3/4 x 1 1 1/8	TVA-1706	1.35
16	450	3/4 x 2 3/8	TVA-1708	1.40
20	450	3/4 x 2 3/8	TVA-1709	1.55
30	450	7/8 x 2 3/8	TVA-1711	1.70
40	450	7/8 x 2 1 1/8	TVA-1712	1.80
50	450	7/8 x 3 3/8	TVA-1713	2.10
60	450	1 x 3 1 1/8	TVA-1714	2.35
80	450	1 x 3 1 1/8	TVA-1716	2.80
100	450	1 3/8 x 4 1/8	TVA-1718	3.20
10	475	3/4 x 1 1 1/8	TVA-1802	1.35
20	475	7/8 x 2 3/8	TVA-1804	1.60
8	500	7/8 x 1 1 1/8	TVA-1902	1.30
10	500	7/8 x 1 1 1/8	TVA-1903	1.35
16	500	1 1/16 x 2 3/8	TVA-1905	1.50
20	500	1 x 2 3/8	TVA-1906	1.60
8	600	1 x 3 1/8	TVA-1962	2.10
10	600	1 x 3 3/8	TVA-1963	2.20
16	600	1 x 4 1/8	TVA-1965	2.55
20	600	1 x 4 1/8	TVA-1966	2.70
DUAL UNITS (COMMON NEGATIVE—3 LEADS)				
10-10	25-25	7/8 x 1 7/8	TVA-2210	1.40
10-10	50-50	7/8 x 1 3/8	TVA-2315	1.40
8-8	150-150	7/8 x 1 3/8	TVA-2415	1.50
16-16	150-150	7/8 x 1 3/8	TVA-2420	1.80
20-17	150-150	7/8 x 1 3/8	TVA-2425	1.60
20-20	150-150	7/8 x 1 3/8	TVA-2428	1.65
30-20	150-150	7/8 x 1 1 1/8	TVA-2421	1.70
30-30	150-150	7/8 x 1 1 1/8	TVA-2434	1.80
40-20	150-150	7/8 x 1 1 1/8	TVA-2438	1.75
40-30	150-150	7/8 x 1 1 1/8	TVA-2442	1.80
40-40	150-150	7/8 x 1 1 1/8	TVA-2445	1.85
50-30	150-150	7/8 x 1 1 1/8	TVA-2450	1.95
50-50	150-150	7/8 x 2 3/8	TVA-2453	2.10

Add 1/16" to diameter and 1/8" to length to allow for outer insulating tube on all units except those marked (†) which are of cardboard construction.

SPRAGUE CAPACITORS

ATOM ELECTROLYTICS, continued

μF	WVDC	Diam. x Length*	Cat. No.	List
80-30	150-150	7/8 x 2 1/8	TVA-2460	\$2.20
80-40	150-150	7/8 x 2 1/8	TVA-2461	2.20
80-50	150-150	7/8 x 2 1/8	TVA-2462	2.35
100-100	150-150	1 3/8 x 3 3/8	TVA-2464†	3.20
200-5	150-150	1 x 3 3/8	TVA-2467†	2.65
20-20	250-250	7/8 x 1 1/8	TVA-2515	1.85
40-10	250-250	7/8 x 2 3/8	TVA-2520	2.05
80-10	250-250	1 1/8 x 3 3/8	TVA-2525	2.55
120-80	250-250	1 3/8 x 3 3/8	TVA-2535†	4.00
140-5	350-350	1 1/4 x 3 3/8	TVA-2640†	4.15
80-100	450-50	1 3/8 x 4 3/8	TVA-2711†	3.70
8-8	450-450	7/8 x 1 1/8	TVA-2720	1.70
10-10	450-450	7/8 x 1 1/8	TVA-2722	1.85
16-8	450-450	7/8 x 2 3/8	TVA-2725	2.00
20-20	450-450	7/8 x 2 3/8	TVA-2730	2.50
30-30	450-450	1 x 3 3/8	TVA-2735	3.00
40-40	450-450	1 x 3 3/8	TVA-2740	3.40
50-30	450-450	1 x 3 3/8	TVA-2743	3.40

DUAL UNITS (SEPARATE SECTIONS—4 LEADS)

20-20	150-150	1 x 2 3/8	TU-220 †	2.05
40-20	150-150	1 1/8 x 2 3/8	TU-420 †	2.20
16-16	250-250	1 x 2 3/8	TU-216 †	2.20
8-8	450-450	1 1/8 x 3 3/8	TU-88 †	2.15
16-16	450-450	1 3/8 x 3 3/8	TU-1616†	2.80

TRIPLE UNITS

30-30-100	150-150-12	7/8 x 1 1/8	TVA-3419	2.30
20-20-20	150-150-25	7/8 x 1 1/8	TVA-3415	2.05
40-20-20	150-150-25	7/8 x 1 1/8	TVA-3422.9	2.15
40-30-20	150-150-25	7/8 x 2 3/8	TVA-3423	2.20
40-40-20	150-150-25	7/8 x 2 3/8	TVA-3425	2.25
40-40-100	150-150-25	7/8 x 2 3/8	TVA-3427	2.45

*Add 1/8" to diameter and 1/8" to length to allow for outer insulating tube on all units except those marked (†) which are of cardboard construction.

HLVB HIGH-MF 'LYTICS

- Very High Capacitance Ratings Available
- Designed for Filter Circuits in High Gain Amplifier Equipment
- Housed in Molded Bakelite Case

μF	WVDC	Diam. x Length	Cat. No.	List
500	6	1 1/8 x 2 3/8	HLVB-56	\$3.05
1000	6	1 1/8 x 2 3/8	HLVB-106	3.40
1500	6	1 1/8 x 2 3/8	HLVB-156	3.60
2000	6	1 1/8 x 2 3/8	HLVB-206	3.80
4000	10	1 1/8 x 2 3/8	HLVB-4010	4.75
6000	10	1 1/8 x 2 3/8	HLVB-6010	7.50
10000	10	1 1/8 x 4 3/8	HLVB-10010	8.25
500	12	1 1/8 x 2 3/8	HLVB-512	3.20
1000	12	1 1/8 x 2 3/8	HLVB-1012	3.20
1500	12	1 1/8 x 2 3/8	HLVB-1512	3.95
2000	12	1 1/8 x 2 3/8	HLVB-2012	4.15
500	15	1 1/8 x 2 3/8	HLVB-515	3.25
1000	15	1 1/8 x 2 3/8	HLVB-1015	3.80
1500	15	1 1/8 x 2 3/8	HLVB-1515	4.00
2000	15	1 1/8 x 2 3/8	HLVB-2015	4.70
4000	15	1 1/8 x 4 3/8	HLVB-4015	7.10
6000	15	1 1/8 x 4 3/8	HLVB-6015	8.05
6000	20	2 1/8 x 4 3/8	HLVB-6020	8.65
500	25	1 1/8 x 2 3/8	HLVB-525	3.80
1000	25	1 1/8 x 2 3/8	HLVB-1025	4.85
2000	25	1 1/8 x 4 3/8	HLVB-2025	5.75
4000	25	1 1/8 x 4 3/8	HLVB-4025	7.95
500	50	1 1/8 x 3 3/8	HLVB-550	4.25
1000	50	1 1/8 x 3 3/8	HLVB-1050	7.00
2000	50	1 1/8 x 4 3/8	HLVB-2050	9.10
3000	50	1 1/8 x 4 3/8	HLVB-3050	11.50
4000	50	2 1/8 x 4 3/8	HLVB-4050	12.50
1000	150	1 1/8 x 4 3/8	HLVB-10150	10.50
500	200	1 1/8 x 4 3/8	HLVB-5200	9.80

VERTICAL MOUNTING CLAMPS
for Cylindrical Capacitors

Cat. No.	Diam.	List
CMC-22A	1 1/8	\$2.55
CMC-28A	1 3/8	.40
CMC-32A	2 1/8	.60

μF	WVDC	D. x L.	Cat. No.	List
50-30-20	150-150-25	7/8 x 2 3/8	TVA-3430	\$2.35
50-30-100	150-150-25	7/8 x 2 3/8	TVA-3432	2.55
50-30-200	150-150-25	1 x 2 3/8	TVA-3433	2.75
50-50-20	150-150-25	1 1/8 x 2 3/8	TVA-3436	2.50
80-20-100	150-150-25	1 1/4 x 2 3/8	TVA-3437†	2.75
80-40-20	150-150-25	1 x 1 1/8	TVA-3437.1	2.65
20-20-20	150-150-150	7/8 x 1 1/8	TVA-3440	2.20
30-30-30	150-150-150	7/8 x 2 3/8	TVA-3444	2.35
40-30-20	150-150-150	7/8 x 2 3/8	TVA-3448	2.35
40-40-40	150-150-150	1 x 2 3/8	TVA-3451	2.45
50-30-20	150-150-150	1 x 2 3/8	TVA-3453	2.45
80-40-20	150-150-150	1 x 2 3/8	TVA-3455	2.75
80-10-100	300-250-50	1 3/8 x 3 3/8	TVA-3556†	3.60
120-40-10	300-300-250	1 1/4 x 3 3/8	TVA-3563†	4.85
140-5-200	350-350-200	1 1/2 x 5 3/8	TVA-3620†	6.70
5-80-40	450-400-400	1 3/8 x 4 1/8	TVA-3712†	4.55
12-12-20	450-450-25	1 x 1 1/8	TVA-3716	2.30
20-20-20	450-450-25	1 x 2 3/8	TVA-3718	2.90
40-40-20	450-450-25	1 x 3 3/8	TVA-3720	3.80

QUADRUPLE UNITS

120-40-40-10	300-300-300-250	1 3/8 x 4 5/8	TVA-4584†	6.20
140-5-200-30	350-300-200-150	1 1/2 x 4 7/8	TVA-4576†	6.05
140-5-200-30	350-300-200-200	1 1/2 x 5 1/8	TVA-4607†	7.65
80-60-40-20	350-350-300-150	1 1/2 x 4 5/8	TVA-4618†	5.90
80-10-40-100	400-400-300-50	1 3/8 x 4 1/8	TVA-4659†	5.45
10-80-40-100	450-300-250-50	1 3/8 x 4 1/8	TVA-4705†	4.80
20-120-40-100	450-300-250-50	1 3/8 x 4 3/8	TVA-4706†	6.15
10-80-40-40	450-300-250-250	1 3/8 x 4 3/8	TVA-4708†	4.95
10-20-20-10	450-300-300-300	1 3/8 x 3 3/8	TVA-4712†	3.50
20-20-20-10	450-450-450-450	1 3/8 x 3 3/8	TVA-4742†	4.25
40-20-20-10	450-450-450-450	1 3/8 x 4 3/8	TVA-4748†	4.70
40 40-20-20	450-450-450-450	1 1/2 x 4 1/4	TVA-4750†	5.45

PE OCTAL-BASE 'LYTICS

- For Applications where Rapid Changing of Capacitors is Desired



- Will Fit Standard Octal-Base Tube Sockets

- Hermetically Sealed in Metal Cans for Long Life

Terminal Code

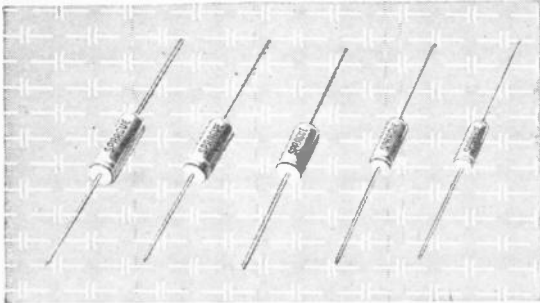
Sections	-	+
Single	1	5
Dual	1	3,5
Triple	1	3,5,7
Quadruple	Gnd Lug	1,3,5,7

- Will Stand Up Under High Temperatures, High Ripple Currents, High Surge Voltages

μF	WVDC	Diam. x Lgth.	Cat. No.	List
100	350	1 3/8 x 3	PE-1636	\$5.85
10	450	1 1/2 x 2 1/2	PE-1705	4.05
20	450	1 1/2 x 2 1/2	PE-1714	4.30
40	450	1 3/8 x 2 1/2	PE-1725	4.55
80	450	1 3/8 x 3 1/2	PE-1730	5.55
20-20	150-150	1 1/2 x 2 1/2	PE-2415	4.20
40-40	150-150	1 1/2 x 2 1/2	PE-2428	4.40
10-10	450-450	1 1/2 x 2 1/2	PE-2750	4.40
20-20	450-450	1 3/8 x 2 1/2	PE-2755	5.05
40-40	450-450	1 3/8 x 3 1/2	PE-2764	5.95
10-10-10	450-450-450	1 1/2 x 2 1/2	PE-3776	5.10
20-20-20	450-450-450	1 3/8 x 3	PE-3780	6.10
30-30-10-20	450-450-450-50	1 3/8 x 3 1/2	PE-4741	6.85

SPRAGUE CAPACITORS

TE LITTL-LYTIC® ELECTROLYTICS



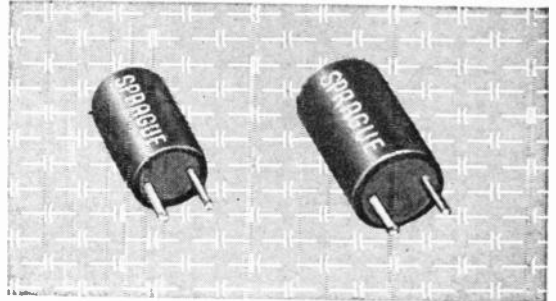
- These Ultra-Small Electrolytic Capacitors Withstand Temperatures up to 85°C (185°F)
- Sprague Littl-Lytics Deliver Reliability in Reasonably Priced Subminiature Electrolytic Capacitors
- All-welded Construction. No Pressure Joints to Cause "Open" or Intermittent Circuits
- Furnished with Clear Plastic Outer Insulating Sleeves*
- Extremely Low Leakage Current, Long Shelf Life
- Excellent, Dependable Replacement Capacitors for Transistorized Equipment Presently on the Market

μF	D. x L.*	Cat. No.	List	μF	D. x L.*	Cat. No.	List	μF	D. x L.*	Cat. No.	List
1 WVDC				10 WVDC				25 WVDC			
5	1/4 x 1/16	TE-1010	\$1.25	10	1/4 x 1/16	TE-1114	\$1.35	1	1/4 x 1/16	TE-1200	\$1.25
3 WVDC				15	1/4 x 1/16	TE-1116	1.35	2	1/4 x 1/16	TE-1201	1.30
1	1/4 x 1/16	TE-1050	1.25	25	1/4 x 1/16	TE-1118	1.35	3	1/4 x 1/16	TE-1201.1	1.30
2	1/4 x 1/16	TE-1051	1.25	50	3/8 x 1/16	TE-1119	1.50	4	1/4 x 1/16	TE-1201.2	1.30
3	1/4 x 1/16	TE-1052	1.25	100	3/8 x 1/16	TE-1119.3	1.70	5	1/4 x 1/16	TE-1202	1.40
4	1/4 x 1/16	TE-1052.1	1.25	200	3/8 x 1/16	TE-1119.6	2.00	6	1/4 x 1/16	TE-1203	1.40
5	1/4 x 1/16	TE-1052.2	1.25	12 WVDC				8	1/4 x 1/16	TE-1203.5	1.45
6	1/4 x 1/16	TE-1052.3	1.25	1	1/4 x 1/16	TE-1120	1.25	10	1/4 x 1/16	TE-1204	1.45
8	1/4 x 1/16	TE-1052.5	1.25	2	1/4 x 1/16	TE-1121	1.25	15	3/16 x 1/16	TE-1205	1.45
10	1/4 x 1/16	TE-1053	1.25	3	1/4 x 1/16	TE-1122	1.25	20	3/8 x 1/16	TE-1206	1.50
15	1/4 x 1/16	TE-1053.5	1.25	4	1/4 x 1/16	TE-1123	1.25	25	3/8 x 1/16	TE-1207	1.55
20	1/4 x 1/16	TE-1054	1.25	5	1/4 x 1/16	TE-1127	1.35	35	3/8 x 1/16	TE-1208	1.65
25	1/4 x 1/16	TE-1055	1.25	6	1/4 x 1/16	TE-1127.1	1.35	50	3/8 x 1/16	TE-1209	1.80
35	1/4 x 1/16	TE-1056	1.25	8	1/4 x 1/16	TE-1127.3	1.35	75	3/8 x 1/16	TE-1210	1.95
40	1/4 x 1/16	TE-1057	1.25	10	1/4 x 1/16	TE-1128	1.35	100	3/8 x 1/2	TE-1211	2.10
50	1/4 x 1/16	TE-1058	1.25	15	1/4 x 1/16	TE-1129	1.40	50 WVDC			
75	3/16 x 1/16	TE-1059	1.40	20	1/4 x 1/16	TE-1130	1.40	1	1/4 x 1/16	TE-1300	1.30
100	3/16 x 1/16	TE-1059.5	1.40	25	1/4 x 1/16	TE-1131	1.40	2	1/4 x 1/16	TE-1301	1.35
110	3/8 x 1/16	TE-1060	1.40	35	3/16 x 1/16	TE-1132	1.45	3	1/4 x 1/16	TE-1302	1.35
150	3/8 x 1/16	TE-1061	1.45	50	3/8 x 1/16	TE-1133	1.55	4	1/4 x 1/16	TE-1302.1	1.35
200	3/8 x 1/16	TE-1064	1.50	75	3/8 x 1/16	TE-1134	1.65	5	1/4 x 1/16	TE-1303	1.45
250	3/8 x 1/16	TE-1065	1.60	100	3/8 x 1/16	TE-1135	1.75	6	3/16 x 1/16	TE-1303.1	1.45
300	3/8 x 1/16	TE-1066	1.65	150	3/8 x 1/4	TE-1136	1.90	8	3/16 x 1/16	TE-1303.3	1.50
400	3/8 x 1/4	TE-1067	1.70	200	3/8 x 1/4	TE-1137	2.05	10	3/16 x 1/16	TE-1304	1.50
500	3/8 x 1/2	TE-1068	1.75	250	3/8 x 1/2	TE-1138	2.20	15	3/8 x 1/16	TE-1304.2	1.50
6 WVDC				15 WVDC				100 WVDC			
1	1/4 x 1/16	TE-1080	1.25	1	1/4 x 1/16	TE-1148	1.25	1	3/8 x 1/16	TE-1400	1.35
2	1/4 x 1/16	TE-1081	1.25	2	1/4 x 1/16	TE-1149	1.25	2	3/8 x 1/16	TE-1401	1.40
3	1/4 x 1/16	TE-1082	1.25	3	1/4 x 1/16	TE-1150	1.25	3	3/8 x 1/16	TE-1402	1.40
4	1/4 x 1/16	TE-1083	1.25	4	1/4 x 1/16	TE-1151	1.30	4	3/8 x 1/16	TE-1403	1.40
5	1/4 x 1/16	TE-1084	1.25	5	1/4 x 1/16	TE-1152	1.40	5	3/8 x 1/16	TE-1404	1.50
6	1/4 x 1/16	TE-1085	1.25	6	1/4 x 1/16	TE-1153	1.40	6	3/8 x 1/16	TE-1405	1.50
8	1/4 x 1/16	TE-1086	1.35	8	1/4 x 1/16	TE-1154	1.40	8	3/8 x 1/16	TE-1406	1.55
10	1/4 x 1/16	TE-1087	1.35	10	1/4 x 1/16	TE-1155	1.40	10	3/8 x 1/16	TE-1407	1.55
15	1/4 x 1/16	TE-1089	1.35	15	1/4 x 1/16	TE-1156	1.45	15	3/8 x 1/4	TE-1408	1.55
20	1/4 x 1/16	TE-1090	1.35	20	1/4 x 1/16	TE-1157	1.45	20	3/8 x 1/2	TE-1409	1.60
25	1/4 x 1/16	TE-1091	1.35	25	3/16 x 1/16	TE-1157.1	1.45	150 WVDC			
30	1/4 x 1/16	TE-1092	1.40	30	3/16 x 1/16	TE-1158	1.50	1	3/8 x 1/16	TE-1500	1.40
35	1/4 x 1/16	TE-1093	1.40	35	3/8 x 1/16	TE-1159	1.55	2	3/8 x 1/16	TE-1501	1.45
40	1/4 x 1/16	TE-1095	1.40	50	3/8 x 1/16	TE-1160	1.60	3	3/8 x 1/16	TE-1502	1.45
50	3/16 x 1/16	TE-1100	1.40	75	3/8 x 1/16	TE-1161	1.70	4	3/8 x 1/16	TE-1503	1.45
60	3/16 x 1/16	TE-1101	1.40	100	3/8 x 1/16	TE-1162	1.80	5	3/8 x 1/16	TE-1504	1.55
75	3/8 x 1/16	TE-1101.5	1.45	150	3/8 x 1/4	TE-1163	1.95	6	3/8 x 1/4	TE-1505	1.55
100	3/8 x 1/16	TE-1102	1.50	200	3/8 x 1/2	TE-1164	2.10	8	3/8 x 1/4	TE-1506	1.60
150	3/8 x 1/16	TE-1103	1.55					10	3/8 x 1/4	TE-1507	1.60
200	3/8 x 1/4	TE-1104	1.60					12	3/8 x 1/2	TE-1508	1.60
250	3/8 x 1/4	TE-1105	1.70								
300	3/8 x 1/2	TE-1106	1.80								

SPRAGUE CAPACITORS

VL VERTI-LYTIC* ELECTROLYTICS

- For Replacement of Units of this Type Found on Printed Wiring Boards in Original Equipment
- Sections Housed in Sturdy, Pre-Molded Phenolic Cases
- Resin End Fill Will Not Contaminate Electrolyte—Protects Against Drying or Entrance of External Moisture
- Low Leakage Current and Long Shelf Life
- Polarity Easily Determined by Larger Diameter of Negative Lead



*Trademark

μF	WVDC	D. x L.	Cat. No.	List	μF	WVDC	D. x L.	Cat. No.	List
1	3	3/8 x 3/4	VL-1031	\$1.45	75	12	7/16 x 7/8	VL-1137	\$1.75
2	3	3/8 x 3/4	VL-1032	1.45	100	12	1/2 x 7/8	VL-1140	1.90
3	3	3/8 x 3/4	VL-1033	1.45	140	12	1/2 x 7/8	VL-1144	1.95
4	3	3/8 x 3/4	VL-1034	1.45					
5	3	3/8 x 3/4	VL-1035	1.45	1	15	3/8 x 3/4	VL-1160	1.45
6	3	3/8 x 3/4	VL-1036	1.45	2	15	3/8 x 3/4	VL-1161	1.45
8	3	3/8 x 3/4	VL-1037	1.45	3	15	3/8 x 3/4	VL-1162	1.45
10	3	3/8 x 3/4	VL-1038	1.45	4	15	3/8 x 3/4	VL-1163	1.45
15	3	3/8 x 3/4	VL-1039	1.45	5	15	3/8 x 3/4	VL-1164	1.50
20	3	3/8 x 3/4	VL-1040	1.45	6	15	3/8 x 3/4	VL-1165	1.50
25	3	3/8 x 3/4	VL-1041	1.45	8	15	3/8 x 3/4	VL-1166	1.50
35	3	3/8 x 3/4	VL-1043	1.50	10	15	3/8 x 3/4	VL-1167	1.50
50	3	3/8 x 3/4	VL-1045	1.55	15	15	3/8 x 3/4	VL-1168	1.55
75	3	3/8 x 3/4	VL-1048	1.70	20	15	3/8 x 3/4	VL-1169	1.55
100	3	3/8 x 7/8	VL-1051	1.75	25	15	3/8 x 3/4	VL-1170	1.55
150	3	7/16 x 7/8	VL-1055	1.75	35	15	3/8 x 7/8	VL-1172	1.55
200	3	7/16 x 7/8	VL-1059	1.80	50	15	7/16 x 7/8	VL-1174	1.65
250	3	1/2 x 7/8	VL-1063	1.95	75	15	1/2 x 7/8	VL-1177	1.80
290	3	1/2 x 7/8	VL-1067	2.00	90	15	1/2 x 7/8	VL-1180	1.95
1	6	3/8 x 3/4	VL-1080	1.45	1	25	3/8 x 3/4	VL-1200	1.50
2	6	3/8 x 3/4	VL-1081	1.45	2	25	3/8 x 3/4	VL-1201	1.50
3	6	3/8 x 3/4	VL-1082	1.45	3	25	3/8 x 3/4	VL-1202	1.55
4	6	3/8 x 3/4	VL-1083	1.45	4	25	3/8 x 3/4	VL-1203	1.65
5	6	3/8 x 3/4	VL-1084	1.45	5	25	3/8 x 3/4	VL-1204	1.65
6	6	3/8 x 3/4	VL-1085	1.45	6	25	3/8 x 3/4	VL-1205	1.65
8	6	3/8 x 3/4	VL-1086	1.45	8	25	3/8 x 3/4	VL-1206	1.65
10	6	3/8 x 3/4	VL-1087	1.45	10	25	3/8 x 3/4	VL-1207	1.65
15	6	3/8 x 3/4	VL-1088	1.45	15	25	3/8 x 3/4	VL-1208	1.65
20	6	3/8 x 3/4	VL-1089	1.45	20	25	3/8 x 7/8	VL-1209	1.65
25	6	3/8 x 3/4	VL-1090	1.45	25	25	3/8 x 7/8	VL-1210	1.65
35	6	3/8 x 3/4	VL-1092	1.50	35	25	7/16 x 7/8	VL-1212	1.75
50	6	3/8 x 3/4	VL-1094	1.55	50	25	1/2 x 7/8	VL-1215	1.75
75	6	3/8 x 7/8	VL-1097	1.70	70	25	1/2 x 7/8	VL-1218	1.95
100	6	7/16 x 7/8	VL-1100	1.75					
150	6	1/2 x 7/8	VL-1104	1.90	1	50	3/8 x 3/4	VL-1300	1.50
200	6	1/2 x 7/8	VL-1108	1.95	2	50	3/8 x 3/4	VL-1301	1.50
1	12	3/8 x 3/4	VL-1120	1.45	3	50	3/8 x 3/4	VL-1302	1.55
2	12	3/8 x 3/4	VL-1121	1.45	4	50	3/8 x 3/4	VL-1303	1.65
3	12	3/8 x 3/4	VL-1122	1.45	5	50	3/8 x 3/4	VL-1304	1.65
4	12	3/8 x 3/4	VL-1123	1.45	6	50	3/8 x 3/4	VL-1305	1.65
5	12	3/8 x 3/4	VL-1124	1.50	8	50	3/8 x 3/4	VL-1306	1.65
6	12	3/8 x 3/4	VL-1125	1.50	10	50	3/8 x 7/8	VL-1307	1.65
8	12	3/8 x 3/4	VL-1126	1.50	15	50	7/16 x 7/8	VL-1308	1.65
10	12	3/8 x 3/4	VL-1127	1.50	20	50	7/16 x 7/8	VL-1309	1.65
15	12	3/8 x 3/4	VL-1128	1.55	25	50	1/2 x 7/8	VL-1310	1.65
20	12	3/8 x 3/4	VL-1129	1.55					
25	12	3/8 x 3/4	VL-1130	1.55	100-30	6-6	7/16 x 1 1/8	VL-2150	2.10
35	12	3/8 x 3/4	VL-1132	1.55	50-50	10-10	1/2 x 7/8	VL-2250	1.95
50	12	3/8 x 7/8	VL-1134	1.65	80-80	10-10	1/2 x 7/8	VL-2350	2.20
					100-100-60	8-8-8	1/2 x 1 3/8	VL-3320	3.45
					50-50-15	10-10-3	1/2 x 7/8	VL-3350	3.00

SPRAGUE CAPACITORS

TYPE 40D MINIATURE EXTENDED-LIFE 85°C ELECTROLYTICS



- THE MOST RELIABLE TUBULAR ALUMINUM ELECTROLYTIC MANUFACTURED
- Premium quality. Service life of 10 years in actual circuit applications under typical operating conditions
- Special design and processing techniques result in ultra low leakage currents and high stability
- All critical terminations are welded to prevent open circuits even after extended service in the millivolt range

- Operating Temperature: -40°C to +85°C
- Units listed here have thermoplastic insulating sleeves; for rigid phenolic sleeve, change end of catalog number from A2 to A1; for bare metal tubes, delete last letter and digit
- Capacitance tolerance: -10, +100%
- Writ for Engineering Bulletin No. 3205 to compare this outstanding capacitor with any other unit on the market

μF	D. x L.	Catalog Number
3 VOLTS D-C WORKING		
1	3/16 x 3/4	40D100A2
2	3/16 x 3/4	40D101A2
3	3/16 x 3/4	40D102A2
4	3/16 x 3/4	40D103A2
5	3/16 x 3/4	40D104A2
6	3/16 x 3/4	40D105A2
8	3/16 x 3/4	40D106A2
10	3/16 x 3/4	40D107A2
15	3/16 x 3/4	40D108A2
20	3/16 x 3/4	40D109A2
25	3/16 x 3/4	40D110A2
35	3/16 x 3/4	40D111A2
50	3/16 x 3/4	40D112A2
75	3/16 x 3/4	40D113A2
100	3/16 x 3/4	40D114A2
150	3/16 x 3/4	40D115A2
200	3/16 x 3/4	40D116A2
225	3/16 x 3/4	40D117A2
250	3/16 x 3/4	40D118A2
300	3/16 x 3/4	40D119A2

μF	D. x L.	Catalog Number
6 VOLTS D-C WORKING		
1	3/16 x 3/4	40D120A2
2	3/16 x 3/4	40D121A2
3	3/16 x 3/4	40D122A2
4	3/16 x 3/4	40D123A2
5	3/16 x 3/4	40D124A2
6	3/16 x 3/4	40D125A2
8	3/16 x 3/4	40D126A2
10	3/16 x 3/4	40D127A2
15	3/16 x 3/4	40D128A2
20	3/16 x 3/4	40D129A2
25	3/16 x 3/4	40D130A2
35	3/16 x 3/4	40D131A2
50	3/16 x 3/4	40D132A2
75	3/16 x 3/4	40D133A2
100	3/16 x 3/4	40D134A2
150	3/16 x 3/4	40D135A2
175	3/16 x 3/4	40D136A2
200	3/16 x 3/4	40D137A2
250	3/16 x 3/4	40D138A2

μF	D. x L.	Catalog Number
12 VOLTS D-C WORKING		
1	3/16 x 3/4	40D139A2
2	3/16 x 3/4	40D140A2
3	3/16 x 3/4	40D141A2
4	3/16 x 3/4	40D142A2
5	3/16 x 3/4	40D143A2
6	3/16 x 3/4	40D144A2
8	3/16 x 3/4	40D145A2
10	3/16 x 3/4	40D146A2
15	3/16 x 3/4	40D147A2
20	3/16 x 3/4	40D148A2
25	3/16 x 3/4	40D149A2
35	3/16 x 3/4	40D150A2
50	3/16 x 3/4	40D151A2
75	3/16 x 3/4	40D152A2
100	3/16 x 3/4	40D153A2
150	3/16 x 3/4	40D154A2
200	3/16 x 3/4	40D155A2

μF	D. x L.	Catalog Number
15 VOLTS D-C WORKING		
1	3/16 x 3/4	40D156A2
2	3/16 x 3/4	40D157A2
3	3/16 x 3/4	40D158A2
4	3/16 x 3/4	40D159A2
5	3/16 x 3/4	40D160A2
6	3/16 x 3/4	50D161A2
8	3/16 x 3/4	40D162A2
10	3/16 x 3/4	40D163A2
15	3/16 x 3/4	40D164A2
20	3/16 x 3/4	40D165A2
25	3/16 x 3/4	40D166A2
35	3/16 x 3/4	40D167A2
50	3/16 x 3/4	40D168A2
75	3/16 x 3/4	40D169A2
100	3/16 x 3/4	40D170A2
150	3/16 x 3/4	40D171A2

μF	D. x L.	Catalog Number
25 VOLTS D-C WORKING		
1	3/16 x 3/4	40D172A2
2	3/16 x 3/4	40D173A2
3	3/16 x 3/4	40D174A2
4	3/16 x 3/4	40D175A2
5	3/16 x 3/4	40D176A2

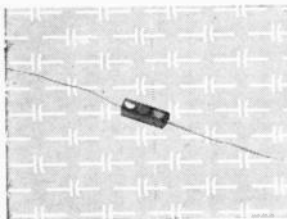
μF	D. x L.	Catalog Number
6	3/8 x 3/4	40D177A2
8	3/8 x 3/4	40D178A2
10	3/8 x 3/4	40D179A2
15	3/8 x 3/4	40D180A2
20	3/8 x 3/4	40D181A2
25	3/8 x 3/4	40D182A2
35	3/8 x 3/4	40D183A2
50	3/8 x 3/4	40D184A2
75	3/8 x 3/4	40D185A2

μF	D. x L.	Catalog Number
50 VOLTS D-C WORKING		
1	3/16 x 3/4	40D186A2
2	3/16 x 3/4	40D187A2
3	3/16 x 3/4	40D188A2
4	3/16 x 3/4	40D189A2
5	3/16 x 3/4	40D190A2
6	3/16 x 3/4	40D191A2
8	3/16 x 3/4	40D192A2
10	3/16 x 3/4	40D193A2
15	3/16 x 3/4	40D194A2
20	3/16 x 3/4	40D195A2
25	3/16 x 3/4	40D196A2
30	3/16 x 3/4	40D197A2

μF	D. x L.	Catalog Number
100 VOLTS D-C WORKING		
1	3/16 x 1	40D198A2
2	3/16 x 1	40D199A2
3	3/16 x 1	40D200A2
4	3/16 x 1	40D201A2
5	3/16 x 1	40D202A2
6	3/16 x 1	40D203A2
8	3/16 x 1	40D204A2
10	3/16 x 1	40D205A2
15	3/16 x 1	40D206A2
18	3/16 x 1	40D207A2

μF	D. x L.	Catalog Number
150 VOLTS D-C WORKING		
1	3/16 x 1	40D208A2
2	3/16 x 1	40D209A2
3	3/16 x 1	40D210A2
4	3/16 x 1	40D211A2
5	3/16 x 1	40D212A2
6	3/16 x 1	40D213A2
8	3/16 x 1	40D214A2
10	3/16 x 1	40D215A2

TYPE 160D HEARING AID TANTALEX® CAPACITORS



- Especially designed for hearing aid applications—Meet the need for tiny, leakproof, high capacitance capacitors with long, trouble-free service life
- Solid, non-corrosive electrolyte—nothing to leak!
- Long shelf and service life

- Insulated with polyester tubes and epoxy end seals. Moisture-proof!
- Operating temperature range: -55°C to +65°C
- Standard capacitance tolerance: -0%, +100%

.080 D. x .200 L.			.080 D. x 250 L.			.105 D. x 250 L.		
μF	WVDC	Cat. No.	μF	WVDC	Cat. No.	μF	WVDC	Cat. No.
2	4	160D1	4	4	160D4	8	4	160D7
1	8	160D2	2	8	160D5	4	8	160D8
0.5	15	160D3	1	15	160D6	2	15	160D9

PHOTO FLASH ELECTROLYTICS

- Ultra-low leakage
- Weighs only 11 oz.
- Highly stable film formation assures long life
- 525 μF, 450 WVDC
- 53 w-s, 2 1/8" D. x 4 7/16" L.



Catalog No. FF-1
List price \$22.50

BUILD YOUR OWN ELECTRONIC FLASH with these ACCESSORIES

Description	Cat. No.	Dealer Net
Sprague PhotoFlash Booklet	C-703	\$.35
Kemite DX tube, 100 w-s, 450v.	FA-100	12.00
Reflector for DX tube.	FA-101	2.75
Vertical adaptor with cable	FA-102	2.60
Jaidinger Synchronizing Relay	FA-103	3.50
Water base U-5W tube, 100 w-s, 450v	FA-104	7.50
Reflector for U-5W tube	FA-105	3.50
Oak V-6815 4V Vibrator	FA-106	8.50

SPRAGUE CAPACITORS

85°C FOIL TANTALEX® CAPACITORS



- For applications where small physical size, stable electrical characteristics, and long service life are important.
- Type 110D and 112D also available marked to meet MIL-C-3965B. Order by complete military type designation.
- High capacitance stability even at low operating temperatures, unlike aluminum-foil electrolytics
- Extremely low leakage current
- New end-seal design with virtually leak-proof TFE-fluorocarbon elastomer seal
- Type 110D is of polarized plain-foil construction—Type 111D is non-polarized, with plain foil—Type 112D is of polarized etched-foil construction—Type 113D is of non-polarized etched-foil construction
- Standard capacitance tolerance: Types 110D and 111D, ±20%; Type 112D and 113D +75, -15%
- Standard units have outer plastic insulating wrap over case. For bare metal case, end Cat. No. in "0" instead of "1"

μF	Size Code	Catalog Number
TYPE 110D POLARIZED PLAIN-FOIL		
3 WORKING VOLTS D-C		
10	D	110D106X0003D1
55	G	110D556X0003G1
160	J	110D167X0003J1
350	M	110D357X0003M1
440	P	110D447X0003P1
6 WORKING VOLTS D-C		
8	D	110D805X0006D1
30	G	110D306X0006G1
35	G	110D356X0006G1
100	J	110D107X0006J1
200	M	110D207X0006M1
300	P	110D307X0006P1
10 WORKING VOLTS D-C		
6	D	110D605X0010D1
25	G	110D256X0010G1
80	J	110D806X0010J1
160	M	110D167X0010M1
220	P	110D227X0010P1
15 WORKING VOLTS D-C		
4.5	D	110D455X0015D1
18	G	110D186X0015G1
55	J	110D556X0015J1
110	M	110D117X0015M1
160	P	110D167X0015P1
25 WORKING VOLTS D-C		
3	D	110D305X0025D1
12	G	110D126X0025G1
35	J	110D356X0025J1
70	M	110D706X0025M1
100	P	110D107X0025P1
30 WORKING VOLTS D-C		
2.5	D	110D255X0030D1
10	G	110D106X0030G1
30	J	110D306X0030J1
60	M	110D606X0030M1
85	P	110D856X0030P1
50 WORKING VOLTS D-C		
1.5	D	110D155X0050D1
6	G	110D605X0050G1
20	J	110D206X0050J1
40	M	110D406X0050M1
55	P	110D556X0050P1
60 WORKING VOLTS D-C		
1.2	D	110D125X0060D1
5	G	110D505X0060G1
17	J	110D176X0060J1
34	M	110D346X0060M1
48	P	110D486X0060P1
75 WORKING VOLTS D-C		
1	D	110D105X0075D1
4	G	110D405X0075G1
14	J	110D146X0075J1
28	M	110D286X0075M1
40	P	110D406X0075P1
100 WORKING VOLTS D-C		
.8	D	110D804X0100D1
3	G	110D305X0100G1
10	J	110D106X0100J1
20	M	110D206X0100M1
30	P	110D306X0100P1

μF	Size Code	Catalog Number
150 WORKING VOLTS D-C		
.5	D	110D504X0150D1
1	G	110D105X0150G1
2	G	110D205X0150G1
7	J	110D705X0150J1
14	M	110D146X0150M1
20	P	110D206X0150P1
TYPE 111D NON-POLARIZED PLAIN-FOIL		
6 WORKING VOLTS N.P.		
5	D	111D505X0006D1
25	G	111D256X0006G1
85	J	111D856X0006J1
170	M	111D177X0006M1
250	P	111D257X0006P1
10 WORKING VOLTS N.P.		
3	D	111D305X0010D1
16	G	111D166X0010G1
55	J	111D556X0010J1
110	M	111D117X0010M1
150	P	111D157X0010P1
15 WORKING VOLTS N.P.		
2.5	D	111D255X0015D1
10	G	111D106X0015G1
35	J	111D356X0015J1
70	M	111D706X0015M1
100	P	111D107X0015P1
25 WORKING VOLTS N.P.		
1.5	D	111D155X0025D1
6	G	111D605X0025G1
20	J	111D206X0025J1
40	M	111D406X0025M1
60	P	111D606X0025P1
30 WORKING VOLTS N.P.		
1.4	D	111D145X0030D1
5.5	G	111D555X0030G1
18	J	111D186X0030J1
36	M	111D366X0030M1
45	P	111D456X0030P1
50 WORKING VOLTS N.P.		
.8	D	111D804X0050D1
3	G	111D305X0050G1
10	J	111D106X0050J1
20	M	111D206X0050M1
30	P	111D306X0050P1
60 WORKING VOLTS N.P.		
.6	D	111D604X0060D1
2.5	G	111D255X0060G1
8.5	J	111D855X0060J1
17	M	111D176X0060M1
24	P	111D246X0060P1
75 WORKING VOLTS N.P.		
.5	D	111D504X0075D1
2	G	111D205X0075G1
7	J	111D705X0075J1
14	M	111D146X0075M1
20	P	111D206X0075P1

μF	Size Code	Catalog Number
100 WORKING VOLTS N.P.		
.4	D	111D404X0100D1
1.5	G	111D155X0100G1
5	J	111D505X0100J1
10	M	111D106X0100M1
15	P	111D156X0100P1
150 WORKING VOLTS N.P.		
.25	D	111D254X0015D1
1	G	111D105X0150G1
3.5	J	111D355X0150J1
7	M	111D705X0150M1
10	P	111D106X0150P1
TYPE 112D POLARIZED ETCHED-FOIL		
15 WORKING VOLTS D-C		
15	D	112D156C7015D1
60	G	112D606C7015G1
200	J	112D207C7015J1
400	M	112D407C7015M1
580	P	112D587C7015P1
25 WORKING VOLTS D-C		
10	D	112D106C7025D1
40	G	112D406C7025G1
120	J	112D127C7025J1
250	M	112D257C7025M1
350	P	112D357C7025P1
30 WORKING VOLTS D-C		
8	D	112D805C7030D1
32	G	112D326C7030G1
110	J	112D117C7030J1
220	M	112D227C7030M1
300	P	112D307C7030P1
50 WORKING VOLTS D-C		
4.5	D	112D455C7050D1
18	G	112D186C7050G1
60	J	112D606C7050J1
100	M	112D107C7050M1
150	P	112D157C7050P1
60 WORKING VOLTS D-C		
4	D	112D405C7060D1
75 WORKING VOLTS D-C		
3	D	112D305C7075D1
12	G	112D126C7075G1
30	J	112D306C7075J1
70	M	112D706C7075M1
100	P	112D107C7075P1
100 WORKING VOLTS D-C		
2	D	112D205C7100D1
8	G	112D805C7100G1
25	J	112D256C7100J1
50	M	112D506C7100M1
70	P	112D706C7100P1
150 WORKING VOLTS D-C		
1	D	112D105C7150D1
4	G	112D405C7150G1
13	J	112D136C7150J1
25	M	112D256C7150M1
36	P	112D366C7150P1

μF	Size Code	Catalog Number
TYPE 113D NON-POLARIZED ETCHED-FOIL		
15 WORKING VOLTS N.P.		
10	D	113D106C7015D1
40	G	113D406C7015G1
120	J	113D127C7015J1
250	M	113D257C7015M1
350	P	113D357C7015P1
25 WORKING VOLTS N.P.		
5	D	113D505C7025D1
20	G	113D206C7025G1
70	J	113D706C7025J1
140	M	113D147C7025M1
200	P	113D207C7025P1
30 WORKING VOLTS N.P.		
4.5	D	113D455C7030D1
18	G	113D186C7030G1
60	J	113D606C7030J1
120	M	113D127C7030M1
170	P	113D177C7030P1
50 WORKING VOLTS N.P.		
2.5	D	113D255C7050D1
10	G	113D106C7050G1
30	J	113D306C7050J1
60	M	113D606C7050M1
80	P	113D806C7050P1
75 WORKING VOLTS N.P.		
1.5	D	113D155C7075D1
6	G	113D605C7075G1
15	J	113D156C7075J1
35	M	113D356C7075M1
50	P	113D506C7075P1
100 WORKING VOLTS N.P.		
1	D	113D105C7100D1
4	G	113D405C7100G1
12	J	113D126C7100J1
25	M	113D256C7100M1
35	P	113D356C7100P1
150 WORKING VOLTS N.P.		
.5	D	113D504C7150D1
2	G	113D205C7150G1
6	J	113D605C7150J1
12	M	113D126C7150M1
18	P	113D186C7150P1
SIZE CODE		
Code	Diam x Length	
D	13/64 x 3/4	
G	19/64 x 15/16	
J	25/64 x 1 1/2	
M	25/64 x 2 3/16	
P	25/64 x 2 13/16	

SPRAGUE CAPACITORS

TYPE 109D SINTERED - ANODE TANTALEX[®] CAPACITORS

- Intended for applications where superior quality and reliable design in military equipment is required
- May be operated to 85°C at rated voltage and to 105°C with 15% voltage derating
- Will meet 2000 cycle missile vibration requirements
- Double spun TFE-fluorocarbon elastomer high temperature end seals
- Sintered-anode permits higher capacitance
- Exhibit optimum characteristics with respect to frequency and temperature-coefficient of capacitance
- Unusual stability due to chemical inertness of tantalum oxide film to the specific electrolytes used
- Standard units have outer plastic insulating sleeves. For bare metal case, end Cat. No. in "0" instead of "2"



GROUP I: +20, -15% CAPACITANCE TOLERANCE

μF	Size Code	Catalog Number	μF	Size Code	Catalog Number	μF	Size Code	Catalog Number	μF	Size Code	Catalog Number
6 WORKING VOLTS D-C			15 WORKING VOLTS D-C			30 WORKING VOLTS D-C			75 WORKING VOLTS D-C		
27	C	109D276C2006C2	13	C	109D136C2015C2	7	C	109D705C2030C2	18	F	109D186C2060F2
30	C	109D306C2006C2	15	C	109D156C2015C2	8	C	109D805C2030C2	20	F	109D206C2060F2
120	F	109D127C2006F2	55	F	109D556C2015F2	35	F	109D356C2030F2	45	T	109D456C2060T2
140	F	109D147C2006F2	70	F	109D706C2015F2	40	F	109D406C2030F2	50	T	109D506C2060T2
290	T	109D297C2006T2	150	T	109D157C2015T2	80	T	109D806C2030T2	100 WORKING VOLTS D-C		
330	T	109D337C2006T2	170	T	109D177C2015T2	100	T	109D107C2030T2	2.5	C	109D255C2100C2
8 WORKING VOLTS D-C			25 WORKING VOLTS D-C			50 WORKING VOLTS D-C			3.5	C	109D355C2075C2
22	C	109D226C2008C2	9	C	109D905C2025C2	4.5	C	109D455C2050C2	13	F	109D136C2075F2
25	C	109D256C2008C2	10	C	109D106C2025C2	5	C	109D505C2050C2	15	F	109D156C2075F2
100	F	109D107C2008F2	45	F	109D456C2025F2	22	F	109D226C2050F2	35	T	109D356C2075T2
120	F	109D127C2008F2	50	F	109D506C2025F2	25	F	109D256C2050F2	40	T	109D406C2075T2
260	T	109D267C2008T2	100	T	109D107C2025T2	55	T	109D556C2050T2	60 WORKING VOLTS D-C		
290	T	109D297C2008T2	110	T	109D117C2025T2	60	T	109D606C2050T2	10	F	109D106C2100F2
10 WORKING VOLTS D-C									11	F	109D116C2100F2
18	C	109D186C2010C2							27	T	109D276C2100T2
20	C	109D206C2010C2							30	T	109D306C2100T2
85	F	109D856C2010F2									

GROUP II: ±20% CAPACITANCE TOLERANCE

μF	Size Code	Catalog Number	μF	Size Code	Catalog Number	μF	Size Code	Catalog Number	μF	Size Code	Catalog Number
6 WORKING VOLTS D-C			15 WORKING VOLTS D-C			30 WORKING VOLTS D-C			75 WORKING VOLTS D-C		
66	C	109D666X0006C2	33	C	109D336X0015C2	15	C	109D156X0030C2	37	F	109D376X0060F2
270	F	109D277X0006F2	120	F	109D127X0015F2	68	F	109D686X0030F2	68	T	109D686X0060T2
560	T	109D567X0006T2	270	T	109D277X0015T2	150	T	109D157X0030T2	100 WORKING VOLTS D-C		
8 WORKING VOLTS D-C			25 WORKING VOLTS D-C			50 WORKING VOLTS D-C			6.8	C	109D685X0075C2
56	C	109D566X0008C2	22	C	109D226X0025C2	10	C	109D106X0050C2	33	F	109D336X0075F2
220	F	109D227X0008F2	100	F	109D107X0025F2	47	F	109D476X0050F2	56	T	109D566X0075T2
430	T	109D437X0008T2	180	T	109D187X0025T2	82	T	109D826X0050T2	60 WORKING VOLTS D-C		
10 WORKING VOLTS D-C									4.7	C	109D475X0100C2
47	C	109D476X0010C2							22	F	109D226X0100F2
									43	T	109D436X0100T2

TYPE 130D, 125°C SINTERED-ANODE TANTALEX[®] CAPACITORS



- No derating required for 125°C operation
- For applications demanding superior quality and high reliability
- This design will meet the 2000 cycle military missile vibration requirements
- Double spun TFE-fluorocarbon elastomer high temperature end seals
- Sintered-anode permits higher capacitance
- Lowest leakage current of any type of tantalum capacitor
- Optimum characteristics with respect to frequency and temperature-coefficient of capacitance
- Standard units have plastic film insulating tube. For bare metal cases, end catalog number in "0" instead of "2"

μF	WVDC	Size Code	Catalog Number	μF	WVDC	Size Code	Catalog Number	μF	WVDC	Size Code	Catalog Number		
GROUP I: +20%, -15% CAP. TOL.													
30	4	C	130D306C2004C2	25	30	F	130D256C2030F2	180	7	F	130D187X0007F2		
140	4	F	130D147C2004F2	4	40	C	130D405C2040C2	33	10	C	130D336X0010C2		
25	5	C	130D256C2005C2	20	40	F	130D206C2040F2	120	10	F	130D127X0010F2		
20	7	C	130D206C2007C2	3.5	50	C	130D355C2050C2	22	15	C	130D226X0015C2		
100	7	F	130D107C2007F2	15	50	F	130D156C2050F2	15	20	C	130D156X0020C2		
15	10	C	130D156C2010C2	2.5	70	C	130D255C2070C2	68	20	F	130D686X0020F2		
70	10	F	130D706C2010F2	11	70	F	130D116C2070F2	10	30	C	130D106X0030C2		
10	15	C	130D106C2015C2	GROUP II: -20% CAP. TOL.						47	30	F	130D476X0030F2
8	20	C	130D805C2020C2	68	4	C	130D686X0004C2	6.8	50	C	130D685X0050C2		
40	20	F	130D406C2020F2	270	4	F	130D277X0004F2	4.7	70	C	130D475X0070C2		
5	30	C	130D505C2030C2	47	7	C	130D476X0007C2	22	70	F	130D226X0070F2		

SIZE CODE	Code	Diam.	Length
	C	13/64	33/64
	F	19/64	45/64
	T	25/64	53/64

SPRAGUE CAPACITORS

125°C FOIL TANTALEX® CAPACITORS

- Ideal where small physical size, stable electrical characteristics, and long service and shelf life are important.
- Type 120D and 122D available marked to meet MIL-C-3965B. Order by complete military type designation.
- Capacitance remains stable at low operating temperatures—may be used where aluminum-foil electrolytics are inoperable
- Extremely low leakage current
- Standard capacitance tolerance: ±20%

- May often replace, where circuit parameters permit, aluminum electrolytics, paper capacitors, and metallized paper capacitors, resulting in substantial saving of weight and space
- Double synthetic-rubber and TFE-Fluorocarbon elastomer combination seals ensure reliable service life at 125°C
- Standard units have outer plastic insulating wrap over case. For bare metal case, end Cat. No. in "0" instead of "1"



μF	Size Code	Catalog Number
TYPE 120D POLARIZED PLAIN-FOIL		
10 WORKING VOLTS D-C		
4.5	E	120D455X0010E1
18	H	120D186X0010H1
55	K	120D556X0010K1
110	N	120D117X0010N1
160	Q	120D167X0010Q1
15 WORKING VOLTS D-C		
3	E	120D305X0015E1
12	H	120D126X0015H1
35	K	120D356X0015K1
70	N	120D706X0015N1
100	Q	120D107X0015Q1
30 WORKING VOLTS D-C		
1.5	E	120D155X0030E1
6	H	120D605X0030H1
20	K	120D206X0030K1
40	N	120D406X0030N1
55	Q	120D556X0030Q1
50 WORKING VOLTS D-C		
1	E	120D105X0050E1
4	H	120D405X0050H1
14	K	120D146X0050K1
28	N	120D286X0050N1
40	Q	120D406X0050Q1
65 WORKING VOLTS D-C		
.8	E	120D804X0065E1
3	H	120D305X0065H1

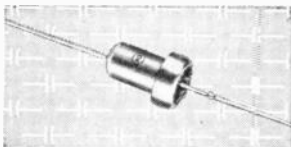
μF	Size Code	Catalog Number
10	K	120D106X0065K1
20	N	120D206X0065N1
30	Q	120D306X0065Q1
100 WORKING VOLTS D-C		
.5	E	120D504X0100E1
2	H	120D205X0100H1
7	K	120D705X0100K1
14	N	120D146X0100N1
20	Q	120D206X0100Q1
150 WORKING VOLTS D-C		
.35	E	120D354X0150E1
1.5	H	120D155X0150H1
5	K	120D505X0150K1
10	N	120D106X0150N1
15	Q	120D156X0150Q1

μF	Size Code	Catalog Number
TYPE 121D NON-POLARIZED PLAIN-FOIL		
10 WORKING VOLTS N.P.		
2.5	E	121D255X0010E1
10	H	121D106X0010H1
35	K	121D356X0010K1
70	N	121D706X0010N1
100	Q	121D107X0010Q1
15 WORKING VOLTS N.P.		
1.5	E	121D155X0015E1
6	H	121D605X0015H1
20	K	121D206X0015K1
40	N	121D406X0015N1
60	Q	121D606X0015Q1

μF	Size Code	Catalog Number
30 WORKING VOLTS N.P.		
.8	E	121D804X0030E1
3	H	121D305X0030H1
10	K	121D106X0030K1
20	N	121D206X0030N1
30	Q	121D306X0030Q1
50 WORKING VOLTS N.P.		
.5	E	121D504X0050E1
2	H	121D205X0050H1
7	K	121D705X0050K1
14	N	121D146X0050N1
20	Q	121D206X0050Q1
65 WORKING VOLTS N.P.		
.4	E	121D404X0065E1
1.5	H	121D155X0065H1
5	K	121D505X0065K1
10	N	121D106X0065N1
15	Q	121D156X0065Q1
100 WORKING VOLTS N.P.		
.25	E	121D254X0100E1
1.0	H	121D105X0100H1
3.5	K	121D355X0100K1
7	N	121D705X0100N1
10	Q	121D106X0100Q1
150 WORKING VOLTS N.P.		
.15	E	121D154X0150E1
.75	H	121D754X0150H1
2.5	K	121D255X0150K1
5.0	N	121D505X0150N1
7.5	Q	121D755X0150Q1

μF	Size Code	Catalog Number
TYPE 122D POLARIZED ETCHED-FOIL		
15 WORKING VOLTS D-C		
9	E	122D905C7015E1
37	H	122D376C7015H1
120	K	122D127C7015K1
250	N	122D257C7015N1
350	Q	122D357C7015Q1
30 WORKING VOLTS D-C		
4.5	E	122D455C7030E1
18	H	122D186C7030H1
60	K	122D606C7030K1
100	N	122D107C7030N1
150	Q	122D157C7030Q1
50 WORKING VOLTS D-C		
3	E	122D305C7050E1
12	H	122D126C7050H1
30	K	122D306C7050K1
70	N	122D706C7050N1
100	Q	122D107C7050Q1
65 WORKING VOLTS D-C		
2	E	122D205C7065E1
8	H	122D805C7065H1
25	K	122D256C7065K1
50	N	122D506C7065N1
70	Q	122D706C7065Q1
100 WORKING VOLTS D-C		
1	E	122D105C7100E1
4	H	122D405C7100H1
13	K	122D136C7100K1
25	N	122D256C7100N1
36	Q	122D366C7100Q1

TYPE 131D and 132D - "CUP TYPE" TANTALEX® CAPACITORS



- -55°C to 85°C operation at full rating. 100°C operation with 15% derating
- Stable in performance characteristics over entire temperature range
- Large capacitance in small physical size
- Extremely low leakage
- 132D designed to withstand severe military

vibration tests. Available marked to meet MIL-C-3965B. Order by complete military type designation.

- 131D for industrial electronics is similar to 132D but designed for static use in ground equipment. Write for Engineering Bulletin No. 3710a for complete details.

μF	Size Code	Catalog Number
6 WORKING VOLTS D-C		
30	U	132D306C2006U0 132D306C7006U0
140	V	132D147C2006V0 132D147C7006V0
320	T	132D327C2006T0 132D327C7006T0
8 WORKING VOLTS D-C		
25	U	132D256C2008U0 132D256C7006U0
10 WORKING VOLTS D-C		
20	U	132D206C2010U0 132D206C7010U0
100	V	132D107C2010V0 132D107C7010V0
250	T	132D257C2010T0 132D257C7010T0
15 WORKING VOLTS D-C		
15	U	132D156C2015U0 132D156C7015U0
70	V	132D706C2015V0 132D706C7015V0
170	T	132D177C2015T0 132D177C7015T0

μF	Size Code	Catalog Number
25 WORKING VOLTS D-C		
10	U	132D106C2025U0 132D106C7025U0
30 WORKING VOLTS D-C		
8	U	132D805C2030U0 132D805C7030U0
40	V	132D406C2030V0 132D406C7030V0
100	T	132D107C2030T0 132D107C7030T0
50 WORKING VOLTS D-C		
5	U	132D505C2050U0 132D505C7050U0
25	V	132D256C2050V0 132D256C7050V0
60	T	132D606C2050T0 132D606C7050T0
60 WORKING VOLTS D-C		
4	U	132D405C2060U0 132D405C7060U0
20	V	132D206C2060V0 132D206C7060V0
50	T	132D506C2060T0 132D506C7060T0

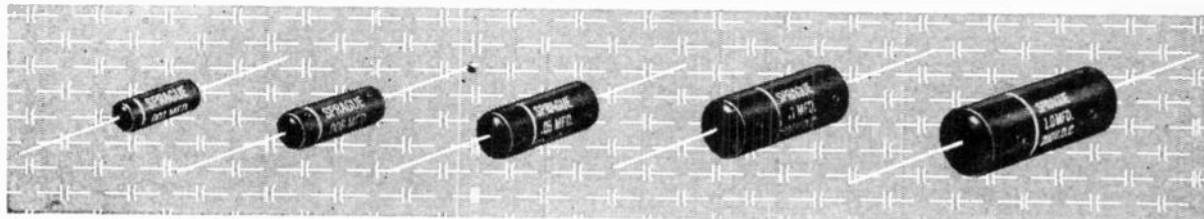
μF	Size Code	Catalog Number
75 WORKING VOLTS D-C		
3.5	U	132D355C2075U0 132D355C7075U0
15	V	132D156C2075V0 132D156C7075V0
40	T	132D406C2075T0 132D406C7075T0
100 WORKING VOLTS D-C		
2	U	132D205C2100U0 132D205C7100U0
11	V	132D116C2100V0 132D116C7100V0
30	T	132D306C2100T0 132D306C7100T0
125 WORKING VOLTS D-C		
1.7	U	132D175C2125U0 132D175C7125U0
9	V	132D905C2125V0 132D905C7125V0
25	T	132D256C2125T0 132D256C7125T0

SIZE CODE

Code	Diam. x Length	Code	Diam. x Length	Code	Diam. x Length	Code	Diam. x Length
E	13/64 x 1 13/16	K	25/64 x 1 5/8	Q	25/64 x 2 15/16	V	11/16 x 15/32
H	19/64 x 1 3/32	N	25/64 x 2 5/16	U	15/32 x 5/16	T	49/64 x 37/64

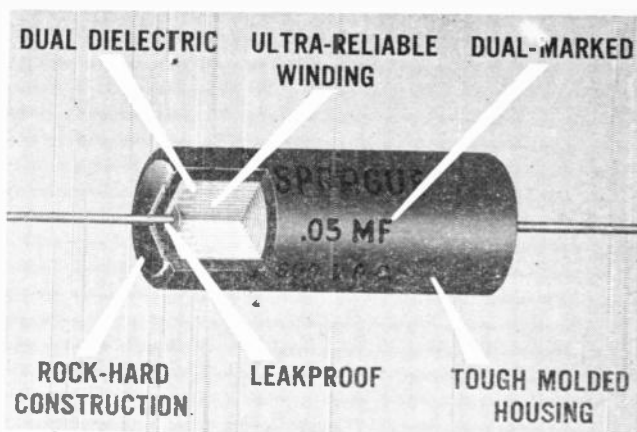
SPRAGUE CAPACITORS

DIFILM[®] BLACK BEAUTY[®] MOLDED TUBULARS



The World's Best Molded Tubular at No Extra Cost!

- Developed especially for long life under high humidity and temperature operating conditions
- Dual dielectric (Mylar[®]-paper) combines best features of both Mylar[®] polyester film and paper capacitors
- Exclusive HCX[®] sol'd impregnant construction produces rock-hard capacitor section
- Won't leak or drip
- No derating for 105°C operation
- Mica-filled, non-flammable molded case. Won't crack when dropped soldering won't harm it
- Every capacitor marked on both sides. No twisting the case to read ratings



LOOK FOR THE RED MARKINGS ON THE BLACK CASE

● Capacitance Tolerance: $\pm 10\%$ from .001 μF up

μF	D. x L.	Cat. No.	List	μF	D. x L.	Cat. No.	List	μF	D. x L.	Cat. No.	List
200 WVDC				400 WVDC (Cont.)				600 WVDC (Cont.)			
.02	$\frac{3}{8} \times 1\frac{1}{4}$	2TM-S2	\$.25	.04	$\frac{7}{16} \times 1\frac{1}{4}$	4TM-S4	\$.30	.0022	$\frac{5}{16} \times 1$	6TM-D22	\$.25
.022	$\frac{3}{8} \times 1\frac{1}{4}$	2TM-S22	.25	.047	$\frac{7}{16} \times 1\frac{1}{4}$	4TM-S47	.30	.0025	$\frac{5}{16} \times 1$	6TM-D25	.25
.047	$\frac{7}{16} \times 1\frac{1}{4}$	2TM-S47	.25	.05	$\frac{7}{16} \times 1\frac{1}{4}$	4TM-S5	.30	.003	$\frac{5}{16} \times 1$	6TM-D3	.25
.05	$\frac{7}{16} \times 1\frac{1}{4}$	2TM-S5	.25	.068	$\frac{1}{2} \times 1\frac{1}{2}$	4TM-S68	.35	.0033	$\frac{5}{16} \times 1$	6TM-D33	.25
.1	$\frac{1}{2} \times 1\frac{1}{2}$	2TM-P1	.35	.1	$\frac{1}{2} \times 1\frac{1}{2}$	4TM-P1	.35	.004	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-D4	.25
.15	$\frac{1}{2} \times 1\frac{1}{2}$	2TM-P15	.35	.15	$\frac{5}{8} \times 1\frac{1}{8}$	4TM-P15	.40	.0047	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-D47	.25
.22	$\frac{5}{8} \times 1\frac{1}{8}$	2TM-P22	.40	.2	$\frac{5}{8} \times 1\frac{1}{8}$	4TM-P2	.40	.005	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-D5	.25
.25	$\frac{5}{8} \times 1\frac{1}{8}$	2TM-P25	.40	.22	$\frac{5}{8} \times 1\frac{1}{8}$	4TM-P22	.40	.006	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-D6	.25
.47	$\frac{3}{4} \times 2\frac{1}{4}$	2TM-P47	.60	.25	$\frac{3}{4} \times 2\frac{1}{4}$	4TM-P25	.40	.0068	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-D68	.30
.5	$\frac{3}{4} \times 2\frac{1}{4}$	2TM-P5	.60	.47	$\frac{3}{4} \times 2\frac{1}{4}$	4TM-P47	.60	.008	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-D8	.30
1.0	$\frac{3}{4} \times 2\frac{1}{4}$	2TM-M1	.90	.5	$\frac{3}{4} \times 2\frac{1}{4}$	4TM-P5	.60	.01	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-S1	.30
400 WVDC				600 WVDC				.015	$\frac{3}{8} \times 1\frac{1}{4}$	6TM-S15	.30
.01	$\frac{3}{8} \times 1\frac{1}{4}$	4TM-S1	.25	.0001	$\frac{5}{16} \times 1$	6TM-T1	.25	.02	$\frac{7}{16} \times 1\frac{1}{4}$	6TM-S2	.30
.015	$\frac{3}{8} \times 1\frac{1}{4}$	4TM-S15	.25	.00025	$\frac{5}{16} \times 1$	6TM-T25	.25	.022	$\frac{7}{16} \times 1\frac{1}{4}$	6TM-S22	.30
.02	$\frac{3}{8} \times 1\frac{1}{4}$	4TM-S2	.25	.0004	$\frac{5}{16} \times 1$	6TM-T4	.25	.03	$\frac{7}{16} \times 1\frac{1}{4}$	6TM-S3	.35
.022	$\frac{3}{8} \times 1\frac{1}{4}$	4TM-S22	.30	.0005	$\frac{5}{16} \times 1$	6TM-T5	.25	.033	$\frac{7}{16} \times 1\frac{1}{4}$	6TM-S33	.35
.025	$\frac{7}{16} \times 1\frac{1}{4}$	4TM-S25	.30	.001	$\frac{5}{16} \times 1$	6TM-D1	.25	.035	$\frac{7}{16} \times 1\frac{1}{4}$	6TM-S35	.35
.03	$\frac{7}{16} \times 1\frac{1}{4}$	4TM-S3	.30	.0015	$\frac{5}{16} \times 1$	6TM-D15	.25	.04	$\frac{1}{2} \times 1\frac{1}{2}$	6TM-S4	.35
				.002	$\frac{5}{16} \times 1$	6TM-D2	.25	.047	$\frac{1}{2} \times 1\frac{1}{2}$	6TM-S47	.40

SPRAGUE CAPACITORS

DIFILM BLACK BEAUTY MOLDED TUBULARS, continued

μ F	D. x L.	Cat. No.	List	μ F	D. x L.	Cat. No.	List	μ F	D. x L.	Cat. No.	List
600 WVDC (Cont.)				1000 WVDC				1000 WVDC (Cont.)			
.05	1/2 x 1 1/2	6TM-S5	\$.40	.0005	3/16 x 1	10TM-T5	\$.50	.01	7/16 x 1 1/4	10TM-S1	\$.50
.06	1/2 x 1 1/2	6TM-S6	.40	.001	3/16 x 1	10TM-D1	.50	.015	1/2 x 1 1/2	10TM-S15	.50
.068	1/2 x 1 1/2	6TM-S68	.45	.0015	3/16 x 1	10TM-D15	.50	.02	1/2 x 1 1/2	10TM-S2	.50
.1	3/8 x 1 3/8	6TM-P1	.45	.002	3/8 x 1 1/4	10TM-D2	.50	.022	1/2 x 1 1/2	10TM-S22	.50
.15	3/8 x 1 3/8	6TM-P15	.50	.0022	3/8 x 1 1/4	10TM-D22	.50	.03	3/8 x 1 3/8	10TM-S3	.50
.2	3/4 x 2 1/4	6TM-P2	.55	.003	3/8 x 1 1/4	10TM-D3	.50	.035	3/8 x 1 3/8	10TM-S35	.50
.22	3/4 x 2 1/4	6TM-P22	.55	.004	3/8 x 1 1/4	10TM-D4	.50	.047	3/8 x 1 3/8	10TM-S47	.60
.25	3/4 x 2 1/4	6TM-P25	.55	.0047	3/8 x 1 1/4	10TM-D47	.50	.05	3/8 x 1 3/8	10TM-S5	.60
.5	1 x 2 1/2	6TM-P5	.80	.005	3/8 x 1 1/4	10TM-D5	.50	.068	3/8 x 1 3/8	10TM-S63	.70
1.0	1 x 2 1/2	6TM-M1	1.25	.0068	3/8 x 1 1/4	10TM-D68	.50	.1	3/4 x 2 1/4	10TM-P1	.75

MINERAL-OIL BLACK BEAUTY[®] MOLDED TUBULARS

● Similar in appearance to Difilm Black Beauty Capacitors except all paper dielectric, impregnated with mineral oil for best high voltage performance ● Operating Temperature: 85°C

1600 WVDC (Buffer)				6000 WVDC			
.0005	3/8 x 1 1/4	MB-T5	.65	.0005	1/2 x 1 1/2	TVM-356	1.35
.001	3/8 x 1 1/4	MB-D1	.65	.001	1/2 x 1 1/2	TVM-216	1.35
.0015	3/8 x 1 1/4	MB-D15	.65	.005	3/8 x 1 3/8	TVM-256	1.35
.002	3/8 x 1 1/4	MB-D2	.65	10,000 WVDC			
.0022	3/8 x 1 1/4	MB-D22	.65	.0005	5/8 x 1 3/8	TVM-351	1.50
.003	7/16 x 1 1/4	MB-D3	.65	12,500 WVDC			
.0033	7/16 x 1 1/4	MB-D33	.65	.00025	5/8 x 1 3/8	12TVM-325	1.70
.004	7/16 x 1 1/4	MB-D4	.65	*Supplied in waxed cardboard units pending completion of molds			
.0047	7/16 x 1 1/4	MB-D47	.65	.0068	1/2 x 1 1/2	MB-D68	.65
.005	7/16 x 1 1/4	MB-D5	.65	.007	1/2 x 1 1/2	MB-D7	.65
.006	1/2 x 1 1/2	MB-D6	.65	.0075	1/2 x 1 1/2	MB-D75	.65
				.008	1/2 x 1 1/2	MB-D8	.65
				.01	1/2 x 1 1/2	MB-S1	.70
				.015	5/8 x 1 3/8	MB-S15	.70
				.02	5/8 x 1 3/8	MB-S2	.70
				.022	5/8 x 1 3/8	MB-S22	.70
				.03	5/8 x 1 3/8	MB-S3	.70
				.04	5/8 x 1 3/8	MB-S4	.70
				.05	3/4 x 2 1/8	*TR-15	.70
				2 x .015	3/4 x 2	*TR-215	.80

AUTOCON[®] MOLDED TUBULAR CAPACITORS

- Generous 1" Lead Lengths make Autocons Universal Replacements for All Single-Ended Original Equipment Types
- Impregnated with HCX, an Exclusive New Solid Dielectric Material.
- High Insulation Resistance, Low Power Factor
- Extremely Flat Temperature-Capacitance Curve
- Premolded Thermosetting Plastic Shell with Plastic Resin Endseal for Protection Against Humidity
- Index Key on Shell Identifies Outside Foil Lead
- "Standoff" Feet Prevent Dust and Moisture Traps. Also Prevent Printed Chassis Wiring Shorts



μ F	WVDC	Diam.	Length	Cat. No.	List	μ F	WVDC	Diam.	Length	Cat. No.	List
.001	200	3/8	1 3/8	2SE-D10	\$.30	.015	400	3/8	1 3/8	4SE-S15	\$.30
.0015	200	3/8	1 3/8	2SE-D15	.30	.022	400	7/16	1 3/8	4SE-S22	.35
.0022	200	3/8	1 3/8	2SE-D22	.30	.033	400	7/16	1 3/8	4SE-S33	.35
.0033	200	3/8	1 3/8	2SE-D33	.30	.047	400	1/2	1 1/4	4SE-S47	.35
.0047	200	3/8	1 3/8	2SE-D47	.30	.068	400	1/2	1 1/2	4SE-S68	.40
.0068	200	3/8	1 3/8	2SE-D68	.30	.1	400	5/8	1 1/4	4SE-P10	.45
.01	200	3/8	1 3/8	2SE-S10	.30	.15	400	5/8	1 3/8	4SE-P15	.50
.015	200	3/8	1 3/8	2SE-S15	.30	.22	400	5/8	1 3/8	4SE-P22	.55
.022	200	3/8	1 3/8	2SE-S22	.35	.33	400	3/4	1 3/8	4SE-P33	.65
.033	200	3/8	1 3/8	2SE-S33	.35	.001	600	3/8	1 3/8	6SE-D10	.30
.047	200	7/16	1 3/8	2SE-S47	.35	.0015	600	3/8	1 3/8	6SE-D15	.30
.068	200	7/16	1 3/8	2SE-S68	.35	.0022	600	3/8	1 3/8	6SE-D22	.30
.1	200	1/2	1 1/2	2SE-P10	.40	.0033	600	3/8	1 3/8	6SE-D33	.30
.15	200	5/8	1 3/8	2SE-P15	.45	.0047	600	3/8	1 3/8	6SE-D47	.30
.22	200	5/8	1 3/8	2SE-P22	.50	.0068	600	3/8	1 3/8	6SE-D68	.30
.33	200	5/8	1 3/8	2SE-P33	.55	.01	600	3/8	1 3/8	6SE-S10	.35
.47	200	3/4	1 3/8	2SE-P47	.65	.015	600	7/16	1 3/8	6SE-S15	.35
.001	400	3/8	1 3/8	4SE-D10	.30	.022	600	7/16	1 3/8	6SE-S22	.40
.0015	400	3/8	1 3/8	4SE-D15	.30	.033	600	1/2	1 1/4	6SE-S33	.40
.0022	400	3/8	1 3/8	4SE-D22	.30	.047	600	1/2	1 1/2	6SE-S47	.45
.0033	400	3/8	1 3/8	4SE-D33	.30	.068	600	3/8	1 3/8	6SE-S68	.50
.0047	400	3/8	1 3/8	4SE-D47	.30	.1	600	5/8	1 3/8	6SE-P10	.55
.0068	400	3/8	1 3/8	4SE-D68	.30	.15	600	3/4	1 3/8	6SE-P15	.60
.01	400	3/8	1 3/8	4SE-S10	.30						

SPRAGUE CAPACITORS

BF ISOFARAD* PLASTIC FILM CAPACITORS

For Applications Where the Best in Tubulars is None too Good



- Isofarad Quality is a Must in Color TV Synchronizer Circuits, Horizontal and Vertical Oscillators, Bridge and Parallel T Circuits and Other Tuned Circuit Applications Requiring Close Tolerance and Zero Temperature Coefficient of Capacitance
- Superior to Silvered Mica Capacitors in Most Applications, Yet Considerably Less Expensive
- Constant Capacitance—Will Not Change More Than $\pm 0.5\%$ from Room Temperature to $+80^\circ\text{C}$ at Maximum Rated Voltage
- For Operation to 500 WVDC—Will Withstand Operating Temperatures to 85°C (185°F)
- Capacitance Tolerance of these Units is $\pm 5\%$

*Trademark

μF	Dia. x Length	Cat. No.	List
.001	$\frac{3}{8} \times 1$	5BF-D10	\$.75
.0012	$\frac{3}{8} \times 1$	5BF-D12	.75
.0015	$\frac{3}{8} \times 1$	5BF-D15	.75
.0018	$\frac{3}{8} \times 1$	5BF-D18	.75
.0022	$\frac{3}{8} \times 1$	5BF-D22	.75
.0027	$\frac{3}{8} \times 1$	5BF-D27	.75
.0033	$\frac{3}{8} \times 1$	5BF-D33	.75
.0039	$\frac{3}{8} \times 1$	5BF-D39	.80
.0047	$\frac{3}{8} \times 1$	5BF-D47	.80
.0056	$\frac{3}{8} \times 1\frac{1}{4}$	5BF-D56	.80
.0068	$\frac{3}{8} \times 1\frac{1}{4}$	5BF-D68	.80
.0082	$\frac{7}{16} \times 1\frac{1}{4}$	5BF-D82	.80
.01	$\frac{7}{16} \times 1\frac{1}{4}$	5BF-S10	.90
.012	$\frac{1}{2} \times 1\frac{1}{4}$	5BF-S12	.90
.015	$\frac{1}{2} \times 1\frac{1}{4}$	5BF-S15	1.25
.018	$\frac{1}{2} \times 1\frac{1}{2}$	5BF-S18	1.25

μF	Dia. x Length	Cat. No.	List
.022	$\frac{1}{2} \times 1\frac{1}{2}$	5BF-S22	\$1.50
.027	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S27	1.50
.033	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S33	1.80
.039	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S39	1.80
.047	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S47	2.10
.056	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S56	2.10
.068	$\frac{5}{8} \times 1\frac{7}{8}$	5BF-S68	2.65
.082	$\frac{3}{4} \times 2\frac{1}{4}$	5BF-S82	3.60
.1	$\frac{3}{4} \times 2\frac{1}{4}$	5BF-P10	3.60
.12	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P12	4.90
.15	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P15	4.90
.18	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P18	6.75
.22	$\frac{7}{8} \times 2\frac{1}{2}$	5BF-P22	6.75
.27	$1 \times 2\frac{1}{2}$	5BF-P27	8.25
.33	$1 \times 2\frac{1}{2}$	5BF-P33	8.25

WF YELLOW-JACKET* FILMITE® 'E' CAPACITORS

- Excellent for Use in Transistorized Circuits and Low-Voltage Electron Tube Circuits
- Extended Foil Type Sections, Wound from Selected, Ultra-Thin Polyester Film and Thin Gauge Aluminum Foil
- Outer Plastic Film Wrap and Resin End Seals Protect Against Moisture and Humidity
- "Smaller Than Small"—These Capacitors Will Fit Anywhere
- Rated at 200 WVDC—Capacitance Tolerance is $\pm 10\%$
- Designed for Operation to 85°C (185°F)

*Trademark



μF	Dia. x Length	Cat. No.	List
.01	$\frac{13}{64} \times \frac{1}{16}$	2WF-S10	\$.95
.012	$\frac{13}{64} \times \frac{1}{16}$	2WF-S12	.95
.015	$\frac{13}{64} \times \frac{1}{16}$	2WF-S15	.95
.018	$\frac{13}{64} \times \frac{1}{16}$	2WF-S18	.95
.022	$\frac{13}{64} \times \frac{1}{16}$	2WF-S22	.95
.027	$\frac{7}{32} \times \frac{1}{16}$	2WF-S27	.95
.033	$\frac{7}{32} \times \frac{1}{16}$	2WF-S33	1.00
.039	$\frac{1}{4} \times \frac{1}{16}$	2WF-S39	1.00
.047	$\frac{1}{4} \times \frac{1}{16}$	2WF-S47	1.00
.056	$\frac{1}{4} \times \frac{1}{16}$	2WF-S56	1.00
.068	$\frac{1}{4} \times \frac{13}{16}$	2WF-S68	1.00
.082	$\frac{5}{16} \times \frac{1}{16}$	2WF-S82	1.00
.1	$\frac{5}{16} \times \frac{1}{16}$	2WF-P10	1.05

μF	Dia. x Length	Cat. No.	List
.12	$\frac{23}{64} \times \frac{1}{16}$	2WF-P12	\$1.05
.15	$\frac{23}{64} \times \frac{1}{16}$	2WF-P15	1.05
.18	$\frac{23}{64} \times \frac{1}{16}$	2WF-P18	1.10
.22	$\frac{23}{64} \times \frac{1}{16}$	2WF-P22	1.10
.27	$\frac{1}{32} \times \frac{1}{16}$	2WF-P27	1.10
.33	$\frac{1}{32} \times \frac{1}{16}$	2WF-P33	1.10
.39	$\frac{3}{64} \times \frac{1}{16}$	2WF-P39	1.20
.47	$\frac{3}{64} \times \frac{1}{16}$	2WF-P47	1.20
.56	$\frac{3}{64} \times \frac{1}{16}$	2WF-P56	1.50
.68	$\frac{3}{64} \times \frac{1}{16}$	2WF-P68	1.50
.82	$\frac{1}{32} \times \frac{1}{16}$	2WF-P82	1.50
1.0	$\frac{1}{32} \times \frac{1}{16}$	2WF-M1	1.50

SPRAGUE CAPACITORS

EP ESTAR® MIDGET® TUBULARS

- Amazingly Small in Size Without Any Sacrifice in Performance—The Smallest Reliable Paper Tubular
- Will Fit Tight Spots in Pocket Radios, Auto Radios and Other Small Electronic Assemblies that Require High Temperature Operation, Good Humidity Performance, and Minimum Size at a Moderate Cost
- Sprague's HCX, a Solid, Synthetic Impregnant, Makes these Capacitors Leakproof



- Designed for 85°C (185°F) Operation with No Voltage Derating Necessary
- Replace Units Formerly Catalogued under 68P

μF	WVDC	D. x L.	Cat. No.	Former Cat. No.	List	μF	WVDC	D. x L.	Cat. No.	Former Cat. No.	List
.25	100	1 ¹ / ₃₂ x 1 ¹ / ₈	1EP-P25	68P19	\$.70	.05	400	1 ¹ / ₃₂ x 1	4EP-S50	68P10	\$.50
.5	100	2 ¹ / ₃₂ x 1 ¹ / ₈	1EP-P50	68P20	.80	.1	400	1 ¹ / ₃₂ x 1 ¹ / ₈	4EP-P10	68P21	.65
.005	200	1/4 x 1 ¹ / ₁₆	2EP-D50	68P11	.35	.2	400	5/8 x 1 ¹ / ₈	4EP-P20	68P38	.70
.006	200	1/4 x 1 ¹ / ₁₆	2EP-D60	68P12	.35	.25	400	5/8 x 1 ³ / ₁₆	4EP-P25	68P22	.75
.01	200	3/32 x 1 ¹ / ₈	2EP-S10	68P14	.40	.5	400	5/8 x 2 ¹ / ₁₆	4EP-P50	68P23	.85
.02	200	3/32 x 1 ¹ / ₈	2EP-S20	68P15	.45	.001	600	1/4 x 1 ¹ / ₁₆	6EP-D10	68P26	.35
.05	200	1/16 x 1	2EP-S50	68P16	.50	.002	600	1/4 x 1 ¹ / ₁₆	6EP-D20	68P27	.35
.1	200	1 ¹ / ₃₂ x 1	2EP-P10	68P17	.60	.003	600	5/32 x 1 ¹ / ₁₆	6EP-D30	68P28	.35
.2	200	1 ¹ / ₃₂ x 1 ¹ / ₈	2EP-P20	68P18	.65	.004	600	5/32 x 1 ³ / ₁₆	6EP-D40	68P29	.35
.25	200	1 ¹ / ₃₂ x 1 ¹ / ₈	2EP-P25	68P24	.70	.005	600	5/32 x 1 ³ / ₁₆	6EP-D50	68P30	.40
.5	200	3/8 x 1 ³ / ₈	2EP-P50	68P25	.80	.006	600	5/32 x 1 ³ / ₁₆	6EP-D60	68P31	.40
.001	400	1/4 x 1 ¹ / ₁₆	4EP-D10	68P1	.35	.008	600	5/8 x 1	6EP-D80	68P32	.40
.003	400	1/4 x 1 ¹ / ₁₆	4EP-D30	68P3	.35	.01	600	5/8 x 1	6EP-S10	68P33	.45
.004	400	1/4 x 1 ¹ / ₁₆	4EP-D40	68P4	.35	.02	600	1 ¹ / ₃₂ x 1	6EP-S20	68P34	.50
.005	400	1/4 x 1 ³ / ₁₆	4EP-D50	68P5	.35	.05	600	1 ¹ / ₃₂ x 1 ¹ / ₈	6EP-S50	68P35	.55
.006	400	1/4 x 1 ³ / ₁₆	4EP-D60	68P6	.35	.1	600	5/8 x 1 ¹ / ₈	6EP-P10	68P36	.70
.01	400	3/16 x 1 ³ / ₁₆	4EP-S10	68P8	.40	.2	600	5/8 x 1 ¹ / ₁₆	6EP-P20	68P40	.80
.02	400	3/16 x 1	4EP-S20	68P9	.45	.25	600	5/8 x 2	6EP-P25	68P37	.80

TYPE 65P PROKAR® MOLDED TUBULARS



- For Applications Requiring Small Paper Capacitors for Continuous Operation at High Temperatures
- No Voltage Derating Required for 125°C Operation
- Impregnated with an Exclusive Sprague Organic Material which

Polymerizes to Form a Solid Capacitor Section

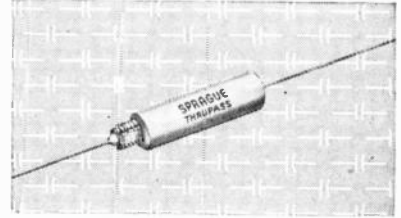
- Sections Molded in Mineral-Filled High-Temperature Plastic—All cases are 1 1/16" long
- Capacitance Tolerance of these Capacitors is ±5%

μF	WVDC	Diam.	Cat. No.	μF	WVDC	Diam.	Cat. No.	μF	WVDC	Diam.	Cat. No.
.01	200	.175	65P10352	.051	200	.375	65P51352	.002	300	.175	65P20253
.015	200	.195	65P15352	.056	200	.375	65P56352	.0039	300	.175	65P39253
.02	200	.250	65P20352	.062	200	.375	65P62352	.0047	300	.175	65P47253
.022	200	.250	65P22352	.082	200	.375	65P82352	.0051	300	.175	65P51253
.03	200	.250	65P30352	.091	200	.375	65P91352	.0056	300	.175	65P56253
.033	200	.250	65P33352	.1	200	.375	65P10452	.0068	300	.175	65P68253
.039	200	.375	65P39352	.001	300	.175	65P10253	.0082	300	.195	65P82253
.047	200	.375	65P47352	.0015	300	.175	65P15253	.0091	300	.195	65P91253

SPRAGUE CAPACITORS

TYPE 102P, 103P 'THRU-PASS' CAPACITORS

- Designed for Radio Interference Reduction in Radar and Communication Equipment
- Performance Closer to That of Theoretically Ideal Capacitor than Any Other Paper Capacitor Ever Made
- Three-Terminal Feed-Thru Design—Connect in a Circuit in Same Manner as Low-Pass Filter
- Hermetically Sealed, with Glass-to-Metal Solder-Seal Terminals
- Impregnated with Vitamin Q, for High Insulation Resistance and Minimum Capacitance Change with Temperature
- Type 102P is Designed for Operation from -55°C to +85°C; Type 103P for -55°C to +125°C
- Capacitors listed below have wire leads. For tab terminals, which are also available, see your Sprague Industrial Distributor.



μF	Size Diam. x Lgth.	Catalog Number	
		85°C	125°C
100 WVDC			
.001	.400 x 3/4	102P101	103P101
.0047	.400 x 3/4	102P106	103P106
.01	.400 x 3/4	102P111	103P111
.047	.400 x 3/4	102P116	103P116
.1	.400 x 3/8	102P121	103P121
.22	.400 x 1 1/8	102P126	103P126
.33	.562 x 1 1/8	102P131	103P131
.47	.562 x 1 3/8	102P136	103P136
.68	.562 x 1 7/8	102P141	103P141
1.00	.670 x 1 7/8	102P145	103P145

μF	Size Diam. x Lgth.	Catalog Number	
		85°C	125°C
200 WVDC			
.001	.400 x 3/4	102P102	103P102
.0047	.400 x 3/4	102P107	103P107
.01	.400 x 3/4	102P112	103P112
.047	.400 x 7/8	102P117	103P117
.1	.400 x 1 1/8	102P122	103P122
.22	.562 x 1 1/8	102P127	103P127
.33	.562 x 1 5/8	102P132	103P132
.47	.562 x 1 7/8	102P137	103P137
.68	.670 x 1 7/8	102P142	103P142
1.00	.760 x 2 1/8	102P146	103P146

μF	Size Diam. x Lgth.	Catalog Number	
		85°C	125°C
300 WVDC			
.001	.400 x 3/4	102P103	103P103
.0047	.400 x 3/4	102P108	103P108
.01	.400 x 3/4	102P113	103P113

μF	Size Diam. x Lgth.	Catalog Number	
		85°C	125°C
300 WVDC (Continued)			
.047	.400 x 1 1/8	102P118	103P118
.1	.400 x 1 3/8	102P123	103P123
.22	.562 x 1 3/8	102P128	103P128
.33	.562 x 1 7/8	102P133	103P133
.47	.670 x 1 7/8	102P138	103P138
.68	.750 x 2 1/8	102P143	103P143

μF	Size Diam. x Lgth.	Catalog Number	
		85°C	125°C
400 WVDC			
.001	.400 x 3/4	102P104	103P104
.0047	.400 x 3/4	102P109	103P109
.01	.400 x 3/4	102P114	103P114
.047	.400 x 1 3/8	102P119	103P119
.1	.562 x 1 1/8	102P124	103P124
.22	.562 x 1 7/8	102P129	103P129
.33	.670 x 1 7/8	102P134	103P134
.47	.750 x 2 1/8	102P139	103P139
.68	.750 x 2 3/8	102P144	103P144

μF	Size Diam. x Lgth.	Catalog Number	
		85°C	125°C
600 WVDC			
.001	.400 x 3/4	102P105	103P105
.0047	.400 x 3/4	102P110	103P110
.01	.400 x 3/4	102P115	103P115
.047	.400 x 1 3/8	102P120	103P120
.1	.562 x 1 3/8	102P125	103P125
.22	.670 x 1 7/8	102P130	103P130
.33	.750 x 2 1/8	102P135	103P135
.47	.750 x 2 3/8	102P140	103P140



BP BATH TUB CAPACITORS

- For Applications Where Severe Operating Conditions Are Encountered
- Hermetically Sealed for Extra Protection
- Seamless Drawn Metal Can
- Oil-Filled and Oil-impregnated for Long, Dependable Service Life
- Convenient Mounting Ears are Integral Part of Metal Container

μF	L. x W. x H.	Cat. No.	List
400 WVDC			
.1	1 13/16 x 1 x 3/4	BP-1	\$2.20
.25	1 13/16 x 1 x 3/4	BP-25	2.50
.5	1 13/16 x 1 x 7/8	BP-50	2.65
1.0	2 x 1 3/4 x 3/8	BP-10	3.15
.1 + .1	1 13/16 x 1 x 3/4	BP-21	3.30
.25 + .25	1 13/16 x 1 x 7/8	BP-225	3.60
.5 + .5	2 x 1 3/4 x 7/8	BP-250	4.15
.1 + .1 + .1	1 13/16 x 1 x 3/4	BP-31	4.00

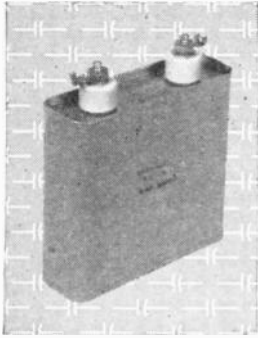
μF	L. x W. x H.	Cat. No.	List
600 WVDC			
.05	1 13/16 x 1 x 3/4	BP-56	2.90
.1	1 13/16 x 1 x 3/4	BP-16	2.95
.25	1 13/16 x 1 x 3/4	BP-256	3.10
.5	1 13/16 x 1 x 7/8	BP-506	3.30
1.0	2 x 1 3/4 x 7/8	BP-106	3.75
2.0	2 x 2 x 1 1/8	BP-206	5.00
.05 + .05	1 13/16 x 1 x 3/4	BP-2056	3.65

μF	L. x W. x H.	Cat. No.	List
.1 + .1	1 13/16 x 1 x 3/4	BP-216	\$3.70
.25 + .25	1 13/16 x 1 x 7/8	BP-2256	3.75
.5 + .5	2 x 1 3/4 x 7/8	BP-2506	4.30
1.0 + 1.0	2 x 2 x 1 1/8	BP-116	5.30
.1 + .1 + .1	1 13/16 x 1 x 3/4	BP-316	4.20
.25 + .25 + .25	2 x 1 3/4 x 7/8	BP-3256	4.75
.5 + .5 + .5	2 x 2 x 1 1/8	BP-356	5.75

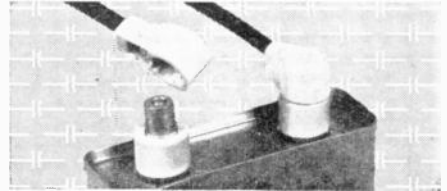
μF	L. x W. x H.	Cat. No.	List
1000 WVDC			
.05	1 13/16 x 1 x 3/4	BP-51	3.05
.1	1 13/16 x 1 x 3/4	BP-11	3.15
.25	1 13/16 x 1 x 3/4	BP-251	3.25
.5	2 x 1 3/4 x 7/8	BP-501	3.55
1.0	2 x 2 x 1 1/8	BP-101	4.40
.05 + .05	1 13/16 x 1 x 3/4	BP-2051	3.85
.1 + .1	1 13/16 x 1 x 3/4	BP-211	4.00
.25 + .25	2 x 1 3/4 x 7/8	BP-2251	4.20
.5 + .5	2 x 2 x 1 1/8	BP-2501	5.45
.1 + .1 + .1	1 13/16 x 1 x 3/4	BP-311	4.60
.25 + .25 + .25	2 x 2 x 1 1/8	BP-3251	5.50

SPRAGUE CAPACITORS

CR RECTANGULAR OILS

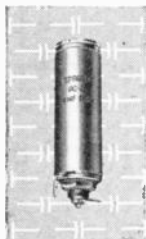


- Hermetically Sealed in Rugged Rectangular Metal Cans
- Oil-Impregnated and Oil-Filled
- Extremely High Insulation Resistance
- Will Withstand High Surge Voltages and High Ambient Temperatures
- Widely used in transmitter power supplies and other high-voltage applications
- Furnished With Adapters (as shown below) to Fit Standard Transmitting Tube Grid Caps



μF	WVDC	T. x W. x L.	Cat. No.	List	μF	WVDC	T. x W. x L.	Cat. No.	List
.5	600	1 1/16 x 1 13/16 x 2 1/4	CR-056	\$4.70	3.0	2000	1 1/4 x 3 3/4 x 4 3/4	CR-32	\$13.20
1.0	600	1 1/16 x 1 13/16 x 2 1/4	CR-16	5.80	4.0	2000	2 1/4 x 3 3/4 x 3 3/4	CR-42	15.15
2.0	600	1 1/16 x 1 13/16 x 2 3/8	CR-26	7.15	6.0	2000	3 3/16 x 3 3/4 x 4 1/2	CR-62	20.10
3.0	600	1 1/16 x 1 13/16 x 3 1/4	CR-36	8.25	10.0	2000	4 3/16 x 3 3/4 x 4 3/4	CR-102	30.55
4.0	600	1 3/16 x 2 1/2 x 3 1/2	CR-46	9.10	.1	2500	1 3/16 x 2 1/2 x 2 1/2	CR-0125	10.15
6.0	600	1 3/16 x 2 1/2 x 4 3/4	CR-66	11.30	.5	2500	1 1/4 x 3 3/4 x 3 3/4	CR-0525	11.55
8.0	600	1 1/4 x 3 3/4 x 3 3/4	CR-86	13.50	1.0	2500	1 3/4 x 3 3/4 x 3 3/4	CR-125	13.20
10.0	600	1 1/4 x 3 3/4 x 4 3/4	CR-106	15.15	2.0	2500	1 3/4 x 3 3/4 x 4 3/4	CR-225	21.45
.1	1000	1 1/16 x 1 13/16 x 1 3/8	CR-011	4.15	4.0	2500	4 3/16 x 3 3/4 x 4 3/4	CR-425	30.00
.25	1000	1 1/16 x 1 13/16 x 2 1/4	CR-0251	4.70	.1	3000	1 3/16 x 2 1/2 x 2 1/2	CR-013	14.05
.5	1000	1 1/16 x 1 13/16 x 2 1/4	CR-051	4.95	.25	3000	1 3/16 x 2 1/2 x 2 3/8	CR-0253	14.85
1.0	1000	1 1/16 x 1 13/16 x 2 1/4	CR-11	6.35	.5	3000	1 3/16 x 2 1/2 x 4 1/4	CR-053	16.80
2.0	1000	1 1/16 x 1 13/16 x 3 3/8	CR-21	8.25	1.0	3000	2 1/4 x 3 3/4 x 3 3/8	CR-13	20.10
4.0	1000	1 3/16 x 2 1/2 x 4 3/4	CR-41	10.45	2.0	3000	3 3/16 x 3 3/4 x 4 1/2	CR-23	25.05
8.0	1000	1 1/4 x 3 3/4 x 4 3/4	CR-81	15.15	4.0	3000	4 3/16 x 3 3/4 x 4 3/4	CR-43	36.85
10.0	1000	1 3/4 x 3 3/4 x 4 3/4	CR-101	16.80	.1	4000	2 1/4 x 3 3/4 x 2 3/4	CR-014	18.00
12.0	1000	2 1/4 x 3 3/4 x 4 1/2	CR-121	18.15	.25	4000	2 1/4 x 3 3/4 x 2 3/4	CR-0254	20.00
15.0	1000	2 1/2 x 3 3/4 x 4 3/4	CR-151	20.10	.5	4000	2 1/4 x 3 3/4 x 3 3/8	CR-054	23.00
.5	1500	1 1/16 x 1 13/16 x 2 3/8	CR-0515	6.35	1.0	4000	2 1/4 x 3 3/4 x 5 1/8	CR-14	29.00
1.0	1500	1 1/16 x 1 13/16 x 3 3/8	CR-115	7.45	2.0	4000	4 3/16 x 3 3/4 x 5 1/8	CR-24	39.00
2.0	1500	1 3/16 x 2 1/2 x 4 1/4	CR-215	10.20	.2	5000	1 3/4 x 3 3/4 x 3 3/8	CR-025	20.00
4.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-415	14.05	.5	5000	2 1/4 x 3 3/4 x 4 1/2	CR-055	25.00
5.0	1500	1 1/4 x 3 3/4 x 4 3/4	CR-515	15.15	1.0	5000	4 3/16 x 3 3/4 x 4 3/8	CR-15	34.00
8.0	1500	2 1/2 x 3 3/4 x 4 3/4	CR-815	20.90	2.0	5000	4 3/16 x 3 3/4 x 6	CR-25	52.00
10.0	1500	3 3/16 x 3 3/4 x 4 3/4	CR-1015	25.05	.1	6000	2 1/4 x 3 3/4 x 3 3/8	CR-0160	27.00
.1	2000	1 3/16 x 2 1/2 x 2 1/2	CR-012	6.60	.2	6000	1 3/4 x 3 3/4 x 4 1/4	CR-0260	30.00
.25	2000	1 3/16 x 2 1/2 x 2 1/2	CR-0252	7.15	1.0	6000	4 3/16 x 3 3/4 x 7 1/2	CR-160	49.00
.5	2000	1 3/16 x 2 1/2 x 2 3/8	CR-052	7.45	.1	7500	2 1/4 x 3 3/4 x 3 3/8	CR-0175	29.00
1.0	2000	1 3/16 x 2 1/2 x 3 1/2	CR-12	9.10	.2	7500	1 3/4 x 3 3/4 x 4 3/4	CR-0275	33.00
2.0	2000	1 1/4 x 3 3/4 x 4 1/4	CR-22	10.75					

SCREWBASE PC OILS



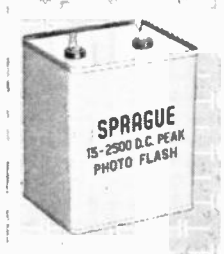
- Oil-Impregnated
- Oil-Filled
- Screwbase Can For Easy Single Hole Mounting
- Small Size—Will Fit Tight Spaces

μF	WVDC	Diam x Lgth.	Cat. No.	List
2	600	1 1/2 x 2 3/8	PC-26	\$5.40
3	600	1 1/2 x 3 1/2	PC-36	6.15
4	600	1 1/2 x 4 1/2	PC-46	7.10
1	1000	1 1/2 x 2 3/8	PC-11	5.00
2	1000	1 1/2 x 4 1/2	PC-21	6.30
0.5	1500	1 1/2 x 2 3/8	PC-515	5.85
1	1500	1 1/2 x 3 3/8	PC-115	6.30

PQ PHOTOFLASH CAPACITORS

DESIGNED EXPRESSLY FOR PHOTOFLASH USE—NOT COMPARABLE TO STANDARD HEAVY-DUTY CAPACITORS SUCH AS THE CR TRANSMITTING TYPES

- Oil-Impregnated and Oil Filled
- Uniform Energy Storage
- Smallest Possible Construction, without Any Sacrifice in Dependability
- Very High Insulation Resistance
- Hermetically Sealed



μF	DC Peak * Volts	Watt / Sec. Total	Dimensions T. x W. x H.	Weight lbs.	Cat. No.	List Price
10	2500	31	2 1/4 x 3 3/4 x 4 1/2	1 3/4	PQ-2510	\$17.00
15	2500	47	3 3/16 x 3 3/4 x 4 3/8	2 1/2	PQ-2515	20.00
25	2500	78	4 3/16 x 3 3/4 x 5 1/4	4 1/4	PQ-2525	26.50
35	2500	109	4 3/16 x 3 3/4 x 7	6	PQ-2535	32.50
15	3000	67	3 3/16 x 3 3/4 x 4 3/8	3	FQ-315	24.50
25	4000	200	4 3/16 x 3 3/4 x 9 1/4	7 1/4	FQ-425	42.50

*Do not exceed Peak Voltage Rating under highest line voltage condition.

SPRAGUE CAPACITORS

VITAMIN Q[®] SUBMINIATURE PAPER CAPACITORS



These capacitors are the most widely used of all paper capacitors in commercial and military

electronic equipment. Hermetically sealed in metal cases, they are electrically and mechanically designed to meet stringent operating requirements.

Impregnated with Vitamin Q, a substantially linear, controlled molecular weight, hydrocarbon polymer, which is exclusive with Sprague, these dependable capacitors are available for operation in two temperature ranges: -55°C to $+85^{\circ}\text{C}$ and -55°C to

$+125^{\circ}\text{C}$. Because of their Vitamin Q impregnation, these subminiature capacitors have a higher insulation resistance and longer life than comparable units with ordinary oils.

Sprague Subminiature paper capacitors exceed the performance requirements of military specification MIL-C-25A. A limited number of the ratings shown here are listed in the military specification and should be ordered by their MIL type designation where equipment specifications so require. (See page after next)

Listed below are the most popular insulated section (ungrounded case) capacitors. For information on other types, ratings, and tolerances, as well as on wax-impregnated units for absolute minimum size, consult your Sprague Industrial Distributor.

NOTE: The capacitors listed in this table have a capacitance tolerance of $\pm 10\%$. For $\pm 20\%$ units, change the 4th digit following the letter 'P' in the catalog number from 9 to 0.

μF	WVDC	INSERTED TAB CONSTRUCTION				Size D. x L.	EXTENDED FOIL CONSTRUCTION				Size D. x L.
		TYPE 91P (85°C)		TYPE 96P (125°C)			TYPE 191P (85°C)		TYPE 196P (125°C)		
		Plain Metal Case	Metal case with Insulating Sleeve*	Plain Metal Case	Metal case with Insulating Sleeve*		Plain Metal Case	Metal case with Insulating Sleeve*	Plain Metal Case	Metal case with Insulating Sleeve*	
.001	100	91P10291S2	91P10291S4	96P10291S2	96P10291S4	.175 x 3/4	191P10291S2	191P10291S4	196P10291S2	196P10291S4	.175 x 3/4
	200	91P10292S2	91P10292S4	96P10292S2	96P10292S4	.235 x 3/4	191P10292S2	191P10292S4	196P10292S2	196P10292S4	.235 x 3/4
	300	91P10293S2	91P10293S4	96P10293S2	96P10293S4	.235 x 3/4	191P10293S2	191P10293S4	196P10293S2	196P10293S4	.235 x 3/4
	400	91P10294S2	91P10294S4	96P10294S2	96P10294S4	.235 x 3/4	191P10294S2	191P10294S4	196P10294S2	196P10294S4	.235 x 3/4
	600	91P10296S2	91P10296S4	96P10296S2	96P10296S4	.235 x 3/4	191P10296S2	191P10296S4	196P10296S2	196P10296S4	.235 x 3/4
.0015	100	91P15291S2	91P15291S4	96P15291S2	96P15291S4	.175 x 3/4	191P15291S2	191P15291S4	196P15291S2	196P15291S4	.175 x 3/4
	200	91P15292S2	91P15292S4	96P15292S2	96P15292S4	.235 x 3/4	191P15292S2	191P15292S4	196P15292S2	196P15292S4	.235 x 3/4
	300	91P15293S2	91P15293S4	96P15293S2	96P15293S4	.235 x 3/4	191P15293S2	191P15293S4	196P15293S2	196P15293S4	.235 x 3/4
	400	91P15294S2	91P15294S4	96P15294S2	96P15294S4	.235 x 3/4	191P15294S2	191P15294S4	196P15294S2	196P15294S4	.235 x 3/4
	600	91P15296S2	91P15296S4	96P15296S2	96P15296S4	.235 x 3/4	191P15296S2	191P15296S4	196P15296S2	196P15296S4	.235 x 3/4
.0022	100	91P22291S2	91P22291S4	96P22291S2	96P22291S4	.175 x 3/4	191P22291S2	191P22291S4	196P22291S2	196P22291S4	.175 x 3/4
	200	91P22292S2	91P22292S4	96P22292S2	96P22292S4	.235 x 3/4	191P22292S2	191P22292S4	196P22292S2	196P22292S4	.235 x 3/4
	300	91P22293S2	91P22293S4	96P22293S2	96P22293S4	.235 x 3/4	191P22293S2	191P22293S4	196P22293S2	196P22293S4	.235 x 3/4
	400	91P22294S2	91P22294S4	96P22294S2	96P22294S4	.235 x 3/4	191P22294S2	191P22294S4	196P22294S2	196P22294S4	.235 x 3/4
	600	91P22296S2	91P22296S4	96P22296S2	96P22296S4	.235 x 3/4	191P22296S2	191P22296S4	196P22296S2	196P22296S4	.235 x 3/4
.0033	100	91P33291S2	91P33291S4	96P33291S2	96P33291S4	.175 x 3/4	191P33291S2	191P33291S4	196P33291S2	196P33291S4	.175 x 3/4
	200	91P33292S2	91P33292S4	96P33292S2	96P33292S4	.235 x 3/4	191P33292S2	191P33292S4	196P33292S2	196P33292S4	.235 x 3/4
	300	91P33293S2	91P33293S4	96P33293S2	96P33293S4	.235 x 3/4	191P33293S2	191P33293S4	196P33293S2	196P33293S4	.235 x 3/4
	400	91P33294S2	91P33294S4	96P33294S2	96P33294S4	.235 x 3/4	191P33294S2	191P33294S4	196P33294S2	196P33294S4	.235 x 3/4
	600	91P33296S2	91P33296S4	96P33296S2	96P33296S4	.235 x 3/4	191P33296S2	191P33296S4	196P33296S2	196P33296S4	.312 x 7/8
.0047	100	91P47291S2	91P47291S4	96P47291S2	96P47291S4	.175 x 3/4	191P47291S2	191P47291S4	196P47291S2	196P47291S4	.175 x 3/4
	200	91P47292S2	91P47292S4	96P47292S2	96P47292S4	.235 x 3/4	191P47292S2	191P47292S4	196P47292S2	196P47292S4	.235 x 3/4
	300	91P47293S2	91P47293S4	96P47293S2	96P47293S4	.235 x 3/4	191P47293S2	191P47293S4	196P47293S2	196P47293S4	.235 x 3/4
	400	91P47294S2	91P47294S4	96P47294S2	96P47294S4	.235 x 3/4	191P47294S2	191P47294S4	196P47294S2	196P47294S4	.312 x 7/8
	600	91P47296S2	91P47296S4	96P47296S2	96P47296S4	.235 x 3/4	191P47296S2	191P47296S4	196P47296S2	196P47296S4	.312 x 7/8
.0068	100	91P68291S2	91P68291S4	96P68291S2	96P68291S4	.175 x 3/4	191P68291S2	191P68291S4	196P68291S2	196P68291S4	.195 x 3/4
	200	91P68292S2	91P68292S4	96P68292S2	96P68292S4	.235 x 3/4	191P68292S2	191P68292S4	196P68292S2	196P68292S4	.235 x 3/4
	300	91P68293S2	91P68293S4	96P68293S2	96P68293S4	.235 x 3/4	191P68293S2	191P68293S4	196P68293S2	196P68293S4	.312 x 7/8
	400	91P68294S2	91P68294S4	96P68294S2	96P68294S4	.235 x 3/4	191P68294S2	191P68294S4	196P68294S2	196P68294S4	.312 x 7/8
	600	91P68296S2	91P68296S4	96P68296S2	96P68296S4	.235 x 3/4	191P68296S2	191P68296S4	196P68296S2	196P68296S4	.312 x 7/8
.01	100	91P10391S2	91P10391S4	96P10391S2	96P10391S4	.175 x 3/4	191P10391S2	191P10391S4	196P10391S2	196P10391S4	.235 x 3/4
	200	91P10392S2	91P10392S4	96P10392S2	96P10392S4	.235 x 3/4	191P10392S2	191P10392S4	196P10392S2	196P10392S4	.312 x 7/8
	300	91P10393S2	91P10393S4	96P10393S2	96P10393S4	.235 x 3/4	191P10393S2	191P10393S4	196P10393S2	196P10393S4	.312 x 7/8
	400	91P10394S2	91P10394S4	96P10394S2	96P10394S4	.235 x 3/4	191P10394S2	191P10394S4	196P10394S2	196P10394S4	.312 x 7/8
	600	91P10396S2	91P10396S4	96P10396S2	96P10396S4	.312 x 7/8	191P10396S2	191P10396S4	196P10396S2	196P10396S4	.312 x 7/8
.015	100	91P15391S2	91P15391S4	96P15391S2	96P15391S4	.175 x 3/4	191P15391S2	191P15391S4	196P15391S2	196P15391S4	.235 x 3/4
	200	91P15392S2	91P15392S4	96P15392S2	96P15392S4	.235 x 3/4	191P15392S2	191P15392S4	196P15392S2	196P15392S4	.312 x 7/8
	300	91P15393S2	91P15393S4	96P15393S2	96P15393S4	.235 x 3/4	191P15393S2	191P15393S4	196P15393S2	196P15393S4	.312 x 7/8
	400	91P15394S2	91P15394S4	96P15394S2	96P15394S4	.312 x 7/8	191P15394S2	191P15394S4	196P15394S2	196P15394S4	.312 x 7/8
	600	91P15396S2	91P15396S4	96P15396S2	96P15396S4	.312 x 7/8	191P15396S2	191P15396S4	196P15396S2	196P15396S4	.400 x 7/8

*On Style 4 units (metal case with insulating sleeve) add .0625" to Diameter and 1/16" to Length.

SPRAGUE CAPACITORS

VITAMIN Q[®] SUBMINIATURE PAPER CAPACITORS, continued

μF	WVDC	INSERTED TAB CONSTRUCTION				Size D. x L.	EXTENDED FOIL CONSTRUCTION				
		TYPE 91P (85°C)		TYPE 96P (125°C)			TYPE 191P (85°C)		TYPE 196P (125°C)		Size D. x L.
		Plain Metal Case	Metal case with Insulat- ing Sleeve*	Plain Metal Case	Metal case with Insulat- ing Sleeve*		Plain Metal Case	Metal case with Insulat- ing Sleeve*	Plain Metal Case	Metal case with Insulat- ing Sleeve*	
.022	100	91P22391S2	91P22391S4	96P22391S2	96P22391S4	.195 x 3/8	191P22391S2	191P22391S4	196P22391S2	196P22391S4	.312 x 7/8
	200	91P22392S2	91P22392S4	96P22392S2	96P22392S4	.235 x 3/8	191P22392S2	191P22392S4	196P22392S2	196P22392S4	.312 x 7/8
	300	91P22393S2	91P22393S4	96P22393S2	96P22393S4	.312 x 7/8	191P22393S2	191P22393S4	196P22393S2	196P22393S4	.400 x 7/8
	400	91P22394S2	91P22394S4	96P22394S2	96P22394S4	.312 x 7/8	191P22394S2	191P22394S4	196P22394S2	196P22394S4	.400 x 7/8
	600	91P22396S2	91P22396S4	96P22396S2	96P22396S4	.312 x 7/8	191P22396S2	191P22396S4	196P22396S2	196P22396S4	.400 x 7/8
.033	100	91P33391S2	91P33391S4	96P33391S2	96P33391S4	.235 x 3/8	191P33391S2	191P33391S4	196P33391S2	196P33391S4	.312 x 7/8
	200	91P33392S2	91P33392S4	96P33392S2	96P33392S4	.312 x 7/8	191P33392S2	191P33392S4	196P33392S2	196P33392S4	.312 x 7/8
	300	91P33393S2	91P33393S4	96P33393S2	96P33393S4	.312 x 7/8	191P33393S2	191P33393S4	196P33393S2	196P33393S4	.400 x 7/8
	400	91P33394S2	91P33394S4	96P33394S2	96P33394S4	.312 x 7/8	191P33394S2	191P33394S4	196P33394S2	196P33394S4	.400 x 7/8
	600	91P33396S2	91P33396S4	96P33396S2	96P33396S4	.400 x 7/8	191P33396S2	191P33396S4	196P33396S2	196P33396S4	.400 x 1 1/8
.047	100	91P47391S2	91P47391S4	96P47391S2	96P47391S4	.312 x 7/8	191P47391S2	191P47391S4	196P47391S2	196P47391S4	.312 x 7/8
	200	91P47392S2	91P47392S4	96P47392S2	96P47392S4	.312 x 7/8	191P47392S2	191P47392S4	196P47392S2	196P47392S4	.400 x 7/8
	300	91P47393S2	91P47393S4	96P47393S2	96P47393S4	.312 x 7/8	191P47393S2	191P47393S4	196P47393S2	196P47393S4	.400 x 7/8
	400	91P47394S2	91P47394S4	96P47394S2	96P47394S4	.400 x 7/8	191P47394S2	191P47394S4	196P47394S2	196P47394S4	.400 x 1 1/8
	600	91P47396S2	91P47396S4	96P47396S2	96P47396S4	.400 x 1 1/8	191P47396S2	191P47396S4	196P47396S2	196P47396S4	.400 x 1 3/8
.068	100	91P68391S2	91P68391S4	96P68391S2	96P68391S4	.312 x 7/8	191P68391S2	191P68391S4	196P68391S2	196P68391S4	.400 x 7/8
	200	91P68392S2	91P68392S4	96P68392S2	96P68392S4	.312 x 7/8	191P68392S2	191P68392S4	196P68392S2	196P68392S4	.400 x 7/8
	300	91P68393S2	91P68393S4	96P68393S2	96P68393S4	.400 x 7/8	191P68393S2	191P68393S4	196P68393S2	196P68393S4	.400 x 1 1/8
	400	91P68394S2	91P68394S4	96P68394S2	96P68394S4	.400 x 1 1/8	191P68394S2	191P68394S4	196P68394S2	196P68394S4	.400 x 1 3/8
	600	91P68396S2	91P68396S4	96P68396S2	96P68396S4	.400 x 1 3/8	191P68396S2	191P68396S4	196P68396S2	196P68396S4	.562 x 1 1/8
.1	100	91P10491S2	91P10491S4	96P10491S2	96P10491S4	.312 x 7/8	191P10491S2	191P10491S4	196P10491S2	196P10491S4	.400 x 7/8
	200	91P10492S2	91P10492S4	96P10492S2	96P10492S4	.400 x 7/8	191P10492S2	191P10492S4	196P10492S2	196P10492S4	.400 x 1 1/8
	300	91P10493S2	91P10493S4	96P10493S2	96P10493S4	.400 x 1 1/8	191P10493S2	191P10493S4	196P10493S2	196P10493S4	.400 x 1 3/8
	400	91P10494S2	91P10494S4	96P10494S2	96P10494S4	.400 x 1 3/8	191P10494S2	191P10494S4	196P10494S2	196P10494S4	.562 x 1 1/8
	600	91P10496S2	91P10496S4	96P10496S2	96P10496S4	.562 x 1 1/8	191P10496S2	191P10496S4	196P10496S2	196P10496S4	.562 x 1 3/8
.15	100	91P15491S2	91P15491S4	96P15491S2	96P15491S4	.400 x 7/8	191P15491S2	191P15491S4	196P15491S2	196P15491S4	.400 x 1 1/8
	200	91P15492S2	91P15492S4	96P15492S2	96P15492S4	.400 x 1 1/8	191P15492S2	191P15492S4	196P15492S2	196P15492S4	.400 x 1 3/8
	300	91P15493S2	91P15493S4	96P15493S2	96P15493S4	.400 x 1 3/8	191P15493S2	191P15493S4	196P15493S2	196P15493S4	.562 x 1 1/8
	400	91P15494S2	91P15494S4	96P15494S2	96P15494S4	.562 x 1 1/8	191P15494S2	191P15494S4	196P15494S2	196P15494S4	.562 x 1 3/8
	600	91P15496S2	91P15496S4	96P15496S2	96P15496S4	.562 x 1 3/8	191P15496S2	191P15496S4	196P15496S2	196P15496S4	.562 x 1 5/8
.22	100	91P22491S2	91P22491S4	96P22491S2	96P22491S4	.400 x 1 1/8	191P22491S2	191P22491S4	196P22491S2	196P22491S4	.400 x 1 3/8
	200	91P22492S2	91P22492S4	96P22492S2	96P22492S4	.400 x 1 3/8	191P22492S2	191P22492S4	196P22492S2	196P22492S4	.562 x 1 1/8
	300	91P22493S2	91P22493S4	96P22493S2	96P22493S4	.562 x 1 1/8	191P22493S2	191P22493S4	196P22493S2	196P22493S4	.562 x 1 3/8
	400	91P22494S2	91P22494S4	96P22494S2	96P22494S4	.562 x 1 3/8	191P22494S2	191P22494S4	196P22494S2	196P22494S4	.562 x 1 5/8
	600	91P22496S2	91P22496S4	96P22496S2	96P22496S4	.562 x 1 5/8	191P22496S2	191P22496S4	196P22496S2	196P22496S4	.670 x 1 3/8
.33	100	91P33491S2	91P33491S4	96P33491S2	96P33491S4	.400 x 1 3/8	191P33491S2	191P33491S4	196P33491S2	196P33491S4	.562 x 1 1/8
	200	91P33492S2	91P33492S4	96P33492S2	96P33492S4	.562 x 1 1/8	191P33492S2	191P33492S4	196P33492S2	196P33492S4	.562 x 1 3/8
	300	91P33493S2	91P33493S4	96P33493S2	96P33493S4	.562 x 1 3/8	191P33493S2	191P33493S4	196P33493S2	196P33493S4	.562 x 1 5/8
	400	91P33494S2	91P33494S4	96P33494S2	96P33494S4	.562 x 1 5/8	191P33494S2	191P33494S4	196P33494S2	196P33494S4	.670 x 1 3/8
	600	91P33496S2	91P33496S4	96P33496S2	96P33496S4	.670 x 1 3/8	191P33496S2	191P33496S4	196P33496S2	196P33496S4	.750 x 2 1/8
.47	100	91P47491S2	91P47491S4	96P47491S2	96P47491S4	.562 x 1 1/8	191P47491S2	191P47491S4	196P47491S2	196P47491S4	.562 x 1 3/8
	200	91P47492S2	91P47492S4	96P47492S2	96P47492S4	.562 x 1 3/8	191P47492S2	191P47492S4	196P47492S2	196P47492S4	.562 x 1 5/8
	300	91P47493S2	91P47493S4	96P47493S2	96P47493S4	.562 x 1 5/8	191P47493S2	191P47493S4	196P47493S2	196P47493S4	.670 x 1 3/8
	400	91P47494S2	91P47494S4	96P47494S2	96P47494S4	.670 x 1 3/8	191P47494S2	191P47494S4	196P47494S2	196P47494S4	.750 x 2 1/8
	600	91P47496S2	91P47496S4	96P47496S2	96P47496S4	.750 x 2 1/8	191P47496S2	191P47496S4	196P47496S2	196P47496S4	.750 x 2 3/8
.68	100	91P68491S2	91P68491S4	96P68491S2	96P68491S4	.562 x 1 1/8	191P68491S2	191P68491S4	196P68491S2	196P68491S4	.562 x 1 3/8
	200	91P68492S2	91P68492S4	96P68492S2	96P68492S4	.562 x 1 3/8	191P68492S2	191P68492S4	196P68492S2	196P68492S4	.670 x 1 3/8
	300	91P68493S2	91P68493S4	96P68493S2	96P68493S4	.670 x 1 3/8	191P68493S2	191P68493S4	196P68493S2	196P68493S4	.750 x 2 1/8
1.0	100	91P10591S2	91P10591S4	96P10591S2	96P10591S4	.562 x 1 3/8	191P10591S2	191P10591S4	196P10591S2	196P10591S4	.670 x 1 3/8
	200	91P10592S2	91P10592S4	96P10592S2	96P10592S4	.670 x 1 3/8	191P10592S2	191P10592S4	196P10592S2	196P10592S4	.750 x 2 1/8

*On Style 4 units (metal case with insulating sleeve) add .0625" to Diameter and 1/16" to Length.

CHOICE OF INSERTED TAB OR EXTENDED FOIL CONSTRUCTION

In the past, inserted tab capacitors have not been recommended for low-voltage applications (e.g., below 10 volts) but recent improvements in design now make it possible to recommend them for operation at all voltages from 1 to rated, in nearly all applications.

From the application standpoint, the principal difference between the two construction types is that, at

resonance, losses are likely to be lower in the extended foil type. This is because the resistive component of impedance is likely to be higher at resonance in the inserted tab type of construction. Unless unusual circuit requirements make the losses at resonance a critical factor, the inserted tab construction is recommended, primarily because of the smaller size of the capacitor roll.

SPRAGUE CAPACITORS

MIL-C-25A CAPACITORS — TYPES CPO4 and CPO5



- Impregnation with Vitamin Q assures capacitors exceed MIL-C-25A performance requirements.
- Inserted tab construction for applications where minimum size is necessary.
- Positive hermetic closure of the metal cases assured by glass-to-metal solder-seal terminals.
- Type CPO4 has plain metal case—Type CPO5 has insulating sleeve.
- Available in Characteristic E (−55°C to +85°C) or Characteristic K (−55°C to +125°C).
- Only popular insulated section (un-grounded case) capacitors are listed. For information on grounded case units, consult your Sprague Industrial Distributor.

NOTE: The capacitors listed in this table have a capacitance tolerance of ±10%. For ±20% units, change the last letter in the catalog number from K to M.

μF	WVDC	TYPE CPO4 Plain Metal Case			TYPE CPO5 Metal Case with Insulating Sleeve		
		Char. E −55°C to +85°C		Size D. x L.	Char. E −55°C to +85°C		Size D. x L.
		Char. K −55°C to +125°C	Char. E −55°C to +85°C		Char. K −55°C to +125°C		
.001	600	CP04A1EF102K	CP04A1KF102K	.235 x 3/4	CP05A1EF102K	CP05A1KF102K	.298 x 1 1/16
.0015	600	CP04A1EF152K	CP04A1KF152K	.235 x 3/4	CP05A1EF152K	CP05A1KF152K	.298 x 1 1/16
.0022	600	CP04A1EF222K	CP04A1KF222K	.235 x 3/4	CP05A1EF222K	CP05A1KF222K	.298 x 1 1/16
.0033	600	CP04A1EF332K	CPC4A1KF332K	.235 x 3/4	CP05A1EF332K	CP05A1KF332K	.298 x 1 1/16
.0047	600	CP04A1EF472K	CPC4A1KF472K	.235 x 3/4	CP05A1EF472K	CP05A1KF472K	.298 x 1 1/16
.0068	600	CP04A1EF682K	CPC4A1KF682K	.235 x 3/4	CP05A1EF682K	CP05A1KF682K	.298 x 1 1/16
.01	400	CP04A1EE103K	CPC4A1KE103K	.235 x 3/4	CP05A1EE103K	CP05A1KE103K	.298 x 1 1/16
	600	CP04A1EF103K	CPC4A1KF103K	.312 x 7/8	CP05A1EF103K	CP05A1KF103K	.375 x 1 1/16
.015	200	CP04A1EC153K	CP04A1KC153K	.235 x 3/4	CP05A1EC153K	CP05A1KC153K	.298 x 1 1/16
	600	CP04A1EF153K	CP04A1KF153K	.312 x 7/8	CP05A1EF153K	CP05A1KF153K	.375 x 1 1/16
.022	200	CP04A1EC223K	CP04A1KC223K	.235 x 3/4	CP05A1EC223K	CP05A1KC223K	.298 x 1 1/16
	600	CP04A1EF223K	CP04A1KF223K	.312 x 7/8	CP05A1EF223K	CP05A1KF223K	.375 x 1 1/16
.033	100	CP04A1EB333K	CP04A1KB333K	.235 x 3/4	CP05A1EB333K	CP05A1KB333K	.298 x 1 1/16
	400	CP04A1EE333K	CP04A1KE333K	.312 x 7/8	CP05A1EE333K	CP05A1KE333K	.375 x 1 1/16
	600	CP04A1EF333K	CP04A1KF333K	.400 x 7/8	CP05A1EF333K	CP05A1KF333K	.463 x 1 1/16
.047	200	CP04A1EC473K	CP04A1KC473K	.312 x 7/8	CP05A1EC473K	CP05A1KC473K	.375 x 1 1/16
	400	CP04A1EE473K	CP04A1KE473K	.400 x 7/8	CP05A1EE473K	CP05A1KE473K	.463 x 1 1/16
	600	CP04A1EF473K	CP04A1KF473K	.400 x 1 1/8	CP05A1EF473K	CP05A1KF473K	.463 x 1 1/16
.068	200	CP04A1EC683K	CP04A1KC683K	.312 x 7/8	CP05A1EC683K	CP05A1KC683K	.375 x 1 1/16
	400	CP04A1EE683K	CP04A1KE683K	.400 x 1 1/8	CP05A1EE683K	CP05A1KE683K	.463 x 1 1/16
	600	CP04A1EF683K	CP04A1KF683K	.400 x 1 3/8	CP05A1EF683K	CP05A1KF683K	.463 x 1 1/16
.1	100	CP04A1EB104K	CP04A1KB104K	.312 x 7/8	CP05A1EB104K	CP05A1KB104K	.375 x 1 1/16
	200	CP04A1EC104K	CP04A1KC104K	.400 x 7/8	CP05A1EC104K	CP05A1KC104K	.463 x 1 1/16
	400	CP04A1EE104K	CP04A1KE104K	.400 x 1 1/8	CP05A1EE104K	CP05A1KE104K	.463 x 1 1/16
	600	CP04A1EF104K	CP04A1KF104K	.562 x 1 1/8	CP05A1EF104K	CP05A1KF104K	.625 x 1 1/16
.15	100	CP04A1EB154K	CP04A1KB154K	.400 x 7/8	CP05A1EB154K	CP05A1KB154K	.463 x 1 1/16
	200	CP04A1EC154K	CP04A1KC154K	.400 x 1 1/8	CP05A1EC154K	CP05A1KC154K	.463 x 1 1/16
	400	CP04A1EE154K	CP04A1KE154K	.562 x 1 1/8	CP05A1EE154K	CP05A1KE154K	.625 x 1 1/16
	600	CP04A1EF154K	CP04A1KF154K	.562 x 1 3/8	CP05A1EF154K	CP05A1KF154K	.625 x 1 1/16
.22	100	CP04A1EB224K	CP04A1KB224K	.400 x 1 1/8	CP05A1EB224K	CP05A1KB224K	.463 x 1 1/16
	200	CP04A1EC224K	CP04A1KC224K	.400 x 1 1/8	CP05A1EC224K	CP05A1KC224K	.463 x 1 1/16
	400	CP04A1EE224K	CP04A1KE224K	.562 x 1 1/8	CP05A1EE224K	CP05A1KE224K	.625 x 1 1/16
	600	CP04A1EF224K	CP04A1KF224K	.562 x 1 3/8	CP05A1EF224K	CP05A1KF224K	.625 x 1 1/16
.33	100	CP04A1EB334K	CP04A1KB334K	.400 x 1 1/8	CP05A1EB334K	CP05A1KB334K	.463 x 1 1/16
	200	CP04A1EC334K	CP04A1KC334K	.562 x 1 1/8	CP05A1EC334K	CP05A1KC334K	.625 x 1 1/16
	400	CP04A1EE334K	CP04A1KE334K	.562 x 1 1/8	CP05A1EE334K	CP05A1KE334K	.625 x 1 1/16
	600	CP04A1EF334K	CP04A1KF334K	.670 x 1 1/8	CP05A1EF334K	CP05A1KF334K	.733 x 1 1/16
.47	100	CP04A1EB474K	CP04A1KB474K	.562 x 1 1/8	CP05A1EB474K	CP05A1KB474K	.625 x 1 1/16
	200	CP04A1EC474K	CP04A1KC474K	.562 x 1 1/8	CP05A1EC474K	CP05A1KC474K	.625 x 1 1/16
	400	CP04A1EE474K	CP04A1KE474K	.670 x 1 1/8	CP05A1EE474K	CP05A1KE474K	.733 x 1 1/16
	600	CP04A1EF474K	CP04A1KF474K	.750 x 2 1/8	CP05A1EF474K	CP05A1KF474K	.813 x 2 1/16
.68	100	CP04A1EB684K	CP04A1KB684K	.562 x 1 1/8	CP05A1EB684K	CP05A1KB684K	.625 x 1 1/16
	200	CP04A1EC684K	CP04A1KC684K	.562 x 1 1/8	CP05A1EC684K	CP05A1KC684K	.625 x 1 1/16
	400	CP04A1EE684K	CP04A1KE684K	.750 x 2 1/8	CP05A1EE684K	CP05A1KE684K	.813 x 2 1/16
	600	CP04A1EF684K	CP04A1KF684K	1.0 x 1 1/8	CP05A1EF684K	CP05A1KF684K	1.063 x 1 1/16
1.0	100	CP04A1EB105K	CP04A1KB105K	.562 x 1 1/8	CP05A1EB105K	CP05A1KB105K	.625 x 1 1/16
	200	CP04A1EC105K	CP04A1KC105K	.670 x 1 1/8	CP05A1EC105K	CP05A1KC105K	.733 x 1 1/16
	400	CP04A1EE105K	CP04A1KE105K	1.0 x 1 1/8	CP05A1EE105K	CP05A1KE105K	1.063 x 1 1/16

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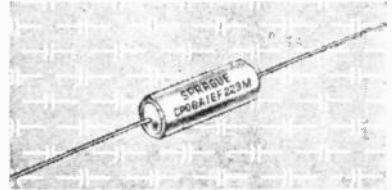
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The MASTER—24th Edition

SPRAGUE CAPACITORS

MIL-C-25A CAPACITORS — TYPES CP08 and CP09

- Vitamin Q impregnation assures performance above and beyond MIL-C-25A requirements.
- Positive hermetic closure of the metal cases with glass-to-metal solder-seal terminals.
- Available in Characteristic E (−55°C to +85°C) or Characteristic K (−55°C to +125°C).
- Type CP08 has plain metal case— Type CP09 has insulating sleeve.
- Extended foil (so-called non-inductive section) construction.
- Listed below are popular insulated section (ungrounded case) capacitors. Consult your Sprague Industrial Distributor for information on grounded case units.

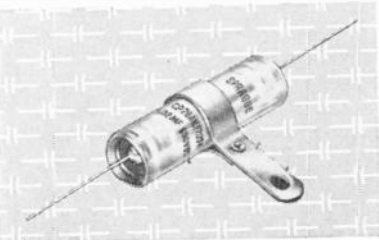


NOTE: The capacitors listed in this table have a capacitance tolerance of $\pm 10\%$. For $\pm 20\%$ units, change the last letter in the catalog number from K to M.

μF	WVDC	TYPE CP08 Plain Metal Case			TYPE CP09 Metal Case with Insulating Sleeve		
		Char. E −55°C to +85°C	Char. K −55°C to +125°C	Size D. x L.	Char. E −55°C to +85°C	Char. K −55°C to +125°C	Size D. x L.
		CP08A1EF102K	CP08A1KF102K	.235 x 3/4	CP09A1EF102K	CP09A1KF102K	.298 x 13/16
.0015	600	CP08A1EF152K	CP08A1KF152K	.235 x 3/4	CP09A1EF152K	CP09A1KF152K	.298 x 13/16
.0022	600	CP08A1EF222K	CP08A1KF222K	.235 x 3/4	CP09A1EF222K	CP09A1KF222K	.298 x 13/16
.0033	400	CP08A1EE332K	CP08A1KE332K	.235 x 3/4	CP09A1EE332K	CP09A1KE332K	.298 x 13/16
	600	CP08A1EF332K	CP08A1KF332K	.312 x 7/8	CP09A1EF332K	CP09A1KF332K	.375 x 13/16
.0047	200	CP08A1EC472K	CP08A1KC472K	.235 x 3/4	CP09A1EC472K	CP09A1KC472K	.298 x 13/16
	600	CP08A1EF472K	CP08A1KF472K	.312 x 7/8	CP09A1EF472K	CP09A1KF472K	.375 x 13/16
.0068	200	CP08A1EC682K	CP08A1KC682K	.235 x 3/4	CP09A1EC682K	CP09A1KC682K	.298 x 13/16
	600	CP08A1EF682K	CP08A1KF682K	.312 x 7/8	CP09A1EF682K	CP09A1KF682K	.375 x 13/16
.01	100	CP08A1EB103K	CP08A1KB103K	.235 x 3/4	CP09A1EB103K	CP09A1KB103K	.298 x 13/16
	600	CP08A1EF103K	CP08A1KF103K	.312 x 7/8	CP09A1EF103K	CP09A1KF103K	.375 x 13/16
.015	100	CP08A1EB153K	CP08A1KB153K	.235 x 3/4	CP09A1EB153K	CP09A1KB153K	.298 x 13/16
	400	CP08A1EE153K	CP08A1KE153K	.312 x 7/8	CP09A1EE153K	CP09A1KE153K	.375 x 13/16
	600	CP08A1EF153K	CP08A1KF153K	.400 x 7/8	CP09A1EF153K	CP09A1KF153K	.463 x 13/16
.022	200	CP08A1EC223K	CP08A1KC223K	.312 x 7/8	CP09A1EC223K	CP09A1KC223K	.375 x 13/16
	600	CP08A1EF223K	CP08A1KF223K	.400 x 7/8	CP09A1EF223K	CP09A1KF223K	.463 x 13/16
.033	200	CP08A1EC333K	CP08A1KC333K	.312 x 7/8	CP09A1EC333K	CP09A1KC333K	.375 x 13/16
	400	CP08A1EE333K	CP08A1KE333K	.400 x 7/8	CP09A1EE333K	CP09A1KE333K	.463 x 13/16
	600	CP08A1EF333K	CP08A1KF333K	.400 x 1 1/8	CP09A1EF333K	CP09A1KF333K	.463 x 13/16
.047	100	CP08A1EB473K	CP08A1KB473K	.312 x 7/8	CP09A1EB473K	CP09A1KB473K	.375 x 13/16
	200	CP08A1EC473K	CP08A1KC473K	.400 x 7/8	CP09A1EC473K	CP09A1KC473K	.463 x 13/16
	400	CP08A1EE473K	CP08A1KE473K	.400 x 1 1/8	CP09A1EE473K	CP09A1KE473K	.463 x 13/16
	600	CP08A1EF473K	CP08A1KF473K	.400 x 1 1/8	CP09A1EF473K	CP09A1KF473K	.463 x 1 1/8
.068	200	CP08A1EC683K	CP08A1KC683K	.400 x 7/8	CP09A1EC683K	CP09A1KC683K	.463 x 13/16
	400	CP08A1EE683K	CP08A1KE683K	.400 x 1 1/8	CP09A1EE683K	CP09A1KE683K	.463 x 1 1/8
	600	CP08A1EF683K	CP08A1KF683K	.562 x 1 1/8	CP09A1EF683K	CP09A1KF683K	.625 x 1 1/8
.1	100	CP08A1EB104K	CP08A1KB104K	.400 x 7/8	CP09A1EB104K	CP09A1KB104K	.463 x 13/16
	200	CP08A1EC104K	CP08A1KC104K	.400 x 1 1/8	CP09A1EC104K	CP09A1KC104K	.463 x 1 1/8
	400	CP08A1EE104K	CP08A1KE104K	.562 x 1 1/8	CP09A1EE104K	CP09A1KE104K	.625 x 1 1/8
	600	CP08A1EF104K	CP08A1KF104K	.562 x 1 1/8	CP09A1EF104K	CP09A1KF104K	.625 x 1 1/8
.15	100	CP08A1EB154K	CP08A1KB154K	.400 x 1 1/8	CP09A1EB154K	CP09A1KB154K	.463 x 1 1/8
	200	CP08A1EC154K	CP08A1KC154K	.400 x 1 1/8	CP09A1EC154K	CP09A1KC154K	.463 x 1 1/8
	400	CP08A1EE154K	CP08A1KE154K	.562 x 1 1/8	CP09A1EE154K	CP09A1KE154K	.625 x 1 1/8
	600	CP08A1EF154K	CP08A1KF154K	.562 x 1 1/8	CP09A1EF154K	CP09A1KF154K	.625 x 1 1/8
.22	100	CP08A1EB224K	CP08A1KB224K	.400 x 1 1/8	CP09A1EB224K	CP09A1KB224K	.463 x 1 1/8
	200	CP08A1EC224K	CP08A1KC224K	.562 x 1 1/8	CP09A1EC224K	CP09A1KC224K	.625 x 1 1/8
	400	CP08A1EE224K	CP08A1KE224K	.562 x 1 1/8	CP09A1EE224K	CP09A1KE224K	.625 x 1 1/8
	600	CP08A1EF224K	CP08A1KF224K	.670 x 1 1/8	CP09A1EF224K	CP09A1KF224K	.733 x 1 1/8
.33	100	CP08A1EB334K	CP08A1KB334K	.562 x 1 1/8	CP09A1EB334K	CP09A1KB334K	.625 x 1 1/8
	200	CP08A1EC334K	CP08A1KC334K	.562 x 1 1/8	CP09A1EC334K	CP09A1KC334K	.625 x 1 1/8
	400	CP08A1EE334K	CP08A1KE334K	.670 x 1 1/8	CP09A1EE334K	CP09A1KE334K	.733 x 1 1/8
	600	CP08A1EF334K	CP08A1KF334K	.750 x 2 1/8	CP09A1EF334K	CP09A1KF334K	.813 x 2 1/8
.47	100	CP08A1EB474K	CP08A1KB474K	.562 x 1 1/8	CP09A1EB474K	CP09A1KB474K	.625 x 1 1/8
	200	CP08A1EC474K	CP08A1KC474K	.562 x 1 1/8	CP09A1EC474K	CP09A1KC474K	.625 x 1 1/8
	400	CP08A1EE474K	CP08A1KE474K	.750 x 2 1/8	CP09A1EE474K	CP09A1KE474K	.813 x 2 1/8
	600	CP08A1EF474K	CP08A1KF474K	.750 x 2 1/8	CP09A1EF474K	CP09A1KF474K	.813 x 2 1/8
.68	100	CP08A1EB684K	CP08A1KB684K	.562 x 1 1/8	CP09A1EB684K	CP09A1KB684K	.625 x 1 1/8
	200	CP08A1EC684K	CP08A1KC684K	.670 x 1 1/8	CP09A1EC684K	CP09A1KC684K	.733 x 1 1/8
1.0	100	CP08A1EB105K	CP08A1KB105K	.670 x 1 1/8	CP09A1EB105K	CP09A1KB105K	.733 x 1 1/8
	200	CP08A1EC105K	CP08A1KC105K	.750 x 2 1/8	CP09A1EC105K	CP09A1KC105K	.813 x 2 1/8

SPRAGUE CAPACITORS

MIL-C-25A CAPACITORS — TYPES CP26 and CP28



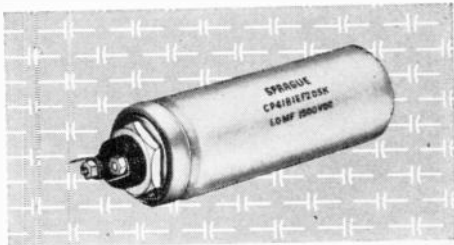
- Impregnated with specially processed mineral oil to exceed performance requirements of Spec. MIL-C-25A
- Type CP26 has outer insulating sleeve— Type CP28 has insulating sleeve plus radial mounting bracket
- Hermetically sealed for protection against leakage and contamination
- Meet temperature characteristic E (−55°C to +85°C operation)
- Capacitor sections are insulated from metal cases

NOTE: Capacitors listed below have a capacitance tolerance of ±10%. For ±20% units, change last letter in catalog number from K to M.

TYPE CP26 (without Mounting Bracket)				TYPE CP28 (Radial Mounting Bracket)			
μF	Volts	Diam. x Length	Cat. No.	μF	Volts	Diam. x Length	Cat. No.
.006	600	1/2 x 1 1/8	CP26A1EF602K	.1	600	1 1/8 x 2 1/8	CP28A1EF104K
.01	600	1/2 x 1 1/8	CP26A1EF103K	.25	600	1 1/8 x 2 1/8	CP28A1EF254K
.02	600	1/2 x 1 1/8	CP26A1EF203K	.5	600	1 1/8 x 2 1/8	CP28A1EF504K
.05	600	1 1/8 x 1 1/8	CP26A1EF503K				
.5	200	1 1/8 x 2 1/8	CP26A1EC504K				

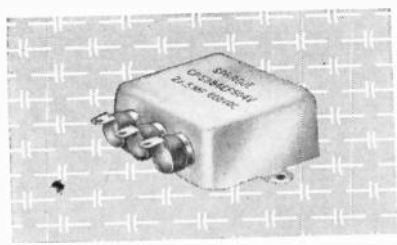
MIL-C-25A CAPACITORS — TYPES CP40 and CP41

- Designed and manufactured for service life and performance characteristics exceeding MIL requirements
- Type CP40 has screw and nut connection on positive terminal, can is negative—Type CP41 has two solder lug terminals, with capacitor section insulated from metal case
- Impregnated with specially processed mineral oil for characteristic E operation—Will withstand wide temperature variations (−55°C to +85°C)
- Hermetically sealed in metal cases, with threaded screw necks for mounting purposes



NOTE: Capacitors listed below have a capacitance tolerance of ±10%. For ±20% units, change last letter in catalog number from K to M.

TYPE CP40 (One Terminal)				TYPE CP41 (Two Terminals)			
μF	Volts	Diam. x Length	Cat. No.	μF	Volts	Diam. x Length	Cat. No.
2.0	600	1 1/2 x 3 3/8	CP40C2EF205K	2.0	600	1 1/2 x 3 3/8	CP41B1EF205K
4.0	600	1 1/2 x 5 1/4	CP40C2EF405K	4.0	600	1 1/2 x 5 1/4	CP41B1EF405K



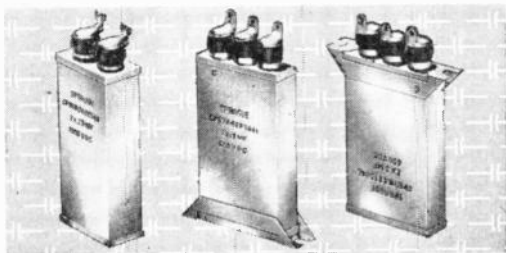
MIL-C-25A CAPACITORS—TYPE CP53

- Impregnated with specially processed mineral oil to exceed performance requirements of MIL-C-25A
- Hermetically sealed, with silicone rubber compression terminals
- −55°C to +85°C operation
- Drawn metal cases have mounting flanges as integral part of containers
- Single and dual capacitance units have insulated sections—triple capacitance units have grounded cases

NOTE: Capacitors listed below have capacitance tolerances of +20%, −10%(V) or ±10%(K). For ±20% units, change last letter in catalog number from K to M or V to M.

μF	Volts	L. x W. x H.	Cat. No.	μF	Volts	L. x W. x H.	Cat. No.
Single Capacitance				Dual Capacitance			
.05	600	1 1/8 x 1 x 3/4	CP53B1EF503K	.05+ .05	600	1 1/8 x 1 x 3/4	CP53B4EF503V
.05	1000	1 1/8 x 1 x 3/4	CP53B1EG503K	.05+ .05	1000	1 1/8 x 1 x 3/4	CP53B4EG503V
.1	600	1 1/8 x 1 x 3/4	CP53B1EF104K	.1 + .1	600	1 1/8 x 1 x 3/4	CP53B4EF104V
.1	1000	1 1/8 x 1 x 3/4	CP53B1EG104K	.1 + .1	1000	1 1/8 x 1 x 3/4	CP53B4EG104V
.25	600	1 1/8 x 1 x 3/4	CP53B1EF254K	.25+ .25	600	1 1/8 x 1 x 1	CP53B4EF254V
.25	1000	1 1/8 x 1 x 3/4	CP53B1EG254K	.25+ .25	1000	2 x 1 3/4 x 7/8	CP53B4EG254V
.5	400	1 1/8 x 1 x 7/8	CP53B1EE504K	.5 + .5	600	2 x 1 3/4 x 1	CP53B4EF504V
.5	600	1 1/8 x 1 x 1	CP53B1EF504K	.5 + .5	1000	2 x 2 x 1 1/8	CP53B4EG504V
.5	1000	2 x 1 3/4 x 7/8	CP53B1EG504K	1.0 + 1.0	600	2 x 2 x 1 1/8	CP53B4EF105V
1.0	600	2 x 1 3/4 x 1	CP53B1EF105K	Triple Capacitance			
1.0	1000	2 x 2 x 1 1/8	CP53B1EG105K	.05+.05+.05	600	1 1/8 x 1 x 3/4	CP53B5EF503V
2.0	100	2 x 1 3/4 x 7/8	CP53B1EB205K	.1 + .1 + .1	600	1 1/8 x 1 x 3/4	CP53B5EF104V
2.0	200	2 x 2 x 1	CP53B1EC205K	.5 + .5 + .5	600	2 x 2 x 1 1/8	CP53B5EF504V
2.0	600	2 x 2 x 1 1/8	CP53B1EF205K				
2.0	100	2 x 2 x 1 1/8	CP53B1EB405K				

SPRAGUE CAPACITORS



CP61, CP67, CP69, CP91 MIL-C-25A CAPACITORS

- Mineral Oil Impregnated for Minimum Capacitance Change with Temperature
- Hermetically Sealed in Drawn Metal Cases
- Have Silicone Rubber Compression Terminals for Positive Prevention Against Entrance of Moisture or Leakage of Impregnant
- Designed and Manufactured for Service Life Beyond Specification Requirements
- Units Listed are Most Popular Ratings. Complete Military Line Available from Sprague
- CP61 and CP91 require separate mounting brackets. CP67 and CP69 have integral channel brackets

NOTE: These units have capacitance tolerances of $\pm 10\%$ (K) or $\pm 20, -10\%$ (V). For $\pm 20\%$ units, change the last letter in the catalog number from K to M or V to M.

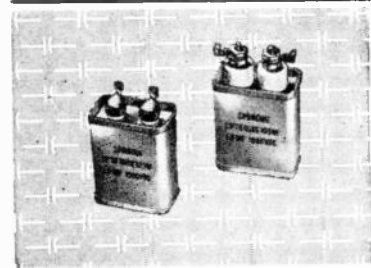
TYPE CP 61				
CAP. μF	VOLTS DC	CAT. NO.	SIZE	Mounting
				Brackets* CAT. NO.
.05	600	CP61B1EF503K	$1\frac{1}{8} \times 1\frac{1}{8} \times 1\frac{1}{8}$	CP06-FA1
.1	600	CP61B1EF104K	$1\frac{1}{8} \times 1\frac{1}{8} \times 1\frac{3}{8}$	CP06-FA2
.25	600	CP61B1EF254K	$1\frac{1}{8} \times 1\frac{1}{8} \times 1\frac{3}{8}$	CP06-FA3
1.0	600	CP61B1EF504K	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{1}{2}$	CP06-FA5
.1 + .1	600	CP61B6EF104V	$1\frac{1}{8} \times 1\frac{1}{8} \times 1\frac{3}{8}$	CP06-FA3
.25 + .25	600	CP61B6EF254V	$1\frac{1}{8} \times 1\frac{1}{8} \times 2$	CP06-FA4
.5 + .5	600	CP61B6EF504V	$1\frac{1}{8} \times 1\frac{1}{8} \times 2\frac{3}{4}$	CP06-FA6

TYPE CP 91				
CAP. μF	VOLTS DC	CAT. NO.	SIZE	Mounting
				Brackets* CAT. NO.
.05	600	CP91B1EF503K	$1\frac{1}{8} \times \frac{5}{8} \times 1\frac{1}{8}$	CP091-FB1
.1	600	CP91B1EF104K	$1\frac{1}{8} \times \frac{5}{8} \times 1\frac{3}{8}$	CP091-FB2
.25	600	CP91B1EF254K	$1\frac{1}{8} \times \frac{5}{8} \times 1\frac{3}{8}$	CP091-FB3
.5	600	CP91B1EF504K	$1\frac{1}{8} \times \frac{5}{8} \times 2$	CP091-FB4
1.0	600	CP91B1EF105K	$1\frac{1}{8} \times \frac{5}{8} \times 2\frac{3}{4}$	CP091-FB6
.1 + .1	600	CP91B6EF104V	$1\frac{1}{8} \times \frac{5}{8} \times 1\frac{3}{8}$	CP091-FB3
.25 + .25	600	CP91B6EF254V	$1\frac{1}{8} \times \frac{5}{8} \times 2$	CP091-FB4
.5 + .5	600	CP91B6EF504V	$1\frac{1}{8} \times \frac{5}{8} \times 2\frac{3}{4}$	CP091-FB6

TYPE CP 67 Terminals opposite channel bracket				
CAP. μF	VOLTS DC	CAT. NO.	SIZE	Mounting
				Brackets
.1	600	CP67B1EF104K	$1\frac{3}{4} \times \frac{4}{16} \times 1\frac{1}{2}$	Integral Channel Brackets
.25	600	CP67B1EF254K	$1\frac{3}{4} \times \frac{4}{16} \times 1\frac{1}{2}$	
.5	600	CP67B1EF504K	$1\frac{3}{4} \times \frac{4}{16} \times 2$	
1.0	600	CP67B1EF105K	$1\frac{3}{4} \times \frac{4}{16} \times 2\frac{3}{4}$	

TYPE CP 69 Terminals on same end as channel bracket				
CAP. μF	VOLTS DC	CAT. NO.	SIZE	Mounting
				Brackets
.05	600	CP69B1EF503K	$1\frac{3}{4} \times \frac{4}{16} \times 1\frac{1}{8}$	Integral Channel Brackets
.1	600	CP69B1EF104K	$1\frac{3}{4} \times \frac{4}{16} \times 1\frac{1}{8}$	
.25	600	CP69B1EF254K	$1\frac{3}{4} \times \frac{4}{16} \times 1\frac{1}{2}$	
.5	600	CP69B1EF504K	$1\frac{3}{4} \times \frac{4}{16} \times 2$	
1.0	600	CP69B1EF105K	$1\frac{3}{4} \times \frac{4}{16} \times 2\frac{3}{4}$	
1.0	600	CP69B1EF105K	$1\frac{3}{4} \times \frac{4}{16} \times 2\frac{3}{4}$	

*Footed Brackets are listed; for spade type change F in catalog No. to S



MIL-C-25A CAPACITORS—TYPE CP70

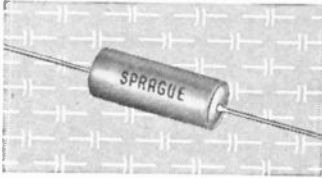
- Ruggedly Constructed for Exacting Heavy-Duty Applications
- Long Life and Reliable Service under High Ambient Temperatures
- Terminals have Ceramic Pillar Insulators (E) or Rubber Compression Seals (B)
- Impregnated with a Specially Processed Mineral Oil to Withstand Severe Operating Conditions
- Char. F Units Recommended primarily for ground equipment where no low temperatures are encountered
- Units Listed are Most Popular Ratings. Complete Military Line Available from Sprague

NOTE: These units have a capacitance tolerance of $\pm 10\%$. For $\pm 20\%$ tolerance, change the last letter in the catalog number from K to M.

CAP. μF	Volts DC	Char. E (E Term.)			Char. F (B Term.)			Char. E (B Term.)		
		Cat. No.	W x T x H		Cat. No.	W x T x H		Cat. No.	W x T x H	
.1	1000	CP70E1EG104K	$1\frac{1}{2} \times 1\frac{1}{8} \times 1\frac{3}{8}$							
.1	2000	CP70E1EJ104K	$2\frac{1}{2} \times 1\frac{3}{8} \times 2\frac{1}{2}$							
.25	1000	CP70E1EG254K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$							
.25	2000	CP70E1EJ254K	$2\frac{1}{2} \times 1\frac{3}{8} \times 2\frac{1}{2}$							
.5	600	CP70E1EF504K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$					CP70B1EG504K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$	
.5	1000	CP70E1EG504K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$							
.5	1500	CP70E1EH504K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$							
.5	2000	CP70E1EJ504K	$2\frac{1}{2} \times 1\frac{3}{8} \times 2\frac{1}{2}$							
.5	2500	CP70E1EK504K	$2\frac{1}{2} \times 1\frac{3}{8} \times 3\frac{1}{8}$							
1.0	600	CP70E1EF105K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$					CP70B1EF105K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$	
1.0	1000	CP70E1EG105K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$					CP70B1EG105K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$	
1.0	1500	CP70E1EH105K	$1\frac{1}{2} \times 1\frac{1}{8} \times 4\frac{1}{8}$							
1.0	2000	CP70E1EJ105K	$2\frac{1}{2} \times 1\frac{3}{8} \times 4\frac{1}{8}$							
1.0	2500	CP70E1EK105K	$3\frac{1}{4} \times 1\frac{3}{8} \times 3\frac{1}{8}$							
2.0	600	CP70E1EF205K	$1\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{1}{4}$	CP70B1FF205K	$1\frac{1}{2} \times 1\frac{1}{8} \times 2\frac{1}{4}$		CP70B1EF205K	$1\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{1}{4}$		
2.0	1000	CP70E1EG205K	$1\frac{1}{2} \times 1\frac{1}{8} \times 4\frac{1}{8}$	CP70B1FG205K	$1\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{1}{4}$		CP70B1EG205K	$1\frac{1}{2} \times 1\frac{1}{8} \times 4\frac{1}{8}$		
2.0	1500	CP70E1EH205K	$2\frac{1}{2} \times 1\frac{3}{8} \times 4\frac{1}{8}$				CP70B1EH205K	$2\frac{1}{2} \times 1\frac{3}{8} \times 4\frac{1}{8}$		
2.0	2000	CP70E1EJ205K	$3\frac{1}{4} \times 1\frac{3}{8} \times 4\frac{1}{8}$							
2.0	2500	CP70E1EK205K	$3\frac{1}{4} \times 2\frac{1}{8} \times 4\frac{1}{8}$							
4.0	600	CP70E1EF405K	$2\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{1}{4}$	CP70B1FF405K	$2\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{1}{4}$		CP70B1EF405K	$2\frac{1}{2} \times 1\frac{1}{8} \times 3\frac{1}{4}$		
4.0	1000	CP70E1EG405K	$3\frac{1}{4} \times 1\frac{1}{8} \times 3\frac{1}{4}$	CP70B1FG405K	$2\frac{1}{2} \times 1\frac{1}{8} \times 4\frac{1}{8}$		CP70B1EG405K	$3\frac{1}{4} \times 1\frac{1}{8} \times 3\frac{1}{4}$		
4.0	1500	CP70E1EH405K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$				CP70B1EH405K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$		
4.0	2000	CP70E1EJ405K	$3\frac{1}{4} \times 2\frac{1}{8} \times 5\frac{1}{8}$							
4.0	2500	CP70E1EK405K	$4\frac{1}{8} \times 3\frac{1}{8} \times 4\frac{1}{8}$							
6.0	600	CP70E1EF605K	$3\frac{1}{4} \times 1\frac{1}{8} \times 3\frac{1}{4}$	CP70B1FF605K	$2\frac{1}{2} \times 1\frac{1}{8} \times 4\frac{1}{8}$		CP70B1EF605K	$3\frac{1}{4} \times 1\frac{1}{8} \times 3\frac{1}{4}$		
6.0	1000	CP70E1EG605K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4$	CP70B1FG605K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$		CP70B1EG605K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4$		
6.0	1500	CP70E1EH605K	$3\frac{1}{4} \times 2\frac{1}{8} \times 4\frac{1}{8}$				CP70B1EH605K	$3\frac{1}{4} \times 2\frac{1}{8} \times 4\frac{1}{8}$		
6.0	600	CP70E1EF805K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$	CP70B1FF805K	$3\frac{1}{4} \times 1\frac{1}{8} \times 3\frac{1}{4}$		CP70B1EF805K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$		
8.0	600	CP70E1EH805K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$	CP70B1FG805K	$3\frac{1}{4} \times 1\frac{1}{8} \times 3\frac{1}{4}$		CP70B1EH805K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$		
8.0	1000	CP70E1EJ805K	$3\frac{1}{4} \times 2\frac{1}{8} \times 5\frac{1}{8}$							
8.0	1500	CP70E1EK805K	$3\frac{1}{4} \times 2\frac{1}{8} \times 5\frac{1}{8}$							
10.0	600	CP70E1EF106K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4$	CP70B1FF106K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$		CP70B1EF106K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4$		
10.0	1000	CP70E1EG106K	$3\frac{1}{4} \times 2\frac{1}{8} \times 4\frac{1}{8}$	CP70B1FG106K	$3\frac{1}{4} \times 1\frac{1}{8} \times 4\frac{1}{8}$		CP70B1EG106K	$3\frac{1}{4} \times 2\frac{1}{8} \times 4\frac{1}{8}$		
10.0	1500	CP70E1EH106K	$3\frac{1}{4} \times 3\frac{1}{8} \times 5\frac{1}{8}$				CP70B1EH106K	$3\frac{1}{4} \times 3\frac{1}{8} \times 5\frac{1}{8}$		
12.0	1000	CP70E1EG126K	$3\frac{1}{4} \times 2\frac{1}{8} \times 5\frac{1}{8}$				CP70B1EG126K	$3\frac{1}{4} \times 2\frac{1}{8} \times 5\frac{1}{8}$		
15.0	1000	CP70E1EG156K	$3\frac{1}{4} \times 3\frac{1}{8} \times 4\frac{1}{8}$							

SPRAGUE CAPACITORS

118P DIFILM[®] METALLIZED CAPACITORS



- The best of their type which it is possible to produce in the present state of the art
- Rated for operation at 125°C WITHOUT VOLTAGE DERATING

- Unique dual dielectric—a combination of metallized paper and of polyester film, impregnated with special high-temperature mineral wax
- Subjected to stringent quality control during manufacture
- Higher insulation resistance than any other metallized paper capacitors—at 125°C, minimum product of insulation resistance and capacitance is 10 megohm-microfarads for 200 V units or 40 megohm-microfarads for 400 and 600 V units

- Capacitor sections are effectively of non-inductive construction, resulting in capacitors unmatched in performance quality by any other metallized capacitors
- Hermetically sealed, with glass-to-metal solder-seal terminals
- Have unusual self-healing characteristics, in the rare event of capacitor dielectric breakdown
- May be used at extremely low voltages where metallized paper construction has previously been unsatisfactory
- For complete performance characteristics, see Engineering Bulletin 2211A
- Capacitors listed below are ungrounded case (insulated section) units without outer insulating sleeves. For information on other styles consult your Sprague Industrial Distributor

μF	Diam. x Length	Catalog Number	
		±20% Tol.	±10% Tol.
200 WVDC			
.01	.235 x 3/4	118P10302S2	118P10392S2
.012	.235 x 3/4		118P12392S2
.015	.235 x 3/4	118P15302S2	118P15392S2
.018	.235 x 3/4		118P18392S2
.022	.235 x 3/4	118P22302S2	118P22392S2
.027	.235 x 3/4		118P27392S2
.033	.235 x 3/4	118P33302S2	118P33392S2
.039	.312 x 7/8		118P39392S2
.047	.312 x 7/8	118P47302S2	118P47392S2
.056	.312 x 7/8		118P56392S2
.068	.312 x 7/8	118P68302S2	118P68392S2
.082	.312 x 7/8		118P82392S2
.1	.312 x 7/8	118P10402S2	118P10492S2
.12	.312 x 1 1/8		118P12492S2
.15	.312 x 1 1/8	118P15402S2	118P15492S2
.18	.400 x 7/8		118P18492S2
.22	.400 x 7/8	118P22402S2	118P22492S2
.27	.400 x 1 1/8		118P27492S2
.33	.400 x 1 1/8	118P33402S2	118P33492S2
.39	.500 x 1 1/8		118P39492S2
.47	.500 x 1 1/8	118P47402S2	118P47492S2
.56	.500 x 1 1/8		118P56492S2
.68	.500 x 1 1/8	118P68402S2	118P68492S2
.82	.562 x 1 1/8		118P82492S2
1.0	.562 x 1 1/8	118P10502S2	118P10592S2
1.5	.562 x 1 1/8	118P15502S2	118P15592S2
2.0	.670 x 1 1/8	118P20502S2	118P20592S2
3.0	.670 x 1 1/8	118P30502S2	118P30592S2
4.0	.750 x 1 1/8	118P40502S2	118P40592S2
5.0	1.000 x 1 1/8	118P50502S2	118P50592S2
6.0	1.000 x 1 1/8	118P60502S2	118P60592S2
8.0	1.000 x 1 1/8	118P80502S2	118P80592S2
10.0	1.000 x 2 1/8	118P10602S2	118P10692S2
12.0	1.000 x 2 1/8	118P12602S2	118P12692S2

400 WVDC			
.01	.312 x 7/8	118P10304S2	118P10394S2
.012	.312 x 7/8		118P12394S2
.015	.312 x 7/8	118P15304S2	118P15394S2
.018	.312 x 7/8		118P18394S2
.022	.312 x 7/8	118P22304S2	118P22394S2
.027	.312 x 1 1/8		118P27394S2
.033	.312 x 1 1/8	118P33304S2	118P33394S2
.039	.400 x 1 1/8		118P39394S2
.047	.400 x 1 1/8	118P47304S2	118P47394S2
.056	.400 x 1 1/8		118P56394S2

μF	Diam. x Length	Catalog Number	
		±20% Tol.	±10% Tol.
.068	.400 x 1 1/8	118P68304S2	118P68394S2
.082	.500 x 1 1/8		118P82394S2
.1	.500 x 1 1/8	118P10404S2	118P10494S2
.12	.500 x 1 1/8		118P12494S2
.15	.500 x 1 1/8	118P15404S2	118P15494S2
.18	.562 x 1 1/8		118P18494S2
.22	.562 x 1 1/8	118P22404S2	118P22494S2
.27	.562 x 1 1/8		118P27494S2
.33	.562 x 1 1/8	118P33404S2	118P33494S2
.39	.670 x 1 1/8		118P39494S2
.47	.670 x 1 1/8	118P47404S2	118P47494S2
.56	.670 x 1 1/8		118P56494S2
.68	.670 x 1 1/8	118P68404S2	118P68494S2
.82	.750 x 1 1/8		118P82494S2
1.0	.750 x 1 1/8	118P10504S2	118P10594S2
1.5	1.000 x 1 1/8	118P15504S2	118P15594S2
2.0	1.000 x 1 1/8	118P20504S2	118P20594S2
3.0	1.000 x 2 1/8	118P30504S2	118P30594S2

600 WVDC			
.01	.312 x 7/8	118P10306S2	118P10396S2
.012	.312 x 7/8		118P12396S2
.015	.312 x 7/8	118P15306S2	118P15396S2
.018	.312 x 1 1/8		118P18396S2
.022	.312 x 1 1/8	118P22306S2	118P22396S2
.027	.312 x 1 1/8		118P27396S2
.033	.312 x 1 1/8	118P33306S2	118P33396S2
.039	.400 x 1 1/8		118P39396S2
.047	.400 x 1 1/8	118P47306S2	118P47396S2
.056	.400 x 1 1/8		118P56396S2
.068	.400 x 1 1/8	118P68306S2	118P68396S2
.082	.500 x 1 1/8		118P82396S2
.1	.500 x 1 1/8	118P10406S2	118P10496S2
.12	.562 x 1 1/8		118P12496S2
.15	.562 x 1 1/8	118P15406S2	118P15496S2
.18	.562 x 1 1/8		118P18496S2
.22	.562 x 1 1/8	118P22406S2	118P22496S2
.27	.562 x 1 1/8		118P27496S2
.33	.562 x 1 1/8	118P33406S2	118P33496S2
.39	.670 x 1 1/8		118P39496S2
.47	.670 x 1 1/8	118P47406S2	118P47496S2
.56	.670 x 1 1/8		118P56496S2
.68	.670 x 1 1/8	118P68406S2	118P68496S2
.82	1.000 x 1 1/8		118P82496S2
1.0	1.000 x 1 1/8	118P10506S2	118P10596S2
1.5	1.000 x 1 1/8	118P15506S2	118P15596S2
2.0	1.000 x 2 1/8	118P20506S2	118P20596S2
2.5	1.000 x 2 1/8	118P25506S2	118P25596S2

SPRAGUE CAPACITORS

121P METALLIZED PAPER CAPACITORS

- Designed to operate at 125°C WITHOUT VOLTAGE DERATING—extremely important in military and industrial equipment where higher temperatures are encountered
- Quality of these capacitors is surpassed only by Type 118P units described on opposite page
- High insulation resistance—at 85°C, minimum product of insulation resistance and capacitance is 20 megohm-microfarads. At 125°C, minimum product is 1.0 megohm-microfarads

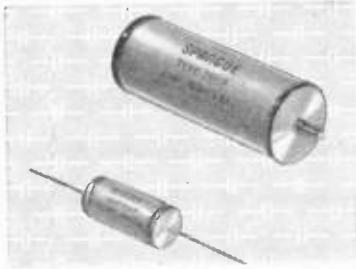
- Hermetically sealed with glass-to-metal solder-seal terminals—capacitor cases are of corrosion resistant materials—similar in appearance to Type 118P
- May be operated at low voltages, unlike many other metallized capacitors
- For complete performance data, see Engineering Bulletin 2210
- Capacitors listed below are ungrounded case (insulated section) units without outer insulating sleeves. For information on other styles consult your Sprague Industrial Distributor

μF	Diam. x Length	Catalog Number	
		±20% Tol.	±10% Tol.
150 WVDC			
1.5	.562 x 1 1/8	121P15501R5S2	121P15591R5S2
2.0	.562 x 1 3/8	121P20501R5S2	121P20591R5S2
2.5	.562 x 1 3/8	121P25501R5S2	121P25591R5S2
3.0	.670 x 1 3/8	121P30501R5S2	121P30591R5S2
3.5	.670 x 1 3/8	121P35501R5S2	121P35591R5S2
4.0	.670 x 1 3/8	121P40501R5S2	121P40591R5S2
5.0	.670 x 1 3/8	121P50501R5S2	121P50591R5S2
6.0	.750 x 1 3/8	121P60501R5S2	121P60591R5S2
8.0	.750 x 2 3/8	121P80501R5S2	121P80591R5S2
10	.750 x 2 3/8	121P10601R5S2	121P10691R5S2
12	1.000 x 1 3/8	121P12601R5S2	121P12691R5S2
14	1.000 x 2 3/8	121P14601R5S2	121P14691R5S2
16	1.000 x 2 3/8	121P16601R5S2	121P16691R5S2
18	1.000 x 2 3/8	121P18601R5S2	121P18691R5S2
200 WVDC			
.047	.235 x 3/8	121P47302S2	121P47392S2
.056	.312 x 3/8		121P56392S2
.068	.312 x 3/8	121P68302S2	121P68392S2
.082	.312 x 3/8		121P82392S2
.1	.312 x 3/8	121P10402S2	121P10492S2
.12	.312 x 3/8		121P12492S2
.15	.312 x 3/8	121P15402S2	121P15492S2
.18	.312 x 1 1/8		121P18492S2
.22	.312 x 1 1/8	121P22402S2	121P22492S2
.27	.400 x 1 1/8		121P27492S2
.33	.400 x 1 1/8	121P33402S2	121P33492S2
.39	.400 x 1 1/8		121P39492S2
.47	.400 x 1 1/8	121P47402S2	121P47492S2
.56	.500 x 1 1/8		121P56492S2
.68	.500 x 1 1/8	121P68402S2	121P68492S2
.82	.562 x 1 1/8		121P82492S2
1.0	.562 x 1 1/8	121P10502S2	121P10592S2
1.5	.562 x 1 3/8	121P15502S2	121P15592S2
2.0	.562 x 1 3/8	121P20502S2	121P20592S2
2.5	.670 x 1 3/8	121P25502S2	121P25592S2
3.0	.670 x 1 3/8	121P30502S2	121P30592S2
3.5	.750 x 1 3/8	121P35502S2	121P35592S2
4.0	.750 x 1 3/8	121P40502S2	121P40592S2
5.0	.750 x 2 3/8	121P50502S2	121P50592S2
6.0	.750 x 2 3/8	121P60502S2	121P60592S2
8.0	1.000 x 1 3/8	121P80502S2	121P80592S2
10	1.000 x 2 3/8	121P10602S2	121P10692S2
12	1.000 x 2 3/8	121P12602S2	121P12692S2
400 WVDC			
.01	.235 x 3/8	121P10304S2	121P10394S2
.012	.312 x 3/8		121P12394S2
.015	.312 x 3/8	121P15304S2	121P15394S2
.018	.312 x 3/8		121P18394S2
.022	.312 x 3/8	121P22304S2	121P22394S2
.027	.312 x 3/8		121P27394S2
.033	.312 x 3/8	121P33304S2	121P33394S2
.039	.312 x 1 1/8		121P39394S2
.047	.312 x 1 1/8	121P47304S2	121P47394S2
.056	.312 x 1 1/8		121P56394S2
.068	.312 x 1 1/8	121P68304S2	121P68394S2
.082	.400 x 1 1/8		121P82394S2

μF	Diam. x Length	Catalog Number	
		±20% Tol.	±10% Tol.
.1	.400 x 1 1/8	121P10404S2	121P10494S2
.12	.400 x 1 3/8		121P12494S2
.15	.400 x 1 3/8	121P15404S2	121P15494S2
.18	.500 x 1 1/8		121P18494S2
.22	.500 x 1 1/8	121P22404S2	121P22494S2
.27	.562 x 1 3/8		121P27494S2
.33	.562 x 1 3/8	121P33404S2	121P33494S2
.39	.562 x 1 3/8		121P39494S2
.47	.562 x 1 3/8	121P47404S2	121P47494S2
.56	.670 x 1 3/8		121P56494S2
.68	.670 x 1 3/8	121P68404S2	121P68494S2
.82	.670 x 1 3/8		121P82494S2
1.0	.670 x 1 3/8	121P10504S2	121P10594S2
1.5	.750 x 2 3/8	121P15504S2	121P15594S2
2.0	1.000 x 1 3/8	121P20504S2	121P20594S2
2.5	1.000 x 2 3/8	121P25504S2	121P25594S2
3.0	1.000 x 2 3/8	121P30504S2	121P30594S2
3.5	1.000 x 2 3/8	121P35504S2	121P35594S2
600 WVDC			
.001	.235 x 3/8	121P10206S2	121P10296S2
.0012	.235 x 3/8		121P12296S2
.0015	.235 x 3/8	121P15206S2	121P15296S2
.0018	.235 x 3/8		121P18296S2
.0022	.235 x 3/8	121P22206S2	121P22296S2
.0027	.235 x 3/8		121P27296S2
.0033	.235 x 3/8	121P33206S2	121P33296S2
.0039	.235 x 3/8		121P39296S2
.0047	.235 x 3/8	121P47206S2	121P47296S2
.0056	.312 x 3/8		121P56296S2
.0068	.312 x 3/8	121P68206S2	121P68296S2
.0082	.312 x 3/8		121P82296S2
.01	.312 x 3/8	121P10306S2	121P10396S2
.012	.312 x 3/8		121P12396S2
.015	.312 x 3/8	121P15306S2	121P15396S2
.018	.312 x 1 1/8		121P18396S2
.022	.312 x 1 1/8	121P22306S2	121P22396S2
.027	.312 x 1 1/8		121P27396S2
.033	.312 x 1 1/8	121P33306S2	121P33396S2
.039	.400 x 1 1/8		121P39396S2
.047	.400 x 1 1/8	121P47306S2	121P47396S2
.056	.400 x 1 1/8		121P56396S2
.068	.400 x 1 1/8	121P68306S2	121P68396S2
.082	.500 x 1 1/8		121P82396S2
.1	.500 x 1 1/8	121P10406S2	121P10496S2
.12	.562 x 1 1/8		121P12496S2
.15	.562 x 1 1/8	121P15406S2	121P15496S2
.18	.562 x 1 3/8		121P18496S2
.22	.562 x 1 3/8	121P22406S2	121P22496S2
.27	.562 x 1 3/8		121P27496S2
.33	.562 x 1 3/8	121P33406S2	121P33496S2
.39	.670 x 1 3/8		121P39496S2
.47	.670 x 1 3/8	121P47406S2	121P47496S2
.56	.670 x 1 3/8		121P56496S2
.68	.670 x 1 3/8	121P68406S2	121P68496S2
.82	.750 x 2 3/8		121P82496S2
1.0	.750 x 2 3/8	121P10506S2	121P10596S2
1.5	1.000 x 2 3/8	121P15506S2	121P15596S2
2.0	1.000 x 2 3/8	121P20506S2	121P20596S2

SPRAGUE CAPACITORS

HIGH-VOLTAGE GLASS-ENCASED TUBULARS-TYPE 205P



- Made for low capacitance, high voltage operation at high altitudes
- Used in airborne equipment to solve corona problems; also in high voltage ground equipment such as transmitter power supplies, induction heating equipment, electrostatic precipitators, as well as coupling and bypass applications in industrial control devices.

- Dual dielectric combines the best features of both polyester film and paper
- Impregnated and filled with Vitamin Q, Sprague's exclusive inert synthetic
- Long leakage path between terminals
- Smaller in size and weight than metal cased tubulars of similar ratings
- Standard capacitance tolerance: $\pm 10\%$

85°C OPERATION

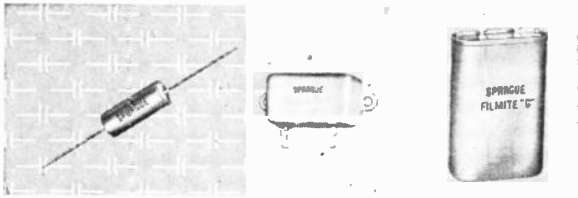
μF	Size	Catalog	Terminal
	D. x L.	Number	
2000 VOLTS D-C			
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P30	No. 20 AWG
.005	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P31	No. 20 AWG
.01	1 ⁷ / ₃₂ x 1 ¹ / ₈	205P32	No. 20 AWG
.02	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P33	No. 20 AWG
.05	3/4 x 1 ³ / ₄	205P34	No. 8-32 NC-2
.1	3/4 x 2 ¹ / ₄	205P35	No. 8-32 NC-2
.25	1 1/2 x 2 ³ / ₄	205P36	No. 8-32 NC-2
.5	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P37	No. 8-32 NC-2
3000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P50	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P51	No. 20 AWG
.005	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P52	No. 20 AWG
.01	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P53	No. 20 AWG
.02	5/8 x 2 ¹ / ₄	205P54	No. 8-32 NC-2
.05	3/4 x 2 ¹ / ₄	205P55	No. 8-32 NC-2
.1	1 1/2 x 2 ¹ / ₄	205P56	No. 8-32 NC-2
.25	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P57	No. 8-32 NC-2
4000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P70	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P71	No. 20 AWG
.005	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P72	No. 20 AWG
.01	5/8 x 1 ¹ / ₁₆	205P73	No. 8-32 NC-2
.02	3/4 x 1 ³ / ₄	205P74	No. 8-32 NC-2
.05	7/8 x 2 ¹ / ₄	205P75	No. 8-32 NC-2
.1	1 1/2 x 2 ³ / ₄	205P76	No. 8-32 NC-2
.25	1 ¹¹ / ₃₂ x 3 ¹ / ₂	205P77	No. 8-32 NC-2
5000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P90	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P91	No. 20 AWG
.005	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P92	No. 20 AWG
.01	5/8 x 1 ¹ / ₁₆	205P93	No. 8-32 NC-2
.02	3/4 x 1 ³ / ₄	205P94	No. 8-32 NC-2
.05	7/8 x 2 ¹ / ₄	205P95	No. 8-32 NC-2
.1	1 1/2 x 2 ³ / ₄	205P96	No. 8-32 NC-2
7500 VOLTS D-C			
.001	5/8 x 2 ¹ / ₄	205P110	No. 8-32 NC-2
.002	3/4 x 2 ¹ / ₄	205P111	No. 8-32 NC-2
.005	3/4 x 1 ³ / ₄	205P112	No. 8-32 NC-2
.01	3/4 x 2 ¹ / ₄	205P113	No. 8-32 NC-2
.02	1 1/2 x 2 ³ / ₄	205P114	No. 8-32 NC-2
.05	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P115	No. 8-32 NC-2
.1	1 ¹¹ / ₃₂ x 3 ¹ / ₂	205P116	No. 8-32 NC-2
10000 VOLTS D-C			
.0005	5/8 x 2 ¹ / ₄	205P130	No. 8-32 NC-2
.001	5/8 x 2 ¹ / ₄	205P131	No. 8-32 NC-2
.002	5/8 x 2 ¹ / ₄	205P132	No. 8-32 NC-2
.005	3/4 x 2 ¹ / ₄	205P133	No. 8-32 NC-2
.01	1 1/2 x 2 ³ / ₄	205P134	No. 8-32 NC-2
.02	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P135	No. 8-32 NC-2
.03	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P136	No. 8-32 NC-2
.05	1 ¹¹ / ₃₂ x 4 ¹ / ₄	205P137	No. 8-32 NC-2

125°C OPERATION

μF	Size	Catalog	Terminal
	D. x L.	Number	
2000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P530	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P531	No. 20 AWG
.005	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P532	No. 20 AWG
.01	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P533	No. 20 AWG
.02	5/8 x 1 ³ / ₄	205P534	No. 8-32 NC-2
.05	3/4 x 2 ¹ / ₄	205P535	No. 8-32 NC-2
.1	1 1/2 x 2 ¹ / ₄	205P536	No. 8-32 NC-2
.25	1 ¹¹ / ₃₂ x 3 ¹ / ₂	205P537	No. 8-32 NC-2
3000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P550	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P551	No. 20 AWG
.005	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P552	No. 20 AWG
.01	5/8 x 1 ¹ / ₁₆	205P553	No. 8-32 NC-2
.02	3/4 x 1 ³ / ₄	205P554	No. 8-32 NC-2
.05	1 1/2 x 2 ¹ / ₄	205P555	No. 8-32 NC-2
.1	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P556	No. 8-32 NC-2
4000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P570	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P571	No. 20 AWG
.005	5/8 x 1 ¹ / ₁₆	205P572	No. 8-32 NC-2
.01	3/4 x 1 ³ / ₄	205P573	No. 8-32 NC-2
.02	3/4 x 2 ¹ / ₄	205P574	No. 8-32 NC-2
.05	1 1/2 x 2 ³ / ₄	205P575	No. 8-32 NC-2
.1	1 1/2 x 2 ³ / ₄	205P576	No. 8-32 NC-2
5000 VOLTS D-C			
.001	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P590	No. 20 AWG
.002	1 ⁷ / ₃₂ x 1 ¹ / ₁₆	205P591	No. 20 AWG
.005	5/8 x 1 ¹ / ₁₆	205P592	No. 8-32 NC-2
.01	3/4 x 1 ³ / ₄	205P593	No. 8-32 NC-2
.02	7/8 x 2 ¹ / ₄	205P594	No. 8-32 NC-2
.05	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P595	No. 8-32 NC-2
.1	1 ¹¹ / ₃₂ x 3 ¹ / ₂	205P596	No. 8-32 NC-2
7500 VOLTS D-C			
.001	5/8 x 2 ¹ / ₄	205P610	No. 8-32 NC-2
.002	3/4 x 1 ³ / ₄	205P611	No. 8-32 NC-2
.005	3/4 x 2 ¹ / ₄	205P612	No. 8-32 NC-2
.01	7/8 x 2 ¹ / ₄	205P613	No. 8-32 NC-2
.02	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P614	No. 8-32 NC-2
.03	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P615	No. 8-32 NC-2
.05	1 ¹¹ / ₃₂ x 4 ¹ / ₄	205P616	No. 8-32 NC-2
10000 VOLTS D-C			
.0001	5/8 x 2 ¹ / ₄	205P630	No. 8-32 NC-2
.0002	5/8 x 2 ¹ / ₄	205P631	No. 8-32 NC-2
.0005	5/8 x 2 ¹ / ₄	205P632	No. 8-32 NC-2
.001	3/4 x 2 ¹ / ₄	205P633	No. 8-32 NC-2
.002	7/8 x 2 ¹ / ₄	205P634	No. 8-32 NC-2
.005	1 1/2 x 2 ³ / ₄	205P635	No. 8-32 NC-2
.01	1 ¹¹ / ₃₂ x 2 ³ / ₄	205P636	No. 8-32 NC-2
.02	1 ¹¹ / ₃₂ x 4 ¹ / ₄	205P637	No. 8-32 NC-2

SPRAGUE CAPACITORS

METAL-CLAD FILM CAPACITORS



Polystyrene film dielectric capacitors have the lowest dielectric absorption of all film capacitors. The exceptionally high insulation resistance will generally exceed 10,000,000 megohm-microfarads. They have extremely low power factor, close capacitance tolerance, high capacitance stability with temperature change and high operating temperatures. The unusual properties of these capacitors make them particularly suitable for circuit applications demanding such characteristics. All capacitors listed here are hermetically sealed in metal cases

114P STYRACON® TUBULARS

Specially processed polystyrene film dielectric • Operating temperature range, -55°C to +85°C • High insulation resistance • Low dielectric absorption (under .05%) • High capacitance stability (less than ±2% drift) • Extremely low

power factor (high Q) • Units listed below have capacitance tolerance of ±5%. For ±20%, change 8th digit in catalog number from 5 to 0; For ±10% change to 9; For ±2% change to 2; For ±1% change to 1 • Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

200 WVDC			400 WVDC			600 WVDC		
μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.
.001	.235 x 3/8	114P10252S4	.001	.235 x 7/8	114P10254S4	.001	.400 x 1/8	114P10256S4
.0015	.235 x 3/8	114P15252S4	.0015	.312 x 7/8	114P15254S4	.0015	.400 x 1 1/8	114P15256S4
.0022	.235 x 3/8	114P2252S4	.0022	.312 x 7/8	114P2254S4	.0022	.400 x 1 1/8	114P2256S4
.0033	.312 x 3/8	114P33252S4	.0033	.312 x 7/8	114P33254S4	.0033	.400 x 1 1/8	114P33256S4
.0047	.312 x 3/8	114P47252S4	.0047	.400 x 7/8	114P47254S4	.0047	.400 x 1 1/8	114P47256S4
.0068	.400 x 3/8	114P68252S4	.0068	.400 x 1 1/8	114P68254S4	.0068	.400 x 1 1/8	114P68256S4
.01	.400 x 1 1/8	114P10352S4	.01	.400 x 1 1/8	114P10354S4	.01	.400 x 1 1/8	114P10356S4
.0015	.400 x 1 1/8	114P15352S4	.015	.400 x 1 1/8	114P15354S4	.015	.400 x 1 1/8	114P15356S4
.022	.400 x 1 1/8	114P22352S4	.022	.562 x 1 1/8	114P22354S4	.022	.562 x 1 1/8	114P22356S4
.033	.562 x 1 1/8	114P33352S4	.033	.562 x 1 1/8	114P33354S4	.033	.562 x 1 1/8	114P33356S4
.047	.562 x 1 1/8	114P47352S4	.047	.562 x 1 1/8	114P47354S4	.047	.562 x 1 1/8	114P47356S4
.068	.562 x 1 1/8	114P68352S4	.068	.670 x 1 1/8	114P68354S4	.068	.670 x 1 1/8	114P68356S4
.1	.670 x 1 1/8	114P10452S4	.1	.670 x 1 1/8	114P10454S4	.1	.750 x 2 1/8	114P10456S4
.15	.750 x 2 1/8	114P15452S4	.15	.750 x 2 1/8	114P15454S4	.15	.750 x 2 1/8	114P15456S4
.22	.750 x 2 1/8	114P22452S4	.22	1.000 x 2 1/8	114P22454S4	.22	1.000 x 2 1/8	114P22456S4
.33	1.000 x 2 1/8	114P33452S4	.33	1.000 x 2 1/8	114P33454S4	.33	1.000 x 2 1/8	114P33456S4
.47	1.000 x 2 1/8	114P47452S4	.47	1.000 x 2 1/8	114P47454S4	.47	1.000 x 2 1/8	114P47456S4

111P STYRACON® BATHTUBS

Same electrical characteristics as Type 114P • Drawn metal bathtub cases • Listed units have capacitance tolerance of ±5%. For ±20%, change last letter in catalog number from J to M; For ±10% change to K; For ±2% change to G; For ±1% change to F

μF	WVDC	L. x W. x H.	Cat. No.	μF	WVDC	L. x W. x H.	Cat. No.
1.5	50	2 x 1 3/4 x 1	111P7J	2.0	200	2 1/8 x 2 1/8 x 2 1/8	111P16J
2.0	50	2 x 2 x 1 1/4	111P8J	.68	400	2 x 2 x 1 1/4	111P17J
3.0	50	2 x 2 x 1 1/2	111P9J	1.0	400	2 x 2 x 1 1/2	111P18J
5.0	50	2 1/8 x 2 1/4 x 2 1/8	111P10J	1.5	400	2 1/8 x 2 1/8 x 2 1/8	111P19J
1.0	100	2 x 1 3/4 x 1	111P11J	.33	600	2 x 1 3/4 x 1	111P20J
2.0	100	2 x 2 x 1 1/2	111P12J	.47	600	2 x 2 x 1 1/8	111P21J
3.0	100	2 1/8 x 2 1/4 x 2 1/8	111P13J	.68	600	2 x 2 x 1 1/2	111P22J
.68	200	2 x 1 3/4 x 1	111P14J	1.0	600	2 1/8 x 2 1/8 x 2 1/8	111P4J
1.0	200	2 x 2 x 1 1/4	111P15J				

139P FILMITE 'F' TUBULARS

For circuit applications requiring constant capacitance with varying operating temperatures • Practically zero capacitance change at temperatures from -10°C to +85°C. May be operated at +125°C with not more than 2.5% capacitance change • Operating temperature: -55°C to +125°C

• Insulation resistance and dielectric absorption characteristics approach those of polystyrene capacitors • Listed units have capacitance tolerance of ±5%. For ±20%, change 8th digit in catalog number from 5 to 0; for ±10%, change to 9; for ±2%, change to 2 • Write for Engineering Bulletin No. 2560 for complete details

200 WVDC			400 WVDC			600 WVDC		
μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.
.001	.235 x 3/4	139P10252S4	.001	.235 x 3/4	139P10254S4	.001	.235 x 3/4	139P10256S4
.0015	.235 x 3/4	139P15252S4	.0015	.235 x 3/4	139P15254S4	.0015	.312 x 7/8	139P15256S4
.0022	.235 x 3/4	139P2252S4	.0022	.312 x 7/8	139P2254S4	.0022	.312 x 7/8	139P2256S4
.0033	.312 x 7/8	139P33252S4	.0033	.312 x 7/8	139P33254S4	.0033	.312 x 7/8	139P33256S4
.0047	.312 x 7/8	139P47252S4	.0047	.312 x 7/8	139P47254S4	.0047	.312 x 1	139P47256S4
.0068	.312 x 7/8	139P68252S4	.0068	.312 x 1	139P68254S4	.0068	.400 x 1	139P68256S4
.01	.312 x 1	129P10352S4	.01	.400 x 7/8	139P10354S4	.01	.400 x 1 1/8	139P10356S4
.015	.400 x 7/8	139P15352S4	.015	.400 x 1	139P15354S4	.015	.400 x 1 1/8	139P15356S4
.022	.400 x 1	139P22352S4	.022	.400 x 1 1/4	139P22354S4	.022	.562 x 1 1/8	139P22356S4
.033	.400 x 1 1/4	139P33352S4	.033	.562 x 1 1/8	139P33354S4	.033	.562 x 1 1/8	139P33356S4
.047	.500 x 1 1/8	139P47352S4	.047	.562 x 1 1/4	139P47354S4	.047	.670 x 1 1/8	139P47356S4
.068	.562 x 1 1/8	139P68352S4	.068	.670 x 1 1/8	139P68354S4	.068	.750 x 1 1/8	139P68356S4
.1	.670 x 1 1/8	139P10452S4	.1	.750 x 1 1/8	139P10454S4	.1	.750 x 2 1/8	139P10456S4
.15	.750 x 2 1/8	139P15452S4	.15	.750 x 2 1/8	139P15454S4	.15	1.000 x 1 1/8	139P15456S4
.22	.750 x 2 1/8	139P22452S4	.22	1.000 x 1 1/8	139P22454S4	.22	1.000 x 2 1/8	139P22456S4
.33	1.000 x 1 1/8	139P33452S4	.33	1.000 x 2 1/8	139P33454S4			
.47	1.000 x 2 1/8	139P47452S4						

140P FILMITE 'F' BATHTUBS

Same electrical characteristics as Type 139P • Drawn metal bathtub cases • Listed units have capacitance tolerance of ±5%. For ±20%, change last letter in catalog number from J to M; For ±10% change to K; For ±2% change to G; For ±1% change to F

μF	WVDC	L. x W. x H.	Cat. No.
.68	200	2 x 2 x 1	140P1J
1.0	200	2 x 2 x 1 1/2	140P2J
.47	400	2 x 2 x 1	140P3J
.68	400	2 x 2 x 1 1/2	140P4J
1.0	400	2 1/8 x 2 1/8 x 1 3/4	140P5J
.33	600	2 x 2 x 1	140P6J
.47	600	2 x 2 x 1 1/2	140P7J
.68	600	2 1/8 x 2 1/8 x 1 3/4	140P8J
1.0	600	2 1/8 x 2 1/8 x 2 1/8	140P9J

SPRAGUE CAPACITORS

FILM CAPACITORS, continued

127P FILMITE 'E' TUBULARS

Operating temperature range, -55°C to +150°C ● Even at 150°C, insulation resistance is higher than that of best paper capacitors ● These capacitors use polyester-film dielectric ● Dissipation factor will not exceed 1.3% ● Extended

foil construction for low series resistance ● Units listed below have capacitance tolerance of ±10%. For ±20%, change 8th digit in catalog number from 9 to 0; For ±5% change to 5 ● Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.
200 WVDC			600 WVDC			1700 WVDC		
.0068	.235 x 1 ³ / ₁₆	127P6829254	.001	.235 x 1 ³ / ₁₆	127P1029654	.001	.400 x 1 ³ / ₁₆	127P10291754
.01	.235 x 1 ³ / ₁₆	127P1039254	.0015	.235 x 1 ³ / ₁₆	127P1529654	.0015	.400 x 1 ³ / ₁₆	127P15291754
.015	.235 x 1 ³ / ₁₆	127P1539254	.0022	.235 x 1 ³ / ₁₆	127P2229654	.0022	.400 x 1 ³ / ₁₆	127P22291754
.022	.235 x 1 ³ / ₁₆	127P2239254	.0047	.312 x 1 ³ / ₁₆	127P4729654	.0033	.400 x 1 ³ / ₁₆	127P33291754
.033	.312 x 1 ³ / ₁₆	127P3339254	.0068	.312 x 1 ³ / ₁₆	127P6829654	.0047	.400 x 1 ³ / ₁₆	127P47291754
.047	.312 x 1 ³ / ₁₆	127P4739254	.01	.312 x 1 ³ / ₁₆	127P1039654	.0068	.400 x 1 ³ / ₁₆	127P68291754
.068	.312 x 1 ³ / ₁₆	127P6839254	.015	.400 x 1 ³ / ₁₆	127P1539654	.01	.562 x 1 ³ / ₁₆	127P10391754
.1	.400 x 1 ³ / ₁₆	127P1049254	.022	.400 x 1 ³ / ₁₆	127P2239654	.015	.562 x 1 ³ / ₁₆	127P15391754
.15	.400 x 1 ³ / ₁₆	127P1549254	.033	.400 x 1 ³ / ₁₆	127P3339654	.022	.562 x 1 ³ / ₁₆	127P22391754
.22	.400 x 1 ³ / ₁₆	127P2249254	.047	.400 x 1 ³ / ₁₆	127P4739654	.033	.670 x 1 ³ / ₁₆	127P33391754
.33	.400 x 1 ³ / ₁₆	127P3349254	.068	.562 x 1 ³ / ₁₆	127P6839654	.047	.750 x 1 ³ / ₁₆	127P47391754
.47	.562 x 1 ³ / ₁₆	127P4749254	.1	.562 x 1 ³ / ₁₆	127P1049654	.068	.750 x 1 ³ / ₁₆	127P68391754
.68	.562 x 1 ³ / ₁₆	127P6849254	.15	.562 x 1 ³ / ₁₆	127P1549654	.1	1.000 x 1 ³ / ₁₆	127P10491754
1.00	.562 x 1 ³ / ₁₆	127P1059254	.22	.670 x 1 ³ / ₁₆	127P2249654	.15	1.000 x 2 ³ / ₁₆	127P15491754
			.33	.750 x 2 ³ / ₁₆	127P3349654			
			.47	.750 x 2 ³ / ₁₆	127P4749654			
			.68	1.000 x 2 ³ / ₁₆	127P6849654			
400 WVDC			1000 WVDC			2500 WVDC		
.0033	.235 x 1 ³ / ₁₆	127P3329454	.001	.312 x 1 ³ / ₁₆	127P10291054	.001	.562 x 7 ³ / ₁₆	127P10292554
.0047	.235 x 1 ³ / ₁₆	127P4729454	.0015	.312 x 1 ³ / ₁₆	127P15291054	.0015	.562 x 7 ³ / ₁₆	127P15292554
.01	.312 x 1 ³ / ₁₆	127P1039454	.0022	.312 x 1 ³ / ₁₆	127P22291054	.0022	.562 x 1	127P22292554
.015	.312 x 1 ³ / ₁₆	127P1539454	.0033	.312 x 1 ³ / ₁₆	127P33291054	.0033	.562 x 1 ¹ / ₁₆	127P33292554
.022	.312 x 1 ³ / ₁₆	127P2239454	.0047	.400 x 1 ³ / ₁₆	127P47291054	.0047	.562 x 1 ¹ / ₁₆	127P47292554
.033	.400 x 1 ³ / ₁₆	127P3339454	.0068	.400 x 1 ³ / ₁₆	127P68291054	.0068	.562 x 1 ¹ / ₁₆	127P68292554
.047	.400 x 1 ³ / ₁₆	127P4739454	.01	.400 x 1 ³ / ₁₆	127P10391054	.01	.562 x 1 ¹ / ₁₆	127P10392554
.068	.400 x 1 ³ / ₁₆	127P6839454	.015	.400 x 1 ³ / ₁₆	127P15391054	.015	.670 x 1 ¹ / ₁₆	127P15392554
.1	.400 x 1 ³ / ₁₆	127P1049454	.022	.562 x 1 ³ / ₁₆	127P22391054	.022	.750 x 1 ¹ / ₁₆	127P22392554
.15	.562 x 1 ³ / ₁₆	127P1549454	.033	.562 x 1 ³ / ₁₆	127P33391054	.033	.750 x 2 ³ / ₁₆	127P33392554
.22	.562 x 1 ³ / ₁₆	127P2249454	.047	.562 x 1 ³ / ₁₆	127P47391054	.047	1.000 x 1 ¹ / ₁₆	127P47392554
.33	.562 x 1 ³ / ₁₆	127P3349454	.068	.670 x 1 ³ / ₁₆	127P68391054	.068	1.000 x 2 ³ / ₁₆	127P68392554
.47	.670 x 1 ³ / ₁₆	127P4749454	.1	.750 x 2 ³ / ₁₆	127P10491054			
.68	.750 x 2 ³ / ₁₆	127P6849454	.15	1.000 x 1 ³ / ₁₆	127P15491054			
1.00	.750 x 2 ³ / ₁₆	127P1059454	.22	1.000 x 2 ³ / ₁₆	127P22491054			

141P FILMITE 'G' TUBULARS

TFE fluorocarbon film dielectric ● Operating temperature range, -55°C to +200°C ● Unusually high insulation resistance (in excess of 100,000 megohm-microfarads at 25°C) ● Low dielectric absorption ● Low dissipation factor (less than .02%) ● Excellent humidity resistance ● Small

capacitance change with temperature ● Units listed below have capacitance tolerance of ±10%. For ±20%, change 8th digit in catalog number from 9 to 0; For ±5% change to 5; For ±2% change to 2; For ±1% change to 1 ● Units listed below have plastic insulating sleeves. For plain metal case, change last digit in catalog number from 4 to 2

μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.	μF	Diam. x Length	Cat. No.
200 WVDC			400 WVDC			600 WVDC		
.0015	.235 x 1 ³ / ₁₆	141P1529254	.1	.670 x 1 ⁷ / ₁₆	141P1049454	.0056	.400 x 1 ³ / ₁₆	141P5629654
.0039	.312 x 1 ³ / ₁₆	141P3929254	.12	.750 x 2 ¹ / ₁₆	141P1249454	.0068	.400 x 1 ³ / ₁₆	141P6829654
.0047	.312 x 1 ³ / ₁₆	141P4729254	.15	.750 x 2 ¹ / ₁₆	141P1549454	.0082	.400 x 1 ³ / ₁₆	141P8229654
.0082	.400 x 1 ³ / ₁₆	141P829254	.18	1.000 x 1 ⁷ / ₁₆	141P1849454	.01	.400 x 1 ³ / ₁₆	141P1039654
.01	.400 x 1 ³ / ₁₆	141P1039254	.22	1.000 x 1 ⁷ / ₁₆	141P2249454	.012	.400 x 1 ³ / ₁₆	141P1239654
.012	.400 x 1 ³ / ₁₆	141P1239254	.27	1.000 x 2 ³ / ₁₆	141P2749454	.015	.400 x 1 ³ / ₁₆	141P1539654
.015	.400 x 1 ³ / ₁₆	141P1539254	.33	1.000 x 2 ³ / ₁₆	141P3349454	.018	.562 x 1 ³ / ₁₆	141P1839654
.018	.400 x 1 ³ / ₁₆	141P1839254				.022	.562 x 1 ³ / ₁₆	141P2239654
.022	.400 x 1 ³ / ₁₆	141P2239254	.001	.235 x 1 ³ / ₁₆	141P1029654	.027	.562 x 1 ³ / ₁₆	141P2739654
.027	.562 x 1 ³ / ₁₆	141P2739254	.0012	.312 x 1 ³ / ₁₆	141P1229654	.033	.562 x 1 ³ / ₁₆	141P3339654
.033	.562 x 1 ³ / ₁₆	141P3339254	.0015	.312 x 1 ³ / ₁₆	141P1529654	.039	.562 x 1 ³ / ₁₆	141P3939654
.039	.562 x 1 ³ / ₁₆	141P3939254	.0018	.312 x 1 ³ / ₁₆	141P1829654	.047	.562 x 1 ³ / ₁₆	141P4739654
.047	.562 x 1 ³ / ₁₆	141P4739254	.0022	.312 x 1 ³ / ₁₆	141P2229654	.056	.562 x 1 ³ / ₁₆	141P5639654
.056	.562 x 1 ³ / ₁₆	141P5639254	.0027	.312 x 1 ³ / ₁₆	141P2729654	.068	.562 x 1 ³ / ₁₆	141P6839654
.068	.562 x 1 ³ / ₁₆	141P6839254	.0033	.312 x 1 ³ / ₁₆	141P3329654	.082	1.000 x 1 ³ / ₁₆	141P8239654
.082	.562 x 1 ³ / ₁₆	141P8239254	.0039	.400 x 1 ³ / ₁₆	141P3929654	.1	1.000 x 1 ³ / ₁₆	141P1049654
1	.562 x 1 ³ / ₁₆	141P1049254	.0047	.400 x 1 ³ / ₁₆	141P4729654	.12	1.000 x 2 ³ / ₁₆	141P1249654
						.15	1.000 x 2 ³ / ₁₆	141P1549654

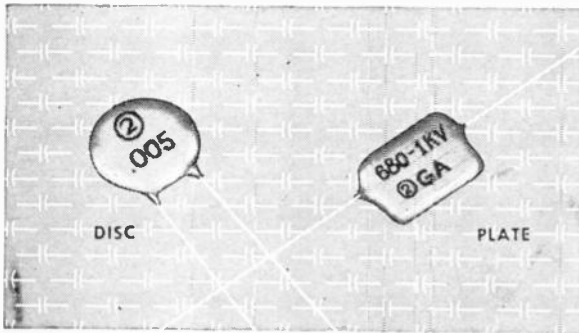
142P FILMITE 'G' OVALS

Same electrical characteristics as Type 141P ● Drawn metal oval cases ● Listed units have capacitance tolerance of ±5%. For ±20%, change last letter in catalog number from J to M; For ±10% change to K; For ±2% change to G; For ±1% change to F

μF	WVDC	W. x T. x H.	Cat. No.
.68	200	2 ³ / ₃₂ x 1 ³ / ₁₆ x 2 ¹ / ₁₆	142PJ1
1.0	200	2 ³ / ₃₂ x 1 ³ / ₁₆ x 2 ³ / ₁₆	142PJ2
.68	400	2 ³ / ₃₂ x 1 ³ / ₁₆ x 2 ¹ / ₂	142PJ3
1.0	400	2 ³ / ₃₂ x 1 ³ / ₁₆ x 3 ³ / ₁₆	142PJ4
.33	600	2 ³ / ₃₂ x 1 ³ / ₁₆ x 2 ³ / ₁₆	142PJ5
.47	600	2 ³ / ₃₂ x 1 ³ / ₁₆ x 3 ¹ / ₂	142PJ6

SPRAGUE CAPACITORS

CERA-MITE[®] CERAMIC CAPACITORS



- Tiny, Tough, Dependable In Every Application
- Low Self-inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
- Flat-plate Construction Permits Higher Self-resonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
- Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
- Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
- Designed For 85°C (185°F) Continuous Operation

GENERAL APPLICATION TYPES

- Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications
- Ideal For Replacing Older Types Of General Application Capacitors Such as Molded Micacs, Tubular Ceramics, and Paper Tubulars

$\mu\mu\text{F}$	Cat. No.	List	$\mu\mu\text{F}$	Cat. No.	List	$\mu\mu\text{F}$	Cat. No.	List	$\mu\mu\text{F}$	Cat. No.	List	$\mu\mu\text{F}$	Cat. No.	List
500 WVDC (plates) Std. Tolerance $\pm 20\%$			220	5GA-T22	\$.25	3000 WVDC (discs) Std. Tolerances: 1.5 $\mu\mu\text{F} \pm .25 \mu\mu\text{F}$ thru 5 $\mu\mu\text{F} \pm .5 \mu\mu\text{F}$ thru 68 $\mu\mu\text{F} \pm 10\%$ thru .002 $\mu\text{F} \pm 20\%$			330	30GA-T33	\$.40	150	60GA-T15	\$.50
.470	5GAB-T47	\$3.35	240	5GA-T24	.25	390	30GA-T39	.40	390	30GA-T39	.40	180	60GA-T18	.50
.001 μF	5GAB-D10	.35	250	5GA-T25	.25	400	30GA-T40	.40	400	30GA-T40	.40	200	60GA-T20	.50
.0022	5GAB-D22	.45	270	5GA-T27	.25	470	30GA-T47	.40	470	30GA-T47	.40	220	60GA-T22	.50
.0047	5GAB-D47	.45	300	5GA-T30	.25	500	30GA-T50	.40	500	30GA-T50	.40	250	60GA-T25	.55
.01	5GAB-S10	.65	330	5GA-T33	.25	560	30GA-T56	.40	560	30GA-T56	.40	270	60GA-T27	.55
.022	5GAB-S22	.65	350	5GA-T35	.25	680	30GA-T68	.40	680	30GA-T68	.40	300	60GA-T30	.55
.047	5GAB-S47	.70	360	5GA-T36	.25	750	30GA-T75	.40	750	30GA-T75	.40	330	60GA-T33	.55
.1	5GAB-P10	.75	390	5GA-T39	.25	820	30GA-T82	.40	820	30GA-T82	.40	390	60GA-T39	.55
.15	5GAB-P15	.80	400	5GA-T40	.25	8.2	30GA-V82	.40	.001 μF	30GA-D10	.40	400	60GA-T40	.55
1000 WVDC (discs) Std. Tolerance $\pm 20\%$			470	5GA-T47	.25	10	30GA-Q10	.40	.0012	30GA-D12	.40	470	60GA-T47	.55
5	5GA-V50	\$2.25	500	5GA-T50	.25	12	30GA-Q12	.40	.0015	30GA-D15	.40	500	60GA-T50	.55
6	5GA-V60	.25	560	5GA-T56	.25	15	30GA-Q15	.40	.002	30GA-D20	.40	560	60GA-T56	.55
7.5	5GA-V75	.25	600	5GA-T60	.25	18	30GA-Q18	.40	6000 WVDC (discs) Std. Tolerance $\pm 20\%$			680	60GA-T68	.55
8	5GA-V80	.25	680	5GA-T68	.25	20	30GA-Q20	.40	1.5	60GA-V15	.50	750	60GA-T75	.55
10	5GA-Q10	.25	750	5GA-T75	.25	22	30GA-Q22	.40	4.7	60GA-V47	.50	820	60GA-T82	.55
12	5GA-Q12	.25	800	5GA-T80	.25	25	30GA-Q25	.40	6.8	60GA-V68	.50	7500 WVDC (discs) Std. Tolerances: 4.7 $\mu\text{F} \pm .5 \mu\mu\text{F}$ thru 18 $\mu\text{F} \pm 10\%$ thru 470 $\mu\text{F} \pm 20\%$		
15	5GA-Q15	.25	820	5GA-T82	.25	27	30GA-Q27	.40	8.2	60GA-V82	.50	.001 μF	60GA-D10	.60
18	5GA-Q18	.25	.001 μF	5GA-D10	.25	30	30GA-Q30	.40	10	60GA-Q10	.50	.0012	60GA-D12	.60
20	5GA-Q20	.25	.0012	5GA-D12	.25	33	30GA-Q33	.40	12	60GA-Q12	.50	.0015	60GA-D15	.60
22	5GA-Q22	.25	.0013	5GA-D13	.25	39	30GA-Q39	.40	15	60GA-Q15	.50	.0015	60GA-D15	.60
25	5GA-Q25	.25	.0015	5GA-D15	.25	47	30GA-Q47	.40	18	60GA-Q18	.50	.0022	60GA-D22	.60
27	5GA-Q27	.25	.0016	5GA-D16	.25	50	30GA-Q50	.40	20	60GA-Q20	.50	7500 WVDC (discs) Std. Tolerances: 4.7 $\mu\text{F} \pm .5 \mu\mu\text{F}$ thru 18 $\mu\text{F} \pm 10\%$ thru 470 $\mu\text{F} \pm 20\%$		
30	5GA-Q30	.25	.0018	5GA-D18	.25	56	30GA-Q56	.40	22	60GA-Q22	.50	4.7	75GA-V47	.50
33	5GA-Q33	.25	.002	5GA-D20	.25	60	30GA-Q60	.40	25	60GA-Q25	.50	8.2	75GA-V82	.50
39	5GA-Q39	.25	.0022	5GA-D22	.25	62	30GA-Q62	.40	27	60GA-Q27	.50	7500 WVDC (discs) Std. Tolerances: 4.7 $\mu\text{F} \pm .5 \mu\mu\text{F}$ thru 18 $\mu\text{F} \pm 10\%$ thru 470 $\mu\text{F} \pm 20\%$		
47	5GA-Q47	.25	.0025	5GA-D25	.25	68	30GA-Q68	.40	30	60GA-Q30	.50	10	75GA-Q10	.50
50	5GA-Q50	.25	.0027	5GA-D27	.25	75	30GA-Q75	.40	33	60GA-Q33	.50	12	75GA-Q12	.50
56	5GA-Q56	.25	.003	5GA-D30	.25	82	30GA-Q82	.40	39	60GA-Q39	.50	15	75GA-Q15	.50
68	5GA-Q68	.25	.0033	5GA-D33	.25	100	30GA-T10	.40	47	60GA-Q47	.50	18	75GA-Q18	.50
75	5GA-Q75	.25	.0039	5GA-D39	.25	120	30GA-T12	.40	50	60GA-Q50	.50	20	75GA-Q20	.50
82	5GA-Q82	.25	.004	5GA-D40	.25	150	30GA-T15	.40	56	60GA-Q56	.50	22	75GA-Q22	.50
91	5GA-Q91	.25	.0043	5GA-D43	.30	180	30GA-T18	.40	60	60GA-Q60	.50	30	75GA-Q30	.50
100	5GA-T10	.25	.0047	5GA-D47	.30	200	30GA-T20	.40	68	60GA-Q68	.50	33	75GA-Q33	.50
120	5GA-T12	.25	.005	5GA-D50	.30	220	30GA-T22	.40	75	60GA-Q75	.50	47	75GA-Q47	.50
130	5GA-T13	.25	.01	5GA-S10	.30	250	30GA-T25	.40	82	60GA-Q82	.50	56	75GA-Q56	.50
150	5GA-T15	.25	.015	5GA-S15	.30	270	30GA-T27	.40	7500 WVDC (discs) Std. Tolerances: 4.7 $\mu\text{F} \pm .5 \mu\mu\text{F}$ thru 18 $\mu\text{F} \pm 10\%$ thru 470 $\mu\text{F} \pm 20\%$			100	75GA-T10	.50
180	5GA-T18	.25	.02	5GA-S20	.30	300	30GA-T30	.40	120	60GA-T12	.50	470	75GA-T47	.65
200	5GA-T20	.25												

The MASTER—2 1/2 Edition

All prices and sizes subject to change without notice.

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SPRAGUE CAPACITORS

CERA-MITE CERAMIC CAPACITORS, continued

HIGH-K TYPES

- Designed Specifically for Minimum Capacitance Requirements
- Intended for By-pass and Coupling Applications where Additional Capacitance is Not Important
- Rated at 1000 WVDC
- Units listed below are discs

μF	Cat. No.	List	μF	Cat. No.	List
SINGLE UNITS					
.001	5HK-D10	\$.25	.02	5HK-S20	\$.60
.0015	5HK-D15	.25	.025	5HK-S25	.65
.002	5HK-D20	.25	.03	5HK-S30	.65
.0022	5HK-D22	.25	.04	5HK-S40	.70
.0025	5HK-D25	.25	.05	5HK-S50	.70
			.1	5HK-P10	.80
DUAL UNITS					
.0033	5HK-D33	.25	2 x .001	5HK-2D10	\$.40
.004	5HK-D40	.25	2 x .0015	5HK-2D15	.40
.0047	5HK-D47	.25	2 x .002	5HK-2D20	.40
.005	5HK-D50	.25	2 x .0022	5HK-2D22	.40
.0068	5HK-D68	.25	2 x .004	5HK-2D40	.45
			2 x .0047	5HK-2D47	.45
.01	5HK-S10	.30	2 x .01	5HK-2S10	.50
.015	5HK-S15	.40	2 x .02	5HK-2S20	.70

NPO TYPES

- Zero Temperature-coefficient Capacitors used Where Capacitance Change with Temperature is Undesirable
- Superior to Silvered-mica Types in Stability, High "Q", and Insulation Resistance
- Rated at 1000 WVDC
- Standard Capacitance Tolerance of 5μF and up: ±5%. On 4.7μF and below: ±.25μF
- Units listed below are discs

μF	Cat. No.	List	μF	Cat. No.	List
1	10TCC-V10	\$.50	27	10TCC-Q27	\$.50
1.2	10TCC-V12	.50	30	10TCC-Q30	.50
1.5	10TCC-V15	.50	33	10TCC-Q33	.50
1.8	10TCC-V18	.50	39	10TCC-Q39	.55
2.2	10TCC-V22	.50	47	10TCC-Q47	.55
2.7	10TCC-V27	.50	50	10TCC-Q50	.55
3.3	10TCC-V33	.50	56	10TCC-Q56	.55
3.9	10TCC-V39	.50	68	10TCC-Q68	.55
4.7	10TCC-V47	.50	75	10TCC-Q75	.55
5	10TCC-V50	.50	82	10TCC-Q82	.55
5.6	10TCC-V56	.50	100	10TCC-T10	.55
6.8	10TCC-V68	.50	120	10TCC-T12	.60
8.2	10TCC-V82	.50	150	10TCC-T15	.60
10	10TCC-Q10	.50	175	10TCC-T175	.50
12	10TCC-Q12	.50	180	10TCC-T18	.60
15	10TCC-Q15	.50	200	10TCC-T20	.70
18	10TCC-Q18	.50	220	10TCC-T22	.70
20	10TCC-Q20	.50	270	10TCC-T27	.80
22	10TCC-Q22	.50	300	10TCC-T30	.80
25	10TCC-Q25	.50	330	10TCC-T33	.80

TEMPERATURE-STABLE TYPES

- Used where minimum capacitance change with temperature is an important consideration
- Wide range of capacitance values available
- Rated at 1000 volts d-c working
- Standard capacitance tolerance ±10%

μF	Cat. No.	List	μF	Cat. No.	List	μF	Cat. No.	List
3.3	10TS-V33	\$.25	100	10TS-T10	\$.25	.001	10TS-D10	\$.25
5	10TS-V50	.25	120	10TS-T12	.25	.0012	10TS-D12	.25
6	10TS-V60	.25	130	10TS-T13	.25	.0013	10TS-D13	.25
6.8	10TS-V68	.25	150	10TS-T15	.25	.0015	10TS-D15	.25
7.5	10TS-V75	.25	180	10TS-T18	.25	.0016	10TS-D16	.25
8	10TS-V80	.25	200	10TS-T20	.25	.0018	10TS-D18	.25
10	10TS-Q10	.25	220	10TS-T22	.25	.002	10TS-D20	.25
12	10TS-Q12	.25	240	10TS-T24	.25	.0022	10TS-D22	.25
15	10TS-Q15	.25	250	10TS-T25	.25	.0025	10TS-D25	.25
18	10TS-Q18	.25	270	10TS-T27	.25	.0027	10TS-D27	.25
20	10TS-Q20	.25	300	10TS-T30	.25	.003	10TS-D30	.25
22	10TS-Q22	.25	330	10TS-T33	.25	.0033	10TS-D33	.25
25	10TS-Q25	.25	350	10TS-T35	.25	.0039	10TS-D39	.25
27	10TS-Q27	.25	360	10TS-T36	.25	.004	10TS-D40	.25
30	10TS-Q30	.25	390	10TS-T39	.25	.0043	10TS-D43	.30
33	10TS-Q33	.25	400	10TS-T40	.25	.0047	10TS-D47	.30
39	10TS-Q39	.25	470	10TS-T47	.25	.005	10TS-D50	.30
47	10TS-Q47	.25	500	10TS-T50	.25	.0056	10TS-D56	.30
50	10TS-Q50	.25	560	10TS-T56	.25	.0068	10TS-D68	.30
56	10TS-Q56	.25	600	10TS-T60	.25	.0075	10TS-D75	.30
68	10TS-Q68	.25	680	10TS-T68	.25	.01	10TS-S10	.30
75	10TS-Q75	.25	750	10TS-T75	.25	.015	10TS-S15	.30
82	10TS-Q82	.25	800	10TS-T80	.25	.02	10TS-S20	.30
91	10TS-Q91	.25	820	10TS-T82	.25			

TEMPERATURE-COMPENSATING TYPES

- Eliminate oscillator drift in TV, f-m, v-h-f, and a-m receivers
- Negative Temperature Coefficient is 150 ppm/°C for N150 types, 220 ppm/°C for N220, 330 for N330, and 750 for N750 types
- Rated at 1000 WVDC
- Standard Capacitance Tolerance of 5μF and up; ±5%. On 4.7μF and below: ±.25μF

μF	Cat. No.	List	μF	Cat. No.	List	μF	Cat. No.	List
N150								
5	10TCP-V50	\$.50	15	10TCR-Q15	.50	2.2	10TCU-V22	.50
6.8	10TCP-V68	.50	18	10TCR-Q18	.50	3.3	10TCU-V33	.50
8.2	10TCP-V82	.50	22	10TCR-Q22	.50	5	10TCU-V50	.50
10	10TCP-Q10	.50	27	10TCR-Q27	.50	10	10TCU-Q10	.50
12	10TCP-Q12	.50	33	10TCR-Q33	.50	12	10TCU-Q12	.50
15	10TCP-Q15	.50	39	10TCR-Q39	.55	15	10TCU-Q15	.50
18	10TCP-Q18	.50	47	10TCR-Q47	.55	18	10TCU-Q18	.50
22	10TCP-Q22	.50	56	10TCR-Q56	.55	20	10TCU-Q20	.50
27	10TCP-Q27	.50	68	10TCR-Q68	.55	22	10TCU-Q22	.50
33	10TCP-Q33	.50	82	10TCR-Q82	.55	25	10TCU-Q25	.50
39	10TCP-Q39	.55	100	10TCR-T10	.55	27	10TCU-Q27	.50
47	10TCP-Q47	.55	120	10TCR-T12	.60	33	10TCU-Q33	.50
56	10TCP-Q56	.55	150	10TCR-T15	.60	39	10TCU-Q39	.50
68	10TCP-Q68	.55	N330					
82	10TCP-Q82	.55	10	10TCS-Q10	.50	47	10TCU-Q47	.50
100	10TCP-T10	.55	12	10TCS-Q12	.50	56	10TCU-Q56	.50
120	10TCP-T12	.60	15	10TCS-Q15	.50	68	10TCU-Q68	.50
150	10TCP-T15	.60	18	10TCS-Q18	.50	75	10TCU-Q75	.50
			22	10TCS-Q22	.50	82	10TCU-Q82	.50
			27	10TCS-Q27	.50	100	10TCU-T10	.50
			33	10TCS-Q33	.50	120	10TCU-T12	.50
			39	10TCS-Q39	.55	150	10TCU-T15	.50
			47	10TCS-Q47	.55	180	10TCU-T18	.50
			56	10TCS-Q56	.55	200	10TCU-T20	.50
			68	10TCS-Q68	.55	220	10TCU-T22	.50
			82	10TCS-Q82	\$.55	270	10TCU-T27	.50
			100	10TCS-T10	.55	330	10TCU-T33	.50
			120	10TCS-T12	.60	390	10TCU-T39	.60
			150	10TCS-T15	.60	470	10TCU-T47	.70
						560	10TCU-T56	.80
						680	10TCU-T68	.80

SPRAGUE CAPACITORS

CERA-MITE CERAMIC CAPACITORS, continued

DISC CERAMICS FOR AC APPLICATIONS			DISC CERAMICS FOR BUFFER APPLICATIONS			MINIATURIZED DISC TYPES FOR TRANSISTORIZED CIRCUITRY				TV YOKE CAPACITORS		
● Rated at 125 VAC ● Std. Tolerance ±20%			● Rated at 2000 WVDC ● Std. Tolerance ±20%			● High-K Type for Coupling and Bypass				● 30 TCY rated at 3000 WVDC ● 50 TCY rated at 5000 WVDC ● Std. Tolerance ±10%		
μF	Cat. No.	List	μF	Cat. No.	List	μF	Volts	Cat. No.	List	μF	Cat. No.	List
.001	125L-D10	\$.25	.001	BL-D10	\$.35	.005	50	TG-D50	\$.45	50	30TCY-Q50	\$.40
.0015	125L-D15	.25	.002	BL-D20	.35	.01	50	TG-S10	.65	75	30TCY-Q75	.40
.002	125L-D20	.25	.003	BL-D30	.35	.02	50	TG-S20	.65	100	30TCY-T10	.40
.0047	125L-D47	.30	.004	BL-D40	.35	.03	50	TG-S30	.65	135	30TCY-T135	.40
.005	125L-D50	.30	.005	BL-D50	.35	.05	50	TG-S50	.70	150	30TCY-T15	.40
.01	125L-S10	.30	.006	BL-D60	.35	.1	50	TG-P10	.90	180	30TCY-T18	.40
.015	125L-S15	.50	.007	BL-D70	.35	.005		TH-D50	.45	50	50TCY-Q50	.50
.02	125L-S20	.50	.0075	BL-D75	.35	.01		TH-S10	.65	75	50TCY-Q75	.50
2 x .005	125L-2D50	.50	.008	BL-D80	.35	.02		TH-S20	.65	100	50TCY-T10	.50
2 x .01	125L-2S10	.55	.01	BL-S10	.35	.025		TH-S25	.65	135	50TCY-T15	.50
						.03		TH-S30	.65	150	50TCY-T15	.50
						.05		TH-S50	.70	180	50TCY-T18	.50
						.1		TH-P10	.90			

MONOLYTHIC[®] CERAMIC CAPACITORS



CAPACITOR ILLUSTRATED
IS ACTUAL SIZE

- Developed for use in transistorized circuitry and minified electronic equipment
- Temperature rating: -55°C to +85°C
- Small physical size: 1/2" x 1/2" x 1/8" thick max.
- Special automatic machinery sprays alternate layers of ceramic dielectric and metallic electrodes until desired capacitance is achieved
- Excellent humidity resistance is assured by the solid homogeneous block construction

μF	Cat. No.	μF	Cat. No.
25 VOLTS D-C			
.075	31C3	.2	31C6
.1	31C4	.3	31C7
.15	31C5	.5	31C8
		.75	31C9

HYPERCON^{*} CERAMIC DISCS

- Ultra-miniature ceramic discs ideal for use in transistorized circuitry
- Designed for by-pass and coupling applications but particularly well-suited for any low voltage use where high capacitance and low power factor are important considerations
- Superior to electrolytic capacitors of similar capacitance values because of the very low power factor of Hypercon Capacitors
- Capacitance Tolerance: GMV

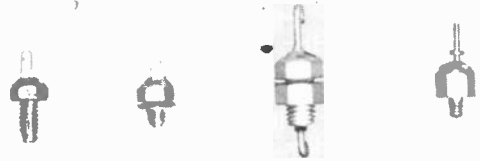
μF	Cat. No.	List
3 VOLTS D-C		
.1	HY-120	\$.60
.22	HY-125	.35
.47	HY-130	.35
1.0	HY-135	.35
2.2	HY-150	.35

*Trademark

SPRAGUE CAPACITORS

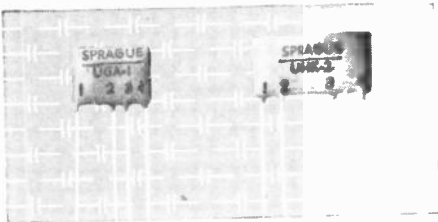
BUTTONHEAD CERAMICS

μF	Cap. Tol.	Cat. No.	List
47	±20%	BH-105	\$.70
100	±20%	BH-110	.70
220	±20%	BH-115	.70
470	GMV	BH-120	.70
1000	GMV	BH-140	.70
47	±20%	BH-205	.90
100	±20%	BH-210	.90
220	±20%	BH-215	.90
470	GMV	BH-220	.90
680	GMV	BH-225	.90
1000	GMV	BH-240	.90
47	±20%	BH-305	1.15
100	±20%	BH-310	1.15
470	±20%	BH-320	1.15
470	GMV	BH-321	1.15
1000	GMV	BH-340	1.15
47	±20%	BH-405	.80
100	±20%	BH-410	.80
470	GMV	BH-420	.80
1000	GMV	BH-440	.80



- Designed for u-h-f TV Receivers and Electronic Equipment
- Flat Disc Design Means Low Self-inductance and High Self-Resonant Frequency—Superior to Similar Units using Tubular Ceramic Elements
- Capacitor Element Seated in Top of Unit with Plastic Resin
- BH-305 series are Feed-Thru Capacitors Intended for Filtering Leads thru Chassis—have 12-28 Double-Flatted Screw
- Stand-off Capacitors for By-pass Applications: BH-105 series has Self-tapping No.-6-32 Thread, the BH-205 series has Standard No. 6-32 Machine Screw Thread with Captive Lock-washer, and the BH-405 series has No. 3-48 Thread
- All Screw-mounting Types Have Hexagon Heads
- Units Listed Here are Rated at 500 WVDC

"UNIVERSAL" CERAMIC CAPACITORS



- Another EXCLUSIVE Sprague Development Designed for the Convenience of Dealers and Service Technicians
- Intended for Field or Shop Use as Replacements for Conventional Capacitors Which Cannot Be Immediately Obtained

- These Remarkable New Units are Ceramic Plate Capacitors with four leads. By Using Certain Leads for Terminals, Soldering Certain Leads Together, and Cutting Off Certain Leads, Many Ratings May Be Obtained
- UGA-1 and UGA-2 Are General Application Types Intended for Bypass and Coupling Applications. Ideal for Replacing Older G-A Types, such as Molded Micacs, Tubular Ceramics, Paper Tubulars
- UHK-1 and UHK-2 Are High-K Types for Use Where Minimum Capacitance is Required. Can Also Be Used for Bypass and Coupling Where Additional Capacitance Is Not Important
- "Universal" Ceramics Come Complete With Simple Instructions on How To Make Up Desired Ratings

"UNIVERSAL" CERAMICS CAN BE QUICKLY CONVERTED TO RATINGS (μF) SHOWN IN TABLE BELOW

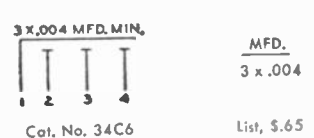
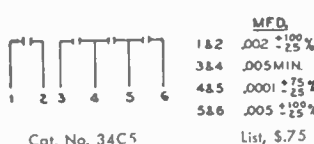
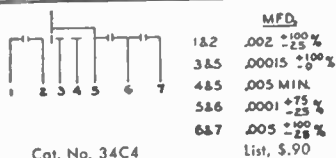
UGA-1	UGA-2	UHK-1	UHK-2
.0004	.0006		
.00047	.00068	.001	.0025
.0005	.00075		
.00056	.0008	.0015	.0033
.0006	.00082		
.00068	.001	.002	.004
.00075	.0012		
.0008	.0013	.0022	.0047
.00082	.0015		
.001	.0016	.0025	.005
.0012	.0018		
.0013	.002	.0033	.0068
	.0022		
	.0025	.004	.01
	.0027		
			.015

Cat. No.	Type	Ratings Available	Capacitance (Range μF)	Tolerance	WVDC	L x W x T.	List
UGA-1	G-A	12	.0004 to .0013	±20%	500	2 ⁵ / ₃₂ x 5 ⁵ / ₈ x 3 ³ / ₃₂	\$.50
UGA-2	G-A	15	.0006 to .0027	±20%	500	1 ¹ / ₈ x 5 ⁵ / ₈ x 3 ³ / ₃₂	.60
UHK-1	High-K	7	.001 to .004	gmV	500	2 ⁵ / ₃₂ x 5 ⁵ / ₈ x 3 ³ / ₃₂	.50
UHK-2	High-K	8	.0025 to .015	gmV	500	1 ¹ / ₈ x 5 ⁵ / ₈ x 3 ³ / ₃₂	.60

BULPLATE® MULTIPLE CERAMIC CAPACITORS

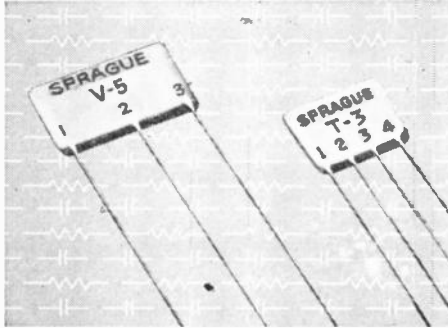


- These Rugged Units Combine in One Compact Assembly All the Capacitors Used in One or More Stages of a Radio Circuit
- Fit Tight Spaces in Miniature Sets
- Rated at 500 WVDC, 1000 VDC Test



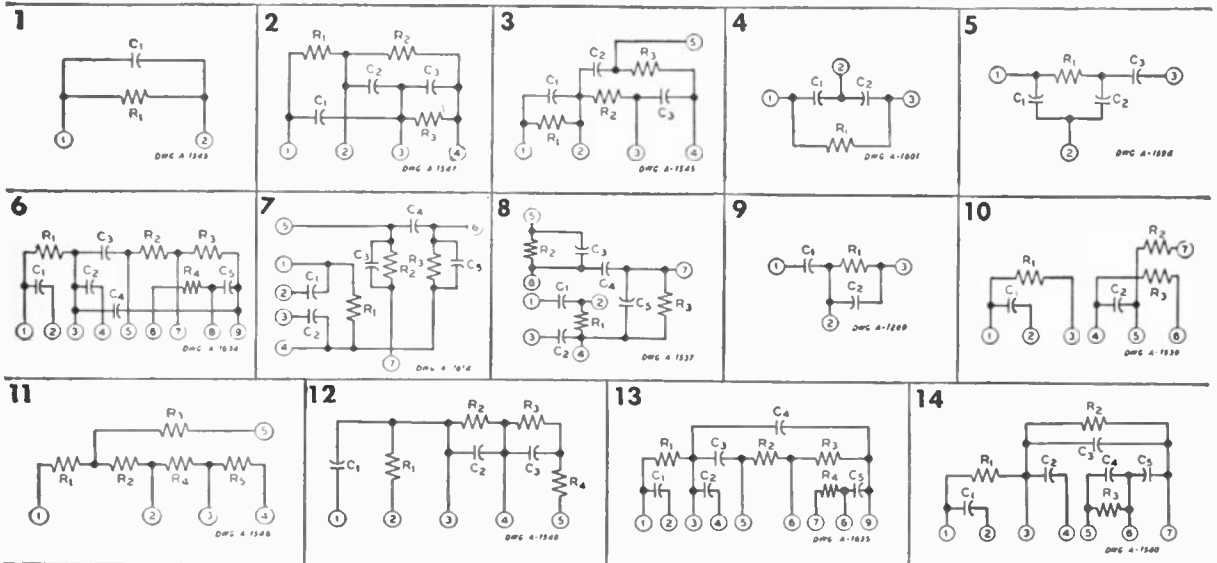
SPRAGUE CAPACITORS

BULPLATE[®] and MULTI-COMP[®] PRINTED CIRCUITS



- Bulplates (rectangular plates) and Multi-comps (circular discs) are especially designed to save space and reduce assembly time
- Combinations of resistors and capacitors of maximum compactness
- Integral connections are "printed" and brought out to external leads which are anchored to the basic ceramic plate
- Completed units are protected by a tough moisture-proof coating
- Maximum voltage to be applied across these units is 250 volts d-c, except on D-1 which is rated at 100 volts d-c
- Types ACI-1, ACI-2, ACI-3, ACI-4, PRC-1, PRC-3, PRC-4, PRC-5, PRC-6, V-14, and V-15 are Multi-comp disc-type units—All others are Bulplate rectangular plates

*trademark



ANTENNA-CHASSIS ISOLATION

Fig.	C ₁ (μF)	R ₁ (MΩ)	Cat. No.	List Price
1	470	.2 - 1.0	ACI-1	\$.25
1	4700	.75 - 1.5	ACI-2	.35
1	1000	.75 - 1.5	ACI-3	.30
1	5000	.2 - 1.0	ACI-4	.35

AUTOMATIC GAIN CONTROL

Fig.	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	R ₄ (KΩ)	R ₅ (KΩ)	Cat. No.	List Price
11	71.2	126	389	82	820	AGC-1	\$.65

PHASE COMPARATOR

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	R ₄ (KΩ)	Cat. No.	List Price
12	82	100	1000	680	680	4700	200	C-1	\$.70
2	1000	150	150	100	100	100	—	C-2	.65
3	180	150	150	680	390	8.2	—	C-3	.70
12	68	120	1000	100	680	4700	220	C-4	.70
12	82	200	1500	100	680	4700	220	C-5	.80

DIODE FILTER

Fig.	C ₁ (μF)	C ₂ (μF)	R ₁ (KΩ)	Cat. No.	List Price
4	100	100	47	D-1	\$.60
4	150	150	47	D-2	.60

DIODE FILTER (Continued)

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	R ₁ (KΩ)	Cat. No.	List Price
4	50	50	—	47	D-3	\$.60
4	100	100	—	100	D-4	.60
5	330	680	.01	100	D-5	.80

DETECTOR PENTODE COUPLING

Fig.	C ₁ (μF)	C ₂ , C ₃ (μF)	C ₄ (μF)	C ₅ (μF)	R ₁ (MΩ)	R ₂ (MΩ)	R ₃ (MΩ)	R ₄ (MΩ)	Cat. No.	List Price
6	.002	150	.01	.005	10	4.7	1.0	3.3	DP-1	\$1.25
6	.002	150	.01	.005	4.7	4.7	1.0	2.2	DP-2	1.00
13	.005	150	.01	.0005	10	4.7	1.0	3.3	DP-3	1.50
6	.001	68	.01	.0025	10	4.7	1.0	3.3	DP-4	1.25
6	.002	150	.01	.005	10	4.7	1.0	3.3	DP-5	1.25

DETECTOR TRIODE COUPLING

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	C ₄ (μF)	C ₅ (μF)	R ₁ (MΩ)	R ₂ (KΩ)	R ₃ (KΩ)	Cat. No.	List Price
7	.0022	220	220	.0047	220	6.8	470	—	DT-1	\$1.00
7	.005	220	220	.005	220	6.8	470	—	DT-2	1.15
7	.002	220	500	.005	500	6.8	470	—	DT-3	1.00
7	.002	220	250	.005	250	6.8	470	—	DT-4	1.00
7	.005	220	250	.005	250	6.8	470	—	DT-5	1.15
7	.005	220	250	.005	250	10	470	—	DT-6	1.15
7	.005	220	125	.005	250	6.8	470	—	DT-7	1.00
14	.002	400	220	.00022	5000	6.8	470	—	DT-8	.95
8	.002	400	220	.005	220	6.8	470	—	DT-9	.70
10	.005	5000	—	—	—	6.8	470	—	DT-10	.85
9	.01	50	—	(Formerly PB-2)	—	4.7	—	—	DT-11	.75

SPRAGUE CAPACITORS

BULPLATE and MULTI-COMP PRINTED CIRCUITS, continued

The diagrams show various circuit topologies for different capacitor models. Each diagram is labeled with a figure number (15-34) and a model number (e.g., DMC A 1600, DMC A 1512, etc.). The components are labeled with R1, R2, R3 for resistors and C1, C2, C3, C4 for capacitors. The terminals are numbered 1 through 5.

DECOUPLING FILTER

Fig.	C ₁ (μF)	C ₂ (μF)	R ₁ (Ω)	R ₂ (Ω)	Cat. No.	List Price
15	.0047	.0047	1000	1000	F-1	\$.85
15	.0047	.0047	220	820	F-2	.85

HORIZONTAL NETWORK

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	C ₄ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	Cat. No.	List Price
16	.001	.0015	.390	.003	10	39	5.6	HN-1	\$.90
17	.001	.002	.390	.003	15	39	5.6	HN-2	.90
18	.001	.001	.390	.003	8.2	39	8.2	HN-3	.90

PENTODE COUPLING

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	C ₄ (μF)	R ₁ (MΩ)	R ₂ (MΩ)	R ₃ (MΩ)	Cat. No.	List Price
19	.47	.0022	.0047	—	4.7	1.0	2.2	P-1	\$.90
19	100	.0047	.0047	—	4.7	1.0	2.2	P-2	.90
19	100	.005	.002	—	4.7	1.0	2.2	P-3	1.00
20	5000	.00047	.00047	.003	1.5	10	—	P-4	.85
21	6800	.01	—	—	6.8	1.0	.47	P-5	1.00
22	5000	.001	.003	—	.39	10	—	P-6	.85
23	5000	.00033	.003	—	10	—	—	P-7	.75
24	5000	.00035	—	—	10	—	—	P-8	.60

PARALLEL RESISTOR-CAPACITOR

Fig.	C ₁ (μF)	R ₁ (KΩ)	Cat. No.	List Price
25	.56	47	PRC-1	\$.25
25	.330	220	PRC-2	.25

PARALLEL RESISTOR-CAPACITOR (Continued)

Fig.	C ₁ (μF)	R ₁ (KΩ)	Cat. No.	List Price
25	.470	470	PRC-3	\$.25
25	.800	22	PRC-4	.25
25	.330	150	PRC-5	.30
25	.5000	68	PRC-6	.25

RETRACE SUPPRESSION

Fig.	C ₁ (μF)	C ₂ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	Cat. No.	List Price
26	.005	.01	10	1000	RS-1	\$.70
26	.005	.002	10	1000	RS-2	.70
26	.01	.01	2.7	56	RS-3	.90
27	.01	.01	10	—	RS-4	.55

SOUND I-F

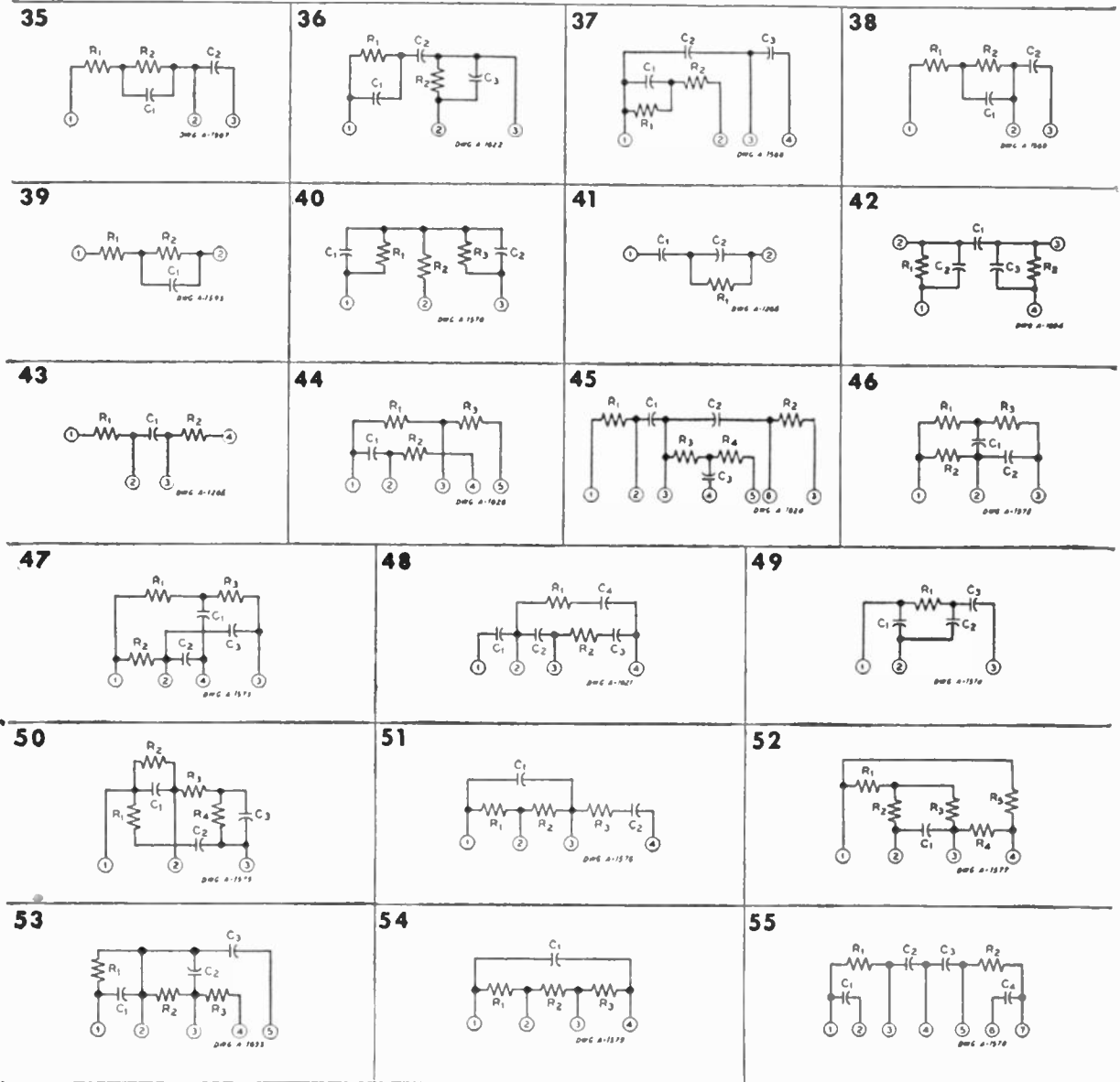
Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	R ₁ (Ω)	R ₂ (Ω)	R ₃ (Ω)	Cat. No.	List Price
28	5000	5000	—	150	220	—	SI-1	\$.90
28	5000	2000	—	330	27 K	—	SI-2	.60
29	470	.5	.5	47	33 K	470	SI-3	1.00
30	470	470	1500	470	2.2 Meg.	—	SI-4	.80

SYNC TAKEOFF

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	Cat. No.	List Price
31	.01	.00027	.25	10	330	2200	ST-1	\$1.25
31	.01	.00027	.25	10	220	2200	ST-2	1.25
32	.01	.00027	.25	220	2200	—	ST-3	1.25
31	.01	.00027	2.2	10	330	2200	ST-4	1.00
33	.001	.014	—	4700	220	—	ST-5	.70
34	.00047	.0008	10000	470	2200	—	ST-6	1.00

SPRAGUE CAPACITORS

BULPLATE and MULTI-COMP PRINTED CIRCUITS, continued



SYNC TAKEOFF (Continued)

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	Cat. No.	List Price
35	.00068	.005	—	10	220	—	ST-7	\$.60
36	.00015	.01	25	470	2200	—	ST-8	1.25
37	.001	.001	3300	4700	200	—	ST-9	.65
38	.00068	.005	—	4.7	220	—	ST-10	.70
39	.00015	—	—	15	270	—	ST-11	.75
40	.00033	.00033	—	270	2200	560	ST-12	.65
41	.01	.00015	—	270	—	—	ST-13	.75

TRIODE COUPLING

Fig.	C ₁ (μF)	C ₂ , C ₃ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	Cat. No.	List Price
42	.01	250	500	500	—	T-1	\$.75
42	.01	250	250	500	—	T-2	.75
42	.005	250	500	500	—	T-3	.70
42	.005	250	250	500	—	T-4	.70
43	.01	—	470	1000	—	T-5	.75
42	.01	500	500	500	—	T-6	.60
44	.01	—	150	1000	147	T-7	1.00

TONE COMPENSATION

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	C ₄ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	R ₄ , R ₅ (KΩ)	Cat. No.	List Price
45	4700	4700	100	—	100	100	470	1.0	TC-1	\$1.25
46	1500	1500	—	—	4700	4700	4700	—	TC-2	.60
47	3000	400	250	—	4700	4700	4700	—	TC-3	.75
48	200	100	4500	4500	50	50	—	—	TC-4	1.00
48	100	50	2500	2500	100	100	—	—	TC-5	1.00
49	1000	4000	10000	—	22	—	—	—	TC-6	.60
50	150	4700	2200	—	220	47	47	270	TC-7	1.10
51	150	10000	—	—	150	47	27	—	TC-8	.75
52	10	—	—	—	7.3	107	132	150	TC-9	1.00
53	390	2200	5000	—	47	10	10	—	TC-11	1.25
54	47	—	—	—	100	100	100	—	TC-12	.75
55	470	1000	.01	4700	220	22	—	—	TC-13	1.25

SPRAGUE CAPACITORS

BULPLATE and MULTI-COMP PRINTED CIRCUITS, continued

VERTICAL INTEGRATOR

Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	C ₄ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	R ₄ (KΩ)	Cat. No.	List Price
56	.012	—	—	—	22	16.4	—	—	V-1/V-3	\$1.10
64	.01	.002	.005	.005	22	22	8.2	8.2	V-2	1.25
57	.012	—	—	—	16.4	—	—	—	V-4	1.10
58	.0047	.0047	—	—	22	10	—	—	V-5	1.00
65	.004	.01	.01	—	10	10	10	1000	V-6	.80
66	.00018	.00013	.0008	.0008	47	47	68	100	V-7	1.00
67	.01	.002	.005	.005	22	8.2	8.2	—	V-8	1.25
59	.0025	.00033	—	—	33	15	—	—	V-9	.60
68	.00015	.005	.004	.004	33	33	90	—	V-10	1.10
69	.00015	.005	.004	—	33	33	90	—	V-11	1.05
70	.05	.002	—	—	1000	1000	10	—	V-12	2.00

VERTICAL INTEGRATOR (Continued)

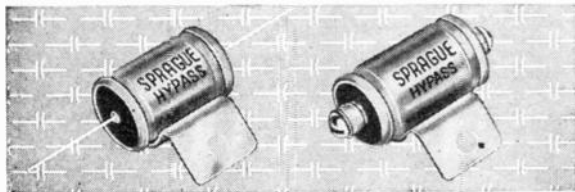
Fig.	C ₁ (μF)	C ₂ (μF)	C ₃ (μF)	C ₄ (μF)	C ₅ (μF)	R ₁ (KΩ)	R ₂ (KΩ)	R ₃ (KΩ)	Cat. No.	List Price
71	.0051	.01	.0022	.001	470	47	33	82	V-13	\$.80
60	.001	—	—	—	—	70	—	—	V-14	.31
60	.001	—	—	—	—	90	—	—	V-15	.31
72	.001	.002	—	—	—	82	39	—	V-16	.71
61	.001	.004	.01	—	—	22	(Formerly PB-3)	—	V-17	.71
62	.00025	.01	—	—	—	4700	(Formerly PB-4)	—	V-18	1.00

VERTICAL FEEDBACK

Fig.	C ₁ C ₂ (μF)	C ₃ (μF)	R ₁ R ₂ (KΩ)	Cat. No.	List Price
63	.001	.002	100	VF-1	\$.71

SPRAGUE FILTERS

HYPASS® CAPACITORS

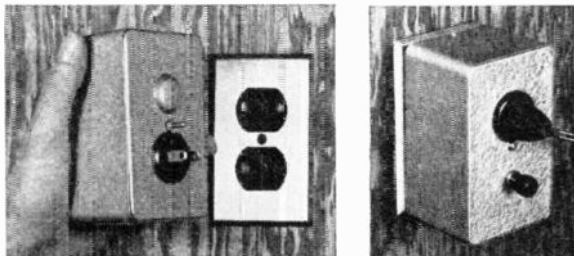


- Exclusive Sprague 3-terminal Network Feed-thru Capacitors
- Bypass V-H-F Currents Where Ordinary Capacitors are ineffective
- Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
- Eliminate Interference caused by Line-conducted Radiation Between Neighboring TV Sets
- Install Leads in Series with Circuit Being Filtered and Ground the Case

μF	Amps.	WVDC	Dia. x Length	Cat. No.	List
.5	40	50	1 x 1 1/16	*48P18	\$3.80
.1	20	250(VAC)	1 1/16 x 1 1/16	*48P9	2.60
.1	20	600	1 1/16 x 1 1/16	*48P8	2.60
.002	15	600	1/4 x 1 5/8	46P12	2.15
.005	15	600	1/4 x 1 5/8	46P8	2.15
.01	20	600	3/16 x 1 1/4	47P6	2.35
.1	20	600	1 1/16 x 1 1/16	*†80P3	2.95
.005	20	1000	7/16 x 1 1/4	47P12	2.40
.01	20	1000	3/16 x 1 1/2	47P13	2.60
.005	20	2500	1 x 1 1/16	47P14	2.90
.01	20	2500	1 x 1 1/16	47P15	3.10
.002	20	5000	1 x 1 1/16	47P16	3.20

*Has female screw terminals
Bulkhead mounting.

TYPE F-400 MIRACLE FILTEROL®

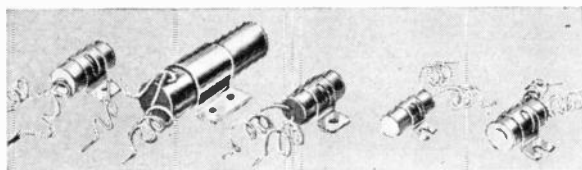


A LINE FILTER THAT REALLY WORKS!

- Effectively Suppresses Radio Interference by Filtering Power Lines of Receivers and Appliances
- Maximum Noise Eliminating Efficiency because of Practically Zero Length of Ground Lead
- Plugs into Standard Duplex Wall Outlet—Captive Screw Fastens Filterol F-400 to Outlet for Safe, Secure Mounting
- Direct Wall-Mounting Provides Neat Installation—No Unsightly Cord—Receiver or Appliance Plugs into Standard Outlet on Face of F-400
- Will Also Operate at Slightly Reduced Efficiency in Older Homes where Wiring is of Knob and Tube or 2-Conductor Non-Metallic Sheathed Cable Type by Using the External Grounding Post Provided for this Purpose
- Handsomely Finished in Tan Hammerloid Baked Enamel
- Rated at 5 Amperes, 125 Volts AC or DC

TYPE F-400 FILTEROL.....\$7.45 net

TYPE IF FILTERS



IF-15 IF-11 IF-21 IF-S1 IF-37

IF-15—TRIPLE-SECTION FILTER for small motor-operated devices such as fans, drills, etc. designed to prevent shocks from discharge of filter capacitors.

IF-11—DUAL HIGH-CAPACITY FILTER designed for use on motors over 1 hp up to 220 volts ac-dc. Also used on high-current arcing devices.

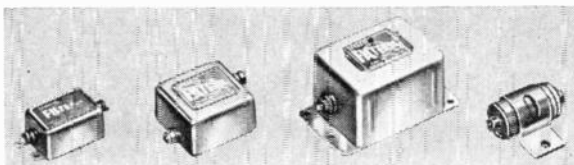
IF-21—COMPACT DUAL FILTER for use on fractional horsepower motors with case grounded to motor frame. Also used across line terminals of motors.

IF-S1—SINGLE SECTION 2-LEAD FILTER for use across make-and-break contacts, such as thermostats, circuit breakers, etc.

IF-37—3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Also used on governor-type motors. *UL* approved.

Cat. No.	Volts AC or DC	Dia. x Length	List
IF-15	220	1 x 2 3/16	\$2.60
IF-11	220	1 3/8 x 5 1/4	7.80
IF-21	220	1 x 2 3/16	1.75
IF-S1	220	3/4 x 2 1/16	1.15
IF-37	220	1 x 2 3/16	2.25

FILTEROL® FILTERS



FILTEROL 1 FILTEROL 2 FILTEROL 3 FILTEROL 4

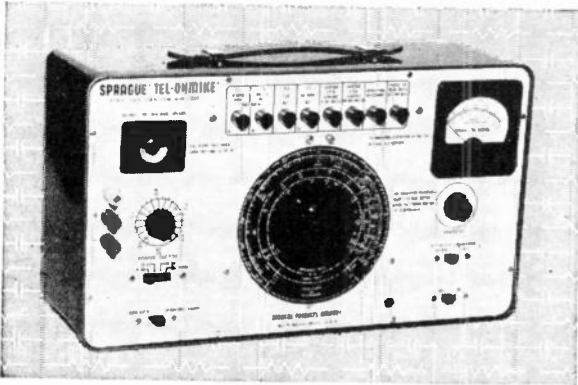
Filterol Types 1, 2, and 3—Designed for connection in series with power supply lines to interference-producing devices . . . A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous producing current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary . . . For three or four-wire systems, a Filterol in each wire is necessary.

Filterol Type 4—A new, exclusive Sprague development incorporating a Sprague HYPASS® Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.

Cat. No.	Amps.	Volts AC or DC	Size	List
Filterol 1	1	115	7/8 x 1 1/4 x 1 1/4	\$13.50
Filterol 2	10	115	1 1/8 x 2 x 2	14.80
Filterol 3	35	115	1 7/8 x 2 3/8 x 3 3/8	27.40
Filterol 4	20	115	1" dia. x 1 1/16" long	3.0

SPRAGUE TEST EQUIPMENT

TO-5 TEL-OHMIKE* CAPACITOR ANALYZER



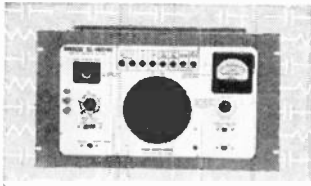
Modern service shops find the TEL-OHMIKE a must. The TO-5 is a moderately priced instrument with laboratory quality and accuracy — the highest accuracy of any instrument of its type available to the service trade!

MODEL TO-5RM FOR RACK MOUNTING

Electrically identical with the standard instrument, Model TO-5RM has a standard 19" wide x 10½" high panel so that it can be mounted in standard relay racks.

Model TO-5RM \$93.90 net

*Trademark



- **CAPACITANCE BRIDGE** measures up to 2000 mf in five overlapping ranges. The special 1 mmf to 100 mmf range is exclusive with the Tel-Ohmike.
- **INSULATION RESISTANCE** directly read on large meter up to 20,000 megohms for papers, ceramics, and micas. No guessing with neon lamps.
- **LEAKAGE CURRENT** of electrolytics measured directly on meter, with exact rated voltage up to 600v. applied from continuously adjustable power supply. Two ranges: 0-6-60 ma. No guessing on eye-width or counting lamp blinks!
- **POWER FACTOR** of electrolytics measured by Wien Bridge up to 55% in three ranges.
- **TURNS RATIO SCALE** to measure turns ratio of power and audio transformers.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements.
- **PUSH-BUTTONS** for instant range selection, also discharge capacitors for safety upon release.
- **MODERN CASE** finished in two-tone gray, measures 8⅞" high, 14⅝" wide, 6⅛" deep. Weight only 12½ pounds.

MODEL TO-5 115 VAC / 50-60 cy \$83.90 net
 Model TO-5X 115-230 V / 25-60 cy \$89.90 net

LF-1 TRANSIMULATOR®

SPEEDS DESIGN OF TRANSISTOR CIRCUITS BY ELIMINATING BREADBOARD LAYOUT

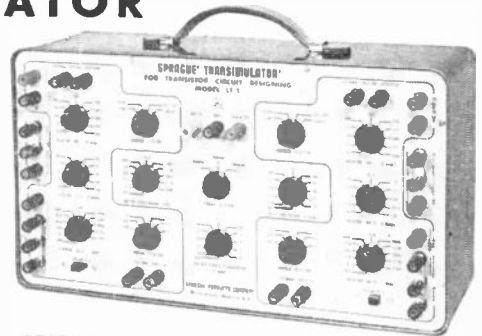
Bring transistor circuits to life in a matter of minutes with the Sprague LF-1 Transimulator. This new instrument lets you simulate any amplifier stage, a-c or direct-coupled, short of high power audio output; also multivibrator, switching, phasing, push-pull, Class A and B, and many others using cross-coupled Transimulators . . . whether the circuit is common or grounded emitter, base, or collector . . . whether the transistors are PNP, NPN, or Surface Barrier. You can simulate circuits stage-by-stage for cascade operation . . . or use a separate Transimulator for each stage to get simultaneous multi-stage operation.

Bring Circuit Diagrams To Life In Minutes

Everything you need for RC amplifier circuits is built right into the LF-1, including coupling capacitors . . . bias and load resistors . . . battery voltage supplies . . . Base Collector—Voltage Divider stabilization circuits . . . 5-way binding posts for transformer coupling and metering. Whether you're designing audio circuits or switching circuits, you'll get a true picture of operating parameters minutes after you've drawn the circuit diagram . . . without wasting valuable time with breadboard and soldering gun.

Pays For Itself In A Matter Of Weeks

An ideal laboratory instrument, Transimulators are inexpensive enough to justify several on every bench. You can even use the LF-1 to test transistors *in the circuit* . . . the only real proof of design parameters. And a complete step-by-step instruction manual makes operation fast, simple, and easy.



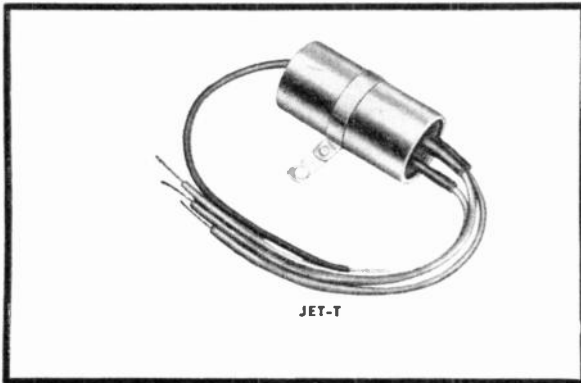
FEATURES OF THE LF-1 TRANSIMULATOR

- **TRANSISTORS**—PNP and NPN Junction, and Surface Barrier.
- **CIRCUITS**—Common or Grounded Emitter, Base, Collector.
- **RANGE**—Audio, up to 100 kc.
- **TRANSISTOR POWER**—Through medium power audio output.
- **BATTERY SUPPLY**—Separate bias and load. 1.5, 3, 4.5, 6 volts d-c. Polarity Reversing Switch.
- **COUPLING**—2 μf and 20 μf Direct, and Ext. C. posts, on both Input and Output.
- **BIAS RESISTANCE**—Up to 555,000 ohms continuously variable.
- **LOAD RESISTANCE**—Up to 277,500 ohms continuously variable.
- **EMITTER RESISTANCE**—Up to 2,500 ohms variable. Series resistor and bypass capacitor can be added.
- **BASE COLLECTOR STABILITY**—Up to 250,000 ohms variable. Series resistor and bypass capacitor can be added.
- **VOLTAGE DIVIDER STABILITY**—Up to 50,000 ohms variable.
- **5-WAY BINDING POSTS**—For meters, transformer coupling, external supply voltage, degeneration, bypass, coupling, signal input and output, almost any connection required.

\$79.50 NET



MULTI-SECTION TUBULAR ELECTROLYTICS



JET-T

A series of compact, tubular METAL-CASED, CARDBOARD SLEEVED electrolytics—specially sealed against heat and humidity.

Featuring—

- ◆ Direct-to-terminal internal lead construction reduces possibility of shorts. (Pure aluminum wires crimped securely together with outer leads within aluminum stud terminals.)
- ◆ New high-insulation vinylite covered leads — generous 7 inches long.
- ◆ Sections sealed in aluminum tube for protection against moisture getting in, or electrolyte drying out.
- ◆ Wax impregnated cardboard outer insulation sleeve.
- ◆ Rubber diaphragm-type vent insures ideal vent action under all conditions.
- ◆ **IDEAL FOR OPERATION AT TEMPERATURES UP TO 85° C.**

JET-D — Dual Common Negative

JET-D Cat. No.	Cap. Mfd.	D.C. W. Volts	Conf Size—Inches Dia. x Lgth.	List Price	Net Price
JET-D 2202	20-20	25	3/4 x 1 1/16	\$1.40	\$.84
JET-D 1115	10-10	50	3/4 x 1 1/16	1.40	.84
JET-D 2115	20-10	150	3/4 x 1 1/16	1.55	.93
JET-D 2215	20-20	150	3/4 x 1 1/16	1.65	.99
JET-D 3215	30-20	150	3/4 x 1 1/16	1.70	1.02
JET-D 3315	30-30	150	3/4 x 1 1/16	1.80	1.08
JET-D 4215	40-20	150	3/4 x 1 1/16	1.75	1.05
JET-D 4315	40-30	150	3/4 x 2	1.80	1.08
JET-D 4415	40-40	150	3/4 x 2	1.85	1.11
JET-D 5315	50-30	150	3/4 x 2	1.95	1.17
JET-D 5515	50-50	150	1 x 2	2.10	1.26
JET-D 8415	80-40	150	1 x 2 3/16	2.25	1.35
JET-D 8515	80-50	150	1 x 2 1/2	2.30	1.38
*JET-D 0183.7	100-50	150	1 x 3	3.00	1.80
*JET-D 10101.5	100-100	150	1 x 3	3.20	1.92
*JET-D 0196	200-5	200	1 x 4 1/16	3.50	2.10
JET-D 8D25	8-8	250	3/4 x 1 1/16	1.60	.96
JET-D 16825	16-8	250	3/4 x 2	1.70	1.02
JET-D 16D25	16-16	250	3/4 x 2	1.80	1.08
JET-D 2225	20-20	250	1 x 1 1/16	1.85	1.11
JET-D 3325	30-30	250	1 x 2 1/16	2.25	1.35
*JET-D 7V225	75-20	250	1 x 3	2.60	1.56
*JET-D 0242	80-10	250	1 x 3	2.55	1.53
*JET-D 0246	120-80	250	1 3/16 x 3 1/16	4.00	2.40
*JET-D 0286	150-100	300	1 3/4 x 3 1/16	5.25	3.15
*JET-D 0334	140-5	350	1 1/2 x 4 1/16	4.15	2.49
JET-D 8D45	8-8	450	3/4 x 1 1/16	1.70	1.02
JET-D 16845	16-8	450	1 x 2 1/16	2.00	1.20
JET-D 16D45	16-16	450	1 x 2 1/2	2.25	1.35
*JET-D 2245	20-20	450	1 x 3	2.50	1.50
*JET-D 3345	30-30	450	1 1/4 x 3 1/16	3.00	1.80
*JET-D 4445	40-40	450	1 x 4 1/16	3.40	2.04
*JET-D 0576	60, 125	200, 50	1 x 3	3.25	1.95
JET-D 0646	20, 100	450, 25	1 x 2 1/2	2.20	1.32
*JET-D 0652	40, 50	450, 50	1 x 3 1/16	3.00	1.80
*JET-D 0722	80, 100	450, 50	1 3/8 x 3 1/16	3.75	2.25
*JET-D 0707	30, 50	450, 200	1 1/8 x 2 1/2	2.85	1.71

{For OVERALL size add 1/16" to Diam. and 3/16" to Length.
All above Packed—5 Units per Carton, except those marked (*) which are individual Carton Packed.

JET-T — Triple-Common Negative

JET-T Cat. No.	Cap. Mfd.	D.C. W. Volts	Conf Size—Inches Dia. x Lgth.	List Price	Net Price
JET-T 22215	20-20-20	150	3/4 x 1 1/16	\$2.20	\$1.32
JET-T 32V215	30-25-20	150	3/4 x 2	2.25	1.35
JET-T 33315	30-30-30	150	1 x 2	2.35	1.41
JET-T 42215	40-20-20	150	1 x 1 1/16	2.25	1.35
JET-T 43215	40-30-20	150	1 x 2	2.35	1.41
JET-T 44215	40-40-20	150	1 x 2	2.35	1.41
JET-T 44415	40-40-40	150	1 x 2 1/16	2.45	1.47
JET-T 53215	50-30-20	150	1 x 2	2.45	1.47
*JET-T 84215	80-40-20	150	1 x 3	2.75	1.65
*JET-T 0126.5	150-150-150	150	1 3/8 x 4 3/16	4.75	2.85
*JET-T 7V4125	75-40-10	250	1 1/4 x 3	3.45	2.07
*JET-T 0185	40-40-40	300	1 1/4 x 3	4.60	2.91
*JET-T 0196	120-40-10	350	1 3/8 x 3 1/16	4.85	2.91
*JET-T 0235	60-60-5	350	1 3/8 x 3 1/16	4.25	2.55
*JET-T 11145	10-10-10	450	1 x 2 1/2	2.45	1.47
*JET-T 16745	16-16-16	450	1 1/8 x 3	3.10	1.86
JET-T 4415X25	40-40, 250	150, 10	1 x 2 1/16	2.60	1.56
JET-T 5315X20	50-30, 200	150, 10	1 x 2 1/16	2.55	1.53
JET-T 5315C	50-30, 20	150, 25	1 x 1 1/16	2.35	1.41
JET-T 5515C	55-50, 20	150, 25	1 x 2 1/16	2.50	1.50
JET-T 8415C	80-40, 20	150, 25	1 x 2 1/2	2.65	1.59
JET-T 3215C10	30-20, 100	150, 25	1 x 2	2.35	1.41
JET-T 2215C	20-20, 20	150, 25	3/4 x 1 1/16	2.05	1.23
JET-T 3315C	30-30, 20	150, 25	3/4 x 2	2.20	1.32
JET-T 4215C	40-20, 20	150, 25	1 x 1 1/16	2.15	1.29
JET-T 4315C	40-30, 20	150, 25	1 x 1 1/16	2.20	1.32
JET-T 4415C	40-40, 20	150, 25	1 x 1 1/16	2.25	1.35
JET-T 5315C10	50-30, 100	150, 25	1 x 2 1/16	2.45	1.47
*JET-T 5315C25	50-30, 250	150, 25	1 x 3	3.10	1.86
JET-T 8215C10	80-20, 100	150, 25	1 x 2 1/2	2.75	1.65
JET-T 2225C	20-20, 20	250, 25	1 x 2	2.25	1.35
JET-T 4225C	40-20, 20	250, 25	1 x 2 1/16	2.55	1.53
JET-T 4425C	40-40, 20	250, 25	1 x 2 1/16	2.90	1.74
*JET-T 0733	80-10, 100	300, 50	1 3/4 x 3 1/16	4.05	2.43
*JET-T 0878	140-5, 200	350, 200	1 1/2 x 4 1/16	6.70	4.05
*JET-T 2245C	20-20, 20	450, 25	1 x 3	2.90	1.74
*JET-T 1238	5, 80-40	450, 400	1 3/8 x 3 1/16	4.55	2.73
*JET-T 1411	30, 50, 100	450, 150, 25	1 1/4 x 3	3.70	2.22

JET-Q — Quadruple-Common Negative

JET-Q Cat. No.	Cap. Mfd.	D.C. W. Volts	Conf Size—Inches Dia. x Lgth.	List Price	Net Price
*JET-Q 111145	10-10-10-10	450	1 x 3	\$3.20	\$1.92
*JET-Q 222245	20-20-20-20	450	1 1/4 x 4 1/16	4.50	2.70
*JET-Q 0125	20-20-20-10	450	1 3/8 x 3 1/16	4.25	2.55
*JET-Q 0170.5	40-20-20-10	450	1 3/8 x 3 1/16	4.70	2.82
*JET-Q 0174	40-40-20-20	450	1 3/8 x 4 1/16	5.45	3.27
JET-Q 33215C	30-30-20, 20	150, 25	1 x 2	2.90	1.74
JET-Q 42215C	40-20-20, 20	150, 25	1 x 2	2.85	1.71
JET-Q 44315C	40-40-30, 20	150, 25	1 x 2 1/2	3.00	1.80
JET-Q 53215C	50-30-20, 20	150, 25	1 x 2 1/2	3.05	1.83
*JET-Q 55515C	50-50-50, 20	150, 25	1 x 3	3.45	2.07
*JET-Q 0789.4	140-5, 200-30	300, 150	1 1/2 x 4 1/16	5.15	3.09
*JET-Q 0385	120-40-40, 10	300, 250	1 3/8 x 3 1/16	6.20	3.72
*JET-Q 22245C	20-20-20, 20	450, 25	1 1/4 x 3 1/16	4.05	2.43
*JET-Q 0693.3	10, 20-20-10	450, 350	1 1/2 x 3	3.50	2.10
*JET-Q 0789.5	80-50, 40, 20	350, 300, 150	1 3/8 x 3 1/16	5.90	3.54
*JET-Q 0925	140, 5, 200-30	350, 300, 200	1 1/2 x 4 1/16	7.65	4.59
*JET-Q 0805	80-0, 40, 100	400, 300, 50	1 3/8 x 3 1/16	5.45	3.27
*JET-Q 0926.5	10, 80, 40-40	450, 300, 250	1 3/8 x 3 1/16	4.95	2.97
*JET-Q 0934	10, 40, 40, 100	450, 300, 250, 50	1 3/8 x 3 1/16	4.80	2.88
JET-Q 0954.5	20, 120, 40, 100	450, 300, 250, 50	1 3/8 x 4 1/16	6.15	3.69

TEJ — Dual SEPARATE Section

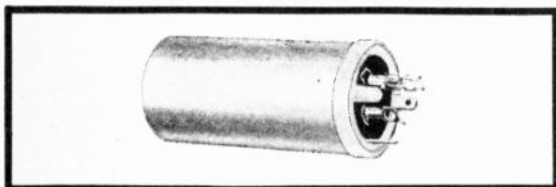
Type TEJ Capacitors are dual units in CARDBOARD TUBE containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the tube casing.

TEMPERATURE RANGE: to +65°C.

TEJ Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Lgth.	List Price	Net Price
*TEJ 221555	20-20	150	1 3/16 x 2 3/8	\$1.65	\$.99
*TEJ 331555	30-30	150	1 x 2 3/8	1.80	1.08
*TEJ 421555	40-20	150	1 x 2 3/8	1.75	1.05
*TEJ 441555	40-40	150	1 1/4 x 2 3/8	1.85	1.11
*TEJ 531555	50-30	150	1 1/4 x 2 3/8	1.95	1.17
*TEJ 551555	50-50	150	1 1/4 x 3 1/8	2.10	1.26
*TEJ 841555	80-40	150	1 1/4 x 3 1/8	2.25	1.35



TWIST-PRONG BASE ELECTROLYTICS



TOBE TD types are small round-can TWIST-PRONG electrolytic units. Each is furnished with a bakelite and a metal mounting washer.

TDX types are especially designed for SELENIUM RECTIFIER circuit applications. ONLY THIS TYPE SHOULD BE USED FOR THIS SERVICE.

TEMP. RANGE: to 475 V.D.C.W. +85°C.
over 475 V.D.C.W. +65°C.

★ PREFERRED TYPE SINGLE SECTION

Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
10 Ohms 30 CPS	TDA0010	3/4 x 2	\$2.50	\$1.50
.5 Ohms 15,750 CPS	TDA0020	1 x 2	2.75	1.65
1 Ohms 60 CPS	TDA0030	1 1/2 x 3	3.50	2.10
★ 2000 6	TDA0040	1 3/8 x 2	2.55	1.53
3000/10	TDA0050	1 3/8 x 2 1/2	3.65	2.19
★ 225 15	TDA0053	3/4 x 2	1.75	1.05
★ 1000 15	TDA0060	1 x 2 1/2	2.55	1.53
★ 2000 15	TDA0070	1 3/8 x 2 1/2	3.45	2.07
★ 3000 15	TDA0080	1 3/8 x 3	3.50	2.10
★ 40 25	TDA0090	3/4 x 2	1.35	.81
100 25	TDA0100	3/4 x 2	2.00	1.20
500/25	TDA0110	1 x 2 1/2	3.20	1.92
★ 500 25	TDA0120	1 x 2	2.55	1.53
★ 1000 25	TDA0130	1 3/8 x 2	3.55	2.13
★ 100 50	TDA0140	3/4 x 2	1.65	.99
★ 150 50	TDA0150	1 x 2	1.80	1.08
★ 500 50	TDA0160	1 3/8 x 2	2.65	1.59
★ 1000 50	TDA0170	1 3/8 x 3 3/8	3.75	2.25
★ 1500 50	TDA0174	1 3/8 x 4 1/8	3.85	2.31
★ 30 150	TDA0180	3/4 x 2	1.55	.93
40/150	TDA0190	1 x 2	2.00	1.20
40 150	TDXA0191	3/4 x 2	2.00	1.20
★ 50 150	TDA0200	1 x 2	1.65	.99
60 150	TDA0220	1 x 2	2.20	1.32
80 150	TDA0230	1 x 2	2.30	1.38
★ 80 150	TDXA0231	1 x 2	1.85	1.11
100 150	TDA0240	1 x 2 1/2	2.50	1.50
★ 100 150	TDXA0241	1 x 2 1/2	2.00	1.20
★ 120/150	TDXA0248	1 x 2 1/2	2.05	1.23
★ 120 150	TDA0250	1 3/8 x 2	2.05	1.23
150 150	TDA0260	1 x 3	2.70	1.62
★ 150 150	TDXA0261	1 x 3	2.15	1.29
★ 200 150	TDXA0262	1 3/8 x 2 1/2	2.45	1.47
★ 200 150	TDXA0262.1	1 x 3 3/8	2.45	1.47
★ 300 150	TDXA0263	1 3/8 x 3	2.80	1.68
80/200	TDXA0265	1 3/8 x 2	2.45	1.47
★ 120 200	TDXA0265.3	1 3/8 x 2	2.80	1.68
150 200	TDXA0266	1 3/8 x 2 1/2	3.50	2.10
★ 20 250	TDA0270	3/4 x 2	1.60	.96
30/250	TDA0280	1 x 2	2.15	1.29
40/250	TDA0290	1 x 2	2.25	1.35
★ 40/250	TDXA0291	1 x 2	1.80	1.08
60/250	TDA0300	1 x 2 1/2	2.55	1.53
80/250	TDA0310	1 x 3	2.70	1.62
★ 80/250	TDXA0312	1 x 3	2.70	1.62
★ 150 250	TDXA0315	1 3/8 x 2 1/2	3.10	1.86
★ 200 250	TDXA0318	1 3/8 x 3	3.95	2.37
50/300	TDA0320	1 x 2 1/2	2.55	1.53
60/300	TDXA0324	1 x 2 1/2	2.65	1.59
80/300	TDA0330	1 x 3	3.20	1.92
★ 80/300	TDXA0331	1 x 3	2.55	1.53
★ 100 300	TDA0340	1 3/8 x 3	2.90	1.74
★ 100 300	TDA0350	1 x 3 3/8	2.90	1.74
★ 150 300	TDXA0355	1 3/8 x 3	3.50	2.10

SINGLE SECTION

Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
15/350	TDA0360	1 x 2	\$2.05	\$1.23
★ 30 350	TDA0370	1 x 2	1.90	1.14
★ 40 350	TDA0380	1 x 2 1/2	2.00	1.20
★ 50 350	TDA0390	1 x 3	2.10	1.26
80 350	TDA0400	1 3/8 x 2 1/2	3.55	2.13
★ 80 350	TDXA0401	1 3/8 x 2 1/2	2.80	1.68
125 350	TDA0410	1 3/8 x 3	4.55	2.73
★ 125 350	TDXA0411	1 3/8 x 3	3.65	2.19
★ 150 350	TDXA0415	1 3/8 x 3 3/8	3.95	2.37
80 400	TDA0420	1 3/8 x 3	3.70	2.22
★ 10 450	TDA0430	1 x 2	1.55	.93
10 450	TDA0440	3/4 x 2	1.95	1.17
15 450	TDA0450	1 x 2	2.15	1.29
★ 20 450	TDA0460	1 x 2	1.80	1.08
★ 30 450	TDA0470	1 x 2 1/2	1.95	1.17
★ 40 450	TDA0480	1 x 3	2.05	1.23
★ 50 450	TDA0490	1 x 3 3/8	2.35	1.41
★ 60 450	TDA0500	1 3/8 x 2 1/2	2.60	1.56
★ 80 450	TDA0510	1 3/8 x 3	3.05	1.83
★ 100 450	TDA0512	1 3/8 x 3	3.45	2.07
★ 125 450	TDA0514	1 3/8 x 4 1/8	3.75	2.25
★ 40 475	TDA0516	1 3/8 x 2	2.50	1.50
★ 10 500	TDA0520	1 x 2	1.60	.96
★ 20 500	TDA0530	1 x 2 1/2	1.85	1.11
25 500	TDA0532	1 x 2 1/2	2.45	1.47
30 500	TDA0540	1 x 3	2.50	1.50
★ 30 500	TDXA0541	1 x 3	2.00	1.20
★ 40 500	TDA0550	1 x 3 3/8	2.50	1.50
★ 80 500	TDA0560	1 3/8 x 3 3/8	3.20	1.92
★ 90 500	TDA0570	1 3/8 x 3 3/8	3.50	2.10

DUAL SECTION

Cap./Volts	Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
.5 Ohms 15,750 CPS.	TDB0010	1 3/8 x 2	4.90	2.94
2.5 Ohms 60 CPS.	TDB0020	1 3/8 x 2	4.80	2.88
1000-500 6 VNP	TDB0030	1 x 3 3/8	4.40	2.64
★ 1000-1000 15	TDB0040	1 3/8 x 2 1/2	4.40	2.64
★ 1000-1000 15	TDB0045	1 x 2	3.15	1.89
★ 500-100 20	TDB0050	1 x 2	1.80	1.08
20-20 25	TDB0060	1 x 2	2.00	1.20
40-40/25	TDB0070	1 x 2	2.40	1.44
150-50/25	TDB0080	1 x 2	1.70	1.02
★ 50-50 50	TDB0085	1 x 2	2.10	1.26
★ 100-100 50	TDB0090	1 x 2	2.15	1.29
20-20 150	TDXB0091	1 x 2	1.70	1.02
★ 20-20 150	TDB0100	1 x 2	2.20	1.32
★ 30-20 150	TDB0110	1 x 2	1.85	1.11
30-30 150	TDB0120	1 x 2	1.80	1.08
★ 40-20 150	TDB0130	1 x 2	1.85	1.11
★ 40-30 150	TDB0140	1 x 2	2.40	1.44
40-40 150	TDXB0141	1 x 2	1.90	1.14
★ 40-40 150	TDB0150	1 x 2	2.00	1.20
★ 50-30 150	TDB0160	1 x 2 1/2	2.70	1.62
50-50 150	TDXB0161	1 x 2 1/2	2.15	1.29
★ 50-50 150	TDXB0165	1 x 3	2.35	1.41
★ 60-60 150	TDB0170	1 x 3	2.60	1.56
★ 75-75 150	TDB0180	1 x 2 1/2	2.90	1.74
80-40 150	TDXB0181	1 x 2 1/2	2.30	1.38
★ 80-40 150	TDXB0183	1 3/8 x 2	2.65	1.59
★ 80-80 150	TDXB0184	1 3/8 x 2 1/2	4.05	2.43
100-100 150	TDXB0184.5	1 3/8 x 2 1/2	3.50	2.10
★ 125-100/150	TDXB0185	1 3/8 x 3	4.40	2.64
150-150/150	TDB0186	1 3/8 x 2 1/2	3.40	2.04
200-5/150	TDXB0187	1 3/8 x 3 3/8	3.75	2.25
★ 200-125/150	TDXB0188	1 3/8 x 3 3/8	3.75	2.25
★ 200-150 150	TDXB0189	1 3/8 x 3 3/8	4.00	2.40
★ 200-200 150	TDB0190	1 3/8 x 2	2.55	1.53
★ 60-60 200	TDXB0194	1 3/8 x 3	3.50	2.10
★ 100-100 200	TDXB0196	1 3/8 x 2 1/2	2.70	1.62
★ 200-5 200	TDB0200	1 x 2	2.15	1.29
10-10 250	TDB0210	1 x 2	1.90	1.14
★ 20-20 250	TDB0220	1 x 2 1/2	2.90	1.74
30-30 250				



TWIST-PRONG BASE ELECTROLYTICS

★ PREFERRED TYPE

DUAL SECTION

DUAL SECTION

Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
40-20/250	TDB0230	1 x 2½	\$2.75	\$1.65
40-40/250	TDB0240	1 x 3	3.20	1.92
★ 40-40/250	TDXB0241	1 x 3	2.50	1.50
80-40/250	TDXB0243	1½ x 2½	3.75	2.25
★ 150-150/250	TDB0250	1½ x 4½	5.15	3.09
★ 200-200/250	TDXB0252	1½ x 4½	6.10	3.66
40-40/300	TDXB0254	1 x 3	3.75	2.25
50-50/300	TDB0260	1½ x 2½	4.20	2.52
80-40/300	TDXB0264	1½ x 2½	4.45	2.67
★ 80-80/300	TDB0270	1½ x 3	4.05	2.43
★ 120-20/300	TDB0280	1½ x 3	4.00	2.40
120-40/300	TDB0282	1½ x 3½	5.45	3.27
★ 200-80/300	TDB0286	1½ x 3½	5.25	3.15
★ 15-15/350	TDB0290	1 x 2	2.25	1.35
20-20/350	TDB0300	1 x 2½	2.90	1.74
★ 30-30/350	TDB0310	1 x 3	2.90	1.74
★ 50-30/350	TDB0320	1½ x 2½	3.15	1.89
★ 80-20/350	TDB0322	1 x 3½	3.50	2.10
★ 80-20/350	TDB0324	1½ x 2½	3.50	2.10
★ 80-40/350	TDB0326	1½ x 3	3.95	2.37
★ 80-80/350	TDB0330	1½ x 3½	4.70	2.82
★ 90-40/350	TDB0331	1½ x 3	4.30	2.58
★ 100-100/350	TDB0332	1½ x 4½	6.15	3.69
★ 160-10/350	TDB0334	1½ x 3½	4.30	2.58
★ 40-120/400	TDB0336	1½ x 4½	5.25	3.15
60-60/400	TDB0340	1½ x 3½	5.50	3.30
80-10/400	TDB0350	1½ x 3	4.25	2.55
★ 80-60/400	TDB0354	1½ x 3½	4.85	2.91
★ 80-80/400	TDB0356	1½ x 4½	4.95	2.97
4-4/450	TDB0360	1 x 2	2.05	1.23
★ 5-5/450	TDB0362	1 x 2	1.60	.96
★ 10-10/450	TDB0370	1 x 2	1.90	1.14
15-10/450	TDB0374	1 x 2½	2.55	1.53
★ 15-15/450	TDB0380	1 x 2½	2.25	1.35
★ 20-10/450	TDB0390	1 x 2½	2.25	1.35
★ 20-20/450	TDB0400	1 x 3	2.55	1.53
★ 30-10/450	TDB0410	1 x 3	2.50	1.50
30-10/450	TDB0420	1½ x 2	3.00	1.80
★ 30-30/450	TDB0430	1½ x 2½	3.05	1.83
40-5/450	TDB0436	1 x 3	3.20	1.92
★ 40-20/450	TDB0440	1½ x 2½	3.00	1.80
★ 40-40/450	TDB0450	1½ x 3	3.45	2.07
★ 50-50/450	TDXB0455	1½ x 3	3.85	2.31
★ 60-20/450	TDB0460	1½ x 3	3.55	2.13
★ 60-40/450	TDB0462	1½ x 3½	3.95	2.37
60-60/450	TDB0464	1½ x 3½	5.65	3.39
★ 80-10/450	TDB0470	1½ x 3	3.60	2.16
★ 80-20/450	TDB0473	1½ x 3½	3.90	2.34
★ 80-40/450	TDB0480	1½ x 3½	4.35	2.61
★ 100-40/450	TDB0483	1½ x 4½	4.85	2.91
★ 15-15/475	TDB0485	1 x 2½	2.35	1.41
★ 30-10/475	TDB0486	1½ x 2	2.60	1.56
★ 40-10/475	TDB0487	1½ x 2½	3.10	1.86
★ 80-50/475	TDB0489	1½ x 4½	5.20	3.12
★ 10-10/500	TDB0490	1 x 2½	1.95	1.17
★ 20-20/500	TDB0500	1½ x 2½	2.85	1.71
25-40/500	TDB0510	1½ x 3	4.55	2.73
★ 30-10/500	TDB0520	1½ x 2½	2.60	1.56
★ 40-40/500	TDB0530	1½ x 3½	4.40	2.64
★ 60-40/500	TDB0340	1½ x 3½	4.60	2.76
★ 250/10 1000 6	TDB0550	1½ x 2	2.85	1.71
40/150 20 50	TDB0560	1 x 2	2.15	1.29
40/150 150 25	TDB0570	1 x 2	2.55	1.53
★ 50/150 500 5	TDB0574	1 x 2½	2.45	1.47
★ 150/150 100 25	TDB0575	1½ x 2½	2.70	1.62
60 200 125 50	TDB0576	1 x 3	3.00	1.80
40 250 20 25	TDB0580	1 x 2	2.50	1.50
50 250 100 50	TDB0590	1½ x 2	3.25	1.95
★ 100 250 150 50	TDB0600	1½ x 3	3.65	2.19
★ 35 300 500 6	TDXB0603	1 x 2½	2.80	1.68
80 300 100 50	TDB0606	1½ x 2½	3.95	2.37
★ 150 300 100/150	TDB0608	1½ x 3½	4.50	2.70
20 350 20 25	TDB0610	1 x 2	2.40	1.44
20 350 100 75	TDB0612	1 x 2½	2.80	1.68

Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
40 350 20 25	TDB0620	1 x 2½	\$2.95	\$1.77
★ 35 400 100 50	TDB0623	1 x 3	2.60	1.56
★ 100 400 30 50	TDB0626	1½ x 3	3.90	2.34
★ 10 450 20 25	TDB0630	1 x 2	1.70	1.02
20 450 20 25	TDB0640	1 x 2	2.50	1.50
20 450 100 25	TDB0646	1 x 2½	2.75	1.65
40 450 20 25	TDB0650	1 x 3	3.05	1.83
40 450 50 50	TDB0652	1 x 3½	3.75	2.25
80 450 20 25	TDB0660	1½ x 3	4.25	2.55
10 450 100 50	TDB0670	1½ x 2	2.55	1.53
★ 20 450 50 250	TDB0674	1 x 3	2.80	1.68
★ 20 450 80 350	TDB0680	1½ x 3	3.65	2.19
20 450 100 100	TDB0690	1½ x 2	3.30	1.98
30 450 40 150	TDB0700	1½ x 2	3.15	1.89
★ 30 450 200/150	TDB0705	1½ x 3	3.50	2.10
★ 40 450 10 350	TDB0710	1½ x 2	2.60	1.56
★ 50 450 100 50	TDB0715	1½ x 2½	3.00	1.80
★ 80 450 50 50	TDB0720	1½ x 3	3.50	2.10
★ 80 450 100 30	TDB0722	1½ x 3½	3.75	2.25
★ 20 475 100 400	TDB0726	1½ x 4½	4.50	2.70
15 500 20 300	TDB0730	1 x 2½	2.90	1.74
20 500 100 300	TDB0740	1½ x 3	4.95	2.97
40 500 50 200	TDB0750	1½ x 2½	4.20	2.52
60 500 80 150	TDB0760	1½ x 3½	4.70	2.82
80 500 50 50	TDB0770	1½ x 3½	4.75	2.85

TRIPLE SECTION

Single Section Cap./Volts	Rotational Stock No.	Size—Ins. Dia. x Lgth.	List Price	Net Price
★ 20-20-20 25	TDC0010	1 x 2	1.95	1.17
★ 40-40-40 25	TDC0020	1 x 2	2.15	1.29
30-30-30 50	TDC0030	1 x 2	3.25	1.95
20-20-20 150	TDC0040	1 x 2	3.55	2.13
★ 20-20-20 150	TDXC0041	1 x 2	2.30	1.38
30-30-10 150	TDC0050	1 x 2	3.55	2.13
★ 40-20-10 150	TDC0060	1 x 2	2.35	1.41
40-20-20 150	TDC0070	1 x 2	3.60	2.16
★ 40-20-20 150	TDXC0071	1 x 2	2.40	1.44
★ 40-30-20 150	TDC0080	1 x 2	2.50	1.50
★ 40-40-40 150	TDC0090	1 x 2½	2.60	1.56
★ 40-70-40 150	TDC0100	1 x 3	2.95	1.77
★ 50-40-10 150	TDC0103	1 x 2½	2.55	1.53
★ 50-50-50 150	TDXC0105	1 x 3	3.00	1.80
★ 60-40-20 150	TDC0110	1 x 2½	2.75	1.65
★ 70-15-15 150	TDC0113	1 x 2½	2.70	1.62
★ 80-40-20 150	TDC0120	1 x 3	2.90	1.74
80-80-80 150	TDXC0123	1½ x 3	5.65	3.39
★ 120-80-40 150	TDXC0125	1½ x 3	3.80	2.28
★ 120-20-40 150	TDXC0126	1½ x 3	4.05	2.43
★ 200-00-60 150	TDXC0127	1½ x 3½	4.55	2.73
★ 200-150-150 150	TDXC0128	1½ x 4½	7.50	4.50
★ 250-200-10 150	TDXC0129	1½ x 4½	5.60	3.36
20-20-10 250	TDC0130	1 x 2	3.75	2.25
★ 20-20-20 250	TDC0132	1 x 2	2.60	1.56
30-20-10 250	TDC0140	1 x 2½	4.05	2.43
40-20-10 250	TDC0150	1½ x 2	4.30	2.58
★ 40-20-20 250	TDC0160	1 x 3	2.90	1.74
★ 80-80-60 250	TDC0170	1½ x 3½	4.90	2.94
20-80-10 300	TDC0180	1½ x 2½	5.70	3.42
★ 60-20-10 300	TDC0190	1½ x 2½	3.45	2.07
★ 80-40-40 300	TDC0194	1½ x 3	4.75	2.85
★ 120-50-40 300	TDC0200	1½ x 4½	5.65	3.39
★ 10-10-10 350	TDC0210	1 x 2	2.40	1.44
20-20-10 350	TDC0220	1 x 3	4.45	2.67
★ 30-20-10 350	TDC0225	1 x 3	3.25	1.95
★ 60-40-20 350	TDC0230	1½ x 3	4.25	2.55
60-40-40 350	TDC0232	1½ x 3½	7.05	4.23
★ 60-50-50 350	TDC0234	1½ x 3½	4.90	2.94
★ 80-60-60 350	TDC0236	1½ x 4½	5.55	3.33
★ 90-40-20 350	TDC0237	1½ x 3½	5.25	3.15
★ 100-100-10 350	TDC0238	1½ x 4½	5.50	3.30
★ 80-20-10 400	TDC0239	1½ x 3	4.30	2.58
★ 90-10-5 400	TDC0239.2	1½ x 3	4.40	2.64
★ 10-10-10 450	TDC0240	1 x 2½	2.60	1.56
15-15-10 450	TDC0250	1 x 3	4.45	2.67
★ 15-15-15 450	TDC0254	1 x 3	3.10	1.86



MOUNTING HARDWARE



UNIVERSAL CLIPS



MOUNTING CLIPS



H
MOUNTING RINGS



"C" CLAMPS



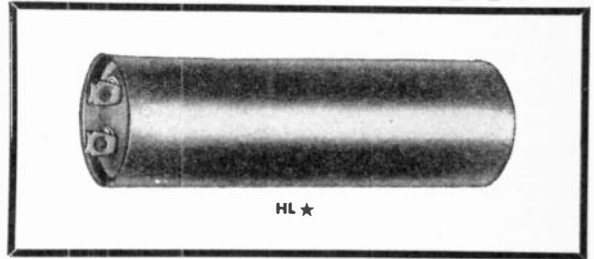
MOUNTING STRAPS



L

Part No.	Description	List Price	Sug- gested Resale
12125	Mounting Ring for 1 3/8" dia. Cans.....L...	\$.20	\$.12
13390	Mounting Ring for 2 1/2" dia. Cans.....L...	.50	.30
13391	Mounting Ring for 3" dia. Cans.....L...	.50	.30
14464	Mounting Ring for 2" dia. Cans.....L...	.50	.30
14382	Mounting Ring for 1" dia. Cans.....L...	.20	.12
15266	Mounting Ring for 3 1/2" dia. Cans.....L...	.50	.30
15391	Mounting Ring for 1 1/2" dia. Cans.....L...	.30	.18
16279	Tubular Mounting Straps, 7/16" ID.....	.15	.09
16280	Tubular Mounting Straps, 1/2" ID.....	.15	.09
16283	Tubular Mounting Straps, 11/16" ID.....	.15	.09
16693	Mounting Ring for 1 3/4" dia. Cans.....L...	.40	.24
17203	Tubular Mounting Straps, 9/16" ID.....	.15	.09
17316	Tubular Mounting Straps, 5/8" ID.....	.15	.09
17517	Tubular Mounting Straps, 3/4" ID.....	.15	.09
17842	Mounting Ring for 1" dia. Cans.....H...	.20	.12
17843	Mounting Ring for 1 3/8" dia. Cans.....H...	.20	.12
17844	Mounting Ring for 1 1/2" dia. Cans.....H...	.30	.18
17920	"C" Clamp for 3/8"-3/4" Cans or Tubulars...	.30	.18
17921	"C" Clamp for 7/8"-1" Cans or Tubulars...	.30	.18
18573	Mounting Ring for 1 1/4" dia. Cans.....H...	.20	.12
19213	Mounting Ring for 1 1/8" dia. Cans.....H...	.20	.12
19883	Metal Washer for 1".....	.14	.08
19884	Bakelite Washer for 1".....	.14	.08
19887	Metal Washer for 1 3/8".....	.14	.08
19888	Bakelite Washer for 1 3/8".....	.14	.08
19890	Metal Washer for 3/4".....	.14	.08
19891	Bakelite Washer for 3/4".....	.14	.08
21368-1	Mounting Clip for 3/8".....	.30	.18
21368-2	Mounting Clip for 1".....	.30	.18
21368-3	Mounting Clip for 1 3/8".....	.30	.18
22272	Wrench for Mounting Units.....	2.48	1.49
27886	Tubular Mounting Straps, 7/8" ID.....	.15	.09
28321-1	Insulating Tube for 3/8" x 2".....	.14	.08
28321-4	Insulating Tube for 1" x 2".....	.14	.08
28321-5	Insulating Tube for 1" x 2 1/2".....	.14	.08
28321-6	Insulating Tube for 1" x 3".....	.14	.08
28321-7	Insulating Tube for 1 3/8" x 2".....	.14	.08
28321-8	Insulating Tube for 1 3/8" x 2 1/2".....	.14	.08
28321-9	Insulating Tube for 1 3/8" x 3".....	.14	.08
28321-12	Insulating Tube for 1 3/8" x 3 3/8".....	.14	.08
28321-15	Insulating Tube for 1 3/8" x 4 1/8".....	.14	.08
28321-19	Insulating Tube for 1" x 3 3/8".....	.14	.08
30010-1	Universal Clips, 3/8"-7/16" Cans or Tubulars...	.30	.18
30010-2	Universal Clips, 1/2"-9/16" Cans or Tubulars...	.30	.18
30010-3	Universal Clips, 5/8"-11/16" Cans or Tubulars...	.30	.18
30010-4	Universal Clips, 3/4"-15/16" Cans or Tubulars...	.30	.18
30010-5	Universal Clips, 7/8"-15/16" Cans or Tubulars...	.30	.18
30010-6	Universal Clips, 1" -1 1/16" Cans or Tubulars...	.30	.18
30010-7	Universal Clips, 1 3/8"-1 7/16" Cans or Tubulars...	.30	.18
30035	Bakelite Washer for 1" in 1 3/8" Hole Mounting	.14	.08
30036	Metal Washer for 1" in 1 3/8" Hole Mounting.	.14	.08

HIGH-CAPACITY LOW-VOLTAGE ELECTROLYTICS



HL ★

Type HL capacitors in round cardboard sleeved aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits.

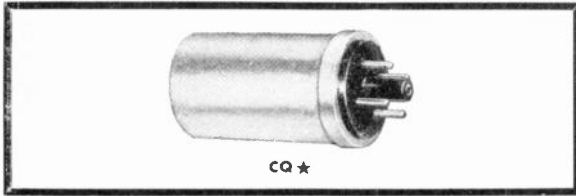
TEMPERATURE RANGE to +85°C.

HL Cat. No.	Cap. Mfd.	D.C. W. Volts	Can†† Size—Inches Dia. x Lgth.	List Price	Net Price
HL 1005	500	10	1 3/8 x 2 3/8	\$3.10	\$1.86
HL 1010	1000	10	1 3/8 x 2 3/8	3.55	2.13
HL 1015	1500	10	1 3/8 x 2 3/8	3.75	2.23
HL 1020	2000	10	1 3/8 x 2 3/8	3.95	2.37
HL 1030	3000	10	1 3/8 x 3 3/8	4.35	2.61
HL 1040	4000	10	1 3/8 x 4 1/8	4.75	2.85
HL 1050	5000	10	1 1/2 x 4 1/8	5.15	3.09
HL 1060	6000	10	1 3/4 x 4 1/8	7.50	4.30
HL 1205	500	12	1 3/8 x 2 3/8	3.20	1.92
HL 1210	1000	12	1 3/8 x 2 3/8	3.75	2.23
HL 1215	1500	12	1 3/8 x 2 3/8	3.95	2.37
HL 1220	2000	12	1 3/8 x 3 3/8	4.15	2.49
HL 1225	2500	12	1 3/8 x 3 3/8	4.85	2.91
HL 1230	3000	12	1 3/8 x 4 1/8	5.05	3.03
HL 1240	4000	12	1 1/2 x 4 1/8	5.25	3.15
HL 1260	6000	12	2 x 4 1/8	9.35	5.61
HL 1305	500	15	1 3/8 x 2 3/8	3.25	1.93
HL 1310	1000	15	1 3/8 x 2 3/8	3.80	2.28
HL 1315	1500	15	1 3/8 x 2 3/8	4.00	2.40
HL 1320	2000	15	1 3/8 x 3 3/8	4.70	2.82
HL 1330	3000	15	1 3/8 x 4 1/8	5.15	3.09
HL 1340	4000	15	1 1/2 x 4 1/8	8.10	4.86
HL 1360	6000	15	2 x 4 1/8	10.00	6.00
HL 1803	500	18	1 3/8 x 2 3/8	3.00	1.80
HL 1810	1000	18	1 3/8 x 2 3/8	3.90	2.34
HL 1820	2000	18	1 3/8 x 3 3/8	4.90	2.94
HL 1840	4000	18	1 1/2 x 4 1/8	8.45	5.07
HL 2003	500	20	1 3/8 x 2 3/8	3.40	2.04
HL 2010	1000	20	1 3/8 x 3 3/8	4.10	2.46
HL 2020	2000	20	1 3/8 x 4 1/8	5.20	3.12
HL 2040	4000	20	2 x 4 1/8	8.75	5.25
HL 2503	500	25	1 3/8 x 2 3/8	3.55	2.13
HL 2510	1000	25	1 3/8 x 3 3/8	4.80	2.88
HL 2520	2000	25	1 3/8 x 4 1/8	5.75	3.45
HL 2530	3000	25	1 3/4 x 4 1/8	8.00	4.80
HL 2540	4000	25	2 x 4 1/8	9.50	5.70
HL 2550	5000	25	2 1/2 x 4 1/8	11.00	6.60
HL 3003	500	30	1 3/8 x 3 3/8	3.60	2.16
HL 3010	1000	30	1 3/8 x 4 1/8	4.90	2.94
HL 3020	2000	30	1 3/4 x 4 1/8	7.40	4.44
HL 3030	3000	30	2 x 4 1/8	8.95	5.37
HL 3040	4000	30	2 1/2 x 4 1/8	10.50	6.30
HL 3503	500	35	1 3/8 x 3 3/8	3.70	2.22
HL 3510	1000	35	1 3/8 x 4 1/8	5.00	3.00
HL 3520	2000	35	1 3/4 x 4 1/8	8.00	4.80
HL 3530	3000	35	2 x 4 1/8	9.50	5.70
HL 3540	4000	35	2 1/2 x 4 1/8	11.00	6.60
HL 4003	500	40	1 3/8 x 3 3/8	3.80	2.28
HL 4010	1000	40	1 3/8 x 4 1/8	6.50	3.90
HL 4020	2000	40	1 3/4 x 4 1/8	9.00	5.40
HL 4030	3000	40	2 x 4 1/8	10.50	6.30
HL 4040	4000	40	2 1/2 x 4 1/8	11.50	6.90
HL 5003	500	50	1 3/8 x 3 3/8	3.90	2.34
HL 5010	000	50	1 3/8 x 4 1/8	7.00	4.20
HL 5020	2000	50	1 3/4 x 4 1/8	9.10	5.46
HL 5030	3000	50	2 x 4 1/8	11.50	6.90
HL 5040	4000	50	2 1/2 x 4 1/8	12.50	7.50

★ When JAN-C-62 units must be supplied, order according to specific CE type designations. ††For Overall Size add 1/16" to Diam. and 3/8" to Length.



PLUG-IN ELECTROLYTIC



CQ ★

Type CQ Capacitors are hermetically sealed in round aluminum containers with a four-pin octal base. Ideally suited for experimental, testing, juke box, government communication receiver uses and applications where quick capacitor changes are required. Ground lugs are furnished with all multiple-section units for cathode connection.

TEMPERATURE RANGE: to +85°C; except, +65°C at 500 V.D.C.W.

SINGLES

CQ Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
CQ 1043	10	450	1 ⁵ / ₃₂ x 2 ¹ / ₂	\$4.05	\$2.43
CQ 2043	20	450	1 ⁵ / ₃₂ x 2 ¹ / ₂	4.30	2.58
CQ 4043	40	450	1 ³ / ₈ x 2 ¹ / ₂	4.55	2.73
CQ 8043	80	450	1 ³ / ₈ x 3 ¹ / ₂	5.55	3.33
CQ 4030	40	500	1 ³ / ₈ x 2 ¹ / ₂	5.00	3.00

DUALS

CQ 2215	20-20	150	1 ⁵ / ₃₂ x 2 ¹ / ₂	4.20	2.52
CQ 4415	40-40	150	1 ⁵ / ₃₂ x 2 ¹ / ₂	4.40	2.64
CQ 5515	50-50	150	1 ⁵ / ₃₂ x 2 ¹ / ₂	4.65	2.79
CQ 8815	80-80	150	1 ³ / ₈ x 2 ¹ / ₂	5.15	3.09
CQ 1145	10-10	450	1 ⁵ / ₃₂ x 2 ¹ / ₂	4.40	2.64
CQ 2245	20-20	450	1 ⁵ / ₃₂ x 2 ¹ / ₂	5.05	3.03
CQ 3345	30-30	450	1 ³ / ₈ x 3	5.55	3.33
CQ 4445	40-40	450	1 ³ / ₈ x 3 ¹ / ₂	5.90	3.54
CQ 2250	20-20	500	1 ³ / ₈ x 2 ¹ / ₂	5.30	3.18

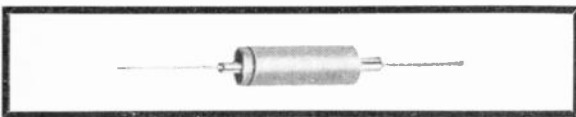
TRIPLES

CQ 22215	20-20-20	150	1 ⁵ / ₃₂ x 2 ¹ / ₂	4.85	2.91
CQ 44415	40-40-40	150	1 ³ / ₈ x 2 ¹ / ₂	5.10	3.06
CQ 11145	10-10-10	450	1 ⁵ / ₃₂ x 2 ¹ / ₂	5.10	3.06
CQ 22245	20-20-20	450	1 ³ / ₈ x 3	6.10	3.66
CQ 4245C	40-20/20	450/25	1 ³ / ₈ x 3	6.00	3.60
CQ 11150	10-10-10	500	1 ³ / ₈ x 2 ¹ / ₂	5.30	3.18

QUADRUPLES

CQ 11145C	10-10-10/20	450/25	1 ³ / ₈ x 2 ¹ / ₂	5.65	3.39
CQ 33145C	30-30-10/20	450/50	1 ³ / ₈ x 4 ¹ / ₄	6.85	4.11

Ultra Small Aluminum-Cased Electrolytics



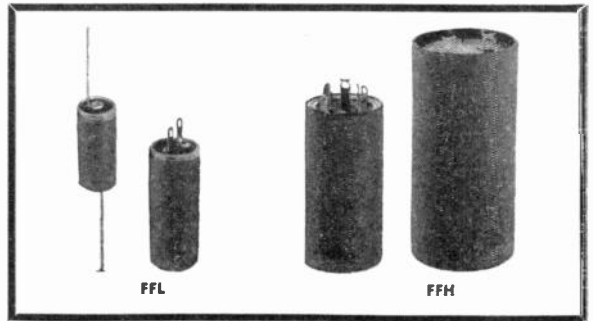
Type LE capacitors are ultra-small, compression sealed, aluminum foil units. They are housed in aluminum containers which in turn are covered by a skin-tight, clear plastic insulating sleeve. The tinned copper pigtails are securely anchored in crimped stud terminals.

They are especially recommended for use in printed circuit assemblies, miniature radios, recorders, hearing aids, portable TV cameras and similar compact equipments.

TEMPERATURE RANGE: -20°C. to +65°C.

LE Cat. No.	Cap. Mfd.	WVDC	Can Size—Inches Diam. x Length	List Price	Net Price
LE 5-1	5	1	3 ¹ / ₁₆ x 1/2	\$1.25	\$0.75
LE 2-3	2	3	3 ¹ / ₁₆ x 1/2	1.25	.75
LE 10-3	10	3	3 ¹ / ₁₆ x 3/8	1.25	.75
LE 25-3	25	3	3 ¹ / ₁₆ x 3/8	1.25	.75
LE 40-3	40	3	3 ¹ / ₁₆ x 3/8	1.25	.75
LE 50-3	50	3	3 ¹ / ₁₆ x 3/8	1.25	.75
LE 110-3	110	3	3 ¹ / ₈ x 3/4	1.40	.84
LE 200-3	200	3	3 ¹ / ₈ x 1	1.50	.90
LE 1-6	1	6	3 ¹ / ₁₆ x 1/2	1.25	.75

PHOTOFLASH



FFL

FFH

FFH Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Length	Warr Seconds	List Price	Net Price
TDXB 0455	2 x 50	450	1 ³ / ₈ x 3	10	\$ 3.85	\$ 2.31
FFH 10063 (2)	200	450	2 ¹ / ₁₆ x 4 ¹ / ₂	20	6.85	4.11
FFH 10065 (3)	200	500	2 ¹ / ₁₆ x 4 ³ / ₈	25	10.50	6.30
FFH 10007 (3)	300	450	2 ¹ / ₁₆ x 4 ³ / ₈	30	10.50	6.30
FFH 10000 (5)	300	450	2 ¹ / ₁₆ x 4 ³ / ₈	30	11.50	6.90
FFH 10300 (4)	400	450	2 ¹ / ₁₆ x 4 ¹ / ₂	40	17.95	10.77
FFH 10001 (5)	525	450	2 ¹ / ₁₆ x 4 ³ / ₈	53	22.60	13.56

FFL Cat. No.	Cap. Mfd.	D.C. W. Volts	OVERALL Size—Inches Dia. x Length	List Price	Net Price
FFL 100001 (6)	40	150	3/4 x 1 7/16	\$1.35	\$.81
FFL 10077 (7)	100	30	1 x 2 11/16	3.35	2.01
FFL 10062 (8)	125	25	3/4 x 1 13/16	1.35	.81
FFL 10067 (6)	150	50	3/4 x 1 11/16	1.35	.81
JET 2502 (6)	250	25	7/8 x 1 11/16	1.70	1.02

PHYSICAL CHARACTERISTICS

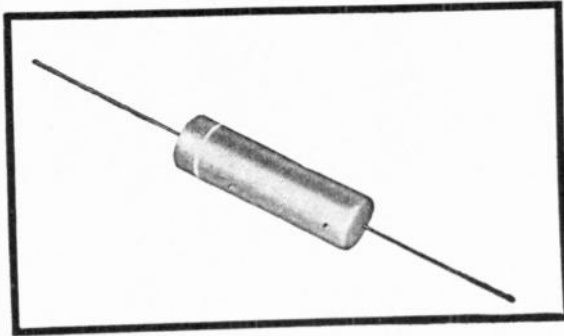
- Aluminum Can—Cardboard Sleeve—Solder Lug Terms.—Twist Prong Mt.
- ② Aluminum Can—Cardboard Sleeve—Solder Lug Terms.
- ③ Bakelite Case—Solder Lug Terms.
- ④ Aluminum Can—Cardboard Sleeve—Screw Terms.
- ⑤ Bakelite Case—Screw Terms.
- ⑥ Aluminum Can—Tinned Wire Leads.
- ⑦ Aluminum Can—Solder Lug Terms.
- ⑧ Aluminum Can—Clip Mt. Terms.
- ⑨ Aluminum Can—Cardboard Sleeve—Mounting Strap

LE Cat. No.	Cap. Mfd.	WVDC	Can Size—Inches Diam. x Length	List Price	Net Price
LE 2-6	2	6	3 ¹ / ₁₆ x 1/2	\$1.25	\$0.75
LE 3-6	3	6	3 ¹ / ₁₆ x 1/2	1.25	.75
LE 4-6	4	6	3 ¹ / ₁₆ x 3/8	1.25	.75
LE 5-6	5	6	3 ¹ / ₁₆ x 3/8	1.25	.75
LE 8-6	8	6	1/4 x 3/8	1.35	.81
LE 10-6	10	6	1/4 x 3/8	1.35	.81
LE 15-6	15	6	1/4 x 3/8	1.35	.81
LE 20-6	20	6	1/4 x 3/8	1.35	.81
LE 25-6	25	6	1/4 x 3/8	1.35	.81
LE 30-6	30	6	3/8 x 3/8	1.40	.84
LE 40-6	40	6	3/8 x 3/8	1.40	.84
LE 50-6	50	6	3/8 x 3/8	1.40	.84
LE 60-6	60	6	3/8 x 3/8	1.40	.84
LE 100-6	100	6	3/8 x 3/8	1.50	.90
LE 10-10	10	10	1/4 x 3/8	1.35	.81
LE 15-10	15	10	1/4 x 3/8	1.35	.81
LE 25-10	25	10	3/8 x 3/8	1.35	.81
LE 50-10	50	10	3/8 x 3/4	1.45	.87
LE 100-10	100	10	3/8 x 1	1.60	.96
LE 5-15	5	15	1/4 x 3/8	1.40	.84
LE 10-15	10	15	1/4 x 3/8	1.40	.84
LE 20-15	20	15	3/8 x 3/8	1.45	.87
LE 30-15	30	15	3/8 x 3/8	1.50	.90
LE 5-25	5	25	1/4 x 3/8	1.40	.84
LE 6-25	6	25	1/4 x 3/8	1.40	.84
LE 10-25	10	25	3/8 x 3/8	1.45	.87
LE 15-25	15	25	3/8 x 3/8	1.45	.87
LE 20-25	20	25	3/8 x 3/8	1.50	.90
LE 5-50	5	50	1/4 x 3/8	1.45	.87
LE 10-50	10	50	3/8 x 3/8	1.50	.90
LE 20-50	20	50	3/8 x 3/8	1.50	.90

★When JAN-C-62 units must be supplied, order according to specific CE type designations.



"TOBEMITE" MOLDED PLASTIC TUBULARS



TOBE "TOBEMITES" are one of the toughest little capacitors ever offered servicemen for all types of television, auto radios, and other compact electronic equipment.

- ◆ Molded In Extra Hard Plastic
- ◆ Excellent Capacitance Stability
- ◆ Tested At Twice Rated Voltage
- ◆ Solidly Anchored Leads

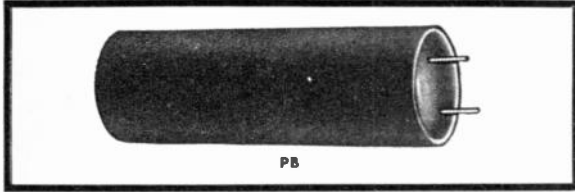
TEMPERATURE RANGE: -40°C to +85°C.

TOB	Cat. No.	Cap. Mfd.	Size—Inches Dia. & Length	List Price	Net Price
200 V. D.C.					
TOB 252		.02	1/4 x 1 1/16	\$.25	\$.15
TOB 253		.05	3/8 x 1 1/16	.25	.15
TOB 2P1		.1	3/8 x 1 1/16	.35	.21
TOB 2P25		.25	3/8 x 1 7/8	.45	.27
TOB 2P3		.5	3/8 x 1 7/8	.60	.36
TOB 2W1		1.0	3/8 x 2 1/4	.90	.54
400 V. D.C.					
TOB 451		.01	1/4 x 1 1/16	.25	.15
TOB 452		.02	3/8 x 1 1/16	.25	.15
TOB 4522		.022	3/8 x 1 1/16	.25	.15
TOB 4547		.047	3/8 x 1 1/16	.30	.18
TOB 455		.05	3/8 x 1 1/16	.30	.18
TOB 4568		.068	1/2 x 1 1/2	.35	.21
TOB 4P1		.1	1/2 x 1 1/2	.35	.21
TOB 4P15		.15	3/8 x 1 7/8	.35	.21
TOB 4P22		.22	3/8 x 1 7/8	.40	.24
TOB 4P23		.25	3/8 x 1 7/8	.45	.27
TOB 4P47		.47	3/8 x 2 1/4	.60	.36
TOB 4P5		.5	3/8 x 2 1/4	.60	.36
TOB 4W1		1.0	1 x 2 1/4	.90	.54
600 V. D.C.					
TOB 6T25		.00025	3/16 x 1	.25	.15
TOB 6T5		.0005	1/4 x 3/4	.25	.15
TOB 6D1		.001	1/4 x 3/4	.25	.15
TOB 6D15		.0015	1/4 x 3/4	.25	.15
TOB 6D2		.002	1/4 x 3/4	.25	.15
TOB 6D22		.0022	1/4 x 3/4	.25	.15
TOB 6D3		.003	1/4 x 3/4	.25	.15
TOB 6D33		.0033	1/4 x 3/4	.25	.15
TOB 6D4		.004	1/4 x 1 1/16	.25	.15
TOB 6D47		.0047	1/4 x 1 1/16	.25	.15
TOB 6D5		.005	1/4 x 1 1/16	.25	.15

TOB	Cat. No.	Cap. Mfd.	Size—Inches Dia. & Length	List Price	Net Price
600 V. D.C. (Continued)					
TOB 6D6		.006	1/4 x 1 1/16	.25	\$.15
TOB 6D68		.0068	1/4 x 1 1/16	.30	.18
TOB 6S1		.01	3/8 x 1 1/16	.30	.18
TOB 6S15		.015	3/8 x 1 1/16	.30	.18
TOB 6S2		.02	3/8 x 1 1/16	.30	.18
TOB 6S22		.022	3/8 x 1 1/16	.30	.18
TOB 6S23		.025	3/8 x 1 1/16	.30	.18
TOB 6S3		.03	3/8 x 1 1/16	.35	.21
TOB 6S4		.04	1/2 x 1 1/2	.35	.21
TOB 6S47		.047	1/2 x 1 1/2	.40	.24
TOB 6S5		.05	1/2 x 1 1/2	.40	.24
TOB 6S6		.06	3/8 x 1 7/8	.40	.24
TOB 6S68		.068	3/8 x 1 7/8	.40	.24
TOB 6P1		.10	3/8 x 1 7/8	.45	.27
TOB 6P23		.25	3/8 x 2 1/4	.55	.33
TOB 6P5		.5	1 x 2 1/4	.80	.48
1000 V. D.C.					
TOB 10D1		.001	1/4 x 1 1/16	.50	.30
TOB 10D15		.0015	1/4 x 1 1/16	.50	.30
TOB 10D2		.002	3/8 x 1 1/16	.50	.30
TOB 10D22		.0022	3/8 x 1 1/16	.50	.30
TOB 10D3		.003	3/8 x 1 1/4	.50	.30
TOB 10D33		.0033	3/8 x 1 1/4	.50	.30
TOB 10D4		.004	3/8 x 1 1/4	.50	.30
TOB 10D47		.0047	3/8 x 1 1/4	.50	.30
TOB 10D5		.005	3/8 x 1 1/4	.50	.30
TOB 10D55		.0055	3/8 x 1 1/4	.50	.30
TOB 10D6		.006	3/8 x 1 1/4	.50	.30
TOB 10D68		.0068	3/8 x 1 1/4	.50	.30
TOB 10D7		.007	3/8 x 1 1/4	.50	.30
TOB 10D75		.0075	3/8 x 1 1/4	.50	.30
TOB 10D8		.008	3/8 x 1 1/4	.50	.30
TOB 10S1		.01	3/8 x 1 1/4	.50	.30
TOB 10S15		.015	3/8 x 1 1/4	.50	.30
TOB 10S2		.02	1/2 x 1 1/2	.50	.30
TOB 10S23		.025	1/2 x 1 1/2	.50	.30
TOB 10S3		.03	1/2 x 1 1/2	.50	.30
TOB 10S4		.04	3/8 x 1 7/8	.50	.30
1600 V. D.C.					
TOB 16D1		.001	3/8 x 1 1/4	.65	.39
TOB 16D15		.0015	3/8 x 1 1/4	.65	.39
TOB 16D2		.002	3/8 x 1 1/4	.65	.39
TOB 16D22		.0022	3/8 x 1 1/4	.65	.39
TOB 16D3		.003	3/8 x 1 1/4	.65	.39
TOB 16D33		.0033	3/8 x 1 1/4	.65	.39
TOB 16D4		.004	3/8 x 1 1/4	.65	.39
TOB 16D47		.0047	3/8 x 1 1/4	.65	.39
TOB 16D5		.005	3/8 x 1 1/4	.65	.39
TOB 16D55		.0055	3/8 x 1 1/4	.65	.39
TOB 16D6		.006	3/8 x 1 1/4	.65	.39
TOB 16D68		.0068	3/8 x 1 1/4	.65	.39
TOB 16D7		.007	3/8 x 1 1/4	.65	.39
TOB 16D75		.0075	3/8 x 1 1/4	.65	.39
TOB 16D8		.008	3/8 x 1 1/4	.65	.39
TOB 16S1		.01	1/2 x 1 1/2	.70	.42
TOB 16S15		.015	1/2 x 1 1/2	.70	.42
TOB 16S2		.02	3/8 x 1 7/8	.70	.42
TOB 16S23		.025	3/8 x 1 7/8	.70	.42
TOB 16S3		.03	3/8 x 1 7/8	.70	.42
TOB 16S4		.04	3/8 x 1 7/8	.70	.42
6000 V. D.C.					
TOB 60T5		.0005	3/16 x 1 1/2	1.35	.81
TOB 60D1		.001	3/16 x 1 1/2	1.35	.81
TOB 60D5		.005	1/16 x 1 7/8	1.35	.81
10,000 V. D.C.					
TOB 100T5		.0005	1/16 x 1 7/8	1.50	.90
12,500 V. D.C.					
TOB 125T25		.00025	1/16 x 1 7/8	1.70	1.02



PHENOLIC-CASED PRINTED CIRCUIT PAPER TUBULAR



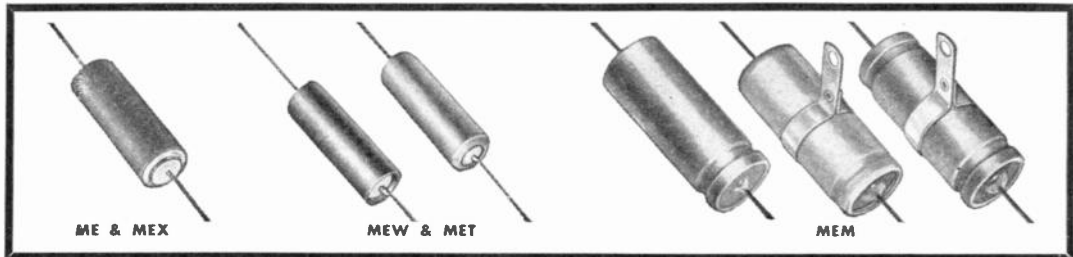
PB

- ◆ **PARALLEL LEAD WIRES:** May be plugged directly into printed circuit.
- ◆ **PRE-MOLDED PHENOLIC SHELL:** No distortion and no stresses are set up because capacitor section is not subjected to molding pressures.
- ◆ **WIDE TEMPERATURE RANGE:** Vikane impregnated units (rated at 600 WVDC) will withstand operating temperature from -55°C to $+100^{\circ}\text{C}$. Units impregnated with HT compound (rated at 400 WVDC and 200 WVDC) will with-
- stand operating temperatures from -40°C to $+90^{\circ}\text{C}$.
- ◆ **POLYKANE FILL:** Securely anchors leads, locks section in place and provides a barrier to moisture.
- ◆ **SOLID CONNECTIONS:** Leads are soldered directly to the extended foils for low resistance connections.
- ◆ **STRONG CONSTRUCTION:** Will withstand the extremes of soldering temperatures without damage to case material, moisture seal, lead connections or electrical performance.

PB	Cat. No.	Cap. Mfd.	Size	List Price	Net Price
200 V. D.C.					
PB 2D68J		.0068	$\frac{3}{8} \times 1$	\$.30	\$.18
PB 2S1J		.01	$\frac{3}{8} \times 1$	.30	.18
PB 2S15J		.015	$\frac{3}{8} \times 1\frac{1}{4}$	.30	.18
PB 2S22J		.022	$\frac{3}{8} \times 1\frac{1}{4}$	.35	.21
PB 2S33J		.033	$\frac{7}{16} \times 1\frac{1}{4}$	.35	.21
PB 2S47J		.047	$\frac{1}{2} \times 1\frac{1}{4}$	.35	.21
PB 2S68J		.068	$\frac{1}{2} \times 1\frac{1}{4}$	.35	.21
PB 2P1J		.10	$\frac{1}{2} \times 1\frac{1}{2}$	.40	.24
PB 2P15J		.15	$\frac{1}{2} \times 1\frac{1}{2}$	.45	.27
PB 2P22J		.22	$\frac{3}{8} \times 1\frac{3}{8}$	.50	.30
PB 2P33J		.33	$\frac{3}{8} \times 1\frac{3}{8}$	.55	.33
PB 2P47J		.47	$\frac{3}{8} \times 2\frac{1}{2}$	.65	.39
PB 2P68J		.68	$\frac{7}{8} \times 2\frac{1}{2}$	.70	.42
600 V. D.C.					
PB 6D1J		.001	$\frac{3}{8} \times 1$	.30	.18
PB 6D15J		.0015	$\frac{3}{8} \times 1$	.30	.18
PB 6D22J		.0022	$\frac{3}{8} \times 1$	.30	.18
PB 6D33J		.0033	$\frac{3}{8} \times 1$	.30	.18
PB 6D47J		.0047	$\frac{3}{8} \times 1$	.30	.18
PB 6D68J		.0068	$\frac{3}{8} \times 1$	.30	.18
PB 6S1J		.01	$\frac{3}{8} \times 1\frac{1}{4}$	.35	.21
PB 6S15J		.015	$\frac{7}{16} \times 1\frac{1}{4}$	.35	.21
PB 6S22J		.022	$\frac{7}{16} \times 1\frac{1}{4}$	.40	.24
PB 6S33J		.033	$\frac{1}{2} \times 1\frac{1}{4}$	.40	.24
PB 6S47J		.047	$\frac{1}{2} \times 1\frac{1}{2}$	.45	.27
PB 6S68J		.068	$\frac{3}{8} \times 1\frac{3}{8}$	.50	.30
PB 6P1J		.10	$\frac{3}{8} \times 1\frac{3}{8}$	.55	.33
PB 6P15J		.15	$\frac{3}{8} \times 2\frac{1}{2}$	.60	.36
PB 6P22J		.22	$\frac{3}{8} \times 2\frac{1}{2}$	.65	.39
PB 6P33J		.33	$\frac{3}{8} \times 2\frac{1}{2}$	.70	.42
*PB 4P47J		.47	$\frac{7}{8} \times 2\frac{1}{2}$	.70	.42

*Rated at 400 V. D.C.

COMPACT METALIZED-PAPER CAPACITORS



ME & MEX

MEW & MET

MEM

TOBE self-healing, metalized paper capacitors have better electrical characteristics and extra long service life. Units are light and compact.

"ME" units have bare wire leads securely anchored in metal end-caps, wax-impregnated and dip-sealed against humidity. All units are extended foil—non-inductive wound for low impedance at high frequencies, have high insulation resistance, low power factor and small capacity change with temperature and life.

"MEM" types are one piece metal tubular cased, pressure sealed by spin-over on synthetic rubber gaskets.

"MEW" types are a high quality metalized paper capacitor, designed for smallest size and positive seal against moisture. They are hermetically sealed in metal cases with solder—seal glass terminals. Especially recommended in military and commercial equipment where miniature size and light weight are paramount.

METAL END-CAP "ME" CARDBOARD TUBULARS

TEMPERATURE RANGE: -40°C to $+60^{\circ}\text{C}$.

ME	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
ME 2S5		.05	200	$\frac{3}{8} \times \frac{3}{8}$	\$.75	\$.45
ME 2P1		.1	200	$\frac{3}{8} \times \frac{3}{8}$	.79	.47
ME 2P25		.25	200	$1\frac{1}{2} \times \frac{3}{8}$	1.14	.68
ME 2P5		.5	200	$1\frac{1}{2} \times \frac{3}{8}$	1.33	.80
ME 2W1		1.0	200	$9\frac{1}{16} \times 1\frac{1}{8}$	1.78	1.07
ME 2W2		2.0	200	$\frac{5}{8} \times 1\frac{1}{8}$	2.42	1.45
ME 4S5		.05	400	$1\frac{1}{2} \times \frac{3}{8}$	.79	.47
ME 4P1		.1	400	$1\frac{1}{2} \times \frac{3}{8}$	.83	.50
ME 4P25		.25	400	$1\frac{1}{2} \times 1\frac{1}{8}$	1.25	.75
ME 4P5		.5	400	$1\frac{1}{2} \times 1\frac{1}{8}$	1.58	.94
ME 4W1		1.0	400	$2\frac{1}{2} \times 2\frac{1}{8}$	2.20	1.32
ME 6S1		.01	600	$\frac{3}{8} \times \frac{3}{8}$	.75	.45
ME 6P1		.1	600	$1\frac{1}{2} \times 1\frac{1}{8}$	.97	.58
ME 6P25		.25	600	$\frac{5}{8} \times 1\frac{1}{8}$	1.53	.92
ME 6P5		.5	600	$2\frac{1}{2} \times 1\frac{1}{8}$	1.92	1.15
ME 6W1		1.0	600	$2\frac{1}{2} \times 2\frac{1}{8}$	2.39	1.43

(Continued next page)



COMPACT METALIZED-PAPER CAPACITORS †

ONE-PIECE METAL "MEM" TUBULARS (Ungrounded)

TEMPERATURE RANGE: -55°C. to +95°C.

MEM	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
MEM 2S5		.05	200	3/16 x 2 3/32	\$2.03	\$1.22
MEM 2P1		.1	200	7/16 x 2 3/32	2.11	1.27
MEM 2P25		.25	200	1/2 x 2 3/32	2.34	1.40
MEM 2P5		.05	200	1/2 x 1 13/32	2.56	1.54
MEM 2W1		1.0	200	.670 x 1 13/32	3.00	1.80
MEM 2W2		2.0	200	.670 x 1 13/32	3.73	2.24
MEM 4S5		.05	400	1/2 x 2 3/32	2.11	1.27
MEM 4P1		.1	400	1/2 x 1 13/32	2.25	1.35
MEM 4P25		.25	400	.670 x 1 13/32	2.61	1.57
MEM 4P5		.50	400	.670 x 1 13/32	2.92	1.75
MEM 4W1		1.0	400	3/4 x 2 13/32	3.70	2.22
MEM 4W2		2.0	400	1 x 2 13/32	5.31	3.19
MEM 6S1		.01	600	7/16 x 2 3/32	2.17	1.30
MEM 6P1		.1	600	1/2 x 1 13/32	2.34	1.40
MEM 6P25		.25	600	.670 x 1 13/32	2.89	1.73
MEM 6P5		.50	600	.670 x 1 13/32	3.25	1.95
MEM 6W1		1.0	600	3/4 x 2 13/32	4.25	2.55
MEM 6W2		2.0	600	1 1/8 x 2 13/32	6.10	3.66

*Deduct 10¢ from List Price for Basic GROUNDED style.

GLASS-METAL "MEW" END-SEALED TUBULARS (Ungrounded)

TEMPERATURE RANGE: -55°C. to +95°C.

MEW	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Diam. x Length	List Price	Net Price
MEW 2S5		.05	200	.235 x 3/4	\$2.43	1.46
MEW 2P1		.1	200	.312 x 3/4	2.53	1.52
MEW 2P25		.25	200	.312 x 1 1/16	2.77	1.66
MEW 2P5		.5	200	.400 x 1 1/16	3.03	1.82
MEW 2W1		1.0	200	.562 x 1 1/4	3.27	1.96
MEW 2W15		1.5	200	.562 x 1 3/4	4.62	2.77
MEW 2W2		2.0	200	.562 x 1 3/4	4.62	2.77
MEW 4S5		.05	400	.400 x 3/4	2.45	1.47
MEW 4P1		.1	400	.400 x 1 1/16	2.65	1.59
MEW 4P25		.25	400	.562 x 1 1/16	3.08	1.85
MEW 4P5		.5	400	.562 x 1 3/4	3.68	2.21
MEW 4W1		1.0	400	.670 x 2 1/4	3.92	2.35
MEW 6S1		.01	600	.312 x 3/4	2.48	1.49
MEW 6P1		.1	600	.500 x 1 1/4	2.75	1.65
MEW 6P25		.25	600	.670 x 1 3/4	3.25	1.95
MEW 6P5		.5	600	.750 x 1 3/4	3.80	2.28
MEW 6W1		1.0	600	.750 x 2 1/4	4.22	2.53

*Deduct 50¢ from List Price for Basic GROUNDED style.

High Temperature Metalized-Paper Capacitors

- **RESIN-IMPREGNATED:** This impregnant insures excellent electrical properties over long service life.
- **MOISTURE RESISTANT:** MET tubulars have the finest glass-to-metal solder seal terminals for maximum protection against moisture. MEX tubulars have RESIN-impregnated paper tubes, bonded securely to the RESIN fill. An external flash wax dip provides an increased moisture seal for extra long storage and service conditions under extremes of humidity.
- **NON-LEAKING:** RESIN is a special solid thermosetting plastic that will not soften, crack, or leak at the maximum temperature. No oil or wax is used internally with these units.

"MEX" HIGH TEMPERATURE Paper-Cased TUBULARS

STANDARD TOLERANCE: +40 -20% to 1 mfd.
+30 -20% over 1 mfd.

TEMP. RANGE: -35°C to +100°C

MEX	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Dia. x Length	List Price	Net Price
MEX 2S5		.05	200	1/4 x 1 13/16	\$.75	\$.45
MEX 2P1		.10	200	3/16 x 1 13/16	.79	.47
MEX 2P25		.25	200	13/32 x 1 13/16	1.14	.68
MEX 2P5		.50	200	13/32 x 1 1/8	1.33	.80
MEX 2W1		1.0	200	9/16 x 1 13/16	1.78	1.07
MEX 2W2		2.0	200	3/8 x 1 1/2	2.42	1.45
MEX 4S5		.05	400	3/8 x 1 13/16	.79	.47
MEX 4P1		.10	400	3/8 x 1 1/8	.83	.50
MEX 4P25		.25	400	9/16 x 1 13/16	1.25	.75
MEX 4P5		.50	400	3/8 x 1 3/8	1.58	.94
MEX 4W1		1.0	400	1 1/16 x 1 7/8	2.20	1.32
MEX 4W2		2.0	400	3/8 x 2 3/8	3.10	1.86
MEX 6S1		.01	600	1/4 x 1 13/16	.75	.45
MEX 6P1		.10	600	3/8 x 1 1/8	.97	.58
MEX 6P25		.25	600	3/8 x 1 13/16	1.53	.92
MEX 6P5		.50	600	1 1/16 x 1 1/2	1.92	1.15
MEX 6W1		1.0	600	13/16 x 1 7/8	2.39	1.43
MEX 6W2		2.0	600	1 x 2 3/8	3.42	2.04

"MET" HIGH TEMPERATURE Metal-Cased TUBULARS

STYLE BASIC (Ungrounded)

STANDARD TOLERANCE: +40 -20% to 1 mfd.
+30 -20% over 1 mfd.

TEMP. RANGE -55°C to +130°C

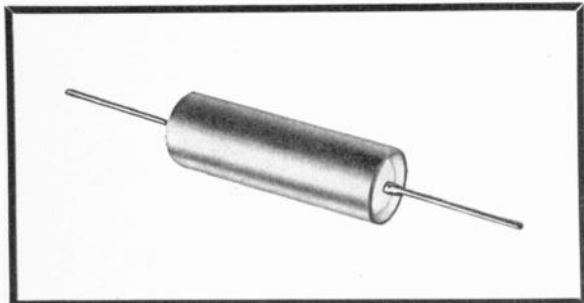
MET	Cat. No.	Cap. Mfd.	Voltage DCW	Size—Inches Dia. x Length	List Price	Net Price
MET 2S5		.05	200	.235 x 13/16	\$2.37	\$1.42
MET 2P1		.10	200	.312 x 13/16	2.47	1.48
MET 2P25		.25	200	.312 x 1 1/16	2.70	1.62
MET 2P5		.50	200	.400 x 1 1/8	2.97	1.78
MET 2W1		1.0	200	.562 x 1 1/8	3.20	1.92
MET 2W15		1.5	200	.562 x 1 13/16	4.55	2.73
MET 2W2		2.0	200	.562 x 1 13/16	4.55	2.73
MET 4S5		.05	400	.312 x 13/16	2.38	1.43
MET 4P1		.10	400	.400 x 1 1/8	2.58	1.55
MET 4P25		.25	400	.500 x 1 1/8	3.03	1.82
MET 4P5		.50	400	.562 x 1 13/16	3.63	2.18
MET 4W1		1.0	400	.670 x 2 3/16	3.87	2.32
MET 6S1		.01	600	.312 x 13/16	2.42	1.45
MET 6P1		.10	600	.400 x 1 1/8	2.70	1.62
MET 6P25		.25	600	.562 x 1 3/8	3.20	1.92
MET 6P5		.50	600	.670 x 1 13/16	3.72	2.23
MET 6W1		1.0	600	.750 x 2 3/8	4.17	2.50

*Deduct 50¢ from List Price Basic GROUNDED style.

†A wide range of values beyond those listed on this page is available upon request.



MINIATURE METAL-CASED TUBULARS



Hermetically sealed in metal cases, with glass-to-metal seal terminals and available in a wide variety of mounting styles, impregnants, tolerances, and internal construction.

STANDARD TOLERANCE: ± 20%

TEMPERATURE RANGE:

DMH	Stabilized Halowax	-40°C. to + 85°C.
DMC	Mineral oil	-55°C. to + 85°C.
DMU	Silicone fluid	-55°C. to + 125°C.
DMMA	"Mylar" polyester film	-55°C. to + 160°C.†

PRICES shown below are for BASIC STYLE—UNGROUND.

**Registered Dupont trade mark.

"BASIC" STYLE UNGROUNDED

DMH Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
DMH 1D1	.001	100	.175 x 3/4	\$2.25	\$1.35
DMH 1D47	.0047	100	.175 x 3/4	2.30	1.38
DMH 1S1	.01	100	.175 x 3/4	2.30	1.38
DMH 1S22	.022	100	.175 x 3/4	2.30	1.38
DMH 1S47	.047	100	.235 x 3/4	2.35	1.41
DMH 1P1	.1	100	.312 x 3/4	2.50	1.50
DMH 1P22	.22	100	.400 x 3/4	2.55	1.53
DMH 1P47	.47	100	.400 x 1 1/8	2.70	1.62
DMH 1W1	1.0	100	.562 x 1 1/8	3.20	1.92
DMH 2D1	.001	200	.235 x 3/4	2.35	1.41
DMH 2D47	.0047	200	.235 x 3/4	2.40	1.44
DMH 2S1	.01	200	.235 x 3/4	2.40	1.44
DMH 2S22	.022	200	.235 x 3/4	2.40	1.44
DMH 2S47	.047	200	.312 x 3/4	2.50	1.50
DMH 2P1	.1	200	.312 x 3/4	2.60	1.56
DMH 2P47	.47	200	.562 x 1 1/8	2.95	1.77
DMH 2W1	1.0	200	.562 x 1 1/8	3.30	1.98
DMH 4D1	.001	400	.235 x 3/4	2.40	1.44
DMH 4D47	.0047	400	.235 x 3/4	2.45	1.47
DMH 4S1	.01	400	.235 x 3/4	2.50	1.50
DMH 4S22	.022	400	.312 x 3/4	2.55	1.53
DMH 4S47	.047	400	.312 x 3/4	2.55	1.53
DMH 4P1	.1	400	.400 x 1 1/8	2.70	1.62
DMH 4P47	.47	400	.562 x 1 1/8	3.35	2.01
DMH 4W1	1.0	400	.750 x 2 1/8	3.90	2.34

DMC Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
DMC 1D1	.001	100	.175 x 3/4	\$2.30	\$1.38
DMC 1D47	.0047	100	.175 x 3/4	2.35	1.41
DMC 1S1	.01	100	.175 x 3/4	2.40	1.44
DMC 1S22	.022	100	.195 x 3/4	2.40	1.44
DMC 1S47	.047	100	.312 x 3/4	2.50	1.50
DMC 1P1	.1	100	.312 x 3/4	2.60	1.56
DMC 1P47	.47	100	.562 x 1 1/8	3.00	1.80
DMC 1W1	1.0	100	.562 x 1 1/8	3.40	2.04
DMC 2D1	.001	200	.235 x 3/4	2.40	1.44
DMC 2D47	.0047	200	.235 x 3/4	2.45	1.47
DMC 2S1	.01	200	.235 x 3/4	2.50	1.50
DMC 2S22	.022	200	.235 x 3/4	2.50	1.50
DMC 2S47	.047	200	.312 x 3/4	2.60	1.56
DMC 2P1	.1	200	.400 x 3/4	2.70	1.62
DMC 2P22	.22	200	.400 x 1 1/8	2.90	1.74
DMC 2P47	.47	200	.562 x 1 1/8	3.25	1.95

DMC (cont'd)

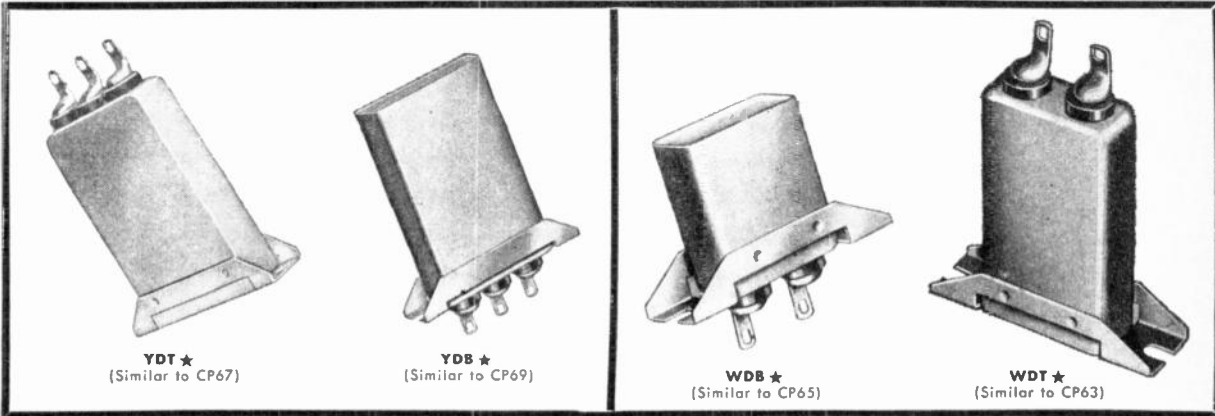
DMC Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
DMC 2W1	1.0	200	.670 x 1 7/8	\$3.80	\$2.28
DMC 4D1	.001	400	.235 x 3/4	2.50	1.50
DMC 4D47	.0047	400	.235 x 3/4	2.50	1.50
DMC 4S1	.01	400	.235 x 3/4	2.55	1.53
DMC 4S22	.022	400	.312 x 3/4	2.65	1.59
DMC 4S47	.047	400	.400 x 3/4	2.75	1.65
DMC 4P1	.1	400	.400 x 1 1/8	2.90	1.74
DMC 4P22	.22	400	.562 x 1 1/8	3.25	1.95
DMC 4P47	.47	400	.670 x 1 7/8	3.75	2.25
DMC 6D1	.001	600	.235 x 3/4	2.50	1.50
DMC 6D47	.0047	600	.235 x 3/4	2.55	1.53
DMC 6S1	.01	600	.312 x 3/4	2.65	1.59
DMC 6S22	.022	600	.312 x 3/4	2.70	1.62
DMC 6S47	.047	600	.400 x 1 1/8	2.80	1.68
DMC 6P1	.1	600	.562 x 1 1/8	3.10	1.86
DMC 6P22	.22	600	.562 x 1 1/8	3.45	2.07
DMC 6P47	.47	600	.750 x 2 1/8	4.05	2.43

DMU Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
DMU 1D1	.001	100	.175 x 3/4	\$2.60	\$1.56
DMU 1D47	.0047	100	.175 x 3/4	2.60	1.56
DMU 1S1	.01	100	.175 x 3/4	2.65	1.59
DMU 1S22	.022	100	.195 x 3/4	2.65	1.59
DMU 1S47	.047	100	.312 x 3/4	2.80	1.68
DMU 1P1	.1	100	.312 x 3/4	2.90	1.74
DMU 1P47	.47	100	.562 x 1 1/8	3.35	2.01
DMU 1W1	1.0	100	.562 x 1 1/8	3.80	2.28
DMU 2D1	.001	200	.235 x 3/4	2.70	1.62
DMU 2D47	.0047	200	.235 x 3/4	2.75	1.65
DMU 2S1	.01	200	.235 x 3/4	2.80	1.68
DMU 2S22	.022	200	.235 x 3/4	2.80	1.68
DMU 2S47	.047	200	.312 x 3/4	2.90	1.74
DMU 2P1	.1	200	.400 x 3/4	3.00	1.80
DMU 2P22	.22	200	.400 x 1 1/8	3.20	1.92
DMU 2P47	.47	200	.562 x 1 1/8	3.60	2.16
DMU 2W1	1.0	200	.670 x 1 7/8	4.25	2.55
DMU 4D1	.001	400	.235 x 3/4	2.80	1.68
DMU 4D47	.0047	400	.235 x 3/4	2.80	1.68
DMU 4S1	.01	400	.235 x 3/4	2.85	1.71
DMU 4S22	.022	400	.312 x 3/4	2.95	1.77
DMU 4S47	.047	400	.400 x 3/4	3.05	1.83
DMU 4P1	.1	400	.400 x 1 1/8	3.25	1.95
DMU 4P22	.22	400	.562 x 1 1/8	3.60	2.16
DMU 4P47	.47	400	.670 x 1 7/8	4.20	2.52
DMU 6D1	.001	600	.235 x 3/4	2.80	1.68
DMU 6D47	.0047	600	.235 x 3/4	2.85	1.71
DMU 6S1	.01	600	.312 x 3/4	2.95	1.77
DMU 6S22	.022	600	.312 x 3/4	3.00	1.80
DMU 6S47	.047	600	.400 x 1 1/8	3.15	1.89
DMU 6P1	.1	600	.562 x 1 1/8	3.50	2.10
DMU 6P22	.22	600	.562 x 1 1/8	3.90	2.34
DMU 6P47	.47	600	.750 x 2 1/8	4.55	2.73

DMMA Cat. No.	Cap. Mfd.	V.D.C.W.	Size—Inches Dia. x Length	List Price	Net Price
DMMA 1S1	.01	100	.235 x 3/4	\$3.10	\$1.86
DMMA 1S22	.022	100	.312 x 3/4	3.10	1.86
DMMA 1S47	.047	100	.312 x 3/4	3.25	1.95
DMMA 1P1	.1	100	.400 x 3/4	3.35	2.01
DMMA 4D47	.0047	400	.235 x 3/4	3.25	1.95
DMMA 4S1	.01	400	.312 x 3/4	3.30	1.98
DMMA 4S22	.022	400	.400 x 3/4	3.40	2.04
DMMA 4S47	.047	400	.400 x 1	3.55	2.13
DMMA 4P1	.1	400	.562 x 1	3.75	2.25
DMMA 4P22	.22	400	.562 x 1 1/8	4.20	2.52
DMMA 4P47	.47	400	.670 x 1 7/8	4.85	2.91
DMMA 4W1	1.0	400	.750 x 2 1/2	5.85	3.51
DMMA 6D47	.0047	600	.312 x 1	3.30	1.98
DMMA 6S1	.01	600	.312 x 1	3.40	2.04
DMMA 6S22	.022	600	.400 x 1	3.50	2.10
DMMA 6S47	.047	600	.400 x 1 1/8	3.65	2.19
DMMA 6P1	.1	600	.562 x 1 1/8	4.05	2.43
DMMA 6P22	.22	600	.670 x 1 7/8	4.50	2.70
DMMA 6P47	.47	600	.750 x 2 1/8	5.30	3.18
DMMA 6W1	1.0	600	1 x 2 1/2	7.00	4.20



METAL CASED PAPER CAPACITORS

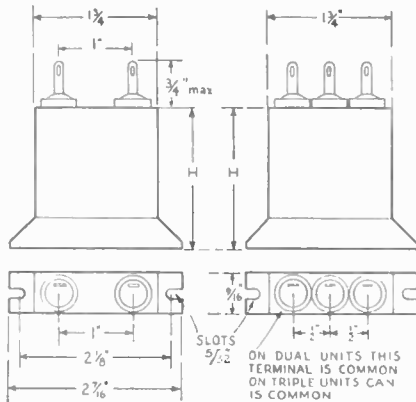


YDT ★
(Similar to CP67)

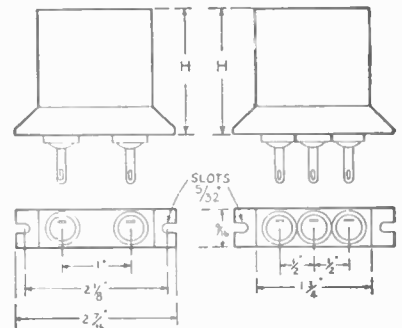
YDB ★
(Similar to CP69)

WDB ★
(Similar to CP65)

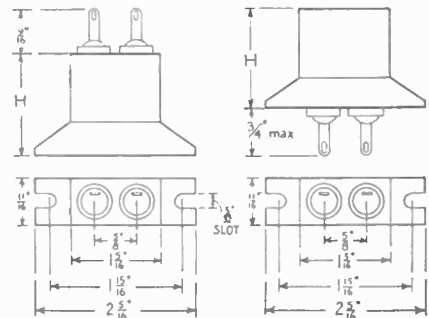
WDT ★
(Similar to CP63)



TYPE YDT



TYPE YDB



TYPE WDT

TYPE WDT

Types YDT and YDB are oil impregnated and oil filled with non-inflammable, non-oxidizable liquid. They are especially suited for use in bypass, audio frequency coupling circuits and other applications. Units are sealed in drawn metal shell containers and provided with leakproof terminals either on top or bottom of the can containers. They will meet MIL-C-25A performance and test requirements.

TEMPERATURE RANGE: -55°C to $+85^{\circ}\text{C}$.

STANDARD TOLERANCE: $\pm 20\%$, -10% .

Types WDT and WDB Capacitors are smaller size units of similar construction and electrical characteristics but only supplied in single section units with two terminals. These units are ideally suited for use in assemblies where space is limited and multiple units may be mounted close together. They will meet MIL-C-25A performance and test requirements.

TEMPERATURE RANGE: -55°C to $+85^{\circ}\text{C}$.

STANDARD TOLERANCE: $\pm 20\%$, -10% .

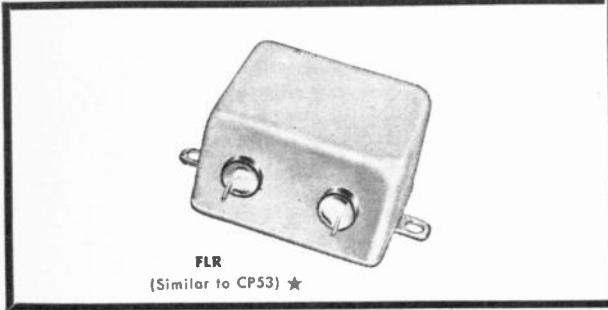
YDB/YDT Cat. No.	Cap. Mfd.	Case Size—Inches L. x W. x H.	List Price	Net Price
600 V. D.C. Work.				
YDB or YDT 6005	.05	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	\$3.60	\$2.16
YDB or YDT 610	.1	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	3.60	2.16
YDB or YDT 625	.25	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{2}$	3.85	2.31
YDB or YDT 650	.5	$1\frac{3}{4} \times \frac{9}{16} \times 2$	4.15	2.49
YDB or YDT 601	1.0	$1\frac{3}{4} \times \frac{9}{16} \times 2\frac{1}{2}$	4.70	2.82
YDB or YDT 6205	.05-.05	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	3.65	2.19
YDB or YDT 6210	.1-.1	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{2}$	4.70	2.82
YDB or YDT 6225	.25-.25	$1\frac{3}{4} \times \frac{9}{16} \times 2$	4.70	2.82
YDB or YDT 6250	.5-.5	$1\frac{3}{4} \times \frac{9}{16} \times 2\frac{1}{2}$	5.50	3.30
YDB or YDT 6305	.05-.05-.05	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	5.25	3.15
YDB or YDT 6310	.1-.1-.1	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{2}$	5.50	3.30
YDB or YDT 6325	.25-.25-.25	$1\frac{3}{4} \times \frac{9}{16} \times 2\frac{1}{2}$	5.80	3.48
1000 V. D.C. Work.				
YDB or YDT 10005	.05	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	3.70	2.22
YDB or YDT 1010	.1	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	4.00	2.40
YDB or YDT 1025	.25	$1\frac{3}{4} \times \frac{9}{16} \times 2$	4.15	2.49
YDB or YDT 1050	.5	$1\frac{3}{4} \times \frac{9}{16} \times 2\frac{1}{2}$	4.40	2.64
YDB or YDT 10205	.05-.05	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{16}$	4.40	2.64
YDB or YDT 10210	.1-.1	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{2}$	4.95	2.97
YDB or YDT 10225	.25-.25	$1\frac{3}{4} \times \frac{9}{16} \times 2$	5.25	3.15
YDB or YDT 10305	.05-.05-.05	$1\frac{3}{4} \times \frac{9}{16} \times 1\frac{1}{2}$	5.80	3.48
YDB or YDT 10310	.1-.1-.1	$1\frac{3}{4} \times \frac{9}{16} \times 2\frac{1}{2}$	6.35	3.81

WDB/WDT Cat. No.	Cap. Mfd.	Case Size—Inches L. x W. x H.	List Price	Net Price
600 V. D.C. Work.				
WDB or WDT 6005	.05	$1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{1}{16}$	\$3.85	\$2.31
WDB or WDT 610	.1	$1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{3}{8}$	4.15	2.45
WDB or WDT 625	.25	$1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{3}{8}$	4.40	2.64
WDB or WDT 650	.5	$1\frac{1}{16} \times 1\frac{1}{16} \times 2$	4.70	2.82
WDB or WDT 601	1.0	$1\frac{1}{16} \times 1\frac{1}{16} \times 2\frac{1}{2}$	5.25	3.15
1000 V. D.C. Work.				
WDB or WDT 10005	.05	$1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{3}{8}$	4.15	2.45
WDB or WDT 1010	.1	$1\frac{1}{16} \times 1\frac{1}{16} \times 1\frac{3}{8}$	4.15	2.45
WDB or WDT 1025	.25	$1\frac{1}{16} \times 1\frac{1}{16} \times 2$	4.40	2.64
WDB or WDT 1050	.5	$1\frac{1}{16} \times 1\frac{1}{16} \times 2\frac{1}{2}$	4.40	2.64

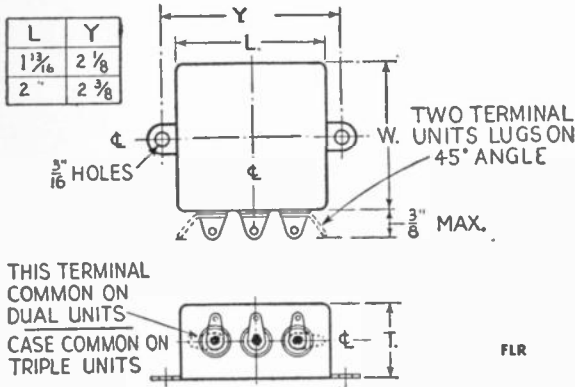
★When MIL-C-25A units must be supplied, order according to specific CP type designations listed in TOBE Paper Capacitor Catalog No. 5403.



METAL CASED PAPER CAPACITORS



FLR
(Similar to CP53) ★

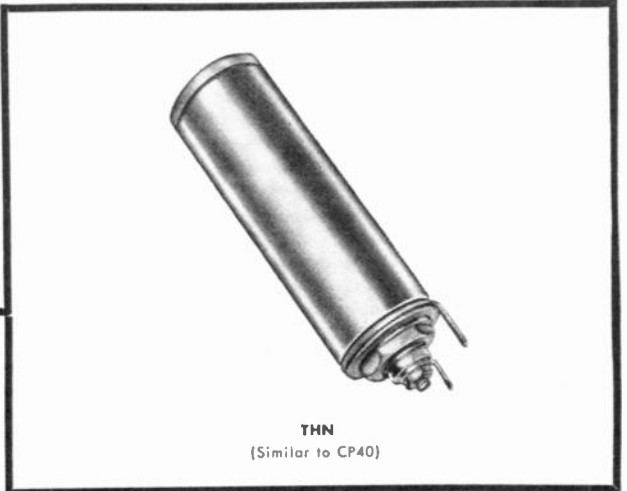


Type FLR oil-filled Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling under all humidity conditions. They are built to meet MIL-C-25A performance and test requirements and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications.

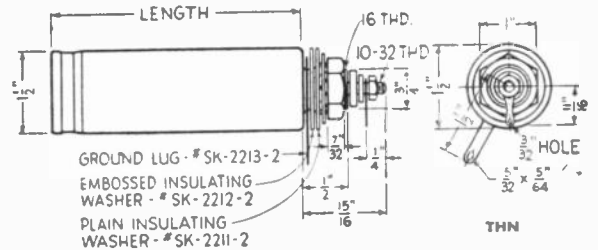
TEMPERATURE RANGE: -55°C to +85°C.
STANDARD TOLERANCE: +20%, -10%.

FLR	Cat. No.	Cap. Mfd.	Size—Inches Lgth. x Wid. x Thick.	List Price	Net Price
600 V. D.C. Work.					
FLR 6005	.05	1 13/16 x 1 x 3/4	\$2.90	\$1.74	
FLR 610	.1	1 13/16 x 1 x 3/4	2.95	1.77	
FLR 625	.25	1 13/16 x 1 x 3/4	3.10	1.86	
FLR 650	.5	1 13/16 x 1 x 3/4	3.30	1.98	
FLR 601	1.0	2 x 1 1/4 x 7/8	3.75	2.25	
FLR 602	2.0	2 x 2 x 1 1/2	5.00	3.00	
FLR 6205-3	.05-.05	1 13/16 x 1 x 3/4	3.65	2.19	
FLR 6210-3	.1-.1	1 13/16 x 1 x 3/4	3.70	2.22	
FLR 6225-3	.25-.25	1 13/16 x 1 x 3/4	3.75	2.25	
FLR 6250-3	.5-.5	2 x 1 1/4 x 7/8	4.30	2.58	
FLR 621-3	1-.1	2 x 2 x 1 1/2	5.30	3.18	
FLR 6310	.1-.1	1 13/16 x 1 x 3/4	4.20	2.52	
FLR 6325	.25-.25	2 x 1 1/4 x 7/8	4.75	2.85	
FLR 6350	.5-.5	2 x 2 x 1 1/2	5.75	3.45	
1000 V. D.C. Work.					
FLR 10005	.05	1 13/16 x 1 x 3/4	3.05	1.83	
FLR 1010	.1	1 13/16 x 1 x 3/4	3.15	1.89	
FLR 1025	.25	1 13/16 x 1 x 3/4	3.25	1.95	
FLR 1050	.5	2 x 1 1/4 x 7/8	3.55	2.13	
FLR 1001	1.0	2 x 2 x 1 1/2	4.40	2.64	
FLR 10205-3	.05-.05	1 13/16 x 1 x 3/4	3.85	2.31	
FLR 10210-3	.1-.1	1 13/16 x 1 x 3/4	4.00	2.40	
FLR 10225-3	.25-.25	2 x 1 1/4 x 7/8	4.20	2.52	
FLR 10250-3	.5-.5	2 x 2 x 1 1/2	5.45	3.27	
FLR 10310	.1-.1	2 x 1 1/4 x 7/8	4.60	2.76	
FLR 10325	.25-.25	2 x 2 x 1 1/2	5.50	3.30	

THREADED NECK CAPACITORS



THN
(Similar to CP40)



TOBE type THN capacitors employ paper dielectric and are thoroughly oil impregnated and oil filled. Designed for through-chassis mounting. Case is grounded but may be isolated from chassis by means of insulating washer provided.

TEMPERATURE RANGE: -55°C to +85°C.
STANDARD TOLERANCE: +20%, -10%.

THN	Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lgth. x Diam.	List Price	Net Price
THN 6020		2	600	2 1/2 x 1 1/2	\$4.60	\$2.76
THN 6040		4	600	4 1/2 x 1 1/2	6.30	3.78
THN 10010		1	1000	2 3/8 x 1 1/2	4.20	2.52
THN 10020		2	1000	4 1/2 x 1 1/2	5.45	3.27
THN 15005		.5	1500	2 3/8 x 1 1/2	5.00	3.00
THN 15010		1	1500	4 1/2 x 1 1/2	5.45	3.27

TEMPERATURE RANGE: -55°C to +85°C.
STANDARD TOLERANCE: +20%, -10%.

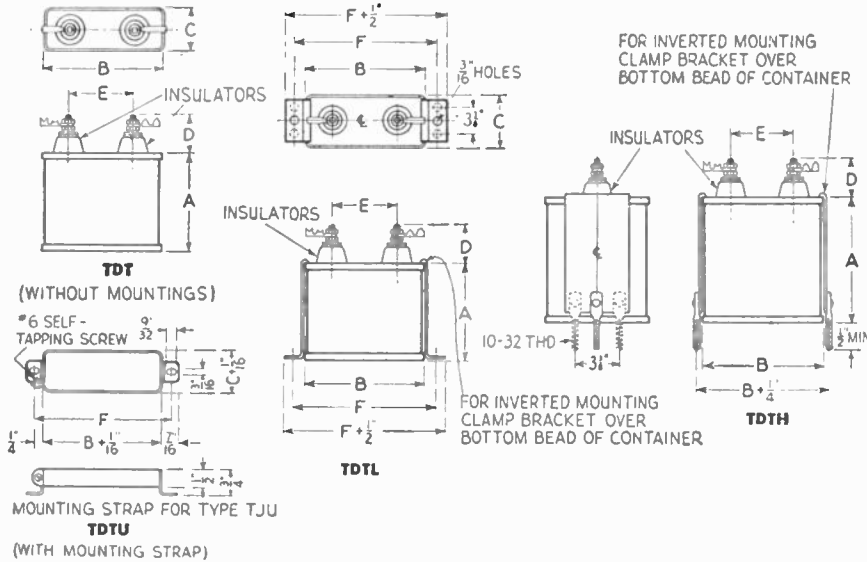
THND*	Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lgth. x Diam.	List Price	Net Price
THND 6020		2	600	2 3/8 x 1 1/2	\$5.40	\$3.24
THND 6040		4	600	4 1/2 x 1 1/2	7.10	4.26
THND 10010		1	1000	2 3/8 x 1 1/2	5.00	3.00
THND 10020		2	1000	4 1/2 x 1 1/2	6.30	3.78
THND 15005		.5	1500	2 3/8 x 1 1/2	5.85	3.51
THND 15010		1	1500	4 1/2 x 1 1/2	6.30	3.78

*Type THND—Two solder lug terminals insulated from case. This type similar to CP41.

★When MIL-C-25A units must be supplied, order according to specific CP type designations listed in TOBE Paper Capacitor Catalog No. 5403.



TRANSMITTING & INDUSTRIAL CAPACITORS



TYPE DESIGNATIONS—Type TDT (basic units) are without mountings. To order Types IDTH, TDTL or TDTU with mountings as shown above, use letter symbols of type mountings desired for Cat. No. as follows:

TYPE TDT—(Basic unit) without mountings.
TYPE IDTH—With screw spade-lug brackets.

TYPE TDTL—With mounting foot brackets.
TYPE TDTU—With universal mounting strap.

Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

TEMPERATURE RANGE: -55°C to +85°C. STANDARD TOLERANCE: ±10%.

TDT Cat. No.	Cap. Mfd.	Dimensions—Inches						List Price	Net Price
		A	B	C	D	E	F		
600 V. D.C. Working									
TDT 650	.5	2 1/4	1 13/16	1 1/16	3/8	1 13/16	2 1/4	\$4.70	\$2.82
TDT 601	1	2 1/4	1 13/16	1 1/16	3/8	1 13/16	2 1/4	5.80	3.48
TDT 602	2	2 1/4	1 13/16	1 1/16	3/8	1 13/16	2 1/4	7.15	4.29
TDT 604	4	3 3/2	2 1/2	1 3/16	1	1 1/8	3	9.10	3.46
TDT 606	6	4 3/4	2 1/2	1 3/16	1	1 1/8	3	11.30	6.78
TDT 608	8	3 3/8	3 3/4	1 1/4	1	2	4 3/8	13.50	8.10
TDT 6010	10	4 3/4	3 3/4	1 1/4	1	2	4 3/8	15.15	9.09
1000 V. D.C. Working									
TDT 1010	.1	1 3/8	1 13/16	1 1/16	3/8	1 13/16	2 1/4	4.15	2.49
TDT 1025	.25	2 1/4	1 13/16	1 1/16	3/8	1 13/16	2 1/4	4.70	2.82
TDT 1030	.5	2 1/4	1 13/16	1 1/16	3/8	1 13/16	2 1/4	4.95	2.97
TDT 1001	1	2 1/4	1 13/16	1 1/16	3/8	1 13/16	2 1/4	6.35	3.81
TDT 1002	2	3 3/8	1 13/16	1 1/16	3/8	1 13/16	2 1/4	8.25	4.95
TDT 1004	4	4 3/4	2 1/2	1 3/16	1	1 1/8	3	10.45	6.27
TDT 1006	6	4 3/4	3 3/4	1 1/4	1	2	4 3/8	14.05	8.43
TDT 1008	8	3 3/8	3 3/4	1 3/4	1	2	4 3/8	15.15	9.09
TDT 10010	10	4 3/4	3 3/4	1 3/4	1	2	4 3/8	16.80	10.08
TDT 10012	12	4 1/2	3 3/4	2 1/4	1	2	4 3/8	18.15	10.89
TDT 10015	15	4 3/4	3 3/4	2 1/2	1	2	4 3/8	20.10	12.06
1500 V. D.C. Working									
TDT 1550	.5	2 3/8	1 13/16	1 1/16	3/8	1 13/16	2 1/4	6.35	3.81
TDT 1501	1	3 3/8	1 13/16	1 1/16	3/8	1 13/16	2 1/4	7.45	4.47
TDT 1502	2	4 3/4	2 1/2	1 3/16	1	1 1/8	3	10.20	6.12
TDT 1504	4	4 3/4	3 3/4	1 1/4	1	2	4 3/8	14.05	8.43
TDT 1506	6	4 3/4	3 3/4	1 3/4	1	2	4 3/8	17.05	10.23
TDT/1508	8	4 3/4	3 3/4	2 1/2	3/8	2	4 3/8	20.90	12.54
*TDT 15010	10	4 3/4	3 3/4	3 3/16	3/8	2	4 3/8	25.05	15.03
*TDT 15012	12	4 3/4	3 3/4	3 3/16	3/8	2	4 3/8	27.25	16.33
†TDT 15015	15	4 3/4	4 3/16	3 3/4	3/8	2	4 3/8	30.00	18.00

NOTES—*Type TDTU units are not furnished in these sizes.
 †Types TDTL and IDTH units are furnished with two mounting holes or spade lugs 3/8" apart. All other units furnished with a single mounting hole or spade lug centered on each bracket.

TDT Cat. No.	Cap. Mfd.	Dimensions—Inches						List Price	Net Price
		A	B	C	D	E	F		
2000 V. D.C. Working									
TDT 2010	.1	2 1/2	2 1/2	1 3/16	3/8	1 1/8	3	\$6.60	\$3.96
TDT 2025	.25	2 1/2	2 1/2	1 3/16	3/8	1 1/8	3	7.15	4.29
TDT 2050	.5	2 1/2	2 1/2	1 3/16	3/8	1 1/8	3	7.45	4.47
TDT 2001	1	3 1/2	2 1/2	1 3/16	1	1 1/8	3	9.10	5.46
TDT 2002	2	4 1/4	3 3/4	1 1/4	1	2	4 3/8	10.75	6.45
TDT 2004	4	3 3/8	3 3/4	2 1/4	1	2	4 3/8	15.15	9.09
*TDT 2006	6	4 1/2	3 3/4	3 1/16	1 1/2	2	4 3/8	20.10	12.06
*TDT 2008	8	5 1/4	3 3/4	3 1/16	1 1/2	2	4 3/8	25.05	15.03
*TDT 20010	10	4 3/4	4 3/16	3 3/4	1 1/2	2	4 3/8	30.55	18.33
†*TDT 20012	12	5 1/2	4 3/16	3 3/4	1 1/2	2	4 3/8	33.30	19.98
2500 V. D.C. Working									
TDT 2550	.5	3 3/2	2 1/2	1 3/16	1 1/4	1 1/8	3	11.55	6.93
TDT 2501	1	3 3/4	3 3/4	1 3/4	3/8	2	4 3/8	13.20	7.92
TDT 2502	2	4 3/4	3 3/4	1 3/4	3/8	2	4 3/8	21.45	12.87
†*TDT 2504	4	4 3/8	4 3/16	3 3/4	3/8	2	4 3/8	30.00	18.00
†*TDT 25010	10	7	4 3/16	3 3/4	1 1/4	2	4 3/8	75.10	45.06
3000 V. D.C. Working									
TDT 3010	.1	2 1/2	2 1/2	1 3/16	1 1/8	1 1/8	3	14.05	8.43
TDT 3025	.25	2 1/2	2 1/2	1 3/16	1 1/8	1 1/8	3	14.85	8.91
TDT 3050	.5	4 1/4	2 1/2	1 3/16	1 1/8	1 1/8	3	16.80	10.08
TDT 3001	1	3 3/8	3 3/4	2 1/4	1 1/8	2	4 3/8	20.10	12.06
*TDT 3002	2	4 1/2	3 3/4	3 1/16	1 1/8	2	4 3/8	25.05	15.03
†*TDT 3004	4	4 3/4	4 3/16	3 3/4	1 1/8	2	4 3/8	36.85	22.11
4000 V. D.C. Working									
TDT 4010	.1	2 3/4	3 3/4	2 1/4	1 1/8	2	4 3/8	18.00	10.80
TDT 4025	.25	2 3/4	3 3/4	2 1/4	2	2	4 3/8	20.00	12.00
TDT 4030	.5	3 3/8	3 3/4	2 1/4	2	2	4 3/8	23.00	13.80
TDT 4001	1	5 3/8	3 3/4	2 1/4	1 1/8	2	4 3/8	29.00	17.40
†*TDT 4002	2	5 3/4	4 3/16	3 3/4	2	2	4 3/8	39.00	23.40
†*TDT 4004	4	8 1/2	4 3/16	3 3/4	2	2	4 3/8	66.85	40.11
5000 V. D.C. Working									
TDT 5050	.5	4 1/2	3 3/4	2 1/4	2	2	4 3/8	25.00	15.00
†*TDT 5001	1	4 3/8	4 3/16	3 3/4	1 3/8	2	4 3/8	34.00	20.40
†*TDT 5002	2	6	4 3/16	3 3/4	1 3/8	2	4 3/8	52.00	31.20
6000 V. D.C. Working									
TDT 6010	.1	2 3/4	3 3/4	2 1/4	2	1 3/4	4 3/8	27.00	16.20
†*TDT 6001	1	4 3/4	3 3/4	4 3/16	2	2	4 3/8	49.00	29.40

For higher voltage units, to 25,000 v.d.c., write for data and prices.

★When MIL-C-25A units must be supplied, order according to specific CP type designations listed in TOBE Paper Capacitor Catalog No. 5403.

THE NEW MIRACLE T. V. TUNER CLEANER

CHEMICALLY ENGINEERED FOR ELECTRONIC TECHNICIANS

HUSH[®]

COSTS LESS AND RESULTS GUARANTEED

Chemically engineered for that tuner and switching mechanism. Hush comes in a 6 oz. pressure can with sufficient pressure to reach all contacts to wash-a-way that dirt, leaving clean and positive contacts, protected with a lasting lubricant film and with no powder residue.

6 oz. ECONOMY SPRAY CAN \$2.25
 Hush also available in 2 oz., 8 oz. and 32 oz. containers. Net



"Spray It and Forget It"



SINCE 1949 THE ORIGINAL SUPER EVER-QUIET[®]

VOLUME CONTROL and CONTACT RESTORER

*A Few Drops
 Does the Job*

79c 2 oz. Net
 (32 oz. sizes available)

EVER-QUIET is a free-flowing liquid that leaves no powder residue. Scientifically designed to seep around the shaft and penetrate the control or potentiometer, cleaning the contacts and leaving a safe protecting film. EVER-QUIET is harmless to metals, wire or carbon. EVER-QUIET is guaranteed for the uses recommended. Sold with a money back guarantee.



ANOTHER QUALITY PRODUCT

EVER-QUIET now available in a 6 oz. pressure can, chemically engineered with sufficient pressure to reach those out-of-way, hard to get-at controls, push button assemblies, band switches and other electrical contacts.

6 oz. SPRAY CAN \$1.59 Net

EVER-KLEER T.V. Picture Tubes, Protecting Glass Cleaner

CHEMICAL ELECTRONIC ENGINEERING, INC.

Manufacturers of: HUSH — EVER-QUIET — EVER KLEER — OPTIC KLEER — SURE-N-EASY
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volume control and contact restorer

contains PERMA-FILM
NOT A CARBON TET SOLUTION

the
"NO NOISE"

big

3

New rubber coat spray

contains NO PLASTIC
NON-INFLAMMABLE

ELECTRONIC CHEMICAL Corp.

813 Communipaw Ave.
Jersey City 4, N. J.

tuner-tonic

contains PERMA-FILM
NON-TOXIC and NON-INFLAMMABLE

Economical . . . A Little Does A Lot!



Also Available In 8 Oz.
Bottles and Quart Cans

\$1.00 \$2.25

Both Net
To Servicemen

**ALL "NO-NOISE" PRODUCTS SOLD
WITH MONEY BACK GUARANTEE**



The revolutionary
rubber coating that
can be sprayed. In-
sulates where ap-
plied, protects in-
definitely. Prevents
arcing, shorting
and corrosion;
waterproofs, too!
Here's the perfect
product for TV,
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wiring and anten-
na protection in its
most convenient,
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6 Oz. Spray Can

\$3.25

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BEWARE OF CHEAP SUBSTITUTES



Cleans lubricates,
restores all tuners,
including wafer
type, with just one
application. Won't
change or affect
capacities, induct-
ance or resistance,
nor will it harm in-
sulations or preci-
ous metals, nor at-
tack plastics. The
ideal product for
TV, radio and FM.
Noise, oxidation
and dirt are indef-
initely eliminated.

6 Oz. Aerosol Can

\$3.25

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GENERAL CEMENT

CEMENTS—CHEMICALS



G-C RADIO-TV SERVICE CEMENT

Waterproof, fast drying, dependable. For repairing speakers, cones, voice coils. Brush attached.

No. List
30-2 2 oz. \$1.80



G-C SPRA KLEEN

Spray onto radio and TV contacts; eliminates noise due to dust, dirt, corrosion.

No. List
8666 6 oz. \$1.20



G-C Q-DOPE (COIL DOPE)

Liquid polystyrene for coating, doping, sealing, cementing RF, VHF and UIHF coils. Brush attached.

No. List
37-2 2 oz. \$0.80



G-C SERVICE CEMENT THINNER

The best thinner for G-C Service Cement. Will not change its characteristics. Brush attached.

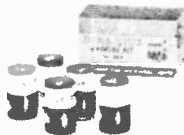
No. List
28-2 2 oz. \$1.75



G-C Z5 SILICONE COMPOUND

After transistor repairs restores efficient heat transfer from transistor to chassis.

No. List
8101 1 oz. tube \$2.50



G-C DIAL LITE COLORING KIT

Fast drying and long lasting. For signal systems, dials, etc. Red, green, blue, amber and solvent.

No. List
66-5 \$1.85

G-C CEMENT SAMPLER KIT

Ideal for research and development; contains 14 different cements in 2 oz. bottles.

No. List
315 \$9.95



G-C CONTACT BURNISHING TOOL KIT

Contains 2 oz. bottle of Contact Cleaner and Burnishing Tool; for servicing relays, switches, etc.

No. List
9339 \$1.25



G-C PRINT-KOTE SILICONE RESIN SPRAY

Same as TV set makers use to protect printed circuits; insulates, protects, prevents arcing.

No. List
11-6 6 oz. \$3.25



G-C SPRA-KOAT CHARCOAL GRAY

Air drying wrinkle varnish in genuine Collins Instrument charcoal gray color.

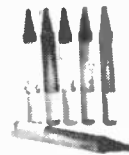
No. List
60-14 16 oz. \$2.75



G-C RADIO SERVICE SOLVENT

Ideal for loosening cement on speaker cones, frames, etc.; also thinner for G-C Cement.

No. List
31-2 2 oz. \$0.75



G-C ELECTRONIC OIL KIT

A sortment of 6 special oils in handy vial dispensers for electronic work.

No. List
9400 \$3.50



G-C DE-OX-ID SPRAY

Spray on electrical contact cleaner for silver, delect, relays and radar contacts.

No. List
19-6 6 oz. \$3.50



G-C SKRATCH STIK KIT

Repair scratches on mahogany, walnut or light furniture. TV cabinets with easy application.

No. List
909-K \$2.25



G-C Q-DOPE THINNER

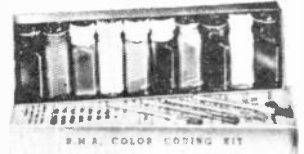
Cuts and dissolves Q-Dope and polystyrene materials. Water-white. Brush attached.

No. List
41-2 2 oz. \$0.75

G-C E.I.A. COLOR CODING KIT

Contains all 10 E.I.A. standard colors, color chart and brushes. Fast drying lacquer enamels.

No. List
677 \$2.45



G-C SILVER PRINT

Same pure silver compound used by manufacturers of printed circuits. Air drying.

No. List
21-1 1/2 Troy oz. \$3.95



G-C PHONO NON-SLIP COMPOUND

Prevents slippage of phono drives on changers, tape recorders; won't harm rubber.

No. List
86-2 2 oz. \$1.50



G-C TV HIGH VOLTAGE CORONA DOPE

Prevent corona shorts on high voltage circuits in TV sets. Easy to apply, air drying.

No. List
47-2 2 oz. \$1.20



G-C SPRA-KOAT CLEAR ACRYLIC

Protects and insulates TV antennas, terminals, hardware. High dielectric strength.

No. List
8665 16 oz. \$1.89



G-C MASTER PRINTED CIRCUIT KIT

Complete kit of all items needed to repair printed circuits, soldering iron with special tip, instructions.

No. List
683 \$13.95



G-C WOOD CABINET GLUE

Repair wood furniture, radio and TV cabinets, hi fi and stereo cabinets. Will not harm finish.

No. List
39-2 2 oz. \$0.80

SEND FOR YOUR FREE ILLUSTRATED G-C CATALOG...
GENERAL CEMENT
Dept. R-M
Rockford, Illinois



KRYLON CRYSTAL-CLEAR

ACRYLIC SPRAY COATING

for Television, Radio, Electronic Use

- prevents corona in high voltage sections
- prevents rusting and pitting of antennas
- keeps lead-in connections tight
- just spray it on — that's all!



Characteristics

Dielectric constant of 3.2 to 3.7 (1000 cycles). Dielectric strength of 400 to 800 (number of volts necessary to cause an electric arc through a Krylon coat one mil thick)
Electrical resistance of (10¹⁰ ohms cm²)

6 oz. list price **98¢**
Order No. 1300A

16 oz. list price **\$1.95**
Order No. 1302



KRYLON Dulling Spray

... a "must" in TV, movie and photographic studios

- Eliminates glare, bothersome highlights
- Simplifies lighting arrangements
- For both black and white and color use

16 oz. list price, **\$1.95**, Order No. 1310



KRYLON Foaming Window Spray

... removes finger marks and dust from TV masks and screens ... good antistatic properties

15 oz. list price, **79c**, Order No. 9100



KRYLON Rust Release Penetrating Oil Spray

... instantly, easily frees rusty bolts and nuts and frozen parts ... lubricates as it penetrates.

16 oz. list price, **\$1.69**, Order No. 1324



KRYLON Varnish Sprays

... HIGH-GLOSS and SATIN-FINISH (alcohol and hot liquid resistant) for professional finish ... dries in minutes.

16 oz. list price, **\$1.79**, Order No. 7001 — High-Gloss

16 oz. list price, **\$1.79**, Order No. 7002 — Satin-Finish

PERFECT PAINTING
THE "PUSH-BUTTON" WAY



SPRAY PAINTS

No fuss, no muss, no lost time!
Dries in minutes!

Other KRYLON spray products you will want to keep handy:
METAL PRIMER • STENCIL INK • HIDE-A-MARK • RUST VETO • CLEANER AND DEGREASER

KRYLON SPRAY PAINTS PRICE LIST

6-oz. Order No.	16-oz. Order No.	COLOR	
1401A	1401	Bright Silver (Alum)	All 6-oz. colors, each 98¢ list price
1501A	1501	Glossy White	
1502A	1502	Flat White	
	1503	Antique Ivory	
1601A	1601	Glossy Black	
1602A	1602	Flat Black	
1603A	1603	Machine Grey	All 16-oz. colors, each \$1.79 list price
1604A	1604	Light Grey	
1605A	1605	Dove Grey	
1701A	1701	Bright Gold	
1801A	1801	Chrome Yellow	
	1802	Pastel Yellow	
1901A	1901	Regal Blue	
1902A	1902	Baby Blue	
2001A	2001	Hunter Green	
	2002	Surf Green	
2101A	2101	Cherry Red	
2102A	2102	Baby Pink	
2201A	2201	Bright Copper	
	2301	O.K. Khaki	
	2401	Int'l. Orange	
	2501	Leather Brown	

NEW!

KRYLON GLOWING Spray Paints

6 brilliant fluorescent colors that make any white surface up to 4 times brighter. Red orange—633 and yellow orange—634 colors are made to conform to Spec. MIL-P-21600 (Aer).

16-oz. can. **\$2.79** list price

Order No.	Color
3101	Red Orange — 633
3102	Yellow Orange — 634
3103	Sunset Gold
3104	Lemon Yellow
3105	Cerise
3106	Green

Sec. 1600

"QUIETROLE"...

the original
LUBRICANT
CLEANER

TRADE MARK REG. U.S. PAT. OFF.

SPRAY ^{IT} or DROP IT...



the New QUIETROLE SPRAY-PACK

or the

QUIETROLE BOTTLE with the Eye Dropper

"QUIETROLE" is the preferred, standard product of the industry! Your guarantee for quieting noisy television and radio controls, switches and other moving parts is QUIETROLE. Here is the original, non-inflammable, most reliable lubricant-cleaner on the market today—developed through years of factual and authentic research.

There is no substitute for **QUALITY . . . get QUIETROLE TODAY**

A First of the Industry . . . A Ten Year Plus Record of Proven Superiority. Built to Meet a Demand, Not a Price

QUIETROLE BOTTLE

Size	Cat. No.	Min. Order	Min. Re-order	Distr. Net Resale Price
2 oz.	10-2	24	24	\$1.69
4 oz.	10-3	16	8	2.54
8 oz.	10-4	8	6	5.07

Effective Savings on Gross Lot Purchase
10-2 Size

QUIETROLE SPRAY-PACK (CAN)

6 oz.	10-5	12	12	2.79
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Mfd. by



QUIETROLE COMPANY, SPARTANBURG, S. C.

Sec. 1800
COILS (Inductors, Toroids), ASSEMBLIES, FORMS

In addition to the Coils, Inductors, Toroids, etc., listed on the following pages of this section, please be sure to refer to the **General Index (pg. 2)** for similar items.

In this way, you will be sure to find all products cataloged in The Radio-Electronic MASTER.

Thank you



Miller

Television Components



24 MC Unshielded Picture I.F. Transformers



For use as replacement units in television receivers where unshielded coils are called for and standard circuitry is employed. Mounting clip to fit $\frac{1}{8}$ " hole in chassis.

Shielded I.F. trans. are $\frac{3}{4}$ " sq. x 2" high. Maximum Dimensions: $2\frac{1}{2}$ " long.

Cat. No.	Description	Trap	Price
6245	25.5 MC First I.F.	27.25 MC	\$2.85
6246	22 MC Second I.F.	21.2 MC	2.85
6247	21.25 MC Cathode Trap		2.85
6248	24.5 MC Video Det. I.F.		1.75
6249	21-25 MC Bifilar Wound I.F.		1.75
6250	25-29 MC Bifilar Wound I.F.		1.75
6251	21-25 MC Bifilar I.F. Shielded		2.50
6252	25-29 MC Bifilar I.F. Shielded		2.50
6253	21-25 MC Bifilar I.F.	20-23 MC	3.25
6254	25-29 MC Bifilar I.F.	24-29 MC	3.25



Picture I.F. Inductors Unshielded

Dimensions: $\frac{1}{2}$ " max. o.d. x $1\frac{1}{2}$ " long.

Cat. No.	Description	Freq.	List Pr.
6188	3rd Pix I.F. Trans.	25.2 MC	\$1.50
6189	Video Detector I.F. Trans.	23.4 MC	1.50
6193	Cathode Sound Trap	21.25 MC	2.25
6171	Tunable Choke	21-25 MC	1.45
6171A	Tunable Choke	25-29 MC	1.45



21.25 MC Television I.F. Transformers

Dimensions: 6185-6186-6187 $\frac{7}{8}$ " Sq. x $2\frac{1}{4}$ " high
6170, 6190 and 6191 $\frac{7}{8}$ " sq. x $2\frac{1}{4}$ " hi
6184 and 6192 $1\frac{1}{8}$ " x $1\frac{1}{8}$ " x $2\frac{1}{2}$ " high.
6261 and 6262 $\frac{3}{4}$ " sq. x 2" high clip mtg.

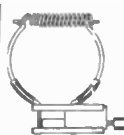
Cat. No.	Description	Freq.	List Pr.
6185	21.8 MC Conv. I.F. Trans.	21.25 MC	\$3.10
6186	25.3 MC 1st Pix I.F. Trans.	27.25 MC	3.10
6187	22.3 MC 2nd Pix I.F. Trans.	19.75 MC	2.50
6190	1st Sound I.F. Trans.	21.25 MC	\$2.75
6191	2nd Sound I.F. Trans.	21.25 MC	2.75
6192	Sound Disc. Trans.	21.25 MC	3.30
6184	Sound Ratio Det. Trans.	21.25 MC	3.85
6170	Sound Disc. Trans.	21.25 MC	3.80
6261	Sound Disc. Trans.	21.25 MC	3.75
6262	Sound Ratio Det. Trans.	21.25 MC	3.75



4.5 MC Intercarrier Sound Components

Dimensions 1466-67-68: $1\frac{1}{8}$ " x $1\frac{1}{8}$ " x $2\frac{1}{8}$ " high.
#1469, 1470 and 1480 Unshielded, Mounting hole $\frac{1}{8}$ "
1470-A and 1481 $\frac{3}{4}$ " x $\frac{3}{4}$ " x 2" hi
#1498 $1\frac{3}{8}$ " x $1\frac{3}{8}$ " x $2\frac{1}{2}$ " high
1483-84-95-86-87 $\frac{7}{8}$ " Sq. x $2\frac{1}{4}$ " high

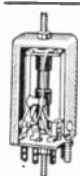
Cat. No.	Item	Freq.	List Pr.
1466	Input or Inter. I.F. Trans.	4.5 MC	\$3.00
1467	Sound Discrim. Trans.	4.5 MC	3.50
1468	Sound Ratio Det. Trans.	4.5 MC	3.75
1469	Sound Pick Off Coil	4.5 MC	1.50
1470	Sound Trap Unshielded	4.5 MC	1.50
1470-A	Sound Trap Shielded	4.5 MC	1.90
1480	Quadrature Coil	4.5 MC	1.50
1481	Quadrature Coil Sh'l'd.	4.5 MC	1.95
1482IF	Sound I.F. Trap	4.5 MC	2.25
1483IF	Sound I.F.	4.5 MC	3.00
1484RD	Sound Ratio Det	4.5 MC	3.50
1485RD	Sound Ratio Det	4.5 MC	3.50
1486RD	Sound Ratio Det	3.5 MC	3.50
1487RD	Sound Ratio Det	4.5 MC	3.50
1498	Sound Ratio Det. Trans.	4.5 MC	3.75



Adjustable Ion Trap

Due to its adjustable feature, which allows the magnetic field to be varied between 32-55 gauss, this trap will, in most instances, replace the older style ion traps having a specific magnetic field.

Cat. No.	Description	List Price
6295	Adjustable Ion Trap	\$1.50



"40 MC" TV Picture I.F. Transformers

Converter transformer and 1st pix I.F. grid transformer have 75-ohm link winding.

Dimensions
6215-16-17-18 $\frac{7}{8}$ " Sq. x $2\frac{1}{4}$ " high
6240 $1\frac{1}{8}$ " Sq. x $2\frac{3}{8}$ " high

Cat. No.	Description	Trap	List Pr.
6215	Converter I.F. Trans.		\$2.75
6216	1st Pix I.F. Grid Trans.	39.25 MC	3.30
6217	1st Pix I.F. Plate Trans.	41.25 MC	3.30
6218	2nd Pix I.F. Grid Trans.	47.25 MC	3.10
6240	Video Detector with Diode	43.7 MC	7.50

Unshielded



Cat. No.	Description	Freq.	List Pr.
6219	3rd-4th & 5th I.F.	41.75-45.75 MC	\$1.50
6220	41-45 MC Converter I.F.		1.50
6221	43.5 MC First I.F.	41.25 MC	2.95
6222	45.5 MC Second I.F.	47.25 MC	2.95
6223	40 0 MC Third I.F.	39.25 MC	2.95
6224	44 MC Fourth I.F.		1.55
6225	41-45 MC I.F., Single Winding		1.70
6226	Hi Q Trap	40-46 MC	1.55



Video Peaking Coils, Filament Choke

No. 6175 Filament Choke— $\frac{3}{32}$ " dia. x $\frac{7}{8}$ " long;
Video Peaking Coils— $\frac{1}{16}$ " dia. x $\frac{1}{2}$ " long.

Cat. No.	Use	Resistor	List Price
6175	Filament	0.8	None
6152	Peaking	20	None
6176	Peaking	36	None
6110	Peaking	60	None
6172	Peaking	73	None
6177	Peaking	93	None
6112	Peaking	100	None
6178	Peaking	120	22K
6153	Peaking	120	None
6120	Peaking	155	None
6179	Peaking	180	39K
6180	Peaking	180	None
6154	Peaking	200	None
6173	Peaking	250	22K
6181	Peaking	250	None
6130	Peaking	275	None
6155	Peaking	300	None
6132	Peaking	330	None
6134	Peaking	375	None
6136	Peaking	420	None
6138	Peaking	470	None
6174	Peaking	500	None
6144	Peaking	550	None
6146	Peaking	600	None
6148	Peaking	700	None
6156	Peaking	800	None
6157	Peaking	950	None

Antenna Matching Coils (Balun)



When two of these coils are connected in parallel at one end and in series at the other end, a 75 ohm to 300 ohm impedance matching transformer is obtained. This impedance match holds over the entire television range from channel 2 to 13 thus including the F.M. channels.

Cat. No.	Description	Size	List Price
6103	Ant. Matching Coil	$\frac{1}{4}$ " x $1\frac{1}{2}$ "	\$1.55
6104	Ant. Matching Coil	$\frac{1}{4}$ " x $1\frac{3}{4}$ "	1.15
6200	Ant. Matching Coil	$\frac{3}{8}$ " x $2\frac{1}{4}$ "	2.25
6202	Ant. Matching Coil	$\frac{1}{2}$ " x $1\frac{3}{4}$ "	2.25

Horizontal Oscillator & Sync. Control Coils



Dimensions: $1\frac{1}{8}$ " x $1\frac{1}{8}$ " x $2\frac{1}{2}$ " high.
6212 Unshielded, Mounting hole $\frac{1}{8}$ "
6211 and 6324 Unshielded, Mounting hole $\frac{1}{8}$ "—6183 may be reversed in shield for top or bottom mounting.

ing. 6183-A coils reversed on form to tune Horiz. Osc. through chassis.

Cat. No.	Item	List Price
6194	Osc. & A.F.C. Discrim. Trans.	\$3.10
6182	Osc. and Sync. Control Coil	2.50
6183	Osc. and Sync. Stabilizer Coil	3.25
6210	Sync. Stabilizer Coil 16-42 mh	2.50
6211	Sync. Stabilizer tapped 16-42 mh	2.50
6212	Horiz. Osc. tapped 12-35 mh	2.50
6324	Horiz. Osc. tapped 60-130 mh	2.50
6183-A	Horiz. Osc. coil position reversed	3.25



Linearity & Width Controls

Dimensions: $\frac{3}{4}$ " x $2\frac{1}{2}$ " Max. The coils will mount in either a $\frac{3}{16}$ " or $\frac{7}{16}$ " hole with adapter supplied.

Cat. No.	Inductance Range Millihenries	List Price
6313	.5-5	\$2.00
6314	2.5-17	1.90
6315	4-30	2.00
6316	4-30 (2.8-6.5 AGC)	2.75
6317	3.2-9 (1.17-1.31 AGC)	2.50
6318	.3-3	1.70
6319	15-60	2.50
6320	.3-3 Tapped	1.75
6321	1-5 Tapped	2.00
6322	1.5-10	1.90
6323	.5-5 Tapped	1.75
6324	60-130 Tapped	2.50
6325	4.2-30 (1.78-1.37 AGC)	2.50
6326	2.5-19 Parallel (1.18-1.7 Series)	3.50
6327	4-30 Parallel (1.225-2.4 Series)	3.50
6328	9-24 (1.19-1.1 AGC)	2.50
6329	2.2-10 Tapped	2.25
6330	45-215	2.75
6331	4-30 Parallel (1.080-.7 Series)	3.25
6195	1.85-1	1.50
6196	.054-.245	1.25
6196-A	.054-.5 Tapped	1.45
6197	.55-.23 Tapped	1.45
6198	.17-.61	1.25
6199-A	1.3-4.1 Tapped	1.55
6199-B	.5-1.7	1.50



Miniature 44 MC Picture Trans.

Converter and 1st pix I.F. Grid transformer have 75 ohm link winding. Dimensions: $\frac{3}{4}$ " Square x 2" high.

Cat. No.	Description	Trap	List Pr.
6230	Converter I.F.		\$2.75
6231	44 MC First I.F.		2.75
6232	42.5 MC Second I.F.	41.25 MC	2.40
6233	45.5 MC Third I.F.	47.25 MC	2.90
6234	44 MC Fourth I.F.		2.25



Color T.V. Components

Dimensions
6022-6027-6028 Unshielded
6024 $\frac{7}{8}$ " Sq. x $1\frac{1}{8}$ " high
6021-6023-6026 $\frac{7}{8}$ " Sq. x $2\frac{3}{8}$ " high
6025 $1\frac{1}{8}$ " Sq. x $2\frac{1}{4}$ " high

Cat. No.	Description	Frequency	Price
6021	Chrome Bandpass Transformer	3.58 Mc	\$3.25
6022	Chrome Bandpass Coil	3.58 Mc	2.35
6023	Burst Transformer	3.58 Mc	5.00
6024	Output Transformer	3.58 Mc	4.00
6025	Sync and Phase Det	3.58 Mc	7.00
6026	Chroma Reference Osc	3.58 Mc	5.00
6027	Trap	3.58 Mc	2.50
6028	Chroma Sync Take Off	3.58 Mc	2.50

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.



Miller

Radio Frequency Coils



Miniature Adjustable R.F. Coils

These high Q adjustable iron core coils are for general replacement use.

Dimensions:
 1/2" dia. x 1 1/2" long (Nos. 70-A and 70-RF).
 1/2" dia. x 1 1/8" long (Nos. 69-OSC and 70-OSC).

Cat. No.	Use	Freq. Range	List Price
70-A	Antenna Stage	540-1600 KC	\$1.75
70-RF	R.F. Stage	540-1600 KC	1.75
70-OSC	Oscillator Stage	540-1600 KC	1.75

Has pri. and tapped sec. (I.F. 100-550 KC)
 69-OSC Oscillator Stage 540-1600 KC 1.75
 Capacity coupled type (100-550 KC)



Universal Adjustable Oscillator Coil

These adjustable iron core oscillator coils are for general replacement use. Dimensions: 3/8" x 1 1/2" high.

Cat. No.	Use	Freq. Range	List Pr.
71-OSC	Oscillator Stage R.F.	500-1800 KC	\$2.50 (I.F. 100-550 KC)



High-Q Ferrite Antenna Coil

Supplied with mounting bracket
 Dimensions: 3/8" diameter x 2 1/4" long.

Cat. No.	Use	Freq. Range	List Pr.
6300	Antenna Stage	540-1700 KC	\$1.40



Adjustable FM R.F. Coils

Dimensions: 1/2" O.D. x 1 1/8" long.

Cat. No.	Item	List Price
1447	88-108 MC Antenna Coil	\$1.85
1448	88-108 MC R.F. Coil	1.85
1449	88-108 MC Osc. Coil (10.7 MC I.F.)	1.85



Unshielded High-Q R.F. Coils

A complete line of Unshielded Permeability tuned coils for replacement use or as the front end components in new receiver design. These #5495 series coils can be shielded in our #S-32 shields (1 1/8" sq.) with very little loss in Q. Mounting is by means of a single 1/4" hole. Dimensions (form): 3/8" x 2". Ranges shown are for use with a 365 mmfd. variable tuning condenser.

Long Wave Coils (140-420 KC)

Cat. No.	Use	List Price
X-5495-A	Antenna Stage	\$2.50
X-5495-RF	RF Stage	2.50
X-5495-C	Standard Osc. 455 KC	2.50
X-5496-C	Tapped Osc. 455 KC	2.50

Broadcast Band Coils (540-1700 KC)

Cat. No.	Use	List Price
A-5495-A	Antenna Stage	\$2.50
A-5495-RF	RF Stage	2.50
A-5495-C	Standard Osc. 455 KC	2.50
A-5496-C	Tapped Osc. 455 KC	2.50

Medium Wave Coils (1.7-5.5 MC)

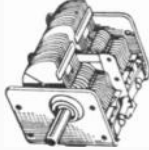
Cat. No.	Use	List Price
B-5495-A	Antenna Stage	\$2.50
B-5495-RF	RF Stage	2.50
B-5495-C	Standard Osc. 455 KC	2.50
B-5496-C	Tapped Osc. 455 KC	2.50

Short Wave Broadcast Coils (5-18 MC)

Cat. No.	Use	List Price
C-5495-A	Antenna Stage	\$2.50
C-5495-RF	RF Stage	2.50
C-5495-C	Standard Osc. 455 KC	2.50
C-5496-C	Tapped Osc. 455 KC	2.50

High Frequency Coils (12-36 MC)

Cat. No.	Use	List Price
D-5495-A	Antenna Stage	\$2.50
D-5495-RF	RF Stage	2.50
D-5495-C	Standard Osc. 455 KC	2.50
D-5496-C	Tapped Osc. 455 KC	2.50



Midget Variable Condensers

Split outer plates on the rotors permit accurate alignment. High frequency trimmers are provided on the short side of the condenser.

Mounting is provided by tapped holes in the frame of the condenser. Counter-clock rotation for capacity increase. Shaft dia. is 1/4" x 1" long. Capacity range—10 to 365 mmfd.

Cat. No.	Sections	Dimensions	List Price
2111	1	1 1/8" x 1 1/8" x 1 5/8"	\$3.25
2112	2	2 3/8" x 1 1/8" x 1 5/8"	4.00
2113	3	3 3/8" x 1 1/8" x 1 5/8"	5.50

Adjustable Padder Condensers

Used as adjustable oscillator padding condenser in super-het receivers to insure proper three-point tracking. They also find application as the horizontal drive control in television receivers. 1/4" single hole mounting.

Dimensions: 7/8" x 1" x 3/8" thick.

Cat. No.	Capacity Range	List Price
160-A	360-1000 mmfd.	\$1.40
160-B	50-400 mmfd.	1.25
160-C	200-600 mmfd.	1.40
160-D	10-160 mmfd.	1.10
160-E	25-280 mmfd.	1.20



Adjustable R.F. Coils

Particularly recommended for aircraft, marine and mobile equipment and general custom receiver construction. Coils are designed for use with standard 365 mmfd. tuning condenser. Dimensions: 1 1/8" square x 2" high.

Broadcast Band 540-1700 KC

Cat. No.	Use	I.F. Freq.	List Pr.
A-320-A	Antenna		\$2.50
A-320-RF	Interstage		2.50
A-320-M	2-coil Osc.	132 KC	2.50
A-320-C	2-coil Osc.	455 KC	2.50
A-321-M	Tapped Osc.	132 KC	2.50
A-321-C	Tapped Osc.	455 KC	2.50

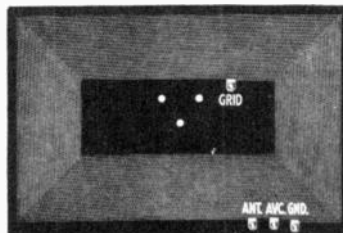
Marine & Aircraft Band 2100-6300 KC

Cat. No.	Use	List Price
B-320-A	Antenna	\$2.50
B-320-RF	Interstage	2.50
B-320-M	2-coil Osc.	132 KC 2.50
B-320-C	2-coil Osc.	455 KC 2.50
B-321-M	Tapped Osc.	132 KC 2.50
B-321-C	Tapped Osc.	455 KC 2.50

Short Wave Band 6.0-18 MC

Cat. No.	Use	List Price
C-320-A	Antenna	\$2.50
C-320-RF	Interstage	2.50
C-320-C	2-coil Osc.	455 KC 2.50
C-321-C	Tapped Osc.	455 KC 2.50

Loop Antenna



The Miller No. 703A Loop Antenna utilizes the patented "Air Loop" construction which provides high Q and mechanical rigidity. The Q of the loop is 150 at 790 KC and is substantially uniform throughout the standard broadcast band. Secondary inductance 253 microhenries. Inductance may be reduced as necessary by removing turns from the inside terminal.

Dimensions: 8 1/8" wide x 5 3/8" high x 1/8" thick.

Cat. No.	Frequency Range	List Price
703A	540-1700 KC	\$3.25



Miniature Hi-Q Coils

Cup core construction for high Q. Permeability tuning to adjust inductance. Antenna and oscillator coils have tapped windings. R.F. coil features impedance coupling.

Dimensions of shield: 3/4" sq. x 1 3/8" high.

Cat. No.	Use	Freq. Range	List Price
A-123-A	Antenna Stage	535—1700 kc	\$2.50
A-123-RF	R.F. Stage	535—1700 kc	2.50
A-123-C	Osc. Stage	455 kc.— .0004 Pad	2.50



Universal Replacement Coils (Permeability Tuned)

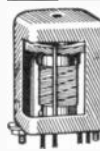
This series of variable inductance iron core coils are well suited for general replacement. Adjusted to cover the standard broadcast band with a tuning condenser having a maximum capacity of between 250 and 450 mmfd. The oscillator coils may be used with any I.F. amplifier operating in the 100 to 550 KC range.

Dimensions: 7/8" diameter x 2" hi
 Unshielded "L" mtg. bracket.

Cat. No.	Use	Freq. Range	List Pr.
72-A	Antenna Stage	500-1800 KC	\$2.75
72-RF	R.F. Stage	500-1800 KC	2.75
72-OSC	Oscillator Stage (see text above)		2.75

Shielded Dimensions: 1 3/8" square x 2 1/2" hi

Cat. No.	Use	Freq. Range	List Pr.
73-A	Antenna Stage	500-1800 KC	\$3.20
73-RF	R.F. Stage	500-1800 KC	3.20
73-OSC	Oscillator Stage (see text above)		3.20



Standard Bank Wound Coils

High gain general purpose coils featuring high impedance coupled antenna and R.F. units with progressive wound litz wire secondaries (except oscillator coils). For use with standard 365 mmfd tuning condenser. All windings are thoroughly impregnated with tropicalized R.F. lacquer.

Dimensions: 1 3/8" square x 2 1/2" high.

Cat. No.	Use	Freq. Range	List Pr.
44-A	Antenna Stage	540-1700 KC	\$1.75
44-RF	R.F. Stage	540-1700 KC	1.75
44-BP	Band-Pass Stage	540-1700 KC	1.75

Cat. No.	I.F. Freq.	Series Pad	List Price
44-H	262 KC	.0006 "	1.75
44-C	455 KC	.0004 "	1.75

Tapped osc. coils (for 6SA7 and similar tubes)

Cat. No.	I.F. Freq.	Series Pad	List Price
41-H	262 KC	.0006 "	1.75
41-C	455 KC	.0004 "	1.75

Unshielded

Dimensions: 3/8" diameter (form) x 2 1/8" high.

Cat. No.	Use	Freq. Range	List Pr.
43-A	Antenna Stage	540-1700 KC	\$1.50
43-RF	R.F. Stage	540-1700 KC	1.50
43-BP	Band-Pass Stage	540-1700 KC	1.50

Cat. No.	I.F. Freq.	Series Pad	List Price
43-H	262 KC	.0006 "	1.50
43-C	455 KC	.0004 "	1.50

Tapped osc. coils (for 6SA7 and similar tubes)

Cat. No.	I.F. Freq.	Series Pad	List Price
45-H	262 KC	.0006 "	1.50
45-C	455 KC	.0004 "	1.50

Electric Shaver Filter



This filter contains an inductive-capacitive circuit consisting of two duo-lateral wound chokes and a non-inductive condenser, giving complete freedom from radio interference. Most electric shavers act as miniature transmitters and feed interference energy into the house wiring and it is then picked up by the radio receiver. Dimensions: 1 1/8" diameter x 3" long.

Cat. No.	Volts	Watts	Finish	List Price
7817	115	50	Black	\$4.00
7817-I	115	50	Ivory	4.00

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

Miller

Intermediate Frequency Transformers

Permeability Tuned Transformers



Miller permeability tuned intermediate frequency transformers are recommended for all applications where a high degree of frequency stability and operation under humid conditions will be encountered.

Dimensions: 1 3/8" square x 3 1/4" high. #6/32 spade bolt mounting.

Cat. No.	Freq.	KC Range	Use	List Price
912-H1	262	250-275	Input	\$4.50
912-H2	262	250-275	Interstage	4.50
912-H3	262	250-275	Full-Wave	4.50
912-H4	262	250-275	Half-Wave	4.50
912-C1	455	450-475	Input	4.50
912-C2	455	450-475	Interstage	4.50
912-C3	455	450-475	Full-Wave	4.50
912-C4	455	450-475	Half-Wave	4.50
912-W1	1500	1400-1600	Input	4.50
912-W2	1500	1400-1600	Interstage	4.50
912-W3	1500	1400-1600	Full-Wave	4.50
912-W4	1500	1400-1600	Half-Wave	4.50

Perm. Tuned I.F. and Disc. Trans.

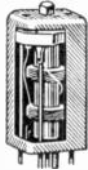


For use in communications receivers designed for A.M. or Narrow Band F.M. These transformers feature high gain along with a high degree of frequency stability.

Dimensions: 1 3/8" sq. x 2 1/2" high. #6-32 spade bolt mounting.

Cat. No.	Freq.	Kc Range	Use	List Price
913-C1	455	450-475	Input or Interstage	\$3.50
913-C4	455	450-475	Output	3.50
913-CD	455	450-475	Discriminator	3.90
913-W1	1500	1400-1600	Input or Interstage	3.50
913-W4	1500	1400-1600	Output	3.50
913-WD	1500	1400-1600	Discriminator	3.90

Replacement I.F. Transformers



These transformers are an essential part of the stock of every serviceman and dealer. In many cases they will give better performance than the original transformer. These transformers may be used as replacements in most makes of receivers using transformers of the same physical size.

Dimensions: 1 3/8" square x 2 3/8" high. #6/32 spade bolt mounting.

Cat. No.	Freq.	KC Range	Use	List Price
512-H1	262	250-275	Input	\$3.00
512-H2	262	250-275	Interstage	3.00
512-H3	262	250-275	Full-Wave	3.00
512-H4	262	250-275	Half-Wave	3.00
512-C1	455	450-475	Input	3.00
512-C2	455	450-475	Interstage	3.00
512-C3	455	450-475	Full-Wave	3.00
512-C4	455	450-475	Half-Wave	3.00
512-W1	1500	1400-1600	Input	3.00
512-W2	1500	1400-1600	Interstage	3.00
512-W3	1500	1400-1600	Full-Wave	3.00
512-W4	1500	1400-1600	Half-Wave	3.00

Iron Core Transformers

Dimensions: 1 3/8" square x 3 1/4" high. #6/32 spade bolt mounting.

Cat. No.	Freq.	KC Range	Use	List Price
612-K1	175	165-185	Input	\$3.95
612-K2	175	165-185	Interstage	3.95
612-K3	175	165-185	Full-Wave	3.95
612-K4	175	165-185	Half-Wave	3.95
612-H1	262	250-275	Input	3.50
612-H2	262	250-275	Interstage	3.50
612-H3	262	250-275	Full-Wave	3.50
612-H4	262	250-275	Half-Wave	3.50
612-C1	455	450-475	Input	3.50
612-C2	455	450-475	Interstage	3.50
612-C3	455	450-475	Full-Wave	3.50
612-C4	455	450-475	Half-Wave	3.50

Sub-Miniature I.F. Transformers



Through the use of a Ferrite shell core material these Sub-Miniature I.F. Transformers offer the gain and bandwidth characteristics previously obtained in only larger I.F. assemblies. (For Battery or AC-DC Radios.) Dimensions: 1/2" sq. x 1 1/2" high.

Cat. No.	Item	List Price
10-C1	455 KC Input I.F. Trans.	\$2.80
10-C2	455 KC Output I.F. Trans.	2.80



Universal I.F. Transformers

For general replacement purposes in auto receivers and many types of household and portable receivers.

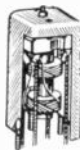
Dimensions: 1 1/4" square x 2 1/2" high.

Cat. No.	Freq.	KC Range	Use	List Price
312-H1	262	250-275	Input	\$2.85
312-H2	262	250-275	Interstage	2.85
312-H4	262	250-275	Output	2.85
312-H6	262	250-275	Output & Filter	3.25
312-C1	455	440-470	Input	2.85
312-C2	455	440-470	Interstage	2.85
312-C4	455	440-470	Output	2.85
312-C6	455	440-470	Output & Filter	3.25

Type No. 412 Iron Core Transformers

Dimensions: 1 1/4" square x 2 1/2" high.

Cat. No.	Freq.	KC Range	Use	List Price
412-H1	262	250-275	Input	\$2.85
412-H2	262	250-275	Interstage	2.85
412-H4	262	250-275	Output	2.85
412-C1	455	440-470	Input	2.85
412-C2	455	440-470	Interstage	2.85
412-C4	455	440-470	Output	2.85



Midget I.F. Transformers

Dimensions: 1 1/8" square x 2" high. #6/32 spade bolt mounting.

Air Core Transformers

Cat. No.	Freq.	KC Range	Use	List Price
112-H1	262	250-275	Input	\$3.00
112-H2	262	250-275	Interstage	3.00
112-H3	262	250-275	Full-Wave	3.00
112-H4	262	250-275	Half-Wave	3.00
112-H6	262	250-275	Output Stage & Filter	3.25

Cat. No.	Freq.	KC Range	Use	List Price
112-C1	455	450-475	Input	3.00
112-C2	455	450-475	Interstage	3.00
112-C3	455	450-475	Full-Wave	3.00
112-C4	455	450-475	Half-Wave	3.00
112-W1	1500	1400-1600	Input	3.00
112-W2	1500	1400-1600	Interstage	3.00
112-W3	1500	1400-1600	Full-Wave	3.00
112-W4	1500	1400-1600	Half-Wave	3.00

Iron Core Transformers

Cat. No.	Freq.	KC Range	Use	List Price
012-K1	175	165-185	Input	\$3.20
012-K2	175	165-185	Interstage	3.20
012-K3	175	165-185	Full-Wave	3.20
012-K4	175	165-185	Half-Wave	3.20
012-H1	262	250-275	Input	3.10
012-H2	262	250-275	Interstage	3.10
012-H3	262	250-275	Full-Wave	3.10
012-H4	262	250-275	Half-Wave	3.10
012-C1	455	450-475	Input	3.10
012-C2	455	450-475	Interstage	3.10
012-C3	455	450-475	Full-Wave	3.10
012-C4	455	450-475	Half-Wave	3.10

Miniature I.F. Transformers



Designed for experimental use and for general replacement in "personal" radio receivers, this series of shell core permeability tuned transformers are becoming increasingly popular. Tuning from top and bottom of the shield. Transformers are available for all standard I.F. frequencies.

(With diode filter capacitors) Dimensions: 3/4" by 3/4" by 2" high.

Cat. No.	Item	List Price
12-H1	262 KC Input I.F. Trans	\$2.90
12-H2	262 KC Output I.F. Trans.	2.90
12-H6	262 KC Output I.F. Trans.*	3.00
12-C1	455 KC Input I.F. Trans.	2.70
12-C2	455 KC Output I.F. Trans.	2.70
12-C6	455 KC Output I.F. Trans. *	2.85
12-C7	455 KC Input I.F. Battery	2.70
12-C8	455 KC Output I.F. Battery	2.70
12-C9	455 KC Input I.F. AC-DC	2.70
12-C10	455 KC Output I.F. AC-DC	2.70
12-C11	455 KC I.F. Trans.	2.70
Exact replacement for G.E. RTL-143, & RTL-163.		
12-C12	455 KC Tapped Pri. I.F. Trans.	3.25
12-C45	455 KC Discriminator	3.95
13-W1	1500 KC Input or Interstage	2.75
13-W2	1500 KC Output I.F. Trans.	2.75
1463	10.7 MC Input or Interstage	3.25
1464	10.7 MC Discriminator	3.75
1465	10.7 MC Ratio Detector	3.90
1464-WB	10.7 MC Disc. 900 KC. P/P	3.75
1465-WB	10.7 MC Ratio Det. 800 KC. P/P	3.90
6203	4.5 MC Input or Interstage	3.30
6204	4.5 MC Discriminator	3.75
6205	4.5 MC Ratio Detector	3.75
6260	21.25 MC I.F. Trans.	4.25
6261	21.25 MC Discriminator	3.75
6262	21.25 MC Radio Detector	3.75
6230	TV Converter I.F.	2.75
6231	TV 44 MC First I.F. Trap	2.75
6232	TV 42.5 MC Second I.F. 41.25 MC	2.40
6233	TV 45.5 MC Third I.F. 47.25 MC	2.90
6234	TV 44 MC Fourth I.F.	2.25

Miniature Printed Circuit I.F. Trans.

This series of miniature I.F. transformers have been specifically designed for printed circuit applications. May be used in new equipment design, or as replacement transformers. Same as our regular miniature I.F. transformers shown above, except for terminals and mounting. Supplied in all standard frequencies.

(With diode filter capacitors) Dimensions: 3/4" sq. x 2" high.

Cat. No.	Item	List Price
13-PH1	262 KC Input I.F. Trans.	\$2.85
13-PH2	262 KC Output I.F. Trans.	2.85
13-PH6	262 KC Output I.F. Trans. *	3.00
13-PC1	455 KC Input I.F. Trans.	2.75
13-PC2	455 KC Output I.F. Trans.	2.75
13-PC6	455 KC Output I.F. Trans. *	2.90
13-PC7	455 KC Input I.F. Trans. Battery	2.75
13-PC8	455 KC Output I.F. Trans. Battery	2.75
13-PC9	455 KC Input I.F. Trans. AC-DC	2.75
13-PC10	455 KC Output I.F. Trans. AC-DC	2.75
6203-PC	4.5 MC Input or Interstage	3.30
6204-PC	4.5 MC Discriminator Trans.	3.75
6205-PC	4.5 MC Ratio Detector Trans.	3.75
6206-PC	4.5 MC Ratio Det. (GE-RTD-026)	4.95
6207-PC	4.5 MC Ratio Det. (GE-RTD-025)	4.15
6208-PC	4.5 MC Ratio Det. (GE-RTD-020)	4.95
1463-PC	10.7 MC Input or Interstage	3.25
1464-PC	10.7 MC Discriminator Trans.	3.75
1465-PC	10.7 MC Ratio Detector Trans.	3.90
6230-PC	TV 44 MC Converter I.F. Trans.	3.10
6231-PC	TV 44 MC First I.F. Trans. Trap	3.10
6232-PC	TV 42.5 MC Second I.F. 41.25 MC	2.80
6233-PC	TV 45.5 MC Third I.F. 47.25 MC	3.10
6234-PC	TV 44 MC Fourth I.F. Trans.	2.75

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

STANWYCK COILS

Mfrd. by STANWYCK WINDING CO.

TELEVISION - I.F. - ANT. - R.F. - F.M. - OSCILLATOR COILS

TELEVISION REPLACEMENT COMPONENTS FOR MOTOROLA, TELEKING, MAGNAVOX, EMERSON, HALLICRAFTER, AND OTHER TELEVISION RECEIVERS

NEW ABOVE CHASSIS TYPE TUNED 455 K.C. I.F. COILS

The latest in IF coils featuring the complete above chassis type tuned IF coils that are permeability tuned resulting in high Q, no drift for stable long life operation, supplied with snap spring clip for mounting through suitable holes in chassis.



S-949

- S-1601 Miniature size IF high Q high gain for battery filament type tubes. Size $\frac{3}{4} \times 2$ " Shielded. List Price, \$1.90
- S-1617 Miniature size IF high Q high gain for AC DC Filament type tubes. Size $\frac{3}{4} \times 2$ " Shielded. List Price, \$1.65
- S-1607 Miniature size IF with exceptionally high Q and gain in many cases this IF will outperform standard IF transformers, Size $\frac{3}{4} \times 2$ " Shielded. List Price, \$1.90

4.5 mc IF COMPONENTS

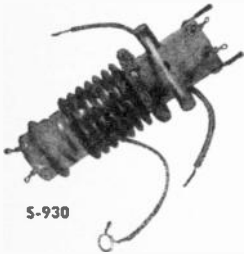
Featuring the latest all above chassis type tuning using internal type hex wrenching eliminating core breakage. They are of the permeability tuned type using fixed silver mica condensers insuring high Q no drift long life operation supplied with snap spring clip for mounting through suitable holes in chassis.

- S-985 4.5 mc Sound ratio detector Size $\frac{3}{4} \times 2$ " Shielded. List Price, \$2.90
- S-986 4.5 mc Sound discriminator transformer $\frac{3}{4} \times 2$ " Shielded. List Price, 2.90
- S-989 4.5 mc Sound take off coil Size $\frac{3}{4} \times 2$ " Shielded. List Price, 2.40
- S-974 4.5 mc Sound trap $\frac{3}{8}$ chassis hole mount. Unshielded. List Price, 1.10

TELEVISION REPLACEMENT COMPONENTS FOR RCA REPLACEMENT

RCA Stanwyck	List Price	RCA Stanwyck	List Price
203-L1 S-943 Video peaking 180 uh-39K	\$0.50	203-K1 S-954 Sound discriminator	\$2.55
203-L2 S-944 Video peaking 250uh-10meg.	.50	202-K1 S-955 Converter Trans.	2.65
203-L3 S-945 Video peaking 120 uh-22K	.50	204-L1 S-956 Fil. Choke	.70
203-L4 S-946 Video peaking 93 uh-10 meg.	.50	201-R1 S-957 Hor. width control	.95
202-K2 S-949 1st Pix IF	3.00	201-R3 S-958 Linearity control	.95
202-K3 S-950 2nd Pix IF	2.10	208-T8 S-959 Syncrolock	2.75
202-L1 S-951 3rd & 4th Pix IF	.75	203-R1 S-966 Syncroguide	2.00
202-K4 S-952 Cathode trap	2.55	205-R1 S-977 Hor. Freq. & Phase coil	2.25
201-K1 S-953 Sound IF	2.10		

HIGH VOLTAGE COILS



S-930

- S-999 High voltage flyback. This transformer is similar to the GE No. 77J1 and delivers approximately 14KV for ample width and picture brilliancy up to 21" picture tubes. List Price, \$11.00
- S-980 GE type linearity coil 5 to 36 mh. List Price, \$1.55
- S-981 GE type width coil with AGC winding. List Price, \$1.75
- S-930 10 KV R. F. power transformer designed for corona-less performance at full rated output. List Price, \$11.55
- S-918 R.F. Filament transformer will deliver 30 KV when used with one S-930 and two S-918 in a voltage tripler circuit. List Price, \$2.20

NEW ABOVE CHASSIS 10.7 PERMEABILITY TYPE TUNED MIDGET FM COILS

- S-626 Midget ratio detector to meet the critical demands for a sensitive and unusually stable FM detector. A peak to peak band width of 325 Kc with linearity exceeding plus or minus 125 Kc results in a high quality audio reproduction. Permeability tuned plus silver mica condensers offers long life low drift for the ultimate in fine FM reproduction. List Price, \$3.30
- S-625 Midget FM IF High performance in gain and band width with symmetrical wave shape is a result of correct L/C ratio, High Q iron cores and low drift silver mica capacitors make this a much desired IF for net set or replacement. List Price, \$2.50
- S-627 Midget FM Discriminator. The electrically centered secondary results in perfect symmetry between negative and positive peaks. High output and excellent discrimination are obtained. List Price, \$3.30
- S-609 FM Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. MF Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. List Price, \$0.45

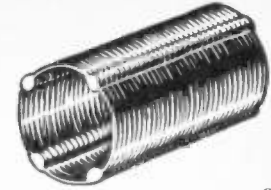
CUSTOM HIGH PERFORMANCE FERRITE LOOPSTICKS

- S-537 Adjustable design for small midget sets will outperform standard loop. List Price, \$0.90
- S-538 Adjustable design for average table size set has exceptionally high gain and low drift, has outside ant. connection. List Price, \$1.25
- S-540 This antenna coil has twice the gain of the S-538 with a Q of over 300 over the entire broadcast and eliminating an outside antenna. List Price, \$1.50

air dux

AIR WOUND COILS

Illumitronic Engineering has developed a complete, versatile series of air core inductors designed especially for the amateur rig, or for prototype of RF transmission equipment. These coils may be used for pi output circuits, conventional LC output circuits, interstage and oscillator circuits. The series consists of a standard coil type, a variable pitch type, and an indented type, in a range of diameters from 1/2 inch to 3 inches. All Air Dux® coils are constructed of the highest (silver or formvar) copper wire wound on large low loss polystyrene rods for the highest mechanical strength and lowest electrical losses.



air dux®

Cat No. T or S	Dia.	TPI	Wire Size	Length of Coil	Net Price
404		4	18		
406		6	18		
408	1/2	8	18	2	.40
410		10	18		
416		16	20		(Silver .80)
432		32	24		

504		4	16		
506		6	18		
508	5/8	8	18	2	.45
510		10	18		
516		16	20		(Silver .85)
532		32	24		

604		4	16		
606		6	18		
608	3/4	8	18	2	.50
610		10	18		
616		16	20		(Silver .90)
632		32	24		

804		4	16		
806		6	18		
808	1	8	18	3	.65
810		10	18		
816		16	20		(Silver 1.10)
832		32	24		

1004		4	14		
1006		6	14		
1008	1 1/4	8	16	10	1.65
1010		10	18		
1016		16	20		
*1032		32	24		

1204		4	14		
1206		6	14		
1208	1 1/2	8	16	10	1.80
1210		10	18		
1216		16	20		
*1232		32	24		

1404		4	14		
1406		6	14		
1408	1 3/4	8	14	10	1.90
1410		10	16		
1416		16	18		
*1432		32	24		

1604		4	12		
1606		6	14		
1608	2	8	14	10	1.95
1610		10	16		
1616		16	18		

2004		4	12		
2006		6	12		
2008	2 1/2	8	14	10	2.25
2010		10	16		

2404		4	10		
2406		6	12		
2408	3	8	14	10	3.40
2410		10	14		

*New

"T" series air dux are Tinned copper wire. (Add "T" after Cat. No.)

"S" series are SILVER PLATED copper wire. (Add "S" after Cat. No.)

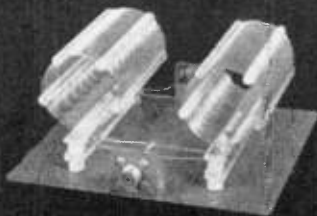
1000 thru 2400 series silver coils are available at double the costs shown.

Complete technical charts and graphs on air dux and pi dux are available on sheets T.H. 6 and 7.

Formvar coils available at higher costs.

air dux® BALUN

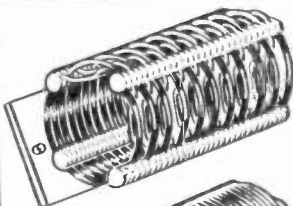
Unbalanced coax lines used on most transmitters can be matched to balanced lines of either 75 or 300 ohms impedance by using the B2009 air dux coils. May be used with transmitters and receivers without adjustment over the frequency range of 80 through 10 meters, and will handle power inputs up to 200 watts.



Two coils required.
Coax connector not included.

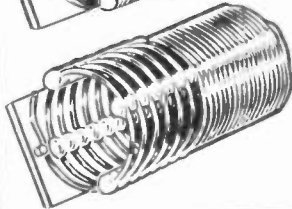
NO.	DESCRIPTION	NET EA.
B2009	Coil with hardware	3.36
MB2009	Mounting plate	1.95

Indented pi dux®



Cat.No.	Dia	TPI	Wire Size	Length of Coil	L. in.	Net
B16A	1	16	18	3 3/16	18.0	1.25
1014A	1 1/4	14	18	2 25/32	18.3	1.50
1212A	1 1/2	12	16	2 3/4	18.3	1.70
1411A	1 3/4	11	14	2 5/8	18.0	1.90
1609A	2	9	14	3	18.1	2.10
2007A	2 1/2	7	12	3 1/4	18.6	2.60
2406A	3	6	10	3 5/16	18.7	3.25

vari-pitch pi dux®



E20D10	1	20 & 10	18	3 1/4	18.0	1.25
E212D6	1 1/2	12 & 6	14	3 3/16	18.6	2.00
E608D6	2	8 & 6	12	4 1/8	18.1	2.70
E2008D5	2 1/2	8 & 5	12	3 3/4	18.2	3.25
E2408D4	3	8 & 4	10	3 3/4	18.6	3.95

2 new pi dux assemblies

The 500 and 1000 watt pi dux assemblies are compact yet conservatively rated. The high frequency coil sections are silver plated for high tank circuit efficiency. A complete technical sheet is included with each assembly.



1 KW pi dux

#195-1 500 watt pi dux Assembly net 5.95
#195-2 1 KW pi dux Assembly net 14.50

products by **illumitronic**  **engineering**

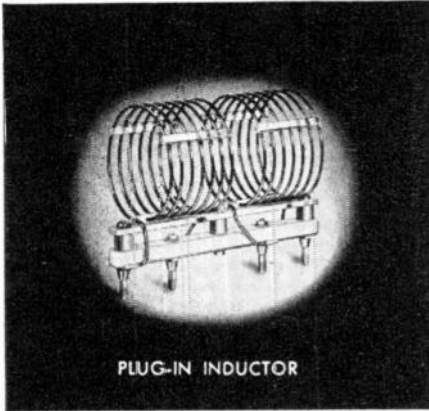


E. F. Johnson Company

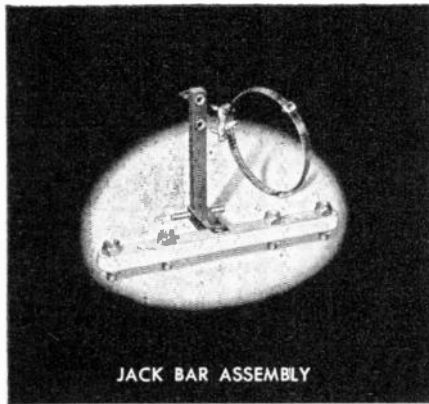
W A S E C A , M I N N E S O T A

SWINGING LINK INDUCTORS

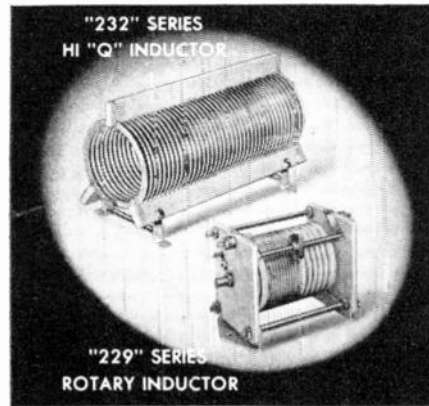
Swinging link inductors for amateur bands 160 thru 6 meters; 150, 500 and 1000 watt sizes. Polystyrene insulation, steatite bases and heavy wire sizes. HCS-Inductors match high voltage, low current tubes. LCS-Inductors match low voltage, high current tubes. Complete assembly includes inductors for bands desired, Jack Bar, Link Arm Assembly and Plug-in Links required for matching to line or antenna coupler.



PLUG-IN INDUCTOR



JACK BAR ASSEMBLY



"232" SERIES HI "Q" INDUCTOR



"229" SERIES ROTARY INDUCTOR

"226" SERIES INDUCTOR

Cat. No.	Type No.	Wire Size	1,000 watts		Height	Width	Net Price
			Cap. *mmf.				
238-106	1000HCS160	10	99	5 1/4"	4 1/2"	\$9.80	
238-107	1000LCS160	10	140	5 1/4"	4 1/2"	9.80	
238-101	1000HCS80	10	46	5"	3 3/4"	8.90	
238-102	1000LCS80	10	73	5"	3 3/4"	8.90	
238-103	1000HCS40	10	24	5"	3 3/4"	7.80	
238-104	1000LCS40	8	55	5"	3 3/4"	7.80	
238-105	1000HCS20	8	19	4 3/4"	3 3/4"	7.50	
238-111	1000LCS20	.250"	26	5 1/4"	4"	7.50	
238-112	1000H/LCS14	.250"	19	4 3/4"	3 1/2"	6.60	
238-113	1000H/LCS10	.250"	18	4 3/4"	3 1/2"	6.00	
500 watts							
238-125	500HCS160	14	100	4 7/8"	3 1/2"	6.95	
238-126	500LCS160	14	148	4 7/8"	3 1/2"	6.95	
238-121	500HCS80	14	45	3 3/4"	2 3/4"	6.75	
238-122	500LCS80	12	76	3 3/4"	2 2 1/2"	6.75	
238-123	500HCS40	12	27	3 3/4"	2 2 1/2"	6.50	
238-124	500LCS40	10	50	3 3/4"	2 2 1/2"	6.50	
238-131	500HCS20	6	25	3 13/16"	2 13/16"	5.25	
238-132	500LCS20	6	37	3 13/16"	2 13/16"	5.25	
238-133	500H/LCS14	6	19	3 1 1/4"	2 3/4"	4.95	
238-134	500H/LCS10	6	19	3 3/4"	2 3/4"	4.50	
238-135	500H/LCS6	6	18	3 3/4"	2 3/4"	4.50	
150 watts							
238-147	150HCS160	18	102	4 3/4"	3 1/4"	4.65	
238-148	150LCS160	16	151	4 7/8"	3 3/4"	4.65	
238-141	150HCS80	16	51	4 7/8"	2 19/32"	4.40	
238-142	150LCS80	16	68	4 7/8"	2 19/32"	4.40	
238-143	150HCS40	14	28	3 3/4"	2 5/8"	4.15	
238-144	150LCS40	12	57	3 3/4"	2 2 1/2"	4.15	
238-145	150HCS20	12	21	3 1/2"	2 13/16"	3.95	
238-146	150LCS20	12	32	3 1/2"	2 13/16"	3.95	
238-151	150H/LCS14	8	19	3 1 1/4"	2 1/2"	3.20	
238-152	150H/LCS10	8	19	3 1 1/4"	2 1/2"	2.95	
238-153	150H/LCS6	8	16	3 1 3/4"	2"	2.95	

*Total circuit capacity to effect resonance at low frequency end of band. To determine split-stator capacitor, subtract tube output and wiring capacity (usually 5 to 20 mmf.) from total capacity in chart; then double result for capacity per section needed.

PLUG-IN SWINGING LINKS

Select the link to match your line, coupler or output filter for optimum power transfer.

Cat. No.	Type No.	No. Turns	Net Price	Cat. No.	Type No.	No. Turns	Net Price
238-181	150/500SL12	12	\$1.80	238-191	1000SL10	10	\$2.50
238-182	150/500SL5	5	1.15	238-192	1000SL5	5	1.35
238-183	150/500SL2	2	1.00	238-193	1000SL2	2	1.20

SWINGING LINK ARM ASSEMBLIES

238-179	150/500SLA—for 150/500 watt inductors.....	\$1.60
238-180	1000SLA—for 1000 watt inductors.....	1.80

JACK BAR ASSEMBLIES

238-171	150JBS—150 watt, 3/4" x 3/8" x 3/8".....	\$1.15
238-172	500JBS—500 watt, 5/8" x 3/8" x 3/8".....	1.40
238-173	1000JBS—1000 watt, 7/8" x 1/2" x 1/2".....	2.50

INDUCTORS

"232" SERIES "HI-Q" COILS—1/4" x .054" RIBBON—7 AMPS.

Copper strip, cadmium plated. Glass bonded mica support bars. Uses clip 235-804.

Cat. No.	Induct- ance	Mounting Dimensions	Overall Dimensions			Net Price
			L	W	H	
232-610	31 uh	3 1/4" x 6"	7 31/32"	3 3/4"	4 3/8"	11.50
232-620	84 uh	3 3/4" x 7 1/2"	9 1/2"	4 1/2"	6"	14.80
232-622	41 uh	3 1/4" x 4 3/8"	6 17/32"	3 3/4"	5 3/8"	11.35
232-624	20 uh	3 1/4" x 4 1/4"	6 7/8"	3 3/4"	5 3/8"	8.85
232-626	10 uh	3 1/4" x 3"	4 31/32"	3 3/4"	4 3/8"	7.35

"229" SERIES WIRE WOUND VARIABLE INDUCTORS

Efficient, all steatite insulated variable inductors for amateur transmitters or low power commercial equipment. Variable pitch, tinned copper wire windings on grooved steatite forms. 1/4" shafts extend 1/2" on both ends. Length dimension is over mounting feet.

Cat. No.	Induct- ance	Current In Amps	Mounting Dimensions	Overall Dimensions			Wire Size	Net Price
				L	W	H		
229-201	10 uh	3	3 15/16"	4 3/8"	2 1/2"	2 31/32"	No. 14	\$9.50
229-202	18 uh	5	5 15/32"	5 27/32"	2 1/2"	2 31/32"	No. 12	10.50
229-203	28 uh	5	6 23/32"	7 3/32"	2 1/2"	2 31/32"	No. 12	11.50

"222" SERIES VARIABLE INDUCTORS—1/2" x .090" RIBBON—15 AMPS.

Excellent for medium power RF equipment where high current operation is required in minimum space. Heavy nickel plated copper ribbon windings and silver plated beryllium copper contacts with solid silver buttons. Glass bonded mica end frames and support bars. 3/8" shafts extend 1 3/4" front and rear. Length dimension is over mounting feet—does not include shaft extensions.

Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
222-1	4224MS4	25 uh	5 3/4" x 10 3/8"	11 1/2"	6 1/2"	6 3/8"	\$48.25
222-2	4275MS4	50 uh	6 3/4" x 11 3/8"	12 3/4"	7 1/2"	7 3/8"	60.00
222-3	4084MS6	5 uh	5 3/4" x 7 3/8"	8 3/4"	6 1/2"	6 3/8"	40.25
222-5	4134MS6	10 uh	5 3/4" x 9 3/8"	10 1/2"	6 1/2"	6 3/8"	44.00
222-7	4325MS4	62.5 uh	6 3/4" x 12 3/8"	13 3/4"	7 1/2"	7 3/8"	63.00

"226" SERIES VARIABLE INDUCTORS—1/4" x 1/8" RIBBON—10 AMPS.

Popular for commercial and amateur use, these moving coil type inductors easily handle well over a kilowatt of plate modulated RF energy to 30 mc. Heavy silver plated conductors and silver plated contact bars and contacts. Glass bonded mica end frames and support bars. 3/8" shafts extend 3/4" front and rear. Length dimension is over mounting feet, does not include shaft extensions.

226-1	22.5 uh	3" x 12 3/4"	13 1/2"	4"	6 1/2"	\$63.85
226-3	13.5 uh	3" x 10 3/4"	11 1/2"	4"	6 1/2"	58.30
226-5	8 uh	3" x 9 1/4"	10"	4"	6 1/2"	51.20



E. F. Johnson Company

WASECA, MINNESOTA

"200" SERIES FIXED COILS

Economical—compact—edgewise copper windings. Airwound with slotted, glass bonded mica supports. Construction provides exceptional current carrying capacity for size.

"200" FIXED COILS— $\frac{1}{4}$ " x .054" RIBBON—10 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
200-101	2224N4	26 uh	2" x 8 $\frac{1}{2}$ "	8 $\frac{3}{4}$ "	5 $\frac{5}{16}$ "	5 $\frac{3}{8}$ "	\$14.10
200-107	2105N4	13 uh	2" x 5 $\frac{1}{2}$ "	5 $\frac{3}{8}$ "	6 $\frac{5}{16}$ "	6 $\frac{1}{2}$ "	10.70
200-114	2284N3	45 uh	2" x 7 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	5 $\frac{5}{16}$ "	5 $\frac{3}{8}$ "	17.90
200-105	2455N3	120 uh	2" x 11 $\frac{1}{4}$ "	11 $\frac{1}{4}$ "	5 $\frac{5}{16}$ "	5 $\frac{3}{8}$ "	24.90
200-407	2497N4	200 uh	3" x 14 $\frac{1}{2}$ "	15 $\frac{7}{16}$ "	7 $\frac{1}{2}$ "	7 $\frac{1}{2}$ "	36.10

"200" FIXED COILS— $\frac{3}{8}$ " x .072" RIBBON—15 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
200-205	3164N5	15 uh	2" x 7 $\frac{3}{8}$ "	8 $\frac{1}{4}$ "	5 $\frac{11}{16}$ "	5 $\frac{9}{16}$ "	\$13.90
200-206	3275N4	50 uh	2" x 9 $\frac{3}{8}$ "	10"	6 $\frac{7}{8}$ "	6 $\frac{11}{16}$ "	21.80
200-211	3336N5	73 uh	2 $\frac{1}{2}$ " x 12 $\frac{1}{2}$ "	13 $\frac{3}{8}$ "	7 $\frac{11}{16}$ "	7 $\frac{11}{16}$ "	27.10
200-213	3376N4	102 uh	2 $\frac{1}{2}$ " x 11 $\frac{7}{8}$ "	12 $\frac{1}{2}$ "	7 $\frac{11}{16}$ "	7 $\frac{11}{16}$ "	30.40

"200" FIXED COILS— $\frac{1}{2}$ " x .090" RIBBON—20 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
200-301	4205N6	25 uh	2" x 10 $\frac{3}{8}$ "	11 $\frac{3}{8}$ "	7 $\frac{1}{8}$ "	7"	\$27.90
200-302	4346N5	78 uh	2 $\frac{1}{2}$ " x 13 $\frac{3}{4}$ "	14 $\frac{1}{2}$ "	8"	8"	38.40
200-303	4275N4	50 uh	2" x 9 $\frac{3}{8}$ "	10 $\frac{3}{8}$ "	7 $\frac{1}{8}$ "	7"	31.40
200-306	4164N5	15 uh	2" x 8 $\frac{1}{8}$ "	8 $\frac{7}{8}$ "	6 $\frac{5}{16}$ "	6"	20.00
200-308	4366N4	100 uh	2 $\frac{1}{2}$ " x 12 $\frac{1}{8}$ "	12 $\frac{1}{8}$ "	8"	8"	40.50

Other standard inductance values available on special order.

"202" SERIES FIXED COILS

Large surface area $\frac{1}{4}$ ", $\frac{3}{8}$ " and $\frac{1}{2}$ " copper tubing wound coils provide low resistance and working temperatures for continuous high current applications. Simple, rugged "airwound" design with glass bonded mica support bars.

"202" FIXED COILS— $\frac{1}{4}$ " TUBING—20 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
202-101	2166NT8	21 uh	2 $\frac{1}{2}$ " x 14 $\frac{3}{8}$ "	15 $\frac{1}{8}$ "	6 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	\$32.10
202-401	2308NT8	76 uh	2 $\frac{1}{4}$ " x 21 $\frac{1}{8}$ "	21 $\frac{3}{8}$ "	8 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	61.20
202-402	2328NT6	102 uh	2 $\frac{1}{4}$ " x 18 $\frac{3}{2}$ "	18 $\frac{3}{2}$ "	8 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	58.00

"202" FIXED COILS— $\frac{3}{8}$ " TUBING—30 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
202-201	3106NT12	10 uh	2 $\frac{1}{2}$ " x 13 $\frac{7}{8}$ "	14 $\frac{5}{8}$ "	6 $\frac{3}{8}$ "	7 $\frac{1}{2}$ "	\$31.60
202-502	32410NT12	64 uh	2 $\frac{1}{2}$ " x 24 $\frac{1}{4}$ "	24 $\frac{1}{4}$ "	10 $\frac{3}{8}$ "	10 $\frac{3}{4}$ "	76.65
202-507	3148NT12	24 uh	2 $\frac{1}{4}$ " x 16 $\frac{1}{8}$ "	17 $\frac{5}{16}$ "	8 $\frac{3}{4}$ "	8 $\frac{3}{4}$ "	46.20

"202" FIXED COILS— $\frac{1}{2}$ " TUBING—40 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
202-601	4127NT14	12 uh	1 $\frac{1}{2}$ " x 16 $\frac{1}{2}$ "	17 $\frac{1}{2}$ "	8"	8"	\$45.75
202-602	41410NT14	30 uh	2 $\frac{1}{2}$ " x 18 $\frac{3}{2}$ "	19 $\frac{1}{2}$ "	11"	11"	67.00
202-604	4147NT14	18 uh	1 $\frac{1}{2}$ " x 18 $\frac{3}{2}$ "	19 $\frac{1}{2}$ "	8"	8"	51.00

CLIPS FOR TAPPING "200", "202", AND "232" SERIES INDUCTORS

Col. No.	Type No.	Fits Winding	Net Price
235-804	LC4	$\frac{1}{4}$ " x .054"	\$0.26
235-807	LC7	$\frac{3}{8}$ " x .072"	.45
235-808	LC8	$\frac{1}{2}$ " x .090"	.65
235-824	RC4	$\frac{1}{4}$ " tub ng	1.55
235-826	RC6	$\frac{3}{8}$ " tub ng	1.65
235-828	RC8	$\frac{1}{2}$ " tub ng	1.94
235-860	WC1	No. 20 to No. 12 Wire	.12

"224" SERIES VARIABLE INDUCTORS

For high power RF applications, the 224 series copper tubing inductors are especially designed to handle heavy current in continuous duty. Contact wheel is heavily silver plated for optimum electrical efficiency. Inductors have cast aluminum end frames and glass bonded mica support bars. $\frac{3}{8}$ " shafts extended $2\frac{1}{4}$ " from end frames at each end. Overall length dimension includes mounting feet.

"224" VARIABLE INDUCTORS— $\frac{3}{8}$ " TUBING—30 AMPERES

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
224-3	3168MST10	30 uh	8 $\frac{1}{2}$ " x 19 $\frac{1}{8}$ "	20 $\frac{3}{8}$ "	12"	12 $\frac{1}{8}$ "	\$156.50
224-4	3108MST12	14.5 uh	8 $\frac{1}{2}$ " x 16 $\frac{3}{8}$ "	18 $\frac{1}{8}$ "	12"	12 $\frac{1}{8}$ "	148.00
224-6	32111MST12	75 uh	8 $\frac{1}{2}$ " x 24 $\frac{3}{8}$ "	26 $\frac{3}{8}$ "	12"	12 $\frac{1}{8}$ "	172.50

"224" VARIABLE INDUCTORS— $\frac{1}{2}$ " TUBING—40 AMPERES

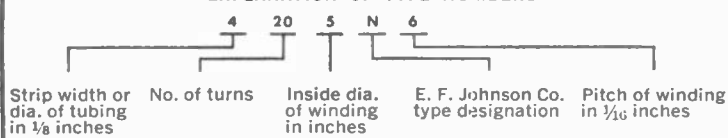
Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions L	W	H	Net Price
224-1	41410MST14	30 uh	8 $\frac{1}{2}$ " x 21 $\frac{3}{8}$ "	22 $\frac{7}{8}$ "	12"	12 $\frac{1}{8}$ "	\$185.00
224-2	4128MST14	16.5 uh	8 $\frac{1}{2}$ " x 19 $\frac{3}{8}$ "	21 $\frac{1}{8}$ "	12"	12 $\frac{1}{8}$ "	158.00
224-5	41711MST14	50 uh	8 $\frac{1}{2}$ " x 24"	25 $\frac{1}{2}$ "	12"	12 $\frac{1}{8}$ "	189.75

R. F. CONTACTORS

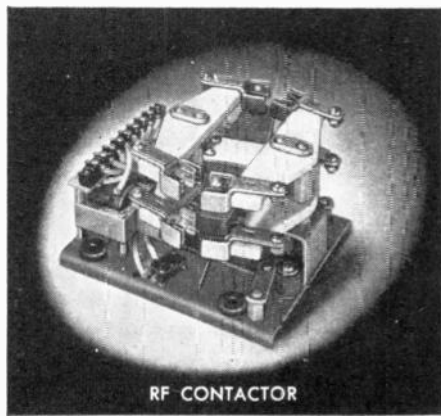
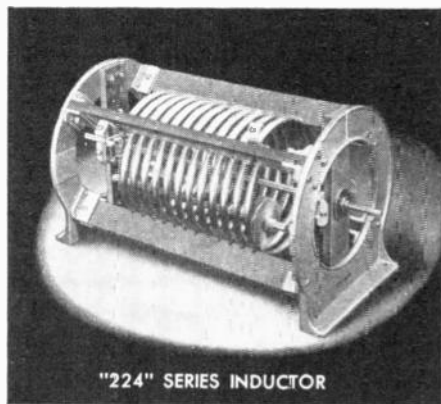
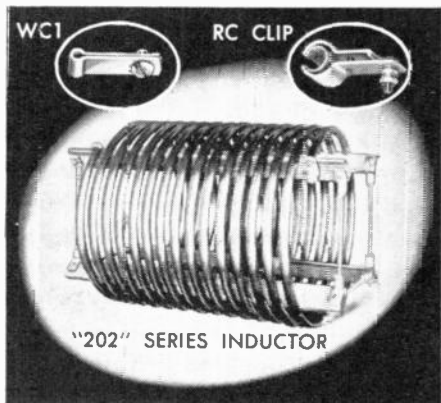
Contactors for switching high voltage, high current RF or DC. Operated by momentarily energized 220 VAC solenoids (may also be connected for 110 VAC), toggle action contacts snap into position; no holding current is required. Extremely compact for voltage ratings; overall dimensions of 145-100 series 7 $\frac{7}{8}$ " long, 6 $\frac{1}{2}$ " wide, 5 $\frac{1}{2}$ " high; of 145-200 series, 10 $\frac{1}{2}$ " long, 8 $\frac{1}{4}$ " wide, 6 $\frac{1}{16}$ " high. Four auxiliary micro snap switches (10 amp. at 220 VAC), actuated by contact armature. Two control solenoid voltage, two may be used to operate signaling devices or for other related functions.

Col. No.	Type	Peak Voltage	Current	Net Price
145-101-13	SPDT	17000	25 amp.	\$106.00
145-102-13	DPDT	17000	25 amp.	116.00
145-201-13	SPDT	22000	25 amp.	125.00
145-202-13	DPDT	22000	25 amp.	134.00

EXPLANATION OF TYPE NUMBERS



NOTE: Except on amateur inductors, current ratings shown are nominal for broadcast frequencies; will increase at lower frequency—decrease at higher frequencies. For complete information and specifications on Johnson Industrial and Broadcast RF Components—write for your copy of Catalog 53E.





NORTH HILLS ELECTRIC CO., INC.
MINEOLA, LONG ISLAND, NEW YORK

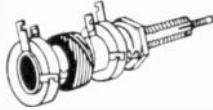
ADJUSTABLE COILS and COIL FORMS
Cover Every Frequency Range from Audio to 200mc

These high quality coils enable engineers and experimenters to save valuable development time by filling a vast number of requirements with standard components from stock. All coils have the following features:

- All metal parts plated to MIL specifications.
- Built-in "perma-tune" tension for smooth "stay-put" tuning.
- Litz wound higher inductance ranges.
- Two extra terminals for tie points or additional winding.
- Moisture and fungus resistant impregnant per MIL-V-173-A.
- Color coded ranges.

COILS ON CERAMIC FORM PER JAN-I-10

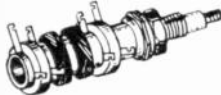
Subminiature 1100 Series



- 5/8" above mounting surface
- Mounting — 1/4" hole
- For R.F. and I.F. applications

Part No.	Nominal Microhenries	Average Q
1100-A	0.9-1.4	45 @ 7.9 mc
1100-B	1.4-1.9	50 @ 7.9 mc
1100-C	1.9-2.6	55 @ 7.9 mc
1100-D	2.6-3.7	65 @ 7.9 mc
1100-E	3.7-5.5	65 @ 7.9 mc
1100-F	5.5-7.4	70 @ 7.9 mc
1100-G	7.4-12.5	64 @ 5.0 mc
1100-H	12.5-18.0	72 @ 5.0 mc
1100-I	18.0-28.0	74 @ 5.0 mc
1100-J	28.0-38.0	72 @ 5.0 mc
1100-K	38.0-55.0	75 @ 2.5 mc

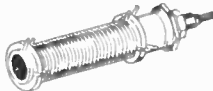
Miniature 1000 Series



- 7/8" above mounting surface
- Mounting — #10 hole
- For R.F. and I.F. applications

Part No.	Nominal Microhenries	Average Q
1000-A	1.0-1.6	70 @ 7.9 mc
1000-B	1.6-2.7	80 @ 7.9 mc
1000-C	2.7-4.5	85 @ 7.9 mc
1000-D	4.5-8.5	85 @ 7.9 mc
1000-E	8.5-14.5	75 @ 2.5 mc
1000-F	14.5-27	65 @ 2.5 mc
1000-G	22-29	65 @ 2.5 mc
1000-H	29-55	85 @ 2.5 mc
1000-I	55-110	80 @ 2.5 mc
1000-J	110-185	85 @ .79 mc
1000-K	185-305	85 @ .79 mc
1000-L	305-515	85 @ .79 mc
1000-M	515-820	85 @ .79 mc
1000-N	820-1100	75 @ .79 mc

Transmitter 1300 Series



- 1 3/4" above mounting surface
- Mounting — 1/4" hole
- For low power transmitters and high Q receiver circuits

Part No.	Nominal Microhenries	Average Q
1300-A		For use from 90-200 mc
1300-B		For use from 40-90 mc
1300-C		For use from 20-40 mc
1300-D	0.7-1.1	130 @ 20 mc
1300-E	1.1-1.7	150 @ 18 mc
1300-F	1.7-2.7	150 @ 16 mc
1300-G	2.7-4.5	150 @ 14 mc
1300-H	4.5-6.8	150 @ 12 mc
1300-I	6.8-10.8	150 @ 10 mc
1300-J	10.8-17.0	150 @ 7 mc
1300-K	17.0-29.0	125 @ 5 mc
1300-L	29.0-45.0	125 @ 4 mc
1300-M	45.0-75.0	125 @ 3 mc

COILS ON MICA FILLED FORMS PER MIL-P-14-D

Standard 120 Series



- 1 1/4" above mounting surface
- Mounting #10 hole
- For R.F. and I.F. applications

Part No.	Nominal Microhenries	Average Q
120-A	2-3	75 @ 7.9 mc
120-B	3-5	85 @ 7.9 mc
120-C	5-9	90 @ 7.9 mc
120-D	9-18	75 @ 7.9 mc
120-E	18-36	75 @ 2.5 mc
120-F	36-64	75 @ 2.5 mc
120-G	64-105	90 @ 2.5 mc
120-H	105-200	90 @ 2.5 mc
120-I	200-500	90 @ .79 mc
120-J	500-1000	90 @ .79 mc
120-K	1000-2000	70 @ .79 mc

Printed Circuit P-120 Series



- Snaps into single 0.4" hole for dip soldering
- 1 1/4" long

Part No.	Nominal Microhenries	Average Q
P-120-A	2-3	75 @ 7.9 mc
P-120-B	3-5	85 @ 7.9 mc
P-120-C	5-9	90 @ 7.9 mc
P-120-D	9-18	75 @ 7.9 mc
P-120-E	18-36	75 @ 2.5 mc
P-120-F	36-64	75 @ 2.5 mc
P-120-G	64-105	90 @ 2.5 mc
P-120-H	105-200	90 @ 2.5 mc
P-120-I	200-500	90 @ .79 mc
P-120-J	500-1000	90 @ .79 mc
P-120-K	1000-2000	70 @ .79 mc

Shielded, Encapsulated SE-120

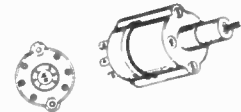


- Magnetic shielding cup
- Ruggedized construction
- 1 1/4" long

Part No.	Nominal Microhenries	Average Q
SE-120-A	2-3	75 @ 7.9 mc
SE-120-B	3-5	85 @ 7.9 mc
SE-120-C	5-9	90 @ 7.9 mc
SE-120-D	9-18	75 @ 7.9 mc
SE-120-E	18-36	75 @ 2.5 mc
SE-120-F	36-64	75 @ 2.5 mc
SE-120-G	64-105	90 @ 2.5 mc
SE-120-H	105-200	90 @ 2.5 mc
SE-120-I	200-500	90 @ .79 mc
SE-120-J	500-1000	90 @ .79 mc

ENCAPSULATED CUP-CORE COILS

Audio and Ultrasonic 700 Series

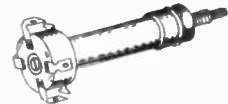


- 1 1/2" above mounting surface
- Mounting Centers — Two #6 holes spaced 1 1/4"
- Magnetically shielded—High Q
- For standard or printed circuits

Part No.	Nominal Millihenries	Average Q
700-A	1.5-3	120 @ 200 kc
700-B	3-7	120 @ 150 kc
700-C	7-13	110 @ 100 kc
700-D	13-25	110 @ 60 kc
700-E	25-50	110 @ 40 kc
700-F	50-100	125 @ 20 kc
700-G	100-250	125 @ 20 kc
700-H	250-500	125 @ 5 kc
700-I	500-1000	125 @ 5 kc

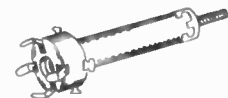
COIL FORMS

F-120



- Mica filled MIL-P-14-D forms
- All metal parts MIL spec. plated
- For use at .2 mc to 30 mc
- 1 1/4" above mounting surface

PF-120



- Similar to above except for printed circuitry

TOROID COILS AND TRANSFORMERS

Please send for data sheets describing our toroidal coils and wide band video or R F transformers.

DISTRIBUTOR INQUIRIES INVITED • SPECIAL COILS WOUND TO SPECIFICATIONS



NORTH HILLS WIDE BAND RF TRANSFORMERS

- Antenna Matching
- Interstage Coupling
- Impedance Matching

- Pulse Applications
- Voltage Step-Up
- DC Isolation

1210
Epoxy
Encapsulated

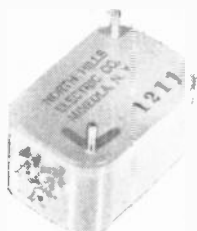


BANDWIDTH

1210A, 1211A
1210B, 1211B

200 KC—40 MC
3-100 MC

1211
Hermetically
Sealed



IMPEDANCE

75Ω unbalanced — 600Ω balanced

Special wideband transformers and advanced filters (audio-250 mc.) made to your specifications.



NORTH HILLS HANDI-TOROIDS

1 Millihenry to 1 Henry — 300 cps to 250 kcs
ADJUSTABLE — HI Q — COLOR CODED

Complete with instruction sheet and applications chart

Why pay high prices and wait weeks to get that special toroid when a NORTH HILLS HANDI-TOROID available from stock will do the job immediately and economically!

your mind. Coils are wound on molybdenum permalloy dust cores, with high quality heavy Formvar wire, just a the more expensive ones are. Get the best for the least—get NORTH HILLS HANDI-TOROIDS. Send for free data sheet or get one from your distributor.

Adjust it yourself to exact value—readjust if you change



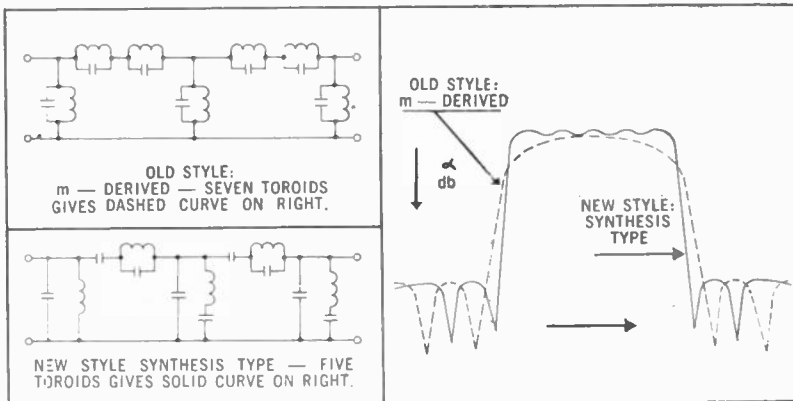
NORTH HILLS ADVANCED DESIGN FILTERS

The high speed and economy of the IBM 650 computer together with our advanced technical knowhow enable NORTH HILLS ELECTRIC to use the modern theory of network synthesis in the design of practical electric wave filters.

The comparison shown above is a typical one: the classical designs are becoming obsolete and are giving way to the new methods.

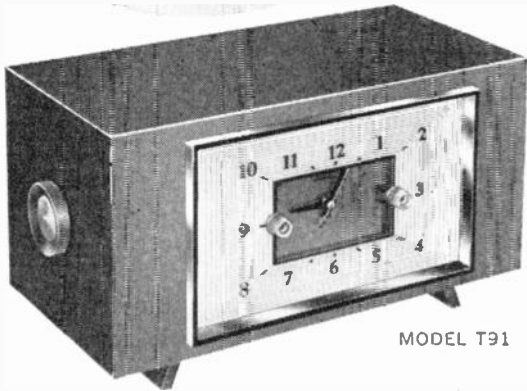
This is only one example of NORTH HILLS truly exceptional design capability. Why not send your specifications to us? We shall be glad to show you how we can save you time, cost, and size.

Distributors Inquiries Invited



NORTH HILLS ELECTRIC COMPANY, INC. MINEOLA, L. I., NEW YORK

ATR Ultra Modern TABLE RADIOS



MODEL T91

CLOCK RADIO WITH BUILT-IN SALES APPEAL

Excitingly styled clock radio—trim, modern cabinet in ebony or ivory plastic . . . rich gold-color trim and clock numerals. Powerful 5-tubes AM radio chassis with built-in "Magna-Plate" antenna. Full-toned 4" PM speaker. Popular features include: *Musical Alarm*—radio turns on automatically at any pre-set time; *Sleep Selector*—lulls user to sleep, turns radio off automatically during 60 minute period after retiring; *Automatic Appliance Timer*—outlet on back of radio times any electric appliance automatically (up to 1100 watts). Cabinet 10½ in. wide, 5 in. high, 5¼ in. deep. Wt. approx. 8 lbs. A WONDERFUL TONIC FOR NEW SALES . . . BIGGER PROFITS!

CLOCK SPECIFICATIONS ON MODEL T91 ONLY

- Genuine Telechron Movement . . . Accurate, Quiet, and Long-Lived.
- Self-Starting . . . Never Needs Winding, Oiling, or Regulating.
- Simplified Clock Controls for Radio and Sleep Switch.
- 1100 Watt Controlled Appliance Outlet.
- Automatic Buzzer Alarm Sounds Approximately 10 Minutes After Sleep-Switch Turns On Radio.
- Gold-Plated Bezel and Numerals on Large Bone-White Dial. Dial Size 4¼" x 7¼"
- UL Approved

GENERAL SPECIFICATIONS PERTAINING TO ALL ATR TABLE RADIOS

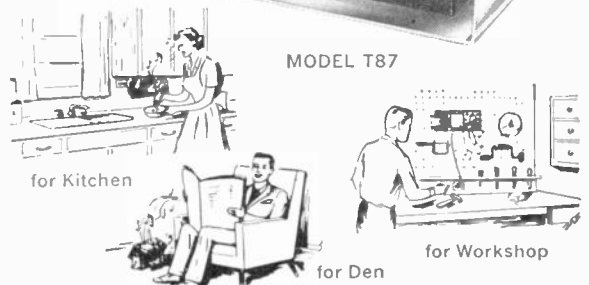
- **Advanced Super-heterodyne Circuit**—increased selectivity and sensitivity with improved tube types . . . High audio output . . . Automatic volume control . . . two gang variable condenser.
- **Sealed Alnico 5 PM Dynamic Speaker**—Full range frequency . . . Power without distortion . . . Balanced tone quality.
- **Automatic Volume Control**—Maintains uniform volume on local and long distance reception.
- **Genuine Magna-Wand Ferrite Antenna**—Magna-Wand used in conjunction with Hi-Q Iron Core IF Coils for extreme sensitivity and selectivity . . . High signal-to-noise ratio.
- **Power Line Noise Filter**—Minimum interference from household appliances, motors, etc.
- **Wave Band: 540 to 1600 KC**
- **Tubes—**

12BA6—456 KC IF Amplifier	12BE6—Mixer
12AV6—2nd detector-1st Audio	35W4—Rectifier
50C5—Audio Power Output	
- **Power Supply: 115 Volts, 60 Cycles AC**
- **Cabinet**—Beautiful compression molded bakelite with shadow box effect dial and complementing golden knobs and trim. Resistant to heat.

● **HAND WIRED — NO PRINTED CIRCUITRY**



MODEL T87



for Kitchen

for Den

for Workshop

ATR "TILT-A-STAND" RADIO MOUNT ON THE WALL—UNDER A SHELF—OR SET ON A TABLE

PERFECT for every room in YOUR home

A NEW HIGH IN RADIO USEFULNESS . . . It rotates a full 360° on a beautiful golden pedestal. Pedestal is notched for screws, giving unlimited mounting possibilities. THE HANDIEST RADIO EVER! The gleaming molded bakelite cabinet is enhanced by a contrasting recessed grill and rich golden dial pointer and controls. Distinctive dial with large Roman numerals.

Excitingly new and different . . . radio is mounted on sturdy, gleaming brass-finished stand. Radio tilts up or down easily to any desired angle. Keyhole slot in stand makes this versatile performer easy to mount on wall out of way of small hands. Perfect for den, kitchen, or bedroom. Power-packed 5-tubes chassis. Built-in loop antenna. Automatic volume control. Full 4" Alnico 5 speaker. Distinctive Roman numerals on dial. Size: 9½" W x 4" D x 5¼" H. AC/DC. U.L. approved. Weight 5½ lbs.

WRITE FOR DESCRIPTIVE LITERATURE COVERING COMPLETE LINE OF TABLE MODEL RADIO SETS, WHICH WILL BE AVAILABLE IN VARIOUS COLORS.



Sec. 1900

FOR THOSE WHO WANT THE FINEST!



15 FULL-DOOR and 12 OPEN FACE
DE LUXE CONSOLE TELEVISION SETS
. . . to choose from!

FEATURING THE ULTIMATE IN HIGH-QUALITY, AUTHENTICALLY-STYLED, FINE-FURNITURE
CABINETS AND THE FULL-TRANSFORMER SUPER-POWERED ATR No. 2600 CHASSIS.

Includes push-pull, high-fidelity audio system; dual extended-range, large permanent magnet speakers; spot-light tuning; giant 265 square inches 90° aluminized 21" picture tube; and super VHF cascade tuner for high sensitivity fringe area reception.

The Biltmore

by **ATR**

Pictured:
Model
26007 LD-4
in mahogany



- UNSURPASSED IN BEAUTY
- UNEQUALLED IN PERFORMANCE
- UNMATCHED IN QUALITY CONSTRUCTION



Model No. 26002
(Illustrated)

Provincial by **ATR**

Cabinet has concealed casters for easy mobility. Available in 18th Century Mahogany. Early American Antique Maple and French Provincial in Cherrywood with Fruitwood finish. Dimensions: 24 1/2" wide, 36 1/2" high, and 20" deep. Rich finishes are applied and hand rubbed to smooth lustrous beauty.

Distinctively styled in genuine walnut, mahogany or blonde Korina. Hand rubbed to a gleaming, hard finish of lasting beauty. Features the superb No. 2600 ATR chassis. Dimensions: 24 1/2" wide, 36 1/2" high and 20" deep. Concealed casters for mobility.

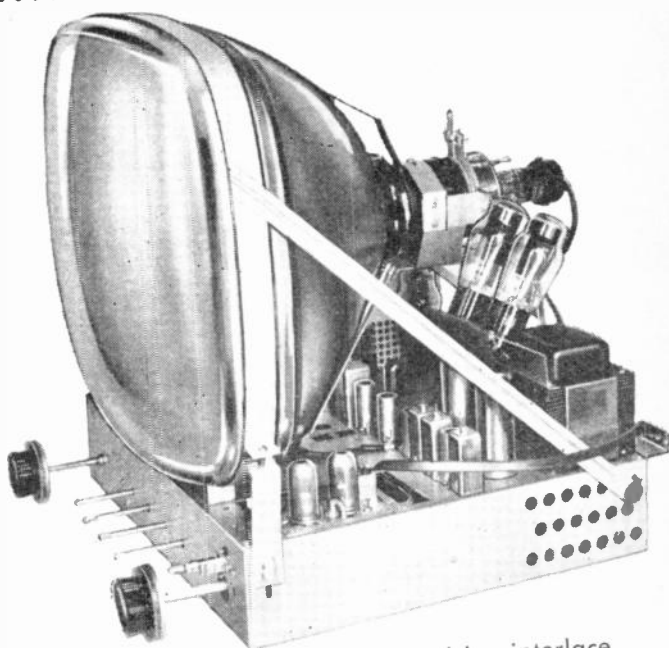


**SUPER-POWERED ATR
No. 2600 FULL-TRANSFORMER
CHASSIS**

For Maximum Dependability
and Performance

SPECIALLY DESIGNED BY ATR FOR
MOVIE-CLEAR, SHARPEST PICTURES WITH
MAXIMUM PICTURE STABILITY . . .
DESIGN AND CONSTRUCTION INCLUDE
EXTRA VALUE FEATURES THAT MAKE
FOR QUALITY PLUS . . .

- 18,000 volts of quality picture power
- Super-powered full-transformer 26 tube chassis
- Extended-range speakers of heavy duty construction
- Automatic gain control
- 4-Stage 41 MC IF amplifier
- Interference rejector
- Push-pull audio system
- Permanent-magnet focus
- Higher gain video amplifier



- Wider band width
- Highest quality components including molded capacitors
- Improved dependable long life ATR circuitry
- Front tuning of all important control functions
- Precision interlace

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Use Index (pg. 2) for Quick, Easy Location of ALL Products

The MASTER - 21th Edition

Page 605



CUSTOMIZED Karadio

FOR SMALL IMPORT CARS AND COMPACT U.S. CARS!

FEATURES

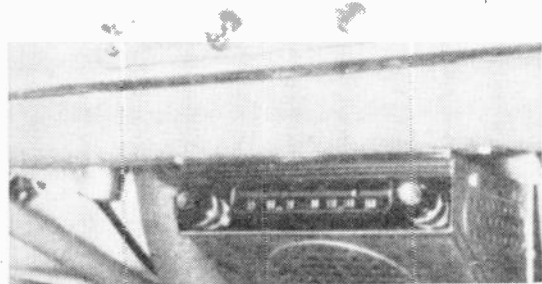
- Finger-tip tone control to adjust tone as you desire.
- Automatic volume control to keep signals strong and steady.
- Its powerful 6-tube circuit (actual 8-tube performance) outperforms most larger and bulkier sets!
- Is ATR Vibrator-operated!

For performance, dependability, and economy—the ATR Karadio is the finest, most versatile auto radio ever designed!

SPECIFICATIONS

- Large, easy-to-read illuminated dial.
- Extra large Alnico 5 Magnet PM Speaker.
- 6-Tube Superheterodyne Circuit (utilizes 2 dual purpose tubes) with 8-Tube Performance . . . pulls in those distant stations, with good tone and volume.
- Uses tube-type rectifier for longer uninterrupted service.
- No battery polarity input problem.
- 3-Section Super "Magne-Wave" Tuner.
- Increased sensitivity assures more powerful reception at greater distances.
- 6 or 12 volt storage battery operation, low battery drain.

Neutral Gray-Tan, baked enamel finish. Overall size, 7" deep, 4" high, and 6½" wide. Net weight, radio set, 6 lbs., shipping weight.



The ATR KARADIO is ideal for small import cars or compact American cars! Unit is completely self-contained—extremely compact! Can be mounted in-dash or under-dash—wherever space permits!

• HAND WIRED — NO PRINTED CIRCUITRY

Heavy gauge steel cabinet

No battery polarity input problem

Easily Served

FOR 6-VOLT OR 12-VOLT BATTERY SYSTEM.

Finger-Tip Tuning Control

Automatic Volume Control

Tone Control

Large, easy-to-read illuminated dial

Oversize, powerful Alnico 5 Magnet PM Speaker

Karadio "the oldest name in auto radio"



TRUCK Karadio

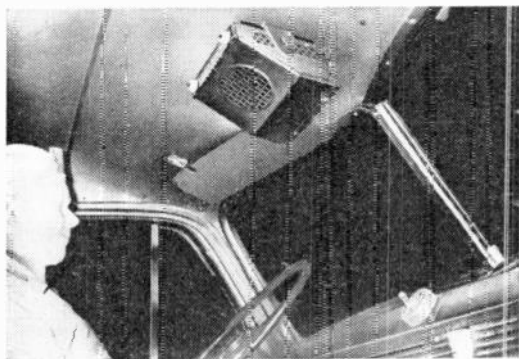
most versatile truck-auto-boat radio ever designed!

FEATURES

- The in line position of the speaker in this compact 6 pound radio permits more sound to reach the listener, so that the volume need not be turned up to the point of distortion even when driving fast.
 - A fixed-length antenna (optional equipment) connected to the receiver by a 12-inch lead permits proper matching of the antenna to the receiver under all conditions, thus increasing the set's sensitivity.
 - Finger tip tone control to adjust tone as you desire.
 - Automatic volume control to keep signals strong and steady.
 - Its powerful 6 tube circuit (actual 8-tube performance) outperforms most larger and bulkier sets!
 - The life of the radio has been increased considerably due to specially designed yoke-type flat-spring-mounting and excellent ventilation.
 - The ATR Karadio is simple to service—merely take off two easily accessible thumb nuts and remove the entire set.
 - The unit can be installed quickly and easily—drill ONE hole . . . connect ONE wire, and the set is ready for use.
 - Overhead mounting adds extra safety to driving, because the driver never has to take his eyes off the road to tune or adjust the set.
 - Yoke-type tilt bracket mount permits radio to be adjusted to curvature of any cab or as desired by driver.
 - Sturdy lock-nut and washers hold radio set mount securely to cab top through 5/8" hole drilled in ceiling.
 - 33" stainless steel antenna bends in any direction.
 - Set is peaked to maximum efficiency with given length of aerial.
 - Antenna lead only 12" in length.
- For performance, dependability, and economy—the ATR Karadio is the finest, most versatile truck-auto-boat radio ever designed!

SPECIFICATIONS

- Large, easy-to-read dial.
 - Extra large Alnico 5 Magnet PM Speaker.
 - 6-Tube Superheterodyne Circuit (utilizes 2 dual purpose tubes) with 8-Tube Performance . . . pulls in those distant stations.
 - Uses tube-type rectifier for longer uninterrupted service.
 - No battery polarity input problem.
 - 3-Section Super "Magne-Wave" Tuner.
 - Increased sensitivity assures more powerful reception at greater distances.
 - 6 or 12 volt storage battery operation, low battery drain.
- Neutral Gray-Tan, baked enamel finish. Overall size, 7" deep, 4" high, and 6 1/2" wide. Net weight, radio set, 6 lbs., shipping weight, complete with antenna, 10 1/2 pounds.



ATR TRUCK KARADIO is perfect for your truck! New self-contained, single-unit overhead airplane-style radio can be easily installed in the cab roof of any make or model truck, or if you prefer, in-dash or under-dash

EASY TO INSTALL

1. Drill one 5/8" hole in ceiling.
2. Tighten antenna with lock-nut assembly and connect one wire.



The ATR KARADIO is ideal for small import cars or compact American cars! Unit is completely self-contained—extremely compact! Can be mounted in-dash or under-dash—wherever space permits!

33" stainless steel antenna bends in any direction.

Rubber washer and lock-nut assembly provides watertight, trouble-free roof installation.

Yoke-type flat bracket-spring protects set against vibration.

Yoke-type bracket-mount permits tilting of radio to any required angle.

Short antenna lead only 1/4 the length normally required.

Finger-Tip Tuning Control

Large, easy-to-read dial.

Volume Control

Tone control

Hand Wired
No Printed
Circuitry

AVAILABLE WITH OR WITHOUT ANTENNA, AS DESIRED.

FOR 6-VOLT OR 12-VOLT BATTERY SYSTEM.

Overize, powerful Alnico 5 Magnet PM Speaker.

Cesco Amateur Equipment

REFLECTOMETERS, MINIBRIDGE, PHONE PATCHES



CM-52, CM-75

Phase Unit CM-52-2 and CM-75-2

Control CM-52-2 and CM-75-2 Special

CM-52-2 and CM-75-2 Special

CL-52-72

"Original"

"Supreme" "Regency"

STANDING WAVE REFLECTOMETERS MODELS CM-52 AND CM-75

Employs mutual inductance and capacity coupling between linear conductors for continuous measurement of standing waves on transmission lines. For continuous line insertion 25 to 1,000 watts, at frequencies from 3 to 200 mc. Will operate on power input of 10 watts, 7 mc and up. Requires only five watts output, 100 mc and up. Line insertion loss, less than 1 db at 30 mc. Ideal for inserting into coax feed lines at antenna for visual reading in SWR while making antenna adjustments; SWR observed immediately, at all times, without adjustment of reflectometer. No balancing adjustments, no reversing. Prevents false loading from antenna tuner, match box, pi network, etc. Reduces line reflection, making possible increased radiated power. Relative power output. Uses 0-100 μ a meter calibrated directly in standing wave ratio and relative power. Each unit hand calibrated and perfectly balanced. Includes loading control and forward to reflected power reversing toggle switch. With 83-1R (SO-239) connectors at each end. Gray hammered aluminum case, 3" w. x 2 3/4" d. x 5 3/4" h. Shipped with key-type mounting on back and full instructions. **Cesco Model CM-52 (52-ohm coax line) or CM-75 \$29.95** (75-ohm coax line)—Net Each. **Cesco Model CM-75 Equipped With UG-58U Connector—Net Each \$34.95**

MODELS CM-52-2 AND CM-75-2

Dual units identical electrically to CM-52 and CM-75 but built in two units for remote control. Comes with 10 ft. cable and plug wired to control and indicator unit. Either 52-ohm or 75-ohm phase unit may be used with control and indicator unit; permits purchasing second phase unit separately, when desired. Size: Control Unit, 3 3/4" w. x 2 3/4" x 2 3/4" with sloping panel; Phase Unit, 2 3/4" w. x 2 3/4" d. x 5 3/4" h. **Cesco Model CM-52-2 (52-ohm coax line) or CM-75-2 \$34.95** (75-ohm coax line)—Net Each. **Cesco Model CM-75-2 Equipped With UG-58U Connector—Net Each \$39.95** **Cesco Model CM-52-2 or CM-75-2 Phase Unit—Less control unit. Net Each \$12.95** **Cesco Model CM-52-2 or CM-75-2 Special—Same as standard dual unit except with control panel for Collins grille or built-in installation. Net Each \$34.95**

MODEL CL-52-72 MINIBRIDGE

Resistive type unit for observing standing waves when adjusting antenna matching networks. For use on 52, 72 or 75 ohm coax

lines and small amounts of RF excitation or grid dip oscillator. Requires use of external indicator, such as 0-100 μ a meter (as in Simpson multi-meter); meter can be run remote to tower for SWR observation while making antenna adjustments. Hammer-tone gray aluminum case, 2 3/4" w. x 1 3/2" d. x 4 3/4" h. Complete with instructions, SWR graph and antenna tuning procedure. **Cesco Model CL-52-72—Net Each \$12.95**

TELEPHONE PATCHES

"ORIGINAL" TEL-O-PATCH

High quality sound receiving and transmitting unit for low-Z lines in amateur and experimental use. Undistorted voice reproduction with perfect intelligibility at 100% modulation. Eliminates feedback, hum, noise, etc. Designed for high gain input but can be adapted to low gain input. Works on any receiver with an output impedance of 500-5,000 ohms. Mounts on receiver or operating desk by means of reversible mounting plate. Provides standard phone jack output; Amphenol 75-PC1M connector for input. Size: 2" w. x 4" d. x 4" h. Complete with instructions, diagrams, mounting screws. **Cesco "Original" Tel-O-Patch—Net Each \$14.95**

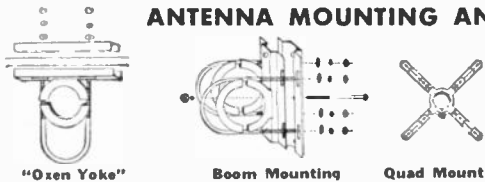
"SUPREME" TEL-O-PATCH

Combination phone patch and transmit-receive control. For use with custom and commercial equipment. Undistorted voice reproduction at 100% modulation. For any receiver with output impedance of 500-5,000 ohms, and for high gain transmitter inputs (can be adapted to low gain). Separate On-Off control; standard phone jack output; Amphenol 75-PC1M mike connector input; Amphenol 4-contact plug and socket for transmit-receive control; reversible mounting plate. Size: 2" w. x 4" d. x 4" h. Complete with instructions, diagram, mounting screws. **Cesco "Supreme" Tel-O-Patch—Net Each \$24.95**

"REGENCY" TEL-O-PATCH

For use with units such as 32V-KW1-75A, Globe King, B & W, Ranger, Valient 500, or similar high quality equipment with push-to-talk operation. No modifying, ready for use. Eliminates feedback, hum, noise; voice reproduction undistorted at 100% modulation. For any receiver with 500-5,000 ohms output impedance and for high gain input; can be converted to low gain. Lever-action telephone type switch controls both transmitter and modulation; separate On-Off switch. Size: 2" w. x 4" d. x 4" h. Complete with 3' cord and 80MC (2M) plug, installation instructions, diagram, and mounting screws (mounting plate is reversible). **Cesco "Regency" Tel-O-Patch—Net Each \$24.95**

ANTENNA MOUNTING AND MATCHING ACCESSORIES



"Oxen Yoke"

Boom Mounting

Quad Mount

"OXEN YOKe" BEAM ANTENNA CLAMP

For element sizes 3/4" to 1 1/2" in diameter and booms 1 1/2" to 3" in diameter. All components are completely interchangeable, permitting element and boom selection to your requirements. For continuous or cut elements at center; all channel lock assembly. Always specify element size and boom size when ordering. **\$2.29** Net Each.

UNIVERSAL BOOM MOUNTING

For boom sizes 1 1/2" to 3" in diameter and 1 1/4" or 1 1/2" masts. Complete mounting consists of two mast plates (1 1/4" or 1 1/2"), two boom yokes, two "I" bolts. Specify mast and boom sizes when ordering. **\$5.95**

QUAD MOUNT

One-piece, durable, aluminum alloy cast spider for mounting quad arms to boom. Angle shaped spiders permit use of bamboo or

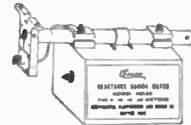
aluminum tubing of 1" to 1 1/2" diameter. Clamp-type, 2" diameter hub can be adjusted after assembly. Boom drilling **\$6.95** not required. Net Each.

HEAVY DUTY UNIVERSAL BOOM MOUNTING (NOT ILLUSTRATED)

For water pipe or tubing mast, 2" to 3" O.D. All channel lock assembly. For single or stacked arrays. Consists of one mounting plate, four yokes and four "I" bolts. (Specify mast or pipe size when ordering.) Net Each **\$8.95**

REACTANCE GAMMA MATCH

For matching unbalanced 6, 10, 15 and 20 meter coax lines to balanced antennas. Tune in five minutes. Gamma unit becomes part of gamma line. Will fit Cesco Oxen Yoke clamp; provision for mounting to boom with other clamps. Complete with instructions on installation and **\$14.95** tuning. Net Each.



COAX DIPOLE DRI-FIT CONNECTOR

Ideal connector for dipole antennas. Completely moisture-proof, one-piece aluminum alloy construction. Handles power to maximum legal limits. Can be installed easily in a few minutes. For use with coaxial cables RG-8, RG-58, RG-11 or RG-59, or with 300-ohm twin lead. Has eye pull up for inverted V's. Weight, 2 oz. Net Each **\$2.95**



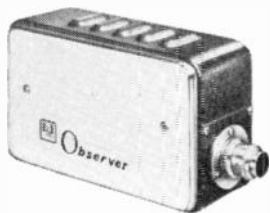
448X-59A



products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., NEWARK 2, NEW JERSEY

AUTOMATIC, LOW COST CLOSED CIRCUIT TV SYSTEM



OBSERVER TV CAMERA
Model TVC-1B

New, crystal-controlled camera offers extreme versatility, reliability and economy. Features an interlace bypass switch for continuous operation in the event of line frequency variations. Effective 600 line resolution scanning system, precise optical focusing system, positive locking settings on the frequency divider potentiometers and convenient operating controls on the sync generator. Complete unit includes vidicon tube (coated I/1.9 lens, control generator and 25 feet of control cable. The control generator may be located up to 500 feet from the camera. Provides two RF outputs and one high definition video output. Traverse control permits camera to be focused from 2" to infinity.

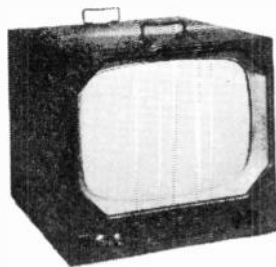
\$1995 list



AUTOMATIC LIGHT COMPENSATOR
Model ALC

Used with "Observer" camera to maintain constant picture quality during continuously changing light levels over 150 to 1 range. Installed between TVC-1B Camera and TVC-1B Control Generator.

\$400 list



VIDEO MONITOR Model DVM - 17

A high resolution monitor for closed-circuit TV systems, television studios and control centers, and laboratory and manufacturing operations. Video response flat within 1 db 0.1 to 10 Mc. Handles peak-to-peak voltage range from 0.25 to 5.0. Features exclusive DC restorer circuit. Aluminized picture tube.

\$310 net

VHF FIELD STRENGTH METER
Model FSM-1 54 mc to 216 mc

A portable precision instrument for accurate measurement of RF signal strength. Measures signal levels from 10 microvolts to 3.0 volts with an accuracy of ± 1.5 db. When used with B-T VHF converter, range includes entire VHF band. Also measures percentage of AM modulation and indicates IM distortion.

Features include: • Special strap for field use • Continuous tuning from 5 mc to 216 mc • Sound video takeoff • Unaffected by temperature changes from 0° through 120° F.

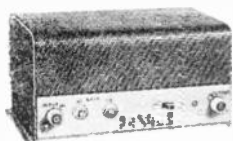
Dimensions: 12 x 9 1/4 x 8 1/4 inches

Input Impedance: 75 ohms

\$310 net

Less Batteries

MASTERLINE TV SYSTEM COMPONENTS



VHF AMPLIFIER Model MLA

Powerful all-channel VHF cascade amplifier with more than 37 db gain. Has variable gain controls for equalizing high and low bands. Output on each band 1.25 volts RMS, flat to within 2 db. Self-powered. Input and output 75-ohm coax fittings. When used with MAGMA maintains constant output level.

\$142.50 list

VHF and UHF CONVERTER-AMPLIFIERS

*(Specify input and output channels)



VHF CONVERTER-AMPLIFIER Model MVC*

Converts a specified VHF "high" channel to a specified VHF "low" channel. Crystal controlled. Gain in excess of 33 db ± 1 db. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing networks. Self-powered. Available on special order only.

\$400 list

VHF CONVERTER-AMPLIFIER Model MLC*

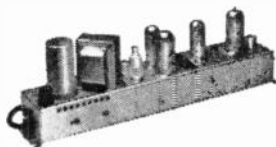
Converts a specified VHF "low" channel to a specified VHF "low" channel. Crystal controlled. Gain in excess of 33 db ± 1 db. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing network. Self-powered. Available on special order only.

\$400 list

NEW

AUTOMATIC GAIN CONTROL Model MAC

Self-powered AGC control for any VHF amplifier. 20 db control range; 10 db gain. Bandpass flat ± 0.5 db. AGC stiffness greater than 10 to 1.



VHF SINGLE CHANNEL AMPLIFIER with AGC Model MCS

Gain in excess of 38 db on low band and in excess of 35 db on high band. Features automatic level and manual gain controls. Has high rejection of adjacent channels. Input and output 75-ohm coax fittings. Two outputs and all-channel mixing network. Self-powered. (specify VHF channel)

\$134.50 list

RADIATION-PROOF HOUSING Model MRH-A

Weatherproof and radiationproof outdoor enclosure for master TV equipment. Has perforated mounting surface and adjustable support bracket. Maximum ventilation, front-opening sealed door and sturdy hasp. Iridite-finished, cadmium-plated steel.

\$62.50 list



UHF CONVERTER-AMPLIFIER Model MUC*

Converts a specified UHF channel to a specified VHF channel. Crystal controlled. Gain from 15 to 25 db. Flat within ± 1 db over 6 Mc. bandwidth. Input for 300 ohms and two outputs for 75 ohms. All-channel mixing network. Self-powered. Available on special order only.

\$400 list



products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., NEWARK 2, NEW JERSEY

NEW "EXACT MATCH" TV INSTALLATION ACCESSORIES



NEW "EXACT-MATCH" TV INSTALLATION ACCESSORIES

Featuring 'No-Strip' Terminals

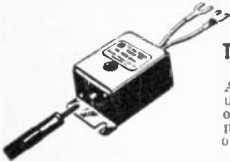
Model A-102 Two-Set TV Coupler. Low loss 300 ohm coupler feeds two receivers from one antenna or mixes two antennas into one line. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **\$3.50 list**

Model A-104 Four-Set TV Coupler. Low loss 300 ohm coupler feeds four receivers from one antenna or mixes four antennas into one line. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **\$4.50 list**

Model A-105 Hi-Lo TV Coupler. Combines low band and high band VHF antenna outputs or provides separate low and high outputs from a common line or antenna. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **\$3.50 list**

Model A-107 UHF-VHF TV Coupler. Combines VHF and UHF antenna outputs or provides separate VHF and UHF outputs from a common line or antenna. Weather protected in attractive plastic case. Uses Model A-100 for outdoor mounting. **\$3.50 list**

Model A-100 Outdoor Mounting Kit. For B-T couplers A-102, A-104, A-105, and A-107. Bracket and strap assembly for mast mounting. **\$.90 list**



TV SET MATCH

Model TM

An impedance-matching transformer designed for use at the TV set to match 75-ohm cable to 300-ohm TV input. Cable plug supplied to fit Jack permits easy connect and disconnect. Heavy duty output leads with spade lugs.

\$3.30 list

ADD-A-UNIT COMPONENTS

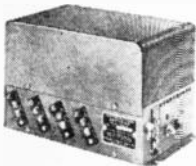
VHF AMPLIFIER

Model HAB

NEW

3-tube, high-gain VHF and FM amplifier employing 6DJ8 frame-grid input for low noise. 20 db gain on low and high bands. "NO-STRIP" 300 ohm terminals or 75 ohm solderless connectors for all connections.

\$64.50 list



DISTRIBUTION AMPLIFIER

Model DA8-B

Provides eight isolated TV set outlets from one 75-ohm or 300-ohm input. Each outlet handles 75-ohm or 300-ohm line and delivers 10 db gain on all VHF channels. Gain control covers 20 db range. Self-powered.

\$94.50 list

VHF SINGLE CHANNEL AMPLIFIER

(specify channel)

Model CB

NEW

Antenna mounted, self-powered, self-mixing single channel VHF amplifier with gain of more than 18 db. Completely weatherproof. Output 0.7V rms. "NO-STRIP" 300-ohm terminals. 75-ohm output. Employs frame-grid tube in exceptionally low noise circuit.

UHF CONVERTER-AMPLIFIER

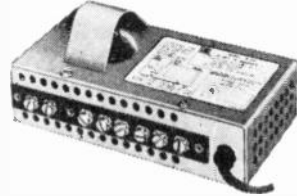
(specify input and output)

Model UB

NEW

Convert a specified UHF channel to a VHF channel. Self-powered, self-mixing, weatherproof. Can be antenna mounted.

FAMOUS LINE OF ALL-CHANNEL UHF CONVERTERS AND VHF AMPLIFIERS



TV POW-R BOOSTER

Model B-24

Booster-coupler unit for 1 or 2 TV receivers. Provides 10 db gain on low band and 7 db high band gain for one receiver. May also be used to isolate 2 TV receivers and provide 5 db gain on low band and 2.5 db gain on high band. Uses 6DJ8 frame-grid tube for exceptionally low noise broadband circuit. Installs easily with B-T "NO-STRIP" 300-ohm terminals.

\$24.95 list



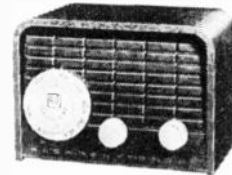
UL approved

"CLASS A" UHF CONVERTER

Model 99R

Ideal all-channel UHF converter for "Class A" signal areas. Direct-drive ganged tuning provides precise tracking of input and oscillator. VHF output on channel 5 or 6. Precise, 300-ohm impedance match.

\$22.95 list



UL approved

"ULTRAVERTER" UHF CONVERTER

Model BTU-2R

Tunable, all-channel UHF converter—the most powerful in the field—with high-gain, low-noise triode amplifier. Has dual-speed channel selector. VHF output on channel 5 or 6. Precise 300-ohm impedance match.

\$39.95 list



VHF ANTENNA BOOSTER

Model AB-2

Mast-mounted broadband antenna amplifier. Amplifies all VHF channels. Low noise amplifier with 10 db gain on all channels. Remote power supply. Weatherproof mast mounting. Swingdown chassis for easy servicing. Convenient "NO-STRIP" 300-ohm lead-in terminals.

\$53.95 list

FM BOOSTER

Model AB-FM

Mast mounted amplifier providing 16 db low noise amplification on all FM stations. Remote power supply, weather proof mast mounting. Improves FM reception on weak channels. Swing down chassis for easy servicing. Convenient "NO-STRIP" 300-ohm lead-in terminals.

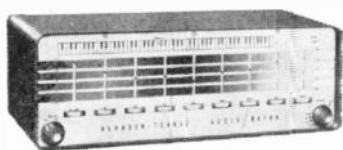
\$53.95 list



products for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., NEWARK 2, NEW JERSEY

AUDIO AND HI-FI PRODUCTS

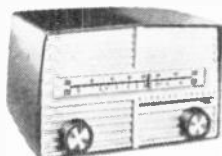


Model B-9

AUDIO BATON

Provides complete control of audio response—octave by octave. This audio frequency compensator has nine individual controls to boost or attenuate any one, two or more—up to nine octave bands in the audio frequency spectrum—as much as 14 db. A visible indicator for each control instantly shows the degree of boost or attenuation for any octave as well as the response curve over the audio spectrum. The ultimate in high fidelity products. Can also be used in public address to achieve maximum intelligibility and also in many industrial applications where control of the audio spectrum is a necessity.

\$119.95 net



Model R-98

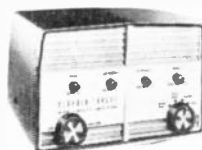
Model B-9

DELUXE FM-AM RADIO

A quality FM-AM radio with high sensitivity on both FM and AM. Drift compensated circuit for frequency stability.

Model R-98

\$47.50 list



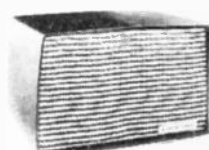
Model A-1

FM-AM TUNER

Sensitivity of higher priced tuners; drift-compensated circuit for frequency stability; super sensitive AM section for all areas. Frequency response 20 to 20,000 cps. Built-in FM and AM antennas with provision for external antenna. Accurate, stable slide rule tuning.

Model T-88

\$45.50 list



Model SS-2

DELUXE HIGH FIDELITY AMPLIFIER

Deluxe 12 watt audio amplifier with 4 separate tone controls dividing the audio spectrum into four significant segments (bass, lo-middle, hi-middle, treble). Permits the user to boost or attenuate ranges, tune out feedback and improve speaker and equipment performance. Full function selectivity, uniform frequency response ± 2 db from 30 to 15,000 cps, harmonic distortion below 1% at 10 watts.

\$56.50 list

Model A-1

TWIN-SPEAKER SYSTEM

Two matched speakers with overlapping frequency ranges in an acoustically correct enclosure. Ideal as a multiple speaker system or for stereo conversion. 16-ohm impedance. 5.5 watts.

Model SS-2

\$12.50 list

"EXACT MATCH" TV ACCESSORIES

BALUN

Model MB
Precise impedance match between 75-ohm coax and 300-ohm antenna line. Has 75-ohm coax fittings and 300-ohm screw terminals. Weather-protected.

\$9.20 list

DIRECTIONAL COUPLER

Model MDC-2

Two isolated outlets for TV sets or branch lines. Only 3 db forward loss. Minimum isolation: 14 db. One 75-ohm input and two 75-ohm output fittings. Weather-protected.

\$13 list

DIRECTIONAL COUPLER

Model MDC-4

Four isolated outlets for TV sets or branch lines. Only 6 db forward loss. Minimum isolation: 20 db. One 75-ohm input and four 75-ohm output fittings. Weather-protected.

\$28 list

DUPLEXERS

Pair remotely controls TV amplifiers or permits two-way audio or AM transmission. One line for VHF TV, plus AM, AM or audio (0 to 2 mc). Weather-protected.

Model MDX-300 (300 ohms) pair \$25.20 list

Model MDX-75 (75 ohms) pair \$27.80 list

FM WAVE TRAP

Eliminates FM interference at the antenna, in the line or at the TV set. Attenuates any FM channel more than 25 db. 75-ohm coax fittings. Weather-protected.

Model MWT-1

\$27.80 list

ALL-CHANNEL EQUALIZER

Model ME-1
Graduated attenuation from 17 db on Channel 2 to 1 db on Channel 13. Balances signals through 1000 ft. of RG-11/U or 500 ft. of RG-59/U. 75-ohm coax fittings. In and out. Weather-protected.

Model ME-1

\$16 list

LOW-BAND EQUALIZER

Model ME-2
Graduated attenuation from 9 db on Channel 2 to less than 1 db on Channel 6. Balances signals through 2000 ft. of RG-11/U or 1000 ft. of RG-59/U. 75-ohm coax fittings. In and out. Weather-protected.

Model ME-2

\$15 list

POWER LINE FILTER

Model MLF
Provides 60 db RF isolation between amplifier and power line. Two AC power outlets, one power cable input connector. Mounts in MRH-A.

Model MLF

\$20.25 list

VHF ATTENUATOR

Model MAT
Uniform all channel attenuation from 0 to 45 db in steps of 3 db. 75-ohm coax fittings. In and out.

Model MAT

\$23.50 list

CABLE TAP-OFFS



OUTDOOR TAP-OFF

Model MTO-11

Spliceless, weatherproof tap from RG-11/U cable. Uniform 17 db resistive isolation with only 0.6 db insertion loss. Lowest shunt capacity. Positive electrical protection thru blocking condenser. Supplied with installation tool.

\$7.75 list

INDOOR TAP-OFFS

Model T01-75: Single isolated tapoff for recessed mounting. Handles either RG-11/U or RG-59/U with 75-ohm output jack.

\$3.75 list

Model T01-300: One 300 ohm isolated outlet from RG-11/U or RG-59/U.

\$3.95 list

Model T02-75: Two 75-ohm isolated outlets from RG-11/U or RG-59/U cable.

\$7.20 list

Model T02-300: Two 300-ohm isolated outlets from RG-11/U or RG-59/U cable.

\$7.20 list

FOUR SET TAP-OFF

Model MIT-4

17 db isolation and only 0.3 db insertion loss at each outlet. Coax fittings and weatherproof housing.

\$28 list

CABLE CONNECTORS

CABLE COUPLER

Model MC

Correct 75-ohm match in splicing, adapting or terminating RG-11/U and/or RG-59/U cable. Thru-connection for Model MRH-A. Used with B-T Connectors and Terminating Plug.

\$2.50 list

TERMINATING PLUG

Model MTP-75

Correctly terminates cable fitted with Model MC Cable Coupler.

\$2.50 list

SOLDERLESS CONNECTORS

Matched 75-ohm male fitting for use with RG-11/U size cable.

Model P-11S

each \$1.55 list

SOLDERLESS CONNECTORS

Matched 75-ohm male fitting for use with RG-59/U size cable.

Model P-59S

each \$1.55 list

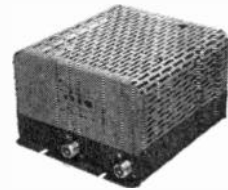
Write for detailed information on B-T products — or for free, expert sales engineering services to assist you in planning any master TV or industrial TV system.



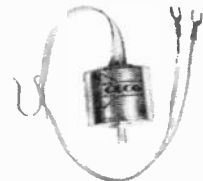
Community Engineering Corporation

State College, Pa. — Electronic Equipment for Television Systems —

The CECOPRINT AMPLIFIER — A printed-circuit wide band distributed amplifier. Advanced printed wiring techniques plus quantity production brings you this low noise, rugged, reliable distributed amplifier for CATV, hotel, motel, apartment house, cable theatre, educational or other closed circuit television systems — at low cost. The CECOPrint is an excellent amplifier for laboratory or other uses where wide band distributed amplifier is required. Twelve channel operation, continuous operation in spite of tube failure, long tube life, no tuning adjustments necessary, top quality TV reception in color or black and white, unexcelled cascading.



CECOPRINT AMPLIFIER ↑



MODEL MT-1
Fastens to back of TV set with hook, has ten inch lead with spade terminals for easy hook-up to set, and solderless connectors for RG-59/U cable.
Net Price \$3.00. ↑

SPECIFICATIONS: All models have a four-stage, three section, distributed low pass circuit; twelve 6AK5 tubes; self-contained power supply, silicon rectifiers, power input 117 v ac, 46 watts; frequency response plus or minus 1.5 db; noise figure 8.5 db at 80 mc; output level 10 db/mv; input level, any single or multiple channel, 0 to 15 db; manual gain control with 30 db range on 10-90 models, and 20 db range on 216 model. Overload point is not effected by setting of gain control. Unit has UHF connectors Input and Output for trunk line; enclosure is sheet steel, grey, perforated metal cover; dimensions 6 3/4" w X 7 1/4" l X 4" h. Model 10-90E is an equalized version with 6 db tilt over low VHF band.

MODEL 10-90
10 to 90 mc.
40 db gain
Net — \$139.50

MODEL 10-90E
10 to 90 mc.
40 db gain Ch. 6
Equalized
Net — \$149.50

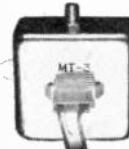
MODEL 216
54 to 216 mc.
20 db gain
Net — \$139.50

CECO MATCHING TRANSFORMERS — Features perfect impedance matching between 72 ohm unbalanced and 300 ohm balanced line, provides complete isolation between line and ac-dc receivers, gives 6 db additional signal to TV set. Flatness of plus or minus 1 db across entire band. Shielded. Powdered iron transformer. All channels 2 to 13 (54 to 216 mc.)

MODEL MT-2
Surface mounting, twin lead screw terminals, solderless connectors for RG-59/U cable.
Net Price \$3.00.



MODEL MT-3
Surface mounting—AMP-lok† receptacle and plug with 5 ft. twin lead for simple effective disconnect. Solderless connector for RG-59/U cable.
Net Price \$3.25.



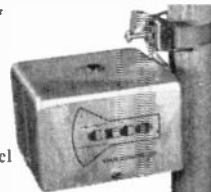
MODEL MT-4
Surface mounting, switch for selecting either RG-59/U input (solderless connector) or twin lead input (300 ohm screw terminal from antenna). Screw terminals 300 ohm output to set.
Net Price \$3.50.



MODEL MT-5*
Wall plate for single gang plaster ring or box, coax bushing for RG-59/U input, screw terminals for output to set.
Net Price \$3.00.



MODEL MT-6*
Wall plate same as MT-5 except has AMP-lok† receptacle for 300 ohm output. Plug with 6 ft. twin lead.
Net Price \$3.75.

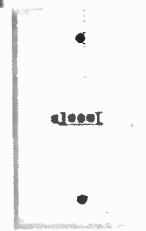


MODEL MT-OD
For antenna or mast mounting. Weatherproof construction, aluminum enclosure. Screw terminals for 300 ohm input, UHF receptacle for 75 ohm output. Mast clamp included.
Net Price \$7.50.

† AMP, Incorporated.
* For models marked with asterisk, specify stainless steel (SS), brown wrinkle on steel (BW), or ivory wrinkle on steel (IW).

CECO WALL PLATES — Mounts on single gang plaster ring or outlet box. Mounting holes are standard. Available in stainless steel (specify SS), brown wrinkle on steel (specify BW), or ivory wrinkle on steel (specify IW).

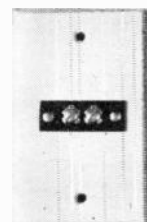
Model No.	Feature	Net Price
WIP-P*	AMP-lok† receptacle with plug for 300 ohm twin lead	\$1.00
WIP-S*	Screw terminals for 300 ohm twin lead	1.00
WIP-SL*	Solderless connector receptacle for RG-59/U coax	1.10
WIP-UHF*	UHF SO-239 receptacle	1.50
WIP-BNC*	BNC UG-290/U receptacle	2.25



WP - P - IW

CECO TAPOFF WALL PLATES (with Matching Transformer) — Wall plates with coax bushings for RG-59/U IN and OUT on rear. CECO matching transformer for 300 ohm output on front. Tap attenuation values of 0, 15, 20, 25, or 30 db. Same high quality matching transformer used in all CECO MT's.

Model No.	Feature	Net Price
TWP-P* #	AMP-lok† receptacle with plug for 300 ohm twin lead. Similar in external appearance to MT-6	\$3.75
TWP-S* #	Screw terminals for 300 ohm twin lead. Similar in external appearance to MT-5	3.50



WP - S - IW

* Specify SS, BW, or IW. # Specify attenuation desired, 0, 15, 20, 25, 30 db. † AMP, Incorporated.



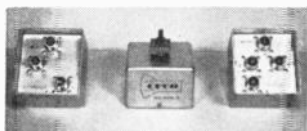
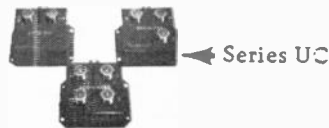
Community Engineering Corporation

State College, Pa. — Electronic Equipment for Television Systems —

CECOSPLITS: passive line splitters — 36 low loss models. Order by model number from chart below showing frequency range outlets, attenuation, construction and fittings. Specify type fittings and construction. All models have impedance 75 ohms in and out, flatness plus or minus 1 db or better, power loss less than .5 db, high isolation.

Model No.	Frequency Range	Number of Outlets	Attenuation per outlet	U*	Net price/ type UC*	SL*
100-S-33*	10 to 90 mc.	2	3 db each	\$ 9.50	\$5.75	\$4.95
100-S-555*	10 to 90 mc.	3	5 db each	10.95	6.75	5.95
100-S-6666*	10 to 90 mc.	4	6 db each	12.50	7.75	6.95
100-S-014*	10 to 90 mc.	2	0 db, 14 db	9.50	5.75	4.95
100-S-024*	10 to 90 mc.	2	0 db, 24 db	9.50	5.75	4.95
100-S-61*	10 to 90 mc.	2	6 db, 1 db	9.50	5.75	4.95
200-S-33*	55 to 216 mc.	2	3 db each	9.50	5.75	4.95
200-S-555*	54 to 216 mc.	3	5 db each	10.95	6.75	5.95
200-S-6666*	54 to 216 mc.	4	6 db each	12.50	7.75	6.95
200-S-014*	54 to 216 mc.	2	0 db, 14 db	9.50	5.75	4.95
200-S-024*	54 to 216 mc.	2	0 db, 24 db	9.50	5.75	4.95
200-S-61*	54 to 216 mc.	2	6 db, 1db	9.50	5.75	4.95

* Specify construction and fittings by "U", "UC", "SL":
 U — UHF connectors, handles cable-powering, aluminum enclosure, weatherproof construction, mounting clamp, outdoor use.
 UC — UHF connectors, metal enclosure, indoor use.
 SL — Solderless RG-59/U fittings, metal enclosure, indoor use.



Series U

CECO manufactures a complete line of equipment for R-F distribution of television signals, including ultra-low noise preamplifiers (UHF and VHF), cable-powered amplifiers, power supplies, wide band sweep generators, automatic level control units, and others.

CECO ULTRA LOW NOISE PREAMPLIFIERS

CECO is noted for its outstanding ability in preamplifier design. The new VHF and UHF ultra low noise preamplifiers are high quality units for ultimate reception in TV fringe areas. Model PR-(*) and Model PRU-(*)-L both utilize the G.E. ceramic planar triode tube type 7077 noted for low noise and long life. The application of this tube in special circuits developed by CECO provides ultra low noise operation and extended reliable service at low cost.

CECO preamplifiers are of weatherproof construction with an aluminum enclosure. The terminals, pilot light, test points and fuse are mounted on the bottom protected by drip shield. For maximum benefit from ultra low noise feature, units should be installed near antenna terminals. Mounting is made simple by means of two messenger clamps attached to weatherproof cover. Clamps suspend unit from messenger cable, angle irons, or from horizontal members such as cross braces or catwalks when mounted outdoors. When used indoors, preamplifier is usually mounted on vertical wall racks.

Model PR-(*) is a single channel VHF Preamplifier, available for any VHF channel. Net Price \$295.00.

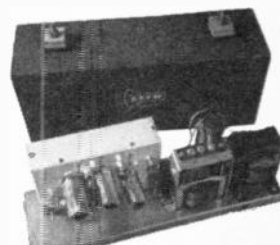
Model PRU-(*)-L is a single channel UHF Preamplifier, available for any UHF channel. Net Price \$295.00.

* Specify channel in ().

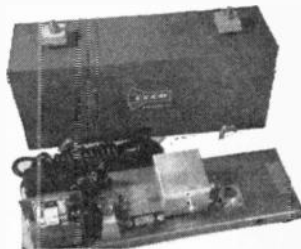
SPECIFICATIONS:

Model PR-(*) - VHF Preamplifier: Grounded-cathode, grounded-grid input circuit followed by two stages of stagger tuned amplification; tube complement one 7077 ceramic planar triode, one 6 AM4 grounded-grid triode, two 5654 pentodes; gain of 40 db minimum on channels 2 to 6, and 35 db minimum on channels 7 to 13; frequency response plus or minus 1 db over 6 mc specified channel bandwidth; noise figure 3 db low channels, 4½ db high channels; impedance of 75 ohm in and out, input impedance adjusted for optimum noise figure; construction is silverplated completely enclosed amplifier subassembly powered through feed-through capacitors from separately partitioned plate and filament supply all in weatherproof enclosure; connectors are UHF connector in and out, two solderless connectors for test points; power source is cable powering by CECO Power Feed Box Model 24-PS-1, or Model 24-PS-4, or powered by conventional 117 v ac (on special order); dimensions 3¾" w X 12" l x 5" h; weight 8 lb. Model PR-(*) is applied at rated gain.

Model PRU-(*)-L - UHF Preamplifier: Grounded-grid (single stage) circuit; high "Q" resonant cavity plate circuit; factory built for single UHF channel; 10 db gain minimum; noise figure of 6 db plus or minus 1 db for channels 14 to 50, and 7 db plus or minus 1 db for channels 51 to 83; frequency response plus or minus 1 db over 6 mc specified channel bandwidth; 10 mc 3 db bandwidth; impedance of 75 ohm input and output; UHF connectors; antenna cable balun for 300 ohms furnished with unit; weatherproof aluminum enclosure; dimensions 3¾" w X 12" l x 5" h; weight 4 lb. 6 oz. Preamplifier has a self-contained power supply and requires only 117 v, 50-60 cps, 10 watts power.



Model PR-(*)
VHF Preamplifier



Model PRU-(*)-L
UHF Preamplifier

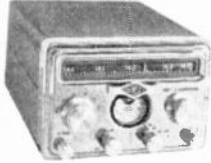
GONSET

DIVISION OF YOUNG
SPRING & WIRE CORP.



Communications Equipment

ANTENNAS... ACCESSORIES...



**G-66B COMPLETE
FIXED-MOBILE RECEIVER**

A highly flexible receiver, well suited for fixed station use... without equal for superior mobile reception. 6-band coverage, stable, sensitive, selective.

6 bands: .54 to 2 mcs. 3.54 mcs. 7-7.3 mcs. 14-14.35 mcs. 21-21.45 mcs. 28-29.7 mcs. AM, CW, SSB reception. Highly stable HF and BF oscillators and xtal controlled second conversion oscillator. Steep skirt selectivity by 265 kc 2nd I-F with 8 tuned circuits. Double conversion all bands. AVC and famous Gonset noise limiter, antenna trimmer, "S" meter. Slide rule dial exposes only band in use. 40:1 tuning ratio. Universal power supply is a separate unit, operates on 6V or 12V DC and 115V AC. Loudspeaker is built into power supply unit. Specify whether operation is to be 6V or 12V DC.

"Thin pack" power supply is available for 12 volt DC only operation. Only 2 1/2" thick, plugs directly to G-66B as cabinet extension or can be connected with patch cable. Less speaker.

G-66B, less power supply.....=3046.....

Universal "three way" power supply, speaker unit.
(6V-12V DC-115V AC).....=3069-6.....

Same as above. Factory wired 12V DC, 115V AC.
With patch cable.....=3069-12.....

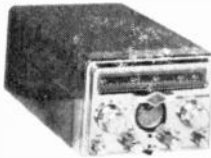
"Thin pack" power supply.
(12V DC only) less patch cable....=3098.....

G-66B receiver with 3069-6 power supply and patch
cable. Factory wired for 6V DC and 115V AC.
=3213-6.....

G-66B receiver with 3069-12 power supply and patch
cable. Factory wired for 12V DC and 115V AC.
=3213-12.....

G-66B receiver with 3098 "thin pack" power supply.
(12V DC only) Less patch cable...=3214.....

G-77 A MOBILE TRANSMITTER...



G-77 A Transmitter with power supply and installation kit.

Model = 3203.....

A new mobile transmitter with every desirable feature. A companion unit to the G-66B, same size and appearance. Covers 80-40-20-15-10 meters, has built-in, stable, calibrated VFO with xtl optional. Power input 50-60 watts, modulated. Pi network output. Full press-to-talk with built-in antenna relay. Power supply and modulator are in separate unit. 6V or 12V DC and 115V AC. Output voltage is 500-600 volts full load. Selenium rectifiers avoid rectifier filament standby drain.

6 METER CONVERTER

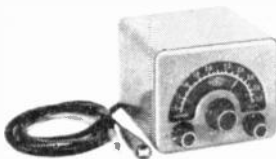


Model = 3275

An effective converter which provides excellent 6 meter reception when operated in conjunction with conventional automobile broadcast receivers or with communications or broadcast type home receivers.

Has full vision calibrated dial. Is compact, simple to install. Has switch for 6 or 12V filaments. Also has Gonset noise clipper built as separate unit for connection to receivers which do not have such provisions.

12 VOLT, POLICE-MARINE CONVERTER

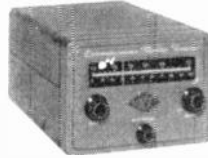


Model #3163

For operation on 12V DC only.

New converter for mobile reception of maritime and police bands within frequency range of 1.6 to 3 mcs. Unit operates in conjunction with existing auto set on any car having 12 volt battery system. Installation is simple, rapid. No alteration of auto set. Converter is supplied with cable and plug which fits antenna receptacle of auto set. Operating voltage (12V) is readily obtained by clipping lead to accessory battery post behind dash. Size 3 1/2" H, 4" W, 4" deep.

**COMMUNICATIONS MONITOR RECEIVERS,
FM AND AM TYPES**



A new, economically-priced series of FM and AM receivers for communications monitoring and emergency applications in the VHF region. Complete with AC power supply, speaker, "built in" antenna, calibrated slide rule dial. Each has 8 tubes plus rectifier. Oscillator is temperature compensated, has low radiation. Excellent AVC and adjustable squelch.

- 30 to 50 mcs, FM.....=3155
- 112 to 132 mcs, AM.....=3156
- 132 to 152 mcs, AM.....=3157
- 152 to 174 mcs, FM.....=3158

SUPER 12, SIX BAND CONVERTER



Super-12 is a new sparkling version of the famous Gonset Super-6 converter. As the latter, Super 12 provides coverage of 6 amateur bands, 10, 15-20, 40 and 75 meters. It retains the desirable feature of 19 and 49 meter coverage for casual listening to international shortwave broadcasts.

Dial scale is calibrated, uses various colors to aid in band identification. Planetary drive provides vernier tuning.

Sensitivity and stability are excellent. Antenna trimmer on panel maximizes antenna in use. BC-HF switch permits instant return to standard BC. Super-12 presents an attractive, modern appearance, blends well with instrument panel of modern cars. Small physical size of housing facilitates mounting. Highest quality components and precision workmanship ensure long, trouble-free operation.

Installation is simple, rapid, non-technical. There is no requirement for alterations or internal connections to existing broadcast receiver. Converter simply patches into antenna input connector of car radio. Operating power is obtained from 12 volt battery connection post behind dash. An installation can actually be made in a matter of minutes.

12V DC only, Model =3261

MOBILE FM TUNERS

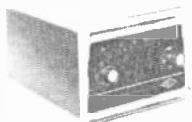
Gonset tuners provide an inexpensive yet sensitive and stable receiver when used in conjunction with ordinary auto, home or communication receivers. Tuners include squelch and noise clipper, I.F. and low-level audio. Very compact...mounts on steering post or under dash for mobile applications. 50 ohm input, simple to connect to receiver.



- 152-162 mc. FM...=3012-6
- 152-162 mc. FM...=3012-12

Specify 6 or 12 volt factory wiring.

12 VOLT, 88-108 MC FM CONVERTER



88-108 mc. FM
Model # 3239

Now...full fidelity FM reception from your car. New converter operates with present auto set and antenna, brings all well-known advantages of FM. Easy to operate, only two controls, no fussy tuning. Merely locate signal on dial. Unique "locking" circuit then positively and correctly tunes FM station to full fidelity.

Installation is simple, non-technical. No alterations or adjustments to auto set. Converter merely connects to 12 volt battery source, plugs into antenna connection of auto radio.

For 12 volt DC operation only.

12 VOLT, 30-50 MC FM CONVERTERS

These new converters operate with present 12 volt auto radio to provide excellent mobile FM reception. Exclusive GONSET design permits simple, non-technical installation in minutes. No adjustments or alterations to auto set. Just plug converter into car radio and clip power lead to 12 volt "accessory" post under dash. Converters have adjustable squelch and dial lamp on-off switch. General appearance similar to Model 3239.

- Model # 3247 30-40 mc. FM
- Model # 3251 40-50 mc. FM

GONSET

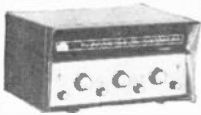
DIVISION OF YOUNG
SPRING & WIRE CORP.



Communications Equipment

ANTENNAS... ACCESSORIES...

G-43 ALL BAND RECEIVER



New G-43 all-band receiver utilizes advanced techniques for better performance, greater value. Features modern attractive styling, handsome metallic gray finish with controls and dials clearly set off for quick, easy operation. Speaker is built-in. Provisions for external speaker, earphones.

Improved stability and easy tuning is provided by 6-band coverage: .54-1.6 mcs; 1.8-5.7 mcs; 5.7-13 mcs; 13-20 mcs; 20-25 mcs; 25-30 mcs. Drum dial gives quick identification of band in use. Bandspeed dial gives calibrated amateur bands as well as logging scale. Calibration on Band 6 provides for use of VHF converters. Has six, double-tuned Hi-Q transformers at 1650 kcs in I-F section. Selectivity, 6 kcs at 6 db down, 24 kcs at 60 db. Panel controls include main tuning, bandspeed tuning, bandwidth, audio volume, sensitivity, antenna trimmer, ANL on-off, Phone-CW, standby-receive, signal strength meter. Provisions for crystal calibrator which is available as optional equipment. Tubes: 6BE6 (conv), 6BA6 (1-1 I-F), 6BA6 (2nd I-F), 6AU6 (3rd I-F), 6AL5 (det AVC, ANL), 12AX7 (1st audio-BFO) 6CM6 (2nd audio), 6X4 (rect.). Model #3241

G-33 ALL BAND RECEIVER

G-33 is similar in construction and general appearance to G-43, has simplifications to provide greater economies. Tunes following ranges: Band 1, .54-1.6 mcs; Band 2, 1.8-6 mcs; Band 3, 6-13 mcs; Band 4, 13-34 mcs. Bandspeed dial has calibrated scales for amateur bands. 1650 kc I-F results in greatly improved image rejection. 3-double tuned Hi-Q transformers provide excellent I-F selectivity.

Panel controls include: Main tuning, bandspeed tuning, band-switch, audio volume, antenna trimmer, sensitivity, function selector. Tubes: 6BE6 (conv), 6BA6 (1st I-F), 6BA6 (2nd I-F, BFO), 6AV6 (det, AVC, 1st audio), 6CM6 (2nd audio), 6X4 (rectifier).

Model #3222

6 METER COMMUNICATOR



Receiver is highly sensitive and selective superhet—has "S" meter, automatic noise limiter, adjustable "squelch", panel mounted loudspeaker. Transmitter uses 6146 in pi network final at 40-50 watts input. Frequency control is by crystal or built-in, highly stable VFO. Latter gangs with multiplying stages for single excitation control. Dial is calibrated, 50-54 mcs. Modulator uses two, 6L5GB's.

Model #3221

G-50—a complete station "package" for 6 meter operation. Compact housing, 7 1/2" H, 13" W and 12 1/2" D contains receiver, transmitter and power supply. 115V AC Operation only.

6 METER C-D COMMUNICATOR

Also available is Model 3300-C.D which is similar in general characteristics and appearance to standard amateur model but is certified as meeting applicable specifications under F.C.D.A., item number U-68.

Cabinet is same size as amateur model, however is finished in C-D yellow and has appropriate C-D markings. Price includes microphone and one quartz crystal.

Model #3300-CD



(111)

G-11 CITIZENS COMMUNICATOR

G-11 is a complete 2 way radio station for use in the new Class "D" service on 11 meters. Can be used for business or pleasure. Unit is F.C.C. type accepted. Compact, 6 3/4" W, 5 1/4" H, 6 3/4" D. Self-contained power supply.

Available with either 115V AC or 12V DC power supplies. Specify

G-11 is complete with press-to-talk microphone, precision quartz crystals, (transmitter receiver) for one channel.

G-11, 12V DC, #3304

G-11, 115V AC, #3303

GPP-1 HYBRID BALANCED PHONE PATCH

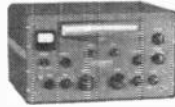


Only 4 1/2" H (over feet), 6" W, 6 1/4" D overall. No power required. Simple to install, operate.

GPP-1 provides the ideal "patch" between amateur station transmitting receiving equipment and land line telephone circuits. It incorporates adjustable hybrid balancing, permits optimum balance for any particular set of connections. Panel meter indicates correct balance, also switches to show line level under patch conditions, thereby avoiding line overload and cross-talk.

Model #3273

GSB-100, SSB TRANSMITTER



GSB-100 is a complete, self-contained SSB transmitter for operation on 80-40-20-15, 11-10 meter bands. This transmitter is rated at 100 watts PEP input, operates on SSB with selectable sidebands, phase modulation, AM and C.W.

Output circuit utilizes pi network. The new GONSET FILTER-PHASING network gives high sideband rejection, and uses a quartz crystal band-elimination filter for carrier suppression of more than 60 db. This filter avoids critical carrier balancing.

Frequency control is by fixed quartz crystal and built-in VFO. Latter features exceptional stability. Unit gives full 600 kcs within all amateur bands, 80 through 10. Highly effective voice operated control system, (VOX) is provided. Heavy duty 115V AC power supply is built-in.

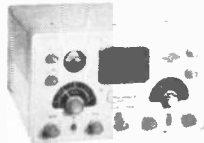
Model #3233

SSB RF LINEAR AMPLIFIER

New grounded grid linear amplifier is rated at 1000 watts peak input power. It is designed to operate with GSB-100, or similar SSB transmitters supplying 75-100 watts peak power drive. Amplifier is self-contained, includes power supply, pi-network output, antenna changeover relay. Provides bandswitched operation on 80-40-20-15-11 and 10 meters. Attractively styled. Same size cabinet and same general appearance as GSB-100 transmitter.

Model #3262

10 METER COMMUNICATOR



Receiver is highly sensitive and selective double-conversion superhet—has "S" meter, automatic noise limiter, adjustable "squelch", panel mounted loudspeaker. Transmitter uses 6146 in pi network final at 50 watts input. Frequency control is by crystal or built-in, highly stable VFO. Latter gangs with multiplying stages for single excitation control. Dial is calibrated, 28 to 29.7 mcs. Modulator is 2-6L6GB's.

Model #3204

G-28—a complete station "package" for 10 meter operation. Compact housing, 7 1/2" H, 13" W and 12 1/2" D contains receiver, transmitter and AC power supply. Operation is from 115V AC only.

10 METER C-D COMMUNICATOR

Also available is Model 3299-CD which is similar in general characteristics and appearance to standard amateur model but is certified as meeting applicable specifications under F.C.D.A., item number U-66.

Cabinet is same size as amateur model, however is finished in C-D yellow and has appropriate C-D markings. Price includes microphone and one quartz crystal. (Specify frequency)

Model #3299-CD

MONITONE



Model #3022

Monitone is a multi-purpose instrument for use as a code practice oscillator or an effective monitor for phone and C.W. xmters. Has audio oscillator controlled by external circuit, provides audible tone on panel speaker or earphones. Separate pitch and volume controls. Uses small RF from xmttr to operate as effective C.W. or phone monitor. Operates from 115V AC with isolating circuitry so that neither keying or earphone leads are "Hot" to ground.

NOISE CLIPPER

A "must" for every mobile installation operating above 2 or 3 mc to reduce ignition interference. Works with all AM receivers using conventional diode detectors, easy to install. Complete instructions furnished.

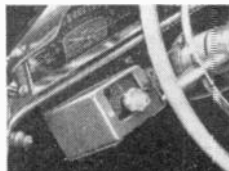
Model #3001



STEERING POST MOUNTING BRACKET

Can be mounted on either right or left hand side of steering post. May be rotated to mount the converter above or below the steering post in the most convenient position in relation to the driver of the automobile. Complete with mounting straps and hardware.

Model #3006



GONSET

DIVISION OF YOUNG
SPRING & WIRE CORP.



Communications Equipment

ANTENNAS... ACCESSORIES...

**COMMUNICATOR III...
FOR EITHER 2 OR 6 METERS**



Now...a completely new series of Communicator III models to meet fully the varied requirements of amateur, Civil Defense, CAP, Airport and many other services operating on VHF.

Each model is a complete station, has transmitter, receiver and power supply. Latter is self-contained, operates on 6 and 12V DC and 115V AC (all three). Only one vibrator used. Simple interior strapping speeds DC voltage changes. Silicon diodes eliminate rectifier tubes in power supply, save current drain.

Available models cover amateur 2 and 6 meter bands. Each has a tunable, calibrated receiver, utilizes low-noise 6BZ8 tube in sensitive "cascode" circuit, AVC is applied to avoid possibility of blocking by very strong locals. Special gang-tuned circuits give high image rejection. I-F selectivity is improved. All models have noise limiter, adjustable squelch, earphone provisions. Tuning dial is full-vision, slide-rule type. Switchable panel meter indicates exciter or final output or relative receiver signal level.

2E26 in transmitter delivers 6-8 watts output. New 6L6GB modulator tube gives heavier AM modulation. All tunable circuits have adjustment knobs on panel. Gang tuned circuits reduce spurious responses to negligible values. Transmitter has provisions for 6 crystals selectable by switch. (Also operates with external VFO.)

Cabinets are 10 3/4" wide, 10" high, 8 1/4" deep, are finished in Alpine White. Knobs are in Gunmetal Blue.

Optionally available is convenient zipper carrying bag for Communicators. Holds unit, plus mike, antenna, coax, other accessories. Heavy canvas, padded. Blue color.

- 2 meter Communicator III (6-12V DC, 115V AC) #3133
- 6 meter Communicator III (6-12V DC, 115V AC) #3136
- Zipper carrying bag. (Blue color) #3217

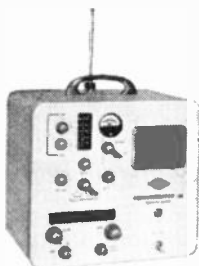
**RF LINEAR AMPLIFIERS
TO MATCH COMMUNICATOR III**



- 2 meters...#3211.
- 6 meters...#3212.

New Linear RF amplifier to match new Communicator III models. Available for either 2 or 6 meters to increase carrier output of associated Communicator to 50, 60 watts. No alterations required on Communicator. Tune up is easy, fool-proof, without danger to tubes. Switching Communicator to transmit automatically activates amplifier including internal antenna relay. Amplifier uses 2-826 VHF triodes with forced air cooling. Heavy duty power supply utilizes 2-5U4GB rectifiers. Cabinet is finished in Alpine white and has knobs finished in contrasting gunmetal blue.

GROUND-TO-AIR COMMUNICATOR III



#3139-GA
(6-12V DC, 115V AC)

Prices include microphone, one crystal, canvas carrying case

A highly effective, 2-way VHF station in a convenient, portable package. New "three way" power supply permits operation from 115V AC mains or from 6 or 12V vehicular storage battery. Xtal controlled transmitter supplies full 6-7 watts output power with AC or DC power sources. Superhet receiver has 6BZ8 low noise RF in "cascode" circuit, selective I-F, noise clipper, adjustable "squelch." Receiver is continuously tunable 112 to 132 mcs. Operation is simple, non-technical. Unit is same size and weight as other comparable Communicator III models. Can be used with integral whip or remote antenna and 52 ohm coaxial line.

**C-D COMMUNICATOR III...
FOR EITHER 2 OR 6 METERS**



Special Communicator III and Linear Amplifier models which meet applicable FCDA specifications are now available. These new units are similar to their 2 and 6 meter commercial counterparts, are the same size and general appearance but are finished in bright yellow with appropriate C-D markings. The same high performance is obtained when operating power is supplied by 6 or 12v car batteries or from 115V AC mains. These compact, complete VHF station units have high utility as portable, mobile or fixed stations in C-D routine or emergency applications.

Receiver is a sensitive superheterodyne, utilizes 6BZ8 low-noise RF tube in "cascode" circuit. Receivers of both models are tunable, the 2-meter model covering 144-148.3 mcs, the 6-meter model 49-54 mcs. Each model has noise clipper, adjustable squelch, pilot light on-off switch, earphone jack with speaker muting. Transmitter utilizes 2E26 delivering about 6 watts of carrier, AM modulated by a 6L6GB. Includes microphone, canvas carrying bag and one crystal (special frequency).

IMPORTANT FCDA CERTIFICATION INFORMATION:

Each of these C-D models has individual FCDA certification. The 2-meter model is under U-70 Utility Portable. The 6-meter model is under U-68 Utility Portable.

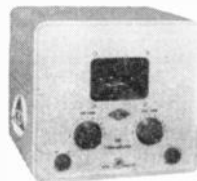
Note that C-D linear amplifiers are not certified individually but rather as a part of a complete "package" which includes the Communicator. In ordering, bear in mind that the C-D Gonset Communicator III has an individual Gonset part number, the Linear Amplifier has an individual part number and the two together as a "package" have a separate Gonset part number.

- 2 meter C-D Communicator III. (6-12V DC, 115V AC) #3133-CD
- 6 meter C-D Communicator III. (6-12V DC, 115V AC) #3136-CD

2 meter Communicator III, 2 meter Linear Amplifier. FCDA certified "package". #3230.

6 meter Communicator III, 6 meter Linear Amplifier. FCDA certified "package". #3231.

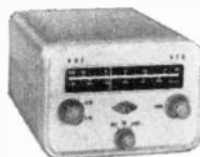
**RF LINEAR AMPLIFIERS
TO MATCH COMMUNICATOR III-C-D.**



- 2 meters...#3211 C-D.
- 6 meters...#3212 C-D

New Linear RF amplifier to match new Communicator III C-D models. These linears have similar front panel size and are finished in the same bright yellow color as the Communicator. They are similar to commercial version linears, will increase C-D Communicator output to 50 watts. Adjustment is easy, foolproof, non-critical. Push-pull 826 VHF triodes with forced air cooling are used. Refer to "FCDA Certification" comment in Communicator III-CD descriptive copy. Models available for either 2 or 6 meters.

**NEW 2 and 6 METER VFO
for Communicator III**



2 and 6 meter VFO. #3226.

Usable only with Communicator III models.

New compact, highly stable VFO provides frequency control for either 2 or 6 meter Communicator III models. Both 2 and 6 meter bands are spread across slide-rule-type dial, either band being selectable by panel switch. Unit also has "spotting" switch. VFO is actuated automatically by the associated Communicator. Cabinet is finished in Alpine White enamel. Power supply for 115V AC operation is built in. Tubes, 2-6BJ6, 1-0B2.

HAMMARLUND

COMMUNICATIONS RECEIVERS

Hammarlund communications receivers are known the world-round for their outstanding performance, reliability and long-life. Every Hammarlund receiver is manufactured to the highest quality standards in workmanship

and components. Dollar-for-dollar, for amateur, commercial or military use, Hammarlund offers the best buy in every class and type of receiver.



HQ-110

Favorite for hams. Dual conversion, 12-tube superheterodyne. Tunes 6, 10, 15, 20, 40, 80, and 160 meter bands.

Electrical bandspread tuning, S meter, Q multiplier. Separate linear detector. Separate BFO for stability. Crystal-controlled 2nd conversion. Built-in 100 KC crystal calibrator. Adjustable dial calibration. Automatic noise limiter. Clock-timer optional.



HQ-100

A general-coverage receiver in the modest-price range. Continuous tuning from 540 KCS to 30 MCS. Outstanding sensitivity and selectivity.

Electrical bandspread directly calibrated. Q multiplier. Voltage and temperature regulated. S meter. Exclusive Auto-Response. Automatic noise limiter. 10-tube superheterodyne circuit. Clock-timer optional.



HQ-145

General-coverage receiver for SWL and hams. Tunes from 540 KCS to 30.0 MCS. Electrical bandspread in

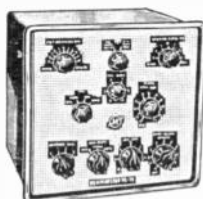
all ham bands in frequency range. Dual conversion from 10.0 MCS to 30.0 MCS. 60 db notch filter and six-position filter crystal-controlled. 11-tube superheterodyne with automatic noise limiter. High sensitivity. Optional 100 KC calibrator and clock-timer.



HQ-160

Dual-conversion, general coverage, 13-tube superheterodyne. Frequency range, 540 KCS to 31.0 MCS. Automatic noise

limiter. Separate linear detector for SSB and CW. Q-multiplier. Electrical bandspread tuning. Separate BFO. Crystal-controlled 2nd oscillator. Adjustable notch filter. 14 tuned IF circuits. S meter. Exceptional read-out on dials.



HC-10 SSB CONVERTER

Provides finest SSB performance with any standard, stable receiver. Connects in seconds. Built in audio output. Does not affect normal operation of receiver. Provides choice of upper, lower or both sidebands. Adjustable notch filter

up to 60 db. Selectable pass-band width. Vernier tuning. Automatic noise limiter.



HQ-170

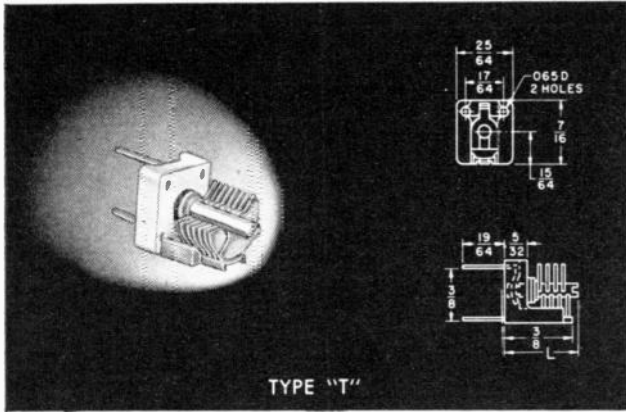
World's finest ham receiver. Exceptional SSB performance. 17-tube superheterodyne with dual and

triple conversion. Tunes 6, 10, 15, 20, 40, 80 and 160 meter ham bands. 60 db adjustable notch filter. Separate vernier tuning. Selectable upper, lower or both sidebands. 100 KCS calibrator. Selectable AVC.

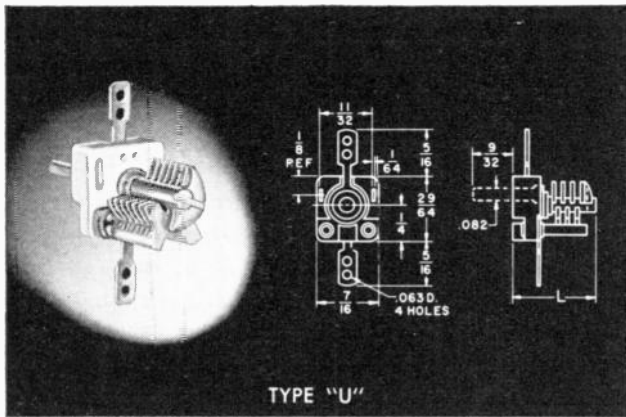
SP-600 COMMUNICATIONS RECEIVER

A commercial/military quality receiver tuning from 540 KCS to 54 KCS in six bands. Operation on any one of 6 crystal-controlled fixed frequencies. Stability .001% at 54 MCS. Extremely high image rejection. Ideal for

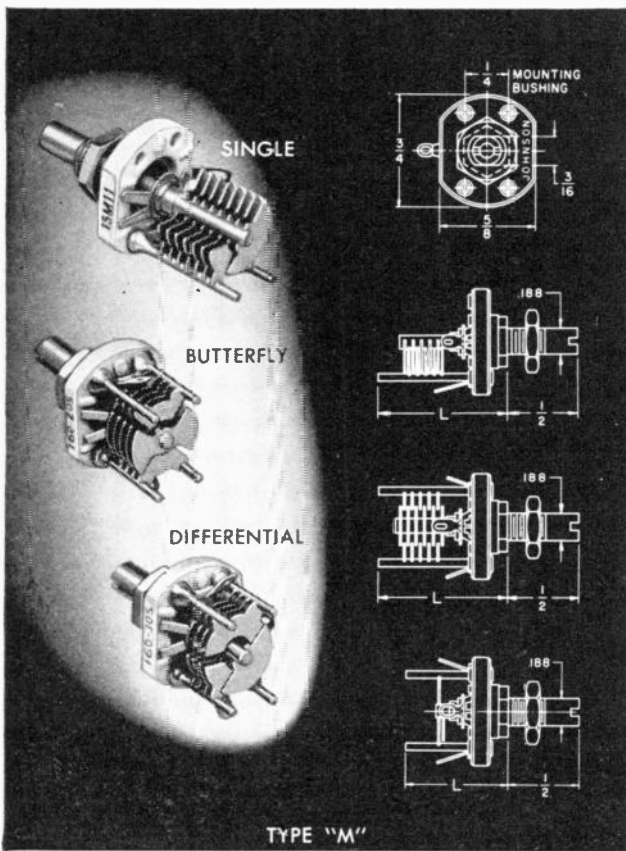
diversity or point-to-point reception. Also available in other frequency ranges for laboratory, military, and other communications reception.



TYPE "T"



TYPE "U"



TYPE "M"

TYPE "T" CAPACITORS

Built to comply to MIL-C-92A specifications, this diminutive Type "T" sub-miniature air variable capacitor offers excellent mechanical stability, "Q" greater than 3000 at 1 Mc., and a high torque-to-mass ratio. The tiny rotor and stator plates are permanently soldered using advanced production techniques which assure consistent uniformity and quality. Plates are silver-plated brass—special plating is available in production quantities to meet specific requirements. Ceramic is Grade L-4 or better steatite, DC-200 treated. Temperature coefficient less than 60 PPM/°C. Peak voltage 1000 volts with .014" plate spacing on 271-1, 700 volts with .008" spacing on 271-21, -22. Requires only two small machine screws for chassis or panel mounting. Terminals provided for printed circuit board applications. Slotted end rotor shaft accommodates screwdriver or alignment tool for quick adjustment. Developed for use on government contracts; available only in production quantities for commercial applications.

Cat. No.	Type per MIL-C-92A	Cap. per Sec.		Plates per Sec.	L	Net Price
		Max.	Min.			
271-1	CTO4B006J	6.5	1.3	9	5/8"	\$1.40
271-21	CTO4A010J	13	1.4	11	5/8"	1.45
271-22	CTO4A015J	18	1.8	15	5/8"	1.50

TYPE "U" CAPACITORS

This tiny Type "U" sub-miniature air variable capacitor requires less than 0.2 square inch of space for chassis or panel mounting. Rotor and stator are precision-machined from one piece of solid brass for outstanding mechanical stability and uniformity. Unit offers high "Q", high torque-to-mass ratio, and low temperature coefficient—provides absolute freedom from moisture entrapment found in trimmer capacitors of the enclosed or solid dielectric type. All metal parts are silver plated—ceramic is steatite Grade L-4 or better. Exceptionally uniform delta C and voltage characteristics. Breakdown ratings 850 volts DC. on .010" plate spacing 189-1 thru 189-6; 1300 volts on .016" spacing on 189-26 thru 189-28. Extra heavy end rotor plate protects against accidental damage during handling. No special tools required for installation—slotted end accommodates large screwdriver for quick adjustment. Double pierced, wide terminals facilitate wire or printed circuit use. Specials are available in production quantities.

Cat. No.	Cap. per Sec.		Plates per Sec.	L	Net Price
	Max.	Min.			
189-1	3.5	1.2	4	29/64"	\$0.50
189-2	5.4	1.3	6	1/2"	.52
189-3	7.3	1.4	8	53/64"	.54
189-4	9.1	1.5	10	19/32"	.56
189-5	11	1.7	12	5/8"	.58
189-6	13	1.8	14	43/64"	.60
189-26	4.1	1.3	6	1/2"	.75
189-27	6.7	1.6	10	5/8"	.85
189-28	8.9	1.8	14	3/4"	.95

TYPE "M" CAPACITORS

These small Type "M" miniature air variable capacitors are excellent for use in compact equipment. Bridge type stator terminal provides an extremely low inductance path to both stator supports. Soldered plate construction, oversize bearing, and heavily anchored stator supports insure extreme rigidity. Large beryllium copper compression rotor contact provides steady torque—and rotor stays "put" where set. Rotor contact and all other metal parts are nickel plated—steatite insulator is DC-200 treated. Mounting bushing threaded with 1/4-32 flats to prevent turning—mounting nut furnished. Peak voltage 1250 volts on .017" spaced units; 850 volts on 160-130 which is spaced .013". 3/16" diameter shaft* slotted for screwdriver adjustment. Available in production quantities with the following features: locking bearings; 180° stop; various shaft extensions; high torque; silver or other platings.
*instrument type tuning knob to fit 3/16" shaft available. (See page on knobs and dials.)

SINGLE SECTION

Cat. No.	Cap. per Sec.		Plates per Sec.	L	Net Price
	Max.	Min.			
160-102	5	1.5	5	45/64"	\$1.00
160-104	8.7	1.8	9	13/16"	1.05
160-107	14.2	2.3	15	1"	1.20
160-110	19.6	2.7	21	1 1/4"	1.35
160-130	32	3	28	1 1/4"	1.40

BUTTERFLY

160-203	3.1	1.5	5	43/64"	\$1.40
160-205	5.1	1.8	9	13/16"	1.60
160-208	8	2.2	16	1"	1.80
160-211	10.8	2.7	22	1 1/4"	2.00

DIFFERENTIAL

160-303	5.0	1.5	5	45/64"	\$1.45
160-305	8.7	1.8	9	13/16"	1.65
160-308	14.2	2.3	15	1"	1.85
160-311	19.6	2.7	21	1 1/4"	2.10

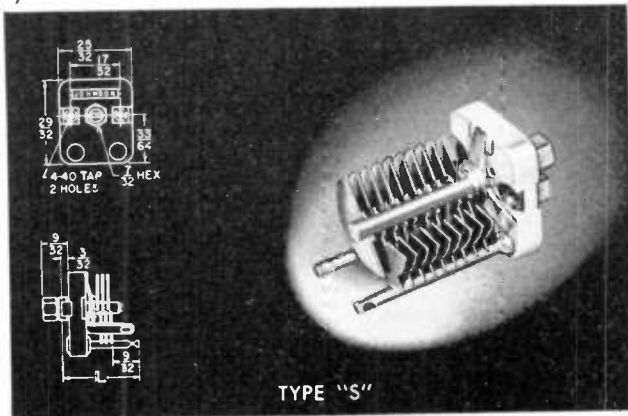
E. F. Johnson Company

WASECA, MINNESOTA

TYPE "S" CAPACITORS

Midway in physical size between the Type "M" and "K" capacitors, the Type "S" is compact in design — rugged in construction. Unit is equipped with DC-200 treated steatite insulator, and nickel-plated brass plates. The "S" capacitor has a plate spacing of .013" with a peak voltage rating of 850 volts. Other spacings; single hole mounting types; straight shaft screwdriver shaft; or locking-type screwdriver shaft available on special order in production quantities. Butterfly and Differential Types will soon be available.

Cat. No.	Cap. per Sec.		Plates per Sec.	L	Net Price
	Max.	Min.			
148-1	15	2.3	6	53/64"	\$1.10
148-2	25	2.6	10	15/16"	1.15
148-3	35	2.9	14	1 1/32"	1.20
148-4	50	3.2	19	1 9/32"	1.30
148-5	75	3.9	29	1 13/32"	1.45
148-6	100	4.5	38	1 43/64"	1.65

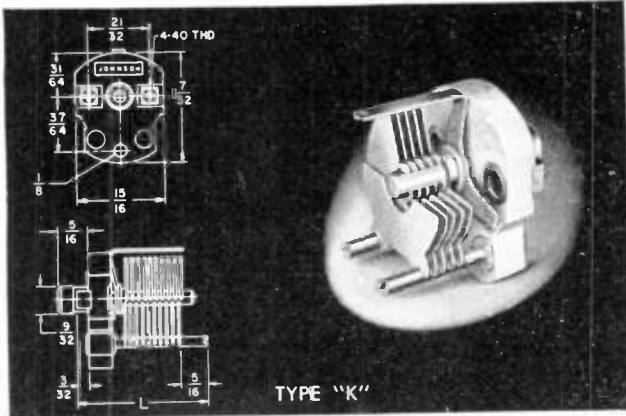


TYPE "S"

TYPE "K" CAPACITORS

Widely used for military and many commercial applications, the Type "K" capacitor has a DC-200 impregnated steatite insulator, slotted stator contacts, and extra-rigid soldered plate construction. Peak voltage rating is 1000 volts with a plate spacing of .015" — plates are nickel-plated brass. The Type "K" capacitor is available in production quantities to meet MIL-C-92A specifications — other capacities and variations for specialized military and commercial applications are also available in production quantities. Butterfly and Differential Types will soon be available.

Cat. No.	Cap. per Sec.		Plates per Sec.	L	Net Price
	Max.	Min.			
158-1	10	2.9	3	7/8"	\$1.25
158-2	25	3.7	7	1"	1.35
158-3	50	4.6	14	1 1/16"	1.55
158-4	75	5.5	20	1 3/8"	1.70
158-5	100	6.4	27	1 5/8"	1.85

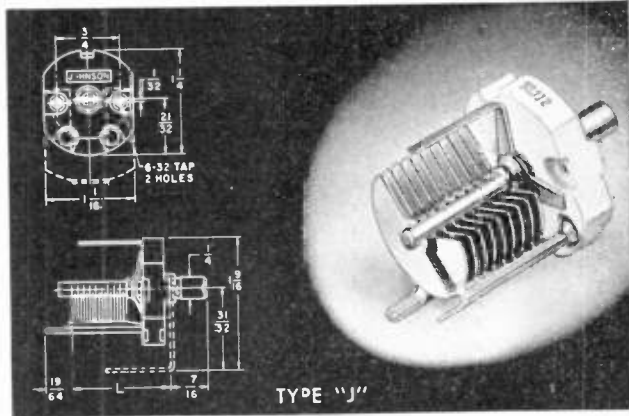


TYPE "K"

TYPE "J" CAPACITORS

A heavy duty miniature type, the Type "J" capacitor has wider spacing (.025") than most small air variables, yet it occupies little more space. The Type "J" is especially useful for small space plate tank circuits in low power stages where standard miniatures have insufficient plate spacing. Unit is equipped with a DC-200 treated steatite insulator and has soldered plate construction. Peak voltage rating is 1200 volts. Mounting brackets and 6-32 screws provided.

Cat. No.	Cap. per Sec.		Plates per Sec.	L	Net Price
	Max.	Min.			
157-1	8	2.6	3	19/32"	\$1.85
157-2	17	3.3	6	23/32"	1.95
157-3	29	3.6	10	7/8"	2.10
157-4	52	4.9	19	1 1/4"	2.35
157-5	73	6	26	1 1/2"	2.65
157-6	102	7	36	1 31/32"	3.00

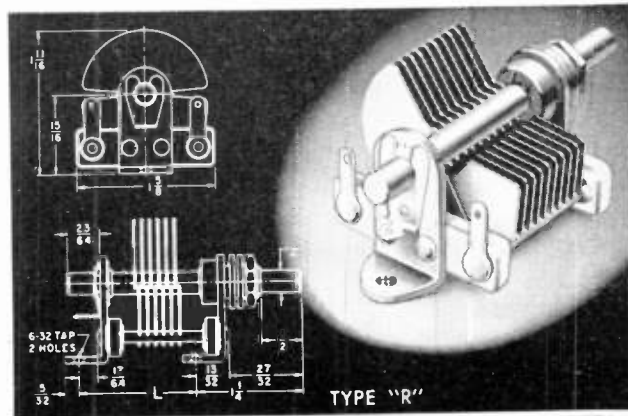


TYPE "J"

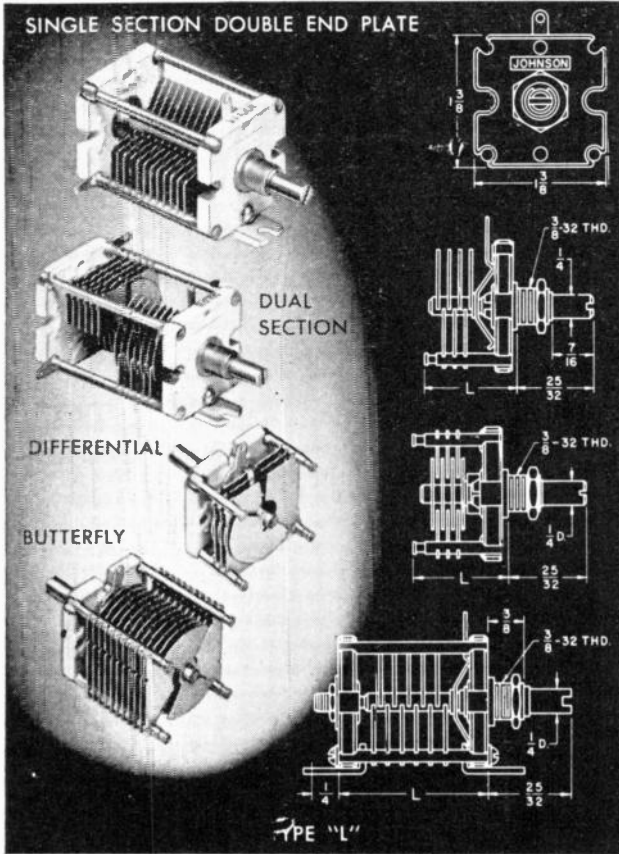
TYPE "R" CAPACITORS

This rugged Johnson version of a popular standardized capacitor, has extra-heavy steatite stator support insulators and soldered .023" thick brass plates. All metal parts are heavily nickel-plated for resistance to corrosion. Sturdy brass end frames offer excellent rigidity. Double bearing construction and silver-plated beryllium copper wiping contacts provide smooth, reliable performance. Peak voltage rating is 1200 volts — available with .024", .036", .050", .071", or .095" plate spacings, as well as special platings and shaft lengths in production quantities. Bearing threaded 3/8"-32. Also available without mounting feet for panel mounting applications.

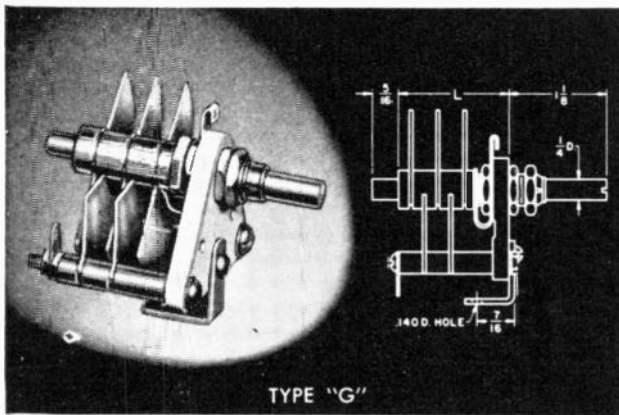
Cat. No.	Cap. per Sec.		Plates per Sec.	L	Net Price
	Max.	Min.			
149-1	20	5	3	1 7/32"	\$2.25
149-2	35	6	5	1 7/32"	2.35
149-3	50	6.5	7	1 7/32"	2.45
149-4	80	8	11	1 7/32"	2.60
149-5	102	8.5	14	1 13/32"	2.75
149-6	140	13.5	19	1 19/32"	2.95



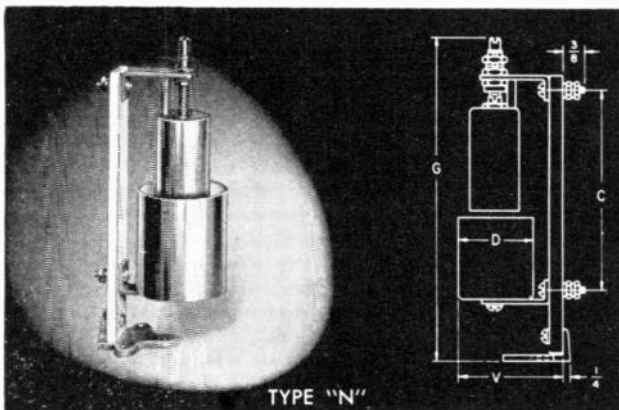
TYPE "R"



TYPE "L"



TYPE "G"



TYPE "N"

TYPE "L" CAPACITORS

These high quality, ceramic soldered Type "L" capacitors are an ideal choice for applications requiring extreme stability and strength. Rotor bearings and stator support rods are actually soldered directly to the heavy 3/16" thick steatite insulator, making these capacitors practically impervious to shock and vibration. Special split-sleeve tension bearing and silver-plated beryllium copper contact provide constant torque and smooth capacity variation. Heavy brass soldered plates and large diameter tie rods provide excellent rigidity. Removable chassis mounting brackets can be used to mount auxiliary equipment. Plating is heavy nickel-plate spacing .030". Peak voltage rating is 1500 volts. Also available with .020", .060", and .080" spacing as well as special platings, shaft bearings and stator terminal locations in production quantities. Bearings threaded 3/8-32", mounting nut provided. Models with 6-32 tapped mounting posts soldered to end frame also available on special order.

SINGLE SECTION

Cat. No.	Cap. per Sec. Max.	Min.	Plates per Sec.	L	Net Price
Single End Plate					
167-1	11	2.8	3	3/4"	\$1.60
167-2	27	3.5	7	6 1/4"	1.70
167-3	51	4.6	13	1 1/4"	1.90
167-4	75	5.7	19	1 3/8"	2.10

Double End Plate

167-11	99	6.8	25	2 1/2"	3.30
167-12	202	11.6	51	2 1/4"	4.20

BUTTERFLY

167-21	10.5	2.8	5	5 3/4"	1.95
167-22	26	4.3	12	1 1/4"	2.25
167-23	51	6.8	23	1 3/4"	2.75

DIFFERENTIAL

167-31	11	2.8	3	3/4"	2.00
167-32	27	3.5	7	6 1/4"	2.20
167-33	51	4.6	13	1 1/4"	2.50

DUAL SECTION

167-51	27	5.0	7	1 5/8"	3.60
167-52	51	6.5	13	2 1/4"	4.05
167-53	99	9.8	25	3 1/8"	4.95

TYPE "G" CAPACITORS

A wide range of capacities and spacings make this popular capacitor adaptable to many applications. The Type "G" is especially useful as a neutralizing capacitor for medium and low power stages, and is also widely used for grid and plate tuning at high and ultra-high frequencies. The Type "G" capacitor is constructed with a single steatite insulator, .032" rounded aluminum plates, universal mounting bracket, locking nut, and front and rear shaft extensions. Peak voltage ratings are: 2000 volts with .045" spacing; 4500 volts with .125" spacing; and 7000 volts with .225" spacing.

Cat. No.	Cap. per Sec. Max.	Min.	Spacing	Plates per Sec.	L	Net Price
165-2	52	5	.045"	9	1 5/16"	\$3.50
165-4	13	4.7	.125"	5	1 21/64"	3.15
165-5	23	6.4	.125"	9	1 61/64"	3.50
165-6	5.7	3.5	.225"	3	1 7/32"	3.30
165-7	12	6	.225"	7	2 15/64"	4.15

TYPE "N" CAPACITORS

The Type "N" capacitor requires very little mounting area, and offers extremely high voltage rating in proportion to its size. Fine adjustment with uniform voltage rating throughout the full capacity range. Plates are aluminum cups supported by a steatite frame with a cast aluminum mounting bracket. Peak RF breakdown ratings at 2 mc.: .125" spacing, 8500 volts; .250" spacing, 11,500 volts; .375" spacing, 14,500 volts.

Cat. No.	Cap. per Sec. Max.	Min.	D	C	G	V	Spacing	Net Price
159-125	11.0	1.1	1 3/8"	3 1/8"	6 13/32"	1 15/16"	.125"	\$7.30
159-250	10.6	1.4	1 7/16"	3 3/8"	7 17/32"	2 9/32"	.250"	8.45
159-375	10.7	1.7	2 3/8"	5 19/32"	8 23/32"	2 15/16"	.375"	10.50



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W A S E C A, M I N N E S O T A

TYPE "C" AND "D" CAPACITORS

Heavy .051" aluminum plates and 5/16" diameter aluminum tie rods; large, laminated rotor brushes; 1/4" cadmium-plated steel shafts; laminated phosphor bronze contact springs; and steatite insulation. Type "C" - overall width: 5 1/2" - height: 5 1/4" - height bottom to shaft center: 3 3/4". Type "D" - overall width: 4 1/4" - height: 4" - height bottom to shaft center: 2 1/2". Dual types have center rotor connection for better balance. End frames tapped 8-32, 3 holes, for panel mounting - brackets furnished for chassis mounting.

TYPE C SINGLE SECTION

Cat. No.	Pk. Voltage	Cap. Sec.		Air Gap	Plates per Sec.	Net Price	
		Max.	Min.			M	
152-1	7000	252	34	.175"	24	7 11/16"	\$17.95
152-2	7000	496	56	.175"	47	13 1/8"	21.80
152-6	11000	103	30	.350"	17	9 15/32"	13.65
152-8	13000	51	24	.500"	10	8 9/16"	11.90
152-9	13000	102	42	.500"	21	14 7/32"	15.95

TYPE C DUAL SECTION

152-501	4500	204	21	.125"	15	9 15/32"	18.75
152-502	4500	290	26	.125"	21	11 3/16"	21.95
152-503	7000	198	27	.175"	19	13 1/8"	21.80
152-504	7000	305	37	.175"	29	17 21/32"	27.20
152-505	9000	147	30	.250"	19	15 23/32"	23.65
152-507	11000	50	18	.350"	8	11 3/16"	15.95
152-509	11000	103	32	.350"	17	17 21/32"	23.20

TYPE D SINGLE SECTION

153-6	3500	496	36	.080"	39	7 11/16"	16.50
153-8	4500	146	23	.125"	17	5 21/32"	10.40
153-11	7000	98	23	.175"	15	5 21/32"	10.15
153-12	7000	151	31	.175"	23	7 11/16"	11.95
153-13	7000	244	45	.175"	37	11 3/16"	15.20
153-15	9000	53	20	.250"	10	5 21/32"	9.35
153-16	9000	73	25	.250"	14	6 11/16"	10.35
153-17	9000	99	30	.250"	19	8 9/16"	11.55
153-18	9000	149	43	.250"	29	11 3/16"	13.90

TYPE D DUAL SECTION

153-501	3500	95	13	.080"	8	5 11/32"	11.60
153-502	3500	147	15	.080"	12	6 11/16"	13.35
153-503	3500	202	19	.080"	16	8 9/16"	15.95
153-504	3500	291	24	.080"	23	10 7/32"	18.35
153-505	3500	496	38	.080"	39	14 7/32"	25.40
153-506	4500	155	24	.125"	17	13 1/16"	16.60
153-507	4500	198	27	.125"	23	13 1/16"	18.60
153-508	7000	52	15	.175"	8	6 11/16"	11.95
153-509	7000	72	17	.175"	11	6 9/16"	13.70
153-510	7000	97	22	.175"	15	8 1/16"	15.55
153-511	7000	151	31	.175"	23	14 7/32"	19.95
153-513	9000	52	19	.250"	10	10 11/32"	14.25
153-514	9000	97	30	.250"	19	15 23/32"	19.10

TYPE "E" AND "F" CAPACITORS

Large amount of capacity per cubic inch and extremely low capacity to chassis. Heavy aluminum plates .032" thick with rounded edges and large 1/4" tie rods; stainless steel shafts; sturdy phosphor bronze contact springs; and center rotor contact on dual types. End frames tapped 8-32, 3 holes; for panel mounting - brackets furnished for chassis mounting.

TYPE E SINGLE SECTION

Cat. No.	Pk. Voltage	Cap. Sec.		Air Gap	Plates per Sec.	Net Price	
		Max.	Min.			M	
154-1	2000	244	12	.045"	23	3 7/32"	\$ 6.65
154-2	2000	353	15	.045"	33	3 31/32"	7.60
154-3	2000	488	19	.045"	45	4 29/32"	8.75
154-7	3000	100	11	.075"	15	3"	5.95
154-8	3000	154	14	.075"	23	3 3/8"	6.75
154-9	3000	251	20	.075"	37	5 3/4"	8.25
154-10	3000	347	25	.075"	51	6 7/8"	9.70
154-11	4500	38	9	.125"	9	2 3/8"	5.40
154-12	4500	53	11	.125"	12	3 1/2"	5.80
154-13	4500	74	13	.125"	17	4 1/2"	6.30
154-14	4500	101	16	.125"	23	4 31/32"	6.90
154-15	4500	145	20	.125"	33	6 1/2"	7.85
154-16	4500	241	32	.125"	55	10"	10.50

TYPE E DUAL SECTION

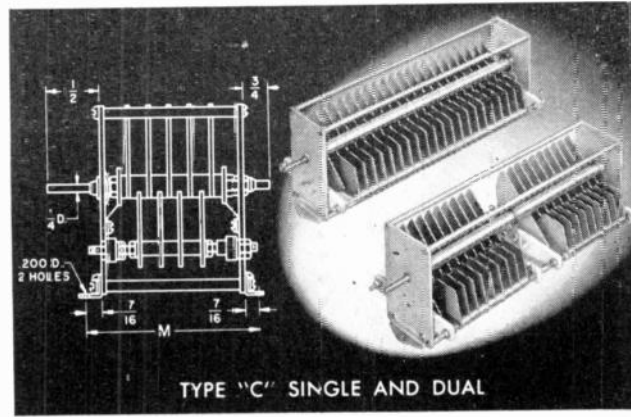
154-502	2000	312	13	.045"	29	7 3/32"	12.30
154-503	3000	52	8	.075"	8	4 1 7/32"	8.35
154-504	3000	72	8	.075"	11	4 3 1/2"	8.85
154-505	3000	99	10	.075"	15	5 1 1/8"	9.70
154-506	3000	153	13	.075"	23	7 1/2"	11.35
154-507	3000	196	15	.075"	29	8 1 3/8"	13.25
154-508	4500	52	10	.125"	12	6 1 1/2"	8.95
154-509	4500	74	12	.125"	17	7 3/8"	10.20
154-510	4500	100	15	.125"	23	9 23/32"	11.60

TYPE F SINGLE SECTION

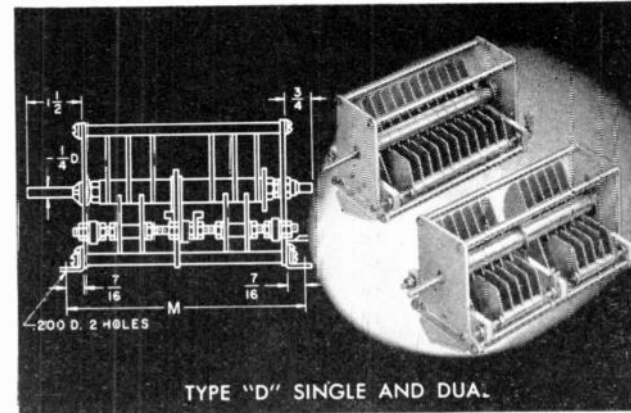
155-1	2000	35	7	.045"	6	1 9/32"	4.95
155-2	2000	54	8	.045"	9	2 1/8"	5.20
155-3	2000	66	8	.045"	11	2 7/8"	5.35
155-4	2000	106	10	.045"	17	2 11/16"	5.85
155-5	2000	154	12	.045"	25	3 3/8"	6.50
155-6	2000	252	17	.045"	41	4 17/32"	7.75
155-8	3000	52	9	.075"	13	2 3/4"	5.50
155-9	3000	67	11	.075"	17	3 3/8"	5.90
155-10	3000	99	14	.075"	25	4 1/8"	6.50
155-11	3000	148	18	.075"	37	5 5/8"	7.65

TYPE F DUAL SECTION

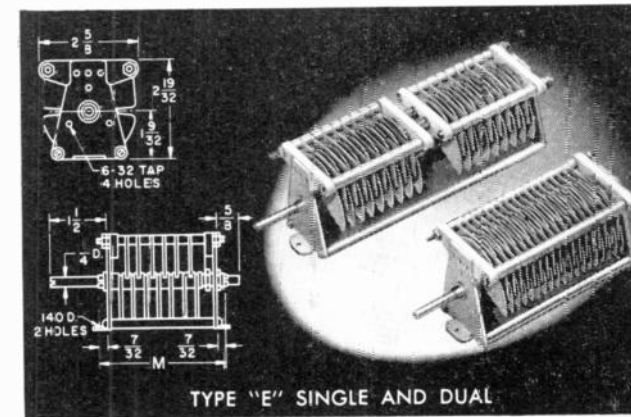
155-501	2000	53	7	.045"	9	3 5/16"	7.95
155-502	2000	66	7	.045"	11	4 4/8"	8.45
155-503	2000	104	9	.045"	17	5 5/8"	9.45
155-504	2000	153	11	.045"	25	6 3/32"	10.95
155-505	2000	202	14	.045"	33	7 7/8"	12.20
155-506	3000	51	8	.075"	13	5 1/4"	8.80
155-507	3000	66	10	.075"	17	6 1/4"	9.80
155-508	3000	99	13	.075"	25	7 7/8"	11.10



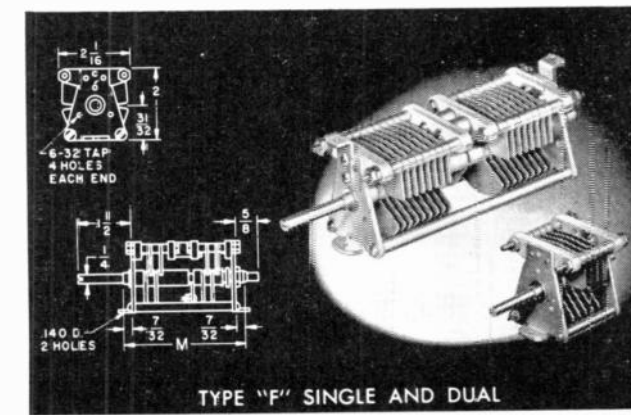
TYPE "C" SINGLE AND DUAL



TYPE "D" SINGLE AND DUAL



TYPE "E" SINGLE AND DUAL



TYPE "F" SINGLE AND DUAL

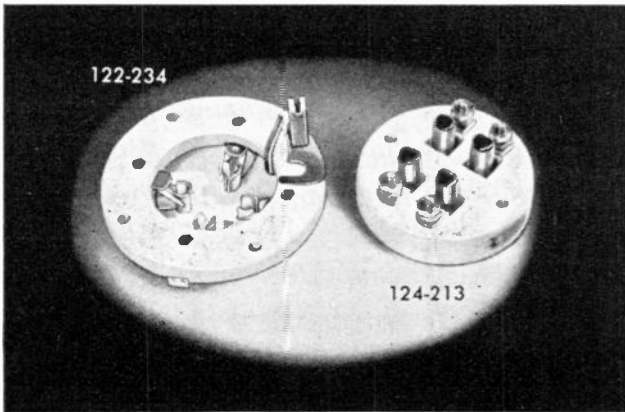


TUBE SOCKETS – GENERAL INFORMATION

In order to simplify the selection of sockets and to provide complete specifications for standard, industrial and military requirements, wherever applicable, all Johnson tube sockets have been categorized under a socket standardization program.

By reducing the number of variations in special socket types, it is possible to maintain stocks of military and industrial type sockets as well as standard sockets, permitting shorter delivery cycles on quantity orders. Specifications for the three variations of each socket type are listed within each section of descriptive matter.

Detailed specifications covering the complete Johnson tube socket line have been prepared for Engineering Department use – should you desire a copy of Socket Standardization Booklet 536, please make your request on company letterhead.



SOCKET FOR EIMAC 152TL AND 304TL

Glazed porcelain base with contacts for either series or parallel filaments. Standard and Industrial type socket has .0001 nickel-plating. Military type socket has .0005 silver-plating.

Cat. No.	Type	Net Price
124-213-1	Standard	\$1.85
124-213-200	Military	2.30

SOCKET FOR EIMAC 750TL, 1500T, 2000T, 2-2000A AND 2-450A

This socket is designed for use with tubes such as the 750TL, 1500T, 2000T, 2-2000A and Eimac's High Vacuum Rectifier 2-450A. For detailed specifications, write for further information.

Cat. No.	Type	Net Price
124-214-1	Standard	Prices on request
124-214-200	Military	

SOCKET FOR 5D21, 705A, 715A AND 715B

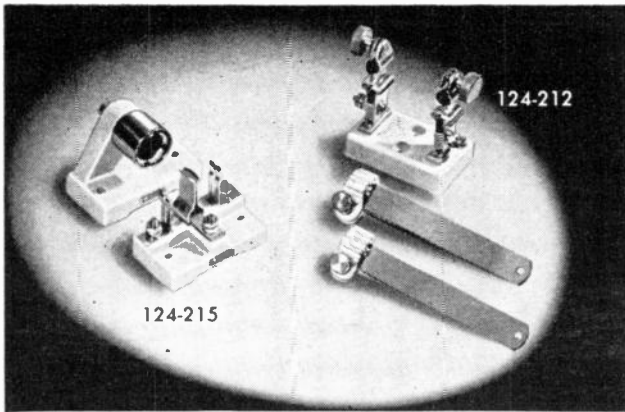
Designed for Western Electric tubes 5D21, 705A, 715A and 715B. Heavy steatite base, glazed top and sides, grade L4. Special locking device retains tube in socket. Contacts are .0003 silver-plated on Standard and Industrial types; .001 silver-plated on Military types. Post and single lock is .0003 nickel-plated on all three types.

Cat. No.	Type	Net Price
124-234-1	Standard	\$2.20
124-234-100	Industrial	2.20
124-234-200	Military	2.75

250 WATT SOCKET

This two unit socket is designed for use with "250 watt" tubes such as the 204A and 849. Anode cap E.I.A. numbers C1-8, C1-9, and C1-10; cathode mounting E.I.A. base numbers A3-20, A3-21, A3-23. Bases are glazed porcelain and contacts are phosphor bronze, nickel-plated.

Cat. No.	Net Price
124-215	\$5.95



SOCKET FOR 833 AND 833A

A special socket assembly for the 833 and 833A consisting of a steatite base which supports the tube and a pair of heat radiating tube cap connectors. Knurled thumb nuts on the socket base makes tube installation fast and easy. Base is designed to minimize strain on the tube envelope and prevent breakage. Heat radiating plate connectors have 4 3/8" flexible laminated leads. One pair included with each socket.

Cat. No.	Net Price
124-212	\$8.10

Heat radiating plate connectors, aluminum, 4 3/8" flexible laminated leads. Available separately.

Cat. No.	Net Price
119-843	\$1.35

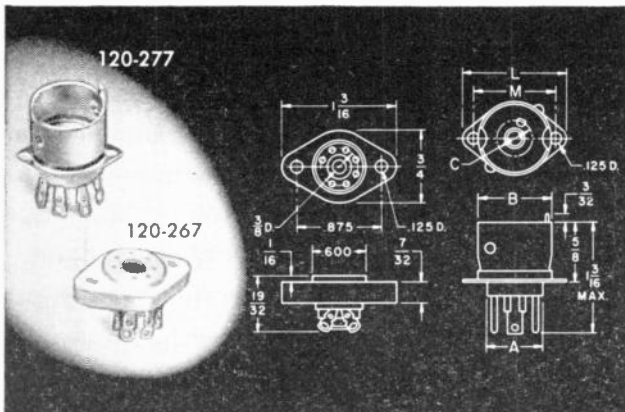
MINIATURE SOCKETS

Wafer type, all steatite socket for miniature 7 pin tubes such as the 1RS, 1S5, 6CB6, etc. E.I.A. base number E7-1. Contacts are silver-plated phosphor bronze.

Cat. No.	Net Price
120-267	\$0.41

Standard shield base type 7 pin miniature socket. E.I.A. base number E7-1. Two piece steatite construction with silver-plated phosphor bronze contacts, hot tin-dipped terminal ends. Shield base is nickel-plated brass.

Cat. No.	Pins	L	M	C	A	B	Net Price
120-277	7	1 7/4"	7/8"	.375"	.625"	.770"	\$0.59





E. F. Johnson Company

Sec. 1900

W A S E C A , M I N N E S O T A

SOCKETS FOR 4X150A, 4X150D, 4X250B, 4CX250B, 4X250F, 7034, 7035

Designed for use with high power transmitting tubes, these sockets are available in many designs — with or without, low inductance screen grid by-pass capacitors. Basic socket is molded of low dielectric loss-factor Kel-F plastic. Control grid contact "guide" is machined for greater alignment accuracy, and tapped for 6-32 machine screw. All contacts are low-resistance silver-plated beryllium copper. Tube pin contacts are heat treated to provide positive contact pressure as well as extended life. Annealed soldering tabs may be easily bent or formed. Additional specifications and information on this group of sockets are available on Data Sheet 755.

Rugged light weight basic socket with silver-plated brass mounting saddle. Cathode terminals insulated. Four elongated .140" x .234" mounting holes to accommodate mounting circle diameters from 2 3/4" to 2 3/4". Mounts below chassis through 1 1/2" diameter hole.

Cat. No. Net Price
124-107-1 \$5.50

Same as 124-107-1 except cathode terminals grounded. Four mounting holes .136" diameter on circle of 2 1/2" diameter.

Cat. No. Net Price
124-108-1 \$5.85

Low cost, light weight basic socket without metal mounting ring. Cathode terminals insulated. Mounts under chassis 1 1/2" diameter hole.

Cat. No. Net Price
124-109-1 \$5.00

Basic socket with mounting ring and low-inductance 2700 mmf. screen grid by-pass capacitor; cathode terminals insulated. Mounts above chassis through 2 1/2" diameter hole with 3 clips drilled for 6-32 screws. Provision for mounting socket skirt directly to 1.625" O.D. outer conductor of coaxial-type line.

Cat. No. Net Price
124-110-1 \$12.50

High quality heat resistant steatite chimney for use with 124-107-1, 124-108-1, 124-109-1, 124-110-1, 124-112-1 and 124-114-1 sockets. Tapered construction directs air flow through tube cooling fins. Maximum base diameter 2 3/4".

Cat. No. Net Price
124-111-1 \$0.40

Same as 124-110-1 except cathode terminals grounded.

Cat. No. Net Price
124-112-1 \$13.00

1450 mmf. circular silvered-mica screen grid by-pass capacitor mounted within a low-loss silicone resin sealed silver-plated drawn brass housing. Low inductance silver-plated beryllium copper screen grid contact fingers are heat treated to provide positive contact pressure as well as extended life. Capacitor dielectric strength tested at 1000 volts DC. Unique design permits replacement of screen grid by-pass capacitor by merely removing 4 mounting screws; socket rewiring unnecessary. Fully complies with MIL-C-10950A. For use with 124-107-1, 124-108-1, 124-109-1, 124-114-1, and similar sockets.

Cat. No. Net Price
124-113-1 \$5.00

Same as 124-108-1, less metal mounting saddle. Very low inductance grounding of cathode terminals No. 2, 4, 6, and 8 by means of heavy, integral combination grounding and mounting lugs. Mounts below chassis in 1 1/2" diameter hole.

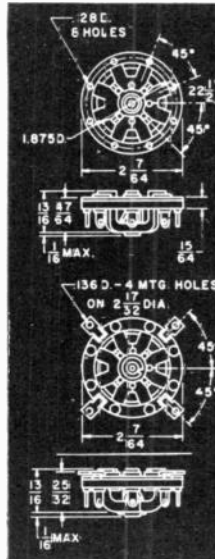
Cat. No. Net Price
124-114-1 \$5.65

Brand new — the 124-115-1 is a basic socket with mounting ring and smaller low-inductance 1100 mmf. screen grid by-pass capacitor. Requires less mounting space than other screen grid by-pass type sockets. Withstands 1500 volts DC under applicable test specifications. Cathode terminals insulated. Recessed silver-plated beryllium copper screen grid contacts provide positive electrical contact and low inductance. Mounts above chassis through 2 1/2" diameter hole with 3 clips drilled for 6-32 screws. Provision for mounting socket skirt directly to 1.625" O.D. outer conductor of coaxial-type line.

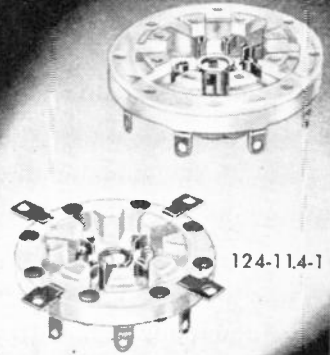
Cat. No. Net Price
124-115-1 \$13.00

Same as 124-115-1, except cathode terminals grounded.

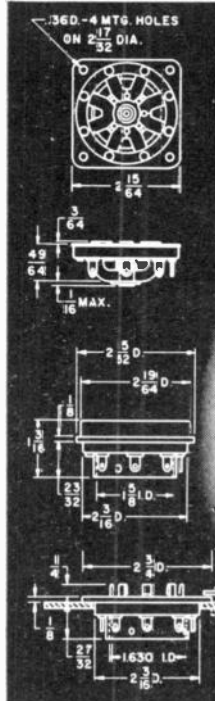
Cat. No. Net Price
124-116-1 \$13.50



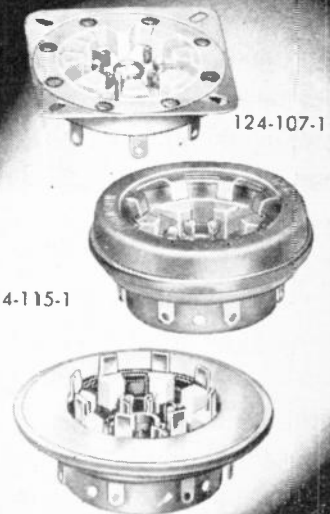
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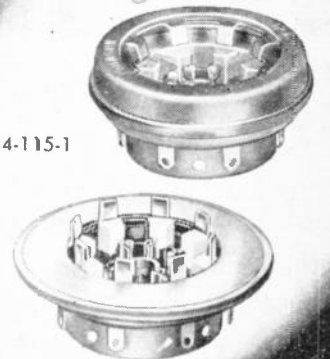
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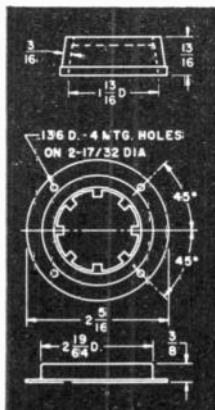
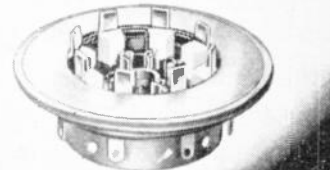
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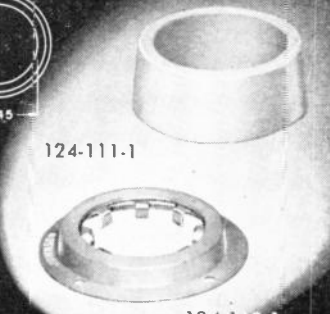
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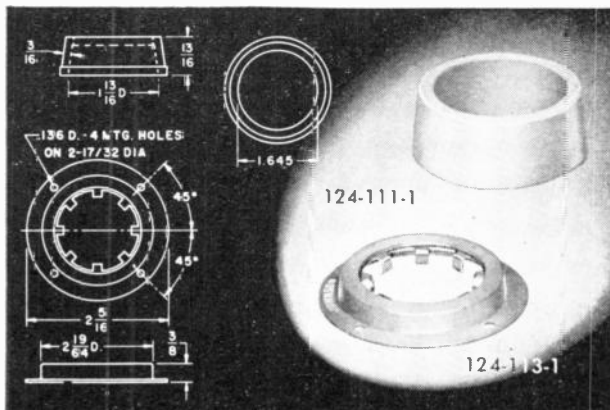
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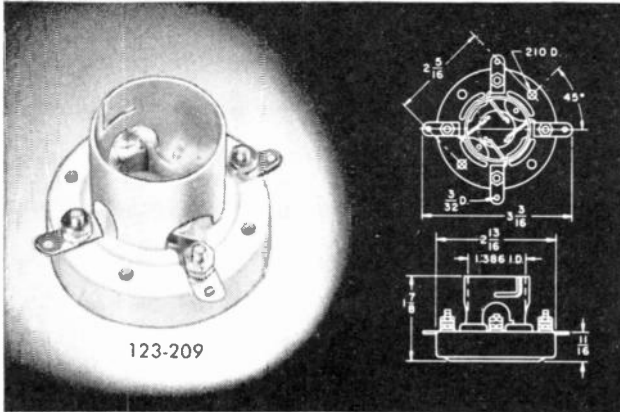


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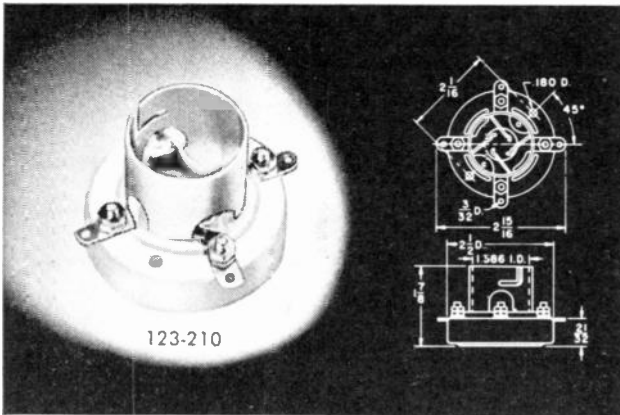


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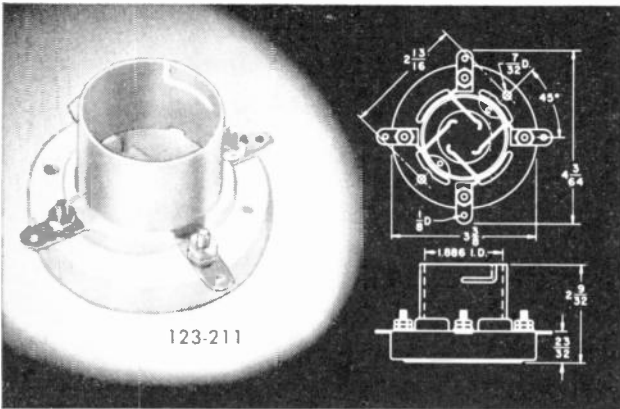




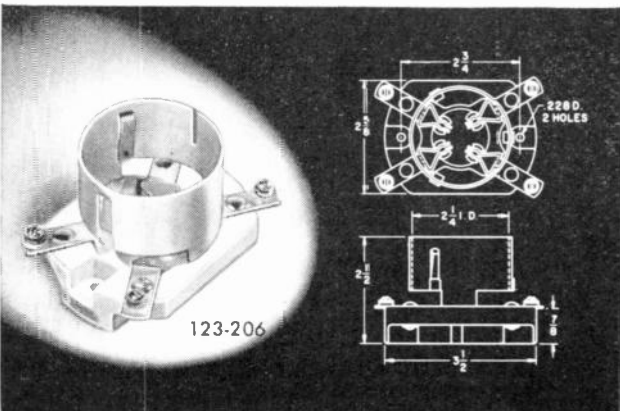
123-209



123-210



123-211



123-206

BAYONET SOCKETS— GENERAL SPECIFICATIONS (Shown Below)

Standard (Designated -1) A commercial grade socket for general requirements. Porcelain bases, glazed top and sides—phosphor bronze contacts, cadmium-plated .0002. Nickel-plated hardware. Etched aluminum bayonet shells.

Industrial (Designated -100) Superior in quality to the Standard types. Industrial types have glazed steatite bases. DC-200 treated. Phosphor bronze or beryllium copper contacts, .0005 silver-plated. Aluminum bayonet shells, iridite No. 14 treated, except 123-206-100 brass, nickel-plated. Fungus resistant cushion washers under contacts.

Military (Designated -200) Top quality for military requirements. Glazed L-4 steatite bases. DC-200 treated. Beryllium copper contacts .0005 silver-plated. Hot tinned terminals, brass bayonet shells. .0003 nickel-plated. Threaded hardware .0002 nickel-plated, unthreaded hardware .0003. Fungus resistant cushion washers under contacts.

WAFER SOCKETS—GENERAL SPECIFICATIONS (Shown on Facing Page)

Standard (Designated -1) A commercial grade socket for general requirements. Glazed steatite base is DC-200 treated—contacts are plated brass with steel springs. Shielded types have etched aluminum shields.

Industrial (Designated -100) Superior in quality to the standard types. Industrial types have glazed steatite bases, DC-200 treated. Contacts are phosphor bronze with beryllium copper springs, .0005 silver-plated. Shields on shielded types are iridite No. 14 treated aluminum. Fungus resistant cushion washers under contacts.

Military (Designated -200) Top quality for military requirements. Glazed steatite bases. DC-200 impregnated. Phosphor bronze contacts and beryllium copper springs, silver-plated .001—hot tin-dipped solder terminals. Fungus resistant glass base melamine cushion washers—iridite No. 14 treated aluminum shields on shielded types. Entire socket protected for 200 hour salt spray test.

HEAVY DUTY MEDIUM 4 PIN BAYONET

This rugged bayonet socket has been designed for use with medium 4-pin bayonet base tubes, such as the 866A or 811A, E.I.A. Base No. A4-10. Designed with extra heavy side wiping contacts and extended creepage paths to resist high voltage breakdown. Dual purpose terminals are designed for solder or threaded stud connection—nuts furnished. Four mounting holes in base.

Cat. No.	Type	Net Price
123-209-1	Standard	\$1.50
123-209-100	Industrial	3.30
123-209-200	Military	3.95

MEDIUM 4 PIN BAYONET

A compact, economical socket for medium 4 pin bayonet based tubes, E.I.A. Base No. A4-10. Phosphor bronze side wiping contacts and extended creepage paths. Dual purpose terminals are designed for solder or threaded stud connection—nuts furnished. Two mounting holes in base.

Cat. No.	Type	Net Price
123-210-1	Standard	\$1.45
123-210-100	Industrial	3.25
123-210-200	Military	3.90

JUMBO 4 PIN BAYONET

A popular "50 watt" socket for medium power bayonet based tubes such as the 872A, 211, and others with E.I.A. Base No. A4-29. Double wiping filament contacts will handle heavy current. Dual purpose terminals are designed for solder or threaded stud connection—nuts furnished. Two mounting holes in base.

Cat. No.	Type	Net Price
123-211-1	Standard	\$1.95
123-211-100	Industrial	3.90
123-211-200	Military	4.80

SUPER JUMBO 4 PIN SOCKET

A heavy duty industrial type socket designed for high voltages and/or heavy current. Will accommodate tubes such as the 800B, 5C22, FG104, GL146, and others with E.I.A. Base No. A4-18. Special high current insertion type spring contacts—three heavy retaining springs in nickel-plated brass shell hold tube securely. Steatite base with two mounting holes recessed to prevent flashover. Designed with screw terminals—screws furnished.

Cat. No.	Type	Net Price
123-206-100	Industrial	\$4.30
123-206-200	Military	4.85



E. F. Johnson Company

W A S E C A , M I N N E S O T A

STANDARD WAFER SOCKETS

Insulated with Grade L-4 steatite, or better. Countersunk rivets and bossed mounting holes to permit sub-panel mounting. Brass contacts with cadmium-plated steel springs. Locating grooves facilitate tube insertion.

Cat. No.	Type	A	B	C	E	For Tube	Net Price
122-224-1	Standard	9/16"	1/4"	1 1/16"	7/8"	4 Pin	\$0.69
122-224-100	Industrial	9/16"	1/4"	1 1/16"	7/8"	4 Pin	.79
122-224-200	Military	9/16"	1/4"	1 1/16"	7/8"	4 Pin	.93
122-225-1	Standard	9/16"	1/4"	1 1/16"	5/8"	5 Pin	.76
122-225-100	Industrial	9/16"	1/4"	1 1/16"	5/8"	5 Pin	.89
122-225-200	Military	9/16"	1/4"	1 1/16"	5/8"	5 Pin	1.05
122-226-1	Standard	9/16"	1/4"	1 1/16"	5/8"	6 Pin	.94
122-226-100	Industrial	9/16"	1/4"	1 1/16"	5/8"	6 Pin	1.10
122-226-200	Military	9/16"	1/4"	1 1/16"	5/8"	6 Pin	1.30
122-227-1	Standard	9/16"	1/4"	1 3/16"	3 1/2"	7 Pin	1.10
122-227-100	Industrial	9/16"	1/4"	1 3/16"	3 1/2"	7 Pin	1.35
122-227-200	Military	9/16"	1/4"	1 3/16"	3 1/2"	7 Pin	.97
122-228-1	Standard	1 5/32"	3/16"	1 1/16"	5/8"	Octal	1.20
122-228-100	Industrial	1 5/32"	3/16"	1 1/16"	5/8"	Octal	1.45
122-228-200	Military	1 5/32"	3/16"	1 1/16"	5/8"	Octal	

SUPER JUMBO 4 PIN SOCKET

Heavy duty steatite insulated 4 pin wafer—for super jumbo base tubes such as the 8008, and many rectifier and thyratron types with E.I.A. Base Nos. A4-15, A4-16, and A4-18. Long, parallel contacts are designed to withstand high currents.

Cat. No.	Type	A	B	L	Net Price
122-244-1	Standard	1 1/16"	9/32"	2 3/8"	\$1.60
122-244-100	Industrial	1 1/16"	9/32"	2 3/8"	1.80
122-244-200	Military	1 1/16"	9/32"	2 3/8"	2.15

GIANT 5 PIN SOCKET

Large steatite wafer socket designed for tubes such as the 4-125A, 4-250A, and RK-48 with E.I.A. Base No. A5-19. Tube seal ventilation is provided by one central and five ventilating holes located between contacts. Contacts designed to withstand heavy current.

Cat. No.	Type	Net Price
122-275-1	Standard	\$1.90
122-275-100	Industrial	2.20
122-275-200	Military	2.60

GIANT 7 PIN SOCKET

A rugged wafer socket for tubes such as the 4E27, HK257, and 813 with E.I.A. Base No. A7-17. Contacts are designed with maximum surface area against tube prongs. 3/4" ventilating hole in base provides tube seal cooling.

Cat. No.	Type	A	B	L	Net Price
122-237-1	Standard	9/16"	1/4"	2 3/8"	\$1.20
122-237-100	Industrial	9/16"	1/4"	2 3/8"	1.40
122-237-200	Military	9/16"	1/4"	2 3/8"	1.60

SEPTAR SOCKETS

Designed for 7 pin tubes such as the 7094, with E.I.A. Base No. E7-2. Each socket is furnished with a separate aluminum shield ring.

Cat. No.	Type	A	B	L	Net Price
122-247-1	Standard	1 7/32"	1/4"	2 3/8"	\$1.45
122-247-100	Industrial	1 7/32"	1/4"	2 3/8"	1.65
122-247-200	Military	1 7/32"	1/4"	2 3/8"	1.90
122-248-1	Standard	1 7/32"	1/4"	2 3/8"	1.30
122-248-100	Industrial	1 7/32"	1/4"	2 3/8"	1.50
122-248-200	Military	1 7/32"	1/4"	2 3/8"	1.75

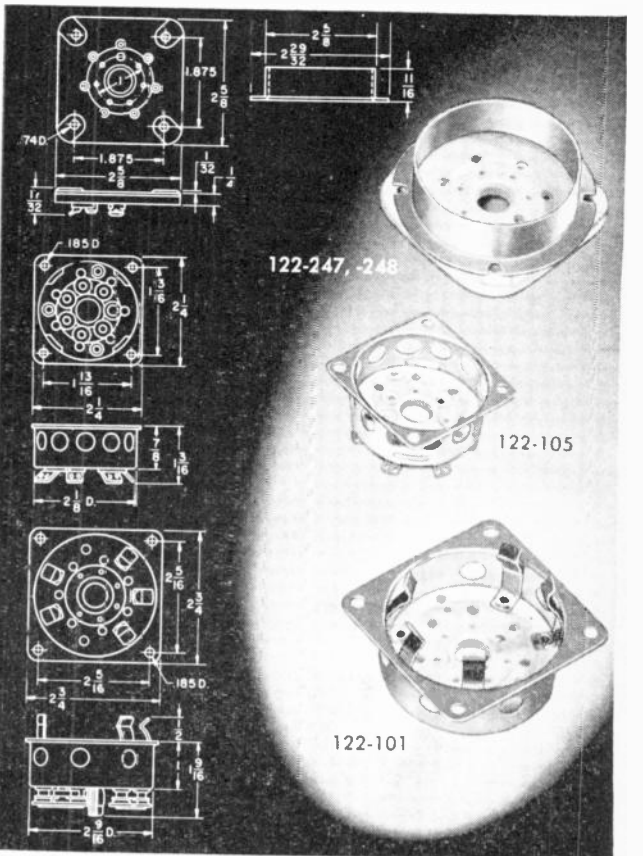
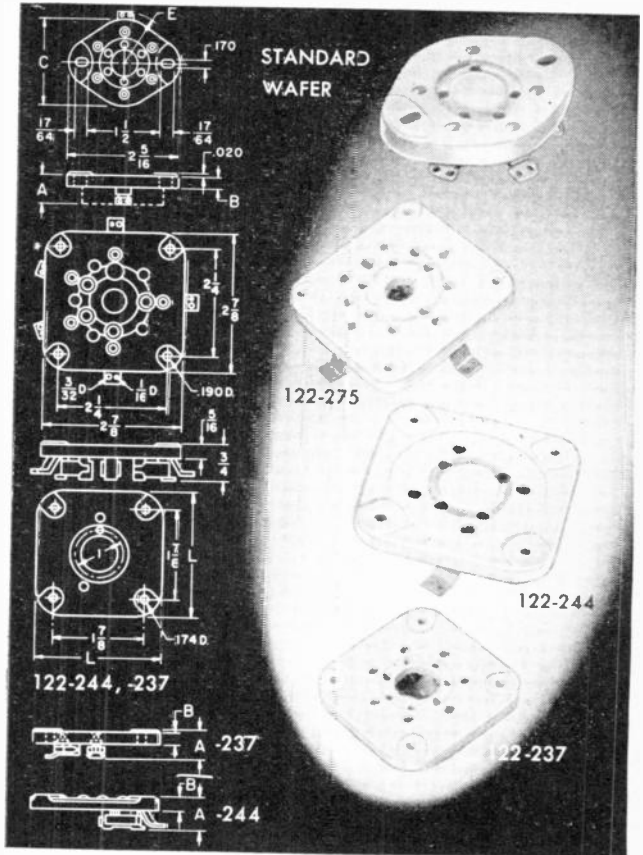
VHF SEPTAR SOCKETS

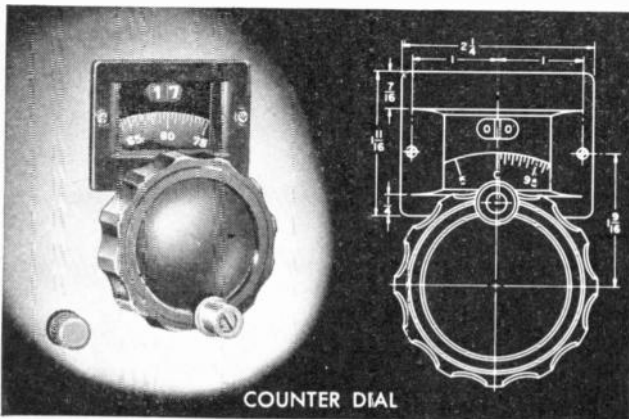
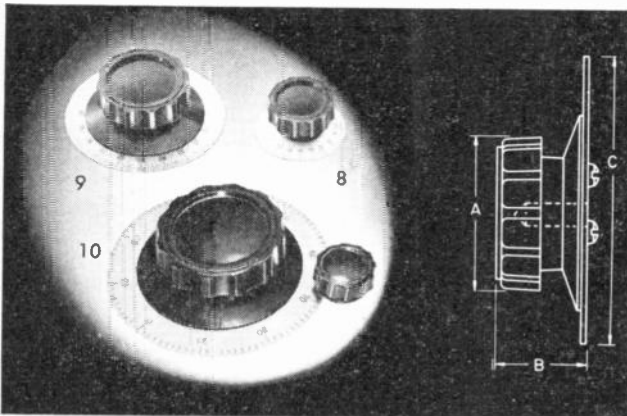
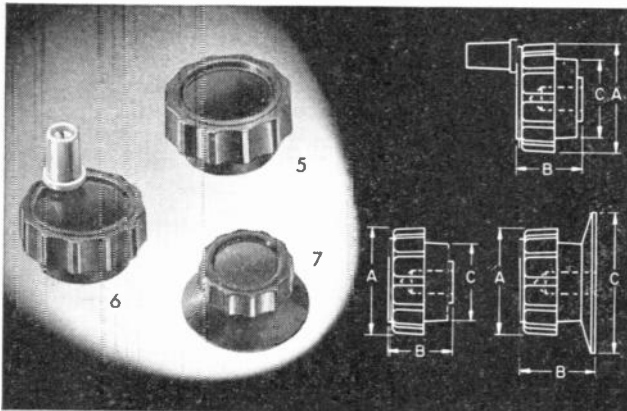
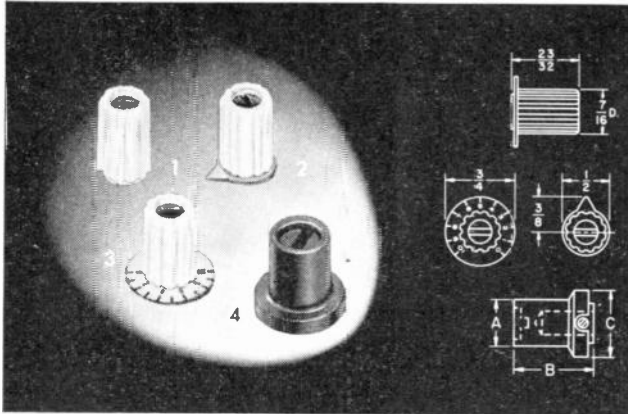
The 122-105 VHF septar socket takes 1/3 less space than previously available types—permits compact design when using tubes with medium button septar bases such as the 5894, 6524, and 6252 with E.I.A. Base No. E7-20. Base is Grade L-4 steatite, glazed top and sides—underside DC-200 impregnated. Molded recesses in base for each contact prevents turning. Contact cushion washers of fungus resistant glass base melamine. Aluminum shell submounts tube for maximum input and output shielding. 3/8" holes provide adequate ventilation.

Cat. No.	Type	Net Price
122-105-100	Industrial	\$1.45
122-105-200	Military	1.70

The 122-101 VHF septar socket is a 7 pin socket designed for tubes with medium molded flare septar base such as the 826, 832, 4032, PL6549, PL6569 with E.I.A. Base No. E7-2. Industrial type has 5 tube retainer springs—military type has 7 retainer springs. Equipped with ventilated shield. Provision for mounting button mica capacitors directly to the socket—special terminals permit direct mounting of grid coils—two holes provided for mounting of bus bar neutral grid leads.

Cat. No.	Type	Net Price
122-101-100	Industrial	\$2.35
122-101-200	Military	2.65





COUNTER DIAL

This distinctive line of matching knobs and dials offers excellent gripping surface and attractive, functional styling. Black phenolic molded parts (meet MIL-P-14) used on all knobs except collet group. Metal dials and pointers are etched satin aluminum, anodized finish — nomenclature deeply etched and filled for maximum legibility. All types have accurately centered brass inserts for 1/8" shafts, except instrument and collet knobs. Variations such as special shaft sizes, scales, or indicators are available in production quantities.

COLLET KNOBS

Available in 13 bright colors, these new molded knobs and dials offer fresh, modern styling and tough, shock-proof, high quality nylon body. Ideal for laboratory and test instruments, radio transmitters, etc. Ridged gripping surface — positive, comfortable "feel." Collet and nickel-plated locking screw provide firm internal attachment.

COLLET KNOB COLOR CODING

Available in 13 colors. The fifth and sixth digits in the catalog number (i.e. 01, 02, 03, etc.) indicate color as shown below. Use these numbers when ordering.

BASIC KNOB

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Illustration	Net Price
116-401	White (13 colors available—see below)	116-406	Orange	116-410	Dk. Blue	1	\$0.18
116-402	Red	116-407	Yellow	116-411	Ivory		
116-403	Black	116-408	Brown	116-412	Violet		
116-404	Dk. Green	116-409	Lt. Green	116-413	Grey		

POINTER KNOB

116-501 White (13 colors available—see above) 2 \$0.27

DIAL KNOB 10-0/180°

116-551 White (13 colors available—see above) 3 \$0.38

DIAL KNOB 10-0/270°

116-601 White (13 colors available—see above) 3 \$0.38

INSTRUMENT KNOB

Popular black phenolic knob for 1/8" shafts (116-214-1) or for 3/16" shafts (116-214-2). May be finger-operated or mounted to project thru panel for screwdriver adjustment.

Cat. No.	Illus.	A	B	C	Net Price
116-214-1	4	1/2"	3/4"	3/4"	\$0.33
116-214-2	4	1/2"	7/8"	3/4"	.33

KNOBS

116-220	5	1 1/8"	3/4"	1 3/8"	\$0.32
116-260	5	1 3/8"	3/4"	1 1/2"	.45
116-280	5	2 3/8"	1 5/16"	1 3/4"	.59

SPINNER KNOBS

For multi-turn devices such as variable inductors, potentiometers, etc. Spinner handle is machined aluminum and projects 9/16" from knob.

116-226	6	1 1/8"	5/8"	1 3/8"	\$0.64
116-276	6	1 3/8"	3/4"	1 1/2"	.73
116-286	6	2 3/8"	1 5/16"	1 3/4"	.89

SKIRTED KNOBS

Phenolic skirts with indicator mark. (May be white filled).

116-221	7	1 1/8"	4 9/16"	1 1/2"	\$0.69
116-261	7	1 3/8"	3 7/16"	2 1/16"	.85
116-281	7	2 3/8"	1 5/16"	3"	.98

DIALS

Etched, beveled satin aluminum skirts with anodized finish and deeply etched and filled contrasting markings.

Cat. No.	Illus.	Calibration	A	B	C	Net Price
116-222-1	8	100-0 over 180°	1 1/8"	3/4"	1 1/2"	\$0.69
116-222-2	8	10-0 over 300	1 1/8"	3/4"	1 1/2"	.69
116-222-3	8	7-1 over 180	1 1/8"	3/4"	1 1/2"	.69
116-222-4	8	ON-OFF over 60°	1 1/8"	3/4"	1 1/2"	.69
116-222-5	8	Line indicator	1 1/8"	3/4"	1 1/2"	.69
116-222-6	8	0-100 over 180°	1 1/8"	3/4"	1 1/2"	.69

The following knobs have phenolic skirts and etched satin aluminum calibrated dial scales. Indicator button furnished.

116-262	9	0-100 over 180°	1 5/8"	5 9/16"	2 3/4"	\$1.95
116-282	9	0-100 over 180°	2 3/8"	1 7/16"	4"	2.95

VERNIER DIALS

Friction vernier etched satin aluminum dials with calibrated dial scales. Vernier knobs are the same as 116-220 above but have a friction driving wheel and bearing for mounting on panels to 1/8" thick. 116-265 has 3 to 1 vernier; 116-285 has 5 to 1.

Cat. No.	Calibration	A	B	C	Net Price	
116-265	10	0-100 over 180°	1 3/8"	1 5/16"	2 3/4"	\$3.50
116-285	10	0-100 over 180°	2 3/8"	1 13/16"	4"	4.60

COUNTER DIAL

Positively calibrated drive for rotary variable inductors and other multi-turn devices. Records up to 99 turns. Vernier dial calibrated 0-100 over 360° for accurate return to any setting. Built-in dial lock, "spinner knob," and attractive black phenolic escutcheon. Furnished with mounting template.

116-208-1	With dial lock, escutcheon and 2 3/8" spinner knob.....	\$11.10
116-208-4	Same as above without dial lock.....	9.80

ESCUTCHEON PLATE

Black phenolic escutcheon shown on counter dial. Provides neat "window" for back-of-panel dial mounting. One edge of escutcheon suitable for attaching standard etched name plate. Opening 1 3/4" wide x 7/8" high. Furnished with No. 2 screws.

116-201	\$0.65
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E. F. Johnson Company

W A S E C A, M I N N E S O T A

SHAFT COUPLINGS

This group of flexible and rigid couplings is designed for coupling shafts 1/4" to 1"; 1 1/2" to 3"; and 3/8" to 3/4". The 104-250 and 104-251 series couplings are steatite insulated and will adjust to both axial and angular shaft mis-alignment. Spring material is plated phosphor bronze.

Cat. No.	DC Breakdown	Type	Overall Length	Max. Diameter	Couples Shafts	Net Price
104-250	4000	Flexible	1 1/8"	1 1/2"	1/4" to 1/2"	\$0.88
104-250-3	4000	Flexible	1 3/8"	1 1/2"	1/4" to 3/8"	1.00
104-251	8000	Flexible	1 1/2"	2 1/2"	3/8" to 3/4"	1.40
104-251-2	8000	Flexible	1 1/2"	2 1/2"	1/4" to 1/2"	1.40
104-251-3	8000	Flexible	1 1/4"	2 1/2"	1/4" to 3/8"	1.40

The 104-252 is a rigid coupling with steatite insulation.

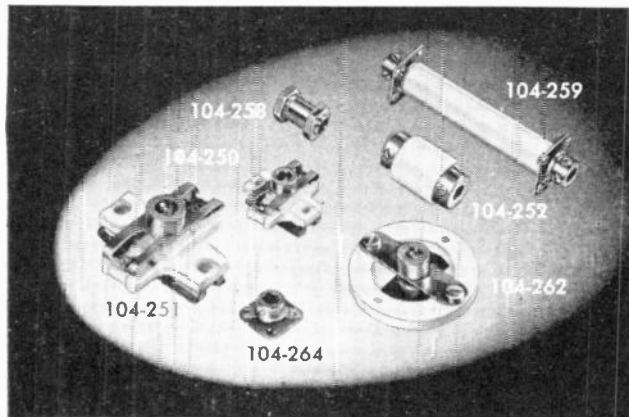
104-252	7000	Rigid	1 1/4"	1 1/4"	1/4" to 1/2"	.80
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The 104-258 is an all-metal, rigid coupling with locking nuts for friction fits to shafts.

104-258		Rigid	3/4"	9/16"	1/4" to 1/2"	.33
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The 104-259, 104-262, and 104-264 will adjust to minor angular shaft misalignment. The 104-259 and the 104-252 have steatite insulation, and the 104-264 has bakelite insulation.

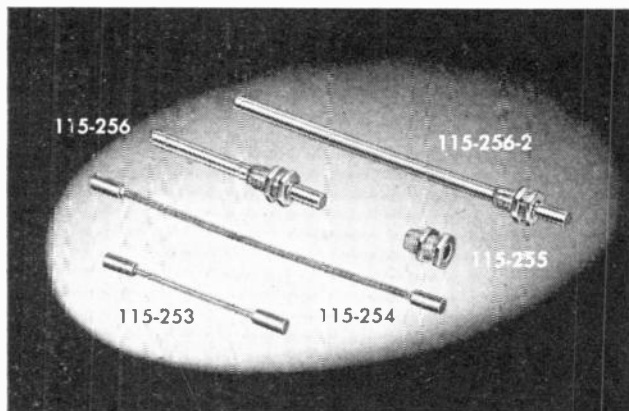
104-259	8000	Semi-Flex.	3 3/8"	1 1/2"	1/4" to 1/2"	1.60
104-262	5000	Semi-Flex.	3/8"	2"	1/4" to 1/2"	1.20
104-264	750	Semi-Flex.	3/4"	1 1/2"	1/4" to 1/2"	.65



FLEXIBLE SHAFTS

These phosphor bronze, non-rusting flexible shafts have 1/4" brass hubs and are available in two lengths. Permit out of line or up to 90° angular control — capable of withstanding torque in either direction with minimum backlash.

Cat. No.	Net Price
115-253 3" Flexible Shaft	\$0.50
115-254 6" Flexible Shaft	\$0.75



PANEL BEARINGS

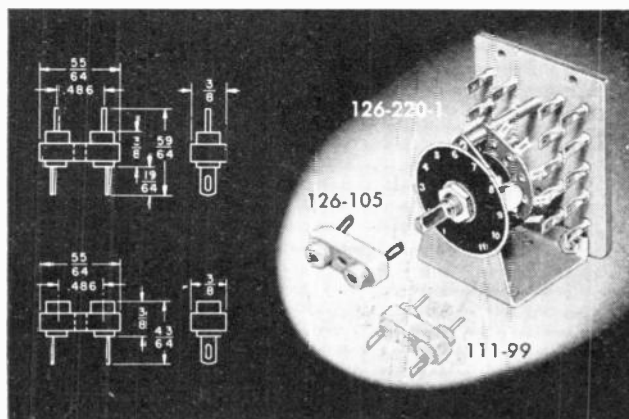
Bearing 115-255 is nickel-plated brass, 2 1/2" overall, designed for use on 1/2" shafts and panels up to 3/8" thick. The 115-256 and 115-256-2 consist of the bearing plus either 3" or 6" nickel-plated brass shafts and standard 3/32" nut. Shafts extend 1/2" from the face of the panel bearing. Models with locking nut and special shaft lengths are available on production quantity orders.

Cat. No.	Net Price
115-255 Panel Bearing Only	\$0.19
115-256 Bearing and Shaft	.37
115-256-2 Bearing and Shaft	.50

MULTIPLE CRYSTAL SELECTOR

This popular multiple crystal selector will accommodate up to ten type FT-243 crystals (.093" diameter pins spaced .486"). Sturdy base is mica-filled phenolic, 2 5/8" x 3 1/8"; the switch has 11 positions and includes index plate and universal bracket.

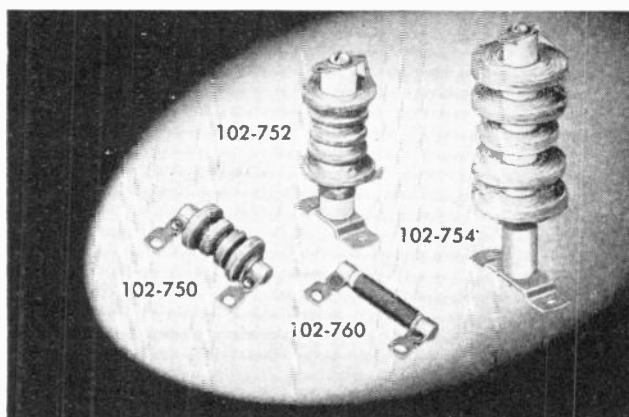
Cat. No.	Net Price
126-220-1 Crystal Selector Assembly	\$5.80
126-120-1 Crystal Board Only (no switch or bracket)	2.60



CRYSTAL SOCKETS AND CERAMIC PLUG

These steatite sockets and plugs are excellent for low capacity, high voltage, and high temperature operation. Units may be used as crystal sockets, antenna relay connectors, VFO input connectors or antenna plugs. Glazed steatite, Grade L-4 or better, DC-200 impregnated. For pins .015" diameter, 1/4" long. Capacity between terminals with socket engaged is less than 1/2 mmf. Mounting hole also provides for attachment of strain relief cord. Rated at 5000 volts breakdown, 10 ampere current carrying capacity. Socket will accept a type HC-6/U crystal holder.

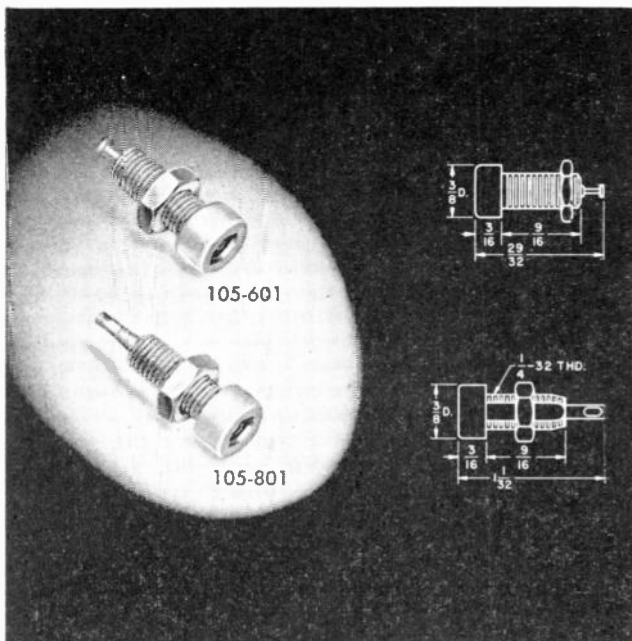
Cat. No.	Net Price
126-105 Crystal socket, silver-plated phosphor bronze contact	\$0.16
126-105-2 Crystal socket, silver-plated beryllium copper contacts	.19
111-99 Ceramic plug, silver-plated brass pins	.21



RADIO FREQUENCY CHOKES

This group of RF chokes has high reactance over the entire range for which it is designed. Coils are wound with enamelled silk-covered wire, impregnated with high grade RF lacquer and wound on steatite cores. For intermittent use, the current ratings listed below may be increased.

Cat. No.	Frequency	Current	Induct. (1 mc.)	Ohms DC	Length	Net Price
102-750	1.7 to 30 mc	150 ma	.83 mh	15	1 1/2"	\$1.25
102-752	1.7 to 30 mc	500 ma	1.0 mh	5.2	2 1/2"	1.95
102-754	1.7 to 30 mc	750 ma	1.9 mh	4	4 5/16"	2.90
101-760	VHF	250 ma	6.8 uh	.33	1 1/2"	.62



105-601

105-801

NYLON CONNECTORS—GENERAL INFORMATION

This popular group of connectors is molded of tough, low-loss nylon and will not chip or crack even when subjected to extreme temperature changes. Nylon construction provides high voltage insulation—plugs designed for simplified, solderless connection of up to 16 gauge stranded wire. All types available in 13 bright colors.

DELUXE NYLON TIP JACK

(U.S. Pat. No. 2,704,357)

This deluxe, completely insulated jack has molded nylon body and machined beryllium copper contact. Current rating: 10 amps. Voltage breakdown: 11,000 volts DC. Capacity to 1/8" panel: 2.0 mmf. Contact is silver-plated—plugs designed for simplified, solderless connection of up to 16 gauge stranded wire. Single 1/4"-32 nut furnished for mounting—no auxiliary mounting hardware needed. Mounts in 1/4" dia. circular hole.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-601	White (13 colors available—see below)			105-610	Dk. Blue	\$0.25
105-602	Red	105-606	Orange	105-611	Ivory	
105-603	Black	105-607	Yellow	105-612	Violet	
105-604	Dk. Green	105-608	Brown	105-613	Grey	
105-605	Lt. Blue	105-609	Lt. Green			

STANDARD NYLON TIP JACK

This low cost insulated tip jack has a molded nylon body and a formed silver-plated phosphor bronze contact. Current rating: 10 amps. Voltage breakdown: 9,000 volts DC. Capacity to 1/8" panel: 2.0 mmf. Single nut furnished for mounting—no auxiliary mounting hardware needed. Mounts in 1/4" dia. circular, "D" or double-flat hole.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-801	White (13 colors available—see below)			105-810	Dk. Blue	\$0.13
105-802	Red	105-806	Orange	105-811	Ivory	
105-803	Black	105-807	Yellow	105-812	Violet	
105-804	Dk. Green	105-808	Brown	105-813	Grey	
105-805	Lt. Blue	105-809	Lt. Green			

METAL-CLAD NYLON TIP JACKS

Shock-proof nylon and metal construction—nickel-plated machined brass jacket protects nylon body and assures positive fastening to mounting surface. Current rating: 10 amps. Internal silver-plated contact recessed in head—accommodates tip plugs of nominal .081" diameter. Mounting nut furnished. Mounts in 1/4" dia. circular hole. Variations of three available grades listed below.

STANDARD

Low cost metal-clad nylon tip jack with formed silver-plated phosphor bronze contact. Voltage breakdown: 8,000 volts DC. Capacity to 1/8" panel: 3.8 mmf.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-251-1	White (13 colors available—see below)			105-260-1	Dk. Blue	\$0.18
105-252-1	Red	105-256-1	Orange	105-261-1	Ivory	
105-253-1	Black	105-257-1	Yellow	105-262-1	Violet	
105-254-1	Dk. Green	105-258-1	Brown	105-263-1	Grey	
105-255-1	Lt. Blue	105-259-1	Lt. Green			

INDUSTRIAL

Furnished with nickel-plated phosphor bronze lock washer. Machined beryllium copper contact, silver-plated. Hot tin dipped terminal end. Voltage breakdown: 8,000 volts DC. Capacity to 1/8" panel: 3.8 mmf.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-201-100	White (13 colors available—see below)			105-210-100	Dk. Blue	\$0.30
105-202-100	Red	105-206-100	Orange	105-211-100	Ivory	
105-203-100	Black	105-207-100	Yellow	105-212-100	Violet	
105-204-100	Dk. Green	105-208-100	Brown	105-213-100	Grey	
105-205-100	Lt. Blue	105-209-100	Lt. Green			

MILITARY

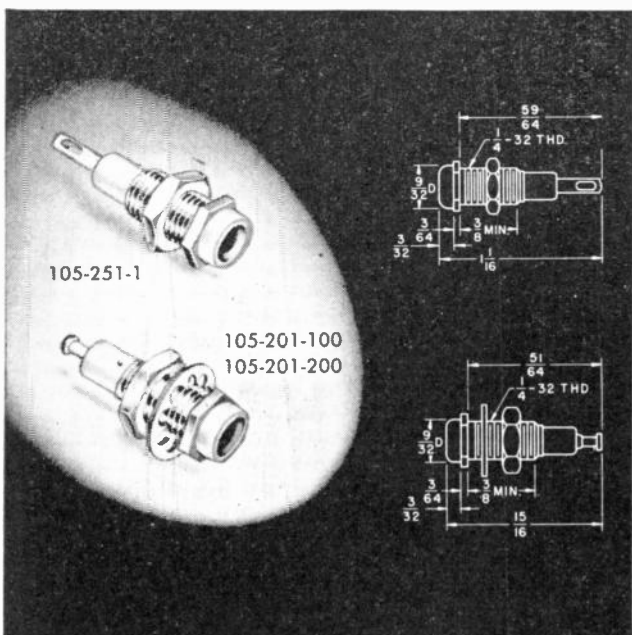
Complies with MS-16108 of MIL-STD-242A. Heavy nickel-plated brass jacket meets federal specification QQ-N-290. High insulation resistance of nylon body complies with MIL-P-17091. Machined beryllium copper contact, silver-plated. Hot tin dipped terminal end. Supplied with tin-plated phosphor bronze lock washer. Voltage breakdown: 8,000 volts DC. Capacity to 1/8" panel: 3.8 mmf.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-201-200	White (13 colors available—see below)			105-210-200	Dk. Blue	\$0.35
105-202-200	Red	105-206-200	Orange	105-211-200	Ivory	
105-203-200	Black	105-207-200	Yellow	105-212-200	Violet	
105-204-200	Dk. Green	105-208-200	Brown	105-213-200	Grey	
105-205-200	Lt. Blue	105-209-200	Lt. Green			

NYLON JACK AND SLEEVE ASSEMBLY

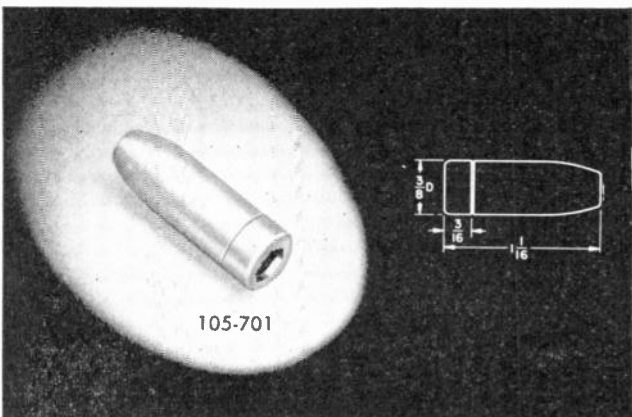
This complete assembly includes a deluxe nylon tip jack as described above, less mounting nut, with an inside threaded, molded nylon insulating sleeve. Ideal for patch cords, this assembly is also excellent for panel mounting where an insulated rear connection of a panel mounted tip jack is desired.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-701	White (13 colors available—see below)			105-710	Dk. Blue	\$0.30
105-702	Red	105-706	Orange	105-711	Ivory	
105-703	Black	105-707	Yellow	105-712	Violet	
105-704	Dk. Green	105-708	Brown	105-713	Grey	
105-705	Lt. Blue	105-709	Lt. Green			



105-251-1

105-201-100
105-201-200



105-701



E. F. Johnson Company

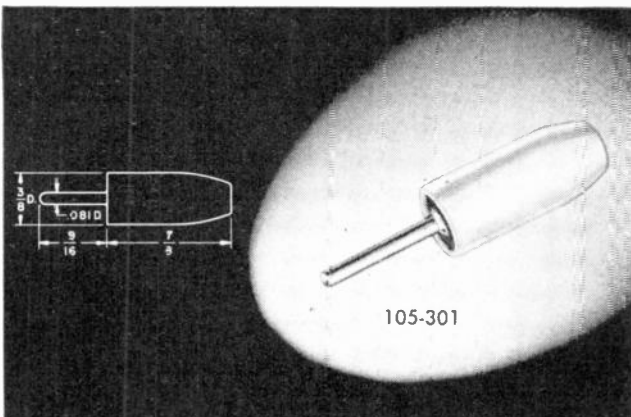
W A S E C A, M I N N E S O T A

NYLON SOLDERLESS TIP PLUG

(Patent Pending)

Completely insulated, molded nylon sleeve. Recessed metal head prevents exposure of metal surfaces when engaged in any standard tip jack. All metal parts are nickel-plated brass. Designed for solderless connection of up to 16 gauge stranded wire. Fits all standard tip jacks. Current rating: 10 amps.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
105-301	White (13 colors available—see below)			105-310	Dk. Blue	\$0.16
105-302	Red	105-306	Orange	105-311	Ivory	
105-303	Black	105-307	Yellow	105-312	Violet	
105-304	Dk. Green	105-308	Brown	105-313	Grey	
105-305	Lt. Blue	105-309	Lt. Green			



105-301

NYLON BANANA PLUGS

(Patent Pending)

Compact, high voltage insulated plug for a wide variety of applications. Designed for fast, solderless connection of up to 16 gauge stranded wire. Body and pin are constructed of one-piece, nickel-plated brass with high grade nickel silver springs. Sleeve is molded nylon. Current rating: 10 amps.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
108-301	White (13 colors available—see below)			108-310	Dk. Blue	\$0.21
108-302	Red	108-306	Orange	108-311	Ivory	
108-303	Black	108-307	Yellow	108-312	Violet	
108-304	Dk. Green	108-308	Brown	108-313	Grey	
108-305	Lt. Blue	108-309	Lt. Green			

DUAL BANANA PLUG

(Patent Pending)

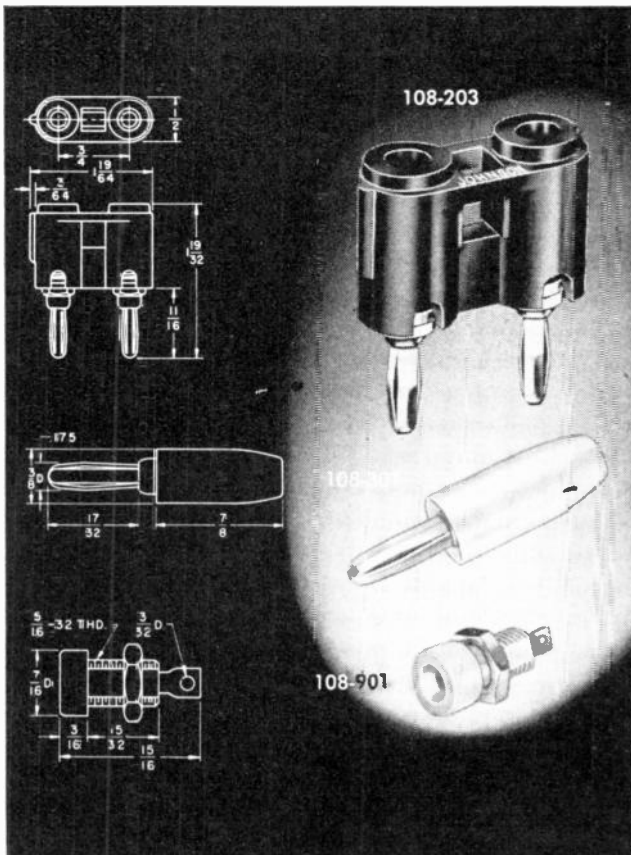
Extremely versatile with excellent electrical properties, this new solderless dual banana plug provides the perfect answer to a wide range of connector problems. Molded nylon body incorporates polarity indication and strain relief hole for wire leads. Springs are high quality nickel silver — bodies are nickel-plated. Accurately machined brass studs extend the full length of pins for extra strength. Voltage breakdown: 10,000 volts DC. Capacity plug to plug: 1.3 mmf. Current carrying capacity: 15 amps.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
108-201	White (13 colors available—see below)			108-210	Dk. Blue	\$0.60
108-202	Red	108-206	Orange	108-211	Ivory	
108-203	Black	108-207	Yellow	108-212	Violet	
108-204	Dk. Green	108-208	Brown	108-213	Grey	
108-205	Lt. Blue	108-209	Lt. Green			

NYLON BANANA JACK

Completely insulated, molded nylon body with cadmium-plated insert. Accommodates banana plugs of nominal .175" diameter. Voltage breakdown: 12,500 volts DC. Capacity to 1/8" panel: 2.4 mmf. nominal. Mounts in 3/16" diameter circular, "D", or double flat hole (1/4" across flats). Single nut furnished for mounting — no other mounting hardware needed.

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
108-901	White (13 colors available—see below)			108-910	Dk. Blue	\$0.14
108-902	Red	108-906	Orange	108-911	Ivory	
108-903	Black	108-907	Yellow	108-912	Violet	
108-904	Dk. Green	108-908	Brown	108-913	Grey	
108-905	Lt. Blue	108-909	Lt. Green			



108-203

108-901

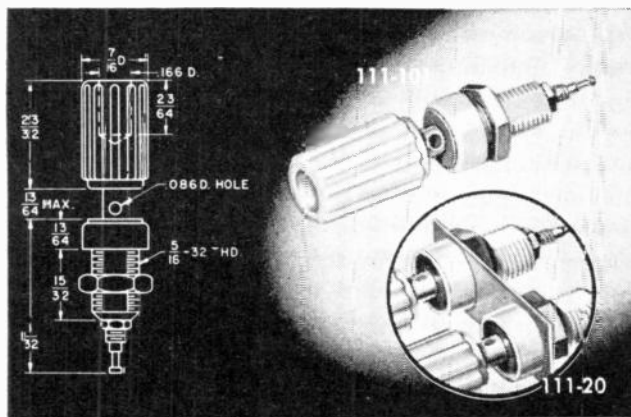
108-901

NYLON "SIX-WAY" BINDING POST

(U.S. Pat. No. 2,806,999)

Compact, completely insulated, pre-assembled 6-way binding post. Molded nylon body with silver-plated shank. Thumb nut is self-captivated and cannot be removed. Connection is made at the solder stud, or a lug may be slipped over threaded portion and secured with a nut. Single nut furnished for mounting — no other mounting hardware needed. Single banana plug will fit in hole in top of binding post. Insulation resistance greater than 200 meg. after MIL-T-5422B humidity test. Voltage breakdown: 8000 volts DC. Capacity to 1/8" panel: 3.3 mmf. Current carrying capacity: 15 amps. Mounts in 3/16" diameter circular hole, "D", or double flat hole (1/4" across flats).

Cat. No.	Color	Cat. No.	Color	Cat. No.	Color	Net Price
111-101	White (13 colors available—see below)			111-110	Dk. Blue	\$0.30
111-102	Red	111-106	Orange	111-111	Ivory	
111-103	Black	111-107	Yellow	111-112	Violet	
111-104	Dk. Green	111-108	Brown	111-113	Grey	
111-105	Lt. Blue	111-109	Lt. Green			



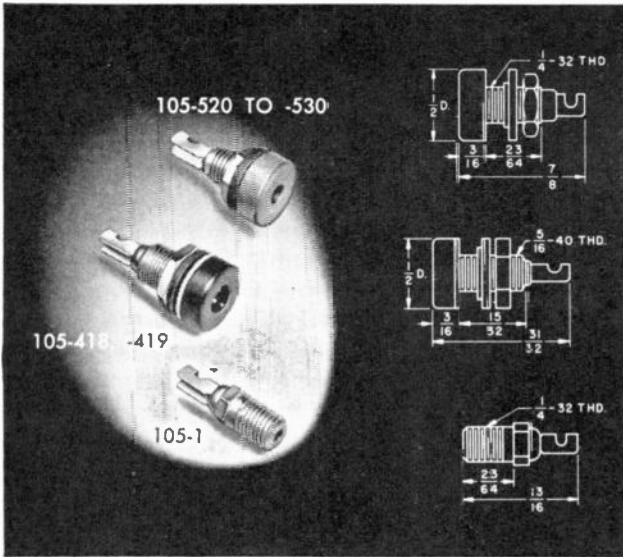
111-101

111-20

MOUNTING PLATE

Pre-punched, this etched aluminum mounting plate permits simple, accurate mounting of either two nylon binding posts, or two nylon banana jacks in 3/16" diameter holes on exact 3/4" centers.

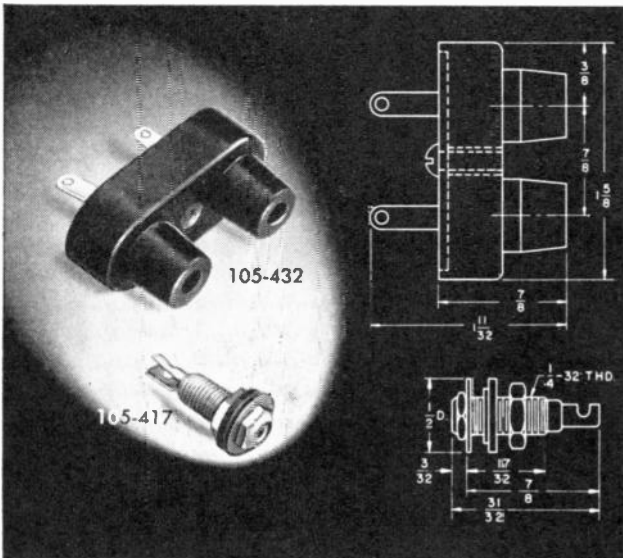
Cat. No.	Net Price
111-20	\$0.02



PLASTIC HEAD TIP JACKS

This group of general purpose tip jacks is available in ten different colors. Large wiring terminal with solder barrier - nickel-plated body. With extruded shoulder bushing and nickel-plated hex nut. Mounts in 3/8" dia. circular hole. Maximum panel thickness, 5/32" where insulating washers are used, 1/4" where omitted.

Cat. No.	Color	Net Price
105-520	Red	\$.18
105-521	Black	.18
105-522	Dark Green	.18
105-524	Brown	.18
105-525	Light Blue	.18
105-526	Orange	.18
105-527	Yellow	.18
105-528	Light Green	.18
105-529	Dark Blue	.18
105-530	Ivory	.18



HEAVY DUTY TIP JACKS

These two jacks are similar to the types described above, except that the plastic head is molded around the nickel-plated brass body. Contacts are beryllium copper, cadmium-plated.

Cat. No.	Color	Net Price
105-418	Red	\$.25
105-419	Black	.25

HEADLESS TIP JACK

This economical headless tip jack has been designed for use on insulated mounting surfaces. Body has hex shoulder for tightening. Contact is beryllium copper, cadmium-plated.

Cat. No.	Net Price
105-1	\$.11

SHORTING TYPE TWIN TIP JACK

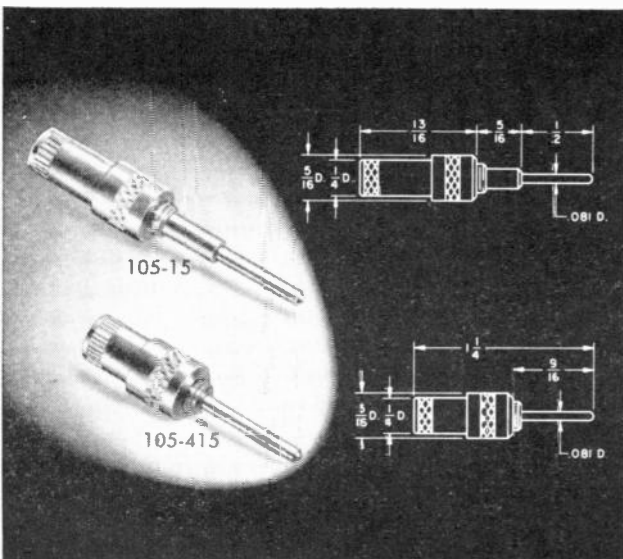
Circuit closes automatically when tips are removed. Jacks are spaced 7/8". Molded black plastic body.

Cat. No.	Net Price
105-432	\$.53

HEX HEAD TIP JACK

Brass nickel-plated body with cadmium-plated, beryllium copper contact. Threaded 1/4"-32. Furnished complete with extruded washer, flat washer, and nickel-plated nut. For mounting in 3/8" diameter hole.

Cat. No.	Net Price
105-417	\$.18



SOLDERLESS PHONE TIP PLUGS

These solderless phone tip plugs have knurled nickel-plated brass body and sleeve - construction permits leads to be firmly secured without soldering. The 105-15 has a 3/16" pin with the last 1/2" of tip .081" diameter. The 105-415 is generally the same as the 105-15, except tip is 1/4" long and .081" diameter throughout its entire length. Both types are designed for use with all standard tip jacks.

Cat. No.	Net Price
105-15	\$.18
105-415	.17



E. F. Johnson Company

W A S E C A , M I N N E S O T A

STANDARD BANANA PLUGS

This group of standard banana plugs has accurately machined brass studs which extend the full length of the plugs, providing extra strength. Springs are nickel-silver - highly resistant to corrosion. Bodies and hardware .0001 nickel-plated. All banana plugs listed below, are available with beryllium copper springs and nickel, cadmium, or silver plating, when desired. A wide selection of miniature solder-type plugs is also available on special order - however quantities in special platings or plugs should be sufficiently large for economical production runs. Solder terminal and nut or screw furnished.

Cat. No.	Dwg.	S	P	D	H	Thread	Net Price
108-750	A	3/8"	17/32"	.175"	1 1/8"	6-32	\$0.13
108-750-2	A	3/8"	17/32"	.175"	1 1/2"	6-32	.14
108-753	B	..	17/32"	.175"	5/16"	6-32	.14

This banana plug is similar to the standard types listed above, except that it is designed for riveting. Springs are beryllium copper, cadmium-plated.

108-754	C	7/32"	13/32"	.155"	1 3/16"09
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Jumbo type banana plugs with accurately machined brass studs extending full length of the pins. Nickel-silver springs. Bodies and hardware .0001 nickel-plated. With solder lug and nut or screw.

108-770	A	5/8"	3/4"	.300"	1 13/32"	1/4"-28	.30
108-771	B	..	3/4"	.300"	1 1/8"	10-32	.34

STANDARD INSULATED BANANA PLUGS

These standard size insulated banana plugs are equipped with plastic handles, brass nickel-plated bodies, and nickel-silver springs. The 108-752-1 has a black plastic handle - the 108-752-2 has a red plastic handle.

Cat. No.	S	P	D	H	G	O	Net Price
108-752-1	1 3/4"	17/32"	.175"	2 1/8"	7/32"	7/16"	\$0.36
108-752-2	1 3/4"	17/32"	.175"	2 1/8"	7/32"	7/16"	.36

JUMBO INSULATED BANANA PLUGS

These jumbo size insulated banana plugs are similar in design to the standard types listed above, but are somewhat larger in size. With brass nickel-plated bodies, and nickel-silver springs. The 108-772-1 has a black plastic handle - the 108-772-2 has a red plastic handle.

Cat. No.	S	P	D	H	G	O	Net Price
108-772-1	1 3/4"	3/4"	.300"	2 2/32"	3/8"	5/8"	\$0.48
108-772-2	1 3/4"	3/4"	.300"	2 2/32"	3/8"	5/8"	.48

STANDARD BANANA JACKS

High quality machined brass banana jack. Nickel-plated. Furnished complete with solder terminal and nut.

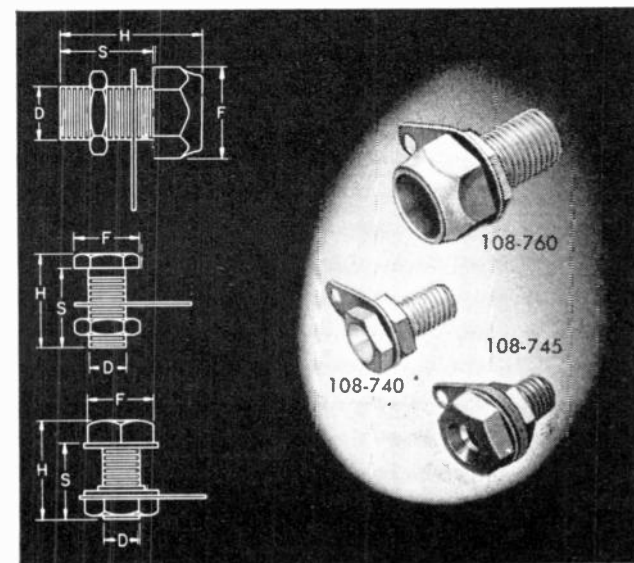
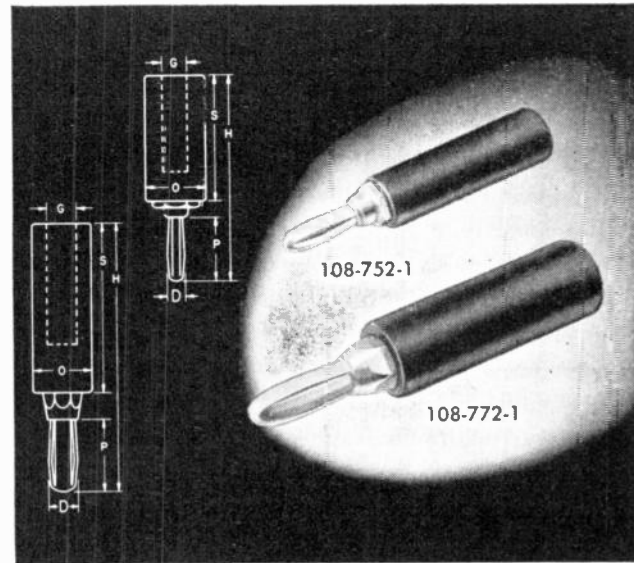
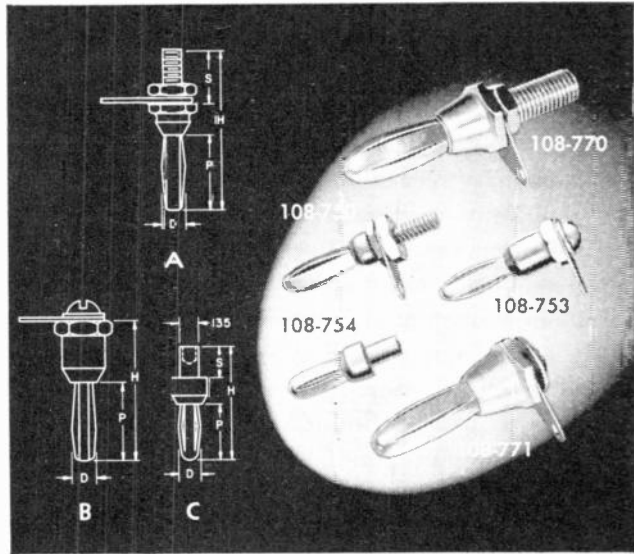
Cat. No.	F	D	S	H	Hole Dia.	Thread	Net Price
108-740	3/8"	1/4"	17/32"	5/8"	.166"	1/4"-28	\$0.12

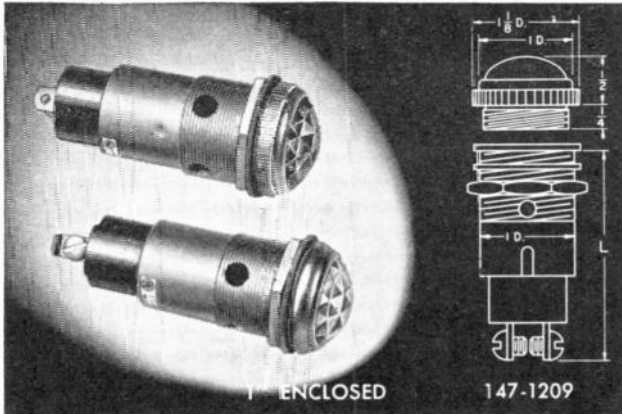
High quality machined brass banana jacks with plastic head molded to body. Nickel-plated. Furnished complete with solder terminal and nut. The 108-745-1 is equipped with red plastic head - the 108-745-2 is equipped with black plastic head.

108-745-1	7/16"	1/4"	31/64"	21/32"	.166"	1/4"-28	.22
108-745-2	7/16"	1/4"	31/64"	21/32"	.166"	1/4"-28	.22

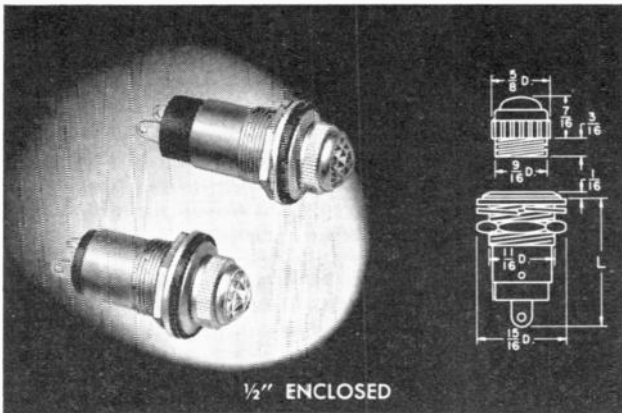
This jumbo banana jack will accommodate plugs such as the 108-770 and the 108-771 listed above. Machined brass, nickel-plated. Furnished complete with solder terminal and nut.

108-760	5/16"	3/8"	21/32"	1"	.277"	3/8"-24	.31
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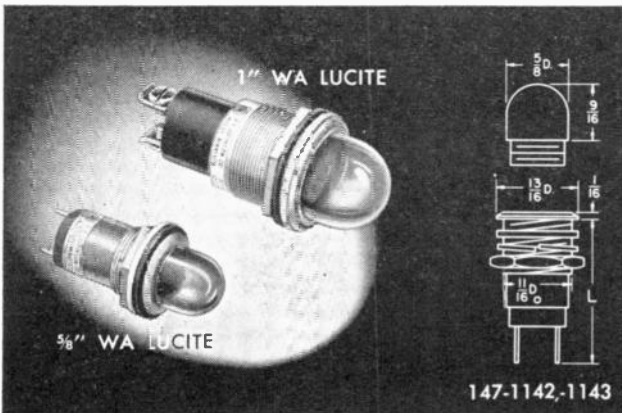




1" ENCLOSED 147-1209



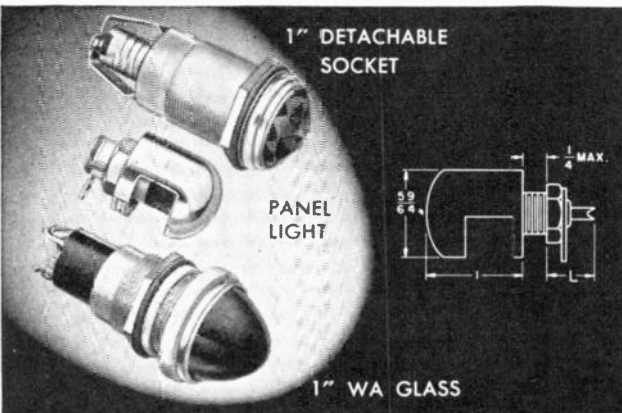
1/2" ENCLOSED



1" WA LUCITE

5/8" WA LUCITE

147-1142,-1143



1" DETACHABLE SOCKET

PANEL LIGHT

1" WA GLASS

PILOT LIGHTS - GENERAL INFORMATION

The pilot lights listed on these pages have been classified by the E. F. Johnson Company as "PREFERRED TYPES", and are immediately available at parts distributors throughout the country. Specials, including types meeting military specifications are available in production quantities.

When ordering: -1 indicates clear jewel (ie. 147-1000-1); -2, red; -3, green; -4, amber; -5, blue; and -6, opal. Green and blue not recommended for use with neon lamps.

For detailed specifications covering the complete Johnson pilot light line, request Catalog 750a using your company letterhead.

1" ENCLOSED - FACETED AND SMOOTH GLASS JEWELS

U.L. approved. Friction type jewel holder, chrome-plated brass. Nickel-plated brass body - porcelain insulation. Bulb replaceable from front panel. Solder terminals. Two lengths available, for 110 volt S6 lamp or shorter T4¹/₂ lamps such as the NE-45. Mounting nut and fibre washer furnished. 147-1032 has phenolic housing to MIL-P14-CFG, and screw terminals. 147-1000 and 147-1032 have faceted jewel; 147-1004 has smooth jewel for maximum visibility with neon bulb.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1000	2 1/2"	S6	Candelabra Screw	\$1.12
147-1004	2 3/4"	T4 1/2	Candelabra Screw	1.10
147-1032	2 3/4"	S6	Candelabra Screw	1.38

U.L. approved. Threaded jewel holder, knurled brass, chrome-plated. Nickel-plated brass body. 147-1200 has porcelain insulation and solder terminals. 147-1209 has phenolic insulation and screw terminals. Mounting nut and fibre washer furnished. Faceted jewel.

147-1200	2 1/2"	S6	Candelabra Screw	1.39
147-1209	2 3/4"	S6	Candelabra Screw	1.49

1/2" ENCLOSED - FACETED GLASS JEWEL

U.L. approved. Threaded jewel holder, knurled brass, nickel-plated. Two lengths available, for T3³/₄ or G3¹/₂ bulbs. Threaded jewel holder removable - bulb replaceable from front panel. Solder terminals. Mounting nut, fibre washer, and lock washer furnished.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1110	1 3/4"	T3 3/4	Miniature Bayonet	\$0.84
147-1112	1 3/4"	G3 1/2	Miniature Bayonet	.84

ENCLOSED TYPES - WIDE ANGLE LUCITE LENS

U.L. approved. For standard and new high intensity neon, or low power incandescent bulbs. Wide angle visibility. 1" types have chrome-plated threaded lens holders - 5/8" types have threaded lucite lens cap, which may be removed from bezel on housing for bulb replacement. 147-1217 has screw terminals - all others have solder terminals. Mounting nut and fibre washer furnished.

1" ENCLOSED

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1217	1 1/2"	T4 1/2	Candelabra Screw	\$1.57
147-1218	1 1/2"	T3 3/4	Miniature Bayonet	1.21

5/8" ENCLOSED

147-1142	1 3/8"	T3 3/4	Miniature Bayonet	.75
147-1143*	1 3/8"	T3 3/4	Miniature Bayonet	.98
147-1144**	1 3/8"	T3 3/4	Miniature Bayonet	.98
147-1153†	1 3/8"	T3 3/4	Miniature Bayonet	.98
147-1154‡	1 3/8"	T3 3/4	Miniature Bayonet	.98

*Built with 180,000 ohm resistor for NE51

**Built with 100,000 ohm resistor for NE51

†Built with 33,000 ohm resistor for NE51H, longer life

‡Built with 18,000 ohm resistor for NE51H, brighter glow

1" ENCLOSED - WIDE ANGLE "BULLSEYE" GLASS LENS

U.L. approved. Threaded jewel holder, knurled brass, chrome-plated. Excellent visibility from any angle. Bulb replaceable from front panel. Phenolic insulation - screw terminals. Mounting nut and fibre washer furnished.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-1600	2 1/8"	S6	Candelabra Screw	\$1.69

1" DETACHABLE SOCKET

Economical semi-enclosed assembly with chrome-plated jewel bezel. Friction fit jewel holder easily removable from front panel. Socket portion detaches from panel bushing, without disconnecting wiring. Body and jacket nickel-plated. Fibre washer and nut furnished. Faceted jewels.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-800	1 1/4"	G3 1/2, T3 3/4	Miniature Screw	\$0.79
147-802	2 3/8"	T4 1/2	Candelabra Screw	.78
147-804	1 1/4"	G3 1/2, T3 3/4	Miniature Bayonet	.79

PANEL LIGHT

For front panel illumination. Polished nickel-plated hood, easily removable for lamp replacement - rotates to any position.

Cat. No.	Bulb Shape	Lamp Base	Net Price
147-330	T3 3/4, G3 1/2	Miniature Screw	\$0.82
147-329	T3 3/4, G3 1/2	Miniature Bayonet	.91

E. F. Johnson Company

WASECA, MINNESOTA



OPEN PILOT LIGHTS - HORIZONTAL MOUNTING

Designed to permit bulb replacement from front panel. Heavy gauge nickel-plated brackets - special bushing and mounting nut serve as jewel receptacle and mounting for bracket.

1" HORIZONTAL OPEN - FACETED GLASS JEWEL

Friction fit chrome-plated jewel holder. For panels to 3/8" thick. 1" mounting hole required.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-100	1 1/2"	G3 1/2, T3 1/4	Miniature Screw	\$0.66
147-103	2 1/8"	S6	Candelabra Screw	.67
147-106	1 1/2"	G3 1/2, T3 1/4	Miniature Bayonet	.69

1/2" HORIZONTAL OPEN - FACETED GLASS JEWEL

Threaded, nickel-plated jewel holder. For panels to 7/32" thick. 11/16" mounting hole required.

147-400	1 1/4"	G3 1/2, T3 1/4	Miniature Screw	\$0.52
147-403	1 1/2"	G3 1/2, T3 1/4	Miniature Bayonet	.55

5/8" HORIZONTAL OPEN - LUCITE LENS

Wide angle visibility - low cost. Use with standard or new high intensity neon, or incandescent lamps with 3 watts or less dissipation. 11/16" mounting hole required.

147-406	1 1/4"	T3 1/2	Miniature Bayonet	\$0.46
147-407*	1 1/4"	NE51	Miniature Bayonet	.73
147-437†	1 1/4"	NE51H	Miniature Bayonet	.73
147-438‡	1 1/4"	NE51H	Miniature Bayonet	.73

*Built with 180,000 ohm resistor for NE51
 †Built with 33,000 ohm resistor for NE51H, longer life
 ‡Built with 18,000 ohm resistor for NE51H, brighter glow

OPEN PILOT LIGHTS - VERTICAL MOUNTING

For use where bulb is accessible from behind panel. Solder terminals. Fastens with nut on rear of panel.

5/8" VERTICAL OPEN - FACETED GLASS JEWEL

Chrome-plated. 11/16" mounting hole required.

Cat. No.	Length Behind Panel	Bulb Shape	Lamp Base	Net Price
147-200	1 1/8"	G3 1/2	Miniature Screw	\$0.54
147-203	1 3/16"	S6	Candelabra Screw	.55
147-206	1"	G3 1/2	Miniature Bayonet	.58

1/2" VERTICAL OPEN - FACETED GLASS JEWEL

Polished nickel-plated. 7/16" mounting hole required.

147-300	1 3/16"	G3 1/2	Miniature Screw	\$0.33
147-303	1 1/4"	S6	Candelabra Screw	.34
147-306	1"	G3 1/2	Miniature Bayonet	.36

3/8" VERTICAL OPEN - FACETED GLASS JEWEL

Polished nickel-plated. 9/32" mounting hole required.

147-500	1 1/8"	G3 1/2	Miniature Screw	\$0.28
147-503	1"	G3 1/2	Miniature Bayonet	.31

JEWEL-BUSHING AND JEWEL ASSEMBLIES

1" FACETED JEWEL AND BUSHING ASSEMBLY

Friction fit jewel holder. Chrome-plated bezel fits into threaded brass nickel-plated bushing. Furnished with fibre compression washer and nut. 1" mounting hole required.

Cat. No.	Net Price
147-100	\$0.49

1/2" FACETED JEWEL AND BUSHING ASSEMBLY

Threaded knurled brass jewel holder, nickel-plated. Includes jewel assembly and threaded bushing with mounting nut. 11/16" mounting hole required.

147-410	\$0.38
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1/2" FACETED JEWEL

Threaded jewel assembly. Nickel-plated bezel. Mounting nut furnished. 7/16" mounting hole required.

147-310	\$0.20
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3/8" MINIATURE FACETED GLASS JEWEL

Miniature threaded jewel assembly with nut. Nickel-plated bezel. 9/32" mounting hole required.

147-510	\$0.14
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5/8" LUCITE LENS

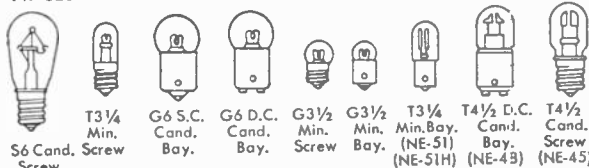
Lucite lens threaded 9/16"-27 as shown on 147-406 and 407.

147-10	\$0.10
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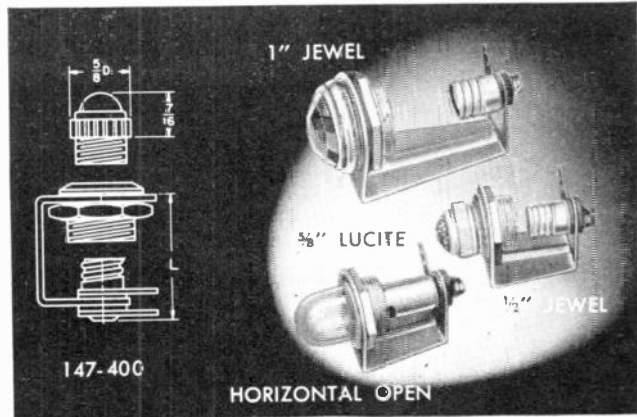
DIAL LIGHT BRACKETS

Socket shells are of extra heavy, drawn seamless construction. Tin-plated terminals—all other parts heavily nickel-plated. Heavy gauge contact springs on bayonet types.

Cat. No.	Socket	Net Price	Cat. No.	Socket	Net Price
147-600	Min. Screw (Bkt. down)	\$0.12	147-621	Cand. Screw (Bkt. up)	\$0.13
147-601	Min. Screw (Bkt. up)	.12	147-630	Min. Bay. (Clip down)	.16
147-610	Min. Bay. (Bkt. down)	.14	147-631	Min. Bay. (Clip up)	.16
147-611	Min. Bay. (Bkt. up)	.14	147-640	Min. Screw (Clip down)	.14
147-620	Cand. Screw (Bkt. down)	.13	147-641	Min. Screw (Clip up)	.14

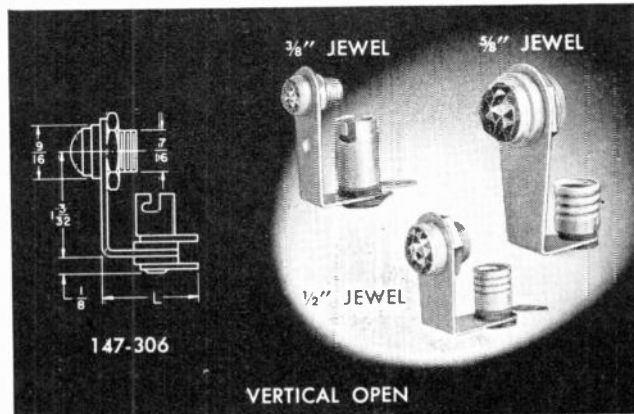


Bulbs not included in prices.



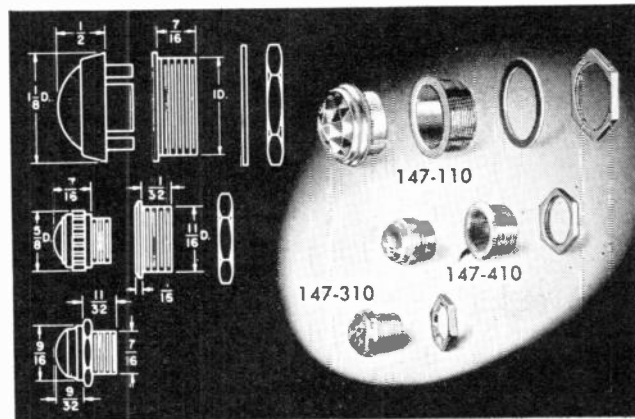
147-400

HORIZONTAL OPEN



147-306

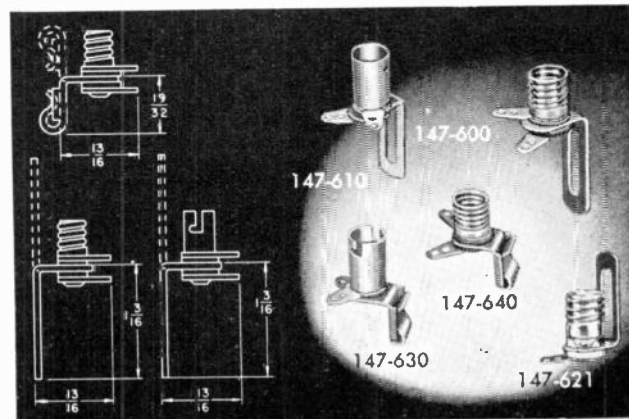
VERTICAL OPEN



147-110

147-410

147-310



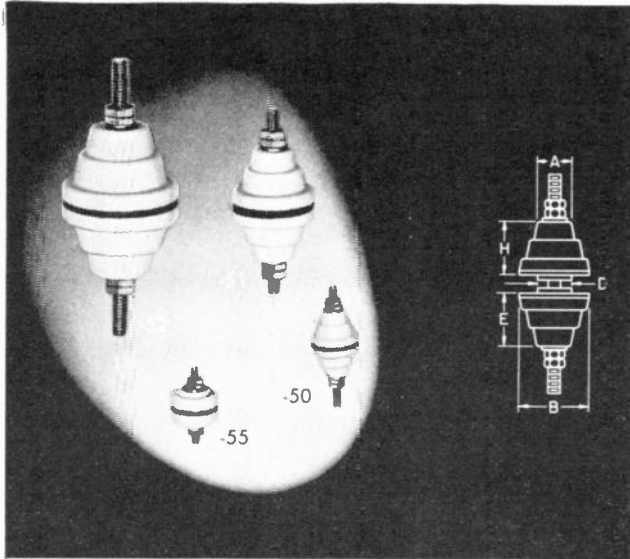
147-600

147-610

147-640

147-630

147-621



INSULATORS – GENERAL INFORMATION

These high quality steatite and porcelain insulators have heavily glazed surfaces and are furnished with heavy nickel-plated brass hardware suitable for exposed applications. Types designated -2 have jack to accommodate Johnson or other standard banana plugs.

INSULATED THRU-PANEL BUSHINGS

This group of thru-panel bushing assemblies consists of a pair of identical steatite insulators along with cushion washers and hardware. The 135-55 assembly has interlocking insulators which are self-centering in mounting hole and may be used on very thin panels.

Cat. No.	H	B	D	A	Hardware	Net Price
135-50	1/2"	3/4"	1 1/32"	3/8"	6-32	\$0.33
135-51	13/16"	1 1/4"	27/32"	5/8"	10-32	.54
135-52	1 1/8"	1 3/4"	1 7/32"	7/8"	1/4"-20	.78
135-55	1/4"	3/4"	15/32"	1/2"	6-32	.31

THRU-PANEL INSULATORS

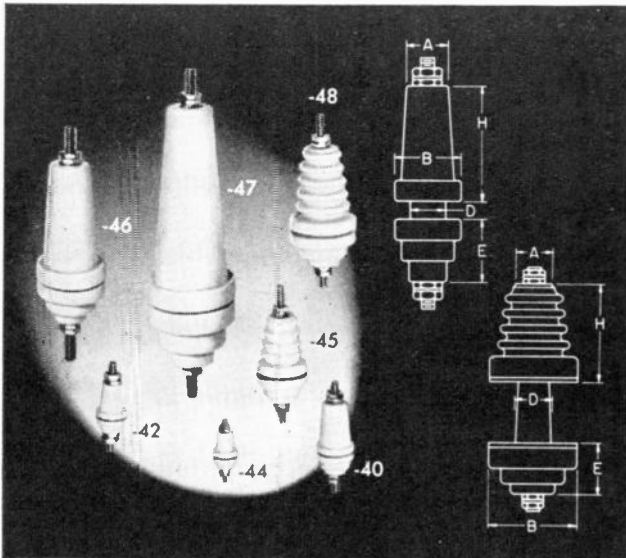
Available in steatite or porcelain types, these high voltage insulators are compression mounted by means of a stud throughout the entire length of the unit. Extrusion of insulator base extends thru mounting hole, increasing the breakdown rating. Units have flat mounting surfaces and are furnished with cushion washer. Types with jacks have terminal permitting connection above, as well as below panel.

STEATITE

Cat. No.	H	B	D	E	A	Hardware	Net Price
135-40	1 1/4"	1 5/16"	7/16"	1/2"	19/32"	10-32	\$0.35
135-40-2	1 1/4"	1 5/16"	7/16"	1/2"	19/32"	108-740 Jack	.45
135-42	7/8"	3/4"	13/32"	3/8"	1/2"	10-32	.35
135-42-2	7/8"	3/4"	13/32"	3/8"	1/2"	108-740 Jack	.45
135-44	3/8"	3/8"	5/16"	5/16"	3/8"	6-32	.27

PORCELAIN

Cat. No.	H	B	D	E	A	Hardware	Net Price
135-45	1 3/8"	1 1/4"	1/2"	11/16"	5/8"	10-32	\$0.47
135-45-2	1 3/8"	1 1/4"	1/2"	11/16"	5/8"	108-740 Jack	.57
135-46	2 3/4"	2 3/8"	1 1/4"	1"	15/16"	1/4"-20	1.30
135-46-2	2 3/4"	2 3/8"	1 1/4"	1"	15/16"	108-760 Jack	1.50
135-47	4 1/2"	2 1/8"	21/32"	1 1/2"	1 1/4"	1/4"-20	1.85
135-47-2	4 1/2"	2 1/8"	21/32"	1 1/2"	1 1/4"	108-760 Jack	2.15
135-48	2"	1 3/8"	11/16"	7/8"	3/4"	10-32	.70
135-48-2	2"	1 3/8"	11/16"	7/8"	3/4"	108-740 Jack	.83



ANTENNA STRAIN INSULATORS

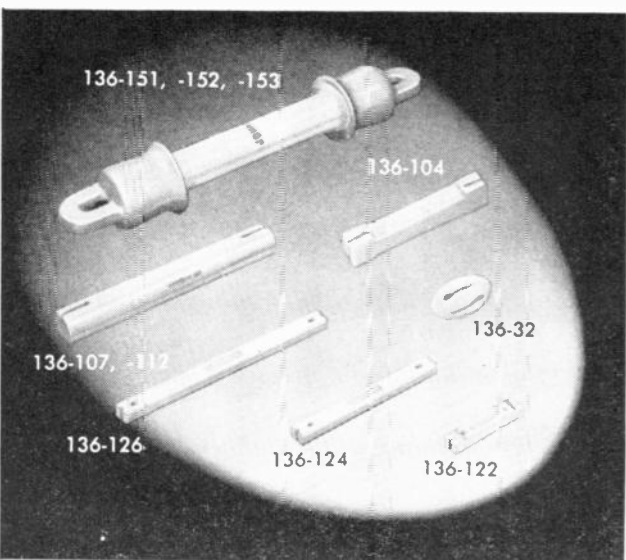
The 136-151, 136-152, and 136-153 have heavy 1 1/2" diameter wet process porcelain insulator with specially sealed end bells of non-corrosive aluminum alloy. Porcelain is glazed to prevent moisture absorption. Numbers 136-107 and 136-112 are wet process, 1" diameter glazed porcelain. Number 136-104 is dry process, glazed 5/8" square. The 136-32 is a compression type strain insulator for aircraft or guy wire applications – made of dry process glazed porcelain.

Cat. No.	Breaking Strength	Length		Net Price
		Net	Overall	
136-151	5000 lbs.	8"	15 1/2"	\$ 9.50
136-152	5000 lbs.	12"	19 1/2"	10.50
136-153	5000 lbs.	20"	25 1/2"	14.70
136-104	400 lbs.	..	4"	.26
136-107	800 lbs.	..	7"	1.18
136-112	800 lbs.	..	12"	1.25
136-32	.....	..	1 1/2"	.12

FEEDER INSULATORS

The 136-122, 136-124, and 136-126 are conventional feeder spreaders for constructing high efficiency open-wire antenna feeders and transmission lines. Insulators are made of high grade, low absorption porcelain, silicone impregnated for moisture resistance. Insulators have 3/8" x 1/2" cross section. The 136-122 has extra notches for 1 1/2" line spacing.

Cat. No.	Length	Net Price
136-122	2"	\$0.17
136-124	4"	.24
136-126	6"	.32





E. F. Johnson Company

W A S E C A , M I N N E S O T A

STEATITE CONE INSULATORS

Constructed of grade L-4 or better steatite. Deep, clean threads are tapped directly into the ceramic. Insulators are furnished complete with two nickel-plated machine screws, nickel-plated brass washers, and a cork cushion washer.

Cat. No.	H	B	A	Hardware	Net Price
135-500	5/8"	5/8"	7/16"	6-32	\$0.23
135-501	1"	3/4"	1/2"	8-32	.31
135-502	1 1/2"	1"	1/2"	8-32	.51
135-503	2"	1 1/8"	3/4"	10-32	.71
135-504	3"	1 1/2"	3/4"	10-32	1.20

STEATITE STAND-OFF INSULATORS

Sturdy and economical, these glazed steatite insulators have relatively large mounting surfaces. Two hole mounting permits substantial lateral loads. Hardware includes screw, flat washer, and two nuts. Parts designated -2 have a standard banana jack and a solder lug mounted on the top of the insulator. Jacks have .166" inside diameter to fit standard banana plugs.

Cat. No.	H	B	M	A	Hardware	Net Price
135-20	1 3/16"	1 3/4"	1 3/16"	3/4"	10-32	\$0.25
135-20-2	1 3/16"	1 3/4"	1 3/16"	3/4"	108-740 Jack	.30
135-22	1"	1 1/2"	1 3/16"	1 1/4"	8-32	.19
135-22-2	1"	1 1/2"	1 3/16"	1 1/2"	108-740 Jack	.23
135-24	3/8"	1"	1 1/16"	3/8"	6-32	.15

PORCELAIN STAND-OFF INSULATORS

These ribbed porcelain insulators feature square mounting bases with four mounting holes. Porcelain is dense molded and glazed, except on mounting surfaces.

Cat. No.	H	B	M	A	Hardware	Net Price
135-60	4 1/2"	2 1/2"	1 3/8"	1 3/16"	1/4"-20	\$0.98
135-62	2 3/4"	1 3/8"	1 3/8"	7/8"	1/4"-20	.60

This group of surface mounting porcelain insulators have drawn and etched aluminum bases. The 135-65, 135-65-2, 135-68 and 135-68-2 are ribbed - the 135-66, 135-66-2, 135-67, and 135-67-2 have smooth surfaces. Types 135-65-2 and 135-68-2 have standard .166" inside diameter banana jacks; types 135-66-2 and 135-67-2 have .277" inside diameter jacks to fit jumbo banana plugs.

Cat. No.	H	B	M	A	Hardware	Net Price
135-65	1 3/8"	1 7/8"	1 1/2"	5/8"	10-32	\$0.30
135-65-2	1 3/8"	1 7/8"	1 1/2"	5/8"	108-740 Jack	.39
135-66	2 3/4"	1 3/4"	1 3/4"	1 5/16"	1/4"-20	.87
135-66-2	2 3/4"	1 3/4"	1 3/4"	1 5/16"	108-760 Jack	.98
135-67	4 1/2"	2 1/4"	1 3/4"	1 1/8"	1/4"-20	.98
135-67-2	4 1/2"	2 1/4"	1 3/4"	1 1/8"	108-760 Jack	1.25
135-68	2"	1 3/4"	1 3/8"	23/32"	10-32	.46
135-68-2	2"	1 3/4"	1 3/8"	23/32"	108-740 Jack	.54

LEAD-IN BUSHINGS

These versatile bushings consist of single porcelain insulators less all hardware except cushion washer. Mounting flanges and threaded lead-in rods are listed below.

Cat. No.	H	B	A	Net Price
135-53	1 3/4"	2 1/2"	1 1/16"	\$0.29
135-54	4"	3 1/2"	1"	.79

Threaded rod for use with lead-in bushings 135-53 and 135-54. Rod threaded overall 1 1/2"-20. Complete assembly includes rod, 4 brass washers, and 4 nuts. All parts are heavily nickel-plated.

Cat. No.	Length	Net Price
115-240	8"	\$0.57
115-241	10"	.71
115-242	15"	.88

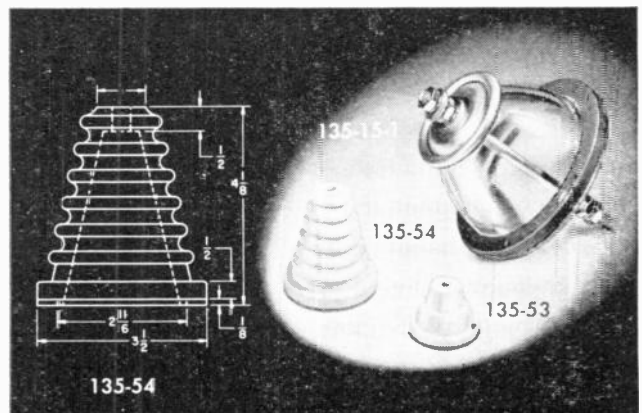
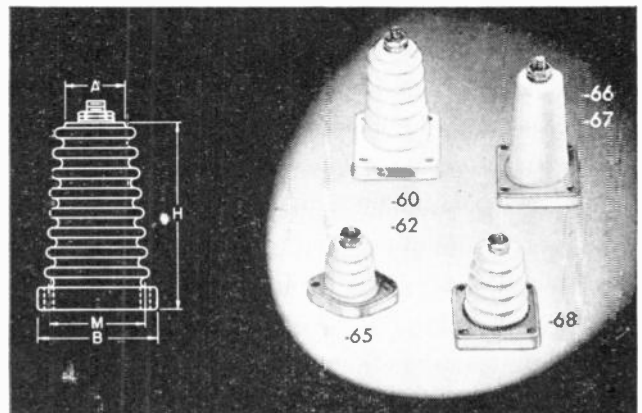
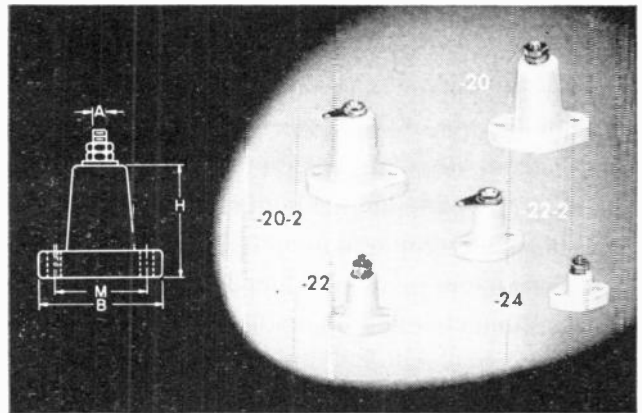
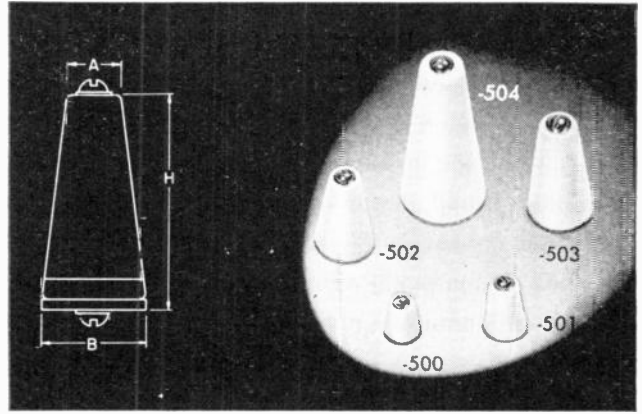
Stamped aluminum mounting flanges for lead-in bushings 135-53 and 135-54. Flanges have three mounting holes spaced 120 degrees apart.

Cat. No.	For Bushing No.	Net Price
135-90	135-53	\$0.34
135-91	135-54	.84

FEED-THRU BOWL ASSEMBLIES

Bowls are constructed of electrical glass, 6 1/8" maximum diameter, 4 3/8" high. Steel mounting flange is 7 3/4" diameter. Stud is threaded 1 1/2"-13. Cork gaskets and spun aluminum corona shields are included in fittings. Feed-thru bowl assemblies can also be furnished with special hollow studs.

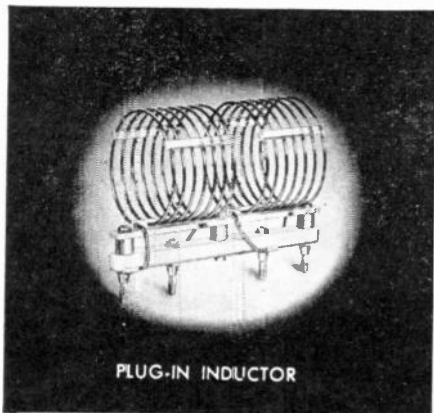
Cat. No.	Stud	Max. Wall Thickness	Net Price
135-15-1	10 1/4"	...	\$15.40
135-15-3	16"	4"	27.10
135-15-7	24"	12"	27.60
135-15-11	Glass bowl only, less fittings	...	8.65



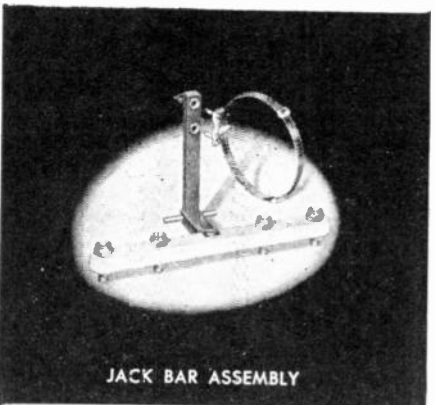


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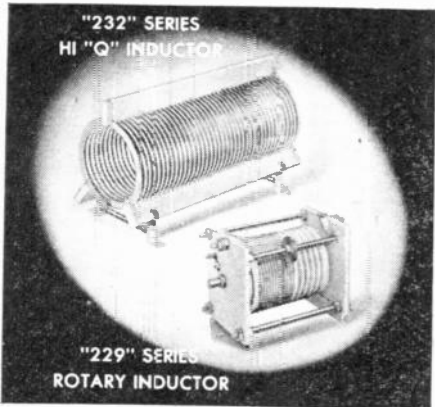
WASECA, MINNESOTA



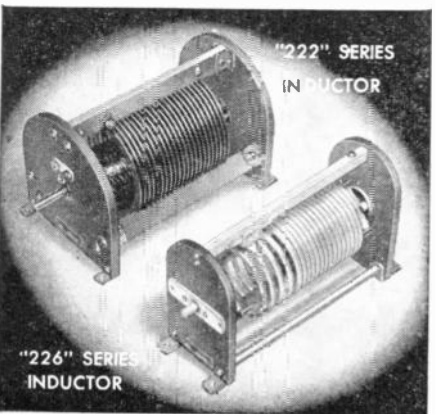
PLUG-IN INDUCTOR



JACK BAR ASSEMBLY



"232" SERIES HI "Q" INDUCTOR



"229" SERIES ROTARY INDUCTOR

"222" SERIES INDUCTOR

"226" SERIES INDUCTOR

SWINGING LINK INDUCTORS

Swinging link inductors for amateur bands 160 thru 6 meters; 150, 500 and 1000 watt sizes. Polystyrene insulation, steatite bases and heavy wire sizes. HCS-Inductors match high voltage, low current tubes. LCS-Inductors match low voltage, high current tubes. Complete assembly includes inductors for bands desired, Jack Bar, Link Arm Assembly and Plug-in Links required for matching to line or antenna coupler.

Col. No.	Type No.	Wire Size	1,000 watts Cap. *mmf.	Height	Width	Net Price
238-106	1000HCS160	10	99	5 1/16"	4 13/32"	\$9.80
238-107	1000LCS160	10	140	5 1/16"	4 13/32"	9.80
238-101	1000HCS80	10	46	5"	3 23/32"	8.90
238-102	1000LCS80	10	73	5"	3 23/32"	8.90
238-103	1000HCS40	10	24	5"	3 23/32"	7.80
238-104	1000LCS40	8	55	5"	3 3/4"	7.80
238-105	1000HCS20	8	19	4 7/8"	3 3/4"	7.50
238-111	1000LCS20	.250"	26	5 1/8"	4"	7.50
238-112	1000H LCS14	.250"	19	4 7/8"	3 1/2"	6.60
238-113	1000H LCS10	.250"	18	4 7/8"	3 1/2"	6.00
500 watts						
238-125	500HCS160	14	100	4 7/32"	3 1/4"	6.95
238-126	500LCS160	14	148	4 7/32"	3 1/4"	6.95
238-121	500HCS80	14	45	3 23/32"	2 5/8"	6.75
238-122	500LCS80	12	76	3 3/4"	2 21/32"	6.75
238-123	500HCS40	12	27	3 3/4"	2 21/32"	6.50
238-124	500LCS40	10	50	3 25/32"	2 23/32"	6.50
238-131	500HCS20	6	25	3 13/16"	2 13/16"	5.25
238-132	500LCS20	6	37	3 13/16"	2 13/16"	5.25
238-133	500H LCS14	6	19	3 11/16"	2 9/16"	4.95
238-134	500H LCS10	6	19	3 3/4"	2 3/4"	4.50
238-135	500H LCS6	6	18	3 3/4"	2 3/4"	4.50
150 watts						
238-147	150HCS160	18	102	4 3/16"	3 1/4"	4.65
238-148	150LCS160	16	151	4 7/32"	3 3/32"	4.65
238-141	150HCS80	16	51	4 7/32"	2 19/32"	4.40
238-142	150LCS80	16	68	4 7/32"	2 19/32"	4.40
238-143	150HCS40	14	28	3 23/32"	2 5/8"	4.15
238-144	150LCS40	12	57	3 3/4"	2 21/32"	4.15
238-145	150HCS20	12	21	3 1/2"	2 13/32"	3.95
238-146	150LCS20	12	32	3 1/2"	2 13/32"	3.95
238-151	150H LCS14	8	19	3 21/32"	2 1/2"	3.20
238-152	150H LCS10	8	19	3 21/32"	2 1/2"	2.95
238-153	150H LCS6	8	16	3 13/32"	2"	2.95

*Total circuit capacity to effect resonance at low frequency end of band. To determine split-stator capacitor, subtract tube output and wiring capacity (usually 5 to 20 mmf.) from total capacity in chart; then double result for capacity per section needed.

PLUG-IN SWINGING LINKS

Select the link to match your line, coupler or output filter for optimum power transfer.

Col. No.	Type No.	No. Turns	Net Price	Col. No.	Type No.	No. Turns	Net Price
238-181	150 500SL12	12	\$1.80	238-191	1000SL10	10	\$2.50
238-182	150 500SL5	5	1.15	238-192	1000SL5	5	1.35
238-183	150 500SL2	2	1.00	238-193	1000SL2	2	1.20

SWINGING LINK ARM ASSEMBLIES

238-179	150/500SLA—for 150 500 watt inductors.....	\$1.60
238-180	1000SLA—for 1000 watt inductors.....	1.80

JACK BAR ASSEMBLIES

238-171	150JBS—150 watt, 3/4" x 3/16" x 3/8".....	\$1.15
238-172	500JBS—500 watt, 5/8" x 5/8" x 3/8".....	1.40
238-173	1000JBS—1000 watt, 7/8" x 7/8" x 1/2".....	2.50

INDUCTORS

"232" SERIES "HI-Q" COILS—1/4" x .054" RIBBON—7 AMPS.

Copper strip, cadmium plated. Glass bonded mica support bars. Uses clip 235-804.

Col. No.	Inductance	Current In Amps	Mounting Dimensions	Overall Dimensions	Wire Size	Net Price
232-610	31 uh	3	3 1/4" x 6"	7 31/32" L, 3 3/8" W, 4 5/8" H	No. 14	11.50
232-620	84 uh	3	3 3/4" x 7 1/2"	9 31/32" L, 4 1/2" W, 6" H	No. 14	14.80
232-622	41 uh	3	3 1/4" x 4 5/8"	6 19/32" L, 3 3/8" W, 5 3/8" H	No. 12	11.35
232-624	20 uh	3	3 1/4" x 4 1/4"	6 7/32" L, 3 3/8" W, 5 3/8" H	No. 12	8.85
232-626	10 uh	3	3 1/4" x 3"	4 31/32" L, 3 3/8" W, 4 3/8" H	No. 12	7.35

"229" SERIES WIRE WOUND VARIABLE INDUCTORS

Efficient, all steatite insulated variable inductors for amateur transmitters or low power commercial equipment. Variable pitch, tinned copper wire windings on grooved steatite forms. 1/4" shafts extend 1/2" on both ends. Length dimension is over mounting feet.

Col. No.	Inductance	Current In Amps	Mounting Dimensions	Overall Dimensions	Wire Size	Net Price
229-201	10 uh	3	3 15/16"	4 3/8" L, 2 1/2" W, 2 31/32" H	No. 14	\$9.55
229-202	18 uh	5	5 15/32"	5 29/32" L, 2 1/2" W, 2 31/32" H	No. 12	10.50
229-203	28 uh	5	6 23/32"	7 5/32" L, 2 1/2" W, 2 31/32" H	No. 12	11.50

"222" SERIES VARIABLE INDUCTORS—1/2" x .090" RIBBON—15 AMPS.

Excellent for medium power RF equipment where high current operation is required in minimum space. Heavy nickel plated copper where high current operation is required in minimum space. Heavy nickel plated copper where high current operation is required in minimum space. Heavy nickel plated copper where high current operation is required in minimum space. Heavy nickel plated copper where high current operation is required in minimum space.

Col. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions	Wire Size	Net Price
222-1	4224MS4	25 uh	5 3/4" x 10 3/4"	11 1/4" L, 6 1/2" W, 6 3/8" H	No. 12	\$48.25
222-2	4275MS4	50 uh	6 3/4" x 11 5/8"	12 3/4" L, 7 1/2" W, 7 3/8" H	No. 12	60.00
222-3	4084MS6	5 uh	5 3/4" x 7 7/8"	8 3/4" L, 6 1/2" W, 6 3/8" H	No. 12	40.25
222-5	4134MS6	10 uh	5 3/4" x 9 3/4"	10 1/2" L, 6 1/2" W, 6 3/8" H	No. 12	44.00
222-7	4325MS4	62.5 uh	6 3/4" x 12 7/8"	13 3/4" L, 7 1/2" W, 7 3/8" H	No. 12	63.00

"226" SERIES VARIABLE INDUCTORS—1/4" x 1/8" RIBBON—10 AMPS.

Popular for commercial and amateur use, these moving coil type inductors easily handle well over a kilowatt of plate modulated RF energy to 30 mc. Heavy silver plated conductors and silver plated contact bars and contacts. Glass bonded mica end frames and support bars. 3/8" shafts extend 3/4" front and rear. Length dimension is over mounting feet, does not include shaft extensions.

226-1	22.5 uh	3"	3" x 12 3/4"	13 1/2" L, 4" W, 6 1/2" H	No. 12	\$63.85
226-3	13.5 uh	3"	3" x 10 3/4"	11 1/2" L, 4" W, 6 1/2" H	No. 12	58.30
226-5	8 uh	3"	3" x 9 1/4"	10" L, 4" W, 6 1/2" H	No. 12	51.20



E. F. Johnson Company

W A S E C A, M I N N E S O T A

"200" SERIES FIXED COILS

Economical—compact—edgewise copper windings. Airwound with slotted, glass bonded mica supports. Construction provides exceptional current carrying capacity for size.

Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
200-101	2224N4	26 uh	2" x 8 1/8"	8 3/4"	5 3/16"	5 3/8"	\$14.10
200-107	2105N4	13 uh	2" x 5 1/8"	5 3/4"	5 5/8"	6 1/2"	10.70
200-114	2284N3	45 uh	2" x 7 7/8"	8 1/2"	5 9/16"	5 3/8"	17.90
200-105	2455N3	120 uh	2" x 11 1/4"	11 1/4"	5 9/16"	5 3/8"	24.90
200-407	2497N4	200 uh	3" x 14 1/2"	15 7/8"	7 1/2"	7 1/2"	36.10

"200" FIXED COILS—3/8" x .072" RIBBON—15 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
200-205	3164N5	15 uh	2" x 7 3/8"	8 1/4"	5 11/16"	5 3/8"	\$13.90
200-206	3275N4	50 uh	2" x 9 3/8"	10"	6 7/8"	6 1/16"	21.80
200-211	3336N5	73 uh	2 1/2" x 12 1/8"	13 9/16"	7 11/16"	7 1/16"	27.10
200-213	3376N4	102 uh	2 1/2" x 11 3/8"	12 1/2"	7 11/16"	7 1/16"	30.40

"200" FIXED COILS—1/2" x .090" RIBBON—20 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
200-301	4205N6	25 uh	2" x 10 5/8"	11 3/8"	7 1/8"	7"	\$27.90
200-302	4346N5	78 uh	2 1/2" x 13 3/4"	14 1/2"	8 1/2"	8"	38.40
200-303	4275N4	50 uh	2" x 9 3/8"	10 3/8"	7 1/8"	7"	31.40
200-306	4164N5	15 uh	2" x 8 1/4"	8 7/8"	6 5/8"	6"	20.00
200-308	4366N4	100 uh	2 1/2" x 12 1/8"	12 7/8"	8"	8"	40.50

Other standard inductance values available on special order.

"202" SERIES FIXED COILS

Large surface area 1 1/2", 3/8" and 1/2" copper tubing wound coils provide low resistance and working temperatures for continuous high current applications. Simple, rugged "airwound" design with glass bonded mica support bars.

"202" FIXED COILS—1/4" TUBING—20 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
202-101	2166NT8	21 uh	2 1/2" x 14 3/8"	15 1/2"	6 1/2"	6 3/8"	\$32.10
202-401	2308NT8	76 uh	2 1/4" x 21 1/4"	21 7/8"	8 1/2"	8 1/2"	61.20
202-402	2328NT6	102 uh	2 1/4" x 18 3/2"	18 3/2"	8 1/2"	8 1/2"	58.00

"202" FIXED COILS—3/8" TUBING—30 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
202-201	3106NT12	10 uh	2 1/2" x 13 3/8"	14 3/8"	6 3/8"	7 1/2"	\$31.60
202-502	32410NT12	64 uh	2 1/2" x 24 1/4"	24 13/16"	10 3/4"	10 3/4"	76.65
202-507	3148NT12	24 uh	2 1/4" x 16 9/16"	17 3/16"	8 3/4"	8 3/4"	46.20

"202" FIXED COILS—1/2" TUBING—40 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
202-601	4127NT14	12 uh	1 1/2" x 16 7/16"	17 9/16"	8"	8"	\$45.75
202-602	41410NT14	30 uh	2 1/2" x 18 3/2"	19 1/2"	11"	11"	67.00
202-604	4147NT14	18 uh	1 1/2" x 18 3/2"	19 1/2"	8"	8"	51.00

CLIPS FOR TAPPING "200", "202", AND "232" SERIES INDUCTORS

Cat. No.	Type No.	Fits Winding	Net Price
235-807	LC7	3/8" x .072"	.45
235-808	LC8	1/2" x .090"	.65
235-824	RC4	1/4" tubing	1.55
235-826	RC6	3/8" tubing	1.65
235-828	RC8	1/2" tubing	1.94
235-860	WC1	No. 20 to No. 12 Wire	.12

"224" SERIES VARIABLE INDUCTORS

For high power RF applications, the 224 series copper tubing inductors are especially designed to handle heavy current in continuous duty. Contact wheel is heavily silver plated for optimum electrical efficiency. Inductors have cast aluminum end frames and glass bonded mica support bars. 3/8" shafts extended 2 1/4" from end frames at each end. Overall length dimension includes mounting feet.

"224" VARIABLE INDUCTORS—3/8" TUBING—30 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
224-3	3168MST10	30 uh	8 1/2" x 9 1/8"	20 3/4"	12"	12 1/2"	\$156.50
224-4	3108MST12	14.5 uh	8 1/2" x 16 3/8"	18 1/8"	12"	12 1/2"	148.00
224-6	32111MST12	7.5 uh	8 1/2" x 24 1/4"	26 3/8"	12"	12 1/2"	172.50

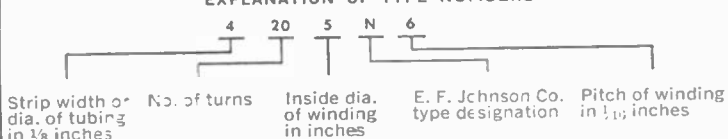
"224" VARIABLE INDUCTORS—1/2" TUBING—40 AMPERES							
Cat. No.	Type No.	Inductance	Mounting Dimensions	Overall Dimensions			Net Price
				L	W	H	
224-1	41410MST14	30 uh	8 1/2" x 21 3/8"	22 3/8"	12"	12 1/2"	\$185.00
224-2	4128MST14	16.5 uh	8 1/2" x 19 3/8"	21 1/8"	12"	12 1/2"	158.00
224-5	41711MST14	50 uh	8 1/2" x 24"	25 1/2"	12"	12 1/2"	189.75

R. F. CONTACTORS

Contactors for switching high voltage, high current RF or DC. Operated by momentarily energized 220 VAC solenoids (may also be connected for 110 VAC), toggle action contacts snap into position; no holding current is required. Extremely compact for voltage ratings; overall dimensions of 145-100 series 7 7/8" long, 6 1/2" wide, 5 1/2" high; of 145-200 series, 10 1/2" long, 8 1/2" wide, 6 1/2" high. Four auxiliary micro snap switches (10 amp, at 220 VAC), actuate J by contact armature. Two control solenoid voltage, two may be used to operate signaling devices or for other related functions.

Cat. No.	Type	Peak Voltage	Current	Net Price
145-102-13	DPDT	17000	2.5 amp.	116.00
145-201-13	SPDT	22000	2.5 amp.	125.00
145-202-13	DPDT	22000	2.5 amp.	134.00

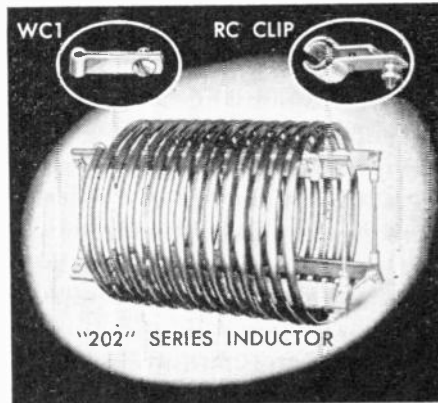
EXPLANATION OF TYPE NUMBERS



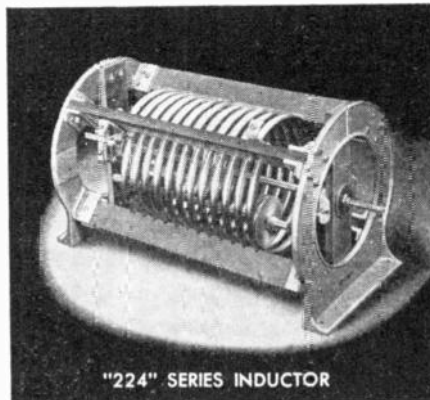
NOTE: Except on amateur inductors, current ratings shown are nominal for broadcast frequencies; will increase at lower frequency—decrease at higher frequencies. For complete information and specifications on Johnson Industrial and Broadcast RF Components—write for your copy of Catalog 535.



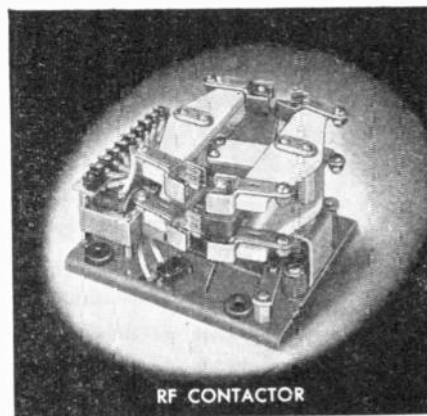
"200" SERIES INDUCTOR



"202" SERIES INDUCTOR



"224" SERIES INDUCTOR



RF CONTACTOR

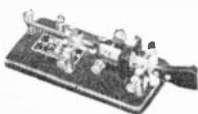
E. F. Johnson Keys and Practice Sets



DELUXE SEMI-AUTOMATIC KEYS —

Adjustable from lowest to highest speeds, this handsomely finished semi-automatic key has a smooth, easy action. Vibrator, posts, circuit closing switch, and all machine parts heavily chrome plated. Five adjustments with lock nuts—molded plastic paddles adjust separately to best height. Steel base 6 1/4" x 3 1/2" x 1 1/2"—complete with adjustable weight and rubber feet.

- | | | |
|-----------------|--|--------------------|
| Cat. No. | | Amateur Net |
| 114-500 | 1/8" contacts, black wrinkle base..... | \$17.95 |
| 114-501 | 1/4" contacts, polished chrome base..... | 20.65 |



SPECIAL SEMI-AUTOMATIC KEY —

Many operating features—attractively finished, black wrinkle enamel base. All hardware and vibrator heavily chrome plated. Same vibrator as on deluxe key. Easy action, adjustable from lowest to highest speeds. 1/8" coin silver contacts—circuit closing switch—rubber mounting feet.

- | | | |
|-----------------|------------------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-520 | Special Model, Semi-Automatic..... | \$13.95 |



HEAVY DUTY KEYS—Heavy die cast base, chrome plated key arm. Well insulated for heavy duty service. Large

- 1/4" coin silver contacts. Improved Navy-type knob. Adjustable steel bearings and spring design give light keying touch.
- | | | |
|-----------------|----------------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-320 | Black wrinkle enamel base..... | \$4.70 |
| 114-321 | Polished chrome plated base..... | 5.85 |



STANDARD KEYS — Heavy die cast base. Smooth adjustable bearings. Provision for plugging in semi-automatic keys. 1/8" coin silver contacts. A high quality key at a low cost.

- | | | |
|-----------------|--------------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-310 | Black wrinkle, no switch..... | \$3.10 |
| 114-310-3 | Black wrinkle with switch..... | 3.90 |
| 114-311 | Chrome plated, no switch..... | 5.20 |
| 114-311-3 | Chrome plated with switch..... | 6.10 |



HIGH SPEED STANDARD KEYS—Fully adjustable spring tension, contact spacing and bearings. Brass base and binding posts—instrument lacquer finish. .072" platinum contacts.

- | | | |
|-----------------|--|--------------------|
| Cat. No. | | Amateur Net |
| 114-100 | R48 Key, satin brass, no switch..... | \$5.95 |
| 114-100-3 | M100 Key, satin brass with switch..... | 6.85 |



PRACTICE KEY—An inexpensive practice key—perfect in design for the average beginner. All the metal parts are nickel plated. Furnished with an adjustable key arm, spring and smooth action bearings. Contacts are of 1/8" coin silver.

- | | | |
|-----------------|---------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-300 | Molded phenolic base..... | \$2.25 |



PHENOLIC BASE KEYS—High quality key with adjustable bearings. Improved spring-pigtail connection. 1/8" coin silver contacts—nickel plated metal parts.

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|-----------------|--------------------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-301 | Molded phenolic base, no switch..... | \$2.50 |



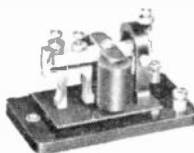
CORD AND WEDGE—Cord and wedge for easy attachment of semi-automatic key across circuit-closing switch of a standard hand key. Used almost universally by railroad telegraphers—ideal for amateur service where both hand key and semi-automatic are used.

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|-----------------|---------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-380 | Cord and wedge..... | \$1.15 |



PRACTICE SET — Constant frequency buzzer and key on a 4" x 6" molded bakelite base. Buzzer tone is fully adjustable. Coin silver contacts. Uses two dry cells or 'C' battery. Connect singly or in pairs for code practice.

- | | | |
|-----------------|---------------------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-450 | Practice Set..... | \$4.90 |
| 114-400 | Buzzer only as used on set above..... | \$1.85 |



TELEGRAPH SOUNDER — Designed for instant response, brass sounder provides clear, resonant tone. Steel bar instrument lacquer finish. Sounder plate is black lacquered steel. Mahogany finished wood base, brass binding posts and rubber mounting feet.

- | | | |
|-----------------|------------------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-112 | Sounder (4 ohms)..... | \$9.95 |
| 114-113 | Sounder (20 ohms)..... | 10.45 |



LEARNER SET — Telegraph practice set. Bar frame steel, brass bridge and adjustment screws. Brass lacquer finish. Brass sounding bar—black lacquered steel sounder plate. Adjustable black nickel-plated key arm. High impact polystyrene base, black matte finish, brass binding posts, rubber feet.

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|-----------------|----------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-110 | (4 ohms)..... | \$14.95 |
| 114-111 | (20 ohms)..... | 15.45 |



PONY RELAY—Polished, plated steel armature—all other metal parts brass with lacquer finish. Heavy duty magnets. Mahogany finish wood sub-base—cast iron black enamel base.

- | | | |
|-----------------|----------------|--------------------|
| Cat. No. | | Amateur Net |
| 114-105 | (20 ohms)..... | \$13.80 |

AMATEUR EQUIPMENT CATALOG 957—Complete information on all of the world famous Johnson Transmitting Products for amateur and commercial use.



E. F. Johnson Company
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E. F. Johnson Amateur Equipment

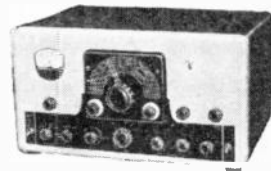
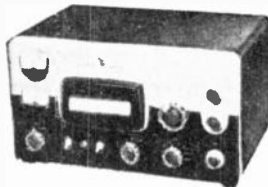
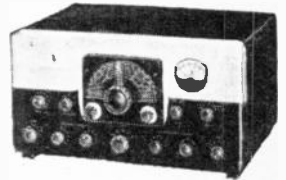
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the world over!

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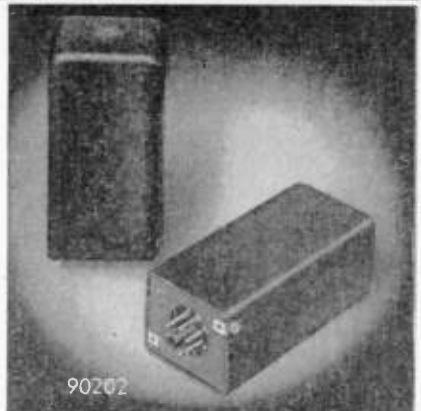
90901

ONE INCH INSTRUMENTATION OSCILLOSCOPE

Miniaturized, packaged panel mounting cathode ray oscilloscope designed for use in instrumentation in place of the conventional "pointer type" moving coil meters uses the 1" tube. Panel bezel matches in size and type the standard 2" square meters. Magnitude, phase displacement, wave shape, etc. are constantly visible on scope screen.
 No. 90901, 1CP1, less tube.....
 No. 90911, 1EP1, less tube.....

POWER SUPPLY FOR OSCILLOSCOPE

750 volts d.c. at 3 ma. and 6.3 volts a.c. at 600 ma. 117 volts 50-60 cycle input. Designed especially for use with No. 90901 and No. 90911 one inch instrumentation oscilloscopes. 5 in. high x 2 1/2 x 2 in. Octal plug for input and output. Entire assembly including rectifier is encapsulated.
 No. 90202 Power Supply (complete).....



90202



90651

GRID DIP METER

The No. 90651 MILLEN GRID DIP METER is compact and completely self contained. The AC power supply is of the "transformer" type. The drum dial has seven calibrated uniform length scales from 1.7 MC to 300 MC with generous over lops plus an arbitrary scale for use with special application inductors. Internal terminal strip permits battery operation for antenna measurement.
 No. 90651, with tube.....

Additional Inductors for Lower Frequencies

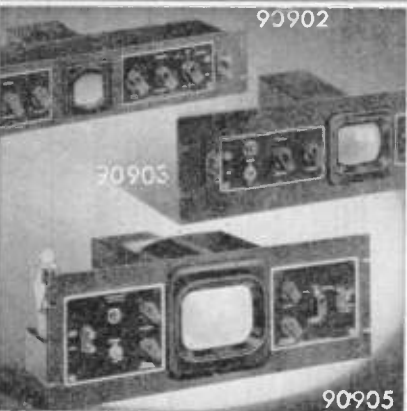
- No. 46702—925 to 2000 KC.....
- No. 46703—500 to 1050 KC.....
- No. 46704—325 to 600 KC.....
- No. 46705—220 to 350 KC.....

LABORATORY SYNCHROSCOPES

The 5" laboratory synchroscopes are available with and without detector video strips.
 Model P-4-2, with tubes.....
 Model P-4E-2, with tubes.....

MINIATURE SYNCHROSCOPE

The compact design of the No. 90952, measuring only 7 1/2" x 5 1/2" x 13", and weighing only 17 lbs., makes available for the first time a truly DESIGNED FOR APPLICATION "field service" Synchroscope
 No. 90952 with tubes.....



90902

90903

90905

CATHODE RAY OSCILLOSCOPES

The No. 90902, No. 90903 and No. 90905 Rack Panel Oscilloscopes, for two, three and five inch tubes, respectively, are inexpensive basic units comprising power supply, brilliancy and centering controls, safety features, magnetic shielding, switches, etc. As a transmitter monitor, no additional equipment or accessories are required. The well-known trapezoidal monitoring patterns are secured by feeding modulated carrier voltage from a pickup loop directly to vertical plates of the cathode ray tube and audio modulating voltage to horizontal plates. By the addition of such units as sweeps, pulse generators, amplifiers, servo sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic "scope unit" may be expanded to serve any conceivable industrial or laboratory application.
 No. 90902, less tubes.....
 No. 90903, less tubes.....
 No. 90905, less tubes.....

'SCOPE AMPLIFIER—SWEEP UNIT

Vertical and horizontal amplifiers along with hard-tube, saw tooth sweep generator. Complete with power supply mounted on a standard 5 1/4" rack panel.
 No. 90921, with tubes.....

FLAT FACE OSCILLOSCOPE

90905-B 5-inch Rack Mounting Basic Oscilloscope features include: balanced deflection, front panel input terminals, rear panel input terminals, astigmatism control, blanking input terminals, flat face precision tolerance Dumont 5ADP1 tube, 1800 or 2500 volts accelerating, good sensitivity, sharp focus, horizontal selector switch, 60 cycle sine wave sweep available, power supply available to operate external equipment, minimum control interaction, rugged construction, light filter. 7 x 19 in. panel.
 No. 90905-B Oscilloscope, less tubes.....



90952



90921



90905-B

JAMES M. MILLEN

MALDEN · MASSACHUSETTS

STANDING WAVE RATIO BRIDGE

The Millen S.W.R. bridge provides easy and inexpensive measurement of standing wave ratio on antennas using co-ax cable. As assembled the bridge is set up for 52 ohm line. A calibrated 75 ohm resistor is mounted inside the case for substitution in the circuit when 75 ohm line is used.
No. 90671

BALUNS

The No. 46672 (1 for each amateur band) wound Balun is an accurate 2 to 1 turns ratio, high Q auto transformer with the residual reactances tuned out and with very tight coupling between the two halves of the total winding. The points of series and parallel resonance are selected so that each Balun provides an accurate 4 to 1 impedance ratio over the entire band of frequencies for which it was designed. Suitable for use with the No. 90672 Antenna Bridge or medium power transmitters.
No. 46672-80/40/20/15/10

ANTENNA BRIDGE

The Millen 90672 Antenna Bridge is an accurate and sensitive bridge for measuring impedances in the range of 5 to 500 ohms (or 20 to 2000 ohms with balun) at radio frequencies up to 200 mc. The variable element is an especially designed differential variable capacitor capable of high accuracy and permanency of calibration. Readily driven by No. 90651 Grid Dipper.
No. 90672

50 WATT EXCITER-TRANSMITTER

Modern design includes features and shielding for TVI reduction, bandswitching for 4-7-14-21-28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter for high power PA stages. 3763 oscillator-buffer-multiplier and 6146 power amplifier. Rack mounted.
No. 90801, less tubes

VARIABLE FREQUENCY OSCILLATOR

The No. 90711 is a complete transmitter control unit with 6SK7 temperature-compensated, electron coupled oscillator of exceptional stability and low drift, a 6SK7 broad-band buffer or frequency doubler, a 6AG7 tuned amplifier which tracks with the oscillator tuning, and a regulated power supply. Output sufficient to drive a 6146 is available on 160, 80 and 40 meters and reduced output is available on 20 meters. Since the output is isolated from the oscillator by two stages, zero frequency shift occurs when the output load is varied from open circuit to short circuit. The entire unit is unusually solidly built so that no frequency shift occurs due to vibration. The keying is clean and free from annoying chirp, quick drift, jump, and similar difficulties often encountered in keying variable frequency oscillators.
No. 90711, with tubes

HIGH VOLTAGE POWER SUPPLY

The No. 90281 high voltage power supply has a d.c. output of 700 volts, with maximum current of 235 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available so that this power supply is an ideal unit for use with transmitters, such as the Millen No. 90801, as well as general laboratory purposes. The power supply uses two No. 816 rectifiers. The panel is standard 8 3/4" x 19" rack mounting.
No. 90281, less tubes

HIGH FREQUENCY RF AMPLIFIER

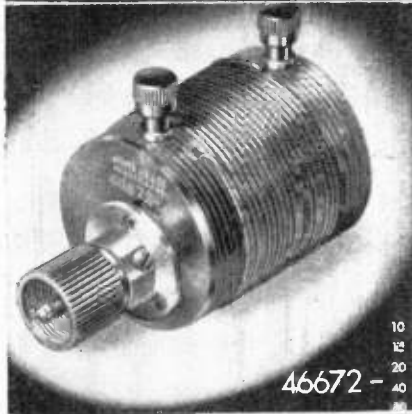
A physically small unit capable of a power output of 70 to 85 watts on 7m or 87 to 110 watts on C-W on 20, 15, 11, 10, 6 or 2 meter amateur bands. Provision is made for quick band shift by means of the No. 48000 series VHF plug-in coils. The No. 90811 unit uses either an 829-B or 3E29.
No. 90811 with 10 meter band coils, less tube

RF POWER AMPLIFIER

This 500 watt amplifier may be used as the basis of a high power amateur transmitter. The No. 90881 RF power amplifier is wired for use with the popular "812A" type tubes. Other popular tubes may be used. The amplifier is of unusually sturdy mechanical construction, on a 10 1/2" relay rack panel. Plug-in inductors are furnished for operation on 10, 20, 40 or 80 meter amateur bands. The standard Millen No. 90801 exciter unit is an ideal driver for the No. 90881 RF power amplifier.
No. 90881, with one set of coils, but less tubes



90672



46672 - 20



90711



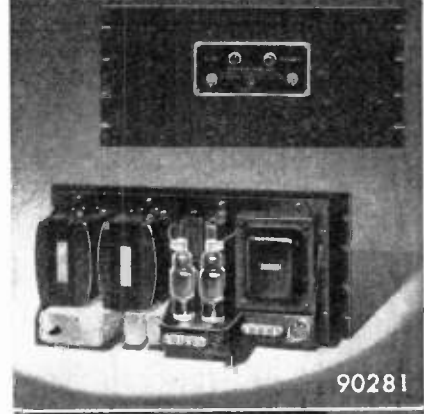
90811



90671



90301



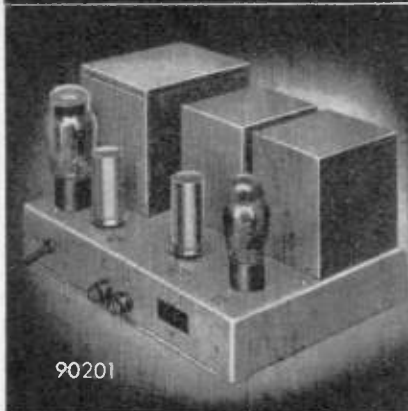
90281



90881

JAMES M. MILLEN

MALDEN · MASSACHUSETTS



90201

REGULATED POWER SUPPLY

A compact, uncased, regulated power supply, either for table use in the laboratory or for incorporation as an integral part of larger equipment. 250 v.d.c. unregulated at 115 ma. 105 v.d.c. regulated at 35 ma. Minus 105 v.d.c. regulated bias at 4 ma. 6.3 v. a.c. at 4.2 amps.
No. 90201, with tubes.....

INSTRUMENT DIAL

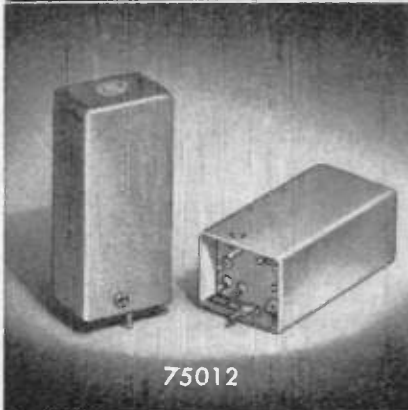
The No. 10030 is an extremely sturdy instrument type indicator. Control shaft has 1 to 1 ratio. Veeder type counter is direct reading in 99 revolutions and vernier scale permits readings to 1 part in 100 of a single revolution. Has built-in dial lock and 1/4" drive shaft coupling. May be used with multi-revolution transmitter controls, etc., or through gear reduction mechanism for control of fractional revolution capacitors, etc., in receivers or laboratory instruments.
No. 10030.....



10030

PHASE-SHIFT NETWORK

A complete and laboratory aligned pair of phase-shift networks in a single compact 2" x 1 1/4" x 4" case with characteristics so as to provide a phase shift between the two networks of 90° ± 1.3° over a frequency range of 225 cycles to 2750 cycles. Well adapted for use in either single sideband transmitter or receiver. Possible to obtain a 40 db suppression of the unwanted sideband. The No. 75012 precision adjusted phase-shift network eliminates the necessity of complicated laboratory equipment for network adjustment.
No. 75012.....



75012

DELAY LINES

No. 34751—Sealed flexible distributed constants line. Excellent rise time. 1350 ohms, 22 inches per microsecond or 550 ohms, 50 inches per mu.-sec. Delay cut to specifications.
No. 34700—Hermetically sealed encased line. Good rise time. 0—0.45 mu.-sec. 1350 ohm line or 0.22 mu.-sec. 500 ohm line in 1" x 1" x 5/2" case. Also larger standard cases and cases made to order. Special impedances 400 to 2200 ohms.
No. 34600—Lumped delay line built to specifications. Delays 0.05 mu.-sec. to 250 mu.-sec. Impedance 50 ohms to 2000 ohms.

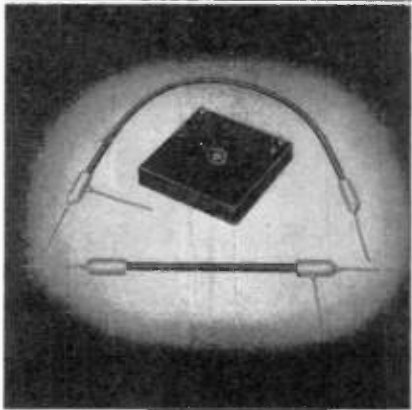
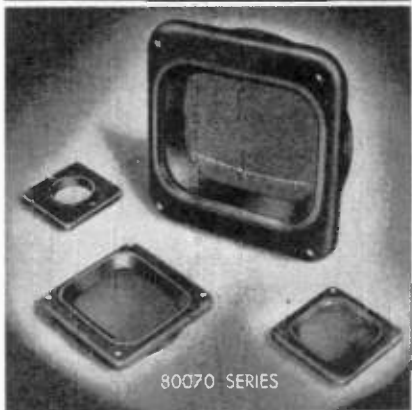


PHOTO MULTIPLIER SHIELDS MU-METAL

The photo multiplier tube operates most effectively when perfectly shielded. Careful study has proven that mu-metal provides superior shielding. Millen Mu-Metal shields are available from stock for the most popular tubes.
No. 80801B for the 1P21.....
No. 80802B for the 5819, 6217, 6292, 6343.....
No. 80802C for the 6199, 6291, 6497...
No. 80802E for the 6866.....
No. 80803J for the 6363.....
No. 80805M for the 6364.....



80070 SERIES

BEZELS FOR CATHODE RAY TUBES

Standard types are of satin finish black plastic. 5" size has neoprene support cushion and green lucite filter. 3" and 2" sizes have integral cushioning.
No. 80075—5".....
No. 80073—3".....
No. 80072—2".....
No. 80071—1".....



80805 M

80802-E

80802-C

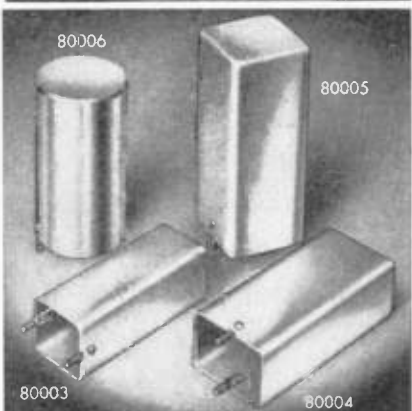
80803-J

80802-B2

80801-B

CATHODE RAY TUBE SHIELDS

For many years we have specialized in the design and manufacture of magnetic metal shields of nicoloi and mumetal for cathode ray tubes in our own complete equipment, as well as for applications of all other principal complete equipment manufacturers. Stock types as well as special designs to customers' specifications promptly available.
No. 80045—Nicoloi for 5BP1.....
No. 80055—Nicoloi for 5CP1.....
No. 80043—Nicoloi for 3" tube.....
No. 80042—Nicoloi for 2" tube.....



80006

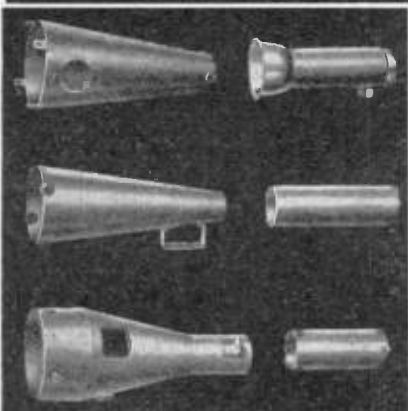
80005

80003

80004

SHIELD CASES ALUMINUM

Effective RF shielding for coils and transformers can be provided by Millen Aluminum cans. Available in several sizes from stock.
No. 80003—1 1/2" x 1 3/4" x 4".....
No. 80004—1 1/2" x 1 3/4" x 4 1/2".....
No. 80005—2" x 2" x 4 1/2".....
No. 80006—2 1/2" round x 4".....
No. 80007—2 1/4" round x 2 3/4" open ends



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PANEL DIALS

The No. 1C035 illuminated panel dial has 12 to 1 ratio; size, 8 1/2" x 6 1/2". Small No. 10039 has 8 to 1 ratio; size, 4" x 3 1/4". Both are of compact mechanical design, easy to mount and have totally self-contained mechanism, thus eliminating back of panel interference. Provision for mounting and marking auxiliary controls, such as switches, potentiometers, etc., provided on the No. 10035. Standard finish either size, flat black art metal.

- No. 10039
- No. 10035

WORM DRIVE UNIT

Cast aluminum frame may be panel or base mounted. Spring loaded split gears to minimize back lash. Standard ratio 16/1. Also in 48/1 on request. No. 10000—(state ratio)

DIALS AND KNOBS

Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is 1 3/4" diameter, 10009 is 2 3/4" and 10008 is 3 1/2".

- No. 10002
- No. 10007
- No. 10008
- No. 10009
- No. 10015
- No. 10018
- No. 10021
- No. 10065

RIGHT ANGLE DRIVE

Extremely compact, with provisions for many methods of mounting. Ideal for operating potentiometers, switches, etc., that must be located, for short leads, in remote parts of chassis.

- No. 10012

HIGH VOLTAGE INSULATED SHAFT EXTENSION

No. 10051 shaft locks and the No. 39023 insulated high voltage potentiometer extension mountings are available as a single integrated unit—the No. 39024. The proper shaft length is independent of the panel thickness. The standard shaft has provision for screw driver adjustment. Special shaft arrangements are available for industrial applications. Extension shaft and insulated coupling are molded as a single unit to provide accuracy of alignment and ease of installation.

- No. 39C23, non locking type
- No. 39C24, locking type

SHAFT LOCKS

In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. The No. 10061 instantly converts any plain "1/4" shaft" volume control, condenser, etc. from "plain" to "shaft locked" type. Easy to mount in place of regular mounting nut.

- No. 10060
- No. 10061
- No. 10062
- No. 10063

TRANSMISSION LINE PLUG

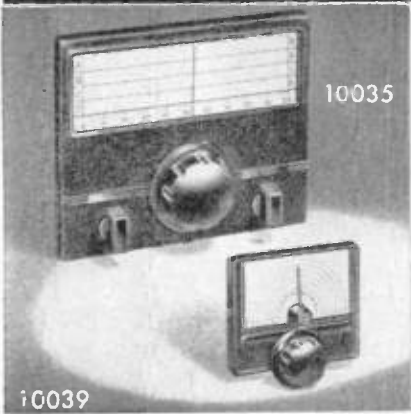
An inexpensive, compact, and efficient polystyrene unit for use with the 300 ohm ribbon type polyethylene transmission lines. Fits into standard Millen No. 33102 (crystal) socket. Pin spacing 1/2", diameter .095".

- No. 37412

DIAL LOCK

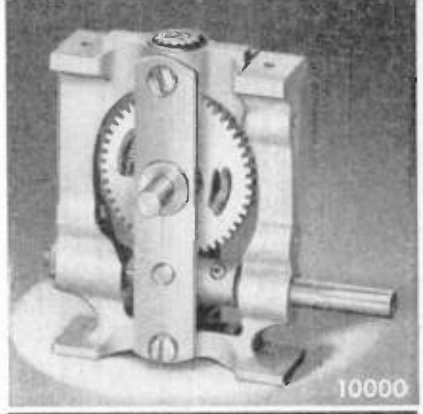
Compact, easy to mount, positive in action, does not alter dial setting in operation! Rotation of knob "A" depresses finger "B" and "C" without imparting any rotary motion to Dial. Single hole mounted.

- No. 10050

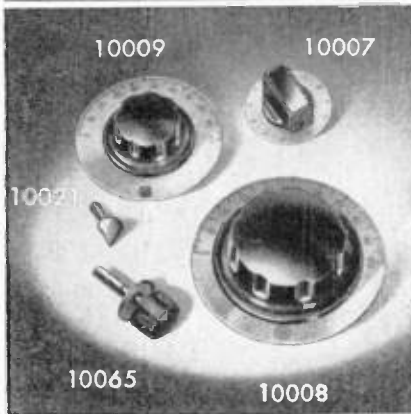


10035

10039



10000



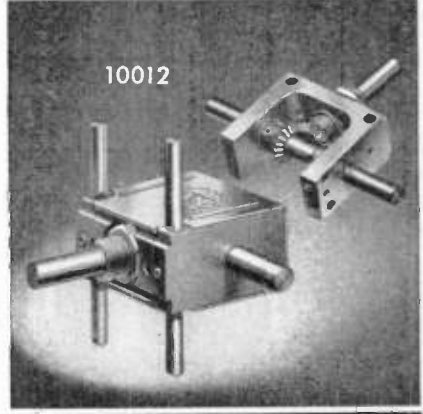
10009

10007

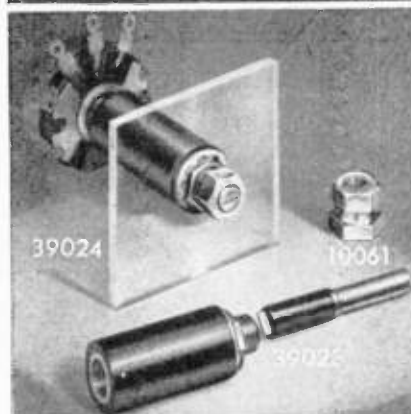
10021

10065

10008



10012



39024

10061

39023



10060

10062

10061

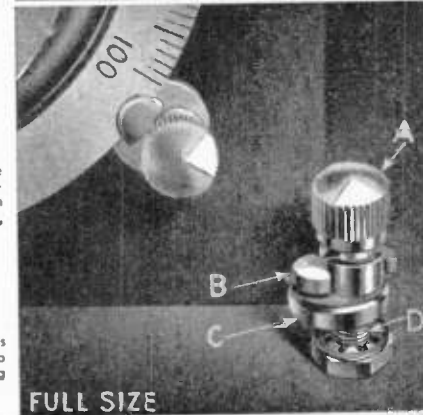
10063



37412

33102

FULL SIZE



FULL SIZE

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TUBE SOCKETS DESIGNED FOR APPLICATION

MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with transmitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government, commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets also have barriers between individual contacts in addition.

The No. 33888 shield is for use with the 33008 octal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and gain.

The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of tubes. Single hole mounting. Spring steel, cadmium plated.

Cavity Socket Contact Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multifinger contact discs. Heat treating instructions forwarded with each kit for hardening after spinning or forming to frequency requirements.

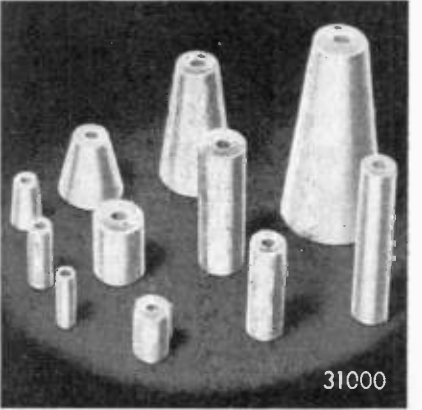
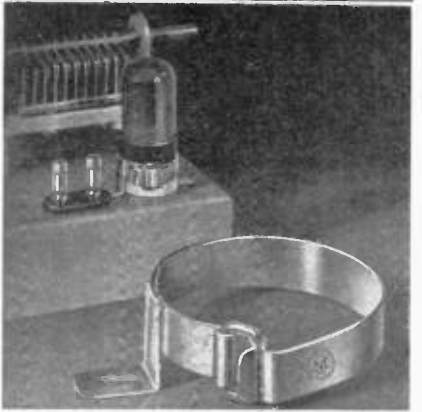
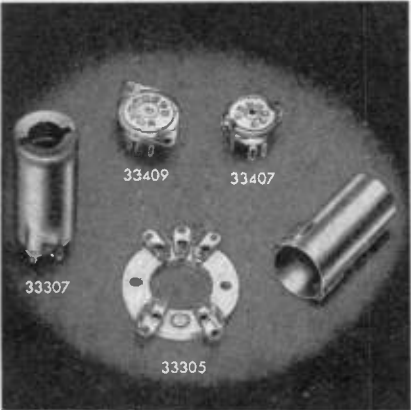
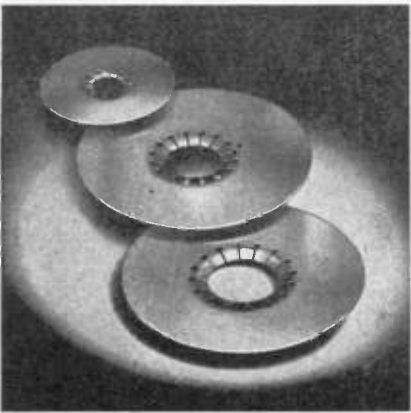
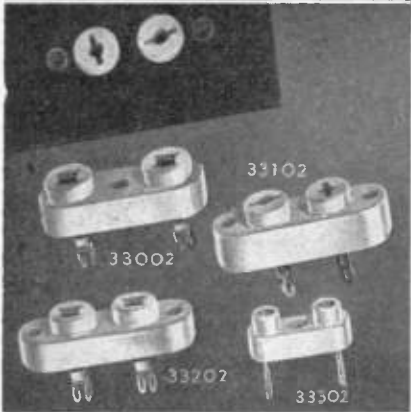
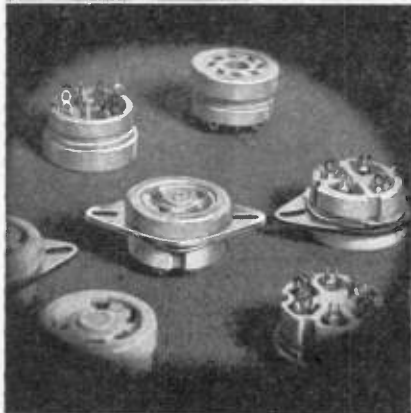
Voltage regulator dual contact bayonet socket, 33991 black phenolic insulation and 33992 with low loss high leakage mica filled phenolic insulation.

- No. 33004—4 Pin Tube Socket.....
- No. 33005—5 Pin Tube Socket.....
- No. 33006—6 Pin Tube Socket.....
- No. 33008—8 Pin Tube Socket.....
- No. 33888—Shield for 33008.....
- No. 33087—Tube Clamp.....
- No. 33002—Crystal Socket $\frac{3}{4}$ " x .125" ..
- No. 33102—Crystal Socket .487" x .095"
- No. 33202—Crystal Socket $\frac{1}{2}$ " x .125" ..
- No. 33302—Crystal Socket .487" x .050"
- No. 33446—Contact Discs.....
- No. 33991—Socket for 991.....
- No. 33992—Socket for 991.....
- No. 33207—829 Socket.....
- No. 33305—Acorn Socket.....
- No. 33307—Miniature Socket and Shield, ceramic.....
- No. 33309—Noval Socket and Shield, ceramic.....
- No. 33405—5 Pin Socket Eimac.....
- No. 33407—Miniature Socket only, ceramic
- No. 33409—Noval Socket only, ceramic..

STAND-OFF INSULATORS

Steatite insulators are available in a variety of sizes—Listed below are some of the most popular.

- No. 31001—Stand-off $\frac{1}{2}$ " x 1".....
- No. 31002—Stand-off $\frac{1}{2}$ " x $2\frac{1}{2}$ ".....
- No. 31003—Stand-off $\frac{3}{4}$ " x 2".....
- No. 31004—Stand-off $\frac{3}{4}$ " x $3\frac{1}{2}$ ".....
- No. 31006—Stand-off $\frac{1}{2}$ " x $\frac{7}{8}$ ".....
- No. 31007—Stand-off $\frac{3}{8}$ " x 1".....
- No. 31011—Cone $\frac{3}{4}$ " x $\frac{1}{2}$ " (box of 5)..
- No. 31012—Cone 1" x 1".....
- No. 31013—Cone $1\frac{1}{2}$ " x 1".....
- No. 31014—Cone 2" x 1".....
- No. 31015—Cone 3" x $1\frac{1}{2}$ ".....



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04000 and 11000 SERIES TRANSMITTING CONDENSERS

Another member of the "Designed for Application" series of transmitting variable air capacitors is the 04000 series with peak voltage ratings of 3000, 6000, and 9000 volts. Right angle drive, 1-1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, round-edged, polished aluminum plates with $1\frac{3}{4}$ " radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.

The 11000 series has 16:1 ratio center drive and fixed angle drive shaft.

12000 and 16000 SERIES TRANSMITTING CONDENSERS

Rigid heavy channeled aluminum end plates. Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with connector lugs in convenient locations. Same plate sizes as 11000 series above.

The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.

THE 28000-29000 SERIES VARIABLE AIR CAPACITORS

"Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single or double section .022" or .066" air gap. End plate size: $1\frac{1}{2}$ " x $1\frac{1}{2}$ ". Rotor plate radius: $\frac{3}{4}$ ". Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 29000 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.

NEUTRALIZING CAPACITOR

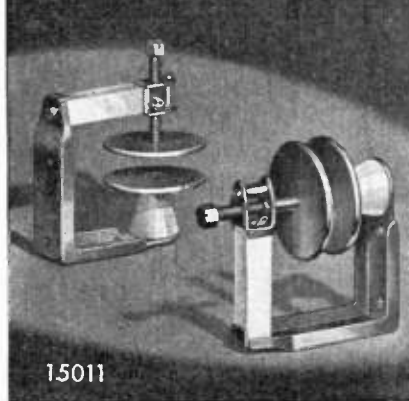
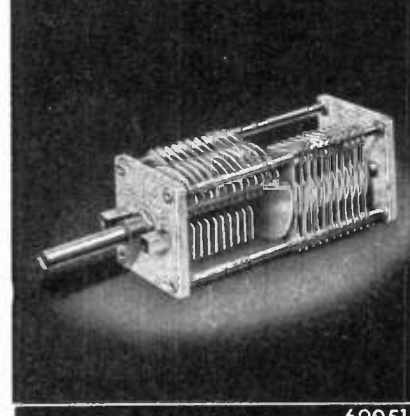
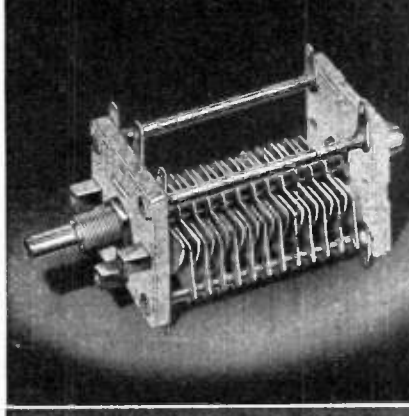
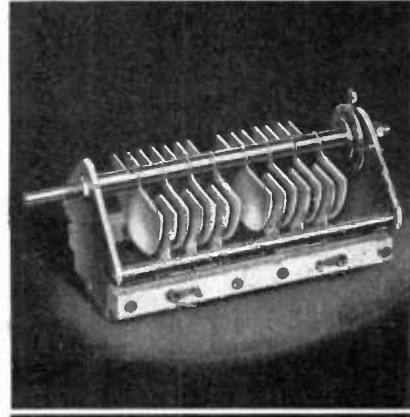
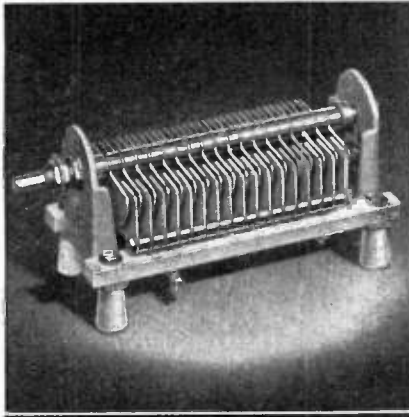
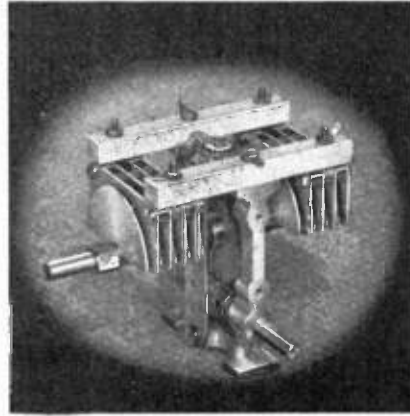
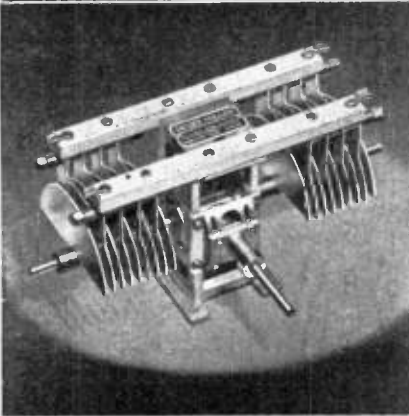
Designed originally for use in our No. 90881 Power Amplifier, the No. 15011 disc neutralizing capacitor has such unique features as rigid channel frame, horizontal or vertical mounting, fine thread over-size lead screw with stop to prevent shorting and rotor lock. Heavy rounded-edged polished aluminum plates are 2" diameter. Glazed Steatite insulation.

No. 15011.....

PERMEABILITY TUNED CERAMIC FORMS

In addition to the popular shielded plug-in permeability tuned forms, 74000 series, the 69040 series of ceramic permeability, tuned unshielded forms are available as standard stock items. Winding diameters available from $\frac{3}{16}$ " to $\frac{1}{2}$ " and winding space from $1\frac{1}{2}$ " to $1\frac{1}{2}$ ".

- No. 69041—(Copper Slug).....
- No. 69042—(Iron Core).....
- No. 69043—(Copper Slug).....
- No. 69044—(Iron Core).....
- No. 69045—(Copper Slug).....
- No. 69046—(Iron Core).....
- No. 69047—(Copper Slug).....
- No. 69048—(Iron Core).....
- No. 69051—(Copper Slug).....
- No. 69052—(Iron Core).....
- No. 69054—(Iron Core).....
- No. 69055—(Copper Slug).....
- No. 69056—(Iron Core).....
- No. 69057—Copper Slug).....
- No. 69058—(Iron Core).....
- No. 69061—(Copper Slug).....
- No. 69062—(Iron Core).....



15011



69043

69057
69058

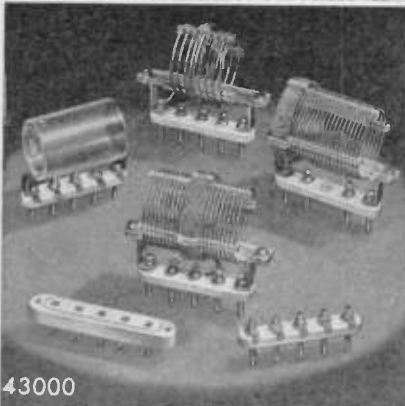
69051
69052

69045
69046

69041
69042

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TRANSMITTING TANK COILS

A full line—all popular wattages for all bands. Send for special catalog sheet.

TUNABLE COIL FORM

Standard octal base of low loss mica-filled bakelite, polystyrene 1/2" diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc. Adjusting screw protrudes through center hole of standard octal socket.

- No. 74001, with iron core.....
- No. 74002, less iron core.....

RF CHOKES

Many have copied, few have equalled, and none have surpassed the genuine original design Millen. Designed for Application series of midget RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished.

Figures 1 and 4 illustrate special types of RF chokes available on order. The popular 34300 and 34200 series are shown in figures 2 and 3 respectively.

General Specifications: 2.5 mH, 250 mA for types 34100, 34101, 34102, 34103, 34104 and 1 mH, 300 mA for types 34105, 34106, 34107, 34108, 34109.

- No. 34100.....
- No. 34101.....
- No. 34102.....
- No. 34103.....
- No. 34104.....

MIDGET COIL FORMS

Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.

- No. 45000.....
- No. 45004.....
- No. 45005.....

OCTAL BASE AND SHIELD

Low loss phenolic base with octal socket plug and aluminum shield can 1 7/8 x 1 7/8 x 3 1/2.

- No. 74400.....

MINIATURE POWDERED IRON CORE RF INDUCTANCES

The No. J300—Miniature powdered iron core inductances. 0.107 in. dia. x 3/8 in. long. Inductances from 25 microhenries to 2.5 millihenries ± 5%. RETMA standard values plus 25, 50, 150, 250, 350, 500, and 2500 microhenries. Three layer solenoids from 25 to 350 microhenries. 1/4 in. wide single pi from 360 to 2500 microhenries. Current rating 50 milliamperes. Special coils on order.

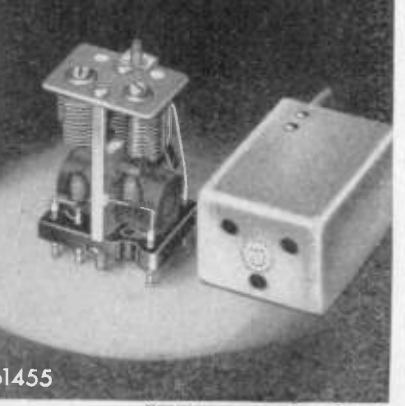
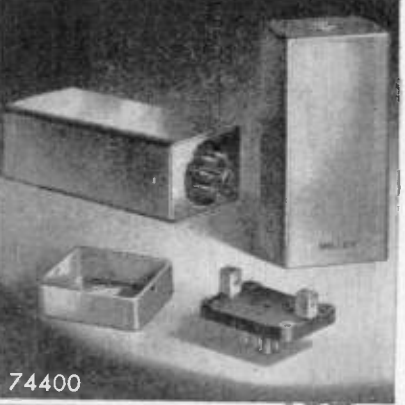
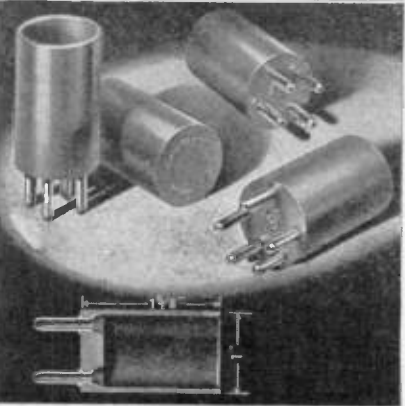
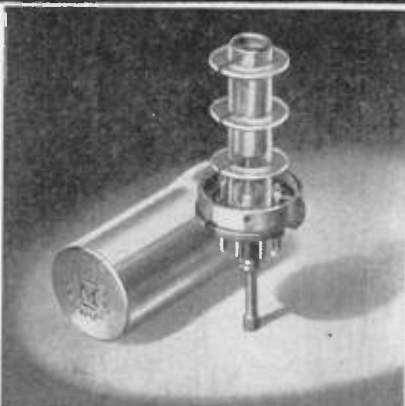
PHENOLIC FORM RF INDUCTANCES

The No. 34300 Inductances—Phenolic coil form with axial leads. Inductances from 1 microhenry to 2.5 millihenries ± 5%. RETMA standard values plus 25, 50, 150, 250, 350, 500, and 2500 microhenries. Solenoids from 1 to 16 microhenries. Single pi from 18 to 300 microhenries. Multiple pi for higher inductances. Forms 7/8" dia. x 7/8 in. long, 3/8" x 3/4", 1/4" x 3/8", and 1/4" x 1". Current rating 250 milliamperes. Special coils on order.

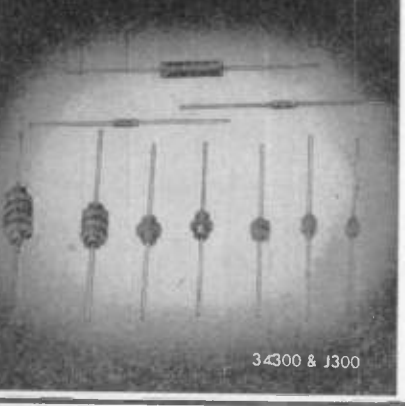
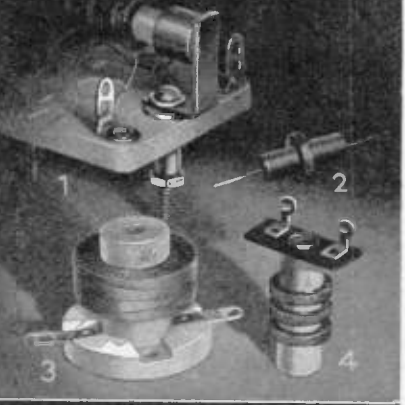
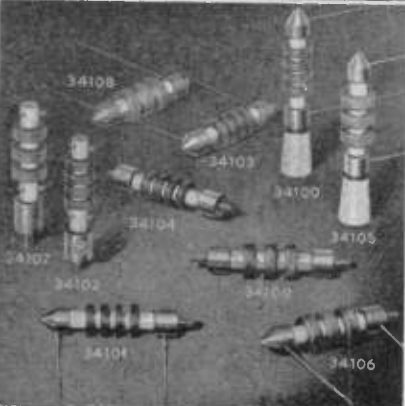
MINIATURE IF TRANSFORMERS

Extremely high Q—approximately 200 Variable Coupling—(under, critical, and over) with all adjustments on top. Small size 1 1/4" x 1 1/4" x 1 1/4" Molded terminal base. Air capacitor tuned. Coils completely enclosed in cup cores. Topped primary and secondary. Rugged construction. High electrical stability.

- No. 61455, 455 kc. Universal Trans.....
- No. 61453, 455 kc. BFO.....
- No. 61160, 1600 kc. Universal Trans.....
- No. 61163, 1600 kc. BFO.....



43000



34300 & J300

74400

61455

JAMES MILLEN

MALDEN · MASSACHUSETTS

FLEXIBLE COUPLINGS

The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types, also such exclusive original designs as the No. 39001 insulated universal joint and the No. 39006 "slide-action" coupling (in both steatite and bakelite insulation).

The No. 39006 "slide-action" coupling permits longitudinal shaft motion, eccentric shaft motion and out-of-line operation, as well as angular drive without backlash.

The No. 39005 and 39005-B (high torque) are similar to the No. 39001, but are not insulated. The steatite insulated No. 39001 has a special anti-backlash pivot and socket grip feature. All of the above illustrated units are for 1/4" shaft and are standard production type units. The No. 39016 incorporates features which have long been desired in a flexible coupling. No Backlash—Higher Flexibility—Higher Breakdown Voltage—Smaller Diameter—Shorter Length—Higher Alignment Accuracy—Higher Resistance to Mechanical Shock—Solid Insulating Barrier Diaphragm—Molded as a Single Unit.



39016



36001

36002

36004

CERAMIC PLATE OR GRID CAPS

Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate each combination "mechanical plus soldered" connection of cable.

- No. 36301—3/4"
- No. 36002—3/4"
- No. 36004—1/4"

SNAP LOCK PLATE CAP

For Mobile, Industrial and other applications where tighter than normal grip with multiple finger 360° low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact grip for easy removal without damage to tube.

- No. 36011—3/4"
- No. 36012—3/4"

SAFETY TERMINAL

Combination high voltage terminal and thru-bushing. Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.

- No. 37001, Black or Red
- No. 37501, Low loss

THRU-BUSHING

Efficient, compact, easy to use and neat appearing. Fits 1/4" hole in chassis. Held in place with a drop of solder or a "nick" from a crimping tool.

- No. 32150

POSTS, PLATES, AND PLUGS

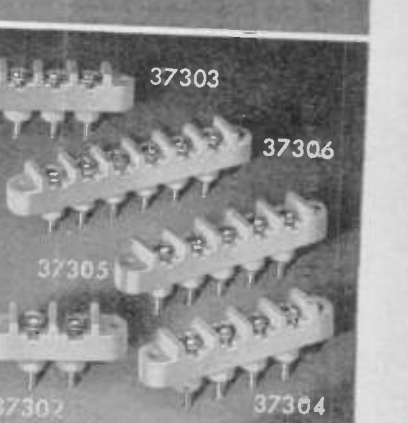
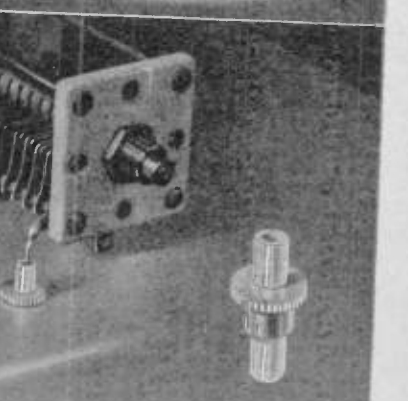
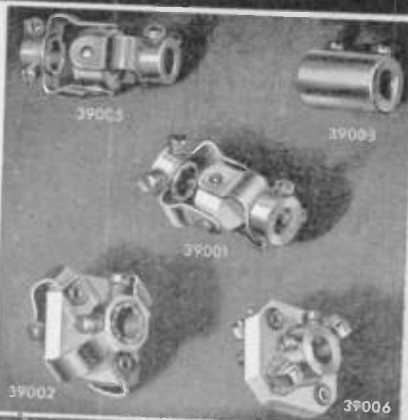
The No. 37200 series, including both insulated and non-insulated binding posts with associated plates and plugs, provide various combinations to meet most requirements. The posts have captive heads and keyed mounting.

The No. 37291 and No. 37223 are standard in black or red with other colors on special order. No. 37201, No. 37202, and No. 37204 and No. 37222 are available in black, red, or low loss. The No. 37202 is also available in steatite.

- No. 37201—Single plates, pr.
- No. 37291—Single plates (tapered), pr.
- No. 37202—Dual plates, pr.
- No. 37204—Double dual plates, pr.
- No. 37212—Dual plug
- No. 37222—Non-insulated binding post, ea.
- No. 37223—Insulated binding posts, ea.

STEATITE TERMINAL STRIPS

Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.



3/4 SIZE





MINIATURIZED COMPONENTS

DESIGNED for APPLICATION miniaturized components developed for use in our own equipment such as the 90901 Oscilloscope, are now available for separate sale. Many of these parts are similar, in most details except size, to their equivalents in our standard component parts group. In certain devices where complete miniaturization is not paramount, a combination of standard and miniature components may possibly be used to advantage. For convenience, we have also listed on this page the extremely small sized coil forms from our standard catalog.

CODE

DESCRIPTION

CODE

DESCRIPTION

- A001 Bar knob for 1/8" shaft. 1/2" high by 3/4" long.
- A006 Fluted black plastic knob with brass insert for 1/8" shaft. 1/2" high by 3/4" diameter.
- A007 1/4" black plastic dial knob with brass insert for 1/8" shaft. 3/4" diameter dial. 1/4" high.
- A008 1/4" black plastic knob. Same as no. A007 except for style.
- A012 Right angle drive for 1/8" shafts. Single hole mounting.
- A014 1" bar dial for 1/8" shaft. 1/2" high. 180° or 280° dials for clockwise or counter-clockwise rotation.
- A015 1" fluted knob dial for 1/8" shaft. 1/2" high. Same dial plates as no. A014.
- A017 1 1/2" diameter fluted black plastic knob for 1/8" shaft.
- A018 Knob, same as no. A007 except with 3/8" diameter skirt.
- A019 Knob, same as no. A007, but without dial.
- A021 Miniature metal index for miniature dials.
- A050 Miniature dial lock.
- A061 Shaft lock for 1/8" diameter shaft. 1/4"-32 bushing. Nickel plated brass.
- A062 Shaft lock with knurled locking nut.

- A066 Shaft bearing for 1/8" diameter shafts. Nickel plated brass. Fits 1/4" diameter hole.
- E001 Steatite ceramic standoff or tie-point. Integral mounting eyelet. 0.205" overall diameter.
- E201 Black or red plastic binding post plates for No. E222.
- E202 Black or red plastic plates for two binding posts spaced 1/2".
- E212 Black or red plastic plug for two binding posts spaced 1/2".
- E222 Metal binding post with jack top.
- E302A to E306A Steatite ceramic terminal strips. 3/4" wide. Terminals spaced 3/8" or centers. Screw type or solder type thru-terminals.
- J300-350 to J300-2500 Complete line of miniature inductances 3.3 to 2500 microhenries. 3/8" long. Diameter 0.115" to 0.297".
- M001 Insulated universal joint style flexible coupling for 1/8" dia shafts.
- M003 Solid coupling for 1/8" dia. shafts. Nickel plated brass.
- M004 Universal joint style flexible coupling for 1/8" diameter shafts. Inverted hubs for short length. Not insulated.
- M005 Universal joint style flexible coupling for 1/8" diameter shafts. External hub for maximum flexibility. Not insulated.
- M006 Universal joint style flexible coupling for 1/8" diameter shafts. Spring finger. Steatite ceramic insulation.
- M008 Plastic insulated coupling with nickel plated brass inserts for 1/8" diameter shafts.
- M017 Plastic insulated flexible coupling for 1/8" diameter shafts. 1 1/2" long by 1 3/4" diameter. Bronze yoke.
- M023 Insulated shaft extension for 1/4"-32 bushing and 1/8" shaft. For mounting sub-miniature potentiometer.
- M024 Locking insulated shaft extension similar to no. M023.
- 69043 Steatite ceramic coil form. Adjustable core. Winding space 1/4" diameter by 1 1/2" long. Mounting 4-40 hole.
- 69044 Steatite ceramic coil form. Adjustable core. Winding space 0.187" diameter by 3/8" long. No. 10-32 mounting.

JAMES MILLEN

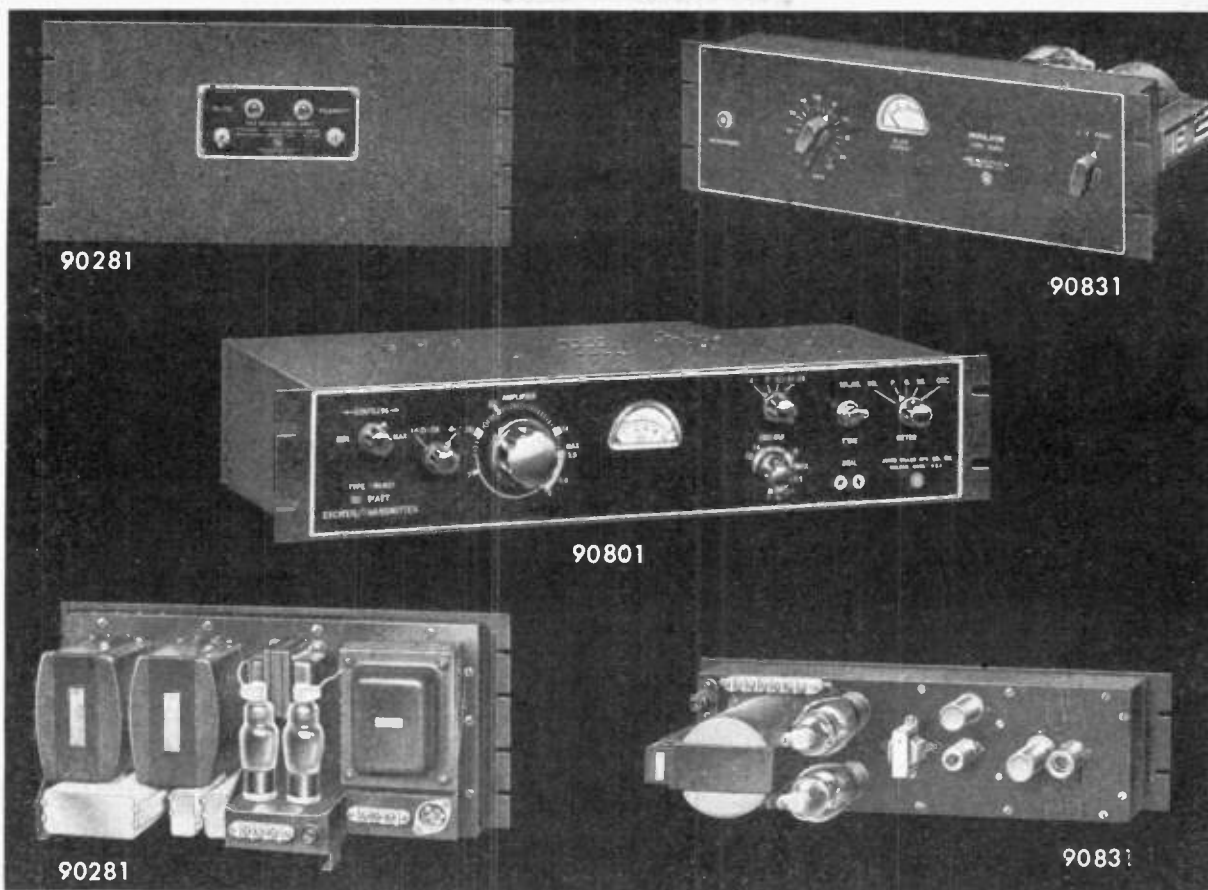


MFG. CO., INC.

MAIN OFFICE

AND FACTORY

MALDEN, MASSACHUSETTS, U. S. A.



Exciters, Modulators and Power Supplies

EXCITER-TRANSMITTER

The 90801 Exciter-Transmitter is of the most modern design including features and shielding for TVI reduction, band-switching for the 4-7-14-21 and 28 megacycle bands, circuit metering. Conservatively rated for use either as a transmitter or exciter. 5763 oscillator-buffer-multiplier and 6146 power amplifier. 90 watts input for CW. Can be keyed in the oscillator and/or amplifier or by means of keyed external V.F.O. such as the 90711. 67 watts input phone. Rack mounted. 3 1/2" panel height.

No. 90801, less tubes.....

MODULATOR

The 90831 40 watt modulator designed especially for use with 90801 transmitter. 12AX7 speech amplifier-6C4 voltage amplifier-class AB1 6146's. Suitable for modulating transmitters with power input up to 80 watts. Gain is ample for the use of low level, high impedance crystal or dynamic microphones. Frequency response is adjusted for good communication intelligibility with limited side bands. Modulator incorporates a switch for complete change-over of modulator and transmitter from CW to 'phone.

No. 90831, less tubes.....

HIGH VOLTAGE POWER SUPPLY

The 90281 high voltage power supply has a d.c. output of 550 to 700 volts, with maximum current of 235 ma. in addition, a.c. filament power of 6.3 volts at 4 amperes is also available. This power supply is an ideal unit for use with transmitters as well as general laboratory purposes. A single power supply will provide high voltage for both the 90801 Transmitter and the 90831 Modulator. Uses 2—816 mercury vapor rectifiers and incorporates a two section filter which results in excellent regulation and very low ripple. Rack mounted. 8 3/4" panel height.

No. 90281, less tubes.....

LOW VOLTAGE POWER SUPPLY

(not illustrated)

The 90201 is a compact uncased regulated and general purpose power supply either for table use, in the laboratory or for incorporation as an integral part of larger equipments. It will provide modulator and exciter low voltage as well as bias and heater voltages when used with the 90801 and 90831. Its multiple outputs include 250 volt 125 ma. unregulated — 105 volt 35 ma. regulated-bias voltage of minus 100 volts — 6.3 volt filament power at 4.2 ampere.

Model 90201, with tubes.....

Handwritten notes: 5/4/54, 352, 334, 8 3/4

JAMES MILLEN

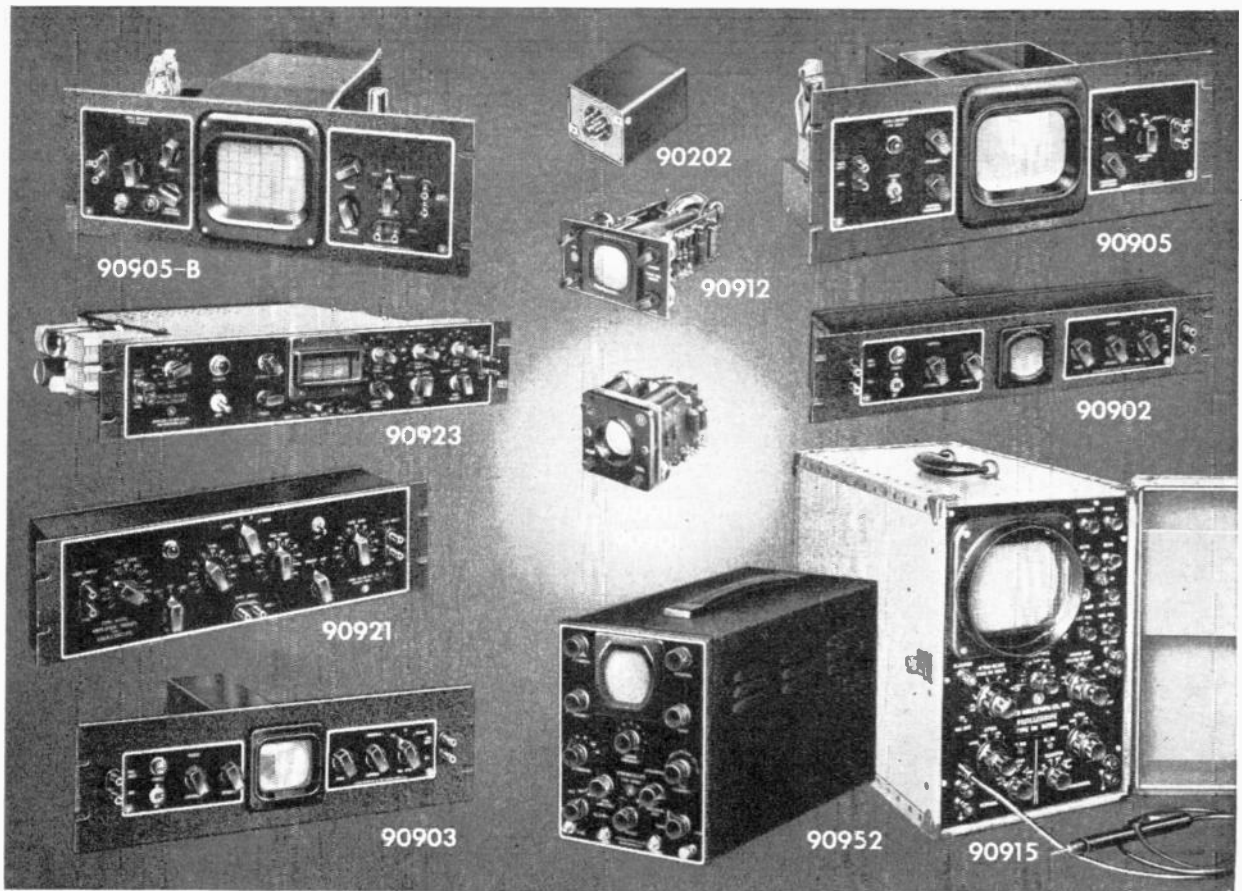


MFG. CO., INC.

MAIN OFFICE

AND FACTORY

MALDEN, MASSACHUSETTS, U. S. A.



"Designed for Application" • Oscilloscopes and Accessories

The extensive Millen "Designed for Application" line of oscilloscopes and accessories includes five instrumentation oscilloscopes, six rack mounted basic oscilloscopes, an insulated industrial oscilloscope, a miniature synchroscope-oscilloscope, two compact rack mounted complete oscilloscopes, a rack mounted basic oscilloscope for military applications, two amplifier-sweeps, and a plug-in power supply.

INSTRUMENTATION OSCILLOSCOPES

Miniaturized, panel mounting cathode ray oscilloscopes designed for use in instrumentation in place of conventional "pointer type" moving coil meter. Magnitude, phase displacement, wave shape, etc. are readily displayed.

No. 90901 uses type 1CP1 fixed focus one inch cathode ray tube, 2 1/2" x 2 3/4" panel. Panel bezel matches in size and type the standard 2" square meters.

No. 90911 uses Type 1EP1 cathode ray tube. Balanced deflection. Blanking input. Sharp focus. Panel matches 2" square meters. Flat face RCA 1 1/4" diameter tube.

No. 90912 uses type 2BP1 two inch cathode ray tube, 3" x 5" panel. Sharp focus. Good sensitivity. Accelerating voltage 500 to 875 volts. Min. control interaction.

No. 90912-R uses type 31P1 2 1/4" x 1 3/8" rectangular cathode ray tube.

No. 90913 uses type 3AP1 3" x 1 1/2" rectangular cathode ray tube, 1 3/4" x 2 3/4" useful scan. Vertical sensitivity 33 volts d.c. per inch at 2000 v. accelerating.

BASIC OSCILLOSCOPES

Rack mounted inexpensive basic oscilloscopes including cathode ray tube circuit, power supply, intensity, focus, and centering controls, magnetic shielding, safety features, switches, etc. The basic oscilloscopes in their packaged form are entirely adequate for many laboratory as well as industrial and communication uses.

No. 90902 uses type 2BP1 two inch cathode ray tube, 3 1/2" x 19" panel. Power supply — 105-125 volts — 60 cycles. Power consumption — 19 watts.

No. 90902-M — Military version of 90902.

No. 90903 uses type 3KP1 three inch cathode ray tube, 5 3/4" x 19" panel. Power supply — 105-125 volts — 60 cycles. Power consumption — 19 watts.

No. 90903-R uses type 3NP1 3" x 1 1/2" rectangular cathode ray tube, 3 1/2" x 19" panel. Power supply 105-125 volts — 60 cycles.

No. 90905 uses type 3UP1 five inch cathode ray tube 7" x 19" panel. Power supply 105-125 volts — 60 cycles. Power consumption — 32 watts.

No. 90905-B uses type 5ADP1 five inch flat face precision tolerance cathode ray tube. Power supply — 105-125 volts — 60 cycles. Power consumption — 35 watts.

No. 90905-R uses type B1201 4 3/8" x 2 5/8" rectangular cathode ray tube, 3 1/2" x 19" panel.

INDUSTRIAL OSCILLOSCOPE

Suitable for use in factory, laboratory, and the field for design, installation, maintenance, and service. Completely insulated front panel and case. Double shielded against magnetic fields. Excellent linearity. Sharp focus over entire 4" x 4" useful scan. The vertical and horizontal amplifiers are stable d.c. amplifiers and are identical, thus permitting accurate phase measurements.

No. 90915 uses type 5AOP — 1, 2, 7, or 11 flat face, precision tolerance cathode ray tube. Frequency response of either amplifier D.C. to 100 K.C. + 0-10%.

MINIATURE SYNCHROSCOPE-OSCILLOSCOPE

Compact "field service" Synchroscope or Oscilloscope, 7 1/2" x 5 5/8" x 13". Weighs 17 pounds. Synchronizes to external or internal positive or negative pulses. Band width 10 cycles to 1000 K.C. Sweep 6 to 300 microseconds per inch. Performance has not been sacrificed in designing this unit for light weight.

RACK MOUNTED OSCILLOSCOPES

Complete with amplifiers and sweep. Good low frequency response and linearity. For monitoring, production test, or laboratory use. Compact.

No. 90923 uses type 3XP1 2" x 1 1/2" rectangular cathode ray tube, 3 1/2" x 19" panel.

No. 90925 uses type B1201 4 3/8" x 2 5/8" rectangular cathode ray tube, 3 1/2" x 19" panel.

PLUG-IN POWER SUPPLY

Compact high voltage power supply for oscilloscopes, etc. 2" x 2 1/2" x 5". Input 117 volts 50/60 cycles at 10 watts. Output 750 volts d.c. at 3 ma. and 6.3 volts a.c. at 600 ma. Supplies accelerating and centering potential for oscilloscopes.

No. 90202 Power Supply for Instrumentation Oscilloscopes.

AMPLIFIER/SWEEP UNITS

Horizontal and vertical amplifiers and sawtooth sweep generator for use with basic oscilloscopes. Match MILLER basic oscilloscopes in appearance.

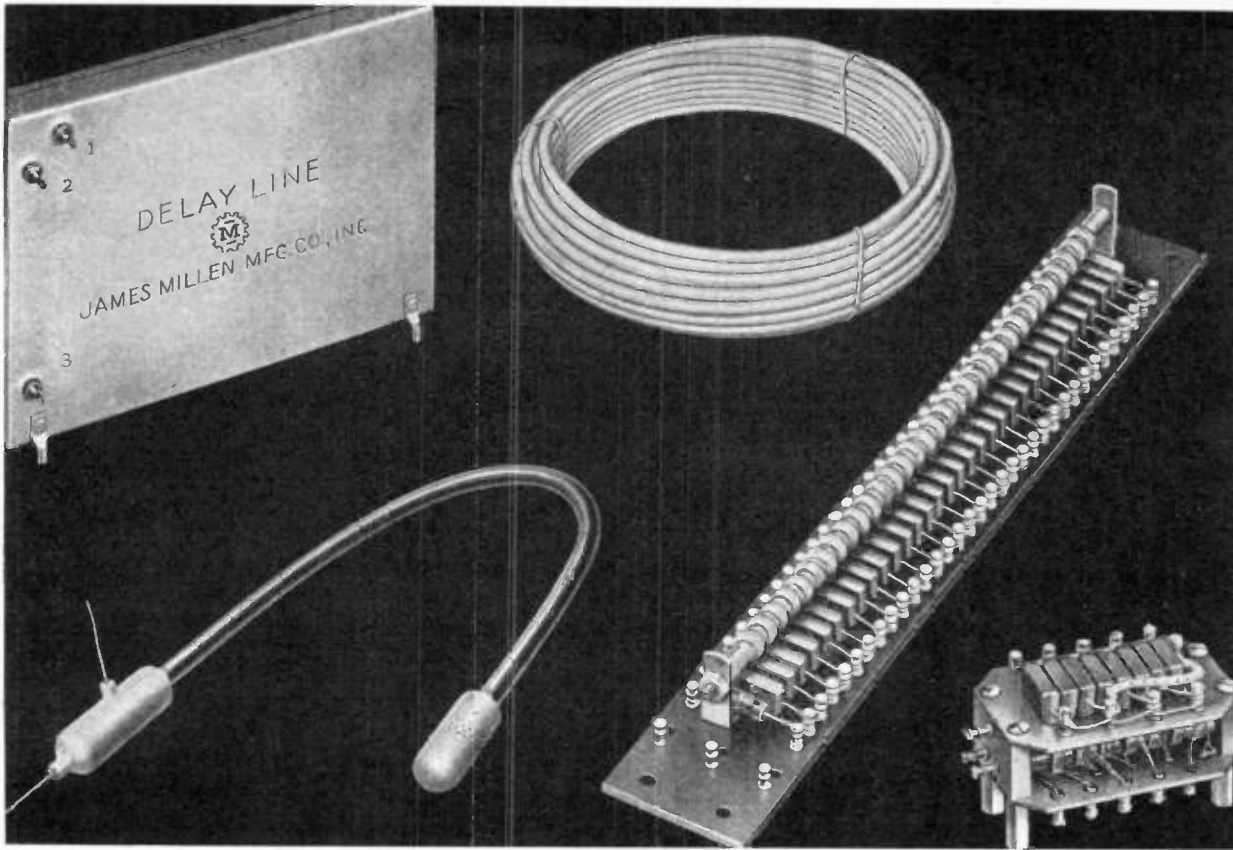
No. 90921 — 6S17 amplifier, 6SN7-GT hard tube sweep, 5 1/4" x 19" rack panel.

No. 90922 — 3J2" x 19" rack panel. Good low frequency linearity.

JAMES MILLEN MFG. CO., INC.

MAIN OFFICE AND FACTORY

MALDEN, MASSACHUSETTS, U.S.A.



Delay Lines and Networks • "Designed for Application"

The James Millen Mfg. Co., Inc. has been producing continuous delay lines and lump constant delay networks since the origination of the demand for these components in pulse formation and other circuits requiring time delay. The most modern of these is the distributed constant delay line designed to comply with the most stringent electrical and mechanical requirements for military, commercial and laboratory equipment.

Distributed-constants delay line is furnished in three forms:

- 1. Bulk line
- 2. Flexible sealed completed units
- 3. Cased hermetically sealed completed units

The bulk delay line is approximately 5/16 in. diameter and is furnished in random lengths. It is priced "by the foot."

The flexible, sealed, complete lines are furnished with delay time of from 0.1 microseconds to 10 microseconds. The terminals are No. 18 tinned leads, extended through molded end caps. This form of line is particularly useful in applications where space is at a premium, as the line can be tucked around the edges of the masses, in otherwise waste space. The flexible lines are furnished with terminals on both ends for transmission use or with a dummy molded end replacing one of the terminals for pulse forming lines. Delay time is specified as time required for the transmission through one length of line only.

Care must be used not to coil line around a diameter of less than 1 1/2 in.

The cased lines are mounted in hermetically sealed metal containers with "metal to glass" terminals. Lines of this type can be furnished in values up to approximately 36 microseconds and with multiple sections, in a single case. Delay lines from 0.5 microsecond to 1.5 microseconds 1370 ohm characteristic impedance are mounted in a standard can 3/4 in. long by 1 1/4 in. high, by 1 in. thick. Delay lines from 0.1 microseconds to 0.5 microseconds are mounted in a standard e.c. 1 inch by 1 inch square and length to accommodate the particular time-delay line requirements. Delay lines 550 ohm impedance from 0.1 microseconds to 0.25 microseconds are also mounted in the standard 1 x 1 inch square can.

Case size, terminal arrangement, mounting feet or lugs, etc., can be furnished to customer's requirements.

Due to the special nature of delay line applications, we list no standard units, but solicit correspondence regarding your exact requirements.

ELECTRICAL CHARACTERISTICS:

Characteristic Impedance: 1350 ohms \pm 20% or 550 ohms \pm 20%. Special lines of any impedance between 400 ohms and 2000 ohms can be supplied.

Time Delay: Approximately 22 inches per microsecond for 1350 ohm line. Approximately 4.1 feet per microsecond for 550 ohm line.

Frequency Response: 1350 ohm line — When a 1 microsecond square pulse is applied to the line, the leading edge of the pulse after transmission through 4 microseconds of line has a time rise of not more than 0.2 microseconds and the duration of the pulse is less than 1.5 microseconds. (Line terminated by characteristic impedance.) Rise time is a function of delay.

Band Pass: A function of delay.

Attenuation: Approximately 1.9 db. per foot for one microsecond pulse. With a four microsecond delay line terminated in its characteristic impedance and a one microsecond square pulse input, the transmitted pulse height is no less than 35% of the input pulse height.

Test Voltage: 600 volts d.c. between winding and shield, between winding and case and between shield and case.

Leakage Resistance: 100 megohms or more between winding and shield and between winding and case.

Ambient Temperature Range: Minus 50 degrees centigrade to plus 85 degrees centigrade.

Thermal Drift: Less than 0.00038 microseconds per microsecond delay per degree centigrade.

Weight: Approximately 9.6 ounce per foot.

Many special applications require lumped-constant delay line. We are in a position to manufacture such lines to your specifications. The above illustrations are typical examples. Other designs including hermetically sealed units can be supplied.

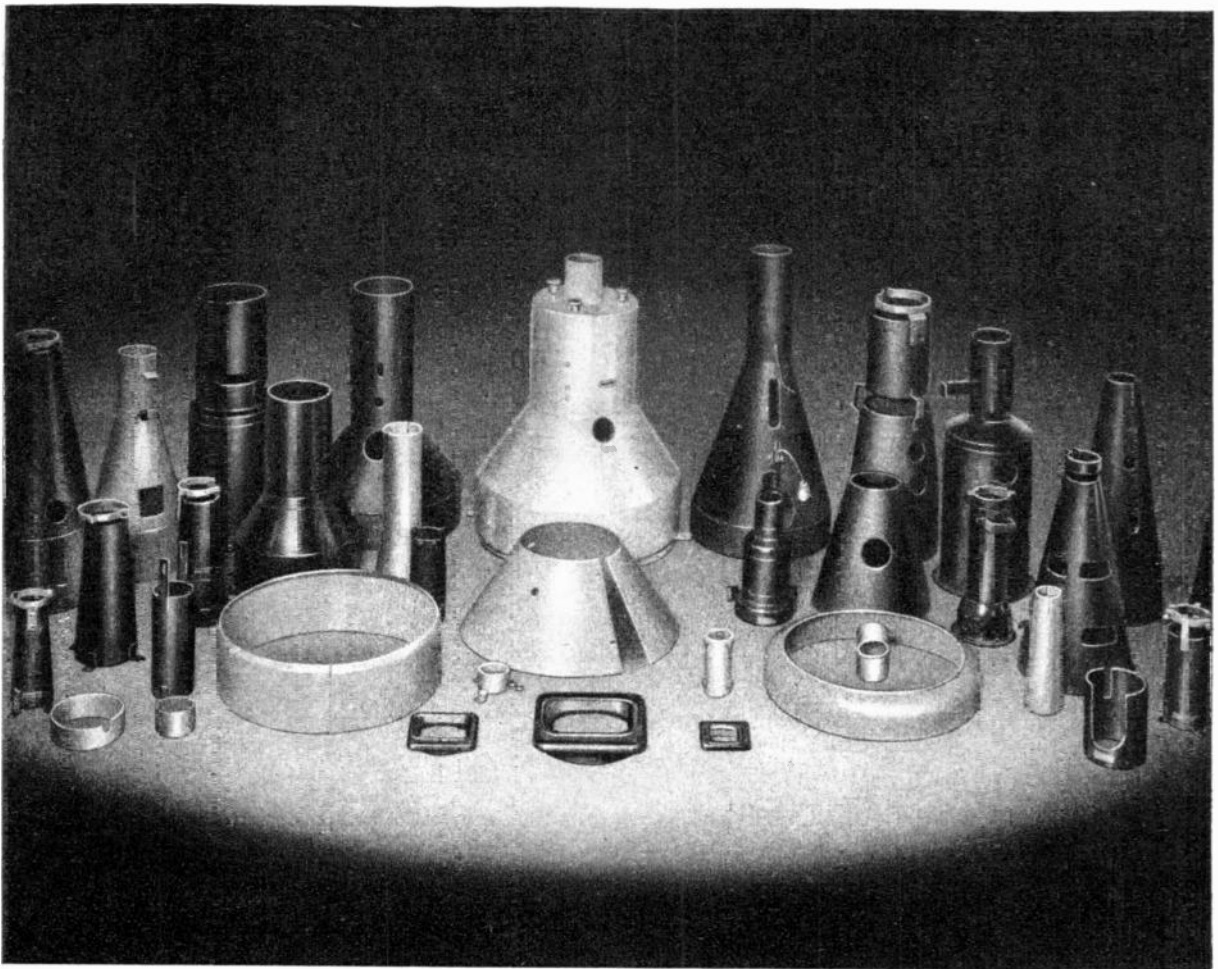
JAMES MILLEN MFG. CO., INC.



MAIN OFFICE

AND FACTORY

MALDEN, MASSACHUSETTS, U. S. A.



Magnetic Metal Shields

The James Millen Mfg. Co., Inc. has for many years specialized in the production of magnetic metal cathode ray tube shields and bezels for the entire electronic industry, supplying magnetic metal shields to manufacturing companies, laboratories and research organizations. The study of such problems has resulted in the use of two outstanding metals for this purpose: NICOLOL and MUMETAL. It is possible by selecting the proper material, that is, Mumetal or Nicolol, or the correct combination of these materials, to reduce the effect of undesired magnetic fields.

Mumetal is generally used on equipment requiring the most thorough shielding, and where the trouble-causing field is of excessive magnitude. Nicolol is very effective in reducing fields of high flux concentration. Single Nicolol shields are satisfactory for general purpose application where the ultimate design does not necessitate too critical consideration of the effect of external fields. Where there is a combination of the requirement for optimum shielding and an abnormally high external field, the combination of Nicolol outer shield and a Mumetal inner shield is used. The Nicolol outer shield reduces the high field most effectively; and the Mumetal inner shield is then operating under the best condition whereby it reduces the interference from a low field to a minimum. For most applications, however, the single Mumetal shield is entirely adequate and to be recommended.

Both Nicolol and Mumetal obtain their effectiveness due to the correct selection of alloys on one hand, and the process of annealing so as to relieve stresses and provide the best possible molecular structure for effective shielding, on the other.

Magnetic metal shields can be furnished to meet the most stringent requirements and match the color of the equipment incorporating such shields. Due to the high alloy

content neither Nicolol or Mumetal is subject to corrosion and, in general, it is recommended that a zinc chromate primer and a high heat lacquer be used in finishing the shields. Plating is generally avoided due to the possibility that the shields might become magnetized in the plating process which necessarily is done after annealing. Care is used in the selection of materials used in conjunction with the shields for such purposes as brackets, supports, etc., so as to minimize many operations on the shields after annealing.

Gold rolled or stainless steel brackets are recommended as it is impractical to use brass which would melt under the high annealing temperature. Tube clamps must necessarily be made of spring metal which would lose its temper during annealing. In order to avoid this clamps are mounted on the shields after treatment by means of spun rivets so as to avoid any shock to the shield.

Shields and bezels have been designed to meet the stringent requirements of military, laboratory and industrial uses and still provide units which are economical and can be assembled into the complete equipment without complexity. Our standard shields and bezels are arranged to support the cathode ray tube from the front panel without addition of complicated supports and brackets.

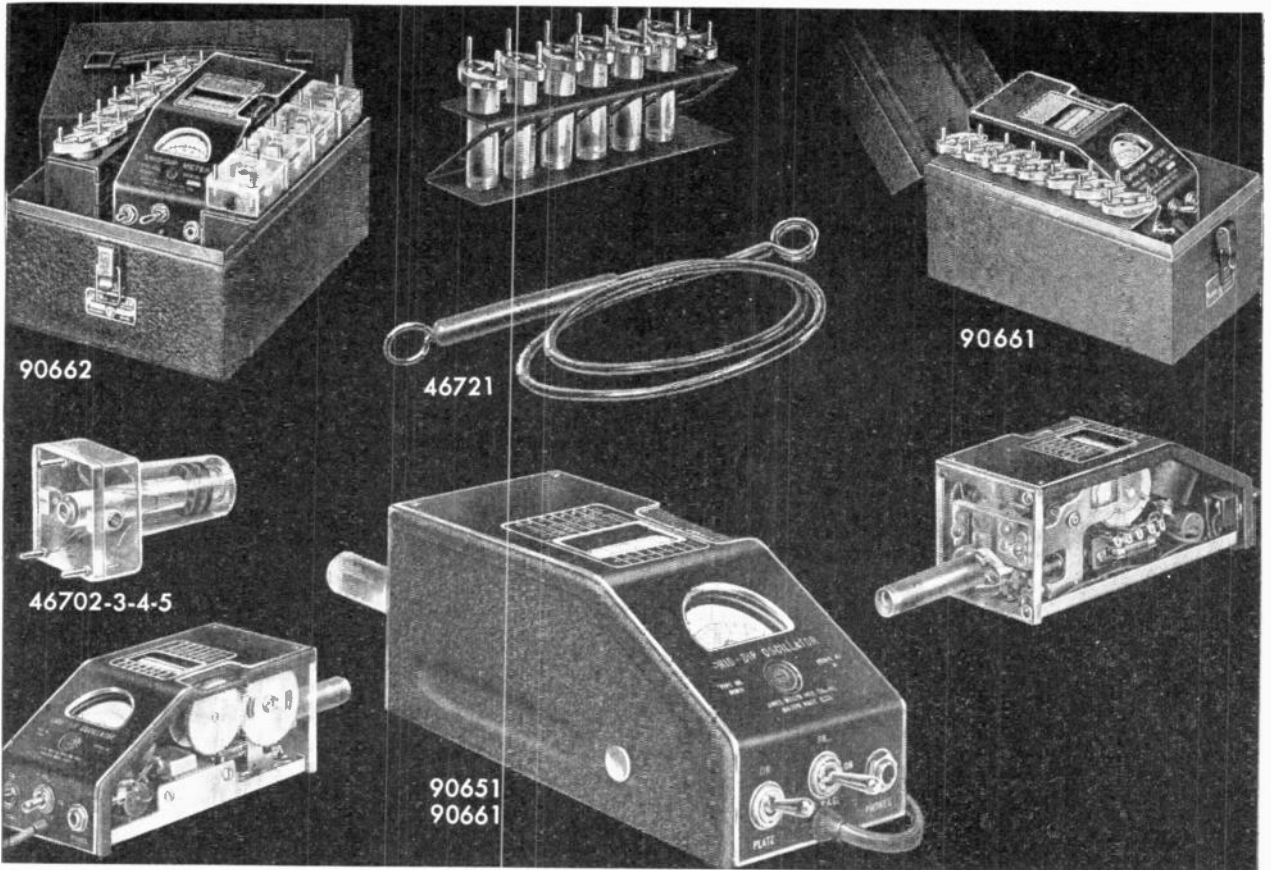
Standard shields and bezels for the more popular tubes are available from stock for both production and research programs.

Many production programs, however, make desirable shields designed in conjunction with the specialized requirements of the basic apparatus. Our Custom Shield design and fabrication department is at the service of our customers for the development of magnetic metal shields for such specialized application.

JAMES MILLEN MFG. CO., INC.

MAIN OFFICE AND FACTORY

MALDEN, MASSACHUSETTS, U. S. A.



Designed for Application Grid Dip Meters

Millen Grid Dip Meters are available to meet all various laboratory and servicing requirements.

The 90662 Industrial Grid Dip Meter hand calibrated $\pm 0.5\%$ for laboratory use with a range from 225 kc. to 300 mc. incorporates features desired for both industrial and laboratory application, including three wire grounding type power cord and suitable carrying case.

The 90661 Industrial Grid Dip Meter is similar to the 90662 except for a reduced range of 1.7 to 300 mc. It likewise incorporates the three wire grounding type cord and metal carrying case.

The 90651 Standard Grid Dip Meter is a somewhat less expensive version of the grid dip meter. The $\pm 2.0\%$ calibration is adequate for general usage. It is supplied without grounding lead and without carrying case. The range is 1.7 to 300 mc. Extra inductors available extends range to 220 kc.

The Millen Grid Dip Meter is a calibrated stable RF oscillator unit with a meter to read grid current. The frequency determining coil is plugged into the unit so that it may be used as a probe.

These instruments are complete with a built-in transformer type A.C. power supply and internal terminal board to provide connections for battery operation where it is desirable to use the unit on antenna measurements and other usages where A.C. power is not available. Compactness

has been achieved without loss of performance or convenience of usage. The incorporation of the power supply, oscillator and probe into a single unit provides a convenient device for checking all types of circuits. The indicating instrument is a standard 2 men instrument with an easy to read scale. The calibrated dial is a large 205° drum dial which provides seven direct reading scales, plus an additional universal scale, all with the same length and readability. Each range has its individual plug-in probe completely enclosed in a contour fitting poly-styrene case for assurance of permanence of calibration as well as to prevent any possibility of mechanical damage or of unintentional contact with the components of the circuit being tested.

The Grid Dip Meters may be used as:

1. A Grid Dip Oscillator
2. An Oscillating Detector
3. A Signal Generator
4. An Indicating Absorption Wavemeter

The most common usage of the Grid Dip Meter is as an oscillating frequency meter to determine the resonant frequencies of de-energized tuned circuits.

Size of Grid Dip Meter only (less probe): 7 in. x 3 3/8 in. x 3 3/8 in.

JAMES MILLEN

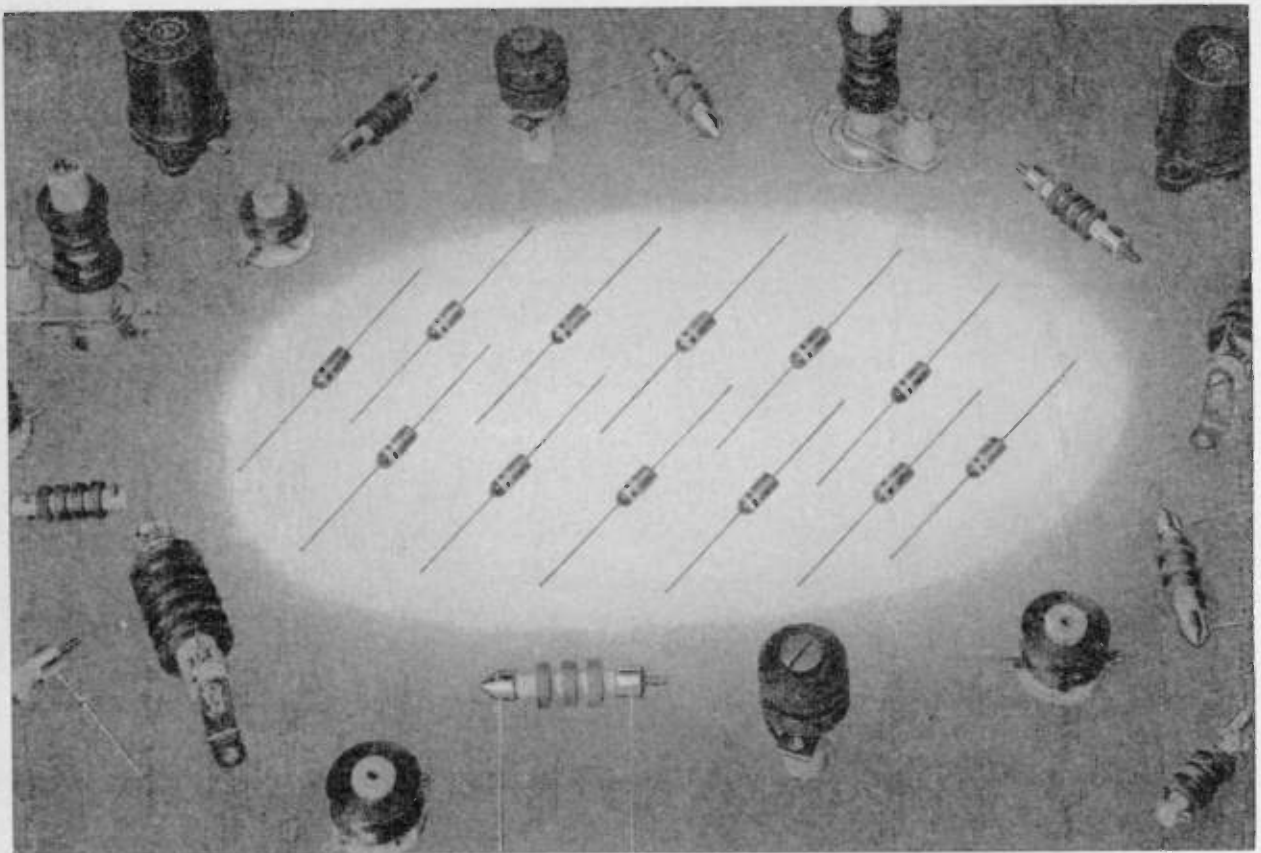


MFG. CO., INC.

MAIN OFFICE

AND FACTORY

MALDEN, MASSACHUSETTS, U. S. A.



Encapsulated Inductances

Miller DESIGNED for APPLICATION encapsulated coils provide another advance in the r-f inductor field. Modern application requires miniature, heat and cold resistant, hermetically sealed, and abrasion resistant r-f inductor assemblies. The James Millen Manufacturing Company has pioneered many advances in the r-f inductor field, including the now standard 4 pi r-f choke, the axial lead r-f choke, and the miniature r-f choke. Developments have now made possible another advance, the No. 34301 and No. J301 encapsulated inductors—hermetically sealed—miniature size. Ambient temperature minus 55 degrees to plus 100 degrees C.

NO. J301 MINIATURE ENCAPSULATED INDUCTANCES

DESIGNED for APPLICATION miniature inductances are: extremely small (see table at right)—hermetically sealed—wound on axial lead Carbonyl cores—color coded. Coils are available in RETMA standard values plus 25, 50, 150, 250, 350, 500, and 2500 microhenries. Coils are three layer solenoids up to 350 microhenries. From 360 to 2500 microhenries coils are pi-wound. Current rating 50 to 600 milliamperes depending on coil size. Inductance $\pm 5\%$. Special coils on order.

NO. 34301 STANDARD ENCAPSULATED INDUCTANCES

Encapsulated DESIGNED for APPLICATION axial lead phenolic form r-f inductances. Hermetically sealed—heat resistant—abrasion proof—color coded. 1 to 350 microhenries available in RETMA standard values plus 25, 50, 150, 250, and 350 microhenries. Inductance $\pm 5\%$. Values available in same progression as J301 coils listed in the table at the right. Solenoid winding for 1 to 15 microhenries. Universal pi winding from 20 microhenries to 350 microhenries. Current rating 250 to 1500 milliamperes, depending on coil size. Ambient temperature range—minus 55 degrees to plus 100 degrees Centigrade. Size: $\frac{3}{8}$ inches diameter \times $\frac{1}{2}$ inches long. Special coils on order.

COIL NUMBER	INDUCTANCE MICROHENRIES	DIAMETER INCHES	LENGTH INCHES
J301-25	25	$\frac{3}{16}$	$\frac{3}{16}$
J301-33	33	$\frac{3}{16}$	$\frac{3}{16}$
J301-47	47	$\frac{3}{16}$	$\frac{3}{16}$
J301-50	50	$\frac{3}{16}$	$\frac{3}{16}$
J301-82	82	$\frac{3}{16}$	$\frac{3}{16}$
J301-100	100	$\frac{3}{16}$	$\frac{3}{16}$
J301-120	120	$\frac{3}{16}$	$\frac{3}{16}$
J301-150	150	$\frac{3}{16}$	$\frac{3}{16}$
J301-200	200	$\frac{3}{16}$	$\frac{3}{16}$
J301-220	220	$\frac{3}{16}$	$\frac{3}{16}$
J301-250	250	$\frac{3}{16}$	$\frac{3}{16}$
J301-300	300	$\frac{3}{16}$	$\frac{3}{16}$
J301-330	330	$\frac{3}{16}$	$\frac{3}{16}$
J301-350	350	$\frac{3}{16}$	$\frac{3}{16}$
J301-360	360	$\frac{23}{32}$	$\frac{3}{16}$
J301-390	390	$\frac{23}{32}$	$\frac{3}{16}$
J301-430	430	$\frac{23}{32}$	$\frac{3}{16}$
J301-470	470	$\frac{23}{32}$	$\frac{13}{16}$
J301-500	500	$\frac{23}{32}$	$\frac{13}{16}$
J301-510	510	$\frac{23}{32}$	$\frac{13}{16}$
J301-560	560	$\frac{1}{4}$	$\frac{13}{16}$
J301-620	620	$\frac{1}{4}$	$\frac{13}{16}$
J301-680	680	$\frac{1}{4}$	$\frac{13}{16}$
J301-750	750	$\frac{1}{4}$	$\frac{13}{16}$
J301-820	820	$\frac{1}{4}$	$\frac{13}{16}$
J301-910	910	$\frac{1}{4}$	$\frac{13}{16}$
J301-1000	1000	$\frac{1}{4}$	$\frac{13}{16}$
J301-1200	1200	$\frac{1}{4}$	$\frac{13}{16}$
J301-1300	1300	$\frac{1}{4}$	$\frac{13}{16}$
J301-1500	1500	$\frac{1}{4}$	$\frac{13}{16}$
J301-1800	1800	$\frac{1}{4}$	$\frac{13}{16}$
J301-2000	2000	$\frac{3}{8}$	$\frac{3}{8}$
J301-2200	2200	$\frac{3}{8}$	$\frac{3}{8}$
J301-2400	2400	$\frac{3}{8}$	$\frac{3}{8}$
J301-2500	2500	$\frac{3}{8}$	$\frac{3}{8}$

JAMES MILLEN

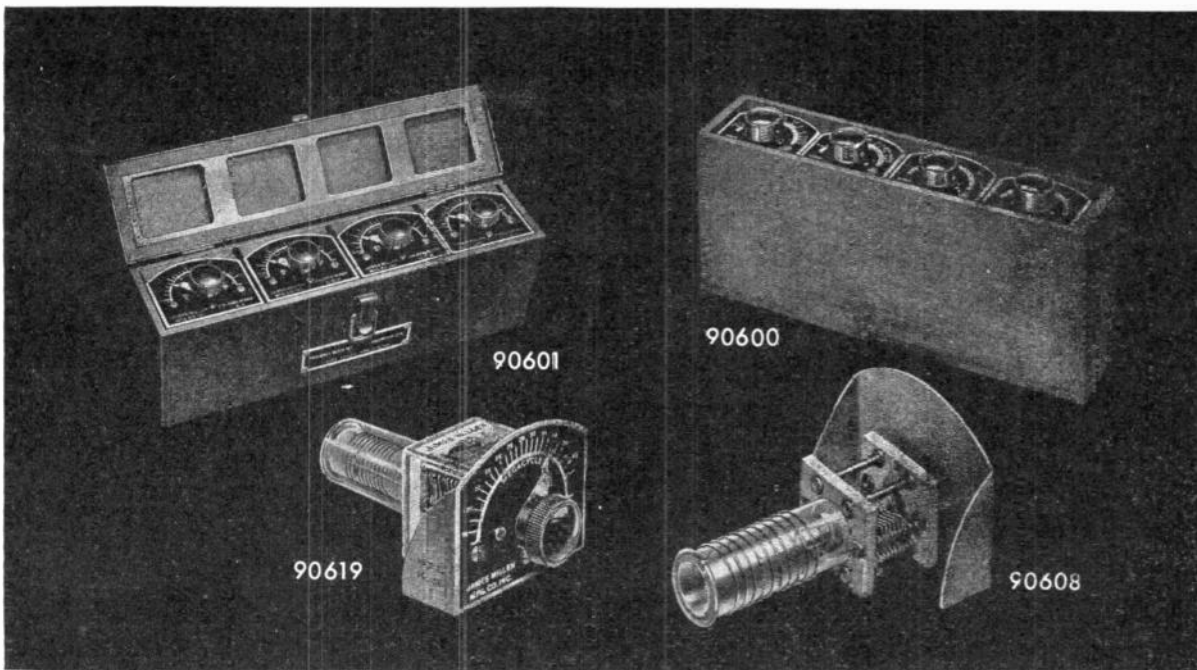


MFG. CO., INC.

MAIN OFFICE

AND FACTORY

MALDEN, MASSACHUSETTS, U. S. A.



Midget Absorption Frequency Meters

Many amateurs and experimenters do not realize that one of the most useful "tools" of the commercial transmitter designer is a series of very small absorption type frequency meters. These handy instruments can be poked into small shield compartments, coil cans, corners of chassis, etc., to check harmonics; parasitics; oscillator-doubler, etc., tank tuning; and a host of other such applications. Quickly enables the design engineer to find out what is really "going on" in a circuit.

Types 90604 thru 90610 are extremely small and designed primarily for engineering laboratory use where they

will be handled with reasonable care. The most useful combination being the group of four under code No. 90600 and covering the total range of from 3.0 to 140 megacycles. When purchased in sets of four under code No. 90600 a convenient carrying and storage case is included. Series 90601 are slightly larger and very much more rugged. They are further protected by a contour fitting transparent polystyrene case to protect against damage and dirt. This latter series is designed primarily for field use and are not quite as convenient for laboratory use as the 90605 thru 90608 types. All types have dials directly calibrated in frequency.

Code	Description	Net Price
90604	Range 160 to 210 mc.	
90605	Range 3.0 to 10 mc.	
90606	Range 9.0 to 23 mc.	
90607	Range 23 to 60 mc.	
90608	Range 50 to 140 mc.	
90609	Range 130 to 170 mc.	
90610	Range 105 to 150 mc.	
90611	Range 1.5 to 3.5 mc.	
90612	Range 3.5 to 8 mc.	
90613	Range 8 to 18.5 mc.	
90614	Range 18 to 41 mc.	
90619	Range 0.35 to 1.0 mc.—Neon Indicator	
90620	Range 0.15 to 0.35 mc.—Neon Indicator	
90625	Range 2 to 6 mc.—Neon Indicator	
90626	Range 5.5 to 15 mc.—Neon Indicator	
90600	Complete set of 90605 thru 90608, in case	
90601	Complete set Field type Frequency Meters in metal carrying case 1.5 to 40 mc	

DISTRICT SALES OFFICES

NEW YORK
Cooper-DiBlasi
90 Main Street
Port Washington
Long Island

PHILADELPHIA
L. D. Lowery
50 E. Wynnewood Rd.
Wynnewood

BALTIMORE-WASHINGTON
L. D. Lowery, Inc.
4508 Annapolis Rd.
Peace Cross
Rte. 1 and Rte. 50
Bladensburg
Maryland

INDIANAPOLIS
V. MacNabb
820 E. 64th Street

SAN FRANCISCO
Moulthrop & Hunter
165-11th Street

CHICAGO
C. G. Ryan
8336 So. Maryland Ave.
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6677 N. Northwest Hwy.

BOSTON
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EXPORT
Technical Equipment Co.
155 E. Milton Ave.
Rahway, N. J.

JAMES MILLEN
MAIN OFFICE



MFG. CO., INC.
AND FACTORY

150 EXCHANGE ST., MALDEN, MASSACHUSETTS, U.S.A.

Perma-Power TV Accessories



TV TUBE BRITENERS

UNIVERSAL BRITENER MODEL C-301

BRITENS AND ISOLATES PARALLEL OR SERIES TV PICTURE TUBES

Multi-purpose isolation transformer type Britener. Operates on electrostatic or magnetic focus television picture tubes. Provides 6.3 volts to filament to relieve cathode-filament short problems or 7.8 volts to increase cathode emission. Simple switch permits quick, easy selection. Operates on either parallel or series wired filaments. Shipping Weight, 10 ounces. **\$2.67**
Perma-Power Model C-301—Net Each.....

GOLDEN C-BRITE MODEL C-201

BRITENS PARALLEL OR SERIES TV PICTURE TUBES

A dual purpose autotformer Britener. Features an exclusive reversible plug that adapts to either parallel or series wired filaments. Operates on electrostatic or magnetic focus television picture tubes. Provides an output of 7.8 volts. Gold-anodized aluminum housing. Shipping Weight, 8 ounces. **\$1.49**
Perma-Power Model C-201—Net Each.....

VU BRITENERS MODELS C-401, C-402

THE PRICE LEADER FOR BRITENING MOST TV SETS

Single-purpose autotformer Briteners. Provide 7.8 volts output. Operate on electrostatic or magnetic focus television picture tubes. Shipping Weight, 8 ounces.
Perma-Power Model C-401—For sets with parallel wired filaments only. Net Each **89c**
Perma-Power Model C-402—For sets with series wired filaments only. Net Each..... **89c**

NEW 110° C-BRITE MODELS C-211, C-221

BRITENS PARALLEL OR SERIES 110° TV PICTURE TUBES

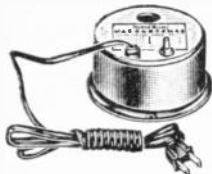
Dual-purpose autotformer Briteners with quick selector switch for instant adaptation to either series or parallel wired filaments. Operates on 110° television picture tubes. Provides an output of 7.8 volts. Shipping Weight, 8 ounces. **\$2.25**
Perma-Power Model C-211—With button base. Net Ea.....
Perma-Power Model C-221—With shell base. Net Each..... **\$2.25**

HORIZONTAL BAR GENERATOR MODEL B-101



A neon tube relaxation oscillator that plugs onto picture tube to provide a series of equally spaced horizontal lines. Installs quickly; completely self-contained. Permits precise setting and adjustments of yoke, focus coil and magnet and adjustment of vertical linearity, height and centering. Shipping Weight, 5 ounces. **\$1.75**
Perma-Power Model B-101—Net Each.....

PERMA-POWER MAGNEFORMER MODEL F100



- MAGNETIZES AND DEMAGNETIZES SCREWDRIVERS, PLIERS, HAMMERS, PROBES, TWEEZERS AND OTHER SMALL TOOLS
- THREE SECOND OPERATION
- IDEAL FOR SERVICE TECHNICIANS, REPAIRMEN, ENGINEERS, HOBBYISTS
- PORTABLE

Now, with this specially developed device, you can quickly, easily and economically magnetize or demagnetize all your small tools and special instruments. Portable, for use wherever and whenever needed, the Magneformer was designed for use by mechanics, opticians, service technicians, hobbyists, engineers, etc. Furnished complete with simple instructions and is fully guaranteed. **\$4.49**
Perma-Power Model F100—Net Each.....

TV SERVICE AIDS

TV TUBE RESTORER MODEL K-101

LOCATE AND CORRECT FOR:

- OPEN CATHODE
- HEATER TO CATHODE SHORT
- OPEN CONTROL GRID
- CONTROL GRID TO CATHODE SHORT
- LOW EMISSION
- COMBINATIONS OF THESE DEFECTS

Unique design is used in the Restorer so that one simple unit provides the cure for any defective picture tube in any television set. Operates on electrostatic or magnetic focus TV picture tubes, with either series or parallel wired filaments. Corrects for dozens of picture tube faults. Shipping Weight, 1 pound. **\$3.98**
Perma-Power Model K-101—Net Each.....

TV TUBE RESTORER MODEL K-201 (NOT ILLUSTRATED)

FOR CORRECTION OF:

- OPEN CONTROL GRID
- CONTROL GRID TO CATHODE SHORT

Similar to the Model K-101 above, but corrects only open control grid and control grid to cathode short defects. Shipping Weight, 8 ounces. **\$1.49**
Perma-Power Model K-201—Net Each.....

COLOR BRITE MODEL C-501 TO BRITEN COLOR TV PICTURE TUBES

Single-purpose autotformer Britener that extends the useful life of all three-gun color television picture tubes. Provides increased filament voltage to boost electron emission and return full contrast and color quality. Shipping Weight, 1 pound. **\$5.85**
Perma-Power Model C-501—Net Each.....

COLOR GUN KILLER MODEL T-101 TO MAKE PURITY ADJUSTMENTS

Enables each gun of three-gun color television picture tubes to be operated either singly or in combinations so as to make purity adjustments. Avoids disconnecting or cutting of leads. Shipping Weight, 8 ounces. **\$3.25**
Perma-Power Model T-101—Net Each.....

COLOR KINE ADAPTER MODEL T-201 TO TEST COLOR TV PICTURE TUBES

Enables each gun of a three-gun color television picture tube to be individually tested on tube testers that were designed to test black and white picture tubes. Shipping Weight, 8 ounces. **\$2.69**
Perma-Power Model T-201—Net Each.....

AUTOMATIC TV VOLTAGE REGULATOR MODEL D-200

- RETURNS FULL HEIGHT AND WIDTH OF PICTURE WHEN LOW LINE VOLTAGE CAUSES DISTORTION OF PICTURE
- ELIMINATES INTERMITTENT SYNC AND OSCILLATOR DRIFT
- AUTOMATICALLY BOOSTS 10 VOLTS



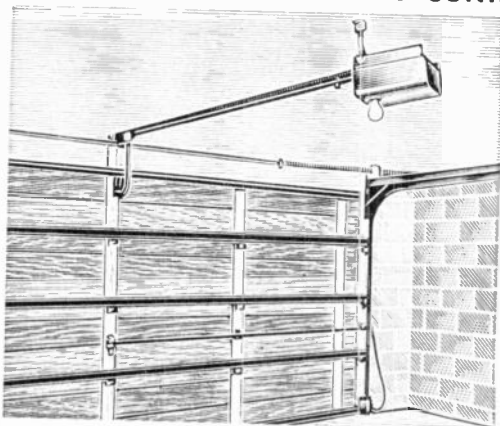
Returns full height and width of TV picture affected by low line voltage. This 300 watt model will handle most requirements from 90 to 135 volts. Boosts 10 volts automatically when line is below 110 volts. Increases set sensitivity. Reduces low line hazards. Simple plug-in installation. Turns on and off with the TV set. Shipping Weight, 2 1/4 lbs. **\$5.97**
Perma-Power Model D-200—Net Each.....
Perma-Power Model D-101—Manual model; can also be switched for high line voltage adjustments. Net Each..... **\$4.17**

Perma-Power Co.

CHICAGO 18, ILLINOIS

Perma-Power® Electronic Equipment

PERMA-POWER RADIO CONTROLLED GARAGE DOOR OPENER



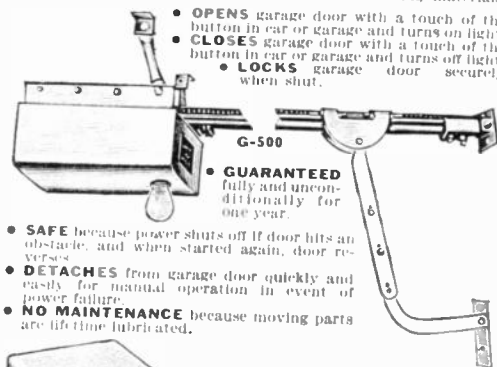
OPERATIONAL FEATURES

- When button is pressed, door automatically opens and turns on fixture light, illuminating garage. When button is pressed again, door automatically closes and locks securely. No conventional key lock required.
- New, exclusive, safety feature—light remains on for two minutes after door is closed to permit safe exit.
- Automatic shut-off gives extra protection. If door hits an obstacle, power shuts off instantly. When started again, door reverses, pulling away.
- Sensitive safety clutch is easily adjusted by a screw to exert just enough force to move door reliably. This vital safeguard makes door travel gentle and, consequently, easy to arrest.
- A detachable door arm permits unclutching for manual operation of the door in case of power failure.
- A push-button with wire is supplied for wall mounting in garage or other location to operate door from inside. This control circuit is only 24 volts and safely isolated from the main service line. Additional buttons may be easily installed at auxiliary points. A key-operated switch is available for outside mounting.
- The radio-control transmitter operates on an FCC authorized frequency of 27.255 mcs. It mounts under the hood and operates directly from the 6 or 12 volt car battery. When door operation from more than one car is desired, a separate transmitter is installed in each additional car.
- An exclusive, coded channel is set up in each radio control system upon installation. This allows operation free from interference with and from neighboring installations and other electrical devices.
- Concealed motor is a 1/2 HP, 117 volt, capacitor start type with ample power to operate the largest of modern, residential, garage doors. Also in the fixture is the radio receiver which turns on the motor when it gets a signal from the transmitter in the car.

Just a touch of your finger opens and closes your garage door

DOOR REQUIREMENTS—The Perma-Power Garage Door Opener will operate all one-piece tilt-up or sectional roll-up residential doors that travel on horizontal or curved roller tracks. Doors may be up to 18' wide and 8' high and of metal or wood construction. A clearance of 2" of headroom (space between high-arc of door and ceiling) in garage is adequate for installation.

INSTALLATION—Entire system was designed to make installation an easy one-man job. Simplified step-by-step instruction manual assures fast, professional results using common hand tools. Every part required is supplied, including mounting materials.



- **OPENS** garage door with a touch of the button in car or garage and turns on light.
- **CLOSES** garage door with a touch of the button in car or garage and turns off light.
- **LOCKS** garage door securely when shut.
- **GUARANTEED** fully and unconditionally for one year.
- **SAFE** because power shuts off if door hits an obstacle, and when started again, door reverses.
- **DETACHES** from garage door quickly and easily for manual operation in event of power failure.
- **NO MAINTENANCE** because moving parts are lifetime lubricated.



Perma-Power No. G-500—Complete door opening system, including motor mechanism, radio transmitter and receiver, antennas, mounting hardware, wiring, wall switch, etc. **\$139.90**

Perma-Power No. G-315—Additional transmitter for use in second car. Net Each. **\$24.50**

Perma-Power No. G-511—Key switch for outdoor location. Net. **\$4.20**

TRANSISTORIZED UNITS

- Perma-Power No. G-520**—Same as No. G-500 but with transistorized transmitter. Transmitter is completely self-contained; can be carried or mounted on visor, eliminating car installation. Works from more than 50'. No license required. **\$139.90**
- Perma-Power No. G-325**—Transistorized transmitter for second car. Same features as transmitter described above. May be used to replace older model Perma-Power units. Net Each. **\$24.50**



PERMA-POWER TRANSISTOR POWER SUPPLY

Especially designed to operate, service and test transistorized portable radios and low-power transistor circuits.

FEATURES

Continuously adjustable output using variable autoformer control. **Two output voltage ranges** for accurate setting of all transistor battery voltages. **Two output current ranges** in output current for single transistor or entire set. **Extremely low ripple** for testing lowest level transistor circuits. **Very low internal impedance**, providing excellent regulation. **Precision D'Arsonval meters** provide laboratory accuracy. **Milliammeter protection** furnished by front panel fuse; additional internal line fuse. **Output isolated** from line and case. **Maroon Hammerloid cabinet** with attractive slope front and rubber feet.

SPECIFICATIONS

Input: 115 v., 50-60 cps. **Output Voltage:** 0-15 v. and 0-30 v. **Output Current:** 0-15 ma. and 0-60 ma. **Accuracy:** 2% on both voltage and current. **Ripple:** Less than 500 μ v. (0.002% at full output). **Regulation:** 1:2 v. maximum; zero to full load current. **Internal Impedance:** Less than 20 ohms DC to radio frequencies (including 7 ohm meter fuse, optionally removable). **Terminals:** Five-way binding post. **Size:** 10" x 6 1/2" x 5 1/2". **Weight:** 16 lbs.

Perma-Power Model A-400—Net Each. **\$64.50**

MODEL A-410 WITH EXTENDED CURRENT RANGE

Designed to meet the needs of advanced transistor circuits requiring higher power and more precise adjustments. **Output Current:** 20 ma and 200 ma. All other specifications similar to those of Model A-400 above.

Perma-Power Model A-410—Net Each. **\$74.50**



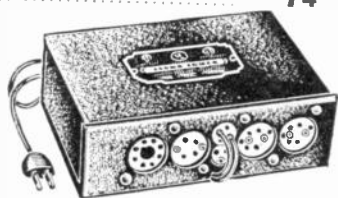
PERMA-POWER BATTERY ELIMINATOR

MODEL "A" 1 1/2-VOLT SUPPLY

CONVERTS BATTERY RADIOS TO ALL-ELECTRIC OPERATION

For 1 1/2 volt radios with 4, 5 or 6 tubes. Designed to give nearly constant power from varying line voltages. Maintains rated output and varying tube loads. Universal sockets for all battery plugs. Fits in back of battery radios as well as battery compartments of most portables. **"A" Voltage:** 1.45 volts DC at 200 to 350 ma. **"B" Voltage:** 90 volts DC at 13 ma. **Size:** 2 1/4" x 4 1/2" x 6 3/4". **Weight:** 4 lbs.

Perma-Power Model A-101—Net Each. **\$12.65**

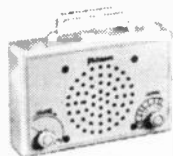


Perma-Power Co.

CHICAGO 18, ILLINOIS

Philmore Guaranteed ELECTRONIC COMPONENTS

PHILMORE 2-TRANSISTOR RADIO KIT



with 4" ALNICO PM LOUDSPEAKER
Featuring specially engineered RF coil for vastly increased sensitivity and selectivity. Completely transistorized, no tubes to burn out. Built-in loop antenna coil, no external aerial or ground required. Powered by single 9-volt "A" battery (RCA VS300, Rayovac 1600, or equivalent). Two transistors and Germanium diode in up-to-date circuit. The tuning range covers broadcast band and police calls. Colorful plastic cabinet 7 1/2 x 5 x 2 1/2". Step-by-step instructions included.

Model TR22A (less battery) List Price \$20.45
Plus Federal Excise Tax
Model TCC Leatherette Carrying Case (Optional) List Price \$3.40

PHILMORE "HIT PARADER"

4-TRANSISTOR SUPERHET PORTABLE RADIO KIT



A Superb Performer—and it's EASY to BUILD! Uses latest advanced transistor circuit design, easily assembled, following clear and simple Philmore Step-by-Step instructions.

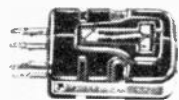
Features:
• SUPERSELECTIVE, 4-transistor superhet plus diode, transformer coupled audio driver.
• 4-INCH PM SPEAKER, large size, powerful.
• LOOP ANTENNA, built-in ferrite type, high "Q".
• TUNING RANGE 550 to 1650 KC.
• VERY ECONOMICAL, low battery drain.
• NIPPLE EARPHONE, for private listening, included; Plugs into jack on back of set.
Compact, "Texon" Leather Cabinet with handle, 7 7/8" x 5 1/2" x 2 3/8"; long wearing, good looking; weighs less than 2 1/2 lbs. with battery (9V RCA VS300 etc.).
Cat. No. TR44 Kit, less battery, List Price \$40.00
Plus Federal Excise Tax

SLIM CRYSTAL MICROPHONE



Popular all-purpose microphone, can be used as a hand mike, lavalar mike, or on desk or floor stand. As lavalar mike it rests comfortably on the chest, permitting free use of hands. Lavalar cords and bracket are included. A chrome finished swivelled mike holder is supplied for desk or floor stand use, threaded 3/8"-27. Detachable 6-ft. shielded plastic cable. Built in on-off switch. Satin chrome finish. Frequency response 100 to 9000 CPS. Output level —52 db. High impedance. Individually packaged.

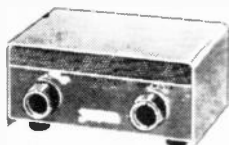
No. 100C List Price \$8.25



STEREO CRYSTAL CARTRIDGE

4-wire single stylus crystal cartridge for stereo recordings, compatible with LP monaural recordings.

Specifications:
Output voltage: 0.12 Volts
Required load: 2 Megohms plus
Frequency Response: 30 to 13000 CPS
Channel Isolation: greater than 20 db
Channel Balance: ±2 db
Stylus: 0.7 Mil Sapphire
Mounting Centers: 1 1/2"
Dimensions: 1 1/2" high x 23/32" wide x 1 1/4" long
Packed individually in plastic box.
No. CX-100 List Price \$4.50



3 WAY CROSSOVER NETWORK

Designed for either 8 ohm or 16 ohm systems. Separate L-Pad adjustments for tweeter and mid-range speakers to balance efficiencies. Can also be used for 2 way speaker systems. Crossover frequencies: 500 and 3300 CPS with an attenuation of 6 db/octave. Supplied in metal cabinet beautifully finished in gold with black trim and knobs. Cabinet rests on soft rubber feet. Size of cabinet: 6" wide x 3" high x 4 3/4" deep including knobs. Individually boxed including instructions.
No. AN3 List Price \$24.00



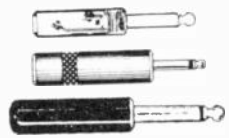
3 SPEAKER 7 WAY WALL PLATE SPEAKER SELECTOR SWITCH

Selects any combination of three separate Hi-Fi speaker systems. Selects speakers 1, 2, or 3 separately, or 1 and 2, 2 and 3, 1 and 3, or all three together. Screw terminals are marked for amplifier and speaker connections. Supplied pre mounted on brass wall plate to fit into any standard wall switch box. Individually boxed including wiring and mounting instructions.
Size: 4 1/2" x 2 3/4" x 1 1/2" deep.
No. 355 List Price \$3.00



STEREO "L" PAD LEVEL CONTROLS

Designed to adjust and match levels of two separate speaker systems in a stereophonic set-up. 21" dial plate calibrated 0-10 finished in matte silver and black is supplied. Mounts in 3/4" panel hole, 1" long threaded bushing complete with mounting nuts. Includes brown plastic contour knob. Available in 8 ohm or 16 ohm.
No. SLP8 8 Ohm List Price \$6.00
No. SLP16 16 Ohm List Price 6.00



LONG SLIM PHONE PLUGS

A compact plug for panel mounting space economy. Has two screw type terminals.

Supplied with red or black barrel, or shielded barrel. All parts nickel plated. Fits all standard type jacks. Length of barrel —1 1/2". Diameter of barrel—1/2" Overall Length—2 1/2"

No. 523W Red or Black Plug (please specify color) List \$.40 ea
No. 523WS Shielded Plug List \$.60 ea



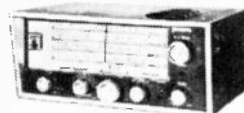
PHILMORE DOUBLE HEADPHONES

Accurately matched. Each unit consists of "double high flux" magnets. Ruggedly constructed of lightweight metal. Polished bakelite ear caps. Concealed terminal type. Plastic covered adjustable headband and cord 1 1/2 feet long. 2000 ohm impedance.
Cat. No. 2260 List Price \$5.25

SINGLE HEADPHONES

Same construction, head band is of spring steel. 1000 ohm impedance.
Cat. No. 2261 List Price \$2.75

We Proudly Announce . . . NEW PHILMORE COMMUNICATIONS RECEIVER KIT



Precision engineered, budget priced! All-wave receiver designed to meet the demands and budgets of the amateur, novice ham, and short-wave listener. Designed for use either on the bench or in a rack-panel installation. Some advanced features:

1. Highly sensitive, five-tube superhetrodyne circuit with individual, adjustable coils for each band.
2. Full-wave transformer—isolated design for safe, shock-proof operation.
3. Four band operation covering all frequencies up to 30 megacycles, and amateur bands from 10 to 160 meters.
4. Full electrical bandspread on each band.
5. Includes RF Gain Control, AVC Defeat, and Standby-CW Switching.
6. Built-in S-meter.
7. A built in B.F.O. with fully adjustable tone control for optimum CW reception.
8. Built in noise limiter for removing annoying squeals, howls, and static.
9. Provisions for use with either singlet or doublet antenna.
10. Input jack for external Q multiplier when desired.
11. Accessory power socket for operation Q multiplier or other auxiliary equipment.
12. Built in speaker with heavy magnet, fully protected and top-mounted so that receiver can be placed between additional gear.

TUBE COMPLIMENT—(1 each) 6 X 4 Rectifier; 6BE6 Converter and Oscillator; 6AV6 IF Amplifier and "S" Meter Drive; 6AV6 Detector and Audio Amplifier; 6AQ5 Audio Power Amplifier. Supplied complete with tubes and "S" meter.
MODEL CR-5AC KIT Complete, less cabinet, Amateur Net \$39.95

OPTIONAL CABINET

A handsome accessory cabinet, made of heavy gauge steel, is available separately. Functional modern design features a glare shielding hood and generous, easy to read control markings.
Size: 15-3/16" wide, 6-9/16" high, 10" deep.
MODEL CR CABINET Amateur Net \$7.95



BAT HANDLE TOGGLE SWITCHES

Supplied with "on-off" plates. Molded bakelite case; rated 3 amp, 250 volts, 6 amp, 125 volts. Complete with two mounting nuts.

No.	Type	Shank	List Price
219	S.P.S.T.	5/16"	.375
220	S.P.D.T.	5/16"	.40
221	D.P.D.T.	3/8"	.45



TEST LEADS WITH PHONE TIPS

Plastic Test prod handles 3 1/2" long, 3/8" diameter, with extra long prods 1 1/2" long. Red and Black. Equipped with 48" kinkless plastic covered leads, with insulated phone tips at other end. Phone tips fit standard American phone tip jacks.
No. 456 Per Pair, List \$6.55

INPUT-OUTPUT CABLES

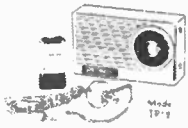


RCA type molded finger-grip phono plug on one end and vinyl insulated red and black. Alligator Clips at other end.

No.	Length	List Price
319A	36"	\$1.00
319B	72"	\$1.25

PHILMORE MFG. CO. INC. Richmond Hill 18, N. Y.

Philmore *Guaranteed* ELECTRONIC COMPONENTS



**NEW PHILMORE
POCKET RADIO
TINY
TRANSISTOR
PORTABLE**

Complete and ready to operate! Includes 4-section telescoping antenna for fringe area reception. It's powerful — selective — the ultimate in a personal radio! No bigger than the palm of your hand. This radio brings in all the local broadcast stations loud and clear! Features:

- Newly Engineered Transistor Reflex Circuit
- Built-in ferrite-loop antenna
- Input and Output Transformer Coupling
- Single Dial Control

Operates anywhere on a single standard battery, which lasts for more than 1000 hours. Unique phone jack automatically switches plug off when earphone plug is pulled out. Actual size: 3 3/4" x 2 3/8" x 1". Weight 8 oz. Handsome, shockproof plastic case.

MODEL TR12 Including plug-in earphones and 9V battery. **List Price \$16.98**
(Price includes Fed. Excise Tax)

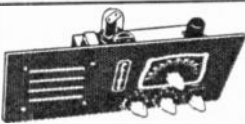


**2-TUBE
(Incl. Rectifier
Tube)
AC-DC
RADIO KIT**

Designed purposely for easy construction yet uses the most efficient type of circuit. Kits are replicas of parts and circuits used and thoroughly tested in master models and standardized. Simple instructions and diagrams. Uses 1 each 35Z5GT and 12SJ7 tubes. Supplied with punched and formed chassis. Silk screen panel and gray hammer-tone finish. Attractively packaged in sturdy box. **No. 7002B**—Complete, less tubes and headset.

List Price \$12.50

Plus Federal Excise Tax



**3-TUBE
(Incl. Rectifier
Tube)
AC-DC
RADIO KIT**

More elaborate than the two-tube and much greater in signal strength—permitting use of a 1" P.M. speaker. Simple instructions with pictorial, schematic diagrams. Superior in tone and selectivity to many manufactured radios! Uses 1 each 35Z5GT, 50L6GT and 12SJ7 tubes. Completely assembled, you have a TWO-BAND set, covering standard broadcast (550-1700 Kc) and SHORT WAVE (45-18 Mc).

Cat. No. 7001C—Complete with Speaker, less tubes. **List Price \$20.00**

Plus Federal Excise Tax



**CRYSTAL
EARPHONE**

Molded plastic shell, miniature type, fits comfortably into the ear. Equipped with 5-ft. plastic covered cord. High impedance, ideal for many applications; crystal element.

No. 748

List Price \$1.10

**MIDGET TRANSFORMERS
FOR TRANSISTORS**

These tiny transformers use finest quality cores, made of hydrogen heat processed permalloy. Fine coil wire of 0.025 mm diameter is used. Vacuum impregnated insulation.

No.	Type	Impedance Primary Ohms	Secondary Ohms	Wt. Net.	List Price Each
*ST-11	Driver	20,000	1,000	1 1/16"	\$1.20
*ST-12	Input	100,000	1,000	1 1/16"	1.30
†ST-13	Input	200,000	1,000	7/16"	1.50
†ST-14	Input	500,000	1,000	7/16"	1.50
†ST-21	Driver	10,000	2,000CT	1 1/16"	1.30
†ST-31	Output	500CT	3.2	1 1/16"	1.00
†ST-32	Output	1,000CT	8	1 1/16"	1.00

* Overall Size: 3 1/4" x 13/16"
† Overall Size: 13/16" x 3/8"



**PHILMORE
AMERICAN
EXPLORER
ROCKET RADIO**

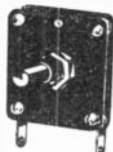
Plays anywhere without batteries! Without tubes! NOT a KIT. Pulls in local radio broadcast reception loud and clear! A matched crystal high impedance earphone of the plug type is permanently wired in, as are the aerial and ground wires—ready for instant operation. Tune by pulling up, or down, the rod in the nose of the rocket. Cleverly housed in a colorful "Space Rocket" molded plastic case.

MODEL VE-2000—Includes plug type earphone **List Price \$3.50**

Plus 10% Federal Excise Tax

**COMPACT
WAFFER TYPE
VARIABLE
TUNING CONDENSER
Single Gang**

365 to 400 Mmfd.



Specially Adaptable to Transistorized Circuits. Requires only 9/16" behind panel. Overall 1 1/2" square, with standard 1/4" knob shaft, 3/4" long. Interleaved insulation prevents shorting between plates.

No. 1946G

List Price, Each \$9.00



**Tiniest Variable
Condenser in the World!
2-GANG SUPERHET
VARIABLE CONDENSER**

This tiny condenser is completely housed in a transparent dustproof enclosure. Size: 5/8" x 1-1/16" x 1-10" capacitance; Antenna section, 13 to 211 mμf; Oscillator Section, 11 to 101 mμf. Counter clockwise rotation. Trimmer 12 mμf. max. Coil inductance: Antenna 100 μh Oscillator 220 μh.

Cat. No. 52-JC

List Price \$2.60

**FERRITE SLUG-TUNED
VARIABLE INDUCTANCE
LOOP ANTENNA COIL**

Highly sensitive and selective, this hi "Q" antenna coil has a tap for use with transistor or germanium diode input circuits. Also used with tube circuits. 12" pigtail lead for additional pickup. Will match tuning condensers of 365 mμf. to 420 mμf. Length of coil 2x 3/8" width.

Cat. No. R841-T

List Price \$1.05

**MIDGET 1 1/2-INCH
PM SPEAKER**

1 1/2" diameter x 15/16" deep. The magnet weighs .5 oz., is made of Alnico V, 8 ohm or 3.2 ohm voice coil impedance. Also used as a tweeter for Hi-Fi Speaker systems.

No. 707

List Price \$2.85

Plus Fed. Excise Tax

**TRANSISTOR
SUBMINIATURE
VOLUME
CONTROLS**

The 4 controls are especially designed for transistor circuits. They have a 1" shaft length, by 156 (5/32") diameter. The 1/4-32 bushing is 1/4" long. Overall diameter of the controls is 5/8".

Cat. No.	Description	List Price
PC-50	5,000 Ohm Less Switch	\$.85
PC-51	10,000 Ohm Less Switch	.85
PC-52	5,000 Ohm SPST Switch rated 3 amp. @ 125V.	1.65
PC 53	10,000 Ohm SPST Switch rated 3 amp. @ 125V.	1.65
PC 54	500K Ohm SPST Switch	1.65
PC 55	1 meg Ohm SPST Switch	1.65



**5-TUBE
AC-DC
RADIO KITS
1 and 2
Band Models**

Superhet Circuit

Latest model compact hi-fi quality radios. Single Band 550-1600 Kc. Two Band: 550-1600 Kc and 5.5-10 Mc. Sturdy walnut bakelite cabinets, loop antenna punched chassis. All Parts and Tubes included.

Model No. 201 Single Band AC/DC **List Price \$34.00**
Model No. 202 2-Band AC DC **List Price 39.00**
Plus Federal Excise Tax

PHILMORE TRANSISTOR

**BATTERY
RADIO
KIT**

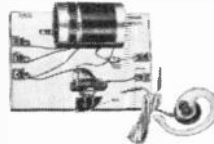


No soldering required. Printed template furnished. Uses transistor and germanium diode. Tunes entire broadcast

band. Transparent plastic cabinet 5 3/4" x 3 3/4" x 1 3/4". Kit includes transistor, germanium diode, pentode battery, antenna wire, ground wire, 1000-ohm earphone with headband, and all necessary components required for complete assembly.

Model TR-9 **List Price \$9.75**
Plus Federal Excise Tax

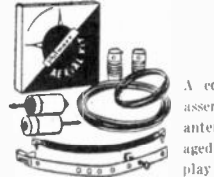
**NEW
"SELECTIVE"
GERMANIUM
DIODE
Radio Receiver
KIT**



Features Variable Capacity Tuning, High "Q" Coil, permanently fixed crystal. Plywood baseboard, with template label. Easy to assemble. All hardware, step-by-step instructions, including earphone.

No. VC-1000 **List Price \$5.00**
Plus Federal Excise Tax

**PHILMORE
AERIAL KIT**



A complete kit of parts for assembly of a professional antenna. Attractively packaged in a multi-colored display box.

1 coil 50 ft. stranded aerial wire.
1 coil 25 ft. lead-in wire. 2 Nail-it knobs.
1 Ground clamp. 1 Instruction sheet.
1 Lead-in strip. 2 Porcelain insulators.

Cat. No. 2103

List Price \$3.65

**Junior
MICROPHONE
Carbon Type**



For home broadcasting. Push button switch cuts off radio programs and brings in the home broadcaster's voice very clearly. Sensitive, with excellent volume, shock-proof. Easily attached to any set without rewiring and can remain attached without interfering with regular broadcasting.

Cat. No. 500

List Price \$2.50

**HAND MICROPHONE
Carbon Type**



Talk or sing through the radio speaker. Button switch cuts mike in and out of broadcast. Simple to install. Equipped with 9 ft. cord.

Cat. No. 500H

List Price \$3.25

PHILMORE MFG. CO. INC. **Richmond Hill 18, N. Y.**

We will be pleased to send our 36-page 1959 Catalog upon request.



MICROWAVE COMPONENTS, Inc.

DOYLESTOWN, PENNSYLVANIA

All merchandise of current manufacture, suitable for laboratory experiments and training aids. Complete transmitter and receiver parts. All units are constructed of standard RG-52/U brass waveguide and employ UG, 39 cover flanges unless otherwise stated. All units are nickel plated.

"X" BAND MICROWAVE COMPONENTS 8.7 to 9.3 KMC

#501 Wave Guide type RG52 equipped with 2 type UG 39 flanges. 501 C has two chokes type UG 40, and 501 CF has one flange and one choke. Standard length 4", can also be furnished in full inches from 2" to 20".
\$5.40

#502 Wave Guide to Coax Adaptor has UG39 type flange, two inches of RG 52 type guide and a UG 23 connector which will mate with UG 21 cable connector as used with RG 8, 9 or 10 type coax.
\$5.40

#503 Klystron Tube Mount for 723A/B or 2K25 Klystrons. Equipped with 3DB pad, 1N21 crystal, UG 88 connector for crystal current, RG 52 Wave Guide and UG 39 type flange. Power cable equipped with M1P8 connector to connect with 510 power supply. This Klystron tube mount may be used as local oscillator for micro wave receiver, transmitter, signal generator, spectrum analyzer and test oscillator. Klystron not supplied. Klystron shell is at ground potential using 510 power supply
\$24.00

#503A Klystron Tube Mount same as 503 less pad and crystal mount
\$15.00

#504 Frequency Meter consists of 4" length of RG 52 type wave guide with UG 39 input and output flanges. The 1" micrometer head tunes a cylindrical cavity from approximately 8.2 KMC to 10 KMC. The coupling and Q permit satisfactory absorption indications of resonance in the tuning band
\$30.00

#505 Slotted Line consists of a 4" length of slotted RG 52 equipped with UG 39 input and output flanges. The sliding probe, adjustable for depth and 5 CM travel. Is equipped with a 1N 23 crystal terminated in to a UG 88 connector and 200 ohm shunt resistance. With a suitable amplifier as supplied in the 510 power supply, wave length and VSWR can be indicated
\$30.00

#506 Flap Attenuator adjustable from 0 to over 20 DB at power levels under 1 watt. Consists of 4" length of RG 52 equipped with 2 type UG 39 flanges
\$18.00

#507 Wave Guide Termination consists of 2.5 inches of RG 52 guide and a UG 39 input flange. Will absorb power at levels less than 1 watt. The strip of absorbing material is easily removed
\$5.40

#508 Thermister Mount consists of 2 inch length of RG 52 guide with a UG 39 input flange. Thermister balances, with no RF power input, at 600 to 1000 ohms and will

indicate down to 1 MW RF with a 100 micro ampere bridge balance meter. High power levels may be indicated using fixed standard attenuators ahead of the thermister. D. C. bridge output is through a UG 88 connector to DC power and bridge balance meter in type 510 Power Supply
\$18.00

#509 Horn Antenna consists of 4" length of RG 58 guide flared at one end for low gain transmission or reception. Output is through coax connector type UG 23
\$9.00

#509-F Horn Antenna with flange input
\$9.00

#510 Power Supply furnishes fixed regulated cavity potential for 723A/B or 2K25 Klystrons (cavity grounded) adjustable and regulated repeller voltage, unregulated filament and means to insert signal for repeller modulation. Sensitive meter may be switched from tube mount crystal current to Thermistor bridge output and to VSWR amplifier output. Regulated power for thermister bridge and VSWR amplifier also provided for. Operates from 110 to 130 volt AC 1 to 60 C/S power, using less than 50 watts.
\$120.00

#511 Shunt Tee consists of 4" length of RG 52 guide equipped with three UG 39 flanges
\$12.00

#512 Directional Coupler consists of 4" length of RG52 guide equipped with UG 39 flanges. Attenuation approximately 20 DB. Directional output is terminated in UG 23 connector.
\$15.00

#513 Fixed Attenuator is the same as 506 except fixed pad is used.
\$13.50

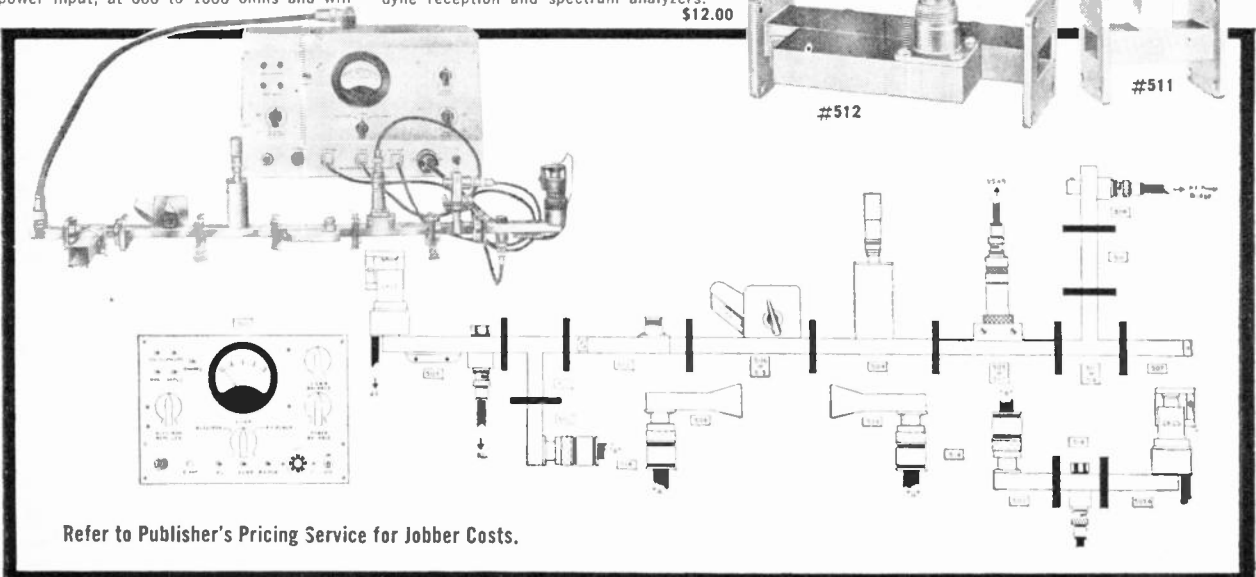
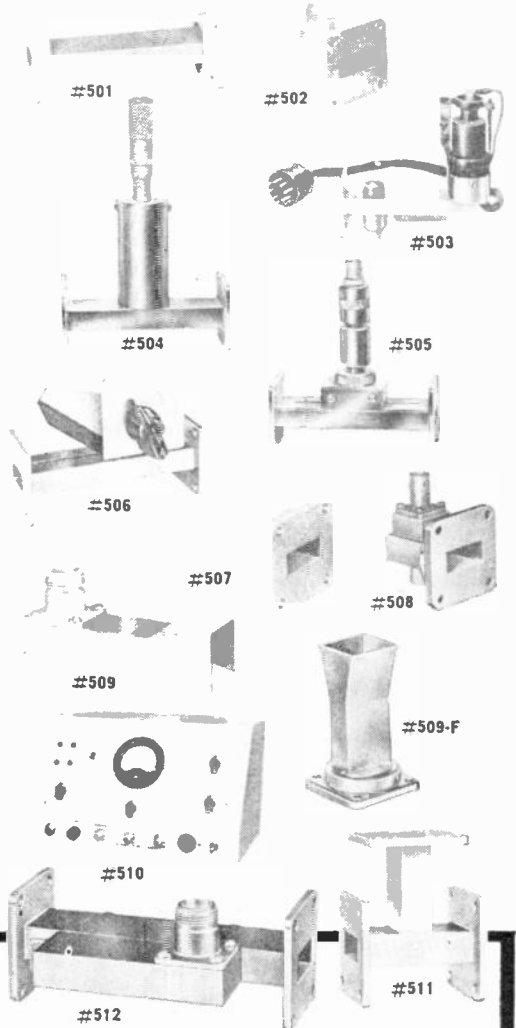
#514 R.F. Cable consists of 2 feet of RG 8 type coax equipped with two UG 21 cable connectors
\$6.00

#515 Video Cable consists of 2 feet of RG 58 cable equipped with two UG 89 cable connectors
\$4.50

#516 Series Tee consists of 2" lengths of RG 52 guide terminated with 3 type UG 39 flanges.
\$12.00

#517 Tuning Probe is the same as 505 except that probe is grounded and crystal is not required.
\$24.00

#518 Crystal Mount consists of 2 inch length of RG 52 equipped with 2 UG 39 Flanges and 1N23 crystal terminated with UG 88 connector. Suitable for R.F. detection or mixer applications as required for heterodyne reception and spectrum analyzers.
\$12.00



Refer to Publisher's Pricing Service for Jobber Costs.

Here! A New World of Electronic Communications!

NEW *Commaire*

ED-27 (27 MC.)

FINEST CLASS "D" CITIZENS
BAND 2-WAY RADIO

Price \$179.50 each



FEATURES

HIGHLY SELECTIVE RECEIVER.
NEEDS NO OPERATOR'S
LICENSE.

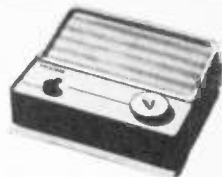
PATENTED, EXCLUSIVE "Silent-
Aire" SQUELCH — Varies and
controls the sensitivity.
SUCCESSFULLY IN USE IN CARS,
HOMES, AND BOATS.

EXTREMELY CLEAR TRANSMIS-
SION.

TRANSISTORIZED UNIVERSAL
POWER SUPPLY.

AMAZING NEW SENSITIVITY —
(1/10 of a microvolt!) Makes
possible clear reception.
TEN TUBES.

New Perfected WIRELESS INTERCOM



VOCATRON

MODEL CC-60

Price
\$54.75
each

FEATURES

PATENTED NEW SQUELCH means
Vocatrans are quiet until spok-
en through.

NEW COMPACTNESS: 3"x8"x6".

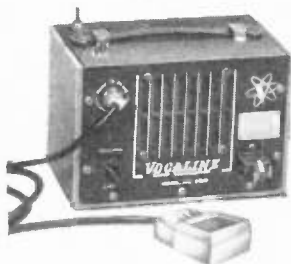
FOR USE IN HOME, OFFICE OR
SHOP. Transmits voice or music.

NEW SIMPLICITY OF OPERA-
TION.

JUST PLUG IN: No wiring nec-
essary.

COMPLETELY PORTABLE.
NEW SMART APPEARANCE.

LOWEST COST 2-WAY RADIOS - TRIED and TRUE!



VOCALINE

(465 MC. Class "B" Citizens Band)

MODEL JRC-400

Price \$74.75 each

Complete with microphone, AC
and DC line cords and plug-in
antenna.

MODEL JRC-425

Price \$104.75 each

Complete with stainless steel
microphone with push-button
control and earphone jack.
Quality details.



Vocaline models require no operator's license, special skill or knowledge. F.C.C. ap-
proved. Simplified operation — no tuning. Successfully used in homes, cars, boats, plants,
farms . . . with proper antenna.



New Improved! VOCALINE

(465 MC. Class "B" Citizens Band)

REMOTE CONTROLLED CITIZENS
BAND TRANSCIVER

CUB

MODEL CUB-1/MT-1

Price \$179.50 complete

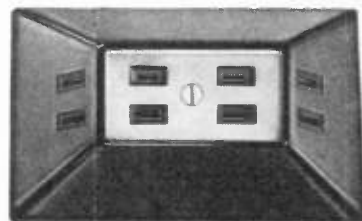
Provides greater range. Few dead spots! Squelch!
Designed for base station operation only. No addi-
tional antenna needed.

New 4 in 1 OUTLET!



69¢ brown

79¢ ivory



PERMA-PLUG*

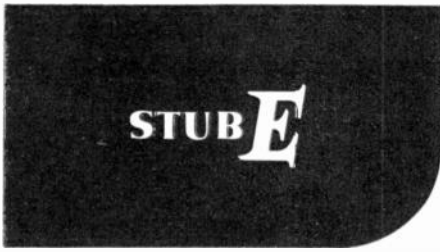
Sensational seller! Safe. U.L. approved. Fits standard
outlets. Installs simply. Permanent. Handsome.

CSA Approved *Reg. Trade Mark

COMPLETE LINE OF ACCESSORIES, ANTENNAS AVAILABLE

VOCALINE

COMPANY OF AMERICA, INC.
OLD SAYBROOK, CONN.



NOTE: Stub E connectors meet or exceed both the "E" and "R" requirements of MIL-C-5015.



"E" Performance Per Military Specification

STUB E connectors are environmentally resistant "E" connectors fully meeting the requirements of the latest issue of MIL-C-5015. They incorporate several design improvements over standard "E" designs, providing increased reliability and economy. They are interchangeable with other MIL-C-5015 connectors.

STUB E construction: By taking advantage of every space-saving trick in the engineer's book, AMPHENOL STUB E connectors are the shortest MIL-C-5015 "E's" available. With overall length reduced, STUB E's, are also lighter than standard designs, a weight reduction that becomes significant in applications where large numbers of connectors must be employed.

The fully unitized rear sealing grommet assembly represents another superior STUB E feature. By the consolidation of the grommet, compression nut and ring into a single unit, handling of numerous components during assembly and disassembly is eliminated, providing better production and performance reliability. With these parts pre-assembled by AMPHENOL, surer sealing protection is also attained.

Solder pockets on all contacts are pre-tinned for easier wiring.

All socket contacts are tamper-proof, per resistance to test prod damage test in MIL-C-5015.

STUB E Shells are made of aluminum alloy, cadmium-plated with an olive drab finish. Contacts are bronze alloy, silver-plated. Resilient inserts are black neoprene rubber; grommets are grey neoprene rubber.

STUB E connectors are recommended for all electrical circuits calling for environmental resistance performance per MIL-C-5015. They are available in sizes 8S through 36, shell types 3100, 3101, 3102 and 3106; 49 insert arrangements are available.

"E" Requirements of MIL-C-5015. In addition to the normal requirements of this specification, "E" Class connectors are subjected to moisture testing after temperature cycling and vibration. Connectors are placed in a sealed chamber containing water. Chamber air temperature is varied each hour to cause heavy condensation on the connectors. Prior to the beginning of the test, and once each day during the 20 day test period, the insulation resistance between individual contacts and between contacts and shell are measured. The insulation resistance shall not be less than 100 megohms.

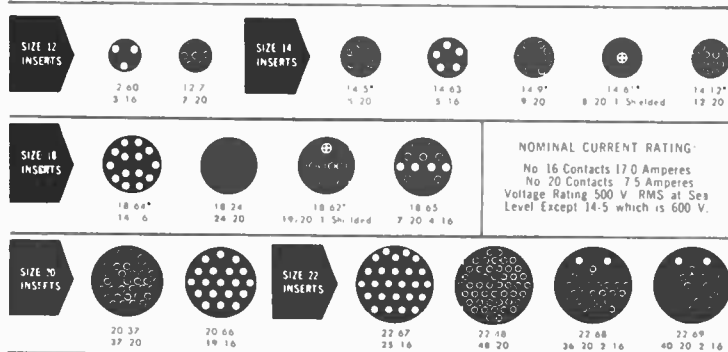
INSERT AVAILABILITY AND SPECIFICATIONS

Insert Number	Total Contacts	Mech'l Spacing	Serv. Rating	Contact Size					
				*0	*4	*8	*12	*16	*20
8S-1	1	1/16	A						1
†10S-2	1	1/16	A						1
10SL-3	3	1/16	A						3
10SL-4	2	1/16	A						2
12S-3	2	1/16	A						2
12S-4	1	1/8	D						1
†14S-2	4		INST.						4
14S-5	5		INST.						5
†14S-6	6		INST.						6
14S-7	3	1/16	A						3
†14S-9	2	1/16	A						2
16S-1	7	1/16	A						7
16S-4	2	1/8	D						2
†16S-5	3	1/16	A						3
16S-8	5	1/16	A						5
16-10	3	1/16	A				3		
†16-11	2	1/16	A				2		
18-1	10	1/16	A						4
†18-3	2	1/8	D				2		6
18-4	4	1/8	D						4
18-8	8	1/16	A				1	7	
18-9	7		INST.				2	5	
18-11	5	1/16	A					5	
†18-12	6	1/16	A						6
18-16	1	5/16	C					1	
†18-20	5	1/16	A						5
†18-22	3	1/8	D						3

Insert Number	Total Contacts	Mech'l Spacing	Serv. Rating	Contact Size					
				*0	*4	*8	*12	*16	*20
20-4	4	1/8	D					4	
20-7	8	1/8	D						4
20-15	7	1/16	A					7	
20-16	9	1/16	A					2	7
20-18	9	1/16	A					3	6
20-27	14	1/16	A						6
			INST.						8
20-29	17	1/16	A						17
22-14	19	1/16	A						19
22-19	14	1/16	A						14
†24-5	16	1/16	A						16
24-7	16	1/16	A					2	14
24-20	11	1/8	D					2	9
24-28	24	1/16	INST.						24
28-2	14	1/8	D						12
28-11	22	1/16	A					4	18
28-12	26	1/16	A						26
†28-15	35	1/16	A						35
†28-16	20	1/16	A						20
28-20	14	1/16	A					10	4
28-21	37	1/16	A						37
32-7	35	1/16	A					7	24
			INST.						4
36-10	48	1/16	A						48



MINNIE MINIATURE CONNECTORS 67 SERIES



* Available in Hermetically Sealed Receptacles use "H" for shell design in part number for ordering in 67-04 shell type only.

AMPHENOL's 67 Series of MINNIE connectors are quick-d connect, multi-contact, miniature bayonet lock types. MINNIE Connectors are available as Plugs, Cable and Panel Receptacles and Single Hole Mounting Receptacles in four constructions, five shell sizes and 17 insert arrangements.

AMPHENOL MINNIE's are the first miniature connectors to fully meet the "E" requirements of MIL-C-5015C, the current specification governing A-N (now MS) type connectors.

Descriptive part numbering has been assigned to MINNIE's making identification easy. Shell type, construction class, size, insert number, contacts and alternate positions are all numbered.

Shell type numbers correspond to the "AN" nomenclature. Insert sizes and contact arrangements are shown below. "Z" or "S" in insert style identify pin or socket contacts. Available in alternate insert positions "W" and "X".

MINNIE OPERATING TEMPERATURES

MAXIMUM	MINIMUM
125°C.	-55°C.
257°F.	-67°F.

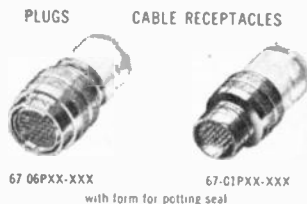
Part Number Example



FEATURES

- Environmentally sealed with unitized back end grommet. (Also available with provision for potting). Either grommet seal or potted seal meets moisture resistance requirement of MIL-C-5015.
- Spring-loaded coupling ring provides a positive locking action in the bayonet slot, and a constant compensating force which eliminates the effects of resilient face seal compression set.
- Stainless steel bayonet slots and pins reduce wear and friction characteristics. The three pin bayonet coupling minimizes the rocking action of the mated plug and receptacle.
- Flattened incline angle of bayonet slots reduces mating force requirement.
- Hooded contacts resist test prod damage as defined in Paragraph 4.5.14 of Amphenol Specification 340-43-2108. All contacts in sizes 12, 14 and 18 are gold-over-silver plated; contacts in sizes 20 and 22 are rhodium plated.
- Unitized grommet seal; clamp and grommet form a single unit for ease of assembly and maintenance.

- Face seal gasket with individual barriers to isolate each contact.
- Hard insert dielectric (plus resilient face seal) positively retains contacts with no possibility of contacts being pushed out of the insert.
- A visual full engagement indicator is included in the design to insure the user that he has fully engaged the connectors. The indicator is an orange line around the receptacle shell.
- Insulation resistance of "E" type following altitude-moisture resistance test is a minimum 1,000 megohms. MIL-C-5015 minimum following type "E" test is 100 megohms.
- When using mated sealed connectors, no derating for altitude is necessary at 70,000 feet.
- Test voltage 1,500 volts RMS 70,000 feet on sealed connectors.
- Vibration per Method 204 of MIL-Std-202A. 10 to 2,000 cps at 20 g's.
- Temperature cycling range per MIL-C-5015 increased to 257°F. maximum and -67°F. minimum.



RECEPTACLES



MS/AN CONNECTORS

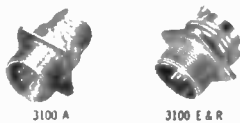
for Power, Signal & Control Circuits in Electronic Equipment

AMPHENOL MS® connectors are manufactured to the latest issue of MIL-C-5015 Specification. Although designed, manufactured and approved under this Specification for use by the armed forces, MS connectors are ideal for commercial and industrial applications where the same versatility and dependability are mandatory.

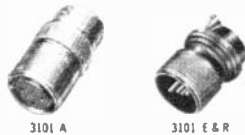
AMPHENOL holds a leading role in MS connectors, pioneering many important advances. Through continued cooperation with engineers from the military and industry, plus-values are built into AMPHENOL MS connectors that exceed those required by MIL-C-5015

*Former nomenclature was "AN."

WALL MOUNTING RECEPTACLES



CABLE RECEPTACLES



BOX MOUNTING RECEPTACLES



STRAIGHT PLUGS



QUICK DISCONNECT PLUGS



ANGLE PLUGS



CABLE CLAMP



Sturdy AMPHENOL AN3057 Cable Clamp supports cable or wire at the plug or receptacle, prevents twisting or pulling at soldered connections.

"AN" Number	Fits Shell Size
3057-3	8S 10S
3057-4	12 12S
3057-6	14 14S
3057-8	16 16S
3057-10	18
3057-12	20 22
3057-16	24 28
3057-20	32
3057-24	36
3057-28	40
3057-32	44
3057-40	48

CAP & CHAIN ASSEMBLY



Fits MS and 97 type receptacles and plugs. Provides protection against live circuits, dirt and dust when connector is not in use. Add P to the part number for plug cap & chain.

Part Number	Fits Shell Size
9760-8	8S
9760-10	10S 10SL
9760-12	12 12S 12SL
9760-14	14 14S
9760-16	16 16S
9760-18	18
9760-20	20
9760-22	22
9760-24	24
9760-28	28
9760-32	32
9760-36	36

features of AMPHENOL MS CONNECTORS

CONTACTS. Non-rotating contacts are heavily silver-plated, combine superior electrical characteristics with high tensile strength. Solder pockets are pre-tinned.

DIELECTRIC MATERIAL. All inserts are molded of diallyl phthalate—the "AMPHENOL Blue" material with dimensional stability, high insulation resistance and high arc resistance.

FINISH. Shells are cadmium-plated with an olive drab chromate conversion coating—non-reflective, corrosion-resistant.

COUPLING RINGS. Made from solid aluminum bar stock for greater strength.

ORDERING MS CONNECTORS. The MS series of connectors includes thousands of combinations, but the functional numbering system permits easy and accurate ordering. To illustrate the system employed a typical part number, MS3100A-16-11P, is exploded and analyzed.

MS	STANDARD	"MS" indicates Military part number has been assigned
3100	SHELL TYPE	"97" indicates deviation from MS specifications or exclusive Amphenol design
A	SHELL DESIGN	3100 wall receptacle, 3101 cable receptacle, 3102 box receptacle, 3106 straight plug, 3107 quick-disconnect plug, 3108 angle plug
16	SIZE	A solid, B split, C pressurized, E environmental resistant
11	INSERT	8S, 10S, 10SL, 12S, 12, 14S, 14, 16S, 16, 18, 20, 22, 24, 28, 32, 36, 40, 44, 48
P	INSERT STYLE	1, 2, 3 and up
		P for pin contacts, S for socket contacts.

MS CONNECTOR AVAILABILITY. The latest issue of the Distributor MS Connector Price List is the authoritative source for connector availability.

MS CONNECTORS FOR POTTING. Potting, injecting a synthetic rubber sealant in a mold on the back of a connector, is a superior method of weatherproofing. AMPHENOL MS Connectors for potting may be ordered through your AMPHENOL Distributor, who has complete information.



RF CONNECTOR AVAILABILITY (continued)

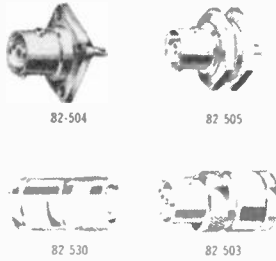
SERIES N

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG-18B U	82-86	Plug	5, 6, 21
UG-18C U	82-203	Plug	5, 6, 21
UG-19B U	82-87	Panel Jack	5, 6, 21
UG-19C U	82-207	Panel Jack	5, 6, 21
UG-20B U	82-88	Jack	5, 6, 21
UG-20C U	82-210	Jack	5, 6, 21
UG-21B U	82-61	Plug	8, 9, 10
UG-21C U	82-96	Plug	8, 9, 10
UG-21D U	82-202	Plug	8, 9, 10
UG-22B U	82-62	Panel Jack	8, 9, 10
UG-22C U	82-95	Panel Jack	8, 9, 10
UG-22D U	82-208	Panel Jack	8, 9, 10
UG-23B U	82-63	Jack	8, 9, 10
UG-23C U	82-94	Jack	8, 9, 10
UG-23D U	82-209	Jack	8, 9, 10
UG-27A U	82-64	Adapter, Right-Angle	
UG-27B U	82-98	Adapter, Right-Angle	
UG-27C U	82-213	Adapter, Right-Angle	
UG-28A U	82-99	Adapter, Tee	
UG-29A U	82-65	Adapter, Straight	
UG-29B U	82-101	Adapter, Straight	
UG-30-U	82-66	Adapter, Bulkhead Pressurized	
UG-30C U	82-201	Adapter, Bulkhead Pressurized	
UG-57B U	82-100	Adapter, Straight	
UG-58 U	82-24	Receptacle	
UG-58A U	82-97	Receptacle	
UG-94A U	82-84	Plug	11, 12, 13
UG-95A U	82-89	Jack	11, 12, 13
UG-96A U	82-90	Panel Jack	11, 12, 13
UG-106 U	83-1H	Hood	8, 9, 10, 11, 12, 13
UG-107A U	82-36	Adapter Tee	
UG-107B U	82-102	Adapter, Tee	
UG-160A U	82-67	Jack, Bulkhead	8, 9, 10
UG-160B U	82-93	Jack, Bulkhead	8, 9, 10
UG-167A U	82-104	Plug	17, 18
UG-167D U	82-215	Plug	17, 18
UG-204A U	82-105	Plug	14, 74
UG-204C U	82-214	Plug	14, 47
MX-564 U	82-48	Armor Clamp	10, 12
MX-564A U	82-109	Armor Clamp	10, 12
UG-680 U	82-811	Receptacle, Bulkhead Herm. Pressurized	
MX-913 U	82-106	Cap and Chain	
UG-935A U	82-211	Panel Jack	10, 12
UG-940A U	82-212	Jack	10, 12
UG-941A U	82-204	Plug	10, 12
UG-1185 U	82-312	Plug Captivated Contact	8, 9, 10, 87A, 115, 115A
UG-1186 U	82-313	Jack Captivated Contact	8, 9, 10, 87A, 115, 115A
UG-1187 U	82-314	Panel Jack Captivated Contact	8, 9, 10, 87A, 115, 115A
	82-112	Receptacle	
	82-113	Plug	35, 164
	82-326	Plug, Right-Angle, Captivated Contact	8, 9, 10, 87A
	82-835	Angle Plug	8, 9, 10
	82-849	Adapter, Straight, Pressurized	
	82-1275	Shield Ground Lug	
	83-18C	Cap and Chain	

SERIES C CONNECTORS

feature many electrical and mechanical improvements over the other type coaxial connectors. They are especially designed for 50 ohm cables. However, they may be used with 70 ohm cables where impedance matching is not critical. The Improved Series C connectors are intended for use up to 1,000 volts peak. An improved cable clamping mechanism provides maximum cable grip and adequate sealing with a minimum of cable indentation.

SERIES C

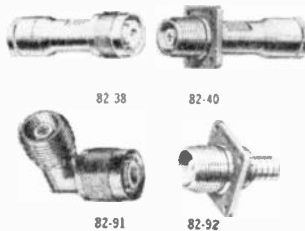


SERIES C

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG-566A U	82-536	Adapter, Tee	
UG-567A U	82-535	Adapter, Right-Angle	
UG-568 U	82-504	Receptacle	
UG-569 U	82-505	Receptacle, Bulkhead	
UG-570 U	82-502	Jack, Bulkhead	8, 9, 10
UG-571 U	82-501	Panel Jack	8, 9, 10
*UG-572 U	82-503	Jack	8, 9, 10
UG-573A U	82-530	Plug	8, 9, 10
UG-628A U	82-532	Plug, High Voltage	8, 9A
UG-632 U	82-521	Jack, Bulkhead High Voltage	8, 9A
UG-634 U	82-515	Receptacle, Bulkhead High-Voltage	
UG-643 U	82-514	Adapter, Straight	
UG-705 U	82-511	Receptacle Bulkhead Pressurized	
UG-707A U	82-533	Plug	14, 74
UG-709A U	82-535	Plug	55, 58
UG-710A U	82-531	Plug, Right-Angle	8, 9
UG-937 U	82-522	Jack, Bulkhead	10, 12
UG-943A U	82-538	Plug	10, 12
UG-945A U	82-537	Plug, Right-Angle	10, 12
MX-1142 U	82-512	Cap and Chain for Jacks	
MX-1143 U	82-513	Cap and Chain for Plugs	
MX-1286 U	82-517	Armor Clamp	10, 12

SERIES HN CONNECTORS

are weatherproofed, high voltage (5,000 V. peak) connectors of constant impedance for use with 50 ohm RF cables. Newest in the HN Series are the Captivated Contact Connectors. Often coaxial cable dielectric and/or center conductor will recede due to mechanical or environmental stresses. This causes ordinary connector contacts to pull away from each other often resulting in actual disconnects. AMPHENOL Captivated Contacts are retained within the connector body by interlocking design.

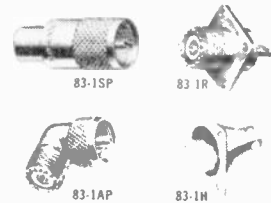


SERIES HN

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG-59A U	82-38	Plug	8, 9, 10
UG-59B U	82-804	Plug	8, 9, 10
UG-60A U	82-39	Jack	8, 9, 10
UG-60B U	82-814	Jack	8, 9, 10
UG-61A U	82-40	Panel Jack	8, 9, 10
UG-61B U	82-815	Panel Jack	8, 9, 10
MX-103 U	103-301	Tapering Tool	8, 9, 10
UG-212A U	82-91	Adapter, Right-Angle	
UG-212C U	81-115	Adapter, Right-Angle	
UG-333 U	82-56	Jack	17, 18
UG-333A U	82-107	Jack	17, 18
UG-334 U	82-57	Panel Jack	17, 18
UG-334A U	82-108	Panel Jack	17, 18
UG-495A U	82-111	Plug	17, 18
UG-496 U	82-92	Receptacle	
UG-560 U	82-805	Receptacle	
UG-1213 U	82-320	Plug Captivated Contact	8, 9, 10, 87A, 115, 115A
UG-1214 U	82-321	Jack Captivated Contact	8, 9, 10, 87A, 115, 115A
UG-1215 U	82-324	Panel Jack, Captivated Contact	8, 9, 10, 87A, 115, 115A
MX-564 U	82-48	Armor Clamp	10
MX-564A U	82-109	Armor Clamp	10
UG-929 U	82-114	Panel Jack	10, 116
	82-91A	Adapter, Right-Angle	
	82-130	Cap & Chain, Jacks	
	82-816	Plug	54A
	82-833	Angle Plug	8, 9, 10
	82-856	Angle Plug	8, 9, 10

SERIES UHF CONNECTORS

are low cost, general purpose connectors of non-constant impedance. The small and large single contact types are for use with small and medium size coaxial cables in applications where line balance or increased standing wave ratio is not important. Where impedance matching is necessary Series N or Series BNC connectors should be used. The small and large twin contact types are for use with the small and medium size twin conductor cables.



SERIES UHF Small Single Contact Connectors

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG-106 U	82-1H	Hood	8, 9, 10, 11, 12, 13, 63, 65
UG-111 U	83-750	Plug	59, 62, 71
UG-175 U	83-185	Adapter Reducing	58
UG-176 U	83-168	Adapter, Reducing	59, 62, 71
UG-177 U	83-765	Hood	29, 55, 58
UG-203 U	83-776	Plug	55, 59, 62, 71
SO-239	83-1R	Receptacle	
SO-239	83-1RTY	Receptacle	
SO-239A	83-798	Receptacle	
PL-258	83-1I	Adapter, Straight	
PL-259	83-1SP	Plug	8, 9, 10, 11, 12, 13, 63, 65



RF CONNECTOR AVAILABILITY (continued)

SERIES UHF

Military Number	AMPHENOL Number	Description	For RG-/U Cables
PI 259	E3 E27	Plug Teflon	
FI 259A	E3 ISPN	Plug Mica Filled Bakelite	8 9 10 11 12 13 63 65
PI 259A	E3 756	Plug Teflon	8 9 10 11 12
PL 274	E3 1F	Adapter Bulkhead	
M 358	E3 1T	Adapter Tee	
M 359	E3 1AP	Adapter Right Angle	
M 359A	E3 5B	Adapter Right Angle	
M 360	E3 1H	Hood	8 9 10 11 12 13 63 65
UG 363 U	E3 1F	Adapter Bulkhead	
UG 372 U	E3 1HP	Hood	8 9 10 11 12 13 63 65
UG 446 U	E3 1AP	Adapter Right Angle	
49150	E3 ISP	Plug	8 9 10 11 12 13 63 65
49190	E3 E22	Plug Teflon	
49191	E3 1J	Adapter Straight	
49192	E3 1AP	Adapter Right Angle	
49192A	E3 5B	Adapter Right Angle	
49193	E3 1H	Hood	8 9 10 11 12 13 63 65
49194	E3 1R	Receptacle	
49194	E3 1RTY	Receptacle	
49195	E3 ISPN	Plug Mica Filled Bakelite	8 9 10 11 12 13 63 65
49195	E3 756	Plug Teflon	8 9 10 11 12
49199	E3 1T	Adapter Tee	55 59 62 71
49487	E3 776	Plug	
491042	E3 1F	Adapter Bulkhead	
	E3 1AC	Cap and Chain	
	E3 1BC	Cap and Chain	
	E3 59	Plug Right Angle	8 9 10 11 12 13 63 65
	E3 86	Plug Cap Cont	17
	E3 716	Receptacle Pressure Proof	
	E3 786	Hood and Gang Nut	29 54 58
	E3 817	Receptacle	
	E3 850	Solderless Plug	11
	E3 851	Solderless Plug	8 9 10 12 13 63 65

Small Twin Contact Connectors

UG 102 U	E3 22SP	Plug	22
UG 104 U	E3 22K	Receptacle	
UG 104 U	E3 22AP	Adapter Right Angle	
UG 105 U	E3 22J	Adapter Straight	
UG 106 U	E3 1H	Hood	22
UG 106 U	E3 22T	Adapter Tee	
SO 764	E3 22R	Receptacle	
PL 775	E3 22F	Adapter Straight Bulkhead	
FL 784	E3 22SP	Plug	22
PL 785	E3 22J	Adapter Straight	
FL 793	E3 22AP	Adapter Right Angle	
M 360	E3 1H	Hood	22
49193	E3 1H	Hood	22
	E3 1AC	Cap and Chain	
	E3 1BC	Cap and Chain	
	E3 65	Adapter Reducing	250 Diam
	E3 821	Plug	22

Large Single Contact Connectors

UG 357 U	E3 21R	Receptacle	
UG 358 U	E3 21SP	Plug	34
UG 360 U	E3 21J	Adapter, Straight	

Large Twin Contact Connectors

SO 265	E3 2R	Receptacle	
FI 295	E3 75P	Plug	57 130
FL 305	E3 2J	Adapter Straight	
PL 325	E3 2AP	Adapter Right Angle	
49188	E3 2SP	Plug	57 130
49189	E3 2J	Adapter Straight	
49196	E3 2K	Receptacle	

PUSH-ON CONNECTORS

are designed for those applications where a quick connect and disconnect feature is mandatory. There are no threaded or bayonet-lock type coupling rings involved, just a proper interference fit between plug and receptacle permits quick and easy engagement or disengagement yet provides a sufficient amount of retention to assure trouble-free operation. Especially useful in video patch-cord applications.



PUSH-ON

AMPHENOL Number	Description	For RG-/U Cables
E2 E30	Plug	55 58
E2 E31	Receptacle Bulkhead	
E2 E7	Plug	59 62 71
E2 841	Receptacle Bulkhead	
E2 845	Plug Bulkhead	55 58
E2 846	Jack Bulkhead	55 58

SERIES LC CONNECTORS

are for use with large coaxial cables and are weatherproof. They are intended for applications involving large amounts of RF energy. Characteristic impedance of 50 ohms, may be used with 70 ohm cables where impedance matching is not critical.



SERIES LC

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG 154 U	E2 59	Plug	17 18
UG 352 U	E2 80	Receptacle	
UG 357A U	E2 110	Receptacle	

SERIES LT CONNECTORS

are mechanically and electrically similar to Series LC Connectors. AMPHENOL's modified LT connectors are smaller, lighter in weight with all large parts of aluminum. Especially designed for Teflon Cables.



SERIES LT

AMPHENOL Number	Description	For RG-/U Cables
E2 116	Plug	117
E2-117	Receptacle	

SERIES BN CONNECTORS

are designed for the smaller coaxial cables. Small and light in weight, these connectors are ideal for video, trigger-pulse and low power RF applications. Non-constant impedance. Not recommended for applications with frequencies in excess of 200 mc. unless electrical requirements of the circuit are not critical.

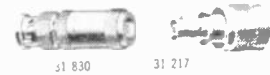


SERIES BN

Military Number	AMPHENOL Number	Description	For RG-/U Cables
UG 85 U	E2 21	Plug	55 58 59 62 71
UG 87 U	E2 42	Receptacle	
UG 114 U	E2 25	Panel Jack	55 58 59 62 71
UG 115 U	E2 26	Jack	55 58 59 62 71
UG 706 U	E3 101	Receptacle Bulkhead	
	E3 759	Shield Grounding Lug	

BETWEEN SERIES ADAPTERS

provide a means of connection between the various RF connector series. They are of non-constant impedance but designed to minimize electrical discontinuity.



BETWEEN SERIES ADAPTERS

Military Number	AMPHENOL Number	Mates With
UG 201 U	E1 830	N Female and BNC Male
UG 201A U	E1 216	N Female and BNC Male
UG 273 U	E1 028	BNC Male and UHF 49194 or Equivalent
UG 349A U	E1 217	N Male and BNC Female
UG 564 U	E2 408	C Male and N Female
UG 565A U	E2 540	C Female and N Male

COAXIAL CABLE FITTINGS

include splices for flexible coax, and transitions for large to small coaxial cables.

CABLE TRANSITION

AMPHENOL Number	From RG-/U Cable	To RG-/U Cable
E2 150	17 18	8, 9 or 10



CABLE SPLICE

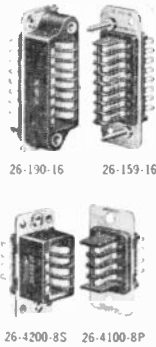
AMPHENOL Number	For RG-/U Cables
E2 152	35, 164



BLUE RIBBON CONNECTORS

These unique spring-ribbon contact connectors offer the following outstanding features:

- Visual alignment is not required.
- Spring contacts provide quick disconnect with low insertion and withdrawal force requirements.
- Insert material is diallyl phthalate which meets government specifications MIL-P-4389 and MIL-P-14D.
- Contacts are gold over a silver base plate, will not corrode, are easy to solder.
- Molded-in mounting plates are corrosion resistant passivated stainless steel.



Pin Polarization

Plugs	Contacts	Mating Receptacles
26-159-16	16	26-190-16
26-159-24	24	26-190-24
26-159-32	32	26-190-32

Barrier Polarization

Plugs	Contacts	Mating Receptacles
26-182	8	26-183
26-4100-8P	8	26-4200-8S
26-4100-16P	16	26-4200-16S
26-4100-24P	24	26-4200-24S
26-4100-32P	32	26-4200-32S

Barrier Polarization With Keyed Shells

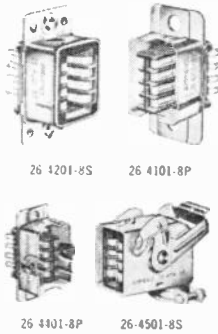
Plugs	Contacts	Shell Keys*		Mating Receptacles
		Letters	Numbers	
26-4101-8P	8	A	1	26-4201-8S
26-4102-8P	8	A	2	26-4202-8S
26-4101-16P	16	A-C	3-6	26-4201-16S
26-4102-16P	16	A-D	2-5	26-4202-16S
26-4101-24P	24	A-C	3-6	26-4201-24S
26-4102-24P	24	A-D	4-7	26-4202-24S
26-4101-32P	32	A-C	3-6	26-4201-32S
26-4102-32P	32	A-D	4-7	26-4202-32S

Voltage Ratings: 5 Amp.

Pin Polarization	Barrier Polarization
750 Volts D.C. at Sea Level	800 Volts D.C. at Sea Level
300 Volts D.C. at 60,000 Feet Alt.	300 Volts D.C. at 70,000 Feet Alt.

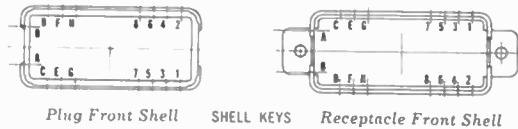
Barrier Polarization With Keyed Latch-Lock Shells

Male and female inserts interchangeable; add P for plug contacts or S for socket contacts to part number when ordering.

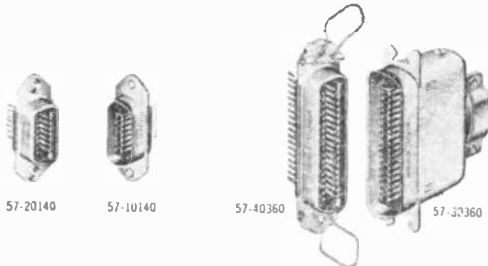


Plugs		Contacts	Shell Keys*		Mating Receptacles
End Cable Outlet	Side Cable Outlet		Letters	Numbers	
26-4301-8	26-4501-8	8	A	1	26-4401-8
26-4302-8	26-4502-8	8	A	2	26-4402-8
26-4301-16	26-4501-16	16	A-C	3-6	26-4401-16
26-4302-16	26-4502-16	16	A-D	2-5	26-4402-16
26-4301-24	26-4501-24	24	A-C	3-6	26-4401-24
26-4302-24	26-4502-24	24	A-D	4-7	26-4402-24
26-4301-32	26-4501-32	32	A-C	3-6	26-4401-32
26-4302-32	26-4502-32	32	A-D	4-7	26-4402-32

*Other shell key combinations available on special order. For complete availability listing see your AMPHENOL distributor.



MICRO RIBBON CONNECTORS



Available in as many as 50 contacts, Micro-Ribbons make possible the routing of a great many circuits through one, or more, small connectors at a great saving of space and weight.

Also available in cable-to-chassis mounting types. The compact housings are equipped with sturdy spring-type latches.

Bodies are molded of diallyl phthalate. Contacts are gold-plated over silver. Shells are cadmium-plated brass with clear chromate treatment.

VOLTAGE RATING: 5 AMPS
700 Volts D.C. at Sea Level
200 Volts D.C. at 70,000 Feet Altitude

Contacts	Rack & Panel Plugs	Mating Receptacles	Cable-to-Chassis Plugs	Mating Receptacles
14	57-10140	57-20140	57-30140	57-40140
24	57-10240	57-20240	57-30240	57-40240
36	57-10360	57-20360	57-30360	57-40360
50	57-10500	57-20500	57-30500	57-40500

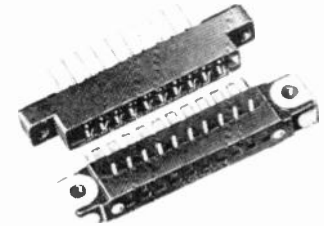


PRINTED CIRCUIT BOARD RECEPTACLES & PLUGS

AMPHENOL Prin-Cir connectors are available as printed circuit board receptacles (143 series) and board plugs and receptacles (133 series). The receptacles fit any standard .055" to .073" board, providing excellent mating action; even after repeated insertions. Mating plugs and adapters are available in a variety of contact terminations. Contacts are gold-over-albaloy plated.

Receptacles	Contacts	Adapters
143-006	6	
143-010	10	133-010
143-012	12	
143-015	15	133-015
143-018	18	133-018
143-022	22	133-022

Average V-Ridge Breakdown between Contacts
 Receptacle: 5,400 Volts D.C. at Sea Level
 Adapters: 2,300 Volts D.C. at Sea Level



RACK AND PANEL CONNECTORS

MINIATURE HEXAGON CONNECTORS

A complete family of miniature rack & panel and cable to chassis connectors for interconnection in a wide range of applications. Hardware and contacts are interchangeable. Bodies are molded of diallyl phthalate; gold-over-silver contacts will not tarnish or corrode, can be soldered without pre-tinning even after long storage. All hardware is nickle-plated solid brass.

Contacts	With Hex. Nut	With Locking Clip	With Hood & Clamp
4 pin	--	126 214	--
4 socket	--	--	126 215
5 pin	126-010	126 216	126 217
5 socket	126-011	126 218	126 223
7 pin	126 191	126 197	126 195
7 socket	126-192	126 198	126 196
9 pin	126-012	126 219	126 220
9 socket	126-013	126-221	126 222

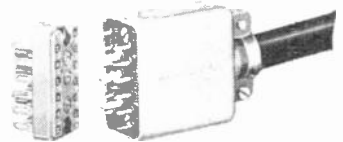


Voltage Rating: 7.5 Amp.
 - 500 Volts R.M.S. at Sea Level.

RECTANGULAR CONNECTORS

Versatile group available in 11, 15 and 20 contacts, with or without protective can and cable clamp. Rated at 900 volts RMS, 60 CPS at sea level. Bodies mica-filled phenolic; contacts gold-plated.

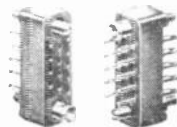
AMPHENOL Number Inset Only	Description	Contacts		Mounting Screw Size	AMPHENOL Number With Can
		No. 16	No. 20		
126 804	Male	2	9	No 4	126 819
126 805	Female	2	9	No 4	126 838
126 151	Male	3	12	No 6	126 152
126 150	Female	3	12	No 6	126 153
126 806	Male	4	16	No 4	126 811
126 807	Female	4	16	No 4	126 810
126 813	Male	20	--	No 4	--
126 812	Female	20	--	No 4	--



MINIATURE RECTANGULAR CONNECTORS

Four types of miniature rack and panel connectors offer a large selection of multiple contacts. Contacts and polarizing pins are gold-plated; bodies are melamine. Four types, A, B, C and D, differ in voltage rating and insertion and withdrawal force requirements.

Type	AMPHENOL Number	Contacts	Voltage Rating	Current Rating Amperes	Insertion Force Max.	Withdrawal Force Min.
A	126 016	7 pin	600 750	17	15*	2*
	126 017	7 socket				
	126 204 126 205	15 pin 15 socket				
B	126 206 126 207	18 pin 18 socket	600 750	17	40*	4*
	C	126 173	14 pin	600	7.5	25*	2*
126 174		14 socket				
126 199		18 pin				
126 189		18 socket				
126 171 126 172		21 pin 21 socket				
D	126 188 126-187	34 pin 34 socket	600	7.5	25*	2†



Sec. 2100

RG-/U TYPE COAXIAL CABLES Polyethylene and Teflon Dielectrics

Military RG- Number	AMPHENOL Number	Armor O.D.	Jacket O.D.	Jacket Type	Shields		Dielectric O.D.	Dielectric Type	Center Conductor	V. P. %	Capacity MMF FT	Max. Operating Volts RMS	Nominal Impedance in Ohms
					Outer	Inner							
5B	21-294	—	328	IIa	S	S	181	P	16S	65.9	28.5	3000	50
6A.U	21-330	—	332	IIa	C	S	185	P	21 CW	65.9	20	2700	75
8 U	21-004	—	405	I	—	C	285	P	7 21 C	65.9	29.5	5000	52
8A U	21-290	—	405	IIa	—	C	285	P	7 21 C	65.9	29.5	5000	52
9 U	21-005	—	420	II	C	S	280	P	7 21 S	65.9	30	5000	51
9A.U	21-231	—	420	II	S	S	280	P	7 21 S	65.9	30	5000	51
9B.U	21-332	—	420	IIa	S	S	280	P	7 21 S	65.9	30	5000	50
10A.U	21-338	475	405	IIa	—	C	285	P	7 21 C	65.9	29.5	5000	52
11.U	21-007	—	405	I	—	C	285	P	7 26 T	65.9	20.5	5000	75
11A.U	21-296	—	405	IIa	—	C	285	P	7 26 T	65.9	20.5	5000	75
12A.U	21-340	475	405	IIa	—	C	285	P	7/26 T	65.9	20.5	5000	75
13.U	21-009	—	420	I	C	C	280	P	7 26 T	65.9	20.5	5000	74
13A.U	21-334	—	420	IIa	C	C	280	P	7 26 T	65.9	20.5	5000	74
14A.U	21-336	—	545	IIa	C	C	370	P	10 C	65.9	29.5	7000	52
17.U	21-013	—	870	II	—	C	680	P	188 C	65.9	29.5	11000	52
17A.U	21-298	—	870	IIa	—	C	680	P	188 C	65.9	29.5	11000	52
18A.U	21-300	945	870	IIa	—	C	680	P	188 C	65.9	29.5	11000	52
19A.U	21-303	—	1120	IIa	—	C	910	P	250 C	65.9	29.5	14000	52
20A.U	21-305	1195	1120	IIa	—	C	910	P	250 C	65.9	29.5	14000	52
21A.U	21-308	—	332	IIa	S	S	185	P	16 W	65.9	29	2700	53
22.U	21-038	—	405	I	—	T	285	P	Two 7 0152 C	65.9	16	1000	95
22B.U	21-310	—	420	IIa	T	T	285	P	Two 7 0152 C	65.9	16	1000	95
34B.U	21-792	—	630	IIa	—	C	460	P	7 0249 C	65.9	21.5	6500	75
35B.U	21-793	945	870	IIa	—	C	680	P	1045 C	65.9	21	10000	75
55B.U	21-902	—	206	IIIa	T	T	116	P	20 S	65.9	28.5	1900	53.5
57A.U	21-313	—	625	IIa	—	C	472	P	Two 7 21 C	65.9	16	3000	95
58.U	21-024	—	195	I	—	T	116	P	20 C	65.9	28.5	1900	53.5
58A.U	21-199	—	195	I	—	T	116	P	19 0071 T	65.9	30	1900	50
58C.U	21-261	—	195	IIa	—	T	116	P	19 0071 T	65.9	30	1900	50
59.U	21-025	—	242	I	—	C	146	P	22 CW	65.9	21.5	2300	73
59B.U	21-794	—	242	IIa	—	C	146	P	023 CW	65.9	21	2300	75
62.U	21-026	—	242	I	—	C	146	SSP	22 CW	84	13.5	750	93
62A.U	21-319	—	242	IIa	—	C	146	SSP	22 CW	84	13.5	750	93
62B.U	21-771	—	242	IIa	—	C	146	SSP	7 32 CW	84	13.5	750	93
63.U	21-027	—	405	I	—	C	285	SSP	22 CW	84	10	1000	125
63B.U	21-320	—	405	IIa	—	C	285	SSP	22 CW	84	10	1000	125
71A.U	21-723	—	245	I	T	T or C	146	SSP	22 CW	84	13.5	750	93
71B.U	21-804	—	250	IIIa	T	T or C	146	SSP	22 CW	84	13.5	750	93
74A.U	21-321	615	545	IIa	C	C	370	P	10 C	65.9	29.5	7000	52
79B.U	21-325	475	405	IIa	—	C	285	SSP	22 CW	84	10	1000	125
87A.U	421-250	—	475	V	S	S	280	TF	7-20 S	69.5	29.5	5000	50
† 94.U	421-158	—	445	V	C	C	292	TT	19 0255 S	70	27	7000	50
108A.U	21-327	—	235	IIa	—	T	079 Each	P	Two 7 28 T	68	23.5	1000	78
111A.U	21-329	490	420	IIa	T	T	285	P	Two 7 0152 C	65.9	16	1000	95
114.U	21-440	—	405	I	—	C	285	SSP	33 CW	88	6.5	1000	185
114A.U	21-520	—	405	IIa	—	C	285	SSP	33 CW	88	6.5	1000	185
115.U	421-641	—	375	V	S	S	250	TT	7 21 S	70	29.5	5000	50
115A.U	421-699	—	415	V	S	S	250	TT	7 21 S	70	29.5	4000	50
116.U	421-378	475	425	V	S	S	280	TF	7 20 S	69.5	29.5	5000	50
117.U	421-377	—	730	V	—	C	620	TF	188 C	69.5	29	7000	50
† 118.U	421-374	780	730	V	—	C	620	TF	188 C	69.5	29	7000	50
119.U	421-398	—	465	V	C	C	332	TF	102 C	69.5	29	6000	50
† 120/U	421-399	525	465	V	C	C	332	TF	102 C	69.5	29	6000	50
122.U	21-441	—	160	IIa	—	T	096	P	27 36 T	65.9	29.5	1900	50
† 126.U	421-443	—	280	V	—	K	185	TF	7 24 K	68.5	28.5	3000	50
140.U	421-379	—	233	V	—	S	146	TF	025 SCW	69.5	21	2300	75
141/U	421-382	—	190	V	—	S	116	TF	0359 SCW	69.5	28.5	1900	50
141A.U	421-139	—	190	V	—	S	116	TF	039 SCW	69.5	28.5	1900	50
142.U	421-395	—	206	V	S	S	116	TF	0359 SCW	69.5	28.5	1900	50
142A.U	421-140	—	206	V	S	S	116	TF	039 SCW	69.5	28.5	1900	50
143/U	421-388	—	325	V	S	S	185	TF	057 SCW	69.5	28.5	3000	50
143A.U	421-141	—	325	V	S	S	185	TF	059 SCW	69.5	28.5	3000	50
144.U	421-391	—	410	V	—	S	285	TF	7 25 SCW	69.5	20.5	5000	75
149/U	21-467	—	405	I	—	T	285	P	7 26 T	65.9	20.5	5000	75
164.U	21-720	—	870	IIa	—	C	680	P	1045 C	65.9	21	10000	75
† 165.U	421-710	—	410	V	—	S	285	TF	7 032 S	69.5	29.5	5000	50
† 166.U	421-713	460	410	V	—	S	285	TF	7 032 S	69.5	29.5	5000	50
174.U	21-598	—	100	I	—	T	060	P	7 0063 CW	65.9	30	1500	50
† 177.U	21-708	—	895	IIa	S	S	680	P	195 C	65.9	30	11000	50
178A.U	421-144	—	075	KEL-F	—	S	034	TF	7 38 SCW	69.5	29.0	1000	50
179A.U	421-143	—	105	KEL-F	—	S	063	TF	7 38 SCW	69.5	19.5	1200	75



continued

Military RG-Number	AMPHENOL Number	Armor O.D.	Jacket O.D.	Jacket Type	Shields		Dielectric O.D.	Dielectric Type	Center Conductor	V. P. %	Capacity MMF FT	Max. Operating Volts RMS	Nominal Impedance in Ohms
					Outer	Inner							
180 U	421-144	—	.141	KEL-F	—	S	.103	TF	7 38 SCW	69.5	15.5	850	93
180A U	421-147	—	.145	KEL-F	—	S	.102	TF	7 38 SCW	69.5	15.0	1500	95
187 U	421-106	—	.110	VII	—	S	.063	TF	7 38 SCW	69.5	19.5	1200	75
188 U	421-105	—	.110	VII	—	S	.060	TF	7 0067 SCW	69.5	29	1200	50
195 U	421-111	—	.165	VII	—	S	.102	TF	7 38 SCW	69.5	15	1500	95
196 U	421-109	—	.080	VII	—	S	.034	TF	7 38 SCW	69.5	29	1000	50
210 U	21-180	—	.242	V	—	S	.146	SST	22 SCW	84	13.5	750	93
211 U	421-131	—	.730	V	—	C	.620	TF	190 C	69.5	29	7000	50
212 U	21-790	—	.332	IIa	S	S	.185	P	0.56 S	65.9	28.5	3000	50
213 U	21-779	—	.405	IIa	—	C	.285	P	7 0296 C	65.9	29.5	5000	50
214 U	21-780	—	.425	IIa	S	S	.285	P	7 0296 S	65.9	30	5000	50
215 U	21-781	.475	.405	IIa	—	C	.285	P	7 0296 C	65.9	29.5	5000	50
216 U	21-782	—	.425	IIa	C	C	.285	P	7 .0159 T	65.9	20.5	5000	75
217 U	21-783	—	.545	IIa	C	C	.370	P	106 C	65.9	29.5	7000	50
218 U	21-784	—	.870	IIa	—	C	.680	P	195 C	65.9	29.5	11000	50
219 U	21-785	.945	.870	IIa	—	C	.680	P	195 C	65.9	29.5	11000	50
220 U	21-786	—	1.120	IIa	—	C	.910	P	250 C	65.9	29.5	14000	50
221 U	21-787	1.195	1.120	IIa	—	C	.910	P	250 C	65.9	29.5	14000	50
222 U	21-791	—	.332	IIa	S	S	.185	P	0556 N	65.9	29	2700	50
223 U	21-788	—	.216	IIa	S	S	.116	P	085 S	65.9	29.5	1900	50
224 U	21-789	.615	.545	IIa	C	C	.370	P	106 C	65.9	29.5	7000	50
225 U	421-135	—	.430	V	S	S	.285	TF	7 8312 S	69.5	29.5	5000	50
226 U	421-136	—	.500	V	C	C	.370	TT	19' 0254 S	70	29.5	7000	50
227 U	421-137	.490	.430	V	S	S	.285	TF	7 0312 S	69.5	29.5	5000	50
228 U	421-138	.795	.730	V	—	C	.620	TF	.190 C	69.5	29	7000	50

S—Silvered Copper C—Copper T—Tinned Copper KW—Karma Wire CW—Copper-weld N—Nichrome SCW—Silver-coated Copper-weld
 P—Polyethylene SSP—Semi-Solid Polyethylene TF—Teflon SST—Semi-Solid Teflon TT—Teflon Tape
 BLUE cable numbers are not MIL-C-17B Special—Consult your Distributor for availability

POLYFOAM CABLES

Polyfoam is a cellular polyethylene which utilizes an inert gas as an expanding agent to form completely enclosed cells within the polyethylene. Polyfoam has a dielectric constant of 1.50 as compared to 2.25 for solid polyethylene.

AMPHENOL Number	RG Equivalent	Impedance Ohms	Inner Conductor	Dielectric O.D.	Jacket Type	Jacket O.D.	Capacity MMF FT	Maximum Oper. Volts RMS	Weight Per Ft.
621-100*	11 U	75	Solid Copper #14 AWG	.285	Black Polyethylene	.405	16.5	3,000	80
621-102-101	11 U (Triaxial)	75	Solid Copper #14 AWG	.285	Black Polyethylene	.460	16.5	3,000	120
621-111	8 U	50	Stranded Copper #19	.285	Black Vinyl Type I	.405	26.0	3,000	704
621-700	59A U	73	Solid Copper-weld #22 AWG	.107	Black Vinyl Type IIa	.195	17.0	1,000	18½
621-701	59 U	73	Solid Copper-weld #22 AWG	.107	Black Vinyl Type I	.195	17.0	1,000	20½
621-715	59 U	73	Solid Copper-weld #22 AWG	.107	Black Polyethylene	.195	17.0	1,000	21½

* Add Suffix L 101 for Sweep Testing

SPECIAL APPLICATION CABLES

ALJAK COAXIAL CABLE

Similar to their RG-/U counterparts except that instead of a vinyl jacket ALJAK has a seamless extruded aluminum jacket swaged over a polyethylene or Teflon core. Completely waterproof, ALJAK features low attenuation, smaller od's than standard cable.

Polyethylene Dielectric		
Regular RG- U Core	AMPHENOL Number	Impedance in Ohms
8	21-606	50
11	21-607	75
Teflon Dielectric		
87A	421-608	50
144	421-609	75

TRIAxIAL CABLE

Triaxial type double shielded cable for reduction of signal radiations in community tv and other commercial applications.

Similar to RG- U	AMPHENOL Number	Impedance in Ohms
8	21-583	52
11	21-529	75
58A	21-204	50
59	21-527	73

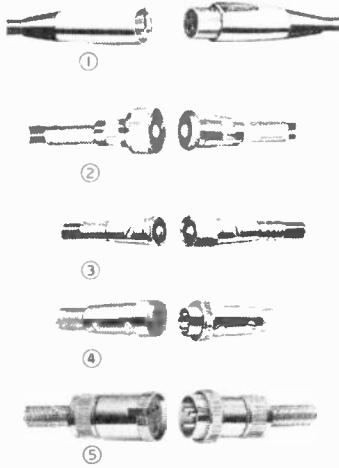
JACKETS

Jacket Type	Military Designation	Non-Contaminating	Operating Temperature Limits
Black Vinyl	Type I	No	-40°C to +80°C*
Gray Vinyl	Type II	Yes	-25°C to +80°C*
Standard Low Temperature Black	Type IIa	Yes	-40°C to +80°C*
Polyethylene	Type III	Yes	-40°C to +80°C*
Fiberglass	Type V	Yes	-55°C to +250°C
Teflon	Type VII	Yes	-55°C to +200°C
Kel-F	—	Yes	-55°C to +135°C

* This temperature limit imposed by Polyethylene Dielectric of the Standard Type Cable construction.
 Teflon—Reg. TM DuPont; Karma—Reg. TM Driver-Harris



MICROPHONE CONNECTORS



① MODERN DESIGN QWIKS

Newest, most efficient, most attractive connectors ever offered for microphone use. Gold-plated contacts, 1-501 Blue dielectric, satin-nickel finish contribute to the beauty, the efficient performance of the new QWIKs. Instant connect, disconnect—just click them in!

Three Contacts AMPHENOL Number	Description	Four Contacts AMPHENOL Number
91-853	Male plug	91-857
91-854	Female plug	91-858
91-855	Male receptacle	91-859
91-856	Female receptacle	91-860

② ③ SERIES 75

Coupling-ring connectors available with a complete line of accessory fittings. Easy to use, versatile in application, these connectors provide mating connections at every junction through the use of slip-off, slip-on coupling rings. Single contact. Plug, jack and receptacle also available in miniature size.

② Standard 75-Series	③ Miniature 75-Series	Description
75-GCC1		Cap and chain
75-MC1F	75-1	Straight plug
75-MC1FA		Angle plug
75-MC1P	75-2	Cable jack
75-MC1S		Phone plug adapter
75-PC1M	75-3	Microphone switch
75-CL-PC1M		Locknut receptacle closed circuit

④ SERIES 80

One and two contact connectors designed for microphone applications; assure positive connections free from noise, leaks or shorts.

One Contact AMPHENOL Number	Description	Two Contacts AMPHENOL Number
80-M	Male plug	80-MC2M
80-F	Female jack	80-MC2F
80-C	Female receptacle	80-PC2F
80-F1	Female plug	80-MC2F1
80-M1	Male jack	80-MC2M1
80-C1	Male receptacle	80-PC2M

⑤ SERIES 91

Three and four contact connectors for audio or any type of portable sound equipment. Screw-on connection. Connectors polarized.

Three Contacts AMPHENOL Number	Description	Four Contacts AMPHENOL Number
91-MC3M	Male plug	91-MC4M
91-MC3F	Female jack	91-MC4F
91-PC3F	Female receptacle	91-PC4F
91-MC3F1	Female plug	91-MC4F1
91-MC3M1	Male jack	91-MC4M1
91-PC3M	Male receptacle	91-PC4M

POLYSTYRENE SHEET STOCK

AMPHENOL Number	Description
19-0628	4" x 8" x 1/16"
19-0938	4" x 8" x 1/32"
19-1258	4" x 8" x 1/4"
19-1878	4" x 8" x 3/16"
19-2508	4" x 8" x 1/2"

SINGLE PRONG PLUGS

AMPHENOL Number	Description
71-1S	For 1/32" socket
71-1M	For 1/4" socket
71-1L	For 1/2" socket

TIP JACKS

AMPHENOL Number	Description
78-1S	For 1/32" plug
78-1L	For 1/2" plug
78-1M	For 1/4" plug
78-1P	For 080" phone tip

MAGIC EYE ASSEMBLIES

AMPHENOL Number	Description
58-MEA6	6 contact type
58-MEA8	8 contact octal type

UNIVERSAL GRID CAP

AMPHENOL Number	Description
63-1	Black grid cap

TAP CHANGE SWITCH

AMPHENOL Number	Description
36	Numerals 1 to 8 internal solder lugs
36-1	Numerals 1 to 8
36-2	Imp. marks 0-2-4-8-16-250-500

CRYSTAL HOLDER SOCKET

AMPHENOL Number	Description
33-2	Black bakelite
33-2T	Mica-filled

COIL FORMS

AMPHENOL Number	Description
24	Miniature, for self-tapping screw
24-4P	Plug-in, 4 prong
24-5P	Plug-in, 5 prong
24-6P	Plug-in, 6 prong
24-5H	Plug-in, miniature, 5 prong
24-6H	Plug-in, miniature, 6 prong

① HIGH-VOLTAGE SOCKETS

AMPHENOL Number	Description
77A-4T	4 contacts mica-filled bakelite
146-101	8 contacts melamine

② STEATITE TRANSMITTING TUBE

AMPHENOL Number	Description
148-101	Small and medium 4 pin
148-111	Octal

③ BRACKET TYPE SOCKETS

AMPHENOL Number	WITH Retaining Clip	With Terminal Block	With Bottom Cover	With Under-writers' Shield	For Super Jumbo Tubes	For U-X 4-pin Tubes
146-105	X		X		X	
146-106	X				X	
146-107	X	X	X		X	
146-109				X		X
146-110						X

④ ADAPTER SOCKETS

AMPHENOL Number	Description
78-A7P	7 pin
78-A9P	9 pin

⑤ MAGNAL & DUODECAL SOCKETS

AMPHENOL Number	Description
49-SS11L	11 contact, magnal
59-402	12 contact

⑥ ETHYLON "A" SOCKETS

AMPHENOL Number	Description
59-305	8 pin octal Zip-in
59-307	7 pin miniature Zip-in
59-309	9 pin miniature Zip-in
59-355	8 pin octal with mounting plate
59-357	7 pin miniature with mounting plate
59-359	9 pin miniature with mounting plate
59-367	7 pin miniature with tube shield base
59-369	9 pin miniature with tube shield base

⑦ MINIATURE RETAINER RING SOCKETS

AMPHENOL Number	Description
78-S3S	3 contact
78-S4S	4 contact
78-S5S	5 contact
78-S6S	6 contact
78-5P	5 contact
78-7P	7 contact
78-7P7	7 contact mica-filled bakelite

⑧ SADDLE TYPE OCTAL SOCKETS

AMPHENOL Number	Description
168-001	8 contact, wrap-around, 4 grounding lugs
168-015	8 contact, tuning-fork, 4 grounding lugs





① MOLDED-IN-PLATE SOCKETS

AMPHENOL Number	Description
77-MIP-4	1 contact
77-MIP-5	5 contact
77-MIP-6	5 contact
77-MIP-7L	7 large
77-MIP-7S	7 small
77-MIP-8	9 octal
77-MIP-9	3 octal style
77-MIP-11	11 octal style
77-MIP-12	12 octal style
77-MIP-20	20 contact
88-8	3 octal compact
88-8X	3 loktal compact
77-MIP-3FK	3 xctal, with 11-3K floating socket kit
11-3K	Kit for converting any "Mip" to floating socket

② BARRIER TYPE SOCKETS

AMPHENOL Number	Description
146-103	Octal top mounted
146-104	Octal threaded inserts, top mounted
146-203	146-103, bottom mounted
146-204	146-104, bottom mounted

③ "S" TYPE REPLACEMENT SOCKETS

AMPHENOL Number With Mtg. Pkt.	Without	Description
78-RS4	78-S4	4 contact
78-RS5	78-S5	5 contact
78-RS6	78-S6	6 contact
78-RS7L	78-S7L	7 large
78-RS7S	78-S7S	7 small
78-RS8	78-S8	8 octal
78-RS8L	78-S8L	8 loktal
78-RS9	78-S9	9 octal
78-RS11	78-S11	11 octal
49-RSS4	49-SS4	4 contact
49-RSS5	49-SS5	5 contact
49-RSS6	49-SS6	6 contact
49-RSS7L	49-SS7L	7 large
49-RSS7S	49-SS7S	7 small
49-RSS8	49-SS8	8 octal

④ MINIATURE 7 & 9 PIN SOCKETS

AMPHENOL Number	Bottom Mounting—No Shield Base Description	Center Shield
59-409	9 contact black bakelite	L
59-410	9 contact mica-filled	L
147-500	7 contact black bakelite	L
147-502	7 contact black bakelite	L
147-504	7 contact black bakelite	0
147-505	7 contact mica-filled	S
AMPHENOL Number	Top Mounting—Tube Shield Base Description	Center Shield
59-403	9 contact mica-filled	L
59-406	9 contact black bakelite	L
59-407	9 contact mica-filled	L
147-905	7 contact black bakelite	L
147-913	7 contact mica-filled	S
147-916	7 contact mica-filled	S
147-921	7 contact steatite	S
147-924	7 contact steatite	S
147-925	7 contact steatite	L

*Rubber mounted .123 dia. rivet holes.

⑤ TUBE SHIELDS FOR MINIATURE SOCKETS

AMPHENOL Number	Description
5-401	For 7 pin—1 1/4"
5-402	For 7 pin—1 1/4"
5-405	For 9 pin—1 1/2"
5-408	For 9 pin—1 1/4"
5-409	For 9 pin—2 1/4"

⑥ RECEPTACLE SHELLS

AMPHENOL Number	Description
23-1S	Shell only, small
23-1L	Shell only, large
61-61	Shell only

⑦ "CP" TYPE PLUGS

AMPHENOL Number	With Mtg. Plate	Description
86-CP4	86-RCP4	4 contact
86-CP5	86-RCP5	5 contact
86-CP6	86-RCP6	6 contact
86-CP7L	86-RCP7L	7 large
86-CP7S	86-RCP7S	7 small
86-CP8	86-RCP8	8 octal
86-CP9	86-RCP9	9 octal style
86-CP11	86-RCP11	11 octal style
86-CP12	86-RCP12	12 contact

⑧ SHIELDED CABLE CONNECTORS

With Grommet Cap 3-13			
AMPHENOL Number	Female	Male	Description
78-PF4	86-PM4	86-PM4	4 contact
78-PF5	86-PM5	86-PM5	5 contact
78-PF6	86-PM6	86-PM6	6 contact
78-PF8	86-PM8	86-PM8	8 octal
78-PF9	86-PM9	86-PM9	9 octal style
78-PF11	86-PM11	86-PM11	11 octal style
---	86-PM12	86-PM12	12 contact
---	86-PM20	86-PM20	20 contact

⑨ With Cable Clamp 3-24

AMPHENOL Number	Female	Male	Description
78-PF4-11	86-PM4-11	86-PM4-11	4 contact
78-PF5-11	86-PM5-11	86-PM5-11	5 contact
78-PF6-11	86-PM6-11	86-PM6-11	6 contact
78-PF7S-11	86-PM7S-11	86-PM7S-11	7 small
78-PF8-11	86-PM8-11	86-PM8-11	8 octal
78-PF9-11	86-PM9-11	86-PM9-11	9 octal style
78-PF11-11	86-PM11-11	86-PM11-11	11 octal style
---	86-PM12-11	86-PM12-11	12 contact

⑩ UNSHIELDED SPEAKER PLUGS

AMPHENOL Number	Description
71-4	4 contact, finger grip
71-5	5 contact, finger grip
71-6	6 contact, finger grip
71-7	7 contact, finger grip
70-8	8 contact
70-9	9 contact
70-12	12 contact
70-20	20 contact
71-35	3 contact, miniature cable plug
71-45	4 contact, miniature cable plug
71-5S	5 contact, miniature cable plug
71-6S	6 contact, miniature cable plug
86-CP-3S	3 contact, miniature chassis plug
86-CP-4S	4 contact, miniature chassis plug

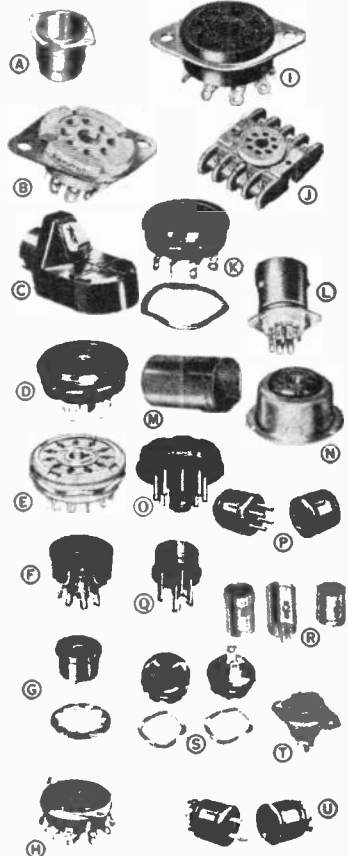
⑪ MINIATURE CABLE CONNECTORS

SHORT SHELL		
AMPHENOL Number Male	Description	AMPHENOL Number Female
91-MPM3S	3 contact	91-MPF3S
91-MPM4S	4 contact	91-MPF4S
LONG SHELL		
91-MPM3L	3 contact	91-MPF3L
91-MPM4L	4 contact	91-MPF4L
91-MPM5L	5 contact	---
91-MPM6L	6 contact	---
FLARED SHELL		
---	3 contact	91-MPF3
---	4 contact	91-MPF4
91-MPM5	5 contact	91-MPF5
91-MPM6	6 contact	91-MPF6

⑫ PLUG & RECEPTACLE INSERTS

AMPHENOL Number Retainer Ring Type	Receptacles Description	AMPHENOL Number Mounting Plate Type
61-F	2 pole, universal	61-F1
60-F	3 pole, polarized	60-F1
---	2 pole, universal	61-MIP-61F
---	2 pole, grounded	160-2
---	2 pole, standard	160-4*
61-M	2 pole, standard	61-M1
61-MP	2 pole, polarized	61-MP1
60-M	3 pole, polarized	60-M1
---	2 pole, grounded	160-3
---	2 pole, grounded	160-5*

*In motor base housing.



⑬ SHIELDED CHASSIS UNITS

AMPHENOL Number	Description
74-PCG3	3 contact
74-PCG4	4 contact
78-PCG5	5 contact
78-PCG8	6 contact

⑭ 110-VOLT SHIELDED CABLE CONNECTORS

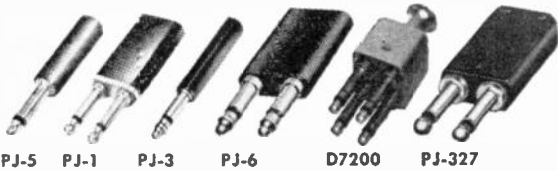
AMPHENOL Number With Cable Clamps	AMPHENOL Number With Grommet	Description
60-F11	60-F4	3 pole receptacle
60-M11	60-M4	3 pole polarized plug
61-F11	61-F4	2 pole universal receptacle
61-M11	61-M4	2 pole standard plug
61-MP11	61-MP4	2 pole polarized plug
160-8	160-6	2 pole grounded receptacle
160-9	160-7	2 pole grounded plug





AUDIO DEVELOPMENT COMPANY

MINNEAPOLIS 7, MINNESOTA



PLUGS

PJ-5 Equivalent, PJ-055, WE-47, fits 1/4" phone jacks. Black plastic shell. Screw terminals. Two conductor.

List \$1.30

PJ-1 Equivalent WE-241, heavy duty die cast frame. Black phenolic shell. Self aligning plug prongs on 5/8" center for use with all standard jack panels. Two tip conductors, plus sleeve connection common to both sleeves.

List \$4.60

PJ-3 Equivalent PJ-051, WE-310. Designed for use with 1/4" tip, ring and sleeve jacks. Molded insulation, red plastic shell. Three conductor.

List \$4.00

PJ-6 Equivalent WE-213. Designed for applications requiring two separate 3 conductor circuits. Popularly used with operator's intercom/monitor headsets. Black shell notched for polarity identification. Self aligning plug prongs on 11/16" centers.

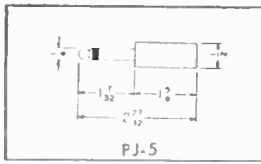
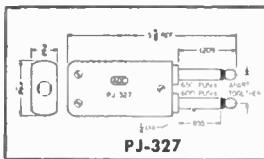
List \$16.30

D7200 Equivalent WE-315B. Four prong, self aligning plug. Molded insulation. Brass shell notched for polarity is nickel plated and connected to plug stems to provide shielding for tip conductors. For use with four PJ-318 or two PJ-210 double jacks mounted on 5/8" centers. Five conductors.

List \$24.50

PJ-327 The PJ-327 Twin Plug provides two electrically independent, 2 conductor plugs in a black phenolic shell which is notched to indicate polarity. Self aligning plug sleeves are on 5/8" centers. Designed in accordance with National Military Establishment Specification MIL-P-642A and interchangeable with WE-327.

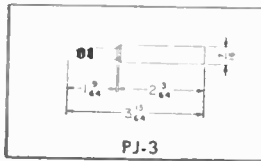
List Price \$4.25



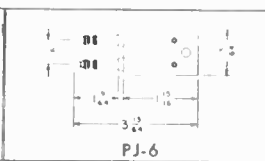
PJ-5



PJ-1

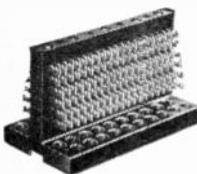


PJ-3



PJ-6

TERMINAL BLOCKS



Type	No. Rows	No. Terminals	List
PJ-101	1	20	\$5.75
PJ-102	2	40	7.75
PJ-103	3	60	9.95
PJ-104	4	80	11.75
PJ-105	5	100	13.75
PJ-106	6	120	15.75

Molded of durable black phenolic plastic material. Terminals are .040" plated brass. Rows of terminals are graduated in length for ease of wiring, and are identified by numbering along the top row. Base 3" x 6-1/16".



PATCH CORDS

Length	Cord With PJ-1 Plugs		Cord With PJ-5 Plugs		Replacement Cords Only	
	Length	List	Length	List	Length	List
6-inch	PJ-10 1/2	\$11.80	PJ-50 1/2	\$5.80	PJ-20 1/2	\$1.85
1-foot	PJ-11	12.10	PJ-51	6.05	PJ-21	2.50
2-feet	PJ-12	12.35	PJ-52	6.40	PJ-22	2.75
3-feet	PJ-13	12.65	PJ-53	6.85	PJ-23	2.90
4-feet	PJ-14	13.10	PJ-54	7.40	PJ-24	3.00
5-feet	PJ-15	13.45	PJ-55	7.95	PJ-25	3.15
6-feet	PJ-16	14.05	PJ-56	8.75	PJ-26	4.15
10-feet	PJ-10	14.90	PJ-50	9.70	PJ-20	5.25

Length	Cord With PJ-3 Plugs		Replacement Cords Only	
	Length	List	Length	List
2-feet	PJ-82	\$14.50	PJ-62	\$3.50
4-feet	PJ-84	15.50	PJ-64	4.00
6-feet	PJ-86	16.50	PJ-66	4.70

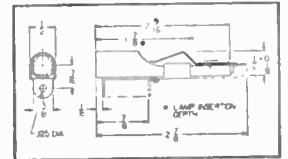
ADC patch cords have become standards in the communications industry. Unmatched in quality, these shielded cords are made of tinned copper conductor wire with a heavy braided cover reinforced at each end. These cords, as well as cord assemblies with PJ-1 double plugs, PJ-5 or PJ-3 single plugs and standard black patch cords with shields grounded both ends, are considered standard. Unshielded cords or assemblies with shields grounded one end only available on special order. Gray, red, other color cords available on special order.

LAMP SOCKETS

This new type lamp socket has the unique feature of an adjustable mounting tab which allows it to be used as a replacement for any standard lamp socket with a 1/2" diameter sleeve on panels from 1/8" to 7/8" thick. Designed to accommodate standard switchboard lamps such as WE #2 or equivalents supplied by General Electric or Sylvania. The PJ-150 lamp socket is interchangeable with WE Nos. 49 and 50.



PJ-150



List Price \$1.75

LAMP CAPS

This series of 13/32" diameter lamp caps are made for use with ADC PJ-150 Lamp Sockets and are interchangeable with standard lamp caps such as Stromberg-Carlson #31 and WE #2.



	Color	Glass Surface
PJ-151	White	Glossy
PJ-152	Red	Frosted
PJ-153	Green	Frosted

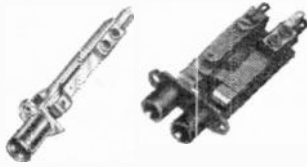
List Price \$3.35

ADC

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MINNEAPOLIS 7, MINNESOTA

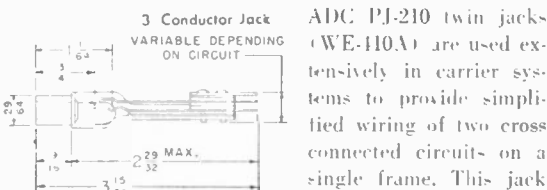
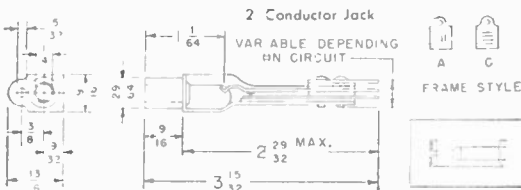
JACKS



ADC is recognized as a leading supplier of long frame telephone jacks. The unique ADC one piece frame is strong, dimensionally stable, and readily interchangeable both mechanically and electrically with commonly used jacks. Plating withstands 50-hour salt spray tests. Lugs are hot tin dipped. Coin silver contacts are welded to nickel silver springs. Insulation is high grade phenolic.

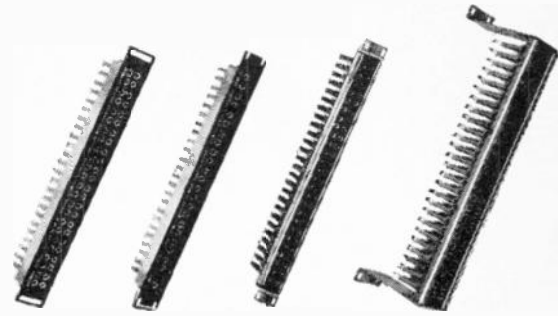
ADC PART NO.	W.E. EQUIV.	FRAME STYLE	SCHEMATIC CIRCUIT	LIST
PJ238 ²	238A	A		\$1.20
PJ240 ²	240C	C		2.05
PJ241 ²	241A	A		1.70
PJ242 ²	242C	C		2.05
PJ339 ²	239A	A		1.60
PJ226 ¹	226A	A		1.70
PJ237 ¹	237A	A		1.45
PJ318 ¹	218A	A		1.15
PJ336 ¹	236C	C		1.90
PJ338 ¹	438C	C		2.05
PJ418 ¹	218C	C		1.20
PJ115 ¹	215A	A		1.50
PJ116 ¹	216A	A		1.50
PJ117 ¹	217A	A		1.50
PJ123 ¹	223A	A		1.05
PJ125 ¹	225A	A		1.70
PJ203 ¹	303A	A		1.40

1. Use with all 2 conductor plugs.
2. Use with all 3 conductor ("Tip, Ring and Sleeve") plugs.



ADC PJ-210 twin jacks (WE-H0A) are used extensively in carrier systems to provide simplified wiring of two cross connected circuits on a single frame. This jack

is made to mate with ADC PJ-1 plug and is designed to mount in standard panels with 5/8 inch hole spacing. **\$1.60 list**



PJ-31 PJ-33 PJ-30 PJ-35
PJ-341 PJ-343 PJ-340 PJ-350

JACK PANELS

ADC offers the most complete assortment of jack panels available today. ADC panels are used in television and broadcasting stations, recording studios, industrial paging systems, and communication equipment of all kinds where there is a need to efficiently switch and distribute audio signals. Molded of solid phenolic, reinforced with steel to provide maximum rigidity and strength. Jacks are spaced to permit use of any standard double plug with 5/8" spacing. Mounting brackets and designation strips furnished with each panel. All panels designed to fit standard 19" relay rack. Consult ADC for your standard and special jack panel requirements.

Double panel. Holds 48 jacks. Holes spaced to prevent patching adjacent circuits. Requires 2 1/8" panel space.

TYPE	DESCRIPTION	LIST
PJ-31	Double panel, less jacks	\$15.75
PJ-341	Double panel, with PJ-318 jacks	71.25

Double panel. Holds 52 jacks — requires 1 3/4" panel space. Double designation strip. Brackets for flush rack mounting. All jack mounting holes on 5/8" centers.

TYPE	DESCRIPTION	LIST
PJ-30	Double panel, less jacks	\$21.50
PJ-340	Double panel, with PJ-318 jacks	82.50

Single panel. Holds 24 jacks. Holes spaced to prevent patching adjacent circuits. Requires 1 3/4" panel space.

TYPE	DESCRIPTION	LIST
PJ-33	Single panel, less jacks	\$14.20
PJ-343	Single panel, with PJ-318 jacks	41.88

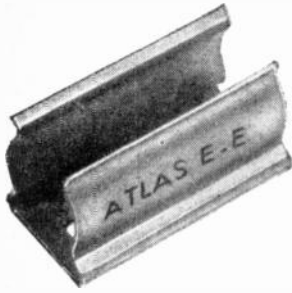
Double panel. Same as PJ-30 and PJ-340 except with stand off brackets to hold panel 7" in front of relay rack.

TYPE	DESCRIPTION	LIST
PJ-35	Double panel, less jacks	\$26.00
PJ-350	Double panel, with PJ-318 jacks	87.50

AUDIO DEVELOPMENT COMPANY
MINNEAPOLIS, MINNESOTA

- Transformers • Filters • Reactors • Chokes
- Plugs & Jacks • Jack Panels

When you want the best... Specify ATLEE CLIPS - HOLDERS - INSERTS



ATLEE COMPONENT HOLDERS

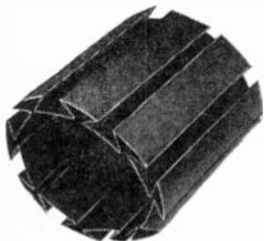
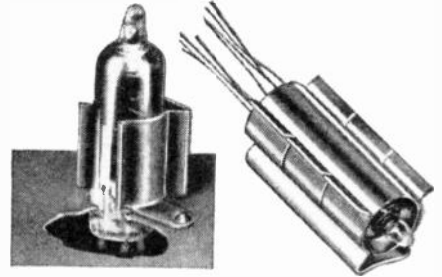
Atlas E-E Part No.	Comp. Diam.	Holder Height	Holder Width	Holder Max. Lgth.	Mtg. Holes No. X Diam. X Spacing	Price (each)
100-200-1	.175"	.30	.20	5/8"	2 x .071" x .375	12¢
-2	.195	.30	.22	5/8	2 x .071 x .375	12¢
-3	.195	.30	.22	1 1/8	3 x .071 x .437	15¢
-4	.235	.33	.25	7/8	2 x .093 x .312	12¢
-4A	.260	.34	.28	1 1/2	2 x .093 x .250	12¢
-4A-2	.260	.34	.28	1 1/4	1 x .093	12¢
-5	.312	.38	.34	3/4	2 x .093 x .437	15¢
-6	.375	.47	.41	1 1/8	3 x .103 x .375	15¢
-6A	.391	.48	.43	5/8	2 x .103 x .312	15¢
-7	.400	.49	.44	3/4	2 x .103 x .375	15¢
-8	.400	.49	.44	1 1/8	3 x .103 x .375	15¢
-8A	.500	.61	.54	1 5/8	3 x .128 x .562	15¢
-9	.562	.65	.61	1	3 x .128 x .312	18¢
-10	.562	.65	.61	1 5/8	3 x .128 x .562	18¢
-11	.670	.83	.72	1 3/8	3 x .128 x .437	19¢
-12	.750	.93	.82	2	3 x .144 x .750	26¢
-12A	.875	1.11	.93	4	4 x .144 x 1.00	31¢
-13	1.000	1.18	1.06	1 7/8	3 x .144 x .687	28¢
-15	1.125	1.33	1.18	1 3/8	3 x .162 x .469	27¢

Provide firm holding under extreme shock and vibration. For capacitors, resistors, relays, wires, cables, tubing, etc. Withstand vibrations of 10 to 500 cycles and 5 to 20 G's for eight hours without resonant frequencies. Structurally designed to derive maximum grip from the component itself. Made of spring steel which flexes under heavy vibration and temperature changes, automatically increasing holding power when

most needed. SPECIFICATIONS: SAE \pm 1065 tempered carbon steel, formed in the annealed state, cadmium plated, per QQ-P-416A, Class 2 Type II, able to withstand minimum 50-hour salt spray test, per AN-QQ-S-91. SIZES: 0.175 to 1.125. FILE-O-MATIC REFERENCE: section 19, page 4, for more information.

ATLEE SUBMINIATURE TUBE HOLDERS AND SHIELDS

For conditions of extreme shock and vibration, high-rate heat dissipation and minimum-space mounting. Withstand up to 20 G's at 500 cycles without resonant frequencies; average heat reduction over 50° (tests); low center design for minimum space — maximum holding power. Ultimate in convenience — no wrap-around motions in cramped spaces — just clip in or clip out. Tubes can freely be removed and replaced without loss in Holder performance. Holders available in silver alloy and silver-plated beryllium copper as well as cadmium-plated tempered carbon steel. Shields available in silver alloy and silver-plated brass. Vertical and Oval Sub-miniature Tube Holders available in tempered carbon steel. FILE-O-MATIC REFERENCE: section 19, pages 1 and 2, for more information.



ATLEE FULL CONTACT INSERTS FOR TUBE SHIELDS

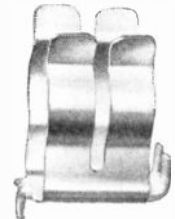
MIL-S-19786A Type No.	Use Atlee Full-contact Insert No.	For TS Shield No.	For TR Shield No.	Price each
L0761	102-332-1	TS102U01	TR5-5015	26¢
L0762	102-332-2	TS102U02	TR5-5020	27¢
L0765	102-332-3	TS102U03	TR5-5025	28¢
L0966	102-332-4	TS103U01	TR6-6015	27¢
L0967	102-332-5	TS103U02	TR6-6020	28¢
L0968	102-332-6	TS103U03	TR6-6025	29¢

This new ATLEE development for longer tube life and greater equipment reliability provides twice as much tube contact as other style inserts. Making almost 100% contact with both tube and shield, it assures quick, positive heat dissipation from nearly all the tube surface. It also acts as a tube cushion, reducing microphonics. Easily installed

in any TS or TR shield. SPECIFICATIONS: heat treated beryllium copper .002" thick per QQ-C-553; black matte finish, withstands 50-hour salt spray test; sold in strips of desired length, or in coils by the running foot; standard widths—.75", .86", 1", 1.2", 1.5"—other widths on request.

ATLEE TRANSISTOR CLIPS and HEAT SINKS

Available for all types and sizes of transistors. Can be provided coated with Durafilm to provide 500 V.D.C. insulation. Cadmium plated spring steel or silver plated beryllium copper alloy \pm 25, for horizontal or vertical mounting. Silver plated beryllium copper alloy \pm 25 with no-twist lug or solder lug. Bulletin #10 and Application Data Sheet gives proper clip for use with each transistor.



SEND FOR BULLETINS ON THESE OTHER ATLEE PRODUCTS

CRYSTAL DIODE CLIPS (File-O-Matic reference: sec. 19, pg. 3) — LUCITE CAP NUTS — JAN SHIELD INSERTS.

ATLAS E-E CORPORATION

Woburn, Mass.—Los Angeles, California



Birnbach

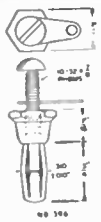
GIANT, STANDARD, MIDGET BANANA JACKS and PHONE TIPS

VARIOUS TYPES OF STANDARD PLUGS AVAILABLE TO ORDER. PLATED TO GOV'T. SPECS.

GIANT PLUG No. 396

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Rated at 25 amps.

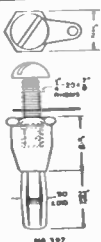
Cat. No. Spring Std. Pkg.
396 Phos. Brz. . . 25
396B Beryl. Cop. 25



GIANT PLUG No. 397

Body is hexed brass, nickel plated. Fits all giant banana jacks. Complete with nickel plated screw and soldering lug. Heavy duty, 25 amp. rating.

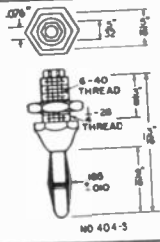
Cat. No. Spring Std. Pkg.
397 Phos. Brz. . . 25
397B Beryl. Cop. 25



BANANA PLUG No. 404S

Hexed brass nickel pl. Complete with hex brass n.p.l. nut. Has solderless Serulok connection. Fits all standard banana plugs. Spring is four-leaved phosphor bronze nickel plated. Rated at 5 amps.

Cat. No. Std. Pkg.
404S . . . 100
Serulok Banana Plug



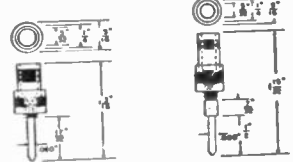
BANANA PLUG No. 400

Hexed brass nickel plated. Fits all standard banana plugs. Complete with hex brass n.p.l. nut and tinned copper lug. Spring is four-leaved nickel plated. Rated at 5 amps. Stand. pkg. 100

Cat. No. Spring Dim. "A"
400 Phos. Bronze 1/2" 1 1/2"
400A Phos. Bronze 3/8" 1 1/2"
400B Beryl. Copper 1/2" 1 1/2"

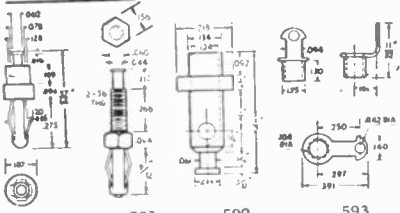


SOLDERLESS PHONE TIPS No. 23 and No. 24



Brass, nickel plated. Wire fits thru body of tip, tightened around screw with nickel plated knurled nut. Fits all standard phone tip jacks.

Cat. No. Std. Pkg.
23—Junior Solderless Phone Tip . . . 100
24—Senior Solderless Phone Tip . . . 500



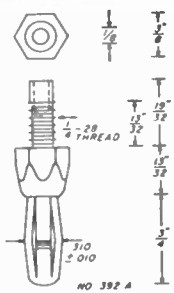
590 SUB MINIATURE BANANA PLUGS & JACKS
One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

Cat. No.	Description	Std. Pkg.
590	Rivet Type Plug	100
591	Screw Type Plug	100
592	Force Fit Jack	100
593	Rivet Type Jack	100

GIANT PLUG No. 392A

Body is hexed brass nickel plated. Rated at 25 amps. Has large soldering well in threaded shank. Fits all Giant Banana Jacks.

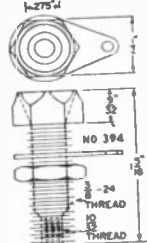
Cat. No. Spring Std. Pkg.
392A Phos. Brz. . . 25



GIANT JACK No. 394

Hexed brass nickel plated. Fits all Giant Banana Plugs. Mounts in 3/4" hole in panels up to 3/8" thick. Complete with n.p.l. nut and tinned copper lug.

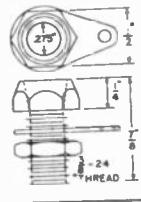
Cat. No. Std. Pkg.
394 Giant Jack 25



GIANT JACK No. 395

Fits all giant banana plugs. Hexed brass head nickel plated overall. Mounts in 3/4" hole. Complete with nut and tinned copper lug.

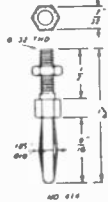
Cat. No. Std. Pkg.
395 Giant Jack 25



BANANA PLUG No. 414

Hexed brass, nickel plated. One-piece construction. Four-leaved phosphor bronze spring. Complete with brass hexed nut n.p.l. Rated at 5 amps. Fits all standard banana jacks.

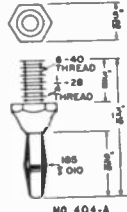
Cat. No. Spring Std. Pkg.
414 Phos. Brz. . . 100



BANANA PLUG No. 404A

Hexed brass and four-leaved phosphor bronze spring all nickel plated. Rated at 5 amps. Fits all standard banana jacks.

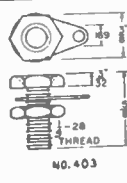
Cat. No. Std. Pkg.
404A Banana Plug 100



BANANA JACK No. 403

Hexed brass n.p.l. with brass n.p.l. hex nut and tinned copper lug. Mounts in 1/4" hole in panels up to 3/8" thick. Fits standard plugs.

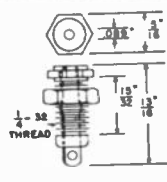
Cat. No. Std. Pkg.
403 Banana Jack 100



PHONE TIP JACK No. 26

Brass nickel pl. body. Double phosphor bronze springs hot tinned. Fits standard phone tip plugs. Mounts in 1/4" hole in panels up to 3/8" thick. Complete with hex n.p.l. brass nut.

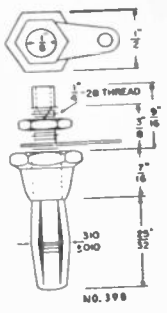
Cat. No. Std. Pkg.
26 Phone Tip Jack . . . 100



GIANT PLUG No. 398

Body is hexed brass, n.p.l. nut and tinned copper lug. Has large soldering well in threaded shank. Used in high amperage circuits rated at 25 amps. Fits all giant banana jacks.

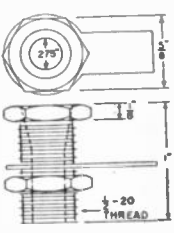
Cat. No. Spring Std. Pkg.
398 Phos. Brz. . . 25
398B Beryl. Cop. . . 25



GIANT JACK No. 399

Hexed brass nickel plated. Complete with hex brass n.p.l. nut and tinned copper lug. Fits all giant banana plugs. Mounts in 1/2" hole in panels up to 3/16" thick.

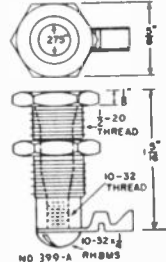
Cat. No. Std. Pkg.
399 Gt. Jack 25



GIANT JACK No. 399A

Hexed brass nickel plated. Mounts in 1/2" hole. Fits panels up to 3/4" thick. Tapped at end with screw and lug connection. Complete with hex brass n.p.l. nut, screw and hot tinned copper lug.

Cat. No. Std. Pkg.
399A Gt. Jack 25



BANANA PLUG No. 416

Hexed brass nickel plated. Cross slotted for positive contact. One-piece construction. Fits all standard banana jacks. Complete with hexed brass n.p.l. nut.

Cat. No. Std. Pkg.
416 Banana Plug . . . 100



BANANA PLUG No. 401

Hexed brass nickel plated. One-piece four-leaved spring. Complete with brass n.p.l. screw and tinned copper lug. Rated at 5 amps. Fits all standard banana jacks.

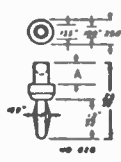
Cat. No. Spring Std. Pkg.
401 Phos. Brz. . . 100
401B Beryl. Cop. . . 100



MIDGET BANANA PLUG RIVET TYPE—No. 426

Brass silver plated body. One-piece four-leaved phosphor bronze spring silver plated. Also made to Rigid Jan specs.

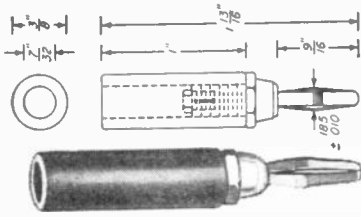
Cat. No. "A" St. Pkg.
426 . . . 100
426A . . . 100
Midget Banana Plug Rivet Type



Additional Midget Plugs & Jacks Available. Also Sub-Miniature Plugs & Jacks.

BIRNBACH

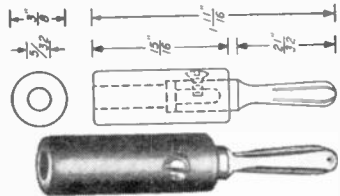
INSULATED BANANA — GIANT — PLUGS and JACKS



INSULATED BANANA PLUG

Hexed brass N. Pl. spring type. Fits standard banana jacks. Serulok solderless connection. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

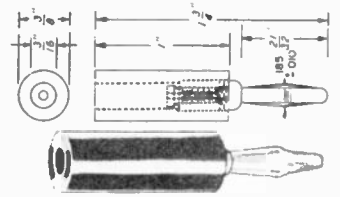
Cat. No. Spring Std. Pkg.
404 Phos. Brz. 50
404-CB Beryl. Cop. 50



INSULATED BANANA PLUG

Split type plug brass n. pl. Fits standard banana jacks. Set screw. Solderless connection. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

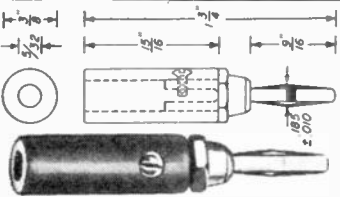
Cat. No. Std. Pkg.
604 Banana Plug 50



INSULATED BANANA PLUG

Brass n.pl. plug. Fits standard banana jacks. Spring type. Serulok solderless connection. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

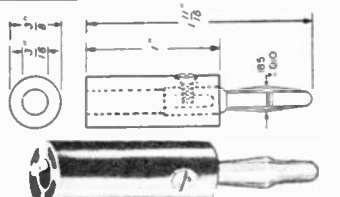
Cat. No. Spring Std. Pkg.
465 Phos. Brz. 50
465-B Beryl. Cop. 50



SPRING BANANA PLUG

Hexed brass n.pl. plug. Set screw solderless connection. 10-1-Bc Beryllium springs. Highly resilient. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

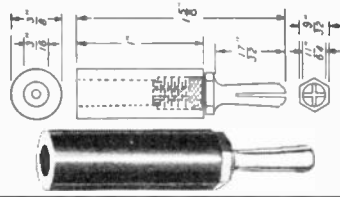
Cat. No. Spring Std. Pkg.
404-B Phos. Brz. 50
404-BC Beryl. Cop. 50



INSULATED BANANA PLUG

Plug brass n.pl. set screw solderless connection. Spring type. Fits standard banana jacks. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

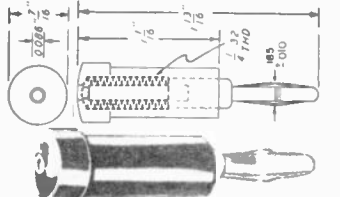
Cat. No. Hdl. Spring Std. Pkg.
466 1" Ph. Brz. 50
466A 1 1/2" Ph. Brz. 50



INSULATED BANANA PLUG

Split type. brass n.pl. Serulok solderless connection. Fits standard jacks. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

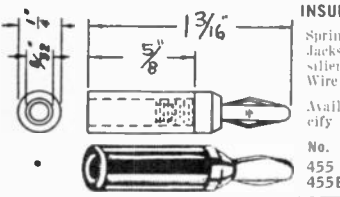
Cat. No. Std. Pkg.
606 Banana Plug 50



TIP PLUG TO BANANA PLUG ADAPTER

Fits standard banana jacks. Adapter for phone tip to banana plug. Molded handle. Colors: Red, Black, Yellow, Blue, Green.

Cat. No. Spring Std. Pkg.
467 Phos. Brz. 50
467B Beryl. Cop. 50



INSULATED MIDGET BANANA PLUG

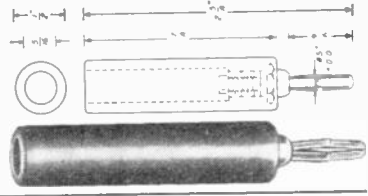
Spring Type. Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into Plug. Available in Red or Black only. Specify color. Std. pkg. 50.

No. Spring Material Plating
455 Phosphor Bronze Nickel
455BC Beryllium Copper Silver

INSUL. BANANA PLUG

Plug brass n.pl. Serulok solderless connection. Spring type. Fits standard jacks. Plastic handle.

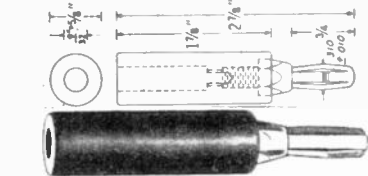
Colors: Red, Black.
Cat. No. Spring Std. Pkg.
341 Phos. Brz. 50
341B Beryl. Cop. 50



INSUL. GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Plastic handle.

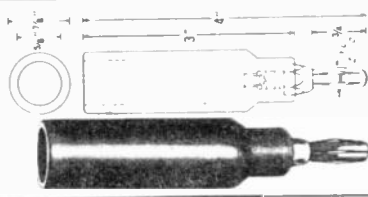
Colors: Red, Black.
Cat. No. Spring Std. Pkg.
392 Phos. Brz. 50
392B Beryl. Cop. 50



INSUL. GIANT PLUG

Plug brass n.pl. Wire can be soldered to plug. Spring type. Fits giant banana jacks. Polished giant hard rubber handle.

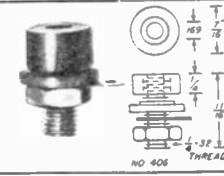
Colors: Red, Black.
Cat. No. Spring Std. Pkg.
342 Phos. Brz. 50
342B Beryl. Cop. 50



INSULATED BANANA JACK

Takes all standard banana plugs. Body is brass n.pl. Mounts in 5/8" hole in panels up to 3/8" thick. Molded head.

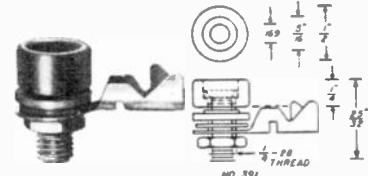
Colors: Red, Black, Yellow, Blue, Green.
Cat. No. Std. Pkg.
406 Insulated Jack 50



INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass n.pl. Mounts in 5/8" hole in panels up to 3/8" thick. Complete with all hardware. Molded head.

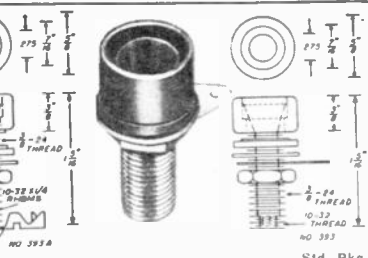
Colors: Red, Black, Yellow, Blue, Green.
Cat. No. Std. Pkg.
391 Insulated Jack 50



INSULATED GIANT JACK

Accommodates all giant plugs. Body is brass n.pl. Mounts in 5/8" hole in panels up to 3/8" thick. Molded plastic head.

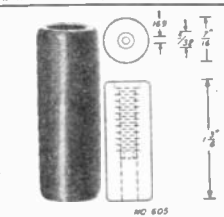
Colors: Red, Black.
Cat. No. Std. Pkg.
393 Insulated Giant Jack 50
393A Insulated Giant Jack 50



INSULATED HANDLE JACK

Leaf Brass n.pl. Fits all standard banana plugs. Plastic handle.

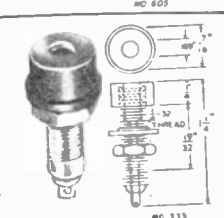
Colors: Red, Black, Yellow, Blue, Green.
Cat. No. Std. Pkg.
605 Insulated Handle Jack 50



INSULATED COMBINATION JACK

Takes standard senior phone tip or banana plugs. Body is brass n.pl. Double Phosphor Bronze spring. Mounts in 5/8" hole in panels up to 1/2" thick. Molded head.

Colors: Red, Black, Yellow, Blue, Green.
Cat. No. Std. Pkg.
333 Insulated Combination Jack 50

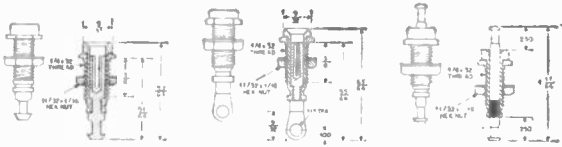




Birnbach

INSULATED PHONE TIPS, TIP JACKS TEST PRODS

ALL NYLON TIP JACKS



No. 1180 Completely Molded Nylon Jack. Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in $\frac{1}{4}$ " hole in panels up to $\frac{1}{4}$ " thick. Meets following requirements: 1. Salt Spray Test—Withstands 100 hours. 2. Rated Voltage & Current—1000 volts peak at 5 amps, max. 3. Test Voltage—9000 volts DC peak. 4. Insulation Resistance—5000 megohms. 5. Operating Temperature—55 to +150 C. 6. Nominal Capacity—2.0 mmf. 7. Material Specifications—A Body: Nylon Grade FM 10001; A. Center Contact: Numbers 1180 and 1182 Heat Treated Beryllium Copper Silver plated per Spec 72-53; Number 1184 Brass, Tin Pl. C. Hex Nut: Brass Nickel Pl. 8. Colors—Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.

No.	Type	Std. Pkg.
1180	Wrap Around	25
1182	Spade Terminal	25
1184	Feed Through	25

SENIOR SOLDERLESS PHONE TIP
 Brass nickel plated. Fits standard phone tip jacks. Wire fastens under milled nut. Molded handle.
 Colors: Red, Black, Yellow, Blue, Green, Cat. No. 409 Sr. Std. Pkg. 50

JUNIOR SOLDERLESS PHONE TIP
 Same as above except 2" overall length. Specify colors. Cat. No. 415 Jr. Std. Pkg. 50

SCRULOK PHONE TIP
 Brass nickel plated. Fits standard phone tip jacks. Scrulok solderless connection. Molded handle.
 Colors: Red, Black, Yellow, Blue, Green, Cat. No. 412. Std. Pkg. 50

NEEDLE POINT PLUG
 Brass nickel plated body. Needle point tip. Accommodates standard banana plug in molded plastic handle.
 Colors: Red, Blue. Cat. No. 330. Std. Pkg. 50

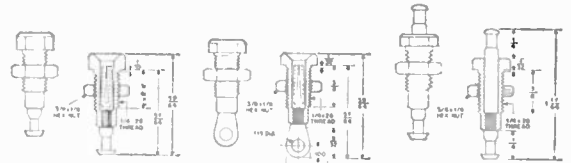
SCRULOK PHONE TIP
 Fits standard phone tip jacks. Plug is brass, nickel plated. Has Scrulok solderless connection. Molded handle.
 Colors: Red, Black, Yellow, Blue, Green, Cat. No. 419. Std. Pkg. 50

PHONE TIP
 Plugs into standard phone tip jacks. Brass nickel plated plug. Accommodates standard banana plug in molded plastic handle.
 Colors: Red, Black, Yellow, Green, Cat. No. 331. Std. Pkg. 50

PHONE TIP JACK
 Fits all standard phone tips. Body is brass, n.p.l. Double Phosphor Bronze springs. Mounts in $\frac{1}{2}$ " hole in panels up to $\frac{3}{4}$ " thick. Molded head.
 Colors: Red, Black, Yellow, Blue, Green, Cat. No. 407. Std. Pkg. 50

BRASS NICKEL PLATED TIPS
 Fits all standard phone tip jacks.
 Cat. No. Std. Pkg.
 402—Standard Phone Tip 100
 402A—Phone Tip Larger Diam. 100
 402B—Heavy Duty Phone Tip 100

NYLON TIP JACK WITH METAL SHELL



Molded Nylon Tip Jack. Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements: 1. Salt Spray Test—Withstands 100 hours. 2. Rated Voltage & Current—1000 volt peak @ 5 amps, maximum. 3. Test Voltage—2500 peak. 4. Insulation Resistance—5000 megohms. 5. Operating Conditions: A. Continuous: 25 hours on, 1 hour off; B. Elevation: Up to 15,000 feet; C. Temperature: -55 to +85 C; D. Humidity: Up to 95%. 6. Material Specifications: A. Insulator: Nylon Grade FM 10001; B. Shell & Nut: Brass Nickel plated per Spec 72-53; C. Lockwasher: Phosphor Bronze Nickel Plated per Spec 72-53; D. Center Contact: Numbers 1190 and 1192 Heat Treated Bery. Copper Silver Plated per Spec 72-53; Number 1194 Brass, Tin Plated. 7. Non Operating Conditions: A. Elevation: Up to 50,000 feet; B. Temperature: Continuous exposure for 72 hours @ +100 F and 240 hours @ -80 F; C. Humidity: Up to 100%. 8. Colors—Red, Black, Orange, Green, Blue, White, Brown, Yellow, Grey & Purple. Specify Color.

No.	Type	Std. Pkg.
1190	Wrap Around	25
1192	Spade Terminal	25
1194	Feed Through	25

BAKELITE PENCIL TEST PROD
 Body is brass nickel plated with steel n.p.l. needle. H.S. Scrulok solderless connection. Bakelite handle.
 Colors: Red, Black.
 Cat. No. 411. Bakelite Pencil Test Prod. Std. Pkg. 12

SCRULOK NEEDLEPOINT TEST PRODS
 Phenolic insulated prod. has Scrulok solderless connection. Body is brass nickel plated with steel n.p.l. needle.
 Colors: Red, Black.
 Cat. No. (A) Overall (B) Handle Length Std. Pkg.
 417 5 1/2" 4" 25
 418 6 1/2" 5" 25

HEAVY DUTY HI-VOLTAGE TEST PROD HANDLE
 Tip is heavy brass nickel plated Bakelite finger guard. Accommodates 1N-34 diode and condenser for use as RF Probe.
 Colors: Red, Black.
 Cat. No. 559. 6" H.V. Test Prod. Handles Std. Pkg. 20

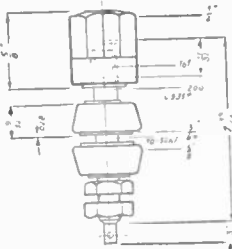
SOLDERLESS TEST PRODS
 Body is brass nickel plated with solderless knurled nut connection. Heavy duty needle-point, nickel plated.
 Colors: Red, Black.
 Cat. No. (A) Overall (B) Handle Length Std. Pkg.
 410 5 1/2" 4" 25
 343 6 1/2" 5" 25

NEEDLEPOINT TEST PRODS
 Brass nickel plated body with steel nickel plated needle. Chuck threaded in end of handle is removable for replacing needles. Polished cast phenolic handle.
 Cat. No. (A) Overall (B) Handle Length Std. Pkg.
 344 4-15/16" 4" 25
 345 5-15/16" 5" 25



ALLIGATOR CLIPS — TEST CLIPS — SPADE LUGS — BINDING POSTS

BINDING POST



#276

thick. Mounting hole $\frac{1}{2}$ " Current Capacity: 30 Amps. Voltage: 2000 V.A.C. RMS Test. No. 276 Can be soldered directly to stud. Will permit six different methods of connection above panel and three below panel.

Cat. No. Std. Pkg.
276 Nickel Plated Red or Black 100
Red, Black, Yellow, Green, White, Blue, Brown

NEW! BIRNBACH "Multi-Use" Binding Posts Safe-Positive-Heavy Duty

Rugged, versatile "Multi-Use" binding post made of molded phenolic with molded-in brass inserts in head and washer for complete insulation from panel. For use on panels $\frac{1}{16}$ " to $\frac{1}{4}$ " thick.

BINDING POST



"STANDARD" TYPE
No. Std. Pkg.
274 Standard Brass 100
275 Stand. Nickel Plated Specify Red or Black 100

NOTES:

A Banana Plug Receptacle, .141 I. D.; B Head non-removable from Stud; C Molded in Brass Bushing in Head; D Molded in Brass Bushing in Washers; E For Panels $\frac{1}{16}$ " to $\frac{1}{4}$ " thick; F Drill $\frac{1}{2}$ " hole for mounting washers; G Wire Hob is at right angle to flat on insulated Washers; H Production Panel for key slot for mounting Washers.

STANDARD DUTY 5-WAY BINDING POST



#278

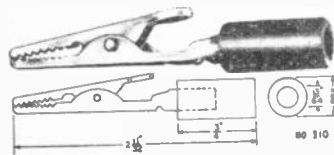
Molded in brass bushings for complete insulation. Useful for standard duty work. Available in Red or Black Specify color. Body is brass nickel plated.



#279

Cat. No.	Description	Std. Pkg.
278	Red or Black	100
279	Red or Black	100

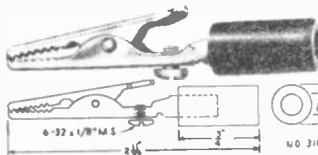
*Same as above, but normally provided Without Bottom Insulating section.



INSULATED ALLIGATOR CLIP

Made of steel, cadmium plated. Insulated handle allows use of all banana plugs. Has small soldering lip. Colors: Red, Black.

Cat. No.	Description	Std. Pkg.
310	Insulated Alligator Clip	50
311	$1\frac{1}{2}$ " Insulated Alligator Clip	50



INSULATED ALLIGATOR CLIP (Screw Type)

Made of steel, cadmium plated. Accurately matching jaws for tight grip. Has screw for solderless connection. Banana plug fits into rear of clip. Insulated handle.

Colors: Red, Black.

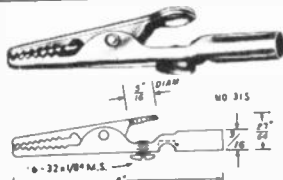
Cat. No.	Description	Std. Pkg.
310S	Insulated Alligator Clip	50

INSULATED COPPER ALLIGATOR CLIP (SCREW TYPE) — No. 310C

Composed of our No. 310—Copper Alligator Clip with insulated handle. Has brass screw for solderless connection.

Colors: Red, Black.

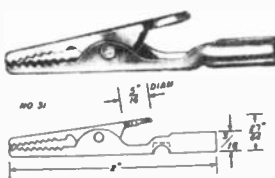
Cat. No.	Description	Std. Pkg.
310C	Insulated Copper Alligator Clip	50



ALLIGATOR CLIP (Screw Type)

Made of cadmium plated steel. The jaws match accurately, permitting them to grip all kinds of wire securely. Has screw for solderless wire connection. Banana plug fits into rear of clip.

Cat. No.	Description	Std. Pkg.
315	Alligator Clip	50
31C	Alligator Clip (Copper)	50



ALLIGATOR CLIP

Made of cadmium plated steel. Banana plug fits into rear of clip. Equipped with soldering lip.

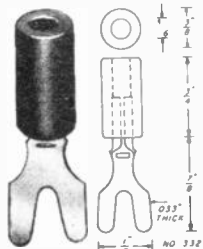
Cat. No.	Description	Std. Pkg.
31	Alligator Clip	50

ALLIGATOR CLIP VINYL INSULATOR



Extremely flexible. Made to fit Nos. 31, 31S, 31C. Colors: White, Red, Black, Yellow, Blue.

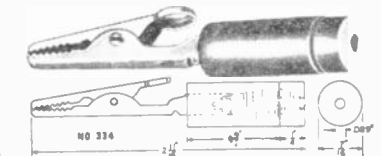
Cat. No.	Description	Std. Pkg.
31R	Vinyl Insulator	50



INSULATED SPADE LUG

Accommodates all standard banana plugs into the rear of lug enabling same to be adapted to a spade lug. Lug is Steel Hot Tinned.

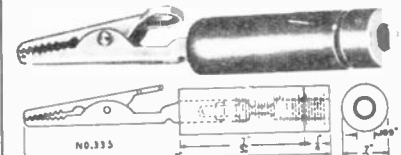
Colors: Red or Black
Cat. No. 332
Std. Pkg. 50



ALLIGATOR CLIP WITH PHONE TIP JACK

Handle has our No. 407 tip and our No. 407 tip jack in rear for all standard phone tip plugs. Colors: Red, Black.

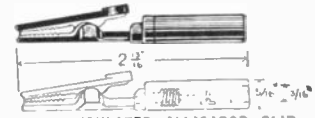
Cat. No.	Description	Std. Pkg.
334	Alligator Clip with Phone Tip Jack	50
336	Same as above except with our #31C screw type Copper Alligator Clip	50



ALLIGATOR CLIP COMBINATION JACK

Insulated alligator clip is composed of our #31, steel, cadmium plated Alligator Clip with our #333 Combination Jack in rear allowing the adaptation of both standard senior phone tip plugs and banana plugs to Alligator Clips. Colors: Red, Black.

Cat. No.	Description	Std. Pkg.
335	Alligator Clip Combination Jack	50
337	Same as above except with our #31C screw type Copper Alligator Clip	50

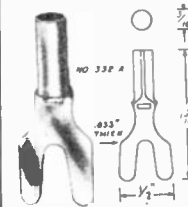


ALL INSULATED ALLIGATOR CLIP

Steel Cadmium plated alligator clip. All metal parts covered with vinyl plastic coating against shock. Solder Type connection. Red or Black Specify color.

Cat. No.	Description	Std. Pkg.
123	All Insulated Alligator Clip	50

PHONE TIP TO CLIP ADAPTER
Same as above with spring in rear of handle enabling the adapting of standard phone tip plugs to alligator clips. Red or Black Specify color.
Cat. No. 124 Std. pkg. 50



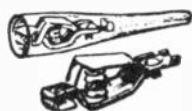
SPADE LUG

Barrel accommodates all standard banana type plugs. Lug is Steel Hot Tinned.

Cat. No.	Description	Std. Pkg.
332A	Spade Lug	50

BIRNBACH TEST CLIPS

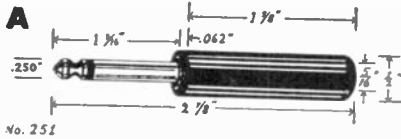
The teeth mesh correctly permitting good contact to be made. The No. 27-C is a solid copper clip with a brass screw designed for high frequency work.



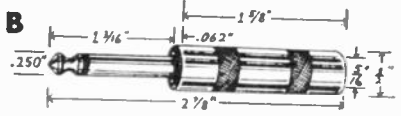
Cat. No.	Length	Jaw Spread	Capacity	Std. Pkg.
27—Pee Wee	1 1/2"	3/8"	5 Amp.	50
28—Mid-Get	2"	1/2"	10 Amp.	50
29—Medium	2 3/8"	1"	25 Amp.	50
30—Large	4"	1 1/4"	50 Amp.	50
27C—Pee Wee Copper	1 1/2"	3/8"	10 Amp.	50
27R—Rubber Sleeve—Red or Black				50

Birnbach

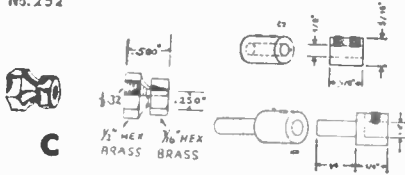
**STANDARD AND MINIATURE
TELEPHONE TYPE
JACKS • PLUGS • SHAFT LOCKS • TEST LEADS**



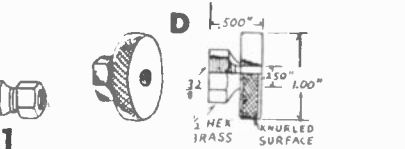
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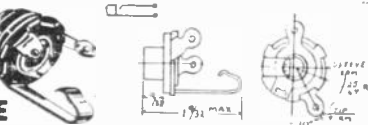
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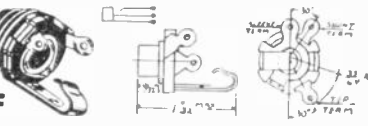
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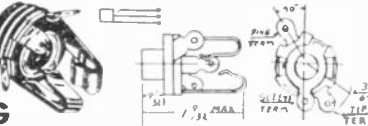
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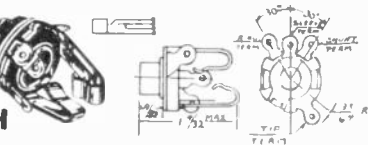
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F



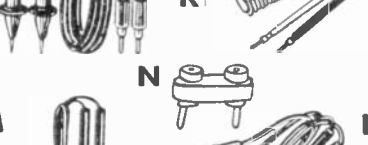
G



H



J



K



L



M

TELEPHONE TYPE PLUGS

This standard two conductor plug fits all standard jacks. All metal parts brass with nickel plating except for contact screw. Barrel is molded bakelite. Red or Black.

A — BAKELITE DOUBLE PHONE PLUG
Cat. No. 251 Std. Pkg. 25

B — SHIELDED PHONE PLUG
Cat. No. 252 Std. Pkg. 25

SHAFT LOCKS

C — WRENCH TYPE

Brass, nickel plated, 1/2" length overall. Rear: 1/2" hex brass with 3/8-32 thread. Front: 3/8" hex brass.

Cat. No. 545 — For 1/4" Shaft Std. Pkg. 25

D — THUMB TYPE

Brass, nickel plated, 1/2" length overall. Rear: 1/2" hex brass with 3/8-32 thread. Front: 1" diam. knurled nut.

Cat. No. 547 — For 1/4" Shaft Std. Pkg. 25

MINIATURE SHAFT ACCESSORIES

Brass Nickel plated for 1/8" shafts.

C1 — MINIATURE LOCK—WRENCH TYPE

Cat. No. 546A Std. Pkg. 25

C2 — MINIATURE BRASS COUPLER

with allen head set screws

Cat. No. 531A Std. Pkg. 25

C3 — MINIATURE SHAFT EXTENDER

with allen head set screws

Cat. No. 538A Std. Pkg. 25

TELEPHONE TYPE JACKS

The body is brass nickel plated. Small, rugged and they are designed for long life, with low contact resistance snap springs made specially from nickel silver alloy which is corrosion resistant. Mounts in 3/8" hole.

E — Cat. No. 257 — Open Circuit Two Conductor Std. Pkg. 25

F — Cat. No. 258 — Single Closed Circuit Two Conductor Std. Pkg. 25

G — Cat. No. 259 — Open Circuit Three Conductor Std. Pkg. 25

H — Cat. No. 260 — Single Closed Circuit Three Conductor Std. Pkg. 25

TEST LEADS

J — BIRNBACH HEAVY DUTY HIGH VOLTAGE TEST LEADS

Overall length 60". Tips are heavy stiff brass nickel plated. Rugged, dependable heavy duty bakelite prods. Color coded Red and Black. Uses our Hi-Volt kinkless test lead wire.

Cat. No. 562 — Heavy Duty High Voltage Test Leads Std. Pkg. 16

L — DELUXE AND BAKELITE PENCIL TYPE TEST LEADS

No. 405 Bakelite pencil test leads, color coded, Red, Black, all with kinkless test lead wire. Overall length 60", ±.010 and ±.011 polished cast phenolic resin handles, solderless type tips, 50" long. Color coded Red-Black.

Cat. No. 403 — Bakelite Pencil Type Test Leads, 6" handles Std. Pkg. 16
563 — Deluxe Solderless Prod. Test Leads, 5" handles 25
561 — De-Luxe Needlepoint Prod. Test Leads, 5" handles 25

K — ALLIGATOR CLIP TEST LEADS

Black and Red kinkless test lead wire with Alligator Clips at each end.

Cat. No.	Wire Length	Std. Pkg.
675	12"	25
676	24"	25
677	36"	25
678	48"	25

SPECIAL ASSEMBLIES AVAILABLE TO ORDER

K1 — STRETCH LEADS

Kink-Proof Retracted 9" Coil

No tangling or knotting of wires. Lead coil only 9", extends to 6 feet.

Cat. No. 564 Solderless phone tip, retractible wire, solderless prod. Std. Pkg. 10.

L — PUSH BUTTON KINKLESS TEST LEADS

556 Solderless phone tip one end, push button tip other end Std. Pkg. 12

557 Solderless phone tip one end, push button banana plug other end. Std. Pkg. 12

M — BIRNBACH NEEDLEPOINT TEST LEADS

Have Red and Black 4" fibre handles. Use kinkless lead wire. Overall length 50". Good, dependable low priced leads.

Cat. No.	Std. Pkg.
420 — Needlepoint Phone Tip Test Leads	25
421 — Needlepoint Spade Lug Test Leads	25
422 — Solderless Phone Tip Test Leads	25
423 — Solderless Spade Lug Test Leads	25

N — CRYSTAL SOCKET

Glazed ceramic base. Phosphor bronze silver plated contacts spaced .186". Pin diameter .051, mtg. hole .125. Std. Pkg. 25.

Cat. No. 595 Crystal Socket

Birnbach

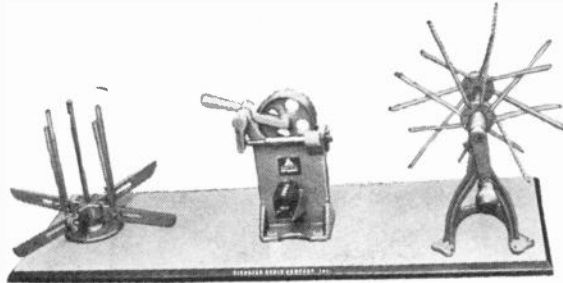
WIRE MEASURING MACHINE, BINDING
POSTS, PHONO JACKS - INSULATORS



NEW COMPLETE WIRE MEASURING OUTFIT

ACCURATE • COMPACT • NOISELESS

MEASURING MACHINE
Sturdy and compact construction. Has a precision quality built counter with large numbers for easy reading and will register wire up to .9,999 feet for direct accurate reading. Can be easily reset to zero position. Wire passes through two rollers, the upper roller being self-adjusting and the tension of the upper roller can be set by a thumb screw to provide the proper grip for very fine as well as for heavy wire. Two hardened lead bushings with an opening of $\frac{3}{8}$ " diameter will guide the wire properly through the rollers. Bushings are removable to allow cables up to 1" dia. to pass through. Will measure accurately all electric wires, cables, coaxial cables, rope, tape, etc.



Sold without baseboard.

WIRE WINDER

Has adjustable arms to be set to the desired coil size and the arms will open to a flat position for easy removal of the coil. Simply open thumb screw which holds the front collar tight on the shaft, push the collar in any direction to

the desired position and tighten the thumb screw again.

HOLDING REEL

Compact, adjustable to size of coil and folding. Will hold spools or coils of wire.

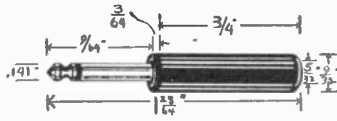
PRICES

	MODEL	LIST	NET
COMPLETE WIRE MEASURING OUTFIT	7389	\$235.00	\$117.50
Separately:			
HOLDING REEL	7398-1M	31.00	15.50
MEASURING MACHINE	7398-2M	165.90	82.95
WIRE WINDER	7398-3M	43.00	21.50

MINIATURE PLUGS & JACKS

Insulated type. Solder terminals, two conductor mini. phone plug. Ideal for hearing aids, portable receivers, small instruments, etc. Rated 500 volts.

MINIATURE PHONE PLUG

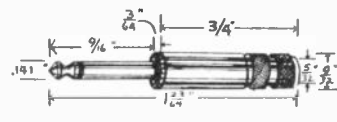


Std. pkg. 130 Red or Black 50

No. 130

SHIELDED MINIATURE PHONE PLUG

Same as No. 130 except with brass, bright nickel plated barrel with insulating tube inside.

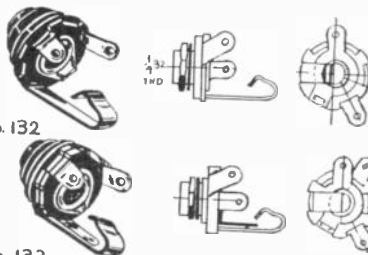


Std. pkg. 131

No. 131

MINIATURE TELEPHONE TYPE JACK

Rugged construction, smaller than standard type Jacks. Mount in $\frac{1}{2}$ " dia. hole in panels up to $\frac{1}{8}$ " thick.



No. 132

No. 133

Std. pkg. 132 Open circuit type 50

No. 133 Single closed circuit type 50

BIRNBACH ANTENNA INSULATORS

These antenna insulators have exceptionally low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. Smooth white glaze overall prevents the accumulation of dirt or ice.



Cat. No.		Std. Pkg.
468	4 $\frac{1}{2}$ " long Center Insulator	10
668	4 $\frac{1}{2}$ " long	25
470	7" long	10
471	12" long	5

BEE HIVE STANDOFF

Base measures 2-3/16" diam. with 3 holes on 1-15/16" circle for No. 6 screws. Height of base 1 $\frac{1}{2}$ ". Complete with 10-32 brass screw and nuts. No. 766J has a No. 403 Jack. Available in white glaze.



Cat. No.		Std. Pkg.
766	Standoff Insulator, 10-32 Screws	10
766J	Jack Type with No. 403 Jack	10

INSULATED BINDING POST

Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x $\frac{1}{2}$ " screw, lock washer. Has brass insert molded-in. Supplied with washer. Available in black.

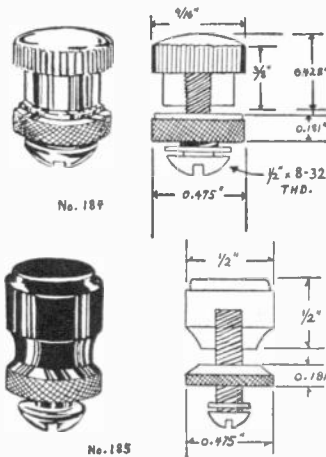
Cat. No. 184 Binding Post Std. pkg. 50

Molded bakelite head with brass insert molded-in. Supplied complete with 8/32 x $\frac{1}{2}$ " screw and lock washer. Has brass nickel-plated retaining washer.

Colors: Red, Black. Cat. No. 185 Binding Post Std. pkg. 50

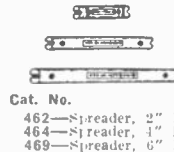
Brass, heavily nickel-plated overall. Complete with screw and lock washer. Designed for high amperage, low resistance connections.

Cat. No. 186 Metal Binding Post Std. pkg. 50



BIRNBACH FEEDER SPREADERS

They have a cross section of $\frac{3}{8}$ " x $\frac{1}{2}$ ". Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth white glaze overall.



Cat. No.		Std. Pkg.
462	Spreader, 2" long	25
464	Spreader, 1" long	25
469	Spreader, 6" long	25

BIRNBACH STEATITE AIRPLANE INSULATORS

A very small compression type Steatite insulator with small wind resistance. Fully glazed. It is 1 $\frac{1}{2}$ " in length; 17/32" in diameter; $\frac{3}{4}$ " line spacing.



Cat. No.		Std. Pkg.
463	Steatite Airplane Insulators	25

BIRNBACH AIRPLANE INSULATORS

They are used on mobile and aircraft and also with guy wire on TV installations. They are shaped for the least air resistance and have very high tensile strength, and low loss. Nos. 473 and 474 are made of white glazed low absorption porcelain. No. 472 is made of wet process glazed brown.



Cat. No.		Std. Pkg.
472	2 $\frac{3}{4}$ " (brown)	25
473	2" (white)	100
474	1 $\frac{1}{2}$ " (white)	100

BIRNBACH FLEXIBLE SHAFTS

Modern construction calls for more compact arrangement of parts. At times there is difficulty getting the controls to the proper position on the panel. With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into $\frac{1}{4}$ " dia. hubs.

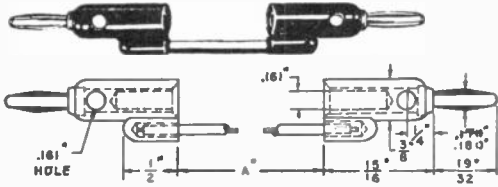
Cat. No.		Std. Pkg.
553	Flexible Shaft 3" long	25
554	Flexible Shaft 6" long	25



**PATCH CORDS
PHONO JACK & PLUGS - PHONO SPLICE/TIP**



MOLDED "STACKING TYPE" PATCH CORDS



1. Never ending banana plug receptacle.
2. Interconnects unlimited amount of multiple circuits.
3. Positive and lasting contact for all standard banana plugs.
4. Four leaved heat treated beryllium copper spring.
 - a. 360 degrees spring contact
 - b. maintains resiliency after thousands of insertions
5. Supplied in Red, Black, Yellow or Green. (Specify Color) (Special colors on request)
6. Handle molded to body and to wire.
7. 10,000 volt rubber covered flexible wire.
 - a. 65 strands #36 insulated to an O.D. of .140.

Cat. No.	(“A”) Wire	Std. Pkg.
655-8	8 inches	12
655-12	12 inches	12
655-24	24 inches	12
655-36	36 inches	12

PHONO-JACKS

Small, compact . . . where space is at a premium.



Cat. No. 597	S.d. Pkg. 50
Space Saver . . . Rivets and grounds to chassis.	
Cat. No. 598	Std. Pkg. 50



Provides a never-ending banana plug receptacle to interconnect an unlimited amount of multiple circuits. The cross hole is designed for positive contact of all standard banana plugs. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color. Std. pkg. 10.

Cat. No. 653-8	8" Wire Length	Pkg. 12
Cat. No. 653-12	12" Wire Length	12
Cat. No. 653-24	24" Wire Length	12
Cat. No. 653-36	36" Wire Length	12

PHONE TIP PLUG SPLICE



Takes all standard phone tip plugs excellent for quick connections or test, lead extensions.

Colors: Red, Black, Yellow, Green.

Cat. No. 619 — Insulated Banana Plug Splice Std. pkg. 25

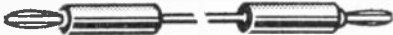
IN-LINE PHONE TIP JACK



Takes all standard phone tip plugs. Can be used as lead extension.
Colors: Red, Black, Yellow, Green.

Cat. No. 621 — Insulated-In-Line Tip Jack Std. pkg. 25

BIRNBACH PATCH CORDS



Birnbach No. 465 Banana Plugs connected to our kinkless test lead wire. Used to interconnect circuits. Fits all standard banana jacks. Specify red or black.

Cat. No.	Wire Length	Std. Pkg.
607	12"	25
608	24"	25
609	36"	25
610	48"	25

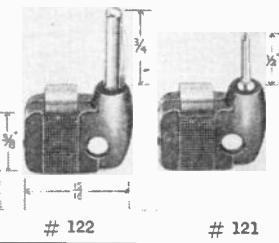
SHIELDED EXTENSION JACK



Cadmium plated brass shell with black bakelite insert. Length is 2-7/16". Insulates for solder grip contact. Mates with No. 248 Phono Plug.

Cat. No. 246—In-line Extension Jack Std. Pkg. 100

PUSH BUTTON PHONE TIP PLUGS AND BANANA PLUGS



Description: Wire is fastened easily, speedily, and securely without soldering. Simply by pressing the push buttons the bare wire can be inserted into the opening of the plug.

Cat. No.	Description	Std. Pkg.
121	Push Button Phone Tip Plug, Red and Black	100
122	Push Button Banana Plug, Red, Black, Yellow, Green, White	100

No. 121 Phone Tip Plug will fit all Standard Phone Tip Jacks. No. 122 Banana Plug will fit all Standard Banana Jacks.

MINIATURE MICROPHONE CONNECTOR

Single contact female.

Std. pkg. 50
No. 134 Miniature Female Conn.

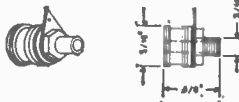


Single Contact Male
No. 135 Miniature Male Conn. 50

MINIATURE CHASSIS CONNECTOR

Single Contact Male

Complete with insulating washer and lug. Mounts in 1/4" hole. Mates with No. 134. Std. pkg. 50
No. 136 Miniature Chassis Conn.



BIRNBACH THREADED RODS



These brass nickel plated threaded rods are standard parts of our insulator assemblies.

Cat. No.	Length	Thread	Std. Pkg.
16	4"	3/4-20	1000
17	5 1/2"	3/4-20	1000
18	10"	3/4-20	1000
113	15"	3/4-20	1000
114	1 3/4"	10-32	1000
115	1 5/8"	10-32	1000
116	2 3/4"	10-32	1000
117	8"	10-32	1000
118	8"	8-32	1000
119	8"	6-32	1000
15	2"	6-32	1000

Birnbach

NYLON CABLE CLAMPS • LACING CORD
PLUGS • TRANSMITTING SOCKETS



NYLON CABLE CLAMPS

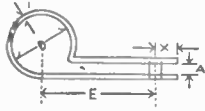
MEETS MIL-P-20693

MADE OF DUPONT NYLON FORMULA FM 10001

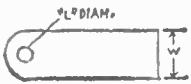


Used as a clamp, strain relief, clip hanger, fastener, strap, these nylon cable clamps are light and tough. Have smooth, non-abrasive surfaces, rounded edges will not chafe conductors or cause shorts in cable. Insoluble in solvents, oils, gasoline, alcohol, hydraulic fluids, alkalis, acids. Temperature resistant from -60 F to +300 F. Do not support combustion. Moisture and heat resistant. Inside matte finish surfaces prevent slippage under vibration and are self aligning when tightened by screw. Snaps onto cable. Meets MIL-P-20693 specs. Fungus resistant.

CAT. NO.	PUT-UP	TO FIT SIZE	D	E	W	T	L	X	A
725	100	1/8"	.125	.316	3/8	.050	.177	.227	.062
726	100	3/16"	.187	.378	3/8	.050	.177	.227	.062
727	100	1/4"	.250	.409	3/8	.050	.177	.227	.062
728	100	5/16"	.312	.441	3/8	.050	.177	.227	.062
729	100	3/8"	.375	.471	3/8	.050	.177	.227	.062
730	100	7/16"	.437	.519	3/8	.050	.177	.227	.062
731	100	1/2"	.500	.550	3/8	.050	.177	.227	.062
732	100	5/8"	.625	.631	1/2	.060	.177	.227	.062
733	100	3/4"	.750	.718	1/2	.060	.177	.227	.062
734	100	7/8"	.875	.760	1/2	.060	.177	.227	.062
735	100	1"	1.000	.802	1/2	.060	.177	.227	.062
736	100	1 1/8"	1.125	.968	1/2	.062	.204	.250	.125
737	100	1 1/4"	1.250	1.156	1/2	.062	.204	.250	.125
738	100	1 1/2"	1.500	1.188	5/8	.070	.204	.250	.125

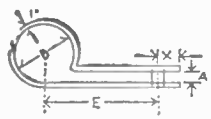


ETHYL CELLULOSE PLASTIC CABLE CLAMPS



Recommended for general use. They withstand age, shock and vibration. Moisture and corrosion. This tough, lightweight and durable clamp withstands temperatures from -60 to +175° F. Approved 7-21-44 Army Navy aeronautical AN-742. Approved for inside out side, hi tension, primary and secondary. Standard pkg. 100, 1000.

CAT. NO.	TO FIT SIZE	D	E	W	T	L	X	A
715	1/8"	.125	.25	1/2	.060	.204	7/32	.062
715A	3/16"	.188	.390	1/2	.060	.204	7/32	.062
715B	1/4"	.250	.421	1/2	.060	.204	7/32	.062
715C	5/16"	.312	.457	1/2	.060	.204	7/32	.062
715D	3/8"	.375	.483	1/2	.060	.204	7/32	.062
715E	7/16"	.438	.531	1/2	.060	.204	7/32	.062
716	1/2"	.500	.562	1/2	.060	.204	7/32	.062
716A	9/16"	.563	.625	1/2	.060	.204	7/32	.062
716B	5/8"	.625	.610	1/2	.060	.204	7/32	.062
716C	11/16"	.688	.666	1/2	.060	.204	7/32	.062
716D	3/4"	.750	.766	1/2	.060	.204	7/32	.062
716E	7/8"	.875	.813	1/2	.060	.204	7/32	.062
717	1"	1.000	.906	1/2	.060	.204	7/32	.062
717A	1 1/8"	1.125	.969	1/2	.060	.204	7/32	.062
717B	1 1/4"	1.250	1.156	1/2	.060	.204	7/32	.062
717C	1 1/2"	1.5	1.0625	5/8	.070	.204	7/32	.062
717D	2"	2.0	1.13	5/8	.070	.204	7/32	.062
717E	2 1/2"	2.5	1.563	5/8	.070	.204	7/32	.062



NYLON LACING CORD

This nylon lacing cord manufactured to meet Spec. MIL-T-713A Type P, Composition P, Classes 3, 2, and 1. Available in 1 lb. tubes.

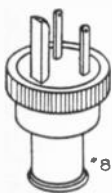


Class	Cat. No.	Test	Yds.
Class 1	1070	20 lb.	550
	1071	48 lb.	750
Class 2	1072	32 lb.	1100

LINEN LACING CORD

This linen lacing cord is made from pure flax, waxed and mildew-proofed. The twelve, eight and six ply cord meet Spec. MIL-T-713A Type X Classes 1, 2, and 3, respectively.

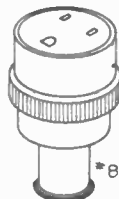
	4 oz. tube		8 oz. tube		1 lb. tube	
	Cat. No.	Yds.	Cat. No.	Yds.	Cat. No.	Yds.
Class 3 — 4 ply	1073	210	1074	425	1075	850
Class 2 — 6 ply	1076	150	1077	300	1078	600
Class 2 — 8 ply	1082	115	1083	235	1084	470
Class 1 — 9 ply	1079	100	1080	200	1081	400
Class 1 — 12 ply	1085	75	1086	150	1087	300



NEW TYPE 3 PRONG PLUG

NO.	LIST PRICE	STD. PKGE.
814T	75	100

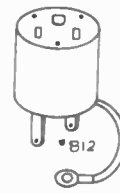
Two parallel blades plus ground pin for safe grounding of appliance.



FEMALE CONNECTOR

NO.	LIST EA.	STD. PKGE.
811	2.00	25

For new type 3 prong plug. Female mate to No. 814T.



ADAPTER FOR USING NEW TYPE 3 PRONG PLUG IN STANDARD OUTLET

NO.	LIST EA.	STD. PKGE.
812	50	100

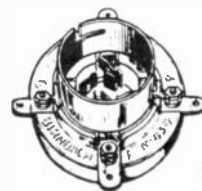
BIRNBACH TRANSMITTING SOCKETS

Medium 4 Pin Bayonet and Jumbo 4 Pin Bayonet

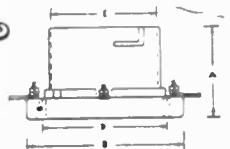
No. 434—750 watt socket for medium power bayonet based tubes such as 775A, 805, 810, 838, 845, 872A, 800B and others with Retina Base No. A4-29. Has heavy phosphor bronze cadmium plated double wiping filament contacts will handle heavy currents. Terminals designed for solder or screw connections. Two mounting holes. Has polished nickel plated brass shell; white glazed porcelain base.

No. 435—110 watt socket for economy, has heavy phosphor bronze, cadmium plated side wiping contacts; white glazed porcelain base; heavy plated brass shell. Two mounting holes, for medium 4 pin bayonet based tubes such as 3B25, 3B28, 10Y, 801A, 808, 809, 811A, 812A, 834, 836, 860, 865, 866A, 1616, 8005 with Retina Base No. A4-10.

Cat. No.	Watt Socket	A	B	D	E	Mtg. Holes	Pin	Tube Base	Std. Pkg.
434	750	2-9/32"	2 3/8"	2-13/16"	1.886"	2	4	Std. Jumbo	25
435	110	1 7/8"	2 1/2"	2 1/16"	1.386"	2	4	Med. Bay	25



Nos. 434-435





JAN SOCKETS AND SHIELDS

Part No.	Description	Designation per MIL/12883A	List Price Each
235 PHSPTO	7-Pin Mica	TS 102P01	.45
238 PHSPTO	7-Pin Ceramic	TS 102C01	.81
169 PHSPTO	9-Pin Mica	TS 103P01	.64
176 PHSPTO	9-Pin Ceramic	TS 103C01	1.05
335 PHSPTO	Octal Mica	TS 101P01	.80
336 PHSPTO	Octal Mica—with Bushings	TS 101P02	1.2
338 PHSPTO	Octal Ceramic	TS 101C01	1.20
337 PHSPTO	Octal Ceramic—with Bushings	TS 101C02	1.54
342 PHSPTO	Octal Mica—GRC	TS 101P0	.78
983 PHSPTO	7-Pin Mica	TS 102P02	.36
982 PHSPTO	7-Pin Ceramic	TS 102C02	.59

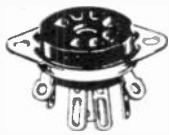
Part No.	Description	Designation per MIL/12883A	List Price Each
987 PHSPTO	7-Pin Mica	TS 102P03	.36
986 PHSPTO	7-Pin Ceramic	TS 102C03	.59
985 PHSPTO	9-Pin Mica	TS 103P02	.38
984 PHSPTO	9-Pin Ceramic	TS 103C02	.62
989 PHSPTO	9-Pin Mica	TS 103P03	.38
988 PHSPTO	9-Pin Ceramic	TS 103C03	.62
430 PHSPTO	2-Pin Glazed Ceramic, Crystal Socket	TS 0205C01	.36
121	7-Pin Shield 1 3/4"	TS 102U01	.25
120	7-Pin Shield 1 3/4"	TS 102U02	.25
149	7-Pin Shield 2 1/4"	TS 102U03	.31
193	9-Pin Shield 1 1/2"	TS 103U01	.31
191	9-Pin Shield 1 7/16"	TS 103U02	.34
195	9-Pin Shield 2 3/8"	TS 103U03	.39



RTMA
SADDLE TYPE
Bottom Mounting

Insulator Material	Model No.	List Price Ea.
7 PIN		
Gen. Purp. Mica Filled Ceramic	100	.14
	105	.16
	220	.48
9 PIN		
Gen. Purp. Mica Filled Ceramic	270	.19
	271	.21
	272	.57

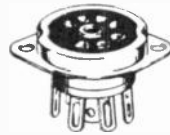
Contact Material — Brass, Cad. Plated



RMA
SADDLE TYPE
with Ground Lugs
Bottom Mounting

Insulator Material	Model No.	List Price Ea.
7 PIN		
Gen. Purp. Mica Filled Ceramic	300	.16
	305	.18
	320	.50
9 PIN		
Gen. Purp. Mica Filled Ceramic	370	.21
	371	.23
	372	.59

Contact Material — Brass, Cad. Plated



JAN
SADDLE TYPE
Top Mounting

Insulator Material	Model No.	List Price Ea.
7 PIN		
Gen. Purp. Mica Filled Ceramic	240	.14
	241	.16
	113	.48
9 PIN		
Gen. Purp. Mica Filled Ceramic	196	.19
	197	.21
	170	.57

Contact Material — Brass, Cad. Plated



JAN SHIELD
BASE TYPE
Top Mounting

Insulator Material	Model No.	List Price Ea.
7 PIN		
Gen. Purp. Mica Filled Ceramic	ST 234	.26
	ST 235	.28
	ST 238	.60
9 PIN		
Gen. Purp. Mica Filled Ceramic	ST 167	.32
	ST 169	.35
	ST 176	.70

Contact Material — Brass, Cad. Plated



JAN TYPE SHIELDS
Per Jan/S-28

Model No.	Height	List Price Ea.
7 PIN		
127	1 3/8"	.20
126	1 3/4"	.21
148	2 1/4"	.26
9 PIN		
192	1 1/2"	.24
190	1-15/16"	.25
194	2 3/8"	.31

Material
Steel, Cad. Plated



OCTAL
SOCKET
FOR PRINTED
CIRCUITS

Insulator Material	Model No.	List Price Ea.
Gen. Purp. Mica	611 PH	.52
	612 PH	.55

Add suffix to Model No. to denote chassis thickness. (Example: 612 PH-1/16") For chassis over 1/8" and up to 1/4" thick, contact lances are omitted.



9-PIN AND 7-PIN
SHIELD BASE TYPE
PRINTED CIRCUIT
SOCKET

9-Pin Model No.	Material	List Price Ea.
623 BC	Mica	1.45
Beryllium Copper for 1/16" Board		
7-Pin Model No.	Material	List Price Ea.
622 PHSF	Mica	1.25

Contacts—Phosphor Bronze



CORRUGATED
INSERT FOR
JAN SHIELDS

Cad. plate, beryllium copper, matte black finish.

Model No.	JAN No.	List Price Ea.
929, 7-pin	TS102U01	.31
930, 7-pin	TS102U02	.35
931, 7-pin	TS102U03	.43
932, 9-pin	TS103U01	.37
933, 9-pin	TS103U02	.45
934, 9-pin	TS103U03	.52



PRINTED
CIRCUIT
SOCKETS
with Ground Contact

Insulator Material	Bottom Solder		Top Solder	
	Model No.	List Price Ea.	Model No.	List Price Ea.
7-PIN				
Mica Filled	646	.20	650	.22
9-PIN				
Mica Filled	654	.27	658	.28

Contact Material — Brass, Tin Lead. Also available in all subminiature sizes.



PRINTED
CIRCUIT
SOCKETS
with Shield Contact

Insulator Material	Bottom Solder		Top Solder	
	Model No.	List Price Ea.	Model No.	List Price Ea.
7-PIN				
Mica Filled	648	.21	652	.23
9-PIN				
Mica Filled	656	.28	660	.29

Contact Material — Brass, Tin Lead. Also available in all subminiature sizes.



ELCO SALES COMPANY
Philadelphia 24, Pa.



FLAT TYPE SUB-MINIATURE

Insulator Material	Model No.	List Price Ea.
5 Pin	770 BC	.44
6 Pin	813 BC	.47
7 Pin	790 BC	.50

Mica Filled Castings, Beryllium Copper Contacts.

MOUNTING RINGS		
5 Pin	756	.03
6 Pin	843	.04
7 Pin	768	.04



VENTILATED SHIELD

*Brass, Nickel Plated
**Steel, Cad. Plated

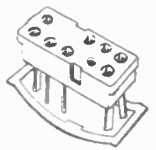
Model No.	Height	List Price
121V*	1 3/8"	.34
120V*	1 3/4"	.36
149V*	2 1/4"	.42
127V**	1 3/8"	.29
126V**	1 3/4"	.29
148V**	2 1/4"	.42

9 PIN		
193V*	1 1/2"	.48
191V*	1-15/16"	.51
195V*	2 3/8"	.54
192V**	1 1/2"	.43
190V**	1-15/16"	.46
194V**	2 3/8"	.49

RELAY SOCKET

Contact Material: Beryllium Copper, Silver Plated Gold Flashed

Model	List Price
887	1.05
Ring	List Price
886	.07



OCTAL SOCKET
Bottom Mounting

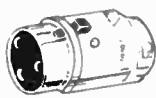
Insular Material	Model No.	List Price Ea.
Gen. Purp.	600	.17
Mica	608	.20

With Ground Lugs

Gen. Purp.	List Price	
601	.17	
Mica	609	.20



"B" SERIES AUDIO PLUGS, RECEPTACLES



B2209, Panel Connector, Male				B2210, Cable Connector, Female			
Model	Contacts	Ozs.	List Price Ea.	Model	Contacts	Ozs.	List Price Ea.
B2209-2	2	2.2	2.70	B2210-2	2	3.1	6.15
B2209-3	3	2.3	2.80	B2210-3	3	3.2	6.30
B2209-4	4	2.4	3.00	B2210-4	4	3.3	6.65
B2209-5	5	2.5	3.10	B2210-5	5	3.4	7.00
B2209-6	6	2.6	3.35	B2210-6	6	3.5	7.20

Mates with B2210

B2211, Panel Connector, Male				B2212, Cable Connector, Female			
Model	Contacts	Ozs.	List Price Ea.	Model	Contacts	Ozs.	List Price Ea.
B2211-2	2	3.1	5.15	B2212-2	2	3.1	5.00
B2211-3	3	3.2	5.35	B2212-3	3	3.2	5.15
B2211-4	4	3.3	5.65	B2212-4	4	3.3	5.30
B2211-5	5	3.4	6.00	B2212-5	5	3.4	5.40
B2211-6	6	3.5	6.20	B2212-6	6	3.5	5.65

Mates with B2212



"EL" SERIES AUDIO PLUGS, RECEPTACLES



EL2213, Panel Connector, Male				EL2214, Cable Connector, Female			
Model	Contacts	Ozs.	List Price Ea.	Model	Contacts	Ozs.	List Price Ea.
EL2213-3	3	1	1.20	EL2214-3	3	2	1.55
EL2213-4	4	1	1.70	EL2214-4	4	2	2.15

Mates with EL2214

EL2215, Panel Connector, Male				EL2216, Cable Connector, Female			
Model	Contacts	Ozs.	List Price Ea.	Model	Contacts	Ozs.	List Price Ea.
EL2215-3	3	2.2	1.55	EL2216-3	3	1.9	1.50
EL2215-4	4	2.2	2.15	EL2216-4	4	1.9	2.00

Mates with EL2216

SERIES 3300 COMBINATION TRANSISTOR SOCKETS



For .016" and .030" DIA. PINS

A.	B.	Model No.	Sad- dles	Mtg. Price Ring Ea.
(A) 3324	Flat	757	.42	
(A) 3326	Flat		.62	
(B) 3325	Flat	757	.42	
(B) 3327	Flat		.62	
(C) 3315	Flat	757	.45	
(C) 3318	Flat		.65	
(D) 3316	Flat	757	.45	
(D) 3319	Flat		.65	

Material: Mica

Contacts: Beryllium Copper, Silver Plated and Gold Flashed

For .016" Dia. Pins



RIGHT-ANGLE PRINTED CIRCUIT SOCKETS
With Continuous Contacts

	Model No.	List Price Ea.
7-Pin Without Shield Bs.	4006-1-EG-1/16	1.26
7-Pin With Shield Bs.	4007-1-EG-1/16	1.53
9-Pin Without Shield Bs.	4008-1-EG-1/16	1.35
9-Pin With Shield Base	4009-1-EG-1/16	1.67

EG = GLASS FILLED EPOXY BOARD

Sockets can be provided to fit 1/16, 3/32 or 1/8 thick chassis.

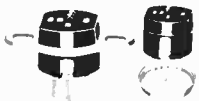


PRINTED CIRCUIT TYPE SUB-MINIATURE

	Model No.	List Price Ea.
3 Pin	786 BC	.46
4 Pin	805 BC	.47
5 Pin	788 BC	.48
6 Pin	815 BC	.51
7 Pin	792 BC	.54

Mica Filled Castings.
Contact Material — Beryllium Copper.

SERIES 3300 COMBINATION TRANSISTOR SOCKETS



E.	F.	Model No.	Sad- dles	Mtg. Price Ring Ea.
(E) 3301	Flat	757	.60	
3303	Flat		.60	
P.C.			.45	
(E) 3304	Flat	757	.40	
3305	Flat		.40	
P.C.			.52	
(F) 3306	Flat		.60	
(F) 3307	Flat	757	.40	
(G) 3309	Flat		.60	
Silver Plated Flashed	(G) 3310	757	.40	
Copper, and Gold	(H) 3312		.65	
	(H) 3313	757	.50	

Material: Mica

Contacts: Beryllium Silver Plated Flashed



TRANSISTOR TYPE SUBMINIATURE SOCKETS



3-Pin Point & Junction Type (Mica Filled Insulator Material)

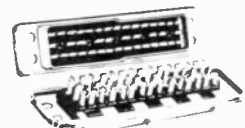
Model No.	List Price Ea.
799BC	.42

4-Pin Linotetra Type (Mica Filled Insulator Material)

Model No.	List Price Ea.
803BC	.43

Contact Material—Beryllium Copper, Silver Plated, Gold Flashed.

SERIES 8000 SUBMINIATURE VARICON CONNECTORS



No. Model	List Price Ea.	Model No.	List Price Ea.
8001-16-1-M-5	4.45	8001-40-1-F-5	8.35
8001-16-1-F-5	4.45	8002-48-1-M-5	9.00
8001-40-1-M-5	8.35	8002-48-1-F-5	9.00

This unit offers a maximum number of contacts in a minimum space. Write for Bulletin No. 107. Material: G.P. or Mica.

AMERICA'S QUALITY LINE • RADIO, TELEVISION, ELECTRONIC COMPONENTS



ELCO SALES COMPANY
Philadelphia 24, Pa.



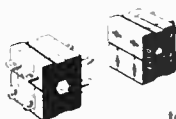
Elco Varicon Miniature-Connectors provide the simplest, quickest, most positive means for connecting electronic or electric circuits. Varicons introduce "Keying Control", making it impossible to connect unmatched parts. Contact combinations in any number demanded by your specific needs are possible with Varicons; and any connector may be assembled by you or us from stock parts.

Prices below are for Varicons in General Purpose Phenolic. Varicons are also available in Low-Loss Mica Phenolic, Alkyd, and General Purpose Phenolic in assorted colors, prices for which will be furnished upon request. For general specifications of ALL Varicons, refer to description beneath Connector Kit a lower right hand corner of this page. For any other information regarding these "Miniature Connectors that work like Giants", your inquiry will meet with our immediate reply.

VARICONS

Plain with no hardware

2nd and 3rd digit numerals in Model Nos. designate number of Contacts in Connector.

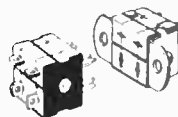


MALE		FEMALE	
Model No.	Price	Model No.	List Price Ea.
M1022	.29	F1022	.27
M1042	.40	F1042	.38
M1062	.52	F1062	.48
M1082	.63	F1082	.59
M1102	.78	F1102	.71
M1122	.90	F1122	.83
M1142	1.08	F1142	.99
M1162	1.26	F1162	1.16
M1182	1.44	F1182	1.33

VARICONS

With bracket

Substitute the numeral "2" instead of the numeral "1" in the first digit of the Model Number if a double tier is desired. List price can be computed by doubling the List Price of the appropriate Single Tier VARICON with Bracket and adding .03 ea.

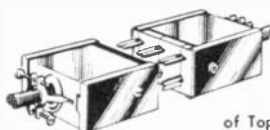


MALE		FEMALE	
Model No.	Price	Model No.	List Price Ea.
M10220	.34	F10220	.32
M10420	.45	F10420	.43
M10620	.57	F10620	.53
M10820	.68	F10820	.64
M11020	.84	F11020	.77
M11220	.96	F11220	.89
M11420	1.14	F11420	1.05
M11620	1.31	F11620	1.22
M11820	1.50	F11820	1.38

VARICONS

With cover top clamp

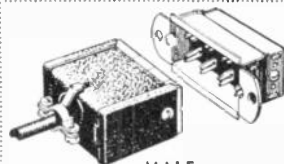
Hole can be located on End instead of Top by changing final digit from 4 to 5.



MALE		FEMALE	
Model No.	Price	Model No.	List Price Ea.
M10425	.86	F10425	.84
M10624	.98	F10624	.94
M10824	1.09	F10824	1.05
M11024	1.27	F11024	1.20
M11224	1.44	F11224	1.37
M11424	1.68	F11424	1.59
M11624	1.91	F11624	1.82
M11824	2.15	F11824	2.04
M22024	2.51	F22024	2.39
M22424	3.09	F22424	2.96
M22824	3.67	F22824	3.53
M23224	4.26	F23224	4.09
M23624	4.89	F23624	4.73

VARICONS

With recessed housing

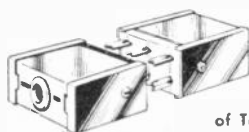


MALE		FEMALE	
Model No.	Price	Model No.	List Price Ea.
M10626	.93	F10626	.88
M10826	1.07	F10826	1.03
M11026	1.27	F11026	1.20
M11226	1.45	F11226	1.38
M11426	1.69	F11426	1.60
M11626	1.92	F11626	1.83
M11826	2.16	F11826	2.05
M22026	2.47	F22026	2.36
M22426	3.06	F22426	2.92
M22826	3.63	F22826	3.50
M23226	4.22	F23226	4.06
M23626	4.85	F23626	4.69

VARICONS

With covers — top hole

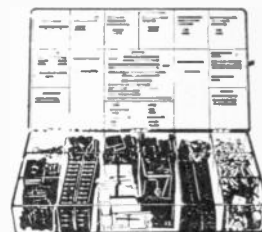
Hole can be situated on End instead of Top by changing final digit from 2 to 3.



MALE		FEMALE	
Model No.	Price	Model No.	List Price Ea.
M10423	.67	F10423	.65
M10622	.79	F10622	.75
M10822	.90	F10822	.86
M11022	1.07	F11022	1.00
M11222	1.24	F11222	1.17
M11422	1.48	F11422	1.39
M11622	1.71	F11622	1.62
M11822	1.96	F11822	1.84
M22022	2.24	F22022	2.13
M22422	2.83	F22422	2.69
M22822	3.40	F22822	3.27
M23222	3.94	F23222	3.83
M23622	4.62	F23622	4.46

New Enlarged VARICON KIT

Contains all parts to allow user to make "on the spot" assembly of virtually every type miniature connector in any pin configuration, from 2 contact single tier to 48 contact double tier. Includes Elco's new right-angle Varicon; regular and taper tab male and female contacts; ruggedized end sections; center sections; covers; brackets; cable clamps; screws; nuts; Assembly Instructions; re-ordering sheet. In handsome transparent plastic box.



GVK — 1 (GP) LIST 40.00 Each
GVK — 2 (LL) LIST 50.00 Each

Smaller Kits Also Available GP—1 10.00 • GP—2 13.75

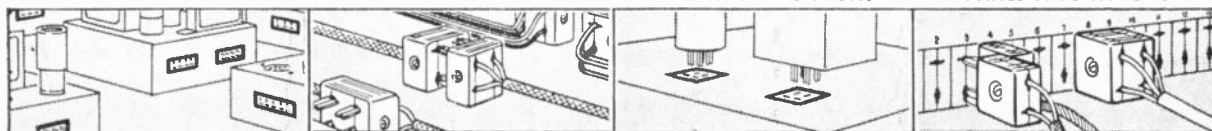
GENERAL SPECIFICATIONS: Current Rating 15 Amps., 115 Volts (in cover); 30 Amps. (in free air) (withstanding voltage between closest terminals 4000 volts); Contact Resistance .0001 ohm. Low Capacitance. All Male & Female components are identical. 300 ohm line spacing. Contacts in use are always under pressure, cannot be overstressed or overstrained.

CHASSIS APPLICATIONS

CABLE APPLICATIONS

PLUG-IN APPLICATIONS

PANEL APPLICATIONS



Sec. 2100



CANNON ELECTRIC COMPANY

MS-E AND MS-R PLUG SERIES

MS-E (formerly called AN-E) and the new MS-R plugs are designed to operate in extreme environmental conditions... such as moisture condensation, corona formations, flashover, and vibration. This environmental sealing is accomplished with a resilient grommet at the rear of the insulator which has internal restrictions in a wire cavity acting like "O" rings around the wire. Insulators are made of resilient material to prevent damage from vibration. Resilient insulators and grommets provide a plug completely sealed from cable to cable, through the mated plugs.

MS-E Cannon Plugs are available in two types: Series ME with external cable clamp, and Series CT with shortened endbells and

internal clamping action.

The MS-R Cannon Plugs are identical to the MS-E Series CT. The only difference is the addition of an "O" ring seal about the 3106 and 3108 plug barrels which supplements the interfacial seal.

The shells, endbells, and coupling nuts are of aluminum alloy. They are cadmium plated and converted by chromate treatment to an olive drab finish as required by MIL-C-5015. Insulators and grommets are of a lightweight resilient polychloroprene.

The pin and closed entry socket contacts are machined from copper alloys of high conductivity, and are silver plated.



MS3100E (Series ME)



MS3100R and MS3100E (Series CT)



MS3102R and MS3102E (Series CT)



MS3101E (Series ME)



MS3101R and MS3101E (Series CT)



MS3103R (AER)

WALL RECEPTABLES

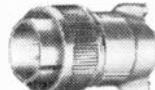
BOX RECEPTABLE

CABLE PLUGS

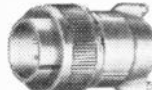
POTTING RECEPTABLE



MS3106E (Series ME)



MS3106E (Series CT) without "O" ring



MS3106R with "O" ring

STRAIGHT PLUGS



MS3108E (Series CT) without "O" ring



MS3108R with "O" ring

ANGLE 90° RECEPTABLES

Insert Number	Total Contacts	Mech'l. Spacing	Service Rating	Contact Size					
				#0	#4	#8	#12	#16	#20
8S-1	1	1/16	A					1	
10SL-3	3	1/16	A					3	
*10SL-4	2	1/16	A					2	
*12S-3	2	1/16	A					2	
*14S-2	4		INST.					4	
14S-5	5		INST.					5	
14S-6	6		INST.					6	
14S-7	3	1/16	A					3	
*14S-9	2	1/16	A					2	
16S-1	7	1/16	A					7	
16S-4	2	1/8	D					2	
16S-8	5	1/16	A					5	
18-9	4	1/16	A				2	2	
18-10	3	1/16	A				3		
18-1	10		INST.				4		
18-4	4	1/8	D				4		

Insert Number	Total Contacts	Mech'l. Spacing	Service Rating	Contact Size					
				#0	#4	#8	#12	#16	#20
18-8	8	1/16	A				1	7	
18-9	7		INST.				2	5	
18-11	5	1/16	A				5		
*18-12	6	1/16	A				6		
*18-19	10	1/16	A				8	2	
20-4	4	1/8	D				4		
20-7	8	1/8	D				4		
20-15	7	1/16	A				7		
20-16	9	1/16	A				2	7	
*20-19	3	1/16	A			3			
20-27	14	1/16	A				6		
20-29	17	1/16	A				8		
22-14	19	1/16	A				19		
22-23	8	1/8	D				1		
		1/16	A				7		

Insert Number	Total Contacts	Mech'l. Spacing	Service Rating	Contact Size					
				#0	#4	#8	#12	#16	#20
*24-5	16	1/16	A						16
24-20	11	1/8	D					2	9
24-28	24	1/16	INST.						24
28-11	22	1/16	A					4	18
28-12	26	1/16	A						26
*28-15	35	1/16	A						35
		1/4	B						1
28-17	15	1/8	D						3
		1/16	A						11
28-21	37	1/16	A						37
32-7	35	1/16	A					7	24
			INST.						4
*32-8	30	1/16	A					6	24
32-13	23	1/8	D					5	18
32-17	4	1/8	D				4		
36-10	48	1/16	A						48

NOMENCLATURE EXPLANATION

MS 3106 E 20-27 S (Series ME)
 MS 3106 E 20-27 S (Series CT)
 MS 3106 R 20-27 S

- MS-E Type
- INSERT STYLE: P for Pin Contacts and S for Socket Contacts
- INSERT ARRANGEMENTS: 1, 2, 3, 4 and up. These code numbers refer to a specific contact arrangement.
- SHELL SIZE BASED ON COUPLING THREAD DIAMETER: 8S, 10SL, 12S, 12, 14S, 14, 16S, 16, 18, 20, 22, 24, 28, 32, and 36
- CLASSES: E—Environmental Resisting R—Environmental Resisting (lightweight)
- SHELL TYPE: 3100—Wall Receptacle 3102—Box Receptacle 3106—Straight Plug
 3101—Cable Plug 3103—Potting Receptacle (AER) 3108—Angle Plug
- MS indicates that the Military Specification number has been assigned.

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CANNON ELECTRIC COMPANY

MS PLUG SERIES

MS ACCESSORIES

DUST CAPS*		AN JUNCTION SHELL— STRAIGHT	
Description	Size	Description	Size
MS25043-8	8S	CA2120-1	8S
MS25043-10	10S	CA2120-2	10S
MS25043-12	10SL, 12, 12S	CA2120-21	10SL
MS25043-14	14-14S	CA2120-3	12-12S
MS25043-16	16-16S	CA2120-4	14-14S
MS25043-18	18	CA2120-5	16-16S
MS25043-20	20	CA2120-9	18
MS25043-22	22	CA2120-10	20
MS25043-24	24	CA2120-11	22
MS25043-28	28	CA2120-12	24
MS25043-32	32	CA2120-13	28
MS25043-36	36	CA2120-14	32
		CA2120-15	36

AN3057A CABLE CLAMPS WITH BUSHING			
Description	Size	Description	Size
AN3057-3A	8S-10S	AN3057-12A	20-22
AN3057-4A	10SL, 12, 12S	AN3057-16A	24-28
AN3057-6A	14-14S	AN3057-20A	32
AN3057-8A	16-16S	AN3057-24A	36
AN3057-10A	18		

*NOTE: For dust caps with chain, add letter C immediately following last number. MS25043-20 would then be MS25043-20C.

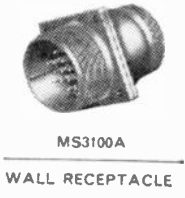
The MS line of Cannon Plugs is designed to meet Military Specification MIL-C-5015... the military specification covering electrical connectors. Until recently this line was designated as the "AN" line. The complete MS plug consists of two mating units... a plug assembly and receptacle assembly.

MS plugs were designed originally for aircraft but are now used widely in other fields. These plugs, although designed and approved under military specifications for use by the armed forces, are ideal for commercial and industrial applications where the same quality and dependability are desired. Industry in general has appreciated the relatively low costs, uniform quality and interchangeability as prescribed in the MIL Spec.

MS plugs are available with from 1 to 100 contacts in 15 different shell diameters ranging from .250 to 2.550 inches. Each plug meets or surpasses the latest Specification MIL-C-5015. Each insert arrangement is available with pin or socket contacts, and will mate with the MS type having the same size and layout.

Shells are high grade aluminum alloy, lightweight and non-magnetic. All metal parts other than contacts are cadmium plated with a chromate conversion finish in dull olive drab.

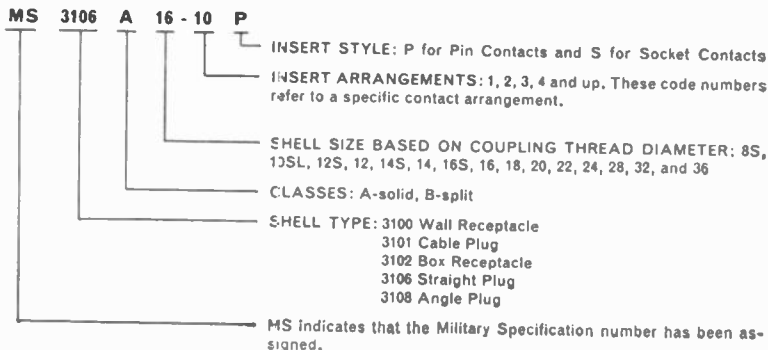
Contacts are made of the best conductive material commensurate with strength. Socket contacts are full-floating, have a closed entry construction to avoid distortion, and have beryllium copper springs with excellent fatigue properties.



ACCESSORIES

NOMENCLATURE EXPLANATION

To permit easy, accurate ordering of the thousands of combinations of MS Cannon Plugs, the Military Specification spells out a functional numbering system. To illustrate this system, a typical plug MS3106A16-10P is explained:



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MS PLUG SERIES

Table listing MS Plug Series items with columns for Insert Number, Total Contacts, Mech'l. Spacing, Service Rating, and Contact Size (#0, #4, #8, #12, #16, #20).

Table listing MS Plug Series items with columns for Insert Number, Total Contacts, Mech'l. Spacing, Service Rating, and Contact Size (#0, #4, #8, #12, #16, #20).

Table listing MS Plug Series items with columns for Insert Number, Total Contacts, Mech'l. Spacing, Service Rating, and Contact Size (#0, #4, #8, #12, #16, #20).

STANDARD K AND RK PLUG SERIES

Table listing Standard K and RK Plug Series items with columns for Insert Number, Total Contacts, Contact Size* (#4, #6, #8, #10, #14, #16).

Table listing Standard K and RK Plug Series items with columns for Insert Number, Total Contacts, Contact Size* (#4, #6, #8, #10, #14, #16).

Table listing Standard K and RK Plug Series items with columns for Insert Number, Total Contacts, Contact Size* (#4, #6, #8, #10, #14, #16).

Table listing Standard K and RK Plug Series items with columns for Insert Number, Total Contacts, Contact Size* (#4, #6, #8, #10, #14, #16).

* Amperage rating according to contact size is as follows:

#16—10 amps #14—15 amps #10—30 amps #8—40 amps #6—60 amps #4—80 amps #2—115 amps Coaxial — 10 amps

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The MASTER—24th Edition

Use Index (pg. 2) for Quick, Easy Location of ALL Products

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CANNON ELECTRIC COMPANY

STANDARD K AND RK PLUG SERIES

The Standard K Series of Cannon Plugs was the first complete plug series designed (in the late 30's) as airborne equipment. They are lightweight, rugged and durable, and are used extensively in many fields outside of the aviation industry.

The principal difference between MS and K types is found in the coupling thread...the K line uses acme thread and the MS line uses unified screw threads.

While K and RK are related fittings, their differences prevent mating of a K type with the RK type. Essentially the RK is a reverse coupling version of a standard K. Because of this, different insert housings

and coupling means are employed, prohibiting interconnection of the two types.

Shell parts are aluminum alloy with standard cadmium finish. Contacts are brass, silver-plated, and are machined from brass rod, with tinned solder pots.

K and RK plugs are available in 7 basic shell types having 8 insert sizes, totalling more than 220 arrangements with a variety of amperage and voltage capacities. They are available with from 1 to 110 contacts in eight size diameters ranging in size from 5/8 to 2-1/4 inches.



K-23



K-23C



RK-24



RK-24C

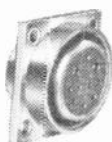
ANGLE 90° PLUGS



K-31S



K-32SL



RK 31SL

WALL RECEPTACLES



K-21C



K-22C



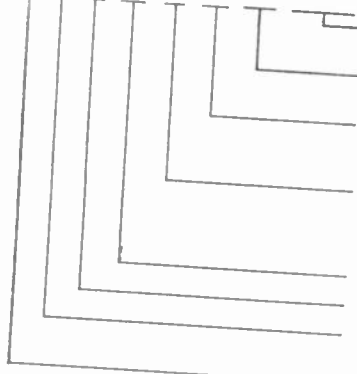
RK-22C

STRAIGHT PLUGS

NOMENCLATURE EXPLANATION

With literally thousands of different combinations available in the Standard K Series, a functional nomenclature system was designed to allow fast, accurate identification and ordering ease. To illustrate this system, some typical plugs are explained.

S K - M2 - 21 - 5/8 B & AN
S K - C7 - 24 C - 5/8
R S K - G5 - 31 SL



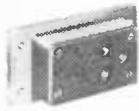
- THREAD SIZE STANDARD: AN for Army-Navy, AC for Air Corps, B for Navy
- CONDUIT ENTRY SIZE: 1/8", 3/16", 1/4", 3/8", 1/2", 5/8", 3/4", 1", 1-1/4", 1-1/2", 1-3/4", 2", 2-1/2"
- NO LETTER INDICATES THREADED CONDUIT ENTRY. C for Integral Cable Clamp, S for Wall Mounting-Small Flange, SL for Wall Mounting-Large Flange
- SHELL STYLE: Plugs 21, 22, 23; Receptacles 31, 32; Reverse Coupling RK plugs 22, 24
Note: Odd numbers indicate socket contacts and even numbers indicate pin contacts.
- INSERT ARRANGEMENTS
- K SERIES
- SHELL SIZE BASED ON INSERT DIAMETER: W-5/8", G-7/8", S-1", N-1-1/4", F-1-1/2", I-1-3/4", L-2", A-2-1/4"
- REVERSE COUPLING

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CANNON ELECTRIC COMPANY

RACK/PANEL DPD PLUG SERIES



DPD-33S



DPD-34P



019941-0003
JUNCTION SHELL



DPD-34CL-5/8 AN
JUNCTION SHELL

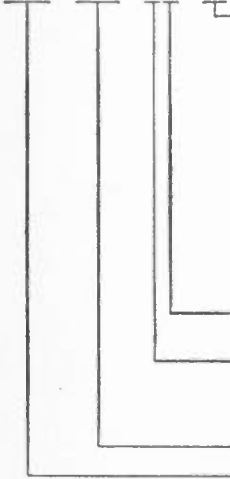
DPD plugs are designed for unit plug-in applications. They are distinguished from other Cannon lines by their rectangular shape and they provide maximum space utilization on rack/panel chassis equipment. One half of the plug is mounted to a radio rack or panel, for instance, and the other half is mounted to the instrument. By this means instruments can be easily removed for inspection and repair.

The DPD is the standard of the DP (Dual Panel) line and accommodates the widest range of contacts in both style and number. They are available with from 2 to 78 contacts in 22 basic insert arrangements, plus variations. A variety of endbells for junction shells are available. The shell is chamfered to facilitate engagement.

Shell material is die-cast aluminum alloy with cadmium plate finish. Insulation is molded melamine or fabricated phenolic. Inserts are retained by insert retaining clips. Retaining clip is metallic and will ground coaxial contacts unless insulation is specified.

NOMENCLATURE EXPLANATION

DPD - 32C2 - 34P - 1G



- MOUNTING VARIATION:**
 - 1A—4 holes 0.144 diameter, for No. 6 screw
 - 1B—4 holes 0.144 diameter, 100° countersink for No. 6 flat head screw
 - 1G—4 holes 0.152 diameter, 82° countersink for No. 6 flat head screw
 - 1L—4 holes 0.144 diameter, 82° countersink for No. 6 flat head screw
- 1A SUPPLIED UNLESS OTHERWISE SPECIFIED**
- CONTACT TYPE:** P for Pin Contacts and S for Socket Contacts
- SHELL DESIGN:** Even numbers generally indicate Pin Insert Assemblies and odd numbers generally indicate Socket Insert Assemblies
- INSERT ARRANGEMENT**
- PLUG SERIES**

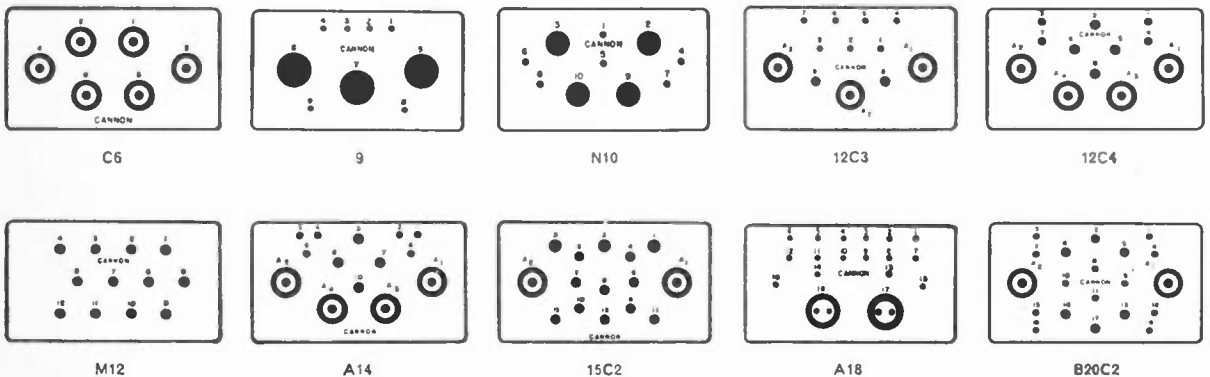
DPD LAYOUT NUMBER	Basic Layout	Number of Contacts (Amperes)				C*	T**
		10	15	30	40			80
C6	C6					6	
K6	C6					6	
M6	C6					6	
R6	C6					6	
Y6	C6					6	
9	9	3					
N10	N10	6			4		
12	32C2	10					
12C3	12C3	7	2				
12C4	12C4	4	4				
12HV3	12C3	7	2				
12HV4	12C3	4	4				
M12	M12	12					
M12A	M12	12					
A14	A14	6	4				
B14	A14	6	4				
G14	A14	6	4				
15C2	15C2	10	3				
A15	15C2	10	3	2			
B15	15C2	10	3	1			
D15	15C2	10	3				
E15	15C2	10	3	1			
A18	A18	16					
G20	G20	10	2	8			
B20C2	B20C2	12	6				
23C3	23C3	20					
F23C3	23C3	20					
B28	C28	28					
C28	C28	22					6
29HV2	29HV2	26	3				
30	32C2	28		2			
32	32C2	28		4			
A32	32C2	30		2			
32C2	32C2	28		2	2		
A32C2	32C2	28		2	2		
D32C2	32C2	28		2	2		
E32C2	32C2	28		2	2		
U32C2	32C2	28		2	2		
40	40	40					
45	45	43	2				
50	50	50					
65T1	65T1	65					
66HV1	65C1	65					1
67	67	67					
78	78	78					

*Coaxial Contacts
**Thermocouple Contacts

DPD ACCESSORIES

- DPD-33 and -34 Dust Cap
- DPD-34CL-5/8 AN Junction Shell
- 019941-0002 Junction Shell
- 019941-0003 Junction Shell
- 019941-0005 Junction Shell
- 019941-0007 Junction Shell

DPD INSERT ARRANGEMENTS

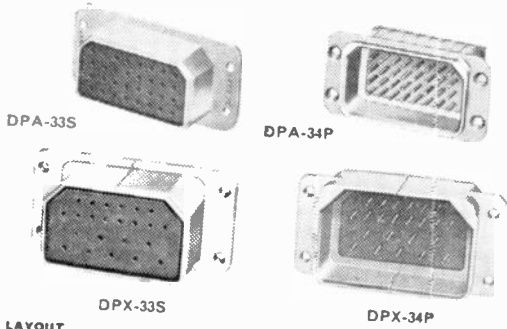


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CANNON ELECTRIC COMPANY



DPA AND DPX MINIATURE PLUGS



In response to a need for a small rectangular rack/panel plug of great strength, Cannon Electric has designed two rugged miniatures, the DPA and DPX. They are similar to the DPD plugs but occupy approximately 35% (for the DPA) and 46% (for the DPX) less area for rack/panel chassis mounting.

The DPA utilizes a one-piece shell construction. The elimination of conventional insert-retaining screws provides a maximum utilization of insert area and results in a new ease of assembly. The insert is held in place by a retaining clip at the rear of the shell.

The DPX has a two-piece split shell construction. Inserts are held in place by means of internal grooves molded into the shell. These grooves accommodate raised shoulders on the insulator, completely embracing and locking the insert assembly. An external assembly ring slips over the shell halves to hold them together. The DPX can be completely assembled without tools.

The standard insert material for the DPA and DPX is melamine. DPA insert layouts accommodate 5 amp and small coaxial contacts. DPX insert layouts accommodate 5 amp, 10 amp, and small coaxial contacts.

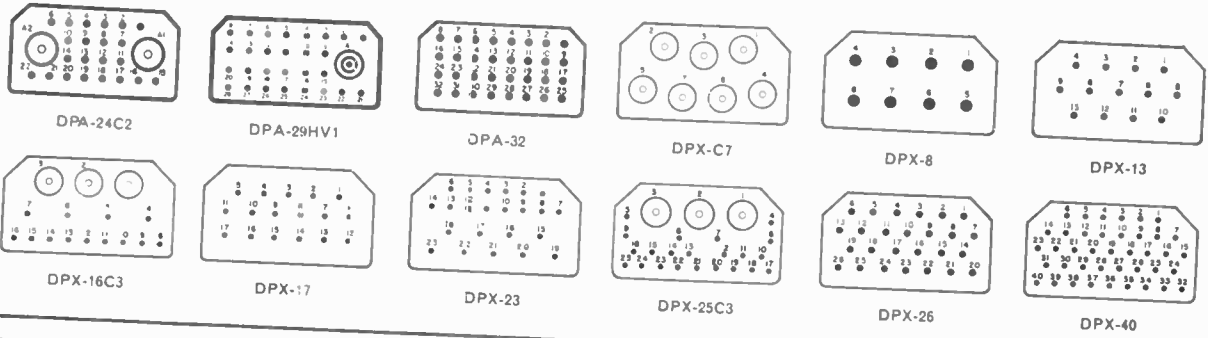
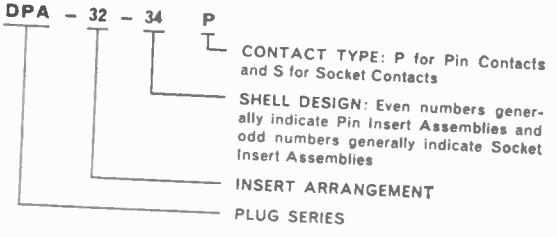
DPA LAYOUT

Layout Number	Basic Layout	Number of Contacts (Amperage)			
		5	10	Coax.	HV
24	24	5	10		
24C2	24				
24C1HV1	24			2	
24HV2	24			1	1
29C1	29				2
29HV1	29			1	
32	32				1

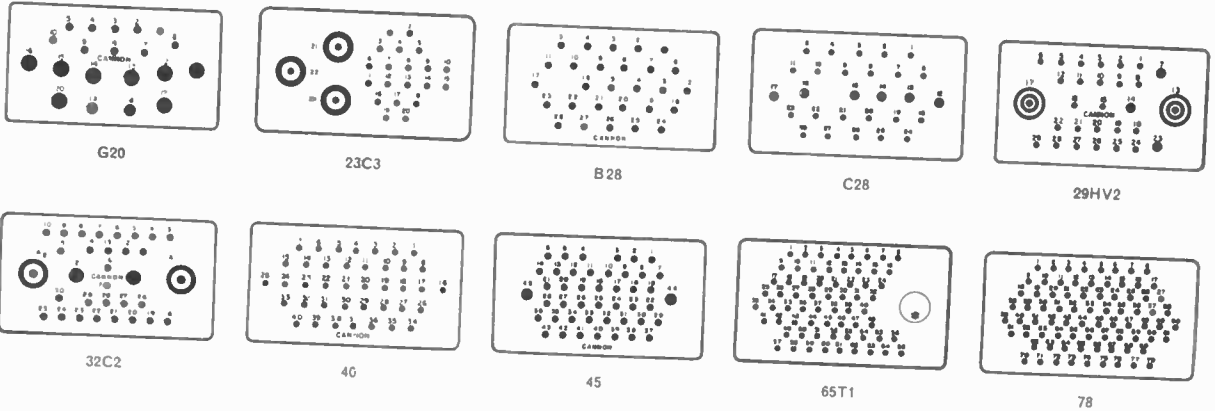
DPX LAYOUT

Layout Number	Basic Layout	Number of Contacts (Amperage)			
		5	10	41	HV
C7	C7				
8	8			7	
13	13		13	8	
13HV1	32C2	12			
16C3	16C3	13			1
B16C3	B16C3		13		3
J16C3	B16C3		13		3
17	17	17			3
23	23				
25C3	25C3	22			
A25C3	25C3	22			3
26	26		26		3
32	32	29	3		
40	40	40			
40C1	40C1	39			1

NOMENCLATURE EXPLANATION



DPD INSERT ARRANGEMENTS (cont)



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MC SUBMINIATURE PLUG SERIES

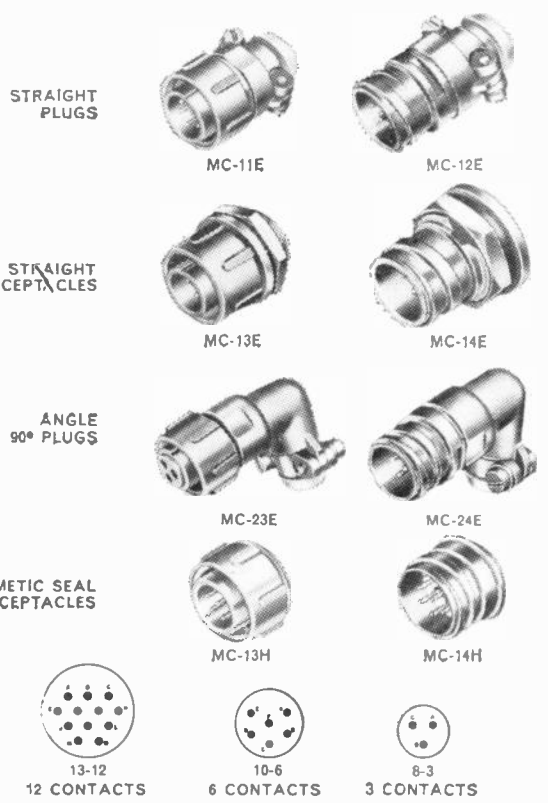
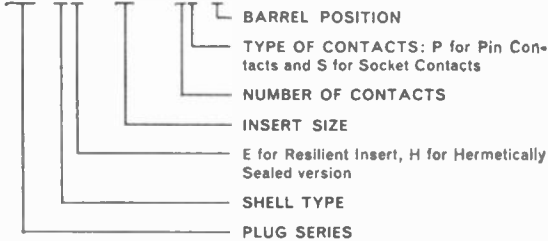
MC Subminiature Cannon Plugs were originally developed for the Signal Corps, who had a need for a small, cylindrical, sealed plug of exceptional sturdy construction. These plugs have been designed to withstand moderately severe handling and environmental conditions, and incorporate a shell which has maximum strength within its volume limits. Sealing has been accomplished by interfacial compression of the resilient insert, the latter affording a high degree of vibration resistance at the same time. The strong coupling nuts utilize a rugged special Acme thread to permit fast, simple engagement and disengagement.

Three sizes are available, alternate insert positions are provided for, and a total of eight plugs and receptacles can be furnished. Pin or socket inserts are available in each plug size.

NOMENCLATURE EXPLANATION

MC-13H - 10 - 6S N

MC-13E - 10 - 6P N



K MINIATURE PLUG SERIES

The K Miniature Series of Cannon Plugs was designed for applications requiring smaller plug types in cylindrical designs with metal shells. They incorporate design features to provide high performance and maximum flexibility. Rigid standardization has been incorporated in this series, allowing interchangeability from the standpoint of usage.

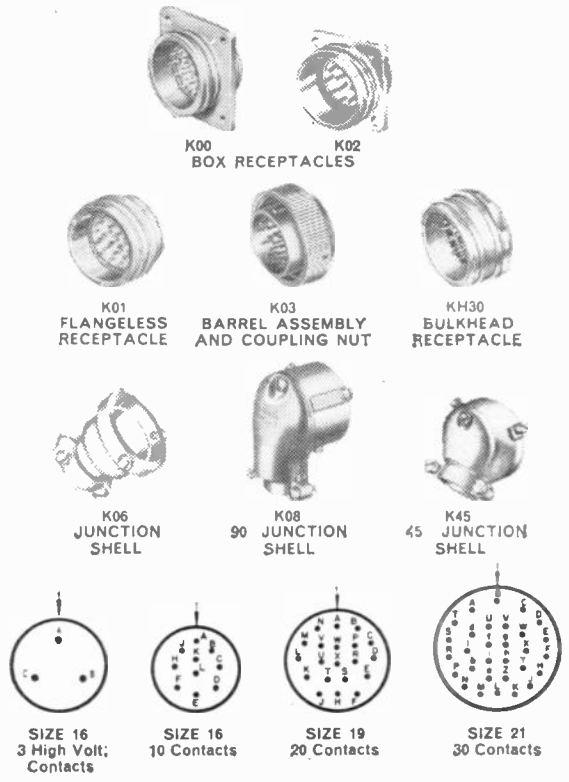
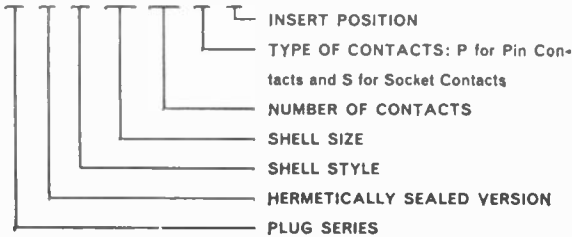
Shells for plugs, receptacles, and endbells are high tensile aluminum alloy, cadmium plate finish with chromate conversion. Insert material is Zytel, except high current types which are melamine. KO8 (9") and K45 (45) endbells have removable caps for inspection and potting.

A special sealing ring in KO2 receptacle provides for pressurization when used in conjunction with potted installations. KH types, or hermetically sealed versions, are also available.

NOMENCLATURE EXPLANATION

K 00-19L-20 P N

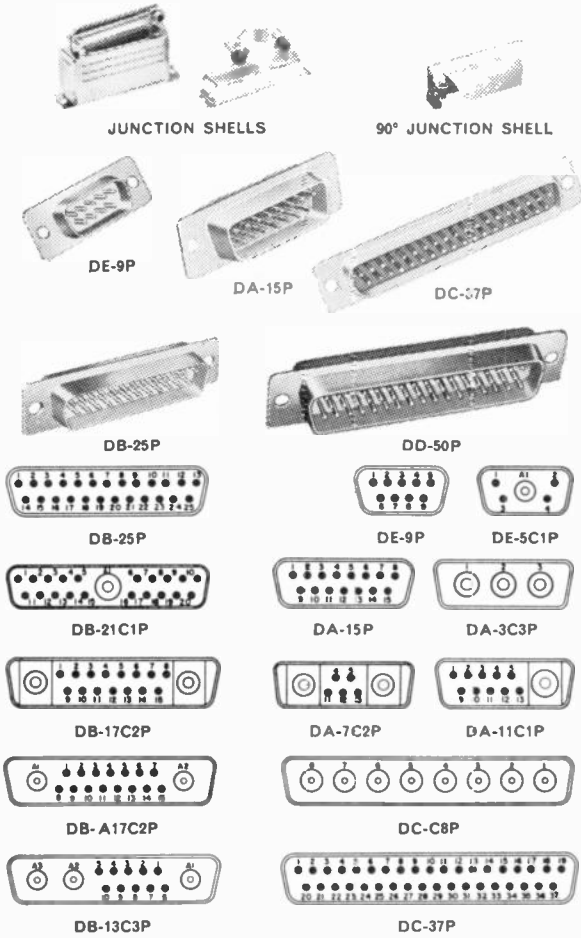
K H 10-19 - 20 S N



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CANNON ELECTRIC COMPANY

D SUBMINIATURE PLUG SERIES

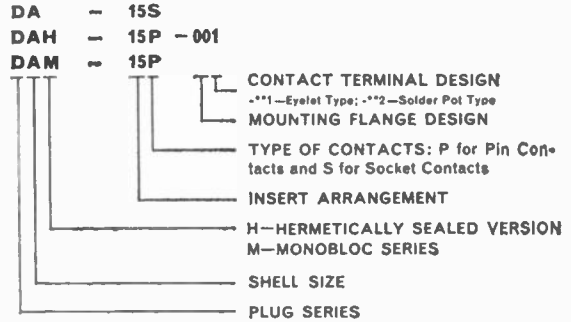


D Subminiature plugs are small, lightweight, rectangular plugs in 5 sizes, with 9, 15, 25, 37, or 50 gold-plated contacts. These compact plugs feature steel or brass shells with iridite finish, and Zytel or Diallyl insulators. They withstood a test voltage (60 cps ac rms) of 1300 volts for one minute with no evidence of breakdown. D Subminiatures are available with contact terminations for coaxial cables and taper pins. Solderless, crimp-type, snap-in contacts are supplied in addition to standard solder cup styles.

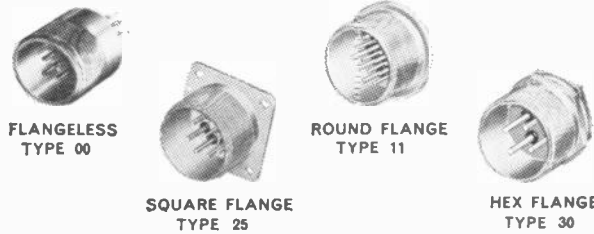
The D Subminiature "Monobloc" Series has a one-piece insulator for added strength. These "Monobloc" plugs are dimensionally and physically interchangeable with the Standard D Subminiatures with the exception of the solder pot and rear insulator extensions, which are slightly longer. The added length provides better contact stability and increased insulator strength.

Coaxial contacts are available for both the Standard D Subminiature and "Monobloc" Series. Accessories for D Subminiature plugs include: Straight Junction Shells, Straight Clamp Type Junction Shells, 90° Junction Shells, and Guide Pin Plates.

NOMENCLATURE EXPLANATION



GSO2 HERMETICALLY SEALED PLUGS



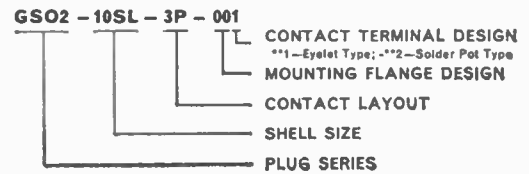
GSO2 Hermetically Sealed Plugs are used wherever instruments are required to be hermetically sealed within a partial vacuum, inert gas, or a constant or controlled pressure.

GSO2 plugs are made with standard MS insert layouts, and with a variety of mounting flanges. These plugs are also available with high-voltage, high-current, and coaxial contacts.

Shells and pin contacts are of steel. Vitreous insulation is used in a manner which creates an hermetic seal and prevents a leakage rate in excess of one micron cubic foot per hour at a pressure differential of 1 atmosphere as tested on a mass spectrometer.

G502-10SL-3P-001 -10SL-3P-002	G502-14S-5P-111 -14S-5P-112	G502-48S-1P-111 -16S-1P-112	G502-20-15P-001 -20-15P-002
G502-10SL-3P-251 -10SL-3P-252	G502-14S-6P-001 -14S-6P-002	G502-16S-4P-001 -16S-4P-002	G502-20-27P-001 -20-27P-002
G502-10SL-3P-111 -10SL-3P-112	G502-14S-8P-251 -14S-8P-252	G502-16S-4P-251 -16S-4P-252	G502-20-28P-001 -20-28P-002
G502-10SL-4P-001 -10SL-4P-002	G502-14S-6P-111 -14S-6P-112	G502-16S-4P-111 -16S-4P-112	G502-20-33P-001 -20-33P-002
G502-10SL-4P-251 -10SL-4P-252	G502-14S-7P-001 -14S-7P-002	G502-16S-8P-001 -16S-8P-002	G502-22-14P-251 -22-14P-252
G502-10SL-4P-111 -10SL-4P-112	G502-14S-7P-251 -14S-7P-252	G502-16S-8P-251 -16S-8P-252	G502-22-18P-251 -22-18P-252
G502-12S-3P-111 -12S-3P-112	G502-14S-7P-111 -14S-7P-112	G502-16S-8P-111 -16S-8P-112	G502-22-19P-251 -22-19P-252
G502-14S-2P-001 -14S-2P-002	G502-14S-8P-001 -14S-8P-002	G502-18-1P-001 -18-1P-002	G502-28-11P-251 -28-11P-252
G502-14S-2P-251 -14S-2P-252	G502-14S-9P-251 -14S-9P-252	G502-18-4P-001 -18-4P-002	G502-28-12P-251 -28-12P-252
G502-14S-2P-111 -14S-2P-112	G502-14S-8P-111 -14S-8P-112	G502-18-8P-001 -18-8P-002	G502-28-15P-251 -28-15P-252
G502-14S-3P-001 -14S-3P-002	G502-16S-1P-001 -16S-1P-002	G502-18-11P-001 -18-11P-002	G502-28-18P-251 -28-18P-252
G502-14S-5P-251 -14S-5P-252	G502-16S-1P-251 -16S-1P-252	G502-20-7P-001 -20-7P-002	G502-28-21P-251 -28-21P-252

NOMENCLATURE EXPLANATION



SEE YOUR AUTHORIZED CANNON PLUG DISTRIBUTOR FOR COMPLETE INFORMATION



SUBMINIATURE KWIK-TERM TERMINALS

Cannon Kwik-Term subminiature terminals are now available for use in conjunction with Radar, TV, HF, UHF, VHF, Microwave, and other "sophisticated" circuits.

Kwik-Terms are easily installed into an electronic chassis by simply pressing them into a pre-punched or pre-drilled hole. The TEFLON material of the insulator when pressed into a slightly smaller mounting hole tends to relieve its own stress. This causes a rivet-type action in the TEFLON which anchors and seals the terminal securely and permanently to the chassis. No nuts, washers, staking or soldering is required.

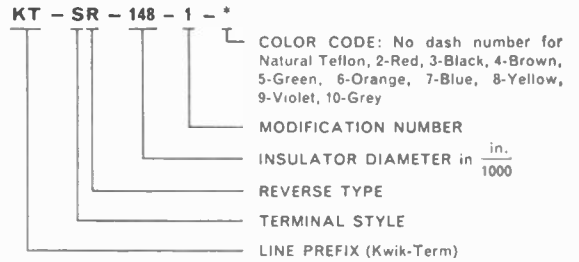
The following features illustrate the advantages of Cannon Kwik-Terms:

- Ease of assembly even in crowded installations
- Installation in seconds
- Saves weight and space—eliminates terminal boards
- Rugged—Kwik-Terms resist vibration and shock
- Wide variety of terminal configurations and pin lengths
- Kwik-Terms are heat resistant for soldering
- Wide variety of finishes, colors, and soldering lugs can be supplied to order

STAND-OFF TERMINALS			
KT-S-148-1	KT-S-185-1	KT-SR-217-1	
KT-S-148-2	KT-S-165-1		
KT-S-148-3	KT-S-165-2		
KT-S-172-1	KT-S-215-1		
KT-S-179-1	KT-SR-148-8		
KT-S-218-1	KT-SR-148-9		
KT-SR-148-1	KT-SR-179-2		
KT-SR-148-2	KT-SR-185-1		
KT-SR-172-1	KT-SR-165-1		
KT-SR-179-1	KT-SR-165-2		
KT-SR-218-1	KT-SR-215-1		
KT-S-148-8	KT-S-171-1		
KT-S-148-9	KT-S-171-2		
KT-S-179-2	KT-S-217-1		
	KT-SR-171-1		
	KT-SR-171-2		



NOMENCLATURE EXPLANATION



KT-F-148-10	KT-F-184-1	KT-J-185-2
KT-F-179-2	KT-217-1	KT-JR-185-1
KT-F-234-1	KT-FR-171-2	KT-JR-185-2
KT-F-185-1	KT-FR-184-1	KT-J-185-3
KT-F-264-1	KT-FR-217-1	KT-J-185-4
KT-F-171-6	KT-F-171-7	KT-JR-185-3
KT-F-204-1	KT-F-171-8	KT-JR-185-4
KT-F-230-1	KT-FR-171-7	
KT-FR-148-10	KT-FR-171-8	
KT-FR-179-2	KT-F-171-15	
KT-FR-234-1	KT-F-171-16	
KT-FR-185-1	KT-FR-171-15	
KT-FR-264-1	KT-FR-171-16	
KT-FR-171-6		
KT-FR-230-1		
KT-F-171-2		

PROBES AND PLUGS

KT-P-185-1
KT-P-185-2
KT-P-185-3
KT-PR-185-1
KT-PR-185-2
KT-PR-185-3

ALRF PLUG SERIES

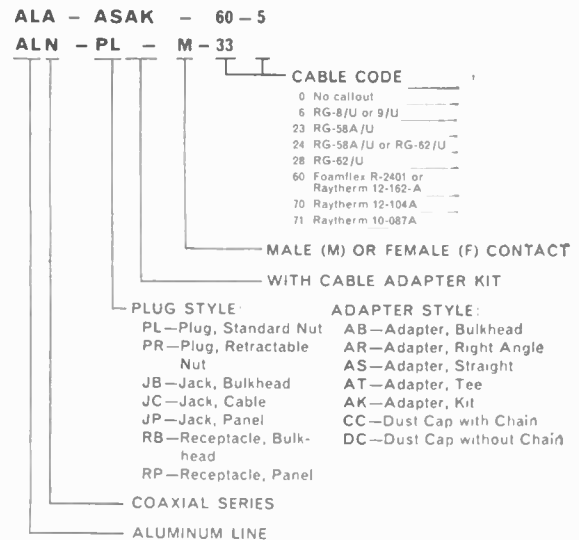
This new Cannon Plug Series of Aluminum RF Coaxial Plugs and Adapters utilize aluminum as the major portion of material in order to reduce weight. Included in this new series are aluminum variations of the standard N plugs and adapters for Foamflex and Raytherm rigid cables.

The new ALN line is 35% lighter than standard N types. Their electrical performance equals or betters that of the standard N. They have a black anodic finish for maximum corrosion resistance.

Cannon ALA Cable Adapters designed for Foamflex and Raytherm cables permit a high degree of flexibility and adaptability in RF systems. With these adapters, rigid and flexible cables can be joined and interchanged as space requirements dictate.



NOMENCLATURE EXPLANATION



ALA-AB-60	ALN-PR-60
ALA-AB-60-6	ALN-PR-6 (Equivalent to UG 21D/U)
ALA-AB-60-24	ALN-PL-6 (Equivalent to UG 21D/U)
ALA-ABAK-60-5	ALN-PL-23 (Equivalent to UG 536A/U)
ALA-ABAK-60-23	ALN-PL-70
ALA-ABAK-60-23	ALN-PL-71
ALA-AS-60	ALN-JB-70
ALA-AS-60-6	ALN-JB-71
ALA-AS-60-24	ALN-JB-6 (Equivalent to UG 160C/U)
ALA-ASAK-60-5	ALN-JC-60
ALA-ASAK-60-23	ALN-JC-70
ALA-ASAK-60-23	ALN-JC-71
ALA-AR-60	ALN-JC-6 (Equivalent to UG 23D/U)
ALA-AK-60	ALN-JP-6 (Equivalent to UG 22D/U)
ALA-AK-5	ALN-RB-0 (Equivalent to UG 580/U)
ALA-AK-23	ALN-RP-0 (Equivalent to UG 58A/U)
ALA-AK-28	ALN-AB (Equivalent to UG 30D/U)
ALA-CC-60	ALN-AR (Equivalent to UG 27C/U)
ALA-DC-60	ALN-AS (Equivalent to UG 29B/U)
ALA-3495-0 Deburring Tool	ALN-AT (Equivalent to UG 107B/U)
ALA-3495-1 Spring Tool	

SEE YOUR AUTHORIZED CANNON PLUG DISTRIBUTOR FOR COMPLETE INFORMATION

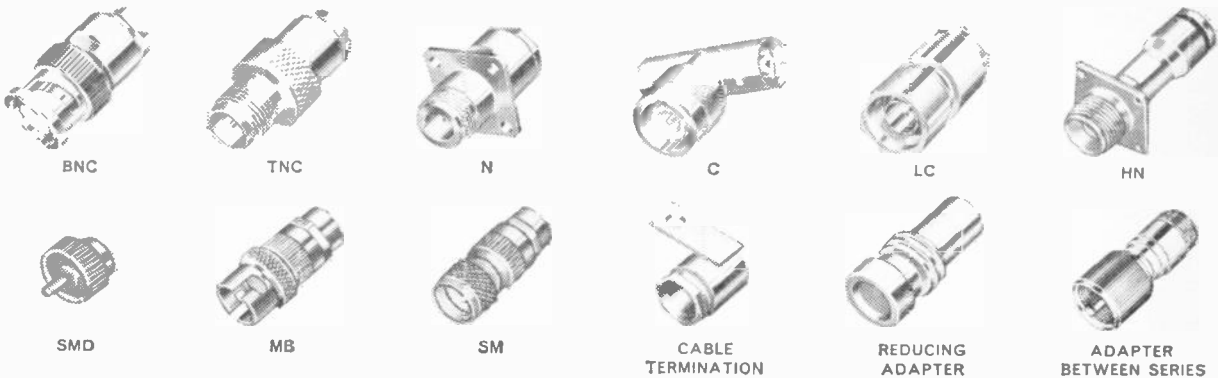
CANNON ELECTRIC COMPANY

STANDARD RF COAXIAL PLUG SERIES

The Standard RF Coaxial line of Cannon plugs have an established reputation as quality products, having served the electronics industry for more than 17 years.

literally thousands of military, industrial, and commercial applications. These versatile plugs are available in every popular series designation: BNC, TNC, N, C, SC, LC, SM, MB, etc.

Cannon Electric carries the most complete line of RF plugs for



NUMBER	DESCRIPTION	RG CABLES
BNC SERIES		
UG-88/U	Plug	55, 58/U
UG-88B/U	Plug	55, 58/U
UG-88C/U	Plug	55, 58/U
UG-89/U	Cable Jack	55, 58/U
UG-89B/U	Cable Jack	55, 58/U
CW-123A/U	Cap & Chain	—
CW-155A/U	Cap	—
CW-159/U	Cap & Chain	—
UG-185/U	Receptacle	Small
UG-254A/U	Receptacle	Small
UG-260/U	Plug	59, 62, 71/U
UG-260A/U	Plug	59, 62, 71/U
UG-260B/U	Plug	59, 62, 71/U
UG-261/U	Cable Jack	59, 62, 71/U
UG-261A/U	Cable Jack	59, 62, 71/U
UG-261B/U	Cable Jack	59, 62, 71/U
UG-262/U	Panel Jack	59, 62, 71/U
UG-262A/U	Panel Jack	59, 62, 71/U
UG-262B/U	Panel Jack	59, 62, 71/U
UG-274/U	Tee Adapter	Small
UG-274A/U	Tee Adapter	Small
UG-290/U	Receptacle	Small
UG-290A/U	Receptacle	Small
UG-291/U	Panel Jack	55, 58
UG-291A/U	Panel Jack	55, 58
UG-291B/U	Panel Jack	55, 58
UG-306/U	R. A. Adapter	Small
UG-306A/U	R. A. Adapter	Small
UG-414/U	Str. Adapter	Small
UG-447/U	Panel Recept.	Small
UG-491/U	Str. Adapter	Small
UG-492A/U	Str. Adapter	Small
UG-492B/U	Str. Adapter	Small
UG-535/U	R. A. Adapter	Small
UG-604/U	Bulk. Recept.	Small
UG-625/U	Bulk. Recept.	Small
UG-625B/U	Bulk. Recept.	Small
UG-657/U	Bulk. Recept.	Small
UG-909/U	Bulk. Jack	55, 58/U
UG-910/U	Bulk. Recept.	59, 62, 71/U
UG-911A/U	Bulk. Recept.	Small
UG-912/U	Bulk. Recept.	Small
UG-913/U	R. A. Plug	55, 58/U
UG-932/U	Hi-Volt. Plug	59, 62, 71/U
UG-1094/U	Bulk. Recept.	Small
UG-1098/U	R. A. Bulk. Recept.	Small
050960-0001	Cap & Chain	—
052150-0001	R. A. Plug	59, 62, 71/U
052192-0001	Bulk. Recept.	—
052860-0001	R. A. Plug	59, 62, 71/U
TNC SERIES		
SA-336	Plug	59A/U
SA-337	Panel Recept.	—
SA-357	Bulk. Adapter	—
SA-392	R. A. Adapter	—

NUMBER	DESCRIPTION	RG CABLES
TNC SERIES (cont.)		
SA-397	R. A. Plug	59/U
SA-400	Plug	58/U
SA-401	R. A. Plug	58/U
SA-417	Jack	55, 58/U
SA-418	Jack	59, 62/U
SA-444	Panel Recept.	—
SA-445	Plug	59A/U
SA-446	Jack	59A/U
SA-463	Bulk. Jack	59, 62/U
SA-478	Bulk. Recept.	—
SA-504	R. A. Panel Recept.	—
SA-558	Plug	58/U
N SERIES		
UG-188/U	Plug	5, 6, 21/U
UG-18C/U	Plug	5, 6, 21/U
UG-19B/U	Panel Jack	5, 6, 21/U
UG-218/U	Plug	5, 6, 21/U
UG-21C/U	Plug	5, 6, 21/U
UG-21D/U	Plug	8, 9, 10/U
UG-22B/U	Panel Jack	8, 9, 10/U
UG-22D/U	Panel Jack	8, 9, 10/U
UG-23B/U	Cable Jack	8, 9, 10/U
UG-23D/U	Cable Jack	8, 9, 10/U
UG-27A/U	R. A. Adapter	—
UG-27B/U	R. A. Adapter	—
UG-27C/U	R. A. Adapter	—
UG-28A/U	Tee Adapter	—
UG-29B/U	Str. Adapter	—
UG-30D/U	Str. Adapter	—
UG-57B/U	Str. Adapter	—
UG-58A/U	Panel Recept.	Medium
UG-94A/U	Plug	11, 12, 13/U
UG-536/U	Plug	55, 58/U
UG-536A/U	Plug	55, 58/U
UG-594/U	R. A. Plug	8, 9, 10/U
M3 913/U	Cap & Chain	—
UC-1185/U	Plug	8, 9, 10, 87A, 115, 115A/U
UG-1186/U	Cable Jack	8, 9, 10, 87A, 115, 115A/U
050962-0001	Cap & Chain	—
C SERIES		
UG-567A/U	R. A. Adapter	—
UG-568/U	Panel Recept.	Medium
UG-573A/U	Plug	8, 9, 10/U
UG-627A/U	Plug	59, 62/U
UG-709A/U	Plug	55, 58/U
LC SERIES		
052624-0001	Plug	117/U
HN SERIES		
UC-59A/U	Plug	8, 9, 10/U
UC-61B/U	Panel Plug	8, 9, 10/U
UC-212C/U	R. A. Adapter	—

NUMBER	DESCRIPTION	RG CABLES
SMD SERIES		
052243-0001	Plug	.064 O.D.
052490-0001	Panel Recept.	Miniature
052710-0001	Plug	.174 O.D.
052844-0001	Panel Recept.	Miniature
MB SERIES		
052902-0001	Recept.	—
052907-0001	Plug	3/32 O.D.
052910-0001	Adapter	—
052911-0001	Adapter	—
052914-0001	Bulk. Recept.	—
052915-0001	Plug	59, 62, 71/U
052916-0001	R. A. Plug	59, 62, 71/U
052918-0001	Plug	3/32 O.D.
052919-0001	Plug	.120 O.D.
052920-0001	R. A. Plug	3/32 O.D.
052921-0001	R. A. Plug	.120 O.D.
052922-0001	Bulk. Jack	3/32 O.D.
052923-0001	Bulk. Jack	.120 O.D.
052924-0001	Plug	59, 62, 71/U
052928-0001	Plug	174/U
052948-0001	Plug	140 O.D.
052949-0001	Bulk. Jack	.140 O.D.
053053-0001	R. A. Plug	59, 62, 71/U
053065-0001	Tee Adapter	—
SM SERIES		
UG-692/U	Plug	59, 62/U
UG-697/U	Recept.	—
UG-899/U	Plug	58/U
CABLE TERMINALS		
MX1330/U	Bulkhead	59, 62, 71/U
MX1330A/U	Bulkhead	59, 62, 71/U
MX1684/U	Bulkhead	55, 58/U
052162-0001	Right Strap	55, 58/U
REDUCING ADAPTERS		
UG-175/U	For UHF Plugs	55, 58/U
UG-176/U	For UHF Plugs	59, 62, 71/U
ADAPTERS BETWEEN SERIES		
NUMBER	DESCRIPTION	ADAPTS TO
UG-201/U	Str. Adapter	BNC to N
UG-201A/U	Str. Adapter	BNC to N
UG-255/U	Str. Adapter	BNC to UHF
UG-273/U	Str. Adapter	BNC to UHF
UG-349/U	Str. Adapter	BNC to N
UG-349A/U	Str. Adapter	BNC to N
UG-606/U	Str. Adapter	BNC to N
UG-970/U	R. A. Adapter	UHF to twin UHF
UG-971/U	R. A. Adapter	C to twin UHF
052537-0001	Str. Adapter	BNC to SMD
052947-0001	Str. Bulk. Adapter	C to MB

XLR PLUG SERIES

XLR Series of Cannon Plugs is a newly expanded audio series... the most modern addition to the long line of Cannon Plugs featured on all top-quality microphones. It's really quiet, too!

New resilient insulator and specialized construction of socket contact assembly protects against disagreeable mechanical interference... noise problems encountered with plugs when their cables are moved, pulled, or subjected to shock.

Features streamline design, satin nickel finish, integral cable clamp, neoprene cable relief, and time-tested latchlock. Available with three 15-amp, four 10-amp, or five 7½-amp contacts.

- | | |
|------------------------------------|---|
| XLR-11C PLUG (Socket Insert) | XLR-32 RECEPTACLE (Pin Insert) |
| XLR-12C RECEPTACLE (Pin Insert) | XLR-35 SINGLE GANG WALL RECEPT. (Socket Insert) |
| XLR-13 RECEPTACLE (Socket Insert) | XLR-36 SINGLE GANG WALL RECEPT. (Pin Insert) |
| XLR-13N RECEPTACLE (Socket Insert) | XLR-35 2G TWO GANG WALL RECEPT. (Socket Insert) |
| XLR-14 RECEPTACLE (Pin Insert) | XLR-36 2G TWO GANG WALL RECEPT. (Pin Insert) |
| XLR-14N RECEPTACLE (Pin Insert) | XLR-42 RECEPTACLE (Pin Insert) |
| XLR-15 RECEPTACLE (Socket Insert) | XLR-50 ADAPTER RECEPTABLES |
| XLR-31 RECEPTACLE (Socket Insert) | |



3 CONTACTS



4 CONTACTS



5 CONTACTS



XLR-11C



XLR-12C



XLR-13



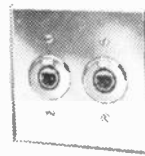
XLR-14



XLR-15



XLR-32



XLR-35 2G



XLR-35



XLR-42

*Add layout number to complete description

LK & LKT (TV) PLUG SERIES

The LK and LKT Series of Cannon Plugs are used on television cameras and related equipment, and are a part of the standard K Series. Assemblies with the LK prefix are standard K, those prefixes with LKT have special shells or cable entry construction.

The R24C insert designed for television equipment has the following arrangement of 24 contacts: 3 No. 16 coaxials, 21 No. 14 contacts. Shells are aluminum alloy, cadmium plated; insulators are melamine; and contacts are silver-plated brass.

- | | | |
|-----------------|-------------------|--------------------|
| LK-R24C-21-7/8T | LKT-R24C-21-7/8-4 | LKT-R24C-24-7/8 |
| LK-R24C-22-7/8T | LKT-R24C-21-7/8-2 | LKT-B24C-22-7/8 |
| LK-R24C-31S | LKT-R24C-22-7/8 | LKT-S9A-2 Dust Cap |
| LK-R24C-32S | LKT-R24C-23-7/8 | |



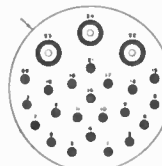
LK-R24C-31S



LK-R24C-32S



LKT-R24C-22 7/8



LK-R24C



LKT-R24C-23 7/8

SK-M7 PLUG SERIES

SK-M7 Cannon Plugs are a part of the standard K Series and are designed for telephone recording equipment. They are available with 7 contacts: 3 10-amp contacts and 4 30-amp contacts.



SK-M7-32S



SK-M7-21C-1/2



SK-M7

BATTERY PLUG SERIES

Cannon Battery Plugs are sturdy and rugged, with ample insulation and high quality to withstand the rugged field service usually associated with these plugs. They are designed to eliminate the need for separate starting batteries on individual units of power driven equipment. They facilitate removal and installation of storage batteries, and are also used to connect auxiliary power equipment to aircraft electrical systems.

Shell material is molded rubber with spring steel clip material, with cadmium finish.



GS-3-34CDS RECEPTACLE



CA011751-0001 PLUG



GB-3-21CFS PLUG

SEE YOUR AUTHORIZED CANNON PLUG DISTRIBUTOR FOR COMPLETE INFORMATION

CANNON ELECTRIC COMPANY

P PLUG SERIES

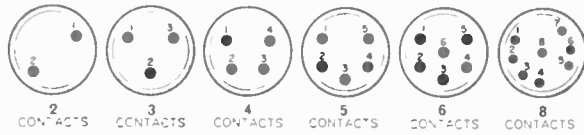


Audio P Cannon Plugs are universally used in sound and related applications. They include a size and type for every requirement, with a high standard of quality. All 90° Plugs have split-shell construction for quick, easy access for wiring or inspection.

Five layouts with from two to six contacts (30 amp) accommodate No. 10 B&S stranded wire. One layout with 8 contacts (15 amp) accommodates No. 14 wire. Shell designs of the P-CG-11S and P-CG-12S cord plugs have such improvements as shorter length, new rubber bushing, improved latch and spring, integral clamp. Shell of plug material is steel, and the integral clamp is zinc. Insulating material is black phenolic.

- P*-CG-11S CORD PLUG --
- P*-CG-12S CORD PLUG --
- P*-23 STRAIGHT CORD PLUG --
- P*-24 STRAIGHT CORD PLUG --
- P*-CG-15 90° CORD PLUG --
- P*-CG-16 90° CORD PLUG --
- P*-17 PANEL RECEPTACLE --
- P*-18 PANEL RECEPTACLE --
- P*-13 PANEL RECEPTACLE --
- P*-14 RECEPTACLE --
- P*-35 SINGLE GANG WALL RECEPTACLE --
- P*-35-2G TWO GANG WALL RECEPTACLE --
- P*-36 SINGLE GANG WALL RECEPTACLE --
- P*-36-2G TWO GANG WALL RECEPTACLE --
- P*-41 90° MICROPHONE OR PANEL RECEPTACLE --
- P*-42 90° MICROPHONE OR PANEL RECEPTACLE --

-- Socket Insert -- Pin Insert



*Add layout number to complete description

TEST JACKS



Cannon Electric Test Jacks are compact, lightweight jacks for standard .080-inch diameter test prods. They are available with Zytel bodies and nickel-plated brass bodies.

METAL BODY

SINGLE NUT	45E-4	Brown	DOUBLE NUT	45E-54
45E-1	White	45E-5	Green	45E-55
45E-2	Red	45E-6	Orange	45E-56
45E-3	Black	45E-7	Blue	45E-57

ZYTEL BODY

CANNON NO.	COLOR	CANNON NO.	COLOR
052780-0001	White	052784-0001	Blue
052781-0001	Red	052785-0001	Orange
052782-0001	Black	052786-0001	Yellow
052783-0001	Green	052787-0001	Brown

UA PLUG SERIES



Audio UA Cannon Plugs, designed in cooperation with the RETMA Committee, have all the features of P Series plugs plus the following: (1) gold-plated contacts for long life, (2) double protection rubber relief collar and rubber bushings, (3) flat-top polarization for finger-touch action, (4) stronger improved latch lock, (5) steel plug shells and insert barrel.

Insulators are high dielectric phenolic. 15 amp contacts accommodate No. 14 stranded wire.

- UA-3-11 PLUG (Socket Insert)
- UA-3-12 PLUG (Pin Insert)
- UA-3-13 RECEPTACLE (Socket Insert)
- UA-3-14 RECEPTACLE (Pin Insert)
- UA-3-31 RECEPTACLE (Socket Insert)
- UA-3-32 RECEPTACLE (Pin Insert)
- UA-3-42 RECEPTACLE (Pin Insert)

SEE YOUR AUTHORIZED CANNON PLUG DISTRIBUTOR FOR COMPLETE INFORMATION



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

CINCH SOCKETS ARE STANDARD

**MOLDED OCTAL
1-5/16" MOUNTING CENTERS**



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Solder coated brass contacts and sturdy steel press-on type saddle with 4 ground lugs. Mounts in 1" chassis hole.

No.	Description	List Price
8AB	Black	Each \$.14
8AM	Mica-Filled	Each .20

**MOLDED OCTAL
1 1/2" MOUNTING CENTERS**



Same as 8A series molded octal above except has clinch-on type saddle with 4 ground lugs and mounts in 1 1/2" chassis hole. Available in black, mica-filled bakelite, or ceramic.

No.	Description	List Price
8EB	Black	Each \$.15
8EM	Mica-Filled	Each .21
8EC	Ceramic	Each .59

RING MOUNT OCTAL



Molded from high dielectric black bakelite. Solder coated brass contacts. Used extensively on test equipment, public address amplifiers and on other apparatus where sockets are exposed. Molded keyway in side engages key in chassis hole, preventing socket from turning. Mounts in 1 1/4" chassis hole. Crimped retainer ring is furnished with these sockets.

In side engages key in chassis hole, preventing socket from turning. Mounts in 1 1/4" chassis hole. Crimped retainer ring is furnished with these sockets.

No.	Description	List Price
8R1	For 1/16" Chassis Black	Each \$.24
8R2	For 1/8" Chassis Black	.24
8R3	For 1/16" Chassis Mica-Filled	.35
8R4	For 3/32" Chassis Black	.24
8R5	For 3/32" Chassis Mica-Filled	.35
8R6	For 1/8" Chassis Mica-Filled	.35

RETAINER RING



A crimped retaining ring formed of spring steel that will securely anchor sockets designed for ring mounting, such as the one above. Standard finish is cadmium.

No.	Description	List Price
8R0	.020 Spring Steel	Each \$.06



MOLDED LOKTAL

Steel mounting saddle with solder coated brass contacts and center guide clip with locking spring. 1 1/2" mounting centers.

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Mounts in 1" chassis hole.

No.	Description	List Price
8LB	Black	Each \$.25
8LM	Mica-Filled	Each .33



MOLDED LOKTAL

Has same characteristics as molded loktal shown above, except saddle has 4 ground lugs.

No.	Description	List Price
8LB1	Black	Each \$.25
8LM1	Mica-Filled	Each .33



WAFER OCTAL

Laminated bakelite sockets with solder coated brass positive grip contacts. Designed to fit all standard eight prong tubes. Available

with 1 1/2" or 1 1/4" mounting centers. Both styles have .136" diameter mounting holes.

No.	Description	List Price
8W1	1 1/2" Mounting Centers	Each \$.17
8W2	1 1/4" Mounting Centers	Each .17



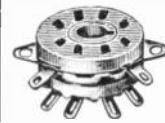
GLASS TUBE SOCKETS

Laminated bakelite sockets with solder coated positive grip brass contacts. 1 1/2" mounting centers. 140 diameter mounting

holes. Designed to fit four, five and seven prong tubes.

No.	Description	List Price
4WX	4 Prong	Each \$.15
5WY	5 Prong	Each .15
6WZ	6 Prong	Each .16
7WU	7 Prong	Each .17
7WA	7 Prong (Large)	Each .17

**MOLDED OCTAL
1 1/2" MOUNTING CENTERS**



Molded from mica-filled low loss bakelite. Silver plated phosphor bronze contacts with hot tinned tails. Heavy brass saddle nickel plated with 4 ground lugs hot tinned. Conforms to JAN-S-28A Specs.

No.	Description	Mtg. Hole	Jan Type No.	List Price
8JC-1	Ceramic	.156 Dia.	TS101C01	\$.70
8JCN-1	Ceramic	6-32 Tap	TS101C02	.95
8JM-1	Mica	.156 Dia.	TS101P01	.50
8JMN-1	Mica	6-32 Tap	TS101P02	.75



VIBRATOR SOCKET

Laminated bakelite socket with solder coated brass positive grip contacts. Fits Mallory #4549 and 725C vibrators in addition to others. 1 1/2" mounting centers. 140 diameter mounting holes.

No.	List Price
7VS	\$.36

CINCH CAPACITOR "PLUG-IN" SOCKETS

Motion picture, telephone, airborne radio, broadcasting equipment, electric organs, and other electrical equipment need instant replacement when failures in electronic circuits occur at the capacitor connections. Cinch "Know How" has solved this problem.



SMALL

Designed for use with Mallory and Magnavox 1" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel mounting saddle has 4 ground lugs. 1 1/2" mounting centers. 3 recessed center contacts for extended prongs of condenser and two outer contacts flush with surface for short prongs of condenser. All contacts are solder coated for fast, easy soldering.

No.	List Price
2C5	Each \$.63



LARGE

Designed for use with Mallory and Magnavox 1 1/2" FP type condensers. Molded from high dielectric black bakelite. Sturdy steel saddle has 1 1/2" mounting centers. Four recessed center contacts for extended prongs of condenser and three outer contacts flush with surface for short prongs of condenser. All contacts are solder coated.

No.	List Price
2C7	Each \$.78

CRYSTAL SOCKETS

**2 PRONG
31/64" CENTERS**



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated beryllium copper contacts on 31/64" centers. .123" diameter recessed mounting hole. Socket body is 3/32" long, 1/8" thick, and 3/8" high. For use with FT243 type crystal.

No.	Description	List Price
2KB	Black	Each \$.38
2KM	Mica-Filled	Each .43

4 PRONG



Molded from mica-filled low loss bakelite. Silver plated beryllium copper contacts on 3/16" centers. .140 diameter mounting hole recessed 3/16" from surface in 3/16" diameter hole. Socket body is 3/16" long, 3/16" wide, and 1/2" high. Designed for use with two No. FT243 type crystals.

No.	List Price
2K4	Each \$.51



2 PRONG 1/2" CENTERS

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated phosphor bronze contacts on 1/2" centers. No. 4-40 tap mounting hole. 1 1/8" long, 3/8" wide and 7/16" high. For No. CR-1 and CR-7 type crystals.

No.	Description	List Price
2K1B	Black	Each \$.51
2K1C	Ceramic	Each .37



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

7 PIN MINIATURE SOCKETS AND SHIELDS



MOLDED SADDLE TYPE Top Mount

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. Cadmium plated steel saddle with 7/8" mounting centers and .093 diameter mounting holes. Solder coated brass contacts. Designed for mounting through top of chassis in 5/8" diameter hole. Will securely hold all standard seven pin miniature tubes.

No.	Description	List Price
7AB1	Black	Each \$.15
7AM1	Mica-Filled	Each .18



MOLDED SADDLE TYPE Bottom Mount

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Cadmium plated steel saddle with 7/8" mounting centers. .093 diameter mounting holes. Solder coated positive grip brass contacts. Designed for mounting through bottom of chassis in 5/8" diameter hole. For use with all standard seven pin miniature tubes.

No.	Description	List Price
7EB	Black	Each \$.15
7EM	Mica-Filled	Each .18



WAFER TYPE SOCKET

Laminations consist of 1/32" top plate and 3/64" bottom plate made from high grade chocolate XP Bakelite. Solder coated brass contacts and center shield.

No.	Mtg. Centers	Mtg. Hole	List Price
7W2A	7/8"	.093	\$.15
7WL2	1"	.093	.18
7WL4	1-5/16"	.136	.19

SHIELD BASE TYPE



Shield base is attached to socket body for mounting through top of chassis. Molded from high dielectric black bakelite, mica-filled low loss bakelite or ceramic material. Solder coated brass contacts and center shield. Cadmium plated steel shield base with 7/8" mounting centers. Use No. 7S2, 7S3, or 7S4 shields illustrated below with these sockets.

Shield base with 7/8" mounting centers. Use No. 7S2, 7S3, or 7S4 shields illustrated below with these sockets.

No.	Description	List Price
7XB1	Black	Each \$.28
7XM1	Mica-Filled Bakelite	Each .33
7XC	Ceramic	Each .53

Molded from mica filled low loss bakelite or ceramic material. Shield base is attached to socket body for mounting through top of chassis. Same type as illustrated at the left. Materials and finishes are those required by JAN-S-28A Specifications. Shield base has 7/8" mounting centers.

Use No. 7SJ2, 7SJ3 or 7SJ4 shields as shown below.

No.	Description	JAN Type No.	List Price
7JC-1	Ceramic	TS102C01	.55
7JM-1	Mica	TS102P01	.40

SHIELD BASES — Snap-On Type



Base is made of hardened carbon steel supplying adequate spring retentivity on shield. Base has 7/8" mounting centers with mounting holes that coincide with those for miniature 7 pin sockets as established by R. M. A. standards. For use with saddle type sockets with 7/8" mounting centers illustrated on this page.

No.	Description	List Price
7SB3	11/32" High	Each \$.07



For J Slot Type

Durable steel shield bases designed for use with "J" slot type shields illustrated at left. Available in two sizes: 7/16" high or 5/8" high. Both types have 7/8" mounting centers.

No.	Description	Material	List Price
7SB1	5/8" High	Steel	.22
7SB2	5/8" High	Brass	.44



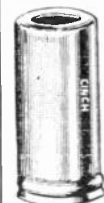
TUBE SHIELDS — "J" Slot Type

Durable steel shields complete with tube securing spring. "J" slot feature designed to fit securely with Cinch shield base type sockets, such as 7X series shown above. Also fit 7SB type shield bases shown in end column at right. Available in three lengths:

No.	Description	List Price
7S2	1 3/8" Long	Each \$.21
7S3	1 3/4" Long	Each .22
7S4	2 1/4" Long	Each .32

Durable brass nickel plated shields complete with non magnetic stainless steel spring. "J" slot feature designed to fit securely with the shield base type sockets listed above. Materials and finishes are those required by JAN-S-28A Specifications. Available in the sizes listed below.

No.	Description	JAN Type No.	List Price
7SJ2-1	1 3/8" Long	TS102U01	\$.23
7SJ3-1	1 3/4" Long	TS102U02	.25
7SJ4-1	2 1/4" Long	TS102U03	.28



TUBE SHIELD Snap-On Type

Shield fits over and outside of shield base. Indentation on shield locks into ridge on base of 7SB3 as shown above.

No.	Description	List Price
7S1	1-53/64" High	Each \$.14

9 PIN MINIATURE SOCKETS AND SHIELDS

MOLDED — SADDLE TYPE Bottom Mount



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through bottom of chassis in 3/4" diameter hole. 1 1/8" mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

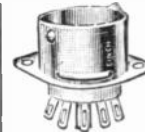
No.	Description	List Price
9EB	Black	Each \$.20
9EM	Mica-Filled Bakelite	Each .23



TUBE SHIELDS

Made from durable steel. Complete with tube securing spring. "J" slot feature designed to fit securely with Cinch 9X series shield base type sockets illustrated to the right. Will also fit No. 9SB shield base shown at left. Available in three lengths.

No.	Description	List Price
9S1	1 1/2" Long	Each \$.33
9S2	1 3/4" Long	Each .36
9S3	2 3/8" Long	Each .46



SHIELD BASE TYPE

Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. One-piece cadmium plated steel shield base and saddle with .093 diameter mounting holes on 1 1/8" centers. Solder coated brass contacts and center shield. Mounts through top of chassis in 3/4" diameter hole. Use Cinch 9S type shields with these sockets.

No.	Description	List Price
9XB	Black	Each \$.40
9XM	Mica	Each .45
9XC	Ceramic	Each .75



SHIELD BASE

Durable steel shield base designed for use with shields illustrated to right. 1 1/8" mounting centers. May be used with any 9 pin wafer or saddle type sockets shown at the right.

No.	List Price
9SB1	Each \$.28



MOLDED—SADDLE TYPE Top Mount

Molded from high dielectric black bakelite or mica-filled low loss bakelite. Designed for mounting through top of chassis in 3/4" diameter hole. 1 1/8" mounting centers with .093 diameter mounting holes. Solder coated brass contacts and center shield.

No.	Description	List Price
9AB	Black	Each \$.20
9AM	Mica-Filled	Each .23



WAFER TYPE

Has two laminations consisting of 1/8" top plate and 3/32" bottom plate made from 1 1/8" mounting centers with .093 diameter holes. Solder coated brass contacts and center shield.

No.	Mtg. Centers	List Price
9W1	1-1/8"	Each \$.21
9W2	1-5/16"	Each .22



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

MOLDED CONNECTOR PLUGS AND SOCKETS

8 CONTACT PLUG



Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on $\frac{1}{16}$ " chassis using No. 1018 retaining ring, or can be used with No. 16F cap shown below. Will fit any standard octal socket.

No. **8PB** List Price Each \$.36

11 CONTACT PLUG



Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on $\frac{1}{16}$ " chassis using No. 1018 retaining ring. Can be used with No. 16F cap shown below. Will fit No. 11RB socket shown at right.

No. **11PB** List Price Each \$.41

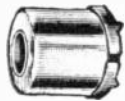
11 CONTACT SOCKET



Molded from high dielectric black Bakelite. Solder coated brass contacts. Mounts on $\frac{1}{16}$ " chassis using No. 1018 retaining ring. Can be used with No. 16F Cap shown below. Used with No. 11PB plug shown at left.

No. **11RB** List Price Each \$.48

CONNECTOR PLUGS AND SOCKETS



18G



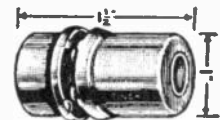
6K2



5K2



18E



Assembled

These low cost plugs and sockets are ideal for a multitude of applications. A "Cinch" where space is at a premium. Complete assembly of plug, socket, male and female shell will close to a compact unit of $1\frac{1}{2}$ " long. Polarized—Nickel plated brass tube pins—Solder coated brass contacts. Plugs, sockets and shells have lock feature which prevents turning in shells.

PLUGS

Part No.	No. Prongs	Use Skt. No.	Use Shell No.	List Price
5K2	2	6K2	18E	.09 ea.
5K3	3	6K3	18E	.10 ea.
5K4	4	6K4	18E	.12 ea.
5K5	5	6K5	18E	.13 ea.
5K6	6	6K6	18F	.15 ea.

SOCKETS

Part No.	No. Prongs	Use Skt. No.	Use Shell No.	List Price
6K2	2	5K2	18G	.08 ea.
6K3	3	5K3	18G	.09 ea.
6K4	4	5K4	18G	.10 ea.
6K5	5	5K5	18G	.12 ea.
6K6	6	5K6	18H	.13 ea.

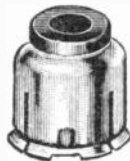
PLUG CAPS AND SHELLS

For above Battery Plugs and for Connector Plugs and Sockets on page F-256.



No. **18A** List price Each \$.05

Cadmium plated brass shell with rolled edge on $\frac{5}{16}$ " diameter neck opening. Outside diameter at base .625. Four $\frac{1}{8}$ " prongs coincide with notches on plugs. Designed for use with Cinch No. 5A1, 5B1, 5AB2, and 5AB3 type battery plugs.



Made of steel, cadmium plated. Designed to snap on 8 and 11 prong sockets which are grooved for a $\frac{1}{16}$ " chassis. There is a screwdriver slot at the bottom to facilitate easy removal. Rubber grommet has a $25/64$ " dia. hole.

No. **16F** List Price Each \$.49



No. **18E** List Price Each \$.09
 No. **18F** List Price Each \$.09

Cadmium plated brass shells complete with fibre insulator. Available with $\frac{3}{8}$ " or $\frac{1}{2}$ " diameter hole with rolled edge. Inside diameter $31/32$ ". $\frac{1}{2}$ " high. For use with Cinch No. 5C1, 5C2, 5AB6, 5AB7, 5AB8, 5K2, 5K3, 5K4, 5K5, and 5K6 type plugs.



Cadmium plated brass shell complete with fibre insulator. Same as Cinch No. 18B shell except has $\frac{1}{2}$ " neck with $\frac{1}{8}$ " hole riveted to base. For use with same plugs as No. 18B.

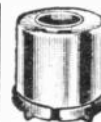
No. **18J** List Price Each \$.13



No. **18B**

Cadmium plated brass shell with $23/64$ " diameter opening on top of shell. Outside diameter at base .625. Four $\frac{1}{8}$ " prongs coincide with notches on plugs. $\frac{1}{2}$ " high. Designed for use with Cinch No. 5A1, 5B1, 5AB2, and 5AB3 type battery plugs.

List Price Each \$.05



No. **18G** List Price Each \$.09
 No. **18H** List Price Each \$.09

Cadmium plated steel shells complete with fibre insulator. Available with $\frac{3}{8}$ " or $\frac{1}{2}$ " diameter hole with rolled edge. Inside diameter $31/32$ ". $29/32$ " high. For use with Cinch No. 6K2, 6K3, 6K4, 6K5, and 6K6 type sockets.



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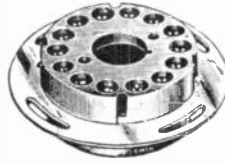
MAGNAL—11 PRONG



Molded from mica-filled low loss bakelite. Socket is 1 1/2" wide and 1 3/8" high. Full floating silver plated beryllium copper contacts designed to insure easy insertion of tubes and yet provided excellent electrical connections. For use with 5BP1 and 2AP1 type cathode ray tubes.

No.	Description	List Price
3M11	Mica Socket	Each \$7.60
3R11	Steel Mounting Ring	Each .53

DIHEPTAL 14 PRONG



Molded from high dielectric black bakelite or mica-filled low loss bakelite. 2 3/4" wide and 1 1/8" high. Possesses same features as Cinch Magnal socket shown at left.

No.	Description	List Price
3B14	Black Socket	Each \$2.53
3M14	Mica Socket	Each 3.16
3R14	Steel Mounting Ring	Each .53

SECOND ANODE CONNECTORS



For television tubes—Silver plated snap button type plug well insulated by 1 1/2" diameter rubber protective cap. Snaps into opening on side of tube. Available in three lengths wire leads.

No.	Description	List Price
3A2	12" Wire Lead	Each \$1.14
3A3	15" Wire Lead	Each 1.33
3A4	18" Wire Lead	Each 1.59

SECOND ANODE CONNECTOR



For diheptal based tubes. Cadmium plated brass contact surrounded by rubber insulator 3/4" wide and 1 1/8" long. Snaps over .096 diameter prong on side of diheptal tubes.

No.	List Price
3A1	Each \$.95

CORONA SHIELDS



Specifically designed for Television and high voltage wiring. These cadmium plated brass shields will provide excellent protection at proper positions in electrical connections. Outside diameter .470. Hole diameter .136. Thickness .172.

No.	List Price
3C1	Each \$.04

110-250 VOLT SOCKET (Underwriters Listed)



When space is at a premium use this 110-250 volt 2 prong socket. Rated at 15 Amp., 110 V. or 10 Amp., 250 V. Molded from high dielectric black bakelite. Solder coated brass contacts on 1/2" centers designed to accept any 2 prong standard electric plug. Mounts in 2 1/4" x 3/8" hole. .144 diameter mounting holes on 1 1/8" centers. Ideal for radio chassis and many other applications.

No.	List Price
2R2	Each \$.25

SUB-MINIATURE SOCKETS



No. 2H3



No. 2H5



No. 5PC



No. 5WC



No. 8SM

Use extensively for hearing aids, radios and other electronic apparatus which require sub-miniature tubes. Molded from mica-filled low loss bakelite with silver plated beryllium copper contacts. Available with 3, 5, 6, 7 or 8 contacts. Four prong tubes use No. 2H5 five prong socket. No. 2H5 can be used as a transistor socket. No. 5PC for printed circuits. No. 5WC for wired circuits.

No.	Description	List Price
*2H3	3 Prong	Each \$.325
*2H5	5 Prong	Each .47
*2H6	6 Prong	Each .49
*2H7	7 Prong	Each .52
5PC	5 Prong	Each .62
5WC	5 Prong	Each .67
*8SM	8 Prong	Each .89

*Mtg. Ring included.

PIN PLUGS — JACKS — CONNECTORS — STRIPS — TERMINALS



PHONO PLUGS

R.C.A. type. For a multitude of applications: record players, auto radios, receivers, recording and reproducing equipment, experimental units, etc. Nickel plated 1/8" diameter tube pin. Available in two lengths: 1 1/2" and 1 3/4". Use No. 13A with type 81A and 81B phono jacks. Use No. 13E with type 81E extension jack.

No.	Description	List Price
13A	1 1/2" Pin	Each \$.10
13E	1 3/4" Pin	Each .10

SINGLE PHONO JACK



Precision engineered for many uses, such as: R.C.A. type recording units, receivers, and auto sets. Single prong positive grip phono jack mounted on 1/4" chocolate bakelite disc with 1/8" mounting centers Use Cinch No. 13A phono plug with this jack.

No.	List Price
81A	Each \$.15

ANTENNA CONNECTOR Flange Type



Motorola type shielded jack. Sturdy steel flange with 1 1/8" mtg. centers with .136 dia. flange and contact. Can be mounted with screws or rivets. Used extensively on auto radios. Use Cinch No. 13B antenna plug with this jack.

No.	List Price
81F	Each \$.23

DOUBLE PHONO JACK



Two positive grip phono jacks mounted on 1 1/8" bakelite panel with 1 1/8" mounting centers. Jacks are spaced on 1/2" centers. Panel is 1 1/2" x 1/2". Used on recording units, receivers, etc. Use Cinch No. 13A phono plug with this jack.

No.	List Price
81B	Each \$.21

ANTENNA PLUG



Motorola type. Nickel plated 1/8" tube pin extends 1 1/2" from cadmium plated split brass shell whose 8 cutting edges provide positive grounded connection when inserted into a Cinch No. 81C or 81F connector.

No.	List Price
13B	Each \$.15

ANTENNA CONNECTOR Shell Type



Same as No. 81F on right except without flange. This connector may be soldered in position. Use Cinch No. 13B antenna plug with this jack.

No.	List Price
81C	Each \$.15

INSULATED PIN PLUG



Nickel plated 1/8" brass tube pin 1/8" long, assembled to 1 1/8" long fibre insulator. May be used with Cinch No. 81A and 81B type phono jacks or with No. 49 series contact strips illustrated on page F-35.

No.	List Price
13C	Each \$.12

SHIELDED EXTENSION JACK



Cadmium plated brass shell 2 1/8" long with black bakelite insert providing insulation for solder coated brass positive grip contact. Use Cinch No. 13E Phono plug with this jack.

No.	List Price
81E	Each \$.32



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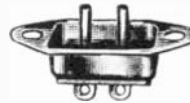
DUODECAL — 12 PRONG



No larger in diameter than the tube base and only slightly longer than the tube pin. A new feature incorporates wire strain relief as an integral part of the contact. Molded from high dielectric black bakelite. For use with 10BP4, 2BP1, 5TP4, etc., type tubes. Also RCA 6199 tube.

No. 3B12
3M12 Mica
List Price Ea. \$1.00
3.50

RECESSED PLUG



Recessed subpanel mounting type plug. Underwriter approved for 125 Volts 7 amperes. Perfect for current supply for Television sets. 1 1/4" mounting centers. Overall length 1 5/8". Width 5/8". Body depth 1/4".
No. 2RP
List Price Ea. \$.25

CETRON TUBE SOCKET



This socket is designed for use with Cetron Tubes CE701 and CE702 in such applications as electric eye doors and motion picture projectors. Contacts are of special alloy spring brass. May be mounted by press fit, gluing or by means of mounting ring 2MR.

Casting Material
No. 2B2 Black Ea. \$.80
No. 2M2 Mica Ea. 1.75

SUB-MINIATURE SOCKET



This socket is the same as No. 8SM shown on page F4 except that it is furnished with a mounting plate.

No. 8SM-P Ea. \$.98

RECESSED PLUG



Recessed sub-panel mounting type plug similar to No. 2RP except that the contact is one piece. Underwriter Approved for 125 Volts 7 amperes. Same dimensions as 2RP.

No. 2RP-1 Ea. \$.25

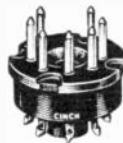
RELAY SOCKET



A 14 contact relay socket. Casting is of mica insulation. Contacts are of beryllium copper, silver plated with hot tinned tails. Overall length of top mount saddle 1-11/32". Mounting centers 1 1/4".

No. 14RS Ea. \$1.00

7 PIN MINIATURE PLUG



Designed for use as a cable connector. Plug pins are of brass with Cinch solder coat. Can be supplied with black or mica bakelite casting. Will fit standard 7 contact sockets.

Casting Material
No. 7PB Black Ea. \$1.50
No. 7PM Mica Ea. 2.76

CONNECTOR PLUG



This plug consists of two prongs mounted on a piece of Bakelite. The prongs are the same as used in No. 2RP-1. Mounting plate is of 1/16" natural XP Bakelite 1 5/8" x 3/4". The .135 mounting holes are on 1/4" centers. An inexpensive current supply connector for TV sets.

No. 2FP Ea. \$.15

CINCH BATTERY PLUGS



THIS REFERENCE CHART WILL ASSIST YOU IN SELECTING THE CORRECT PLUG FOR POPULAR BATTERIES

Part Number	Voltage	For Burgess No.	For Eveready No.	For R.C.A. No.	For Philco No.	For Ray-O-Vac No.	List Price
SA1	1 1/2 "A"	4F, 4FL, 6F, 8F, BFL, TE	741, 742, 743, 1052P	VS004, VS005, VS007, VS008	P94, P96, P8F1	P94A, P94L, PX, P96A, P98A, P98L	Ea. \$.07 Ea. .08
SA2	3 "A"	20F2	X125	V5025	P8024	P9403	Ea. .07
SA3	4 1/2 "A"	G-3	746	V5002	P100	P-83A	
SA4	6 "A"	2F4, 2F4L, F4P1, T5	A509, 718, 744, 747	V5009, VS010, VS011	P4F4R	P694A, P696L, P698A, P698L	Ea. .07 Ea. .10
SA5	7 1/2 "A"	G-5	687	V5003		P85A	
SB1A	45 "B" Small	M30, Z30, A30, B30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	Ea. .08
SB2	45 "B" Large	M30, Z30, A30, B30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	Ea. .09 Ea. .05
SM	67 1/2 "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .06
SF	67 1/2 "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .35
SMFA	67 1/2 "B"	XX30, XX45	455, 467	VS016, VS056		P4367	Ea. .12
SC1	4 1/2 "C"	2370P1	X771	V5030	P30	P231W	Ea. .13
SC2	22 1/2 "C"	S156P1	768	V5031	P15B5	P5151	Ea. .60
SD	45 "B"	U30	415	V5086			
SD1	67 1/2 "B"	P45	477	V5218	P149	946	Ea. .27
SD2	90 "B"	N60	490	V5090	P132	4390	Ea. .35
SAB1	1 1/2 "A"-90 "B"	17GD60, 5DA60, 6TA60	758	V5022, VS043	P60J11L	AB82, 10793	Ea. .12
6K4	9 "A"-90 "B"	G6B60	752	V5047			Ea. .10
SAB2	1 1/2 "A"-63-90 "B"	6FA60, 4GA41, 4GA42		V5037	P60A-4L, P41A4G	AB419	Ea. .09
SAB3	6 "A"-90 "B"	2FA60		V5044	P60ABF4	AB694	Ea. .10
SAB4	6 "A"-90 "B"	F4B60		V5048			Ea. .15
SAB5	6 "A"-90 "B"	D4A60, 2F4B60, F4A41		V5046	P41AFL	10896, AB648	Ea. .12
SAB6	7 1/2 "A"-90 "B"	G5A42, F5A60		V5038	P87, PB41	AB794	Ea. .13
SAB7	9 "A"-90 "B"	F6A60, G6M60	753, 754	V5018, VS019	P841A	AB878, AB994	Ea. .15
SAB8	9 "A"-90 "B"	4FA60					Ea. .13



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION



STAND-OFF TERMINALS

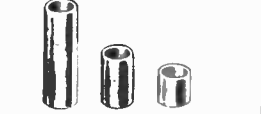
These rugged Stand-Off Terminals consist of two heavily hot tinned metal caps insulated from each other by a solid Grade L-5 Ceramic Seatite spacer. One of the metal caps is shaped for riveting into a small chassis hole. The cap at the opposite end provides a junction point for solder connection of wire leads.

No.	Body Length	List Price Each
SOT-2	3/8"	\$.225

Insulated terminals for television and other high voltage electronic equipment. Provides excellent insulation for passing high voltage wires through chassis. Molded from mica-filled low loss bakelite. Available in two lengths: 9/32" or 13/32". Diameter of cylinder is .110. Mounts in 5/32" dia. hole.

No.	Length	List Price Ea.
16S	9/32"	\$.65
16L	13/32"	.65

METAL SPACER SLEEVES



Zinc plated cold rolled steel spacer sleeves. Six (6) popular sizes for spacing chassis, panels, etc. Illustrations are full size.

No.	Length	Out-side Dia.	In-side Dia.	Price
43A	1/4"	1/4"	1/8"	\$.02
43B	1/4"	1/4"	1/8"	.02
43C	3/8"	1/4"	1/8"	.02
43D	1/2"	1/4"	1/8"	.02
43E	3/4"	1/4"	1/8"	.03
43F	1"	1/4"	1/8"	.03

SCREEN TYPE PLUG BOTTOM

For portable radios, transmitters, amplifiers, etc. Provides ventilation wherever required in radio, television and electronic equipment. Bright zinc plated steel button snaps in 1" diam. hole. Half size illustration. No. Description List Price 41V for 1" Hole Ea. \$.19



GRID CAP SHIELD

Fits firmly over the grid cap, completely shielding the tube. Cadmium plated shield is 1" high with 3/8" slot opening for grid leads. No. 60S List Price Each \$.13



CABLE CLAMPS

Cadmium plated sturdy steel cable clamps designed for securing cables ranging from 1/16" diameter to 5/8" diameter. Illustrations are half size.

No.	Dia. of arc	Hole Dia.	Over-all Width	Hole Length	Hole cent. to arc	List Price Ea.
85A	1/8"	.149	1/8"	1/4"	1/4"	\$.04
85B	3/16"	.140	3/16"	3/8"	3/8"	.03
85C	1/4"	.144	1/4"	3/8"	3/8"	.03
85D	5/16"	.136	5/16"	1/2"	1/2"	.02
85E	3/8"	.147	3/8"	1/2"	1/2"	.03
85F	1/2"	.171	1/2"	1"	1/2"	.02

SCREW TYPE TERMINAL STRIPS



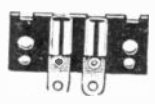
Ideal for chassis or breadboard layouts. Solder coated brass terminals, .136 diameter, mounting holes. Strips with 1 to 6 lugs are of 1/4" bakelite; 7 to 10 terminals mounted on 1/2" bakelite. Ends of screws are captivated to prevent removal. Terminals are spaced on 1/4" centers.

No.	Lugs	Mounting Centers	List Price
17-1	1	7/8"	Each \$.07
17-2	2	1 1/8"	Each .10
17-3	3	1 3/4"	Each .15
17-4	4	2 1/4"	Each .20
17-5	5	2 5/8"	Each .23
17-6	6	3 1/4"	Each .28
17-7	7	3 1/2"	Each .35
17-8	8	3 5/8"	Each .39
17-9	9	4 3/8"	Each .45
17-10	10	4 1/2"	Each .49

LUG TYPE TERMINAL STRIPS

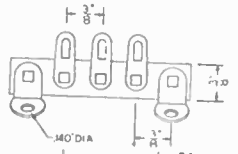
These bakelite strips are handy for neatly supporting resistors, condensers, etc., in circuit wiring. Solder coated steel lugs are spaced on 1/4" centers with .140 diameter mounting holes. Chocolate bakelite strips are 1/4" thick and 3/8" wide.

CONTACT STRIPS



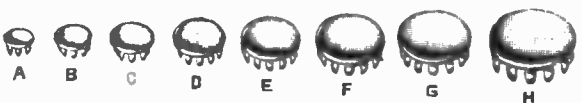
For connections which must be changed quickly and easily. Solder coated spring steel contacts spaced on 3/8" centers and mounted on 1/4" bakelite. Contacts are sized for 1/8" diameter tube pins such as Cinch No. 13C illustrated on page F-33.

No.	Contacts	Mounting Centers	List Price
49-1	1	3/4"	Ea. \$.07
49-2	2	1 1/8"	Ea. .10
49-3	3	1 1/2"	Ea. .13
49-4	4	1 7/8"	Ea. .16
49-5	5	2 1/4"	Ea. .20
49-6	6	2 5/8"	Ea. .23



No.	Mtg. Centers	List Price Each
51		\$.03
51A		.03
51B		.03
51C		.03
51R		.04
51L		.04
51F		.04
51T		.04
52		.04
52A		.04
52B		.04
52C		.04
52R		.05
52T		.05
53B	3/4"	.07
53C	3/4"	.07
53E		.06
53F		.06
53T		.07
54	1 7/8"	.09
54A	1 7/8"	.09
54B		.07
54C		.07
55	2 1/4"	.10
55A	2 1/4"	.10
55B	1 1/2"	.10
55C	1 1/2"	.10
56	2 5/8"	.12
56A	2 5/8"	.12
56B	1 7/8"	.12
56C	1 7/8"	.12

PLUG BUTTONS



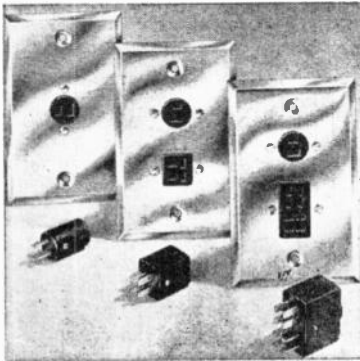
Used to cover punched or drilled holes in metal, wood, fibre, tubes, plastic cardboard, etc. Nickel plated steel plug buttons for eight popular size holes. Other sizes available, let us know your requirements. Spring tension prongs hold plug bottom firmly in position. Illustrations are 1/3 actual size.

No.	For hole Diameter	Cap Diameter	List Price Ea.
41A	1/4"	1 1/2"	\$.04
41B	3/8"	1 1/2"	.04
41C	1/2"	1 1/2"	.04
41D	5/8"	1 1/2"	.04
41E	3/4"	1 1/2"	.04
41F	7/8"	1 1/2"	.04
41G	1"	1 1/2"	.05
41H	1 1/4"	1 1/2"	.08



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

TELEVISION WALL PLATES



302 SERIES

The 302 series wall plates are made of steel with a heavy chrome plate and provide a convenient junction between antenna lead in and television set. They all fit a standard outlet box. Mounting screws furnished. S-302-WPC provides connection for antenna lead in. S-302-4WPC provides connections for antenna lead in and up to 8 contact rotor. Jones P-302-FHT plug can be used for the antenna socket and a P-304-FHT or P-308-FHT for the rotor socket.

List Price Each
S-302-8WPC \$2.09 **S-302-4WPC \$2.53** **S-302-WPC \$2.76**

LOW LOSS POLYSTYRENE

This plate covers every requirement for an up-to-date TV connector. Molded of Polystyrene, it assures perfect reception in fringe areas where low loss is of vital importance. One plate provides connections for UHF and VHF and has a knock out provision for the mounting of a standard S-308-AB socket in case a rotor is used. Fits a standard outlet box or can be attached to the wall. Mounting screws for both the plate and socket are furnished. Supplied in brown or Ivory.

Code Color List Price Ea.
WPI Ivory \$1.55
WPB Brown 1.55

POLYSTYRENE PLUG

The plug is molded of clear polystyrene and matches the 300 Ohm transmission line assuring maximum performance.



No. WPB

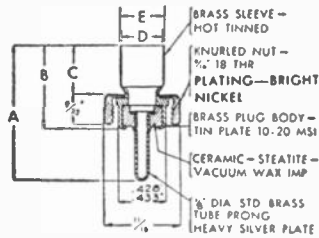


No. TVP-2

List Price Plug
\$.35

SERIES 101 PLUGS

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. A low loss Plug and Socket ideal for high frequency connections.



Code No.	A	B	C	D	E	List Price Ea.
P-101-1/4"	1-1/4"	3/4"	15/32"	1/4"	9/32"	\$.79
P-101-.290	1-1/4"	3/4"	15/32"	.290	.319	.96
P-101-5/16"	1-11/32"	27/32"	9/16"	5/16"	11/32"	.96
P-101-3/8"	1-3/16"	11/16"	7/16"	3/8"	13/32"	.96
P-101-1/2"	1-7/8"	1-3/8"	1-1/16"	1/2"	9/16"	1.07



P-101-1/4" P-101-5/16" P-101-3/8" P-101-1/2"

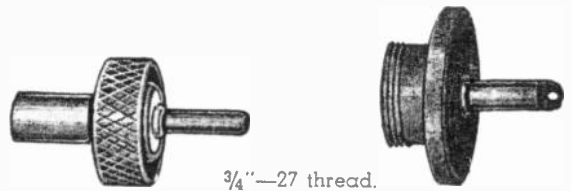
SERIES 101 SOCKETS

The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass with Bright Nickel Plated finish. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101—No. 41 drill on 1/8" centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 1/8" centers.



S-101 **S-101-D** **S-101-D Mod**
List Price Each List Price Each List Price Each
\$0.70 **\$1.07** **1.07**
(Above Illustrations are Actual Size)

SERIES 201



PLUGS

SOCKETS

The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with 3/8" ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 1/8". Prong diameter 5/32". Fits only the 201 Socket.

The 201 Socket is similar to the S-101-D except larger. Brass base is Bright Nickel Plated. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite.

Mounting holes — No. 30 drill on 1" centers.

Code List Price Ea. Code List Price Ea.
P-201-3/8" \$1.24 **S-201 \$1.33**

SERIES 202

PLUGS

SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with Bright Nickel Plated. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has 3/4"—27 thread. Socket Mounting Holes. No. 30 drill on 1" centers. The S-202-CCT-THR has been added to this series and when used with the P-202-CCT will make an ideal microphone connector.



P-202-CCT—\$0.98 (as shown above)
S-202-CCT—\$1.00 (Socket instead of Plug)
P-202-FHT—\$0.79 (Same as above less Cable Clamps)
S-202-FHT—\$0.81 (Same except Socket)
S-202-B—\$1.16 (Socket for Base Mtg.)
P-202-B—\$1.12 (Same as above except with Plug)
S-202-CCT-THR—\$1.33 (as shown above)
Used with P-202-CCT as an extension connection



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

“300” SERIES PLUGS AND SOCKETS
General Specifications

Small in size with good separation between contacts. Made in sizes of 2 to 33 contacts. All Plugs and Sockets are polarized so that Plugs of one size cannot fit into Sockets of another size. Body of Molded Bakelite. Phosphor bronze “knife-switch” type Socket contacts engage both sides of flat Plug contacts—double contact area. Plug prongs are $\frac{5}{32}$ " wide by $\frac{3}{64}$ " thick. Formed metal caps are finished in Black Crystal. Fibre linings for caps

are also formed. Plugs and Sockets arranged for either cap or panel mounting. Two contact Plugs and Sockets are round as shown at the right, all others are rectangular. Illustrated are the P-302-CCT and S-302-AB. Standard 24 to 33 contact Plugs have a special long polarizing pin in approximate center position to assist in correct insertion and removal.



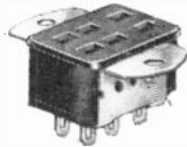
Plug with Angle Brackets



P-306-AB

No.	Contacts	List Price Each
P-302-AB	2	\$0.32
P-303-AB	3	.40
P-304-AB	4	.44
P-306-AB	6	.54
P-308-AB	8	.64
P-310-AB	10	.73
P-312-AB	12	.81

Socket with Angle Brackets



S-306-AB

No.	Contacts	List Price Each
S-302-AB	2	\$0.35
S-303-AB	3	.42
S-304-AB	4	.47
S-306-AB	6	.58
S-308-AB	8	.73
S-310-AB	10	.86
S-312-AB	12	1.00

Plug with Deep Bracket



P-306-DB

No.	Contacts	List Price Each
P-302-DB	2	\$0.81
P-303-DB	3	.87
P-304-DB	4	.94
P-306-DB	6	1.02
P-308-DB	8	1.11
P-312-DB	12	1.29

Socket with Deep Bracket

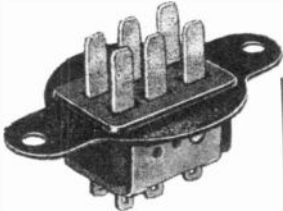


S-306-DB

No.	Contacts	List Price Each
S-302-DB	2	\$0.84
S-303-DB	3	.90
S-304-DB	4	.96
S-306-DB	6	1.08
S-308-DB	8	1.21
S-312-DB	12	1.49

The ten contract is not available in this series

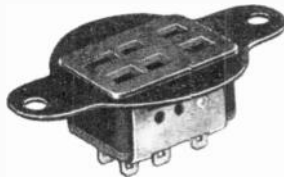
Plug with Flush Plate



P-306-FP

No.	Contacts	List Price Each
P-302-FP	2	\$0.56
P-303-FP	3	.61
P-304-FP	4	.67
P-306-FP	6	.75
P-308-FP	8	.85
P-310-FP	10	.94
P-312-FP	12	1.02

Socket with Flush Plate



S-306-FP

No.	Contacts	List Price Each
S-302-FP	2	\$0.57
S-303-FP	3	.64
S-304-FP	4	.69
S-306-FP	6	.79
S-308-FP	8	.94
S-310-FP	10	1.07
S-312-FP	12	1.21

Plug, Flared Hole in Cap



P-306-FHT

No.	Contacts	List Price Each
P-302-FHT	2	\$0.54
P-303-FHT	3	.59
P-304-FHT	4	.66
P-306-FHT	6	.75
P-308-FHT	8	.85
P-310-FHT	10	.96
P-312-FHT	12	1.09

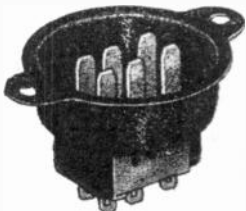
Socket, Flared Hole in Cap



S-306-FHT

No.	Contacts	List Price Each
S-302-FHT	2	\$0.58
S-303-FHT	3	.61
S-304-FHT	4	.67
S-306-FHT	6	.79
S-308-FHT	8	.95
S-310-FHT	10	1.10
S-312-FHT	12	1.25

Plug with Recessed Plate



P-306-RP

No.	Contacts	List Price Each
P-302-RP	2	\$0.65
P-303-RP	3	.70
P-304-RP	4	.77
P-306-RP	6	.87
P-308-RP	8	1.01
P-310-RP	10	1.16
P-312-RP	12	1.28

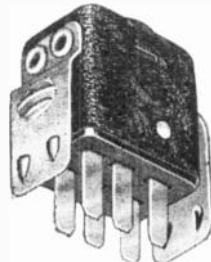
Socket with Recessed Plate



S-306-RP

No.	Contacts	List Price Each
S-302-RP	2	\$0.67
S-303-RP	3	.74
S-304-RP	4	.79
S-306-RP	6	.95
S-308-RP	8	1.11
S-310-RP	10	1.28
S-312-RP	12	1.46

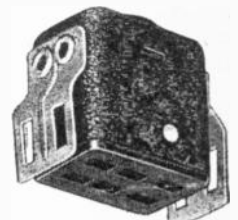
Plug, Flared Hole in Cap and with Latches



P-306-FHT-L

No.	Contacts	List Price Each
P-302-FHT-L	2	\$0.74
P-303-FHT-L	3	.79
P-304-FHT-L	4	.86
P-306-FHT-L	6	.95
P-308-FHT-L	8	1.05
P-310-FHT-L	10	1.17
P-312-FHT-L	12	1.28

Socket, Flared Hole in Cap and with Keepers



S-306-FHT-K

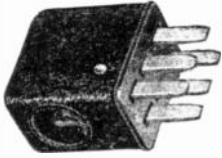
No.	Contacts	List Price Each
S-302-FHT-K	2	\$0.75
S-303-FHT-K	3	.81
S-304-FHT-K	4	.87
S-306-FHT-K	6	1.00
S-308-FHT-K	8	1.16
S-310-FHT-K	10	1.30
S-312-FHT-K	12	1.46



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

"300" SERIES PLUGS AND SOCKETS

Plug, Flared Hole in End



P-306-FHE

No.	Contacts	List Price Each
P-306-FHE	6	\$0.75
P-308-FHE	8	.85
P-310-FHE	10	.96
P-312-FHE	12	1.08

Small size of contacts of 30L, 303 and 304 will not permit FHE type.

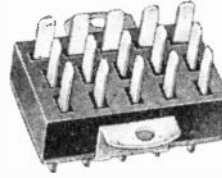
Socket, Flared Hole in End



S-306-FHE

No.	Contacts	List Price Each
S-306-FHE	6	\$0.79
S-308-FHE	8	.95
S-310-FHE	10	1.10
S-312-FHE	12	1.25

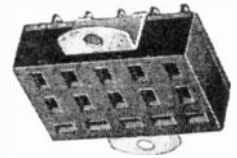
Plug with Angle Brackets



P-315-AB

No.	Contacts	List Price Each
P-315-AB	15	\$1.07
P-318-AB	18	1.33
P-321-AB	21	1.67
P-324-AB	24	2.02
P-327-AB	27	2.38
P-330-AB	30	2.73
P-333-AB	33	3.07

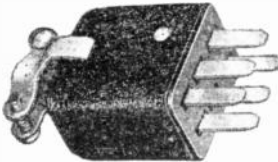
Socket with Angle Brackets



S-315-AB

No.	Contacts	List Price Each
S-315-AB	15	\$1.24
S-318-AB	18	1.50
S-321-AB	21	1.85
S-324-AB	24	2.20
S-327-AB	27	2.55
S-330-AB	30	2.92
S-333-AB	33	3.26

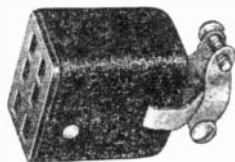
Plug, Cable Clamp in Cap



P-306-CCT

No.	Contacts	List Price Each
P-302-CCT	2	\$0.74
P-303-CCT	3	.79
P-304-CCT	4	.86
P-306-CCT	6	.95
P-308-CCT	8	1.05
P-310-CCT	10	1.17
P-312-CCT	12	1.28

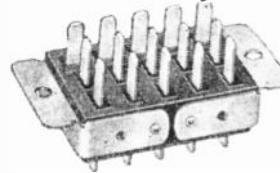
Socket, Cable Clamp in Cap



S-306-CCT

No.	Contacts	List Price Each
S-302-CCT	2	\$0.75
S-303-CCT	3	.81
S-304-CCT	4	.87
S-306-CCT	6	1.00
S-308-CCT	8	1.16
S-310-CCT	10	1.30
S-312-CCT	12	1.46

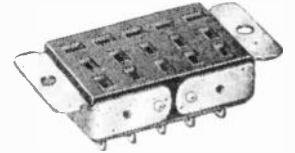
Plug with End Brackets



P-315-EB

No.	Contacts	List Price Each
P-315-EB	15	\$1.07
P-318-EB	18	1.33
P-321-EB	21	1.67
P-324-EB	24	2.02
P-327-EB	27	2.38
P-330-EB	30	2.73
P-333-EB	33	3.07

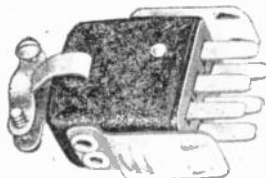
Sockets with End Brackets



S-315-EB

No.	Contacts	List Price Each
S-315-EB	15	\$1.24
S-318-EB	18	1.50
S-321-EB	21	1.85
S-324-EB	24	2.20
S-327-EB	27	2.55
S-330-EB	30	2.92
S-333-EB	33	3.26

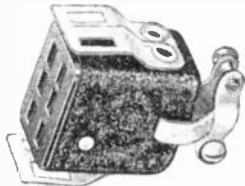
Plug, Cable Clamp in Cap and with Latches



P-306-CCT-L

No.	Contacts	List Price Each
P-302-CCT-L	2	\$0.94
P-303-CCT-L	3	.99
P-304-CCT-L	4	1.07
P-306-CCT-L	6	1.16
P-308-CCT-L	8	1.24
P-310-CCT-L	10	1.36
P-312-CCT-L	12	1.50

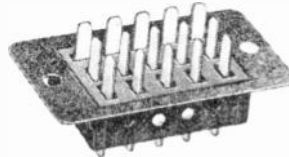
Socket, Cable Clamp in Cap and with Keepers



S-306-CCT-K

No.	Contacts	List Price Each
S-302-CCT-K	2	\$0.95
S-303-CCT-K	3	1.01
S-304-CCT-K	4	1.08
S-306-CCT-K	6	1.20
S-308-CCT-K	8	1.35
S-310-CCT-K	10	1.51
S-312-CCT-K	12	1.66

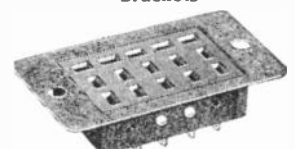
Plug with Shallow Brackets



P-315-SB

No.	Contacts	List Price Each
P-315-SB	15	\$1.58
P-318-SB	18	1.95
P-321-SB	21	2.30
P-324-SB	24	2.73
P-327-SB	27	3.07
P-330-SB	30	3.51
P-333-SB	33	3.87

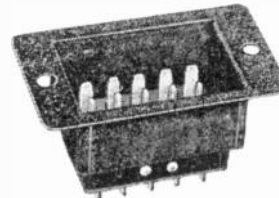
Sockets with Shallow Brackets



S-315-SB

No.	Contacts	List Price Each
S-315-SB	15	\$1.78
S-318-SB	18	2.12
S-321-SB	21	2.48
S-324-SB	24	2.92
S-327-SB	27	3.26
S-330-SB	30	3.71
S-333-SB	33	4.06

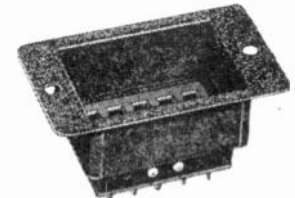
Plug with Deep Bracket



P-315-DB

No.	Contacts	List Price Each
P-315-DB	15	\$1.58
P-318-DB	18	1.95
P-321-DB	21	2.30
P-324-DB	24	2.73
P-327-DB	27	3.07
P-330-DB	30	3.52
P-333-DB	33	3.87

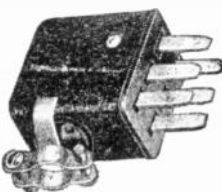
Socket with Deep Bracket



S-315-DB

No.	Contacts	List Price Each
S-315-DB	15	\$1.78
S-318-DB	18	2.12
S-321-DB	21	2.48
S-324-DB	24	2.92
S-327-DB	27	3.26
S-330-DB	30	3.71
S-333-DB	33	4.06

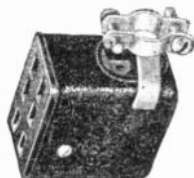
Plug, Cable Clamp in End



P-306-CCE

No.	Contacts	List Price Each
P-306-CCE	6	\$0.95
P-308-CCE	8	1.05
P-310-CCE	10	1.17
P-312-CCE	12	1.28

Socket, Cable Clamp in End



S-306-CCE

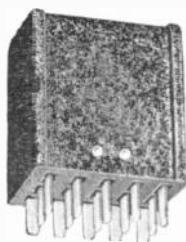
No.	Contacts	List Price Each
S-306-CCE	6	\$1.00
S-308-CCE	8	1.16
S-310-CCE	10	1.30
S-312-CCE	12	1.46



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

“300” SERIES PLUGS AND SOCKETS

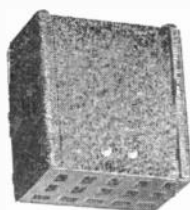
Plug with Flared Hole in Top of Cap



P-315-FHT

No.	Contacts	List Price Each
P-315-FHT	15	\$1.41
P-318-FHT	18	1.77
P-321-FHT	21	2.11
P-324-FHT	24	2.55
P-327-FHT	27	2.92
P-330-FHT	30	3.36
P-333-FHT	33	3.71

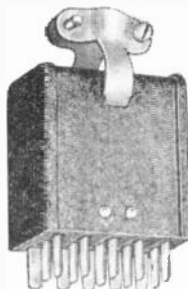
Socket, Flared Hole in Top of Cap



S-315-FHT

No.	Contacts	List Price Each
S-315-FHT	15	\$1.58
S-318-FHT	18	1.95
S-321-FHT	21	2.30
S-324-FHT	24	2.75
S-327-FHT	27	3.09
S-330-FHT	30	3.53
S-333-FHT	33	3.88

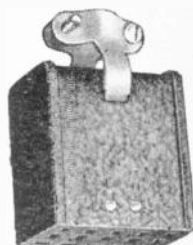
Plug, Cable Clamp in Top of Cap



P-315-CCT

No.	Contacts	List Price Each
P-315-CCT	15	\$1.67
P-318-CCT	18	2.02
P-321-CCT	21	2.38
P-324-CCT	24	2.81
P-327-CCT	27	3.18
P-330-CCT	30	3.71
P-333-CCT	33	3.97

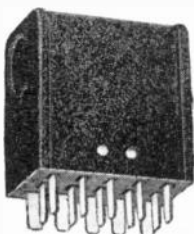
Socket, Cable Clamp in Top of Cap



S-315-CCT

No.	Contacts	List Price Each
S-315-CCT	15	\$1.85
S-318-CCT	18	2.20
S-321-CCT	21	2.55
S-324-CCT	24	3.01
S-327-CCT	27	3.36
S-330-CCT	30	3.88
S-333-CCT	33	4.15

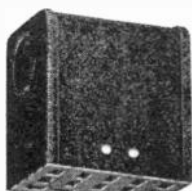
Plug with Flared Hole in End of Cap



P-315-FHE

No.	Contacts	List Price Each
P-315-FHE	15	\$1.41
P-318-FHE	18	1.77
P-321-FHE	21	2.11
P-324-FHE	24	2.55
P-327-FHE	27	2.92
P-330-FHE	30	3.36
P-333-FHE	33	3.71

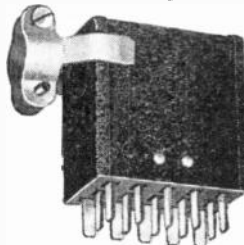
Socket, Flared Hole in End of Cap



S-315-FHE

No.	Contacts	List Price Each
S-315-FHE	15	\$1.58
S-318-FHE	18	1.95
S-321-FHE	21	2.30
S-324-FHE	24	2.75
S-327-FHE	27	3.09
S-330-FHE	30	3.53
S-333-FHE	33	3.88

Plug, Cable Clamp in End of Cap



P-315-CCE

No.	Contacts	List Price Each
P-315-CCE	15	\$1.67
P-318-CCE	18	2.02
P-321-CCE	21	2.38
P-324-CCE	24	2.81
P-327-CCE	27	3.18
P-330-CCE	30	3.71
P-333-CCE	33	3.97

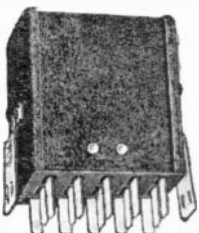
Socket, Cable Clamp in End of Cap



S-315-CCE

No.	Contacts	List Price Each
S-315-CCE	15	\$1.85
S-318-CCE	18	2.20
S-321-CCE	21	2.55
S-324-CCE	24	3.01
S-327-CCE	27	3.36
S-330-CCE	30	3.88
S-333-CCE	33	4.15

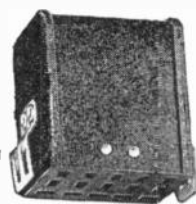
Plug, Flared Hole in Top of Cap with Latches



P-315-FHT-L

No.	Contacts	List Price Each
P-315-FHT-L	15	\$1.58
P-318-FHT-L	18	1.95
P-321-FHT-L	21	2.30
P-324-FHT-L	24	2.75
P-327-FHT-L	27	3.09
P-330-FHT-L	30	3.53
P-333-FHT-L	33	3.88

Socket, Flared Hole in Top of Cap and with Keepers



S-315-FHT-K

No.	Contacts	List Price Each
S-315-FHT-K	15	\$1.78
S-318-FHT-K	18	2.12
S-321-FHT-K	21	2.48
S-324-FHT-K	24	2.93
S-327-FHT-K	27	3.28
S-330-FHT-K	30	3.72
S-333-FHT-K	33	4.07

Plug, Cable Clamp in Top of Cap and with Latches



P-315-CCT-L

No.	Contacts	List Price Each
P-315-CCT-L	15	\$1.85
P-318-CCT-L	18	2.20
P-321-CCT-L	21	2.55
P-324-CCT-L	24	3.01
P-327-CCT-L	27	3.36
P-330-CCT-L	30	3.88
P-333-CCT-L	33	4.15

Socket, Cable Clamp in Top of Cap and with Keepers



S-315-CCT-K

No.	Contacts	List Price Each
S-315-CCT-K	15	\$2.04
S-318-CCT-K	18	2.39
S-321-CCT-K	21	2.75
S-324-CCT-K	24	3.19
S-327-CCT-K	27	3.53
S-330-CCT-K	30	4.07
S-333-CCT-K	33	4.32



“400” SERIES PLUGS AND SOCKETS

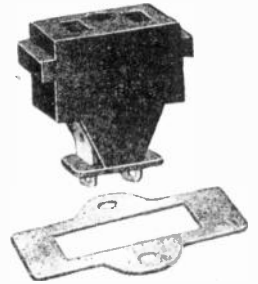
(Formerly “Heavy Duty”)

General Specifications

Made in 2, 4, 6, 8, 10 and 12 contacts. All Plugs and Sockets are polarized. Body of molded Bakelite. Phosphor bronze “knife-switch” type Socket contacts engage both sides of flat Plug Contacts—double contact area. Plug prongs are 1/4" wide by 1/16" thick. Caps are finished in Black Crystal and equipped with fibre lining. Plugs and Sockets arranged for cap or panel mounting.

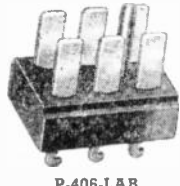
Note: Standard angle brackets cannot be attached to S-402-AB due to narrow block and insufficient material for screw threads. A special bracket is supplied (Type 46) See illustration. The Socket fits into this bracket which is attached to panel.

Check the No. 2400 Series Plugs and Sockets listed on pages F-42 and F-43 which are similar to the 400 Series except their design increases the creepage distances and therefore can take higher voltages.




S-402-AB (No. 46 Bracket)

PLUG — Less Angle Brackets
Drilled and Tapped Unless Otherwise Specified



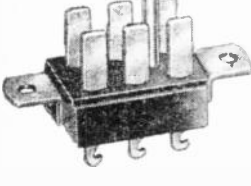
Code	Contacts	List Price Each
P-402-LAB	2	\$0.44
P-404-LAB	4	.61
P-406-LAB	6	.79
P-408-LAB	8	.96
P-410-LAB	10	1.16
P-412-LAB	12	1.33

SOCKET — Less Angle Brackets
Drilled and Tapped Unless Otherwise Specified



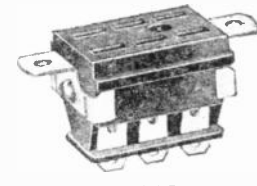
Code	Contacts	List Price Each
S-402-LAB	2	\$0.54
S-404-LAB	4	.79
S-406-LAB	6	1.07
S-408-LAB	8	1.33
S-410-LAB	10	1.58
S-412-LAB	12	1.85

PLUG — With Angle Brackets



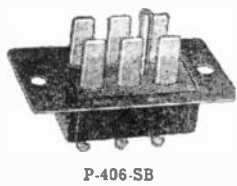
Code	Contacts	List Price Each
P-402-AB	2	\$0.79
P-404-AB	4	.96
P-406-AB	6	1.16
P-408-AB	8	1.33
P-410-AB	10	1.51
P-412-AB	12	1.67

SOCKET — With Angle Brackets




Code	Contacts	List Price Each
S-402-AB	2	\$0.89
S-404-AB	4	1.16
S-406-AB	6	1.41
S-408-AB	8	1.67
S-410-AB	10	1.95
S-412-AB	12	2.20

PLUG — With Shallow Bracket for Flush Mounting




Code	Contacts	List Price Each
P-402-SB	2	\$0.96
P-404-SB	4	1.24
P-406-SB	6	1.51
P-408-SB	8	1.77
P-410-SB	10	2.04
P-412-SB	12	2.30

SOCKET — With Shallow Bracket for Flush Mounting



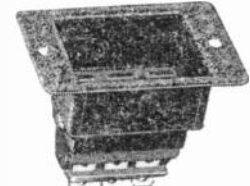
Code	Contacts	List Price Each
S-402-SB	2	\$1.07
S-404-SB	4	1.41
S-406-SB	6	1.77
S-408-SB	8	2.11
S-410-SB	10	2.46
S-412-SB	12	2.81

PLUG — With Deep Brackets for Recessed Mounting



Code	Contacts	List Price Each
P-402-DB	2	\$0.96
P-404-DB	4	1.24
P-406-DB	6	1.51
P-408-DB	8	1.77
P-410-DB	10	2.04
P-412-DB	12	2.30

SOCKET — With Deep Bracket for Recessed Mounting

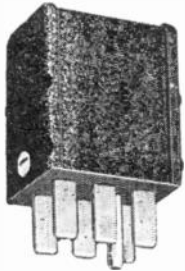


Code	Contacts	List Price Each
S-402-DB	2	\$1.07
S-404-DB	4	1.41
S-406-DB	6	1.77
S-408-DB	8	2.11
S-410-DB	10	2.46
S-412-DB	12	2.81



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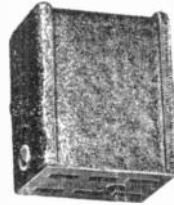
“400” SERIES PLUGS AND SOCKETS
(Formerly “Heavy Duty”)



P-406-FHT

PLUG — With Flared Hole in Top

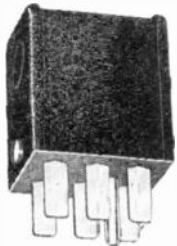
Code No.	Contacts	List Price Each
P-402-FHT	2	\$0.89
P-404-FHT	4	1.16
P-406-FHT	6	1.41
P-408-FHT	8	1.67
P-410-FHT	10	1.94
P-412-FHT	12	2.19



S-406-FHT

SOCKET — With Flared Hole in Top

Code No.	Contacts	List Price Each
S-402-FHT	2	\$0.98
S-404-FHT	4	1.34
S-406-FHT	6	1.68
S-408-FHT	8	2.04
S-410-FHT	10	2.39
S-412-FHT	12	2.75



P-406-FHE

PLUG — With Flared Hole in End

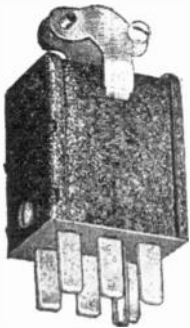
Code No.	Contacts	List Price Each
P-402-FHE	2	\$0.89
P-404-FHE	4	1.16
P-406-FHE	6	1.41
P-408-FHE	8	1.67
P-410-FHE	10	1.94
P-412-FHE	12	2.19



S-406-FHE

SOCKET — With Flared Hole in End

Code No.	Contacts	List Price Each
S-402-FHE	2	\$0.98
S-404-FHE	4	1.34
S-406-FHE	6	1.68
S-408-FHE	8	2.04
S-410-FHE	10	2.39
S-412-FHE	12	2.75



P-406-CCT

PLUG — With Cable Clamp in Top

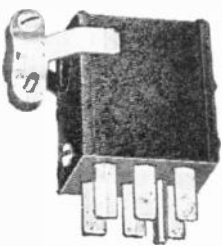
Code No.	Contacts	List Price Each
P-402-CCT	2	\$1.24
P-404-CCT	4	1.51
P-406-CCT	6	1.77
P-408-CCT	8	2.02
P-410-CCT	10	2.28
P-412-CCT	12	2.54



S-406-CCT

SOCKET — With Cable Clamp in Top

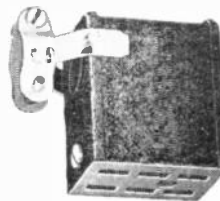
Code No.	Contacts	List Price Each
S-402-CCT	2	\$1.34
S-404-CCT	4	1.68
S-406-CCT	6	2.04
S-408-CCT	8	2.39
S-410-CCT	10	2.75
S-412-CCT	12	3.09



P-406-CCE

PLUG — With Cable Clamp in End

Code No.	Contacts	List Price Each
P-402-CCE	2	\$1.24
P-404-CCE	4	1.51
P-406-CCE	6	1.77
P-408-CCE	8	2.02
P-410-CCE	10	2.28
P-412-CCE	12	2.54



S-406-CCE

SOCKET — With Cable Clamp in End

Code No.	Contacts	List Price Each
S-402-CCE	2	\$1.34
S-404-CCE	4	1.68
S-406-CCE	6	2.04
S-408-CCE	8	2.39
S-410-CCE	10	2.75
S-412-CCE	12	3.09



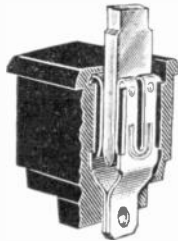
"2400" SERIES PLUGS AND SOCKETS

The 2400 Series Plugs and Sockets are designed for highest electrical and mechanical efficiency, and although they carry the same rating as the 400 Series, they will actually handle considerably higher currents due to their improved construction.

An entirely new type of socket contact has been designed. Four individual flexing surfaces make positive contact over practically their entire length. Note in the illustration how they exert maximum pressure at every point. Also note unique method of anchoring terminals in the block—they cannot be moved up or down.

This design provides greater contact surface, increased pressure, with smoother action.

Socket contacts are of phosphor bronze, cadmium plated. Male contacts are of heavy brass 1/4"x1/8", cadmium plated.



The contact to contact, and contact to ground distance has been considerably increased by mounting the contacts into recessed pockets with a Bakelite barrier surrounding and extending above. This method is used on both the top and bottom sides of both plugs and sockets, greatly increasing the leakage path.

The outside dimensions of corresponding plug and socket bodies are the same and can, therefore, be changed from brackets to caps, or vice versa.

Two styles of brackets are furnished "SB" (shallow bracket) for flush mounting and "DB" (deep bracket) for recessed mounting. Caps are furnished with flared hole in top or end, or with cable clamps in top or end. Unless otherwise specified the following size cable entrance holes will be supplied:

2402—3/8"	2406—7/16"	2410—1/4"
2404—7/16"	2408—9/16"	2412—5/8"

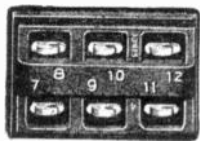
As noted above, the 2400 Series is furnished in 2, 4, 6, 8, 10, and 12 contacts. All plugs and sockets are polarized.

Plug and socket bodies are of molded Bakelite. The fibre linings in the caps are the same for both plugs and sockets.

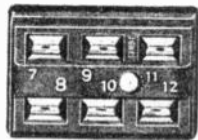
A shoulder extends around the face side of plug and socket presenting a finished appearance when mounted in bracket or cap.

On account of this shoulder extending around the entire face of the body blocks, angle brackets cannot be used with the 2400 Series Plugs or Sockets.

The entire 2400 Series is interchangeable with the 400 Series as 2400 Plugs fit corresponding 400 Sockets, and 400 Plugs fit corresponding 2400 Sockets.



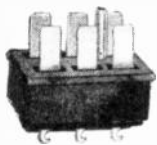
Solder connecting side of Plug Body showing Recessed Pockets with Barriers around contacts. Plug contacts are also in Recessed Pockets on opposite side.



Solder connecting side of Socket Body showing Recessed Pockets with Barriers around contacts. Socket contacts are also in Recessed Pockets on opposite side.

PLUG—Less Mounting Bracket

Drilled and Tapped Unless Otherwise Specified



P-2406

Code	Contacts	List Price Each
P-2402	2	\$0.61
P-2404	4	.81
P-2406	6	1.01
P-2408	8	1.21
P-2410	10	1.41
P-2412	12	1.63

SOCKET—Less Mounting Bracket

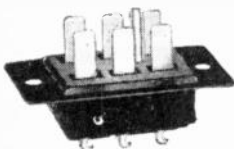
Drilled and Tapped Unless Otherwise Specified



S-2406

Code	Contacts	List Price Each
S-2402	2	\$0.70
S-2404	4	.92
S-2406	6	1.12
S-2408	8	1.35
S-2410	10	1.55
S-2412	12	1.78

PLUG—With Shallow Bracket for Flush Mounting



P-2406-SB

Code	Contacts	List Price Each
P-2402-SB	2	\$1.09
P-2404-SB	4	1.28
P-2406-SB	6	1.49
P-2408-SB	8	1.69
P-2410-SB	10	1.93
P-2412-SB	12	2.12

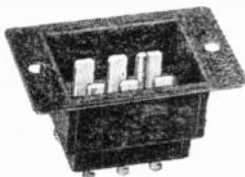
SOCKET—With Shallow Bracket for Flush Mounting



S-2406-SB

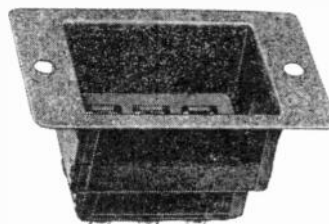
Code	Contacts	List Price Each
S-2402-SB	2	\$1.19
S-2404-SB	4	1.40
S-2406-SB	6	1.62
S-2408-SB	8	1.84
S-2410-SB	10	2.08
S-2412-SB	12	2.30

PLUG—With Deep Bracket for Recessed Mounting



P-2406-DB

Code	Contacts	List Price Each
P-2402-DB	2	\$1.19
P-2404-DB	4	1.38
P-2406-DB	6	1.57
P-2408-DB	8	1.79
P-2410-DB	10	2.00
P-2412-DB	12	2.22



S-2406-DB

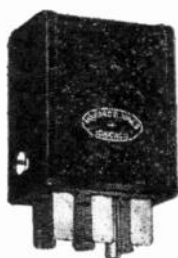
SOCKET—With Deep Bracket for Recessed Mounting

Code	Contacts	List Price Each
S-2402-DB	2	\$1.27
S-2404-DB	4	1.50
S-2406-DB	6	1.69
S-2408-DB	8	1.94
S-2410-DB	10	2.17
S-2412-DB	12	2.39



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

“2400” SERIES PLUGS AND SOCKETS



P-2406-FHT

PLUG—With Flared Hole in Top

Code No.	Contacts	List Price Each
P-2402-FHT	2	\$1.19
P-2404-FHT	4	1.38
P-2406-FHT	6	1.57
P-2408-FHT	8	1.79
P-2410-FHT	10	2.00
P-2412-FHT	12	2.24



S-2406-FHT

SOCKET—With Flared Hole in Top

Code No.	Contacts	List Price Each
S-2402-FHT	2	\$1.27
S-2404-FHT	4	1.50
S-2406-FHT	6	1.69
S-2408-FHT	8	1.94
S-2410-FHT	10	2.17
S-2412-FHT	12	2.39



P-2406-FHE

PLUG—With Flared Hole in End

Code No.	Contacts	List Price Each
P-2402-FHE	2	\$1.19
P-2404-FHE	4	1.38
P-2406-FHE	6	1.57
P-2408-FHE	8	1.79
P-2410-FHE	10	2.00
P-2412-FHE	12	2.24



S-2406-FHE

SOCKET—With Flared Hole in End

Code No.	Contacts	List Price Each
S-2402-FHE	2	\$1.27
S-2404-FHE	4	1.50
S-2406-FHE	6	1.69
S-2408-FHE	8	1.94
S-2410-FHE	10	2.17
S-2412-FHE	12	2.39



P-2406-CCT

PLUG—With Cable Clamp in Top

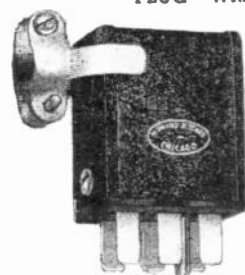
Code No.	Contacts	List Price Each
P-2402-CCT	2	\$1.53
P-2404-CCT	4	1.72
P-2406-CCT	6	1.94
P-2408-CCT	8	2.13
P-2410-CCT	10	2.35
P-2412-CCT	12	2.59



S-2406-CCT

SOCKET—With Cable Clamp in Top

Code No.	Contacts	List Price Each
S-2402-CCT	2	\$1.65
S-2404-CCT	4	1.84
S-2406-CCT	6	2.05
S-2408-CCT	8	2.28
S-2410-CCT	10	2.51
S-2412-CCT	12	2.75



P-2406-CCE

PLUG—With Cable Clamp in End

Code No.	Contacts	List Price Each
P-2402-CCE	2	\$1.53
P-2404-CCE	4	1.72
P-2406-CCE	6	1.94
P-2408-CCE	8	2.13
P-2410-CCE	10	2.35
P-2412-CCE	12	2.59



S-2406-CCE

SOCKET—With Cable Clamp in End

Code No.	Contacts	List Price Each
S-2402-CCE	2	\$1.65
S-2404-CCE	4	1.84
S-2406-CCE	6	2.05
S-2408-CCE	8	2.28
S-2410-CCE	10	2.51
S-2412-CCE	12	2.75



“500” SERIES PLUGS AND SOCKETS

Designed for 3,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

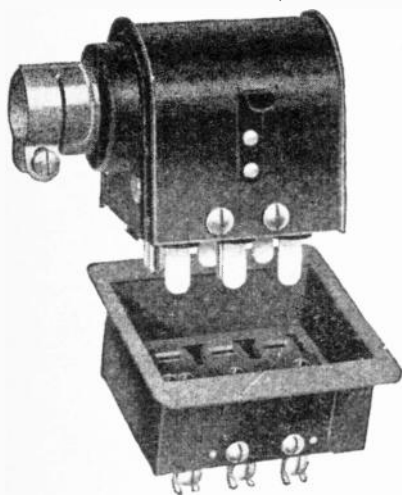
All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation, without danger of making wrong connections.

Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{1}{8}$ " x $\frac{3}{32}$ ".

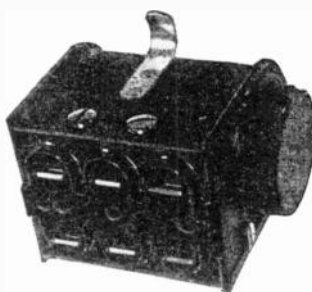
IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from $\frac{1}{2}$ " diameter and $1\frac{1}{4}$ " diameter in steps of $\frac{1}{8}$ ", if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.

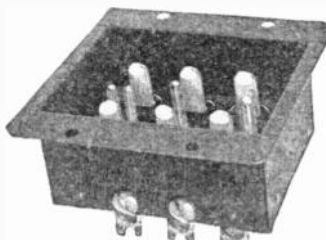
P-506-CE
(Plug with Cap)
(BX Clamp shown
but not furnished)



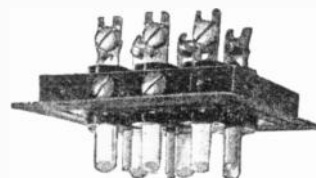
S-506-DB
(Socket with Deep Bracket)



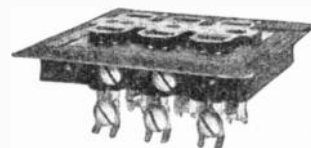
S-506-CE
(Socket with Cap)



P-506-DB
(Plug with Deep Bracket)

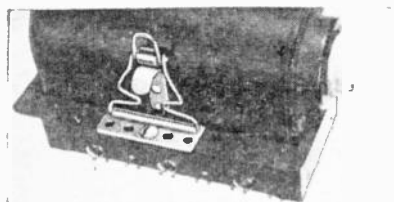


P-506-SB
(Plug with Shallow Bracket)



S-506-SB
(Socket with Shallow Bracket)

LOCKS FOR 500 SERIES PLUGS AND SOCKETS



No. 500-L Locks

Locks shown above are used in connection with any DEEP BRACKET and cap combination

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

PLUG With Cap		
Code	Contacts	List Price Each
P-502-CE	2	\$3.83
P-504-CE	4	5.51
P-506-CE	6	7.19
P-508-CE	8	8.88
P-510-CE	10	10.56
P-512-CE	12	12.24

PLUG With Deep Bracket		
Code	Contacts	List Price Each
P-502-DB	2	\$3.37
P-504-DB	4	4.83
P-506-DB	6	6.27
P-508-DB	8	7.74
P-510-DB	10	9.19
P-512-DB	12	10.65

PLUG With Shallow Bracket		
Code	Contacts	List Price Each
P-502-SB	2	\$3.37
P-504-SB	4	4.83
P-506-SB	6	6.27
P-508-SB	8	7.74
P-510-SB	10	9.19
P-512-SB	12	10.65

SOCKET With Cap		
Code	Contacts	List Price Each
S-502-CE	2	\$3.83
S-504-CE	4	5.51
S-506-CE	6	7.19
S-508-CE	8	8.88
S-510-CE	10	10.56
S-512-CE	12	12.24

SOCKET With Deep Bracket		
Code	Contacts	List Price Each
S-502-DB	2	\$3.37
S-504-DB	4	4.83
S-506-DB	6	6.27
S-508-DB	8	7.74
S-510-DB	10	9.19
S-512-DB	12	10.65

SOCKET With Shallow Bracket		
Code	Contacts	List Price Each
S-502-SB	2	\$3.37
S-504-SB	4	4.83
S-506-SB	6	6.27
S-508-SB	8	7.74
S-510-SB	10	9.19
S-512-SB	12	10.65



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite. The Eyelets and Binder Screws are of brass, nickel plated. The 3/4 W or Y terminals are of brass, hot tin finish.

No. 140 TERMINAL STRIPS

5-40 x 3/16 Binder Head Screws. Metal to Metal Spacing over Bakelite 1/4"

No. 2-140 No. 140		No. 2-140-3/4 W No. 140-3/4 W		No. 2-140-Y No. 140-Y	
Code	List Price Each	Code	List Price Each	Code	List Price Each
1-140	\$0.15	1-140-3/4 W	\$0.19	1-140-Y	\$0.19
2-140	.24	2-140-3/4 W	.32	2-140-Y	.32
3-140	.33	3-140-3/4 W	.44	3-140-Y	.44
4-140	.42	4-140-3/4 W	.57	4-140-Y	.57
5-140	.51	5-140-3/4 W	.69	5-140-Y	.69
6-140	.59	6-140-3/4 W	.83	6-140-Y	.83
7-140	.68	7-140-3/4 W	.95	7-140-Y	.95
8-140	.77	8-140-3/4 W	1.08	8-140-Y	1.08
9-140	.86	9-140-3/4 W	1.21	9-140-Y	1.21
10-140	.95	10-140-3/4 W	1.33	10-140-Y	1.33
11-140	1.03	11-140-3/4 W	1.45	11-140-Y	1.45
12-140	1.12	12-140-3/4 W	1.58	12-140-Y	1.58
13-140	1.21	13-140-3/4 W	1.71	13-140-Y	1.71
14-140	1.31	14-140-3/4 W	1.84	14-140-Y	1.84
15-140	1.40	15-140-3/4 W	1.96	15-140-Y	1.96
16-140	1.49	16-140-3/4 W	2.09	16-140-Y	2.09
17-140	1.57	17-140-3/4 W	2.21	17-140-Y	2.21
18-140	1.66	18-140-3/4 W	2.34	18-140-Y	2.34
19-140	1.75	19-140-3/4 W	2.46	19-140-Y	2.46
20-140	1.84	20-140-3/4 W	2.60	20-140-Y	2.60
21-140	1.93	21-140-3/4 W	2.72	21-140-Y	2.72

No. 164 TERMINAL STRIPS

6-32 x 1/4 Binder Head Screws. Metal to Metal Spacing over Bakelite 1/4"

No. 2-164 No. 164		No. 2-164-3/4 W No. 164-3/4 W		No. 2-164-Y No. 164-Y	
Code	List Price Each	Code	List Price Each	Code	List Price Each
1-164	\$0.16	1-164-3/4 W	\$0.20	1-164-Y	\$0.20
2-164	.26	2-164-3/4 W	.34	2-164-Y	.34
3-164	.36	3-164-3/4 W	.47	3-164-Y	.47
4-164	.46	4-164-3/4 W	.61	4-164-Y	.61
5-164	.56	5-164-3/4 W	.74	5-164-Y	.74
6-164	.65	6-164-3/4 W	.89	6-164-Y	.89
7-164	.75	7-164-3/4 W	1.02	7-164-Y	1.02
8-164	.85	8-164-3/4 W	1.16	8-164-Y	1.16
9-164	.95	9-164-3/4 W	1.39	9-164-Y	1.30
10-164	1.05	10-164-3/4 W	1.43	10-164-Y	1.43
11-164	1.14	11-164-3/4 W	1.56	11-164-Y	1.56
12-164	1.24	12-164-3/4 W	1.70	12-164-Y	1.70
13-164	1.34	13-164-3/4 W	1.84	13-164-Y	1.84
14-164	1.45	14-164-3/4 W	1.98	14-164-Y	1.98
15-164	1.55	15-164-3/4 W	2.11	15-164-Y	2.11
16-164	1.65	16-164-3/4 W	2.25	16-164-Y	2.25
17-164	1.74	17-164-3/4 W	2.38	17-164-Y	2.38
18-164	1.84	18-164-3/4 W	2.52	18-164-Y	2.52
19-164	1.94	19-164-3/4 W	2.65	19-164-Y	2.65
20-164	2.04	20-164-3/4 W	2.80	20-164-Y	2.80
21-164	2.14	21-164-3/4 W	2.93	21-164-Y	2.93

No. 141 TERMINAL STRIPS

6-32 x 1/4 Binder Head Screws. Metal to Metal Spacing over Bakelite 3/8"

No. 2-141 No. 141		No. 2-141-3/4 W No. 141-3/4 W		No. 2-141-Y No. 141-Y	
Code	List Price Each	Code	List Price Each	Code	List Price Each
1-141	\$0.20	1-141-3/4 W	\$0.24	1-141-Y	\$0.24
2-141	.31	2-141-3/4 W	.41	2-141-Y	.41
3-141	.42	3-141-3/4 W	.57	3-141-Y	.57
4-141	.54	4-141-3/4 W	.74	4-141-Y	.74
5-141	.65	5-141-3/4 W	.90	5-141-Y	.90
6-141	.75	6-141-3/4 W	1.07	6-141-Y	1.07
7-141	.88	7-141-3/4 W	1.23	7-141-Y	1.23
8-141	.99	8-141-3/4 W	1.40	8-141-Y	1.40
9-141	1.10	9-141-3/4 W	1.56	9-141-Y	1.56
10-141	1.22	10-141-3/4 W	1.73	10-141-Y	1.73
11-141	1.33	11-141-3/4 W	1.89	11-141-Y	1.89
12-141	1.44	12-141-3/4 W	2.06	12-141-Y	2.06
13-141	1.56	13-141-3/4 W	2.22	13-141-Y	2.22
14-141	1.67	14-141-3/4 W	2.39	14-141-Y	2.39
15-141	1.78	15-141-3/4 W	2.55	15-141-Y	2.55
16-141	1.90	16-141-3/4 W	2.72	16-141-Y	2.72
17-141	2.01	17-141-3/4 W	2.88	17-141-Y	2.88
18-141	2.12	18-141-3/4 W	3.05	18-141-Y	3.05
19-141	2.24	19-141-3/4 W	3.21	19-141-Y	3.21
20-141	2.35	20-141-3/4 W	3.38	20-141-Y	3.38

No. 142 TERMINAL STRIPS

8-32 x 5/16" Binder Head Screws. Metal to Metal Spacing over Bakelite 9/16"

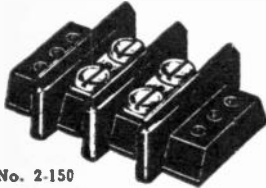
No. 2-142 No. 142		No. 2-142-3/4 W No. 142-3/4 W		No. 2-142-Y No. 142-Y	
Code	List Price Each	Code	List Price Each	Code	List Price Each
1-142	\$0.23	1-142-3/4 W	\$0.30	1-142-Y	\$0.30
2-142	.36	2-142-3/4 W	.50	2-142-Y	.50
3-142	.51	3-142-3/4 W	.70	3-142-Y	.70
4-142	.65	4-142-3/4 W	.90	4-142-Y	.90
5-142	.78	5-142-3/4 W	1.11	5-142-Y	1.11
6-142	.92	6-142-3/4 W	1.31	6-142-Y	1.31
7-142	1.07	7-142-3/4 W	1.52	7-142-Y	1.52
8-142	1.20	8-142-3/4 W	1.72	8-142-Y	1.72
9-142	1.34	9-142-3/4 W	1.93	9-142-Y	1.93
10-142	1.49	10-142-3/4 W	2.12	10-142-Y	2.12
11-142	1.62	11-142-3/4 W	2.33	11-142-Y	2.33
12-142	1.76	12-142-3/4 W	2.53	12-142-Y	2.53
13-142	1.90	13-142-3/4 W	2.74	13-142-Y	2.74
14-142	2.04	14-142-3/4 W	2.94	14-142-Y	2.94
15-142	2.18	15-142-3/4 W	3.15	15-142-Y	3.15
16-142	2.32	16-142-3/4 W	3.34	16-142-Y	3.34
17-142	2.45	17-142-3/4 W	3.54	17-142-Y	3.54



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

BARRIER TYPE TERMINAL STRIPS

No. 150 TERMINAL STRIPS

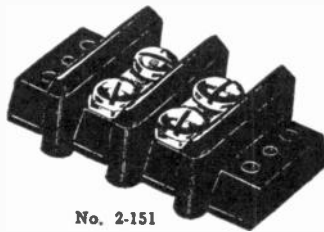


No. 2-150

1-13/16" wide by 25/32" high. Terminals are mounted on 11/16" centers. Screws: 10-32 x 5/16" brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite 5/8".

Code	List Price Each	Code	List Price Each
1-150	\$0.55	6-150	\$2.48
2-150	.94	7-150	2.86
3-150	1.32	8-150	3.25
4-150	1.71	9-150	3.63
5-150	2.09	10-150	4.02

No. 151 TERMINAL STRIPS

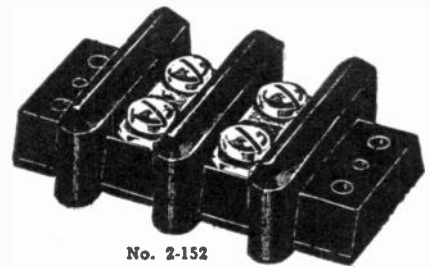


No. 2-151

2" wide by 15/16" high. Terminals are mounted on 7/8" centers. Screws: 12-32 x 3/8" brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga. stranded wire. Metal to metal spacing over bakelite 3/4".

Code	List Price Each	Code	List Price Each
1-151	\$0.94	5-151	\$4.02
2-151	1.71	6-151	4.79
3-151	2.48	7-151	5.56
4-151	3.25	8-151	6.33

No. 152 TERMINAL STRIPS



No. 2-152

2 1/2" wide by 1 1/8" high. Terminals are mounted on 1 1/8" centers. Screws: 1/4"-28 x 1/2" brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1".

Code	List Price Each	Code	List Price Each
1-152	\$1.27	4-152	\$4.73
2-152	2.42	5-152	5.89
3-152	3.58	6-152	7.04



3/4W Solder Terminal



"Y" Solder Terminal

Code	List Price Each	Code	List Price Each
3/4W-140	140	Y-140	140
3/4W-141	141	Y-141	141
3/4W-142	142	Y-142	142

Code	List Price Each	Code	List Price Each
3/4W-150	150	3/4W-151	151
3/4W-152	152		



Jumpers

Code	List Price Each	Code	List Price Each
141-J	140	95-B	142
141-J	141		
141-J	141		

No. 170 TERMINAL STRIPS

Terminal .032" Brass, Tin Plated



No. 2-170

A heavy solder Terminal. Insulation: Black molded Bakelite, 5/16" wide, 1/4" thick. Terminals mounted on 3/8" centers. Mounting holes are 3/8" from center of ends Terminals.

Code	List Price Each	Code	List Price Each
No. 1-170	\$0.25	No. 6-170	\$0.56
No. 2-170	.31	No. 7-170	.61
No. 3-170	.36	No. 8-170	.67
No. 4-170	.43	No. 9-170	.74
No. 5-170	.50	No. 10-170	.79

No. 171 TERMINAL STRIPS



No. 6-171

A Miniature Barrier Terminal Strip with Single Screw Terminals. 1/8" wide by 1/4" overall height. Terminals are mounted on 1/4" centers. 2-56 x 1/4" Binder Head Screws. 1/8" Dia. Mtg. Holes.

Code	Contacts	List Price Each	Code	Contacts	List Price Each
1-171	1	\$0.46	5-171	5	\$0.94
2-171	2	.58	6-171	6	1.06
3-171	3	.70	7-171	7	1.18
4-171	4	.82	8-171	8	1.30

No. 172 TERMINAL STRIPS



No. 6-172

Double Screw Terminals. 3/8" wide by 1/2" overall height. Terminals mounted on 1/4" centers. 2-56 x 1/4". Binder Head Screws. 1/8" Dia. Mtg. Holes.

Code	Contacts	List Price Each	Code	Contacts	List Price Each
1-172	1	\$0.43	8-172	8	\$1.62
2-172	2	.60	9-172	9	1.79
3-172	3	.77	10-172	10	1.96
4-172	4	.94	11-172	11	2.13
5-172	5	1.11	12-172	12	2.30
6-172	6	1.28	13-172	13	2.47
7-172	7	1.45	14-172	14	2.64

No. 172-W and 172-3/4W TERMINAL STRIPS



No. 3-172 3/4W

Code	Contacts	List Price Each
1-172-W	1	\$0.47
2-172-W	2	.68
3-172-W	3	.89
4-172-W	4	1.10
5-172-W	5	1.31
6-172-W	6	1.52
7-172-W	7	1.73
8-172-W	8	1.94
9-172-W	9	2.15
10-172-W	10	2.36
11-172-W	11	2.57
12-172-W	12	2.78
13-172-W	13	2.99
14-172-W	14	3.20

No. 173 TERMINAL STRIPS

Single Screw Terminals, 3/8" wide by 1/2" overall height. Terminals mounted on 3/8" centers. 4-40 x 1/8" Sems Type Binder Head Screws. 3/16" Dia. Mtg. Holes.



No. 6-173

Code	Contacts	List Price Each
1-173	1	\$1.00
2-173	2	1.45
3-173	3	1.90
4-173	4	2.35
5-173	5	2.80
6-173	6	3.25
7-173	7	3.70
8-173	8	4.15
9-173	9	4.60
10-173	10	5.05

No. 2000 TERMINAL STRIPS

Terminal .019" Brass, Tin Plated



No. 2005

Mounting hole—9/64"

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc.

Insulation: Bakelite, Brackets: Steel, cadmium plated. Terminals spaced on 5/16" centers.

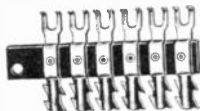
Code	Mounting Hole Centers	List Price Each	Code	Mounting Hole Centers	List Price Each
No. 2002	1"	\$1.10	No. 2008	2-7/8"	\$1.19
No. 2003	1-5/16"	.115	No. 2009	3-3/16"	.205
No. 2004	1-5/8"	.13	No. 2010	3-1/2"	.22
No. 2005	1-15/16"	.145	No. 2011	3-13/16"	.235
No. 2006	2-1/4"	.16	No. 2012	4-1/8"	.25
No. 2007	2-9/16"	.175	No. 2013	4-7/16"	.265



CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS

Jones Fanning Strip Terminals are of .032" Brass, Cadmium Plated. The Bakelite strips are furnished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.



6-160-L

THE 160 SERIES

The following Fanning Strips fit the 140 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 1/2" wide and on 3/8" centers.

The B type fits the 140 and 164 series. If desired add suffix B to Code No.

Code	List Price Each	Code	List Price Each
2-160-L	\$0.13	2-160-R	\$0.13
3-160-L	.20	3-160-R	.20
4-160-L	.25	4-160-R	.25
5-160-L	.32	5-160-R	.32
6-160-L	.39	6-160-R	.39
7-160-L	.45	7-160-R	.45
8-160-L	.51	8-160-R	.51
9-160-L	.57	9-160-R	.57
10-160-L	.64	10-160-R	.64
11-160-L	.70	11-160-R	.70
12-160-L	.76	12-160-R	.76
13-160-L	.83	13-160-R	.83
14-160-L	.89	14-160-R	.89
15-160-L	.96	15-160-R	.96
16-160-L	1.01	16-160-R	1.01
17-160-L	1.08	17-160-R	1.08
18-160-L	1.16	18-160-R	1.16
19-160-L	1.21	19-160-R	1.21
20-160-L	1.28	20-160-R	1.28
21-160-L	1.33	21-160-R	1.33



6-161-L (Cable Clamp on Left)

THE 161 SERIES

The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 5/8" wide and on 7/16" centers.

Code	List Price Each	Code	List Price Each
2-161-L	\$0.14	2-161-R	\$0.14
3-161-L	.21	3-161-R	.21
4-161-L	.26	4-161-R	.26
5-161-L	.33	5-161-R	.33
6-161-L	.40	6-161-R	.40
7-161-L	.46	7-161-R	.46
8-161-L	.52	8-161-R	.52
9-161-L	.58	9-161-R	.58
10-161-L	.65	10-161-R	.65
11-161-L	.72	11-161-R	.72
12-161-L	.77	12-161-R	.77
13-161-L	.84	13-161-R	.84
14-161-L	.91	14-161-R	.91
15-161-L	.97	15-161-R	.97
16-161-L	1.03	16-161-R	1.03
17-161-L	1.09	17-161-R	1.09
18-161-L	1.17	18-161-R	1.17
19-161-L	1.22	19-161-R	1.22
20-161-L	1.29	20-161-R	1.29



6-162-R (Cable Clamp on Right)

THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier Strips. Terminals are mounted on 3/32" Bakelite, 5/8" wide and on 9/16" centers.

Code	List Price Each	Code	List Price Each
2-162-L	\$0.17	2-162-R	\$0.17
3-162-L	.23	3-162-R	.23
4-162-L	.29	4-162-R	.29
5-162-L	.35	5-162-R	.35
6-162-L	.43	6-162-R	.43
7-162-L	.48	7-162-R	.48
8-162-L	.55	8-162-R	.55
9-162-L	.61	9-162-R	.61
10-162-L	.68	10-162-R	.68
11-162-L	.74	11-162-R	.74
12-162-L	.80	12-162-R	.80
13-162-L	.86	13-162-R	.86
14-162-L	.94	14-162-R	.94
15-162-L	.99	15-162-R	.99
16-162-L	1.06	16-162-R	1.06
17-162-L	1.11	17-162-R	1.11



CABLE CLAMPS

Cable Clamps are available for the Fanning Strips listed at the left and are furnished in 6 different sizes as listed below. Cable Clamp is of Brass Nickel Plated, with 6-32 round head Nickel Plated Brass Screws. For convenience the Cable Clamps are furnished un-assembled.

CABLE CLAMP SIZES AVAILABLE

No.	I. D.
CC-161-4	1/4"
CC-161-6	3/8"
CC-161-8	1/2"
CC-161-10	5/8"
CC-161-12	3/4"
CC-161-14	7/8"

List Price Each \$0.14

Be sure to give code number when ordering.

On small sizes Lacing Twine can be used for anchoring cable to the Fanning Strip instead of Cable Clamp.

ANGLE TYPE

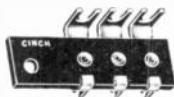


3-160-AL

THE 160A SERIES

The following Fanning Strips fit the 140 Series Barrier Strips.

Code	Code	List Price Each
2-160-AR	2-160-AL	\$0.19
3-160-AR	3-160-AL	.29
4-160-AR	4-160-AL	.37
5-160-AR	5-160-AL	.47
6-160-AR	6-160-AL	.57
7-160-AR	7-160-AL	.66
8-160-AR	8-160-AL	.75
9-160-AR	9-160-AL	.84
10-160-AR	10-160-AL	.94
11-160-AR	11-160-AL	1.03
12-160-AR	12-160-AL	1.12
13-160-AR	13-160-AL	1.22
14-160-AR	14-160-AL	1.31
15-160-AR	15-160-AL	1.41
16-160-AR	16-160-AL	1.49
17-160-AR	17-160-AL	1.59
18-160-AR	18-160-AL	1.70
19-160-AR	19-160-AL	1.78
20-160-AR	20-160-AL	1.88
21-160-AR	21-160-AL	1.96



3-160-BAL

THE 160BA SERIES

The following Fanning Strips fit the 164 Series Barrier Strips.

Code	Code	List Price Each
2-160-BAL	2-160-BAR	\$0.19
3-160-BAL	3-160-BAR	.29
4-160-BAL	4-160-BAR	.37
5-160-BAL	5-160-BAR	.47
6-160-BAL	6-160-BAR	.57
7-160-BAL	7-160-BAR	.66
8-160-BAL	8-160-BAR	.75
9-160-BAL	9-160-BAR	.84
10-160-BAL	10-160-BAR	.94
11-160-BAL	11-160-BAR	1.03
12-160-BAL	12-160-BAR	1.12
13-160-BAL	13-160-BAR	1.22
14-160-BAL	14-160-BAR	1.31
15-160-BAL	15-160-BAR	1.41
16-160-BAL	16-160-BAR	1.49
17-160-BAL	17-160-BAR	1.59
18-160-BAL	18-160-BAR	1.70
19-160-BAL	19-160-BAR	1.78
20-160-BAL	20-160-BAR	1.88
21-160-BAL	21-160-BAR	1.96

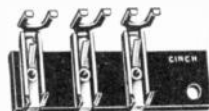


3-161-AR

THE 161A SERIES

The following Fanning Strips fit the 141 Series Barrier Strips.

Code	Code	List Price Each
2-161-AR	2-161-AL	\$0.20
3-161-AR	3-161-AL	.30
4-161-AR	4-161-AL	.38
5-161-AR	5-161-AL	.48
6-161-AR	6-161-AL	.58
7-161-AR	7-161-AL	.67
8-161-AR	8-161-AL	.76
9-161-AR	9-161-AL	.85
10-161-AR	10-161-AL	.95
11-161-AR	11-161-AL	1.05
12-161-AR	12-161-AL	1.13
13-161-AR	13-161-AL	1.23
14-161-AR	14-161-AL	1.33
15-161-AR	15-161-AL	1.42
16-161-AR	16-161-AL	1.51
17-161-AR	17-161-AL	1.60
18-161-AR	18-161-AL	1.71
19-161-AR	19-161-AL	1.79
20-161-AR	20-161-AL	1.89



3-162-AR

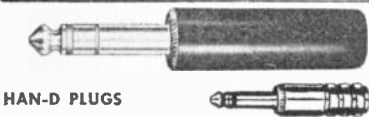
THE 162A SERIES

The following Fanning Strips fit the 142 Series Barrier Strips.

Code	Code	List Price Each
2-162-AL	2-162-AR	\$0.23
3-162-AL	3-162-AR	.32
4-162-AL	4-162-AR	.41
5-162-AL	5-162-AR	.50
6-162-AL	6-162-AR	.61
7-162-AL	7-162-AR	.69
8-162-AL	8-162-AR	.79
9-162-AL	9-162-AR	.89
10-162-AL	10-162-AR	.98
11-162-AL	11-162-AR	1.07
12-162-AL	12-162-AR	1.16
13-162-AL	13-162-AR	1.25
14-162-AL	14-162-AR	1.36
15-162-AL	15-162-AR	1.44
16-162-AL	16-162-AR	1.54
17-162-AL	17-162-AR	1.62

Minimum Billing \$10.00

ELECTROCRAFT, Inc. Chicago 25, Illinois



HAN-D PLUGS

TWO CONDUCTOR PLUGS

1/2" diameter handle

Electrocraft's Han-D phone plug is drastically reduced in size and sturdy in construction. One piece solid brass nickel plated tip rod is pressed into tip terminal and staked to insure positive electrical contact. Terminals, high grade insulation, plug body and tip rod are mechanically interlocked to prevent turning. Plug is designed to fit all standard two conductor phone jacks. Where polarization is required, use .206" finger diameter plugs. These plugs mate with Electrocraft's 311 and 312 phone jacks.

PART NO.	HANDLE	TERMINAL DESCRIPTION
122	101 Black Plastic	Screw type
123	102 Red Plastic	Screw type
124	103 Metal-Shield type	Screw type
125	104 Black Plastic	Comb. clamp & Solder Lug
126	105 Red Plastic	Comb. clamp & Solder Lug
127	106 Metal-Shield type	Comb. clamp & Solder Lug
128	107 Black Plastic	Plain Solder Lugs
129	108 Red Plastic	Plain Solder Lugs
109	Metal-1" long shield type	Plain Solder Lugs
112	Metal-1" long shield type	Comb. clamp & Solder Lug
114	Metal-Shield type	Comb. clamp & Solder Lug
115	Metal-Shield type	Comb. clamp & Solder Lug

*Short finger length to mate with #302 cord mounted jacks and Beyer recorders. Tip contacts ring spring of three conductor jacks.
 *Special wide insulator between tip and sleeve provides 2 conductor plug for use in 3 conductor jack; ring contact thereby insulated.

THREE CONDUCTOR PLUGS

1/2" diameter handle

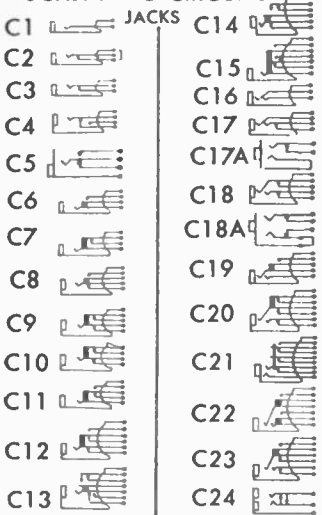
Three conductor plugs are of same design and construction as Electrocraft's two conductor plugs. Terminals are available in same varieties. Also mechanically interlocked. All terminals are hot tinned for easy soldering. Handle styles—metal, red or black plastic. Plug fits any standard three conductor phone jack. All plug parts and terminals are made of brass—suitably finished. Where polarization is required use .206" finger diameter plug. These plugs mate with 314, 323 and 333 jacks.

PART NO.	HANDLE	TERMINAL DESCRIPTION
156	150 Black Plastic	Comb. clamp & Solder Lug
157	151 Red Plastic	Comb. clamp & Solder Lug
158	152 Metal-Shield type	Comb. clamp & Solder Lug
159	153 Black Plastic	Screw type
160	154 Red Plastic	Screw type
161	155 Metal-Shield type	Screw type

MINIATURE PLUGS

PART NO.	HANDLE	TERMINAL DESCRIPTION
200	Metal-Shield type	Comb. clamp & Solder Lug
201	Black Plastic	Comb. clamp & Solder Lug
202	Red Plastic	Comb. clamp & Solder Lug
203	Metal-Shield type	Solder lug
204	Black Plastic	Solder lug
205	Red Plastic	Solder lug
206	Metal-Shield type	Comb. clamp & Screw Lug
207	Black Plastic	Comb. clamp & Screw Lug
208	Red Plastic	Comb. clamp & Screw Lug

SCHEMATIC CIRCUITS



PHONE PLUGS



Built for heavy duty application, the large handles can accommodate large diameter cables and there is ample room to permit the use of wired-in resistors or miniature capacitors. Broad headed screws on extra heavy terminals take one or two pairs of phone tips or wires. These plugs are designed to fit any standard phone jack.

TWO CONDUCTOR PLUGS

PART NO.	HANDLE	TERMINAL DESCRIPTION
130	Metal-Shield type 2-1/16" long	Screw type
131	Black plastic 1 1/2" long	Screw type
132	Red plastic 1 1/2" long	Screw type
133	Metal-Shield type 2-1/16" long	Solder lug
134	Black plastic 1 1/2" long	Solder lug
135	Red plastic 1 1/2" long	Solder lug
136	Metal-Shield type 1" long	Solder lug
137	Metal-Shield type 1" long	Screw type
*138	Metal-Shield type 1" long	Solder lug

Special wide insulator between tip and sleeve provides 2 conductor plug for use in a 3 conductor jack; ring contact thereby insulated.

THREE CONDUCTOR PLUGS

PART NO.	HANDLE	TERMINAL DESCRIPTION
143	Metal-Shield type 2-1/16" long	Solder lug
144	Black plastic 1 1/2" long	Solder lug
145	Red plastic 1 1/2" long	Solder lug
146	Metal-Shield type 1" long	Solder lug

PUSH BUTTON SWITCHES



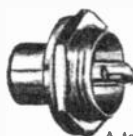
Electrocraft Push Button Switches are made in two standard ratings—momentary integral contacts for low level circuits and momentary fine silver contacts 3 amperes 115 volt AC non-inductive. Higher ratings are available in special current carrying materials and special contacts.

STANDARD SIZE

NO. PART	PUSH BUTTON	CONTACTS	SCHEMATIC CIRCUIT
601	Black	Integral	A
602	Red	Integral	
603	Black	Fine Silver	
604	Red	Fine Silver	
605	Black	Integral	B
606	Red	Integral	
607	Black	Fine Silver	
608	Red	Fine Silver	
609	Black	Integral	C
610	Red	Integral	
611	Black	Fine Silver	
612	Red	Fine Silver	

MINIATURE SIZE

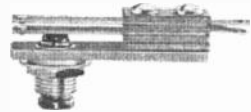
PART NO.	PUSH BUTTON	CONTACTS	SCHEMATIC CIRCUIT
651	Black	Integral	A
652	Red	Integral	
653	Black	Integral	B
654	Red	Integral	
655	Black	Integral	C
656	Red	Integral	



#8575 PHONO JACK . . . MOUNTED WITH NUT AND WASHER

A totally new type of phono jack construction. With unique Electrocraft design, this phono jack may be mounted with a nut and washer. An easy method of mounting, greatly simplifying both basic assembly and replacement operations.

STRAIGHT FRAME PUSH BUTTON SWITCHES



A versatile, rugged, straight frame push button switch; versatile in circuit arrangement and contact ratings. Available in 3 ampere standard rating—single make, single break, single pole double throw, two make, two break and three pole double throw types. Ratings may be increased up to 10 amperes at 110 volts AC non-inductive load through use of special contacts and suitable current carrying materials.

PART NO.	PUSH BUTTON	SCHEMATIC CIRCUIT
671	Black	A
672	Red	
673	Black	B
674	Red	
675	Black	C
676	Red	
677	Black	2 A
678	Red	
679	Black	2 B
680	Red	
681	Black	2 C
682	Red	
683	Black	3 C
684	Red	

MICROPHONE CONNECTORS



Cord mounted types are of rugged design in nickel plated brass to withstand hard use. Handy knurl grips are provided for use in engaging coupling threads. Cup point set screw firmly locks braided cable and strain relief spring in place. Panel mounted types assemble easily in .375 hole when grounded to chassis. When insulating washers are used—mounts in 29/64" hole. Mates with 402. Panel mounted closed circuit types mount in the same manner as above. Flated brass spring actuated contact exerts constant pressure for quiet operation. Contact closes circuit with cable connector removed, thus eliminating noise. Mates with 402.

STANDARD SIZE

PART NO.	DESCRIPTION	TYPE MOUNTING
401	Male microphone connector—single contact	Shielded cord mounted
402	Female microphone connector—single contact	Shielded cord mounted
403	Panel connector—single contact	Panel mounted
404	Panel connector—single contact	Panel mounted—gross fit
405	Panel connector—single contact—closed circuit	Panel mounted
406	Coupling nut—converts 401 to female type	
410	Cup or cover	

MINIATURE SIZE

The tiny panel mounted types assemble easily in .203 holes when grounded to chassis. Mounts in 1/4" hole when insulating washers are used.

PART NO.	DESCRIPTION	TYPE MOUNTING
451	Male microphone connector—single contact	Shielded cord mounted
452	Female microphone connector—single contact	Shielded cord mounted
453	Panel connector—single contact	Panel mounted
455	Panel connector—single contact—closed circuit	Panel mounted
456	Coupling nut—converts 451 to female type	

ELECTROCRAFT

ELECTROCRAFT, Inc. Chicago 25, Illinois



MINIATURE JACKS



Electrocraft's Miniature Jacks are carefully designed and built to exacting specifications. Positive electrical contact with mating plug is assured by positive spring pressure. Springs are made of special nickel silver material to provide maximum "solderability" and long life for these tiny parts.

Mounting bushing 1/4-32 thread. Mates with series 200 plug.

PART NO.	DESCRIPTION	SCHEMATIC NO.
351	Open circuit—2 conductor	C1
352	Closed circuit—2 conductor	C3
355	Transfer circuit—2 conductor	C5



TELEPHONE SWITCHBOARD JACKS

Ruggedly built long frame telephone jacks, available in "A" and "C" frame designs as shown. Parts numbers listed in our table are for the "A" type. For "C" frames of the same circuit, write for part numbers.

Steel frames are welded to give desired rigidity and stability. Nickel silver alloy springs assure maximum service life and resistance to corrosive action. On standard types the contacts are of fine silver; military types have palladium contacts and are made to Mil-J-641 specifications.

Fit standard telephone type plugs.

Standard Types Part No.	Military Types Part No.	MIL Type No.	Mating Plug	Dim. "A" Max.	Schematic NO.
**901	M901	JJ-086	PJ-055	7/16"	C1
902	M902		PJ-055	1/2"	C2
**902A	M902A	JJ-024	PJ-055	1/2"	C3
903	M903	JJ-016	PJ-055	9/16"	C4
904	M904	JJ-084	PJ-055	5/8"	C6
905	M905		PJ-055	5/8"	C7
**906	M906		PJ-055	5/8"	C8
**907	M907	JJ-072	PJ-055	5/8"	C9
907A	M907A	JJ-085	PJ-055	5/8"	C10
908	M908	JJ-035	PJ-055	5/8"	C11
909	M909		PJ-055	5/8"	C12
910	M910		PJ-055	3/4"	C13
910A	M910A	JJ-017	PJ-055	3/4"	C14
911	M911	JJ-087	PJ-055	3/4"	C15
912	M912	JJ-022	PJ-051	9/16"	C16
913	M913		PJ-051	9/16"	C17
**914	M914	JJ-042	PJ-051	5/8"	C18
915	M915	JJ-074	PJ-051	5/8"	C19
916	M916	JJ-075	PJ-051	11/16"	C20
916A	M916A	JJ-078	PJ-051	31/32"	C21
917	M917	JJ-077	PJ-051	13/16"	C22
918	M918	JJ-073	PJ-051	3/4"	C23
	*M919		PJ-068	9/16"	C16
	*M920		PJ-068	5/8"	C18
	M921	JJ-088	PJ-327	9/16"	C24

**Standard stocked types *Bushing I.D. .210"



SHIELDED JACKS



Our shielded jacks are made for use in high impedance circuits where effective shielding is essential. All of the improvements available in standard Electrocraft jacks are included.

STANDARD SIZE
Mounting bushing 1/8-32. Mates with standard plugs.

PART NO.	DESCRIPTION	SCHEMATIC NO.
851	Open circuit—2 conductor	C1
852	Closed circuit—2 conductor	C3
853	Open circuit—3 conductor	C16
854	Single closed circuit—3 conductor	C17

MINIATURE SIZE
Mounting bushing 1/4-32. Mates with series 200 plug.

PART NO.	DESCRIPTION	SCHEMATIC NO.
871	Open circuit—2 conductor	C1
872	Closed circuit—2 conductor	C3



LONG FRAME JACKS

Here is a quality-built long frame jack that is versatile in both circuit arrangements and contact ratings (3 ampere-standard stock rating). Rugged construction with heavy frame and straight flat springs insures long service life. Ratings may be increased up to 10 amperes at 110 volts AC non-inductive load through the use of special contacts and suitable current carrying materials. Available in standard stock types as listed below.

Mounting bushing 1/8-32. Mates with standard plugs.

PART NO.	SCHEMATIC NO.	DIM. A
701	C1	21/32"
702	C3	21/32"
702-A	C2	21/32"
703	C16	21/32"
704	C17	21/32"
704-A	C17A	21/32"
705	C5	3/4"
706	C7	3/4"
707	C6	3/4"
708	C18	23/32"
708-A	C18A	23/32"
709	C8	3/4"
710	C12	15/16"
711	C20	15/16"



HAN-D JACKS



Electrocraft's Hand-Jacks require a minimum panel space and depth behind panel, yet make positive electrical contact with mating plug which is held firmly attached by positive spring pressure. High grade insulating washers are switched to engage both spring blades and terminals, thus providing a positive mechanical locking arrangement preventing shifting of electrical connections or changes in adjustment. Springs are special nickel silver material, insuring long spring life and maximum "solderability."

These jacks are designed to fit our standard mating plugs. Adjustment to other than standard plugs may be arranged on request.

PART NO.	DESCRIPTION	SCHEMATIC NO.
301	Open circuit—2 conductor	C1
311	Open circuit—2 conductor—210" I.D. Sleeve—Use 125 plug	
334	Open circuit—2 conductor—MIL Type JJ-034	
302	Closed circuit—2 conductor	C3
312	Closed circuit—2 conductor—210" I.D. Sleeve—Use 125 plug	
389	Closed circuit—2 conductor MIL Type JJ-089	
303	Open circuit—3 conductor	C16
323	Open circuit—3 conductor—210" I.D. Sleeve—Fits W E. plug 109 and military plug PJ-068	
333	Open circuit—3 conductor—MIL Type JJ-033	
304	Single closed circuit—2 conductor	C17
314	Single closed circuit—2 conductor—Fits W E plug 109 and military plug PJ-068	
305	Transfer circuit—2 conductor	C5
306	Open circuit with insulated closed circuit—2 conductor	C7
307	Some with insulated open circuit 2 conductor	C6



CORD MOUNTED JACKS

by Electrocraft are manufactured under the same exacting production and inspection procedures as the regular line of jacks and plugs. They have the widely accepted feature—a clamp type terminal which provides a cable anchor.

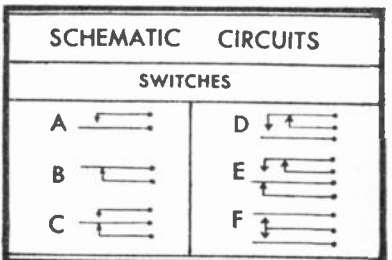
The jack mates with any standard Electrocraft plug. Handles of metal or black plastic... red plastic handles on request.

STANDARD SIZE

PART NO.	Bushing I.D.	DESCRIPTION	HANDLE	SCHEMATIC NO.
511	.210"	2 conductor—open circuit Solder lug terminal	Metal	C1
511P	.252"	Same as above	Plastic	
513		2 conductor—open circuit Screw type terminal	Metal	
513P		Same as above	Plastic	
512		3 conductor—open circuit Solder lug terminal	Metal	C16
512P		Same as above	Plastic	
514		3 conductor—open circuit Screw type terminal	Metal	
514P		Same as above	Plastic	

MINIATURE SIZE

PART NO.	HOUSING	SCHEMATIC NO.
521	Metal—Shield type—Solder lug	C1



Sec. 2100



LA GRANGE, ILLINOIS

GRAYHILL BINDING POSTS

All metal parts are nickel plated brass. Insulating washers are non-turn "D" style phenolic to MIL-M-14. Integral solder stud plus two hex nuts for solder lug connections. All posts may be used on panels up to 3/16" thick and are shipped completely assembled.



29-33 SPRING LOADED

For 1/2" mounting hole. 5/8" dia. insulating washers. Spring loaded head gives 24 oz. of contact force. Designed for rapid connections. Available in red, black, white, yellow, blue, gray, green and brown.



29-3 SCREW TYPE

For 1/2" dia. mounting hole. 5/8" dia. insulating washers for use in existing equipment or where wider spacing is desirable. Available in same 8 colors as 29-33.



29-1 SCREW TYPE

For 3/8" dia. mounting hole. 1/2" dia. insulating washers. Allows closer spacing of posts. Available in same 8 colors as 29-33.



29B11 For use with 29-1 posts. Makes an assembled unit with two posts on 3/4" centers. Molded phenolic to MIL-M-14. 29B11-1 (Black) 29B11-2 (Red)



29-41

Binding Plug (screw type) conforms to same standard as the binding posts. Mounted on a standard banana plug. 29-41R (Red) 29-41B (Black)

29-43

Binding Plug (spring loaded). Head gives 24 oz. contact force. Designed for rapid connections. 29-43R (Red) 29-43B (Black)



29-42

Twin Binding Plug. Two binding plugs mounted on a molded phenolic base. Banana plugs are on standard 3/4" centers. Sold as a completely assembled unit with two screw type heads.

29-44 Same as 29-42 except with spring loaded heads.

TEST CLIPS

The basic clip is available in 4 types of mounting. Designed for panel mounting on test equipment to allow rapid connections without manual opening and closing of jaws. Hex nut allows for tension adjustment of each clip. Clips are nickel plated brass. Length of test clip (excluding mounting base) is 1 1/4".



2-0 Threaded stud.

2-1 Banana plug.

2-4 Threaded stud with insulating washers.

2-6 Pin plug.

MINIATURE TEST CLIPS

A miniature version of the standard test clip, with the same construction and design, but extends only 3/4" above the mounting surface.



2-20 Threaded Stud

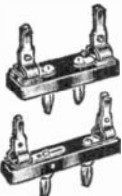
2-21 Banana Plug

2-24 Threaded Stud with Molded Phenolic Insulating Washers

TEST CLIP ADAPTERS

2-2 For testing resistors, capacitors and other pigtail type components. Banana plugs are on standard 3/4" centers. All metal parts are nickel plated brass. Mounting board is molded phenolic to MIL-M-14. Hex nut under clip allows for tension adjustment of individual clips. Test clip extends 1 1/4" above board.

2-7 Similar to the 2-2 except that banana plugs are adjustable from 3/4" to 1 1/4" centers.



INSULATED TEST CLIPS

COMPLETELY INSULATED (including hinge pin) eliminating the danger of shorting. Molded parts are phenolic to MIL-M-14. .008" thick silver overlay at point of contact. Terminal is silver plated brass. Contact resistance .0015 ohms. All units tested at 500 volts to insure complete insulation.

16-B (Black) 16-R (Red)

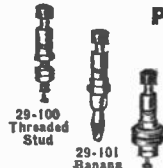


TRANSISTOR SOCKET 22-11



Designed for JETEC 30 packaging. Leads fit on 100 MIL grid for printed circuit. Socket fits through 3/8" drilled or punched hole and may be fastened with rivets or #2 screws. Terminal numbers are molded into bottom of socket and top face has key rib for alignment with transistor tab. Contacts are wrap around type, silver plated beryllium copper with gold flash. Base is molded mica-filled phenolic per MIL-M-14, Type MFE.

PLUNGER BINDING POST



29-104 Molded phenolic washers

Designed to provide fast positive connections, this post is operated by depressing the plunger, inserting lead, and releasing plunger. Spring pressure assures firm positive contact. Only 3/4" overall height above mounting surface. Nickel plated brass parts. Red or black molded phenolic button cap.

SERIES 31 TEST JACKS

Designed for use on printed circuit boards as test points. Accommodates standard phone tip plugs from .081" to .0825" dia. Rivets to board like an eyelet. Rivet dia. is .114". Jack is silver plated brass with gold flash. Retaining ring is cadmium plated spring steel. Extends 1/4" above circuit board.

31-1 (for 1/16" board)

31-2 (for 3/32" board)

31-3 (for 1/8" board)

PLASTIC SLEEVES FOR SERIES 31 TEST JACKS



Sleeves snap on and permanently lock in place over test jacks. Molded of thermo-setting plastic. Overall dimensions .245" dia. x .290" high. Available in black, red, green, gray, brown, blue, yellow and white. 31B—(Specify Color)

COIL FORMS

(Pat. No. 2,653,992)

MOLDED OF MICA FILLED PHENOLIC per MIL-M-14, Type MFE with leads of tinned solid copper wire. Available in lengths from 1/2" to 1" and diameters from 1/8" to 1/4". With or without anchoring posts.



STAND OFF INSULATORS

Body of insulator is molded of mica filled phenolic per MIL-M-14, Type MFE. Terminals are silver plated brass. Overall length excluding mounting stud is 15/16". Diameter is 5/16".

18-1 (Female)

18-2 (Male)



MATING INSULATING WASHERS

For jacks with a 3/8" dia. bushing. Washer for rear of panel has indexing hole that corresponds with the non-turn tab of the jack. Front washer fits under hex mounting nut. Sold in pairs.

21B78-1 (Mica-filled phenolic)

21B78-2 (Black elec. grade phenolic)



MOLDED INSULATING WASHERS

Molded from black electrical grade or mica filled phenolics. Available in eight different sizes for #2 to 3/8" screws. Overall diameters are 3/8", 1/2", or 5/8".



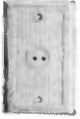
JAVEX ELECTRONICS

REDLANDS
CALIFORNIA

ALL JAVEX products are of highest quality and are guaranteed to SELL. Should any JAVEX item fail to give satisfaction in operation or quality, it may be returned for replacement, credit, or full refund.

TV, RADIO, HI-FI, ELECTRICAL, ELECTRONIC COMPONENTS
UL WHERE NECESSARY, NEMA STANDARD UNILINE OR SIERRA
DESIGN ON ALL WALL PLATES. IVORY OR BROWN.

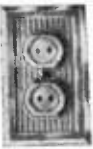
SINGLE OUTLET TV WALL PLATE



For extreme simplicity, convenience and efficiency in any TV or FM installation using 300 ohm transmission line. Uniline or Sierra design wall plates to match any existing decor. Use with XP-2 or MPX plugs.
Complete with mounting screws. Solderless.
Hi-Side for surface mounting, Regular for wall box installation.

WP-1 LIST PRICE \$1.29
ALSO FURNISHED FOR DOUBLE OUTLET—WP-2, FOR ROTATORS WITH 2 & 4 WIRE—WP-2-4, AND IN 6, 8 & 10 WIRE—WP-6, WP-8, WP-10, WITH SEPARATE PLATE & RECEPTACLE IN DOUBLE TV OUTLET AND ROTATOR COMBINATIONS AS BELOW.

DUPLEX TV RECEPTACLE WITH WALL PLATE



For two 2-wire sockets or one 2-wire and one 4-wire socket. For 2 TV leads or for TV-FM or for TV and rotor. Use with XP-2 and XP-4 or MPX plugs. Complete with mounting screws.

DUX-2-2 LIST PRICE \$1.73
(for two 300-ohm outlets)
DUX-2-4 LIST PRICE \$2.03
(for one 300-ohm & one 4-wire outlet)

MULTI-SET TV ISOLATOR



MI-50 isolator on a wall plate acting as a single or double TV outlet.
Complete with mounting screws and MPX plugs. Solderless.

MI-TV-1 LIST PRICE \$2.97
(1 outlet)
MI-TV-2 LIST PRICE \$3.89
(2 outlets)

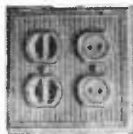
MULTI-SET TV ISOLATOR



Ideal for hotels, motels, and Multi-Set installations, 25-50 TV sets operate on one antenna. Limited only by the signal strength in your locality. One isolator required at each TV set. Complete with Magi plug and mounting screws.

Size 1 1/4" x 2" x 7/16" high. Solderless.
MI-50 LIST PRICE \$2.69
MPX Magi-Plug Available Separately LIST PRICE \$1.97

COMPLETE AC-TV WALL PLATES



One TV receptacle plus one AC receptacle of standard UL rating and a 2-gang duplex wall plate. Use with XP-2 and XP-4 or MPX plugs. Complete with mounting screws. Solderless.

AC-TV-2-2 LIST PRICE \$2.19
(two 2-wire TV outlets plus AC outlet)
AC-TV-2-4 LIST PRICE \$2.49
(one 2-wire TV outlet and one 4-wire Rotor outlet plus AC outlet).

VOLUME ('L' PAD) CONTROL



For Hi-Fi and other remote multiple installations where individual loud speaker volume control is necessary. 'L' pad type. 4, 8 & 16 ohm.

CONTROL ONLY
LC-4 LIST PRICE \$2.37
LC-8 LIST PRICE \$2.37
LC-16 LIST PRICE \$2.37

WITH PLATE

LCP-4 LIST PRICE \$2.95
LCP-8 LIST PRICE \$2.95
LCP-16 LIST PRICE \$2.95

ALSO — TENNA-SHINGLES, HIGH VOLTAGE PROBES, CRYSTAL HOLDERS, AC RECEPTACLES, BAKELITE WALL BOXES AND JAVEX MINI-PLATES AND SOCKETS. WRITE FOR CATALOG.

DUPLEX OUTLET RECEPTACLE



This receptacle is supplied in two styles for TV-FM, rotors, etc. Complete with mounting screws. Solderless. Use with XP-2 and XP-4 or MPX plugs.

DU-2-2 LIST PRICE \$1.23
(two 300-ohm outlets)
DU-2-4 LIST PRICE \$1.49
(one 300-ohm & one 4-wire outlet)

COMBINATION SWITCHING & OUTLET PLATES



Plate with 4 pos., 2 pole switch. LIST PRICE \$3.29
WPS
4 pos., 2 pole switch and 2 wire outlet. LIST PRICE \$3.49
WPS-1
Use with XP-2 or MPX Plugs

TENNA-TUBE THRU-WALL



Featuring the new 300-ohm JAVEX Mini-Plates, MWP-2 or MWP-4. Will connect any VHF-UHF lead-in. Will accommodate regular or special twin, RG, ladder, co-axial, oval, and round leads.

TT WITHOUT PLATE LIST PRICE \$1.39
TT-2 WITH PLATE & PLUG LIST PRICE \$2.65
TT-4 WITH PLATE & PLUG LIST PRICE \$2.95
FOR 4 WIRE

PLUGS

Cannot be plugged into 110 VAC. True 300-ohm with triple plated red brass octal base pins. Sparkling molded acrylic resin of the most handsome quality. 3/4" x 9/8" high, with easy grip sides. Solderless.

XP-2 2 Wire LIST PRICE \$.30
XP-4 4 Wire LIST PRICE \$.59
XP-9 9 Wire LIST PRICE \$1.69

2 AND 4 WIRE LINE SPLICERS

S-2 LIST .15 S-4 LIST .29

SUPER AC CONNECTOR



BAKELITE FOR 2 WIRE AC SERVICE.
RATED 10 AMPS @ 250 VOLT
SMK-2 LIST PRICE \$.69

OCTAL PLUG



Fits Octal Sockets. Screw cap. Finest Precision Bakelite Molding.

SP-8 LIST PRICE \$.93

MINIATURE PHONE PLUG & JACK



Tiniest and finest set for open or closed circuits. Screw on cups, less than 3/8" dia., 1" long overall.

SMJ LIST PRICE \$.93

TEST LEADS

Red & Black Vinyl in
5 Combinations



Finest quality vinyl, red and black leads in 5 combinations of pin, banana and alligator tips.

SL-1 Pin tips and prods. LIST PRICE \$1.69
SL-2 Banana tips and prods. LIST PRICE \$1.69
SL-3 Pin tip and alligator clips LIST PRICE \$1.69
SL-4 Banana tip and alligator or clips LIST PRICE \$1.69
SL-5 Alligator clips both ends LIST PRICE \$1.69

YOU CAN ALWAYS DEPEND ON A JAVEX PRODUCT



CONNECTING CABLES

with *Lenite*

MOLDED PLUGS and JACKS



FOR HI-FI, TUNERS, AMPLIFIERS, PRE-AMPLIFIERS, RECORDERS, SPEAKERS, SPEAKER EXTENSIONS, RECORD CHANGERS, PUBLIC ADDRESS SYSTEMS, AUDIO EQUIPMENT, RADIO AND STEREPHONIC SYSTEMS

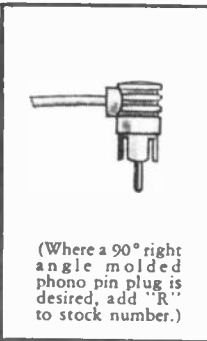
The NEW L-T MOLDED construction, with "finger grip" grooved terminations, greatly improves the appearance of the cable, makes the connectors virtually indestructible, and provides new ease of handling. L-T's molded connectors are waterproof; there is no strain on soldered connections, and they eliminate the need for unsightly external clamps. The molded plugs and jacks are an attractive gray, to match the soft gray color of the cable. L-T cables are soldered to the connectors before molding, assuring completely

noise-free operation. L-T cable is of the highest quality, low-capacitance type, insuring minimum loss. Jacket is of smooth silver-gray, non-contaminating high temperature plastic. L-T plugs and jacks are made of highly polished brass, machined to close tolerances, then double-plated. L-T connecting cables with MOLDED terminations are individually packaged in strong, clear plastic bags or attractive boxes, with complete description and length of cable printed on the label.



SHIELDED

SHIELDED CONNECTING CABLES WITH MOLDED PHONO PIN PLUGS AND MOLDED PHONO PIN JACKS

	C101 18" .63	NET
Shielded cable. Molded Phono Pin Plug each end.	C102 36" .72	
	C103 72" .90	
	C104 120" 1.14	
	C105 18" .48	NET
Shielded cable. Molded Phono Pin Plug; Stripped & Tinned.	C106 36" .57	
	C107 72" .75	
	C108 120" .99	





The silver-gray cable is of high-quality, low-capacitance type for minimum loss. Used for interconnecting tuners, pre-amps, amplifiers, record changers, recorders and accessories, wherever Phono Pin Jack or Plug is used.



	C201 18" .72	NET
Shielded cable. Molded Phono Pin Plug; Phono Pin Jack.	C202 36" .81	
	C203 72" .99	
	C204 120" 1.17	
	C401 18" .90	NET
Shielded cable. Molded Phono Pin Jack each end.	C402 36" .99	
	C403 72" 1.17	
	C404 120" 1.41	

FOR STEREPHONIC AND EXTENSION APPLICATION

Extra length shielded cables to meet the growing demand for stereophonic and extension use in Hi-Fi and Stereo. Extra long

molded grips on the phono pin plug for ease of handling when the jack is recessed into the cabinet or chassis.

	S3410 10' 1.26	NET
Shielded cable. Long Molded Phono Pin Plug each end.	S3415 15' 1.56	
	S3010 10' 1.08	NET
Shielded cable. Long Molded Phono Pin Plug; Stripped and Tinned.	S3015 15' 1.38	

	S3306 6' 1.32	NET
Shielded cable. Long Molded Phono Pin Plug; Long Molded SHIELDED Phone Plug.	S3310 10' 1.62	
	S3315 15' 1.92	
	S3320 20' 2.22	
	S3110 10' 1.14	NET
Shielded cable. Long Molded Phono Pin Plug; Lugs.	S3115 15' 1.44	

Plugs into standard 3/4" Centers dual phono jacks on all stereo amplifiers. Used for interconnecting stereo record changers, amplifiers and accessories.

MOLDED DUAL PHONO PIN PLUG FOR ALL STEREO AMPLIFIERS






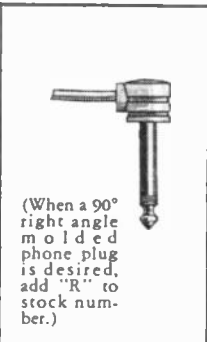
Two conductor shielded stereo cable. Molded dual phono pin plug; stripped and tinned.	SP8003 3' 1.74	NET
	SP8006 6' 2.01	
	SP8010 10' 2.37	
Two conductor shielded stereo cable. Molded dual phono pin plugs each end.	SP8403 3' 2.25	NET
	SP8406 6' 2.52	
	SP8410 10' 2.88	




MOLDED PHONE PLUGS

A fully SHIELDED MOLDED standard phone plug, available either straight or right angle, with gray, low-capacitance 100% shielded

cable. The newly designed gray molded handle is grooved for ease in gripping, and permits easy insertion into a recessed jack.

	C4406 6' 1.20	NET
Shielded cable. Molded SHIELDED Phone Plug; Phono Pin Plug	C4410 10' 1.50	
	C4415 15' 1.80	
	C4506 6' 1.26	NET
Shielded cable. Molded SHIELDED Phone Plug; Phono Pin Jack.	C4510 10' 1.56	
	C4515 15' 1.86	
	C4006 6' 1.05	NET
Shielded cable. Molded SHIELDED Phone Plug; Stripped and Tinned.	C4010 10' 1.35	
	C4015 15' 1.65	



	C4306 6' 1.41	NET
Shielded cable. Molded SHIELDED Phone Plug each end.	C4310 10' 1.71	
	C4315 15' 2.01	
	C4325 25' 2.61	
	C4606 6' 1.80	NET
Shielded cable. Molded SHIELDED Phone Plug; Molded SHIELDED Phone Jack.	C4610 10' 2.04	
	C4615 15' 2.34	
	C4106 6' 1.11	NET
Shielded cable. Molded SHIELDED Phone Plug; Lugs.	C4110 10' 1.41	
	C4115 15' 1.71	

ALL PRICES QUOTED ARE U.S.A. PRICES

MOLDED CONNECTORS & PLUGS

with *Lenite*

with VARIOUS TERMINATIONS



FOR MICROPHONES, PROFESSIONAL RECORDERS, SPECIAL AUDIO EQUIPMENT, TV EYES, ELECTRONIC INSTRUMENTS, OFFICE EQUIPMENT, ETC.

L-T cables and molded connectors are designed to provide a more noise-free, trouble-free, strain-proof connection. All metal parts are machined brass, smoothly polished and nickel plated. The soldered connections are imbedded in unbreakable molded plastic and

cannot loosen or pull out. Low loss, fully shielded cable is used. Can be used with high impedance inputs. Handy grooved plastic handles for easy gripping. Cable and molded plugs are color-matched in a soft, pleasing silver-gray.

SHIELDED

THE NEW TINY PHONE PLUG, used in some of the latest models of recording equipment, business machines, hearing aids, pocket radios, meters, etc. The miniature, two-conductor phone plug is approximately

1/2 the size of the standard phone plug. Molded body cannot come apart. Low-capacitance shielded cable and parallel unshielded cord available. Silver-gray cable and matching molded unbreakable plastic termination.

Shielded cable. Tiny Plug; Phono Pin Plug.	T2403	3'	NET 1.29
	T2406	6'	1.50
	T2410	10'	1.68

Shielded cable. Tiny Plug; Phono Pin Jack.	T2503	3'	NET 1.32
	T2506	6'	1.53
	T2510	10'	1.71

Shielded cable. Tiny Plug; Standard Phone Plug.	T2303	3'	NET 1.44
	T2306	6'	1.65
	T2310	10'	1.83

Shielded cable. Tiny Plug; Stripped and Tinned.	T2003	3'	NET 1.14
	T2006	6'	1.35
	T2010	10'	1.53

Parallel Cord (2 Conductor unshielded). Tiny Plug; Stripped and Tinned.	TP2020	20'	NET 1.44
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Parallel Cord (2 Conductor unshielded). Tiny Plug; Clips.	TP2220	20'	NET 1.74
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MICROPHONE CONNECTORS

L-T has developed a new molded connector which is interchangeable with the present type now on the market. Molded grip with the cable molded directly onto the polished nickel plated brass connector. BOTH the conductor AND shield are soldered to the connector prior to molding, insuring noise-free operation. Heavy duty co-axial shielded cable, low loss, with a nominal capacitance

of approximately 25 mmf/ft. For use with microphones, pre-amps, test equipment, VTVM, oscilloscopes, recorders, custom Hi-Fi installations or wherever a standard microphone connector is used. The coupling ring may be screwed back to convert connector from female to male type. Molded in gray to match the silver-gray cable.

Shielded cable. Molded Male and Female Microphone Connector.	E906	6'	NET 1.35
	E912	12'	1.80
	E925	25'	2.85

Shielded cable. Molded Microphone Connector; Stripped and Tinned.	E1106	6'	NET 1.05
	E1110	10'	1.50
	E1125	25'	2.55

Shielded cable. Molded Microphone Connector; Molded Phono Pin Plug.	E801	1'	NET .84
	E803	3'	1.05
	E806	6'	1.23

Shielded cable. Molded Microphone Connector; Molded Phone Plug.	E1306	6'	NET 1.35
	E1310	10'	1.80
	E1325	25'	2.85

Shielded cable. Molded Microphone Connector; Molded Pin Jack.	E1506	6'	NET 1.32
	E1510	10'	1.77
	E1525	25'	2.82

Shielded cable. Molded Microphone Connector; Molded Phone Jack.	E1606	6'	NET 1.65
	E1610	10'	2.10
	E1625	25'	3.15

Shielded cable. Molded Microphone Connector; Clips.	E1003	3'	NET 1.20
	E1006	6'	1.35
	E1012	12'	1.89

Shielded cable. Molded Microphone Connector; Clips.	E1003	3'	NET 1.20
	E1006	6'	1.35
	E1012	12'	1.89

ALL PRICES QUOTED ARE U.S.A. PRICES



MOLDED PLUGS and JACKS for SPEAKER EXTENSIONS with *Lenite*

FOR SPEAKER EXTENSIONS, AUDIO RECORDING, LOW IMPEDANCE PATCHING, VOICE COIL, RECORDING, SPEAKER LINES, VOLTAGE LINES, ETC.

L-T molded phone plugs and/or molded phono pin plug, either right angle or straight, using a highly flexible stranded parallel cord, can be used wherever shielding is not required. Molded with silver

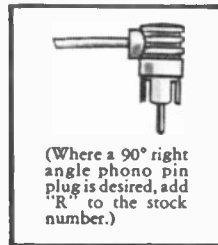
gray unbreakable LENITE to match the color of the cable. UL & CSA approved. There is an L-T cable to fit any need, including exact replacements for original equipment, or added accessories.

PARALLEL CABLE (Not Shielded)

Flexible cable (not shielded) with molded phono pin plug for voice coil recording, speaker extensions, audio

output, low impedance lines, etc. When the right angle type is desired, add "R" to the stock number.

Flexible cable. Molded Phono Pin Plug each end.	P6406	6'	NET .75
	P6410	10'	1.05
	P6420	20'	1.47



Flexible cable. Molded Phono Pin Plug; Stripped and Tinned.	P6006	6'	NET .54
	P6010	10'	.84
	P6020	20'	1.26

Flexible cable. Molded Phono Pin Plug; Clips.	P6206	6'	NET .84
	P6210	10'	1.14
	P6220	20'	1.56

Flexible cable. Molded Phono Pin Plug; Lugs.	P6106	6'	NET .60
	P6110	10'	.90
	P6120	20'	1.32

Molded Phone Plug, either right angle or straight, with flexible cable (unshielded) for use with radio voice coil

recording, speakers, headphones, audio output, or other low impedance circuits. Silver-gray cable and plugs.

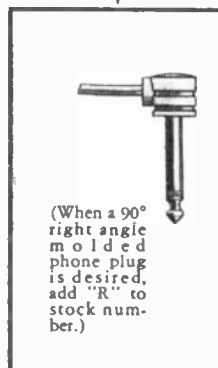
Flexible cable. Molded Phone Plug each end.	P7306	6'	NET 1.35
	P7310	10'	1.65
	P7320	20'	2.07

Flexible cable. Molded Phone Plug; Stripped and Tinned.	P7006	6'	NET .84
	P7010	10'	1.14
	P7020	20'	1.56

Flexible cable. Molded Phone Plug; Clips.	P7206	6'	NET 1.14
	P7210	10'	1.44
	P7220	20'	1.86

Flexible cable. Molded Phone Plug; Lugs.	P7106	6'	NET .90
	P7110	10'	1.20
	P7120	20'	1.62

Flexible cable. Molded Phone Plug; Molded Phono Pin Plug.	P7406	6'	NET 1.05
	P7410	10'	1.35
	P7420	20'	1.77



Flexible cable. Molded Phone Plug; Phono Pin Jack.	P7506	6'	NET 1.11
	P7510	10'	1.41
	P7520	20'	1.83

Flexible cable with new small alligator clips on each end.	P5210	10'	NET 1.02
	P5220	20'	1.32

Flexible cable with spade lugs on each end.	P501	10'	NET .54
	P502	20'	.90

ALL PRICES QUOTED ARE U.S.A. PRICES

Guarantee

L-T Molded Plugs and Jacks are **GUARANTEED** against defects for two years from the time they are purchased. This guarantee covers breakage, mechanical, electrical or operational failures. Any L-T molded termination which becomes defective within 2 years and is returned to the factory, will be replaced at no charge. Accessories are covered by our usual 1-year guarantee.

ADAPTERS & CONNECTORS

Lab-Tronic's line of adapters was researched by an electronic consulting firm, and is the most useful and complete line in the industry—a *must* for the lab or repair kit. Cuts the number of cables necessary in the lab or shop from hundreds to just a few. Capable of connecting almost any termination to almost any combinations of other terminations. For the engineer, technician, repairman, experimenter, research lab, maintenance department, tester, etc. (Microphone connectors are convertible from female to male.)



<p>C400 Phono Pin Jack; Phono Pin Jack. C400.....NET .60</p>	<p>P35A Phono Pin Jack; Phone Plug. P35A.....NET .75</p>	<p>M75P Male Mic; Phone Plug. M75P.....NET .30</p>	<p>MP Mic; Phono Pin Plug. MP.....NET .60</p>	<p>C800 Mic; Mic. C800.....NET .60</p>
<p>A734 Two Phono Pin Jacks; Phono Pin Plug. A734.....NET 1.20</p>	<p>A753 Phone Jack; Phono Pin Jack. A753.....NET 1.05</p>	<p>A750 Phone Jack; Phono Pin Plug. A750.....NET 1.05</p>	<p>A780 Phono Pin Jack; 2 Prong Polarized Plug 1/4" centers. A780.....NET .75</p>	<p>A751 Mic Connector; Phono Pin Jack. A751.....NET .75</p>
<p>A779 Mic Connector; Clips. NET .75</p>	<p>A782 Phone Plug; Clips. NET .75</p>	<p>A778 Phono Pin Jack; Clips. NET .75</p>	<p>A781 Phone Jack; Clips. NET 1.05</p>	<p>A752 Mic Connector; Phone Jack. A752.....NET 1.05</p>

EXACT DUPLICATE CABLES FOR ORIGINAL EQUIPMENT REPLACEMENT

Molded Male Plugs; with Molded Female Receptacles, Molded Octal Plugs, etc. (as widely used on Record Changers and Audio and TV equipment).
Write for Exact Duplicate Replacement Catalog.
Cable Assemblies manufactured to specifications for O. E. M.

ACCESSORY ITEMS

SM-7 Stereo-Monaural-Reverse Switch. Permits instant switching from monaural to stereo with an additional positioning for channel reversing. Ideal for stereo modification. Dual phono pin jacks allow simple plug-in of pickup and amplifier. Attractively finished and fully shielded. Supplied complete with screws for easy mounting on cabinet or record changer. Size 3" x 2" x 1" **SM-7**.....NET 2.10

SM-6 Stereo-Monaural Switch. For use on stereophonic systems with a "45-45" stereo cartridge. Permits use of both standard and stereo records. Eliminates the vertical noises caused by dust, groove defects, etc., which the stereo head may pick up. 2" x 2" x 1" high. Two phono pin jacks in and two phono pin jacks out. Simple to use. Can be mounted on changer or cabinet. Fully shielded. **SM-6**.....NET 1.80

UC-1 Universal Stereo Conversion Kit. Simply and quickly converts any record changer so that it may be used with a stereophonic playback cartridge. Requires no soldering. Kit, including instructions, consists of pickup arm cable, accessory clips and a stereo-monaural switch complete with output cables and terminal box combined in a single attractively finished, easily mounted unit. **UC-1**.....NET 4.17

DS-5 Tuner-Phone Switch. A convenient accessory for modernizing amplifiers having a single input. Has two phono pin jacks for phono, tuner, etc. Slide switch selects either input. Comes complete with 18" shielded output cable with phono pin plug attached for plugging into amplifier. Simple to install, easy to use. Size 2" x 2" x 1". **DS-5**.....NET 1.80

L-1601 Speaker Selector Switch. Selects any one of 3 speakers or any 2 or all 3, from a single remote location. *Maintains impedance match.* Screw terminals, no soldering. Fits in standard outlet box or can be mounted on cabinet. Brushed brass plate, molded black escutcheon. Complete with screws. **L-1601**.....NET 5.95

Model AS-10 "Robot" Automatic Switch for automatically turning off amplifier after last record is played, or appliance, lamp, etc. When record changer turns off, amplifier will also turn off automatically. Prevents amplifier or appliance from accidentally being left on. Has manual-automatic switch. Complete with line cord, receptacles and instructions. **Model AS-10**.....NET 5.25

L-1612 Speaker Volume Control. A constant impedance volume control for custom installations. Controls Hi-Fi or PA speaker from any remote location. Rated at 4 watts continuous, 15 watts audio peak. No soldering necessary. Molded escutcheon, brushed brass plate. 8 or 16 ohms. With screws and instructions. **L-1612**.....NET 9.75

FM91 FM Twin-Line Antenna. Folded dipole type for indoor use. 6 foot lead-in, with spade lugs. May be installed behind cabinet or under rug—or any out-of-way place. Designed to the center of the FM band. **FM91**.....NET 1.26

L-1613 Speaker Volume Control. Same as L-1612 but with phone jack on plate. Permits use of headphones or external speaker. Jack also acts as two position switch allowing extension speaker to be used with or without main speaker. No soldering. 8 or 16 ohms. With screws and instructions. **L-1613**.....NET 10.75

Write for Specifications and Literature on Accessory Items

Prices, Specifications, Designs & Numbers Subject to Change when Necessary

ALL PRICES QUOTED ARE U.S.A. PRICES

Mueller Electric Co.

CLEVELAND, OHIO

ALLIGATOR, TEST, AND BATTERY CLIPS

U.S. PATENTS: 2,416,113; 2,549,589; 2,593,130; 2,762,028

For use in making quick, temporary electrical connections. Screw connections.

NEW "70 SERIES" ALLIGATOR CLIPS

U.S. Patent No. 2,762,028

A modern, streamlined version of our standard size Alligator Clips. Features simplified design, fast connection of wire with cord strain relief ears, patented hinge construction and lower cost. Mueller's traditionally snappy spring, full jaw spread, fine meshing teeth, round thumb grip and trim shape give most wanted features for test work in close quarters.

No. 70—FOR SOLDERED CONNECTION

Steel, cadmium plated. 1 1/4" long.
EACH NET.....\$0.07 LOTS OF 10....\$0.044



No. 70-S—SCREW CONNECTION

Otherwise same as No. 70.
EACH NET.....\$0.08 LOTS OF 10.....\$0.05



No. 70-CS—COPPER SCREW CONNECTION
Solid copper version of No. 70-S.
EACH NET.....\$0.11 LOTS OF 10....\$0.075

No. 72—NEW SKIN-TIGHT INSULATOR FOR 70 SERIES ALLIGATOR CLIPS:



For the first time complete, skin-tight, one-piece insulation for a standard size Alligator Clip! Covers entire clip right down to nose. Special tip slot permits full jaw opening without exposing teeth.
EACH NET.....\$0.06 LOTS OF 10.....\$0.04

"60 SERIES" ALLIGATOR CLIPS

No. 60—CONVENTIONAL TYPE

Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2" long.
EACH NET.....\$0.07 LOTS OF 10.....\$0.05



No. 60-S—SCREW CONNECTION

Eliminates necessity for soldering. Otherwise same as No. 60.
EACH NET....\$0.08 LOTS OF 10....\$0.058



No. 60-CS—COPPER ALLIGATOR CLIP

Solid copper version of No. 60-S. Screw connection. 2" long. 10 per box.
EACH NET.....\$0.12 LOTS OF 10.....\$0.084

No. 60PR-2—SPECIAL BARREL

FOR TEST PROD OR PHONE TIP

Barrel crimped to provide friction fit on standard test prod or phone tip. Holds prod on test, frees hand for other work.
EACH NET.....\$0.10 LOTS OF 10.....\$0.07



No. 62 FLEXIBLE VINYL INSULATOR

Red and black insulators for Alligator Clips 60, 60-S, 60-CS, 60PR-2.
EACH NET.....\$0.06 LOTS OF 10.....\$0.04



No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE

Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2 1/4" long. Shipped half red, half black.
EACH NET.....\$0.12 LOTS OF 10.....\$0.084



No. 60-CHS—COPPER ALLIGATOR CLIP, INSULATED HANDLE

Solid copper version of No. 60-HS. Screw connection. Shipped with half red, half black insulating sleeves. 10 per box.
EACH NET.....\$0.15 LOTS OF 10.....\$0.105

MINI-GATOR CLIP

(Smallest Insulated Clip Ever Made)

U.S. Patent No. 2,762,028

Trademark Reg.



Mini-gator



Mini-gator with insulator

A truly miniaturized clip—the only one of its kind. Indispensable for testing or incorporation into miniaturized equipment. Skin-tight flexible Vinyl Insulator (sold separately) covers completely—has slotted "lip action" tip. Clip weighs 1/20th oz., has tiny 1/4" O.D. nose, but ample 3/8" jaw spread. Crimping ears. Solder connection. Surprisingly strong bite penetrates corrosion and coatings.
No. 30 (Steel, cadmium plated)
EACH NET.....\$0.07 LOTS OF 10.....\$0.044
No. 30-C (Solid Copper)
EACH NET.....\$0.08 LOTS OF 10.....\$0.056
No. 32 (Insulator for Nos. 30 and 30-C)
EACH NET.....\$0.06 LOTS OF 10.....\$0.04

COMPLETELY INSULATED ALLIGATOR CLIPS

Patent Pending



No. 63 or 63-C Clip
Sold only as a unit, with factory-applied insulators.

A radically new development that doubles the usefulness of Alligator Clips! Completely insulated right down to the nose. Flexible 2-piece skin-type vinyl insulator of high dielectric strength, with "lip action" slotted nose that permits opening of clip without exposing metal. Insulator nose is only 15/64" O.D. The tight fitting sheath preserves all the slimness of the Alligator Clip, still giving complete protection against shorts in even the tightest spots. These clips could be bunched together—touching all around—without danger of shorting. Screw connection easily made by slipping insulator forward.

No. 63—INSULATED ALLIGATOR CLIP (STEEL)

Composed of Mueller No. 60-S Alligator Clip steel, cadmium plated, screw connection, complete with 2-piece vinyl insulator. Shipped half with red insulators, half black. 10 per box.
EACH NET.....\$0.24 LOTS OF 10.....\$0.164

No. 63-C—INSULATED ALLIGATOR CLIP (COPPER)

Composed of Mueller No. 60-CS Alligator Clip, solid copper, screw connection. Shipped half with red insulators, half black. 10 per box.
EACH NET.....\$0.26 LOTS OF 10.....\$0.18

CROCODILE CLIPS



No. 85 or 85-C Clip with No. 87 Insulator



No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2 1/4" long.
EACH NET.....\$0.09 LOTS OF 10.....\$0.06

No. 85-C—Same as No. 85, except solid copper. A radio frequency, entirely non-ferrous test clip. 10 per box.
EACH NET.....\$0.16 LOTS OF 10.....\$0.11

No. 85-T—Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads. 2 5/8" long. 10 per box.
EACH NET.....\$0.21 LOTS OF 10.....\$0.15

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protect against short and shock. Help to distinguish leads.

WEE-PEE-WEE No. 88

Entirely Non-ferrous. Smaller Than Ever!



An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. Ideal for close-wound coils. 1 1/4" long; jaw spread 3/8". 10 per box.
EACH NET.....\$0.22 LOTS OF 10.....\$0.15

Use No. 93 Insulator.

Mueller Electric Co.

TEST CLIPS



No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1 1/2" long. Jaw spread 1/8". Steel, cadmium plated.

EACH NET.....\$0.07 LOTS OF 10.....\$0.05



**No. 45-C Clip
No. 47 Insulator**

**No. 45-C
Solid Copper R.F. Test Clip**

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1 1/2" long. 10 per box.

EACH NET.....\$0.13 LOTS OF 10.....\$0.09

Use No. 47 Insulator for clips 45 and 45-C.



No. 48-B

A small test and battery clip for radio use and general testing purposes. 2" long. Jaw spread 1/8". Steel, cadmium plated. 10 per box.

EACH NET.....\$0.10 LOTS OF 10.....\$0.07

No. 48C—Solid Copper. Same size as 48-B.

EACH NET.....\$0.14 LOTS OF 10.....\$0.098



No. 50-C Needle Clip

Solid bronze. Needle pierces insulation of wire for quick test contact. 2 1/4" long. 10 per box.

EACH NET.....\$0.26 LOTS OF 10.....\$0.18

No. 51-C—Large crocodile clip. Same as 50-C but without needle. 10 per box.

EACH NET.....\$0.17 LOTS OF 10.....\$0.12

Use No. 49 Insulator for Clips 48-B, 48-C, 50-C and 51-C.



No. 27

A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 1/4" long. Jaw spread 5/8". Steel, cadmium plated. 10 per box.

EACH NET.....\$0.13 LOTS OF 10.....\$0.09

No. 27-C—Solid copper. Same size as No. 27. 10 per box.

EACH NET.....\$0.20 LOTS OF 10.....\$0.14

Use No. 29 Insulator for clips 27 and 27-C.

LARGER SIZES OF CLIPS



**No. 24-A
25 Amp.**

A medium sized battery clip. Stands erect on battery post. Lead coated. copper shunt protects spring. 2 1/2" long. Jaw spread 3/8". Steel, lead plated. 10 per box.

EACH NET.....\$0.22

LOTS OF 10.....\$0.15

No. 24-C—Solid copper 50 Amp. Same size as No. 24-A.

EACH NET.....\$0.34 LOTS OF 10.....\$0.24

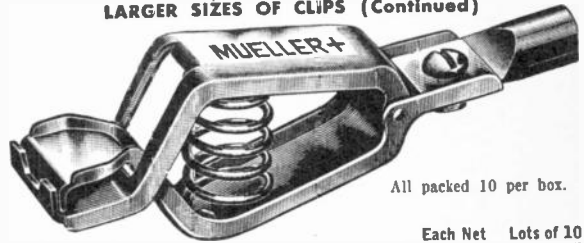
Use No. 26 Insulator for Clips 24-A and 24-C.



50 Amp.

No. 21-A—Heavy Duty Steel, lead plated, 4" long. 10 per box.....\$0.40 Each Net Lots of 10 \$0.28

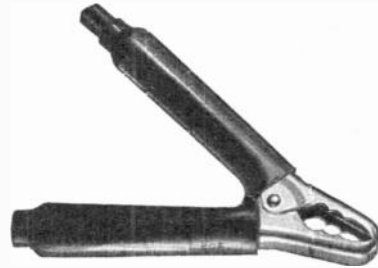
LARGER SIZES OF CLIPS (Continued)



All packed 10 per box.

	Each Net	Lots of 10
No. 21-C—100 Amp. Solid Copper, 4 1/2" long	\$0.91	\$0.64
No. 11-A—100 Amp. Steel, lead plated, 6" long	1.00	.70
No. 11-C—200 Amp. Solid Copper, 6" long	1.70	1.19
No. 33-C—300 Amp. Solid Copper, 7 3/4" long	3.25	2.28

(Furnished with detachable lug connection for easy securing to large cables.)



**No. 41-A
Steel
(lead plated)
100 Amp.**

**No. 41-C
Solid Copper
200 Amp.**

**No. 43
Paired
Insulators**

HIPPO-CLIP

An improved clip for fast chargers and booster cables. Full 1 1/8" jaw spread. Detachable lug connection. Rugged design. Optional vinyl handle insulators, red for positive, black for negative.

List Price Ea.

No. 41-A Hippo Clip	.....	\$ .95
No. 41-C Hippo-Clip	.....	2.00
No. 43 Insulators (per pair)	.....	.25

FLEXIBLE INSULATORS FOR CLIPS



A convenient protection against short circuit and electric shock. Colors help to distinguish leads. Packed half red and half black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly. NOW AVAILABLE also in blue, white, yellow and green at 10% above regular price are insulators marked * below.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11-A, 11-C	\$0.85	\$0.59
23*	21-A, 21-C	.46	.32
26*	24-A, 24-C	.23	.16
29*	27, 27-C	.15	.10
32*	30, 30-C	.06	.04
35	33-C	2.93	2.05
47*	45, 45-C	.06	.044
49*	48-B, 48-C, 50-C, 51-C	.09	.065
62*	60, 60-S, 60-CS, 60P-R-2 (also 70 Series)	.06	.04
72*	70, 70-S, 70-CS	.06	.04
87*	85, 85-C, 85-T	.06	.044
93	88	.12	.08

*Also available in blue, white, yellow and green.

GROUND CLAMP



**CLAMPPIPE -
No. 58**

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClampPipe that cannot be found in any other make.

The ClampPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

The best ground clamp value on the market. Applicable to pipe 3/4" to 1 3/4" outside diameter.

Packed 10 in a box
EACH NET.....\$0.20 LOTS OF 10.....\$0.14

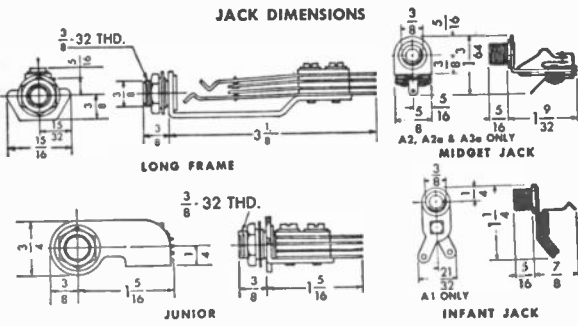
Jacks



Metal parts on all jacks have protective plating. Fine contact surfaces provide excellent electrical conductivity. Suitable mounting hardware supplied with all jacks. LA Jacks are economy jacks similar to the SC Series (see listing this page).

Long Frame Cat. No.	List Price	Junior Jacks Cat. No.	List Price	Infant and Midget Jacks Cat. No.	List Price
1	\$0.75	701	\$0.75	A-1	\$0.65
2	.95	702	.85	A-2	.80
2A	.95	702A	.95	A-2A	.95
2B	.95	702B	.95		
3	1.00	703	1.00		
		703A	1.00	A-3A	1.10
3B	1.00	703B	1.00		
		703C	1.00		
		704	1.15		
		704A	1.15	LA-1	\$0.45
		704B	1.15	LA-2	.50
4B	1.25	704B	1.15	LA-2A	.55
5	1.50	705	1.25	These Jacks equivalent electrically to A-1, A-2 and A-2A listed above	
6	1.75				

GJ-1 Airplane Grounding Jack—Similar to A-1 Jack except for insulation. List Price \$0.50



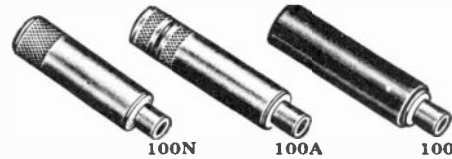
Cat. No.	Type
XP1	(Open Circuit)
XP2B	(Three-Circuit Microphone)
XP3B	(Single Circuit, Make before Break)

SC Jacks and LA Jacks



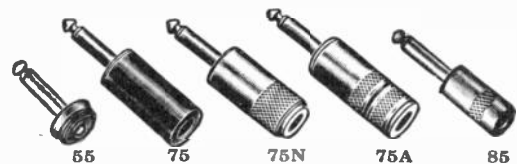
Both SC Type Jacks have standard brass 3/8"-32 bushings. Mounting depth behind panel 1 1/16". LA Jacks are similar in basic design and size, but have commercial construction. Use with No. 75, 75N, 75A or 85 phone plugs.

Cat. No.	Description	List Price
SC-1A Phone Jack	Commercial equivalent of military jack No. JJ-034. Same spring arrangement as No. 1 long-frame jack. Designed to receive the following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B, Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155, PL-125 and JAN plugs PJ-055, PJ-155, PJ-634, PJ-636, PJ-047.	\$0.80
SCA-2B	Commercial equivalent of military jack No. JJ-033. Same spring arrangement as No. 2B Long frame jack. Designed to receive the following plugs: Western Electric No. 109 and Signal Corps Nos. PL-68, PL-168, and JAN plugs PJ-068, PJ-168, and PJ-309.	.70
LA-1	Open Circuit	.45
LA-2	Circuit closing	.50
LA-2A	Two circuits	.55



Extension Jacks

Cat. No.	Description	List Price
100	Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug. Overall length 3/4".	\$1.40
100N	Two-Way Extension Jack (Shielded One-Piece Nickel Shell) for No. 75N Phone Plug. Overall length 3 1/8".	1.80
100A	Two-Way Extension Jack (Shielded Two-Piece Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp). Overall length 3 1/8".	2.50



Plugs

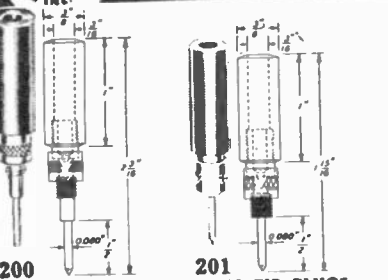
Cat. No.	Description	List Price
55	Adapts standard microphone connector for use with conventional Jack.	\$0.50
75	Two-Way Phone Plug with Tie-Cord Anchor (Phenolic Shell)	.75
75N	Two-Way Phone Plug with Tie-Cord Anchor (Shielded One-Piece Nickel Shell)	1.10
75A	Two-Way Phone Plug with Tie-Cord Anchor (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)	1.75
76	Three-Way Microphone Plug (Phenolic Shell)	1.10
76A	Three-Way Microphone Plug (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)	1.95
85	Two way miniature phone plug, shielded.	.60

"X" Type Jacks Plain bushing type for telephone switchboard service. Furnished with 1 mounting nut and washer.

Cat. No.	Type	List Price
XP1	Open Circuit	\$1.05
XP2B	3-Circuit Microphone	1.25
XP3B	Single Circuit—Make before Break	1.50

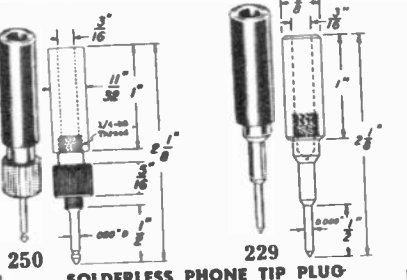
HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"



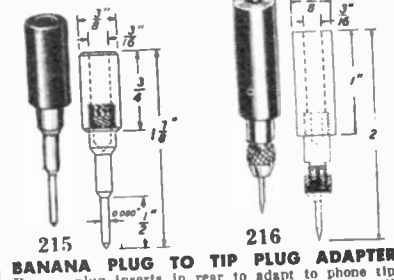
INSULATED SOLDERLESS TIP PLUGS
 Plug portion brass, nickel plated. Fits all standard phone tip jacks. Wire is wrapped around screw portion and tightened with knurled nut. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100

No. 200	Senior Type	\$25.00 Per C
No. 201	Junior Type	\$25.00 Per C



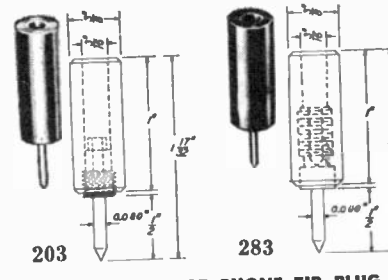
SOLDERLESS PHONE TIP PLUG
 Signal Corps Approved. Steel, Case hardened phone tip made to Signal Corps drawing and specs. Supplied with Rigid Thermoplastic handle to JAN specs. Available in Red or Black. Specify color.
 No. 250 Std. pkg. 50 \$90.00 Per C

HEAVY DUTY INSULATED PHONE TIP PLUG
 Plug portion brass, nickel plated. Fits all standard phone tip jacks. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.
 No. 229 Std. pkg. 100 \$25.00 Per C



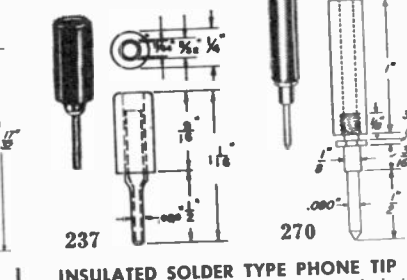
BANANA PLUG TO TIP PLUG ADAPTER
 Banana plug inserts in rear to adapt to phone tip plug. Plug portion brass, nickel plated. Fits all standard phone tip jacks. Plastic handle in Red, Black, Yellow or Green. Specify color.
 No. 215 Std. pkg. 50 \$25.00 Per C

INSULATED PHONO NEEDLE TIP PLUG
 Brass, nickel plated. Removable chuck. Molded handle, Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 50 \$25.00 Per C



INSULATED SHORT PHONE TIP PLUG
 Plug portion brass, nickel plated. Fits all standard phone tip jacks. Tip inserts right up to handle. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color.
 No. 203 Std. pkg. 100 \$20.00 Per C

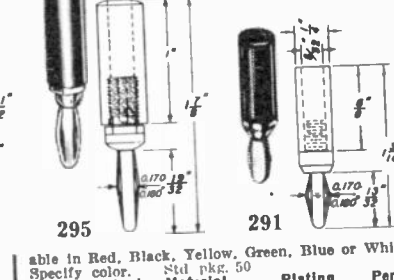
INSULATED SOLDERLESS SHORT TIP PLUG
 Plug portion brass, nickel plated. Fits all standard phone tip jacks. Tip inserts right up to handle. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify Color. Std. pkg. 50 \$22.00 Per C



INSULATED SOLDER TYPE PHONE TIP
 Brass nickel plated phone tip with insulated plastic handle. Embodies our No. 158 drawn tip. Available in Red or Black. Specify Color.
 No. 237 Std. pkg. 100 \$17.00 Per C

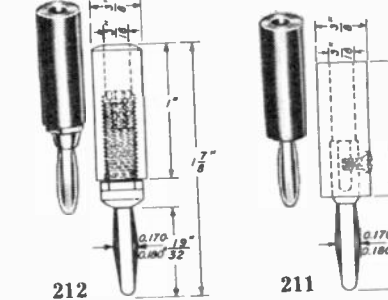
SUB-MINIATURE PHONE TIP
 Fits standard tip jacks. For checking all types of submarine equipment. Brass, nickel plated tip. Handle Red or Black bone fibre. Specify color.
 No. 270 Std. pkg. 100 \$30.00 Per C

INSULATED SOLDERLESS BANANA PLUG
 Plug portion Hexed Brass, Nickel Plated. Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 50 \$30.00 Per C



INSULATED MIDGET BANANA PLUG
 Fits all standard Banana Jacks. Beryllium spring retains resiliency after thousands of insertions. Wire soldered directly into PLUG. Available in Red or Black only. Specify color. Std. pkg. 50 \$30.00 Per C

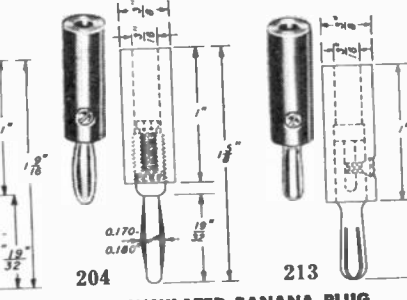
INSULATED SOLDERLESS BANANA PLUG
 Machined plastic handle. Plug portion hexed brass, nickel plated. Internal spacer brass, cadmium nickel plated. Four leaved nickel plated phosphor bronze spring. Cross drilled hole in spacer enables quick solderless connection of wire to plug. Available in Red or Black. Specify Color. Std. pkg. 100 \$55.00 Per C



INSULATED BANANA PLUGS
 Plug portion hexed brass, nickel plated. Fits all standard Banana Jacks. Solder to stud or plug. Beryllium spring retains resiliency after thousands of insertions. No soldering necessary. Molded bakelite handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 50 \$30.00 Per C

No.	Spring Material	Plating	Std. Pkg.	Per C
212	Phosphor Bronze	Nickel	100	\$35.00
211	Phosphor Bronze	Silver	50	40.00
242	Beryllium Copper	Nickel	100	50.00
262	Beryllium Copper	Silver	50	55.00

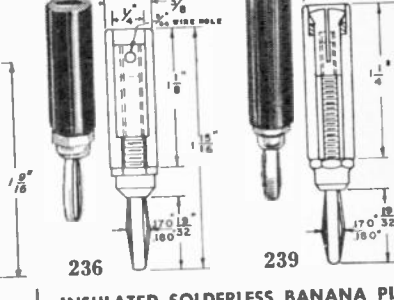
INSULATED BANANA PLUG
 Spring Type. Plug portion brass, nickel plated. Fits all standard banana jacks. Four leaved phosphor bronze spring. Wire can be soldered to stud or plug. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100 \$30.00 Per C



INSULATED BANANA PLUG
 Spring Type. Plug portion brass, nickel plated. Fits all standard banana jacks. Four leaved phosphor bronze spring. Set screw provided for solderless connection. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100 \$30.00 Per C

Same as above, supplied with nickel plated Beryllium Copper Spring, which maintains its resiliency after thousands of insertions.
 No. 254 Std. pkg. 50 \$45.00 Per C

INSULATED BANANA PLUG
 Split Type. Plug portion brass, nickel plated; cross slotted. Set screw for solderless connection. Molded plastic handle available in Red, Black, Yellow, Green, Blue or White. specify color. Std. pkg. 100 \$30.00 Per C



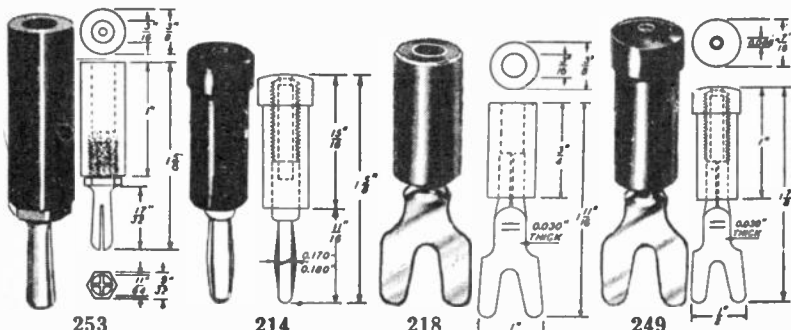
INSULATED SOLDERLESS BANANA PLUG
 Machined plastic handle. Plug portion hexed brass, nickel plated. Internal spacer brass, cadmium nickel plated. Four leaved nickel plated phosphor bronze spring. Cross drilled hole in spacer enables quick solderless connection of wire to plug. Available in Red or Black. Specify Color. Std. pkg. 100 \$55.00 Per C

INSULATED BANANA PLUG WITH INTERNAL SPRING COLLET
 Machined plastic handle. Plug portion hexed brass nickel plated. Collet is brass nickel plated. Four leaved phosphor bronze nickel plated spring. SOLIDELTS—spring collet provides quick connect and disconnect of wire or standard phone tip. Available in Red or Black. Specify Color. Std. pkg. 50 \$65.00 Per C

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253

214

218

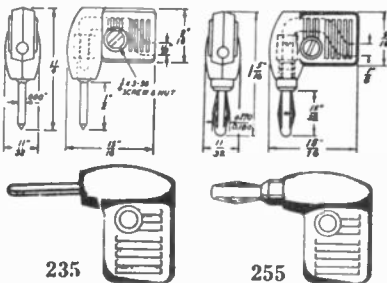
249

INSULATED BANANA PLUG

Plug portion brass, nickel plated. Wire can be soldered to stud or plug. Molded plastic handle. Red, Black, Yellow, Green, Blue or White. Specify color. No. 253 Std. pkg. 100 \$30.00 Per C

INSULATED SPADE LUG

Adapts banana plug to a spade lug. Steel hot tinned lug .030" thick for extra durability. Molded plastic handle in Red or Black. Specify color. Std. pkg. 100 No. 218 Complete \$18.00 Per C No. 129 Lug Only \$20.00 Per M



235

255

MOLDED METER TIP AND BANANA PLUGS

Molded meter type plug molded in two halves for easy assembling with screw and nut. Brass nickel plated tips fit in all standard tip and banana jacks. Available in Red and Black. Specify color. Std. pkg. 50

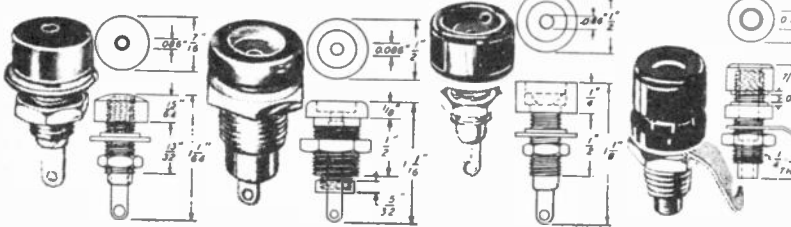
TIP PLUG TO BANANA PLUG ADAPTER

Fits all standard banana jacks. Plug portion four leaved phosphor bronze nickel plated. Tip jack in rear enables adapting tip plug to banana plug. Phosphor bronze tip jack spring. Available in Red, Black, Yellow or Green. Specify color. No. 214 Std. pkg. 50 \$50.00 Per C

PHONE TIP TO SPADE LUG ADAPTER

Tip jack in rear of handle enables insertion of a standard phone tip so that tip can be adapted to spade lug. Steel hot tinned lug .030 thick for extra durability. Available in Red or Black. Specify color. Std. pkg. 50 No. 249 \$55.00 Per C

No.	Description	Each
235	Meter Tip Plug, Phone Tip Type	\$.45
235D	Display of 24 Pairs	\$21.60
255	Meter Tip Plug, Banana Tip Type	\$.60
255D	Display of 24 Pairs	\$28.80



202

240

282

221

INSULATED PHONE TIP JACKS

Accommodates all standard Phone Tip Plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to 3/8" thick. Molded bakelite head available in Red, Black, Yellow, Green, Blue or White. No. 202 Std. pkg. 100 \$22.00 Per C Same as above with 3/4" o.d. machined plastic head. Available in Red, Black, Yellow or Green. No. 223 Std. pkg. 50 \$35.00 Per C

METER TYPE INSULATED TIP JACK

Accommodates all standard Phone Tip Plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to 3/8" thick. Jack body recessed to prevent shock or grounding. Molded bakelite head available in Red, Black, Yellow, Green or Blue. No. 282 Std. pkg. 50 \$25.00 Per C

INSULATED PHONE TIP JACK

Molded Nylon Head & Insulating Washer Extruded portion head and washer provides excellent insulation from panel. Accommodates all standard phone tip plugs. Body is brass nickel plated. Sturdy phosphor bronze spring. Mounts in 5/16" hole in panels up to 3/8" thick. Red, Black, Yellow, Green or Blue. Specify color. No. 241 Std. pkg. 100 \$30.00 Per C

MOLDED NYLON ALL INSULATED TIP JACK

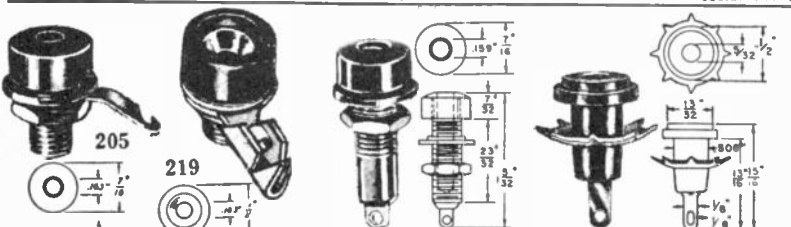
Rated at 4000 Volts AC This completely insulated phone tip jack accommodates all standard phone tips. Sturdy phosphor bronze contact. Mounts in 5/16" hole in panels up to 5/16" thick. Available in Red, Black, Yellow, Green or Blue. Specify color. Std. pkg. 100. No. 240 \$30.00 Per C

INSULATED MIDGET BANANA JACK

Molded Nylon Head & Insulating Washer Extruded portion of head and washer provide excellent insulation from panel. Accommodates all standard banana plugs. Brass nickel plated body. Mounts in 5/16" hole in panels up to 3/8" thick. Available in Red, Black, Yellow, Green, or Blue. Specify color. Std. pkg. 100. No. 221 \$30.00 Per C

INSULATED COMBINATION JACK

Accommodates all standard phone tip or banana plugs. Body is brass nickel plated; contact is a sturdy phosphor bronze spring. Molded plastic head. Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100. No. 206 \$27.00 Per C



205

219

256

299

INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass, nickel plated. Mounts in 5/16" hole in panels up to 3/8" thick. Molded plastic head. Red, Black, Yellow, Blue, White or Green. Specify color. Std. pkg. 100 No. 205 \$22.00 Per C

INSULATED BANANA JACK

Accommodates all standard banana plugs. Body is brass, nickel plated. Mounts in 5/16" hole in panels up to 3/8" thick. Molded plastic head. Red, Black, Yellow, Green or Blue. Specify color. No. 219 Std. pkg. 100 \$25.00 Per C

INSULATED BANANA JACK With Solder Tab

Accommodates all standard banana plugs. Body is brass, nickel plated and jack is supplied complete with hex nut and fibre washer. Mounts in 5/16" hole in panels up to 5/8" thick. Solder direct to brass, cadmium plated tab. Molded plastic head. Supplied in Red, Black, Yellow, Green, Blue or White. Specify color. Std. pkg. 100. No. 256 \$25.00 Per C

ALL MOLDED "Speedi-Mount" PHONE TIP JACK

Accommodates all standard phone tip plugs. Phosphor bronze spring. Ingenious lockwasher, steel cadmium plated, permits fast assembly. Teeth embed into jack and panel, prevent pulling out and turning. Jack mounts in 5/16" hole, in panels up to 3/16" thick. Available in black and red. Specify color. Std. pkg. 100. No. 299 1/2" Head \$11.00 Per C No. 279 13/32" Head 11.00 Per C

BANANA PLUG SPlice

This splice receptacle accommodates all standard banana type plugs. Invaluable for quick splicing connections. Supplied in Red, Black, Yellow, or Green colors. Specify color. No. 245 Std. pkg. 25 \$0.40 Ea.

PHONE TIP PLUG SPlice

Accommodates all standard phone tip plugs. Invaluable for quick splicing connections or for test lead extension. Supplied in Red, Black, Yellow or Green. Specify color. No. 246 Std. pkg. 50 \$0.45 Ea.

IN-LINE BANANA JACK

Accommodates all standard tip plugs. Suitable for test lead extension where long leads are required. Supplied in Red, Black, Yellow or Green. Specify color. No. 251 Std. pkg. 50 \$0.35 Ea.

IN-LINE PHONE TIP JACK

Accommodates all standard phone tip plugs. Suitable for test lead extension where long leads are required. Supplied in Red, Black, Yellow or Green. Specify color. No. 248 Std. pkg. 50 \$0.35 Ea.

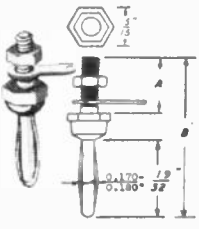
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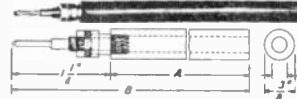


BANANA PLUGS

Fits all standard banana jacks. Hexed brass body, one piece construction with threaded stud for panel mounting. Four leaved phosphor bronze or beryllium copper spring. Plated to Govt. Specs. Std. pkg. 50

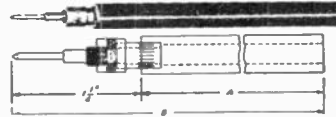


SOLDERLESS TEST PRODS



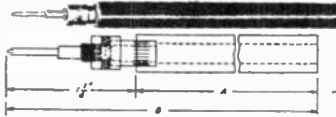
Threaded Type. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip .080" with Red or Black Moulded plastic handle. Specify color.

No.	Handle (A)	Overall (B)	Std. Pkg.	Each
302	4" (Molded)	5 1/4"	50	\$0.50
303	5 1/2" (Machined)	6 3/4"	25	.55



Force Fit Type. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip .080" with Red or Black MOLDDED Plastic handle. Specify color.

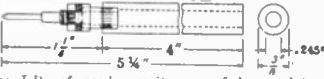
No.	Handle (A)	Overall (B)	Std. Pkg.	Each
382	4" (Molded)	5 1/4"	50	\$0.40
383	5 1/2" (Machined)	6 3/4"	25	.45



Force Fit Type. Extra Large I.D. Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass, nickel plated tip .080" with extra large I.D. Red or Black Tenite Plastic Handle. Specify color.

No.	Handle (A)	Overall (B)	Std. Pkg.	Each
352	1"	5 1/4"	50	\$0.40
353	3 1/2"	6 3/4"	25	.45

SOLDERLESS FIBRE TEST PROD



Large I.D. of prod permits use of heavy duty wire. Brass, nickel plated tip .080" with Red or Black handle. Specify color.

No. 323	Std. Pkg.	50	\$0.50	Each
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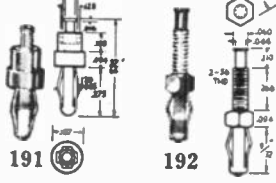
TEST LEAD INTERCHANGE KIT



Permits use of Alligator Clips, Banana Plugs, Spade Lugs or Phone Tips interchangeably. One each red and black solderless phone tips with banana jack rear, spade lugs with banana jack rear, combination alligator clip jack, and banana plugs with phone tip jack rear. Durable vinyl kit.

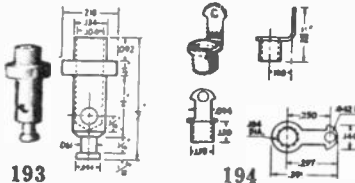
No. 640	Std. Pkg.	50	\$3.75	Ea.
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SUB-MINIATURE BANANA PLUGS & JACKS



191

192



193

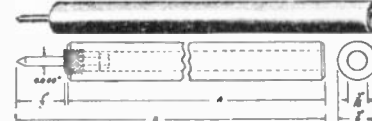
194

One piece beryllium copper springs insure positive and lasting contact. Silver plated overall.

No.	Description	Per C.
191	Rivet Type Plug	\$30.00
192	Screw Type Plug	35.00
193	Force Fit Jack	15.00
194	Rivet Type Jack	1.50

Std. pkg. 50

SHORT TIP TEST PROD



Metal tip has no shoulder with minimum amount of metal exposed lessening possibility of shock or arcing. Brass, nickel plated tip with Red or Black MOLDDED Plastic handle. Specify color.

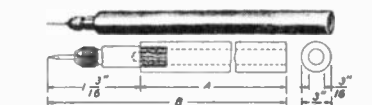
No.	Handle (A)	Overall (B)	Std. Pkg.	Each
363	4" (Molded)	5 1/2"	50	\$0.35
364	5 1/2" (Machined)	6"	25	.41



Double XX Bakelite "acquired" handles. Sharp pointed needle steel, nickel plated body brass, nickel plated. Wire can be wrapped around or soldered to internal brass stud provided. Red or Black. Specify color.

No.	Handle (A)	Overall (B)	Std. Pkg.	Each
314	4"	5-3/32"	25	\$0.75
313	6"	7-3/32"	25	.91

PHONO NEEDLE TEST PROD

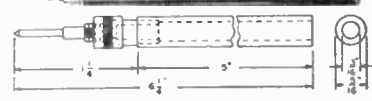


Brass, nickel plated body with steel, nickel plated needle. Removable chuck for replacing broken needles. Red or Black MOLDDED Plastic handle. Specify color.

No.	Handle (A)	Overall (B)	Std. Pkg.	Each
317	1" (Molded)	4 1/4"	50	\$0.50
318	5 1/2" (Machined)	6 5/8"	25	.55

PENCIL TYPE SOLDERLESS TEST PROD

Force Fit Type



Wire fits through handle and body of plug then wrapped around screw portion and tightened with knurled nut provided. Brass nickel plated tip .080" with Red or Black plastic handle. Specify Color.

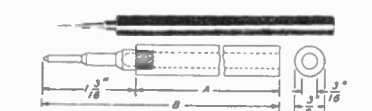
No. 384	Std. pkg.	25	\$0.35	Ea.
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Heavy insulated fibre probe. Large I.D. enables use of Coax cable or 1N-31 crystal for R.F. Probes. Heavy Duty removable tip. Std. Pkg. 10

No.	Std. Pkg.	Each
630	50	\$1.20
630-D	Display of 12	14.00

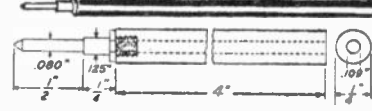
HEAVY DUTY TEST PRODS



Threaded Type. Extra sturdy brass, nickel plated tip with Red or Black Moulded plastic handle. Specify color.

No.	Handle (A)	Overall (B)	Std. Pkg.	Each
319	3" (Molded)	5 1/2"	50	\$0.50
329	3 1/2" (Machined)	6 1/4"	25	.55

SUBMINIATURE TEST PROD



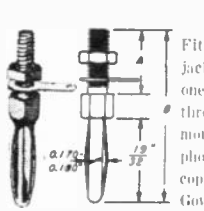
Brass, nickel plated phone tip. Small 1/4" O.D. handle. Ideally suited for checking sub-miniature equipment. Red or Black bone fibre. Specify color.

No. 322	Std. Pkg.	50	\$0.40	Each
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TEST LEAD WIRE (See Page 751.)

PHOS. BR. SPRING		BERYL. COP. SPRING	
Nickel Plated Overall		Nickel Plated Overall	
No.	Per C	A	B
431	\$25.00	6-32 x 3/8"	1-3/32"
432	25.00	6-32 x 1/2"	1-7/32"
433	25.00	6-32 x 3/4"	1-11/32"
434	25.00	8-32 x 3/8"	1-3/32"
435	25.00	8-32 x 1/2"	1-7/32"
436	25.00	8-32 x 3/4"	1-11/32"

PHOS. BR. SPRING		BERYL. COP. SPRING	
Silver Plated Overall		Silver Plated Overall	
No.	Per C	A	B
437	\$30.00	6-32 x 3/8"	1-3/32"
438	30.00	6-32 x 1/2"	1-7/32"
439	30.00	6-32 x 3/4"	1-11/32"
440	30.00	8-32 x 3/8"	1-3/32"
441	30.00	8-32 x 1/2"	1-7/32"
442	30.00	8-32 x 3/4"	1-11/32"

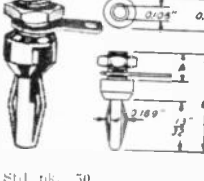


Fits all standard banana jacks. Hexed brass body, one piece construction with threaded stud for panel mounting. Four leaved phosphor bronze or beryllium copper spring. Plated to Govt. Specs. Std. pkg. 50

PHOS. BR. SPRING		BERYL. COP. SPRING	
Nickel Plated Overall		Nickel Plated Overall	
No.	Per C	A	B
101	\$25.00	6-32 x 3/8"	1-7/32"
103	25.00	6-32 x 1/2"	1-11/32"
104	25.00	6-32 x 3/4"	1-15/32"
105	25.00	8-32 x 3/8"	1-7/32"
106	25.00	8-32 x 1/2"	1-11/32"
107	25.00	8-32 x 3/4"	1-15/32"

PHOS. BR. SPRING		BERYL. COP. SPRING	
Silver Plated Overall		Silver Plated Overall	
No.	Per C	A	B
108	\$30.00	6-32 x 3/8"	1-7/32"
109	30.00	6-32 x 1/2"	1-11/32"
110	30.00	6-32 x 3/4"	1-15/32"
111	30.00	8-32 x 3/8"	1-7/32"
112	30.00	8-32 x 1/2"	1-11/32"
113	30.00	8-32 x 3/4"	1-15/32"

MIDGET BANANA PLUG



Fits all standard banana jacks. One piece construction with threaded stud for panel mounting. Supplied with phosphor bronze or beryllium copper spring. Plated to Govt. Specs

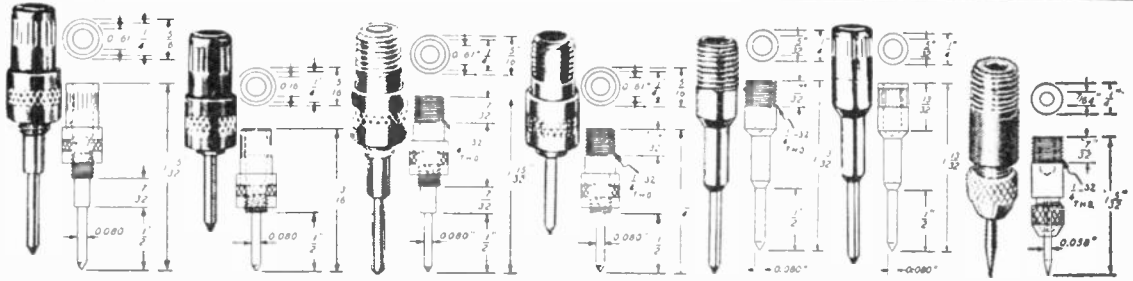
Std. pkg. 50

PHOS. BR. SPRING		BERYL. COP. SPRING	
Nickel Plated Overall		Nickel Plated Overall	
No.	Per C	A	B
160	\$25.00	4-10 x 3/8"	15/16"
161	25.00	4-40 x 1/2"	1-1/16"
162	25.00	6-32 x 3/8"	15/16"
163	25.00	6-32 x 1/2"	1-1/16"

PHOS. BR. SPRING		BERYL. COP. SPRING	
Silver Plated Overall		Silver Plated Overall	
No.	Per C	A	B
164	\$30.00	4-10 x 3/8"	15/16"
165	30.00	4-40 x 1/2"	1-1/16"
166	30.00	6-32 x 3/8"	15/16"
167	30.00	6-32 x 1/2"	1-1/16"

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105 106
SOLDERLESS PHONE TIP PLUGS
 Brass, nickel plated. Wire is wrapped around screw portion, and tightened with knurled nut. Fits standard phone tip jacks. Std. pkg. 100

No. 105	Senior Type	\$17.00 Per C
No. 106	Junior Type	\$16.00 Per C

124 127 125
THREADED SOLDERLESS PHONE TIPS
 Brass, nickel plated. Wire is wrapped around screw portion and tightened with knurled nut. Threaded for easy insertion in plastic handles. Fits standard phone tip jacks. Std. pkg. 100

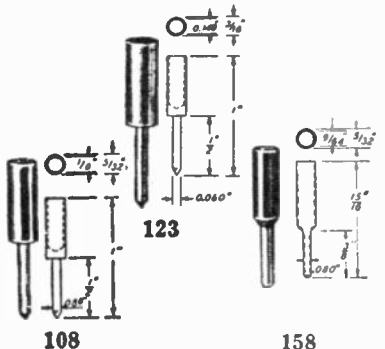
No. 124	Senior Type	\$20.00 Per C
No. 127	Junior Type	\$19.00 Per C

156 128
HEAVY DUTY PHONE TIP PLUGS
 Brass nickel plated, extra sturdy construction; fit all standard phone tip jacks. Rear of plug also accepts standard banana plugs.

No.	Type	Std. Pkg.	Per C.
125	Threaded	50	\$17.00
156	Force Fit	50	\$17.00

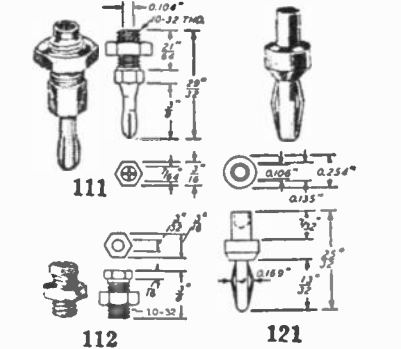
NEEDLE TIP AND CHUCK
 Brass nickel plated body with steel nickel plated needle. Removable chuck. Threaded for easy insertion in plastic handles. Std. pkg. 50.

No. 128	\$22.00 Per C
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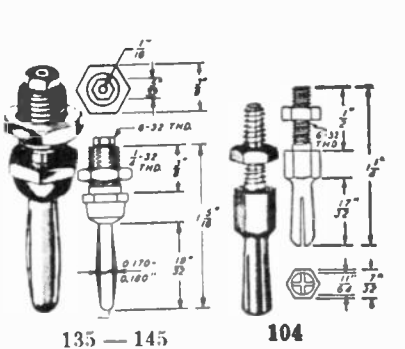
108 123
SOLDER TYPE PHONE TIPS
 Brass nickel plated. Std. pkg. 100

No. 108	Standard Type	\$ 35.00 Per M
No. 123	Large I.D. Type	\$ 44.00 Per M



111 112 121
MIDGET BANANA PLUG AND JACK
 For use in minimum of space. The plug is cross slotted. Plug and jack are brass, nickel plated. Std. pkg. 100

No. 111	Plug	\$17.00 Per C
No. 112	Jack	\$13.00 Per C



135 - 145 104
BANANA PLUGS — Spring Type
 Hexed brass, nickel plated. Beryllium spring retains resiliency after thousands of insertions. Wire can be soldered to stud or plug. Supplied with hex nut. Std. pkg. 50

No. 135	Beryllium Copper Spring	\$45.00 Per C
No. 145	Phosphor Bronze Spring	\$27.00 Per C

BANANA PLUG — Split Type
 Hexed brass, nickel plated. Cross slotted for positive and lasting contact. Fits all standard banana jacks. One-piece construction. 6-32 hex nut. Std. pkg. 100

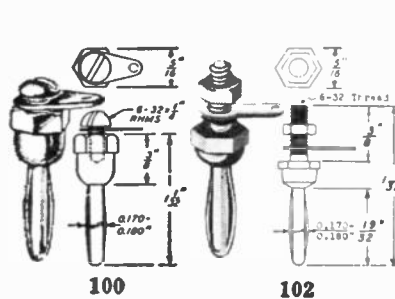
No. 104	\$22.00 Per C
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DRAWN HOLLOW SOLDER TIP
 Designed to insure maximum solder deep well contact. Brass, nickel plated. Extra sturdy construction. Std. pkg. 100

No. 158	\$25.00 Per M
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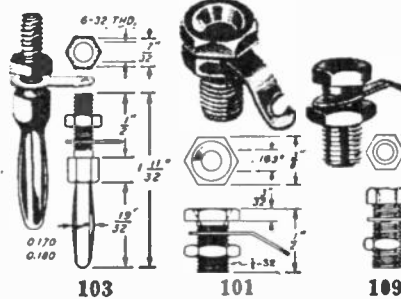
MIDGET BANANA PLUG Rivet Type
 Brass, silver plated. Four leaved phosphor bronze spring. Fits all standard banana jacks. Also made to rigid JAN specs. Std. pkg. 100

No. 121	\$27.00 Per C
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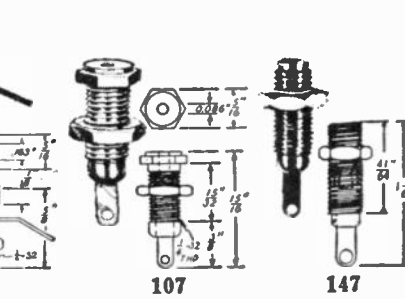
100 102 103
BANANA PLUG
 Hexed brass, nickel plated. Spring is four-leaved phosphor bronze, nickel plated. Plug supplied with screw and phosphor bronze tinned lug. Internal female permits use of this plug on all size panels. Std. Pkg. 100

No.	Spring Material	Per C.
100	Phosphor Bronze	\$25.00
190	Beryllium Copper	40.00



101 109 107
BANANA PLUG
 Hexed brass, nickel plated. Four leaved phosphor bronze spring, nickel plated. 6-32 hex nut. Std. pkg. 100

No. 103	\$25.00 Per C
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101 109 107 147
BANANA JACK
 Hexed brass, nickel plated. Mounts in 1/4" hole and fits panels up to 3/8" thick. Accommodates all standard banana plugs. Std. pkg. 100

No. 109	\$17.00 Per C
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PHONE TIP JACK
 Body is brass, nickel plated, with internal phosphor bronze spring for positive contact. Mounts in 1/4" hole in panels up to 3/8" thick. 1/4-32 hex nut. Std. pkg. 100

No. 107	\$17.00 Per C
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HEADLESS PHONE TIP JACK
 Jack body is screwed into instrument body. Nickel Plated. Phosphor bronze spring. Supplied with hex nut. Std. pkg. 100

No. 147	\$10.00 Per C
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102
BANANA PLUG
 Hexed brass, nickel plated. Four-leaved phosphor bronze spring, nickel plated. 6-32 hex nut. Std. pkg. 100

No. 102	\$25.00 Per C
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101
BANANA JACK
 Hexed brass, nickel plated jack with recessed head. Recommended for use with No. 100 banana plug but accommodates all standard banana plugs. Std. pkg. 100

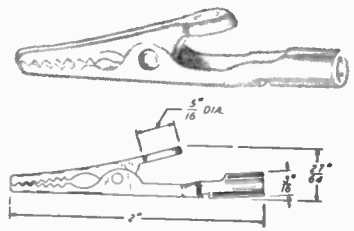
No. 101	\$17.00 Per C
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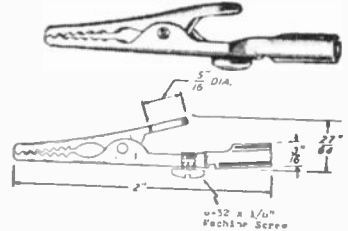
ALLIGATOR CLIPS Solder Type



DESCR.: 3/4" jaw opening. Jaws match accurately and grips securely. Accepts standard banana plugs in rear.

No.	Type	Sug. Resale	Ea.	Std. Pkg.	Per C
300	Steel, Cad. Pl.		10		
380	Solid Copper	.07	.05		
		.10	.075		

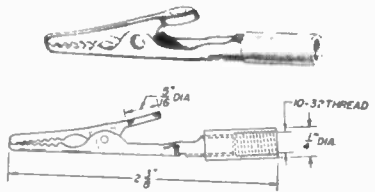
Screw Type



DESCR.: 3/4" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.

No.	Type	Sug. Resale	Ea.	Std. Pkg.	Per C
330	Steel, Cad. Pl.		10		
360	Solid Copper	\$.08	.058		
		.12	.084		

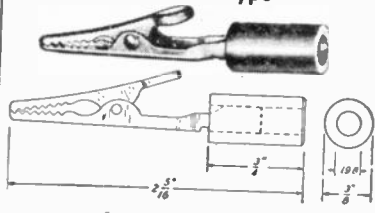
ALLIGATOR CLIP ADAPTER



BUSHING: Brass, Nickel Plated.
CLIP: Steel, Cadmium Plated.
DESCR.: Adapts standard solderless tips to alligator clip. This novel quick-adapter is a must for all types of bench work.

No.	Per C
310	\$25.00

INSULATED ALLIGATOR CLIPS Solder Type

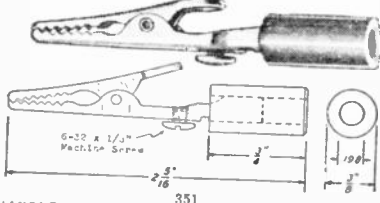


HANDLE: MOLDED PLASTIC. Red or Black. SPECIFY COLOR.

DESCR.: 3/4" jaw opening. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.

No.	Type	Sug. Resale	Ea.	Std. Pkg.	Per C
301	Steel, Cad. Pl.		10		
381	Solid Copper	\$.13	.085		
		.14	.105		

Screw Type



HANDLE: MOLDED PLASTIC. Red or Black. SPECIFY COLOR.

DESCR.: 3/4" jaw opening. Supplied with screw for solderless connection when required. Jaws match accurately and grip securely. Accepts standard banana plugs in rear.

No.	Type	Sug. Resale	Ea.	Std. Pkg.	Per C
351	Steel, Cad. Pl.		10		
361	Solid Copper	\$.14	.095		
		.16	.11		

ALL INSULATED CLIPS



INSULA.: MOLDED NYLON. Red or Black. SPECIFY COLOR.

CLIP: Steel cadmium plated.
DESCR.: All metal parts fully insulated with molded plastic. Insures against shock or grounding. Solder type connection.

No.	Each
337	\$.40

ALL INSULATED ADAPTER PHONE TIP TO ALLIGATOR CLIP

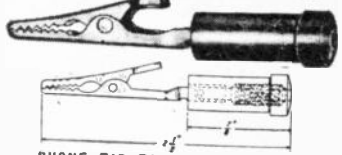
INSULA.: MOLDED PLASTIC. Red or Black. SPECIFY COLOR.

CLIP: Steel, cadmium plated.
BODY: Brass.
CONTACT: Phosphor bronze.

DESCR.: All metal parts fully insulated with molded plastic. Insures against shock or grounding. Jack in rear permits adapting standard phone tip plugs to alligator clips.

No.	Each
336	\$.60

ALLIGATOR CLIP ADAPTER



PHONE TIP TO ALLIGATOR CLIP

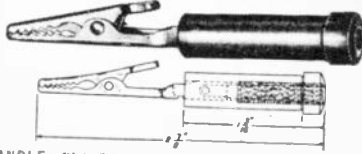
HANDLE: PLASTIC. Red or Black with molded cap. SPECIFY COLOR.

CLIP: Steel, cadmium plated or solid copper.
BODY: Brass. SPRING: Phosphor bronze.

DESCR.: Jack in rear permits adapting standard phone tip plugs to alligator clips.

No.	Description	Std. Pkg.	Per C
304	Steel Clip	25	\$55.00
334	Copper Clip	25	\$60.00

PHONE TIP OR BANANA PLUG TO ALLIGATOR CLIP ADAPTER



HANDLE: PLASTIC. Red or Black with molded cap. SPECIFY COLOR.

CLIP: Steel, cadmium plated or solid copper.
BODY: Brass. SPRING: Phosphor bronze.

DESCR.: Combination jack in rear. permits the adapting standard phone tip plug or banana plugs to alligator clip.

No.	Description	Std. Pkg.	Per C
305	Steel Clip	25	\$65.00
335	Copper Clip	25	\$70.00



BATTERY TEST CLIP

MATERIAL: Steel, electro plated. Std. Pkg. 100

No.	Spread	Jaw Lgth.	Cap.	Spring	Sug. Resale
365	1/2"	1 1/2"	5 amp	7 lbs.	\$.07 .05
366	9/16"	2"	10 amp	10 lbs.	\$.07 .07

TL137 TEST CLIP



Signal Corps Approved
DESCR.: STEEL, nickel plated, made in accordance with government specs. 3/4" jaw opening.

No.	Std. Pkg.	Each
315	25	\$.70

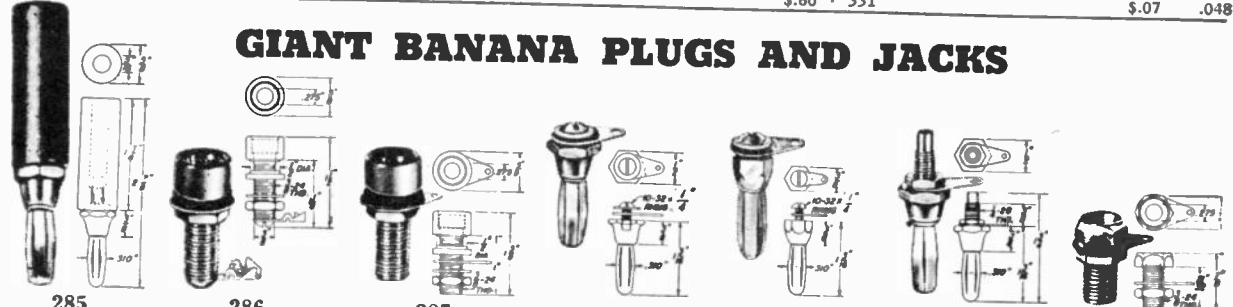
ALLIGATOR CLIP BOOT

MATERIAL: MOLDED VINYL PLASTIC. Red or Black. SPECIFY COLOR.

DESCR.: Fully insulates clip while allowing maximum jaw opening.

No.	Std. Pkg.	Sug. Resale
331	100	\$.07 .048

GIANT BANANA PLUGS AND JACKS



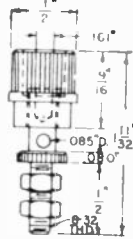
No.	Description	Per C	No.	Description	Per C	No.	Description	Per C	No.	Description	Per C
285	Insulated Giant Banana Plug	\$77.00	186	Giant Banana Plugs	\$50.00	188	Giant Banana Plug	\$50.00	185	Giant Banana Jack	\$50.00
286	Recessed head for assembly from rear of panel. Mounts in 1/2" hole. Brass nickel plated body. Ited or Black. Specify Color. Std. pkg. 50	70.00	187	Hexed Brass Head. Mounts in 3/8" hole. Brass nickel plated overall.	70.00						
287	Lug at End	70.00									
	Lug Under Head	70.00									

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BINDING POSTS



FIVE-WAY GROUNDING TYPE

HEAD: CAPTIVE: Molded plastic, Red or Black. SPECIFY COLOR.

BODY: Brass, nickel plated.

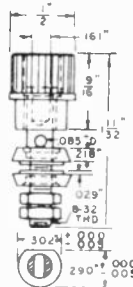
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

DESCR.: Can be completely insulated from panel by using our 2155 and 2163 fibre washers supplied with 2 hex nuts. **Std. Pkg. 100**

No.	Description	Per C
220	8-32 Threaded Stud	\$30.00
230	6-32 Threaded Stud	30.00

Some as above with brass nickel plated insert in head

280	8-32 Threaded Stud	40.00
264	6-32 Threaded Stud	40.00



ALL-INSULATED TYPE

HEAD: CAPTIVE: Molded plastic, Red or Black. SPECIFY COLOR.

BODY: Brass, nickel plated.

WASHERS: Molded plastic with brass inserts.

ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.

DESCR.: Mounts in 5/16" hole in panel with milled slot for locking, supplied with two hex nuts. **Std. Pkg. 100**

No.	Description	Per C
260	8-32 Threaded Stud	\$45.00
259	6-32 Threaded Stud	45.00

Same as above with brass nickel plated insert in head

290	8-32 Threaded Stud	55.00
231	6-32 Threaded Stud	55.00



METAL COMBINATION BINDING POST

This two piece brass nickel plated all metal binding post accepts all standard phone tip or banana plugs. Mounts to chassis by use of 6-32 screw. **No. 136 Std. pkg. 50 \$20.00 Per C**

METAL BINDING POST

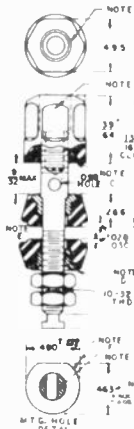
Made of brass heavily nickel plated overall. Supplied complete with screw and lockwasher. **No. 110 Std. pkg. 25 \$25.00 Per C**



BINDING POST METAL FIVE-WAY

Free turning hexagon captive head. This varied pin post will accept for checking purposes a phone tip, spade lug, banana plug, alligator clip or wire. Brass, nickel plated. **Std. Pkg. 100**

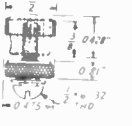
No.	Per C
137	\$35.00
208	36.00



MULTI-PURPOSE BINDING POST

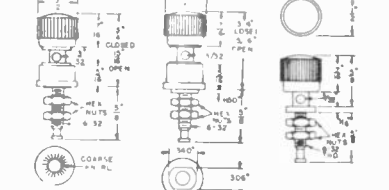
A Banana Plug Receptacle, .161 I.D.
B Head non-removable from Stud.
C Molded in Brass Bushing in Head.
D Molded in Brass Bushing in Washers.
E For Panels 1/16" to 1/4" thick.
F Drill 1/4" hole for mounting washers.
G Wire Hole is at right angle to Flat on insulated Washers.
H Production Punch for keyed Slot for mounting Washers. (Sample Washer Sent on Request)
RATING: 100 V.A.C. RMS test.
CURRENT: 30 amps safe current carrying capacity.
ACCEPTS: Phone tip plug, spade lug, banana plug, alligator clip or wire strand.
DESCR.: Molded nylon head and washer completely insulates post from panel. Mounts in 1/2" or keyed hole as indicated. Wrap around type direct solder connection to stud. Metal parts brass, bright gold plated.
COLORS: Red, Black, Yellow, Green, Blue, White. Specify color. **Std. Pkg. 100**
No. 257 Per C \$60.00

BINDING POST



Molded-in brass insert in molded bakelite head supplied only in black. Brass, nickel plated retaining washer. Supplied complete with screw and lockwasher. Red or Black. **No. 265 Std. pkg. 100 \$23.00 Per C**
No. 266 Std. pkg. 100 \$23.00 Per C

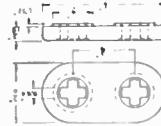
MOLDED NYLON BINDING POSTS



Molded Nylon head and washer. Brass, Nickel Plated bushing in head and washer. Captive Head. Supplied in Black or Red. Specify Color.
No. 377 Ground to Panel but supplied with nylon washer for uniformity of height with No. 378 when used on same panel. Can be insulated from panel by using our No. 2150 shoulder washer and No. 2142 flat washer.
No. 378 ROSS WASHER insulates post from chassis when used with bakelite washer supplied.
No. 379 Can be insulated from Panel by using our No. 2150 shoulder washer. **Std. pkg. 100.**

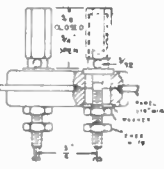
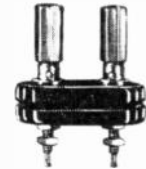
No.	DESCRIPTION	Per C
377	Insulated Washer	\$44.00
378	Insulated Washer	44.00
379	Metal Washer	35.00

BLACK STYRENE INSULATOR



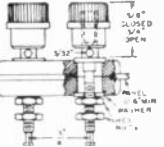
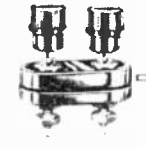
Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. **Std. Pkg. 100**
No. 207 \$10.00 Per C

DUAL ASSEMBLY WITH METAL HEADS



WASHER: MOLDED black styrene, cross slotted (+) to accept standard phone tips in post either forward or sideways.
BODY: Brass, nickel plated.
HEAD: Captive; Hex brass, nickel plated.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers. **Std. Pkg. 10**
No. 209 \$1.00 Each

WITH INSULATED HEADS

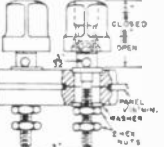
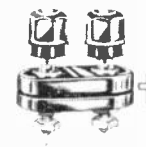


No.	Description	Each
224BB	Two Black Heads	\$.90
224BR	Two Red Heads	.90
224RB	One Red, One Black Head	.90

Same as above with brass nickel plated insert in head

263BB	Two Black Heads	1.10
263BR	Two Red Heads	1.10
263RB	One Red, One Black Head	1.10

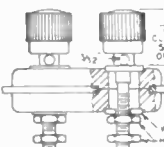
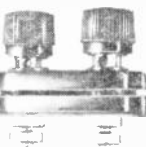
DUAL ASSEMBLY WITH INSULATED HEADS



WASHER: MOLDED black styrene, cross slotted (+) to accept standard phone tips in post either forward or sideways.
BODY: Brass, nickel plated.
HEAD: Captive; Molded bakelite with molded in brass nickel plated insert.
DESCR.: Mounts in two 1/2" holes on 3/4" mounting centers in panels up to 1/4" thick. Accommodates single or dual banana plugs. Supplied with 4 hex nuts, 2 flat washers. **Std. Pkg. 10**

No.	Description	Each
269BB	Two Black Heads	\$1.00
269BR	Two Red Heads	1.10
269RB	One Red, One Black Head	1.10

DUAL ASSEMBLY WITH NYLON HEADS



No.	DESCRIPTION	EACH
284BB	Two Black Heads	\$1.00
284BR	Two Red Heads	1.00
284RB	One Red, One Black Head	1.00

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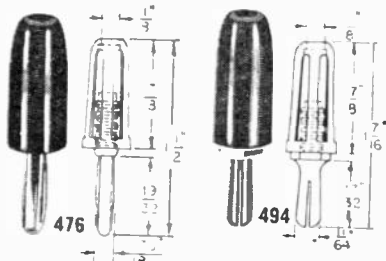


"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

COLOR CODE SUFFIX

Add to Catalog Number as required.

— 101 WHITE	— 107 YELLOW
— 102 RED	— 108 BROWN
— 103 BLACK	— 109 LIGHT GREEN
— 104 DARK GREEN	— 111 IVORY
— 105 LIGHT BLUE	— 112 VIOLET
— 106 ORANGE	— 113 GREY



NYLON BANANA PLUG

HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, nickel plated.

SPRING: Phosphor bronze or beryllium copper nickel or silver plated.

DESCR.: Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	Per C
476	Phosphor Bronze	Nickel	\$35.00
477	Phosphor Bronze	Silver	40.00
478	Beryllium Copper	Nickel	45.00
479	Beryllium Copper	Silver	50.00

Split Type

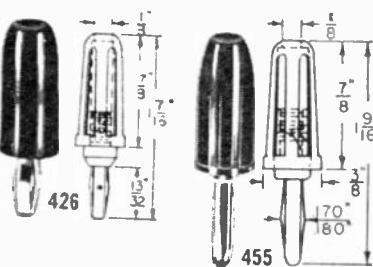
HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, nickel plated.

DESCR.: Brass stud for spring tension. Wire can be soldered to brass stud or directly into plug itself. Stud also locks wire to plug for solderless connection. Fits standard banana jacks. Std. Pkg. 100

No.	Per C
494	\$30.00

NYLON BANANA PLUG



Midget

HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, nickel or silver plated.

SPRING: Phosphor bronze or beryllium copper, nickel or silver plated.

DESCR.: Wire soldered directly into stud. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	Per C
426	Phosphor Bronze	Nickel	\$30.00
427	Phosphor Bronze	Silver	35.00
428	Beryllium Copper	Nickel	40.00
429	Beryllium Copper	Silver	45.00

NYLON BANANA PLUG

Solderless

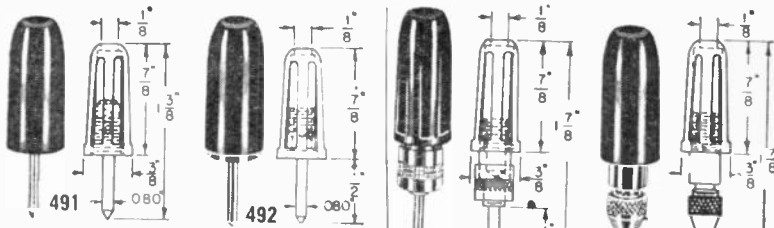
HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, nickel or silver plated.

SPRING: Phosphor bronze or beryllium copper nickel or silver plated.

DESCR.: Solderless. Wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard banana jacks. Std. Pkg. 100

No.	Spring Material	Plating	Per C
455	Phosphor Bronze	Nickel	\$35.00
456	Phosphor Bronze	Silver	40.00
457	Beryllium Copper	Nickel	45.00
458	Beryllium Copper	Silver	50.00



NYLON SHORT TIP PLUG

HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, nickel plated.

DESCR.: Inserts flush to insulated handle, no metal exposed; eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100

No.	Per C
491	\$23.00

Solderless

HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, nickel plated.

DESCR.: Solderless; wire fits through handle and body of tip then wrapped around screw portion. Inserts flush to handle, no metal exposed, eliminates possibility of shock or grounding. Fits standard phone tip jacks. Std. Pkg. 100

No.	Per C
492	\$25.00

NYLON TIP PLUG

HANDLE: MOLDED NYLON. Specify color as coded above.

PLUG: Brass, Nickel plated.

DESCR.: Solderless; wire fits through body of tip then wrapped around screw portions and tightens with knurled collar. Threaded type. Fits standard phone tip jacks. Std. Pkg. 100

No.	Per C
490	\$28.00

Phono Needle

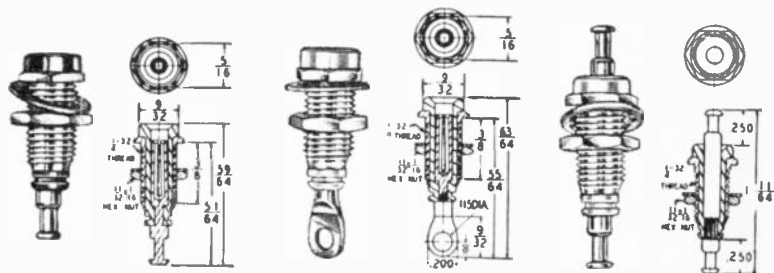
HANDLE: MOLDED NYLON. Specify color as coded above.

BODY: Brass, nickel plated.

DESCR.: Removable chuck for easy replacement of broken needles. Needle pierces corrosion or plating for positive reading. Std. Pkg. 50

No.	Per C
493	\$28.00

NYLON TIP JACK WITH METAL SHELL



WRAP-AROUND

Molded Nylon Tip Jack. Metal shell eliminates possibility of stripping threads during assembly. Meets following requirements:

1. Salt Spray Test—Withstands 100 hours

2. Rated Voltage & Current—1000 volt peak @ 5 amps, maximum

3. Test Voltage—2500 peak

4. Insulation Resistance—5000 megohms

5. Operating Conditions—

A. Continuous: 23 hours on, 1 hour off

B. Elevation: Up to 15,000 feet

C. Temperature: —55 to +85 C

D. Humidity: Up to 45%

6. Material Specifications—

A. Insulator: Nylon, Grade FM 10001

B. Shell & Nut: Brass Nickel Plated Per Spec 72-53

C. Lockwasher: Phosphor Bronze Nickel Plated Per Spec 72-53

SPADE TERMINAL

D. Center Contact, Numbers 1501 and 1502

Heat Treated Bery. Copper Silver Plated per Spec 72-53, Number 1503 Brass, Tin Plated

7. Non-Operating Conditions —

A. Elevation: Up to 50,000 feet

B. Temperature: Continuous exposure for 7 hours @ +160 F and 240 hours @ —80 F

C. Humidity: Up to 100%

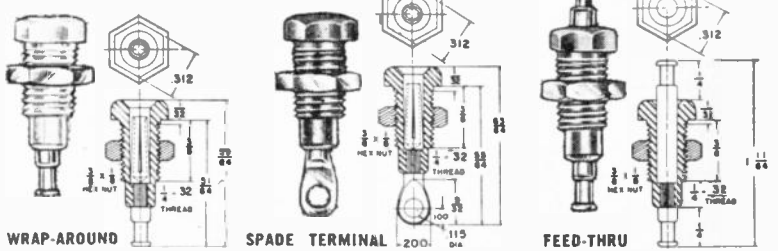
No.	Type	Std. Pkg.	Per C
1501	Wrap Around	25	53.00
1502	Spade Terminal	25	70.00
1503	Feed Through	25	65.00

COLOR CODE SUFFIX

Add to Catalog Number as required.

— 101 WHITE	— 104 GREEN	— 107 YELLOW
— 102 RED	— 105 BLUE	— 108 BROWN
— 103 BLACK	— 106 ORANGE	— 112 PURPLE
		— 113 GREY

ALL NYLON TIP JACK



Completely Molded Nylon Jack. Fits all standard phone tip plugs. Contact recessed in head for safe contact. Hexagon head for grip in tightening. Mounts in 1/2" hole in panel, up to 1/4" thick. Meets following requirements:

1. Salt Spray Test—Withstands 100 hours

2. Rated Voltage & Current—1000 volts peak at 5 amps, max.

3. Test Voltage—9000 volts DC peak

4. Insulation Resistance—5000 megohms

5. Operating Temperature— —55 to +150 C

6. Nominal Capacity—2.0 mmf

7. Material Specifications—

A. Body: Nylon, Grade FM 10001

B. Center Contact: Numbers 1505 and 1506

Heat Treated Beryllium Copper Silver plated per Spec 72-53, Number 1507 Brass, Tin Pl.

C. Hex Nut: Brass Nickel Plated.

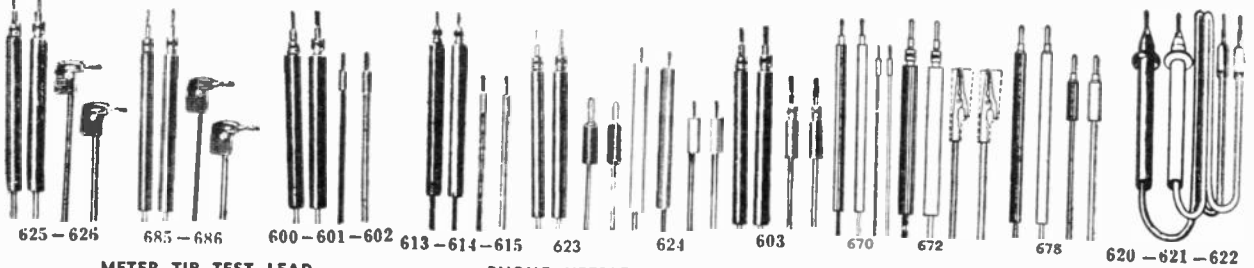
No.	Type	Std. Pkg.	Per C
1505	Wrap Around	25	45.00
1506	Spade Terminal	25	50.00
1507	Feed Through	25	47.00

COLOR CODE SUFFIX as specified above.



HERMAN H. SMITH, INC.

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METER TIP TEST LEAD
50" rubber covered kinkless wire. Molded plastic fingerrip tips and 4" plastic test prod handles.
Std. pkg. 6
No. 625 Solderless prods \$2.25 Per Pr.
No. 626 Needle Tip Prods \$2.25 Per Pr.

SOLDERLESS TIP TEST LEADS
Handles 17" long x 3/8" diameter Flexible kinkless rubber covered wire, 50" long. Std. pkg. 6
No. 600 Phone Tips \$1.45 Per Pr.
No. 601 Spade Lugs \$1.45 Per Pr.
No. 602 Alligator Clips \$1.55 Per Pr.

BANANA METER TEST LEAD
Supplied with 50" rubber covered kinkless test lead wire. Molded Plastic fingerrip tips on end. 4" plastic test prod handles other end. Supplied in two types. Solderless Tip or needle Tip prod handles. Std. pkg. 6
No. Type Per Pr.
685 Solderless Prods \$2.50
686 Needle Tip Prods 2.50

PHONO NEEDLE TEST LEADS
Handles 4" long x 3/8" diameter Tips are very sharp phonograph needles. Flexible kinkless rubber covered wires 50". Std. pkg. 6
No. 613 Phone Tips \$1.45 Per Pr.
No. 614 Spade Lugs \$1.45 Per Pr.
No. 615 Alligator Clips \$1.55 Per Pr.

BANANA PLUG TEST LEAD
Test leads with 50" rubber covered kinkless test lead wire. Solderless test prod with 17" handle one end, banana plug other end. Std. pkg. 6
No. 623 \$2.50 Per Pr.

SHORT TIP TEST LEADS
Short brass nickel plated tips leaving minimum amount of metal exposed. Possessing possibility of shock or grounding. 17" plastic test prod handles with 50" rubber covered kinkless test lead wire.
No. 624 Std. pkg. 6 \$1.75 Per Pr.

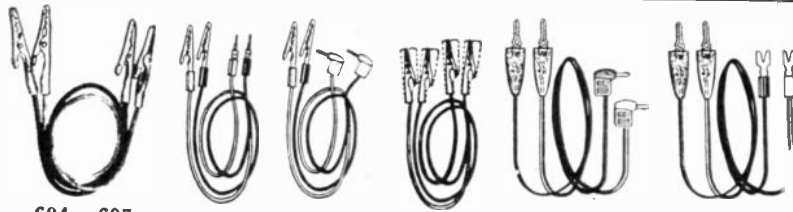
ALL SOLDERLESS TEST LEADS
No. 302 handles and No. 200 plugs. Flexible kinkless rubber covered leads 50" long.
No. 603 Std. pkg. 6 \$2.10 Per Pr.

No. 670—SLIM HANDLE TEST LEADS—Fine, low-cost test leads; slender pencil type tenite handles. 5/8" O.D. 50" of hi-quality kinkless, extra flexible, rubber covered test lead wire. Heavy duty standard phone tips. Std. pkg. 6 \$1.10 Per Pr.

ALLIGATOR CLIP TEST LEADS
No. 672—Solderless red and black tenite handles (our No. 302) with alligator clips and insulator on other end. Flexible, kinkless rubber covered wire 50" long. Std. pkg. 6 \$2.10 Per Pr.

SUBMINIATURE TEST LEADS
No. 678—Extra long, extra thin fibre handles, 1/4" O.D. x 4 1/2" long. Insulated phone tips at other end. Flexible, kinkless, rubber covered wire, 50". Std. pkg. 6 \$2.10 Per Pr.

HIGH TENSION TEST LEADS
Heavy duty probes, 48" high tenion kinkless rubber covered wire .248" O.D. 22,000 volt breakdown (60 cycles).
No. 620 Phone Tips \$3.30 Per Pr.
No. 621 Spade Lugs \$3.30 Per Pr.
No. 622 Alligator Clips \$4.00 Per Pr.



604 - 607 ALLIGATOR CLIP TEST LEADS
Very flexible kinkless Red and Black wire with alligator clips at each end. Std. pkg. 6
No. 604 12" Wire Length \$0.95 Per Pr.
No. 605 24" Wire Length \$1.05 Per Pr.
No. 606 36" Wire Length \$1.20 Per Pr.
No. 607 48" Wire Length \$1.35 Per Pr.

No. 627—ALLIGATOR CLIP LEAD with solderless tips and 50" flexible rubber covered test lead wire. Std. pkg. 6 \$1.50 Per Pr.

No. 628—ALLIGATOR CLIP LEAD with meter tips and 50" flexible rubber covered test lead wire. Std. pkg. 6 \$2.00 Per Pr.

629 ALLIGATOR CLIP TEST LEADS WITH RUBBER INSULATORS

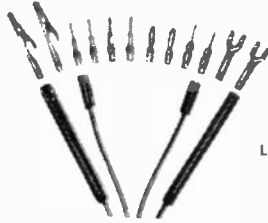
No.	Wire Length	Per Pr.	No.	Wire Length	Per Pr.
629	12"	\$1.20	658	36"	\$1.30
657	24"	1.25	659	48"	1.40

Std. pkg. 6

No. 675—CROCODILE CLIP LEAD with meter tips and 50" flexible rubber covered test lead wire. Std. pkg. 6 \$1.90 Per Pr.

No. 671—CROCODILE CLIP LEAD with insulated lug and 50" flexible rubber covered test lead wire. Std. pkg. 6 \$2.00 Per Pr.

"UNIVERSAL" TEST LEADS
COMPLETELY INTERCHANGEABLE



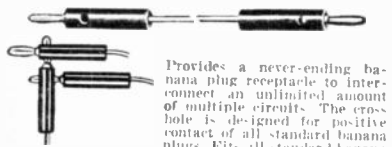
SENSATIONAL INNOVATION— FIFTY TEST LEADS IN ONE!

One lead can make any required test lead combination. All parts adapt into prod handle or tip handle. Supplied in Vinyl Case. No. 699 \$4.00 Each

NEW! "SLIM JIM" TEST LEADS
Long slim probe tips fully insulated with vinyl tubing to prevent shocks or shorting. Perfect for those hard to get at spots. Supplied with molded meter tip plugs. No. 698 Std. pkg. 6 \$1.90 Per Pr.

STACK BANANA PLUG SOLDERLESS TEST LEADS
HANDLE: PLASTIC Red, Black, Yellow or Green. SPECIFY COLOR.
BODY: Brass, nickel plated.
SPRINGS: Four-leaved Phosphor Bronze or Beryllium Copper, nickel plated.
DESCR.: Solderless connection. Accepts standard banana plugs in top and side. Interconnects unlimited amount of multiple circuits.
Std. Pkg. 50 Per C.
No. 1511 Phosphor Bronze \$45.00
No. 1512 Beryllium Copper 50.00

"CROSS-PATCH" PATCH CORD



Provides a never-ending banana plug receptacle to interconnect an unlimited amount of multiple circuits. The cross-hole is designed for positive contact of all standard banana plugs. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color. Std. pkg. 10

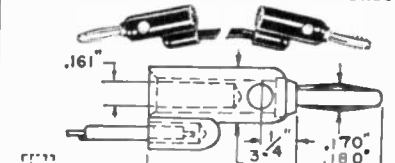
No. 680	8" Wire Length	\$1.45 Each
No. 681	12" Wire Length	\$1.55 Each
No. 682	24" Wire Length	\$1.65 Each
No. 683	36" Wire Length	\$1.75 Each

PATCH CORD

Embodies No. 211 banana plug and is used to interconnect circuits. Molded plastic handle. Plug portion brass, nickel plated. Fits all standard banana jacks. Four-leaved phosphor bronze nickel plated spring. Red or Black assemblies. Specify color. Std. pkg. 10

No. 690	8" Wire Length	\$.80 Each
No. 691	12" Wire Length	\$.90 Each
No. 692	24" Wire Length	\$1.00 Each
No. 693	36" Wire Length	\$1.10 Each

MOLDED "CROSS PATCH" PATCH CORDS



- Never ending banana plug receptacle
- Interconnects unlimited amount of multiple circuits.
- Positive and lasting contact for all standard banana plugs
- Four leaved heat treated beryllium copper spring
- 300 degree spring contact
- maintains resiliency after thousands of insertions
- Supplied in Red, Black, Yellow or Green (Special colors on request)
- Handle molded to body and to wire.
- 5,000 volt rubber covered flexible wire.
 - 65 strands ±36 insulated to an O.D. of .134"

19 32" Plug Spring		13 32" Plug Spring	
No.	Wire	No.	Wire
1510-8	8"	1515-8	8"
1510-12	12"	1515-12	12"
1510-24	24"	1515-24	24"
1510-36	36"	1515-36	36"

Each \$1.50, \$1.50, \$1.60, \$1.70, \$1.50, \$1.50, \$1.60, \$1.70
Std. pkg. 10

ALL PURPOSE TEST LEAD KIT

48" rubber covered kinkless test lead wire. Plastic handles with solderless or needle tips. Other end supplied with standard #204 banana plugs, which are interchangeable with the phone tips, alligator clips, or spade lugs included. Std. Pkg. 6

No. 610	Kit W/ Solderless prods	Each \$3.00
611	Kit W/ Needle point prods	3.00

HERMAN H. SMITH, INC.



"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

HIGH FIDELITY CONNECTOR CABLES WITH MOLDED FINGER GRIP PLUGS. New SMITH design bends wire and plug together with chrome gray plastic finger grip. Makes neat, compact, durable plug that's a pleasure to look at and to use! MANUFACTURERS' INQUIRIES INVITED.

JUMPER CORDS

- Male Phono Plug (our No. 1201) with finger-grip handle on each end. Std. pkg. 6
- No. 631 18 inches \$0.85 Ea.
 - No. 632 24 inches .90 Ea.
 - No. 633 36 inches .95 Ea.
 - No. 634 48 inches 1.05 Ea.
 - No. 635 72 inches 1.15 Ea.
 - No. 636 120 inches 1.45 Ea.

STEREO JUMPER CORD

745 15 feet \$2.00

EXTENSION CORDS

- Male Phono Plug (our No. 1201) with finger-grip handle, on end. Female In-Line Jack (our No. 1237) other end. Std. pkg. 6
- No. 641 18 inches \$1.25 Ea.
 - No. 642 24 inches 1.30 Ea.
 - No. 643 36 inches 1.35 Ea.
 - No. 644 48 inches 1.40 Ea.
 - No. 645 72 inches 1.50 Ea.
 - No. 646 120 inches 1.80 Ea.

PHONO PLUG CONNECTOR CORDS

- Male Phono Plug (our No. 1201) with finger-grip handle, one end. Spade lugs other end. Std. pkg. 6
- No. 657 72 inches \$1.00 Ea.
 - No. 637 36 inches \$0.75 Ea.
 - No. 638 72 inches .90 Ea.

- Male Phono Plug (our No. 1201) with finger-grip handle, one end. Insulated alligator clips other end. Std. pkg. 6
- No. 673 36 inches \$1.20 Ea.
 - No. 674 72 inches 1.50 Ea.

EXTENSION CORD

- Male Phono Plug (our No. 1201) one end, In-Line Jack (our No. 274) other end. Std. pkg. 6
- No. 639 72 inches \$2.05 Ea.

COAXIAL EXTENSION CABLE

- No. 687 Std. pkg. 6 \$2.00 Ea.
- No. 688 36 inches 2.50 Ea.
- No. 689 72 inches 3.60 Ea.

CONNECTOR CORDS FOR IMPORTED HI-FI EQUIPMENT

- Two banana plugs one end, stripped and tinned other end. Std. pkg. 6
- No. 709 72 inches \$1.45 Ea.

- Two banana plugs one end, phono jack other end. Std. pkg. 6
- No. 712 72 inches \$1.90 Ea.

PHONO PLUGS

- RCA Type Phono Plug. For use with record players, recording and reproducing equipment, etc. Extra large hole in cap (.175") for coaxial cable. Std. Pkg. 100
- No. 1201 Long Pin (1" overall) Per C \$8.00
 - No. 1202 Short Pin (13/16" overall) \$8.00

SHIELDED EXTENSION JACK

Brass shell, cadmium plated, 1 1/2" long, with black bakelite insert. Provides insulation for solder-coated positive grip contact. Uses No. 1201 phono plug. Std. Pkg. 50

- No. 1237 \$40.00 Per C

INPUT-OUTPUT CORDS

- Male Phono Plug (our No. 1201) with finger-grip handle, one end. Male Phono Plug (our No. 225) other end. Std. pkg. 6
- No. 662 72 inches \$1.50 Ea.

- Male Phono Plug (our No. 225) one end, Female In-Line Jack (our No. 1237) other end. Std. pkg. 6
- No. 663 72 inches \$2.20 Ea.

EXTENSION CORD

- Male Phono Plug (our No. 225) one end, In-Line Jack (our No. 274) other end. Std. pkg. 6
- No. 669 72 inches \$2.70 Ea.

PHONE PLUG CONNECTOR CORDS

- Male Phono Plug (our No. 225) one end, Spade Lugs other end. Std. pkg. 6
- No. 665 72 inches \$1.65 Ea.

- Male Phono Plug (our No. 225) one end, Other end stripped and tinned. Std. pkg. 6
- No. 667 72 inches \$1.45 Ea.

- Male Phono Plug (our No. 225) one end, Insulated alligator clips other end. Std. pkg. 6
- No. 664 72 inches \$1.90 Ea.

FEED THRU

- Accepts Phono Plug on Each End. Std. pkg. 6
- No. 661 \$1.60 Ea.

PHONO PLUG TO PHONE PLUG ADAPTER

- Adapts standard phono plug to phone plug with built in resistor to adapt either crystal or magnetic pickups. Std. pkg. 6
- No. 707 With Resistor \$1.75 Ea.
 - No. 708 Without Resistor \$1.00 Ea.

COAXIAL JUMPER CABLE

- Std. pkg. 6
- No. 694 36 inches \$2.25 Ea.
 - No. 696 72 inches 2.75 Ea.
 - No. 697 111 inches 3.85 Ea.

HI-FI CORDS FOR REVERSE EQUIPMENT

These cords are designed for use exclusively with Reverse Tape Recorders and HI-FI equipment all using the special type phone plug 3/16" O.D. necessary for use with this type equipment.

CONNECTOR CORDS

- 3/16" O.D. phone plug one end, other end stripped and tinned. Std. pkg. 6
- No. 700 120 inches \$2.90 Ea.

- 3/16" O.D. phone plug one end, other end spade lugs. Std. pkg. 6
- No. 701 120 inches \$3.10 Ea.

- 3/16" O.D. phone plug one end, insulated alligator clips other end. Std. pkg. 6
- No. 702 120 inches \$3.35 Ea.

EXTENSION CORDS

- 3/16" phone plug one end, Reverse type In-Line Jack other end. Std. pkg. 6
- No. 703 120 inches \$5.25 Ea.

- 3/16" O.D. phone plug one end, Standard In-Line Jack other end. Std. pkg. 6
- No. 704 120 inches \$4.00 Ea.

- 3/16" O.D. phone plug one end, Phono In-Line Jack other end. Std. pkg. 6
- No. 705 120 inches \$3.65 Ea.

INPUT-OUTPUT

- 3/16" O.D. phone plug one end, Standard phono plug other end. Std. pkg. 6
- No. 706 120 inches \$3.65 Ea.

CONNECTOR CORD FOR WEBCOR TAPE RECORDER

- Three way phone plug with built in resistor to cut down on audio one end, insulated alligator clips other end. Std. pkg. 6
- No. 676 120 inches \$3.25 Ea.

CONNECTOR CORDS FOR IMPORTED HI-FI EQUIPMENT

- Two banana plugs one end, phone plug other end. Std. pkg. 6
- No. 710 72 inches \$2.00 Ea.

- Two banana plugs one end, In-Line banana jacks other end. Std. pkg. 6
- No. 713 72 inches \$2.25 Ea.

- Two banana plugs one end, phono plug other end. Std. pkg. 6
- No. 711 72 inches \$1.65 Ea.

- Two banana plugs one end, ins. alligator clips other end. Std. pkg. 6
- No. 714 72 inches \$1.90 Ea.

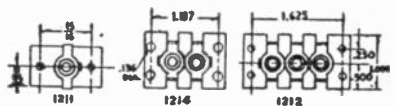
PHONO JACKS

- Female for No. 1201 plug. Single prong positive grip jack mounted on 1/16" bakelite with 11/16" mounting centers. Std. Pkg. 50
- No. 1203 Per C \$11.00
 - 1203-1 Insulating Washer 3.00
- Small, compact . . . where space is at a premium. Std. Pkg. 50
- No. 1223 Per C \$12.00

- Space Saver . . . Rivets and grounds to chassis. Std. Pkg. 50
- No. 1233 Per C \$11.00

PHONO JACKS

Used on recording units, phono players, etc. Std. pkg. 10



- No. 1211—Single Jack \$12.00
- 1214—Double Jack 16.00
- 1212—Triple Jack 20.00
- 1214-1—Insulating Washer for No. 1214 . . 4.00

HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

PHONO PLUGS SEMI-SOLDERLESS



Fits standard RCA-type phono jacks. No soldering of braid needed. Binding action of collet gives tight, solid connection to braid. Insulating plastic shell with knurled finger grips, available in Black, Red, Yellow, Green, Blue and White. SPECIFY COLOR. Std. Pkg. 25

No.	Each
1213	\$.65
1213D	Display of 48 Units \$32.50

HANDY GRIP PHONO PLUG



Quick connect: strip wire, solder inner conductor to pin and either solder braid to lug or crimp to lug. Fits all standard phono jacks. Std. Pkg. 100

No.	Per C
1246	\$15.00

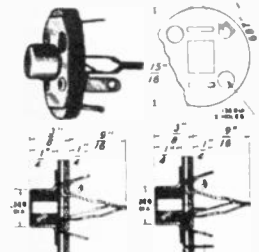
PANEL MOUNT PHONO JACK



Mounts in 29/64" hole (.453) with nut and washer. Easy installation for the home Hi Fi enthusiast. Std. Pkg. 50

No.	Per C
1247	\$35.00

STEREO PHONO JACKS



Used for stereo input, phonograph input and amplifier connections. Switches out single track audio for double track stereo when phono plug is inserted.

Std. Pkg. 50

No.	Circuit	Per C
1215	2-Cond. Closed	\$35.00
1216	3-Cond. Closed	\$5.00

HI-FI WIRE

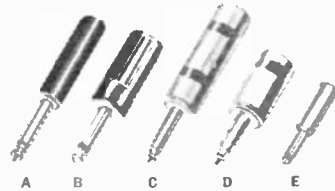


Cond.	Strand.	Wall
22	7/30	.062
Cap.	Shield	O.D.
37 Mmf.	Spiral	.140

No. 765 100 ft. \$5.50 Ea.

"PHONE PLUGS"

Bakelite Handles supplied in Red or Black



STANDARD TYPE

No.	Handle	III.	Type	Cond.	Each
225	Bake.	"A"	Solder	2	\$0.65
307	Bake.	"A"	Screw	2	.75
308	Bake.	"A"	Solder	3	1.05
309	Bake.	"A"	Screw	3	1.20
226	Metal	"A"	Solder	2	1.00
316	Brass	"A"	Screw	2	1.05
311	Brass	"A"	Solder	3	1.30
312	Brass	"A"	Screw	3	1.40
222	Bake.	"B"	Screw	2	.65
227	Bake.	"B"	Solder	2	.95
272	Metal	"C"	Screw	2	1.10
238	Metal	"C"	Solder	3	1.40
252	Metal	"D"	Screw	2	.90
228	Metal	"D"	Solder	3	1.25

MINIATURE TYPE

Bakelite Handles supplied in Gray

480	Bake.	"E"	Solder	2	.70
481	Metal	"E"	Solder	2	.85

PJ-055B and PJ-068 PLUGS JAN APPROVED



No. 217	Std. Pkg. 10	Type PJ-055B	\$1.35 Ea.
No. 247	Std. Pkg. 10	Type PJ-068	\$3.65 Ea.

The merchandise shown on this page and other pages in this catalog is considered standard but we are equipped to make these parts with any variation to meet your specifications.

We solicit your inquiries on small stampings, screw machine parts, sub-assemblies, compression or injection moldings, and other related items to those shown on the pages of this catalog.

MINIATURE EXTENSION JACK SHIELDED



BARREL: Brass, Nickel Plated.
BODY: Brass, Nickel Plated.
SPRING: Nickel Silver Alloy, Spring Temper.
INSUL.: Bakelite.
DESCR.: Mates with Miniature Phono Plugs.

No.	Std. Pkg. 25	Each
487		\$1.20

"PHONE JACKS" STANDARD TYPE



No.	Cond.	Circ.	Each
275	2	Open	\$0.45
276	2	Closed	.50
277	3	Open	.60
278	3	Closed	.75

MINIATURE TYPE

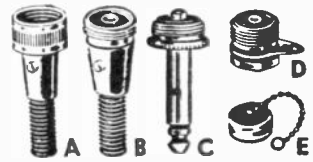
482	2	Open	.40
483	2	Closed	.45

IN-LINE PHONE JACKS



No.	Handle	Type	Cond.	Each
274	Bakelite	Solder	2	\$0.90
273	Shielded	Solder	2	1.25
288	Bakelite	Screws	2	1.10
289	Shielded	Screws	2	1.40

MICROPHONE CONNECTORS



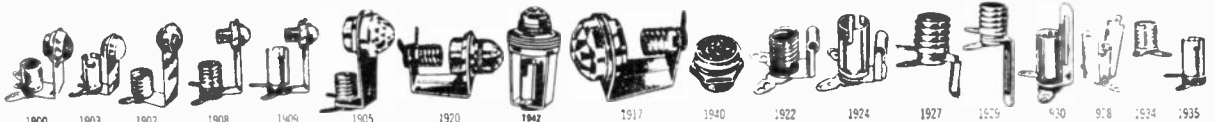
STANDARD TYPE

No.	III.	Contact	Type Conn.	Each
116	"A"	Single	Female Mike	\$0.53
115	"B"	Single	Male	.35
117	"D"	Single	Male	.35
114	"D"	Single	Closed Circ	.50
113	"C"	2 Cond.	Plug Adapter	.50
118	"E"	Cap & Chain		.60

MINIATURE TYPE

484	"A"	Single	Female Mike	.60
485	"B"	Single	Male Mike	.45
486	"D"	Single	Male Chassis	.35

PANEL INDICATORS AND JEWELS—SUPPLIED IN RED, GREEN, AMBER, BLUE, OPAL AND CLEAR



1/2" JEWEL MOUNTS IN 3/16" DIA. HOLE

No.	Type	Each
1900	Miniature Screw Base	\$0.45
1901	Candelabra Base	.55
1902	Candelabra Base with Univ. Bracket	.58
1903	Bayonet Base	.45
1904	Bayonet Base with Univ. Bracket	.50

Std. pkg. 10

3/8" JEWEL MOUNTS IN 1/8" DIA. HOLE

No.	Type	Each
1908	Miniature Screw Base	\$0.45
1909	Miniature Bayonet Base	.50

Std. pkg. 10

3/4" JEWEL MOUNTS IN 1/4" DIA. HOLE

No.	Type	Each
1905	Miniature Screw Base	\$0.95
1906	Miniature Bayonet Base	1.00
1907	Candelabra Base	1.00

Std. pkg. 10

1/2" OPEN TYPE MOUNTS IN 1/8" HOLE

No.	Type	Each
1920	Miniature Screw Base	\$0.70
1921	Miniature Bayonet Base	.75
1942	Rayonet, "U" Bkt.	.90
1943	1/2" Jewel Only	.42

Std. Pkg. 10

1" OPEN TYPE

No.	Type	Each
1917	Miniature Screw Base	\$1.60
1918	Miniature Bayonet Base	1.60
1919	Candelabra Base	1.70
1916	1" Jewel Only	1.25

Std. pkg. 10

JEWELS WITH MOUNTING NUT

3/8 Inch Jewel MOUNTS IN 1/8" HOLE			1/2 Inch Jewel MOUNTS IN 1/8" HOLE		
No.	Type	Each	No.	Type	Each
1940	Smooth	\$0.35	1911	Smooth	\$0.35
1941	Facetted	0.35	1912	Facetted	0.35

3/4 Inch Jewel MOUNTS IN 1/4" HOLE

No.	Type	Each	No.	Type	Each
1913	Smooth	\$0.70	1915	Smooth	\$1.25
1914	Facetted	0.70	1916	Facetted	1.25

Std. pkg. 10

CLIP-ON TYPE SOCKETS

No.	Type	Per C
1922	Min. Screw Up Clip	\$15.50
1923	Min. Screw Down Clip	15.50
1924	Min. Bayonet Up Clip	15.50
1925	Min. Bayonet Down Clip	15.50
1926	Candelabra Up Clip	17.00
1927	Candelabra Down Clip	17.00

Std. Pkg. 50

BRACKET TYPE SOCKETS

No.	Type	Per C
1928	Min. Screw Up Bracket	\$15.50
1929	Min. Screw Down Bracket	15.50
1930	Min. Bayonet Up Bracket	15.50
1931	Min. Bayonet Down Bracket	15.50
1932	Candelabra Up Bracket	17.00
1933	Candelabra Down Bracket	17.00

Std. Pkg. 50

UNMOUNTED TYPE SOCKETS

No.	Type	Per C
1934	Miniature Screw Base	\$15.50
1935	Miniature Bayonet Base	15.50
1936	Candelabra Base	17.00

Std. Pkg. 50

CLIP-IN TYPE

No. 1938	\$15.50 Per C
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Std. Pkg. 50



HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

SHAFT LOCKS

Brass Nickel Plated—For 1/8" Shaft



WRENCH TYPE No. 181 \$0.40 Ea. Std. Pkg. 100
THUMB TYPE No. 182 \$0.55 Ea. Std. Pkg. 25

BRASS AND INSULATED COUPLINGS

Available in both brass and insulated material. Overall length 3/4". Set screws are provided in coupling for tightening to shaft.

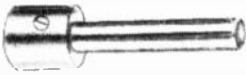
No.	Type	O.D.	Material	Std. Pkg.	Each
120	1/4" - 1/4"	1/2"	Brass	100	\$0.30
140	1/4" - 1/4"	1/2"	Fibre	50	0.25
131	3/8" - 1/4"	1/2"	Brass	25	0.30
141	3/8" - 1/4"	1/2"	Fibre	25	0.25
133	3/8" - 3/8"	1/2"	Brass	25	0.30
142	3/8" - 3/8"	1/2"	Fibre	25	0.25

WITH FOUR SET SCREWS

135 1/4" - 1/4" 3/16" Brass N.P. .65

BRASS AND INSULATED EXTENDERS

Long Shaft Type



No.	A	B	Material	Std. Pkg.	Ea.
150	1" - 1"	1 1/2"	Brass N. P.	25	\$0.33
130	1" - 1"	1 1/2"	Fibre	25	.45
142	1" - 1"	1 1/2"	Brass N. P.	25	.33
134	1" - 1"	1 1/2"	Fibre	25	.45

Short Shaft Type



No.	A	B	Material	Std. Pkg.	Ea.
160	1/2" - 1/2"	1"	Brass N. P.	25	\$0.30
161	1/2" - 1/2"	1"	Fibre	25	.30
162	3/4" - 1/2"	1"	Brass N. P.	25	.30
163	3/4" - 1/2"	1"	Fibre	25	.30

FLEXIBLE SHAFTS



High quality phosphor bronze non magnetic, non rusting flexible shafts. Remote control when necessary to mount condensers and potentiometers away from panel at unusual angles. Turns at any angle up to 90°. Free from back lash.

No.	Size	Description	Std. Pkg.	Each
151	3"	with 1/4" hub	25	\$0.75
152	3"	with 1/4" hub	25	1.00
153	3"	with 1/2" coupler	25	1.50
154	3"	with 1/2" coupler	25	1.75

BEARING FOR PANEL ASSEMBLY

Made of brass, and fits in 3/4" dia. hole in panels up to 5/16" thick. Bearing is made to accommodate 1/4" shafts. Overall length 1/2". No. 119 Std. Pkg. 100 \$0.25 Ea.

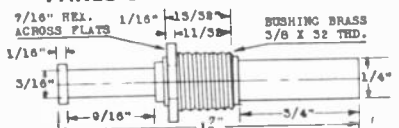


PANEL BEARING ASSEMBLY

This assembly combines either 3" or 6" brass rod, 1/4" O.D. with our standard No. 119 Panel Bearing. Nickel plated overall. Std. Pkg. 25

No.	A	Each
148	3"	\$0.55
149	6"	0.65

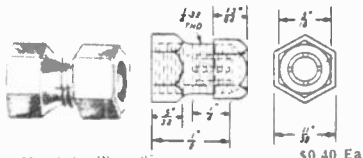
PANEL BEARING ASSEMBLY



No. 126 Std. Pkg. 25 \$40.00 Per C

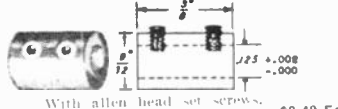
MINIATURE SHAFT ACCESSORIES

Brass Nickel Plated, for 1/8" Shafts
MINIATURE SHAFT LOCK—WRENCH TYPE



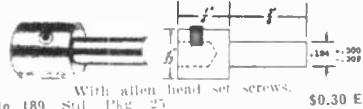
No. 183 Std. Pkg. 25 \$0.40 Ea.

MINIATURE BRASS COUPLER



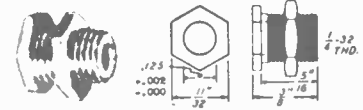
No. 180 Std. Pkg. 25 \$0.40 Ea.

MINIATURE SHAFT EXTENDER



No. 189 Std. Pkg. 25 \$0.30 Ea.

MINIATURE PANEL BEARING



No. 181 Std. Pkg. 25 \$0.25 Ea.

THREADED BRASS RODS

Rods ordinarily supplied in one foot lengths; if two foot length is required, please specify.

1-FT. LENGTH	THREAD	2-FT. LENGTH
No. Per Length		No. Per Length
1400-1 \$.40	6-32	1400-2 .80
1401-1 .40	8-32	1401-2 .80
1402-1 .60	10-32	1402-2 1.20
1403-1 .90	1/4"-20	1403-2 1.80

BRASS AND INSULATED RODS

No.	Type	Length	Dia.	Each
1404	Brass	8"	1/4"	\$0.33
1405	Brass	12"	1/4"	.66
1406	Insulated	6"	1/4"	.25
1407	Insulated	12"	1/4"	.50

NYLON THREADED RODS

1-Ft. Length		2-Ft. Length	
No.	Each	No.	Each
1420-1	\$1.50	1420-2	\$3.00
1421-1	1.70	1421-2	3.40
1422-1	1.80	1422-2	3.60
1423-1	2.00	1423-2	4.00

PLAIN RODS

Brass Fibre and Nylon	Type	Length	Dia.	Std. Pkg.	Each
1404	Brass N.P.	12"	1/4"	10	\$0.33
1405	Brass N.P.	6"	1/4"		.66
1405	Fibre	6"	1/4"		.25
1407	Fibre	12"	1/4"	10	.50
1408	Nylon	6"	1/4"		.50
1409	Nylon	12"	1/4"	10	.75

SHAFT EXTENDERS



Brass, Nickel Plated

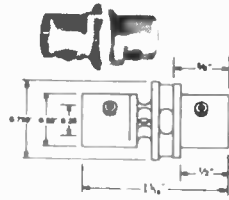
No.	A	B	Std. Pkg.	Each
2356	1"	2 1/2"	25	\$0.35
2357	1"	3"	25	.40
2358	1"	3 1/2"	25	.45
2359	1"	4"	25	.50
2360	1"	4 1/2"	25	.55
2361	1"	5"	25	.60
2362	1"	5 1/2"	25	.65
2363	1"	6"	25	.70
2364	1"	6 1/2"	25	.75

BUSHING EXTENDERS

FOR VOLUME CONTROLS

Brass, Nickel Plated	A	B	Std. Pkg.	Each
No. 2350	5/8"	3/4"	25	\$0.60
2351	5/8"	7/8"	25	.60
2352	5/8"	1"	25	.60
2353	1 1/8"	3/4"	25	.60
2354	1 1/8"	7/8"	25	.60
2355	1 1/8"	1"	25	.60

NYLON FLEXIBLE SHAFT COUPLING



DESCR.: Molded nylon with molded-in brass bushing. Hi temp nylon not influenced by moisture. Designed for long reach shaft coupling. Supplied with 2 Allen head set screws.

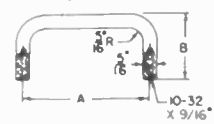
No. 164 Std. Pkg. 25 Each \$1.75

DIAL LOCK

HEAD: Captive; Brass, nickel plated.
 BODY: Brass nickel plated.
 DESCR.: Prevents detuning of the dial when locked by means of the captive knurled nut.
 Supplied with hex nut & lock washer. Std. Pkg. 25 Each \$1.10



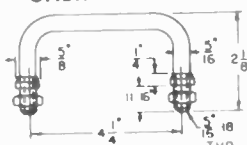
HANDLES



Brass, nickel plated, with internal 10-32 thread. Individually packaged. Std. Pkg. 10

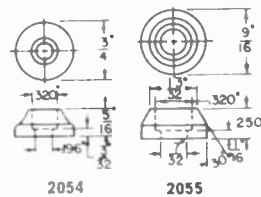
No.	A	B	Each
2050	3"	1 1/2"	\$1.05
2051	4"	1 1/2"	1.25
2052	4 1/2"	1 1/2"	1.30
2056	4 1/2"	1 1/2"	1.20
2057	5"	1 1/2"	1.05

CABINET HANDLE



Brass, nickel plated. Supplied with hex nut and washer. Mounts in 3/8" hole. Individually packaged. Std. Pkg. 10 Each \$1.50

FERRULE



Brass, nickel plated. For mounting of handles. Std. Pkg. 50 Per C \$16.00 \$25.00

No. 2054 2055

Use Index (pg. 2) for Quick Location of ALL Products

The MASTER — 24th Edition

ALL PRICES SUBJECT TO TRADE DISCOUNT



HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

WITH SCREW TERMINALS



WITH ONE-SIDED SOLDER TERMINALS



WITH TWO-SIDED SOLDER TERMINALS



WITH BOTTOM TERMINALS



WITH BOTTOM TERMINALS



WITH SIDE AND BOTTOM TERMINALS



Table listing product specifications for models 600-2, 600-3/4ST-2, 600-ST-2, 600-Y-2, 600-Z-2, and 600-XY-2. Columns include Cat. No., Gen. Purp. Bkt., CFG 'C', MFE 'M', MME 'GMF' MDG 'B', Height, Width, Thickness, Terminals, Centers, Mtg., and Screws.

Table listing product specifications for the 600A SERIES. Columns include Cat. No., Gen. Purp. Bkt., CFG 'C', MFE 'M', MME 'GMF' MDG 'B', Height, Width, Thickness, Terminals, Centers, Mtg., and Screws.

Table listing product specifications for the 601 SERIES. Columns include Cat. No., Gen. Purp. Bkt., CFG 'C', MFE 'M', MME 'GMF' MDG 'B', Height, Width, Thickness, Terminals, Centers, Mtg., and Screws.

Table listing product specifications for the 602 SERIES. Columns include Cat. No., Gen. Purp. Bkt., CFG 'C', MFE 'M', MME 'GMF' MDG 'B', Height, Width, Thickness, Terminals, Centers, Mtg., and Screws.

HERMAN H. SMITH, INC.



"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"



WITH SCREW TERMINALS



WITH ONE-SIDED SOLDER TERMINALS



WITH TWO-SIDED SOLDER TERMINALS

Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Height $\frac{3}{8}$ " Width $1\frac{1}{8}$ " Thickness $\frac{3}{32}$ " Terminals $\frac{1}{16}$ " Centers. $\frac{5}{16}$ " Mtg. 10-32 x $\frac{3}{8}$ " Screws.

603 SERIES

603-1	\$.55	\$.61	\$1.38	\$1.65	603-34ST-1	603-ST-1	\$.66	\$.72	\$1.49	\$1.76
603-2	.94	1.03	2.35	2.82	603-34ST-2	603-ST-2	1.13	1.22	2.54	3.01
603-3	1.32	1.45	3.30	3.96	603-34ST-3	603-ST-3	1.60	1.73	3.58	4.24
603-4	1.71	1.88	4.28	5.13	603-34ST-4	603-ST-4	2.07	2.24	4.64	5.49
603-5	2.09	2.30	5.23	6.27	603-34ST-5	603-ST-5	2.53	2.73	5.67	6.71
603-6	2.48	2.73	6.20	7.44	603-34ST-6	603-ST-6	3.00	3.25	6.72	7.96
603-7	2.86	3.15	7.15	8.58	603-34ST-7	603-ST-7	3.46	3.75	7.75	9.18
603-8	3.25	3.58	8.13	9.75	603-34ST-8	603-ST-8	3.92	4.25	8.80	10.42
603-9	3.63	3.99	9.08	10.89	603-34ST-9	603-ST-9	4.40	4.77	9.85	11.66
603-10	4.02	4.45	10.05	12.06	603-34ST-10	603-ST-10	4.80	5.23	10.90	12.91

604 SERIES

604-1	\$.94	\$1.03	\$2.35	\$2.82	604-34ST-1	604-ST-1	\$1.10	\$1.19	\$2.51	\$2.98
604-2	1.71	1.88	4.28	5.13	604-34ST-2	604-ST-2	2.04	2.21	4.61	5.46
604-3	2.48	2.73	6.20	7.44	604-34ST-3	604-ST-3	2.97	3.22	6.69	7.93
604-4	3.25	3.58	8.13	9.75	604-34ST-4	604-ST-4	3.91	4.24	8.79	10.41
604-5	4.02	4.42	10.05	12.06	604-34ST-5	604-ST-5	4.84	5.24	10.87	12.88
604-6	4.79	5.27	11.98	14.37	604-34ST-6	604-ST-6	5.78	6.26	12.97	15.36
604-7	5.56	6.12	13.90	16.63	604-34ST-7	604-ST-7	6.71	7.27	15.05	17.83
604-8	6.33	6.96	15.83	18.99	604-34ST-8	604-ST-8	7.65	8.28	17.15	20.31

605 SERIES

605-1	\$1.27	\$1.40	\$3.18	\$3.81	605-34ST-1	605-ST-1	\$1.49	\$1.62	\$3.40	\$4.03
605-2	2.42	2.66	6.05	7.26	605-34ST-2	605-ST-2	2.86	3.10	6.49	7.70
605-3	3.58	3.94	8.95	10.74	605-34ST-3	605-ST-3	4.24	4.60	9.61	11.40
605-4	4.73	5.20	11.83	14.19	605-34ST-4	605-ST-4	5.61	6.08	12.71	15.07
605-5	5.89	6.48	14.72	17.67	605-34ST-5	605-ST-5	6.99	7.58	15.83	18.77
605-6	7.04	7.74	17.60	21.12	605-34ST-6	605-ST-6	8.36	9.06	18.92	22.44

410 SERIES MINIATURE TERMINAL BLOCK

Double Screw Terminals. Height $\frac{1}{8}$ " Width $\frac{5}{16}$ " Thickness $\frac{1}{32}$ " Terminals $\frac{1}{16}$ " Centers. .125 dia. mtg. holes; 2-56 x $\frac{1}{16}$ " binding head brass nickel plated screws.



Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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699 SERIES NARROW WIDTH TERMINAL BLOCK

Single Screw Terminal. Height $\frac{1}{2}$ " Width $\frac{3}{8}$ " Thickness $\frac{1}{16}$ " Terminals $\frac{1}{16}$ " Centers. .175 Dia. Mtg. Holes. 6-32 x $\frac{1}{4}$ " Brass Nickel Plated Screws.



Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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409 SERIES SUBMINIATURE TERMINAL BLOCK

Single Screw Terminal. Height .260, Width .312, Thickness $\frac{1}{16}$ ". Terminals .187 Centers. .093 dia. mtg. holes; .080 x $\frac{1}{16}$ " brass silver plated or gold flash screws.



Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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599 SERIES NARROW WIDTH TERMINAL BLOCK

Single Screw Terminal. Height $\frac{1}{2}$ " Width $\frac{3}{8}$ " Thickness $\frac{1}{16}$ " Terminals $\frac{1}{16}$ " Centers. .156 dia. mtg. holes; 5-40 x $\frac{1}{4}$ " brass nickel plated screws.



Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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Cat. No.	Gen. Purp. Bake.	CFG 'C'	MFE 'M'	MME 'GMF' MDG 'B'
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HERMAN H. SMITH, INC.



"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

NAVY TERMINAL BOARDS



Made According to BUREAU of SHIPS Drawings No. 9000 —S6305F-7321A Rev. 5 and Spec. MIL-T-16784 (Ships). List Price

Cat. No.	Pieces No.	Material	No. Studs	Each
3TB-10	5	MAL-60	3	\$ 8.50
4TB-20	29	MAL-60	20	12.00
6TB-6	24	MAL-60	6	5.50
6TB-10	22	MAL-60	10	6.25
6TB-24	18	MAL-60	24	12.00
7TB-8	30	MAL-60	8	10.00
7TB-12	23	MAL-60	12	17.00
8TB-2	48	MAL-60	4	2.10
8TB2C	68	CFI-5	4	1.75
8TB2M	68	MFG	4	2.00
8TB6	16	MAL-60	12	3.90
8TB6C	16	CFI-5	12	3.50
8TB6M	16	MFG	12	4.00
8TB8	14	MAL-60	16	4.90
8TB8C	14	CFI-20	16	5.00
8TB8M	14	MFI-20	16	5.00
8TB10	9	MAL-60	20	6.00
8TB10C	9	CFI-20	20	5.50
8TB10M	9	MFI-20	20	6.00
15TB14	58	MAL-60	14	20.00
15TB10	74	MAL-60	10	7.00
15TB24	80	MAL-60	24	12.75

Stud Connectors—\$40.00M (LIST)

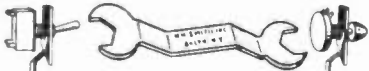
WIRE SIZES FOR TERMINAL BLOCKS

603	—12—10	B & S Gauge
604	—10—8	B & S Gauge
605	—8—6	B & S Gauge
600	—18—16	B & S Gauge
601	—16—14	B & S Gauge
602	—14—12	B & S Gauge

RATINGS FOR TERMINAL BLOCKS

Series	Voltage Without	Voltage With	Capacity
410	1000V RMS	1100V RMS	5 Amp.
411	1000V RMS	1100V RMS	5 Amp.
599	1100V RMS	1200V RMS	15 Amp.
600	1100V RMS	1200V RMS	15 Amp.
601	1100V RMS	1600V RMS	20 Amp.
602	1600V RMS	2500V RMS	30 Amp.
603	1700V RMS	2500V RMS	50 Amp.
604	1800V RMS	3100V RMS	70 Amp.
605	2100V RMS	3800V RMS	90 Amp.
609	1100V RMS	1200V RMS	15 Amp.

DOUBLE END WRENCH



For Toggle Switches For Volume Controls

Specially designed offset wrench for rear of chassis assembly of toggle switches, Volume Controls, etc. Case hardened steel. Cadmium plated. No. 999 \$0.35 Each
No. 999D Display of 50 No. 999 \$17.50 Each

DRILL & TAP KIT



- for
- Hams
 - Laboratories
 - Servicemen

Specially designed for electronic bench duty, this kit contains the most popular sizes of taps and corresponding tap and body drills for precise and speedy work. Drill and tap size identifications are engraved on the steel cadmium plated drill stand, to facilitate correct replacement as needed. Contains: 4-40, 6-32, 8-32, 10-32 Taps with eight corresponding tap and body drills.

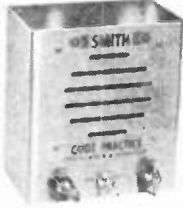
No. 750 Kit Each \$9.00
No. 749 Stand Only Each \$1.10

TEST LEAD WIRE



Heavy duty kinkless, rubber covered test lead wire, with extra heavy insulation. 42 strands No. 34 tinned copper wire with cotton separator. .040" wall, high temperature heat resisting. Specify Red or Black.
No. 660 100-Ft. Coil \$7.75 Ea.

SMITH NEW IMPROVED CODE STUDY EQUIPMENT



CODE PRACTICE OSCILLATOR & MONITOR

Ideal for the beginner as well as the experienced operator, this versatile instrument can be used as a code practice oscillator, as a keying monitor to check ICW signals, or as a monitor for phone signals.

Two tubes are used, in an up to date circuit that provides continuously variable tone and volume. Self-contained FM speaker affords ample volume for group use, with phone jack available for individual headphone listening. The handsome Hammertone finish cabinet has additional provision for wall mounting, an exclusive SMITH feature that eliminates need for valuable desk space. The unit is designed for use on 110 Volts AC or DC and is supplied complete with two tubes.

No.	Description	Each
2425	Kit	\$22.50*
2426	Wired	\$30.00*



JUNIOR CODE OSCILLATOR

For Headset Only

A neat, compact little unit that provides a clean audio tone. Ideal for code practice. It is equipped with two standard telephone jacks, to take phone plugs of

both key and headset. A single 12AX7 tube is used in an improved circuit, designed for operation on 110 volts AC or DC. Available in wired or kit form, either type supplied with tube.

No.	Description	Each
2430	Kit	\$11.00*
2431	Wired	\$14.50*

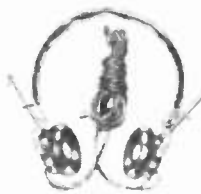


RUBBER EAR CUSHIONS

Finest quality soft rubber ear-cushions. Fit all standard ear-phones. For comfortable listening over long periods of time.

No. 2410 Per Pair \$1.50

HIGH SENSITIVITY HEADPHONES



The latest in deluxe design, with many features of more expensive types. Featherweight construction assures fatigue-free use. Alnico magnets, dual coil construction provide excellent tonal fidelity. Adjustable vinyl covered headband, molded plastic cases. Cord equipped with phone prongs.

No.	Description	Each
2440	Double Headphones	\$4.50*
2441	Single Headphone	\$2.75*

*These Items Subject to Special Jobber Discount.

Semi-Automatic TELEGRAPH KEY



A well-constructed easy-operating automatic key at a very low price! Provides numerous adjustments to suit any operator. Well balanced, has large control lever, tension adjustments on both dot and dash sides, scale type weight on pendulum arm. Molded bakelite weighted base is equipped with suction cup feet. A really substantial, good looking Key that the Hams will Love at First Sight! Complete with Cord and Wedge. Dustproof cover.

No. 2445 Each \$20.00

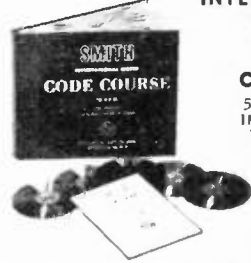
PLUG-IN COILS



For Short Wave and Broadcast. Molded bakelite, black. Precision wound low loss forms. Four prongs. Equipped with special rim making it easy to insert and pull out. Designed for color coding.

No.	Description	Each
2408	No Winding	\$0.60
2413	Set of 4—	
	9 1/2 to 217 Meters	5.00
2414	Set of 2—	
	190 to 500 Meters	4.00

INTERNATIONAL MORSE CODE COURSES



5 RECORDS IN ALBUM—78 R.P.M.
Ten Lessons Up to 15 Words Per Minute
The complete album includes 5 records and 20-page SMITH Instruction Book

The very latest in scientific code-teaching techniques! The SMITH system uses the proven EAR & EYE method, with carefully graduated lessons based on military teaching procedures.

No.	Description	Each
2400	Complete Album with Instruction Book	\$10.00
2415	20-Page Instruction Book Only	\$.80



SINGLE RECORD

33-1/3 R.P.M.
TEN LESSONS UP TO 15 WORDS PER MINUTE
Complete on Two Sides

This twelve inch long play record contains all ten of the Code Course Lessons listed above, five on each side. 20 Page SMITH Instruction Book is included, and the record is housed in attractive, sturdy jacket with Int-national Morse Code table on reverse side.

No. 2420 Each \$8.00



CODE PRACTICE BUZZER SET

COMPACT — INGENUOUS — HANDSOME!
Perfect for the beginner! High frequency buzzer has variable pitch adjustment. Sturdy fully adjustable key and terminal binding posts, all plated. Uses one standard flashlight cell. All elements mounted on heavy molded bakelite base 6 3/4" x 2 3/4". Supplied less battery.

No. 2443 \$5.50 Ea.

BUZZER ONLY

Complete with black bakelite cover.

No. 2444 Each \$2.00



TELEGRAPH KEY

A well-built, smooth operating key, low priced, ideal for the beginner. Molded bakelite base and knob. Simple adjustments. All metal parts plated. 1/2" silver contacts. Base size 3 1/4" x 1 1/2".

No. 2422 Each \$2.25

CRYSTAL RADIO KIT



Ideal for the beginner in electronics. Printed template, illustrates just where the components are to be placed, while clear instructions aid in learning basic rudiments of radio. Does not require any batteries or external power. Comes complete with all American made professional parts. Operates with the most modern, glass enclosed germanium diode similar to those used in modern computers. A screwdriver is the only tool required to assemble the crystal radio kit.

No. 2432 Each \$6.00

TRANSISTOR RADIO KIT

This personal portable Transistor Radio can be easily assembled, requiring nothing more than a screw driver. Printed template. The 2 1/2" antenna, supplied with set, will enable the listener to enjoy seven to eight stations at a distance of up to 100 miles from the broadcasting station. The transistor radio will operate for more than 1000 hours on the two miniature batteries included. All American made, high impact plastic case, professional parts supplied, nothing else to buy.

No. 2433 Each \$11.00

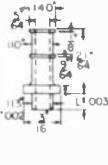
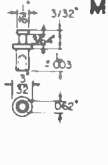
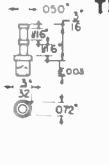
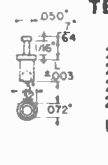
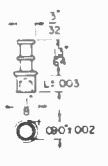
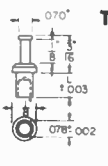
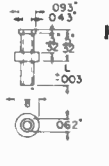
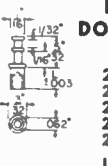
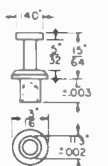
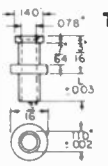
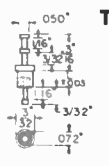
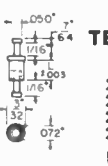
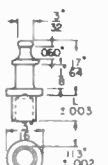
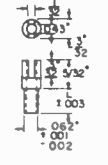
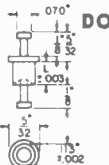
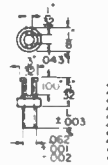
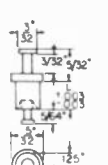
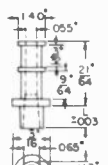
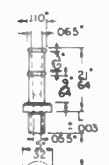
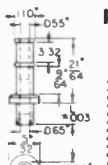
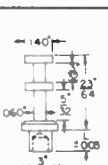
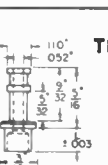
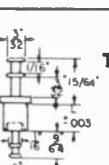
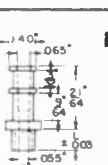
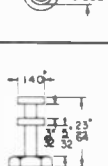
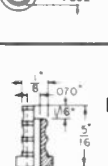
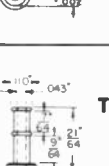



HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

TURRET TERMINALS

Terminals shown below are "stock" items, available for speedy delivery. All brass, silver-plated, precision made. See next page for Suggested Resale Prices. For quantities over 15,000 request special prices. Inquiries are invited, for special types and sizes to particular requirements. L indicates Shank Length of Lug. T indicates Thickness of mounting boards Minimum package 100

 <p>HOLLOW LUG</p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr><td>2000A</td><td>.075</td><td>1/32</td></tr> <tr><td>2000B</td><td>.105</td><td>1/16</td></tr> <tr><td>2000C</td><td>.135</td><td>3/32</td></tr> <tr><td>2000D</td><td>.165</td><td>1/8</td></tr> <tr><td>2000E</td><td>.195</td><td>3/32</td></tr> <tr><td>2000F</td><td>.230</td><td>3/16</td></tr> </tbody> </table> <p>List \$25.00 Per M</p>	No.	L	T	2000A	.075	1/32	2000B	.105	1/16	2000C	.135	3/32	2000D	.165	1/8	2000E	.195	3/32	2000F	.230	3/16	 <p>MINIATURE LUG</p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr><td>2027A</td><td>.037</td><td>1/64</td></tr> <tr><td>2027B</td><td>.054</td><td>1/32</td></tr> <tr><td>2027C</td><td>.084</td><td>1/16</td></tr> <tr><td>2027D</td><td>.115</td><td>3/32</td></tr> <tr><td>2027E</td><td>.147</td><td>1/8</td></tr> </tbody> </table> <p>List \$20.00 Per M</p>	No.	L	T	2027A	.037	1/64	2027B	.054	1/32	2027C	.084	1/16	2027D	.115	3/32	2027E	.147	1/8	 <p>TERMINAL LUG</p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr><td>2030A</td><td>.054</td><td>1/32</td></tr> <tr><td>2030B</td><td>.084</td><td>1/16</td></tr> <tr><td>2030C</td><td>.115</td><td>3/32</td></tr> <tr><td>2030D</td><td>.147</td><td>1/8</td></tr> </tbody> </table> <p>List \$27.00 Per M</p>	No.	L	T	2030A	.054	1/32	2030B	.084	1/16	2030C	.115	3/32	2030D	.147	1/8	 <p>TERMINAL LUG</p> <table border="1"> <thead> <tr> <th>No.</th> <th>L</th> <th>T</th> </tr> </thead> <tbody> <tr><td>2032A</td><td>.054</td><td>1/32</td></tr> <tr><td>2032B</td><td>.084</td><td>1/16</td></tr> <tr><td>2032C</td><td>.115</td><td>3/32</td></tr> <tr><td>2032D</td><td>.147</td><td>1/8</td></tr> </tbody> </table> <p>List \$55.00 Per M</p>	No.	L	T	2032A	.054	1/32	2032B	.084	1/16	2032C	.115	3/32	2032D	.147	1/8									
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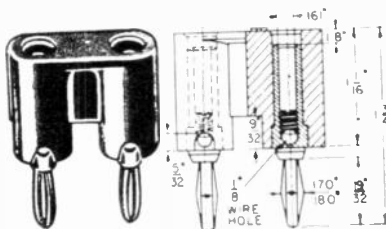


"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

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New SMITH PRODUCTS

DUAL BANANA PLUG

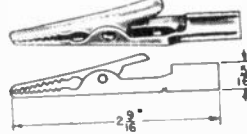


BODY: Molded Black Polystyrene.
PLUG: Brass, nickel plated.
SPRING: Four-leaved, phosphor bronze, nickel plated.
SCREW: Steel, cadmium plated.
DESCR.: Mates with standard dual binding post 3/4" centers. Polarity indicated on top and side. Wire held with internal set screw. Can be stacked for multiple connections
 Std. Pkg. 25

No. 210

Each \$1.20

JUMBO ALLIGATOR CLIP Solder Connection

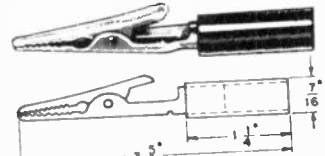


DESCR.: 5/8" jaw opening. Jaws match accurately. For heavy terminal use. Std. Pkg. 100
Type Per C
 No. 392 Steel, Cad. Pl. \$25.00
 396 Solid Copper 30.00

SCREW CONNECTION

DESCR.: 5/8" jaw opening. Jaws match accurately. Supplied with screw for solderless connection. For heavy terminal use. Std. Pkg. 100
Type Per C
 No. 368 Steel, Cad. Pl. \$30.00
 356 Solid Copper 35.00

JUMBO ALLIGATOR CLIP Insulated Solder Connection

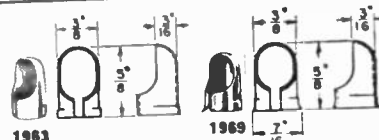


HANDLE: Plastic, red or black, specify color.
DESCR.: 5/8" jaw opening. Jaws match accurately. For heavy terminal use. Std. Pkg. 100
Type Per C
 No. 393 Steel, Cad. Pl. \$35.00
 397 Solid Copper 40.00

SCREW CONNECTION

HANDLE: Plastic, red or black, specify color.
DESCR.: 5/8" jaw opening. Jaws match accurately.
Type Per C
 No. 369 Steel, Cad. Pl. \$40.00
 357 Solid Copper 45.00

PILOT LIGHT SHIELD



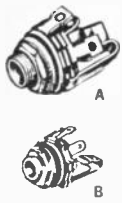
DESCR.: Prevents glare when used in radio receiver meters, etc. Ribbed bottom holds shield securely in place on bulb. Std. Pkg. 100
Type Per C
 No. 1963 Brass Cad. Plate \$6.00
 1968 Plain Brass 5.50
 1969 Flared Brass Cad. Plate 7.00



CHICAGO 30, ILLINOIS

JACKS
"SHIELDED JAX"
"JACK PANELS"
"JACK COVERS"

"LITTEL-JAX AND "TINI-JAX"



The "Littlet-Jax" (A) features notched insulating washers mechanically interlocking springs and lugs; "A" bend in tip spring firmly "holds" mating plug; minimum space requirements, economical. Mount in single 1/4" hole, panels up to 1/2" thick, except L-11 and L-12A in panels up to 3/4" thick. No. C-11 (JJ-034) and C-12A (JJ-089) plug with No. 440 (PJ-055B) Plug; C-12B (JJ-033), S-12B and S-13B mate with No. 480 (JAN PJ-068 or W.E. No. 309) Plug. No. C-11 and C-12B have locating pins (non-turn sleeves). No. S-11 similar to No. 11 except .210" I.D. device to mate with S-250 and S-280 Plugs. C-11 (JJ-034), C-12B (JJ-033) and C-12A (JJ-089) per JAN-J-641. All others mate with standard 1/4" dia. plugs such as our No. 30, 250, etc.

The "Tini-Jax" (B) a miniature 2-conductor Jack, approximately 1/4 the size of the "Littlet-Jax", otherwise similar in construction. Mounts in 1/8" dia. hole, panels up to 1/2" thick. Mate with "Tini-Plugs" No. 710, etc. 43A has a unique spring design that requires a pear-shaped tip, such as our No. 750.

"LITTEL-JAX"		"TINI-JAX"		Schematic No.
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price	
11	\$0.40	41	\$0.40	I
C-11	\$0.60			
L-11	\$0.50			
S-11	\$0.45			
12A	\$0.45	42A	\$0.45	III
C-12A	\$0.75			
L-12A	\$0.55			
13	\$0.90			V
13A	\$0.85	43A	\$0.70	VI
13E	\$0.90			IX
Three Conductor Types				
12B	\$0.55			
C-12B	\$0.70			IV
S-12B	\$0.65			
13B	\$0.75			
S-13B	\$0.95			VII

"JACK PANELS"



Black phenolic strip, reinforced with steel, supports Switchcraft "T-JAX" and "MT-JAX" (see separate listing). Slotted mounting brackets for standard 19" relay racks. Series 1200, single row for 24 Jacks; strip, 1 3/4" wide. Series 2400, double row for 48 Jacks; 2 1/4" wide. Series 2600, double row for 52 Jacks, 1 3/4" wide. Write for engineering details.

Part No. U.S.A. List DESCRIPTION

1200	\$18.00	Single Row Panel, less Jacks.
1232A	\$45.00	Single Row, 12 pr. closed ckt. T-332A "T-Jax".
1332A	\$55.00	Single Row, 12 pr. closed ckt. MT-332A "MT-Jax".
2400	\$20.00	Double Row Panel, less Jacks. 2 1/4" wide (holds 48 Jacks).
2432A	\$75.00	Double Row, 24 pr. closed ckt. T-332A "T-Jax", 2 1/4" wide.
2532A	\$95.00	Double Row, 24 pr. closed ckt. MT-332A "MT-Jax", 2 1/4" wide.
2600	\$25.00	Double Row Panel, less Jacks. 1 3/4" wide (holds 52 Jacks).
2632A	\$85.00	Double Row with 52 No. T-332A "T-Jax", 1 3/4" wide.
2732A	\$110.00	Double Row with 52 No. MT-332A "MT-Jax", 1 3/4" wide.

"SF-JAX"



"SF-JAX", Series 20 (C) requires a minimum of panel depth, mounts in single 1/2" dia. hole, panels up to 3/4" thick. Series 50 (D) similar to Series 20, except solder lug location necessitates more depth but requires less panel space. Mounts in panels up to 1/4" thick. Series C-20 and C-50, MIL types with Military Insulation and finishes, otherwise similar to commercial Series 20 and 50, both will mount in panels up to 1/4" thick.

Series 20 & C-20		Series 50 & C-50		MIL Type No.	Schematic No.
Part No.	U.S.A. List	Part No.	U.S.A. List		
21	\$0.65	51	\$0.65		I
		C-51	\$1.20	JJ-096	II
22	\$0.80	52	\$0.80		III
22A	\$0.80	52A	\$0.80		IV
		C-52A	\$1.30	JJ-097	V
22B	\$0.80	52B	\$0.80		VI
		C-52B	\$1.30	JJ-103	VII
23	\$0.95	53	\$0.95		VIII
C-23	\$1.35			JJ-099	IX
23A	\$0.95	53A	\$0.95		X
C-23A	\$1.35			JJ-098	XI
		C-53A	\$1.55	JJ-092	XII
23B	\$0.95	53B	\$0.95		XIII
23C	\$0.95	53C	\$0.95		XIV
23E	\$0.95	53E	\$0.95		XV
C-23E	\$1.35			JJ-102	XVI
24	\$1.10	54	\$1.10		XVII
24A	\$1.10	54A	\$1.10		XVIII
		C-54A	\$1.60	JJ-093	XIX
24B	\$1.10	54B	\$1.10		XX
		C-54B	\$1.60	JJ-101	XXI
25	\$1.30	55	\$1.30		XXII
		C-55B	\$1.85	JJ-095	XXIII
26	\$1.40	56	\$1.40		XXIV

"LF-JAX" AND "M-JAX"



Long Frame Jacks, the "LF-JAX", (E) Series 30, requires minimum panel space, 3" deep. "M-JAX" (F) a heavy frame, often referred to as Navy Jack, 2 1/2" deep. Both types mount in single 1/2" hole, in panels up to 1/4" thick.

"LF-JAX"		"M-JAX"		MIL Type No.	Schematic No.
Part No.	U.S.A. List	Part No.	U.S.A. List		
31	\$0.75	M-441	\$1.50		I
32	\$0.95				II
32A	\$0.95	M-442A	\$1.70	JJ-107	III
32B	\$0.95				IV
33	\$1.05				V
33A	\$1.05	M-443A	\$1.95	JJ-105	VI
33B	\$1.05	M-443B	\$2.10	JJ-106	VII
33C	\$1.05				VIII
33E	\$1.05				IX
34	\$1.20				X
34A	\$1.20				XI
34B	\$1.20	*M-444	\$2.30	JJ-083	XII
		M-444B	\$2.20	JJ-082	XIII
35	\$1.45	M-445	\$2.75	JJ-104	XIV
36	\$1.70	M-446	\$3.50	JJ-079	XV
		M-446A	\$3.90	JJ-081	XVI

*Bushing .2085", to mate with plugs PJ-068 and PJ-309.

"T-JAX" AND "MT-JAX"

The "T-JAX" and "MT-JAX" are a long frame, switchboard type. The "T-JAX", commercial quality, for low cost communication equipment where economy is all important.

The "MT-JAX" is recommended for high quality communication and Military equipment, featuring welded crossbar Palladium contacts. Frame design also available with mounting ear rotated 90° from position shown in figure "G"; add prefix "C" to part number. All types listed mate with 1/4" and 1/8" sleeves unless otherwise indicated.

"T-JAX"		"MT-JAX"		MIL Type No.	Schematic No.
Part No.	U.S.A. List	Part No.	U.S.A. List		
T-331	\$1.05	MT-331	\$1.50	JJ-086	I
		MT-332	\$1.70		II
T-332A	\$1.20	MT-332A	\$1.70	JJ-024	III
T-332B	\$1.20	MT-332B	\$1.70	JJ-022	IV
		MT-332C	\$1.95	JJ-076	XXVIII
		MT-333	\$1.95	JJ-084	V
		MT-333B	\$1.95		VII
		MT-333E	\$1.95		IX
T-334A	\$1.50	MT-334A	\$2.00		XI
T-334B	\$1.60	MT-334B	\$2.00	JJ-042	XII
T-334C	\$1.50	MT-334C	\$2.00	JJ-072	XXVII
		MT-334E	\$2.00	JJ-085	XXV
		MT-334F	\$2.00	JJ-035	XIX
		MT-335	\$2.25		XIII
		MT-336	\$2.25	JJ-074	XX
		MT-336A	\$2.75	JJ-075	XIV
		MT-336B	\$2.75	JJ-077	XXI
		MT-336C	\$2.75	JJ-073	XXII
		MT-336E	\$2.75		XXIII
		MT-337	\$2.75	JJ-087	XXIV
		*MT-342B	\$1.95		IV
		*MT-344B	\$2.25		XII

*Bushing .2085" to mate with PJ-068 and PJ-309.

"LAMP JAX"

Switchboard Panel Type. Lamp completely insulated. Interchangeable with W.E. 47A & 47B. Accepts standard Switchboard Lamps. Ideal for mounting on Jack Panel. Two frame mountings—Vertical and prefix A. Horizontal prefix C. Part No. LT-47 U.S.A. List \$2.00

"SHIELDED JAX"

"Shielded Jax" H similar Littlet-Jax" (see separate listing) assembled into shield, ideal for high impedance circuits.

Part No.	U.S.A. List Price	DESCRIPTION
CN-11	\$0.80	Open ckt. (see No. 11)
CN-12A	\$0.85	Close ckt. (see No. 12A)
CN-12B	\$0.95	(see No. 12B)
CN-13B	\$1.15	(see No. 13B)

"JACK COVERS"

500 Series Cover used with 2000 and 2600 Series Jacks. Spring loaded cover and has a snap over Jack opening when plug is removed, providing a moisture seal.
 600 Series Cover, similar to 500 Series, used with certain type Tip Jacks. Fit Tip Jacks with 1/4" mounting; height of Tip Jack head is 6.00".
 Also can be used as covers for Tini-Jax

U.S.A. Part No.	U.S.A. List Price	Description	U.S.A. Part No.	U.S.A. List Price	Description
510	\$1.05	Olive Drab	610	\$0.75	Olive Drab
512	\$1.05	Black	615	\$0.75	Black
515	\$1.05	Black	620	\$0.75	Navy Grey
520	\$1.05	Navy Grey			



The above are strictly electrical schematics and do not necessarily indicate relative solder lug positions.

Sec. 2900



CHICAGO 30, ILLINOIS

"RS-SWITCH"



The "RS-SWITCH" (H), locking and non-locking, 2- or 3-position, all common circuits. Mounts in single $3\frac{3}{8}$ " dia. hole, panels up to $\frac{1}{4}$ " thick. Fine silver contacts rated 3 amperes, 120 volts A.C. (non-inductive).

Volts A.C. (non-inductive).

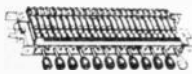
Add suffix "L" to part number for locking type.

Part No. Non-Locking	U.S.A. List Price	Schematic CKT.
2001	\$1.25	XI
2002	\$1.25	XII
2003	\$1.50	XIII
2004	\$1.50	XV
2005	\$1.50	XVI
2006	\$1.95	XVII

THREE POSITION TYPES

2034	\$1.50	VIII
2035	\$1.50	IX
2036	\$1.95	X

"MULTI-SWITCHES"



A multiple push button Switch (A), featuring choice of switching functions, 2 to 12 stations (for complete details write). Frame can be set up by user for interlock action, non-locking action, and accumulative or all-lock. Choose number of stations needed, order switching for each station as separate items, for mounting to frame by the user.

FRAME ASSEMBLY FOR "MULTI-SWITCHES"

Frame Part No.	7400	7600	7800	71000	71200
No. of Stations	4	6	8	10	12
U.S.A. List Price	\$12.00	\$16.00	\$20.00	\$24.00	\$28.00

Switch Stacks, for "Multi-Switches", series 70 have fine silver contacts; series 70P have welded cross bar Palladium contacts; either type rated at 3 amperes, A.C. non-inductive load, 300 Watts maximum.

SERIES 70		SERIES 70P		Schematic Circuit
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price	
71	\$0.50	71P	\$0.60	1
72	\$0.50	72P	\$0.60	2
73	\$0.60	73P	\$0.80	3
73D	\$0.70	73PD	\$0.90	4
76	\$0.95	76P	\$1.15	5

Lock-out Bars, for "Multi-Switches" For interlock function when it is desired that only one station can be depressed at one time. Assembly is added to back of frame assembly.

Part No.	No. of Stations	U.S.A. List Price
K04	4	\$3.25
K06	6	\$3.50
K08	8	\$3.75
K10	10	\$4.25
K12	12	\$4.75

SOLENOIDS "J" SERIES

A simple solenoid assembly that can be added on the end of the standard frame assembly by 2 screws.

Part No.	U.S.A. List Price	Function Used On	Voltage
J-1	\$8.50	Interlock	115V A.C.
J-3	\$9.50	All-lock	115V A.C.



"HOOK SWITCH"

Hanging accessory on "hook" actuates switch. Requires minimum of depth behind panel. Soft, easy action. Fine silver contacts rated at 3 amps, 120V, A.C. Palladium contacts and special circuits available. (Refer to basic contact forms Page 2. Specify by lettering.)

Part No.	U.S.A. List	Schematic Circuit	Part No.	U.S.A. List	Schematic Circuit
14004	\$2.75	[Diagram]	14006	\$3.00	[Diagram]
14005	\$2.75	[Diagram]	14012	\$3.85	[Diagram]

"LITTEL-PLUG" AND "EXTENSION JAX" MILITARY TYPES



Designed to meet exacting requirements of Industry and the Armed Services. Molded construction provides complete continuity of insulation in plugs. Jack per MIL-J-641A. Plugs per MIL-P-642A.

Part No.	U.S.A. List	DESCRIPTION
410	\$0.60	2-cond.—Solder Lug—Type PJ-291 (Old S.C. No. PL-291) Mates with No. 810 (JJ-048) Jack.
*430	\$1.40	2-cond.—Screw Term. Cable opening $1\frac{1}{2}$ "—Black handle—Type PJ-034B (Old S.C. No. PL-54).
*435	\$1.40	Same as No. 430, except Red Handle—Type PJ-034R (Old S.C. No. PL-354).
440	\$1.40	2-cond.—Screw Term. Black Handle—Type PJ-055B, (Old S.C. No. PL-55).
445	\$1.40	2-cond.—Screw Term. Red Handle—Type PJ-055R.
*450	\$1.40	Same as No. 430, except—Type PJ-540B—Cable Opening $\frac{3}{4}$ " ($1\frac{1}{2}$ " deep) (Old S.C. No. PL-540). Black Handle.
*455	\$1.40	Same as No. 450, except—Type PJ-540R, Red Handle.
470	\$2.00	2-cond.—Screw Term. Shielded Handle—Type PJ-055M (Old S.C. No. PL-125).
475	\$1.95	Shielded Handle, MIL Type PJ-630. Similar No. 70, except 2-pe handle, built-in Cable Clamp. Handle $1\frac{3}{4}$ " long.
480	\$3.60	3-cond.—Screw Term. Black Handle—Type PJ-068 (Old PL-68).
810	\$0.80	2-cond.—Solder Lug—Type JJ-048 (Old S.C. No. JK-48), mates with No. 410 (PJ-291) Plug.
820	\$2.00	2-cond.—Screw Term. Black Handle—Type JJ-026 (Old S.C. No. JK-26).

P-1074-1 \$0.85 for Pkg. of 25 Strain Relief Clamp, Nickel Plate Brass.

*Mates with No. 820 (JJ-026) "Extension Jax".

"LITTEL-PLUGS"—"TWIN-PLUGS"



"LitteL Plugs"—One piece tip rod and one piece sleeve and plug body, assembled together into a mold as inserts. Insulated. Internal interlock to prevent parts shifting in position.

"Twin-Plugs"—Two electrically independent 2-cond. plugs, 1" centers, placed into handles to provide a double or "Twin-Plug" still aligning. Made in same exacting manner as "LitteL Plugs" above.

Design and material to NMI Spec. MIL-P-642(A).

Part No.	U.S.A. List	DESCRIPTION
"LITTEL-PLUGS"—MILITARY TYPE		
420	\$1.50	2-cond. Screw Term. Black Handle—Type PJ-047B (Sim. WE-547B)
425	\$1.50	2-cond. Screw Term. Red Handle—Type PJ-047R (Sim. WE-547A)
482	\$4.00	3-cond. Screw Term. Red Handle—Type PJ-051 (Sim. WE-549)

"TWIN-PLUGS"—MILITARY TYPE

411	\$4.75	Two 2-cond. plugs, Black Handle, Type PJ-327. Provision for internal cord clamp (not included).
412	\$4.50	Two 2-cond. plugs, Black Handle, (Old MIL Type PJ-280) Sim. WE-289B. External Cord Anchor.
S-2674	\$0.50 for pkg. of 10	Strain Relief Clamp, Brass. Use only with No. 411.

"SWITCHES" "MILITARY TYPE PLUGS" "PHONE PLUGS"



The "LitteL-Plug" (A), radically new fitting standard Jacks, solder lug type features clamp terminal serving as a cable clamp and terminal. $1\frac{1}{2}$ " dia. metal braided cable. Screw type terminals. Tenite or Metal handles $1\frac{1}{2}$ " L. $\frac{1}{2}$ " dia. Ext. metal plug PL.

No.s S-250 and S-280 have a $2\frac{1}{2}$ " O.D. sleeve, mates with S-11 and S-128 Jacks. Nos. 180 and 288 have wide insulator between sleeve and tip—makes it possible to use a 2-conductor Plug in a 3-conductor Jack.

The Standard Plugs (B), conventional design, available both black Bakelite or metal handles $2\frac{1}{2}$ " L. x $9\frac{1}{8}$ " O.D., except No. 90 and No. 100 have metal handles 1" long. Exterior metal parts bright nickel Pl. No. 170 (E) is similar to No. 70 except 2 piece handle with built-in cable clamp. No. 190 is similar to No. 90 except same handle as No. 170. No. 475 same as No. 170 but MIL construction, for type PJ-630. No. 385 1" lg. .206" dia. sleeve and tip, mates with S-11 & S-128.

The "Lug Plug" (C), low cost 2-conductor, solder lug term. Exterior metal parts bright Nickel Pl. Red or Black Tenite Handles are 1" L. x $1\frac{1}{2}$ " O.D. No. 380 has metal handle 1" L. bright Nickel Pl.

Plug Adapter (D) used with 250F Connector for use with standard Jacks. See separate adapter listing.

Part No.	U.S.A. List	Plug Type	Type Handle	Description
40	\$0.75	Standard	Black	2-cond.
44	\$0.50	Adapter		2-cond.
45	\$0.75	Standard	Red	2-cond.
60	\$1.05	Standard	Black	3-cond.
70	\$1.20	Standard	Metal	2-cond.
90	\$1.30	Standard	Metal	3-cond.
160	\$0.90	Standard	Metal	2-cond.
170	\$1.65	Standard	Metal 2 1/2"	2-cond.
180	\$1.05	Standard	Metal	2-cond.
190	\$1.50	Standard	Metal	3-cond.
190-A	\$1.95	Standard	Metal	3-cond.
240	\$0.75	LitteL-Plug	Black	2-cond.
245	\$0.75	LitteL-Plug	Red	2-cond.
250	\$0.70	LitteL-Plug	Black	2-cond.
S-250	\$0.75	LitteL-Plug	Black	2-cond.
255	\$0.70	LitteL-Plug	Red	2-cond.
260	\$1.20	LitteL-Plug	Black	3-cond.
267	\$1.05	LitteL-Plug	Black	3-cond.
269	\$1.05	LitteL-Plug	Red	3-cond.
270	\$1.05	LitteL-Plug	Metal	2-cond.
280	\$1.00	LitteL-Plug	Metal	2-cond.
S-280	\$1.00	LitteL-Plug	Metal	2-cond.
R-280	\$1.25	LitteL-Plug	Metal	2-cond.
(Short sleeve for Reverse Receivers, mates with No. 126 "Extension Jax")				
288	\$1.05	LitteL-Plug	Metal	2-cond.
290	\$1.40	LitteL-Plug	Metal	3-cond.
297	\$1.30	LitteL-Plug	Metal	3-cond.
350	\$0.55	Lug-Plug	Black	2-cond.
355	\$0.55	Lug-Plug	Red	2-cond.
380	\$0.70	Lug-Plug	Metal	2-cond.
385	\$1.00	Lug-Plug	Metal	2-cond.
475	\$1.95	Standard	Metal	2-cond.
*Screw Terminals. †Clamp Lug Terminals. ‡Solder-Lug Terminals.				
"LOCK PLUG" and "LOCK-EXTENSION JAX"				
Locking device locks connection after the plug fully inserted into LitteL-Jax or Lock-Ext. Jax. S.H. Lug Term. sleeve terminal has cable clamp. Shielded. Lock Ext. Jax mates standard Phone Plugs where no lock requirement exists.				
Part No.	U.S.A. List	DESCRIPTION		
"LOCK-PLUG"				
282	\$1.40	2-cond. Sim. No. 280	LitteL-Plug	
298	\$1.75	3-cond. Sim. No. 297	LitteL-Plug	
"LOCK-EXTENSION JAX"				
123	\$1.75	2-cond.	Mates with No. 282.	
133	\$2.25	3-cond.	Mates with No. 298.	

SWITCHCRAFT INC.

CHICAGO 30, ILLINOIS

Sec. 2900

"FLAT PLUGS" "TINI PLUGS"
"MICROPHONE & PHONO CONNECTORS"

"EXTENSION JAX"

"MINI-MIX"

"MICROPHONE MIXERS"

"FLAT PLUGS"



A unique design, removable cover for easy access to either screw or solder terminals; 2- and 3-cond. types. Ideal for equipment where conventional long handle may interfere.

PART NO.	Black Handle	Red Handle	U.S.A. List Price	DESCRIPTION
220	225		\$0.90	2-cond. Screw term.
227	229		\$0.85	2-cond. Solder term.
230	235		\$1.30	3-cond. Screw term.
237	239		\$1.25	3-cond. Solder term.

"TINI-PLUGS"



"Tini-Plugs"—A miniature 2-conductor Phone Plug for the "Tini-Jax"; about 1/4 the size of Switchcraft "Little Plug"; similar construction. Accepts cable up to 3/16" diameter. Cable clamp terminals for soldering also screw terminal with no clamp.

PART NO.	Black Handle	Red Handle	U.S.A. List	DESCRIPTION
740	745		\$0.75	Screw Term.
750	755		\$0.70	Clamp Term.
Metal Handle				
770			\$1.05	Screw Term.
780			\$1.00	Clamp Term.

"EXTENSION JAX" FOR "TINI-PLUG"



PART NO.	U.S.A. List	DESCRIPTION
125	\$1.25	2-cond. 1/8" O.D. Built-in cable clamp is cable support and sleeve term. Solder term.

"MICROPHONE CONNECTORS"



Series 2500, standard size Microphone Connector, designed for use with single conductor microphone cable; panel receptacle mounts in .385" hole. Series 3500, phono connector, used for phono connections.

Series 5500, "Mini-Con," a miniature MIC connector, approx. 1/2" size of series 2500. Accepts cable up to 3/16" dia; panel receptacle. 5501MP mounts in 3/8" dia. hole, in panels up to 1/4" thick; 5501MF mounts in 1/2" dia. hole with locknut on front of panel.

"MICROPHONE CONNECTORS"—Series 2501

Part No.	U.S.A. List	Fig.	DESCRIPTION
2501F	\$0.60	A	1-contact, female, coupling ring.
2501M	\$0.45		1-contact, male.
2501MP	\$0.35	H	Panel Connector, male.
2501MPC	\$0.45		Panel Connector, closed ckt. male.
44	\$0.50		Plug Adapter.
25Y	\$1.65	E	Two male to one female.
2501FT	\$0.80	F	Double female, for connecting 2 cables with male Connectors.
2501MT	\$0.70	G	Double male, for connecting 2 cables with female Connectors.
2501FL	\$2.25	N	Straight Conn., 2-screw term., female, 2-pc. handle built in cable clamp.
2501FS	\$1.65	O	Straight Conn., same 2501FL, except no cable clamp.

"MINI-CON" CONNECTORS—Series 5501

Part No.	U.S.A. List	DESCRIPTION
5501F	\$0.60	1-contact, female, coupling ring.
5501M	\$0.45	1-contact, male.
5501MF	\$0.45	Panel Conn., male, mounts front side panel.
5501MP	\$0.35	Panel Conn., male, mounts back side.

"EXTENSION JAX"



Features a clamp type terminal providing a cable anchor. Spring tempered nickel silver springs, designed to properly "hold" mating plug. Exterior metal parts N.P.; Terminals mechanically interlock. High solder lug or screw type terminals. Bakelite or Brightly Nickel Plated Brass handles. Mates with any standard plug. 8-128 mates with 8-250 plug.

Part No.	U.S.A. List	Handle	Description
80	\$1.15	Black	2-cond. Screw Term.
88	\$1.00	Black	2-cond. Lug. Term.
120	\$1.55	Shielded	2-cond. Screw Term.
126	\$1.80	Shielded	2-cond. for R-280 Plug
128	\$1.40	Shielded	2-cond. Lug. Term.
830	\$1.55	Black	3-cond. Screw Term.
838	\$1.40	Black	3-cond. Lug. Term.
1230	\$1.95	Shielded	3-cond. Screw Term.
1238	\$1.80	Shielded	3-cond. Lug. Term.
S-128	\$1.50	Shielded	2-cond. Spec. Lug. Ter.

"PHONO CONNECTORS"



Part No.	U.S.A. List	Fig.	DESCRIPTION
3501F	\$0.15	B	Phono Jack—2 conductor.
3501M	\$0.10	C	Phono Plug—2 conductor.
3501MC	\$0.15	C	Phono Plug—2 conductor (cable clamp type).
3501FP	\$0.35	P	Phono Jax—7/16" O.D. for back panel mounting.
3501FR	\$0.40	R	Phono Jax—5/8" O.D. for front of panel mounting.
3502	\$0.50	S	Phono Plug Removable handle, cable clamp, shielded, N.P.
3503	\$0.60	T	Phono Ext. Jax. Removable Handle, Cable clamp, shielded, N.P.

MICROPHONE MIXERS

Tan finish. Brown knobs with gold metallic inserts. Rubber feet. Shielded. Input Jacks on back, with Phono Jax for output to recorder or amplifier. CAUTION: Do not use in output circuit to directly control the volume of individual speakers. Size: 2" x 3 1/2" x 6".

MIXER, MONAURAL—4-channel, high imp. For mixing up to 4 signals, such as Mics, Phonos, Turners, etc., into a single output. Inputs 2-cond. Phono Jacks. Output Phono Jax.

PART NO. 301 U.S.A. LIST \$19.50

MIXER, STEREO-MONAURAL—Same as No. 301, except has Lev-R-Switch for use as 4-channel audio mixer for monaural, or as 2 sep. inputs for each of 2 Stereo channels. Jacks accept 2-cond. Phono Plugs, high imp. circuits. Two Phono Jax for output to Amp. or Tape Rec. When used monaurally, output Jax are common.

PART NO. 306 U.S.A. LIST \$22.50

TRANSISTORIZED MIXER—4-channel, high imp., same design features as No. 301, except has built-in transistor amplifier for feeding up to four mics, or combinations of sound sources, into a single "input" of Recorder or Amp. Individual gain adjustment for each channel. Transistor amplifier (powered by 9 volt battery included) overcomes usual loss of resistance type mixer and actually provides a 6 db. gain; permits use up to 30 feet from Recorder or Amp. Accepts input signals up to 1.5 volts. (Use a Switchcraft Molded Cable Assembly with proper connection to fit your equipment—not included.) Low noise level; low distortion. Response 20 to 20,000 cycles.

PART NO. 301TR U.S.A. LIST \$30.00

TRANSISTORIZED STEREO-MONAURAL MIXER—Similar to the No. 306, except has built-in transistor amplifier in each of two Stereo channels. Accepts input signals up to 1.5 volts in either Stereo or Monaural position. (9 volt battery included.) ON-OFF Switch to shut-off amplifiers when not in use. Provides 6 db. gain; permits use up to 30 feet from Recorder or Amp.

SHIELDED "EXTENSION JAX"



Str. unlined—same O.D. 1/2" as "Little Plugs". For attachment to cable. Built-in cable clamp is cable support and sleeve term. Solder term.

Part No.	U.S.A. List	DESCRIPTION
121	\$1.60	2-cond. for 1/4" dia. Phone Plugs.
131	\$2.00	3-cond. for 1/4" dia. Phone Plugs.

"MINI-MIX"



Resistance type mixer for tape recorders to mix 2 different sound sources or music with voice. Accommodates 2 high imp. inputs. Loss factor approx. 3 db. Separate volume controls recessed inside housing—in line with each input. Average size 2 1/4" x 1 1/16" x 1 1/16".

Part No.	U.S.A. List	Fig.	DESCRIPTION
310	\$7.95	A	2-cond. Phone Jack inputs with 2-cond. Plug output (For equipment where Jack is recessed, use 8266 Cable Assembly Adapter).
311	\$8.95	B	2-cond. plug output. Long plug makes suitable for recorders with Jacks recessed such as latest Wilcox Gay, Webster Electric, V.M., etc.
312	\$8.95	B	Spec. size plug and jacks, for use with Am. Geloso Model G-255-S Tape Recorder.
315	\$7.95	D	2-cond. Phone Jack Inputs with female Mic. Conn. Output.
316	\$7.95	C	2 Phono Jax Inputs to Phono Plug Output.
320	\$7.95	D	Microphone Connector inputs and output mating with standard mic. connectors.
325	\$9.95		For use with recorders using Jones type connectors. Fits Early Webeor Recorders.
326	\$9.95	B	3-cond. Jack Inputs with long 2-cond. Plug Output. For Webeor Recorders Series 2020, 2110, and 2130.
8266	\$3.75		Cable assembly for recessed Jack. Used with 310 Mini-Mix, No. 280 "Little Plug" one end, No. 128 Ext. Jax other end.



For Stereo, requires two cables for attachment to Recorder or Amp.

PART NO. 306TR U.S.A. LIST \$37.50

CABLE ASSEMBLY—A 3-foot long chrome-plated shielded cable with molded Phono Plug on one end, shielded Phono Plug other end. Ideal for use with above Mixers where Input of Recorder or Amplifier has a standard two-conductor Phono Jack. (For other terminations, see Cable Assemblies.)

PART NO. 05AF25 U.S.A. LIST \$1.50



"MIX-AMP"—Miniature Transistorized Amplifier designed for use with resistance type MIXERS, such as the Switchcraft "Mini-Mix" and four-channel Microphone Mixers overcoming the usual "losses" in such mixers and actually providing a 4 db. gain. When used with a "Mini-Mix", will accept signals up to 2 volts. Has a "HI-LO" Impedance Switch, in "HI" position, when used as a straight amplifier (without mixer) has a 200,000 ohm input and provides a 6 db. gain and in "LO" position has a 25 db. gain with input impedance of 5,000 ohms. Compact, approximately size of package of cigarettes; completely portable, requires 9 volt battery (included).

Has standard 2-cond. Phone Jack Input and 2-cond. Phone Plug Output. Can also be used at a microphone, using cables up to 30 feet long, without serious loss of high frequencies.

Frequency response 20 to 20,000 cycles. Also ideal for Phono Pickups (Magnetic and Crystal).

PART NO. 501 U.S.A. LIST \$20.00








"MIX-AMP"—Same as above, but Input and Output have microphone connectors (Switchcraft Series 2500 or Amphenol Series 75).

PART NO. 502 U.S.A. LIST \$20.00

SWITCHCRAFT INC. CHICAGO 30, ILLINOIS
















"ADAPTERS"
"CONNECTORS"
"STEREO LINE BALANCE CONTROLS"
"SPEAKER VOLUME CONTROLS"








ADAPTERS - CONNECTORS













Part No.	U.S.A. List	DESCRIPTION
 25Y	\$1.65	"Y Adapter". Connects 2 cables (with std. mic. conn.) in parallel to 1 single conn.
 44	\$0.50	Male Mic. Input to Phone Plug Output.
 49	\$1.50	"Silent Plug". 2 cond. plug with circuit closing device. When removed from jack, shorts input of Amp., eliminating "squeals". Patented.
 169	\$1.75	Same as No. 49, but 1" long shielded handle.
 328	\$3.95	To connect Ceramic Phono Cartridge to audio amplifier designed for magnetic cartridge. Phono Jack Input, Phono Plug Output.
 329	\$6.95	"Microphone Volume Control Adapter". For use in high imp. circuits to adjust volume. Mic. conn. input and output.
 330F	\$1.75	"Y Adapter". 2 Phono Jax Connectors, in parallel to a std. Phono Plug.

FLEXIBLE "Y" CONNECTORS
(Phono Jack and Plug Type)



For converting Stereo Player to Monaural. Can be used for tap-in meter monitor conn. Required on some Tape Rec. (4" long. Grey. Shielded cable.)

 330F1	\$2.00	Phono Plug connected to 2 Phono Jacks.
 330F2	\$2.00	Phono Plug connected to 1 Phono Jax and 1 Phono Plug.
 330F3	\$2.00	Phono Plug connected to 2 Phono plugs.
 330M	\$1.90	"Y Adapter". 2 male Mic. Conn. in parallel to a std. 2-cond. Phono Plug. Shielded.
 330PJ	\$1.90	"Y-Adapter". 2 Phono Jax conn. in parallel to a std. Phono Plug.
 331	\$14.70	"Adapter Kit". A Plastic case containing each of: 332, 334, 336, 338, 342, 344, 346, 348 and two 44.
 332	\$1.75	Phone Jack Input to female Mic. Conn. Output.
 332A	\$1.75	2-cond. Phone Jack Input to female Mic. Output. Body $\frac{1}{2}$ " O.D. N.P. Shielded.
 333	\$2.35	Std. $\frac{1}{4}$ " 2-cond. Jack Input to special plug that mates with jack in Am. Gelsos Rec.
 334	\$1.45	Phono Jack Conn. Input to female Mic. Conn. Output.
 334A	\$1.25	Phono Jax Input to female Mic. Conn. Output. $\frac{1}{2}$ " O.D. N.P. Shielded.
 334B	\$1.25	Same as 334A less ring. Phono Jax Input to male Mic. Conn. Output.
 335	\$2.95	2-cond.—Input has our 2501MP (Amphenol 75PCL1M) Output is Cannon XL-3-11. Has internal wire unsoldered at one end for connecting terminal.
 336	\$1.45	Phone Jack input to Phono Plug Conn. Output.
 336A	\$1.45	2-cond. Phone Jack Input to Phono Plug Output. Body $\frac{1}{2}$ " O.D. N.P. Shielded.

Part No.	U.S.A. List	DESCRIPTION
 338	\$1.45	Male Mic. Conn. Input to Phono Plug Conn. Output.
 338A	\$1.00	Phono Plug one end, male Mic. Conn. at other.
 338B	\$1.00	Phono Plug one end, female Mic. Conn. at other. Body $\frac{1}{2}$ " O.D. N.P. Shielded.
 339	\$2.95	Same as 335, but output our 2501F (Amphenol 75-MC1-F) to input. Cannon XL-3-12.
 340	\$3.75	"Y Adapter" (in case). Two 2-cond. jack inputs conn. in parallel to 2-cond. plug output.
 341	\$2.95	"Silent Plug Adapter". 2-cond. jack input to 2-cond. plug output, with circuit closing device. When removed Jack shorts input of Amp. eliminating "squeals". Patented.
 342	\$2.60	Dual-purpose Binding Post Banana Jack Input to Phone Plug Output.

 343	\$1.95	"Phono Adapter". (Seri. No. 250 "Littel Plug" with female Phono Jack in end of handle.) Internal resistor circuit to adapt crystal Phono pickup or pickup from terminals of radio or TV set to input of Tape Rec. Use as adapter with magnetic Phono—open plug and twist together opposite leads of resistor.
 344	\$1.45	Phono Jack Conn. Input to Phone Plug Output.
 345A	\$1.25	Phone Plug Output to Phono Jack Input. Grey molded housing. Shielded.
 346	\$2.15	Tip Jack Input to Phone Plug Output.
 348	\$1.40	Phono Jack Input to Phono Jack Output.
 349A	\$1.00	"Phono Plug Coupler". Phono Jack at each end. Grey plastic. Shielded.
 361	\$2.25	"Phono Plug Coupler". 2-cond. Phone Jack in each end. Shielded. N.P.
 362	\$2.75	"Phono Plug Coupler". 3-cond. Phone jacks in each end.
 363	\$2.00	"Coupler". A 2-cond. Phone Plug at each end. Shielded.
 364	\$1.45	2-cond. Tini-Jax Input to std. size ($\frac{1}{4}$ " O.D. sleeve) Phone Plug Output. Body $\frac{11}{16}$ " O.D. Shielded.
 365	\$1.45	2-cond. Tini-Jax Input to a Phono Plug Output. Body $\frac{11}{16}$ " O.D. N.P. Shielded.
 368	\$4.50	"Input Volume Control Adapter". Phono Jax Input to 2-cond. Phone Plug Output. Built-in volume control circuit. High volume signals, phonos, tuners, etc., can be connected into high gain Input Jax of Tape Rec., without overloading recorder. N.P. Shielded.

STEREO LINE BALANCE CONTROLS

Part No.	U.S.A. List	DESCRIPTION
 366	\$3.95	"Volume Control Adapter". Single channel, high imp. circuits only (Crystal Mic., Phono, etc.). Phono Jack Input to Phono Plug Output. Shielded. N.P. Use in unbalanced Stereo channels, or in pairs for dual Stereo channel control.
 367	\$7.50	"Dual Volume Control Adapter". Twin-channel, high imp. circuits only. 2 Phono Jack Inputs and 2 Phono Plug Outputs. Separate volume controls. Shielded.

SPEAKER VOLUME CONTROLS

Brushed brass wall plate mounts on std. outlet box. Constant imp. T-pad volume controls. Control speaker volume of Stereo, Hi-Fi, or P.A. system from remote location. Rated at 4 Watts (15 Watt peak audio). Ivory knob, black-white lettered escutcheon. Screw term. Mounting screws and instructions furnished.

Part No.	U.S.A. List	DESCRIPTION
651	\$15.00	8 ohm control for single 8 ohm speaker, or two 16 ohm speakers in parallel, or two 4 ohm speakers in series. Screw term.
652	\$15.00	16 ohm control for single 16 ohm speaker, or two 8 ohm speakers connected in series.
653	\$16.50	"8 OHM Control With Jack Connection". Same as above except Jack on front panel permits use of external speaker or headphones. Jack accepts 2-cond. Phone Plug—if inserted to first detent, does not cut off main speaker; inserted to second detent, disconnects main speaker.
654	\$16.50	Same as No. 653 except 16 ohm control.

655 \$8.95 "Multi-Speaker Selector Switch". 7 position switch. Selects any of 3 speakers; all, or any 2 of 3. Also mounts on speaker cabinet. Constant imp., regardless of switch position.

STEREO-MONAUURAL SELECTORS
PHONO-TUNER ADAPTER
SPEAKER PHASE CONTROL



Part No.	U.S.A. List	DESCRIPTION
661 (A)	\$3.00	"Stereo-Monaural Selector". Switches from monaural to stereo. Two Phono Jax Inputs and two Phono Jax Outputs. Dual channel feed-through for Stereo (Outputs connected together in monaural position). Tan finish.
662 (B)	\$3.50	"Stereo-Monaural Selector with Reverse". Same as No. 661 with channel reversing feature.
663 (A)	\$2.50	"Phono-Tuner Adapter". To modernize old sound equipment. Two Phono Jax Inputs, switch selects either input. Phono Jax Output for connecting to amplifier.
664 (B)	\$4.95	"Multiple Selector Control". Adapts up to 5 Input circuits. Selector switch connects any one circuit to one Phono Jax Output. Inputs labeled AM, FM, PHONO, TAPE, and AUX. 5 input and one output Phono Jack. Shielded.
665 (A)	\$2.50	"Speaker Phase Control". For multiple or Stereo Speaker installations for proper phasing of speakers. Screw terminals. Shielded.

— TRIMM —

PLUGS • PATCH CORDS • JACK PANELS

STANDARD PHONE PLUGS



The standard radio phone plug, widely used on P. A., etc. equipment. Designed to fit all standard jacks and available in both two and three conductor types. The "511" series, the two conductor plugs, are provided with binding head screws in terminal, handles of molded bakelite or metal when shielded plugs are required: The "513" series are three conductor types. The "515" adapter couples Amphenol type mike plug to standard phone jack.

No. 511	—Black plastic shell	\$.69
No. 511-1	—Red plastic shell	.69
No. 511-2	—Shielded, single piece shell	1.17
No. 511-3	—Shielded, two piece shell	1.77
No. 511-4	—Shielded, stubby shell	.97
No. 511-5	—Two circuit, shielded, stubby shell. Has long tip to sleeve insulator which leaves "ring" spring open when inserted in three circuit jack	1.09
No. 513	—Three circuit, black plastic shell	1.09
No. 513-1	—Three circuit, red plastic shell	1.09
No. 513-2	—Three circuit, shielded, single piece shell	1.59
No. 513-3	—Shielded, two piece shell	2.19
No. 513-4	—Three circuit, shielded, stubby shell	1.40
No. 515	—Adapter	.47

"514" MIN-A-PLUG



Developed especially for shielded microphone cable. Wing type terminal clamps directly onto cord shield. Center conductor solders to lug. Also widely used for ordinary cords.

No. 514	—Black plastic shell	\$.67
No. 514-1	—Red plastic shell	.67
No. 514-2	—Shielded, single piece shell	1.07
No. 514-4	—Shielded, stubby shell	.97

"512" FLAT TYPE PLUG

Compact, non-protruding design. Ideal for group hearing aid systems, centralized radio systems, etc. Body molded of phenolic plastic. All exposed edges rounded. Provision for stay cord anchorage. Fits standard jacks.



No. 512	—Black	\$.87
No. 512-1	—Red	.87

"518" PLUG — "562" JACK



Two circuit miniature disconnect plug and jack series. Ideal for small size cordage. Plugs have two grooved parallel pins which engage with multi-leafed contact springs in jack.

No. 518 and 562 have acetate half shells cemented together. No. 518-7 and 562-7 have molded bakelite shells held-together with screws.

No. 518	—Plug	\$.60
No. 518-7	—Plug	.80
No. 562	—Jack	1.00
No. 562-7	—Jack	1.10

"525" CONNECTORS

The "525" series provides means of attaching headset cords, or any two wires, to single contact mike plugs (Amphenol 75-MC series of plugs). Main body of connector is similar to handle of "511" series plug. Connector held to receptacle by threaded retaining ring.

No. 525	—Connector	\$.87
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"501" PLUG



Widely used for high quality communication equipment, and commonly known as PL-55 type. Features a one piece tip-rod construction molded as an insert within plug body using blue diallyl phthalate molding compound. Parts cannot shift due to interlocking of plastic material with body and rod.

No. 501	—Black plastic shell	\$1.30
No. 501-1	—Red plastic shell	1.30
No. 501-2	—Shielded shell	1.90
No. 501-10	—Black plastic shell (PJ-055B)	1.35

Other modifications available in quantity orders.

"509" PLUG

Tip, ring, and sleeve three circuit plug used on microphone circuits and usually identified as type PL-68. Looks essentially like No. 501 type illustrated above.

No. 509	—Black plastic shell	\$2.95
No. 509-10	—Black plastic shell (PJ-068)	3.00

PATCH CORDS and PLUGS



Widely used by majority of radio stations. "840" series cord assembly uses TRIMM No. 506 twin plug and high quality shielded black colored, nylon braided cord. Plug self-aligning. Number following "840" represents length.

No. 506	—Plug	\$ 4.60
No. 840-1-PP	—Cord Assembly	11.85
No. 840-2-PP	—Cord Assembly	12.15
No. 840-3-PP	—Cord Assembly	12.45

No. "841" series patch cords use a single triple circuit plug No. 517. Two program circuits connect to tip and ring, shield of cord going to sleeve of plug.

No. 517	—Plug	\$ 2.90
No. 841-1-PP	—Cord Assembly	9.80
No. 841-2-PP	—Cord Assembly	10.20
No. 841-3-PP	—Cord Assembly	10.50

In addition to the lengths of both types of patch cords listed, lengths of 4, 5, 6 and 10 ft. are available as well as in the following colors: slate grey, white, red, and green. Also replacement cords carrying code No. 840-1 etc. and No. 841-1 etc. are available. See TRIMM Bulletin R-36 for complete listing.

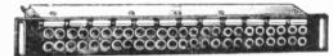
OTHER TYPES OF PATCH CORDS

In addition to the two types listed there are a number of special types produced both for audio and video work.

No. 842 SERIES	Uses TRIMM No. 500 two circuit type plugs. Assemblies correspond with W. E. type 2P1B, 2P2A etc.
No. 846 SERIES	Similar applications to "842" series but uses cordage jacketed with rubber-like material and TRIMM No. 501 plugs.

AUDIO JACK PANELS and ACCESSORIES

TRIMM "96" series. Most widely used, and intended for use with standard twin type patch cords. Mounts on standard 19" racks. Constructed of bakelite panel, reinforced with steel. Designation strip, TRIMM No. JP-30, included on panel. Spacing of jacks prevents cross connection of adjacent circuits with double plug. Uses "90" series jacks (Normally No. 90-02, see description of jacks).



No. 96-01	—Single row, 12 pair jacks, 1 3/4" wide	\$45.00
No. 96-02	—Double row, 24 pair jacks, 2 1/8" wide	78.50
No. 96-03	—Double row, 24 pair jacks, 3 1/2" wide	90.00

VIDEO JACK PANELS and ACCESSORIES

A complete line of video jack panels, plugs, jacks and patch cords are now available for broadcast station and instrumentation applications. Contact factory for Bulletin R-41. Your inquiry will receive immediate attention.

DESIGNATION STRIPS

Several types are available.

No. JP-30	—Standard type has individual windows for each pair of jacks	\$1.60
No. JP-35	—Alternate type, has one long window	1.60

STANDARD TELEPHONE TYPE PLUGS

Below are listed the more common of the many different types produced by TRIMM and being mechanically and electrically interchangeable with types widely used in telephone service.

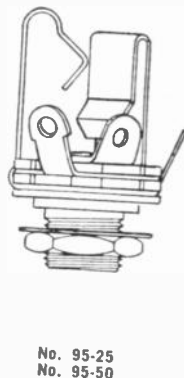
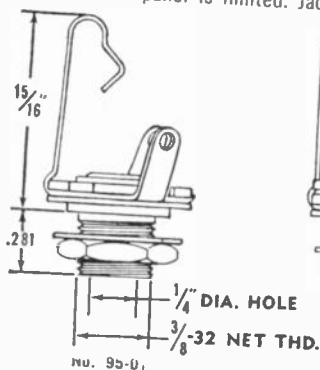
TRIMM No.	EQUIVALENT W.E. No.	DESCRIPTION	
500	347	Standard two circuit	\$2.50
504	327	Twin, four circuit	4.70
505	289B	Twin, four circuit	4.70
508	309	Tip, ring, and sleeve, 0.206 diameter	2.90
516	310	Tip, ring, and sleeve, 0.250 diameter	2.90

TRIMM

JACKS — P. A. and TELEPHONE TYPES

"95" SERIES JACKS

Widely used on P. A. amplifiers, tape recorders, short wave radios, servicemen test instruments, etc. Used where space behind panel is limited. Jack is panel mounted by means of threaded bushing upon which contact springs



are directly assembled although adequately insulated from it. Bushing fits through 3/8" diameter hole. Spring contact of nickel silver, held in place by notched interlocking insulators. Drawing gives basic dimensions and arrangements.

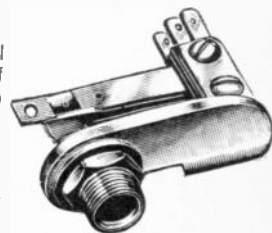
No. 95-01—Open circuit, two conductor	.....	\$ .45
No. 95-02—Closed circuit, two conductor	.....	.54
No. 95-25—Open circuit, three conductor (for 0.250" diameter plugs)	.....	.64
No. 95-50—Open circuit, three conductor (for 0.206" diameter plugs)	.....	.68

"93" SERIES JACK

A short frame jack with springs mounted parallel to panel. Used particularly where depth behind panel is limited, on such applications as intercom systems, P. A. amplifiers, etc. Mounting is by means of threaded bushing 3/8" diameter, rigidly attached to a steel frame. May be mounted on panels up to 3/8" thick. Contact springs of nickel silver, terminals hot tinned. See diagrams below for circuits.

No. 93-01	.....	\$ .70
No. 93-02	.....	.85
No. 93-25	.....	.85
No. 93-26	.....	1.10

In addition a number of other circuits can be produced on order. Your inquiry will be given immediate attention.

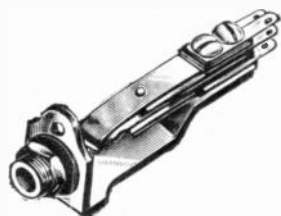


"91" SERIES JACK

A long frame jack having a threaded mounting bushing and which can be attached to panel by this alone, or by a mounting screw as is done on the "90" series jacks. May be mounted on panels up to about 1/4" thick, having 3/8" hole. Depth behind panel 3 1/8".

Frame is of very heavy gauge steel, zinc plated with dichromate finish. Springs of nickel silver. See diagrams below for circuits. Most circuits listed for "90" series can be supplied in "91" series. Those listed are the more commonly produced.

No. 91-01	.....	\$ .75
No. 91-02	.....	.95
No. 91-25	.....	.95
No. 91-26	.....	1.20



"90" SERIES JACKS

Extensively used in jack panels and other high quality communication equipment. Commonly known as the telephone type jack. Bushing fits 29/64" diameter hole.

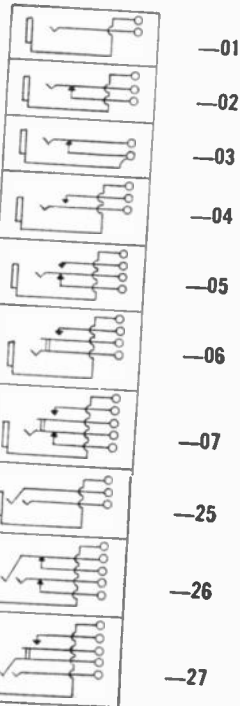
Available in two modifications of the frame referred to as the "A" and "C" frame. These differ only in the orientation of the mounting plate with respect to the plane of the springs. Unless specified otherwise the "A" frame is supplied.

Frame of steel, heavily zinc plated with dichromate finish. Bushing of brass, natural finish standard (nickel plated or other finishes available on production orders). Springs of nickel silver, terminal ends hot tinned for ease in soldering. Contacts are of palladium-silver alloy. The circuits listed below represent those most commonly produced, but about forty circuits are available. Write for specific information.

No. 90-01	.....	\$1.05
No. 90-02	.....	1.20
No. 90-03	.....	1.20
No. 90-04	.....	1.30
No. 90-05	.....	1.40
No. 90-06	.....	1.40
No. 90-07	.....	1.50
No. 90-25	.....	1.20
No. 90-26	.....	1.60
No. 90-27	.....	1.80



All TRIMM jacks have a standardized coding consisting of the jack series number plus a dash number indicating spring arrangement, a few of which are shown below.



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The MASTER — 24th Edition

Page 763



THE ONLY COMPLETE SOURCE FOR YOUR PRECISION CONNECTORS

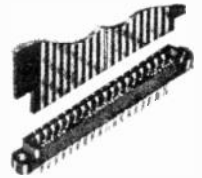
U. S. COMPONENTS

AVIONICS • AUTOMATION • COMMUNICATION • CONTROLS • INSTRUMENTATION
MISSILES • PORTABLE EQUIPMENT • PRINTED CIRCUITS • TEST APPARATUS



UPCR SERIES
Single Row Printed Card Receptacle
Number of contacts—(Beryllium Copper) 6, 10, 15, 18, 22
Solder wire hole size 1/16"x3/32"
Voltage breakdown between contacts—sea level 2800 V. A.C. RMS.
Current rating 10 amps.
Polarizing pins and contacts—snap-in or out design permitting easy interchangeability.
Pat. #2,853,689.

UPCR-D. Double Row Printed Card
Receptacle. Solder Type Terminals
Card range thickness accommodation
UPCR-D .052—.072 (nom. 1/16")
UPCR-93D .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Solder wire hole size 3/64"x3/32"
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating 10 amps.



Pat. Pend.



UPCR-DT. Double Row Printed Card
Receptacle. Taper Tab Terminals
UPCR-DT uses AMP 78 taper tab
Card range thickness accommodation
UPCR-DT .052—.072 (nom. 1/16")
UPCR-93 DT .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating 10 amps.
Polarizing pins and contacts—snap-in or out design permitting easy interchangeability.
Pat. Pend.

UPCR-DW. Double Row Printed Card
Receptacle. Wire Wrap Terminals
Card range thickness accommodation
UPCR-DW .052—.072 (nom. 1/16")
UPCR-93 DW .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating 10 amps.
Polarizing pins and contacts—snap-in or out design permitting easy interchangeability.
Pat. Pend.



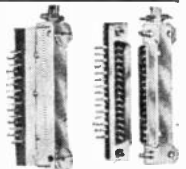
UPCR-RD. Double Row Printed Card
Receptacle. Dip Solder. Right Angle Terminals
Card range thickness accommodation
UPCR-RD .052—.072 (nom. 1/16")
UPCR-93 RD .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating 10 amps.

UPCR-D. Double Row Special Design
Printed Card Receptacle
UPCR-93D22EAB Illustrated
Special designs custom built to requirements. Above unit is typical of many types engineered to suit various applications.



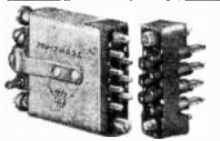
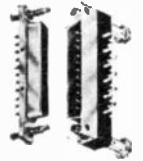
UPCR-SD. Double Row Printed Card
Receptacle. Scatter Solder Dip Terminals
Card range thickness accommodation
UPCR-SD .052—.072 (nom. 1/16")
UPCR-93 SD .080—.104 (nom. 3/32")
Number of contacts (Beryllium Copper) 6, 10, 15, 18, 22 per row, (2) rows
Voltage breakdown between contacts—sea level 2200 V. A.C. RMS.
Current rating 10 amps.
Pat. Pend.

UPCC-SLH SERIES. Hooded Screw Lock
UPCC-M2SL Male Chassis Screw Lock
UPCC-F2HSL Female Hooded Mating Unit
Available — 7, 11, 15, 19, 23, 32 contacts
Voltage Breakdown between contacts—sea level 2500 V. A.C. RMS.
Male — available solder dip, wire solder turret, taper tab terminals
Female — available wire solder, turret tab terminals



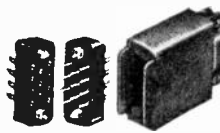
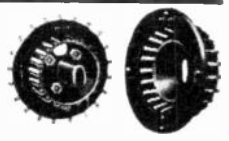
UPCC SERIES. Printed Circuit Connector
Card range thickness accommodation—
Male Dip Solder
UPCC-M (A)1/16"
UPCC-M (B)1/8"
UPCC-M (C)1/4"
UPCC-F female #20 AWG wire
UPCC-FL female #18 AWG wire
UPCC-FD Solder dip terminals
Maximum wire size—female #20 AWG wire
Number of contacts 7, 11, 15, 19, 23, 32
Voltage Breakdown between contacts—sea level 2500 V. A.C. RMS.
Current rating 7.5 amps.

UPCC-SL SERIES. Printed Circuit Screw Lock
Card range thickness accommodation—
Male Dip Solder
UPCC MSL (A)1/16"
UPCC MSL (B)1/8"
UPCC MSL (C)1/4"
UPCC-FSL female #20 AWG wire
UPCC-FLSL female #18 AWG wire
UPCC-FDSL Solder dip terminals
Number of contacts 7, 11, 15, 19, 23, 32
Voltage Breakdown between contacts—sea level 2500 V. A.C. RMS.
Current rating 7.5 amps.



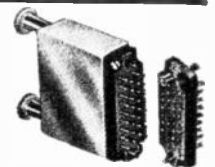
990-SL SERIES. Power Screw Lock
Number of contacts 7, 10, 15, 18
Maximum wire size #16 AWG, wire
Voltage breakdown between contacts—sea level 5300 V. A.C. RMS.
Current rating 10 amps.
990-SL-SDL (solderless) uses AMP 53 taper pin Patent #2,761,108. Double lead threads. "Twice the speed with double lead."

SC SERIES
21 Contact Scope Connector (Typical)
Number of contacts 21
Maximum wire size #16 AWG, wire
Voltage breakdown between contact—sea level 1300 V. A.C. RMS.
Current rating 10 amps.
Other versions custom built upon request.



SMI SERIES. Subminiature
Number of contacts 7, 11, 14, 20, 26, 34
Maximum wire size #20 AWG wire
Voltage breakdown between contacts—sea level 1950 V. A.C. RMS.
Current rating 7.5 amps.
SMI-SDL (solderless) uses AMP 37 taper receptacle
Other configurations upon request.

SMI-SL SERIES. Subminiature Screw Lock
Number of contacts 7, 11, 14, 20, 26, 34
Maximum wire size #20 AWG wire
Voltage breakdown between contacts—sea level 1950 V. A.C. RMS.
Current rating 7.5 amps.
SMI-SL-SDL (solderless) uses AMP 37 taper receptacle
Other configurations upon request.
Pat. #2,761,108



GENERAL NOTE
All Sub-miniature (SMI), Miniature (MI), 980, 990 series Connectors, available with Solder Type, Solderless Type (SDL) and Turret Type (TU) Terminals

Connectors are available with molded bodies made of asbestos filled melamine, glass filled Alkyd, Diallyl Phthalate (BLUE) or Mica Filled Bakelite. All connectors meet or surpass MIL-Q-5923B, MIL-C-8384, MS and NAS specifications wherever applicable. Rigid quality control is applied on a 100% basis for inspection and testing. All Solder cups can be provided filled with 60-40 Solder or projecting terminals can be Solder dipped.



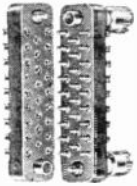
U. S. COMPONENTS, INC. Associated with U. S. Tool and Manufacturing Co., Inc.
NEW YORK 55, N. Y.



THE ONLY COMPLETE SOURCE FOR YOUR PRECISION CONNECTORS

U. S. COMPONENTS

AVIONICS • AUTOMATION • COMMUNICATION • CONTROLS • INSTRUMENTATION
 MISSILES • PORTABLE EQUIPMENT • PRINTED CIRCUITS • TEST APPARATUS

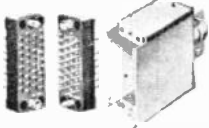
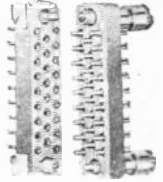


SMI-K SERIES

Subminiature Hoodless Knob Type Screw Lock
 Number of contacts 7, 11, 14, 20, 26, 34
 Max wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 1950 V. A.C. RMS.
 Current rating 7.5 amps.
 SMI-K-SDL (solderless) uses AMP 37 taper receptacle
 Pat. #2,761,108. Other configurations on request.

SMI-KC SERIES

Subminiature Hoodless Knob Type Screw Lock
 Reentrancy female contact Anti-Rotation Brackets
 Number of contacts 7, 11, 14, 20, 26, 34
 Max wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 1950 V. A.C. RMS.
 Current rating 7.5 amps.
 SMI-K-SDL (solderless) uses AMP 37 taper receptacle
 Pat. #2,761,108. Other configurations on request.

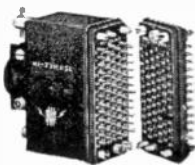
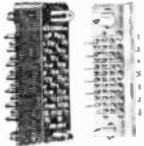


MI-SERIES. Miniature

Number of contacts 7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 MI-SDL (solderless) uses AMP 37 taper receptacle
 MIP Series #18 wire — MIW Series #16 wire

HMI SERIES. Hermetic Seal Miniature

Number of contacts 7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 Mates with corresponding MI-F (female) series connectors.

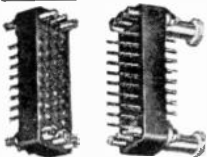
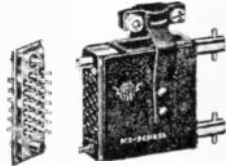


MI-SL SERIES. Miniature Screw Lock

Number of contacts 7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 MI-SL-SDL (solderless) uses AMP 37 taper receptacle
 Pat. #2,761,108
 ALSO AVAILABLE FOR #18 AWG WIRE
 Double lead threads. "Twice the speed with double lead."

HMI-SL SERIES

Hermetic Seal Miniature Screw Lock
 Number of contacts 7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 Mates with corresponding MI-FSL (female screw lock) series connectors.
 Double lead threads. "Twice the speed with double lead."

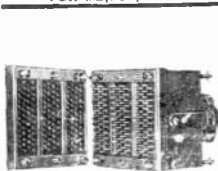
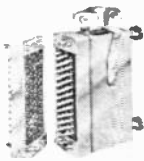


MI-K SERIES

Miniature Hoodless Knob Type Screw Lock
 Number of contacts 7, 12 (8-4), 14, 18, 20, 21, 26, 34, 41, 50, 75
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 MI-K-SDL (solderless) uses AMP 37 taper receptacle
 ALSO AVAILABLE FOR #18 AWG WIRE

MI-BSL "FBI" SERIES

Miniature Bracket Screw Lock
 Number of contacts 34, 41, 50, 75
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 Hoods aluminum anodized
 Brackets die-cast aluminum
 MI-BSL-SDL (solderless) uses AMP 37 taper receptacle
 Pat. #2,761,108; #2,845,603; #2,845,604

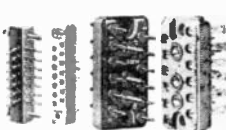


MI-MBSL SERIES

Miniature Bracket Modular Screw Lock
 Number of contacts 123, 150, 225
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 Hoods aluminum anodized
 Brackets die-cast aluminum
 MI-MBSL-SDL (solderless) uses AMP 37 taper receptacle
 ALSO AVAILABLE FOR #18 AWG WIRE
 Pat. #2,761,108; #2,845,603;
 #2,845,604; Additional Patents Pending.
 Other configurations upon request.

900-904 SERIES. Miniature

900-901 14 contacts #20 rated 5 amps.
 1 guide cont. #8 rated 15 amps.
 903 (Hi-Voltage) 5 contacts #20 rated 5 amps.
 1 guide cont. #8 rated 15 amps.
 902, 904 12 contacts #20 rated 5 amps.
 3 contacts #12 rated 10 amps.
 Voltage ratings—sea level
 900-901 1350 V A.C. between contacts
 903 2500, 5000 V A.C. between contacts
 902, 904 100 V A.C. between contacts
 902, 904 connectors available with hoods—rear and side cable opening—flush and recessed positions.

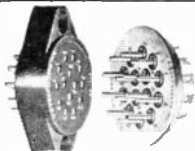


MRO-MRA. Miniature Round

Number of contacts 7, 9
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2100 V A.C. RMS.
 Current rating 7.5 amps.
 MRO-SDL—MRA-SDL (solderless) uses AMP 37 taper receptacle

MH SERIES. Miniature Hex

Number of contacts 4, 5, 7, 9, 10
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2100 V A.C. RMS.
 Current rating 7.5 amps.
 MH-SDL (solderless) uses AMP 37 taper receptacle
 Also available HHM Hermetic Seal. Plug Series.

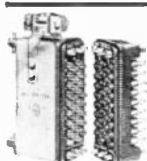
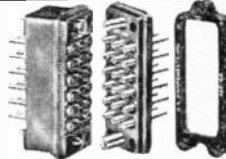


MR-HMR Miniature Relay

Number of contacts 14
 Maximum wire size #20 AWG wire
 Voltage breakdown between contacts—sea level
 2600 V A.C. RMS.
 Current rating 7.5 amps.
 MR-SDL (solderless) uses AMP 37 taper receptacle
 ALSO AVAILABLE FOR #18 AWG WIRE
 Other versions custom built upon request

980 SERIES. Power-Guide Pin Spring Release

Number of contacts 12, 18, 24, 34
 Maximum wire size #16 AWG wire
 Voltage breakdown between contacts—sea level
 4000 V A.C. RMS.
 Current rating 10 amps.
 980-SDL (solderless) uses AMP 53 taper pin
 Patent #2,658,182



980-SL SERIES. Power Screw Lock

Number of contacts 12, 18, 24, 34
 Maximum wire size #16 AWG wire
 Voltage breakdown between contacts—sea level
 4000 V A.C. RMS.
 Current rating 10 amps.
 980-SL-SDL (solderless) uses AMP 53 taper pin
 Patents #2,658,182; #2,761,108

990 and 990S (Short Contacts) SERIES.

Power
 Number of contacts 7, 10, 15, 18
 Maximum wire size #16 AWG wire
 Voltage breakdown between contacts—sea level
 5300 V A.C. RMS.
 Current rating 10 amps.
 990-SDL (solderless) uses AMP 53 taper pin



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NEW YORK 55, N. Y.

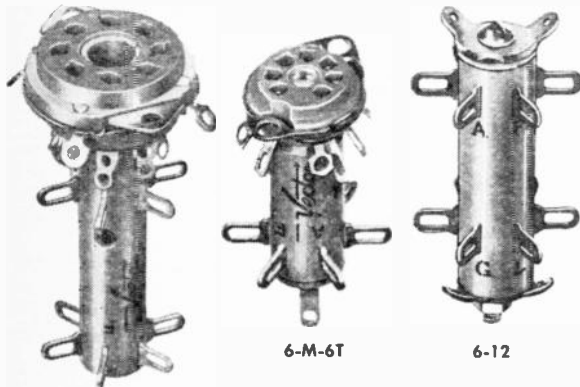


ELECTRONIC COMPANY

GLENDALE 1, CALIF.



POST SOCKET TURRETS



10-0-12T

6-M-6T

6-12

OCTAL

7-PIN

TERMINAL

VECTOR SOCKET TURRETS AND TERMINAL TURRETS simplify electronic construction. Faster wiring, greater component density and higher reliability are assured by their use. Military types (premium grade) have JAN sockets with beryllium copper silver plated socket contacts, brass nickel plated hot tin dipped saddles and glass silicone turret post with fused tin brass terminals. Commercial types have mica filled sockets, hot tin dipped steel saddle, XXXP Phenolic turret post with brass fused tin terminals.

ORDERING INFORMATION

CATALOG NUMBERS		TURRET DETAILS				NET PRICE Comm. Type 1-19
Commercial Types	Military Types	Height	No. of Term	No. of Rings	Space Between Rings	

OCTAL SOCKET-TURRETS

6-0-6T	680	1 1/2"	6	1	—	.54
♦ 8-0-9T	681	2"	9	2	1"	.60
8-0-12T	682	2"	12	2	1"	.63
♦ 10-0-9T	683	2 1/2"	9	2	1 3/8"	.63
10-0-12T	684	2 1/2"	12	2	1 3/8"	.66

7-PIN SOCKET TURRETS

6-M-6T	687	1 1/2"	6	1	—	.60
♦ 8-M-9T	688	2"	9	2	1"	.69
8-M-12T	689	2"	12	2	1"	.72
♦ 10-MB-12T	690	2 1/2"	12	2	1 3/8"	.81

9-PIN SOCKET TURRETS

6-N-6T	693	1 1/2"	6	1	—	.63
♦ 8-N-9T	694	2"	9	2	1"	.69
8-N-12T	695	2"	12	2	1"	.72
♦ 10-NB-12T	696	2 1/2"	12	2	1 3/8"	.81

TERMINAL -TURRETS

6-12	676	1 1/2"	12	2	5/8"	.45
8-12	677	1 7/8"	12	2	1"	.48
10-12	678	2 1/8"	12	2	1 3/8"	.51

NOTE: Tolerance on dimensions ± 1/16"

♦ Indicates preferred types

Longer or shorter types and other terminal configurations can be readily made to order.

TRANSISTOR TURRETS



7-A-12T-440

8-A-12T
Plus Transistor

#654

Supplied
without
wiring

VECTOR TRANSISTOR TURRETS enable the user to mount transistors and other necessary circuit components on one structure. Transistor wafer turrets accommodate as many as four transistors.

TRANSISTOR SOCKET TURRET: Dual Purpose Socket accommodating 3-in-line or "top-hat" type transistors mounted in end of terminal post. Turret post XXXP Phenolic with 12 brass fused tin terminals. For bottom mounting, furnished with recessed 4-40 knurl nut in end; for top mounting, furnished with saddle.

TRANSISTOR WAFER TURRET: Holds four transistors on Wafer punched to take JETEC or in-line leads. Additional wafer is located at bottom of turret. Wafer, Epoxy Paper; Turret Post, XXXP Phenolic with 12 brass terminals, fused tin plated. Military types have glass silicone turret.

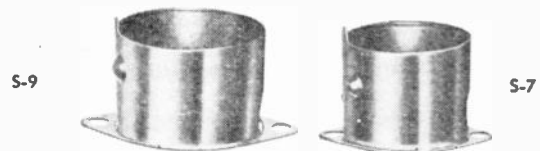
TRANSISTOR SOCKET-TURRETS

Catalog No.	Height	Space Between Rings	Saddle	Knurl Nut	Net Price Comm. Type 1-19
5-A-12T	1 1/4"	5/8"	YES	NONE	1.05
6-A-12T	1 1/2"	7/8"	YES	NONE	1.06
8-A-12T	2"	1 3/8"	YES	NONE	1.08
6-A-12T-440	1 1/2"	5/8"	NONE	YES	1.03
7-A-12T-440	1 3/4"	7/8"	NONE	YES	1.04
9-A-12T-440	2 1/4"	1 3/8"	NONE	YES	1.07

TRANSISTOR WAFER-TURRETS

CATALOG NUMBERS Commercial Types	Military Types	Height	Space Between Rings	Space Between Wafers	Net Price Comm. Type 1-19
650	651	1 1/2"	5/8"	1 3/8"	.75
652	653	2"	1"	1 1/16"	.81
654	655	2 1/2"	1 3/8"	2 3/16"	.87

TUBE BASE SHIELDS

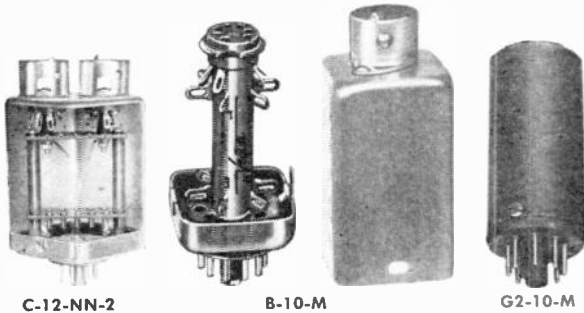


TUBE BASE SHIELDS are intended to be mounted above the socket as a base for conventional bayonet type tube shields.

CATALOG NO.	DESCRIPTION	NET PRICE 1-19
—	Military	
Commercial	—	7 Pin Steel Cad. Plated .09
S7	—	7 Pin Steel Cad. Iridited .09
S7.17	S7.22	7 Pin Brass Nickel Plated .12
—	—	9 Pin Steel Cad. Plated .09
S9	—	9 Pin Steel Cad. Iridited .09
S9.17	S9.22	9 Pin Brass Nickel Plated .12

Vector

SMALL ROUND OR SQUARE PLUG IN UNITS & CASES



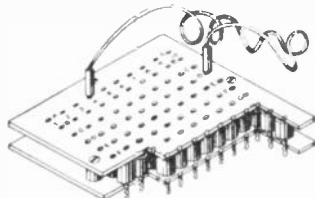
SMALL ROUND & SQUARE PLUG-INS for amplifiers, counters, oscillators, flip flops, and other circuits can be easily assembled and packaged from the wide variety of readily available Vector Plug-in Units and Cases. Cases are deep-drawn aluminum with caustic etch finish. Plugs are tube base type; Octal 8, 9, or 11 pins for B, C, and G2 types, 9 pin Noval for G2.1 size, and 7 pin miniature for G2.2. Sockets are mica filled phenolic, with brass cad. plated contacts. Military types (premium grade) have JAN sockets with beryllium copper silver plated contacts. Add J to catalog number for this).

Catalog Number	Type of Plug	Type of Socket	Type of Turret	Dimensions Height	Dimensions Size	Net Price 1-19
B-10-M	Octal 8	7 P. Min.	Post	2 1/2"	1 1/8" Sq.	1.91
B-10-N	Octal 8	9 P. Nov.	Post	2 1/2"	1 1/8" Sq.	1.95
B-10-T	Octal 8	None	Post	2 1/2"	1 1/8" Sq.	1.65
C-12-M	Octal 8	7 P. Min.	Post	3"	2" Sq.	2.24
C-12-N	Octal 8	9 P. Nov.	Post	3"	2" Sq.	2.27
C-12-T	Octal 8	None	Post	3"	2" Sq.	1.79
C-12-NN-2	Octal 8	(2) 9 P. Nov.	2 Decks	3"	2" Sq.	3.38
C-12-MM-2	Octal 8	(2) 7 P. Min.	2 Decks	3"	2" Sq.	3.38
G2-10-M	Octal 8	7 P. Min.	None	2 1/2"	1 1/4" Dia.	1.66
G2-10-N	Octal 8	9 P. Nov.	None	2 1/2"	1 1/4" Dia.	1.69
G2.1-8-N	9 P. Nov.	9 P. Nov.	None	2"	3/4" Dia.	2.04
G2.2-8-M	7 P. Min.	7 P. Min.	None	2"	5/8" Dia.	1.93
G2-10	Octal 8	None	None	2 1/2"	1 1/4" Dia.	.97
G2.1-8	9 P. Nov.	None	None	2"	3/4" Dia.	1.35
G2.2-8	7 P. Min.	None	None	2"	5/8" Dia.	1.21
G2-10-4	Octal 8	None	Wall*	2 1/2"	1 1/4" Dia.	1.68
G2.1-8-4	9 P. Nov.	None	Wall*	2"	3/4" Dia.	1.73
G2.2-8-4	7 P. Min.	None	Wall*	2"	5/8" Dia.	1.71

* "G" pattern wall has grid matching JETEC transistor leads.

The above are the most popular types, but many others are available at the factory viz 2", 2 1/2", 3" or 4" height in B, C, & G2 types, 9 or 11 pin Octal plugs can be supplied instead of 8 pin in all cases. Deck or Wall Turrets instead of post turrets are also available.

PATCH BOARDS



PB 1010

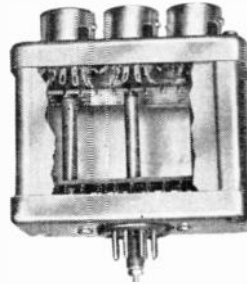
VECTOR PATCH-BOARDS provide simple, but reliable low-cost units for multiple connection, single conductor patching on computers and test fixtures. Standard units are made up in blocks of 100 receptacles on .265" centers, ten rows of ten receptacles each. Horizontal rows lettered alphabetically starting at top. Vertical columns numbered starting "1" at left. Furnished with four brackets and drilled mounting holes.

Specifications: Panels epoxy paper, ivory color, .093" thick. Terminals beryllium copper, silver plated with gold flash. Dimensions 3 1/4" x 3 1/4" x 7/8". Hole diameter 0.094 ± .002. Recommended plug, 0.087" — .091" diameter by .468" long. Contact tabs provided with 2 holes for soldering on wires.

Cat. No.	Description	Net Price 1-19
PB1010	Patch Board (Standard) 100 Contacts	10.75
K2.06	Patchcord Single Conductor 6" (25 per bundle)	2.25
K2.09	Patchcord Single Conductor 9" (25 per bundle)	2.25
K2.15	Patchcord Single Conductor 15" (25 per bundle)	2.25

Special Size Patch Boards Available to Order.

MULTI-USE PLUG-IN-KIT:



Plug-In Unit made with Kit 4-EK3 using Case EX-12

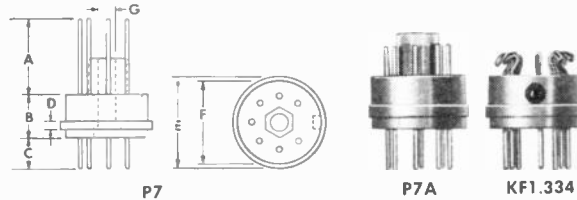
MULTI USE PLUG-IN KITS enable the user to readily wire and package a wide variety of circuits. Kits consist of a Lip-Loc Case with mounted noval sockets, shield bases, 2 Zip wiring decks, and 11-pin Octal plug plus extra components as follows: equal number of 7-pin miniature sockets, shield bases and adapter mounting rings; plug buttons to close unused socket holes; one extra unpunched base with spacers and screws for mounting larger plugs such as the Amphenol Blue Line (not supplied in kit); one extra zip wiring deck. The extra components may be readily installed as required in place of the furnished items.

Material specifications are as follows: case, caustic etch on aluminum; sockets, mica-filled phenolic, commercial grade; terminal strips and spacers are phenolic Overall height of all units is 3".

Cat. No.	Sockets	Base Dimen	Deck Spacing (2 Decks)	Number Terminals per Deck	Base Price 1-19
4-EK3	3N & 3M	1 5/8" x 3 3/8"	1 1/8"	22	5.97
5-E2K3	4N & 4M	1.68" x 4.82"	1 1/8"	30	6.57
6-E1K3	5N & 5M	1 5/8" x 5 7/8"	1 1/8"	38	7.17

Many other case sizes and structures are obtainable at the factory.

TUBE BASE PLUGS



VECTOR TUBE BASE PLUGS have mica-filled castings and phosphor bronze pins. The wide variety of pin configurations on the top side of the plugs make possible design features not possible with other plugs. Plugs may be mounted as follows:

- With a 4-40 or 5-40 screw through the center of the plug. The 7-pin miniature and 9-pin noval plugs have a recessed hexagonal hole in the base which fits a 4-40 or 5-40 small pattern nut.
- With a retainer ring in a plate or chassis. Retainer rings are indicated by adding "R" after K or P in the catalog number.
- Where round shells are to be attached, the 7-pin and 9-pin plug can be furnished with a threaded insert in each side which accommodate a 1-72 thread screw. Threaded inserts are indicated by "F" in catalog number.

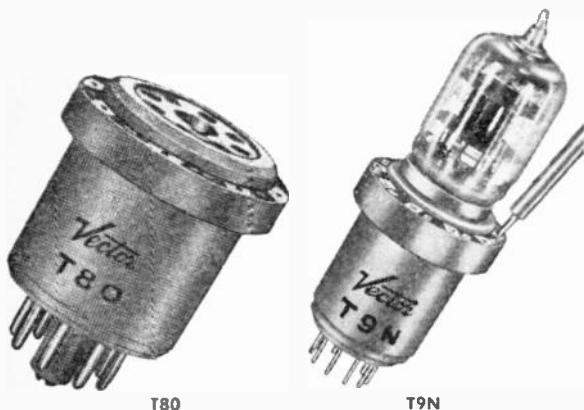
Cat. No.	Type	A	B	DIMENSIONS			C	D	E	F	G	Base Price 1-19
P7	7-pin min.	1/32"	3/16"	.262	1/16"	.621	.568	.125	.45			
P9	9-pin noval	1/32"	3/16"	.262	1/16"	.748	.700	.125	.51			
P7A	7-pin min.	3/16"	3/16"	.262	1/16"	.621	.568	.125	.45			
P9A	9-pin noval	3/16"	3/16"	.262	1/16"	.748	.700	.125	.51			
K1.302	(Same as P7 exc. no centerpost)								.45			
K1.402	(Same as P-9 exc. no centerpost)								.51			
K1.334	Min. hooked Pin	.150	3/16"	.262	1/16"	.621	.568	.125	.57			
K1.434	Noval hooked pin	.162	3/16"	.262	1/16"	.748	.700	.125	.63			
P8L	Loctal	1/16"	3/16"	1 1/2"	.100	1.17	1.00	.110	1.23			
KF1.301	(Same as P7 + knurl nuts exc. no keyway)								.74			
KF1.311	(Same as P7 + knurl nuts exc. short pins, no keyway)								.74			
KF1.401	(Same as P9 + knurl nuts exc. no keyway)								.78			
KF1.411	(Same as P9 + knurl nuts exc. short pins, no keyway)								.77			

Add R after "P" or "K" for retainer ring.

.45

Vector

TUBE SOCKET TEST ADAPTERS



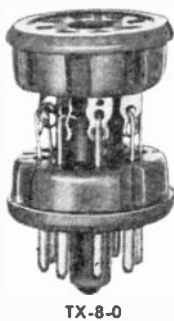
TUBE SOCKET TEST ADAPTERS are inserted between the socket and the tube and provide test tab elements for checking. Connections are wired straight thru from plug to socket. Beryllium copper socket contacts for long-life — molded tan phenolic bodies.

Catalog Number	Socket Type	Net Price 1-19
T-8-0	Octal	1.85
T-7-M	Miniature	1.65
T-9-N	Noval	1.85
T-789	Set of above three in kit	6.20
P-1	Probe for above	.39

EXPERIMENTER'S TEST ADAPTERS

EXPERIMENTER'S TEST ADAPTERS. These are similar to the Socket Test Adapter but are less the shells and tabs so that connections can be cross-connected in any desired way. User must solder connections (Outer shells available at factory — add "S" to number to obtain).

Cat. No.	Socket Type	Net Price 1-19
TX-8-0	Octal	1.30
TX-7-M	Miniature	.80
TX-9-N	Noval	.85
TX-789	Set of above three in kit	3.25



TX-8-0

SOCKET EXTENDERS

SOCKET EXTENDERS provide a replaceable unit for use in tube testers. Wear is shifted from the socket in the tester to the one in the Extender so that when it is worn out a new one can be easily inserted. Sockets have highest grade beryllium copper contacts. A screw projects thru the plug and may be used to hold the unit firmly in place if desired. Socket to plug leads are soldered and an outer shell is used.



1262

Cat. No.	Socket Type	Net Price 1-19
#1262	Octal 8	1.90
#1263	9 P. Noval	1.80
#1264	7 P. Miniature	1.70

THE ROTOPROBE

THE ROTOPROBE is a new type of test adapter to which a rotating test lead is permanently attached. Rotation of the shell causes a contact arm to move across the pins connecting the socket elements so that any position may be quickly contacted. This serves the same purpose as the usual Test Adapters but is more convenient and faster.



T8B

Cat. No.	Socket Type	Net Price 1-19
T-8-B	Octal	3.45
T-7-B	Miniature	3.30
T-9-B	Noval	3.60
T-789-B	Set of above three in kit	11.18

SOCKET CHANGE ADAPTERS

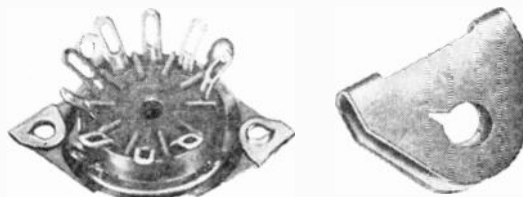
SOCKET CHANGE ADAPTERS facilitate use of unlike tube bases in existing sockets where a change of tube types is required. To be wired by user. Add "S" to number for an outer shell which may be cemented in place.



T97

Cat. No.	Socket	Plug	Net Price 1-19
T 780	7 P. Min.	Octal 8	1.05
T 79	7 P. Min.	9 P. Nov.	7.02
T 807	Octal 8	7 P. Min.	1.23
T 809	Octal 8	9 P. Nov.	1.23
T 97	9 P. Nov.	7 P. Min.	1.02
T 980	9 P. Nov.	Octal 8	1.05

SOCKET SADDLE NUTS

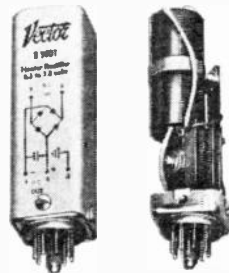


U nut designed especially to slip over and clamp on socket saddles provide convenient means for quickly screwing sockets to chassis. Two types are available, No. 4-40 U which fits No. 4-40 screws and No. 4Z U which fits a No. 4 sheet metal screw. The latter is stronger since it is of thicker metal than the former. Screws should be hardened steel for both nuts to avoid stripping and are also listed below: Material is cad. plated steel. Bags of 50 each.

Cat. No.	Thread	Screw Length	Net Price 1-19 Bags
4-40 U Nut	4-40	—	1.00
4-Z U Nut	4 Z	—	1.25
4-40 x 1/4" Screw	4-40	1/4"	.60
4Z x 1/4" Screw	4 Z	1/4"	.40

HEATER RECTIFIER

VECTOR HEATER RECTIFIER, Type B3001 — Small full-wave selenium rectifier-filter circuit for eliminating AC hum by supplying DC heater current to first stage of low-level amplifier and preamps. Octal plug for convenient mounting; space above chassis only 1 3/8" x 1 3/8" x 4". Rated input voltage 6.3 to 7.5V AC, can be connected directly to available AC filament supply. Produces no external magnetic fields; completely shielded, with grounding connection to case. Net Price 1-19, \$6.53.



BLILEY

THE STANDARD OF QUALITY ...



AMATEUR CRYSTALS

CODE	TYPE	APPLICATION	TOL	PRICE
E17	AX2	1800-1825 kc.; 1875-1900 kc.; 1900-1925 kc.; 1975-2000 kc.	*	\$3.75
E18	AX2	3500-4000 kc. (Novice frequencies for 80...3700.0 kc. to 3750.0 kc.; Multiplies to 40... 3587.5 to 3600.0 kc.; Multiplies to 15... 3516.66 to 3541.66 kc.)	*	2.95
E19	AX2	7000-7425 kc.; 8000-8222 kc. (Novice frequencies for 40...7175.0 to 7200.0 kc.; Multiplies to 15... 7033.33 to 7083.33 kc.)	*	2.95
E20	AX2	14,000-14,500 kc.	±10 kc.	3.95
E22A	SR10	12 mc-27.5 mc experimental frequencies (Novice frequencies for 15... 21, 100 to 21,250.0 kc.; Multiplies to 2... 24,166.66 to 24,500.0 kc.)	±.03%	8.50

*Note: We will supply to integral spot frequencies (no fractions) as ordered; calibration ±500 cycles in factory test oscillator.

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

GENERAL COMMUNICATIONS CRYSTALS

CODE	TYPE	APPLICATION	TOL	PRICE
E5	MC7	Radiotelephone 2-3.5 mc	±.02%	\$7.50
E6	SR5	Radiotelephone 2-3.5 mc	±.02%	7.50
E7	SR8	Radiotelephone 2-3.5 mc	±.02%	7.50
E22	MC9	3-12 mc experimental frequencies	±.03%	6.50
E22A	SR10	12-27.5 mc experimental frequencies	±.03%	8.50

CRYSTALS FOR STANDARD FREQUENCIES

CODE	TYPE	APPLICATION	TOL	PRICE
E3	MC9	TV Service—4.5 mc intercarrier	±.02%	\$3.95
E8	MC9	TV Service—5.0 mc signal generator	±.02%	3.95
E9	MC9	TV Service—10.7 mc FM—i-f alignment	±.05%	3.95
E10	KV3	Reference frequency 100 kc.	±.005%	8.50
E11	MS433	Reference frequency 1000 kc.	±.005%	17.00
E11A	MC9	Marker frequency 1000 kc.	±.05%	8.00
E13	MC9	13.6275 mc (multiplier to 27.255 mc) CITIZEN'S RADIO SERVICE (CLASS "C")	±.04%	5.50
E13A	SR10	27.255 mc (3rd overtone crystal) CITIZEN'S RADIO SERVICE (CLASS "C")	±.04%	5.50
E14	CF3	455 kc.—456 kc.—465 kc. Single Signal Filters	±5 kc.	5.00
E15	CF6	455 kc.—456 kc.—465 kc. Single Signal Filters	±5 kc.	4.50

HIGH STABILITY PACKAGE ... OVEN AND CRYSTAL

FOR 100 kc. OR 1000 kc.
Temperature controlled oven supplied with 100 kc. and/or 1000 kc. crystals for precision reference.

CODE	TYPE	DESCRIPTION	STABILITY	PRICE
E23	TCO-2L	Oven	75°C. ±5°C.	\$ 9.00
E24	BH6A	1000 kc. Crystal	±.0002%	12.50
E25	BH9A	100 kc. Crystal	±.0005%	11.00

Crystal units described are calibrated in recommended oscillator circuit-adjustable to zero beat (at 75°C.) in this circuit. Oven Rating: 6.3 v.; 7-5 watts.

SPECIFY CODE E23 FOR TCO-2L OVEN ONLY
SPECIFY CODE E24 FOR BH6A 1000 KC. CRYSTAL ONLY
SPECIFY CODE E25 FOR BH9A 100 KC. CRYSTAL ONLY
SPECIFY CODE E26 FOR OVEN WITH BH6A AND BH9A CRYSTALS



TYPE KV3
CODE E10

CASE LENGTH: 1³/₃₂"
DIAMETER: 1³/₁₆"
PIN SIZE: .093"
PIN SPACE: .486"



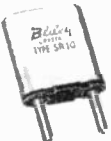
TYPE MS433
CODE E11

CASE LENGTH: 1³/₃₂"
DIAMETER: 1³/₁₆"
PIN SIZE: .093"
PIN SPACE: OCTAL



TYPE MC9
CODE E3, E8, E9, E11A, E13, E22

CASE LENGTH: 1¹/₃₂"
WIDTH: 1³/₁₆"
THICKNESS: 7/₁₆"
PIN SIZE: .093"
PIN SPACE: .486"



TYPE SR10
CODE E13A, E22A

CASE LENGTH: 2¹/₃₂"
WIDTH: 3/₄"
THICKNESS: 1¹/₃₂"
PIN SIZE: .093"
PIN SPACE: .486"



TYPE CF3
CODE E14

CASE LENGTH: 1¹/₃₂"
WIDTH: 1³/₁₆"
THICKNESS: 3/₄"
PIN SIZE: .125"
PIN SPACE: .750"



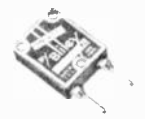
TYPE CF6
CODE E15

CASE LENGTH: 1⁷/₃₂"
WIDTH: 1³/₁₆"
THICKNESS: .695"



TYPE AX2
CODE E17, E18, E19, E20

CASE LENGTH: 1³/₁₆"
WIDTH: 1¹/₄"
THICKNESS: 7/₁₆"
PIN SIZE: .093"
PIN SPACE: .486"



TYPE MC7
CODE E5

CASE LENGTH: 1³/₃₂"
WIDTH: 1¹/₄"
THICKNESS: 2¹/₃₂"
PIN SIZE: .125"
PIN SPACE: .750"



TYPE SR5
CODE E6

CASE LENGTH: 1¹/₄"
WIDTH: 1¹/₄"
THICKNESS: 7/₁₆"
PIN SIZE: .125"
PIN SPACE: .500"



TYPE SR8
CODE E7

CASE LENGTH: 1¹/₄"
WIDTH: 1¹/₄"
THICKNESS: 7/₁₆"
PIN SIZE: .093"
PIN SPACE: .486"



TYPE TCO-2L
CODE E23

CASE LENGTH: 2³/₁₆"
DIAMETER: 1¹/₄"
OCTAL BASE



TYPE BH6A
CODE E24

CASE LENGTH: 1¹/₃₂"
WIDTH: 3/₄"
THICKNESS: 1¹/₃₂"
PIN SIZE: .050"
PIN SPACE: .486"



TYPE BH9A
CODE E25

CASE LENGTH: 1³/₃₂"
WIDTH: 3/₄"
THICKNESS: 1¹/₃₂"
PIN SIZE: .050"
PIN SPACE: .486"

BLILEY ELECTRIC COMPANY

ERIE, PENNSYLVANIA

PR Crystals

Since  1934

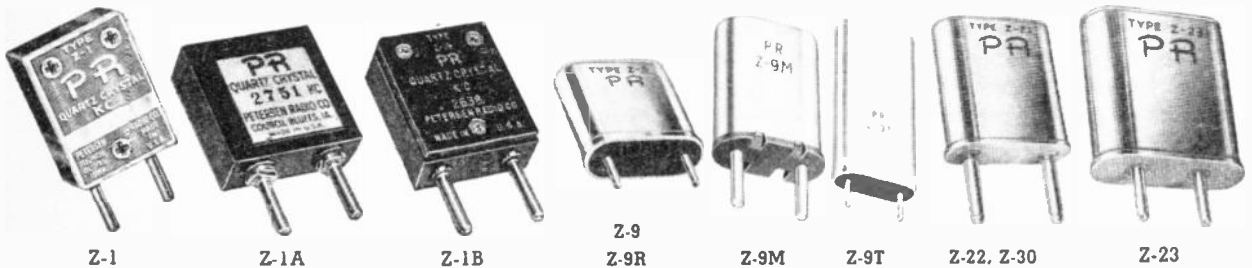
USE  AND KNOW WHERE YOU ARE

COMMERCIAL TYPES — SPECIFICATIONS

Type	Frequency Range	Pin Spacing	Pin Diameter	Height Above Pins	Width	Depth
Z-1 Fundamental	900 Kc. to 12000 Kc.	.486"	.093"	1-3/16"	13/16"	7/16"
Z-1 Harmonic	12001 Kc. to 30000 Kc.	.486"	.093"	1-3/16"	13/16"	7/16"
*Z-1A Fundamental	500 Kc. to 2000 Kc.	3/4"	.125"	1 3/8"	1 3/8"	1/2"
Z-1B Fundamental	1000 Kc. to 12000 Kc.	3/4"	.125"	1 3/8"	1-3/16"	1/2"
Z-1B Harmonic	12001 Kc. to 30000 Kc.	3/4"	.125"	1 3/8"	1-3/16"	1/2"
Z-1D Same as Z-1	Same as Z-1	1/2"	.125"	1-3/16"	13/16"	7/16"
Z-1E Same as Z-1	Same as Z-1	1/2"	.125"	1 1/4"	1 1/8"	7/16"
Z-1H Single or dual unit Fundamental	500 Kc. to 12000 Kc.	3-Pin W.E.	.157"	2-1/16"	1-19/32"	1-3/16"
Z-1K Same as Z-1A except has .157" dia. pins	500 Kc. to 12000 Kc.	3/4"	.157"	1 3/8"	1 3/8"	1/2"
Z-1M Fundamental	1000 Kc. to 10000 Kc.	7/8"	Std. Banana	2-3/32"	1-19/32"	3/4"
Z-1R Fundamental	150 Kc. to 900 Kc.	1/2"	.093"	1 1/4"	1-3/32"	7/16"
Z-4 Fundamental	1601 Kc. to 12000 Kc.	3/4"	.125"	.650"	Diameter	.995"
Z-4 Harmonic	12001 Kc. to 30000 Kc.	3/4"	.125"	.650"	Diameter	.995"
Z-7 Fundamental	Same as Z-1 Fundamental	3/4"	Std. Banana	1.660"	1.192"	.518"
Z-8 Fundamental	500 Kc. to 1600 Kc.	3/4"	1/8"	1 3/4"	1-9/16"	1-11/16"
Z-9 Fundamental	175 Kc. to 500 Kc. 1000 Kc. to 15000 Kc.	.486"	.050"	.758"	.720"	.309"
Z-9M Fundamental	Marine	.486"	.093"	1-1/32"	13/16"	.427"
Z-9R Harmonic	15001 Kc. to 70000 Kc.	.486"	.050"	.758"	.720"	.309"
Z-9T Fundamental	100 Kc. to 174 Kc.	.486"	.050"	1.526"	.757"	.317"
E-1 Fundamental	100 Kc. to 7000 Kc.	Interchangeable with FT-164 and AC-95				
Z-21 Fundamental	150 Kc. to 500 Kc.	3-Pin W.E.	.157"	2"	1-19/32"	1-3/16"
Z-22 Fundamental	150 Kc. to 500 Kc. 1000 Kc. to 15000 Kc.	3/4"	.125"	1 1/4"	1-3/16"	7/16"
Z-22 Harmonic	15001 Kc. to 50000 Kc.	3/4"	.125"	1 1/4"	1-3/16"	7/16"
Z-23 Same as Z-22	Same as Z-22	.486"	.093"	1 1/4"	1-3/16"	7/16"
Z-24 Same as Z-22	Same as Z-22	1/2"	.125"	1 1/4"	1-3/16"	7/16"
Z-30 Fundamental	Marine	3/4"	.125"	1 1/4"	1-3/16"	7/16"

* Can be Supplied with Standard Banana Pins.

EVERY PR CRYSTAL IS UNCONDITIONALLY GUARANTEED



Z-1

Z-1A

Z-1B

Z-9

Z-9R

Z-9M

Z-9T

Z-22, Z-30

Z-23

PETERSEN RADIO Company, Inc., Council Bluffs, Iowa

PR Crystals



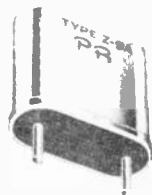
USE **PR** AND KNOW WHERE YOU ARE

PRICE LIST

Effective August 1, 1959
Subject to Change Without Notice

FOR AMATEUR SERVICE

Z-2 Crystals are supplied only in the following bands and calibrated integral kilocycles only, no fractions.



TYPE	FREQUENCY RANGE	PRICE	TYPE	FREQUENCY RANGE	PRICE
Z-2 Fundamental	1750 to 2000 Kc. ± 250 Cycles	\$2.95	Z-9A 3d Overtone	24000 to 24666 Kc. } ± 3 Kc.	\$4.95
	3500 to 4000 Kc.			25000 to 27000 Kc. }	
	5000 to 6000 Kc.		Z-9A 5th Overtone	50000 to 54000 Kc. ± 15 Kc.	\$6.95
	7000 to 7425 Kc. } ± 500 Cycles				
8000 to 8222 Kc.					
8334 to 9000 Kc.					

SPECIAL CRYSTALS

Type Z-6A, Frequency Standard
100 Kc. \$6.95

Type Z-1, MARS and CAP
Calibrated to .005%
Official assigned transmitter frequencies in the range.
1600 to 10000 Kc. \$3.45

Type 2XP
Suitable for converters, experimental, etc. Same holder dimensions as Type Z-2.
1600 to 12000 Kc. ± 5 Kc. (Fund.) \$3.45
12001 to 25000 Kc. ± 10 Kc. (3d Overtone) \$4.45

Type Z-1, TV Marker Crystals
Channels 2 through 13 \$6.45
4.5 Mc. Intercarrier, .01% \$2.95
5.0 Mc. Signal Generator, .01% \$2.95
10.7 Mc. FM, IF, .01% \$2.95

Type Z-1, AIRCRAFT
3023.5 Kc., .005% \$3.45

VHF Type Z-9R, AIRCRAFT

For LEAR, NARCO and similar equipment operating in the 121 Mc. region, requiring crystals in 30 Mc. range. Each \$4.95

Type Z-9R, CITIZENS BAND and RADIO CONTROL

Citizens Band, in Megacycles:			
26.965	27.015	27.065	27.115
26.975	27.025	27.075	27.125
26.985	27.035	27.085	27.135
27.005	27.055	27.105	27.155
27.165	27.205	27.175	27.215
27.185	27.225		

NOTE: In ordering Receiver Crystals, specify I. F. Frequency, also whether I. F. is above or below Transmitter Frequency.

Radio Controlled Objects, in Megacycles:		
26.995	27.095	27.195
27.045	27.145	27.255

Calibrated .005%, Each \$2.95

ACCESSORIES

Single Sockets, Z-9, Z-9A, Z-9R.....	25c
Single Sockets Z-1, and Z-2.....	30c
Dual Sockets.....	35c
Adapters, to adapt Z-1 and Z-2 to 3/4" Socket 40c	

BROADCAST CRYSTALS REGRINDING SERVICE

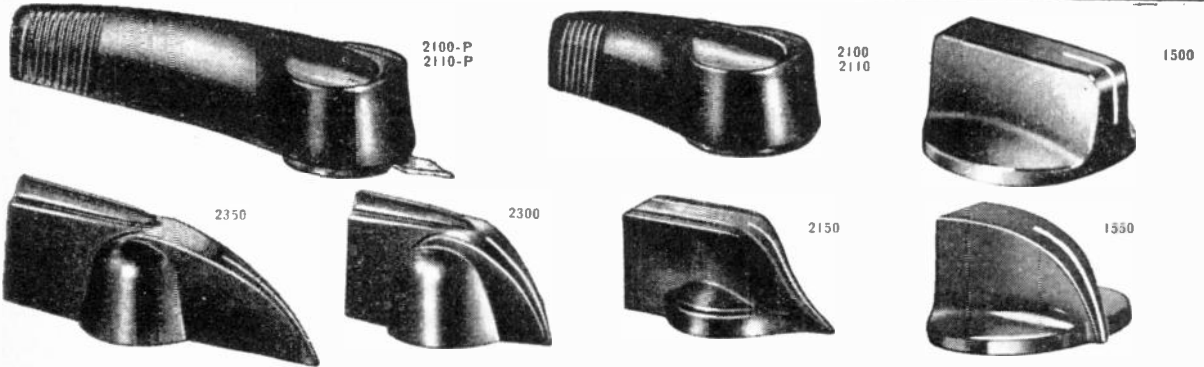
Any Frequency, 550 to 1600 Kc. \$20.00

PETERSEN RADIO Company, Inc., Council Bluffs, Iowa

Harry Davies Molding Co.

Molders of Plastics

POINTERS AND BAR KNOBS



No. 1500. Dia. 1 3/4", hgt. 9/16", 1/4" molded hole, set screw or knurled hole mounting, locknut recess, indicator line filled or unfilled.

No. 1550. Dia. 1-3/16", hgt. 5/8", 1/4" molded hole or metal insert, set screw, spring or knurled hole mounting, locknut recess.

No. 2100. Length 2 1/2", hgt. 5/8", width 3/4", 1/4" molded hole or metal insert, set screw mounting, locknut recess.

No. 2110. Length 1 5/8", hgt. 19/32", width 3/4", 1/4" molded hole or metal insert, set screw or knurled hole mounting, locknut recess.

No. 2100-P. Length 2 1/2", hgt. 5/8", width 3/4", metal insert and 5/16" pointer, set screw mounting.

No. 2110-P. Length 1 5/8", hgt. 19/32", width 3/4", metal insert and 5/16" pointer, set screw mounting.

No. 2150. Length 1 1/4", hgt. 9/16", 1/4" molded round or hex hole, set screw mounting, locknut recess.

No. 2300. Length 1 1/4", hgt. 5/8", 1/4" molded hole, round, hex or "D" shape, also 1/4" metal insert, set screw or knurled hole mounting, locknut recess.

No. 2350. Length 2", hgt. 5/8", 1/4" molded hole or metal insert, set screw mounting, locknut recess.

CONTROL KNOBS



No. 1400. Dia. 11/16", hgt. 13/32", 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting.

No. 1450. Dia. 11/16", hgt. 13/32", 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting.

No. 1470. Dia. 1", hgt. 1/2", 3/4" molded hole or brass insert, set screw, spring or knurled hole mounting, indicator line filled or unfilled, locknut recess.

No. 1475. Dia. 1", hgt. 1/2", 1/4" molded hole or brass insert, set screw, spring or knurled hole mounting, locknut recess.

No. 1600. Dia. 1 1/2", hgt. 11/16", 1/4" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

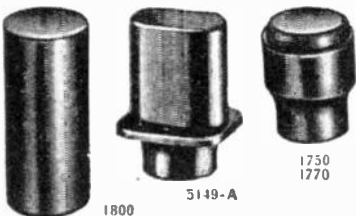
No. 1610. Dia. 1 5/16", hgt. 5/8", 1/4" molded hole or metal insert, set screw mounting, locknut recess, indicator line filled or unfilled.

No. 1700. Dia. 3/4", hgt. 19/32", 1/4" molded hole, set screw, spring or knurled hole mounting.

No. 2500. Dia. 3/4", hgt. 3/8", 3/4" molded hole, set screw, spring or knurled hole mounting.

No. 2600. Dia. 7/8", hgt. 3/8", 3/4" molded hole, set screw, spring or knurled hole mounting.

PUSH BUTTONS



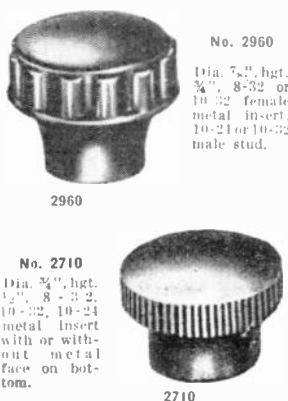
No. 1800. Dia. 7/16", Lgt. 1" to 1 1/8", touch tuning, plain or recessed top, push on, self locating, at 9 with studs of various lengths, patented friction fit.

No. 5149-A. Hgt. 5/16", oval touch tuning, push-on, self locating, patented friction fit.

No. 1770. Dia. 3/16", hgt. 9/16" to 15/16", touch tuning, push on, self locating, patented friction fit.

No. 1770. Dia. 3/16", Lgt. 1/2" to 3/8", 6-32 or 8-32 male or female metal insert.

TERMINAL NUTS



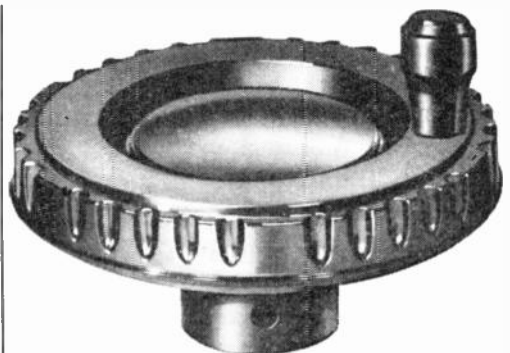
No. 2960

Dia. 5/8", hgt. 3/4", 8-32 or 10-32 female metal insert, 10-21 or 10-32 male stud.

No. 2710

Dia. 3/4", hgt. 1/2", 8-32, 10-32, 10-21 metal insert with or without metal face on bottom.

SPINNER KNOBS



No. 99. Dia. 3 3/4", hgt. 1 1/2", 3/8" or 1/2" molded hole or metal insert. Set screw mounting, with or without spinner.

Harry Davies Molding Co.

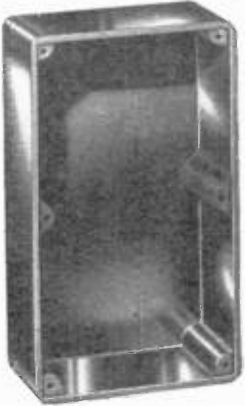
Molders of Plastics

METER CASES AND COVER

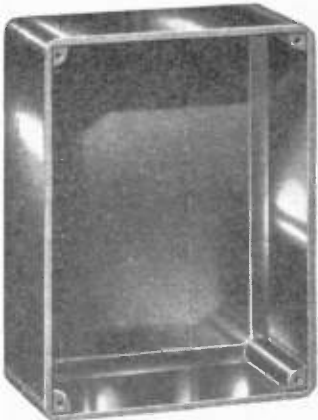
241



240



260



No. 241. Mating cover with interlocking top for No. 240 series cases.

No. 240. 2" hgt. x 3 3/8" wide x 6 3/8" long. (Outside Dimensions) — 1/8" (Wall Thickness).

No. 260. 2-5/16" height x 5-9/32" wide x 6-13/16" long. (Outside Dimensions) — 5/32" (Wall Thickness).

INSTRUMENT KNOBS



4100
4101
4102
4103



4100
4101
4102
4103



4104
4106
4108
4109



4104
4106
4108
4109



2965



3008



3009



3000

No. 2965. Dia. 5/8", hgt. 3/8" to 1 1/8", 3/4" molded hole, set screw spring, knurled hole mounting, also 10-32 male and female inserts.

No. 3000. Dia. 1 1/4", hgt. 3/4", 1", 1 1/4", 1 1/2"; 3/4" molded hole, some male and female metal inserts, set screw or knurled hole mounting, or tapped to order, locknut recess.

No. 3008. Dia. 1 1/4", hgt. 3/4" to 1", 3/4" molded hole, some male and female metal inserts, set screw mounting or tapped to order.

No. 3009. Dia. 1 1/4", hgt. 3/4" to 1", 3/4" molded hole, some male and female metal inserts, set screw mounting or tapped to order.

Knobs shown are only part of our stock on hand. Our stock molds are interchangeable and meet most requirements with only minor tooling variations. Let us quote on your specifications.

WRITE FOR FREE CATALOG

Part No.	Knob Dia.	Knob Hgt.
4100	1 1/8"	3/8"
4101	1 1/8"	1 1/16"
4102	1 1/8"	3/4"
4103	2 3/8"	7/8"

Entire series available with 1/4" molded hole or metal insert, set screw mounting. White vinylite painted available. Polymer lengths, 3/8", 3/4", 1-1/16", 1-5/16", 1 3/8", 1-9/16".

Part No.	Knob Dia.	Skirt Dia.
4104	1 1/8"	1 1/8"
4106	1 3/8"	1 1/2"
4108	1 3/8"	2-1/16"
4109	2 3/8"	3"




Skirt available with or without indicator line filled. Branding stamps constructed to your specifications.

Harry Davies Molding Co.





CHICAGO, ILLINOIS

GEE-LAR KNOBS for Hi-Fi, Stereophonic, TV and Radio





GEE-LAR HI-PHONIC KNOB SERIES

	SMALL — 1" Diameter, 25 ₃₂ " Height. Fits 1/4" Shaft
No.	List
24-000 Black	.50
24-002 Ivory	.50
	MEDIUM — 1 1/16" Diameter, 25 ₃₂ " Height. Fits 1/4" Shaft
No.	List
24-004 Black	.55
24-006 Ivory	.55
	LARGE — 1 1/2" Diameter, 27 ₃₂ " Height. Fits 1/4" Shaft
No.	List
24-008 Black	.65
24-010 Ivory	.65

GEE-LAR AUDIO-PHILE KNOB SERIES

	VOLUME KNOB 1 1/2" Diameter, 3/16" Height. Fits Knurl Shaft		TREBLE KNOB 1 1/2" Diameter, 3/16" Height. Fits Knurl Shaft		BASS KNOB 1 1/2" Diameter, 3/16" Height. Fits Knurl Shaft		PLAIN KNOB 1 1/2" Diameter, 5/16" Height. Fits Knurl Shaft
No.	List	No.	List	No.	List	No.	List
24-016 Maroon	.60	24-018 Maroon	.60	24-020 Maroon	.60	24-022 Maroon	.45





GEE-LAR HIGH-FIDELITY KNOB SERIES

	LOUDNESS KNOB 1 3/8" Diameter, 1/2" Height. For .250 Dia. and 156 Flat Spring Type Shaft.		BASS KNOB 1 1/8" Diameter, 1/2" Height. For .250 Dia. and 156 Flat Spring Type Shaft.		TREBLE KNOB 1 1/8" Diameter, 1/2" Height. For .250 Dia. and 156 Flat Spring Type Shaft.		PLAIN KNOB 1 1/8" Diameter, 1/2" Height. For .250 Dia. and 156 Flat Spring Type Shaft.
No.	List	No.	List	No.	List	No.	List
24-026 Maroon	.55	24-028 Maroon	.55	24-030 Maroon	.55	24-032 Maroon	.55



GEE-LAR HI-FI STEREOHONIC KNOBS

	TENITE PLATED GOLD INLAY 1 1/4" Diameter, 1/2" Height. Fits 1/4" Shaft.		TENITE PLATED GOLD INLAY 1" Diameter, 5/8" Height. Fits 1/4" Shaft		TENITE PLATED GOLD INLAY 1" Diameter, 1/2" Height. Fits 1/4" Shaft.		TENITE PLATED GOLD INLAY 1" Diameter, 3/8" Height. Fits 1/4" Shaft
SPRING TYPE		KNURL TYPE		KNURL TYPE		KNURL TYPE	
No.	List	No.	List	No.	List	No.	List
24-070 Walnut	.40	24-074 Walnut	.30	24-078 Walnut	.28	24-082 Walnut	.28
24-072 Ivory	.10	24-076 Ivory	.30	24-080 Ivory	.28	24-084 Ivory	.28
	TENITE PLATED GOLD INLAY 3/4" Diameter, 3/8" Height. Fits 1/4" Shaft.		TENITE PLATED GOLD INLAY 1 3/16" Diameter, 1/2" Height. Fits 1/4" Shaft.		TENITE PLATED GOLD INLAY 1" Diameter, 11/16" Height. Fits 1/4" Shaft.		TENITE PLATED GOLD INLAY 1 3/16" Diameter 1/2" Height. Fits 1/4" Shaft.
KNURL TYPE		KNURL TYPE		SET SCREW		KNURL TYPE	
No.	List	No.	List	No.	List	No.	List
24-094 Walnut	.26	24-102 Walnut	.35	24-110 Walnut	.45	24-114 Walnut	.37
24-096 Ivory	.26	24-104 Ivory	.35	24-112 Ivory	.45	24-116 Ivory	.37
SPRING TYPE		SET SCREW		SET SCREW		SET SCREW	
24-098 Walnut	.35	24-106 Walnut	.45	24-118 Walnut	.49	24-122 Walnut	.49
24-100 Ivory	.35	24-108 Ivory	.45	24-120 Ivory	.49	24-124 Ivory	.49



GEE-LAR IMPERIAL TV STANDARD TUNER KNOB SERIES

	CHANNEL SELECTOR KNOB (Front)		REAR KNOB FOR No. 24-150		OFF-ON VOLUME KNOB (Front)		REAR KNOB FOR No. 24-154
Plated gold finish inlay 2 1/2" Diam., 25 ₃₂ " Height. Fits 25 ₃₂ " Diameter Shaft with .156" flat. Calibrated for Standard Tuner.		2 3/8" Diameter, 3/16" Height. Fits 3/8" Diameter Shaft with .328" flat.		2 1/2" Diameter, 25 ₃₂ " Height. Plated gold finish inlay. Fits 1.87" Diameter Shaft with .156" flat.		2 5/8" Diameter, 3/16" Height. Fits 2.56" Diameter Shaft with .234" flat.	
No.	List	No.	List	No.	List	No.	List
24-150 Mahogany	1.25	24-152 Mahogany	.45	24-154 Mahogany	1.10	24-156 Mahogany	.45



GEE-LAR POINTER KNOBS

	BAKELITE POINTER KNOB 1 1/4" Diameter, 5/8" Height. Fits 1/4" Shafts No Insert-Set Screw		BAKELITE POINTER KNOB 1 1/4" Diameter, 3/16" Height. Fits 1/4" Shafts
No.	List	No.	List
24-492 Walnut	.25	24-530 Black	.30
24-494 Black	.25	24-532 Walnut	.30
24-496 Ivory	.25	24-534 Red	.30
Brass Insert-Set Screw		24-536 Ivory	
24-498 Walnut	.45		
24-500 Black	.65		
24-502 Ivory	.65		

CLOCK RADIO KNOBS

	COLORLED PLASTIC Spring Type Diameter 1 5/16". Height 1/2".		COLORLED PLASTIC Double Barrier type. Diameter 1 5/16". Height 1 1/2".
No.	List	No.	List
24-842 Brown	.25	24-856 Brown	.15
24-844 Ivory	.25	24-858 Ivory	.15
24-846 Red	.25	24-860 Red	.15
24-848 White	.25	24-862 White	.15
24-850 Blue	.25	24-864 Blue	.15
24-852 Green	.25	24-866 Green	.15
24-854 Kit	6.25	24-868 Kit	3.75

AUTO RADIO KNOBS

	TENITE REAR KNOB FOR No. 24-880 3/16" Diameter, 7/16" Height. Shaft size .265 key way. Back only.		TENITE MOTOROLA AUTO RADIO KNOB TOP KNOB 3/4" Diameter, 15/16" Height. Shaft size .187 spline. Back only.
No.	List	No.	List
24-878	.15	24-880	.20

Send for free G-C Electronics 28-page catalog listing hundreds of knobs for every type of application.

G-C ELECTRONICS MFG. CO.
DIVISION OF G-C TETRON INC.
Los Angeles 18, California
Main Plant: Rockford, Illinois



NATIONAL MIL-SPEC KNOBS

In stock! For immediate delivery! And produced by National! . . . a complete line of standard plastic control knobs made in conformance with MS-91528. There are four basic types: round, pointer, spinner (each with or without skirts) and dial skirted round . . . available in three different shaft sizes. Finishes are gloss, matte, or to your color specifications . . . in all Mil-Spec sizes.



Knobs: Made of plastic, type III, class H2, per Specification L-P-349. Set Screws. Cadmium plated, class 3, type II, per Specification QQ-P-416. Inserts: Brass, composition 4, hard, per Specification QQ-B-613.

NATIONAL CHOKES

R-45 series, a new family of ferrite bead chokes for use as filament chokes, parasitic suppressors, and series elements of low-pass filters for frequencies from 5 to 200 mc. Insulated with an impregnated fiberglass sleeving, these chokes will handle 2 amperes of filament current with voltage drop of less than 0.02 volts, temperatures to the Curie point of 125°C.

R-40 series ferrite-core chokes . . . extremely high Q for small size. They are primarily for use in networks and filters at frequencies from 50 kc to 1500 kc, and as resonant elements in IF and RF circuits. Fungus-proof varnish impregnation per MIL-V-137A.

R-25

series MIL-inductance chokes for high frequency circuits, as filament chokes and peaking coils, inductance per MIL-C15305A, coil forms per MIL-P-14, and impregnation per MIL-V-173A.

R-33, R-50 and R-60

series RF coils are wound on molded phenolic forms per MIL-P-14 and coated with a tough, fungus-resistant varnish. R-50-10 choke is wound on a powdered-iron coil form instead of phenolic.

NATIONAL'S EXCLUSIVE "FLUSH MOUNT" CAPTIVE NUTS



Flush fit on both sides of aluminum sheet to provide permanent tapped holes.

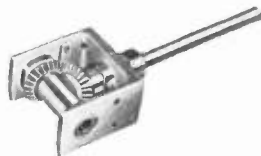
Available in Five sizes for use in metal thickness from 1/16" up - in thread sizes from 2/56 up. No special tooling required. Drilled or Punched round hole $\pm .002$ only requirement.

MATERIAL: Stainless steel 303 as per MIL S-853A.

FINISH: Passivated as per MIL P-12011.

Four additional types also available, including one type which provides a permanent thread in thin aluminum that meets MIL SPECS P-11268, E-5400 and E-16400. A complete line of CAPTIVE STUDS is also available.

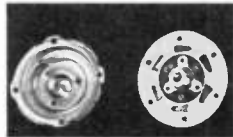
PRECISION RIGHT ANGLE AND VERNIER DRIVES



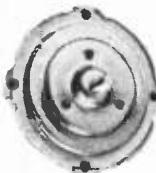
Type PRAD: Right angle drive for remote operation of low torque units. Designed for continuous low-speed operation (loads up to 50" ounces), and intermittent high speed operation (up to 500 RPM) with loads up to 100" ounces. Less than 1 1/2" backlash; drives and shafts of various lengths; various size output hubs; brass gears; stainless steel shafts, bushings and sleeves; die cast zinc housings.



Type RAD: Right angle drive. For ganging capacitors, potentiometers or other parts in heretofore inaccessible locations on chassis. Die cast zinc housing gears.



Type AN: Time-tested vernier mechanism. Designed for use with any 3/16" National knobs and others. Drive ratio: 5 to 1; drive shafts: 3/16", 1/4" or to specifications; fully insulated output shaft coupling; output hub fits 1/4" shaft; readily adaptable to many types of drives.



Type AVD: Vernier mechanism. Similar to type AN (above) except that output-shaft is non-insulated. Dimensions: over-all diameter 2-9/16", length 1-15/32".

OTHER NATIONAL COMPONENTS

In addition to knobs, chokes, drives and captive hardware, National Radio Company also manufactures a complete line of dials, coil forms, condensers, tanks, grid and plate caps, IF transformers, tube and crystal sockets, ceramic insulators, bushings, spreaders, couplings, terminal assemblies, other electronic and electro-mechanical components. For specific design or development applications problems, write or call.

NATIONAL RADIO COMPANY, INC.

A wholly owned Subsidiary of National Company, Inc.

Melrose 76, Mass.



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& TRANSISTORS INDUSTRIAL TUBES

MECHANICAL COMPONENTS

SUGGESTED USER AND LIST PRICES EFFECTIVE MARCH 16, 1959

STANDARD CONTROL KNOBS									
BLACK KNOBS—Mirror and Matte Finish (Suffix "G" on Catalog No. Denotes Matte Finish)									
Stock Number	Catalog Number	Description	Std. Pkg.	Sugg. Resale Price	Stock Number	Catalog Number	Description	Std. Pkg.	Sugg. Resale Price
231-1166G1	50-1-1	Round		\$.51	231-1059G3	125-3-2	Dial Skirted Round	6	\$.90
231-1166G9	50-2-1	Skirted Round	12	.59	231-1059G16	125-1-2G	Round	6	.79
231-1166G3	50-3-1	Dial Skirted Round	12	.67	231-1059G17	125-2-2G	Skirted Round	6	.87
231-1166G2	50-1-1G	Round	12	.56	231-1059G18	125-3-2G	Dial Skirted Round	6	.95
231-1166G10	50-2-1G	Skirted Round		.64	231-1059G33	125-3-2	Dial Skirted No Pointer Mark		.87
231-1166G4	50-3-1G	Dial Skirted Round	12	.72	231-1059G34	125-3-2G	Dial Skirted No Pointer Mark		.92
231-1055G1	70-1-1*	Round		.70	231-1059G39	125-3BL-2G	Edgelighted Dial Skirted		2.62
231-1055G2	70-2-1*	Skirted Round		.79	231-1095G1	125-6-2	Crank	4	1.88
231-1055G4	70-1-2	Round	12	.65	231-1095G2	125-6-2G	Crank	4	1.93
231-1055G5	70-2-2	Skirted Round	12	.73	231-1060G1	175-1-2	Round	6	.86
231-1055G6	70-3-2	Dial Skirted Round	12	.82	231-1060G2	175-2-2	Skirted Round	6	.94
231-1055G7	70-1-1G	Round		.75	231-1060G3	175-3-2	Dial Skirted Round	2	1.06
231-1055G8	70-2-1G	Skirted Round		.84	231-1060G4	175-1-2G	Round	6	.91
231-1055G9	70-3-1G	Dial Skirted Round		.92	231-1060G5	175-2-2G	Skirted Round	6	.99
231-1055G10	70-1-2G	Round	12	.70	231-1060G6	175-3-2G	Dial Skirted Round	2	1.11
231-1055G11	70-2-2G	Skirted Round	12	.79	231-1061G1	175-6-2	Crank	2	2.04
231-1055G12	70-3-2G	Dial Skirted Round	12	.87	231-1061G4	175-6-2G	Crank	2	2.09
231-1055G14	70-3-2	Dial Skirted Round No Pointer Mark		.79	231-1062G1	225-1-2	Round	4	.98
231-1055G30	70-3BL-2G	Edgelighted Dial Skirted		2.16	231-1062G2	225-2-2	Skirted Round	4	1.06
231-1056G2	70-5-1*	Skirted Pointer		.79	231-1062G3	225-3-2	Dial Skirted Round	2	1.18
231-1056G3	70-4-2	Pointer	12	.65	231-1062G4	225-1-2G	Round	4	1.03
231-1056G4	70-5-2	Skirted Pointer	12	.73	231-1062G5	225-2-2G	Skirted Round	4	1.11
231-1056G5	70-4-1G	Pointer		.75	231-1062G6	225-3-2G	Dial Skirted Round	2	1.23
231-1056G6	70-5-1G	Skirted Pointer		.84	231-1063G1	225-6-2	Crank	2	2.12
231-1056G7	70-4-2G	Pointer	12	.70	231-1063G4	225-6-2G	Crank	2	2.17
231-1056G8	70-5-2G	Skirted Pointer	12	.79	231-1144G3	70-1-2	Knob Lock Pointer		.87
231-1057G1	90-1-2	Round	12	.69	231-1144G4	70-1-2G	Knob Lock Pointer		.92
231-1057G2	90-2-2	Skirted Round	12	.78	231-1145G1	90-1-2	Knob Lock Pointer		.92
231-1057G3	90-3-2	Dial Skirted Round	6	.86	231-1145G2	90-1-2G	Knob Lock Pointer		.97
231-1057G16	90-1-2G	Round	12	.74	231-1146G1	125-1-2	Knob Lock Pointer		.98
231-1057G17	90-2-2G	Skirted Round	12	.83	231-1146G2	125-1-2G	Knob Lock Pointer		1.03
231-1057G18	90-3-2G	Dial Skirted Round	6	.91	231-1154G1	—	Bar Knob, Mirror		1.17
231-1057G33	90-3-2	Dial Skirted No Pointer Mark		.83	231-1154G2	—	Bar Knob, Matte		1.22
231-1057G34	90-3-2G	Dial Skirted No Pointer Mark		.88					
231-1057G49	90-3BL-2G	Edgelighted Dial Skirted		2.47					
231-1058G1	90-4-2	Pointer	12	.73					
231-1058G2	90-5-2	Skirted Pointer	12	.82					
231-1058G5	90-4-2G	Pointer	12	.79					
231-1058G6	90-5-2G	Skirted Pointer	12	.87					
231-1059G1	125-1-2	Round	6	.73					
231-1059G2	125-2-2	Skirted Round	6	.82					

Note 50 series knobs available for 1/8" shafts only.
 * Indicates 70 series knobs available for 1/8" shaft.

BRAILLE KNOBS—Standard—For 1/4" Shafts						
Stock Number	Catalog Number	Description	Braille Symbol	Cap Color	Sugg. Resale Price	
8925301-121G18	70-1-2G-1	Round	Intensity	Blue	\$1.07	
8925301-121G19	70-1-2G-2	Round	Tune	Orange	1.07	
8925301-121G16	70-1-2G-3	Round	Dimmer	White	1.07	
8925301-121G17	70-1-2G-4	Round	Gain	Red	1.07	
8925301-121G20	70-1-2G-5	Round	Focus	Violet	1.07	
8925301-121G8	70-2-2G-1	Skirted Round	Intensity	Blue	1.15	
8925301-121G9	70-2-2G-2	Skirted Round	Tune	Orange	1.15	
8925301-121G6	70-2-2G-3	Skirted Round	Dimmer	White	1.15	
8925301-121G7	70-2-2G-4	Skirted Round	Gain	Red	1.15	
8925301-121G10	70-2-2G-5	Skirted Round	Focus	Violet	1.15	
8925301-121G48	70-3-2G-1	Dial Skirted Rd.	Intensity	Blue	1.23	
8925301-121G49	70-3-2G-2	Dial Skirted Rd.	Tune	Orange	1.23	

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& TRANSISTORS · INDUSTRIAL TUBES

MECHANICAL COMPONENTS— Continued

BRAILLE KNOBS—Standard—For 1/4" Shafts

Stock Number	Catalog Number	Description	Braille Symbol	Cap Color	Sugg. Resale Price
8925301-121G46	70-3-2G-3	Dial Skirted Rd.	Dimmer Gain Focus	White	1.23
8925301-121G47	70-3-2G-4	Dial Skirted Rd.		Red	1.23
8925301-121G50	70-3-2G-5	Dial Skirted Rd.		Violet	1.23
8925301-120G8	70-4-2G-6	Pointer	Range Range	Yellow	1.07
8925301-120G6	70-5-2G-6	Skirted Pointer		Yellow	1.23
231-1057G26	90-1-2G-1	Round	Intensity Tune Dimmer Gain Focus	Blue	1.17
231-1057G27	90-1-2G-2	Round		Orange	1.17
231-1057G29	90-1-2G-3	Round		White	1.17
231-1057G28	90-1-2G-4	Round		Red	1.17
231-1057G30	90-1-2G-5	Round	Focus	Violet	1.17
231-1057G20	90-2-2G-1	Skirted Round	Intensity Tune Dimmer Gain Focus	Blue	1.25
231-1057G21	90-2-2G-2	Skirted Round		Orange	1.25
231-1057G23	90-2-2G-3	Skirted Round		White	1.25
231-1057G22	90-2-2G-4	Skirted Round		Red	1.25
231-1057G24	90-2-2G-5	Skirted Round		Violet	1.25
221-1058G7	90-5-2G-6	Skirted Pointer	Range	Yellow	1.25
231-1059G20	125-2-2G-1	Skirted Round	Intensity Tune Dimmer Gain Focus	Blue	1.38
231-1059G21	125-2-2G-2	Skirted Round		Orange	1.38
231-1059G22	125-2-2G-3	Skirted Round		White	1.38
231-1059G24	125-2-2G-4	Skirted Round		Red	1.38
231-1059G23	125-2-2G-5	Skirted Round		Violet	1.38
231-1061G5	175-6-2G-8	Crank	Bearing Marker	Gray	3.01
231-1061G6	175-6-2G-7	Crank		Green	3.01

BLACK KNOBS With 3/32" White Dot
For 1/4" Shafts

Stock Number	Catalog Number	Sugg. Resale Price
8925301-156P2	70-2-2	\$.89
8925301-156P3	70-1-2G	.86
8925301-156P4	70-2-2G	.94
8925301-156P6	90-2-2	.93
8925301-156P8	90-2-2G	.98
8925301-156P11	125-1-2G	.94
8925301-156P12	125-2-2G	1.02

Knobs For Concentric Controls
Black Knobs—Mirror and Matte Finishes

Stock Number	Catalog Number	For Shaft Size	Sugg. Resale Price
231-1055G1	70-1-1*		
231-1055G7	70-1-1G*	1/8"	.70
8925301-159G3	70 series mirror*	1/8"	.75
8925301-159G1	70 series mirror**	1/8"	.80
8436401-4P2	90 series matte**	1/4"	.85
8436401-91P1	90 series mirror**	1/4"	.85
8436401-4P1	90 series mirror**	1/4"	.91
8436401-4P3	90 series matte**	1/4"	.95
	70 series unskirted round style	for use on inner shafts.	
	90 series dial skirted styles, no cap, shaft hole drilled through	for use on outer shafts.	

COLOR KNOBS—For 1/4" Shafts

Stock Number	Catalog Number	Color	Sugg. Resale Price	Stock Number	Catalog Number	Color	Sugg. Resale Price
8925301-193PG	70-1-2			8925301-193P18	125-3-2	Gray	\$1.03
8925301-193P7	70-2-2	Gray	.75	8925301-193P35	125-2-2G	Gray	.99
8925301-193P8	70-3-2	Gray	1.10	8925301-193P36	125-3-2G	Gray	1.08
8925301-193P9	70-4-2	Gray	.94				
8925301-193P10	70-5-2	Gray	.75	8925301-194P6	70-1-2	Red	.75
8925301-193P24	70-1-2G	Gray	.85	8925301-194P7	70-2-2	Red	.85
8925301-193P25	70-2-2G	Gray	1.06	8925301-194P8	70-3-2	Red	.94
8925301-193P26	70-3-2G	Gray	1.15	8925301-194P9	70-4-2	Red	.75
8925301-193P27	70-4-2G	Gray	.99	8925301-194P10	70-5-2	Red	.85
8925301-193P28	70-5-2G	Gray	.81	8925301-194P25	70-2-2G	Red	.90
			.90	8925301-194P27	70-4-2G	Red	1.06
8925301-193P11	90-1-2	Gray	.80	8925301-194P11	90-1-2	Red	1.15
8925301-193P12	90-2-2	Gray	.89	8925301-194P12	90-2-2	Red	.89
8925301-193P13	90-3-2	Gray	.99	8925301-194P13	90-3-2	Red	.99
8925301-193P14	90-4-2	Gray	.85	8925301-194P14	90-4-2	Red	.85
8925301-193P15	90-5-2	Gray	.94	8925301-194P15	90-5-2	Red	.94
8925301-193P31	90-3-2G	Gray	1.04	8925301-194P33	90-5-2G	Red	.99
8925301-193P32	90-4-2G	Gray	.90				
8925301-193P33	90-5-2G	Gray	.99	8925301-194P16	125-1-2	Red	.84
8925301-193P16	125-1-2	Gray	.84	8925301-194P17	125-2-2	Red	.94
8925301-193P17	125-2-2	Gray	1.19	8925301-194P18	125-3-2	Red	1.03

Specify



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

MECHANICAL COMPONENTS— Continued

COLOR CAP KNOBS—For 1/4" Shafts

Stock Number	Catalog Number	Cap Color	Sugg. Resale Price	Stock Number	Catalog Number	Cap Color	Sugg. Resale Price
8925301-160P4	70-1-2	Red	\$.89	8925301-161P3	70-5-2	Blue	\$.81
8925301-160P5	70-1-2	Green	.89	8925301-162P1	90-2-2	Red	.86
8925301-160P6	70-1-2	Blue	.89	8925301-162P2	90-2-2	Green	.86
8925301-160P1	70-2-2	Red	.81	8925301-162P3	90-2-2	Blue	.86
8925301-160P2	70-2-2	Green	.81	8925301-181P1	90-3-2	Red	.94
8925301-160P3	70-2-2	Blue	.81	8925301-181P2	90-3-2	Green	.94
8925301-180P1	70-3-2	Red	1.15	8925301-181P3	90-3-2	Blue	.94
8925301-180P2	70-3-2	Green	1.15	8925301-182P1	90-5-2	Red	.90
8925301-180P3	70-3-2	Blue	1.15	8925301-182P2	90-5-2	Green	.90
8925301-161P1	70-5-2	Red	.81	8925301-182P3	90-5-2	Blue	.90
8925301-161P2	70-5-2	Green	.81				

KNOB LOCKS

Catalog Number	Knob Lock Number	Old Catalog Number	Description	Sugg. Resale Price
231-1136G1	5-126-01	70-KL-4	70 Series Mirror	\$.71
231-1136G2	5-126-02	70-KL-4G	70 Series Matte	.77
231-1136G3	5-126-03		70 Series 1/4-32 Mirror	.77
231-1136G4	5-126-04		70 Series 1/4-32 Matte	.82
231-1133G1	5-127-01	90-KL-4	90 Series Mirror	.82
231-1133G2	5-127-02	90-KL-4G	90 Series Matte	.87
231-1137G1	5-128-01	125-KL-4	125 Series Mirror	.87
231-1137G2	5-128-02	125-KL-4G	125 Series Matte	.92

SHAFT LOCKS

Catalog Number	Description	Sugg. Resale Price
231-1142G1	Shaft Lock, Black (1/4" Shaft)	\$.26
231-1142G2	Shaft Lock, Red (1/4" Shaft)	.26
231-1151G1	Shaft Lock, Black (1/8" Shaft)	.21
231-1164G1	Short Shaft Lock, Black (1/4" Shaft)	.26

STANDARD PULL HANDLES

Catalog Number	Finish	Description	Sugg. Resale Price
231-1107G1	Mirror	Glossy	\$1.68
231-1107G2	Matte	Dull	1.53

PANEL BRACKETS

Catalog Number	Description	Sugg. Resale Price
217-1044P1	Panel Bracket 2 1/16"	\$.14
217-1044P2	Panel Bracket 2 9/16"	.15
217-1044P3	Panel Bracket 3 1/16"	.16
217-1044P4	Panel Bracket 3 9/16"	.17

FUSE AND RESISTOR LOCKING CLIPS

Catalog Number	Size	Sugg. Resale Price
343-1007G1, 2, 3, 4, 7, 8	9/16"	\$1.02
343-1008G1, 2, 3, 4, 7, 8	13/16"	1.22
343-1009G1, 2, 3, 4, 7, 8	1-1/8"	1.53

5-WAY BINDING POSTS

Catalog Number	Description	Sugg. Resale Price
227-1214G1	Black For 0.080 Prod	\$.51
227-1214G2	Red For 0.080 Prod	.51
227-1214G3	Black For Banana Plug	.46
227-1214G4	Red For Banana Plug	.46

Captive Hardware • Test Jacks
CAPTIVE HARDWARE

Catalog Number	Description	Sugg. Resale Price
209-1032 P36, P37, P38, P39	Captive Screw 8-32	\$.36
P1, P2, P3	Captive Screw 10-24	.41
P44, P45, P46	Captive Screw 10-32	.41
P4, P5, P6, P7, P8, P9, P10	Captive Screw 1 4-20	.51
P11, P12, P13, P14, P15	Captive Screw 5/16-18	.77
364-1020 P16, P17, P18, P19	Panel Insert 8-32	.12
P1, P2, P3, P4, P5	Panel Insert 10-24	.15
P20, P21, P22, P23, P24	Panel Insert 10-32	.15
P6, P7, P8, P9, P10	Panel Insert 1 4-20	.21
P11, P12, P13, P14, P15	Panel Insert 5/16-18	.26
203-1154G1	Nut Bracket Assembly 8-32	10
203-1154G2	Nut Bracket Assembly 10-24	12
203-1154G3	Nut Bracket Assembly 10-32	12
203-1154G4	Nut Bracket Assembly 1 4-20	19
203-1154G5	Nut Bracket Assembly 5/16-18	29
287-1114 P1, P2, P3, P4	Gasket	.02
362-1037 P1, P2, P3, P4	Gasket Retainer	.05

TEST JACKS

Catalog Number	Description	Sugg. Resale Price
276-1564G1 thru G9*	Printed Circuit	\$ 15
276-1569G4 (Red) and G6	Subminiature, Snap-in Contact	46
(Block) only**	Subminiature Fixed Contact	17
276-1570G1 thru G9**	Standard Turret Terminal	26
276-1594G1 thru G9**	Standard Spade Terminal	31
276-1594G11 thru G19**	Teflon, Turret Terminal	66
276-1594G21**	Teflon, Spade Terminal	71
276-1594G22*		
* Packaged 50 per bag		
** Packaged 25 per bag		

Birnbach

SUB-MINIATURE TEFLON TERMINALS



NEW SUB-MINIATURE TEFLON[®] terminals provide instant mounting without any extra hardware of any kind because of the exceptional properties of Virgin Teflon[®].

Low dielectric constant, low power factor (60 cps to 50,000 mc), low capacitance, high volume, high surface resistivity, high dielectric strength (1500-2000 v/mil. s.l.t.), continuous service—450 F to plus 500°F, unaffected by soldering, chemically inert, damage resistant, water repellent, voltage rating, sea level 750v r.m.s., flash-over, sea level 3000v r.m.s., flash-over, 50,000 ft. 1300 v r.m.s.

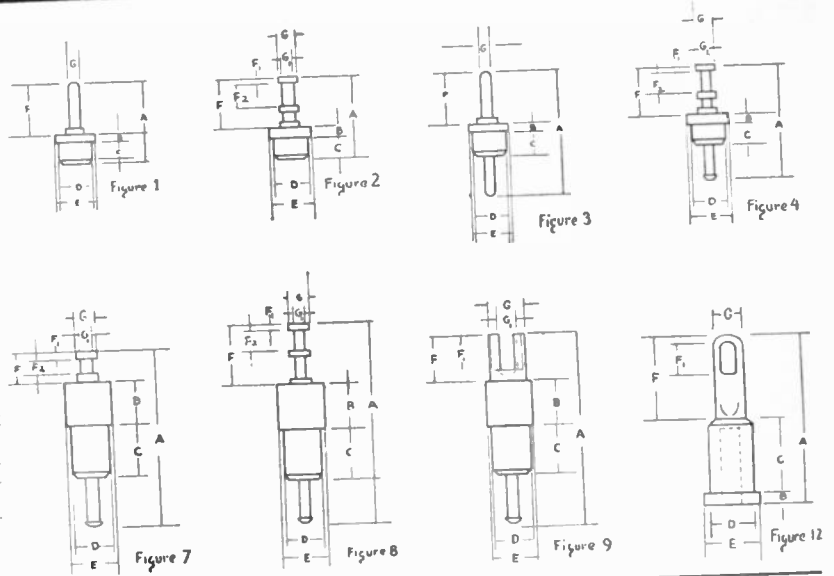
Installed permanently in seconds, in metallic or non metallic chassis in one, simple, corking motion into punched or drilled holes. Mounting Hole Data: 1. Punch or drill the hole to a diameter that is .012" less than the diameter of the Teflon insulator which passes thru the chassis. 2. Where the thickness of the mounting hole should be countersunk 30° to the diameter of the insulator. Where chassis thickness will not permit (.040" or smaller), counter-sink 45° to the diameter of the insulator.

Speeds up assembly—cut production costs, no nuts, washers, staking or soldering necessary especially adapted in crowded assemblies.

As for HF, VHF, UHF, microwave, radar, tele-metering, guided missile instrumentation and circuitry.

Variations of specifications listed below are available. Your inquiries invited.

* DuPont T.M.



SUB-MINIATURE STAND-OFFS

Std. Pkg. 100, 1000

Cat No.	FIG.	CAPACITANCE mmf ±	A	B	C	+ .002 - .000 D DIA.	E DIA.	F	F ₁	F ₂	G DIA.	G ₁ DIA.
506	1	0.5	250	.040	.100	.148	.172	.210			.040	
507	1	0.5	400	.040	.156	.148	.172	.210			.040	
508	1	0.5	500	.040	.250	.148	.172	.210			.040	

Cat No.	FIG.	CAPACITANCE mmf ±	A	B	C	+ .002 - .000 D DIA.	E DIA.	F	F ₁	F ₂	G DIA.	G ₁ DIA.
510	2	0.55	250	.040	.100	.148	.172	.210	.020	.100	.040	.080
511	2	0.55	375	.040	.125	.148	.172	.210	.020	.100	.040	.080
512	2	0.40	350	.040	.100	.179	.200	.210	.020	.100	.040	.080

SUB-MINIATURE FEED-THRU

Std. Pkg. 100, 1000

Cat No.	FIG.	CAPACITANCE mmf ±	A	B	C	+ .002 - .000 D DIA.	E DIA.	F	F ₁	F ₂	G DIA.	G ₁ DIA.
514	3	0.60	.515	.040	.100	.148	.172	.210	.020	.100	.040	.040
515	3	0.55	.443	.040	.100	.148	.172	.210	.020	.100	.040	.040
516	3	0.75	.725	.040	.100	.148	.172	.210	.020	.100	.040	.040

Cat No.	FIG.	CAPACITANCE mmf ±	A	B	C	+ .002 - .000 D DIA.	E DIA.	F	F ₁	F ₂	G DIA.	G ₁ DIA.
518	4	0.65	500	.040	.100	.148	.172	.210	.020	.100	.040	.080
519	4	0.65	500	.040	.165	.148	.172	.210	.020	.100	.040	.080

CAT. NO.	FIG.	VOLTAGE. Nominal Rating	CAPACITANCE mmf ±	RMS. 60 CPS			+ .022 - .000 D DIA.	E DIA.	F	F ₁	F ₂	G DIA.	G ₁ DIA.	
				Flashover Sea Level	Flashover 50,000 Ft.	A								B	C
520	7	2000	1.00	6000	1400	540	.063	.171	.187	.133	.020	.093	.046	.093
521	8	2000	1.00	6000	2500	836	.187	.165	.148	.125	.020	.093	.040	.093

CAT. NO.	FIG.	VOLTAGE. Nominal Rating	CAPACITANCE mmf ±	RMS. 60 CPS			+ .022 - .000 D DIA.	E DIA.	F	F ₁	G DIA.	G ₁ DIA.		
				Flashover Sea Level	Flashover 50,000 Ft.	A							B	C
522	9	2000	1.10	6000	1400	821	.187	.212	.171	.187	.203	.156	.148	.078

CONNECTORS & TEST JACKS

Std. Pkg. 100, 1000

CAT. NO.	FIG.	VOLTAGE. Nominal Rating	CAPACITANCE mmf ±	RMS. 60 CPS			D DIA.	E DIA.	F	F ₁	F ₂	G DIA.	G ₁ DIA.		
				Flashover Sea Level	Flashover 50,000 Ft.	A								B	C
523	12	1250	0.40	4500	1500	687	.046	.297	.185	.218	.354	.110	.070	.115	.060



SCREWS & NUTS · WASHERS · STANDOFFS
ALL-NYLON FASTENINGS



Non-Corrosive, Non-Conducting



ALL-NYLON FASTENINGS

Zytel 101 per Mil P 20693 Spec, Mil S 7742 Spec
Birnback All-Nylon Fastenings are made of Zytel
101⁺, a Polyamide plastic of the Nylon 6.6 Type.
They offer outstanding insulating properties plus
resistance to heat, shock, vibration and chemical
solvents plus lightness elasticity and superior torque
strength. In most cases, because of their high die-
lectric strength, they eliminate the need of bush-
ings, washers or other insulation. They are corrosion
resistant, non-magnetic and good torque strength thru
a wide temperature range. Continuous service tempera-
ture to 300°F (150°C). Stock color: Natural.
Additional colors available to order. Zytel 101 per
Mil. P-17019B.

Used in variety of applications, such as:
appliances, computers and business ma-
chines, chemical and food processing
equipment, electronic equipment and in-
struments, airborne equipment, etc.
*Reg. T.M. of DuPont

BIRNBACH NYLON BUSHINGS
AND SPACERS

Designed with wide flanges to completely
isolate screw from mounting surface, useful
where hi tensile and torque requirements
require high strength non-insulating screws.
Natural color.

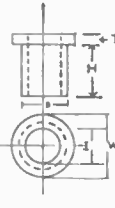


Table with columns: Cat. No., Screw Size, Dimensions (L, H, W, T, D). Rows include 6539, 6539A, 6539B, 6549C, 6549D.

BIRNBACH ALL NYLON MACHINE
SCREWS

Table with columns: Cat. No., Size, Type. Rows include 6640, 6640B, 6641, 6641A, 6641B, 6650, 6651, 6651A, 6643, 6643A, 6643B, 6644, 6644A, 6644B.

Table with columns: Cat. No., Size, Type. Rows include 6552, 6552A, 6552B, 6646A, 6646B, 6553, 6554, 6555, 6556, 6557, 6558, 6559, 6560, 6648, 6648A, 6648B, 6561, 6561C, 6650, 6650A, 6650B, 6562, 6563, 6564, 6565, 6566, 6567, 6568, 6569, 6570, 6571, 6572, 6572A, 6572B, 6573, 6573A, 6574, 6575, 6576, 6577, 6578, 6579.

All parts are manufactured to American Thread Stand-
ards to a class 2A or 2B fit. B 18.2 (hex nuts),
B 18.6 (machine screws), B 1.1 (thread specs.)

BIRNBACH ALL NYLON HEX NUTS

Table with columns: Cat. No., Size, Cat. No., Size. Rows include 6585, 6586, 6587.

BIRNBACH ALL-NYLON WASHERS

Table with columns: Cat. No., Fits, Screw No., O.D., I.D., Thick-ness. Rows include 6592, 6593, 6594, 6595, 6596, 6597.

BIRNBACH ROUND HEAD
MACHINE SCREWS

Table with columns: Cat. No., Size, Type. Rows include 6300, 6301, 6302, 6303, 6304, 6305, 6306, 6307, 6308, 6309, 6420, 6421, 6422, 6423, 6424, 6425, 6426, 6427, 6428, 6429, 6430, 6431, 6432, 6433, 6434, 6435, 6436, 6437, 6438, 6439, 6310, 6311, 6400, 6401.

BIRNBACH HEXAGON STEEL
MACHINE SCREW NUTS

Table with columns: Cat. No., Thread Width across Flats, Thickness, Std. Pkg. Rows include 6330, 6331, 6332, 6333, 6348, 6349, 6450, 6335, 6336.

BIRNBACH HEXAGON MACHINE
SCREW NUTS

Table with columns: Cat. No., Thread Width across Flats, Thickness, Std. Pkg. Rows include 6440, 6441, 6442, 6443, 6444, 6445, 6446, 6447.

BIRNBACH BRASS NICKEL
PLATED FLAT WASHERS

Table with columns: Cat. No., Fits, Screw No., Hole Size, O.D., Thickness, Pkg. Rows include 6479, 6480A, 6480, 6481, 6482, 6483.

BIRNBACH STEEL
KANKLINK LOCKWASHERS

Table with columns: Cat. No., Screw Size, O.D., Thickness, Std. Pkg. Rows include 6484, 6485, 6486, 6487, 6488.

BIRNBACH SHAKEPROOF
LOCKWASHERS

Table with columns: Cat. No., Screw Size, Std. Pkg. Rows include 6358, 6359, 6360, 6361, 6362, 6363.

BIRNBACH SHAKEPROOF
LOCKWASHERS

Table with columns: Cat. No., Screw Size, Std. Pkg. Rows include 6355, 6356, 6357, 6490, 6491, 6492, 6493, 6494, 6494 I, 6494 II.

BRASS NICKEL PLATED

Table with columns: Cat. No., Size, Type. Rows include 6402, 6403, 6404, 6312, 6313, 6314, 6315, 6405, 6406, 6407, 6408, 6409, 6410, 6411, 6412, 6413, 6414, 6415, 6416, 6417, 6418, 6316, 6317, 6318, 6318A, 6319, 6319A, 6320, 6320A, 6320B, 6320C.

THREADED NYLON ROD in 6-32, 8-32, 10-32 and
¼-20 thread sizes available.

BIRNBACH SHEET METAL
SELF TAPPING SCREWS

Table with columns: Cat. No., Size, Std. Pkg. Rows include 6500, 6501, 6502, 6503, 6504, 6540, 6541, 6505, 6542, 6543, 6506, 6507.

BIRNBACH HEX HEAD
SELF TAPPING SCREWS

Table with columns: Cat. No., Size, Std. Pkg. Rows include 6510, 6511, 6512, 6513, 6514, 6515, 6516, 6517, 6518, 6519.

BIRNBACH VOLUME CONTROL
AND TOGGLE NUTS

Table with columns: No., Type, Size, Std. Pkg. Rows include 6337, 6337A, 6338, 6339.

BIRNBACH BINDING HEAD
MACHINE SCREWS

Table with columns: Cat. No., Size, Std. Pkg. Rows include 6321, 6322, 6323, 6324, 6325, 6326.

BIRNBACH OVAL HEAD
RACK SCREWS

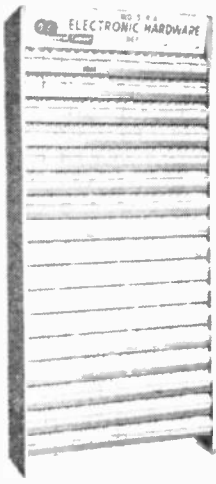
Table with columns: Cat. No., Size, Std. Pkg. Rows include 6600, 6601, 6602, 6603, 6604, 6605, 6606, 6607, 6608, 6609, 6610, 6611, 6611-A.

BIRNBACH FINISHING
RACK WASHERS

Table with columns: Cat. No., Size, Std. Pkg. Rows include 6612, 6613, 6614.



GENERAL CEMENT ELECTRONIC HARDWARE



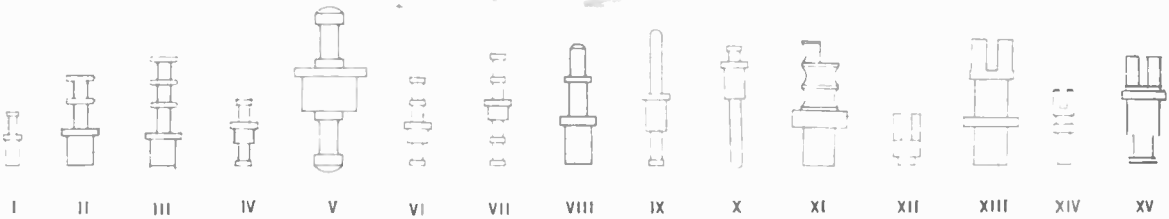
This Industrial Electronic Storage Rack provides a complete hardware department in one convenient location. It's built to hold all the G-C 100-Pak hardware items, designed for quick selection, fast inventory.



NEW G-C 100-PAK . . . one of several hundred hardware items in packages of 100, clearly marked with part number and description.

G-C Fuse Clips	
G-C Soldering Lugs (Tinned)	
G-C Cable Holder Clamps (Nickel Plated)	
G-C Fahnestock Clips (Nickel Plated)	
G-C Terminal Strip Assortment	
G-C Dial Pulleys (Brass)	
G-C Radio-TV Knob Springs	
G-C Dial Drive Tension Springs and Phono Springs (Steel - Cadmium Plated)	

G-C Speedex Solderless Terminals		G-C Tinnerman Speed Nuts		G-C Compression Springs	
G-C Round Head Mach Screws (Steel - Nickel Plated)		G-C Acorn Nuts (Solid Brass - Nickel Plated)		G-C Phono Turntable Mounting Springs	
G-C Round Head Machine Screws (Brass - Not Plated)		G-C Knurled Thumb Nuts (Brass - Nickel Plated)		G-C Brass Eyelets	
G-C Phillips Type Round Head Machine Screws (Steel - Nickel Plated)		G-C Wing Nuts (Nickel Plated)		G-C Rivets (Nickel Plated)	
G-C Binding Head Machine Screws (Steel - Nickel Plated)		G-C Metal Washers (Nickel Plated)		G-C Grid Caps (Nickel Plated)	
G-C Oval Head Rack and Cabinet Screws (Steel - Nickel Plated)		G-C Lock Washers, Internal (Cadmium Plated)		G-C Rubber Grommets	
G-C Ornamental Head Screws (Steel - Statuary Bronze Plated)		G-C Lock Washers, External (Cadmium Plated)		G-C Pure Gum Grommets	
G-C Wood Screws - Round Head - Steel - Nickel Plated)		G-C Split Type Lock Washers (Cadmium Plated)		G-C Radio Knob Felts	
G-C Spade Bolts or Mounting Screws (Steel - Nickel Plated)		G-C Spring Friction Washers		G-C Rubber Feet (Screw Type)	
G-C Sheet Metal Screws (Hex Head - Slotted - Self-Tapping - Nickel Plated)		G-C Cup Finishing Washers - Nickel Plated		G-C Rubber Button Bumpers	
G-C Scutehon Plate Screws (Round Head - Slotted - Statuary Bronze Plated)		G-C C-Washers and Retaining Rings - Steel - Cadmium Plated)		G-C Rubber Tack Bumpers	
G-C Radio Knob Set Screws (Slotted - Hardened - Steel)		G-C Hair Pin Cutters		G-C Felt Pads	
G-C Allen Hex Set Screws (Steel - Hardened - Headless)		G-C Flat Fibre Washers		G-C Cord Strain Reliefs	
G-C Phono Needle and Stylus Set Screws - Steel - Bronze Plated)		G-C Extruded Fibre Washers		G-C Angles and Brackets	
G-C Phono Cartridge Mounting Screws (Steel - Nickel Plated)		G-C Snap Button Hole Plugs - Nickel Plated)		<p>SEND FOR your free G-C Catalog. Free!</p> <p>GENERAL CEMENT MFG. CO. Dept. R-M Division of Textron Inc., Rockford, Illinois, U.S.A.</p>	
G-C Hexagon Nuts (Steel - Nickel Plated)		G-C Snap-in Ventilating Plugs (Nickel Plated)			
G-C Brass Hexagon Nuts (Not Plated)		G-C Snap-in Trimounts			
G-C Mounting Nuts (Steel - Nickel Plated)		G-C Dial Cord Clips (Nickel Plated)			



MATERIAL: Brass. FINISH: Silver plate unless otherwise noted. Other platings available on special order.

TERMINALS — TURRET AND SPADE TYPE

Part No.	Fig.	Shank Dia.	Turret Dia.	Shoulder Dia.	Hole Dia. Hollow Type	Height Above Board	Height Below Board	Tooling	Board Thickness and Notes
1011	VIII	.090	3/32	1/8	—	3/16	—	HS-18 or PSA-4 and PSP-4	Chart I.
1013	VIII	.090	3/16	3/32	—	1/32	—	HS-25 or PSA-7 and PSP-4	Chart I.
1014	VIII	.090	3/16	3/32	—	1/32	—	HS-25 or PSA-7 and PSP-4	Chart I.
1030	IX	.072	3/16	3/32	—	1/4	1/8	HS-75	Chart I.
1031	X	.072	3/16	3/32	—	3/16	1/4	HS-76	Chart I.
1032	X	.062	3/16	3/16	—	3/16	3/16	HS-77	Chart I.
1081	VII	.201	.144	1/4	—	1/32	—	HS-6 or PSA-38 and PSP-6	Chart I, except -5 -6. -AA 3/16, -A 1/8, -B 3/32, -C 3/16, -D 1/4.
1143	V	.181	3/32	1/4	—	1/4	3/32	HS-3 or PSA-3 and PSP-2	Chart II.
1245	I	.112	.145	3/16	—	1/4	—	HS-1 or PSA-1 and PSP-1	Chart II. Chamfer on upper edge of shoulder.
1457	I	.078	.075	1/8	—	3/16	—	HS-4 or PSA-46 and PSP-3	Chart II, except -E -F. Chamfer on upper edge of turret and shoulder.
1463	V	.116	.070	3/32	—	3/32	1/8	HS-5 or PSA-5 and PSP-5	Chart II, except -E -F. Like V except no turret bases.
1548	II	.112	.149	3/16	3/16	3/16	—	HS-1 or PSA-1 and PSP-44	Chart II.
1558	II	.090	3/32	1/8	—	3/32	—	HS-18 or PSA-4 and PSP-4	Chart II.
1579	VII	.202	3/16	1/4	—	1/32	3/16	HS-6 or PSA-6 and PSP-6	Chart II, except -F.
1604	I	.062	1/16	3/32	—	3/32	—	HS-10 or PSA-11 and PSP-11	Chart II, except -E -F, plus -AA 3/16.
1724	II	.112	.145	3/16	—	3/16	—	HS-1 or PSA-1 and PSP-1	Chart II. Chamfer on upper edge of shoulder.
1797	I	.110	3/16	3/16	.067	3/16	—	HS-1 or PSA-1 and PSP-1	Chart II, except -E -F.
1798	II	.135	.110	3/16	.043	3/16	—	HS-7 or PSA-7 and PSP-7	-A 1/4, -B 3/32, -C 1/8, -D 3/16.
1979	XI	.112	.130	3/16	.060	3/16	—	HS-52 or PSA-53 and PSP-1	Chart II.
2000	VI	.090	1/16	1/8	—	3/32	3/16	HS-35 or PSA-30 and PSP-30	Chart II, except -E -F.
2004	VII	.090	1/16	1/8	—	3/32	3/16	HS-35 or PSA-30 and PSP-30	Chart II, except -E -F.
2027	I	.071	.096	1/8	.043	3/16	—	HS-23 or PSA-19 and PSP-17	Chart II, except -E -F.
2034	II	.090	3/16	3/32	—	3/32	—	HS-25 or PSA-47 and PSP-4	Chart II.
2040	VII	.072	.050	3/32	—	3/16	1/16	HS-24 or PSA-20 and PSP-46	Chart II.
2041	I	.072	.050	3/32	—	3/16	3/16	HS-24 or PSA-20 and PSP-47	Chart II.
2042	IV	.072	.050	3/32	—	3/16	3/16	HS-24 or PSA-20 and PSP-46	Chart II.
2043	II	.072	.050	3/32	—	3/16	3/16	HS-24 or PSA-20 and PSP-47	Chart II.
2044	VI	.072	.050	3/32	—	3/16	3/16	HS-24 or PSA-20 and PSP-46	Chart II.
2080	III	.090	3/32	1/8	—	1/16	3/16	HS-18 or PSA-4 and PSP-4	Chart II, except -F.
2084	III	.112	.145	3/16	—	3/16	—	HS-1 or PSA-1 and PSP-1	Chart II. Chamfer on upper edge of shoulder.
2085	I	.047	.040	1/16	—	3/32	—	HS-33 or PSA-29 and PSP-29	Chart II, except -E -F, plus -AA 3/16.
2100	I	.062	1/16	3/32	.023	3/32	—	HS-10 or PSA-11 and PSP-11	Chart II, except -D -E -F, plus -AA 3/16.
2114	II	.145	.149	3/16	.064 max. .052 min. .052 min.	3/16	—	HS-30 or PSA-26 and PSP-26	Chart II. For use with .061 in. taper pins. Takes pin from top of board. Finish copper plate and electro-tin.
2115	IV	.145	.118	3/16	.064 max. .052 min. .052 min.	1/4	1/4	HS-31 or PSA-27 and PSP-27	Chart II. For use with .061 in. taper pins. Takes pin from top or bottom of board, or both. Finish copper plate and electro-tin.
2132	II	.145	.149	3/16	.064 max. .052 min.	3/16	—	HS-37 or PSA-33 and PSP-33	Chart II. For use with .061 in. taper pins. Takes pin from top or bottom of board, or both. Finish copper plate and electro-tin.
2186	I	.112	.118	3/32	.064 max. .052 min.	3/16	—	HS-40 or PSA-34 and PSP-1	Chart II. For use with .061 in. taper pins. Takes pin from top of board; taper not a through hole. Finish copper plate and electro-tin.
1010	VIII	.112	.146	.040	.078	3/16	—	HS-50 or PSA-45 and PSP-1	Chart I. Two slots at right angles.
1025	XIV	.112	.145	1/16	—	3/16	—	HS-69	Chart I. Chamfer on upper edge of shoulder.
1089	XIV	.047	.072	.025	.026	3/32	—	HS-71 or PSA-49, PSP-29 and PSP-48	-1 1/4, -2 1/2, -3 1/4, -4 1/2, -5 1/8, -6 3/16, -7 1/4.
1578	XIV	.150	.142	1/16	.081	3/8	—	HS-17 or PSA-9 and PSP-9	Chart II, except -A -F. Straight knurl on shank.
1782	XIV	.185	1/4	.090	.120	1/16	—	HS-8 or PSA-8 and PSP-8	Chart II, except -A -B. Straight knurl on shank. Chamfer on lower edge of spade and upper edge of shoulder.
1783	XIV	.135	3/32	1/16	.102	1/2	—	HS-13 or PSA-24 and PSP-13	Chart II, except -A -E -F. Straight knurl on shank. Chamfer on lower edge of spade and upper edge of shoulder.
1784	XIV	.112	3/32	1/32	.070	1/32	—	HS-14 or PSA-18 and PSP-4	Chart II, except -A -E -F. Straight knurl on shank. Chamfer on lower edge of spade and upper edge of shoulder.
1785	XII	.062	3/32	3/32	.043	3/16	—	HS-15 or PSA-12 and PSP-11	Chart II, plus -AA 3/16.
1969	XII	.112	3/16	.053	.079	3/16	—	HS-2 or PSA-2 and PSP-1	Chart II. Radial knurl on lower edge of shoulder.
2086	XV	.122	1/8	3/32	.047	3/32	—	HS-32 or PSA-28 and PSP-28	Chart II, except -F. Diameter turret below board 3/32.

CHART I

DASH NUMBER	BOARD THICKNESS
-1	3/32
-2	1/4
-3	3/32
-4	1/8
-5	3/16
-6	1/4

CHART II

DASH LETTER	BOARD THICKNESS
-A	3/32
-B	1/16
-C	3/32
-D	1/8
-E	3/16
-F	1/4

CAMBION TERMINAL-SWAGING TOOLS



HAND SWAGERS: For small-volume staking, Cambion Hand Swagers are recommended. These hand swagers are machined from fine tool steel, carefully tempered for long wear. They can be used manually or in a click press, pneumatic press, or riveting machine. All tool diameters are 1/2". Hand Swager tooling is designated by the HS prefix.

PRESSURE SWAGERS: Cambion Pressure Swagers are specially designed for mounting Cambion terminals on terminal boards. These swagers are sturdy, precision-built, hand-operated, cam-action rolling tools. Designed for quick, solid, uniform swaging of solder terminals. Cambion Pressure Swagers are adjustable to a wide range of terminal board thicknesses by setting the anvil at the proper height. Terminals may be swaged in place as far as 1/8" from the board edge. Pressure is adjustable and uniform, assuring good, even bonding.

Pressure Swagers are furnished complete with one set of tooling. Refer to the terminal tables for proper PSA and PSP tooling for each type of Cambion terminal. When ordering, specify part number of terminal, as well as tool number. Additional interchangeable anvils and punches are available for Cambion Pressure Swagers.

HOPPER STAKERS: For high-volume staking, involving thousands of terminals, Cambion Hopper Stakers are recommended. The Cambion Hopper Staker is a semiautomatic device for feeding and staking Cambion solder terminals at approximately 100 terminals per minute. For additional information, consult the Factory.

CAMBRIDGE THERMIONIC CORPORATION

CAMBION[®]

The guaranteed electronic components

INSULATED TERMINALS AND FEED-THRUS



I-a STUD TYPE



I-b RIVET TYPE



I-c THREADED TYPE



II Also available in b and c types (see Fig. 1)



III FEED-THRU



IV PRESS-MOUNT TYPE

Material: Mounting stud — brass, with cadmium plate unless otherwise noted. Terminal—brass, with silver plate unless otherwise noted.

Part No.	Fig.	Height Above Board	Turret Dia or Spade Width	No. Turrets or Slot Width	Base Dia.	Rivet Dia. or Thread Size	Stud-Length, Rivet Length or Tap Depth	Voltage Breakdown at 60 cy. AC	Recomm. Panel Thickness	Notes
1580*	I-b	3/16	3/32	2	3/16 hex	.187	Chart I	4,000 RMS		Tooling HS-11 or PSA-13 and PSP-12.
1581*	I-a	3/16	3/32	2	3/16 hex	6-32	1/4	4,000 RMS		
1581-3*	I-a	3/16	3/32	2	3/16 hex	6-32	3/8	4,000 RMS		
1719*	I-a	1 1/16	3/32	2	3/16 hex	6-32	1 1/4	11,000 RMS		
1719-3*	I-a	1 1/16	3/32	2	3/16 hex	6-32	3/8	11,000 RMS		
1795-A*	II	3/8	.052	2 ea. enc	3/8 hex.	1 1/4-28	1 1/4	2,800 RMS		
1795-B*	II	3/16	.052	2 ea. end	3/8 hex.	1 1/4-28	1 1/4	2,800 RMS		Mounting hardware supplied. B height 3/8 Stud nickel plated.
1942-F4	I-	1 1/32	3/32	2	3/16 hex	4-40	1 1/8	4,000 RMS		Mounting hardware supplied. B height 1/4. Stud nickel plated.
1942-F6	I-	1 1/32	3/32	2	3/16 hex	6-32	1 1/8	4,000 RMS		
1942-F8	I-a	1 1/32	3/32	2	3/16 hex	6-32	1 1/4	4,000 RMS		
1942-X3	I-a	1 1/32	3/32	2	3/16 hex	6-32	3/8	4,000 RMS		
1942-Y	I-b	1 1/32	3/32	2	3/16 hex	187	Chart I	4,000 RMS		Tooling HS-22
1945-	I-a	1 1/32	3/32	2	3/16 hex	6-32	Chart IV			
1946-	I-b	1 1/32	3/32	2	3/16 hex	6-32	Chart IV			Terminal tin-lead solder plate.
1980-XA-	I-a	3/32	3/32	1	3/16 hex	.187	Chart V			Terminal tin-lead solder plate.
1980-XB	I-a	1/4	3/32	1	3/16 hex	3-48	Chart II	2,500 RMS		
1980-XC-	I-a	1/4	3/32	1	3/16 hex	3-48	Chart II	4,000 RMS		
1980-YA-	I-b	3/32	3/32	1	3/16 hex	3-48	Chart II	5,000 RMS		
1980-YB	I-b	3/32	3/32	1	3/16 hex	141	Chart I	2,500 RMS		
1980-YC-	I-b	1/4	3/32	1	3/16 hex	141	Chart I	4,000 RMS		
1990-	II	1/3	3/16	2 ea. end	3/8 hex	1 1/4-28	1 1/4	5,000 RMS		Mounting hardware supplied. B height 3/4. Stud nickel plated.
1990-	II	1/3	3/16	2 ea. end	3/8 hex	1 1/4-28	1 1/4	2,500 RMS		
1995-A-	I-a	1 1/32	.145	1	3/16 hex	6-32	1/4	4,000 RMS		Stud nickel plated.
1995-B-	I-a	1 1/32	.145	1	3/16 hex	6-32	3/8	4,000 RMS		
1995-C-	I-a	1 1/32	.145	2	3/16 hex	6-32	1/4	4,000 RMS		
1995-D	I-a	1 1/32	.145	2	3/16 hex	6-32	3/8	4,000 RMS		
2045-F4	I-c	3/16	3/32	2	1/4 hex	4-40	1/8	2,500 RMS		
2045-F6†	I-c	3/16	3/32	2	1/4 hex	6-32	1/8	2,500 RMS		
2045-X†	I-a	1 1/32	3/32	2	1/4 hex	4-40	1 1/4	2,500 RMS		
2045-X3‡	I-a	1 1/32	3/32	2	1/4 hex	4-40	3/8	2,500 RMS		
2045-Y†	I-b	1 1/32	3/32	2	1/4 hex	.141	Chart I	2,500 RMS		Tooling HS-27 or PSA-21 and PSP-21 or SS-2.
2128-F3	II-c	1 1/32	3/32	1	3/16 hex	3-48	1/8	3,300 RMS		
2128-X†	II-a	1 1/32	3/32	1	3/16 hex	3-48	3/4	3,300 RMS		Terminal silver plate and gold flash; stud nickel plate.
2128-Y	II-b	1 1/32	3/32	1	.211	.141	Chart I	3,300 RMS		Terminal silver plate and gold flash; stud nickel plate.
2220-F4†	II c	1 1/32	3/32	2	3/16 hex	4-40	1/8	11,000 RMS		Tooling HS-67. Terminal silver plate and gold flash. Stud nickel plate.
2220-F6†	II c	1 1/32	3/32	2	3/16 hex	6-32	3/8	11,000 RMS		
2220-X†	II a	1 1/32	3/32	2	3/16 hex	6-32	1/4	11,000 RMS		
2220-X3†	II a	1 1/32	3/32	2	3/16 hex	6-32	3/8	11,000 RMS		
2220-Y†	II b	1 1/32	3/32	2	.355	.187	Chart I	11,000 RMS		Tooling HS-38.
2255†	II a	1 1/32	3/4	1	1/8 hex	2-56	Chart III	2,000 RMS		
2182-A‡	IV	1 1/4	3/32	2	1/4	.205	3/32		3/16 to 1/8	Terminal tin-lead solder plate.
2182-B‡	IV	1 1/4	.096	2	1/4	.205	3/32		3/16 to 1/8	
2182-C‡	IV	1 1/4	.096	1	1/4	.205	3/32		3/16 to 1/8	Terminal tin-lead solder plate. .043 through-hole.
2182-D‡	IV	1 1/4	3/32	2 ea. end	1/4	.205	3/32		3/16 to 1/4	Terminal tin-lead solder plate. .070 turret dia. below. B height 1 1/32.
2610-1‡	IV	1/4	3/4	2	1 1/4	.136	3/4		3/32 to 3/32	Tooling 2664.
2610-2‡	IV	1/4	3/4	2	1 1/4	.136	3/4		3/32 to 3/32	Tooling 2664.
2610-3‡	IV	1/4	3/4	2	1 1/4	.136	3/8		3/32 to 3/32	Tooling 2664.
2610-4‡	IV	1/4	3/4	2	1 1/4	.136	1/8		3/32 to 3/32	Tooling 2664.
2610-5‡	IV	1/4	3/4	2	1 1/4	.136	1/4		3/32 to 3/32	Tooling 2664.
2610-6‡	IV	1/4	3/4	2	1 1/4	.136	1 1/4		3/32 to 3/32	Tooling 2664.
2610-7‡	IV	1/4	3/4	2	1 1/4	.136	1 1/4		3/32 to 3/32	Tooling 2664.
2610-8‡	IV	1/4	3/4	2	1 1/4	.136	1/4		3/32 to 3/4	Tooling 2664.
2610-9‡	IV	1/4	3/4	2	1 1/4	.136	1/4		3/32 to 3/4	Tooling 2664.
2610-10‡	IV	1 1/32	3/4	2	1 1/4	.136	1/8		3/32 to 3/32	Tooling 2664.

* Insulator Material, Phenolic

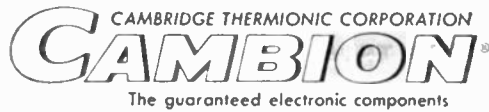
† Insulator Material, Ceramic

‡ Insulator Material, Teflon

CHART I		CHART II		CHART III		CHART IV		CHART V		CHART VI	
RIVET LENGTH AND PART NO. SUFFIX	STUD LENGTH AND PART NO. SUFFIX	DASH NO.	STUD LENGTH	DASH NO.	STUD LENGTH	DASH NO.	RIVET LENGTH	DASH NO.	RIVET LENGTH	DASH NO.	THREAD SIZE
.062	.094	-1	.125	-1	1/4	-1	.062	-1	.062	-1	4-40
.094	.125	-2	.188	-2	3/8	-2	.094	-2	.094	-2	6-32
.105	.156	-3	.250				.105	-3	.105		
.125	.250						.125	-4	.125		
.156							.156	-5	.156		

CAMBRIDGE THERMIONIC CORPORATION

CAMBRIDGE 38, MASSACHUSETTS



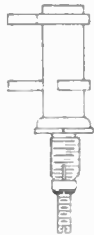
COIL FORMS

All of the coil forms shown on these pages are available wound to specifications in any quantity. In addition CAMBRIDGE THERMIONIC supplies a complete line of standard wound coils and chokes and coil and choke kits.



CERAMIC and PHENOLIC COIL FORMS

Tuning slugs supplied assembled; mounting hardware unassembled



I-a
PERMA-TORQ
Compression spring (pre-assembled) provides permanent locking action.



I-b
SPRING LOCK
Locking spring (unassembled) maintains tension against slug screw.



I-c
COMPRESSION LOCK
Locknut (unassembled) securely clamps split mounting stud.



I-d
LOCKNUT
Conventional locknut (jam nut) (unassembled) tightens against mounting stud.



II
COLLAR TYPE
Available with a, b, c or d slug-locking devices. (see Fig. I)



III



IV
Available with b or d slug-locking devices (See Fig. I) and with collars (see Fig. II)



V



VI
CLIP-TERMINAL TYPE
Available with a or b slug-locking devices (see Fig. I)

Part No.	Fig.	Mounting Stud			Height Above Panel	Body OD	Space Between Collars (2C4L, 2C2L)	Collar OD	Tuning Tool
		Length	Thread	Base Dia.					
LS3*	III	1.4	1.4-28	none	1 1/8	3/8	ring terminals only		1970
LS4*	V	3/8	1.4-28	5/16	2.0	1/2	ring terminals only		1970
LS5-	I-b, II-b	9/32	1.4-28	1/2 hex	1 1/16	.375	5/8	.545	1970
PLS5-	I-a, II-a	7/8	1.4-28	1/2 hex	1 1/16	.375	5/8	.545	1970
SLS5*	I-c, II-c	2/84	1.4-28	1/2 hex	1 1/16	.375	5/8	.545	1970
LS6*	I-b, II-b	9/32	10-32	3/8 hex	5/4	.260	1 1/32	.430	1971
PLS6-	I-a, II-a	5/16	10-32	3/8 hex	5/4	.260	1 1/32	.430	1971
SLS6*	I-c, II-c	1/32	10-32	3/8 hex	5/4	.260	1 1/32	.430	1971
LS7-	I-b, II-b	5/16	1.4-28	5/8 hex	1 1/4	.500	1 1/32	.670	1970
PLS7-	I-a, II-a	5/16	1.4-28	5/8 hex	1 1/4	.500	1 1/32	.670	1970
SLS7*	I-c, II-c	2/84	1.4-28	5/8 hex	1 1/4	.500	1 1/32	.670	1970
LS8-	VI-b	9/32	1.4-28	1/2	2 1/2	.290	clip terminals only		1971
PLS8*	VI-a	5/16	1.4-28	1/2	2 1/2	.290	clip terminals only		1971
LSM*	IV-d	1.4	8-32	5/16	2 1/2	1.4	.365	.365	1971
LSML*	IV-b	1.4	10-32	5/16	2 1/2	1.4	.326	.326	2033
LST-	I-d, II-d	1.4	8-32	1/4 hex	2 1/2	205	.326	.326	2033
LSTL*	I-b, II-b	1.4	8-32	1/4 hex	2 1/2	205	.326	.326	2033
PLST*	I-a, II-a	1.4	8-32	1/4 hex	2 1/2	205	.326	.326	2033
SLSL*	I-c, II-c	2 1/4	8-32	1/4 hex	2 1/2	205	.326	.326	2033
2480*	II-b	5/16	1.4-28	5/8 hex	1 1/4	.500	ring terminals only		1970
2481*	I-b	5/16	1.4-28	5/8 hex	1 1/4	.500	ring terminals only	.670	1970
2482*	I-c	2 1/4	1.4-28	5/8 hex	1 1/4	.500	ring terminals only		1970
2483*	II-c	2 1/4	1.4-28	5/8 hex	1 1/4	.500	ring terminals only	.670	1970
2484*	I-a	5/16	1.4-28	5/8 hex	1 1/4	.500	ring terminals only		1970
2485*	II-a	5/16	1.4-28	5/8 hex	1 1/4	.500	ring terminals only	.670	1970

* Body Material: phenolic. - Body Material: Ceramic.

ORDER FROM CHARTS I AND II

ORDER FROM CHART III

CHART I		CHART II					Notes CHARTS I and II		
PART NO. SUFFIX	NUMBER OF SILICONE-FIBERGLAS COLLARS AND SOLDER TERMINALS	LSM Types	LS3* LS5 Types	LS4 LS7 Types	LST Types	Frequency Range MC			
		LSB Types							
		F	-C	-M	-I	0.2 - 1.5 pwd iron slug			
		E	B	-K	-H	1 - 20 pwd iron slug			
		O	-N	-Q	-P	20 - 50 pwd iron slug			
-2C4L	2 collars, 2 terminals ea	-D	-A	-L	-G	30 and up pwd iron slug			
		-2018B	-2018C	-2018D	-2018A	100 and up brass slug			
		-NS	-NS	-NS	-NS	no slug			
		CHART III					Notes CHART III		
PART NO. SUFFIX		RING TERMINAL TYPE	COLLAR TYPE				Frequency Range MC		
		2480-2482-2484	2C4L	2C2L	CT2L	CB2L			
-2C2L	2 collars, 1 terminal ea.					0.2 - 1.5 pwd iron slug			
-CT2L	top collar only, 2 terminals	-1	-1	-6	-11	-16			
		-2	-2	-7	-12	-17			
		-3	-3	-8	-13	-18			
		-4	-4	-9	-14	-19			
		-5	-5	-10	-15	-20			

Notes CHARTS I and II
* For brass load, add L to part no. as for LS3-CL.
Specify slug-locking device, collar and frequency. For example:
PLS6-2C4L E Perma-Torc® locking device, 2 collars with 2 terminals ea, 1-20 freq.
LST-CB2L 2018A locknut type, 1 collar at bottom with 2 terminals 100 and up freq.
SLS7 NS compression lock, ring terminals only, no slug.
Note from descriptive chart that LS3, LS4 and LS8 are not available with collars

Notes CHART III
Part number indicates ring-terminal and slug-locking device.
Indicate ring terminals or type of slug in combination with frequency. For example:
2480-3 — spring lock, ring terminals no collar 20-50 freq.
2483-9 — compression lock, 2 collars with 1 terminal each. 30 and up freq.

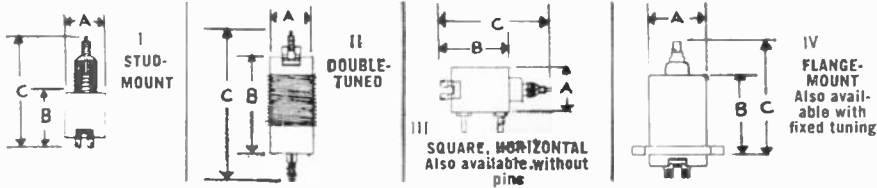
CAMBRIDGE THERMIONIC CORPORATION

CAMBION COIL FORMS

The guaranteed electronic components



SHIELDED AND PRINTED CIRCUIT COIL FORMS

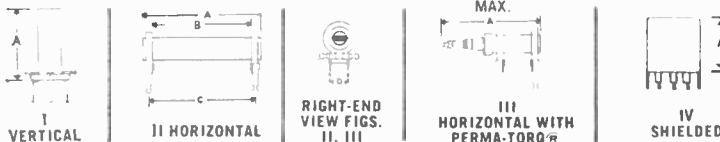


Shielded Coil Forms are supplied with tuning slug assembled; all other parts in bulk. Mounting hardware is included.
 Material: Housing LS9, LS10, LS14, brass with nickel plate; LS11 brass with cadmium plate; all others aluminum with alodine finish.
 Board—Silicone-fiberglass.

Part No. and Body Material				Fig.	A	B	C Max. Extended Length	Max. Flange Dia.	Min. Flange Dia.	Terminals	Winding Area		Freq.	Tuning Tool	Notes
Paper-Phenolic	Poly-penco	Kel-F	Pwd. Iron								Max. Length	Max. OD			
LS9	LS9-1	LS9-2	*	I	3/4	3 3/4	1 3/4	—	—	2 to 6	1 1/4	1 1/4	Chart I	2033	Mounting stud 1/4-28.
LS10	LS10-1	LS10-2	*	I	3/8	3 3/4	2 1/4	—	—	2 to 6	1 3/4	2 1/4	Chart I	1971	Mounting stud 3/8-32.
LS11	LS11-1	LS11-2	*	I	1 1/2	1 1/2	1 1/8	—	—	2 to 4	1 3/4	7/8	Chart I	2375	Mounting stud 12-28.
	LS14		*	II	2 3/4	1 1/4	1 3/4	—	—	4 to 6	2 3/4	3/4	Chart I	2375	12-32 thread.
2560	2561	2562	*	III	1/2 sq.	3/4	1 2 3/4	—	—	2 to 6	1 1/4	1 3/4	Chart II	2033	Without pins.
2565	2566	2567	*	III	1/2 sq.	3/4	1 2 3/4	—	—	2 to 6	1 1/4	1 3/4	Chart II	2033	With pins.
2585	2586	2587	*	IV	3/8	3 3/4	1 3/4	2 1/2	3/4	2 to 6	1 1/4	1 3/4	Chart II	2516	Traverse tuning.
2590	2591	2592	*	IV	3/8	3 3/4	1 3/4	1.0	3/4	2 to 6	1 3/4	1 3/4	Chart II	2516	Traverse tuning.
2595	2596	2597	*	IV	1 1/2	3 3/4	1	3/4	3/4	2 to 4	1 3/4	1 3/4	Chart II	2516	Traverse tuning.
2665	2666	2667	*	III	3/8 sq.	4 1/4	1 1/8	—	—	2 to 4	1 3/4	1 3/4	Chart II	2375	Without pins.
2670	2671	2672	*	III	3/8 sq.	4 1/4	1 1/8	—	—	2 to 4	1 3/4	1 3/4	Chart II	2375	With pins.
2685	2686	2687	2688	IV	3/8	3/8	—	2 1/2	3/4	2 to 6	1 1/4	1 3/4	Chart II	—	Fixed.
2690	2691	2692	2693	IV	3/8	4 1/4	—	1.0	3/4	2 to 6	1 3/4	1 3/4	Chart II	—	Fixed.
2695	2696	2697	2698	IV	1 1/2	3/8	—	3/4	2 1/4	2 to 4	1 3/4	1 3/4	Chart II	—	Fixed.

* Not available See Printed Circuit Coil Form section for LS12

CHART I					Specify frequency in combination with number of terminals. For example: LS9-4T = 4 terminals, 0.2-1.5 freq. Note from descriptive chart that not all Shielded Coil Forms are available with all terminal quantities.	CHART II					Specify frequency in combination with number of terminals. For example: 2562-15 = 5 terminals, 20-50 freq. Note from descriptive chart that not all Shielded Coil Forms are available with all terminal quantities.
LS9	LS10	LS11	LS14	Frequency Range MC		2 Terminals	3 Terminals	4 Terminals	5 Terminals	6 Terminals		Frequency Range MC
-T	-F	-X	-X	0.2 - 1.5 pwd. iron slug	-1	-5	-9	-13	-17	0.2 - 1.5 pwd. iron slug	
-S	-E	-W	-W	1 - 20 pwd. iron slug	-2	-6	-10	-14	-18	1 - 20 pwd. iron slug	
-U	-O	-Y	-Y	20 - 50 pwd. iron slug	-3	-7	-11	-15	-19	20 - 50 pwd. iron slug	
-R	-D	-V	not avail.	30 and up pwd. iron slug	-4	-8	-12	-16	-20	30 and up pwd. iron slug	



NOTE:
 Figs. I and II: A Kel-F Locking Insert is available (supplied unassembled). Specify by adding suffix L to part number. For example, 2500L-1, SPCL-11-A-2L.
 Fig. IV: Supplied with tuning slug assembled; all other parts in bulk. Mounting hardware is included.

Part No.	Fig.	A Length	Body OD	B Distance Bet. Collars	No. Terms. per Collar	Distance Between Mfg. Terminal Centers C Length	D Width	Freq.	Tuning Tool
2270*	II	5/8	.260	7/8	2	.500	.200	Chart I	2230
2271*	II	5/8	.260	5/8	2	.700	.200	Chart I	2230
2500	II§	1 1/4	.260	1 1/8	2	1.200	.200	Chart I	2230
2501*	II	1 1/4	.260	1 collar	5	.404 mtg. dia., 72°		Chart I	2230
2525*	III	5/8	.205	3/4	2	.400	.300	Chart II	2033
2530*	III	1 1/4	.250	1 1/8	2	.600	.300	Chart II	1971
2540*	III	2 1/4	.375	5/8	2	.700	.400	Chart II	1970
2550*	III	3 1/4	.500	1 1/2	2	1.300	.400	Chart II	1970
** SPC-1*	I	3/4	.219	1 collar	2 to 4	.356 mtg. dia., Ch. IV		Chart III	2230
** SPC-2*	I	3/4	.285	1 collar	2 to 4	.426 mtg. dia., Ch. IV		Chart III	—
SPC-11†	I	5/8	.260	1 collar	2 to 6	.404 mtg. dia., Ch. IV		Chart III	2230
SPC-12†	I	1 1/4	.260	1 collar	2 to 6	.404 mtg. dia., Ch. IV		Chart III	2230
LS12*	IV	3/8	1/2 sq.	no collars	2 to 6	.136 basic circle rad.		Chart III	2375

* Body Material: phenolic. † Body Material: Ceramic. § 2 tuning cores. ** SPC-1 & SPC-2 obsolete for new design

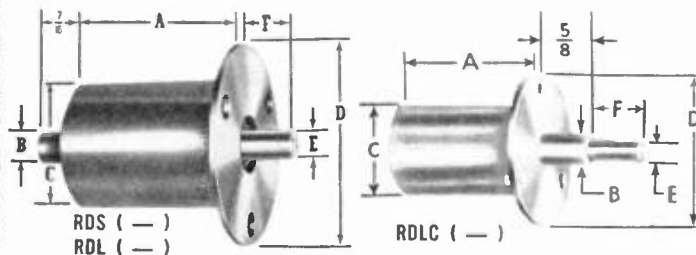
CHART I		CHART II		CHART III			CHART IV		
Dash No.	Frequency Range MC	Dash No.	Frequency Range MC	SPC-1, SPC-11, SPC-12	SPC-2	LS12	Frequency Range MC	No. Terminals	Spacing
-1	0.2 - 1.5 pwd. iron core	-1	0.2 - 1.5 pwd. iron slug	-F	-G	-C	0.2 - 1.5 pwd. iron core	2	180°
-2	1 - 20 pwd. iron core	-2	1 - 20 pwd. iron slug	-A	-B	-B	1 - 20 pwd. iron core	3	90°
-3	20 - 50 pwd. iron core	-3	20 - 50 pwd. iron slug	-C	-D	-D	20 - 50 pwd. iron core	4	90°
-4	30-150 pwd. iron core	-4	30 and up pwd. iron slug	-I	-J	not avail.	30 - 150 pwd. iron core	5	60°
-5	100 and up brass core	-5	100 and up brass slug	-NS	-NS	not avail.	no core	6	60°
-NS	no core	-NS	no slug	Specify frequency in combination with number of terminals. For example: SPC-1-A-2L = 1-20 freq., 2 terminals. LS12-4B = 4 terminals, 1-20 freq.					



RATIO DRIVES

JAN ratio drives employing precision ball bearings are used for the smooth control of components in instruments or applications where miniaturization is essential. Ruggedly built and permanently lubricated, these units render a smooth rotary control between input and output shafts which rotate in the same direction. Type RDL and RDS are supplied with "in-line" output-input shafts. Type RDLC is supplied with concentric type input-output shafts. Torque rating is 12 in. 1 lb. max.

CAT. No.	RATIO	Output Shaft				Input Shaft		Bolt Mig. Dia.
		A	B	C	D	E	F	
RDL-1	2.66-1	1 3/32	3/8	1 1/8	1 13/16	1/4	1 1/4	1 15/32
RDL-2	7.08-1	1 1/2	3/8	1 1/8	1 13/16	1/4	1 1/4	1 15/32
RDL-3	18.80-1	1 7/32	3/8	1 1/8	1 13/16	1/4	1 1/4	1 15/32
RDLC-1	2.66-1	1 3/32	3/8	1 1/8	1 13/16	1/4	1 1/4	1 15/32
RDLC-2	7.08-1	1 1/2	3/8	1 1/8	1 13/16	1/4	1 1/4	1 15/32
RDLC-3	18.80-1	1 7/32	3/8	1 1/8	1 13/16	1/4	1 1/4	1 15/32
RDS-1	2.70-1	1 1/2	5/8	1 1/2	1 1/2	1/8	1 1/2	1 15/32
RDS-2	7.28-1	1 3/32	5/8	1 3/8	1 3/8	1/8	1 3/8	1 15/32
RDS-3	19.65-1	1 3/32	5/8	1 3/8	1 3/8	1/8	1 3/8	1 15/32



SLIP-CLUTCH KNOBS

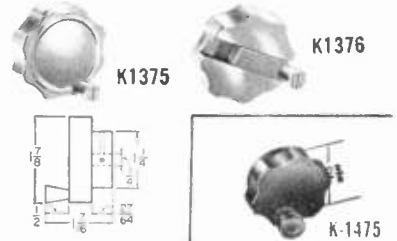
Cat. Nos. K-1375, K-1376, K-1475

Fixed or Retractable Spinner

Designed for driving devices such as variable capacitors, inductors, potentiometers, etc., these knobs work on the principle of a "slip-clutch," automatically disengaging and slipping when a predetermined torque is exceeded. JAN's SAFETY KNOBS are fluted to aid in sensitive adjustment and also have either a fixed or a retractable spinner for fast turning. Made from single unit construction, molded Bakelite-to-metal inserts, these knobs safeguard delicate and costly instruments against careless or inadvertent cranking beyond their normal stops.

Note: Model K-1376 is identical to Model K-1375 but has the additional feature of a retractable spinner. It has a positive toggle type action, being spring loaded in either open or closed position and thus is useful where equipment must fit into small spaces. Designed for 1/8" shafts.

K-1475 Spinner Slip Clutch Knob made of Aluminum.



SPINNER KNOBS

Cat. Nos. K-1275, K-1276

Models K-1275 and 1276 are spinner knobs having an identical appearance to K1375 and K1376 respectively and are available without the slip-clutch mechanism. Designed for 1/8" shafts, these knobs are made from single unit construction, molded black bakelite-to-brass insert. Supplied with two set screws for firm attachment to the shaft.

JACK COVERS (TRIMMER COVERS)

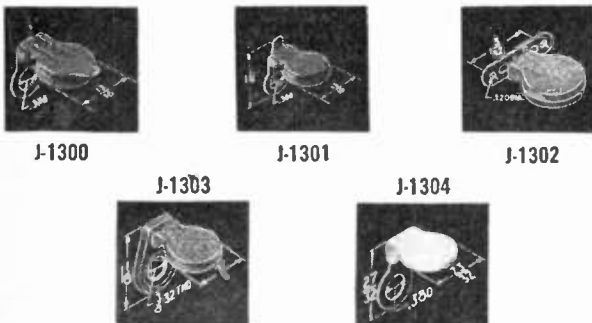
These sturdy Jack Covers fit jack or panel bushings and are used to keep out dust and moisture as well as to prevent inadvertent disturbance of control settings. Outer surfaces are finished in standard colors of baked enamel.

NOTE: No. J-1300 (SNAP-JACK) is made with toggle action. It snaps to open or shut position and will remain open until snapped shut. No. J-1304 is a miniaturized Jack Cover similar to a No. J-1301 but without thumb lift.

- J-1300 () SNAP-JACK COVER (toggle type) **To Order Colors**
Black Wrinkle, specify: (1)
Navy Gray Smooth, specify: (2)
Sig. Corps Olive Smooth, specify: (3)
Black Enamel Smooth, specify: (4)
 - J-1301 () STANDARD JACK COVER
 - J-1302 () PANEL MOUNT JACK COVER
 - J-1303 () WATERPROOF JACK COVER, GASKET, & NUT
 - J-1304 () MINI-JACK COVER
- Available in other colors on request

Example:

Waterproof Jack Cover, color black wrinkle, order as J-1303 (1).



RIGHT ANGLE RATIO DRIVES

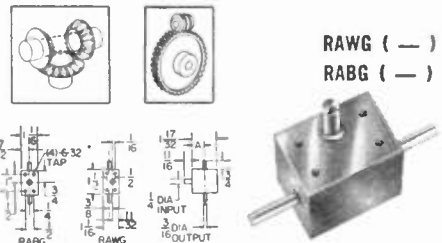
Featuring dual output shafts, at right angles to input shafts, this series of miniature drives provide an ideal type instrument control and are available with matched BEVEL or WORM-GEARS covering a wide range of ratios. JAN's WORM GEAR RIGHT ANGLE DRIVES are especially suited for handling spring or gravity loaded components since the output shaft automatically locks in any desired position and is controlled only by the input shaft which remains free for smooth drive in either direction. Assembled in dust-proof housings, the gears are permanently pinned in place on stainless steel shafts, mounted in oilite bearings and held under constant pressure.

BEVEL GEAR RIGHT ANGLE DRIVES

CAT. No.	RATIO	"A"
RABG-1	1:1	7/8
RABG-2	2:1	7/8
RABG-3	3:1	7/8

WORM GEAR RIGHT ANGLE DRIVES

RAWG-1	5:1	3/4
RAWG-2	10:1	3/4
RAWG-3	20:1	3/4



RAWG (—)
RABG (—)



JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

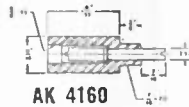
HI-VOLTAGE INSULATED COUPLINGS

JAN's insulated high voltage couplings are used to adjust high voltage controls without danger to operating personnel. They are also used to reduce ground capacitance on other types of sensitive controls. All units are supplied with a stainless steel screw driver tip which fits all standard slotted shafts (potentiometer, etc.) without further machining.

30KV Rating—for TV and Industrial Application — Cat. No. AK4160-X2-B2
This coupling, capable of withstanding 30KV breakdown, is made of high grade Bakelite throughout except for the stainless steel screw driver tip on the shaft. Mounting hardware supplied.

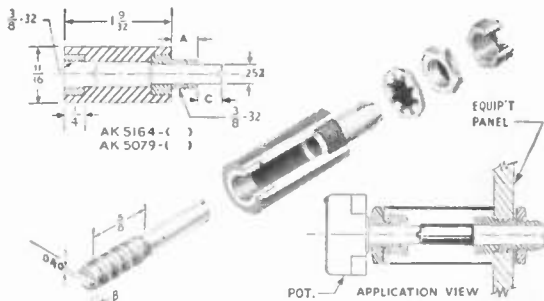
15KV Rating—for Military and Quality Instrumentation. (U. S. Pat. No. 2,681,378)

An engineered, high voltage coupling fabricated of stainless steel shaft and precision screw driver tip molded into a single unit with mineral filled melamine per MIL spec. Completely shock, vibration and fungus proof. Operates with ease over an ambient temperature range of -75 degrees C. to +175 degrees C. Supplied complete with nickel plated hardware. Torque: 10 in. lb. max.



CAT. No	"A"	"B"	SHAFT	"C"
		LOCKING TYPE		
AK-5079-X 1	9 1/16"	3 1/16"	Slotted	1 8/8"
AK-5079-B 1	9 1/16"	1 1/16"	Slotted	1 8/8"
AK-5079-X 2	9 1/16"	3 1/16"	Slotted	9 32/32"
AK-5079-B 2	9 1/16"	1 1/16"	Slotted	9 32/32"
		STANDARD TYPE		
AK-5164-X-1	3 8/8"	3 1/16"	Slotted	5 1/16"
AK-5164-B-1	3 8/8"	1 1/16"	Slotted	5 1/16"
AK-5164-X 2	3 8/8"	3 1/16"	Slotted	7 1/16"
AK-5164-B 2	3 8/8"	1 1/16"	Slotted	7 1/16"
AK-5164-X 3	3 8/8"	3 1/16"	No Slot	15 1/16"
AK-5164-B 3	3 8/8"	1 1/16"	No Slot	15 1/16"
AK-5164-X 4	3 8/8"	3 1/16"	No Slot	1-7 1/16"
AK-5164-B 4	3 8/8"	1 1/16"	No Slot	1-7 1/16"
AK-5169-X 5	3 8/8"	3 1/16"	Slotted	Minus 1 1/16"
AK-5164-B 5	3 8/8"	1 1/16"	Slotted	Minus 1 1/16"

NOTE: Specify "X" type for use with "pots" having 1/8" long shafts and type "B" where "pot" shaft is 1/4" long.

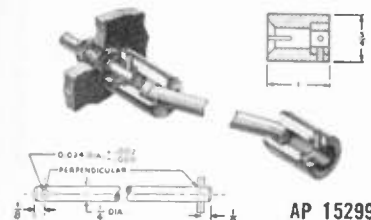


SHAFT COUPLINGS

Offset Extension Shaft Couplings
± 30° offset — Cat. No. AP15299

This versatile and extremely durable insulated nylon coupling makes it possible to join two parallel drive shafts offset from each other plus or minus 30 degrees in any direction and at separations greater than 3 inches. Secures firmly to the drive shaft through a nickel plated brass, molded insert and 2 set screws.

- Used with 1/4" coupling shaft of any length (NOT FURNISHED).
- Shaft is keyed to the coupler by zinc plated steel drive pins supplied by JAN.
- Application requires the use of two couplings.



SHAFT COUPLING

Cat. No. AP15150

A rugged, nickel plated brass coupling for joining two 1/4" shafts. Supplied with four set screws.



AP 15150

NYLON SHAFT LOCK

Cat. No. AK1050

A one-piece single unit shaft lock. Fits 3/8" x 32 thread of shaft bushing. Grasps 1/4" shaft with adjustable friction grip to prevent accidental or vibrational disturbance of controls. May be adjusted for semi permanent locking of control shaft.



AK 1050

COMPONENTS FOR ELECTRONICS

Engineered and manufactured to meet the most rigid military and commercial standards.

ALL PRODUCTS SHOWN ARE AVAILABLE FROM STOCK!!

SHAFT LOCKS

Split Bushing Type — Cat. Nos. AK5100 thru AK5106
These shaft locks securely hold in position the shaft of volume controls, capacitors, switches, etc. Body and lock nut of nickel plated brass. Supplied with cadmium plated and iridized steel lock washer.

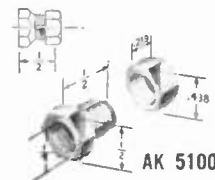
- Split Bushing Type**
- AK5100 Standard JAN LOCK NUT
 - AK5101 PANEL MOUNT TYPE
 - AK5102 Knurled Lock Nut Type 1/4"
 - AK5103 Miniature for 1/8" shafts (Not shown)
 - AK5106 Knurled Shaft Lock 1/4"



AK 5101



AK 5106



AK 5100

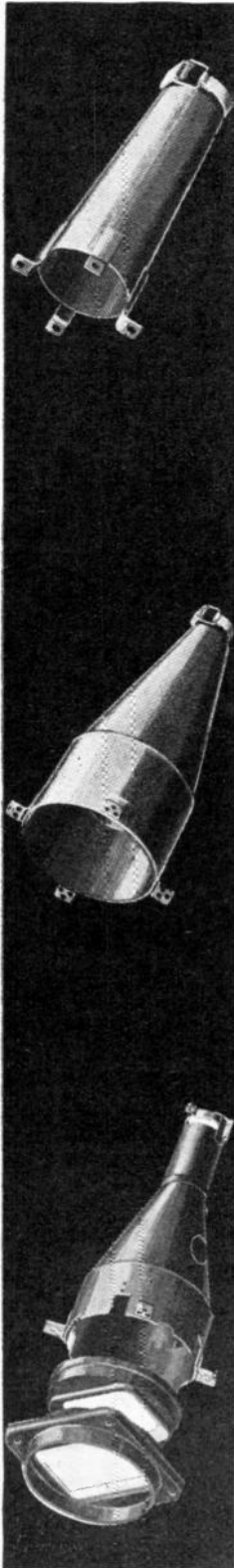


JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

MAGNETIC SHIELDS FOR CATHODE RAY TUBES

JAN MAGNETIC SHIELDS are made of Mu-metal and are hydrogen annealed by a special process to assure optimum orientation of the molecular structure of the alloy for best magnetic shielding. JAN MAGNETIC SHIELDS prevent distortion and intensity modulation of the electron beam due to stray magnetic fields. In addition, the use of these shields protects personnel against the dangers of accidental tube breakage. Mounting holes are tapped for No. 6-32 screws as shown. These shields are designed to fit JAN's standard bezels as listed below. See following pages for specifications on JAN BEZEL ASSEMBLIES.



SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	DIMENSIONAL OUTLINE	
S2001-1 S2001	2AP1 2BP1 902	-- -- --		
S3001 adaptable for edge-lighting graticule	3RP1	CP1328-P-1 CP1328-P-2		A = 8 1/4"
S3005 adaptable for edge-lighting graticule	3WP	Same as S3007		Same as S3001 except A=10 5/8"
S3003 adaptable for edge-lighting graticule	3AP1 3KP1 908A	Same as S3001		Same as S3001 except A=10 5/8"
S3004 adaptable for edge-lighting graticule	3BP1A 3JP1 3ACP	Same as S3001		Same as S3001 except A=8 5/8"
S3007 adaptable for edge-lighting graticule	3WP	CP1428-2 CP1328-P-2		SLOT 1" x 1/2"
S5001	SUP1	CP1465 CP13584-1 CP13549-1 CP19495-1 CP19636-1		
S5002 adaptable for edge-lighting graticule	5BP1A 5CP1A SABP1 SADP	CP1465 CP13584-1 CP13549-1 CP19495-1 CP19636-1 CP1465 CP13584-2 CP13549-2 CP19495-2 CP19636-2		
S5008	SAMP	Same as S5006		SLOT 1" WIDE X 180°
S5004	5BP1A, 5CP1A SADP, SABP1	Same as S5002		Same as S5003 except length=15 7/8"
S5005 adaptable for edge-lighting graticule	Same as S5002	Same as S5002		

NOTE CAREFULLY: When ordering, please specify CRT type number. Anode openings provided, where required.



JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

MAGNETIC SHIELDS FOR CATHODE RAY TUBES

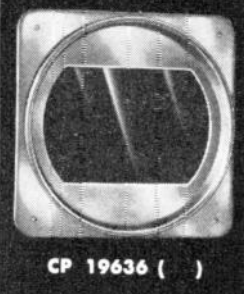
SHIELD CAT. NO.	FOR USE WITH C.R.T. NO.	MATCHING JAN BEZEL	DIMENSIONAL OUTLINE
S5006	SRP1	CP19636-2 CP13584-2 CP13549-2 CP19495-2 CP1465	
S5009 (Shield supplied as two separate sections)	SSP7	Same as S5006	
S7001	7GP4 7JP4 7JP1 7VP1	CP7330 CP7375	
S7002	7CP1	Same as S7001	Same as S7001 except anode opening provided.
S7003 (Shield supplied as two separate sections)	7YP3	Same as S7001	



MAGNETIC SHIELDS FOR PHOTO-MULTIPLIER & SPECIAL PURPOSE TUBES

TUBE	SHIELD	TUBE	SHIELD	TUBE	SHIELD
1CP1	S-1091	1P21, 1P22 1P28	S-1502	6372, 6675	S-2005
929, 930 5581, 5653 1P39, 1P40	S-1181	6810 6903, 7264	S-2002	1197 6363	S-3013 S-3015
6291	S-1500	6819, 6217 6292, 6571	S-2004	1112, 1198 1238, 1287	S-5013 S-5018 S-7009
6199, 7102 931, 6323 6328	S-1561				

ENGINEERING DATA SUPPLIED FOR ALL MAGNETIC SHIELDS UPON REQUEST



CP 19636 ()



BEZEL ASSEMBLIES

JAN's Bezels enhance the appearance of the instrument on which they are used. These units are functionally designed to provide OPTIMUM UTILIZATION OF THE CRT SCREEN, safety against tube breakage and danger to operating personnel.

JAN Bezel assemblies are supplied with a bezel, calibrated graticule, green-light filter and CRT cushion. Bezels are finished in a smooth dull black non-reflecting surface. These units fit JAN Shields.

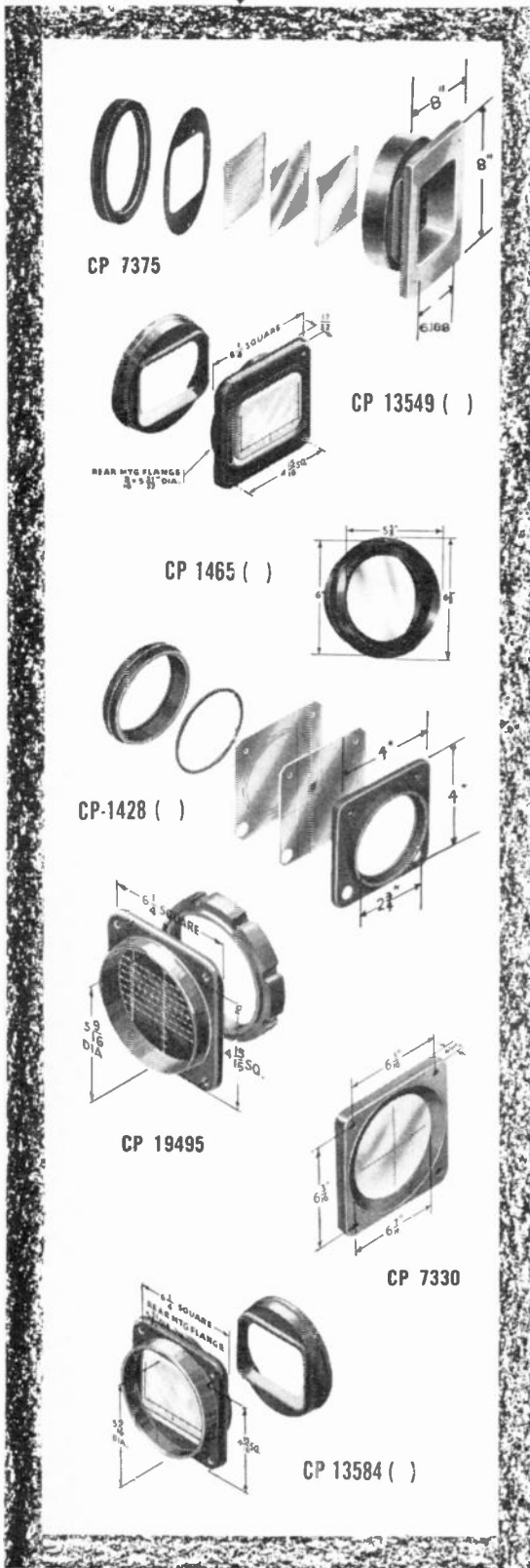
Bezel assemblies for use with flat-faced CRT are designated as -2; for curved face: -1.

Edge-lit Bezels (E.L.B.A.)**

These Bezels are designed to provide edge lighting of the engraved scale-calibrated graticule by means of pilot lights.

Camera Mount Bezel

These units provide an integral cast mounting flange that fits all standard 3", 5" and 7" CRT cameras.



Catalog No.	Material	Type	CRT Face	Panel Hole
BEZELS FOR 3" C.R.T.				
CP-1328-P-1	{ Shock resistant } { Plastic }	Standard	Curved	3 1/2"
CP-1328-P-2		Standard	Flat	3 1/2"
CP-1427-1	Aluminum	Camera Mount	Curved	3 1/4"
CP-1427-2	Aluminum	Camera Mount	Flat	3 1/4"
CP-1428-1**	Aluminum	Camera Mount	Curved	3 1/4"
CP-1428-2**	Aluminum	E.L.B.A.**	Flat	3 1/4"
CP-1429-1	Aluminum	Camera Mount	Curved	3 1/4"
CP-1429-2	Aluminum	Camera Mount	Flat	3 1/4"
BEZELS FOR 5" C.R.T.				
CP-13549-1	Aluminum	Standard	Curved	6.0"
CP-13549-2	Aluminum	Standard	Flat	6.0"
CP-13584-1	Aluminum	Camera Mount	Curved	6.0"
CP-13584-2	Aluminum	Camera Mount	Flat	6.0"
CP-13595-1	Aluminum	Standard	Curved	5-5/16"
CP-13595-2	Aluminum	Standard	Flat	5-5/16"
CP-19495-1**	Aluminum	Camera Mount	Curved	5-5/16"
		E.L.B.A.**		
CP-19495-2**	Aluminum	Camera Mount	Flat	5-5/16"
		E.L.B.A.**		
CP-1465	Steel	Camera Mount	Curved or Flat	5 5/8"
CP-19636-2**	Aluminum	Camera Mount	Flat	5-5/16"
BEZELS FOR 7" C.R.T.				
CP-7330	Aluminum	Standard	Curved or Flat	7-7/16"
CP-7331**	Aluminum	Standard	Curved or Flat	7-7/16"
CP-7375**	Aluminum	E.L.B.A.**	Curved or Flat	7 1/2"
CP-7420	Aluminum	Camera Mount	Curved or Flat	7-7/16"
CP-7550-P	Plastic	Standard	Curved or Flat	7-7/16"
BEZEL FOR 10" C.R.T.				
CP-10860	Aluminum	Standard	Curved or Flat	

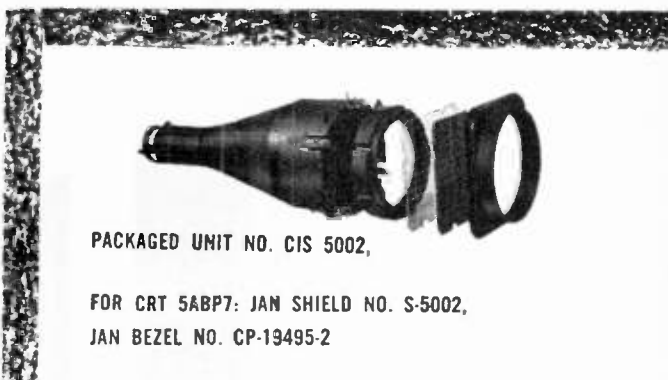


JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

Summary of Features:

- Engineered for 3", 5" and 7" CRT
- Maximum display area
- Precision engraved, scale-calibrated graticules; standard or to customer's specifications
- Materials and finish to "Mil Spec"
- Heavy buna-S shock cushion
- Models for edge-lighting
- Phosphor-matched light filters
- Non-reflecting matte surfaces
- Rugged camera mounts
- Models for curved and flat-faced CRT



PACKAGED UNIT NO. CIS 5002,

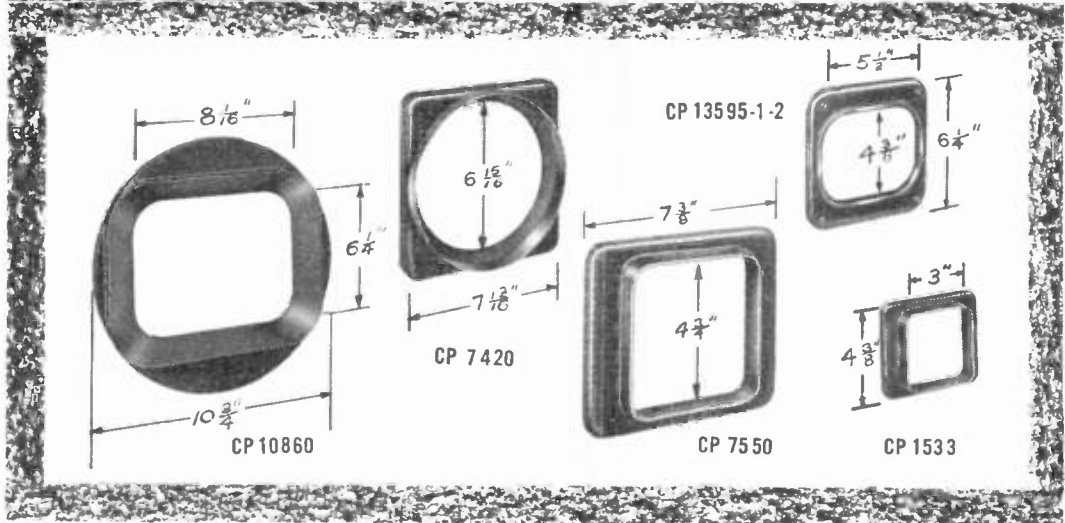
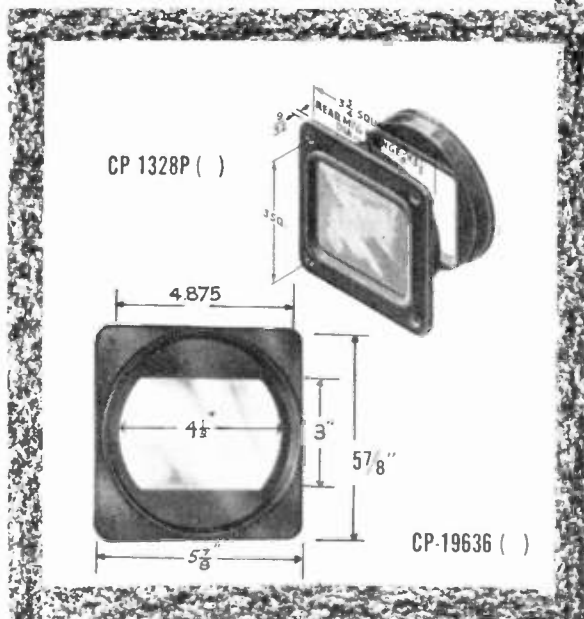
FOR CRT 5ABP7: JAN SHIELD NO. S-5002,
JAN BEZEL NO. CP-19495-2

PACKAGED BEZEL-SHIELD ASSEMBLIES

JAN PACKAGED UNITS are designed to save time and money for the user by assembling in one package all items needed for CRT BEZEL AND MAGNETIC-SHIELD applications. The package consists of: JAN MAGNETIC SHIELD, JAN BEZEL, CRT RUBBER CUSHION, calibrated graticule, a green-light filter, 4 bayonet sockets, pilot lamps (for use with edge-lit bezel-shield assemblies), and hardware.

When Ordering Specify:

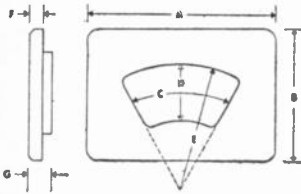
"JAN PACKAGED UNIT" giving JAN Shield No., JAN Bezel No. and CRT tube type with which it is to be used.





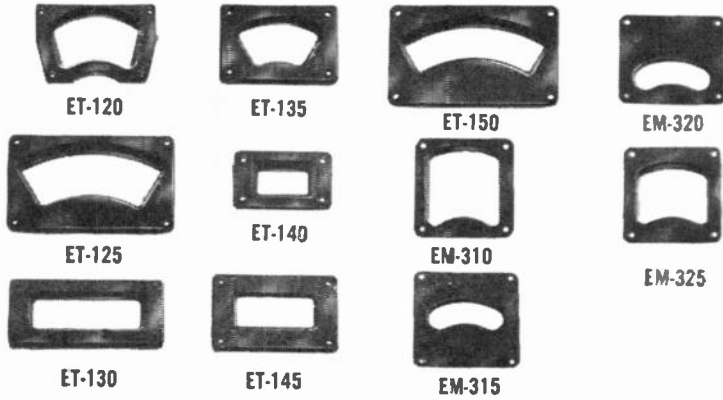
JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.



Escutcheon Plates

Jan's molded, black, shock-resistant plastic escutcheon plates are available in a wide variety of different sizes. These components provide a pleasing window to frame dial plates mounted behind the panel. For especially large working areas, stamped aluminum escutcheons finished in dull black enamel paint, are produced to meet the need where space economy is critical.



SPECIFICATIONS — JAN ESCUTCHEONS

Escutcheon Cat. No.	A Overall Width	B Overall Height	C Window Width*	D Window Height	E Effective Outer Dial Radius	For Type of Dial	Material	F Face Thickness Only	G Incl. Flange Thickness	Edge Lighting Provision
ET-125	3 ⁷ / ₈	2 ¹ / ₂	2 ⁷ / ₈	1"	3 ¹ / ₄	Circular	Injection Molded Tenite II, Black Matte Finish	3 ¹ / ₈	5 ¹ / ₈	
ET-120	2 ²⁷ / ₃₂	1 ⁷ / ₈	1 ³ / ₄	1"	1 ²⁷ / ₃₂			3 ¹ / ₈	3 ¹ / ₈	
ET-150	3 ³ / ₈	2 ³ / ₈	2 ⁷ / ₈	3 ¹ / ₄	3 ¹ / ₈			3 ¹ / ₈	3 ¹ / ₈	
ET-135	2 ³ / ₄	1 ⁷ / ₈	1 ¹ / ₂	3 ¹ / ₄	1 ⁷ / ₈			3 ¹ / ₈	3 ¹ / ₈	1 ¹ / ₄
ET-130	4	1 ³ / ₄	2 ¹ / ₄	1 ³ / ₈	—	Flexible Tape, Digital Counter, Cylinder or Drum	Injection Molded Tenite II, Black Matte Finish	3 ¹ / ₈	1 ¹ / ₄	
ET-140	2 ¹ / ₂	1 ¹ / ₂	1 ¹ / ₄	3 ¹ / ₈	—			3 ¹ / ₈	3 ¹ / ₈	
ET-145	3 ¹ / ₄	2 ¹ / ₈	1 ³ / ₈	3 ¹ / ₄	—			3 ¹ / ₈	3 ¹ / ₈	
EM-325	3	3	2 ¹ / ₈	1 ¹ / ₂	2 ⁵ / ₈	Helical	Soft Aluminum with Black Matte Enamel Finish	3 ¹ / ₂	1 ¹ / ₄	
EM-310	3	3	2 ¹ / ₈	1 ³ / ₈	2 ⁵ / ₈			3 ¹ / ₂	3 ¹ / ₂	1 ¹ / ₄
EM-315	3 ¹ / ₄	3	2 ¹ / ₄	3 ¹ / ₈	2 ¹ / ₈	Circular		3 ¹ / ₂	1 ¹ / ₈	
EM-320	3 ¹ / ₄	2 ³ / ₄	2 ¹ / ₄	3 ¹ / ₈	2 ¹ / ₈			3 ¹ / ₂	3 ¹ / ₂	1 ¹ / ₈

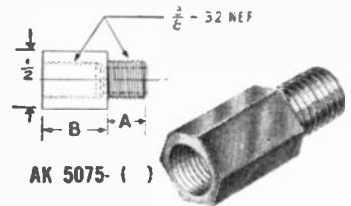
*Length of arc at midpoint of circular dial escutcheons.

BUSHING EXTENDER Cat. Nos. AK5075-1 thru AK5075-11

This special bushing extender permits staggered mounting of components (having 1/4" dia. shafts) behind a panel. Supplied in nickel plated brass in 11 sizes.

Note: Cat. No. AK5075-9 is of the locking type and is supplied with lock nut.

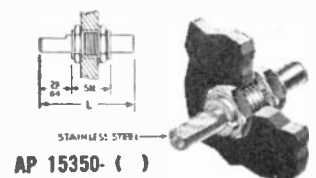
Cat. No.	"B"	"A"	Cat. No.	"B"	"A"
AK5075-1	5/8"	3/8"	AK5075-6	1 1/8"	1/4"
AK5075-2	5/8"	1/4"	AK5075-7	1 1/8"	3/8"
AK5075-3	3/4"	3/8"	AK5075-8	1 1/8"	1/2"
AK5075-4	3/4"	1/4"	AK5075-9	1 1/8"	3/8"
AK5075-5	2 1/4"	1/4"	AK5075-10	1 3/8"	7/8"
			AK5075-11	1 3/2"	3/4"



PANEL BEARING & SHAFT ASSEMBLY

This versatile Panel Bearing and Shaft Assembly is used for rotary control of components. Passivated stainless steel shaft is 1/4" dia. with one end flatted for attaching to control knob by set screws. Supplied complete y assembled with two retaining rings, jam nut with lock washer, and brass panel bearings, nickel plated. Fits all panels up to 3/16" thick; mounts in 1/32" dia. hole.

Item	Cat. No.	"L" Shaft Length
Panel Bearing	AP 15350	—
Panel Bearing & Shaft Assembly	AP 15350-1	1 3/8"
	AP 15350-2	3"
	AP 15350-3	6"





JAN HARDWARE MANUFACTURING CO., INC.

LONG ISLAND CITY 1, N. Y.

"JOLTA" SHOCK TESTING MACHINES

JAN'S "Jolta" shock testers provide for rapid and precise testing of anticipated shock stresses. Designed for laboratory and production testing of instruments such as relays, electric meters, clocks, transistors and other electrical and electronic devices, they are accurately calibrated for direct readings in accord with specifications now required in most military and commercial contracts. The testers are ruggedly built and accommodate all shapes of test specimens. Specimens may be tested while in actual operation and under electrical load. Each machine is individually calibrated and computation charts are supplied, thus insuring accurate interpretation of test results.

JOLTA # 1001

- Test range 30 to 120g.; 75-500g*
- Bench model, only 10" x 8" x 32" high.
- Accepts specimens up to 4" x 5" x 7½".
- Manufactured and finished strictly in accord with: JAN-S-44, MIL-STD-202A, METHOD-202A.
- Shipping weight 290 lbs.
- *Replacement Plate Springs for medium and high impact shock tests and time durations to 500g are available as optional equipment.

JOLTA "M" # 500

- Shocks to 1000g.
 - Bench model per JAN-254.
 - High impact testing to meet MIL-T-12679-A (Sig. C), MIL-T-19500A.
- JOLTA "M"-500 is designed for testing extremely lightweight components such as diodes, transistors, etc. The carriage is machined from a magnesium casting and the anvil is a specially formulated synthetic rubber. JOLTA "M"-500 will consistently reproduce shocks up to 1000g. at an amplitude of 1 millisecond or greater.

JOLTA "F" # 3003A

(Not Illustrated)

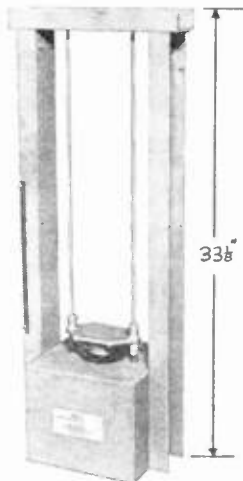
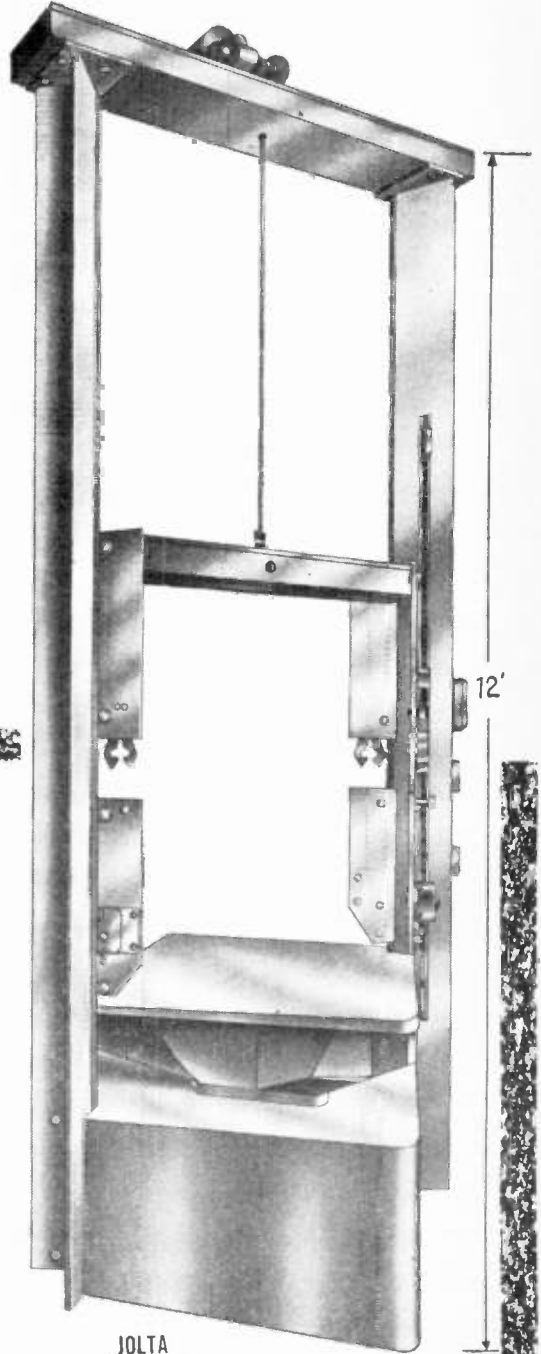
High Impact Shock Tester

- 250 to over 2000g at ½ to 8 milliseconds.
- Heavy duty floor model machine; 10" x 8" x 60" high.
- Takes specimens up to 5 lbs.
- Fixed plate spring to eliminate extraneous harmonic oscillations.
- Standard model supplied with 25,000 "k" spring for shocks in the range of 0.5 to 3.0 milliseconds.
- New design permits fast replacement of plate springs of different stiffness for alternate g. ranges and time durations.

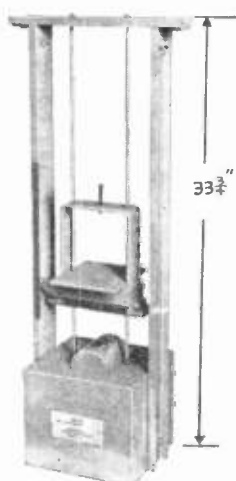
JAN S-200V

Heavy duty universal shock testers. Range 10g-200g. For objects up to 200 lbs., volumes not exceeding 2 cu. ft.
Impact pulse waves—square, half sine and saw tooth
at durations of 3.0 m/s-30.0 m/s

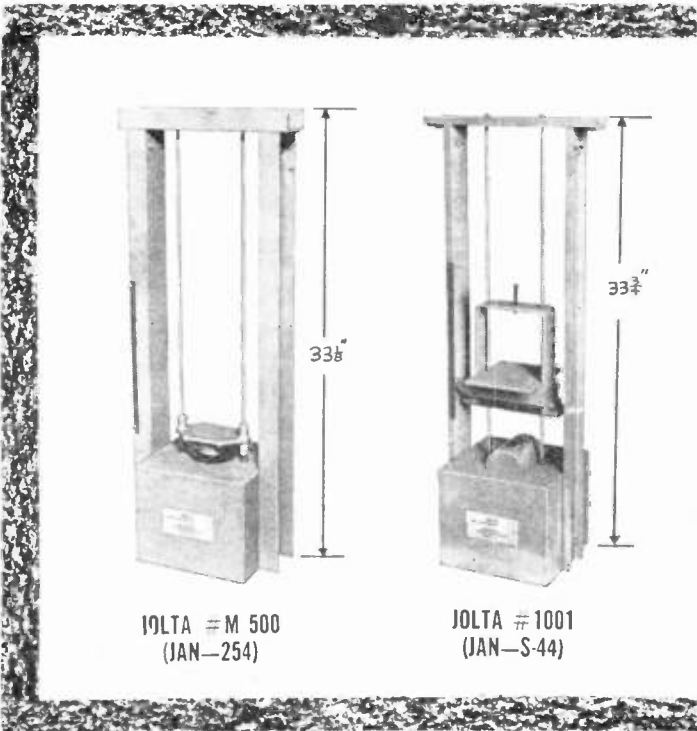
CERTIFIED SHOCK TESTING SERVICES TO MILITARY SPECS.



JOLTA # M 500
(JAN-254)



JOLTA # 1001
(JAN-S-44)





ELECTRONIC COMPONENTS

• TERMINAL BOARDS • BATTERY HOLDERS • ELECTRONIC HARDWARE • SHAFLOCKS • TEST LEADS

KEYSTONE BATTERY HOLDERS

These holders are designed for use in transistor assemblies, radios, Geiger counters, meters, model airplanes, etc. They feature engineered snap clips, moisture-proof fibre washers, spring-temper aluminum alloy, nickel-plated eyelets. Terminals are coated for easy soldering. Mounting holes on all holders.

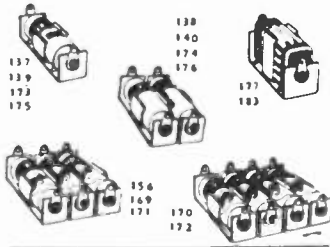
STANDARD BATTERY HOLDERS

Key-stone No.	Holds	Battery	Key-stone No.	Holds	Battery	Key-stone No.	Holds	Battery
137	1 min. cell	912	185	2 "C" cells, end to end	935	167	2 15-v. cells	U10
138	2 min. cells	912	175	1 "D" cell	D-99	225	1 15-v. cell	Y10
169	3 min. cells	912	176	2 "D" cells, end to end	A-100	226	2 15-v. cells	Y10
170	4 min. cells	912	186	2 "D" cells, end to end	724	164	2 2 1/2-v. cells	K15
139	1 pen cell	E9	154	1 1 1/2-v. cell	W468	139	1 2 1/2-v. cell	Y15
140	2 pen cells	E12	155	2 1 1/2-v. cells	W488	140	2 2 1/2-v. cells	Y15
171	3 pen cells	E133	156	3 1 1/2-v. cells	W468	177	1 2 1/2-v. cell	U15
182	4 pen cells	E502	160	1 1 1/2-v. cell	964	184	2 2 1/2-v. cells	U15
189	2 pen cells, end to end	915, 1015E	163	1 15-v. cell	417	165	1 30-v. cell	K20
173	1 "C" cell	E233	166	1 15-v. cell	411	183	1 30-v. cell	U20
174	2 "C" cells	635				157	1 30-v. cell	Y20
						134	1 30-v. cell	Y20B

*Eveready type that fits (will take Burgess equal) †Burgess type that fits (will take Eveready equal)

MERCURY BATTERY HOLDERS

Key-stone No.	Mallory Battery	Key-stone No.	Mallory Battery
101	RM-1R	132	TR-163R
103	RM-3R	109	TR-164R
104	RM-4R	110	TR-165R
139	ZM-9	173	TR-243R
139	RM-12R	133	TR-401R
175	RM-12R	154	RM-401R
113	TR-114R	112	RM-150R
114	TR-114R	139	RM-502R
132	TR-115R	116	RM-601R
132	TR-112R	117	RM-625R
139	TR-141R	118	RM-610R
134	TR-141R	119	302451M
135	TR-145R	120	302478M
189	TR-146R	121	302642M
154	TR-152R	122	302445M
106	TR-153R	139	302447M
113	TR-162R	173	302599M

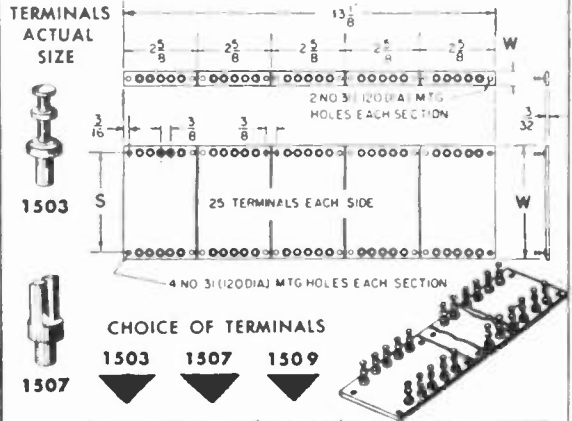


SPECIAL BATTERY HOLDERS CAN BE BUILT TO YOUR SPECIFICATIONS. WRITE FOR INFORMATION.

Will fit other manufacturers' equivalent models

STANDARDIZED TURRET TERMINAL BOARDS

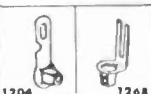
Cut your production cost by eliminating the tooling and setup charge usually applied to nonstandardized boards. Terminals are securely riveted and hot tinned for easy soldering. Material 3/32" thick natural bakelite to Gov't Spec MIL-P-31158-TYPE P8E. Five 2.5/8" sections scored for easy separation. Specify #1503, 1507 or 1509 Terminal when ordering.



CHOICE OF TERMINALS

CAT NO	CAT NO	CAT NO	W width	S ins dim	Total No terminals
15031	15071	15091	1/2	single	25
15032	15072	15092	1/4		50
15033	15073	15093	2	1/4	50
15034	15074	15094	2 1/2	2	50
15035	15075	15095	3	2 1/4	50
15036	15076	15096	1 1/2	1 3/16	50

CHOICE OF TERMINALS

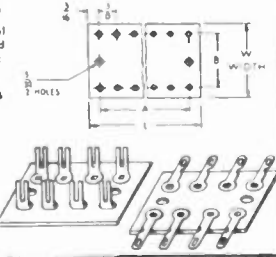


READI-MADE TERMINAL BOARDS

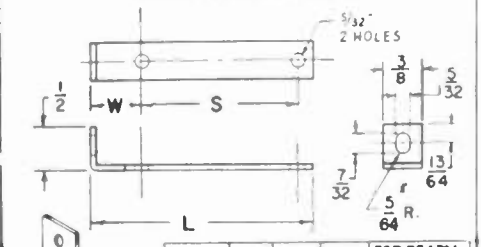
An inexpensive line of terminal boards for general use. Terminals are hot tinned for easy soldering and provide a rigid mounting for resistors, condensers, etc. Material 1/16" thick bakelite.

Mounting Holes Provided on all Boards

CAT NO	CAT NO	W width	L length	A mtg ctr	B dim	terminal ea side
1204-12	1268-12	1	2 1/4	1 1/8	1 1/8	6
1204-28	1268-28	1	5 1/4	4 1/8	1 1/8	14
1204-20	1268-20	1 1/2	3 1/2	3 1/8	1 1/8	10
1204-22	1268-22	1 1/2	4 1/2	3 3/8	1 1/8	11
1204-38	1268-38	1 1/2	7 1/2	6 3/4	1 1/8	19



MOUNTING BRACKETS

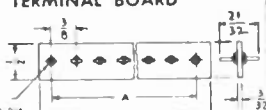


CAT. NO.	W	L	Y	FOR READY MADE BOARD
1567	3/8	2 1/8	1 1/2	NO. 15033
1568	3/8	2 3/8	2	NO. 15034
1569	3/8	3 1/8	2 1/2	NO. 15035
1570	9/32	1 3/16	3/4	NO. 15022
1571	9/32	1 5/8	1 3/16	NO. 15036

16 GA STEEL
NICKEL PLATED

FEED THRU TERMINAL BOARD

Terminals made of copper, hot tinned and force fitted into 3/32" thick bakelite. Holes pierced in terminal at each end to provide a sturdy feed thru terminal.



CAT No	No LUGS	A MTG CENTER	L LENGTH
1220 1	1	1/8	1 1/8
1220 2	2	1/8	1 1/8
1220 3	3	1 1/8	1 1/8
1220 4	4	1 1/8	2 1/8
1220 5	5	2 1/8	2 1/8
1220 6	6	2 1/8	3
1220 7	7	3	3 3/8
1220 8	8	3 3/8	3 3/8
1220 9	9	3 3/8	4 1/8
1220 10	10	4 1/8	4 1/8

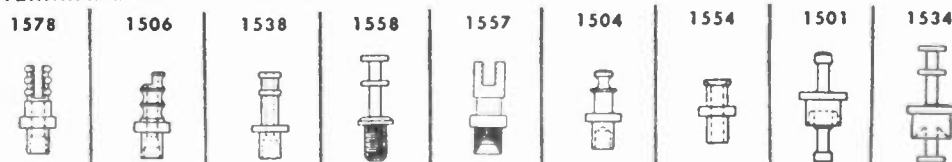
No. 1701 SHAFLOCK Wrench Type

THREADED BUSHINGS Rivet Type



CAT NO	PANEL THICKNESS	SHAFLOCK LENGTH	C THREAD
1560-A	1/16	1/64	4-40
1560-B	1/16	1/64	6-32
1560-C	3/32	9/64	6-32
1560-D	1/8	11/64	6-32

TERMINAL ILLUSTRATIONS FULL SIZE. MADE OF BRASS. AVAILABLE IN HOT TIN OR SILVER PLATE



OVER 100 TYPES AVAILABLE FROM STOCK

ORDER FROM YOUR ELECTRONIC PARTS JOBBERS OR WRITE US FOR SOURCE

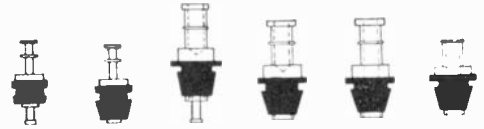
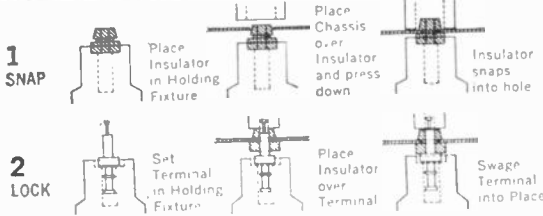
Send FOR OUR CATALOG COMPLETE LINE OF STOCK ITEMS!

KEYSTONE ELECTRONICS CORP. NEW YORK 12, N. Y.

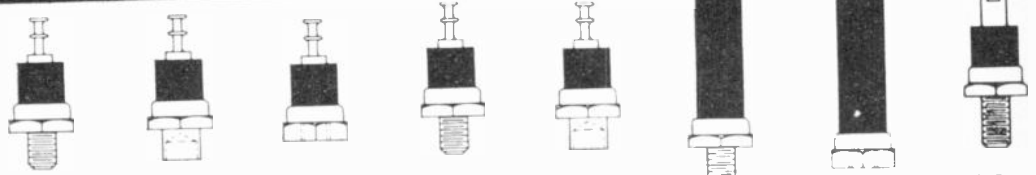
LERCO

INSULATED TERMINALS

TEFLON INSULATED SNAP-LOCK TERMINALS

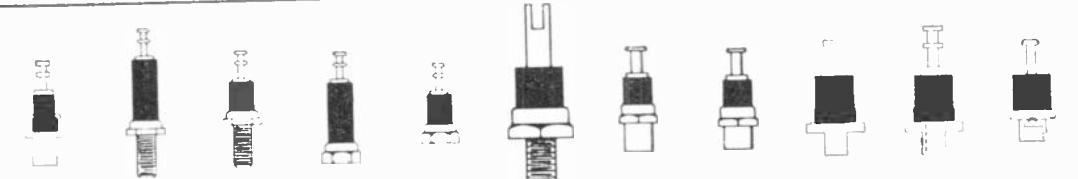


4071 .095 4073 .09 4075 .16 4076 .14 4077 .11 4078 .105

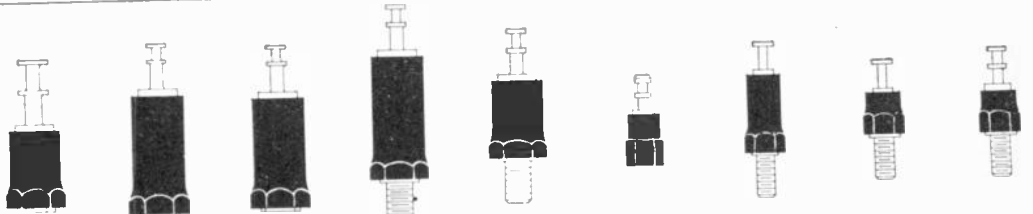


6015 Phenolic .12 6020 Phenolic .12 6040 Melamine .19 6041 Melamine .19 6042 Melamine .19 6043 Melamine .22 6044 Melamine .22 6045 Phenolic .13

MOLDED STAND-OFF TERMINALS

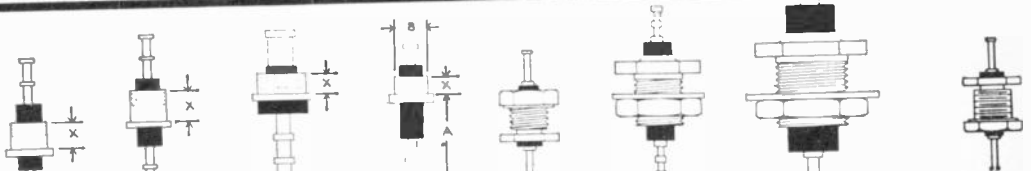


6049 Melamine .22 6050 Melamine .22 6051 Melamine .20 6052 Melamine .22 6053 Melamine .20 6054 Melamine .19 6055 Alkyd .18 6057 Melamine .17 6062 Melamine .19 6063 Melamine .21 6064 Melamine .12



6122 Melamine .18 6123 Melamine .18 6124 Melamine .18 6129 Melamine .17 6131 Melamine .17 6150 Melamine .17 6160 Melamine .16 6161 Melamine .16 6162 Melamine .16

MOLDED FEED-THRU TERMINALS



6065* Melamine .22 6066* Melamine .22 6077* Melamine .22 6078-79** Melamine .22 6080 Melamine .35 6081 Phenolic .28 6082 Phenolic .30 6090 Teflon .40

*Alternate sizes for items asterisked

Part No.	Dim. X	Thickness
-A	.075	1/32
-AB	.095	.050
-B	.105	1/16
-C	.135	3/32
-D	.165	1/8

**6078-79 Available in sizes

Part No.	Dim. A	Dim. B		Dim. X	Board Thickness
		6078	6079		
-A	.420	.173	.195	.075	1/32
-AB	.420	.173	.195	.095	.050
-B	.405	.173	.195	.105	1/16
-C	.375	.173	.195	.135	3/32
-D	.345	.173	.195	.165	1/8

ALL ITEMS SHOWN FULL SIZE

Net price shown under part number. Specify shaft length and board thickness (see next page for ordering information).

SPECIFICATIONS

Terminal material is half-hard brass with .0003" minimum silver plating unless otherwise specified. Other platings available on special order. Bases are cadmium plated brass. Tolerances: ±.005" unless otherwise specified.

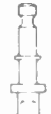











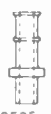






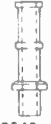
















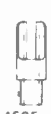










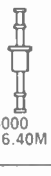



















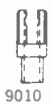





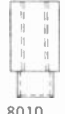
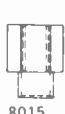




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LERCO ELECTRONICS, INC.

BURBANK, CALIFORNIA

LERCO

STANDARD TERMINALS

SINGLE END TERMINALS PLUG AND JACK	 3005 14.20M	 3010 11.80M	 3015 12.10M	 3020 9.20M	 3025 8.50M	 3030 19.50M	 3035 11.80M	 3045 22.00M	 3050 12.75M	 3055 13.50M	 7005 58.00M	 7010 130.00M	
HOLLOW AND THREADED TERMINALS	 3505 11.80M	 3510 17.60M	 3515 20.00M	 3520 24.50M	 3525 21.00M	 3530 14.00M	 3535 15.50M	 3540 21.80M	 4530 23.00M	 4531 21.00M	 4532 18.00M		
DOUBLE END TERMINALS	 4005 29.40M	 4010 31.00M	 4015 26.00M	 4020 22.00M	 4025 12.60M	 4030 28.60M	 4035 22.50M	 4040 28.60M	 4045 31.00M	 4050 38.00M	 4055 24.00M	 4060 34.00M	 4065 49.30M
MILLED TERMINALS	 4505 18.00M	 4508 36.00M	 4510 21.00M	 4515 19.60M	 4520 28.00M	 4525 28.00M	 4535 26.80M	 4540 19.00M	 4545 18.80M	 4550 36.00M			
SUBMINIATURE TERMINALS	 4560 36.00M	 5000 16.40M	 5005 13.60M	 5010 13.80M	 5015 16.40M	 5020 11.40M	 5025 14.00M	 5030 14.00M	 5040 11.40M	 5075 19.00M	 5080 28.00M	 5085 31.50M	 5090 11.50M
TAPER PINS (mate with AMP pins) DIODE CLIPS	 9030 22.00M	 9031 28.00M	 9032 37.40M	 9033 33.00M	 9034 53.00M	 9035 68.00M	 9046 30.00M	 9047 30.00M	 9010 26.70M	 9015 27.00M			
MOUNTING STANDOFFS	 8000-A 55.00M	 8000-B 63.00M	 8000-C 70.00M	 8005 38.00M	 8010 42.00M	 8015 42.00M	 8020 52.00M	 8025 42.00M	 8030 55.00M	 8035 44.00M			

ORDERING INFORMATION

Specify shaft length and desired board thickness by adding code letter to item number. For example, item No. 3005-B has shaft length of .105" and accommodates board thickness of 1/16"; No. 3005-C dimensions are .135" and 3/32", etc.

All items shown full size.
Net price is indicated under model number

	3000, 4000, 7000, 8000, & 9000 SERIES		5000 SERIES		6000 SERIES
	shaft length	thickness	shaft length	thickness	
A	.075	1/32	.053	1/32	Specify desired material thickness
B	.105	1/16	.084	1/16	
C	.135	3/32	.115	3/32	
D	.165	1/8	.147	3/32	

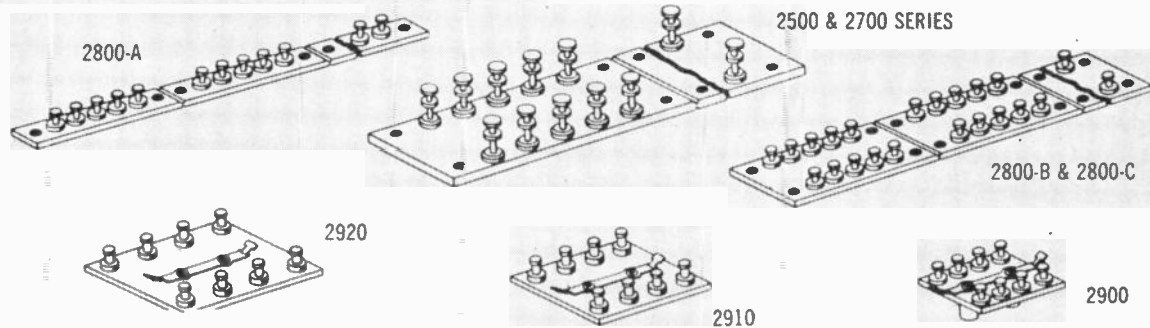
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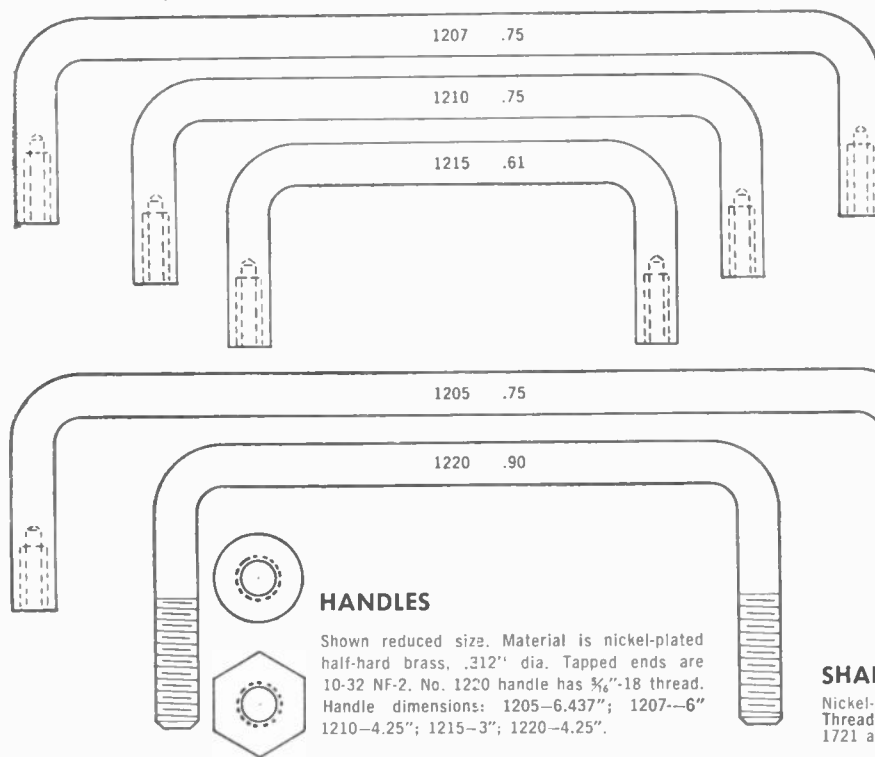
TERMINAL BOARDS • HANDLES • HARDWARE



TERMINAL BOARD SPECIFICATIONS

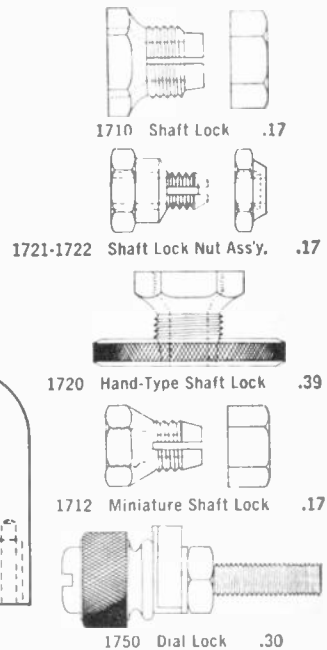
PART NO	2500-B	2500-C	2500-D	2600	2700-A	2700-B	2800-A	2800-B	2800-C	2900	2910	2920
LENGTH	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	13 1/8"	7 13/16"	7 13/16"	7 13/16"	.875"	1.22"	1 1/2"
WIDTH	2"	2 1/2"	3"	1/2"	1 1/4"	1 1/2"	.312"	3/4"	1"	.719"	1.03"	1.16"
BOARD MATERIAL	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	paper base phenolic	glass melamine	glass melamine	glass melamine
NO. OF SECTIONS	5	5	5	5	5	5	5	5	5	1	1	1
NO. OF TERMINALS	50	50	50	25	50	50	25	50	50	8	8	8
TERMINAL	3010	3010	3010	3010	3025	3025	5025	5025	5025	5025	3530	3530
ALTERNATE TERMINAL	3015-3505	3015-3505	3015-3505	3015-3505	---	---	5090	5090	5090	---	---	---
PRICE EA.	2.20	2.30	2.40	1.10	1.72	1.78	1.05	2.10	2.10	.60	.65	.70

ORDERING INFORMATION—All terminal boards supplied with ³/₃₂" material unless otherwise specified. Lerco will supply boards of any type made to customer's designs. Send blueprints for immediate quotation.



HANDLES

Shown reduced size. Material is nickel-plated half-hard brass, .312" dia. Tapped ends are 10-32 NF-2. No. 1220 handle has 3/8"-18 thread. Handle dimensions: 1205—6.437"; 1207—6" 1210—4.25"; 1215—3"; 1220—4.25".



SHAFT LOCKS

Nickel-plated half-hard brass, shown actual size. Threads: 1710 and 1720 are 3/8"-32; 1712 and 1721 are 1/4"-32; 1722 is 1/4"-28.

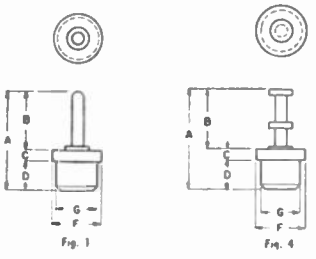
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LERCO ELECTRONICS, INC. **BURBANK, CALIFORNIA**

Write for complete catalog or quotation on special orders

Sealectro PRESS-FIT® TEFLON™ TERMINALS

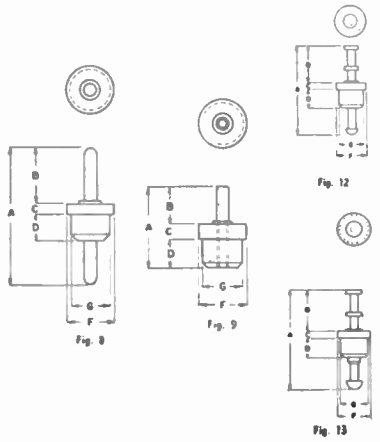
INSURED PERFORMANCE — OUTSTANDING LABORATORY SERVICE — PRECISION PARTS



SUBMINIATURE STAND-OFFS

The ultimate in space-saving terminals for subminiaturization programs. Teflon bushing diameters of the order of .148" to .218". Choice of lugs, including turrets.

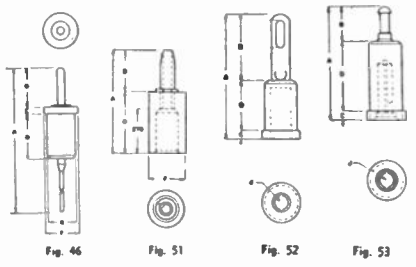
PART NO.	FIG.	A	B	C	D	F	G
ST-SM-1	1	.350	.210	.040	.100	.172	.148
ST-SM-1L2	1	.265	.125	.040	.100	.172	.148
ST-SM-1L4	1	.250	.110	.040	.100	.172	.148
ST-SM-1L6	1	.285	.145	.040	.100	.172	.148
ST-SM-1L10	1	.594	.450	.040	.100	.172	.148
ST-SM-2C4	1	.375	.210	.050	.110	.172	.148
ST-SM-19	1	.365	.193	.040	.132	.172	.148
ST-SM-1 TUR	4	.350	.210	.040	.100	.172	.148
ST-SM-4 TUR	4	.350	.210	.040	.100	.200	.179
ST-SM-20 TUR	4	.350	.210	.040	.100	.218	.185
ST-SM-22 TUR	4	.428	.210	.093	.125	.172	.148
ST-SM-23 TUR	4	.350	.210	.040	.100	.250	.204
ST-SM-29 TUR-C2	4	.540	.250	.040	.250	.172	.148



SUBMINIATURE FEED-THRUS

For facilitating connections through chassis or casing, in subminiaturized components and assemblies. Choice of lug designs and finishes, including hollow-tube lugs. Generous safety factor at rated voltages.

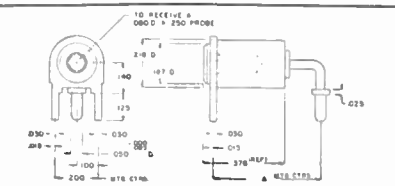
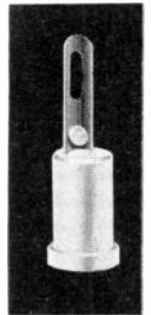
PART NO.	FIG.	A	B	C	D	F	G
FT-SM-1	8	.515	.210	.040	.100	.172	.148
FT-SM-2C4	8	.535	.210	.050	.110	.172	.148
FT-SM-2C6	8	.410	.147	.050	.110	.172	.148
FT-SM-9L2	8	.407	.125	.040	.132	.172	.148
FT-SM-52	9	.225	.125	.040	.060	.150	.125
FT-SM-55	9	.296	.136	.060	.100	.172	.148
FT-SM-60	9	.367	.207	.050	.110	.218	.171
FT-SM-1 TUR	12	.500	.210	.040	.100	.172	.148
FT-SM-16 TUR	12	.500	.210	.040	.100	.125	.093
FT-SM-21 TUR	13	.531	.210	.040	.125	.218	.185



JACKS AND PLUGS

Breakaway connectors (male and female) miniature test point jacks (female) that will accept test instrument probes or companion plugs and patch cord jumpers

PART NO.	FIG.	A	B	C	D	J
SKT-1	52	1 1/16	.354	.046	.287	.050
SKT-4	52	1 1/16	.354	.046	.287	.041
SKT-8	52	1 1/16	.330	.046	.287	.080
SKT-2BC	53	7/16	.120	.046	.281	.090
SKT-5BC	53	7/16	.120	.046	.281	.080
SKT-10	53	.637	.187	.050	.400	.080
SKT-12	53	.375	.060	.046	.269	.090
SKT-13	53	.203	.060	—	.143	.040
SKT-14	53	.345	.120	.046	.179	.040
SKT-15	53	.732	.188	.157	.387	.050



PRINTED WIRING JACKS

Miniature jacks. Mount flat on printed-wiring board. Double-prong steel strap in front, connection lug at rear, fit into three holes of grid coordinate layout.
 Part No. SKT-102 PC (.500" overall centers)
 Part No. SKT-103 PC (.400" overall centers)

Specifically designed as companion units (male) for connectors and test jacks. Used as test instrument probes, jumper plugs and multiple pin plugs.

PART NO.	FIG.	A	B	C	D	F	G
FT-M-2	46	2.083	1/4	.046	.287	.218	.185
FT-M-4	46	.739	3/32	.046	.287	.218	.185
PR-300	51	.645	.270	.375	—	.218	—



AVAILABLE IN COLORS — DESIGNED FOR COLOR CODING.

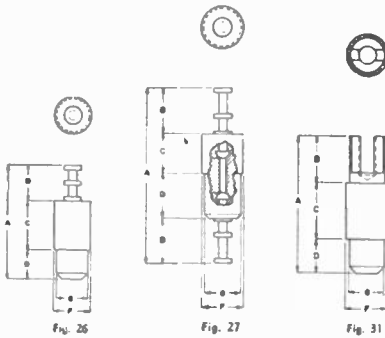
Sealectro PRESS-FIT[®] TEFLON[†] TERMINALS

SIMPLE INSTALLATION — WIDEST STOCK SELECTION — ASSORTED LUGS AND PLATING

MINIATURE STAND-OFFS

Wide selection of types in voltage ratings to 4000. Choice of lugs and finishes, as well as bushings. For components and assemblies stressing higher operating voltages rather than space-saving.

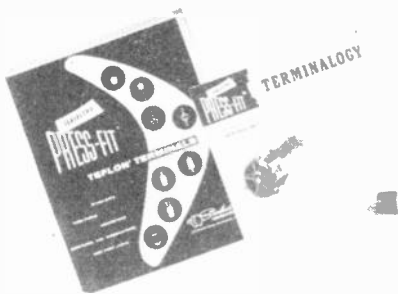
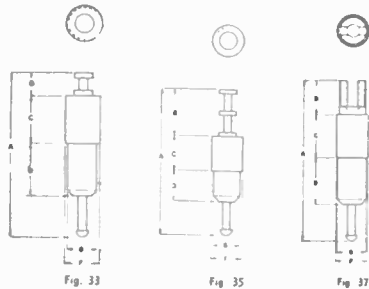
PART NO.	FIG.	A	B	C	D	F	G
ST-210	26	.346	.156	.103	.087	.125	.104
ST-250	26	.431	3/32	.125	.150	3/16	.165
ST-1000	26	.493	3/32	.187	.150	3/16	.165
ST-1500	26	.556	3/32	.250	.150	3/16	.165
ST-2000	26	.831	3/32	.400	.150	3/16	.165
ST-2500	26	.968	3/32	.500	.187	1/4	.215
ST-4000	26	1.268	3/32	.800	.187	1/4	.215
DST-1550	27	.819	.210	.187	.212	3/16	.171
DST-1000	27	1.187	3/32	.250	.375	1/4	.218
DST-2550	27	1.687	3/32	.500	.625	1/4	.218
ST-250 SL	31	.478	1 3/4	.125	.150	3/16	.171
ST-1000 SL	31	.540	1 3/4	.187	.150	3/16	.171
ST-1500 SL	31	.603	1 3/4	.250	.150	3/16	.171
ST-2500 SL	31	.890	1 3/4	.500	.187	1/4	.217
ST-4000 SL	31	1.190	1 3/4	.800	.187	1/4	.217



MINIATURE FEED-THRUS

Handy Feed-thru terminals with choice of lugs. Handling voltage ratings up to 4000. Wide selection of bushing diameters and lengths. Ideal for making connections through chassis or casings, with generous safety factor at rated voltages.

PART NO.	FIG.	A	B	C	D	F	G
FT-310	33	.540	.133	.063	.171	.187	.171
FT-1000	33	.740	1/8	.187	.212	3/16	.171
FT-1500	33	.865	1/8	.250	.275	3/16	.171
FT-2500	33	1.365	1/8	.500	.525	1/4	.217
FT-4000	33	1.965	1/8	.800	.825	1/4	.217
FT-1000 DTUR	35	.836	1/4	.187	.212	3/16	.171
FT-1000 SL	37	.821	1 3/4	.187	.212	3/16	.171
FT-1500 SL	37	.947	1 3/4	.250	.275	3/16	.171
FT-2000 SL	37	1.197	1 3/4	.375	.400	3/16	.171



Ask for them . . .

The big Sealectro "Press Fit" catalog, acknowledged as the "bible" of Teflon terminals, is yours for the asking. Lists a thousand or more types for every terminal need.

Also a free subscription to the bi-monthly TERMINALOGY, dealing with latest terminal developments, applications, installations.

Ask your Sealectro distributor for both these invaluable aids.

Sealectro CONHEX[®]

SUB-MINIATURE R.F. CONNECTORS

Radically different. Provably better. And you can tell them at a glance—by their hexagonal bodies. The only connectors that can be wired and rewired in factory, lab, shop or field, without special tools. Typical advantages:

Successfully withstand pull-out strain in excess of 20 lbs.

Captivated contacts insure proper engagement of mating parts.

Clamping parts, insulators and contacts readily assembled on cable before insertion in connector body.

Gold-plated hex stock allows as-

sembly with usual pliers or small wrench.

Contacts soldered to center conductor of cable, insuring proper connections.

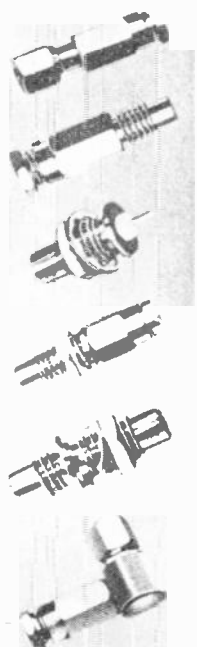
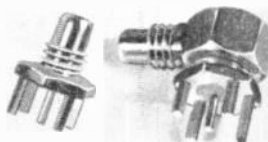
No distortion of cable insulation that might affect electrical characteristics.

Flexible design accepts all RG-188 U MIL cable diameters.

50-OHM "CONHEX" TYPES SHOWN

- Type 3000 Cable Plug
- Type 3001 Cable Jack
- Type 3002 Panel Receptacle
- Type 3003 Panel Jack
- Type 3005 Right-Angle Plug
- Type 3004 Cable Feedthru
- Type 3007 Printed Wiring Straight Receptacle
- Type 3008 Printed Wiring Right-Angle

In several other popular types. Also available in 75- and 95-ohm impedance sizes.



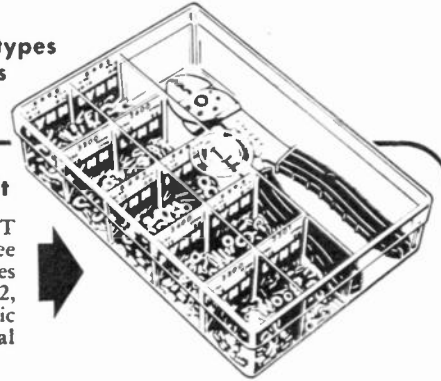
[†] Reg. trademark, E. I. du Pont de Nemours & Co.

AVAILABLE IN COLORS — DESIGNED FOR COLOR CODING.

LYNN Lightning Solderless Terminals by VACO

Now Available in 2 Lines—
Insulated and Non-Insulated

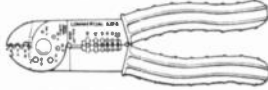
60 different types
and sizes



No. 2195 Service Kit

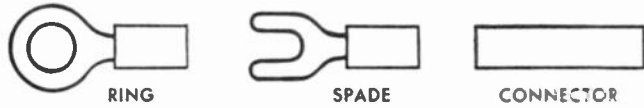
A GENERAL PURPOSE ELECTRICAL, RADIO AND TV KIT containing everything needed for making clean, fast, trouble-free electrical connections. No soldering! No fuss or muss! Kit includes ... No. 1902 Crimping Tool and Terminals Nos. 2300, 2301, 2302, 2400, 2401, 2402, 2600, 2601, 2602, and 3300 ... all in a clear plastic box with tight-fitting lid. Individual bins marked with terminal stock number cards.

No. 1902 BOLT CUTTING and CRIMPING TOOL



New type VACO Crimcut Tool has threaded holes for screwing in and shearing 4-40, 6-32, 8-32, 10-24 and 10-32 bolts or machine screws ... plus crimping die, wire cutters and wire-stripping die. Shock-proof, slip-proof plastic handle grips. For No. 22 to No. 10 gauge wire.

NEW! Insulated Solderless Terminals!



In addition to the non-insulated terminals illustrated below, VACO now brings you a complete line of insulated solderless terminals color-coded for size. Available in 21 different types. Special No. 1930 Crimping Tool available. Write for Bulletin T 73.

Quick Reference Chart for Easy Terminal Identification

RING TONGUE TERMINALS

* No. 2300 Hole Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 22 - 16	* No. 2301 Hole Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 22 - 16	* No. 2302 Hole Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 22 - 16	* No. 2303 Hole Dia. — 17/64" Stud Size — 12 - 1/4 Wire Size — 22 - 16	* No. 2304 Hole Dia. — 13/32" Stud Size — 3/8 Wire Size — 22 - 16	* No. 2400 Hole Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 16 - 14	* No. 2401 Hole Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 16 - 14
* No. 2402 Hole Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 16 - 14	* No. 2403 Hole Dia. — 17/64" Stud Size — 12 - 1/4 Wire Size — 16 - 14	* No. 2404 Hole Dia. — 13/32" Stud Size — 3/8 Wire Size — 16 - 14	* No. 2502 Hole Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 12 - 10	* No. 2503 Hole Dia. — 17/64" Stud Size — 12 - 1/4 Wire Size — 12 - 10	* No. 2504 Hole Dia. — 13/32" Stud Size — 3/8 Wire Size — 12 - 10	

SPADE TONGUE TERMINALS

* No. 2600 Slot Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 22 - 16	* No. 2601 Slot Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 16 - 14	* No. 2602 Slot Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 16 - 14	* No. 2702 Slot Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 12 - 10

FLAG TYPE TERMINALS

No. 2802 Hole Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 22 - 16	No. 2902 Hole Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 16 - 14	No. 3002 Hole Dia. — 13/64" Stud Size — 8 - 10 Wire Size — 12 - 10	No. 3300 Slot Dia. — 5/32" Stud Size — 4 - 6 Wire Size — 22 - 16

BUTT CONNECTORS

* No. 3101 Wire Size — 22 - 16	* No. 3102 Wire Size — 16 - 14	* No. 3103 Wire Size — 12 - 10

* These types available in insulated style ... use prefix 6 instead of 2. Thus 2300 becomes 6300.

CONVENIENT \$ PAK



All Lynn Lightning Terminals are available in convenient \$ Paks. When any of the "bins" of the service kit are empty, user merely purchases a refill just right for replacing stock. Refill Paks are well marked for trouble-free handling, and designed with "windcws" for easy identification.

BULK PAK



Also available in bulk—packed 250 pieces to a package, 4 packages to master carton of 1,000.

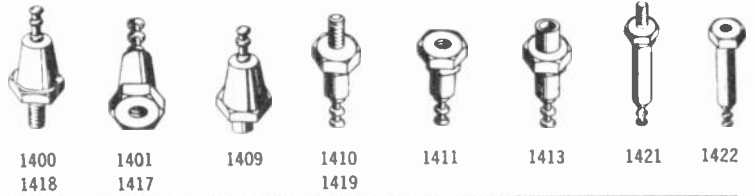
VACO PRODUCTS CO.

Chicago 11, Illinois, U.S.A.

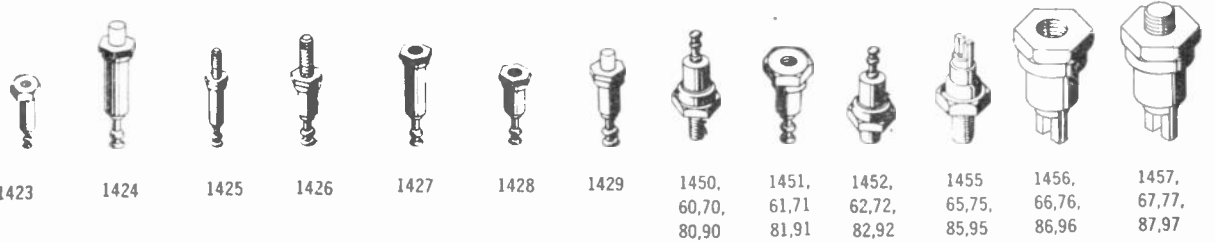


**STANDARDIZED
ELECTRONIC HARDWARE**

INSULATED TERMINALS



1400 1401 1409 1410 1411 1413 1421 1422
1418 1417 1419



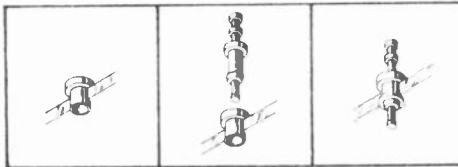
1423 1424 1425 1426 1427 1428 1429 1450, 60,70, 80,90 1451, 61,71 81,91 1452, 62,72, 82,92 1455, 65,75, 85,95 1456, 66,76, 86,96 1457, 67,77, 87,97

LOC-FIT TEFLON INSULATED TERMINALS

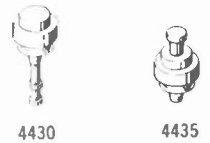


1432 1433, 34,35 36 1483 1484

Feed-Thru

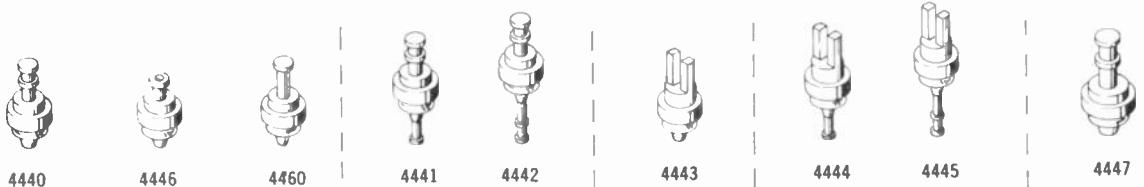


1. Push Teflon Grommet into hole.
2. Insert LOC-FIT terminal.
3. Snap LOC-FIT into place.



4430 4435

Insulated Terminals



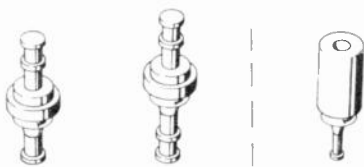
4440 4446 4460 4441 4442 4443 4444 4445 4447

Insulated Feed-Thru

Bifurcated Terminals

Insulated Bifurcated Feed-Thru

Taper Pin Receptacle

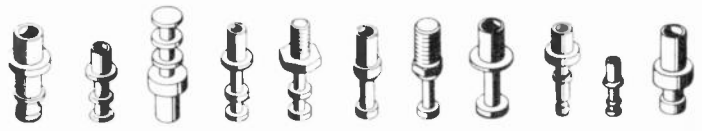


4448 4449 4450

Taper Pin Receptacle Feed-Thru

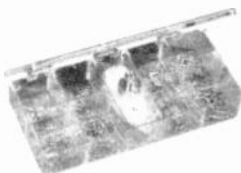
Insulated Test Point

STANDARD TERMINALS



1210 1280 1299 1300 1300T 1340 1340T 1350 1370 2030 2060
2035

Turret



ENGINEERING DESIGN KIT

Complete engineering design kits for Loc-Fit, plastic and Hi-Alumina insulated series K-44 and K-14. Also kits for printed circuit terminals, series K-70, and standard terminals, series K-12.

- | | |
|--------|------------------|
| K-44 | LOC FIT |
| K-14-1 | HI ALUMINA |
| K-14-2 | TEFLON |
| K-14-3 | PLASTIC |
| K-70 | PRINTED CIRCUIT |
| K-12 | SOLDER TERMINALS |

Sec. 2800



**STANDARDIZED
ELECTRONIC HARDWARE**

STANDARD TERMINALS



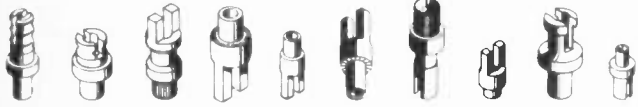
2520 2540

Turret



1200 1260 1330 1380 1390 1392 1393 2010 2010T

Hollow Lug



1250 1240 1255 1305 1306 1307 1308 1309 1310 1391 2000 2001 2005 2020 2022 2021

Bifurcated

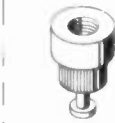


1220 1221 1230 1290 1301 1311 1315 1316

Feed-Thru



1320 1360 2040 2040T 2050 2500 2510 2511 2530



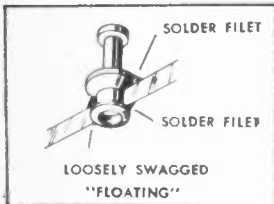
1203
**Combination
Terminal**



704 705 706 707 708 709

NAS Terminals

FLOATING PRINTED CIRCUIT TERMINALS



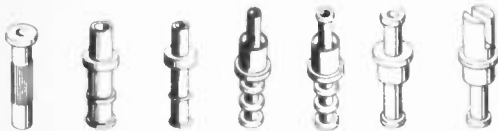
7000 7001 7010 7011 7020 7030 7040

TAPER PINS



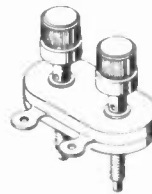
2770 2775 2776

TAPERED RECEPTACLE



2710 2720 2730 2740 2760 2761 2762 2763

BINDING POST



3500

SHAFT LOCKS



1510 1511 1512 1513 1520 1515 1514
(CAP ONLY)

How To Order

Tool number is the same as the number of the terminal of "Loc-Fit" assembly number. Check catalog for proper number.

Example:

1. Terminal 1300 A-2, Order 1300 tool
 2. "Loc-Fit" 4440 B-2, Order 4440 tool
- Always list tool after basic part number.

TOLERANCES

TOLERANCES UNLESS OTHERWISE SPECIFIED.

DECIMALS ±.003

FRACTIONS ±1/64

USECO Model A SWAGING MACHINE and TOOLS



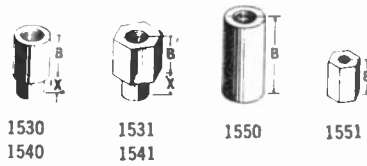
In ordering USECO tools, please order by the part number of the terminal for which the tool is to be used. One set of #1300 tools will swage all of the letter deviations such as A-B-C, etc., of the #1300 terminal lug. Shipping weight of the swaging machine—18 lbs. tools—4.62 for your convenience, a large stock of machines and tools are in stock for immediate delivery.

MODEL A \$54.75
TOOLS (SET) 6.50

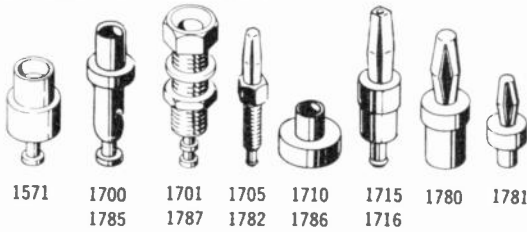


**STANDARDIZED
ELECTRONIC HARDWARE**

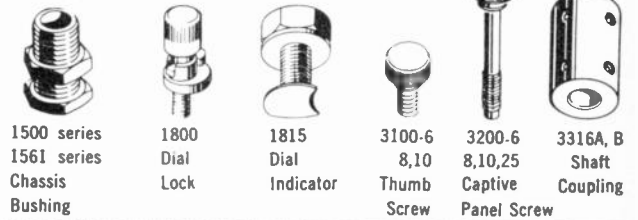
STAND-OFFS



PLUGS & SOCKETS



ACCESSORY HARDWARE

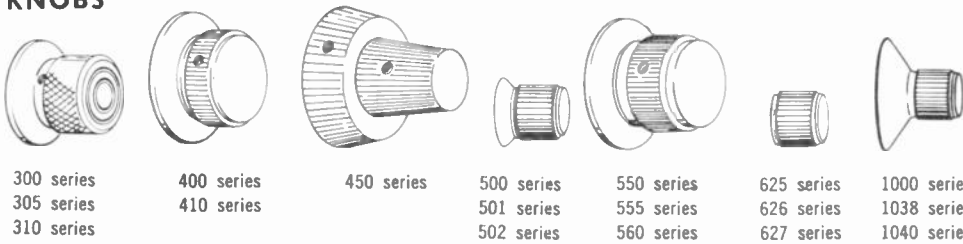


HANDLES & FERRULE

FINISH CHROME PLATE OVER NICKEL
NICKEL PLATE AVAILABLE UPON REQUEST

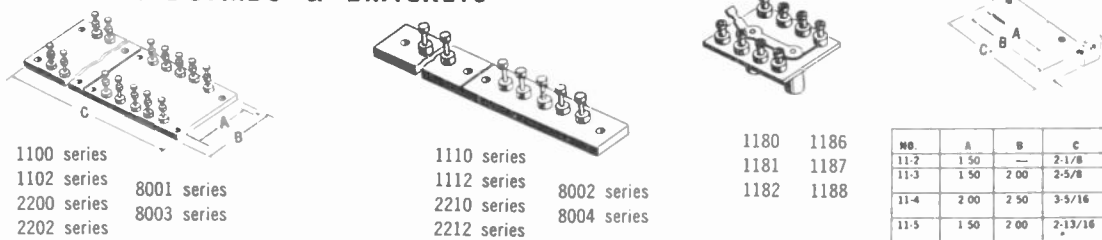


KNOBS



FOR ANODIZED COLORS
ORDER BY DASH NO
-20 PLAIN -26 BLUE
-21 BROWN -27 VIOLET
-22 RED -28 GREY
-23 ORANGE -29 WHITE
-24 YELLOW -30 BLACK
-25 GREEN

TERMINAL BOARDS & BRACKETS



NO.	A	B	C	D	USE
11-2	1 50	—	2-1/8	35	1100B
11-3	1 50	2 00	2-5/8	35	1100B 1100C
11-4	2 00	2 50	3-5/16	56	1100C 1100D
11-5	1 50	2 00	2-13/16	56	1100B 1100C

To Order

STANDARD CATALOG ITEMS — Standard USECO Electronic Hardware is stocked at your nearby AUTHORIZED USECO DISTRIBUTOR, who offers prompt delivery F.O.B. his warehouse. As a further convenience these items are stocked at:

Los Angeles USECO factory,
or
• 215 South Fulton Avenue,
Mount Vernon, N.Y.
Shipments F.O.B. Los Angeles or
Mount Vernon.

SPECIAL ITEMS — For special USECO items manufactured to your requirements, write or call factory.

Shipments F.O.B. Los Angeles

TERMS: Unless otherwise arranged, net 30 days.



**LITTON INDUSTRIES
U. S. ENGINEERING CO. DIV.**

**Refer to Next Page For
SPECIFICATIONS**

for complete information
write for Engineering
Standards Manual



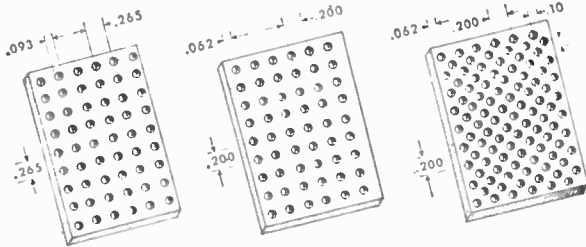


UNLESS OTHERWISE INDICATED:
 X - Shank Length: T - Thread or Shank Dia.
 BD. THICK - Thickness of Board:
 A,B,C,D dimensions on drawings:
 Price — Suggested Minimum Quantity

INSULATED STAND-OFF TERMINALS					MINIATURE INSULATED STAND-OFF TERMINALS					INSULATED FEED-THRU TERMINALS					LOC-FIT TEFロン INSULATED TERMINALS					LOC-FIT TEFロン INSULATED FEED-THRU					LOC-FIT TAPER PIN RECEPTACLE					LOC-FIT TAPER PIN RECEPTACLE FEED-THRU					LOC-FIT INSULATED TEST POINTS					TURRET TERMINALS					BIFURCATED TERMINALS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each	No.	X	T	Bd. Thick	Price Each																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
1400A	.187	6-32	.15		1401		6-32	.15		1409	.250	6-32	.19		1495A	.125	2-56	.255		1496A		2-56	.255		1210A	.075	.114		12.80	1210B	.105	.114		12.80	1210C	.135	.114		12.80	1210D	.165	.114		12.80	1280A	.075	.091		8.10	1280B	.105	.091		8.10	1280C	.135	.091		8.10	1280D	.165	.091		8.10	1299A	.075	.114	.031	26.25	1299B	.105	.114	.062	26.25	1299C	.135	.114	.094	26.25	1299D	.165	.114	.125	26.25	1299E	.195	.114	.156	26.25	1299F	.230	.114	.188	26.25	1300A	.075	.114	.031	13.00	1300B	.105	.114	.062	13.00	1300C	.135	.114	.094	13.00	1300D	.165	.114	.125	13.00	1300E	.195	.114	.156	13.00	1300F	.230	.114	.188	13.00	1300G	.293	.114	.250	13.00	1300T	.188	4-40		13.00	1340A	.075	.079	.031	11.30	1340B	.105	.079	.062	11.30	1340C	.135	.079	.094	11.30	1340D	.165	.079	.125	11.30	1340T	.125	2-56		18.14	1350B	.105	.114	.062	17.63	1350C	.135	.114	.094	17.63	1350D	.165	.114	.125	17.63	1350E	.195	.114	.156	17.63	1350F	.230	.114	.188	17.63	1370B	.105	.114	.062	18.76	1370C	.135	.114	.094	18.76	1370D	.165	.114	.125	18.76	1370E	.293	.114	.250	18.76	2030	.037	.062	.016	14.71	2030A	.053	.062	.031	14.71	2030B	.084	.062	.062	14.71	2030C	.115	.062	.094	14.71	2030D	.147	.062	.125	14.71	2035A	.075	.089	.031	13.35	2035B	.105	.089	.062	13.35	2035C	.135	.089	.094	13.35	2035D	.165	.089	.125	13.35	2060	.037	.063	.016	11.35	2060A	.054	.063	.031	11.35	2060B	.084	.063	.062	11.35	2060C	.115	.063	.094	11.35	2060D	.147	.063	.125	11.35	2520A	.054	.073	.031	16.17	2520B	.084	.073	.062	16.17	2520C	.115	.073	.094	16.17	2520D	.147	.073	.125	16.17	2540A	.054	.073	.031	21.05	2540B	.084	.073	.062	21.05	2540C	.115	.073	.094	21.05	2540D	.147	.073	.125	21.05	1200A	.165	.114	.125	11.30	1200B	.195	.114	.156	11.30	1200C	.230	.114	.187	11.30	1260B	.105	.114	.062	21.45	1260C	.135	.114	.093	21.45	1260D	.165	.114	.125	21.45	4447A	.031	.062	.094	.11	4447B	.031	.062	.094	.11	4447C	.031	.062	.094	.11	4448A	.031	.062	.094	.12	4448B	.031	.062	.094	.12	4448C	.031	.062	.094	.12	4449A	.031	.062	.094	.125	4449B	.031	.062	.094	.125	4449C	.031	.062	.094	.125	4450A		.031	.22		4450B		.062	.22		4450C		.094	.22		4450D		.125	.22		2010	.057	.063	.015	12.50	2010A	.053	.063	.031	12.50	2010B	.084	.063	.062	12.50	2010C	.115	.063	.093	12.50	2010D	.147	.063	.125	12.50	2010T	.125	.063		15.70	1240B	.105	.183	.064	27.95	1240C	.135	.183	.094	27.95	1240D	.165	.183	.125	27.95	1240E	.195	.183	.156	27.95	1240F	.230	.183	.188	27.95	1250A	.075	.114	.031	22.17	1250B	.105	.114	.062	22.17	1250C	.135	.114	.094	22.17	1250D	.165	.114	.125	22.17	1255A	.075	.114	.031	21.17	1255B	.105	.114	.062	21.17	1255C	.135	.114	.094	21.17	1255D	.165	.114	.125	21.17	1305B	.105	.114	.062	21.78	1305C	.135	.114	.094	21.78	1305D	.165	.114	.125	21.78	1306B	.105	.135	.062	36.40	1306C	.135	.135	.094	36.40	1306D	.165	.135	.125	36.40	1307C	.135	.186	.094	43.74	1307D	.165	.186	.125	43.74	1307E	.195	.186	.156	43.74	1307F	.230	.186	.188	43.74	1308A	.054	.114	.031	14.62	1308B	.084	.114	.062	14.62	1308C	.115	.114	.094	14.62	1308D	.147	.114	.125	14.62	1309A	.075	.091	.031	20.31	1309B	.105	.091	.062	20.31	1309C	.135	.091	.094	20.31	1309D	.165	.091	.125	20.31	1310A	.075	.114	.031	20.31	1310B	.105	.114	.062	20.31	1310C	.135	.114	.094	20.31	1310D	.165	.114	.125	20.31	1391A	.075	.151	.031	24.30	1391B	.105	.151	.062	24.30	1391C	.135	.151	.094	24.30	1391D	.165	.151	.125	24.30	1391E	.195	.151	.156	24.30	1391F	.230	.151	.188	24.30	2000	.037	.063	.016	13.54	2000A	.053	.063	.031	13.54	2000B	.084	.062	.062	13.54	2000C	.115	.062	.094	13.54	2000D	.147	.062	.125	13.54	2000E	.179	.062	.156	13.54	2001	.037	.062	.016	18.00	2001A	.053	.062	.031	18.00	2001B	.084	.062	.062	18.00	2001C	.115	.062	.094	18.00	2001D	.147	.062	.125	18.00

Vector

VECTORBOARD



Pattern A & AA

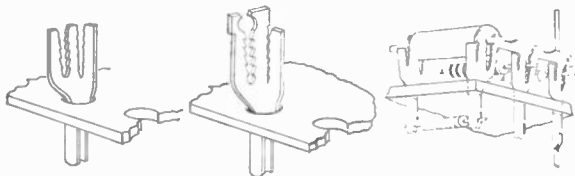
Pattern F

Pattern G

VECTORBOARD (Pre-punched terminal board) is especially useful for breadboarding as well as production because it provides an overall grid of pre-punched holes. Holes are either .093" or .062" diameter in XXXP phenolic per MIL-P-3115B or epoxy paper. Also available in Epoxy Glass grade G-10 per MIL-P-18177, Glass Silicene Grade G-7 per MIL-P-997B, and in other board sizes and hole patterns.

Cat. No.	Pattern	Thickness	Width	Length	No. of Holes	Net Price 1-19
Epoxy Paper						
32AA18EP	AA	3/32"	4 7/8"	8 1/2"	32 x 18	1.40
64AA18EP	AA	3/32"	4 7/8"	17.1"	64 x 18	2.73
85F24EP	F	1/16"	4 7/8"	17.1"	85 x 23	2.06
85G24EP	G	1/16"	4 7/8"	17.1"	(85 x 23) x 2	2.06
XXXP Phenolic						
32AA18	AA	3/32"	4 7/8"	8 1/2"	32 x 18	.84
64A18	A	1/16"	4 7/8"	17.1"	64 x 18	1.25
64AA18	AA	3/32"	4 7/8"	17.1"	64 x 18	1.60

VECTOR PUSH-IN TERMINALS



T9.4

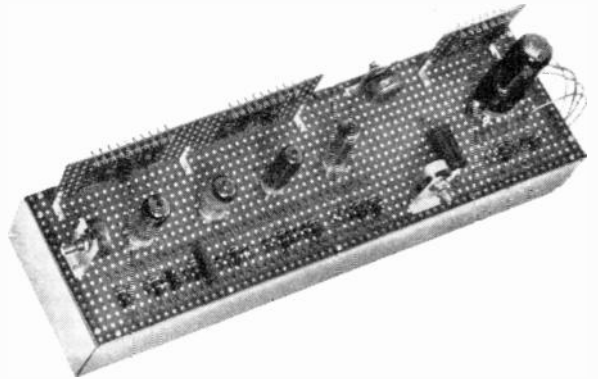
T9.6

TANDEM

VECTOR PUSH-IN TERMINALS simplify "breadboarding". Push them into .093 holes in 1/16" or 3/32" Vectorboard panels and they hold without staking. (May be staked if desired for maximum holding). Each terminal has serrated slots to grip inserted wires. Large slot accommodates most resistor and capacitor wires, small slot holds transistor leads. The T9.6 also has special slot to accommodate diodes. All types have thru-shank construction enabling riser wires to be inserted down through center of terminal, and slotted shank end for additional connections.

Cat. No.	Description	Quantity Per Bag	Net Price 1-19 Bags
T9.4	Brass, Fused tin Pltng.	100	1.25
T9.6	Heat Treat Beryllium Copper, Fused Tin Pltng.	100	2.10
T9.62	Two T9.6 in Tandem	25	1.22
T9.63	Three T9.6 in Tandem	25	1.75
T9.64	Four T9.6 in Tandem	25	2.27

EXPERIMENTER'S CHASSIS KIT

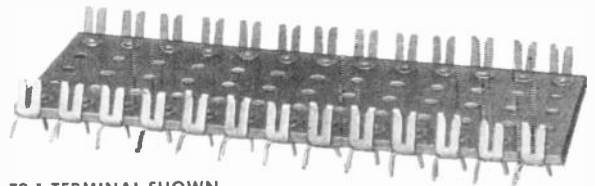


The EXPERIMENTER'S CHASSIS Kit for rapid setup of circuitry provides a perforated epoxy paper type AA described elsewhere, aluminum channel supports, PUSH-IN ZIP terminals as above, miniature seven pin, nine pin and octal sockets, self-tapping screws and spacers for mounting sockets, pot and switch mtg brackets, and other miscellaneous hardware and strips. Instructions for assembly are supplied with the kit.

Kit 22X resembles ±20X except that parts are provided to connect transistors.

Cat. No.	Description	Net Price 1-19
20X	Low Cost sampler 4 3/4" x 8 1/2" Deck & accessories	6.25
21X	4 3/4" x 17" Deck-Term, Sockets, many accessories	15.25
22X	4 3/4" x 8 1/2" Deck for Transistor circuitry	10.50

TERMINAL BOARDS



T9.1 TERMINAL SHOWN

TERMINAL BOARDS using VECTORBOARD in A or AA pattern with Zip edge type terminals (T9.1) installed on two outer rows are available in various lengths and widths as shown below. Grade XXXP phenolic, 3/32" thick for AA and 1/16" for A with .093" diameter holes spaced .265" on centers is standard.

Also available is epoxy paper in 1/16" and 3/32" thickness and Epoxy glass and glass silicene 1/16" thick only. Also special board sizes and other terminals to order.

Cat. No.	Type of Terminal	Number Terminals	Approx. Width	Approx. Length	Net Price 1-19
408	Zip T9.0	8	3/16"	2 1/8"	.55
416	Zip T9.0	16	3/16"	4 1/4"	.76
432	Zip T9.0	32	3/16"	8 1/2"	1.13
32A3-T9.1	Zip T9.1	64	1 1/32"	8 1/2"	1.49
32AA5-T9.1	Zip T9.1	64	1 3/8"	8 1/2"	1.65
32AA7-T9.1	Zip T9.1	64	1 7/32"	8 1/2"	1.77
32AA5-T6.0	Forklet T6.0	64	1 3/8"	8 1/2"	1.06
32AA7-T6.0	Forklet T6.0	64	1 7/32"	8 1/2"	1.18

CABLE CONNECTOR PLUGS

These permit connecting cables to miniature and naval tube sockets. Aluminum shells are fitted to 7-pin and 9-pin plugs. In type "C" a rubber grommet (with 1/4" hole) is mounted in the side wall and a center screw holds the assembly together. In type "D" a Heyco strain relief grommet is mounted in the end of the shell and the base screws hold the shell on the plug.

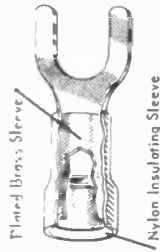
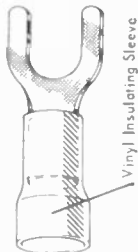
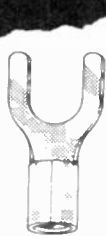
End Outlet Cat. No.	Side Outlet Cat. No.	No. of pins	Outside Diam.	Approx. Length (Exc. Pins)
P7D	P7C	7	5/8"	2.125"
P9D	P9C	9	3/4"	2.125"

(Similar connectors for other tube type supplied to order).

SOLDERLESS TERMINALS AND CONNECTORS

COMPLETE LINE... 14 TYPES, 5 CONSTRUCTION STYLES

WALDOM



KRIMPTITE®

INSULKRIMP®

UNIKRIMP®

VIBRAKRIMP®

AVIKRIMP®

Basic non-insulated electro-tin plated copper terminal. One-piece construction for maximum strength and conductivity.

All advanced features of KRIMPTITE, plus permanently attached rigid vinyl plastic insulating sleeve for increased vibration resistance.

Advantageous features of KRIMPTITE plus the higher tensile strength afforded by BRAZEED BARREL construction.

Particularly suitable where high vibration is a factor. KRIMPTITE construction plus seamless annealed electro-tin plated brass sleeve.

All VIBRAKRIMP features, tin-plated brass sleeve plus permanently attached overlapping nylon insulating sleeve.

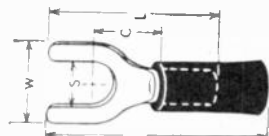
Insulated terminals color coded 22-16 Red 16-14 Blue 12-10 Yellow

BASIC TERMINAL CONSTRUCTION DETAILS



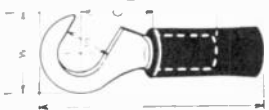
Material: Annealed electrolytic copper, electro-tin finish. Modern one-piece design for maximum strength and conductivity. With strength gusset, open end rapid inspection, beveled edge to facilitate wire insertion. Circumferential serrations for maximum contact area and grip. Full 1/4 inch barrel length, wide crimping area, easy location.

Spade Tongue Terminals



Wire Range	Basic Dimensions			KRIMPTITE		INSULKRIMP			UNIKRIMP		VIBRAKRIMP		AVIKRIMP	
	Stud Size S	Width W	Clearance C	Length L	.125 Max. Insulation Diameter	.145 Max. Insulation Diameter	Length L	Length L	.145 Max. Insulation Diameter	Length L	.145 Max. Insulation Diameter	Length L		
22-16	3-4	1/4	7/32	S-1116	5/8	T-2116	T-2116X	13/16	B-3116	5/8	D-4116	25/32	N-5116	13/16
	3-4	19/64	7/32	S-1117	5/8	T-2117	T-2117X	13/16	B-3117	5/8	D-4117	25/32	N-5117	13/16
	5-6	1/4	7/32	S-1118	5/8	T-2118	T-2118X	13/16	B-3118	5/8	D-4118	25/32	N-5118	13/16
	5-6	19/64	7/32	S-1014	5/8	T-2014	T-2014X	13/16	B-3014	5/8	D-4014	25/32	N-5014	13/16
	5-6	5/16	5/16	S-1029	3/4	T-2029	T-2029X	15/16	B-3029	3/4	D-4029	29/32	N-5029	15/16
	8	1/4	7/32	S-1119	5/8	T-2119	T-2119X	13/16	B-3119	5/8	D-4119	25/32	N-5119	13/16
	8	19/64	7/32	S-1030	5/8	T-2030	T-2030X	13/16	B-3030	5/8	D-4030	25/32	N-5030	13/16
	8	5/16	5/16	S-1031	3/4	T-2031	T-2031X	15/16	B-3031	3/4	D-4031	29/32	N-5031	15/16
	10	19/64	7/32	S-1120	5/8	T-2120	T-2120X	13/16	B-3120	5/8	D-4120	25/32	N-5120	13/16
	10	5/16	5/16	S-1032	3/4	T-2032	T-2032X	15/16	B-3032	3/4	D-4032	29/32	N-5032	15/16
16-14	3-4	1/4	7/32	S-1121	5/8	T-2121	T-2121X	13/16	B-3121	5/8	D-4121	29/32	N-5121	13/16
	3-4	19/64	7/32	S-1122	5/8	T-2122	T-2122X	13/16	B-3122	5/8	D-4122	29/32	N-5122	13/16
	5-6	1/4	7/32	S-1123	5/8	T-2123	T-2123X	13/16	B-3123	5/8	D-4123	29/32	N-5123	13/16
	5-6	19/64	7/32	S-1015	5/8	T-2015	T-2015X	13/16	B-3015	5/8	D-4015	29/32	N-5015	13/16
	5-6	23/64	9/32	S-1051	3/4	T-2051	T-2051X	15/16	B-3051	3/4	D-4051	29/32	N-5051	15/16
	8	1/4	7/32	S-1124	5/8	T-2124	T-2124X	13/16	B-3124	5/8	D-4124	25/32	N-5124	13/16
	8	19/64	7/32	S-1033	5/8	T-2033	T-2033X	13/16	B-3033	5/8	D-4033	25/32	N-5033	13/16
	8	23/64	9/32	S-1052	3/4	T-2052	T-2052X	15/16	B-3052	3/4	D-4052	29/32	N-5052	15/16
	10	19/64	7/32	S-1104	5/8	T-2104	T-2104X	13/16	B-3104	5/8	D-4104	25/32	N-5104	13/16
	10	23/64	9/32	S-1016	3/4	T-2016	T-2016X	15/16	B-3016	3/4	D-4016	29/32	N-5016	15/16

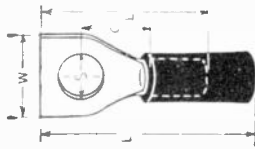
Hook Tongue Terminals



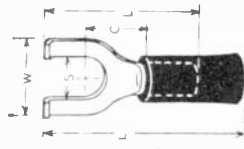
Wire Range	Basic Dimensions			KRIMPTITE		INSULKRIMP			UNIKRIMP		VIBRAKRIMP		AVIKRIMP	
	Stud Size S	Width W	Clearance C	Length L	.125 Max. Insulation Diameter	.145 Max. Insulation Diameter	Length L	Length L	.145 Max. Insulation Diameter	Length L	.145 Max. Insulation Diameter	Length L		
22-16	5-6	5/16	5/16	S-1018	23/32	T-2018	T-2018X	29/32	B-3018	23/32	D-4018	7/8	N-5018	29/32
	8	5/16	5/16	S-1036	23/32	T-2036	T-2036X	29/32	B-3036	23/32	D-4036	7/8	N-5036	29/32
	10	5/16	5/16	S-1037	23/32	T-2037	T-2037X	29/32	B-3037	23/32	D-4037	7/8	N-5037	29/32
16-14	5-6	11/32	9/32	S-1038	23/32	T-2038	T-2038X	29/32	B-3038	23/32	D-4038	7/8	N-5038	29/32
	8	11/32	9/32	S-1039	23/32	T-2039	T-2039X	29/32	B-3039	23/32	D-4039	7/8	N-5039	29/32
	10	11/32	9/32	S-1040	23/32	T-2040	T-2040X	29/32	B-3040	23/32	D-4040	7/8	N-5040	29/32

NOTE: 12-10 Wire Range sizes also available. Ask your distributor for Waldom Sales Bulletin 5E9 with complete listings, comprehensive cross reference to other sources, and pricing.

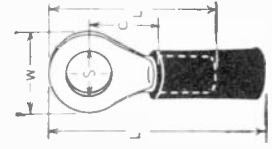
WALDOM SOLDERLESS TERMINALS AND CONNECTORS



Rectangular Tongue



Flanged Spade



Ring Tongue

Rectangular Tongue Terminals

Wire Range	Basic Dimensions			KRIMP TITE		INSULKRIMP			UNIKRIMP		VIBRAKRIMP		AVIKRIMP		
	Std. Size	Alt. W	Clearance C	Length L	.145 Max. Insulation Diameter	Length L	.145 Max. Insulation Diameter	Length L	Length L	.145 Max. Insulation Diameter	Length L	.145 Max. Insulation Diameter	Length L		
22-16	3-4	1/4	7/32	S-1127	5/8	T-2127	T-2127X	13/16	B-3127	5/8	D-4127		25/32	N-5127	13/16
	3-4	19/64	7/32	S-1128	5/8	T-2128	T-2128X	13/16	B-3128	5/8	D-4128		25/32	N-5128	13/16
	5-6	1/4	7/32	S-1129	5/8	T-2129	T-2129X	13/16	B-3129	5/8	D-4129		25/32	N-5129	13/16
	5-6	19/64	7/32	S-1071	5/8	T-2071	T-2071X	13/16	B-3071	5/8	D-4071		25/32	N-5071	13/16
	5-6	5/16	5/16	S-1130	3/4	T-2130	T-2130X	15/16	B-3130	3/4	D-4130		29/32	N-5130	15/16
	8	1/4	7/32	S-1131	5/8	T-2131	T-2131X	13/16	B-3131	5/8	D-4131		25/32	N-5131	13/16
	8	19/64	7/32	S-1072	5/8	T-2072	T-2072X	13/16	B-3072	5/8	D-4072		25/32	N-5072	13/16
	8	5/16	5/16	S-1132	3/4	T-2132	T-2132X	15/16	B-3132	3/4	D-4132		29/32	N-5132	15/16
	10	19/64	7/32	S-1073	5/8	T-2073	T-2073X	13/16	B-3073	5/8	D-4073		25/32	N-5073	13/16
	10	5/16	5/16	S-1133	3/4	T-2133	T-2133X	15/16	B-3133	3/4	D-4133		29/32	N-5133	15/16
16-14	3-4	1/4	7/32	S-1134	5/8	T-2134	T-2134X	13/16	B-3134	5/8	D-4134		25/32	N-5134	13/16
	3-4	19/64	7/32	S-1135	5/8	T-2135	T-2135X	13/16	B-3135	5/8	D-4135		25/32	N-5135	13/16
	5-6	1/4	7/32	S-1136	5/8	T-2136	T-2136X	13/16	B-3136	5/8	D-4136		25/32	N-5136	13/16
	5-6	19/64	7/32	S-1074	5/8	T-2074	T-2074X	13/16	B-3074	5/8	D-4074		25/32	N-5074	13/16
	5-6	23/64	9/32	S-1137	3/4	T-2137	T-2137X	15/16	B-3137	3/4	D-4137		29/32	N-5137	15/16
	8	1/4	7/32	S-1138	5/8	T-2138	T-2138X	13/16	B-3138	5/8	D-4138		25/32	N-5138	13/16
	8	19/64	7/32	S-1075	5/8	T-2075	T-2075X	13/16	B-3075	5/8	D-4075		25/32	N-5075	13/16
	8	23/64	9/32	S-1139	3/4	T-2139	T-2139X	15/16	B-3139	3/4	D-4139		29/32	N-5139	15/16
	10	19/64	7/32	S-1076	5/8	T-2076	T-2076X	13/16	B-3076	5/8	D-4076		25/32	N-5076	13/16
	10	23/64	9/32	S-1140	3/4	T-2140	T-2140X	15/16	B-3140	3/4	D-4140		29/32	N-5140	15/16

Flanged Spade Terminals

Wire Range	Std. Size	Alt. W	Clearance C	Length L	.125 Max.		.145 Max.		Length L	.145 Max.		Length L	.145 Max.		
					Insulation Diameter	Length L	Insulation Diameter	Length L		Insulation Diameter	Length L				
22-16	3-4	19/64	7/32	S-1125	5/8	T-2125	T-2125X	13/16	B-3125	5/8	D-4125		25/32	N-5125	13/16
	5-6	19/64	7/32	S-1080	5/8	T-2080	T-2080X	13/16	B-3080	5/8	D-4080		25/32	N-5080	13/16
	8	19/64	7/32	S-1081	5/8	T-2081	T-2081X	13/16	B-3081	5/8	D-4081		25/32	N-5081	13/16
	10	19/64	7/32	S-1082	5/8	T-2082	T-2082X	13/16	B-3082	5/8	D-4082		25/32	N-5082	13/16
16-14	3-4	19/64	7/32	S-1126	5/8	T-2126	T-2126X	13/16	B-3126	5/8	D-4126		25/32	N-5126	13/16
	5-6	19/64	7/32	S-1083	5/8	T-2083	T-2083X	13/16	B-3083	5/8	D-4083		25/32	N-5083	13/16
	8	19/64	7/32	S-1084	5/8	T-2084	T-2084X	13/16	B-3084	5/8	D-4084		25/32	N-5084	13/16
	10	19/64	7/32	S-1085	5/8	T-2085	T-2085X	13/16	B-3085	5/8	D-4085		25/32	N-5085	13/16

Ring Tongue Terminals

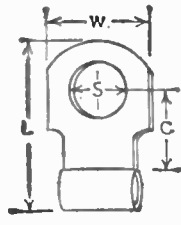
Wire Range	Std. Size	Alt. W	Clearance C	Length L	.125 Max.		.145 Max.		Length L	.145 Max.		Length L	.145 Max.		
					Insulation Diameter	Length L	Insulation Diameter	Length L		Insulation Diameter	Length L				
22-16	2	7/32	5/32	S-1099	33/64	T-2099	T-2099X	45/64	B-3099	33/64	D-4099		43/64	N-5099	45/64
	3-4	7/32	5/32	S-1047	33/64	T-2047	T-2047X	45/64	B-3047	33/64	D-4047		43/64	N-5047	45/64
	3-4	9/32	1/4	S-1096	41/64	T-2096	T-2096X	53/64	B-3096	41/64	D-4096		51/64	N-5096	53/64
	5-6	7/32	5/32	S-1001	33/64	T-2001	T-2001X	45/64	B-3001	33/64	D-4001		43/64	N-5001	45/64
	5-6	9/32	1/4	S-1002	41/64	T-2002	T-2002X	53/64	B-3002	41/64	D-4002		51/64	N-5002	53/64
	5-6	5/16	5/16	S-1103	23/32	T-2103	T-2103X	29/32	B-3103	23/32	D-4103		7/8	N-5103	29/32
	8	9/32	1/4	S-1097	41/64	T-2097	T-2097X	53/64	B-3097	41/64	D-4097		51/64	N-5097	53/64
	8	5/16	5/16	S-1021	23/32	T-2021	T-2021X	29/32	B-3021	23/32	D-4021		7/8	N-5021	29/32
	10	9/32	1/4	S-1098	41/64	T-2098	T-2098X	53/64	B-3098	41/64	D-4098		51/64	N-5098	53/64
	10	5/16	5/16	S-1003	23/32	T-2003	T-2003X	29/32	B-3003	23/32	D-4003		7/8	N-5003	29/32
	10	15/32	.400	S-1111	57/64	T-2111	T-2111X	1-5/64	B-3111	57/64	D-4111		1-3/64	N-5111	1-5/64
	1/4	15/32	.400	S-1004	57/64	T-2004	T-2004X	1-5/64	B-3004	57/64	D-4004		1-3/64	N-5004	1-5/64
	5/16	15/32	.400	S-1005	57/64	T-2005	T-2005X	1-5/64	B-3005	57/64	D-4005		1-3/64	N-5005	1-5/64
	16-14	2	1/4	7/32	S-1102	19/32	T-2102	T-2102X	25/32	B-3102	19/32	D-4102		3/4	N-5102	25/32
3-4		1/4	7/32	S-1048	19/32	T-2048	T-2048X	25/32	B-3048	19/32	D-4048		3/4	N-5048	25/32
3-4		11/32	9/32	S-1112	45/64	T-2112	T-2112X	57/64	B-3112	45/64	D-4112		55/64	N-5112	57/64
3-4		11/32	5/16	S-1095	47/64	T-2095	T-2095X	59/64	B-3095	47/64	D-4095		57/64	N-5095	59/64
5-6		1/4	7/32	S-1006	19/32	T-2006	T-2006X	25/32	B-3006	19/32	D-4006		3/4	N-5006	25/32
5-6		11/32	9/32	S-1007	45/64	T-2007	T-2007X	57/64	B-3007	45/64	D-4007		55/64	N-5007	57/64
5-6		11/32	5/16	S-1092	47/64	T-2092	T-2092X	59/64	B-3092	47/64	D-4092		57/64	N-5092	59/64
8		1/4	7/32	S-1113	19/32	T-2113	T-2113X	25/32	B-3113	19/32	D-4113		3/4	N-5113	25/32
8		11/32	9/32	S-1024	45/64	T-2024	T-2024X	57/64	B-3024	45/64	D-4024		55/64	N-5024	57/64
8		11/32	5/16	S-1093	47/64	T-2093	T-2093X	59/64	B-3093	47/64	D-4093		57/64	N-5093	59/64
10		11/32	9/32	S-1008	45/64	T-2008	T-2008X	57/64	B-3008	45/64	D-4008		55/64	N-5008	57/64
10		11/32	5/16	S-1094	47/64	T-2094	T-2094X	59/64	B-3094	47/64	D-4094		57/64	N-5094	59/64
10		15/32	.400	S-1106	57/64	T-2106	T-2106X	1-5/64	B-3106	57/64	D-4106		1-3/64	N-5106	1-5/64
1/4		15/32	.400	S-1009	57/64	T-2009	T-2009X	1-5/64	B-3009	57/64	D-4009		1-3/64	N-5009	1-5/64
5/16	15/32	.400	S-1041	57/64	T-2041	T-2041X	1-5/64	B-3041	57/64	D-4041		1-3/64	N-5041	1-5/64	

NOTE: 12-10 Wire Range sizes also available. Ask your distributor for Waldom Sales Bulletin 5E9 with complete listings, comprehensive cross reference to other sources, and pricing;

SOLDERLESS TERMINALS AND CONNECTORS



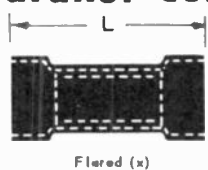
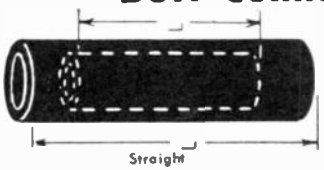
Flag Type Terminals



KRIMPTITE						KRIMPTITE					
Wire Range	Stud Size S	Max. Width W	Clearance C	Catalog No.	Length L	Wire Range	Stud Size S	Max. Width W	Clearance C	Catalog No.	Length L
2-16	5-6	3/8	19/64	S-1059	5/8	16-14	5-6	3/8	9/32	S-1061	5/8
	8	3/8	19/64	S-1060	5/8		8	3/8	9/32	S-1062	5/8
	10	3/8	19/64	S-1043	5/8		10	3/8	9/32	S-1044	5/8

Butt Connectors

Parallel Connectors

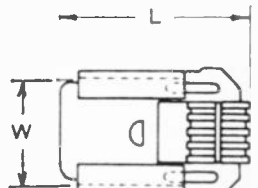
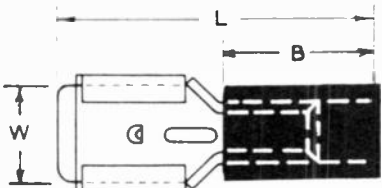
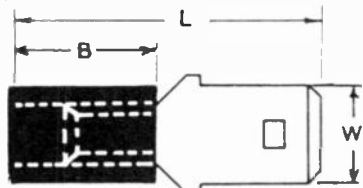


Wire ranges represent cumulative totals of wires used.

KRIMPTITE			INSULKRIMP			UNIKRIMP		
Wire Range	Catalog No.	Overall Length L	Catalog No.	Catalog No.	Overall Length L	Catalog No.	Overall Length L	
22-16	S-1019	9/16	T-2019 (.185 O.D.)	T-2019X (.207 O.D.)	15/16	B-3019	9/16	
16-14	S-1020	9/16	T-2020 (.215 O.D.)	T-2020X (.236 O.D.)	15/16	B-3020	9/16	

KRIMPTITE			INSULKRIMP			UNIKRIMP		
Wire Range	Catalog No.	Overall Length L	Catalog No.	Catalog No.	Overall Length L	Catalog No.	Overall Length L	
22-16	S-1105	5/16	T-2105 (.185 O.D.)	T-2105X (.207 O.D.)	11/16	B-3105	5/16	
16-14	S-1063	5/16	T-2063 (.215 O.D.)	T-2063X (.236 O.D.)	11/16	B-3063	5/16	

QUICK DISCONNECTS PUSH-ON TYPE

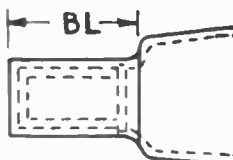


WIRE RANGE: 18-14 BLUE COLOR CODING IN THIS CASE INDICATES A WIRE RANGE OF 18-14

Basic Dimensions		KRIMPTITE			INSULKRIMP		
Wire Range	Width W	Catalog No.	Length L	Barrel Length B	Catalog No.	Length L	Barrel Length B
18-14	1/4	S-1089	21/32	1/4	T-2089	27/32	7/16
	1/4	S-1090	43/64	7/32	T-2090	55/64	7/16
	1/4	S-1091	15/32	5/32	-	-	-

These devices are designed to give high pressure spring loaded contacts. They incorporate a locking action caused by mating a depression on the male tongue with a raised pin in the female slot when the parts are engaged. Insulation is not available on the flag design.

NYLON-INSULATED CLOSED-END CONNECTORS



Material - Connector: Tin plated seamless brass.
Insulation: Natural color molded nylon.

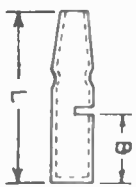
Wire ranges shown in the table represent various cumulative totals of wire diameters that may be combined and inserted for crimping. A completely insulated splice of two, three or more wires may be quickly and cheaply made as follows:

1. Strip insulation to show 3/8" to 1/2" of bare wire.
2. Insert wires fully into cap.
3. Squeeze barrel with crimping tool.

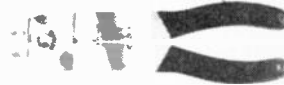
Wire Range	Catalog No.	Outside Diameter O.D.	Overall Length L	Barrel Length BL	Inside Diameter ID	Circular Mil Area
22-14	CE-2214	5/16	39/64	11/32	1/4	600- 5,180
16-10	CE-1610	7/16	23/32	3/8	3/8	2,400-13,100

SNAP PLUGS

Basic Dimensions		KRIMPTITE
Wire Range	Length L	Barrel Length B
16-14	19/32	3/16
	35/64	3/16



CRIMPING TOOLS



CT-1050 for Krimptite, Unikrimp, Vibrakrimp terminals, CT-2050 for Insulkrimp, Avikrimp terminals.

NOTE: 12-10 Wire Range sizes also available. Ask your distributor for Waldom Sales Bulletin 5E9 with complete listings, comprehensive cross reference to other sources, and pricing.

See Waldom Panel Meters in another section.

WALDOM ELECTRONICS INC. Chicago 32, Illinois



AERO Instrument Company

NORTH HOLLYWOOD, CALIFORNIA

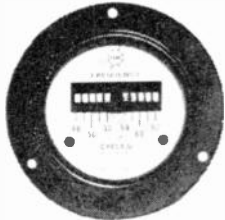
VIBRATING REED FREQUENCY & TIMING INSTRUMENTS

GENERAL DESCRIPTION

Vibrating Reed Instruments are direct reading frequency indicators for use where the efficient operation of A.C. equipment depends upon the maintenance of known or constant frequency. They are self contained, their accuracy is not affected by wide voltage variations or wave form distortions and require no auxiliary apparatus. They consist of a number of steel reeds, of high Q, each of which is tuned to a single frequency within the band covered by the instrument. Indication is by visual pattern formed by the vibration of the reed in resonance with the line frequency. Excitation is electromagnetic, and the reeds are the only moving elements. **Running Time Meters** are synchronous motor operated instruments to automatically measure service periods or service requirements.

APPLICATIONS

A large demand exists for VIBRATING REED FREQUENCY METERS for use with engine driven A.C. generator units as this is the most simple speed and frequency indicator yet devised for A.C. generator sets. These meters are also generally used in laboratory and portable test equipment, electronics, telephony, aircraft, industrial plants and numerous applications where electrical frequency indication is desired. Engineering services are available for those desiring assistance on their application problems. **Running Time Meters** are often used in conjunction with reed type frequency meters.



SERIES 7002

Range: 48-52 and 58-62 cycles for reading in either 50 or 60 cycles. Voltage: 125 volts ± 20 volts. Accuracy: $\pm 0.3\%$ of designated frequency. Power Consumption: 1 watt. Resistance: Approximately 100 ohms per volt. Flush panel mounting.

- 2810-134—48-52 and 58-62 cy. in 3 1/2" flange MIL-M 6A molded bakelite case.....\$25.00
- 2810-133—48-52 and 58-62 cy. in 3 1/2" flange metal case..... 25.00
- 2810-153—48-52 and 58-62 cy. in 3 1/4" flange metal case..... 25.00
- 2810-123—48-52 and 58-62 cy. in 2 1/2" flange metal case..... 25.00

SERIES 7004

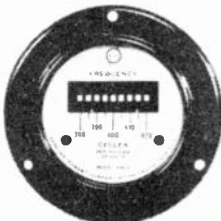
Range: 59-63 cycles. Used extensively on standby power supplies for measuring generator frequency and engine speeds. Electrical characteristics: Same as the Series 7002.



- 6915-134—59-63 cy. in 3 1/2" flange MIL M 6A molded bakelite case.....\$21.50
- 6915-133—59-63 cy. in 3 1/2" flange metal case.....\$21.50
- 6915-153—59-63 cy. in 3 1/4" flange metal case.....\$21.50
- 6915-123—59-63 cy. in 2 1/2" flange metal case.....\$21.50

SERIES 4009

Range: 380-420 cycles. For use on 100 cycle commercial power supplies and aircraft inverters. Accuracy: $\pm 0.2\%$ at 70° F. Power consumption: Approximately 1.25 watts. Resistance: Approximately 70 ohms per volt. Flush panel mounting.



- 4059-134—380-420 cy. in 3 1/2" flange MIL M 6A molded bakelite case.....\$31.00
- 4059-133—380-420 cy. in 3 1/2" flange metal case.....\$31.00
- 4059-153—380-420 cy. in 3 1/4" flange metal case.....\$31.00
- 4059-123—380-420 cy. in 2 1/2" flange metal case.....\$31.00

VOLTAGES—All frequency meters can be supplied for voltages from 10 to 110 volts

DISCOUNTS—Quantity prices quoted upon request.

SPECIAL INSTRUMENTS—Prices on special ranges will be furnished upon request

RUNNING TIME METERS—Special ranges, frequencies and voltages available

Write for catalog describing complete line of Aero stock instruments.

SERIES 1001

Direct reading indicators to automatically and cumulatively register total operating or idle time of any equipment, machine, circuit or system to which they are connected. Range: 0 to 10,000 hours in hours and tenths of hours—automatically resets. Voltage: 125 ± 20 volts. Power consumption: 2.5 watts. Frequency: 50, 60 and 100 cycles.

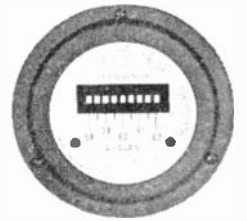
- 61134—60 cy. in 3 1/2" flange MIL-M-6A molded bakelite case.....\$19.00
- 41134—100 cy.....Price upon request



3 1/2" SEALED METER

Meets all applicable requirements of MIL-M 6A Specification. All 3 1/2" meters can be supplied in hermetically sealed cases. Electrical characteristics: Same as unsealed instruments.

Prices on all models available upon request.



1 1/2" SEALED METER

Range: 380-420 cycles. For use in air borne or ground equipment where size and weight are important factors. Voltage: 125 ± 20 volts. Resistance: Approximately 70 ohms per volt. Accuracy: $\pm 0.2\%$ at 70° F. or 1.5% over range of -65° to +165° F. Breakdown voltage: 1500 volts. Power consumption: Approximately 1.25 watts.

- 4005-115—380-420 cy. in 1 1/2" hermetically sealed case.....\$23.85

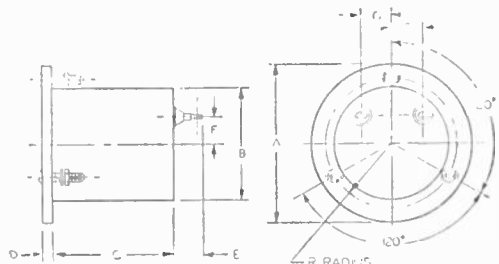
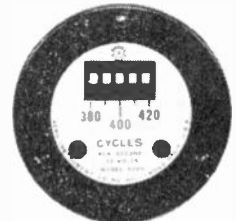


TABLE I
CASE SIZE CHART

CASE STYLE	A		B		C		D		E		F		G		H		MOUNTING SCREWS
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		
A	7.10	1.51	1.56	0.16	2.40	0.41	3.5	0.41	3.5	0.41	3.5	0.41	3.5	0.41	3.5	0.41	4-30MS-1A

Series 4005
Range 380 to 420 C.P.S. Hermetically Sealed.

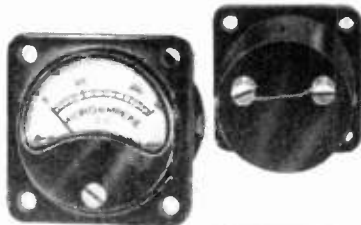
ALCO MINIATURE PANEL METERS

1/2" AND 1" METERS SOLVE MINIATURIZATION PROBLEMS!!

New self shielded core magnet movement eliminates need to calibrate for steel or aluminum panels. Not effected by strong magnetic fields.

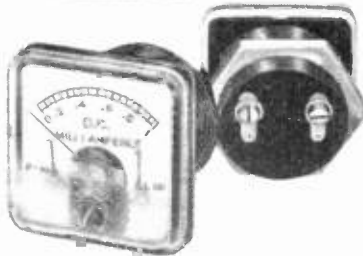
SERIES B-100

- 1" meter
- Bakelite case
- Choice mounting, round or rectangular
- Requires only 1" mounting hole
- Equipped with zero set



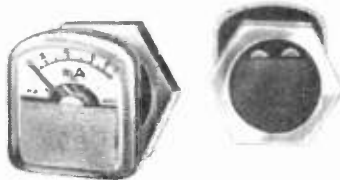
SERIES P-1000

- 1" meter
- Plastic case
- Wide scale arc provides accurate readings
- Requires 1 1/2" mounting hole
- Equipped with zero set



SERIES S-10

- 1/2" meter
- Plastic case
- Requires 1/2" mounting hole
- Clear, legible dial markings



STOCK RANGES	User Net	MOD B-100 1" Bakelite	MOD P-1000 1" Clear Plastic	MOD S-10 1/2" Clear Plastic
D.C. MICROAMMETERS	4.95 0-100			
	5.95 0-200			
	5.95 0-300			
	5.75 0-500			
	6.95 50-0-50			
D.C. MILLIAMMETERS	4.95 0-1			
	4.95 0-5			
	4.95 0-10			
	4.95 0-20			
	4.95 0-50			
	4.95 0-100			
	4.95 0-500			
D.C. VOLTMETERS (1000 o.p.v.)	4.95 0-3			
	4.55 0-10			
	4.95 0-15			
	4.95 0-30			
	4.95 0-50			
	4.95 0-100			
	4.95 0-500			
A.C. VOLTMETERS (Rectifier Type)	5.25 0-15			
	5.25 0-150			
	5.25 0-300			
"S" METER (0-1 MA BASIC MOV)	5.75			
"VU" METER (Range -20 +3)	4.95			

ALCO MULTITESTERS



TS-60H MULTITESTER

- High sensitivity — 20,000Ω per volt
- Modern, compact design
- Exceptionally wide scale arc
- Compares with 4 1/2" meters
- Measures 3/4" wide x 4 1/2" x 1 1/8"
- D.C. Volt Ranges — 5, 25, 250, 500 and 2500
@ 20,000 ohm per volt
- A.C. Volt Ranges — 10, 50, 100, 500 and 1000
@ 10,000 ohm per volt
- D.C. Current — 50μa, 25ma, 250ma
- Resistance — 0-60,000 ohm, 0-6 megohms
- Capacity — .001 mfd — .1 mfd (w/10 VAC source)
.0001 mfd — .001 mfd (w/100 AC source)
- Decibels — -20 db to +22 db.



TS-20B VOLT-OHM-MILLIAMMETER

- Measures 2-3/16" wide x 3-15/16" x 1 1/8"
- D.C. Voltage Range: 0-15, 150, 1000
- A.C. Voltage Range: 0-15, 150, 1000
- D.C. Current Range: 0-15μma
- Resistance: 0-100 K ohms

USER NET \$9.95

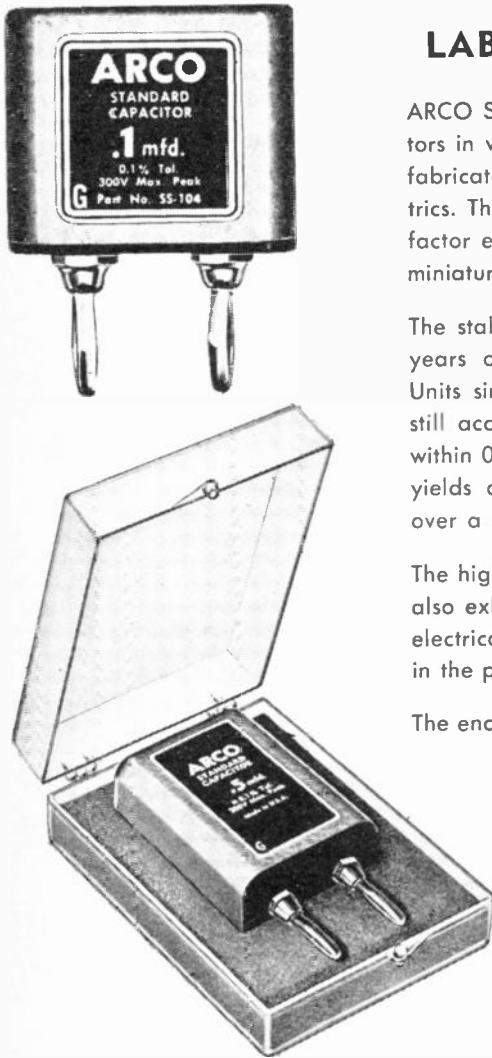
ALCO ELECTRONICS MANUFACTURING CO.

Lawrence, Mass.



ARCO ELECTRONICS INC.
ELMENCO CAPACITORS

MAIN OFFICE ARCO ELECTRONICS INC. NEW YORK 13, N. Y.	ARCO ELECTRONICS INC. CHICAGO 5, ILLINOIS	ARCO ELECTRONICS INC. DALLAS 19, TEXAS	ARCO CAPACITORS INC. LOS ANGELES 35, CALIFORNIA
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LABORATORY STANDARD CAPACITORS

ARCO Standard Capacitors are stabilized silvered mica dielectric capacitors in values up to 0.1 mfd. The capacitance values above 0.1 mfd. are fabricated using a combination of silvered mica and polystyrene dielectrics. The latter design improves the insulation resistance and dissipation factor exhibited by mica alone, and in addition enables maintenance of miniaturized enclosure.

The stability specification of $\pm 0.05\% \pm 0.1$ mmf. is derived from many years observation of long term stability of silvered mica capacitors. Units similar in construction to those employed in ARCO standards are still accurate as laboratory standards after ten years use. They remain within 0.1% of original calibration. Periodic screening of these standards yields an attrition rate of less than 1% on drift exceeding $\pm 0.05\%$ over a three year period.

The higher values which incorporate polystyrene dielectric in construction also exhibit the order of stability specified. Through specially developed electrical screening and thermal stabilization, the long term drift inherent in the polystyrene sections will match that of silvered mica construction.

The enclosure is drawn aluminum with a rugged baked hammertone finish.

The base is a non-hygroscopic thermosetting resin specifically selected for its long term resistance to humidity. To insure long operating life, the capacitive elements are moisture sealed prior to assembly. Then the entire assembly is potted to provide additional moisture protection. The result is a rugged, reliable capacitor standard which will maintain calibration accuracy for years regardless of frequency of use.

SPECIFICATIONS:

ACCURACY OF CALIBRATION

$\pm 0.1\% \pm 0.5$ mmf. of nominal printed on capacitor at 1000 cycles frequency and 23°C.

LONG TERM STABILITY

$\pm 0.05\% \pm 0.1$ mmf.

INSULATION RESISTANCE

5000 megohm-microfarads or 50,000 megohms, whichever is the lesser.

TEMPERATURE COEFFICIENT

.0001 to .1 mfd.
 $+40 \pm 15$ ppm/°C.
0.2 to 0.5 mfd.
 -130 ± 10 ppm/°C.

MAXIMUM VOLTAGE

.0001 to 0.04 mfd.
500 volts peak.
.05 to 0.5 mfd.
300 volts peak.

DISSIPATION FACTOR

.0001 to .0004 mfd. — 0.15%
.0005 to .001 mfd. — 0.1%
.002 to 0.5 mfd. — 0.05%

CASE SIZE

All standards have mounting base $1\frac{1}{8}$ " long by $\frac{1}{16}$ " wide.
.0001 to 0.1 mfd. is $1\frac{1}{8}$ " high.
0.2 to 0.5 mfd. is $2\frac{7}{32}$ " high.
Height dimension excludes banana plugs.



ARCO ELECTRONICS INC.

ELMENCO CAPACITORS

MAIN OFFICE
ARCO ELECTRONICS INC.
NEW YORK 13, N. Y.

ARCO ELECTRONICS INC.
CHICAGO 5, ILLINOIS

ARCO ELECTRONICS INC.
DALLAS 19, TEXAS

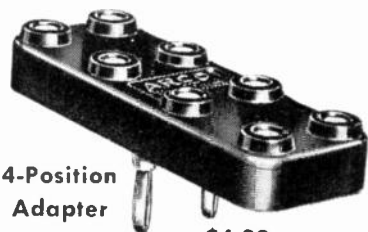
ARCO CAPACITORS INC.
LOS ANGELES 35, CALIFORNIA

LABORATORY STANDARD CAPACITORS

ARCO Standard Capacitors are designed to provide highly precise, versatile laboratory standards at moderate prices. These components are less than half the size and weight of comparable products. As a result, use of multiples and combinations does not become unwieldy. The banana plug terminals are detachable. Their removal leaves threaded 6-32 bushings for easy substitution of terminals of another design. One terminal of ARCO Capacitor Standards is grounded to the case and is identified by the letter "G" on the label.

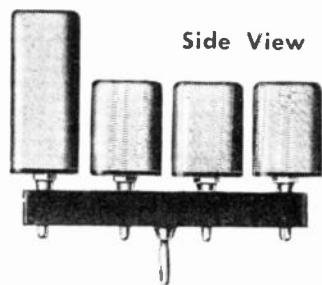
A four position adapter is available for simple combination of standards to obtain exact desired values. With the complete set of ARCO Standard Capacitors, any capacitance value accurate to four significant figures with a $\pm 0.1\%$ tolerance can be constructed with four capacitors plus the adapter. The adapter is calibrated for stray capacitance to maintain accuracy afforded by individual standards. In this manner, the ARCO Standard Capacitors are readily used in decade fashion, affording accuracy which is not approached by conventional capacitor decades.

Part No.	Cap. Mfd.	Peak Volt.	Max. Diss. Factor	Min. Leak. Resist. Megohms	Net Price
SS-101	.0001	500	.0015	50,000	\$13.00
SS-201	.0002	500	.0015	50,000	13.00
SS-301	.0003	500	.0015	50,000	13.00
SS-401	.0004	500	.0015	50,000	13.00
SS-501	.0005	500	.001	50,000	13.00
SS-601	.0006	500	.001	50,000	13.00
SS-701	.0007	500	.001	50,000	13.00
SS-801	.0008	500	.001	50,000	13.00
SS-901	.0009	500	.001	50,000	13.00
SS-102	.001	500	.001	50,000	13.00
SS-202	.002	500	.0005	50,000	13.00
SS-302	.003	500	.0005	50,000	13.00
SS-402	.004	500	.0005	50,000	14.00
SS-502	.005	500	.0005	50,000	14.00
SS-602	.006	500	.0005	50,000	14.00
SS-702	.007	500	.0005	50,000	14.00
SS-802	.008	500	.0005	50,000	15.00
SS-902	.009	500	.0005	50,000	15.00
SS-103	.01	500	.0005	50,000	16.00
SS-203	.02	500	.0005	50,000	16.00
SS-303	.03	500	.0005	50,000	16.00
SS-403	.04	500	.0005	50,000	17.00
SS-503	.05	300	.0005	50,000	17.00
SS-603	.06	300	.0005	50,000	18.00
SS-703	.07	300	.0005	50,000	19.00
SS-803	.08	300	.0005	50,000	20.00
SS-903	.09	300	.0005	50,000	21.00
SS-104	.1	300	.0005	50,000	22.00
SS-204	.2	300	.0005	15,000	24.00
SS-304	.3	300	.0005	17,000	26.00
SS-404	.4	300	.0005	12,500	28.00
SS-504	.5	300	.0005	10,000	30.00

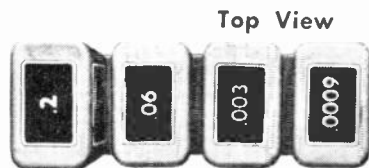


4-Position Adapter

\$4.80 ea.



Side View



Top View

.2639 mfd. $\pm 0.1\%$

By quick and easy insertion of ARCO standard capacitors into the adapter jig a capacitance value of four significant figures with an accuracy of $\pm 0.1\%$ is obtained

COMPLETE SETS OF PRECISION STANDARDS

KIT #SS-32

Complete Set of 32 Precision Standards ranging from .0001 to .5 mfd. as listed above.

Net Price **\$510.00**

Including handsome, durable carrying case.
(Dimensions: 11 $\frac{3}{8}$ "W x 9 $\frac{3}{8}$ "H x 3 $\frac{5}{8}$ "D)
plus 4 POSITION ADAPTER

KIT #SS-23

Complete Set of 23 Precision Standards ranging from .001 to .5 mfd. as listed above.

Net Price **\$405.00**

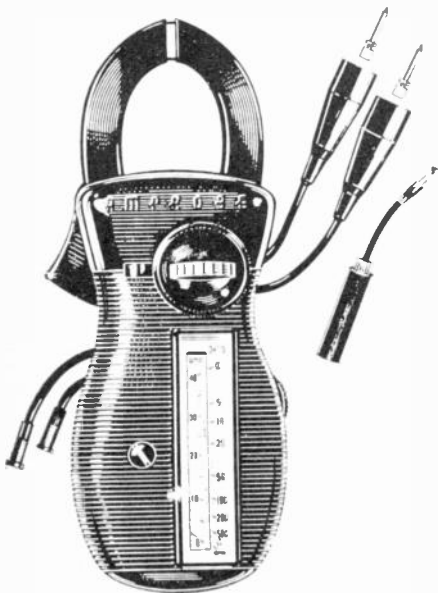
Including handsome, durable carrying case.
(Dimensions: 11 $\frac{3}{8}$ "W x 7 $\frac{1}{2}$ "H x 3 $\frac{5}{8}$ "D)
plus 4 POSITION ADAPTER



**WORLD'S MOST WIDELY USED
ELECTRICAL TEST INSTRUMENTS**

AMPROBE®

THE ONLY LINE THAT COVERS ALL YOUR TESTING NEEDS



The original pocket size
snap-around volt-ammeter-ohmmeter

AMPROBE RS-3

5 current ranges. 3 voltage ranges. Ohmmeter specially designed for the maintenance field. Rotary scale for faster reading and greater accuracy. Pointer-Lock "freezes" pointer at reading. Advanced printed circuitry laughs at rough handling. Advanced movement design—new internal core magnet with self shielding characteristics. By itself, the Amprobe RS-3 handles 99% of your test needs. With the Amprobe Deca-Tran and Amprobe Energizer it covers EVERY testing situation.

Only \$52.50



AMPROBE RS-1

The economy snap-around volt-ammeter with many features of the great RS-3 including rotary scale, pointer lock, printed circuit, and advanced movement design. 4 current ranges. 2 voltage ranges.

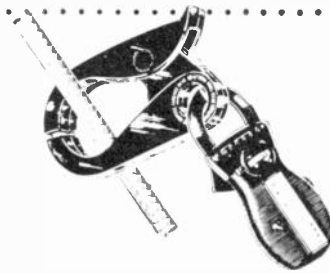
Only \$39.85



AMPROBE JR.

The advanced voltage tester that gives you current, too. Available in seven models, ranging from 10 amps to 100 amps in either 125/250 or 150 600 volts. Choose the model that fits your job.

Only \$19.85



AMPROBE DECA-TRAN

Makes your Amprobe the world's most flexible and versatile electrical test instrument. Extends amperage reading 10 times. Gets readings as high as 1200 amps.

Only \$24.75



AMPROBE ENERGIZER

Multiplies the sensitivity of any Amprobe ten times—for precise readings on small appliances and fractional horsepower motors.

Only \$3.75

PYRAMID INSTRUMENT CORPORATION, LYNBROOK, N. Y. WORLD'S LARGEST MANUFACTURER OF SNAP-AROUND VOLT-AMMETERS.

BEEDE METERS

MODEL 5

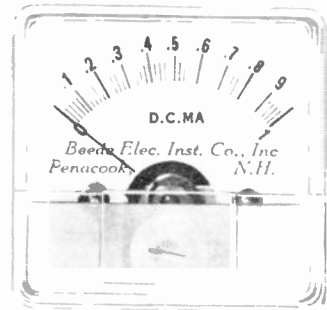
1½ inch Panel Instrument

Magcentric®

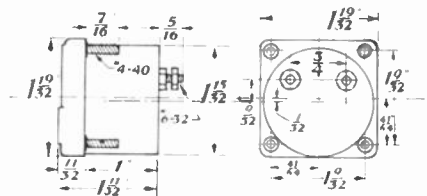
PATENT APPLIED FOR

Clear
Plastic
Flush Type

Accuracy within 3%
Pointer Style Optional
Alnico Magnet



ACTUAL SIZE



CONSTRUCTION D'Arsonval moving coil design, precision polished jewels and pivots, fatigue tested springs, and stress-released assembled units. Superior workmanship and individual operation inspected production provides accurate, on the dot instruments. The Magcentric mechanism provides an inherent magnetic shield with no loss in sensitivity.

D.C. MICROAMPERES

Range	
0-50	\$14.23
0-100	13.50
0-200	13.18
0-500	10.73

D.C. MILLIAMPERES

Range	
0-1	\$10.10
0-5	9.38

D.C. AMPERES

Range	
0-1	\$9.38
0-5	9.38
0.50	9.38

D.C. VOLTS

125 ohms per volt	\$ 9.38
1000 ohms per volt	11.60

MODEL E-25

Horizontal or
Vertical
Clear Plastic
EDGEWISE



ACTUAL SIZE

Conserves Space where panel area is limited
Contains the Magcentric Self Shielding Movement

CONSTRUCTION D'Arsonval moving coil design, precision polished jewels and pivots, fatigue tested springs, and stress-released assembled units. Superior workmanship and individual operation inspected production provides accurate, on the dot instruments. The Magcentric mechanism provides an inherent magnetic shield with no loss in sensitivity.

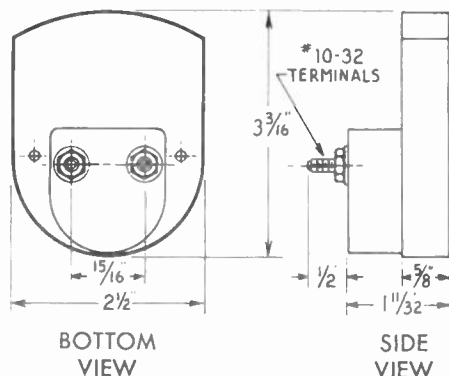
D.C. MICROAMPERES

Range	
0-50	\$16.43
0-100	14.75
0-200	14.00
0-500	12.55

D.C. MILLIAMPERES

Range	
0-1	\$11.95
0-5	10.10

Accuracy within 2%
Pointer Style Optional
Alnico Magnet



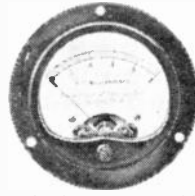
BOTTOM VIEW

SIDE VIEW

BEEDE ELECTRICAL INSTRUMENT CO., INC.

PENACOOK, NEW HAMPSHIRE

BEEDE METERS



MODEL 16

MODEL 15

MODELS 310 501 MODELS 23 - 14 - 2 - 5

Model	Case Mat. & Mounting	Case Size	Barrel Diameter & Depth	Scale Length
D.C.	A.C.			
5		Styrene - Flush	1 1/32" x 1 1/32"	1 1/8"
411	426	Metal - Flush	2 3/32" Dia.	1 23/32"
412	427	Metal - Flush	2 3/64" Dia.	1 23/32"
501	516	Bakelite - Flush	2 3/4" Dia.	1 23/32"
733	748	Metal - Surface	3 1/8" Dia.	2"
2	17	Styrene - Flush	2 3/8" x 2 3/8"	2 3/64"
701	716	Metal - Flush	3 3/32" Dia.	2 11/64"
15	30	Bakelite - Flush	3" x 3"	2 3/8"
310	325	Bakelite - Flush	3 1/2" Dia.	2 3/8"
140	155	Styrene - Flush	3 3/8" x 2 3/8"	2 1/8"
811	826	Metal - Flush	3 3/4" Dia.	2 1/8"
815	830	Metal - Surface	3 1/2" Dia.	2 1/8"
14	29	Styrene - Flush	3 13/32" x 3"	2 3/64"
1		Bakelite - Flush	4 5/8" x 4"	3 13/32"
16	31	Bakelite - Flush	4 23/32" x 4 3/16"	3 13/32"
23	38	Styrene - Flush	4 23/32" x 4 3/16"	3 13/32"
45	60	Bakelite - Flush	4 5/8" x 4"	3 13/32"
425	440	Metal - Surface	4 1/4" Dia.	3 13/32"
450	465	Metal - Flush	4 1/8" Dia.	3 13/32"
458	473	Bakelite - Flush	4 23/32" x 4 3/16"	3 13/32"
541	556	Bakelite - Flush	4 1/2" x 3 3/8"	3 13/32"
230	245	Styrene - Flush	4 5/8" x 3 5/8"	3 39/64"
6		Metal - Flush	6 1/8" Dia.	4 23/32"
70		Styrene - Flush	7" x 5 1/4"	5 13/32"
7		Bakelite - Flush	7 1/4" x 7 1/4"	5 29/32"

D. C. MICROAMMETERS

Range	Approx. Res.	Models 411 - 412 - 501 2 - 701 - 733	Models 310 - 15 - 14 140 - 811 - 815	Models 1 - 45 - 16 458 - 23 - 230	Model 70
0-20	3000 ohms	\$16.23	\$16.60	\$18.43	\$21.44
0-50	2000 ohms	14.23	14.60	16.43	19.94
0-100	1000 ohms	13.50	14.15	14.75	18.38
0-200	500 ohms	13.18	13.48	14.00	17.50
0-500	150 ohms	10.73	10.98	12.55	16.05

D. C. MILLIAMMETERS

Range	Models 411 - 412 - 501 2 - 701 - 733	Models 310 - 15 - 14 140 - 811 - 815	Models 1 - 45 - 16 458 - 23 - 230	Model 70
0-1	\$10.10	\$10.38	\$11.95	\$15.63
0-5	9.38	9.63	10.10	13.60
0-10	9.38	9.63	10.10	13.60
0-15	9.38	9.63	10.10	13.60
0-25	9.38	9.63	10.10	13.60
0-50	9.38	9.63	10.10	13.60
0-100	9.38	9.63	10.10	13.60

Range	Models 411 - 412 - 501 2 - 701 - 733	Models 310 - 15 - 14 140 - 811 - 815	Models 1 - 45 - 16 458 - 23 - 230	Model 70
0-150	\$9.38	\$9.63	\$10.10	\$13.60
0-200	9.38	9.63	10.10	13.60
0-250	9.38	9.63	10.10	13.60
0-300	9.38	9.63	10.10	13.60
0-400	9.38	9.63	10.10	13.60
0-500	9.38	9.63	10.10	13.60
0-1000	9.38	9.63	10.10	13.60

BEEDE METERS



MODEL 458

MODEL 411

MODELS 701 - 412 - 811

MODELS 70 - 140 - 230

D. C. AMMETERS

Range	Models 411-412-501 2-701-733	Models 310-15-14 140-811-815	Models 1-45-16 458-23-230	Model 70
0-1	\$9.38	\$9.63	\$10.10	\$13.60
0-5	9.38	9.63	10.10	13.60
0-10	9.38	9.63	10.10	13.60

Range	Models 411-412-501 2-701-733	Models 310-15-14 140-811-815	Models 1-45-16 458-23-230	Model 70
0-15	\$9.38	\$9.63	\$10.10	\$13.60
0-25	9.38	9.63	10.10	13.60
0-50	9.38	9.63	10.10	13.60

D. C. VOLTMETERS

Range		Models 411-412-501 2-701-733	Models 310-15-14 140-811-815	Models 1-45-16 458-23-230	Model 70
0-1	125 ohms per volt	\$ 9.38	\$ 9.63	\$10.10	\$13.60
0-5	"	9.38	9.63	10.10	13.60
0-10	"	9.38	9.63	10.10	13.60
0-15	"	9.38	9.63	10.10	13.60
0-25	"	9.38	9.63	10.10	13.60
0-50	"	9.38	9.63	10.10	13.60
0-100	"	9.38	9.63	10.10	13.60
0-150	"	9.38	9.63	10.10	13.60
0-200	1000 ohms per volt	11.60	11.88	13.45	17.05
0-250	"	11.60	11.88	13.45	17.05
0-300	"	11.60	11.88	13.45	17.05
0-500	"	11.60	11.88	13.45	17.05

A. C. MILLIAMMETERS

Available August 1, 1959

Range	Models 426-427-516 17-716-748	Models 325-30-29 155-826-830	Models 18-60-31 473-38-245
0-10	\$8.38	\$8.63	\$9.10
0-15	8.38	8.63	9.10
0-25	8.38	8.63	9.10
0-50	8.38	8.63	9.10
0-100	8.38	8.63	9.10
0-250	8.38	8.63	9.10
0-500	8.38	8.63	9.10

A. C. AMMETERS

Available August 1, 1959

Range	Models 426-427-516 17-716-748	Models 325-30-29 155-826-830	Models 18-60-31 473-38-245
0-1	\$8.38	\$8.63	\$9.10
0-5	8.38	8.63	9.10
0-10	8.38	8.63	9.10
0-15	8.38	8.63	9.10
0-25	8.38	8.63	9.10
0-50	8.38	8.63	9.10

A. C. VOLTMETERS

Available August 1, 1959

Range	Models 426-427-516 17-716-748	Models 325-30-29 155-826-830	Models 18-60-31 473-38-245
0-1.5	\$8.38	\$8.63	\$9.10
0-5	8.38	8.63	9.10
0-10	8.38	8.63	9.10
0-15	8.38	8.63	9.10
0-25	8.38	8.63	9.10

Range	Models 426-427-516 17-716-748	Models 325-30-29 155-826-830	Models 18-60-31 473-38-245
0-50	\$8.38	\$8.63	\$ 9.10
0-150	8.38	8.63	9.10
0-250	8.38	8.63	9.10
0-500	9.38	9.63	10.10
0-1000	9.38	9.63	10.10

BEEDE ELECTRICAL INSTRUMENT CO., INC.
PENACOOK, NEW HAMPSHIRE



HOYT ELECTRICAL INSTRUMENTS

For Original Equipment and Replacement Applications

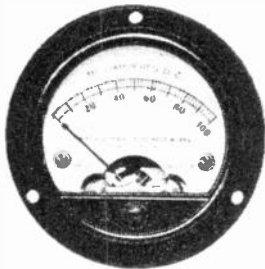


MODEL Nos. 641, 645, 653 and 649, D.C.
MODEL Nos. 642, 646, 654 and 650, A.C.
Clear Plastic Styrene Cases

HOYT moving-coil Meters are built on the D'Arsonval principle using carefully selected jewel bearings and polished steel pivots. Accuracy within 2%. Alnico Magnets with soft-iron pole-pieces of uniform flux density used in all movements. Permanently correct balance assured by HOYT "cross arm" spiral wire balance. High torque to weight ratio. Quick response and good damping under all conditions. Choice of "knife-edge" or "lance" type pointers. Full 100° movements standard on most models.



MODEL Nos. 600 and 647, D.C.
MODEL Nos. 601 and 648, A.C.
Bakelite Cases



MODEL Nos. 582 & 17 3, D.C.
MODEL Nos. 584 and 552, A.C.



MODEL No. 661, D.C.
MODEL No. 661R
(rectifier type), A.C.

NOTE: If "in-between" ranges are required, add \$1.50 to price of next higher range listed. If "zero-center" ranges are required, add \$1.50 to price of that range. For in-between ranges on moving-coil type Voltmeter 150 volts and up, add \$2.50 to prices shown.

NOTE: Please specify type of case on order from chart above. Unless specified, all meters are calibrated on non-magnetic panels. If steel panels are used, give thickness of steel and size of panel hole (No extra charge). All prices are net - subject to change or withdrawal without notice.

MODEL	DC	AC	CASE TYPE PANEL MTG.	SCALE LENGTH		BODY DIAM. AC - DC	BODY DEPTH AC - DC
				DC	FEANSE		
661	—	—	Styrene Sq.	1.800"	1.740"	1.500"	1.000"
17/3	552	—	Bakelite Rd.	2.015"	2.690"	2.200"	1.375"
17 3	552	—	Metal Rd.	2.015"	2.547"	2.063"	1.297"
635	636	—	Bakelite Sq.	2.015"	2.375"	2.200"	1.400"
649	650	—	Styrene Sq.	2.480"	2.625" x 2.375"	2.200"	1.125"
17 L	560	—	Metal Rd.	2.480"	3.219"	2.500"	1.500"
17/L	560	—	Metal Surf.	2.480"	3.063"	2.500"	—
582	584	—	Bakelite Rd.	2.720"	3.500"	2.750"	1.375"
597	598	—	Bakelite Sq.	2.720"	3.000"	2.750"	1.375"
653	654	—	Styrene Sq.	3.435"	3.375" x 3.125"	2.750"	1.125"
570	580	—	Metal Rd.	2.850"	3.750"	3.000"	1.688"
570	580	—	Metal Surf.	2.850"	3.625"	3.000"	—
607	610	—	Bakelite Sq.	2.850"	3.625" x 3.313"	2.250"	1.063"
574	617	—	Metal Rd.	3.875"	4.500"	3.750"	1.594"
574	617	—	Metal Surf.	3.875"	4.500"	3.750"	—
600	601	—	Bakelite Sq.	4.034"	4.500" x 4.000"	2.750"	1.063"
641	642	—	Styrene	4.250"	4.500" x 3.841"	2.750"	1.125"
645	646	—	Styrene Sq.	4.470"	4.625" x 4.188"	2.750"	1.125"
647	648	—	Bakelite Sq.	4.470"	4.500" x 4.188"	2.750"	1.125"

PRICE LIST: PANEL MOUNTING PORTABLE

Range	Approx. Resist.	= 661 = 17 3 = 635 = 649	= 17L	= 653 = 582 = 597	= 570 = 607	= 574 = 641-5 = 600 = 647	= 583 = 602	= 578	= 515
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D.C. MILLIAMMETERS									
0 1	50	\$ 8.70	\$ 9.00	\$ 9.20	\$ 9.70	\$ 10.20	‡	\$ 11.15	\$ 13.10

Above prices also apply to 0 3, 0 5, 0/10, 0/15, 0/25, 0/30, 0/50, 0/100, 0 150, 0 200, 0/300, 0 500 MA. standard ranges.

D.C. MICROAMMETERS									
0 20	2,800	15.70*	16.00	16.20	16.70	17.20	‡	—	—
25 0 25	1,550	13.20*	—	13.70	—	14.70	—	—	—
0 50	1,550	13.20*	13.50	13.70	14.20	14.70	—	—	—
50 0 50	950	11.50	—	12.00	—	13.00	—	—	—
0 100	950	11.50	11.80	12.00	12.50	13.00*	—	13.95	15.90
100 0 100	450	9.75	—	10.30	—	11.30	—	—	—
0/200	450	9.75	10.10	10.30	10.80	11.30	—	12.25	14.20
0/500	110	9.30	9.50	9.80	10.30	10.80	—	11.75	13.70
500 0 500	50	8.70	—	9.20	—	10.20	—	—	—

D.C. MILLIVOLTMETERS									
0 50	0.3	8.70	9.00	9.20	9.70	10.20	‡	11.15	13.40

D.C. AMMETERS									
0/1	0.005	8.70	9.00	9.20	9.70	10.20	‡	11.15	13.10
0 5	0.004	8.90	9.20	9.35	10.20	10.40	‡	11.35	13.30

Above prices for 0 5 amp. range also apply to standard ranges of 0 10, 0 15, 0 25, 0 30, 0 50 amps. on a 1 models. No. 661 uses external shunt over 5 amps. See Shunt Table below for High Current Ammeter Ranges.

D.C. VOLTMETERS									
0 1	1000 Ω/V.	9.40	9.70	9.90	10.40	10.90	‡	11.85	13.80
0/300	2000 Ω/V.	9.90	10.20	10.40	10.90	11.40	‡	12.35	14.30

Above prices also apply to standard ranges of 0 3, 0 5, 0/10, 0 15, 0/25, 0/30, 0 50, 0/100, 0/150 volts on all models.

* These ranges carried IN STOCK. Models = 582, 597, and 647 only. ‡ Prices on request for all ranges of Models = 583 and = 602. *No. 661 not available in these ranges.

STANDARD SWITCHBOARD SHUNTS AND AMMETER RANGES

For price of High Current Ammeters, add price of 0 50 millivoltmeter to price of external shunt, below. 3-ft. leads furnished with shunts. *Stock shunts.

0/25 - \$7.00	0/50 - \$7.00*	0/100 - \$7.00*	0 200 \$7.00*	0 500 - \$12.25*	0 800 - \$19.00*	0/1500 - \$37.45*	0/2500 - \$56.75
0/30 - 7.00	0/75 - 7.00*	0/150 - 7.00*	0 300 8.10*	0 600 - 14.65*	0 1000 26.50*	0/2000 - 44.75	0 3000 68.15



HOYT ELECTRICAL INSTRUMENTS

For Original Equipment and Replacement Applications

PRICE LIST:

PANEL MOUNTING

PORTABLE

		= 552		= 617				
	Approx. Resist.	= 636	= 560	= 654	= 584	= 580	= 601	= 517
Range		= 650		= 598	= 610	= 610	= 648	
							= 642-6	

A.C. MILLIAMMETERS

0 6	6000	\$9.40	\$9.80	\$10.00	\$10.60	\$11.20	—	—
0 10	2700	8.40	8.80	9.00	9.60	10.20	\$11.15	\$13.10

Prices for ranges: 0/30, 0/50, 0/100, 0/150, 0/200, 0/300, 0/500 MA. for all models—same as 0/10 MA. range above.

A.C. AMMETERS

0 1	0.271	8.40	8.80	9.00	9.60	10.20	11.15	13.20
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Above prices also apply to all models of standard single ammeter ranges—0, 3, 0, 5*, 0/10, 0/15, 0/25, 0/30*, 0/50* amps. A.C. Ammeters are self-contained to 75 amps.

0 75	0.001	—	—	10.70	11.30	11.70	12.85	14.80
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For High Current Ranges—See Transformer Section below.

A.C. VOLTMETERS (Repulsion Type)

0 5	77	8.40	8.80	9.00	9.60	10.20	11.15	13.10
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Above prices also apply to all models in standard ranges of 0/10 and 0/15 volts.

0 25	1476	8.70	9.10	9.30	9.90	10.20	11.15	13.10
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Above prices also apply to all models in standard ranges of 0/30, 0/50, 0/100 volts.

0 150*	25,000	9.45	9.90	10.10	10.60	11.10	12.05	14.95
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0/300*	50,000	—	—	—	—	—	—	—
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0/500	83,300	—	—	14.50	15.00	15.50	16.45	19.35
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0/600*	99,960	—	—	—	—	—	—	—
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*These ranges carried IN STOCK on Models = 584, = 598 and = 648 only (calibrated for non-magnetic panels).

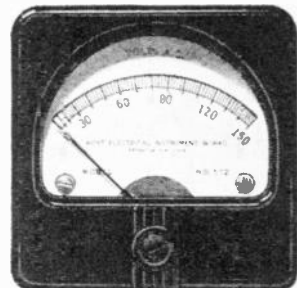
NOTE: For A.C. RECTIFIER-TYPE VOLTMETERS—5 through 300 volts—add \$5.00 to price of comparable D.C. model in 5 volt range. Accuracy within 5%.

NOTE: If "in-between" ranges are required, add \$1.50 to next higher price as shown above (add \$2.50, if above 150 volts). Standard calibration is for non-magnetic panels. Steel panel calibration at no extra charge if order specifies thickness of steel and size of panel hole. Please specify type of meter case.

HIGH CURRENT DONUT TYPE TRANSFORMERS (In Stock)

For prices of HIGH CURRENT AC AMMETERS, add price of ammeter model above to transformer price below. Transformers have 2-ft. leads and 2 VA burden. Other ranges available on request.

50 5	\$8.45	100 5	\$8.45	200/5	\$8.45	500/5	\$10.55
75 5	8.45	150/5	8.45	300 5	8.45	600/5	10.55



MODEL Nos. 635 and 597, D.C.
MODEL Nos. 636 and 598, A.C.

HOYT A.C. Meters for indicating 60 cycle Voltage and Current are of the repulsion type with pneumatic damping. Furnished in the same case styles and sizes as HOYT D.C. Meters, they match the D.C. meter where both types are used or the same panel. See DC-AC Specification Chart on opposite page.

Accuracy is 2%. A choice of pointers is available, and special shields can be supplied at additional cost.

VU METERS, with "A" scale, available in #649, #653, #645, and #647 case styles. Prices on request.

NOTE: A.C. Meters calibrated at any special frequency, 50 - 2000 cycles. Prices on request.

MOVING MAGNET INDICATORS



MODEL No. 793, D.C.
2 1/2" Plastic Case

HOYT Moving Magnet Indicators have been used for many years by the leading manufacturers of electrical devices. Feature long scales and accuracy within 5%.

Attractive appearance is combined with a sturdy

movement. Furnished in round or square cases at low cost. Standard finish on metal cases is black. Chrome Plate is available at slight additional cost. Many types of mounting arrangements available.

NOTE: A.C. Vane Meters are furnished in quantity only. Prices on request.

If in-between ranges are required—add \$1.50 to next higher range price; for "zero-center" ranges, add \$1.50 to same range price.



MODEL No. 640, D.C.
2 1/4" Metal Case

MODEL		CASE TYPE PANEL MTG.	SCALE LENGTH DC	FLANGE	BODY DIA. BODY DEPTH	
DC	AC				DC	DC
640	531AC	Nar. Metal Rd.	1.400"	2.281"	2.000"	1.078"
640	531AC	Metal Surface	1.400"	2.375"	2.000"	—
693	594	Metal Sq.	1.400"	2.625"	2.000"	0.563"
793	—	Plastic Sq.	1.715"	2.375"	2.000"	0.500"

D.C. MILLIAMMETERS

Range	Approx. Resist.	= 640	= 693	# 793
0/1	1000	\$3.45	\$3.50	\$3.75
0/3	700	2.55	2.60	2.85
0 5	480	2.30	2.35	2.60
0 10	180	2.15	2.20	2.45
0/15	130	1.85	1.90	2.15

Prices for 0/25, 0/30, 0/50, 0/100, 0/150, 0 200, 0/300, 0/500 MA. ranges:

1.80	1.85	2.10
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D.C. AMMETERS

Range	= 640	= 693	= 793
0 1	\$1.80	\$1.85	\$2.10
Above prices also apply to 1/0, 1, 3/0/3, 0/5, 6/0/6, 0/10, 10/0/10, 0 15 amp. ranges.			
20/0 20	2.25	2.30	2.55
Above prices also apply to 0 25, 0/30, 30/0/30 amp. ranges.			
0 50	2.45	2.50	2.75
50/0/50	2.45	2.50	2.75
0, 75	2.85	2.95	3.20
0/100	3.30	3.40	3.65

D.C. VOLTMETERS

Range	Approx. Resist.	= 640	= 693	# 793
0/1	—	\$1.80	\$1.85	\$2.10
Above prices also apply to 0/3, 0/5, 0/10, 0/15 volt ranges.				
0/25	1375	2.10	2.15	2.40
0/30	1650	2.10	2.15	2.40
0/50	2200	2.25	2.30	2.55
0/100	20,000	2.25	2.30	2.55
0/150	30,000	2.30	2.35	2.60
0/300	60,000	3.10	3.20	3.50

"CHICAGO"

MULTITESTERS and VTVMs



NEW!

High Sensitivity VOM

This latest design tester with 20,000 ohms per volt loading on D.C. volts will find a place in every TV tube caddy. Quality Components used throughout 1% resistors and shunts insures accuracy. Clear plastic meter with 4 color dial. Instant selection of correct meter scale by use of color coding scale to same color switch position. Ranges DC volts 0/25/10/25/100/250/1 K/ 2.5 kv.) AC volts 0/25/10/25/100/250/1K. Output; Same as AC volts. 250 MA; Ohms, 5. Ranges from 1 Ohm to 20 MEGOHMS. Size only 6 3/4" x 5 1/4" x 3 1/4". Complete with test leads.

Model 660

Net \$29.50



NEW!

(New) High Sensitivity VOM

Same sensitivity and ranges, except output, as Model 660. Case style and protective wrap around similar to Model 551. Designed for horizontal or angle use. Complete with test leads.

Model 660A

Net \$29.50



Model 450 Featherweight VOM

The original palm size multimeter has retained its popularity over the years because of its accuracy, convenience

and rugged dependability. Tiny molded case has no projections to catch in the pocket — a real pleasure to use! 1000 ohms per volt sensitivity. Same accuracy as larger Chicago instruments. DC Volts: 0-5 10 50 500 1000. Mils: 0-1. Ohms Full Scale: 5000 50,000 500,000. Ohms Center Scale: 30 300 3000. Size only 3 1/16" x 2 7/8" x 2". With leads.

Model 450

Net \$14.00



Model 312

Simplex AC-DC VOM

Ranges: AC-DC Volts: 0-25 50/125/250. AC-DC Mils: 0-50. Ohms Full Scale: 100,000. Ohms Center Scale: 2400. Capacity: .05 to 15 MFD.

Net \$9.00

Model 371

Simplex VOM



Net \$7.00

An extremely useful iron vane type instrument that offers more features for its price than anything on the market. DC Volt Ranges: 0-3/15/30/300. DC Mils: 0-25. Ohms Full Scale: 10,000. Molded Bakelite Case only 1 7/8" x 2 3/4" x 3 7/8".

Net \$7.00



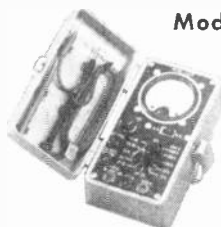
AC-DC VOM

New Type

A radically new type of multimeter offering more useful ranges than many instruments twice its size and price. All shunts and multipliers are within 1% accuracy and are mounted inside the actual meter case. 1000 ohms per volt sensitivity. Instrument protected by attractive black leather wrap-around case permanently attached. Compare these ranges: DC Volts: 0-5 10 50 100 500 2000. AC Volts: 0-12.5 25 125 250/1250. Lo Ohm Scale 0-1000. Ohms Full Scale: 0-200,000 2 meg. DC Mils: 0-1/10 100. Size only 6 1/2" x 5 1/2" x 2 3/8". With leads.

Model 551

Net \$18.50



Model 431-A

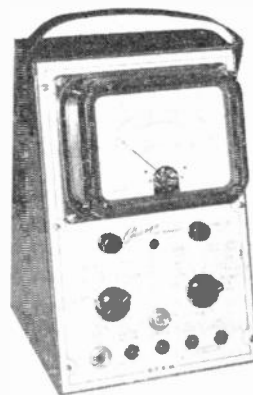
AC-DC VOM

Net \$21.50

A quick, rotary type range selector

Vacuum Tube Voltmeter

New!



504-458-A

A complete service laboratory in an easy to read slant front case is yours in this top quality instrument. Precision 1% multipliers, ease of function-range selection and capacitance ranges are found only in instruments costing much more. Zero center for TV and FM alignment. Price includes DC probe and test leads. Sizes: 10" x 6 3/4" x 6". 30 Ranges. AC-DC Volts 0-5 10 50 100 500/1000 5000. Decibels: -20 to +16. Ohms: 0-1000 10K 100K 1 meg 100 meg 1000 meg Ohms Center Scale: 10/100 1000 10K 1 meg 10 meg. Capacitance: 50 to 5000 mmf. .0005 to .05 mf. .05 to 5 mf. .5 to 50 mf. 5 to 500 mf. 50 to 5000 mf. DC Mills: 0-1 10 100 500.

Model 504

Net \$47.00

Model 504 Accessories

Model P-505 R.F. Probe. Extends range to 100 MC. Net \$6.50

Model P-506 High Voltage Probe. Extends range to 30,000. Net \$6.50

CHICAGO...

more ranges —
more accuracy
— more style
for the money

is featured in this popular multimeter. Shunts and multipliers accurate to 1%. 1000 ohms per volt sensitivity. AC-DC Volt Ranges: 0-15 30 150 300 1500/3000. DC Amperes: 0-7.5 DC Milli-amperes: 0-1.5 150. Ohms Full Scale: 0-10,000/100,000 1 meg. Ohms Center Scale: 60/600/6000. Aluminum Case with protective aluminum cover. Size: 6 1/8" x 2 1/4" x 3 3/8". With leads.

Model 431-A

Net \$21.50

Continued: CHICAGO INDUSTRIAL INSTRUMENTS

**Unidial
Electric
Multi-
Tester**



only \$35.00

Net

Model 541 — An extremely high grade compact VTVM with single knob selector for both function and range. 11 Megohm input. High torque jewelled meter with burn-out protection. Decibel scale. Polarity reverse for D.C. volts. Peak volts scale. 1% Resistors. Latest TV type rectifier. AC operation. A precision factory wired and tested instrument at the price of a kit. No batteries used on ohm function. Ranges: AC-DC Volts: 0-3 30/300/1200. Ohms: 1/5 ohm to 1000 meg. Size Only 6 3/4" x 5 1/4" x 3 1/4".

Model 541 Accessories

Model 541-1 Hi-voltage Probe. Extends range to 30,000 V. Net \$6.50

Model 541-2 Hi-freq. Probe. Net \$6.50

Tube Checkers and Special Purpose Instruments

**TUBE CHECKER and
SERVICE UNIT**

**Complete
TEST UNIT only \$99.00 Net**



Model 432 — Consists of an up-to-minute plate conductance tube checker, an AC-DC Volt-Ohmmeter, a condenser leakage tester, selenium rectifier and dry battery tester, all in one attractive luggage type carrying case. The tube checker features a patented quick set-up key arrangement that tests diodes as diodes, triodes as triodes and pentodes as pentodes. Illuminated roll chart lists 95% of all receiving tube types. Lid contains handy chrome mirror to assist in making picture tube adjustments. Volt Ohmmeter ranges: AC-DC Volts: 0-10/100/500/1000. Ohms: 0-5000/50,000/500,000/50 meg. Readings are all made on modern, 5" square

lucite meter. Add the cost of each instrument in this attractive case and you will recognize the outstanding value the Model 532 offers. Price includes test leads and picture tube adapter, Fabricoid covered case and instruments. Dimensions: 16" x 13" x 7 1/2".

**No. 531—TUBE CHECKER
and BATTERY TESTER**

Similar to the Model 432 above but for tube, dry battery and selenium rectifier testing only. Battery tester is the latest design which tests all popular types under rated load. Price includes test leads, picture tube adapter, simulated leather covered wood carrying case

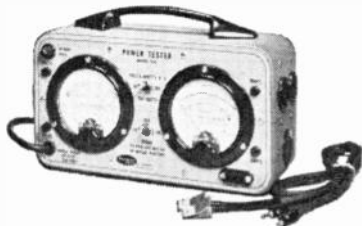
and instructions. Dimensions: **only \$74.00**

16" x 13" x 7".

Net



Appliance Power Tester



Model 543 Net \$32.00

Shows volts, amps and watts simultaneously for accurate analysis of all types of electrical appliances. Provision for shorting out ammeter on motor starting current. Highest quality jewelled meters. AC Volts: 0-150/300. AC Amps: 0-5/15. AC Watts: 0-600/1200 and 0-1750/3500. Dimensions: 11 1/2" x 6" x 4". With heavy-duty test leads.

**Photoflash
Battery
Tester**



Model 545 Price \$18.50

This unit has nationwide acceptance as a battery merchandiser. Tests all photoflash batteries under manufacturer's recommended loading. Ranges: 1 1/2 AA / 1 1/2 C / 1 1/2 D / 15v / 22.5 / 22.5 / 30v / 45v / 90v / 225v / 240v / 510v. Large 4 1/2 meter with 4 color scale. Full instructions screened on side of case. Rubber feet to avoid scratching counter. Size 6 1/2 x 5 1/2 x 2 3/8.

**Featherweight
DRY BATTERY
TESTER**

**only
Net \$12.50**



Model 454—This unit supercedes Model 454 which long has found favor with Radio Servicemen.

4 New Ranges have been added to meet the testing requirements of new batteries developed for transistor radios. Tests under manufacturers recommended loading the following ranges: 0-1.5/4.5/6/7.5/9/15 22.5 30 45 67.5 75 90 volts. It is pocket sized 3 1/8" x 2 7/8" x 2" with attached leads. Pin termination allows testing of any battery terminal style.

HEARING AID BATTERY TESTER

Tests all Mercury batteries up to 30 volts in 3 ranges at mfgs. approved loading. Will not harm battery in the testing procedure. No guessing. Accurately shows endpoint of battery life. Pocket sized, only 3 1/8 x 2 7/8 x 2".

Model 668

Price Net \$12.50

**DRY BATTERY
TESTER
Portable or
Counter Type**



Boost your profitable dry battery sales with this instant reading instrument. Tests Radio and Flashlight batteries according to factory specifications. Volt Ranges: 1 1/2 to 10 and 10 to 150. Complete with test leads. Dimensions: 6 3/4" x 5 1/4" x 3 1/4". Simple to operate, with full instructions on front panel, color coded dial with "Bad", "?", and "Good" indication for easy reading.

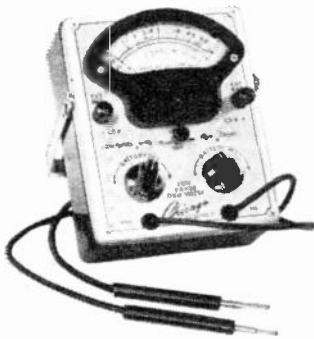
Model 4710

Net \$18.00



"CHICAGO"

INDUSTRIAL & SPECIAL PURPOSE INSTRUMENTS



Centi-Low Range Ohmmeter
(with leather case)

Model 555 Net \$49.50

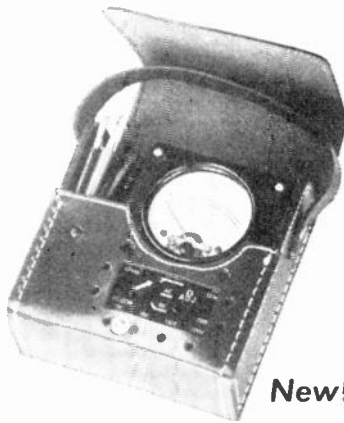
An instrument so sensitive it will detect a shorted winding in a motor or generator, detect poor solder connections and switch contacts. Never before available except in costly laboratory set-ups. The Model 555 is priced for the motor and generator maintenance man, factory inspection department as well as for the laboratory. Powered by self-contained long life dry battery external batteries or power supply when ohmmeter is continuously operated. Low Ohm Ranges: lowest increment .01 ohms, center .5 ohms, high 5 ohms. Ohms Range: lowest increment 0.2 ohms, center 5 ohms, high .50 ohms. Price includes Kelvin principle test leads which introduce no error into the indicated meter reading and a special leatherette carrying case. Over all size: 7" x 5 1/2" x 3 3/4".



Moisture Tester

Model 510 Net \$27.50

This pocket size tester is invaluable for determining electrical conductivity of surfaces such as plaster, wood, etc. For dryness before painting. It has proven its value for 7 years for this application. This year's model, 20 times more sensitive, is expected to find increasing applications in industry where duplicating satisfactory mixes employing water is a factor, such as match plates, castings, general foundry, plastic moulding compounds; cement mixes, etc. Housed in black plastic case. Size 3 15/16" x 2 7/8" x 2". Complete with probes.



New!

General Utility Tester

Model 663 Net \$18.50

Same as Model 450 except for ranges. AC volts and output — 0 15 30 150/300 750.

DC volts — 0 15 30 150 300 750.

Ohm full scale 100 K. Center scale 3500.

Co. Complete with test leads.

With Leather Case — Net Price \$23.50

**SELECTOHM
LINEAR
POTENTIOMETER**



Model 501 Net \$10.00

Precision wire wound potentiometer is of laboratory quality but is priced so the service man and industrial user may take advantage of its many uses. Widely used as a resistance substitute for determining value of blackened, burned out resistors, for making quick set-ups in circuit design, decade box, divider network, etc. 100,000 ohm linear scale is accurately calibrated with 500 ohm markings. Rated at 25 watts.

CUSTOM TEST EQUIPMENT

We also design and build test units to fit your individual requirements; resistance bridges, calibrating equipment, industrial battery life testers, etc.



Photoflash Battery Tester

Model 664 Price \$19.50

Same as Model 545 in circuitry and usage but uses more rugged type construction for heavy duty counter use and has all components on one plane for rapid testing.



**APPLIANCE
AC-DC VOM**

Model 458-A Net \$29.50

Exclusive design case slanted for better visibility. Ideal for bench use as large meter can easily be read at a distance. Contains every useful range including amperes. Appearance similar to Model 504 V.T.V.M. 1000 Ohms per volt sensitivity. AC-DC Volts: 0-2.5/10/50/250/1000/5000. AC-DC Mills: 0-1/10/100. AC Amps: 0-.05/1/5/10. DC Amps: 0-1/10. Ohms Full Scale: 1000/200,000/2 meg. Ohms Center Scale: 50/2250/22,500. Attractive brown Hammerloid finished case with leather carrying strap. Size 10 1/8" x 6 3/4" x 5 1/2" over all.

Tracks 'em Down Dead or Alive



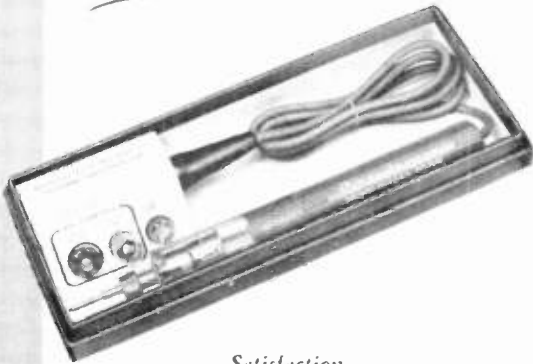
ONLY THE VERSATILE

Circuitracer*

**GIVES YOU A 3-IN-1
ELECTRICAL TEST LABORATORY
Pocket Size!**

DON'T SEND A MAN TO DO A BOY'S JOB!

Are the technicians in your laboratories and shops using expensive meters and instruments for simple continuity and voltage checks? Speed up production through the use of the tool specifically designed for this application. A meter should be used only when the value of voltage, resistance or current must be known. Under any other conditions a Circuitracer will provide the required information faster, easier than expensive, bulky meters.



*Satisfaction
Unconditionally Guaranteed*

CIRCUIT TESTING WITH A CIRCUITRACER IS FASTER because the signal light is in the tip at the point of contact. This makes it possible to determine the existence of a circuit or voltage without removing the eyes from the test point to read a meter.

SAVE METER REPAIR MONEY BY USING DESCO CIRCUITRACERS. An overvoltage across a meter usually results in extensive damage which takes the meter out of service until repaired or replaced. The worst that can happen to your Circuitracer is a burned out lamp that can be replaced by the operator in less than a minute. Total cost, ten or fifteen cents for the lamp!

The **CIRCUITRACER** is the only electrical tester (other than expensive meters) that can test dead circuits, low voltage live circuits AND high voltage live circuits. It is made of the finest materials available and is designed for long life.

**LIST PRICE
\$4.95**



Weights only 2 1/2 ozs.

Circuitracer*
POINTERS

1. As a continuity tracer for dead circuits
2. As a low voltage live circuit tester
3. As a high voltage live circuit tester

*T.M.

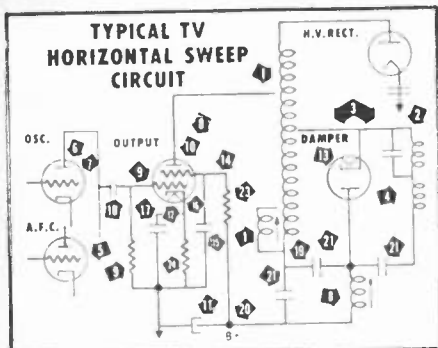


Circuitracer*

DESCO MFG. CO., GLENDALE, CALIF.

DOSS *ADVANCED* TECHNIQUES OF TV TROUBLE-SHOOTING

Pioneer 250 HORIZONTAL SWEEP QUANTALYST



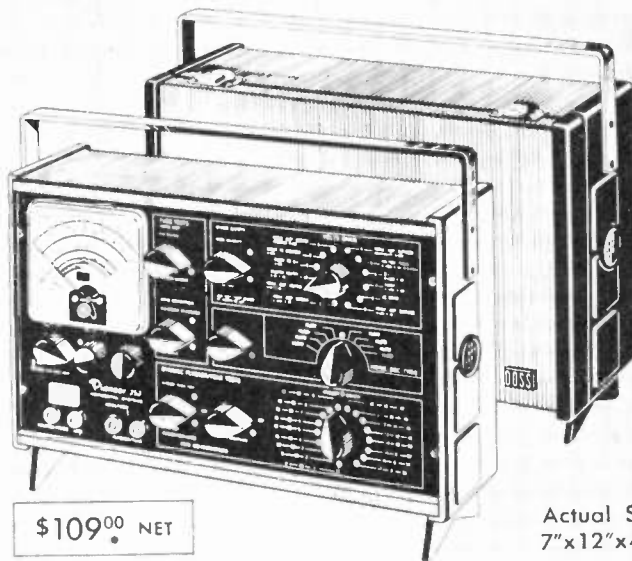
The only instrument ever designed to make a Dynamic, Quantitative Analysis of the entire Horizontal Sweep System

DYNAMIC IN-CIRCUIT TESTS . . .

- | | |
|--|--|
| 1. Flyback Transformer (Shorted Turns) | 10. Amplifier Gas Condition (Screen Re-emission) |
| 2. Yoke (Shorted Turns) | 11. Amplifier B+ Ripple |
| 3. Flyback Yoke Match | 12. Amplifier Heater Voltage |
| 4. Yoke Inductance (mh) | 13. Damper Heater Voltage |
| 5. A.F.C. Sync. Range | 14. Amplifier Screen Voltage |
| 6. Oscillator Frequency (cps) | 15. Amplifier Screen Condenser |
| 7. Oscillator A.C. Output | 16. Amplifier Cathode Voltage |
| 8. Amplifier Cathode Current | 17. Amplifier Cathode Condenser |
| 9. Amplifier Grid Condition | 18. Oscillator Coupling Condenser |
| | 19. Boost Voltage |
| | 20. B+ Voltage |

STATIC CIRCUIT TESTS RECEIVER OFF

- | | |
|--------------------------------|------------------------|
| 21. Boost to B+ Resistance | 23. Screen Resistance |
| 22. Boost to Common Resistance | 24. Cathode Resistance |



\$109⁰⁰ NET

Actual Size 7"x12"x4½"

DOSS PROBE INSTRUMENTS

For the tough old "DOGS"



1295 NET

D-400
HiLeak Analyzer

Tests condensers for leakage and capacity. Range, 0 - 1.0 MFD. Built-in indicator.

1995 NET

D-200T
Video Master

High gain oscilloscope probe. Tests video signal at tuner or any point in I.F. amplifier.—Transistorized.

895 NET

D-600
Electrolytic Substitute

Provides no heat — no surge testing of any electrolytic. Built-in indicator.

1995 NET

D-500
Slave Oscillator

Substitutes directly for Vertical or Horizontal Sweep Oscillators to isolate sweep failures.

1095 NET

D-700
Sync Master

Lo capacity, signal tracing probe. May be matched to any oscilloscope by means of two external adjustments.

1695 NET

D-100
Sweep Analyzer

Tests flyback transformer, yoke, and other inductive components for shorted turns. Oscilloscope probe.

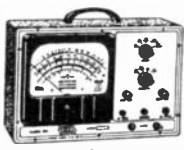
You can always rely on . . .

DOSS

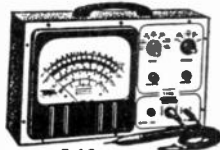
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 Kansas City 5, Missouri

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214



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536, 526



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221



PTP-11-25

HVP-2



PD, PLC, PSD



232



1180



1171



488

DECAD RESISTANCE BOX No. 1171
KIT \$19.95 Wired \$24.95
Exceptionally accurate, wide-range, versatile instrument. 0-99,999 ohms in 1-ohm steps with 5 decades and 1/2% precision.

DECAD CONDENSER BOX No. 1180
KIT \$14.95 Wired \$19.95
Precision silver-mica capacitors (± 1% accuracy, 500 VDC rated) arranged in 3 decades for extremely wide range of 100 mmf to 0.111 mf in steps of 100 mmf. Positive detent ceramic wafer switches, silverplated contacts

MODEL 232 PEAK-TO-PEAK VTVM with DUAL-PURPOSE AC DC UNI-PROBE
(Pat. Pend.)

KIT \$29.95 Wired \$49.95
The new leader in professional peak-to-peak VTVMs—revolutionary engineering for laboratory precision and lowest price! Measure directly p-p voltage of complex and sine waves: 0-4, 14, 42, 140, 420, 1400, 4200. DC/RMS sine volts: 0-1.5, 5, 15, 50, 150, 500, 1500 (up to 30,000 v. with HVP probe, and 250 mc with PRF probe). Ohms: 0.2 ohms to 1000 meg. 7 non-skip ranges on every function. Calibration without removing from cabinet. 4 1/2" meter, can't-burnout circuit. Zero center, 1% multipliers. Exceptional stability and accuracy.

DUAL-PURPOSE AC DC UNI-PROBE
(Pat. Pend.)

Available separately for EICO No. 221 and other VTVMs.

Terrific time saver! Only 1 probe performs all functions — a half-turn of probe-tip selects DC or AC-OHMS!
KIT \$4.95 Factory Wired \$6.95

DELUXE PEAK-TO-PEAK VTVM No. 249 with 7 1/2" METER and EXCLUSIVE UNI-PROBE
(Pat. Pend.)

All the outstanding and exclusive features of Model 232 — PLUS the convenience and readability of its big 7 1/2" meter. An ideal bench instrument.
KIT \$39.95 Factory Wired \$59.95

VACUUM TUBE VOLTMETER No. 221
KIT \$25.95 Wired \$39.95
The popular, reliable, performance-proven VTVM — over 50,000 in use! Large 4 1/2" meter in can't-burnout circuit. Zero center for TV FM discriminator alignment. AC/DC Volts: C-5, 10, 100, 500, 1000 (up to 30,000 v. with HVP probe, up to 250 mc with PRF probe, and peak-to-peak with PTP probe). Ohms: 0.2 ohms to 1000 meg. DB: —20 to +55. Input R: 25 meg. 1% precision multipliers. Stable, accurate double-triode bridge circuit. Satin aluminum etched panel, steel case. Leatherette Carrying Case
For No. 221 \$3.95

DELUXE VTVM No. 214
KIT \$34.95 Wired \$54.95
All the versatility and performance-proven features of Model 221—PLUS the extra convenience and legibility of its big 7 1/2" meter.

6 EICO VOLT-OHM-MILLIAMETERS
No. 565 — 20,000 OHMS/VOLT V-O-M
KIT \$24.95 Wired \$29.95
31 Full Scale Ranges - DC AC/Output Volts: 0-2.5, 10, 50, 250, 1000, 5,000 - DC Current: 0-100 ua; 10, 100, 500 ma; 10 Amp. - Ohms: 0-2000, 200K, 20 meg. - 5 DB Ranges: —12 to +55. - Large 4 1/2" 50 UA Meter Movement. - High-Impact Bakelite case. 6 3/4" x 5 1/4" x 3". Ship. wt. 2 3/4 lbs.

No. 555 — 20,000 OHMS/VOLT V-O-M
KIT \$29.95 Wired \$34.95
As above, with 1% precision resistors.

No. 566 — 1000 OHMS/VOLT V-O-M
KIT \$14.90 Wired \$18.95
Ranges: Same as Model 536 (see below), plus 7 output voltage ranges. Large 4 1/2" 400 ua meter movement. 6 3/4" x 5 1/4" x 3". Ship. wt. 3 lbs.

No. 556 — 1000 OHMS/VOLT V-O-M
KIT \$16.90 Wired \$23.50
Same as Model 566, with 1% precision resistors.

No. 536 — 1000 OHMS/VOLT V-O-M
KIT \$12.90 Wired \$*4.90
31 1000 Ohms/Volt Full-Scale Ranges! - DC/AC Volts: Zero to 1, 5, 10, 50, 100, 500, 5000. - DC AC Current: 0-1, 10 ma.; 0-1, 1 Amp. Chms: 0-5000, 100K, 1 meg. - 6 DB Ranges: —20 to +69 - Large 3" 400 UA Meter Movement - High-Impact Bakelite case. 6 1/4" x 3 3/4" x 2". Ship. wt. 2 lbs.

No. 526 — 1000 OHMS/VOLT V-O-M
KIT \$13.90 Wired \$16.90
As above, with 1% precision resistors.

VTVM PROBES

MODEL PTP-11 or 25

PEAK-TO-PEAK VTVM PROBES
KIT \$4.95 Wired \$6.95
For Color and Monochrome TV Servicing

Accurate reading of p-p voltages directly on DC scales of your VTVM. Use with any 11 or 25 meg-ohm VTVM. For tracing complex AC waveforms thru TV receiver deflection systems.

MODEL PRF-11 or 25

RF VTVM PROBES

KIT \$3.75 Wired \$4.95
For RF voltage measurements up to 250 mc. Accuracy ±10%. Use with any 11 or 25 megohm VTVM.

HIGH VOLTAGE PROBE No. HVP-2
\$4.95

For safe measurement up to 30,000 volts dc with any VTVM or 20,000 ohms/volt VOM. Ideal for TV high voltage measurement. Includes a choice of high quality multiplier resistor to match most popular instruments.

HIGH VOLTAGE PROBE No. HVP-1
\$6.95

Popular choice for years. Same applications as Model HVP-2 above and supplied with matching resistor for your instrument.

DC WIDE BAND 5" OSCILLOSCOPE No. 460
KIT \$79.95 Wired \$129.50
For Color and Monochrome TV Servicing

Incomparable! The world's FINEST professional scope value — far outperforms and outfeatures scopes of many times its cost! For Color, Black-and-White TV, lab and industry. Flat from DC to 4.5 mc. usable to 10 mc., featuring DC amplifiers, Vert. Sens.: 25 mv/in., push-pull thruout. Sweep freqs.: 10 cps to 100 kc, row sweep with ext. condenser. Automatic sync limiter and amplifier eliminates sync voltage adjustment. On front panel: int. mod., saw-tooth output, 60 cps, ext. sync, ext. capacitor jacks! 50 cps variable phase sine sweep. Pre-set TV V&H sweep positions. Edge-lit plexiglass filter screen with variable illumination. 4 freq. compensated attenuator positions up to 1000:1 on either direct or capacitive coupled input.

5" PUSH-PULL OSCILLOSCOPE No. 425
KIT \$44.95 Wired \$79.95

The popular, dependable, performance-proven Scope — tens of thousands in use! Push-pull Vert. and Hor. amplifiers. High V&H sens.: 0.05-0.1 rms v in V&H resp., 5 cps-500 kc. Useful to 2.5 mc. Sweep: 15 cps-75 kc. Z-axis intensity mod. Direct connections to CRT plates. 2-6J5, 3-6SN7, 2-5Y3, 5" CRT.

SCOPE PROBES

For Color and Monochrome TV Servicing

MODEL PSD OSCILLOSCOPE

DEMODULATOR PROBE

KIT \$3.75 Wired \$5.75
For signal tracing and checking of TV/radio RF and IF stages. Demodulates amplitude-modulated carriers between 150 kc and 250 mc.

MODEL PD OSCILLOSCOPE

DIRECT PROBE

KIT \$2.75 Wired \$3.95
For TV waveform tracing in low Z or low frequency circuits. Eliminates stray pickup and signal re-radiation.

MODEL PLC OSCILLOSCOPE

LOW CAPACITY PROBE

KIT \$3.75 Wired \$5.75
For TV waveform tracing in high Z, high frequency or wide-band circuits.

OSCILLOSCOPE VOLTAGE CALIBRATOR
No. 495

KIT \$12.95 Wired \$17.95
Makes your scope an accurate, wide-range, peak-to-peak AC electronic voltmeter; Enables p-p voltage measurement of complex TV sweep waveforms displayed on scope, calibration on vert. and hor. scope amplifiers, etc. Output variable from zero on every range with full-scale readings of 0.1, 1, 10, and 100 volts p-p. Accuracy ±5% of full scale on each range. VR tube regulated power supply.

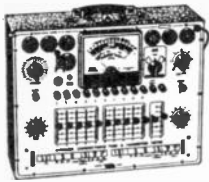
ELECTRONIC SWITCH No. 488
KIT \$23.95 Wired \$39.95

Makes your 1 Scope more useful than 2 in many cases! Simultaneously observe 2 patterns on 1 scope: compare voltage and current amplitudes, waveforms, freqs. and phase relationships. Continuously variable switching rates from less than 10 cps to over 2000 cps. Very useful as square wave generator over same range.

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ALL PRICES 5% HIGHER IN THE WEST

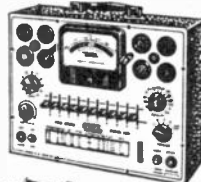
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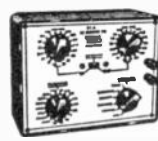
666



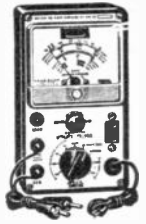
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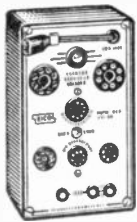
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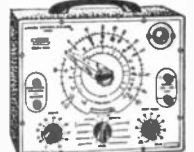
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584



944



950-B



1120

TUBE TESTER No. 625
 KIT \$34.95 Wired \$49.95
 CRA 110 pix tube adapter for 110° deflection
 pix tubes — \$4.50

• Tests new 600 ma filament series string tubes. A professional, dependable tube tester and merchandiser. Tests ALL conventional and TV tubes. 10 individual lever-type element switches. 4 1/2" meter, 3-color scale. Illuminated anti-backlash "SPEEDROLL" roll-chart. Protective overload bulb. Line-adjust control. 2 grid caps. Blank socket for future tube types. Pilot light test socket. Also tests TV picture tubes with EICO CRA Adapter.

Tube Tester Kit with Counter Display Case
 Model 625-CK, Kit \$44.95
 Model 625-C, factory wired \$59.95
 Lid for your EICO Tube Tester \$3.98

FAST TUBE & CRT FILAMENT TESTER
 #612
 KIT \$3.95 Factory Wired \$5.95
 Includes batteries

Fast filament check of series string & all other TV & radio tubes (9-pin, octal, loctal, 7-pin); 14-pin, 12-pin, 8-pin CRTs; bayonet & screw-type pilot lamps; cartridge fuses. Just plug tube into tester socket, observe indicator lamp—no fiddling with controls or switches. Self-powered for convenience & safety. 7-pin & 9-pin miniature tube pin straighteners provided. Compact: 6 1/4" h, 3 3/4" w, 2" d.

PICTURE TUBE TEST ADAPTER No. CRA
 (For EICO Models 625, 625-K, 666 and 666-K
 Tube Testers)

With the new Model CRA and your EICO Tube Tester, you check all sizes TV Picture Tubes as fast and easily as any ordinary tube. Model CRA gives a quantitative measurement of cathode emission, and tests for filament continuity and shorts between elements. Comes complete with standard 12-pin TV tube socket, octal plug-in connector, and extra long 4-foot cable that enables Pix Tube to remain in set WHILE TESTING. Factory Wired \$4.50

PICTURE TUBE TEST ADAPTER CRA-110
 For 110° deflection tubes. Has Eightier 8-contact socket, octal plug, 4-ft. cable. Use with EICO #625, #666 and similar tube testers. Factory wired \$3.95.

CATHODE RAY TUBE CHECKER No. 630
 KIT \$13.95 Factory Wired \$18.95
 Easy, fast, dependable testing of all sizes TV picture and oscilloscope type C-R tubes—right in the set or carton. Measures peak beam current (proportional to screen brightness) using neon lamp as sensitive balance indicator. Lamp sensitivity control calibrated directly in terms of tube condition. Detects open and shorted elements. Size: 9 1/2" x 6 1/2" x 3". Ship. wt. 5 lbs.

DYNAMIC CONDUCTANCE TUBE AND TRANSISTOR TESTER No. 666
 KIT \$69.95 Factory Wired \$109.95
 Unexcelled testing thoroughness and accuracy. Checks transistor collector current and Beta using internal dc power supply. Tests all receiving tubes including subminiatures (and tv p.c. tubes with accessory adapter). Composite indication of mutual conductance, plate conductance, and peak emission. Simultaneous sel. of any 1 of 4 combinations of 3 plate, 3 screen, and 3 ranges of control grid voltage. Grid voltage variable over 3 ranges with 5% accuracy pot. New series-string voltages for 600, 450 and 300 ma types. 5 ranges meter sens. with 1% precision shunts and 5% accurate pot. 10 SIX-position lever switches for free-point connection of every tube pin or cap. 10 push-buttons for

rapid insert of any tube element in leakage circuit and speedy sel. of individual tube sections. Direct reading of inter-element leakage in ohms. New gear-driven rollchart. Steel case with cover and handle. Sensitive 200 ua meter.
 * CRA & CRA110 pix tube adapters.

BATTERY TESTER No. 584
 KIT \$9.95 Factory Wired \$12.95
 For accurate, true DYNAMIC test of all A and B portable radio batteries, lantern batteries, and other types — in or out of equipment. Test Positions (Volts): 1.5, 4.5, 6.0, 7.5, 9.0, 22.5, 45, 67.5, 75, 90 plus Spare Position. Test leads provided. High-impact Bakelite case and satin aluminum panel. 6 1/4" h x 3 3/4" w x 2" d.

READI-TESTER No. 540
 KIT \$12.95 Wired \$15.95
 Designed specifically for the ever-expanding do-it-yourself market, the 540 is excellent for electrical and electronic servicing, for home and automotive repairs. Low-cost, dependable, extremely versatile, the 540 is ALL of the following multi-range instruments: ac/dc volt-meter, ammeter, ohmmeter, wattmeter and leakage checker. Its rotary switch selection and one-place visual indication — both unique in instruments of this type — permits much faster and convenient operation. Locates defects in electrical appliances, motors, house wiring, furnace control, air conditioning, automotive equipment, tv and radio tubes and parts. Its instruction book, contains an introduction to electricity, complete operating method, and procedures for common repair jobs.

FLYBACK XFMR & YOKE TESTER No. 944
 KIT \$23.95 Wired \$34.95
 Positive check of all flybacks and yokes, in or out of set, in just seconds! Uses sensitive grid-dip principle — shows up even 1 shorted turn! Exclusive separate calibration for air- and iron-core flybacks. Checks any inductance of not too low impedance; also usable for general continuity testing. Large 4 1/2" 50 μa meter, 3 separate colored scales.

R-C BRIDGE & R-C-L COMPARATOR
 No. 950B

KIT \$19.95 Wired \$29.95
 Latest bridge-type instrument directly reads 0.5 ohms—500 megs resistance (4 ranges), 10 mmfd-5000 mfd capacitance (4 ranges), and power factor. (Kit includes precision calibrating resistor.) Unique comparator range for R, C, and L comparison measurement against external standard. Leakage testing of all capacitors at rated dc working voltage with internal 0-500 vdc source. Electron-ray tube as both bridge balance and capacitor leakage indicator.

CAPACITANCE SUBST. BOX No. 1120
 KIT \$5.95 Wired \$9.95
 Enables rapid substitution of a wide range of RETMA capacitance values from 0.0001 to 0.22 mfd in an operating circuit to determine value needed for optimum performance and to find value of badly damaged or illegible capacitors. Minimum accuracy ±10%. Uses silver mica and molded plastic capacitors, most conservatively rated at 600 volts. Convenient 5-way jack-top binding posts.

RESISTANCE SUBST. BOX No. 1100
 KIT \$5.95 Wired \$9.95
 Enables rapid substitution of wide range of RETMA resistance values from 15 ohms to 10 megohms in decade multiples of 15, 22, 33, 47, 68, 100 ohms. Uses standard 1 watt, ±10% RETMA resistors.

SERIES/PARALLEL R-C COMBINATION
 BOX No. 1140

KIT \$13.95 WIRED \$19.95
 Only EICO has it!
 A combination of Models 1100 and 1120 (above) with switching facilities permitting selection of

any R alone, any C alone, or 1350 combinations of same in series or parallel. Open and short circuit positions provided. Standard E.I.A. values, 10% accuracy. Convenient jack-top binding posts.

RF SIGNAL GENERATOR No. 324
 "The Best Generator Buy in the World!" say EICO customers. For IF-RF alignment, signal tracing and trouble-shooting of TV, FM, AM sets all on fundamentals... marker generator for alignment of new h-f and older I-f TV IF's... 400 cps sine wave audio testing... lab and experimental work. Extended frequency range: 150 kc to 145 mc on fundamentals in 6 bands; 111-435 mc on calibrated harmonics. ±1.5% frequency accuracy; 6:1 vernier tuning knob and excellent spread at most important alignment frequencies. Etched tuning dial, plexiglass windows, edgelit hairlines. Colpitts RF oscillator, directly plate-modulated by cathode follower for improved modulation. Variable depth of internal modulation 0-50% by 400 cps Colpitts oscillator. Variable gain external modulation amplifier; only 3.0 volts needed for 30% modulation. Turret-mounted slug-tuned coils. Fine and Coarse (3-step) attenuators, 50-ohm output Z. RF and AF outputs respectively 100,000 uv and up to 1c v. Tubes: 12AU7, 12AV7, selenium rectifier, xfmr-operated. 5-way jack-top binding posts for AF in/out; coaxial connector and shielded cable for RF out. Satin aluminum panel and grey wrinkle steel case. 8" h x 10" w x 4 3/4" d. Ship. wt. 10 lbs.

KIT \$26.95 Factory Wired \$39.95
TV-FM SWEEP GENERATOR AND MARKER No. 368

The FINEST service instrument of this type ever offered in either kit or wired form at ANY price! Outstanding ease and accuracy in FM and TV (including Color) alignment. Entirely electronic sweep circuit with accurately biased inductor: superb linearity on both sides of selected center freq. Newly-designed AGC circuit automatically adjusts osc. for max. output on each band with min. amplitude variations. Sweep gen. range 3-216 mc in 5 OVERLAPPING FUND. BANDS. Sweep width continuously variable from 0-3 mc lowest max. deviation to 0-30 mc highest max. deviation. Variable marker gen. range from 2-75 mc in 3 FUND. BANDS plus a calibrated harmonic band 60-225 mc. Variable marker calibrated with int. xtal marker gen. 4.5 mc xtal included. Ext. marker provision. Double pi line filter. Edge-fit hair-lines eliminate parallax.

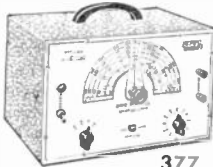
KIT \$69.95 Factory Wired \$119.95
RF SIGNAL GENERATORS
 MODEL 320: For AM-FM precision alignment and TV marker frequencies. Vernier Tuning Condenser. Highly stable RF oscillator, range: 150 KC - 102 MC with fundamentals to 34 MC. Separate audio oscillator supplies 400-cycle pure sine

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EICO® KITS and WIRED... TEST INSTRUMENTS • HI-FI • HAM GEAR



360



377



324



147



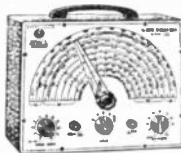
145A



1020



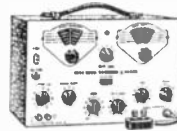
352



320, 322



315



368



1050, 1060



1055

wave voltage. Pure RF, modulated RF or pure AF for external testing. Satin aluminum etched panel; rugged steel case. Ship. wt. 10 lbs.
Model 320—KIT \$19.95 Factory Wired \$29.95
MODEL 322: In addition to all the outstanding laboratory-precision qualities of the famous EICO Model 320, the brand new Model 322 features the individual calibration of each of its 5 bands.
Model 322—KIT \$23.95 Factory Wired \$34.95

DELUXE RF SIGNAL GENERATOR No. 315
 Laboratory-precision generator EICO Service-Engineered with 1% accuracy. Frequency range: 75 kc-150 mc in 7 calibrated ranges. Extremely stable. Illuminated hairline VERNIER TUNING, VR stabilized line supply, 400-cycle pure sine wave with less than 5% distortion. Tube complement: 6X5, 6SL7, 6C4, VR-150. Satin aluminum etched panel; rugged steel case. 115 v., 60 cycles AC. Size: 12" x 13" x 7". Ship. wt. 21 lbs.
KIT \$39.95 Factory Wired \$59.95

TV-FM SWEEP GENERATOR No. 360
 Covers all TV-FM alignment frequencies. 500 KC - 228 MC. Vernier-driven dial. Center of each of 13 TV channels marked on front panel. Sweepwidth variable 0-30 MC with mechanical inductive sweep -- permits gain comparison of adjacent TV channels. Crystal marker oscillator, variable amplitude. Provides for injection of external marker. Phasing control. Complete with HF tubes. Less Crystal. Size: 10" x 8" x 6 3/4". Ship. wt. 12 lbs.
KIT \$34.95 Factory Wired \$49.95
EICO 5 MC and 4.5 MC Crystals — \$3.95 ea.

SINE AND SQUARE WAVE AUDIO GENERATOR No. 377
 Complete sine wave coverage: 20-200,000 cps. Complete square wave coverage: 60-50,000 cps. 2-gang tuning condenser. All frequency range resistors have 1% or better accuracy. Large easy-reading dial calibration: 0-100 linear reference scale. Response ± 1.5 db from 60 cps to 150 kc. Wien bridge RC oscillator. Improved cathode follower output circuit. Output Voltage: 10 v. at 1000 ohms load, 14 v. at 10,000 ohms and higher. 8 v. at 500 ohms on sine wave; square wave output higher. High power output: 100mw into rated load. Rated load impedance: 1000 ohms resistive. Continuously variable output attenuator. Distortion 1% of rated output. Hum less than 0.4% of rated output. Tubes: 6X5, 6SJ7, 2-6K6, 6SN7, 6S6 (G-E 6-watt lamp). Satin aluminum etched rub-proof panel; rugged steel case. 115 V., 50/60 cycles, 50 W. Size: 11 1/8" x 7 1/8" x 7 5/8". Ship. wt. 14 lbs.
KIT \$31.95 Factory Wired \$49.95

BAR GENERATOR No. 352
 Enables rapid adjustment of TV picture Vertical and Horizontal linearity without hard-to-find station-transmitted test pattern. Produces 16 to

23 V bars and 13 to 22 H bars, adjustable in number to accommodate all screen sizes. Incorporates VHF osc., RF osc., and LF multi-vibrator. Adjustable from Channel 2 to 6. Deluxe 3-way antenna terminal clip fits any type antenna terminal including plug-in type. Output voltage: 100,000 microvolts. Tubes: 1-12AU7, 1-6C4; selenium rectifier. Size: 5" x 7 1/2" x 4 1/2". Ship. wt. 5 lbs.
KIT \$14.95 Factory Wired \$19.95

DELUXE MULTI-SIGNAL TRACER No. 147

Entirely new 5-tube instrument provides high gain RF and low gain audio channels with both visual and aural monitors (electron-ray tube and 5" speaker). Permits RF, IF and audio signal tracing in TV, FM and AM sets. Highly useful noise localizer circuit that applies DC test voltage thru probe to suspected component and simultaneously picks up and amplifies effect. Wattmeter circuit detects abnormal power consumption in TV and radio receivers. May be connected as test speaker, amplifier or output transformer, and has output for VTVM or scope. Excellent for gain-per-stage estimation, null detector, scope preamplifier, utility amplifier, small P.A. system. New satin fin. sh etched panel; grey wrinkle steel case. 105-125 VAC, 50/60 cps. Size: 8" x 10" x 4 3/4". Ship. wt. 10 lbs.
KIT \$24.95 Factory Wired \$39.95

LOW-COST MULTI SIGNAL TRACER 145A

High gain RF and low gain audio input channels for signal tracing and trouble shooting RF, IF, and audio stages of AM, FM, and TV receivers. More than enough RF gain to trace up to receiver input; signal is heard through built-in 5" PM speaker. Shielded RF crystal demodulator and direct probes supplied. Noise localizer circuit applies DC test voltage through probe to suspected component and simultaneously picks up and amplifies effect. May be connected as test speaker, amplifier or output transformer. Output for VTVM or scope. For null detector, scope amp, etc. Remarkably compact. With all parts, 7-13/16 x 5-9/16 x 5-1/16. Shipping weight, 7 lbs.
KIT \$19.95 Factory Wired \$28.95

POWER and BIAS SUPPLY FOR TRANSISTORIZED EQPT. MODEL 1020

KIT: \$19.95 **Wired: \$27.95**
 Comparable in purity of output and voltage and current capacity to transistorized power supplies selling for several hundred dollars. Supplies up to 30 V @ 300 ma. Includes power transformer, full-wave silicon diode rectifier circuit, electrolytic capacitor input filter followed by a two-power transistor (2-2N256) cascaded filter circuit providing extraordinary ripple rejection. Very low ripple: maximum ripple 0.005% (0.00005) at full load. Monitored by a dual range voltmeter (0-6 V, 0-30 V DC). Ideal for engineering, development, service work and other applications where a pure low current DC power supply is required.

SPECIFICATIONS
 Output Voltage Range: 0-30 V DC, continuously variable. Max. Output Current Capacity (continuous): 150 ma from 0-12 V, 200 ma from 12-24 V, 300 ma from 24-30 V. Ripple: (120 cps): 0.005% (0.00005) at full load. Power Requirements: 117 V, 60 cps. Size (HWD): 5" x 4" x 5 1/2" Shipping Weight: 4 1/2 lbs.

6V and 12V BATTERY ELIMINATOR and CHARGER No. 1050

Gives you all the electrical power you need for 6-volt and 12-volt battery charging and auto radio servicing. Two DC ranges: 0-8 v (10 amps continuous, 20 amps intermittent), 0-16 volts (6 amps continuous, 12 amps intermittent). Continuous voltage adjustment with variac-type transformer. Separate voltmeter and ammeter. Heavy duty selenium rectifiers. Fused primary; automatic reset circuit-breaker opens secondary circuit upon overload. Rugged, well-ventilated steel cabinet. Size: 8 3/4" x 10 1/2" x 7 3/4". Ship. wt. 15 lbs.
KIT \$29.95 Factory Wired \$38.95

BATTERY ELIMINATOR ACCESSORY FILTER No. 1055

L-C filter provides additional filtering of output of EICO No. 1050 above, or any similar unit, when the battery eliminator is used for powering transistor and "hybrid" car radios. Functions on either 6v or 12v ranges of the b.e. up to 10 amps max current; can remain in use for ALL functions of the b.e.
KIT \$11.95 Factory Wired \$15.95

"EXTRA-FILTERED" 6V and 12V BATTERY ELIMINATOR and CHARGER No. 1060

Combines Model 1050K Battery Eliminator and Model 1055 Filter in a single unit. Powers both transistor and conventional equipment. New dual-range ammeter permits more accurate readings. Selection of voltage range automatically provides appropriate current range.
KIT \$38.95 Factory Wired \$47.95

IMPORTANT NOTE:
 All EICO factory-wired equipment is completely meticulously hand-wired throughout (no printed circuitry); and is 100% final-tested throughout (no "spot" checking, no "partial" checking).

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ALL PRICES 5% HIGHER IN THE WEST



PRECISION

Modern Engineering . . .

EMICO panel and test meters are rugged and reliable instruments. (Available with plastic or metal face.) DC meters have the new HI-TORK magnetic movements and are accurate to well within 5%. AC meters are of the moving iron type and are also accurate to within 5%.

MOUNTING — All model NF-2C, RF-2C, and RF-2¼C with plastic front meters will fit into a 2-1/16" diameter hole and are mounted by means of a U clamp.

DESIGN — EMICO meters are designed to give satisfactory service under the most severe conditions. They are styled to add to the prestige and appearance of electrical equipment.

CALIBRATION — Since the instruments are calibrated in steel cases, their accuracy is not affected by panels made of magnetic materials of nominal thickness.

GUARANTEED — ALL EMICO instruments are guaranteed against defective material and workmanship for a period of one year after date of purchase, and will be repaired or replaced if sent to the factory postpaid with a 50¢ handling charge.

PRICE LIST

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-1	.15	2101	\$1.75	2201	\$1.85	2301	\$2.15
0-3	.032	2101-A	1.75	2201-A	1.85	2301-A	2.15
0-5	.016	2102	1.75	2202	1.85	2302	2.15
0-10	.00115	2103	1.75	2203	1.85	2303	2.15
0-15	.00115	2103-A	1.75	2203-A	1.85	2303-A	2.15
0-20	.00115	2104	1.75	2204	1.85	2304	2.15
0-25	.00115	2104-A	1.75	2204-A	1.85	2304-A	2.15
0-30	.00115	2105	1.75	2205	1.85	2305	2.15
0-60	.000116	2106-A	2.40	2206-A	2.50	2306-A	2.80
1-0-1	.08	2109	1.75	2209	1.85	2309	2.15
3-0-3	.00115	2110	1.75	2210	1.85	2310	2.15
6-0-6	.00115	2111	1.75	2211	1.85	2311	2.15
10-0-10	.00115	2112	1.75	2212	1.85	2312	2.15
15-0-15	.00115	2113	1.75	2213	1.85	2313	2.15
20-0-20	.00115	2114	1.75	2214	1.85	2314	2.15
30-0-30	.00115	2115	1.75	2215	1.85	2315	2.15
75-0-75	.000116	2116-A	2.75	2216-A	2.85	2316-A	3.15

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-1	850	2120	\$3.60	2220	\$3.65	2320	\$3.95
0-3	425	2121	2.50	2221	2.55	2321	2.85
0-5	925	2125	2.25	2225	2.30	2325	2.60
0-10	1300	2126	2.10	2226	2.15	2326	2.45
0-20	300	2127	1.75	2227	1.85	2327	2.15
0-30	95	2127-A	1.75	2227-A	1.85	2327-A	2.15
0-50	105	2128	1.75	2228	1.85	2328	2.15
0-100	65	2129	1.75	2229	1.85	2329	2.15
0-150	37	2130	1.75	2230	1.85	2330	2.15
0-200	45	2130-A	1.75	2230-A	1.85	2330-A	2.15
0-300	11.5	2130-B	1.75	2230-B	1.85	2330-B	2.15
0-500	18	2131	1.75	2231	1.85	2331	2.15
0-1000	7.0	2132	1.75	2232	1.85	2332	2.15
0-1000	8.3						
0-150	1.8						
0-150	2.15						
0-200	1.5						
0-200	1.7						
0-300	.61						
0-300	.8						
0-500	.21						
0-500	.27						

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-10	1050	2140	\$2.65	2240	\$2.75	2340	\$3.05
0-30	2800	2141	2.65	2241	2.75	2341	3.05
0-50	4000	2142	2.85	2242	2.95	2342	3.25
0-150	28000	2143	3.00	2243	3.10	2343	3.40
0-300	55000	2144	3.10	2244	3.20	2344	3.50

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-1	.33	2134	\$1.75	2234	\$1.85	2334	\$2.15
0-3	100	2135	1.75	2235	1.85	2335	2.15
3-0-3	.50	2136	1.75	2236	1.85	2336	2.15
0-5	110	2136-A	1.75	2236-A	1.85	2336-A	2.15
0-8	225	2136-B	1.75	2236-B	1.85	2336-B	2.15
0-10	280	2137	1.75	2237	1.85	2337	2.15
0-15	450	2137-A	1.75	2237-A	1.85	2337-A	2.15
0-20	600	2137-B	1.75	2237-B	1.85	2337-B	2.15
0-30	1000	2137-C	1.75	2237-C	1.85	2337-C	2.15
0-50	1400	2138	1.75	2238	1.85	2338	2.15

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-1	.365	6101	\$2.90	6201	\$3.00	6301	\$3.30
0-3	.078	6102	2.90	6202	3.00	6302	3.30
0-5	.023	6103	2.90	6203	3.00	6303	3.30
0-10	.013	6104	2.90	6204	3.00	6304	3.30

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-25	750	6125	\$2.90	6225	\$3.00	6325	\$3.30
0-50	175	6126	2.90	6226	3.00	6326	3.30
0-100	58	6127	2.90	6227	3.00	6327	3.30
0-250	12	6128	2.90	6228	3.00	6328	3.30
0-500	1.75	6129	2.90	6229	3.00	6329	3.30

Range	Approximate Resist. Ohms	MODEL NF-2C		MODEL RF-2C		MODEL RF-2¼C	
		Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price	Catalog Number	Dealers' Net Price
0-5	50	6135	\$2.90	6235	\$3.00	6335	\$3.30
0-10	175	6136	2.90	6236	3.00	6336	3.30
0-15	300	6137	2.90	6237	3.00	6337	3.30
0-25	920	6137-A	2.90	6237-A	3.00	6337-A	3.30
0-50	1800	6138	2.90	6238	3.00	6338	3.30
0-150	9530	6139	3.50	6239	3.60	6339	3.90
0-300	32000	6140	4.10	6240	4.15	6340	4.45

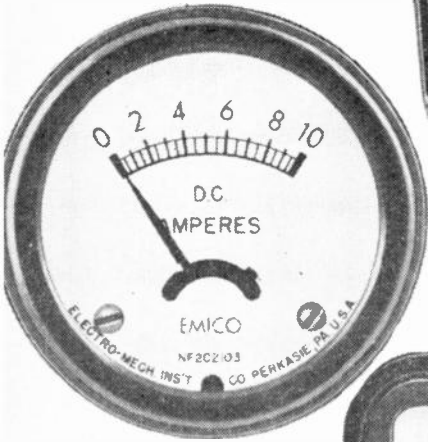
PRICES—Prices listed are net and include all hardware and individual boxing. Resistance approximate. If important request factory engineering confirmation.

INSTRUMENTS

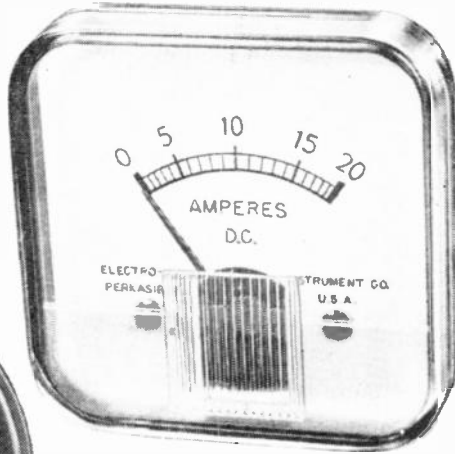
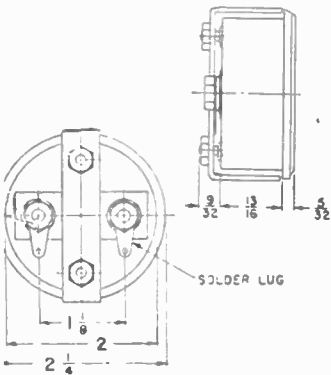
FOR PANELS AND
TEST SETS

Precision Workmanship!

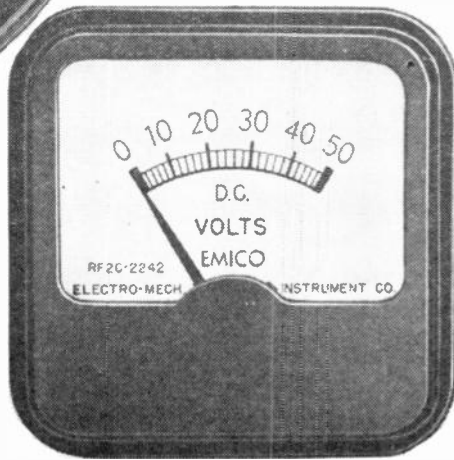
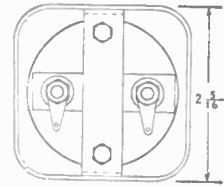
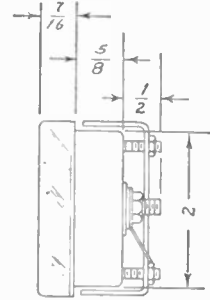
- PEAK EFFICIENCY
- TOP SERVICE
- LONG LIFE



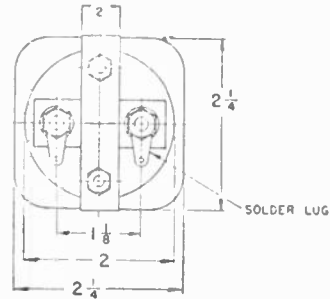
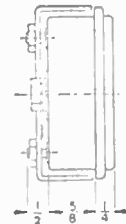
MODEL NF2C



MODEL RF2 1/4 C



MODEL RF2C



EMICO offers a complete line of precision direct current indicating instruments having the simplicity of construction of polarized vane meters with an accuracy and performance comparable to moving coil indicators. This new development is the result of years of experience in instrument designs, manufacturing techniques and the use of modern magnetic materials.



EMICO Sensitive Sub-Miniature Plug-in Relay

Single pole, double throw, rotating magnet instrument type Relay. Hermetically sealed unit. 1400 Ohm coil operates at 1 MW. Plugs in a standard 9-pin miniature tube base. Dealers' Net \$18.75



EMICO Circuit Indicator

Sub-miniature power indicator* with sensitivity to 1 MW. Maximum resistance to 1400 Ohms. Voltage to 25 volts D.C. Front panel mounting. Dealers' Net \$7.50
*Variation Available in Quantity

EMICO A.C. Voltage Tester
Accurate, precision mechanism plug-in type with damped meter movement. Convenient 90° swivel prongs for ease of reading from any position. Dealers' Net \$3.00



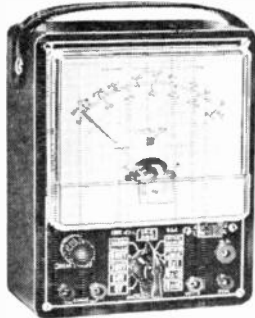
ELECTRO-MECHANICAL INSTRUMENT CO. PERKASIE, PENNSYLVANIA

EMC for BEST VALUES in INSTRUMENTS or KITS!



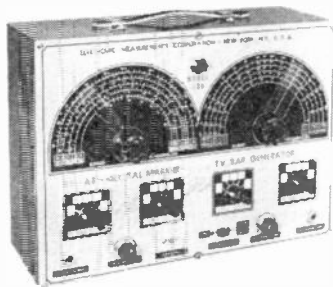
MODEL 102 VOM . . .

Resistance to 1 meg.
AC and DC Volts to 3000V.
3 AC and DC Current Ranges.
Wired \$14.90
Kit 12.50



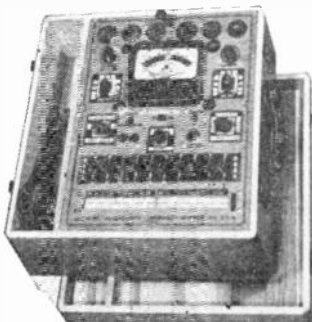
MODEL 104 VOM . . .

20,000 ohms per Volt DC.
4 1/2" 50 Microampere Meter
5 AC and DC Volt Ranges
to 3000V. 3 Resistance
Ranges to 20 megs.
3 AC & DC Current Ranges.
Wired \$26.95
Kit 19.25



**MODEL 700
AUDIO AND RF
GENERATOR . . .**

Complete coverage
from 18 cycles to
108 MC on
fundamentals.
Bar Generator.
Square Wave
Generator.
Wired \$55.90

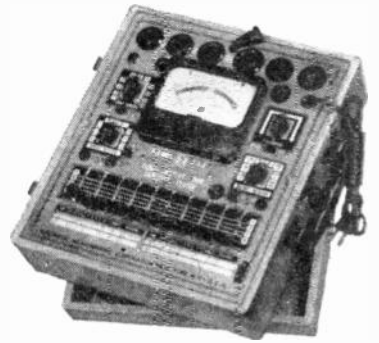


**MODEL 206P
DYNAMIC MUTUAL
CONDUCTANCE
TUBE TESTER . . .**

Checks micromho
value. Gas Content
Flexible switching.
Lowest Priced
Mutual Conductance
Tester on Market.
Wired \$83.50
(Oak Portable Case)

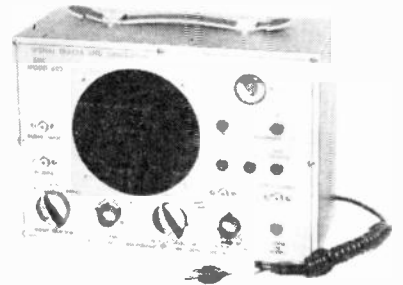
**MODEL 204P
TUBE-BATTERY
OHM-CAPACITY
TESTER . . .**

Checks Tubes, Bat-
teries, Condensers
and Resistors.
Flexible Switching.
Wired \$55.90
(Oak Carrying Case)



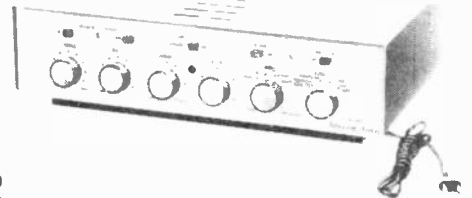
**MODEL 802
SIGNAL TRACER
AND
GENERATOR . . .**

Generates its own Audio
and RF signals for
tracing. Complete with
RF and 2 Audio leads.
Uses Magic Eye and
Speaker. Checks noisy
components.
Wired \$38.95
Kit 24.95



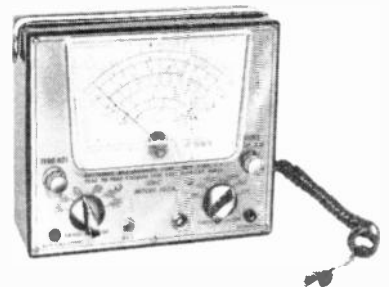
**MODEL 214
STEREO
AMPLI-
FIER . . .**

56 Watts Peak
Power. Has
contour
switch and
rumble filter.
Etched 2
color panel.
Wired \$106.90
Kit 68.90



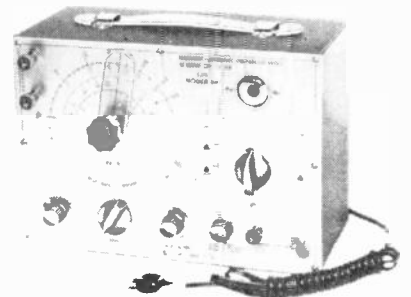
**MODEL 107A
PEAK-TO-PEAK
VACUUM TUBE
VOLT-OHM-
CAPACITY
TESTER . . .**

Uses 6" meter, Bakelite
Case. 6 AC & DC volt
ranges to 2800 V.
6 capacity ranges from
50 MMFD to 5000 MFD
6 resistance ranges from
.2 ohm to 1000 megs.
Wired \$51.40
Kit 36.50



**MODEL 801
RC BRIDGE AND
IN-CIRCUIT
CHECKER . . .**

Checks condensers
completely in and out
of circuit. Checks
resistance. Checks con-
densers for value,
leakage and power factor.
Wired \$38.95
Kit 24.95



ELECTRONIC MEASUREMENTS CORPORATION
New York 12, New York

SPECIALISTS in Sub-Miniature Panel Meters

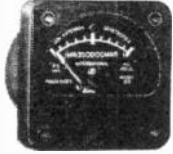
FIRST in U.S. to manufacture 1" diameter meter.

FIRST to produce 1" and 1½" illuminated meters.

FIRST to produce 1½" self-contained DB and VU meters.

FIRST to produce Miniature Side Indicators.

RUGGEDIZED METERS



1½" Square

Meets MIL-M-10304 (SIG. C.) Accurate within ±3% of full scale deflection. Basic d-c ranges 0-100 d-c ua, 0-1 d-c mv, and 0-10 d-c mv. RF and VU meters and other ranges also available.

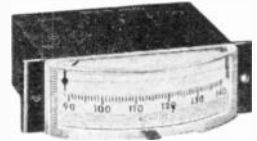
d-c ma, and 0-10 d-c mv. RF and VU meters and other ranges also available.

SUB-MINIATURE ROTARY SWITCH



Wafer size 1" x 7/8"
Twelve positions per deck
one to three decks.
One, two, three or four poles per deck. Shorting or non-shortng contacts. Positive indexing with 30° spacing.

And NOW... EXPANDED SCALE VOLT METERS!



MODEL 1145
Patented

For maximum readability over critical range. Accuracy: ±2% of voltage spread. Low current drain. Six standard ranges. Special ranges available as low as 2.0 volts without external assembly. Also Available: Model 173, 1½" square, Long Scale Meter with 300° scale. Scale length 3.4".

SIDE INDICATORS

- GREATER READABILITY
- REDUCES PANEL AREA ½ OVER CONVENTIONAL METER INSTALLATIONS OF SAME SCALE LENGTH
- HORIZONTAL OR VERTICAL MOUNTING

THREE SIZES AVAILABLE:

MODEL 1120—Scale length 1.2".

MODEL 1135—Scale length 2.1".

Front external zero adjuster.

MODEL 1145—Scale length 2.75".

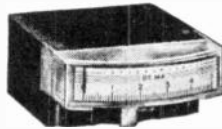
Front external zero adjuster.

International Instruments' components lead the way for miniaturization through practical engineering design.

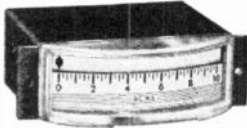
*Patented



Model 1120

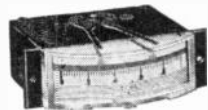


MODEL 1135*
Single
Horizontal
Mounting



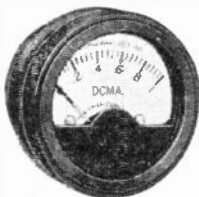
Model 1145*
Single
Horizontal
Mounting

CONTROL METERS



MODEL 2545

Miniaturized control meter that operates without contacts. Insures more reliable switching and more accurate reading with full scale use of indicating meter always available regardless of control point settings. Accuracy held to ± 2% of full scale for dc, ± 5% for ac. Patent Pending



MODEL 150

1½" ROUND and SQUARE

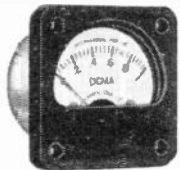
1½" barrel diameter. Full 90° scale arc, scale length 1.322". Model 153 meets MIL-M-3823 requirements. Also available: self-contained VU and DB meters — illuminated meters with lamp housing attached.



MODEL 100

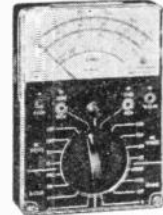
1" ROUND

1" barrel diameter. Full 90° scale arc, scale length .770". VU, DB and illuminated meters also available with external accessory attached.



MODEL 153

VOM-20 Multi-Tester



Sensitivity: 20,000 ohms per volt for dc, 15,500 ohms per volt for ac. Three big scales with ranges: (1) to 1500 acv, dcv (2) to 500 dcma (3) to 2 megohms. Moderately priced.

ENGINEERING DATA SHEETS . . .
COMPLETELY DESCRIBING THESE INSTRUMENTS ARE AVAILABLE. WRITE FOR YOUR COPIES TODAY.



international instruments

INCORPORATED

NEW HAVEN 15, CONN., CABLE "INTERINST"

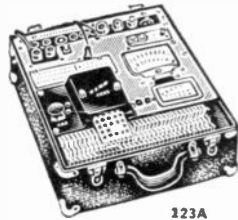


TEST INSTRUMENTS



MODEL 123A CARDMATIC TUBE TESTER

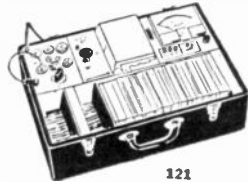
Laboratory accuracy in a revolutionary card type tube tester. The most accurate portable tube tester available. Code cards make all test settings—test any receiving tube with highest accuracy. All indications are automatic and instantaneous by use of two push-buttons. Ideal for production line use. Permits special engineering tests to meet any exact tube specifications for special circuit use. 60 watts, 110-125 v., 60 cps. In black leatherette carrying case, 19½" x 16½" x 9¾" d. Shipping, 57 lbs. Complete with 500 cards.
Model 123A Cardmatic Tube Tester—Net Each.....\$499⁵⁰



123A

MODEL 121 AUTOMATIC CARDMATIC TUBE TESTER

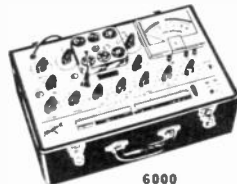
Technician's portable "Cardmatic" tube, transistor and semi-conductor diode tester; instantaneous and automatic high sensitivity shorts test. Heater to cathode leakage is quantitatively indicated directly on the meter. Measures: 320 heater voltages; 140 fixed bias potentials; 640 plate voltages; 640 screen voltages; 100 self-bias settings; and 1000 quality-value sensitivity ranges—all set automatically. Accurately checks horizontal and vertical amplifier tubes for pulse operation. 50 watts, 110-125 v., 60 cps. Baked gold finished panel. 19½" x 13¼" x 8" d. Shipping, 40 lbs.
Model 121 Portable Tube Tester—Includes 341 cards. Net Each.....\$299⁵⁰



121

MODEL 6000 PORTABLE TUBE AND TRANSISTOR TESTER

New, high-speed dynamic mutual conductance tube, transistor and semi-conductor diode tester cuts testing time in half; tests all receiver tubes normally found in present day electronics equipment. Including the new 11-pin types. Hickok-built 5" multi-scale meter. Instantaneous line adjust and automatic short indication. One push-button immediately permits rating in microhms. Third push-button instantly provides accurate gas evaluation. 40 watts, 105-125 v., 50-60 cps. 16¾" x 11¾" x 7½" d. Shipping, 21 lbs.
Model 6000 Portable Tube and Transistor Tester—Net Each.....\$189²⁵



6000

Model 6000C Counter Tube and Transistor Tester—Net Each.....\$195.00
Model 6000 or Model 6000C with CRT Adapter— For testing all picture tubes including new 110° types; and with SA-1 adapter for testing 7-pin inline and 8-pin round subminiatures. **\$18⁰⁵**
 Add Additional Net.....

MODEL 6005 ALL-PURPOSE TUBE AND SET TESTER (NOT ILLUS.)

Contains all features of Model 6000. Accurate, built-in, 20,000 ohms/v. DC, 1000 ohms/v. AC multi-meter panel covers AC-DC volts, (0-1000, in four ranges); Ohms, 0.1-100 megohms—(center scale 25, 2500, 500,000 ohms); Inductance, (to 70 henries); capacitance, (50 µf, 5 µf—to as low as .001 µf); Current (10, 100, 500 ma DC); Decibels (-10 to +50 db). Excellent for leakage tests of electrolytics and for hum checking in any receiver stage. Bias fuse protects bias potentiometer.
Model 6005 All-Purpose Tube/Multitester—With leads.....\$231⁰⁰

Model 6005 All-Purpose Tube/Multitester—With CRT adapter, 7-pin inline, and 8-pin round subminiature socket adapters. **Net Each.....\$249.05**
Acorn Adapter for Models 6000 or 800—Net Each.....14.80

MODEL 539B LABORATORY PORTABLE TUBE TESTER

6 Micromho Ranges: 60,000, 30,000, 15,000, 6,000, 3,000 and 600; Rectifier-Diode Range and Voltage Regulator Range in addition. 25, .5, 1.0 or 2.5 v. may be applied to grid. Separate DC voltmeter for grid bias; separate AC meter for line voltage. Separate rectified DC voltages applied to each tube element. Test leakage (to 50 megohms); neon test lamp for shorts; self-bias through switch; tubes can be matched; tests tube life; also noise and gas. Test tubes at normal or at low plate and screen voltages. 40 watts, 110-125 v., 50-60 cps. Black leatherette covered case; 16¾" x 18¾" x 7½" d. Shipping, 35 lbs.
Model 539B Tester—Complete with SW-1 replaceable socket set. **Net Each.....\$415⁰⁰**
Model 539B Tester—With CRT adapter. **Net Each.....\$427.10**



539B

MODEL 752 ENGINEER'S TUBE TESTER

Field engineers' most popular dynamic mutual conductance tube tester. Illuminated 4½" meter with 0-1,500, 3,000, 6,000, 15,000, 30,000 micromhos; four AC signal voltages; two plate voltages; two screen voltages. Tests shorts, noise, gas, tube life. Checks voltage regulator tubes under actual use conditions. Features test whereby dual tube elements are tested individually with only one test set-up. Meter and roll chart are illuminated. Includes tube pin straighteners mounted on panel. 40 watts, 110-125 v., 60 cps. Black leatherette covered portable case, 18¾" x 16¾" x 7½" d. Shipping, 27 lbs.
Model 752 Engineer's Tube Tester—Net Each.....\$298⁰⁰



752

MODEL 820 TUBE CADDY PAL

Combination tube-transistor tester and VTVM-Ohmmeter. Designed to fit into standard tube caddy. Tester checks gas, grid emission, contact potential and leakage. Also checks TV picture tubes (with CRT adapter) and transistors, including power types. **VTVM Ranges:** 0-1.5, 15, 150, 750 volts DC; Ohms, 100 ohm center scale, x1, x100, x10K. No batteries, has built-in power supply; operates on 15 watts, 115 v., 50-60 cps. 8½" x 3½" x 6" d. Shipping, 6 lbs.
Model 820 Tube Caddy Pal—Complete with three test leads. **Net Each.....\$99⁵⁵**
Model 820 with CRT Adapter—For testing all picture tubes, including 110° types. **Net. \$111.65**

MODEL 850 TRANSISTOR ANALYZER

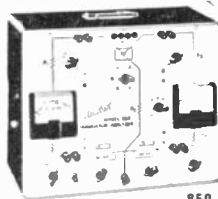
Low cost, accurate, easy to use transistor analyzer that can never become obsolete. Panel selector quickly sets choice of circuit use conditions. Checks parameters in any of three configurations. Common Base, Common Emitter, Common Collector. Checks power transistors with collector current up to 1 amp. Checks collector leakage, C Base or C Emitter, Beta (current) gain; input and output resistances; power gain; linearity. Portable steel case with aluminum panel; 16¾" x 13½" x 8" d. Shipping, 26 lbs. Battery operated.
Model 850 Portable Transistor Analyzer—Net Each.....\$138⁰⁰
Model 850P Console—Portable version in red leatherette case. **Net Each.....\$147.00**



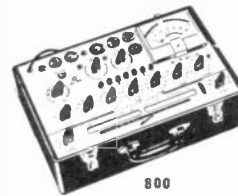
820

MODEL 800 TUBE AND TRANSISTOR TESTER

Smaller, handier portable model for radio and TV technicians as well as labs and industry. Micromho Range: 0-3000, 6000, 15,000, AC signal, 2.5 v. 5" meter. Tubes are tested under simulated operating conditions; covers all latest types including miniaturs and subminiatures. Includes: Gas, Shorts and Transistor tests. Easy-to-read roll chart is replaceable. 40 watts, 110-125 v., 50-60 cps. Dark red, leatherette covered portable case; has gold finished panel. 16¾" x 11¾" x 7½" d. Shipping, 21 lbs.



850



800

Model 800 Portable Tube-Transistor Tester— \$159⁵⁰
Net Each.....

Model 800 Tester—Including CRT adapter and replaceable socket set (7, 8, 9-pin non-oscillating) and 7-pin inline, 8-pin round subminiature socket adapters. **Net Each.....\$184.05**

HICKOK . . . CHOICE OF THE EXPERTS



TEST INSTRUMENTS



MODEL 770 5" LABORATORY OSCILLOSCOPE

For general purpose, industrial laboratory and TV applications. **Wide Band Amplifier:** Response DC to 5 mc, -3 db. **Vertical DC and AC Amplifier:** 10 mv rms/inch (narrow); 35 mv rms/inch (wide). **Frequency Response:** 0-2.5 mc, -3 db (narrow); 0-5 mc, -3 db (wide). **Horizontal Amplifier:** 75 mv rms/inch deflection at full gain. **Built-in Calibrating Voltages:** p-p, 100, 10, 1, 0.1 volts. **Test Signals:** Line Frequency, 3 v, rms; Sawtooth available; direct connection to horizontal and vertical deflection plates. **Line Frequency Phasing Control:** 0, ±90° phase shift. Shock mounted; shielded; stabilized. Illuminated, calibrated screen with green filter. Equipped with new flat-face tube for improved reading linearity or photographing trace. 150 watts, 105-125 v., 50-70 cps. Portable steel case, 14" x 12" x 18", Net, 50 lbs.; Shipping, 61 lbs. Complete with combination light shield and camera base, test leads. **\$435⁰⁰**



770

MODEL 675A 5" OSCILLOSCOPE

New 5" scope with all late design features for unusual accuracy in servicing present day electronic equipment, including color TV receivers. Illuminated, calibrated screen, with astigmatic focus and green filter. **Vertical Amplifier:** Response: 1 cps to 4.5 mc, ±3 db; flat through color burst frequency (3.5%). Sensitivity: 20 mv rms/inch. **Horizontal Amplifier:** Response: 1 cps to 450 kc, ±3 db. Sensitivity: 250 mv rms/inch. **Time Base Generator:** Four calibrated decades, with 10:1 vernier control—10-100 cps, 100-1000 cps, 1 kc-10 kc, 10 kc-100 kc. Both B+ and Line fused. **Power:** Consumed—125 watts at 115 v. AC. Source—105-125 v., 50-400 cps. Portable case, 13 1/2" h x 10" w. x 16" d. Net, 35 lbs.; Shipping, 43 lbs. **\$299⁹⁰**



675A

OSCILLOSCOPE PROBES

Model 34 Crystal Probe—For signal tracing with Model 770. Shipping, 2 lbs. **\$575**
Net Each.

Model TVP-1 Television Probe—For true reproduction. Shipping, 2 lbs. Net Each. **\$12.85**

MODEL 209A CAPACITANCE TESTER AND TRUE VACUUM TUBE VOLT-OHM-MILLIAMMETER

9" meter with non-glare black scale; conversion chart; P-P Voltmeter (also measures AC rms); 0-Center DC scale; high input Z to prevent loading; built-in power supply. **AC-DC Volts:** 0-3, 12, 30, 120, 300, 1200. **DC Current:** 0-3, 12, 30, 120, 300, 1200 ma. **Capacitance:** 0-10,000 µf (2 ranges); 0-1000 pf (5 ranges). **Inductance:** 50 mh to 100 henries. **Ohms:** 0.1 ohm to 10,000 megohms. **Frequency:** Up to 200 mc AC. **Input Z:** DC—15 megs.; AC—12 megs. **Tubes:** 1-6X5GT, 1-6BZ7, 1-6SN7GT. 20 watts, 105-125 v., 50-70 cps. Gray-finished steel portable case; attractive black panel with white nomenclature. 13 1/2" x 16 1/2" x 7" d. Net, 18 lbs.; Shipping, 26 lbs. **\$149⁰⁰**

Model 209A Tester—Complete with leads and high frequency light loading probe. Net. **\$16.40**

Model PR-30KVA High Voltage Probe—For DC only. Net Each.

MODEL 455A VOLT-OHM-MILLIAMMETER

Exclusive overload cut-out and fuse system provides complete protection for meter, resistors, shunts, and other components. Any high voltage or current can be applied directly across any function without danger or damage. **Sensitivity:** 20,000 ohms/v. **DC-AC Volts:** 0-3, 15, 60, 150, 600, 1200 DC-AC. **Ohms:** 0-100 megs. (5, 500, 5000, 500,000 ohms—center scale.) **Current:** 50 microamps; 1, 10, 100, 1000 ma; 10 amps. Single Function-and-Range switch. Full-wave bridge-type rectifier circuit. Streamlined case with curved face and slanted dial; batteries housed in special compartment—just snap in. Portable case, 8 1/2" x 5 1/2" x 3" (inclined to 1 1/2" h.). Net, 3 1/2 lbs.; Shipping, 6 lbs. **\$69⁵⁰**

Model 455A Volt-Ohm-Milliammeter—Complete with leads. Net Each.

MODEL 457 VOLT-OHM-MILLIAMMETER

Similar to Model 455A Volt-Ohm-Milliammeter except 1000 ohm/v. AC and special automatic cut-out overload protective circuit is not included. **\$43⁹⁵**

Model 457 Volt-Ohm-Milliammeter—Net Each.

Leather Carrying Case—For 455A and 457—Net Each. **\$9.00**

MODEL 225K VTVM QUALI-KIT

Practical kit with a big 9" meter that permits reading easily at normal working distance. Designed for the serviceman. Accurate peak-to-peak scales. Built-in audio tone for quick continuity testing. DC Voltmeter measures plus and minus 0-1.5, 3, 12, 30, 120, 300, 1200. **Input Resistance:** 10 meg-ohms. **Ohmmeters:** Center Scale—10 ohms; Readability—12 ohm to 1000 megohms. **AC Voltmeter Ranges:** 7 Ranges AC rms—0-1.5, 3, 12, 30, 120, 300, 1200; 7 Ranges Peak-to-Peak—0.4, 8, 32, 80, 320, 800, 3200. **Frequency Characteristics:** Flat, 40 cps to 3.5 mc, 20 watts, 105-125 v., 50-800 cps. Blue-hammertex steel case, 13 1/2" x 16 1/2" x 7". Net, 16 lbs.; shipping, 23 lbs. Complete with new Dual-Probe and leads, plus full-page instruction book for easy assembly. **\$59⁵⁰**

Model 225K VTVM Quali-Kit—Net Each.

VTVM-VOM PROBES

Model PR-30KVA Probe—High voltage probe for use with Model 209A. DC only. Ship- **\$1640**
ping, 2 lbs. Net Each.

Model PR-46 Probe—High voltage probe for use with Models 455A and 457 to measure up to 6 kv. Shipping, 2 lbs. Net Each. **\$16.60**

Model PR-50KV Probe—High voltage probe for use with Model 470 to check voltages up to 30 kv. Shipping, 2 lbs. Net Each. **\$16.40**

Model PR-430 Probe—High voltage probe for use with Models 455A and 457 to measure 30 kv. Shipping, 2 lbs. Net Each. **\$16.60**

MODEL 470

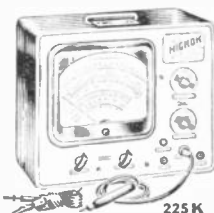
PORTABLE ELECTRONIC VOLT-OHMMETER

New, handy size professional's portable electronic volt-ohmmeter features a large Hickok-built 7" meter. Also featured is a new high-sensitivity, low voltage range for transistor bias testing. **DC Volts:** 0-1.5, 5, 15, 50, 150, 500, 1500; input resistance 13.3 megs with probe. **Ohms:** (No batteries needed) x 1, x 10, x 100, x 1K, x 10K, x 100K, x 1 meg; readable 0.2 ohm to 1000 meg; design center 10 ohms. **AC Volts:** Based on pep detection and calibrated in rms—0-1.5, 5, 15, 50, 150, 500, 1500. **Frequency Response:** 30 cps to 2.5 mc, 10 watts, 105-125 v., 50-400 cps. Rugged, shock-resistant, molded phenolic case has long proven to be the only practical housing for this type of instrument. 8 1/2" x 5 1/2" x 3"—1 1/2" h. Net, 7 lbs.; shipping, 10 lbs. Complete with AC-DC probe, ohms lead, gins lead, instructions and guarantee. **\$89⁷⁵**

Model 470 Electronic Volt-Ohmmeter—Net Each.



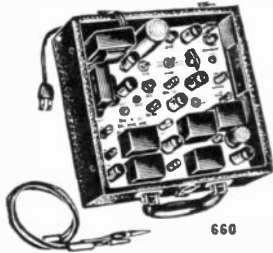
470



225K

HICKOK... CHOICE OF THE EXPERTS

HICKOK TEST INSTRUMENTS HICKOK



660

MODEL 660 WHITE DOT-BAR COLOR TV GENERATOR

Provides 3 patterns on screen of any color TV set: White Line Crosshatch (20 vertical, 15 horizontal, less those in blanking); White Dot (small size—300 dots, less those in blanking); Color Display (sequence of orange, red magenta, blue, cyan, green). All frequencies crystal controlled and locked together with extreme stability. RF output preset, channel 2 through 6. Small dot and crosshatch down to 2 lines, horizontal and vertical. Sync to video output variable 10-90%. Stable timer circuit. **Video Output:** 0-4 v. p-p; 300 ohm Z.; black positive or negative. Sidelock color frequency crystal 3.563795 mc; output 1 v. p-p. **RF Output:** .001 v. to .05 v.; RE modulated by all video outputs (60% modulation). 40 watts, 105-125 v., 50-60 cps. 10 1/2" x 10 1/2" x 5 1/4". Net, 15 lbs.; shipping, 21 lbs.

Model 660—Complete with 2 crystals and cables, instructions, guarantee. Net Each. **\$243.00**

MODEL 656XC STANDARD TV COLOR GENERATOR

Produces standard 100% fully saturated NTSC color bar pattern on color TV sets; provides signals for complete color alignment—will never be obsolete. Color generated within 30 seconds of warmup. Generates 3 primaries, 3 complements, plus black and white (white produced by adding 3 primaries); pattern is green, yellow, red, magenta, white, cyan, blue and black. Crystal controlled. Sub carrier and brightness amplitudes set with precision resistive networks. Also produces White Dot Crosshatch, Vertical Lines, Horizontal Lines, and White Dots (small). Sound carrier and signals for R-Y, B-Y, G-Y, and G-Y at 90° RF output modulated through color bar pattern, channels 2-6. Video output, 0-2 v. p-p open circuit; 0-1 v. p-p across 100 ohms. 125 watts, 105-125 v., 50-60 cps. Black leatherette covered case, 16 3/4" x 18 3/4" x 7 1/2" d. Net, 43 lbs.; shipping 48 lbs.

Model 656XC Generator—Complete with leads. Net Each. **\$495.00**

MODEL 760 VIDEO SCANNER

Stable versatile TV trouble-shooter has many uses; features innumerable signals and displays normally not available to the TV technician. Instantly scans and produces a video or RF signal for any slide that is inserted into the unit; works with black and white, and color receivers. Generates and scans at the 525 line, 60 field and 30 frame system. Patterns furnished are Bar, Dot, Standard Test Pattern and transparent blanks for grease pencil use. Optional patterns are Gamma, Square Wave and Burst Wave forms. Fully crystal controlled; sync to EIA specifications. 145 watts, 105-125 v., 50-60 cps. Portable, 18 3/4" x 14" x 8 1/2" d. Net, 43 lbs.; shipping, 51 lbs.

Model 760 Video Scanner—Complete with crystal and leads. Net Each. **\$372.00**

MODEL 690 VHF-UHF MARKER GENERATOR

Crystal controlled, RF output .25 v. Provides dual markers with any sweep generator. 45° of Non-Parallax shadow-type dial can be self-calibrated to ±.05% accuracy with self-contained crystal calibrator. RF channels 2 through 83; also 3.57 mc crystal (color burst frequency). No counting of beats; interpolation or remembering of frequencies. Calibrates other signal generators accurately. Marker can be modulated by self-contained 400 cps. Provision for two other crystals, in addition to 2.5 mc crystal supplied. Electronic and phone jack for visual or audible zero-beat. Attenuation controlled by step attenuator and vernier. All VHF frequencies on fundamentals, 20 watts, 105-125 v., 50-70 cps. Steel case, 16 1/2" x 13 1/2" x 8" d. Net, 26 lbs.; shipping, 34 lbs. **\$362.00**

Model 690 Generator—Complete with crystal and leads. Net Each. **\$362.00**

MODEL 691 HETERODYNE MARKER ADDER

Together with 695 and 690, provides ultimate in TV alignment. Marker visible at all lines, including trap points; will not change amplitude or distort response curve. Sweep and marker generators heterodyned so marker signal never passes through receiver—no overloading. Input: 50,000 mv (RF); 90 ohms Z. Output: 3 v. max. Attenuation: Marker, variable 0-60 db. Response, variable 0-20 db. 25 watts, 105-125 v., 50-60 cps. Portable steel case, 11 1/2" x 8 1/2" x 7" d. Net, 10 lbs.; shipping, 15 lbs.

Model 691 Marker Adder—Complete with leads. Net Each. **\$109.00**

MODEL 288X CRYSTAL-CONTROLLED SIGNAL GENERATOR

High output AM-FM generator, RF variable 110 kc to 110 mc AM and 100 kc to 160 mc FM in 7 bands, all fundamental. Fixed 50 mc output internally FM at 60 or 400 cps. Fixed, crystal controlled 100 and 1000 kc outputs. Variable AF output 0-15,000 cps; fixed AF 400 cps. DB: -10 to +35, over 100° of scale. 13 1/2" x 16 1/2" x 7" d. Net, 25 lbs.; shipping, 33 lbs.

Model 288X Generator—Complete with cables and 100-1000 kc crystal. Net Each. **\$298.00**

MODEL 290X AM GENERATOR (NOT ILLUSTRATED)

Accurate, stable source of RF power for alignment of AM receivers. All frequencies obtained by dialing front panel selector. Preset, calibrated frequencies: 262 kc, 455 kc, 465 kc, 600 kc, 1400 kc. Internal crystal oscillator 500 kc to 20 mc. Modulated and unmodulated RF outputs; variable 2-200 mv, 400 cps audio output. 4 1/2" x 9 1/2" x 3 1/2" d. Net, 6 lbs.; shipping, 8 lbs. **\$44.25**

Model 290X Generator—Complete with leads, less crystal. Net Each. **\$44.25**

MODEL 810 TRANSISTOR-RADIO TESTER

Has all the necessary features for complete transistor radio trouble-shooting. Includes tuned receiver (for IF and RF), audio amplifier (400 cps output for signal injection), AM signal generator (for IF and RF), cathode follower input probe, transistor tester, loudspeaker for signal tracing. 25 watts, 105-125 v., 50-70 cps. Portable steel case with aluminum panel, 11 1/2" x 9" x 7" d. Net, 11 lbs.; shipping, 16 lbs.

Model 810 Transistor Radio Tester—Net Each. **\$119.00**

MODEL 695 VHF SWEEP ALIGNMENT GENERATOR

Sweep signal absolutely linear, without amplitude modulation. Fundamental output on all VHF channels (3 volt). Blanking of oscillator provides reference base line. Continuously variable tuning, 0-50 mc IF heterodyned output (.15 volt), 100 db attenuation, 3 volt to 3 mv. Triple-shielded—no leakage. Metered, variable DC bias voltage, 0-12 v. 170° phasing. Sweep width, 0-15 mc. ±3 mc. 90 ohms output Z. 30 watts, 105-125 v., 50-500 cps. Portable steel case, 16 1/2" x 13 1/2" x 8" d. Net, 30 lbs.; shipping, 39 lbs.

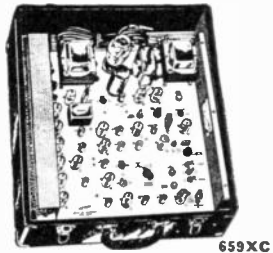
Model 695 Generator—Complete with leads. Net Each. **\$391.00**

MODEL 615 SWEEP AND MARKER ALIGNMENT GENERATOR

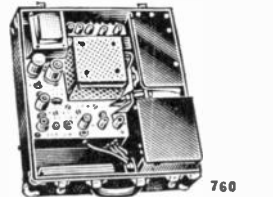
Complete, single-unit TV sweep and marker generator for visual alignment of any TV receivers, (Tuner, IF, Video). Strong 0.25 volts rms marker amplitude (less than .1 db/mc modulation); excellent attenuation; frequency—2.5-5.5 mc, 10-50 mc, 54-108 mc, 108-216 mc. Built-in retrace blanking (controlled). Variable sweep width (0-15 mc). Built-in 4.5 mc crystal. Marker and crystal oscillators can be amplitude modulated 30% by self-contained 900 cps internal modulator. 170° variable phasing. 13 1/2" x 16 1/2" x 8" d. Net, 31 lbs.; shipping, 39 lbs.

Model 615 Generator—Complete with leads and crystal. Net Each. **\$339.90**

TYPE 75 TERMINATION PAD—For use with TV-FM alignment generators to eliminate most standing waves. For 90 and 300 ohms inputs. Shipping, 2 lbs. Net Each. **\$11.50**



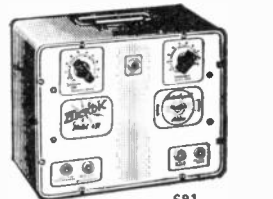
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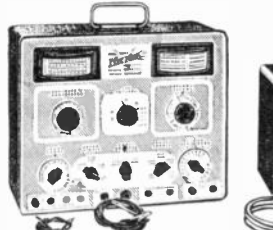
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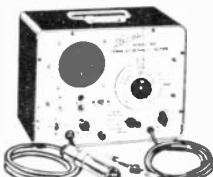
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288X



810



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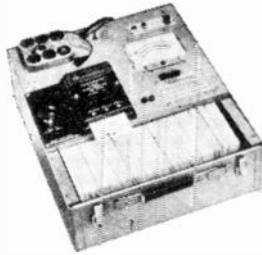


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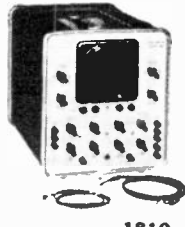
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RD INSTRUMENTS

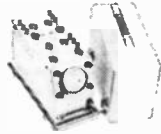
FOR RESEARCH AND DEVELOPMENT



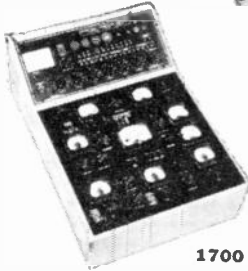
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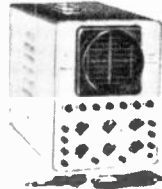
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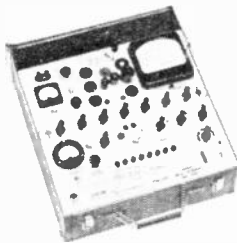
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1700



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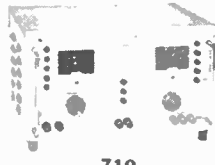
1715



387R



1600



710



295X

MODEL 1230 CARDMATIC[®] AUTOMATIC TUBE TESTER

Insertion of proper card automatically sets up desired tube testing conditions. Accuracy, within 3%. Automatic decade systems provide wide voltage and circuit combinations, cover 1000 filament voltages, 250 mutual conductance ranges, 500 current sensitivities and 1000 self-bias conditions. Instantaneous, highly accurate short- and leakage tests (to 10 megohms). Sensitive gas and grid emission tests. Up to 200 ma load on rectifier tubes. "Knee" test for horizontal amplifier tubes. Patented automatic switch offers unlimited switching combinations. Operates on 105-125 v., 50-60 cps AC, 55 watts. Size: 19 1/2" x 16 1/2" x 9 1/2". Weight, 19 lbs. **RD Model 1230 Cardmatic[®] Automatic Tube Tester**—With self-calibrating cards and 500 standard industrial tube cards—Net Each..... **\$530⁰⁰**

MODEL 1810 WIDE BAND 5" OSCILLOSCOPE

Flat-faced, post accelerated 5" CRT with illuminated, calibrated screen. Built-in, direct reading, regulated square-wave voltage calibrator. **Sensitivity:** 10 mv p-p/cm deflection. **Vertical Amplifier:** 4 mc band width; AC or DC inputs. **Sweeps:** Triggered or recurrent; variable 2-30,000 cps; exceptionally slow sweeps through use of external capacitors. Size: 12 1/2" x 18 3/4" x 14 3/4". Weight, 50 lbs. Complete with shielded input and ground cables. **RD Model 1810 Wide Band Oscilloscope**—Net Each..... **\$470⁰⁰**

MODEL 385CM 3" PORTABLE OSCILLOSCOPE

Light weight, compact design for field service. Utilized circuit modules. DC horizontal and vertical amplifiers; 0.75 rms volts/inch sensitivity; 2 mc and 4 mc bandwidth vertical; recurrent sweep, variable 3-50,000 cps. Telescopic light shield; moisture proof, shock mounted carrying case. Operates on 105-125 v., 50-1000 cps AC, 60 watts. Size: 8" x 13 1/2" x 9" (with case). Weight 15 lbs. (with case). Complete with test leads and case. **RD Model 385CM 3" Portable Oscilloscope**—Net Ea. **\$430⁰⁰**

MODEL 1700 LABORATORY TUBE TESTER

Dynamic mutual conductance tube tester provides broad range of regulated tube parameters. Use also for study of tubes in non-conventional and special circuits. Facilities for analysis of static and dynamic characteristics. Permits tube tests under handbook conditions. Provision for self-bias tests. Electronically regulated and metered power supplies. Continuously variable filament power supply, 0-117 v.; filament current measurable 0-8 amps. All voltages and currents variable and metered (nine separate meters). Eight ranges, 0-3,000 to 0-60,000 amhos; 11 ranges, 0-600 to 0-60,000 amhos with null accessory. Electrically inter-locked selector switches; connect-disconnect switch permits tube warm-up with only filament voltage applied. Patch cord system permits tube base selection independent of selector switches. Provision for oscilloscope connection to observe AC signal in plate circuit. Operates on 105-125 v., 60 cps AC, 300 watts. Size: 20" x 29" x 12". Weight, 75 lbs. **RD Model 1700 Laboratory Tube Tester**—Net Ea. **\$1290⁰⁰**

RD Model 7001 Null Reading Indicator—For 1 1/2% accuracy, 8 1/4" x 13 1/2" x 8"; Wt., 7 lbs. Net Each... **\$206⁵⁰**

MODEL 685 IDENTICAL AMPLIFIERS 5" OSCILLOSCOPE

With 5" CRT and illuminated, calibrated screen. Provision for Z-axis modulation. Identical amplifiers, to 750 kc. AC or DC. **Rise Time:** 2 μ sec. **Sensitivity (MV RMS/In.):** Vertical, 20; horizontal, 30. **Sweep:** 1 cps to 100 kc in five calibrated decade ranges with vernier control slow sweep with external capacitor. External sync. Shock mounted. Size: 10" x 16" x 13". Weight, 35 lbs. Complete with test leads and instructions. **RD Model 685 Identical Amplifiers Oscilloscope**—Net **\$383⁰⁰**

MODEL 1575 PORTABLE TUBE TESTER

For field service. Seven ranges, 0-60,000 amhos. Separate line voltage and grid bias voltage meters. Four signal voltages; 0.25, 0.5, 1, 5. Voltage regulator test evaluates operating conditions, including regulation and striking potential. Accurate shorts-leakage test; sensitive gas test; life-test. Size: 18" x 16 1/2" x 7 1/2". Weight, 26 lbs. Complete with carrying case. **RD Model 1575 Portable Tube Tester**—Net Each... **\$443⁰⁰**

MODEL 1715 SQUARE WAVE GENERATOR

Highly stable; voltage regulated. **Frequency Range:** 1 cps to 1 mc, continuous. In six decades; constantly variable frequency available through entire range. **Rise Time:** 0.02 μ sec. Includes symmetry control and external sync provision. Size: 10" x 15 1/2" x 14 1/2". Weight, 30 lbs. **RD Model 1715 Square Wave Generator**—Net Each. **\$300⁰⁰**

MODEL 387R INDUSTRIAL 3" OSCILLOSCOPE

Standard 19" rack mounting 3" industrial oscilloscope. Identical horizontal and vertical amplifiers with 10 mv sensitivity; bandpass DC to 500 kc. Triggered or recurrent sweep, 1 cps to 100 kc. Internal or external locking. Size: 19" x 11 1/2" x 5 1/2". Weight, 15 lbs. Complete with shielded input and ground cables. **RD Model 387R Rack Mounting Oscilloscope**—Net. **\$385⁰⁰**

MODEL 295X MICROVOLT AND CRYSTAL CONTROLLED GENERATOR

Microvolt and crystal controlled generator. Silverplated copper RF circuits shielded, and isolated from chassis. Accurate step-attenuator. Direct reading vernier tuning. **Frequency:** Continuous on fundamentals, 125 kc to 175 mc; up to 250 mc on harmonics through proper crystal. Crystal controlled RF oscillator, 400 kc to 20 mc. **Metered Output:** 0.1-100,000 μ v. Includes 1,000 kc crystal. Size: 19" x 12 1/2" x 9". Weight, 40 lbs. **RD Model 295X Microvolt and Crystal Controlled Generator**—Net Each..... **\$554⁰⁰**

MODEL 710 SINE-WAVE SQUARE-WAVE GENERATOR

Highly accurate readings. Push-button attenuators. Metered output. Portable or rack mounting. **Frequency:** 20 cps to 1 mc. **Sine Wave Total Harmonics Distortion:** Less than 1%. **Square Wave Rise Time:** Less than 1 μ sec. **Hum:** Better than 90 db down. Size: 16" x 12" x 8 3/4". Weight, 44 lbs. **RD Model 710 Sine-Wave Square-Wave Generator**—Net Each..... **\$495⁰⁰**

MODEL 1600 VACUUM TUBE VOLTMETER

Highly stable, high frequency VTVM accurately measures wide range of AC/DC volts and resistance. Low input capacity; high input impedance. Voltage compensated. Ohmmeter section has built-in power supply. Permanently attached leads. **Frequency Response:** 20 cps to 700 mc, \pm 1 db (usable to 3000 mc). **AC Volts:** 0-300 in six ranges. **DC Volts:** 0-1000 in seven ranges. **Ohms:** 0-1000 megohms in seven ranges. Meter, 1% of full scale. High frequency AC thermionic diode probe included. Size: 6 1/2" x 6" x 9". Weight, 9 lbs. **RD Model 1600 Vacuum Tube Voltmeter**—Net Ea. **\$245⁰⁰**

ADDITIONAL INFORMATION ON ITEMS LISTED HERE AVAILABLE ON REQUEST

THE HICKOK ELECTRICAL INSTRUMENT CO.

CLEVELAND 8, OHIO

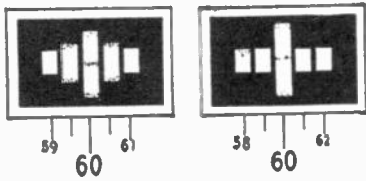


VIBRATING REED FREQUENCY METERS (PATENTED)

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards, in inspection set-ups — wherever constant or known frequency is important to efficient operation of equipment. More than 17 years of continuous experience covering many thousands of these instruments are your assurance of quality for both commercial and defense applications.

The patented, simplified design used in the J-B-T meter operates on AC or interrupted DC. Each reed is adjusted to respond by resonance to but one frequency. As the current excites the driving coil, the reed "in tune" with the frequency in the coil will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. To determine frequency, simply read the reed.

The response patterns differ with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right.

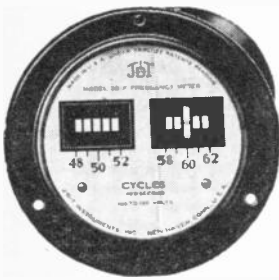


CAUTION: If a meter plugged in on a 60-cycle AC power line does not indicate exactly 60 cycles, trust the meter! Power supply may momentarily be off-frequency due to changing load conditions. All J-B-T Frequency Meters are accurately calibrated at the factory, entirely independent of frequency of power supply. Production and inspection equipment are checked regularly against National Bureau of Standards frequency signals.

10 REEDS

Range: 48-52 and 58-62 cycles. Double window for ease of reading either range. Often specified for export, 100-130 volts; 130 ohms per volt; 1 watt power consumption. Accuracy $\pm 0.3\%$ at reference temperature. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

- 30-F, (illustrated), 48-52 and 58-62 cy., 3/4" Metal Case, \$28.50
- 30-FX, 48-52 and 58-62 cy., 3/2" Molded Case, MIL-M-6A mfg. \$27.50

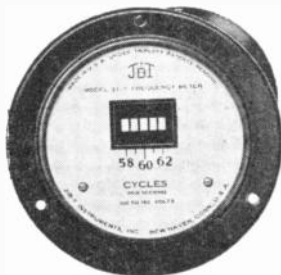


(Meter operating at 60 cycles)

5 REEDS

Used on standby power equipment. Handy for accurately measuring frequency of power source. Five reeds 58-62 cycles, 100-130 volts. Other characteristics same as Model 30-F. See Table of Dimensions, lines 4 and 5. (This meter also is made with 7 reeds.)

- 31-F, (illustrated), 58-62 cy., 3/4" Metal Case, \$24.65
- 31-FX, 58-62 cy., 3/2" Molded Case, MIL-M-6A mfg. \$23.65



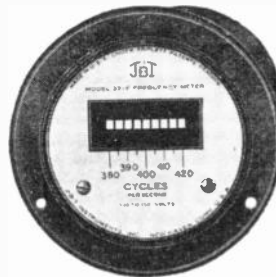
ADVANTAGES: Guaranteed accuracy at reference temperature of 77-F is $\pm 0.3\%$ or better of the AC frequency being measured, unless otherwise stated. Accuracy on interrupted DC may be somewhat less. High fatigue safety factor for continuous operation. Temperature compensations are not required as temperature coefficient of reeds is only approximately 75 parts per million per degree F., negative.

All meters are permanently calibrated at the factory and do not require subsequent adjustment. J-B-T reeds have relatively high Q characteristics, an especially desirable factor in electronic circuits. Wave form or external magnetic fields do not ordinarily have an adverse effect. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take tougher treatment than many instruments.

9 REEDS — 400 CY.

Used for measuring frequency of high-cycle power sources, particularly aircraft. Accuracy $\pm 0.3\%$ at reference temperature. Nine reeds 380-420 cycle range, 100-130 volts, 90 ohms per volt, 1.5 watts power consumption. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

- 33-F, (illustrated), 380-420 cy., 3/4" Metal Case, \$35.10
- 33-FX, 380-420 cy., 3/2" Molded Case, MIL-M-6A mfg. \$34.10



9 REEDS — 60 CY.

Covers a broad frequency band. Nine reeds, 56-64 cycles, or in half-cycle steps (accuracy $\pm 0.2\%$) 58-62 cycles, 100-130 volts, 110 ohms per volt, 1 watt power consumption. Flush panel mounting. See Table of Dimensions, lines 4 and 5.

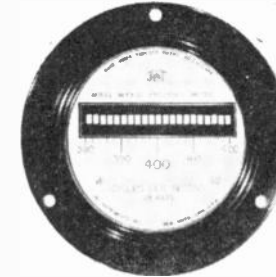
- 34-F, 56-64 cy., 3/4" Metal Case, 1-cycle steps, \$28.25
- 34-FX, (illustrated), 56-64 cy., 3/2" Molded Case, MIL-M-6A mfg. \$27.25
- 34-F-Z, 58-62 cy., 3/4" Metal Case, 1/2-cycle steps, \$29.90
- 34-FX-Z, 58-62 cy., 3/2" Molded Case, MIL-M-6A mfg. \$28.90



18 OR 21 REEDS

Advanced design offers 21 reeds as an interchangeable 3/2" panel meter with 2-cycle intervals for close reading over the band of 380 to 420 cycles per second. Accuracy $\pm 0.3\%$ at reference temperature. The reed flag size is necessarily smaller than the 9-reed 400-cycle meter, such as the model 33-FX, but the 21 reeds are located in an enlarged window 2" wide with flags 3/32" high x 1/16" wide to give maximum readability. A revised internal construction for mounting the reeds in one clamp assures ruggedness. This instrument and its variations are particularly useful where unusually close indication of frequency throughout the band has not been available heretofore. These meters are not regularly stocked. See Table of Dimensions, line 5.

- 36-FX-21, (as illustrated), 380-420 cycles, 21 reeds, 18 volts operation, 3/2" Molded Case; 18 ohms per volt, 1.0 watts power consumption. \$51.60
- 36-FX-21-115, 380-420 cycles, 21 reeds, 100-130 volts, 10 ohms per volt, 1.5 watts power consumption. \$52.80
- 30-FX-18, (not illustrated), 46-54 and 56-64 cycles, 18 reeds in one window with two groupings, 100-130 volts, 210 ohms per volt; 0.7 watts power consumption. \$36.30



Instruments

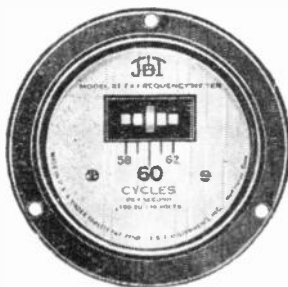


Testers

J-B-T INSTRUMENTS, INC.

2 1/2" METERS — 5 REEDS

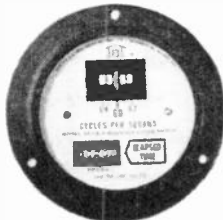
MODEL 21-FX, 23-FX. Matches other 2 1/2" panel instruments. Meets ASA C39.1-1951 and MIL-M-6A (Type MR 24 or MR 25) in depth of case and mounting dimensions. Weighs only 4 1/2 ozs.; 5 reeds; 500 ohms per volt; 0.25 watt power consumption. Also 116 to 124 cy., 250 ohms per volt; 0.5 watt power consumption. 380 to 420 cy., 170 ohms per volt; 0.7 watts power consumption. Flush panel mounting, see Print MD-20, also Table of Dimensions, Line 2.



(Operating at 60 cycles)

ELAPSED TIME — FREQUENCY METERS

31-FE SERIES. To conserve panel space and centralize information, this panel instrument combines the elapsed time or running time meter with frequency reeds. It is used on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achieve close control of reed amplitude and frequency. Reads 0-9,999.9 hours, and 58-62 cycles with 5 reeds, for 100-130 volt operation; self starting. Tenths shown in red, all other numerals in black. Black metal case with front mounting per Table of Dimensions, line 6. Power consumption is 3.5 watts. For variations having 7, 9, or 11 reeds, not regularly stocked, such as Model 34-FE, see revised print SK-45.



31-FE, 3 1/4" metal case.....\$33.00

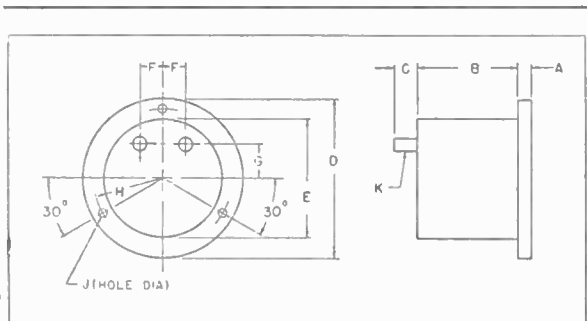
31-FEK-1, (per print EK-44—not regularly stocked) like Model 31-FE, except with 3 1/2" metal flange permanently attached for MIL-M-6A front mounting per line 7, Table of Dimensions.....\$34.10

RUGGEDIZED METERS

Models with "RUG"—Sealed vibrating reed frequency meters and sealed elapsed time meters can be supplied, on special order, to the intent of MIL-M-10304A which covers ruggedization of other kinds of meters. This feature usually is specified only for extra severe shock and vibration.

400 CYCLES, IN 1 CYCLE STEPS; 800 CYCLES

Among the non-catalog variations which J-B-T manufactures on special order, are 21-reed, 390-410 cycles in 3 1/2" case, and 11 reed 780-820 cycles. Quotations on request.



FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES

MODEL	MIL-M-6A* MOUNTING	A	B	C	D	E	F	G	H	J	K	TERMINAL DESCRIPTION
Line 1 15-FH Series	—	1/8	1-9/16	3/8	2-3/32	1-1/2	3/8	3/8	0.875	0.125	Solder, 1/16" dia. hole	
Line 2 21-FX and 23-FX Series	MR 24, MR 25	13/64	1-3/8	23/32	2-11/16	2-5/32	7/16	9/16	1.220	0.116	10-32 NF-2 studs	
Line 3 21-FHXX, 23-FHXX	MR 26	3/32	1-27/32	11/16	2-11/16	2-1/8	1/2	1/2	1.220	0.125	Solder, 3/32 hole	
Line 4 30-F to 34-F Series	—	7/64	2-3/32	23/32	3-1/4	2-9/16	7/16	7/8	1.453	0.150	10-32 WF-2 studs	
Line 5 30-FX to 36-FX Series	MR 34, MR 35	19/64	2	23/32	3-1/2	2-11/16	7/16	7/8	1.580	0.150	10-32 NF-2 studs	
Line 6 31-FE Series	—	7/64	3-7/8	23/32	3-1/4	2-9/16	7/16	7/8	1.453	0.150	10-32 NF-2 studs	
Line 7 31-FEX-1 Series	MR 34, MR 35	7/64	3-7/8	23/32	3-1/2	2-9/16	7/16	7/8	1.453	0.150	10-32 NF-2 studs	
Line 8 30-FHXX to 34-FHXX Series	MR 36	3/32	2-1/4	5/8	3-1/2	2-11/16	1/2	3/4	1.580	0.150	Solder, 3/32 hole	

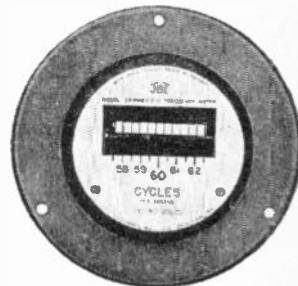
* Also JAN-I-6 and ASA C39.1-1951 Mounting

NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes normally are made with two studs and are designed to be connected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becomes the voltage to be specified for the meter. Special meters with extra studs are made only for the purpose of reading two or more voltages, not additional phases.

3 1/2" SEALED METERS

FHXX TYPE sealed meters, glass-to-metal construction, with solder terminals and detachable flange, supersede the former FHX sealed meters (Print SK-24). While JAN-I-6 and MIL-M-6A (Type MR3c) do not refer to frequency indicators, the FHXX series uses the front mounting dimensions, and meets or exceeds the sealing and electrical requirements including the 3000 volt breakdown. Mounting dimensions are shown below. Standard voltage is 100-130. Electrical characteristics and accuracy are the same as for corresponding models without the HXX designation. Every meter tested in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (approx. 57,000 ft. altitude) and is maintained for one minute. While not regularly stocked, these meters are in production. For dimensions, see Table, line 8.



- 30-FHXX, 10 reeds, 48-52 cy. and 58-62 cy.....\$34.30
- 31-FHXX, 5 reeds, 58-62 cy.....30.45
- 33-FHXX, 9 reeds, 380-420 cy.....40.90
- 34-FHXX, 9 reeds, 56-64 cy.....34.05
- 34-FHXX-11, 11 reeds, 55-65 cy.....36.25
- 34-FHXX-Z-11, illustrated, 11 reeds, 57.5-62.5 cy.....37.90

2 1/2" SEALED METERS

On special order, J-B-T supplies 2 1/2" sealed frequency meters. MIL-M-6A mounting. See Table of Dimension, line 3.

- 21-FHXX, 5 reeds, 58-62 cy. 100-130 volts\$34.85
- 23-FHXX, 5 reeds, 380-420 cy. 100-130 volts39.80

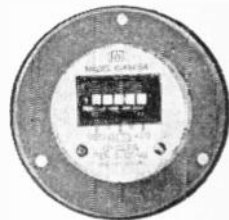
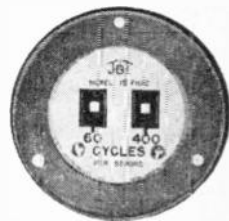
1 1/2" SEALED METERS

MODEL 15-FHAC. Widely used as the frequency standard on audio-oscillators, the model illustrated operates 2 reeds, 60 and 400 cycles, at approximately 8-10 volts on 0.04 watts for a cathode follower circuit. Accuracy ±0.5% at 77°F. Steel case has telephone black case, solder terminals. Barrel is 1 1/2" diameter; 2-3/32" detachable flange FL-4 covers glass-to-metal seal. See Table of Dimensions, line 1.

15-FHAC\$20.30

15-FH-5 METERS (lower photo) also use the 1 1/2" black metal case with 2-3/32" detachable flange and glass-to-metal seal. The 15-FH-5 series features 5 reeds in a row for 100-130 volt operation. Specified where size and weight are important. Same 100% inspection for approx. 57,000 ft. altitude as FHXX types. Standard meter, but not regularly stocked. See Table of Dimensions, line 1.

- 15-FH-54, 5 reeds, 390-410 cycles, 2.5 watts power consumption.....\$25.85
- 15-FH-56, 5 reeds 58-62 cycles, 0.25 watts power consumption.....\$21.45
- 15-FH-400, 5 reeds, 380-420 cy., 2.5 watts power consumption.....\$25.85



ELAPSED TIME METERS; 4" AND PORTABLE FREQUENCY METERS

ELAPSED (OR RUNNING) TIME METERS — 60 Cycles



MODEL 31-EX. To record operating time of AC electrical and electronic equipment, this self-starting synchronous instrument registers in 1/10th hour steps to 9,999.9 hours, then automatically re-sets. Shows tenths in red numerals, all others in black. Black molded case matches FX, 3 1/2" frequency meters, and fully encloses all parts. This case, with centered terminals, meets type MR34 or MR35 mounting dimensions of MIL-M-6A, also JAN-1-6. Referring to line 5 of the Table of Dimensions

on the preceding page, barrel depth (B) is 2 1/4", stud height above center (G) is zero, and all other measurements are as shown. J-B-T engineers recommend AC elapsed time meters for superior accuracy, especially where voltage or ambient temperatures vary widely. Popular for tube life, TV equipment, punch presses, conveyors, oil burners, maintenance schedules, etc. Types for 99,999 hours, or 50 cycles, or special voltages are available on special order.

31-EX, 60 cy., 110-125 volts \$15.95
 31-EX-200, 60 cy., 230 volts (not regularly stocked) 17.05



Model 31-ES. The black molded square case 3" x 3" is the major difference between this meter and the 31-EX. Four molded-in studs on standard 2 1/4" distances between centers provide mounting from rear of panel; meter barrel is 2 3/4" diameter. Depth behind panel is now 3 3/4" including studs. For complete details see Print SK110 Rev. C. Variations including 99,999 hours, 230 volts, matte finish, 50 cycles, or readings in minutes are quoted upon request.

31-ES, 60 cy., 110-125 volts, 0-9,999.9 hours \$17.05

ELAPSED TIME METERS — Tenths of Minutes

MODEL 31-EXM, 60 cycles, 110-125 volts, reading 0-9,999.9 minutes; for short-run applications or readings at closer intervals than 31-EX. Tenths of minutes in red, minutes in black numerals, otherwise identical with 31-EX \$16.25

3 1/2" SEALED ELAPSED METERS — 60 Cycles



MODEL 31-EHXX. Where rugged requirements make a completely sealed elapsed time meter desirable, this glass-to-metal construction, with flat glass front and 3 1/2" diameter separable flange, often is specified. Heavy-duty solder terminals are supplied. Every instrument is checked in a vacuum chamber. Overall dimensions and appearance match the FHXX series sealed frequency meters. Maximum voltage between terminals and case, 1000 volts, R.M.S. The meter registers in 1/10 hour steps to 9,999.9 hours,

then automatically re-sets. Tenths indicator is in red, all others in black. Mount according to Print SK-85.
 31-EHXX, 60 cy., 110-125 volts \$19.75

2 1/2" SEALED ELAPSED TIME METERS

MODEL 21-EHXX. This new 2 1/2" sealed meter, with front mounting dimensions the same as type MR-26 electrical indicating instruments in MIL-M-6A, nevertheless offers a full-size counter reading 0-9,999.9 hours in 1/10th hour steps and a rugged self-starting synchronous motor. Glass-to-metal seal makes the instrument completely tamper-proof. Ask for Print SK-68. A 2 1/2" 400 cycle-meter also is made on special order.
 21-EHXX, 60 cy., 110-125 volts \$24.75

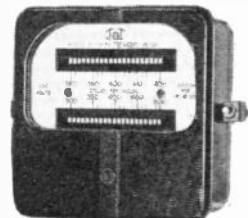
SEALED ELAPSED TIME METER — 400 Cycles

MODEL 33-EHXX. Meeting a long-felt need for a stable 400-cycle elapsed time meter compact enough to fit in a 3 1/2" flanged case, with all parts enclosed, is this new 400-cycle elapsed time meter. The instrument now is being produced only in sealed construction, glass-to-metal, with separate flange, heavy-duty solder terminals and flat glass front. External appearance matches FHXX series and Model 31-EHXX sealed, 60-cycle, elapsed time meter. A slightly larger case is used per drawing SK-61.

33-EHXX, 400 cy., 0-9,999.9 hours, 1/10 hours steps, 110-125 volts \$58.00

400 CYCLE BROAD AND VERNIER INDICATORS

Model 41-FX-42 (supersedes Model 41-FX). This 2-window frequency meter is widely used for electronic and aircraft testing in commercial and military applications. The lower window shows a broad range of 300-500 cycles, with 21 reeds in 10-cycle steps. The upper window gives a vernier effect with 21 reeds indicating 380-420 cycles in 2-cycle steps. Housed in black molded case with flush front 4 1/8" wide x 4 1/8" high and 2 3/8" deep behind panel over studs, the instrument looks well with other panel meters. Made for 100-130 volt operation. Also available with 4 studs for 200-240, 115, and 30 volts as used in aircraft analyzers. Power consumption is 1 watt at 30 volts, 4.5 watts at 115 volts, 7.7 watts at 200 volts. Full dimensions on drawing MD-38-11.



41-FX-42, 100-130 volts \$120.00
 41-FX-42, triple voltage, without switch 135.00

PORTABLE FREQUENCY TESTERS

METAL CASE (TS-328A/U, 33-FP-9M, 34-FP-9M)

This portable frequency meter meets the exacting test requirements of aviation, signal and communication equipment. Its accuracy of ±0.3% results from the J-B-T reed construction, based on 13 years of field and laboratory use, plus care in manufacture and thorough run-in for permanent calibration. The sturdy, light-weight case of anodized aluminum with gray protective finish locks tightly when not in use. The detachable cover is the only removable portion; leads, sub-panel, and meter assembly are permanently attached. Case dimensions are 6 1/2" long x 4" wide x 3 3/8" deep with attached D-ring for belt or carrying strap. Panel and meter barrel are molded in one piece to exclude moisture and when dirt; coil and electrical connections are fungus treated. When made to Government specifications, using pertinent name plate, the 9-reed, 380-420 cycle model is known as TS-328A/U. See Print SK-63-10.



33-FP-9M, 380-420 cy., 9 reeds, 100-130 volts, 70 ohms per volt, 1.75 watts power consumption; com. quality and packing \$49.25
 34-FP-9M, 60 cycles portable same as above, except 9 reeds, 56-64 cy., 100-130 volts, 130 ohms, per volt, 1 watt power consumption, commercial quality and packing \$62.35

MOLDED CASE PORTABLES (33-FP-9L, 34-FP-9L)

Handy, compact, portable instrument of same ±0.3% accuracy and electrical characteristics as above. Housed in sturdy molded case 5 1/8" x 3 1/8" x 2 5/8". Black polished top grain leather carrying case 5 7/8" x 3 1/8" x 2 5/8". Black polished top grain leather carrying case 6 3/8" x 4 1/8" x 2 3/8" and 4' leads complete with sharp 5" insulated test picks and banana plugs also supplied. This model is popular for laboratory and engineering tests.

33-FP-9L, 380-420 cy., 9 reeds, 100-130 volts \$47.60
 34-FP-9L, 56-64 cy., 9 reeds, 100-130 volts 40.70

OTHER REED PRODUCTS

Inquiries are invited on these new J-B-T products:
 1. **Reed Tachometers**—Reading rpm by resonance alone—without any electrical circuitry or complicated mechanical connections—these instruments are held or mounted against the housing of turbines, electric shavers, vacuum cleaners, sewing machines or other motor-driven products. (Ask for Bulletin MT-458.)
 2. **Reed Relays**—Reed-relays for selective frequency calling, or single-reed types for response to a single transmitted signal, such as 100 to 500 cycles, are made in plug-in cans. One type, a unique J-B-T construction with patent pending, eliminates vibrating contacts and substitutes a mechanism with exceptional efficiency which often eliminates need for further amplification. The device also can be added as a frequency-limit control on an indicating reed meter.
 3. **Oscillator Controls**—Plug-in reed-type oscillator controls to match transmitted frequencies to those picked up by vibrating reed relays can be supplied, for example, to operate in mobile or other communications equipment.

Instruments



Testers

APPLIANCE TEMPERATURE TESTERS

OVEN TESTERS



MODEL 23-JP-1. This newest model indicating portable pyrometer saves time and furnishes reliable information in testing and setting thermostats on electric or gas ranges and other appliances by showing oven temperatures as they change. Standard size dial, 0-650 F., with 2 1/2" scale are reading is used but covered by clear plastic instrument front. The indicator is mounted on a black metal panel affixed inside a pocket sized black to-grain leather case 11 1/2" x 2 7/8" x 1 1/4" over hardware. Characteristic of more expensive pyrometers, the 23-JP-1 is automatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error as temperatures change inside the instrument itself, and gives fool proof direct readings. Supplied with attached SA 116 5 1/2' calibrated thermocouple, clip, and convection shield. **\$26.00**

MODEL 32-JP-3. This highly popular model uses a rigid outer carrying case, 6" x 3 1/2" x 2 3/4", covered in black leatherette. The glass covered indicator shows 0-650 F. range in 10² divisions readable to 2 1/2 on a 2 3/4" scale are. Exceptionally fast, continuous response. Automatic compensation for ambient temperature is a valuable feature whether the tester is used for service work, sales demonstrations, or inspection. Attached SA 116 5 1/2' thermocouple, clip for attaching to grill, and convection shield included. **\$27.50**

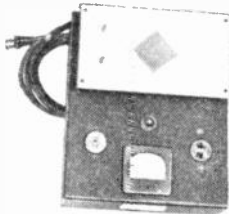


MODEL 32-JP-4. Most versatile of the oven testers this model has all the features of the 32-JP-3 plus a leather carrying strap and binding posts for quick attachment or interchanging of various thermocouples, as listed, to check irons, washers, toasters, clothes dryers, etc. Range 0-650°F with 2 3/4" scale are; black leatherette case 6" x 3 1/2" x 3 3/4". Unattached SA-116 thermocouple is included. **\$28.75**



IRON TESTER

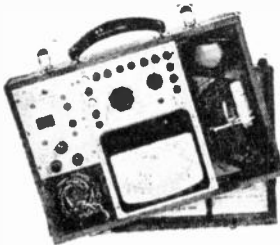
MODEL 32-JIT. Self contained bench type tester; checks all makes of irons; measures thermostat temperatures; shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non electric or cordless irons. Black metal base; overall size 10" x 12" x 5 1/2". scale 0-650°F, 15 amp fuse, 6' cord, 110-volt, 50-60 cycles. **\$34.50**



ALL-PURPOSE TESTER

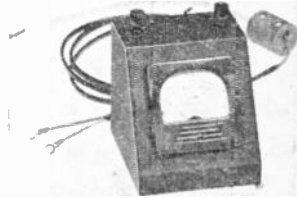
MODEL 61-JRT. A 9 in-1 tester to speed accurate temperature adjustment and electrical analysis of ranges, refrigerators, etc. Rapidly reads four cold zones -100°F, + 80°F, up to 14' distant; two heat zones 0-600°F, up to 5 1/2' distant; one voltage range 0-300 AC; and, with transformer, two current ranges, 0-30 and 0-60 amps, AC. Sturdy, polished walnut case 15 1/2" x 10-3/16" x 4 3/4". Two color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flash-light cell, replaceable in the field. Temperature accuracy + 2% of full scale; rectified AC readings + 5%. Accessories as listed may be added for testing appliances. Includes two SA-162 resistance bulbs, two SA-116 thermocouples, electrical leads, and AS-TR-2 built-in transformer. **\$118.00**

MODEL 61-JRT (LESS TRANSFORMER)
Same unit, same scales except no reading in amperes; AS-TR-2 transformer omitted. **\$105.00**



HEAT INDICATORS

MODEL 32-J PYROMETER IN SN-7 STAND. Mounted in sloping front black metal stand, 11 1/2" high x 4 1/2" deep x 1 1/2" wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2 1/2" scale. Assures ruggedness and pointer stability. For 2 1/2" pointer, use only the type and resistance of thermocouple and lead provided; if extra length is needed, it is to maintain calibration. A protection tube nearby is not required. For convenience keep an extra thermocouple and lead on hand.



MODEL 32-J IN SN-7 STAND (Super-side SN-7 Stand)

- 0-650 F. - 650 C. includes SA 91 thermocouple, SA 84 lead and CR-1 connector block, **\$33.50**
- 0-1200 F. - 650 C. includes SA 87, SA 82, and CR-1 **\$33.50**
- 0-2000 F. - 1100 C. includes SA 87, SA 82, and CR-1 **\$33.50**

MODEL 32-J IN SN-8 STAND (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. (S and Super-sides SA-74)

- 0-650 F. with SA 91 thermocouple, SA 84 lead, CR-1 connector block, and SA 86 flexible lead and thermocouple **\$37.50**

TEMPERATURE AND TESTER ACCESSORIES

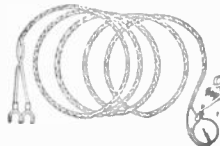
Condensed listing; full line in Catalog 558-B.

THERMOCOUPLES. For J-B-T pyrometers and leads, thermocouples are carefully selected, standardized, and tested.

SA-87. 12" ± 14 Ga. chromel-alumel, 2-hole ceramic beads, fits 5/16" hole; welded tip. **\$3.40**

SA-91. 12" ± 14 Ga. iron-constantan, 1948 calibration; 2-hole ceramic beads, fits 7/16" hole; welded tip. **\$2.90**

Flexible Thermocouple. 7' length, see SA 86 lead wire.



SA-116 with SHIELD and CLIP. Standard flexible No. 22 gauge iron constantan, asbestos insulated, 5 1/2', with attachment clip and convection shield as normally supplied with 23-JP-1, 32-JP-1, 32-JP-2, 32-JP-3, 32-JP-4, 60-JRT and 61-JRT Testers. (See SA 199 for extra quality, glass insulate type, SA-116 **\$2.00**

SA-175 (PLAIN TIP). For toasters, waffle irons, etc., 5 1/2' #22 Ga., with small ball tip, use where clip and shield unsuitable **\$1.60**

SA-176 (for TOASTERS, etc.) Same as SA 175 except tip has special die to collect heat **\$3.00**

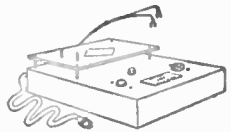
SA-188 (for AUTOMATIC WASHER TEMPERATURES, etc.) 3/16" dia. copper tube 1' long, endless couple; for use in pipe or sample of water **\$4.50**

SA-199 with SHIELD and CLIP. Same as SA 116 except duplex, non-fraying glass braid construction; dia. 1.15"; for frequent use above 400°F **\$2.65**

SA-300 (for SURFACE READINGS). Spring type I-C in Transite tip with handle and 7' ± 22 Ga. lead for rapid reading; not regularly stocked **\$8.00**

ACCESSORY IRON TESTER, MODEL IT-1. This attachment is identical with 32-JIT except there is no meter **\$18.00**

LEAD WIRES SA-82. 6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, outside, moisture-proof and flame-proof used on 650°F scales that interchangeable with SA 84. **\$2.05**



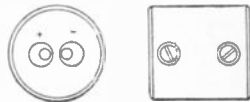
TRANSFORMERS, AS-TR-2. Attachment for 61-JRT; reads 30 and 60 AC amp scales on tester; includes jumper lead and panel **\$18.00**

AS-TR-3. For 60 JRT tester. Reads 30 and 60 AC amp by dividing volt scale by 10 or 5. Complete with attachments **\$20.00**

RESISTANCE BULBS (for cold testing). SA-142. Bulb with 14' polyethylene ribbon lead, for 60-JRT only **\$6.50**

SA-162. Bulb, with 14' polyethylene ribbon lead, for 50-50 and 61-JRT testers **\$6.50**

CONNECTOR BLOCK MODEL CB-1. Lava connector block, withstands high temperatures, accommodates all thermocouples. Heavy brass connectors keep contact resistance low. Usable with or without connector head **\$1.85**



LEAD WIRES

SA-82. 6' for CA couples **\$1.70**

SA-84. 6' for I-C couples **\$1.70**

SA-86. 7' I-C thermocouple and lead combined; #20 Ga., twisted pair asbestos insulated **\$2.05**



"SERVICE ENGINEERED" Test Equipment

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON 2, OHIO
IN CANADA: THE CANADIAN MARCONI CO.

MODEL GRO-2 5-INCH WIDE-BAND, HIGH SENSITIVITY OSCILLOSCOPE



Laboratory quality scope with highly stable circuitry and every feature for accurate TV work, color and black & white. Widely used, too, in many laboratory and industrial applications.

- Wide Band Amplifier, flat within 1 db 20 cycles to 4.5 mc.
- Two-range vertical deflection sensitivity from 0.018 rms volts-per-inch
- Highly stable amplifier circuits. No balancing required.
- Positive or negative internal horizontal sync.
- Linear sawtooth oscillator, 20 cycles through 50 kc.
- Input calibrating voltage, 10 volts peak-to-peak
- Vertical polarity reversal

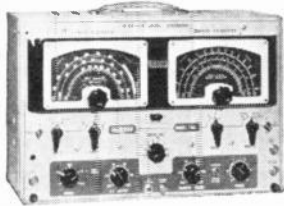
- Variable sweep expansion
- Return trace blanking
- Z-axis modulation—internal, external or 60-cycle
- Direct connection to deflection plates when required

ACCESSORY PROBES

LC2-1P Low Capacity Probe. Cathode follower type. 2:1 attenuation. Not more than 8 μ uf effective impedance \$19.95 net.
LC10-P High Voltage Low Capacity Probe. 10:1 attenuation ratio. For circuits where up to 1,000-volts is present \$7.95 net
DEM-P Demodulation Probe. For RF or IF signal tracing \$9.95 net

\$225.00 net SHIPPING WEIGHT 32 IBS.

MODEL TVG-2 SWEEP MARKER GENERATOR AND CRYSTAL CALIBRATOR



The TVG-2 is a complete alignment generator for any TV set or FM broadcast receiver—in fact, any receiver within its tuning range. Has ample output for even the most badly de-tuned receiver. Valuable for working with FM broadcast receivers, low band police FM receivers and others in the VHF ranges covered.

- Wide range sweep oscillator covers three bands all on fundamentals: 2 to 38 mc, 38 to 108 mc, and 174 to 216 mc.

- Variable sweep width 0 to 18 mc in 8 steps
- Video Sweep (30 kc) for color circuit adjustments
- Accurate Marker Generator (1/4%) from 4 to 216 mc.
- Crystal oscillator for any crystal 3 mc to 20 mc with beat detector
- 400 cycle modulation for marker or crystal oscillators
- Provision for video signal modulation
- Variable output impedance on 10K range
- Provides oscilloscope timing axis with phase and blanking controls

\$259.95 net. SHIPPING WEIGHT 35 LBS.



MODEL 655 WIDE RANGE AUDIO OSCILLATOR

- Exceptionally stable RC tuned sine wave generator
- Frequency range 20 cycles to 200,000 cycles in 4 steps
- Up to 500 milliwatt output

- Output impedances of 10,250, 500, or 5,000 ohms plus resistive output
- Frequency characteristic within 1 db 30 to 15,000 cycles on transformer output
- Accuracy, 3% or 1 cycle whichever is greater
- Sinusoidal Waveform
- Hum Level down 60 db at maximum output
- Logarithmic Calibration Curve
- Continuously variable output
- Factory-calibrated for guaranteed accuracy

\$135.00 NET
SHIPPING WEIGHT 32 LBS.



MODEL 590 ALL-NEW 7" VTVM

- Large 7" meter and hairline pointer for greatest accuracy
- Fast warm-up time—complete accuracy in less than 5 minutes
- Single Probe for all measurements
- Accurate a-c voltage readings from 20 cycles to 2 mc.
- All-new silicon diode circuitry
- Factory calibrated for guaranteed accuracy

\$69.95 NET. SHIPPING WEIGHT 8 LBS.

RANGES: DC volts, plus or minus, and AC volts: 1, 5, 10, 50, 100, 500, 1000 volts full scale. Separate 1 volt rms scale, separate peak-to-peak and Zero-center d-c scales. Ohms Rx1, 10, 100, 1k, 10k, 100k and 1 meg. Center of Rx1 scale, 10 ohms. Accuracy d-c and ohms, 3% of full scale; a-c volts 5% full scale.

MODEL 59 H.P. HIGH VOLTAGE PROBE FOR 590 \$9.95 NET

MODEL 591 WIDE-RANGE CAPACITANCE CHECKER

- Tests capacity from 10 μ uf to 1000 μ uf in 4 ranges
- Color-coded range push-buttons match scale colors for easy selection
- Graduated leakage tests for both polarized and unpolarized capacitors
- Low-voltage leakage tests for transistor-circuit capacitors
- Graduated power factor test for electrolytics, 0 to 60%
- Electron-ray indicator tube for all tests
- Complete with test leads
- Factory-wired and calibrated for guaranteed accuracy

\$64.95 NET
SHIPPING WEIGHT 11 LBS.

MODEL 562 TRANSISTOR CODE PRACTICE OSCILLATOR

- Low-current transistor circuit, with variable pitch output
- Simple adaptations permit using for transmitter monitoring
- Two, used together, make wired station practice set-up
- Compact size: 6 1/4" x 3 3/4" x 2"
- Requires only a single "D" cell obtainable anywhere
- Not a kit—completely wired and tested

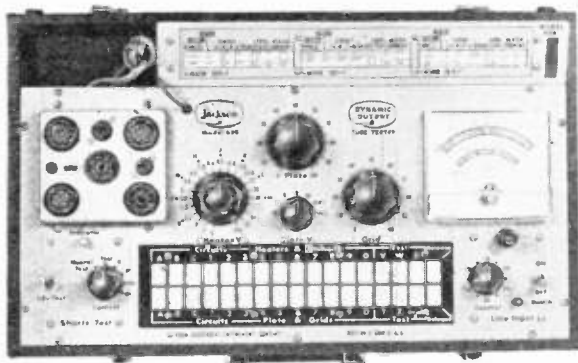
\$7.95 NET
SHIPPING WEIGHT 2 LBS.

PRICES & SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



"SERVICE ENGINEERED" Test Equipment

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON 2, OHIO
IN CANADA: THE CANADIAN MARCONI CO.



\$189.95 SHIPPING WEIGHT 26 LBS.

PLUS THESE FEATURES AND MANY MORE

Push-Button Sequence Switching
Silicon Rectifier Balanced Double-Bridge Circuit
231 Heater Voltage Combinations From 0.6 To 120 Volts
Panel Mounted Fused Line For Overload Protection
Grouped Tube Sockets For Easy Accessibility
Complete Data For Testing Over 1,200 types
Compact, Portable Case 21" l. x 13 $\frac{3}{4}$ " w. x 7" d.

NEW! DYNAMIC[®] OUTPUT TUBE TESTER MODEL 658

Makes more—and more accurate tests than any service tube tester ever made. Tests practically any tube the average serviceman will ever encounter. Faster, more versatile, the 658 is also ideal for laboratory and engineering applications.

DYNAMIC OUTPUT PRINCIPLE—Choice of 8 DC voltages applied to plate, screen, and VR tubes. Variable DC plus variable AC signal voltage applied to control grid. Meter reads only the AC component in the plate circuit. A much more valid test than mutual conductance because it considers the entire output curve of the tube, not just a small portion.

TESTS NEW 12-VOLT-PLATE HYBRID TUBES—Ample current capacity for even high current space charge grid tubes. The only tester made with this capability.

TRUE RECTIFIER TESTS—AC voltages are applied to diodes and rectifiers. Meter then reads rectified plate current—the true test for any rectifier. Easily handles high current rectifiers up to 250 ma.

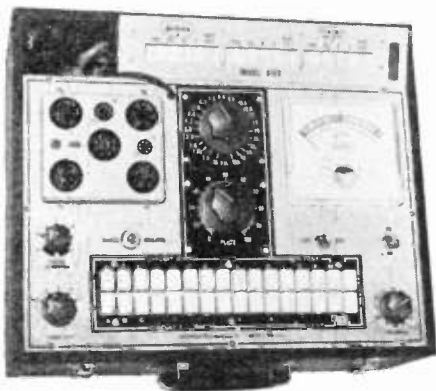
GRID LEAKAGE TESTS—Highly sensitive test with direct leakage indication on special meter scale. Sensitivity of 15 megohms. Regular shorts test also included with three separate sensitivities to suit the type being tested.

TESTS "EYE" TUBES UNDER DYNAMIC CONDITIONS—You can open and close the eye to determine accurately its operating limits.

HEATER-CURRENT TEST FOR SERIES STRING TUBES—Actual current is read directly on meter scale.

HEATER CONTINUITY CHECK WITHOUT WARM-UP—No wasted time if the heater is open. Instant checks tells you immediately.

TEST VOLTAGE REGULATOR AND REFERENCE TUBES—Meter indication of the striking voltage and control voltage range for each type.



DYNAMIC[®] TUBE TESTER MODEL 648R

The world famous Jackson Dynamic tubes test principle exceeded in quality only by the Jackson 658 above. New, more convenient design puts all the tube sockets together, keeps roll-chart up and out of the way. Fast push-button sequence switching makes the set-up time less than the warm-up time of the tube. Completely flexible for new tubes. No panels to change, no cards to buy.

NEW TUBE SOCKET SUB-ASSEMBLY—All sockets grouped in one convenient subassembly. You can replace individual sockets or the entire subassembly easily.

ANGLED FULL-VIEW ROLL CHART—Super convenient zig-zag roll chart is now up higher, and out of the way. Complete chart assembly may be removed by taking out only one screw.

SILICON RECTIFIER—The 648R is ready the second you flip the switch.

23 SEPARATE HEATER VOLTAGES—The correct voltage for every receiving type—including series string tubes. From .75 to 100 volts.

\$129.95 net SHIPPING WEIGHT 22 LBS.

PLUS ALL THESE SERVICE-PROVED JACKSON FEATURES

Variable Sensitivity Shorts Test—Up to 2 Megohms.
Easy-Reading GOOD-BAD And Percentage Meter Scales
Portable Case Finished In Attractive Two-Tone Plastic Covering

Automatic Line Voltage Indicator
Life Test Switch
Factory Assembled And Calibrated For Guaranteed Accuracy

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

NEW DATA FOR JACKSON TUBE TESTERS APPEARS MONTHLY IN "PF REPORTER" and CANADA'S "RADIO, TELEVISION AND APPLIANCE SALES."

Industrial Instruments

Electrical Test Equipment



Model RN-1

WHEATSTONE BRIDGE

● A carefully engineered bridge made for all around use in lab., plant, or field. All models contain own 4½-volt battery power supply and galvanometer. Provision for external batteries and galvanometer if desired. All models have ratio dial settings of .001, .01, .1, 1, 10, 100, and 1000 as well as built-in resistance standards of 1, 10, 100, and 1000-ohm decades. Ratios are guaranteed to .05% tolerance. Resistance dial resistors to ±0.1% of nominal value except 1 ohm dial (0.25%). Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below panel. Galvanometer of well-known moving-coil type. Separate binding posts for use of external galvanometer if desired, and for use of bridge as resistance decade. Hardwood case with removable cover. 9¼" x 7½" x 6¼" h. Wt. 9¼ lbs. net; 12¼ lbs. shipping.

MODEL RN-1. Standard Portable Wheatstone Bridge, complete with batteries
Net Price \$168.00

MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley Loops
Net Price \$181.00

MODEL RN-3. Same as RN-2 but with additional ratio settings of 1/9, 1/1 and varying galvanometer sensitivity control...**Net Price \$215.25**

RESISTANCE DECADES

● Available in a wide variety of standard models. Accuracy at 1.0 and 0.1 ohm steps is ±0.25%. Accuracy of all other resistors is ±0.1% of indicated value. Self-cleaning, molded nylon and silver plated brass switch mounted below panel. Zero resistance is less than .003 ohms per dial. Hardwood case. Models DR-1D to DR-4D, 6" x 4½" x 4½" h. Weight 4 lbs. net, 6 lbs. shipping. Models DR-50D to DR-52D, 9" x 6" x 4½" h. Weight 5 lbs. net, 7 lbs. shipping. Models DR-70D and DR-71D, 17¼" x 5" x 4½" h. Weight 6 lbs. net, 7 lbs. shipping.



Model No.	Total Resistance Ohms	Decade Steps	Accuracy	Price
DR-1D	1,110,000	10x(1,000 + 10,000 + 100,000)	±0.1%	\$ 88.00
DR-2D	111,000	10x(100 + 1,000 + 10,000)	±0.1%	71.50
DR-3D	11,100	10x(10 + 100 + 1,000)	±0.1%	68.00
DR-4D	1,110	10x(1 + 10 + 100)	±0.25 & ±0.1%	63.00
DR-50D	11,111	10x(.1 + 1 + 10 + 100 + 1,000)	±0.25 & ±0.1%	103.00
DR-51D	111,110	10x(1 + 10 + 100 + 1,000 + 10,000)	±0.25 & ±0.1%	110.00
DR-52D	1,111,100	10x(10 + 100 + 1,000 + 10,000 + 100,000)	±0.1%	131.00
DR-70D	1,111,111	10x(.1 + 1 + 10 + 100 + 1,000 + 10,000 - 100,000)	±0.25 & ±0.1%	157.50
DR-71D	11,111,110	10x(1 + 10 + 100 + 1,000 + 10,000 + 100,000 + 1,000,000)	±0.25 & ±0.1%	205.00

CAPACITANCE DECADES

● Instrument calibrated directly in capacitance so that reading from left to right, the dial settings will give the exact value in microfarads. Progressive adjustment in .01, .001, or .0001 mfd. steps depending on model. .001 to 11.1 mfd. can be obtained by group assembly. All units employ paper or mica capacitors of highest quality and stability. Enclosed in hardwood case. DK-4, DK-10 and DK-2A, 8" x 5½" x 7½" H.; wt. 8 lbs.; 10 lbs. shipping. DK-5A, DK-11A, 10¼" x 7¾" x 7½" H.; wt. 10 lbs. net; 12 lbs. shipping.



Model	Capacitance Mfd. Steps	Accuracy	Dielectric Section	P.F.	Peak Volts	Price
DK-5A	11.1 in .01	±1% ±3%	.01 mica	.2%	700 DC	\$110.00
			.1 paper	1%	400 DC	
			1.0 paper	1%	400 DC	
DK-4	1.11 in .001	±1% ±1% ±3%	.001 mica	.2%	700 DC	93.00
			.01 mica	.2%	700 DC	
			.1 paper	1%	400 DC	
DK-2A	1.11 in .001	±1%	mica	.2%	700 DC	208.00
			throughout		500 AC	
					60 cycle	
DK-10	0.111 in .0001	±0.5% or ±.10 mmfd.	mica	.2%	700 DC	131.00
			throughout		500 AC	
					60 cycle	
DK-11A	11.1 in .01	±.5% ±.5%	.01 mica	.2%	700 DC	215.00
			.1 mica	.2%	500 AC	
					60 cycle	
			1.0 paper	1%	400 DC	

*Except .001 section which is ±2%

INDUSTRIAL INSTRUMENTS, INC. • CEDAR GROVE, N. J.



Industrial Instruments

Electrical Test Equipment



TYPE P — VOLTAGE BREAKDOWN TESTERS

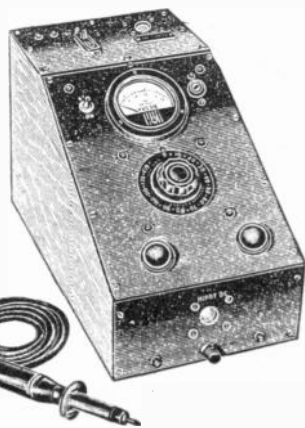
The Type P Series Voltage Breakdown Testers are designed for safe, accurate and fast testing of materials, components and circuits both in the laboratory and on the production line. All types have self-contained metered high-voltage power supply with safety features including interlock switches and pilot warning lights. Load current is limited to values shown in table below. Output voltage continuously variable over range listed for each model.

ELECTRICAL SPECIFICATIONS AND PRICES

Model	VOLTAGE RANGE		CURRENT RANGE		Price
	AC volts RMS	DC volts	AC	DC	
P1		0-4000		5 ma (max)*	\$208.00
P2	0-3000	0-4000	7 ma (max)	5 ma (max)*	252.00
P3A	0-8000	0-10,000	60 ma (max)	50 ma (max)*	488.00

*Models P1, P2, and P3A incorporate a variable series resistance which limits short circuit current independently of voltage.

Other power supplies up to 100 KV can be supplied to your specifications. Send complete details for quotation.



P-2

AC and DC Breakdown Tester

TYPE L — MEGOHMMETERS

Type L Megohmmeters are used for both laboratory and high speed production testing of motor and transformer winding insulation, cable insulation, high value resistors, capacitor insulation, and for the measurement of surface and volume leakage of insulating materials. These instruments meet the requirements for testing insulation resistance in accordance with ASTM D-257, and Federal Specification LP-406B, Method 4041.

ELECTRICAL SPECIFICATIONS AND PRICES

Model	TEST Voltage	RANGE		POWER Consumption	WEIGHT		Size	Price
		Low in meg.	High in meg.		Net	Ship.		
L-2A	200 fixed	1	100,000	40 Watts	12	15	15"x8"x10"	\$175.00
L-4A	200 and 500 fixed	1	100,000	52 Watts	14	17	"	240.00
L-6B	100 to 600*	1	100,000	82 Watts	15	18	"	310.00
L-7	100 to 600*	1	5x10 ¹³	75 Watts	20	24	8"x10½"x11½"	383.00

*Continuously variable, built-in voltmeter for accurate setting.

Type L-7 General-Purpose Megohmmeter incorporating special features for measurement of capacitor leakage and high insulation resistance.



TYPE LRO-1 LOW RESISTANCE OHMMETER

The Type LRO-1 Low Resistance Ohmmeter is useful for the measurement of resistance of sensitive relay contacts, fuses, bus-bar and connections, rail joints, pipe or conduit, switch contacts, transformer windings, motor windings, bonding, grounding and similar applications. The current through the unknown resistance never exceeds 110 ma. Price \$141.75

FEATURES:

Extreme accuracy for the most critical measurements. • Entirely self-contained including 1½ volt flashlight battery. • Ranges: .1 ohm, 1 ohm and 10 ohm: 100 meter scale divisions. • Accuracy of plus/minus 1½% on LRO-1 base on full scale values. • Full Scale Readings. • Maximum current through piece under test = 0.11 amp.



Sec. 2900

THE FINEST ELECTRONIC EQUIPMENT IN KIT FORM ALSO AVAILABLE FACTORY WIRED, TESTED AND CALIBRATED



PACO is the only line of electronic equipment kits engineered and produced under the auspices of a leading test instrument and panel meter manufacturer. Over a quarter century of *PRECISION* experience is your assurance of PACO's superior performance and value.

Compare PACO kits against any others — for performance, appearance, ruggedness, ease of operation and simplicity of assembly and wiring.

Compare PACO's superbly detailed, step-by-step instruction manuals and giant size wiring diagrams against any you have ever seen. See how PACO sets an entirely new standard in electronic equipment kit design and kit assembly instruction. And . . . you pay nothing extra for the convenience of buying PACO kits directly from your local electronic parts distributor.

BATTERY ELIMINATOR KIT

Special Low-Ripple Output designed to power modern auto radios and other transistorized circuits • Both 6 and 12 volts output • Automatic overload protection • Continuously variable voltage output • Doubles as ideal battery charger. • In heavy duty louvered steel cabinet, and two color panel • Case dimensions: 7 x 11½ x 6⅝".

Code: **HEAVY**
Kit Net Price: **\$41.95**

Code: **HAUL**
Factory Wired: **\$49.50**



MODEL B-10

MODEL C-20

RESISTANCE-CAPACITY-RATIO BRIDGE KIT

Capacity ranges from 10 mfd to 2000 mfd • Resistance ranges from .5 ohms to 200 megohms • Ratio test ranges from .05 to 20 • Tests leakage of micas, papers and electrolytics • Attractive, ripple finished steel cabinet and easy reading 2 color panel. Case dimensions: 7 x 11½ x 5".

Code: **RATIO**
Kit Net Price: **\$20.95**

Code: **RATE**
Factory Wired: **\$31.50**



RF SIGNAL GENERATOR KIT

Wide frequency range —160 Kc to 240 Mc in 8 bands • RF output exceeds 100,000 microvolts • 400 cycle audio output to 15 volts • Percentage modulation continuously variable • All frequently used points specially indicated on dial for fast accurate selection • Case dimensions: 7 x 11½ x 5".

Code: **GENNY**
Kit Net Price: **\$28.50**

Code: **GATE**
Factory Wired: **\$39.95**



MODEL G-30

MODEL M-40

HIGH-SENSITIVITY V-O-M KIT

20,000 ohms. volt DC • 10,000 ohms/volt AC • 7 DC voltage ranges to 6,000 volts • 7 AC voltage ranges to 12,000 volts • 3 resistance ranges to 20 megohms • 6 DC current ranges, 60 microamperes to 15 amperes • 7 AC output voltage ranges • Case dimensions: 5¼ x 6⅞ x 2⅜".

Code: **METER**
Kit Net Price: **\$31.50**

Code: **MAIN**
Factory Wired: **\$37.50**



5" CATHODE RAY OSCILLOSCOPE KIT

Push-pull vertical and horizontal amplifiers • Ultra modern printed-circuit amplifier design • High-sensitivity, 1 Mc vertical amplifier • Built-in 1 volt peak-to-peak self-calibrator • Two-color, easy reading panel • Rugged, louvered steel cabinet • Case dimensions: 13⅜ x 8¾ x 17¼".

Code: **SCOPE**
Kit Net Price: **\$49.50**

Code: **SIGN**
Factory Wired: **\$84.50**



MODEL S-50

MODEL S-55

WIDE BAND OSCILLOSCOPE KIT

Response DC to 5 Mc, ideal for color TV • 3 stage push-pull, balanced DC vertical amplifier • Sensitivity: 70 mv/in DC—25 mv/in AC • Linear time base, 10 cps to 100 Kc plus TV-V anc TV H frequencies • Two color easy reading panel • Rugged, louvered steel cabinet, 13⅜ x 8¾ x 17¼".

Code: **TRAIT**
Kit Net Price: **\$87.50**

Code: **TRAM**
Factory Wired: **\$139.50**

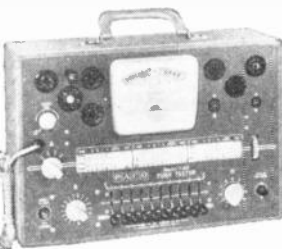


TUBE CHECKER KIT

Free point lever element selector system • Extra large 4½" Acrylic cased PACE meter • Illuminated, high speed, brass geared 3 column roll chart • Tests all AM FM TV receiving tubes including Series-String types • Subscription system available to keep test data automatically up-to-date • In rugged attractively finished cabinet • Two color panel with contrasting knobs • Dimensions: 10½ x 15¼ x 4¾".

Code: **CHECK**
Kit Net Price: **\$38.75**

Code: **CHOP**
Factory Wired: **\$54.50**



MODEL T-60

MODEL T-65

TRANSISTOR & CRYSTAL DIODE TESTER KIT

Tests low, medium and high power transistors (both p-n-p and n-p-n types) for shorts, Icbo, leakage, gain, etc. • 5 separate Icbo current ranges and 17 switch selected collector voltages • Tests crystal diodes for forward and reverse current • All transistor tests read on extra large, 4½" Acrylic cased PACE 100 microamperes meter • Micro-line adjustment—continuously variable • Ripple finished steel cabinet: 11½ x 7 x 5".

Code: **TRAIN**
Kit Net Price: **\$39.95**

Code: **TIME**
Factory Wired: **\$59.50**



All prices and specifications subject to change without notice.

PACO

a division of **PRECISION Apparatus Company, Inc.**

KITS

FOR:

- radio-TV-audio service
- custom hi-fi building
- electronic hobbyists and amateur radio
- science education and technical schools
- industrial testing and quality control

VACUUM TUBE VOLTMETER KIT

7 DC and AC (RMS) voltage ranges to 1500 V. • 7 peak-to-peak AC voltage ranges to 4000 volts • 7 ohmmeter ranges to 1000 megohms • Special PACE 5" Acrylic cased meter • Single 3-way Probe serves all voltage and resistance ranges • Attractive, easy-reading two color panel • Rugged ripple-finished steel cabinet • Case dimensions: 7 1/2 x 5 3/8 x 4 1/4".

Code: RANGE
Kit Net Price:
\$31.50

Code: RAIN
Factory Wired:
\$47.50



MODEL V-70

MODEL Z-80



RF-AF SIGNAL TRACER KIT

High gain amplifiers for both RF and AF tracing • Fine and coarse attenuators accommodate wide level of signals • Visual and audible signal indicators, with terminals for VTVM or scope use • Wattmeter circuit for operational check of power drain • Test amplifier for checking pickups, amplifiers, tuners, microphones and speakers • May be used for low power public address • Two-way AF-RF shielded probe • Case dimensions: 11 1/2 x 7 x 5".

Code: TRACE
Kit Net Price:
\$29.50

Code: TEST
Factory Wired:
\$42.50

ACCESSORIES

Complete, factory-wired and tested — ready for use.

For the Model V-70 VTVM

- AV-1 RF crystal probe **\$5.95**
- AV-2 High Voltage probe **5.95**

For the Models S-50 and S-55 OSCILLOSCOPES

- AS-1 Set of oscilloscope probes consisting of: low-capacity probe, demodulator probe, direct probe **14.95**

For the Model T-60 TUBE TESTER

- AT-1 Standard picture-tube test cable **\$4.50**
- AT-2 110 picture tube socket adapter **4.50**
- AT-3 Hinged cover for tube tester cabinet **3.95**

For the Model M-40 V-O-M

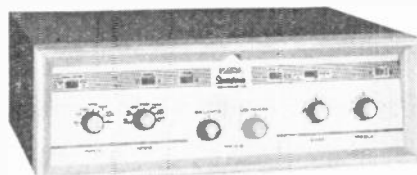
- AM-1 High Voltage probe **5.95**

The Model SA-40 preamp-amplifier is the first of a series of high fidelity kits from PACO. It has been designed for optimum performance and maximum flexibility in any high fidelity system...existing or contemplated.

A silicon diode low impedance power supply guarantees minimum distortion even on sustained high level reproduction. Special circuit design permits the SA-40 to be used with a wide variety of speakers and speaker systems including electrostatic types.

Front panel controls provide for: 2 dual phono inputs that permit the use of both a record changer and turntable... a switch to permit selection of remote or local speaker systems... Balance Right and

40 WATT STEREO PHONIC PREAMPLIFIER-AMPLIFIER IN KIT FORM MODEL SA-40



Balance Left Test Selector for simple, aural check on the balance of your two speakers... even facility for checking the performance of each side of your stereo cartridge, tape head, tape or record.

Both 20-watt power amplifiers may be operated together (through chassis-mounted toggle switch) for full 40-watt monophonic output. This also permits the use of the SA-40 Power Amplifier section as one high power stereo channel in conjunction with a separate power amplifier for the second channel. (One preamp is free for use with the separate external power amplifier.)

All this, packaged in a beautiful black and gold case that will be at home in any decor

POWER OUTPUT: Steady State Power Output—20 watts per channel, total of 40 watts

Music Waveform Power Output—25 watts per channel, total of 50 watts. **Peak Power Output:** 40 watts per channel, total of 80 watts

FREQUENCY RESPONSE: 30 cps to 90 Kc, ± 1.0 db. Measured at 1 watt steady state output

DISTORTION: Harmonic—Less than .2% at 20 watts per channel output. Less than .1% at 10 watts per channel output. **Intermodulation:** Less than 1% at full rated output.

FRONT PANEL CONTROLS AND SWITCHES:

1. 2 position phono and tape equalization switch.
2. Mode Selector: Balance Left, Balance Right, Monophonic, Stereo, Stereo reverse, Channel Right, Channel Left.
3. Rumble Filter Switch.
4. Contour Switch
5. Two Speaker System Selector Switches.

6. Input Selector Switch: Aux 1, Aux 2, Tuner, Phono 1, Phono 2, Tape Head and Microphone.
7. Wide Range Balance Control.
8. Volume Control
9. Separate Dual-concentric Bass and Treble Controls.

HUM AND NOISE LEVEL:

High Level Input: 80 db below rated output. **Low Level Input:** 70 db below rated output. **Tape Input:** 65 db below rated output.

INPUTS: 14 total; (3 dual high-level and 4 dual low-level).

OUTPUTS: Dual tape outputs, separate preamp output as well as standard dual speaker output.

DIMENSIONS: 5 3/8" x 11 3/4" x 5 5/8".

Code: AMPLE
Kit Net Price: \$79.95

Code: ATOM
Factory Wired: \$129.95

AVAILABLE FALL 1959

Model ST-45 — AM/FM Stereo Tuner Kit

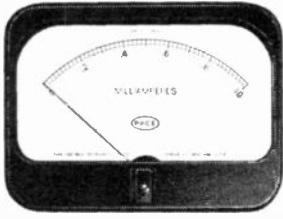
Designed to match the beauty and performance of the Model SA-40

PACO kits are available and on display at leading electronic parts distributors.

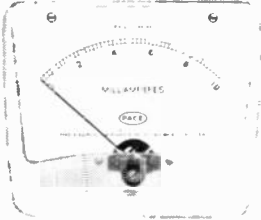
All prices and specifications subject to change without notice.

PACE PANEL INSTRUMENTS

THE METER OF PRECISION



Model 55.....5¼"
Rectangular
Phenolic



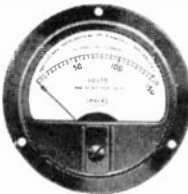
Model 25-LP....2½"
Model 35-LP.....3"
Model 45-P.....4⅞"
Rectangular
Acrylic



Model 45-L4⅝"
Rectangular
Phenolic



Model 42-W.....4¼"
Rectangular
Phenolic



Model 25-R....2½"
Model 35-R....3½"
Round
Phenolic



Model 25-L....2⅜"
Model 35-L.....3"
Rectangular
Phenolic



Model 75.....7"
Rectangular
Phenolic

PACE Electrical Instruments Co., Inc. is the meter manufacturing division of **PRECISION** Apparatus Company Inc. Behind the carefully integrated design and high quality performance of Pace Meters is over a quarter-of-a-century of experience in the manufacturing of fine electronic instruments.

SPECIAL PACE FEATURES

- Full Double-Bridge D'Arsonval Movement
- Precision Die-Cast Movement Frame
- High Density Sintered Iron Pole Pieces
- Coined, Soft-Iron Pole Faces
- High-Flux Alnico Magnets
- Optimum Torque To Mass Ratio

These features, coupled with strict quality control, result in a line of consistently dependable meters with superior shock and vibration characteristics, high accuracy and long, trouble-free life.

PACE meters are supplied in production quantities to meet the custom requirements of Original Equipment Manufacturers.

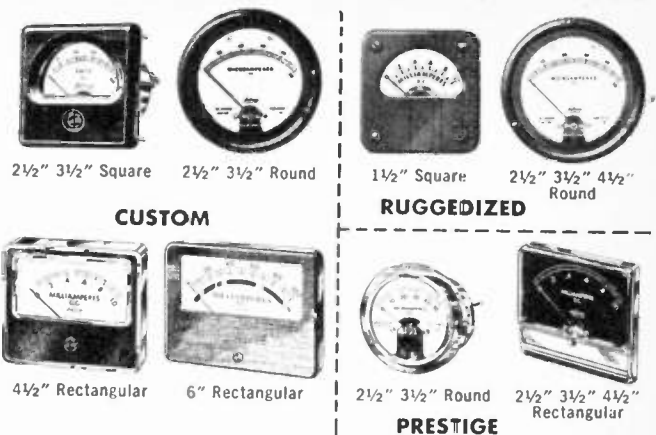
PACE stock meters are also available at leading electronic parts distributors.

	Approx. Resistance (ohms)	Model 25-L, 25-R, 35-L, 35-R	Model 42-W, 45-L, 45-P*	Model 55	Model 75
D.C. MICROAMMETERS	0-50 2000	\$ 4.40	\$14.90	\$16.00	—
	0-100 1000	4.40	13.00	14.10	15.50
	0-200 500	4.40	11.70	12.80	14.10
	0-500 200	4.40	10.75	12.00	13.20
D.C. MILLIAMMETERS	0-1 100	\$ 4.40	\$10.00	\$11.10	\$12.20
	0-2.5 40	4.40	10.00	11.10	12.20
	0-5 20	4.40	10.00	11.10	12.20
	0-10 10	4.40	10.00	11.10	12.20
	0-50 2	4.80	10.40	11.50	12.70
	0-100 1	4.80	10.40	11.50	12.70
	0-250 1/2	4.80	10.40	11.50	12.70
	0-500 1/4	4.80	10.40	11.50	12.70
D.C. AMMETERS	0-1 100	\$ 4.80	\$10.40	\$11.50	\$12.70
	0-2.5 40	4.80	10.40	11.50	12.70
	0-5 20	4.80	10.40	11.50	12.70
	0-10 10	4.80	10.40	11.50	12.70
D.C. VOLTMETERS	0-3 1000	\$ 10.00	\$10.70	\$11.80	\$13.00
	0-10 100	10.00	10.70	11.80	13.00
	0-15 1000 ohms	10.00	10.70	11.80	13.00
	0-50 1000 ohms per volt	10.00	10.70	11.80	13.00
	0-150 1000 ohms per volt	10.00	10.70	11.80	13.00
	0-250 1000 ohms per volt	10.00	10.70	11.80	13.00
A.C. VOLTMETERS	0-3 1000	\$13.30	\$14.75	\$16.50	\$18.20
	0-10 1000	13.30	14.75	16.50	18.20
	0-15 1000	13.30	14.75	16.50	18.20
	0-50 1000	13.30	14.75	16.50	18.20
	0-150 1000	13.30	14.75	16.50	18.20
	0-250 1000	13.30	14.75	16.50	18.20

All prices and specifications are subject to change without notice.

*Add 50 cents to prices indicated for "BLACK" acrylic cases Models 25-LPB, 35-LPB and 45-PB. PACE meters are calibrated for use on non-magnetic panels. If meters are required for use on magnetic panels, state panel material and thickness when ordering and add \$1.50 to prices indicated.

Write for complete descriptive catalog to:
PACE Electrical Instruments Co., Inc.
Glendale 27, N. Y.



PANEL METERS
Standard of Quality for the Industry

RUGGEDIZED AND SEALED METERS **CUSTOM METERS** **PRESTIGE METERS**

TYPE	RANGE	1 1/2" Square	2 1/2" Round	3 1/2" Round	4 1/2" Round	2 1/2" Round or Sq.	3 1/2" Round or Sq.	3 1/2" Rectangular Black	4 1/2" Rectangular Chrome	4 1/2" Rectangular Black	6" Rectangular Chrome	2 1/2" Round	3 1/2" Round	2 1/2" Rectangular	3 1/2" Rectangular	4 1/2" Rectangular		
Voltmeter DC	0-1.5																	
	0-3																	
	0-5																	
	0-10																	
	0-15																	
	0-30																	
	0-50	16.35	15.80	16.35	17.50	12.20	13.05	15.55	17.75	16.80	19.30	22.05	10.70	11.20	11.20	11.70	12.55	
	0-100																	
	0-150																	
	0-200																	
Voltmeter AC (Rectifier Type)	0-1.5																	
	0-3																	
	0-5																	
	0-10																	
	0-15																	
	0-30	18.85	18.30	18.85	20.00	16.35	17.20	20.20	22.40	21.45	23.95	26.70	14.75	15.25	15.20	15.70	16.95	
	0-50																	
Ammeter DC	0-1																	
	0-1.5	Not Available																
	0-2	At Present	21.10	21.65	22.75	11.10	11.95	14.30	16.50	16.55	18.05	20.85	10.30	10.75	10.60	11.20	12.00	
	0-3																	
	0-5																	
	0-10																	
	0-50																	
Ammeter DC (50MV Movement) (External Shunt Required)	0-15																	
	0-30																	
	0-50	Not Available																
	10-30	At Present	14.45	15.00	16.10													
	20-30																	
	30-30																	
	30-30																	
	50-30																	
Milliammeter DC	0-1																	
	0-1.5																	
	0-2																	
	0-3																	
	0-5																	
	0-10																	
	0-15																	
	0-20																	
	0-30																	
	0-50																	
	0-100	15.00	14.45	15.00	16.10	11.10	11.95	14.30	16.50	15.55	18.05	20.85	9.90			10.50		
	0-150																	
	0-200																	
0-500																		
1-1																		
100-100																		
Milliammeter AC (Rectifier Type)	0-1																	
	0-2	18.85	18.30	18.85	20.00	16.35	17.20	20.20	22.40	21.45	23.95	26.70	14.75	15.25	15.20	15.70	16.95	
	0-5																	
Microammeter DC	0-20																	
	0-30																	
	0-50																	
	0-100																	
	0-200																	
	0-300																	
	0-500																	
	0-1000																	
	0-1000																	
	0-1000																	
	0-1000																	
Microammeter AC (Rectifier Type)	0-200	24.40	23.85	24.40	25.55	18.70	19.55	21.90	24.10	23.20	27.20	37.88	18.10	18.60	18.65	19.15	19.95	
	0-200	20.25	19.70	20.25	21.35	17.50	18.30	21.45	23.65	22.70	26.20	15.90	16.40	16.40	16.90	17.70		
	0-250	20.00	19.45	20.00	21.10	17.20	18.05	21.10	23.30	22.40	24.90	16.10	16.70	16.70	17.20	17.50		
	0-300	19.15	18.60	19.15	20.25	16.85	17.50	20.40	22.70	21.80	24.20	15.30	15.85	15.85	16.05	16.85		
Null Indicator	A																	
	B	Not Available	28.85	31.35	33.60	33.05	33.85	37.65	39.85	39.40	32.00	36.95						
	C	At Present																
VU Meter	A	Not Available	28.60	29.15	30.25	30.55	31.35	34.85	37.05	36.10	28.60	31.40	18.15	18.60	19.70	19.20	21.40	
	B	At Present																
Expanded Scale Voltmeter AC	0-100					35.90	36.90	41.20	43.20	42.20	44.90	47.90						

*0-1 SCALE *Expanded scale 2% Acc.

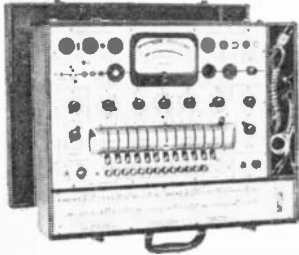


PRECISION

makes **ONLY** the instruments you need for:

INDUSTRIAL ELECTRONICS • AM & FM RADIO
AUDIO • MONOCHROME & COLOR TV

TUBE AND TRANSISTOR TESTERS



MODEL 10-60

ELECTRONAMIC®
TUBE AND TRANSISTOR CHECKER

- engineered for positive, all-inclusive Electronic tube performance testing, not limited to mutual conductance alone
- ultra-sensitive gas test read directly on meter
- tests voltage regulator tubes in accordance with manufacturers' specs
- comprehensive transistor tests for I_{cb0}, gain, leakage, shorts, etc.
- crystal diodes tested for both forward and reverse current
- tests TV picture-tubes for true beam-current
- Free Test Data Subscription Service to all registered owners, for one full year!

Code: FRIAR Net Price: \$195.00

MODEL 10-40

ELECTRONAMIC® TUBE TESTER

Similar to the Model 10-60, but without transistor and crystal diode testing facilities.

Code: FERRY Net Price: \$149.50

PICTURE TUBE TESTING ACCESSORIES

- PTA—standard duo-decal picture tube adapter cable \$7.75
- PAA—110° socket adapter for use with Model PTA Cable \$5.00



MODEL 960

TRANSISTOR AND CRYSTAL DIODE TESTER

- direct reading checks of I_{cb0}, gain and leakage of transistors
- five I_{cb0} ranges cover all types of transistors—low, medium and high power n-p-n and p-n-p types
- forward and reverse current tests of crystal diodes
- Free Test Data Subscription Service to all registered owners, for one full year!

Code: BADGER Net Price: \$89.00

GENERATORS

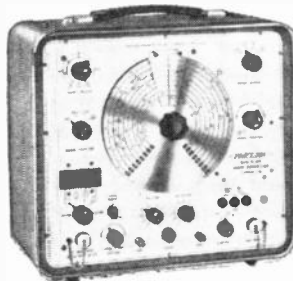


MODEL E-200C

SIGNAL-MARKING GENERATOR

- direct frequency reading 88 Kc to 440 Mc
- 1% accuracy on all bands
- 0 to 100% variable internal modulation
- built-in AGC-AVC override bias supply

Code: TRUTH Net Price: \$95.00

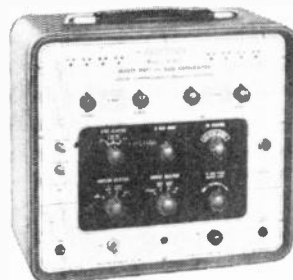


MODEL E-400

SWEEP SIGNAL GENERATOR

- direct frequency reading from 3 to 900 Mc
- internal, retrace blanking circuit
- wide and narrow-band sweep circuits

Code: NELDA Net Price: \$160.00



MODEL E-420

DOT AND BAR GENERATOR

- provides white dot, cross hatch, vertical and horizontal bar patterns
- provides variable dot size and number, and variable bar width and number
- provides both video and RF output

Code: NEWSY Net Price: \$150.00



MODEL E-440

COLOR BAR GENERATOR

- provides all required test signals for adjustment of color TV circuitry, including phasing and matrix networks
- all crystal-controlled signals for maximum stability and reliability

Code: NOBLE Net Price: \$235.00



MODEL E-310

SINE AND SQUARE WAVE GENERATOR

- both sine and square wave coverage from 5 cycles to 600 Kc
- ± 1% (or 1 cycle) accuracy
- distortion less than 1% at full output
- square wave rise-time .15 μsec.

Code: WHITE Net Price: \$165.00

OSCILLOSCOPES



MODEL ES-550B

WIDE-BAND HIGH-SENSITIVITY 5" SCOPE

- 5 Mc bandwidth—ideal for color TV
- push-pull V and H amplifiers
- 10 mv/inch vertical sensitivity
- built-in P-P voltage calibrator
- camera mount bezel
- engraved, edgelighted graticule

Code: QUILL Net Price: \$235.00

MODEL SP-5

OSCILLOSCOPE TEST PROBE SET

- engineered for use with all PRECISION scopes
- includes master cable and 4 detachable probe heads: low capacity, crystal, isolating, direct

Code: QUOIT Net Price: \$26.50

All prices and specifications subject to change without notice

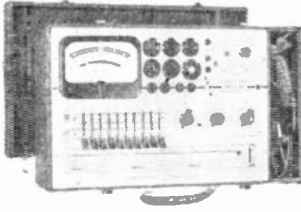
All PRECISION Test Equipment carries a full year warranty! Manufacturers of fine electronic test equipment for over a quarter century.



PRECISION

makes ALL the instruments you need for:
 INDUSTRIAL ELECTRONICS • AM & FM RADIO
 AUDIO • MONOCHROME & COLOR TV

TUBE AND TRANSISTOR CHECKERS

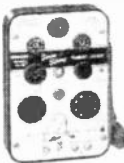


MODEL 660 TUBE AND TRANSISTOR TESTER

- complete cathode conductance tube testing facilities
 - comprehensive transistor tests for I_{cb0}, gain, leakage, shorts, etc.
 - crystal diodes tested for both forward and reverse current
 - TV picture tube beam current tests.
 - Free Test Data Subscription Service to all registered owners, for one full year!
- Code: **BARON** Net Price: **\$109.00**

MODEL 640 CATHODE CONDUCTANCE TUBE TESTER

Similar to the Model 660 but without transistor, crystal diode and picture tube beam current testing facilities.
 Code: **BAKER** Net Price: **\$79.50**



MODEL SS-10 SERIES-STRING FILAMENT CHECKER

- quick-checks receiver and picture tubes for filament continuity
 - completely self-contained, ruggedly built for dependable performance
- Code: **SAVER** Net Price: **\$6.50**

ALIGNMENT INSTRUMENTS



MODEL 220 MARKER- ADDER

- greatly increases accuracy and speed of front-end and IF alignment on color and monochrome TV, and FM
 - permits use of large-size markers without distortion of response curves
- Code: **NYMPH** Net Price: **\$52.50**



MODEL 230 VOLTAGE- REGULATED MULTI-BIAS SUPPLY

- provides 4 simultaneous, individually adjustable bias voltages for color and monochrome TV alignment (AGC, AVC, chroma)
- Code: **NAOMI** Net Price: **\$27.50**

VTVM'S



MODEL 68

Modestly Priced
METAL-CASED
VTVM

- wide-spread AC-DC and P-P voltage ranges and resistance scales.
 - high impedance, low capacity input circuits
- Code: **PINTO** Net Price: **\$54.50**



MODEL 78

BATTERY-
OPERATED
METAL-CASED
VTVM

- a must where power line is unavailable or connection to power line undesirable
 - provides every modern VTVM function
- Code: **PIANO** Net Price: **\$62.50**



MODEL 88

COMPACT
LAB-TYPE
VTVM

- designed for the lab — priced for the technician
 - specially engineered peak-to-peak voltage ranges
 - 7 functions—40 ranges—26 2/3 megs zero-center input
- Code: **PLANT** Net Price: **\$74.50**



MODEL 98

LABORATORY
VTVM
with 7" METER

- PRECISION'S finest VTVM — electrically similar to Model 88
- 50 ranges — 8 functions — extra-high impedance
- Code: **PRINT** Net Price: **\$119.50**

VTVM ACCESSORIES

RF-10A—High Frequency Probe for Models 88 and 98	\$14.40
RF-12—High-Frequency Probe for Models 68 and 78	10.95
TV-4—High-Voltage Probe for Models 68 and 78	14.75
TV-8—High-Voltage Probe for Models 88 and 98	14.75
LC-1—Carrying Case for Model 88	9.50
ST-1—Snap-On Tilt Stand for Model 88	1.00

V-O-M'S



MODEL 120 MIRRORED-SCALE LAB-TYPE V-O-M

- 20,000 ohms volt DC—5000 ohms/volt AC
 - 1% accuracy multipliers—meter accuracy ±2%
 - DC polarity reversal switch
 - 59 ranges to 6000 volts, 12 amperes, -77 db, 20 megohms
 - AC frequency response from 15 cycles to 100 Kc ±1 db
- Code: **WHEEL** Net Price: **\$44.95**

MODEL 120M LABORATORY TYPE V-O-M

Identical to the Model 120 but with 1/2% multipliers and shunts and ±1% accuracy meter for special industrial and laboratory applications.
 Code: **WINDY** Net Price: **\$52.95**

ACCESSORIES FOR MODELS 120 AND 120M

TV-2B—Super High Voltage Probe	\$14.75
LC-3—Ever-Ready Carrying Case	9.50
ST-1—Snap-On Tilt Stand	1.00



MODEL 110 POCKET-SIZE V-O-M

- 20,000 ohms/volt DC—5000 ohms/volt AC
 - full-size performance — pocket size convenience
 - extra-wide ranges to 3000 volts, 600 ma, 20 Megs, -71 db
- Code: **VALET** Net Price: **\$34.50**

MODEL 100 POCKET-SIZE V-O-M

Similar to the Model 110 but with sensitivity of 1000 ohms/volt AC and DC.
 Code: **VALUE** Net Price: **\$29.95**

ACCESSORIES FOR MODELS 100 AND 110

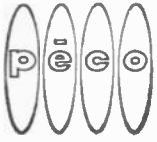
LC-4—Ever-Ready Carrying Case	\$ 9.95
TV-5B—Super High Voltage Probes	14.75

All prices and specifications subject to change without notice.

Available and on display at leading electronic parts distributors. Write directly for complete descriptive catalog to PRECISION Apparatus Company, Inc., 70-31 84th Street, Glendale 27, N. Y.

All PRECISION Test Equipment carries a full year warranty!

Manufacturers of fine electronic test equipment for over a quarter century.
 Use Index (pg. 2) for Quick, Easy Location of ALL Products



POMONA Electronics CO., INC.
pomona, california

SOCKET SAVERS

REDUCED HEIGHT FOR PORTABLE EQUIPMENT • MAXIMUM HEIGHT ABOVE EQUIPMENT 13/16 INCHES



MODEL 55-7
SEVEN PIN MINIATURE
NET 1.95 ea.

The Socket Saver is designed to be installed on tube checkers and other electronic equipment to prevent wear and tear of sockets on



MODEL 55-9
NINE PIN MINIATURE
NET 1.95 ea.

original equipment. They are easily installed and removed eliminating the necessity of replacing and re-wiring sockets on original equip-



MODEL 55-8
EIGHT PIN OCTAL
NET 1.95 ea.

ment. Built of quality materials, **BERYLLIUM COPPER** LONG LIFE CONTACTS to give maximum service.

MODEL 55 — 789 KIT, Set of Three. NET 5.85

TEST SOCKET TUBE ADAPTERS



MODEL TVS-7
SEVEN PIN MINIATURE
NET 1.65 ea.

Peco Test Socket Tube Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the bottom of the chassis. They Feature: Extended test



MODEL TVS-9
NINE PIN MINIATURE
NET 1.85 ea.

tabs for easy use with either alligator clips or test prods; Low loss mica-filled sturdy phenolic construction; Power factor less than 0.010 at 10 Mc; High insulation resistance, the I. R. exceeds 500,000 meg-



MODEL TVS-8
EIGHT PIN OCTAL
NET 1.55 ea.

ohms at 40% R. H., at 24° C; Distributed capacity, interelement approximately 1 micro-micro farad; High voltage operation, voltage breakdown between elements exceeds 1700 volts AC or DC.

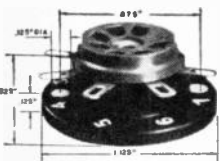
MODEL TVS — 789 KIT, Set of Three. NET 4.95

SPECIAL ADAPTERS DESIGNED TO YOUR SPECIFICATIONS.

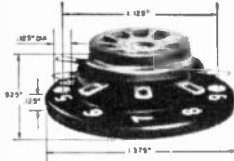
SURFACE MOUNTED BREADBOARD SOCKETS

ideal for electronic and experimental use

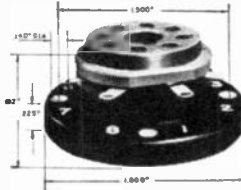
CRT TEST SOCKET ADAPTER



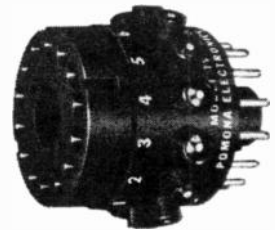
MODEL XS-7
SEVEN PIN MINIATURE
NET 49c ea.



MODEL XS-9
NINE PIN MINIATURE
NET 57c ea.



MODEL XS-8
EIGHT PIN OCTAL
NET 57c ea.

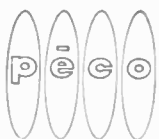


MODEL TVS-14
DIHEPTAL
NET 14.90 ea.

Surface Mounted Breadboard Sockets are used for experimental circuit design, portable and enclosed units, plug-in and packaged assemblies. They feature: An insulated base to prevent connections from shorting to chassis; Eliminates double chassis design; Circuits may be wired in an enclosed unit; The base connections are numbered for easy iden-

tification; Grade-A phosphor bronze spring contacts; Standard center to center mounting holes; For ease of installation the 7 and 9 Pin Miniatures may be mounted either in the center or on the sides, the 8 Pin Octal is mounted on the sides; Small mounting holes permit the re-use of experimental chassis.

The PECO TVS-14 TEST SOCKET ADAPTER is ideal for making measurements of cathode ray tubes with a 14 pin diheptal base as in oscilloscopes, radar indicators, industrial television, studio monitors, etc. Sturdy Phenolic Construction; Power Factor less than 0.010 at 10 Mc. High insulation resistance I. R. exceeds 100,000 Megohms @ 50% R. H., 25° C. Low Inter-element capacity, less than 2 micro-micro farad. Voltage breakdown between adjacent elements exceeds 7,500 volts D. C.



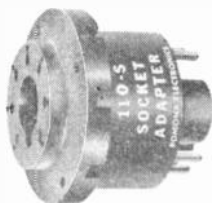
POMONA

Electronics

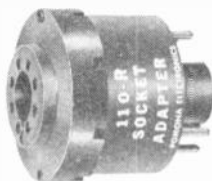
CO., INC.
pomona, california

Sec. 2900

TUBE SOCKET CONVERSION ADAPTERS



MODEL 110-S
NET 1.55 ea.



MODEL 110-R
NET 1.55 ea.

110° CRT SOCKET ADAPTER TO DUO DECAL BASE. FOR TESTING NEW NARROW-NECK 110° TUBES.

Modernize your present test equipment with this simple adapter, no rewiring necessary. Just plug in adapter to convert to 110° socket. Used for testing, ageing, and lifetesting. Model 110-S has .820 pin-circle diameter (7 pins, .093 diameter) similar to 17BVP4, etc. Model 110-R has .600 pin-circle diameter (.040 pins) similar to 17BZP4, etc.

VIBRATOR TEST ADAPTERS



MODEL DA-34
FOR CHECKING ANY STANDARD 3 OR 4 PRONG VIBRATOR, 6 OR 12 VOLT
NET 4.95 ea.

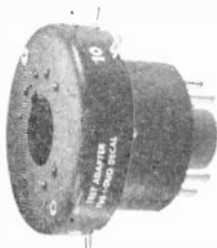
The Vibrator Test Adapter simplifies servicing of auto radios by eliminating the vibrator as a possible source of trouble. Features compact rugged phenolic construction. Instantly shows when contacts are sticking or open. Will indicate starting voltage. Eliminates all guesswork.



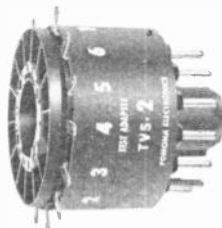
MODEL 4A 4 PRONG 6-12 VOLT
NET 3.25 ea.

MODEL 3D 3 PRONG 12 VOLT
NET 3.25 ea.

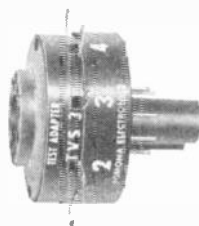
TEST SOCKET CATHODE RAY TUBE ADAPTERS



MODEL TVS-1
DUO DECAL
For Television picture tubes
NET 1.95 ea.



MODEL TVS-2
NEO-DIHEPTAL
For color Television picture tubes
NET 7.45 ea.



MODEL TVS-3
EIGHTAR (.040 PINS)
For 110° Television picture tubes
NET 2.55 ea.



MODEL TVS-4
7 PIN (.093 PINS)
For 110° Television picture tubes
NET 1.95 ea.

The PECO Test Socket Adapters are ideal for making measurements of voltage, resistance, and video from the base of the picture tube. The test socket adapter is inserted between the CR Tube base and its socket. This completes the circuit and makes all connections readily

accessible. Measurements can be made without tracing circuit wiring to test points below the chassis, thereby saving valuable time and increasing efficiency in trouble shooting.

METER REVERSING POLARITY SWITCH

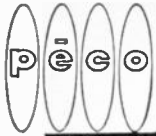


MODEL MS-1
FOR USE WITH SIMPSON 260 TESTER

The MS-1 is designed to reverse polarity when making circuit tests without removing test leads to meter. It is instantly attached

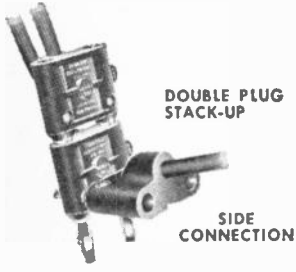
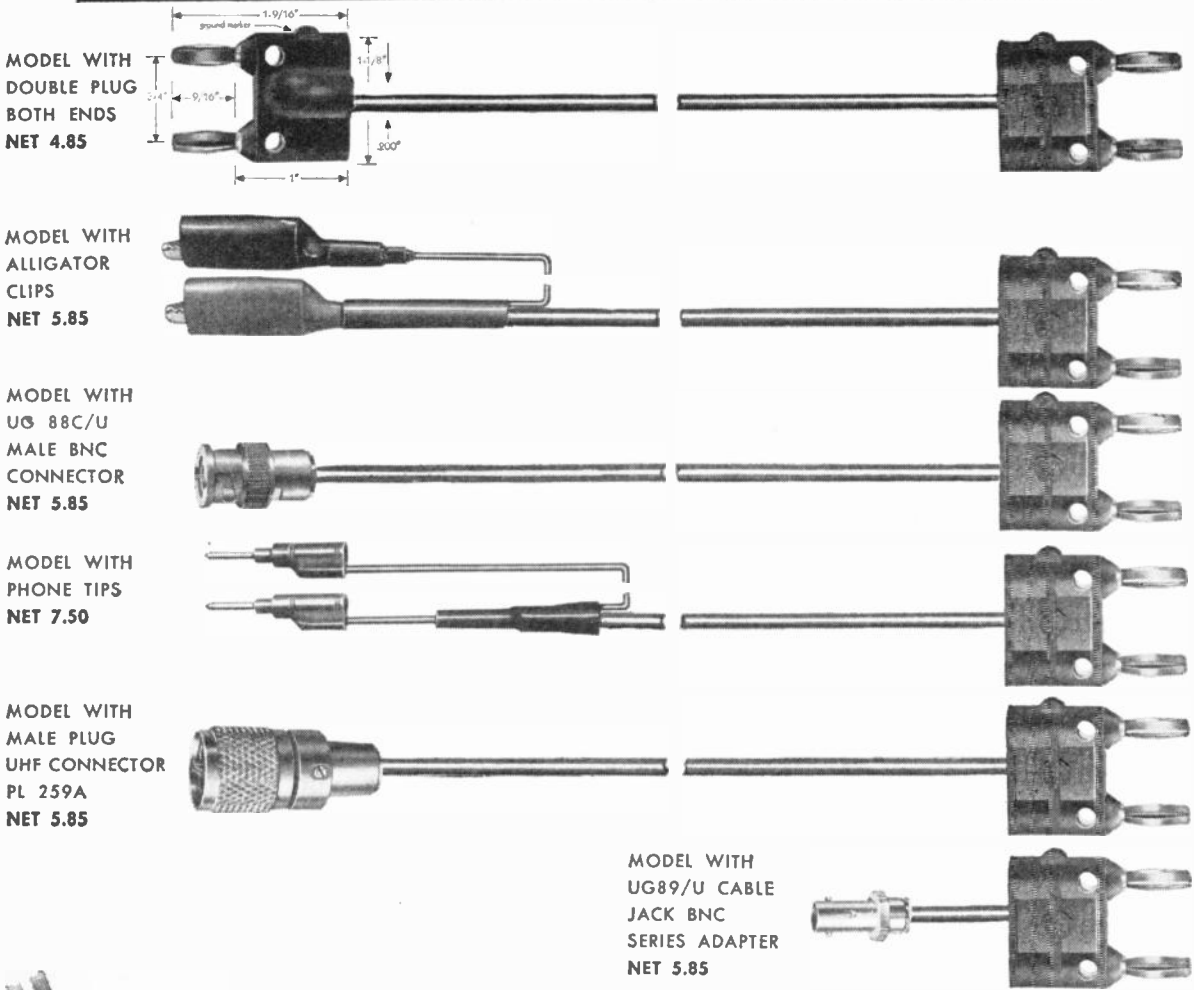
by plugging into test lead holes on Simpson Tester Model 260. Saves time in circuit testing. NET 6.95 ea.

Sec. 2900



POMONA Electronics CO., INC.
pomona, california

3/4" DOUBLE PLUG STACK-UP PATCH CORD & TEST LEADS



- Molded polyethylene plug body fully insulated.
- Permits parallel multiple stacking.
- Ground connection clearly marked.
- One piece beryllium copper spring, nickel plated.
- Solder bonded noise-free connection.
- Fits standard banana jacks.

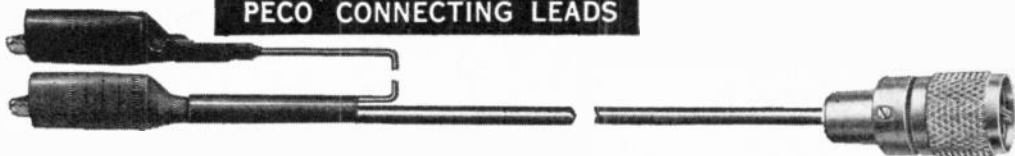
MODELS					SPECIFICATIONS	
Model with Double Plugs	Model with Alligator Clips	Model with UG88C/U Male BNC Connector	Model with Phone Tip Plugs	Model with PL259A Male UHF Connector	Length	Cable Description
2BA-18	2BA-AL-18		2BA-PP-18		18"	Two conductor twisted, 18 gauge wire 65/36 stranding. Vinyl insulation. Vinyl jacket. Nom. Capacity 30 mmf/ft.
2BA-24	2BA-AL-24		2BA-PP-24		24"	
2BA-30	2BA-AL-30		2BA-PP-30		30"	
2BA-36	2BA-AL-36		2BA-PP-36		36"	
2BB-18	2BB-AL-18	2BB-BNC-18	2BB-PP-18	2BB-UHF-18	18"	Shielded microphone cable. Polyethylene insulation. Vinyl jacket. Nom. Capacity 25 mmf/ft.
2BB-24	2BB-AL-24	2BB-BNC-24	2BB-PP-24	2BB-UHF-24	24"	
2BB-30	2BB-AL-30	2BB-BNC-30	2BB-PP-30	2BB-UHF-30	30"	
2BB-36	2BB-AL-36	2BB-BNC-36	2BB-PP-36	2BB-UHF-36	36"	
2BC-18	2BC-AL-18	2BC-BNC-18	2BC-PP-18	2BC-UHF-18	18"	Coaxial shielded cable. Polyethylene insulation. Vinyl jacket. Nom. Capacity 28.5 mmf/ft. RG58C/U.
2BC-24	2BC-AL-24	2BC-BNC-24	2BC-PP-24	2BC-UHF-24	24"	
2BC-30	2BC-AL-30	2BC-BNC-30	2BC-PP-30	2BC-UHF-30	30"	
2BC-36	2BC-AL-36	2BC-BNC-36	2BC-PP-36	2BC-UHF-36	36"	

NOTE: Color of plug body to match cable unless otherwise specified. The following additional colors on plug body are available for color coding on special order: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White. The above Models also available on special order in the following cable types: RG55A/U, RG59/U, RG62A/U.

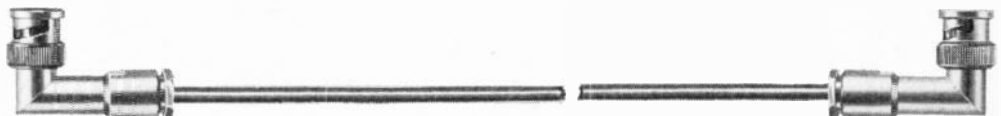


PECO CONNECTING LEADS

ALLIGATOR CLIPS TO PL259A UHF CONNECTOR NET 5.85



UG913/U ANGLE BNC MALE CONNECTOR BOTH ENDS NET 10.85



UG88C/U MALE BNC CONNECTOR BOTH ENDS NET 5.85

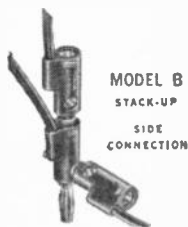


ALLIGATOR CLIPS TO UG88C/U MALE BNC CONNECTOR NET 5.85



MODELS				SPECIFICATIONS	
Alligator Clips to PL259A UHF Connector	UG913/U Angle BNC Male Connector Both Ends	UG88C/U Male BNC Connector Both Ends	Alligator Clips to UG88C/U Male BNC Connector	Length	Cable Description
AL-B-UHF-18	BNCA-B-18	BNC-B-18	AL-B-BNC-18	18"	Shielded microphone cable. Polyethylene insulation. Vinyl jacket. Nom. Capacity 25 mmf/ft.
AL-B-UHF-24	BNCA-B-24	BNC-B-24	AL-B-BNC-24	24"	
AL-B-UHF-30	BNCA-B-30	BNC-B-30	AL-B-BNC-30	30"	
AL-B-UHF-36	BNCA-B-36	BNC-B-36	AL-B-BNC-36	36"	
AL-C-UHF-18	BNCA-C-18	BNC-C-18	AL-C-BNC-18	18"	Coaxial shielded cable. Polyethylene insulation. Vinyl jacket. RG58C/U. Nom. Cap. 28.5 mmf/ft.
AL-C-UHF-24	BNCA-C-24	BNC-C-24	AL-C-BNC-24	24"	
AL-C-UHF-30	BNCA-C-30	BNC-C-30	AL-C-BNC-30	30"	
AL-C-UHF-36	BNCA-C-36	BNC-C-36	AL-C-BNC-36	36"	

NOTE: Color of plug body to match cable unless otherwise specified. The following additional colors on plug body are available for color coding on special order: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White. The above Models also available on special order in the following cable types: RG55A/U, RG59/U, RG62A/U.

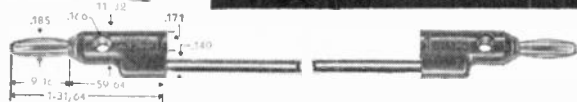


MODEL B
STACK-UP
SIDE
CONNECTION



MODEL P
STACK-UP

PECO PATCH-CORDS & STACK-UP CONNECTING LEADS



MODEL B (BANANA TYPE)

Fits all standard banana jacks. One piece beryllium copper spring. Extra flexible polyvinyl insulated wire 5KV (Spark Test)...18 gauge, stranding 65 x 36 T. C. Plug body molded with durable polyethylene insulation. SPECIFY LENGTH AND COLOR* **NET 1.50**



MODEL P (.080 PHONE TIP)

Fits all standard .080 tip jacks. One piece beryllium copper heat treated spring contact and tip. Finish silver plate, gold flash. Extra flexible polyvinyl insulated wire, 20 gauge, stranding 41 x 36 T. C. Plug body molded with polyethylene. Compact size, extended height above jack, 7/8" dia. 1/4". SPECIFY LENGTH AND COLOR* **NET 1.50**



MODEL M (BANANA TYPE) Miniature

Fits all standard miniature banana jacks with .104 dia. Finish, silver plated. Polyvinyl insulated wire, 20 gauge stranding 41 x 36. Plug body molded with durable polyethylene. Compact size, extended height above jack 35/64. SPECIFY LENGTH AND COLOR* **NET 1.35**

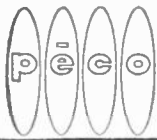


MODEL PT080 (.080 PHONE TIP) TIP LENGTH 1/2"

MODEL PM080 (.080 PHONE TIP) TIP LENGTH 1/4"

Fits .080 tip jacks. Insulation molded to plug body and cable. Finish, gold over silver plated. Polyvinyl insulated wire, 22 gauge. Stranding 19 x 34 T. C. Subminiature in size. Compact size 5/32" dia. Plug body 5/8" length above jack. SPECIFY LENGTH AND COLOR* **NET .85**

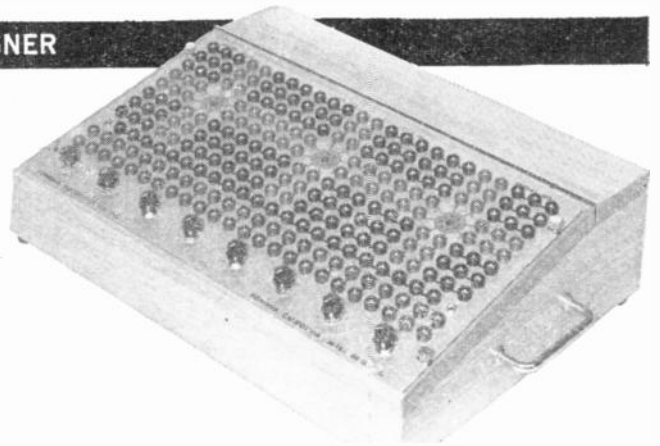
* Stack-up patch cords above available in 4", 8", 12", 18", 24" and 36" lengths. Colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White.



MODEL C-38 CIRCUIT DESIGNER

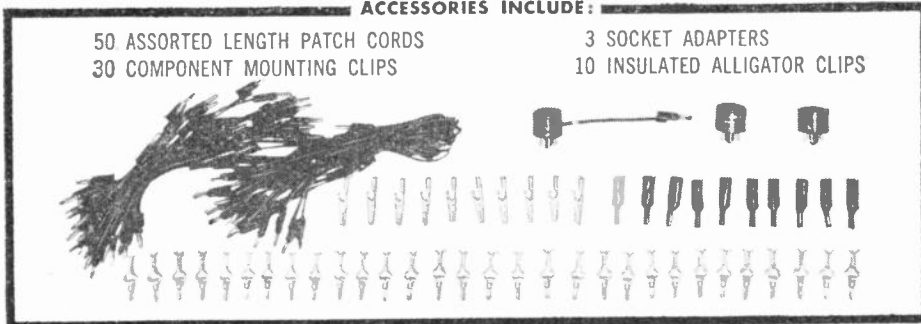
an engineering tool for rapid synthesis of electronic circuits

The simplicity and flexibility of the PECO Circuit Designer permits reliable "Quick and Clean" solderless assembly. Saves fabrication time, check-out time lost due to circuit errors and the cost of scrapped chassis. Every component of the Circuit Designer is reusable again and again. Complete with Accessories. **NET 295.00**



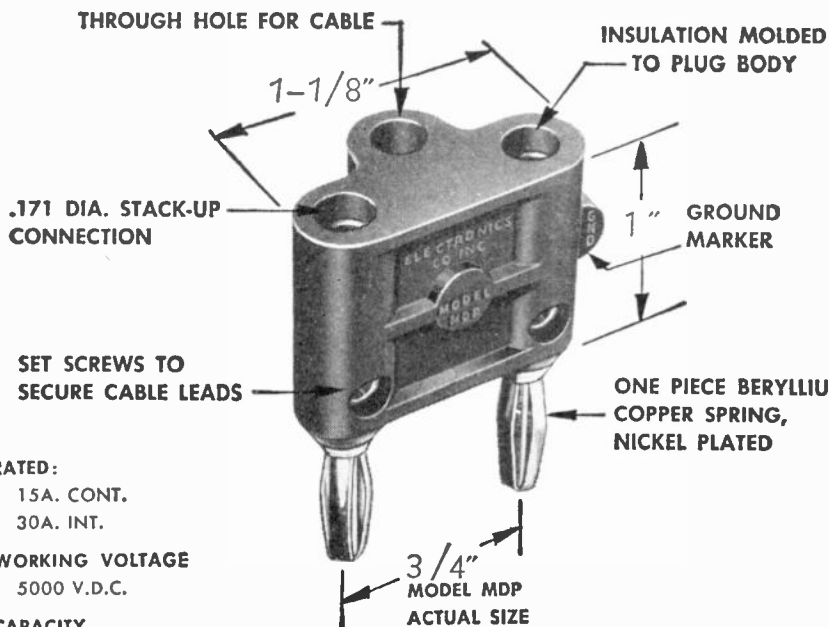
Solid oak construction. Finished in modern limed oak. Convenient handles for portability.

ACCESSORIES INCLUDE:



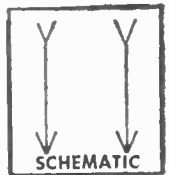
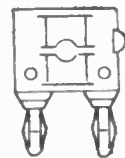
WRITE FOR FREE BULLETIN FOR ADDITIONAL INFORMATION

3/4" MOLDED DOUBLE PLUG ACCESSORIES

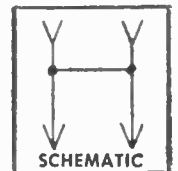
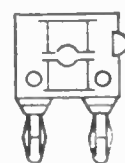


RATED:
15A. CONT.
30A. INT.
WORKING VOLTAGE
5000 V.D.C.
CAPACITY
0.8 uuf @ 1 Mc.

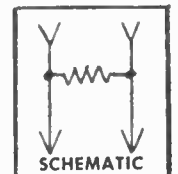
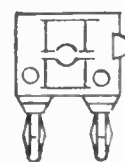
MODEL MDP, Color coded: Available in,
Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray and White.



MODEL MDP MOLDED DOUBLE PLUG
3/4" SPACED. **NET 1.42**



MODEL MDP-S MOLDED SHORTING BAR
3/4" SPACED, NOISE FREE, SOLDER BONDED INTERNALLY. **NET 1.25**



MODEL MDP-R MOLDED PRECISION RESISTORS 1% tolerance, deposited carbon, values—0.1, 0.2, 0.25, 0.5, 1, 2, 5, 10 Megohms. Each value color identified. 3/4" Spaced. **NET 2.75**

PRECISE — THE FASTEST-GROWING KIT MANUFACTURER IN THE WORLD

Instruments IN KIT & WIRED FORM ... **precise**
above all else

• NEW PRECISE MODEL 111 Mutual Conductance and Emission Tube Tester



USED BY
U. S.
BUREAU
OF
STANDARDS

\$79⁹⁵

111K ... kit form
111W ... factory wired \$139.95
Incl. Carrying Case & Cover

INDEPENDENT SCIENTIFIC SURVEY AND LAB TESTS PROVE PRECISE MODEL 111 "BEST COMMERCIAL TUBE TESTER AT ANY PRICE."

ENGINEERING DESIGN CONSIDERATION: To understand the Model 111 Mutual Conductance and Emission Tube Tester, it is perhaps best to spend a moment with the original design considerations. Basically we recognize the fact that:

1. A GM or Emission type tube tester actually read a goodly percentage of tube troubles—BUT each alone missed a great many. We could not say with any degree of assurance which type of tube test was the best. Certain applications required GM, while others required Emission. PRECISE Solution: The Model 111 checks Gm and Emission separately. It indicates on the roll chart the most important single test for normal applications. It is, of course, desirable to make both tests.
2. In series T.V. filament arrangements, which are daily enjoying greater popularity, the "Voltage Sapper" (a tube which developed too much filament voltage as compared to the other tubes) was a constant trouble. PRECISE Solution: The Model 111 allows the filament current to be measured directly on the meter.
3. A whole series of different test voltages (sweeping from zero voltage up) was required. PRECISE Solution: The Model 111 sweeps from 0 through the normal testing range when making measurements. This gives an average evaluation for the tube over an extended range of operation.
4. Short tests usually require elaborate switch manipulation. PRECISE Solution: The Model 111 uses a single rotary switch which checks each element against every other element. No conversion chart is required to ascertain which pins are shorted. This test may be made at any time hot or cold without changing any other switches.
5. The instrument would have to be rugged to stand the "trunk of a car" type of abuse. PRECISE Solution: In the Model 111 a heavy wooden cabinet houses the entire unit. The panel is deeply etched aluminum.
6. Tube Bias, being an important consideration, should actually be measured on the meter. PRECISE Solution: The Model 111 measures tube bias directly on the indicating meter.
7. The instrument should be simple to operate. PRECISE Solution: The Model 111 uses a no-blacklash roll chart, and a sectionalized design setting off each section.
8. There should be a provision for new tubes. PRECISE Solution: The Model 111 is one of the simplest type tube testers to set up for new tubes. The pin connections and function positions may be taken directly from the tube manual. The instrument already includes provisions for testing many color tubes.
9. It should check all modern tubes. PRECISE Solution: The Model 111 is provided with sockets for testing the following type bases. Large 4 prong, large 5 prong, large 6 prong, large 7 prong, medium 7 prong, miniature 7 prong, in-line 7 prong (sub-miniature), Octal, Noval, sub-miniature 8 prong, CRT and Localtals. Weight 24 lbs. Size 14" x 16" x 6".
10. The instrument should check Cathode Ray Tubes. PRECISE Solution: The Model 111 also checks cathode ray tubes with CRT adaptor. Model PTA-K \$2.95, PTA-W \$4.25.



TEST 5 TUBES in 4 SECONDS each ... ACCURATELY

• NEW PRECISE MODEL 116
Em & Gm ULTRAFAST TUBE & TRANSISTOR TESTER

Servicemen know the Precise Model 111 (the winner in an independent survey) easily rates "the finest tube tester in the field" at any price, BUT FOR AN ON THE JOB QUICK-TEST ... the fastest, most accurate is the PRECISE MODEL 116. What's more you test tubes the foolproof method inherent in the famous Precise Model 111.

Did you ever wish you could plug in 5 of the same type tubes at once and check each one individually by rotating a switch? YOU CAN WITH THE PRECISE MODEL 116—Plug in 5 IF tubes and let them heat up at once and then check each one separately by rotating the TUBE BANK switch. ACTUALLY CHECK 5 TUBES IN 20 SECONDS, 4 SECONDS PER TUBE.

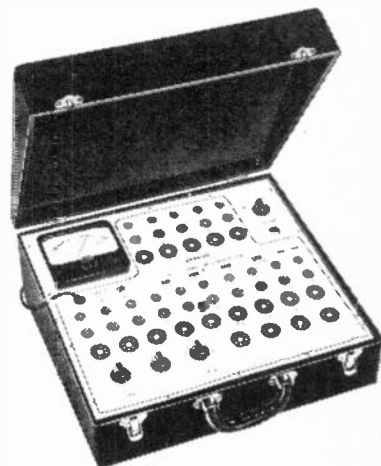
The Precise Model 111 taught the lesson that IF amplifier tubes (like the 6BC5 or 6AU6) should be tested for GM (mutual transconductance) while the power amplifiers (like the 6L6) should be tested for Em (emission). The Model 116 test checks each section of each tube separately ... by rotating the FUNCTION SWITCH ... each triode of a dual triode is checked individually ... each diode and the triode of a duo-diode-triode is separately tested and not lumped as in other testers ... and a pentode is tested as a pentode—not a diode. TRANSISTORS, SHORTS, GAS, LIFE, Em Gm etcetera can be tested with the PRECISE Model 116.

You can inexpensively extend the Precise Model 116 to test filament current, etc. The Model 116 gives an accurate, ultra-fast (3 basic knobs for testing) check of television tubes!

Vo Surplus—An etched panel—beautiful Moleskin covered wood carrying case and cover and specially simplified instructions makes the PRECISE MODEL 116 THE FINEST FAST-CHECK TUBE TESTER AND DOLLAR EARNING TRAVELING COMPANION A TV SERVICEMAN EVER HAD.

PTA-K (Picture tube adaptor).....\$2.95 PTA-W (Wired).....\$4.25

Incl. Carrying Case & Cover



MODEL 116K in kit form..... **\$69⁹⁵**

MODEL 116W factory wired.... **\$119⁹⁵**

Prices Slightly Higher in the West — Prices and Specifications Subject to Change Without Notice on All PRECISE Equipment.

PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.

Instruments IN KIT & WIRED FORM . . .

precise
above all else

• **PRECISE 711 and 713...**



POWER-LAB

- 711K (100 Watts of Isolation) \$49.95 kit
- 711W (100 Watts of Isolation) \$64.95 wired
- 713K (300 Watts of Isolation) \$62.95 kit
- 713W (300 Watts of Isolation) \$79.95 wired

OPERATES YOUR WHOLE BENCH AND SHOP
You'll start and end each working day with the POWER-LAB. For the first time in the industry, one instrument takes the place

of more than 11 pieces of equipment and makes you wonder why no one ever did this before... the most useful, often used, test device in your shop. There's NO OTHER INSTRUMENT LIKE THE POWER-LAB ON THE MARKET. Here again, Precise engineering is proud to be the first to supply a need that has too long existed in the service trade. When you buy POWER-LAB by Precise, you get all the advantages of owning a battery eliminator for servicing auto radios (even signal seekers), an AC-DC Converter, a supply for transistor se's. AND OF MAINTAINING A CONSTANT 115 volts in checking on TV set variations. You can even run the set down to 105 volts for testing horizontal jitter, and back up to 125 volts for high-voltage breakdown, thereby eliminating the cause of many call backs due to arcing... PLUS... the 101 uses you'll find each day for POWER-LAB versatility.

Here's the story... now you can get all this
COMPLETE IN ONE KIT (or wired)

- A BATTERY ELIMINATOR
- A BATTERY CHARGER
- A HIGH CURRENT LINE VOLTAGE VARIAC
- AN AC LINE VOLTAGE METER
- AN AC LINE AMMETER
- AN AC LINE WATTMETER
- AN AC LINE ISOLATION TRANSFORMER
- A LOW VOLTAGE, HIGH CURRENT AC SUPPLY
- A DC LINE VOLTAGE VARIABLE SUPPLY
- A DC HIGH CURRENT AMMETER
- AN AGC BIAS BOX

ALL SPECS BELOW ARE FOR MOD. 711 AND 713 UNLESS OTHERWISE SPECIFIED

	VOLTS	MAXIMUM	CONTINUOUS
Low Voltage DC	2 ranges 0-15v Full Wave 0-30v Full Wave Bridge	20 amps* 20 amp**	10 amps* 10 amps*
Low Voltage AC	0-24v		20 amps
High Voltage AC	No Isolation 90-140 volts	20 amps	10 amps 2000 watts 1000 watts
High Voltage AC	Model 713 with Isolation 90-140 volts		3 amps 300 watts
High Voltage AC	Model 711 with Isolation 90-140 volts		1 amp 100 watts
High Voltage DC	110-180 volts	1 amp**	.075 amp**

* Depending on voltage
** May be increased up to 10 amperes at additional cost.

MODEL 999



The PRECISE Model 999 High Voltage Probe was designed for high voltage measurements with special emphasis on SAFETY, OPERATIONAL SIMPLICITY AND RUGGED CONSTRUCTION. FIRST IN THE INDUSTRY to include any one or more of the following EXCLUSIVE features.

Multiple Insulation: The only probe with at least three individual media that must be penetrated before a voltage breakdown could occur.

Mechanically shockproof construction: The only probe to utilize a double spring suspension system in order to protect the Ceramic high wattage multiplier resistor.

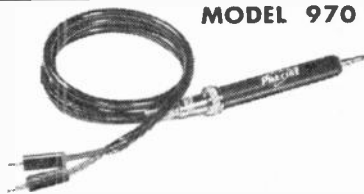
Interchangeable Tips: The only probe where two tips are supplied—one, the conventional type for probing; the other, an alligator clip for connecting permanently to the circuit.

Swivel Lead Connection: A special fixed slip-ring arrangement is provided which prevents the test lead cable from snagging or developing high strains at the junction of the cable and probe handle.

Interchangeable Resistors.

Wired Only.....Dealer Net..... **\$6.98**

MODEL 970



PRECISE MODEL 970... direct Probe: Shielded, interchangeable tips and non-hydroscopic insulation. WIRED ONLY... Dealer Net... **\$3.75**

PRECISE MODEL 912... RF Probe: Frequency range—rms readings from AF through 250 mc; built-in 600 v blocking capacitor. WIRED ONLY... **\$4.25**

PRECISE MODEL 960... 10-to-1 Capacity Attenuator Probe: Frequency range through 100 mc. flat, input capacity less than 7 mmfd. WIRED ONLY... **\$5.95**

PRECISE RE-MO-TUNER... Model SMK: Clip Re-Mo-Tuner to controls behind set while you adjust from front. Sturdy, compact. DEALER NET... **\$2.95**

• **NEW PRECISE MODEL UPA-IN AND UPA-IP ULTRA PREAMPLIFIER**

The PRECISE Model UPA-1 preamplifier is an ultra-modern presentation of true high fidelity, set off in a beautiful rich brushed brass colored panel, designed to enhance a living area. • It embodies the most modern circuitry with separate controls for Bass Boost, Treble Boost and Roll-off, Volume Record Compensation which also includes the latest AES curves (this year), a main Selector switch which connects to Phono, Microphone, Radio Television and an auxiliary position (4 separate input jacks are mounted on the rear chassis), a separate On-Off switch also operates the Convenience outlet at the rear of the instrument. • The instrument is designed so that it is completely self-contained or, if desired, it may be mounted directly into a console panel. In the latter case, no additional hardware is required because of a unique cabinet and chassis design. The cabinet dimensions are 12 x 4 x 4 and it weighs approximately six pounds. • The input gain and amplifier latitude is more than ample for Reluctance or Crystal inputs. Long lines may be used with the cathode-follower input



The UPA-1 is available in two circuits: UPA-IP has its own transformer supply and is operated directly from the 110 volt AC line.

UPA-IPK • Kit Form • \$25.95
UPA-IPW • Wired Form • \$39.95

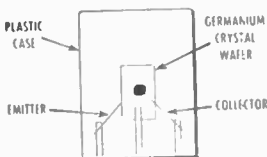
UPA-IN does not include a power supply. Power is taken directly from the main amplifier. It does, however, have its own filtering circuits.

UPA-INK • Kit Form • \$19.95
UPA-INW • Wired Form • \$34.95

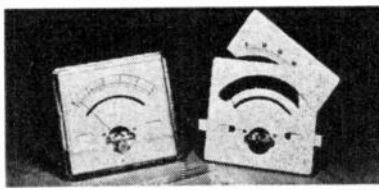
T1 — TRANSISTOR KIT — Only \$14.95

ANOTHER NEW EXCLUSIVE KIT BY PRECISE

PRECISE makes it possible to build your own experiments with the most remarkable kit you've ever seen... the new PRECISE T1 TRANSISTOR KIT. Components include transformer, chassis, TRANSISTORS, germanium diode, wire, etc. — everything you need for experimental construction PLUS the finest step-by-step instruction book.



PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.



PDC CUSTOM METERS

A Completely New Idea in CUSTOM METER Design*

ONCE again, from the engineering laboratories of the Precise Development Corp., a remarkable achievement in the field of testing... PDC CUSTOM METERS... immediately available for general meter use, engineers, experimenters, hobbyists, pilot runs, spot applications, and in-the-field measurements.

PRECISE PDC METERS now offer you an opportunity to have **immediately available** individual custom meters that will cover any one of 100 voltage and current AC and DC ranges.

EACH METER FEATURES

- D'Arsonval Moving Coil Design
- Polished Jewels and Pivots
- Fatigue Tested Springs
- Stress-released units
- 2% Accuracy
- Knife-Edged Pointer
- Mirror Scale
- Lithographed Scale Faces
- High Quality Shunts and Multipliers
- Optional Illumination Packet
- Optional Shadow Mask
- Plastic Case
- Sizes: 2½", 3½", 4½"

REVOLUTIONARY DESIGN ADDS METER VERSATILITY

PDC CUSTOM METERS are INTERCHANGEABLE. All Precise Custom Meters are interchangeable. Special interchangeable slip-on scales, and companion snap-in shunts and multipliers, add to the ranges that may be covered from one basic custom meter.

Here's How It Works. Let's say you have a 15-volt, 20,000 ohms-per-volt PDC custom meter, and you need a 2.5 volt, 20,000 ohms-per-volt meter for another application. With the PRECISE PDC revolutionary design, you don't have to buy another separate meter. All you need do is to take the same 15-volt, 20,000 ohms per volt meter, open the case, slip out the interchangeable scale face, pull out the resistor in the rear... and then slip on a 2.5 scale face, snap in its companion multiplier into the lock-type jaws in the rear... and when you snap the cover back in place...

In Less Than a Minute You Have a New Custom Meter. That's how simple it is to have a professionally accurate, perfectly calibrated custom meter with a special lithographed scale face, and scale identification... **WITHOUT BUYING ANOTHER CUSTOM METER.**

Precise PDC Custom Meters are comparably priced with custom meters currently being sold today. Now you can have many custom meters from just one... PRECISE'S revolutionary design adds meter versatility to save you money.

Basic meters for replacement, as well as scale faces, shunts or multipliers are available from local electronic distributors.

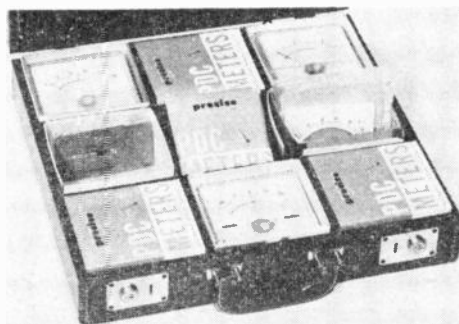
*Pat. Pending

SPECS & RANGES

DC 1000 ohms/v VOLTS	DC 2000 ohms/v VOLTS	DC 20,000 ohms/v VOLTS	AC 1000 ohms/v VOLTS	DC Current AMPERES	AC Current AMPERES
.05	.05	.1			
.5	.25	.5		50 ua	
1.0	.5	1.0	1	100 ua	
1.5	.75	1.5	1.5	200 ua	
2.5	1.25	2.5	2.5	400 ua	
3	1.5	3	3	500 ua	1 ma
5	2.5	5	5	1 ma	3 ma
10	5	10	10	3 ma	10 ma
15	7.5	15	15	10 ma	25 ma
25	12.5	25	25	25 ma	50 ma
30	15	30	30	50 ma	.1
50	25	50	50	.1	.25
100	50	100	100	.25	.3
150	75	150	150	.3	.5
250	125	250	250	.5	1.0
300	250	300	300	1.0	
500	500	500	500		
1000	750	1000	1000		
1500*		1500*	1500*		

ANY ONE OR MORE OF THE ABOVE METERS WITHIN ONE MINUTE

*SPECIAL ORDER. OTHER SPECIAL SCALES, SUCH AS VU-DB, AVAILABLE, AS WELL AS ZERO CENTER GALVANOMETER



SPECIAL INDUSTRIAL PDC-IND METER PACKAGE

Here's a special introductory package from PRECISE, one which will provide you with complete coverage of all the ranges indicated above.

You Get:

- Six Meter Movements
- Interchangeable Scale Faces
- Shunts and Multipliers
- Illumination Packet
- Beautiful Attache type Case
- Meter Master Chart

\$129⁹⁵

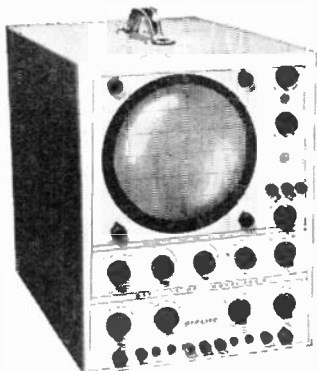
PRECISE DEVELOPMENT CORP. · OCEANSIDE, N. Y.

PRECISE — THE FASTEST-GROWING KIT MANUFACTURER IN THE WORLD



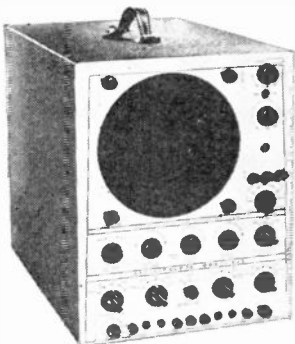
**THE FIRST AND STILL TOP COLOR SCOPE BELOW \$1000
NEW AMAZING PRECISE MODEL #300
COLOR OSCILLOSCOPE**

The Oscilloscope you've been seeking. . . . No other oscilloscope at any price — high or low — with these desirable features — in both Kit and Wired Form:
SPECIFICATIONS: PRECISE MODEL 300 OSCILLOSCOPE —
VERTICAL: Vertical-flat (3db) DC through 5 megacycles with sensitivity of greater than 10 millivolts push-pull (3.94 Millivolts/cm); Constant Resistance: Push-pull input immediately converted to single-ended normal or reverse phase by shorting bar at inputs 1 and 2; Frequency compensated vertical stepping attenuator selects AC or DC inputs; Push-pull DC amplifiers from input through output; Internal electronic mixing through inputs 1 and 2; five-way binding posts.
POSITIONING: Bridge type positioning on vertical and horizontal does not vary tube characteristics.
HORIZONTAL: Frequency compensated stepping attenuator in horizontal amplifier; Push-pull Horizontal out.
BLANKING: Internal (return trace blanked), external (return trace not blanked). 60 cycle or 120 cycle Blanking through Blanking amplifier circuit.
SYNCHRONIZATION: External, Internal Positive, Internal Negative, Internal 60 cycle or Internal 120 cycle synchronization.
SWEEP RATE: Driven or non-driven linear sweeps from 1 cycle to 80KC in five ranges (1-10 cycles uses external C circuit); Trigger potentiometer.
MAGNIFIER: Electronic magnifier and magnifier positioner allow any part of a signal to be magnified up to ten times (equivalent to 70 inches of horizontal deflection).
CALIBRATION: Internal square wave calibrator and potentiometer for using oscilloscope as a VTVM on Peak to Peak measurements.
CALIBRATION SCREEN: Edge-illuminated scale and graticule may be turned on or off; filtered screen.
OUTPUTS ON FRONT PANEL: Plus Gate output; Sawtooth output; 60 cycle chasing output; 60 cycle unphased output; Calibration output.
FOCUSING: Astigmatism, focus and intensity control.
CRT: NEW 7" Tube, normally supplied is medium persistency type 7VP1, or 7JP1 may also be used (oscilloscope green trace) — high persistency types available at additional cost.
DIRECT: Deflection plates available from rear of cabinet.
INTENSITY MODULATION: Z modulation through modulation amplifier
GENERAL: Low loss components; Over-designed fused power supply for additional circuitry; Deeply etched aluminum panel. New parts from original manufacturers — (NO SURPLUS); Steel cabinet;



11" x 14" x 17"; complete with instruction book and all components; Accessories: Model 912T (MM) Demodulator Probe and Model 960 Capacity Attenuator Probe available at extra cost — please see specifications on following pages. There are many additional features and circuits in kit form, which may be added to the Model 300. Please write us for descriptive literature.

300K kit form **\$99⁹⁵**
 300W factory wired **\$199.50**



**• NEW PRECISE 8 1/2" COLOR OSCILLOSCOPE MODEL 308
USED BY COLOR MANUFACTURERS ALL OVER THE COUNTRY**

An oscilloscope unique in the industry . . . THE ONLY 8 1/2" scope on the commercial market . . . All the general specifications of the time proven PRECISE Model #300; plus over 85 sq. inches of viewing space provided by its NEW 8 1/2" tube; ANODE INTENSIFIER; FREQUENCY SYNCHRONIZATION CONTROL TO ELIMINATE HORIZONTAL JITTERS (this and other features not found in other scopes at many times the cost) PLUS VOLTAGE REGULATION.
 Weight.....35 lbs. Size.....11" x 14" x 19"

308K kit form **\$129⁵⁰**
 308W factory wired **\$229.50**



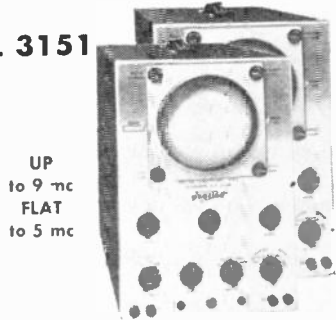
THE VERY LATEST PRECISE 'SCOPE FOR COLOR . . . MODEL 3151

It's hard to believe, but here is an oscilloscope that goes up beyond nine megacycles and s flat through five megacycles. It not only takes color in its stride, but is ready for the new advances still on the drafting boards. There is truly no other 'scope below \$100.00 that can meet all its specifications. There are no short cuts in the laboratory type service scope—Push-Pull vertical and horizontal—High sensitivity—5CP1 tube with post acceleration—Frequency compensated Stepping Attenuators for both Vertical and Horizontal—Focus, Intensity and Astigmatism controls—Calibration output voltage.

VERTICAL—The Vertical Amplifiers are flat through 5 mc and ± 8 db through 9 mc. The sensitivity is 10 millivolts per cm. Frequency compensated Stepping Attenuators in input. The output is push-pull pentodes.

HORIZONTAL—The Horizontal Amplifiers are within ± 6 db through 500 kc. Push-Pull output. Frequency Compensated Stepping Attenuator input and cathode follower assures linear horizontal trace. Hard vacuum sweep frequencies with sufficient expansion to see color bursts clearly. Horizontal Sensitivity is approximately 40 millivolts per cm.

FOCUSING—Focus, Intensity and Astigmatism controls.
 Brushed Aluminum Panel; Heavy Steel Cabinet, 13 1/4" x 8 3/4" x 18 1/2".



UP
to 9 mc
FLAT
to 5 mc

3151K.....kit form **\$59.95**
 3151W.....factory wired **\$109.95**
 MODEL 315 K **\$43.95**
 MODEL 315W **\$60.00**
 Similar to 3151, but is a low frequency service scope.

PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.

Instruments IN KIT & WIRED FORM . . . **precise** above all else

In the 904, you can tilt the meter left, or right, or up or down — or even straight ahead — so that it follows the user correcting for parallax all the way. Another Precise first is the "Lead Magician Switch" — which allows your leads to remain in any circuit while you "short" the VTVM for proper Zero Adjust and "Open" the leads for Infinite Adjust, — all this without changing leads. Since three leads are provided, you can leave the 904 connected to both an AC and a DC voltage and take both measurements by rotating the FUNCTION switch and the Lead Magician Switch.

The 904 is fully B- and B- regulated to maintain readings. An etched circuit board is natural for fast and simple construction. CERAMIC precision resistors; JAN type switches; Amphenol DC Connector.

FREQUENCY RANGE: Up to 250 megacycles with PRECISE — Model 912 Probe (avail. at additional cost).
VOLTAGE RANGE: Up to 30,000 V. with PRECISE 999 High Voltage Probe and 1090 megohm resistor. (Probe avail. at additional cost.)

FM & TV: Special true zero alignment scale for FM & TV discriminators. Burn-out proof circuit, 11 Megohm input impedance on DC. Complete with test leads and internal battery. Rugged oversize 4½" meter. Specially prepared 3 color SPEED instruction books that explain each step and define the purpose. 105-120 V., 50-60 cycles, AC. Shipping weight: 10 lbs. 9½ x 6 x 5".

RANGES: AC-VOLTS: 1.5, 5, 15, 50, 150, 500, 1,500 RMS 4, 14, 40, 140, 400, 1400, 4000 Peak to Peak — DC VOLTS: 1.5, 5, 15, 50, 150, 500, 1500. +DC VOLTS: 1.5, 5, 15, 50, 150, 500, 1500. OHMS: Rx1; Rx10; Rx100; Rx1000; Rx10,000; Rx100,000; Rx1,000,000. CENTER SCALE OHMS: 10; 100; 1000; 10,000; 100,000; 1,000,000; 10,000,000.
TUBE COMPLEMENT: 6AL5; 12AU7; RECTIFIER.



Dealer Net \$34.95
Model 904 W. Dealer Net \$49.95
Factory Wired
Prices slightly higher in West



• NEW PRECISE MODEL 9071 Voltage Regulated VTVM

Special 7½" meter • 1% CERAMIC PRECISION RESISTORS • FM zero alignment scale • Coax DC connector • Burn-out proof circuit • DC input 25 Meg • Power transformer operated (no selenium rectifier used) • 4 tube circuit • Compact design • Size: 8½" x 12" x 5".

9071K kit form \$35.95 • 9071W factory wired **\$49.95**

Same ranges as Model 909



• PRECISE MODEL 909 Vacuum Tube Voltmeter

WHAT BETTER WAY TO BUY THAN BY MAKING A COMPARISON!

Ceramic precision resistors—1%. OR BETTER: deeply etched panel; steel cabinet; Amphenol type DC connector.

FREQUENCY RANGE: Up to 250 megacycles with PRECISE 912 Probe (available at additional cost).

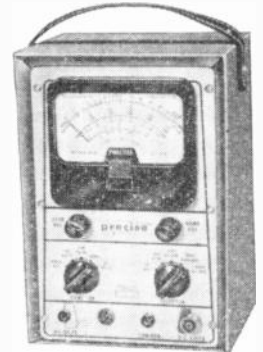
VOLTAGE RANGE: Up to 30,000 V. with PRECISE 999 High Voltage Probe (available at additional cost).

FM & TV: Special true zero alignment scale for FM & TV discriminators; Burn-out proof circuit; 25 Megohm input impedance on DC; complete with test leads and internal battery; oversize 4½" meter; 105-120V., 50-60 cycles, AC; wt.: 10 lbs.; 10" x 7" x 5".

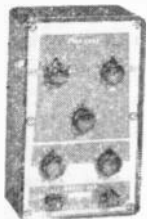
RANGES: +DC: 0-5-25-250-500-1000 Volts; —DC: 0-5-25-250-500-1000 Volts; AC: 0-5-25-250-500-1000 Volts
Ohms: Rx1-Rx10-Rx1000-Rx10,000-Rx1,000,000 ohms; from .2 Ohms to 1 Billion Ohms; DB: From —20 to +55 DB.

909K **\$25.98** • Factory Wired

\$37.50



• PRECISE NEW MODEL 468 Resistance Decade Box



3¾"x6¼"x2"

PRECISE AGAIN LEADS THE FIELD with its New Low-Priced Resistance Decade Box. Compact in size for Bench Drawers and Tool Boxes.

5 Separate Switches, 11 Positions on Each; plus or minus 1%. Readings from 10 OHM to 1,111,110 OHM in 5 Decades. 1% Dep. Carbon Non Ind. above 10 OHM. Binding Posts permit quick substitution of equivalent Resistors indicated on Selector Panel. Deeply etched Aluminum Panel; Rugged Construction; Complete with Simplified Construction Manual.

468K kit form **\$18.95**

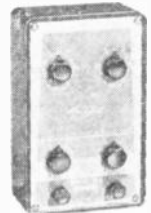
468W factory wired \$24.95

• PRECISE MODEL 478 Newest Capacity Decade Box

PUTS 10,000 CAPACITORS IN YOUR POCKET

... first in the low price field to reach over 1 MFD at 1% accuracy. . . . Four decades from 100 MMFD to 1,111 MFD (100 MMFD steps)

... 10 TIMES THE CAPACITY RANGE . . . Capacitors well within 1%. SILVER MICA, except for highest values which are special low-drift, molded, oil impregnated; rated at 600 volts, except for highest ranges rated 400 volts. . . . All capacitors fully tested, including: leakage resistance (thousands of megohms); accuracy measured on standard bridges; voltage breakdown tested; power factor, temperature cycling and aging. — STURDY HIGH IMPACT BAKELITE CASE REDUCES GROUND CAPACITY AND INSURES LONG LIFE.



3¾"x6¼"x2"

478K kit form **\$18.95**

478W factory wired \$24.95

PRECISE DEVELOPMENT CORP. • OCEANSIDE, N. Y.

RCA TEST EQUIPMENT
FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES



WV-77E VoltOhmyst®
and
WV-77E(K) VoltOhmyst Kit

NOW—at popular prices—here is a new addition to the world-famed RCA Volt-Ohmyst family, and it's available kit or wired!

The WV-77E(K) is extremely easy to assemble! The laminated circuit board is keyed for accurate placement of components—the range switch has only two decks—the single-sheet instructions are the ultimate in clarity!

The WV-77E features flat frequency response $\pm 5\%$ from 40 cps to 5 Mc on the 1.5, 5, and 15-volt rms ranges and the 4, 14, and 40-volt peak-to-peak ranges. The WV-77E measures dc from 0.02 volt to 1500 volts, rms ac from 0.1 volt to 1500 volts, peak-to-peak ac from 0.2 volt to 4000 volts, and resistance from 0.2 ohm to 1000 megohms—all in seven overlapping ranges! Full-scale accuracy is $\pm 3\%$ on dc and $\pm 5\%$ on ac. Meter is electronically protected against burnout. Separate scales are provided for low ac measurements. Input resistance is standard 11 megohms. Width 5", Height 7", Depth 4", Weight 5 lbs.

\$29.95* WV-77E(K) VoltOhmyst Kit
\$49.95* WV-77E VoltOhmyst (Factory-Wired)

**User Price (Optional)*

(Prices for WV-77E(K) and WV-77E include dc probe and cable, ac ohms probe and cable, ground lead and clip, and instruction booklet. Assembly instruction sheet is provided with the WV-77E(K) VoltOhmyst Kit.)

- NEW—sleeve on handle stores probes and cables
- NEW—fuse in ohms circuit prevents accidental burnout
- NEW—circuit minimizes effect of residual gas in bridge tube
- NEW—color-coded scales for easier, faster readings
- NEW—ultra-slim probes and extra-flexible cables

WV-38A(K) VOM KIT and WV-38A
VOLT-OHM-MILLIAMMETER

Never so many valuable features packed into a VOM!

Ohms-divider network fuse-protected. Easier-to-read scales on extra-large $5\frac{1}{4}$ inch meter. Polarity reversal switch. Improved frequency response. Full-wave bridge rectifier. Less circuit loading. Standard dbm ranges. PLUS—modern styling!

Look at these exclusive features you get with the RCA WV-38A!

EXCLUSIVE—extra 1-volt and 0.25-volt (250 mv) ranges permit wide applications in transistor servicing!

EXCLUSIVE—new handle clips accommodate probes and test leads for extra carrying convenience.

PLUS—the WV-38A(K) VOM KIT is extremely easy to assemble! Just mount six components on the front panel, mount all other components on one side of laminated circuit board, put the panel and circuit board together, and slip on the knobs! When properly assembled, the WV-38A(K) incorporates RCA's high standards of excellence in quality, accuracy and performance!

The WV-38A VOM has an input resistance of 20,000 ohms-per-volt on dc and 5,000 ohms-per-volt on ac and an accuracy of $\pm 3\%$ of full scale on dc, $\pm 5\%$ of full scale on ac. Regular scales: 2.5, 10, 50, 250, 1000, 5000 volts, ac and dc; 50 μ amp, 1, 10, 100, 500 ma, 10 amps (dc); plus extra scales of 250 mv and 1-volt (dc)! Frequency response (ac), flat from 10 cps to 50 Kc with usable response at 500 Kc. Ohms—3 ranges—R \times 1 (0-2,000 ohms), R \times 100 (0-200,000 ohms), R \times 10,000 (0-20,000,000 ohms). Dimensions: W 5" \times H 6 $\frac{1}{2}$ " \times D 3 $\frac{1}{2}$ ".



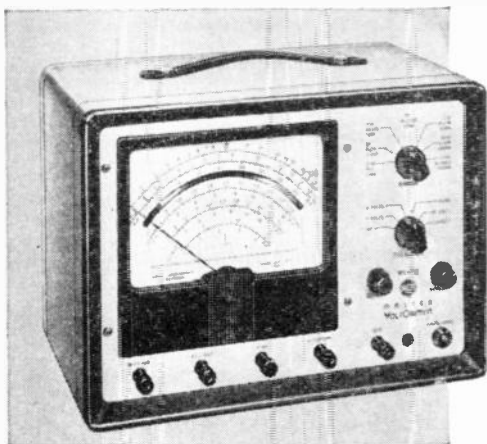
\$31.95* WV-38A(K) VOM Kit

\$43.95* WV-38A Volt-Ohm-Milliammeter

(Prices for the WV-38A(K) and WV-38A include internal batteries, ground lead and clip, positive probe and slip-on alligator clip, and instruction booklet. Assembly instruction sheet is provided with the WV-38A(K) Volt-Ohm-Milliammeter Kit.)

RCA TEST EQUIPMENT
FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

WV-87B
MASTER VoltOhmyst®



\$137.50* complete with probes and cables, including WG-299C DC/AC-Ohms Probe and Cable, current cable, ground cable insulator, instruction booklet.

**User Price (Optional)*

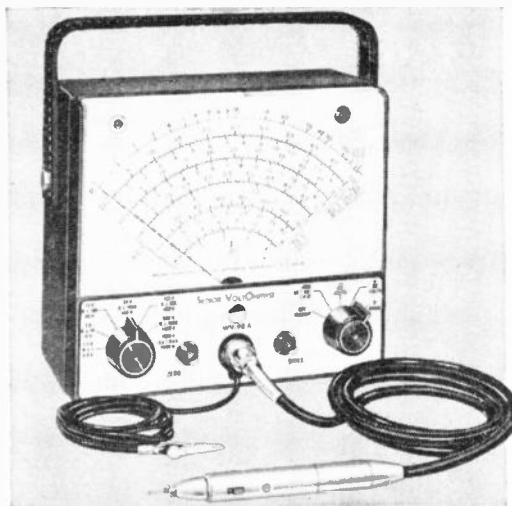
Application: measures dc voltages accurately in high-impedance circuits even with ac present; reads rms values of sine waves and the peak-to-peak value of complex waves or recurrent pulses even in presence of dc. Invaluable for television, radar and other types of pulse work. Has the accuracy and stability necessary for many laboratory applications including a mirror scale. Its large, easy-to-read meter also makes it especially desirable as a permanently mounted instrument in the factory and repair shop.

- $\pm 3\%$ accuracy on ac and dc volts.
- Measures resistance from 0.1 ohm to 1000 megohms, current from 10 microamperes to 15 amperes.
- Features $\pm 1\%$ multiplier and shunt resistors.
- Zero-center scale adjustment for discriminator alignment.
- Sensitivity on 1.5 v range — 7.3 megohm/volt.
- DC polarity reversing switch.
- Measures dc Voltage from 0-1500 volts; ac from 0-1500 volts rms; 4200 volts peak-to-peak.
- Frequency Response — 30 cps to 250 Mc using auxiliary WG-301A Crystal-Diode Probe.

WV-98A
SENIOR VoltOhmyst®

Application: provides direct reading of peak-to-peak voltages of complex waveforms found in video, sync and deflection circuits. Includes an improved circuit providing 3% accuracy full scale on both ac and dc measurements with better than 1% tracking error. Separate color-coded, peak-to-peak and rms-voltage scales in two distinctive colors simplify readings. Features die-cast aluminum case; high input resistance; electronic protection against burnout; rugged 200-microampere meter movement; and precision multiplier resistors with accuracy of $\pm 1\%$.

- Large $6\frac{1}{2}$ " easy-to-read, full vision meter (26 sq. in.).
- Measures complex waveforms directly from 0.2 volt to 4200 volts peak-to-peak in 7 overlapping ranges.
- Measures rms values of sine waves from 0.1 volt to 1500 volts in 7 overlapping ranges.
- Measures from 0.02 volt to 1500 volts dc on two scales in 7 overlapping "3-to-1" ranges.
- INPUT RESISTANCE — 11 megohms on all dc ranges.
- Measures resistance from 0.2 ohms to 1000 megohms on single scale, with 7 overlapping ranges.
- FREQUENCY RESPONSE — 30 cps to 250 Mc with WG-301A Crystal-Diode Accessory Probe.
- Compact design: 7" wide, $3\frac{3}{4}$ " deep, $6\frac{1}{2}$ " high.

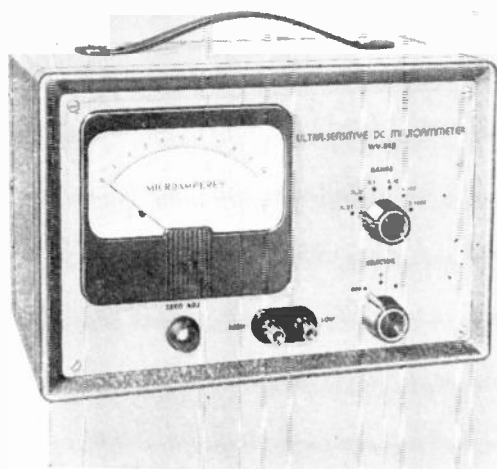


\$79.50* complete with WG-299B DC/AC-Ohms Probe and Cable, ground cable, alligator clip, insulator clip, instruction booklet.

**User Price (Optional)*

RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES



\$110.00* includes 50- and 950-megohm multiplier resistors, instruction booklet.
(less batteries)

**User Price (Optional)*

WV-84B

ULTRA-SENSITIVE DC MICROAMMETER

Application: a battery-operated vacuum tube microammeter designed for measuring minute direct currents, for making current and voltage measurements in electrolysis and corrosion investigations, and for checking currents in light meters, ultra-violet and infrared detectors, and spectrophotometric devices. Self-contained batteries permit use almost anywhere. Low-drain tubes extend battery life and protect the delicate meter against burnout due to accidental overloads. When used as a voltmeter, it is especially suited to measurements in circuits where loading is a critical factor. Can also be used as an ohmmeter to measure extremely high resistances, such as leakage and insulation resistance.

- Six direct-current ranges for measuring currents from 0.0002 to 1000 microamperes.
- Can be used as ohmmeter to measure resistance in the order of billions of ohms.
- Voltage drop for full-scale deflection only 0.5 volts.
- Input resistance of 100 megohms for measurement of voltages from 0.1 to 1 volt; 1000 megohms input resistance for voltages from 1 to 10 volts, 1005 megohms for voltages from 1 to 100 volts.
- Over-all microammeter accuracy on .01 range $\pm 5\%$ or better; accuracy on all other ranges $\pm 4\%$ or better.
- Size: 7½" x 10½" x 6¼". Weight: 10 lbs. including batteries.

WA-44B

AUDIO SIGNAL GENERATOR

Application: for use in measuring: inter-modulation distortion in amplifiers; amplifier frequency response; frequency response of tone controls; frequency response of phonograph equalizers; input and output impedances of amplifiers; resonant frequency of loudspeakers; and speed of recorder/reproducer mechanisms. Continuously tunable from 11 cps to 100 Kc. Equally useful for: tuning bass-reflex enclosures; determining unknown audio frequencies; determining resonant frequency of LC circuits.

- RC-type oscillator has wide frequency-range — facilitates checking of hi-fi amplifiers.
- Delayed agc circuit insures output uniform with ± 1 db over entire frequency range from 11 cps to 100 Kc. (reference frequency of 100 cps).
- Frequency stability of $\pm 3\%$ or better.
- Separate high and low output terminals 15 V rms max., or 2.5 V rms max.
- Hum level 0.1% of maximum output.
- Voltage regulated oscillator power supply.
- Total harmonic distortion 2% or less from 30 cps to 15 Kc.
- Can be used with high 100,000 or low 1500 ohm impedance circuits.
- Size: 7" x 10½" x 6".
Weight: 10 lbs.

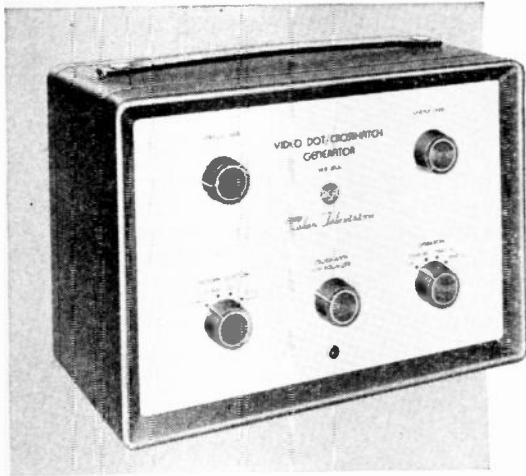


\$107.50* complete with cable, instruction booklet.

**User Price (Optional)*

RCA TEST EQUIPMENT
FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

WR-46A
VIDEO DOT/
CROSSHATCH GENERATOR



\$179.50* complete with output cable, sync pickup lead, ground lead and instruction booklet.

**User Price (Optional)*

Application: for installing and servicing color TV receivers, the WR-46A is designed for use in dc and dynamic convergence adjustments in color sets and "V" and "H" linearity adjustments in both color and black-and-white TV receivers. Permits simultaneous display of pattern with broadcasting picture in background to assure that convergence adjustments are made at correct horizontal and vertical scanning rates. Vertical sync is frequency divided from horizontal sync, resulting in interlaced scanning and exceptional freedom from "jitter," "crawl" and "sync hunting."

- High level video output continuously adjustable 0-50v—drives picture tube directly.
- Solid pattern — free of crawl and jitter.
- Furnishes dots, "V" and "H" bars, and crosshatch patterns.
- Equalizer control for "V" and "H" bar brightness.
- Output polarity-reversal switch.
- All output cables are dc isolated.
- Size: 10" x 13½" x 8".
Weight: 17 lbs.

WR-49B RF SIGNAL GENERATOR

Application: for alignment and signal tracing of AM and FM radio receivers, alignment of low-frequency if amplifiers in TV receivers, and signal tracing and troubleshooting in TV receivers. Continuously tunable from 85 Kc to 30 Mc. With the WR-49A you can inject rf signals into plate circuits and other points where dc is present without placing a dc load on circuit under test . . . with protection from burnout in both equipment and signal generator.

- Cathode-follower output stage isolates oscillator from effects of load reactance and resistance, thereby maintaining good output waveform, voltage regulation and frequency stability of the oscillator.
- Functional-design dial facilitates accurate, easy readings.
- Full-length shielding of output cable minimizes radiation and hum pickup.
- Built-in dc blocking capacitors.
- Built-in 400 cycle oscillator for internal or external use.
- Range: 85 Kc to 30 Mc in 6 ranges.
- Maximum output at "hi" connector — .05 volts; at "lo" connector — .01 volts rms.
- Calibration accuracy of Dial — $\pm 1\%$.
- Attenuation range — 65 db.
- Percentage of modulation — adjustable to 70%.
- External modulation input available.
- Weight: 8 lbs. Size: 7½" x 10½" x 6".



\$79.50* complete with shielded cable for rf or af output, instruction booklet.

**User Price (Optional)*

RCA TEST EQUIPMENT

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\$259.50* includes rf and video output cables, TV-input adapter, instruction booklet.

**User Price (Optional)*

WR-61B COLOR-BAR GENERATOR

Application: for checking overall operation of color TV receivers and for adjusting and trouble-shooting color phasing and matrixing circuits. The WR-61B generates the signals for producing 10 bars of different colors simultaneously, including bars corresponding to the R-Y, B-Y, G-Y, I, and Q signals. The output signal consists of a picture carrier, color subcarrier, sync pulses, and an unmodulated sound carrier. All frequencies crystal controlled for inherent accuracy and stability. Sound carrier can be switched off to check for sound interference. 189-Kc pedestals, adjustable in amplitude, provide luminance-channel information. Luminance signals provided at edge of color bars for checking luminance and chrominance registration.

- Amplitude of color subcarrier and color-burst signal adjustable for checking color sync-lock action of set.
- Both rf and video output available — video output has both "+" and "-" polarity.
- Maximum rf output at least 0.01 volt peak-to-peak; maximum video output at least 0.25 volt peak-to-peak across 75 ohms, 8 volts peak-to-peak of Hi video output.
- Size: 10" x 13½" x 7½".
Shipping weight: 17 lbs.

WR-86A UHF SWEEP GENERATOR

Application: for UHF TV applications from 300 to 950 Mc—combines a wide sweep range with a high output voltage of excellent amplitude linearity. A blanking circuit is included to provide a reference base line on an oscilloscope. Horizontal sweep frequency for the 'scope can be obtained from front panel terminals. The WR-86A has 50-ohm output and will work into a 50-ohm unbalanced load or, with the WG-296 padded balun provided, into a 300-ohm balanced load. Use accessory WG-298A UHF Demodulator for visual observation and measurement of standing-wave ratio of termination on 300-ohm line.

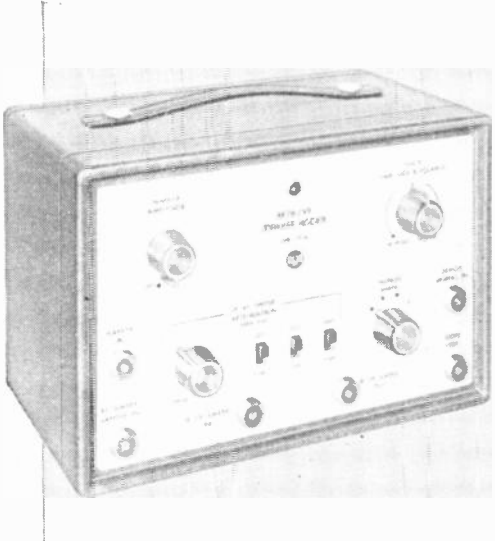
- Output frequency continuously variable on center frequencies of 300 to 950 Mc.
- Sweep width is 10% of indicated dial frequency up to 750 Mc; 75 Mc width from 750 to 950 Mc.
- Adjustable piston-type attenuator gives 60 db range of attenuation.
- A sinusoidal sweep output is provided for an oscilloscope with 150 degrees of phase adjustment.
- At least 0.6 volt output across either 50 ohms or 300 ohms.
- Amplitude variation at maximum sweep width no greater than 0.1 db/Mc.
- Lightweight and portable, attractively styled.
- Weight: 15 lbs.
- Size: 13½" x 9¾" x 7½".



\$137.50* complete with WG-227 RF Output Cable, WG-296 50-to-300 ohm padded balun, instruction booklet.

**User Price (Optional)*

RCA TEST EQUIPMENT
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\$97.50* complete with four coaxial cables and instruction booklet.

**User Price (Optional)*

WR-70A RF/IF/VF MARKER ADDER

Application: for rf, if and video sweep alignment of both color and black-and-white TV receivers. Provides sharp, easy-to-read markers for alignment. A choice of four different marker shapes is available, permitting use of marker type best suited to the response curve. Designed for use with conventional marker and sweep generators, such as the RCA WR-39 and WR-89 series marker generators and the WR-59 and WR-69 series TV sweep generators. With the WR-70A, the marker signal is added to the sweep-response curve after the sweep signal is taken out of the receiver under test.

- Eliminates or reduces distortion of sweep curve by the marker.
- Permits trap alignment without marker "suckout."
- Hi-Q markers—high in amplitude, narrow in width.
- Four marker choices—positive peak, negative peak, positive and negative peaks (wide band), positive and negative peaks (narrow band).
- Voltage stabilized for rock-steady trace display.

SPECIFICATIONS

IF/VF sweep input — 50 Kc to 50 Mc. RF input — 50 Mc to 250 Mc.
MINIMUM INPUT VOLTAGES — IF, VF — 0.1 volts rms. RF Sweep sample input — 0.005 volts rms. Marker input — 0.1 volts rms. Maximum demodulator signal input — 8 volts peak-to-peak.
MAXIMUM SIGNAL OUTPUT — Marker signal — 2.5 volts rms. Demodulator signal — 10 volts peak-to-peak.
 Input and output impedances all 100 ohms except demodulator signal input of 0.5 megohm.
 Weight: 8 lbs. Size: 7½" x 10½" x 6¼".

WR-99A
CRYSTAL-CALIBRATED
MARKER GENERATOR

Application: supplies a fundamental frequency rf carrier of crystal accuracy for use in aligning and troubleshooting TV (color and black-and-white) and FM receivers, and other electronic equipment operating in the range of 19 to 260 Mc. Built-in crystal calibrator, heterodyne detector, amplifier and speaker provides calibrating beats at 1 Mc or 10 Mc intervals throughout entire tuning range which is covered by 8 bands. A built-in 4.5 Mc crystal provides necessary accuracy for alignment of intercarrier-if amplifiers and discriminators.

- At least 0.1 volt output, into 95 ohms terminated.
- Provides signals for adjusting vertical or horizontal linearity.
- Precision matched impedance/resistance pad attenuator, 0-60 db in 5 db steps.
- Special modulation input available for re-transmission.
- Provision for use as Heterodyne Frequency Meter.
- Provides dual markers for band-width checks and rf alignment.
- Triple markers for sound-if alignment and band-width checks.
- Adjustable dial pointer for accurate registration with crystal-calibration check points.



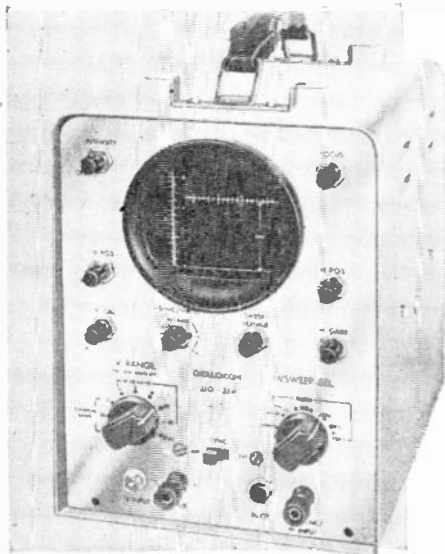
\$242.50* complete with rf output cable, instruction booklet.

**User Price (Optional)*

RCA TEST EQUIPMENT

FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

WO-33A(K) OSCILLOSCOPE KIT and WO-33A OSCILLOSCOPE



\$79.95*—WO-33A(K) Oscilloscope Kit
\$129.95*—WO-33A Oscilloscope

(Prices for the WO-33A(K) and WO-33A include Direct/Lo-Cap probe and cable, and instruction booklet. Assembly instruction sheet is provided with the WO-33A(K) 3-inch Oscilloscope Kit.)

*User Price (Optional)

Higher gain and wider bandwidth for greater value! When you buy a scope—whether in kit form or factory-wired and calibrated—the WO-33A is the scope for you! The WO-33A will give you what you need in gain, bandwidth, transient response, accuracy, versatility, portability—and you can take it with you on the job—anywhere! The WO-33A 3-inch Oscilloscope is the “all purpose” scope! All the bandwidth you need for servicing color-TV, video broadcast monitors and cameras; and for square-wave testing of audio and ultrasonic equipment! All the gain you need for low-level audio work—servicing pickups, microphones, preamps; plus signal-tracing radios, amplifiers—trouble shooting communications signaling systems, ham radio and hi-fi equipment, industrial electronics machinery and many other applications.

With vertical amplifier in narrow-band position, sensitivity is 3 rms millivolts/inch; bandwidth within -3 db, 20 cps to 150 Kc. Wide band position: sensitivity 100 rms millivolts/inch; bandwidth within -3 db, 5.5 cps to 5.5 Mc. Sweep circuit: Sawtooth range from 15 cps to 75 Kc; sync — external, \pm internal; line sweep — 160° adjustable phase; sync range—to 4.5 Mc.

- for accuracy—voltage-calibrated frequency-compensated, 3-to-1 step attenuator
- for measurements—scaled graph screen and calibrating voltage source allows direct reading of peak-to-peak voltages
- for stability—“plus-minus” internal sync... holds sync to 4.5 Mc
- for completeness—shielded input cable with low-capacitance probe included
- for portability—compact size—W $6\frac{1}{2}$ " x H $8\frac{3}{4}$ " x D $10\frac{1}{4}$ "—weight only 14 lbs. Plus built-in brackets to hold power cord and cables

Application: for production and servicing both black-and-white and color TV receivers. Used to measure color burst signals and for trouble-shooting wide-band color circuits, signal tracing and aligning wide-band video amplifiers, and chrominance circuits. A multi-scale graph screen makes peak-to-peak voltage measurements as simple as with a VTVM. Response: Wide-band within 3 db from 10 cps to 4.5 Mc; High sensitivity within -1 db from 3 cps to 0.5 Mc; within -6 db to 1.5 Mc. Sensitivity: .05 volt peak-to-peak per inch (0.018 volts rms) in high-sensitivity position; 0.15 volt peak-to-peak per inch (0.053 volts rms in wide-band position).

- Voltage-calibrated, frequency-compensated, 3-to-1 step attenuator for “V” amplifier.
- Shielded vertical-input connector and shielded cable minimize hum, stray field pickup.
- Input Resistance — 1 megohm shunted by $40 \mu\text{f}$. Lo capacitance position—10 megohm shunted by $12.5 \mu\text{f}$.
- Z-Axis input 12 volts for blanking.
- Preset “V” and “H” sweep positions.
- “Plus” or “Minus” internal-sync selector.
- Positive-lock internal sync.
- Sweep Frequency: 10 cps to 100 Kc.
- Maximum ac Input: 600 volts peak-to-peak.
- Weight: 30 lbs. Size: $13\frac{1}{2}$ " x $16\frac{1}{2}$ " x 9".

WO-91A-5" OSCILLOSCOPE



\$239.50* complete with WG-300B two-way Direct/Low-Capacitance Probe and Cable, alligator clip and insulator, ground cable, green graph screen. Instruction booklet.

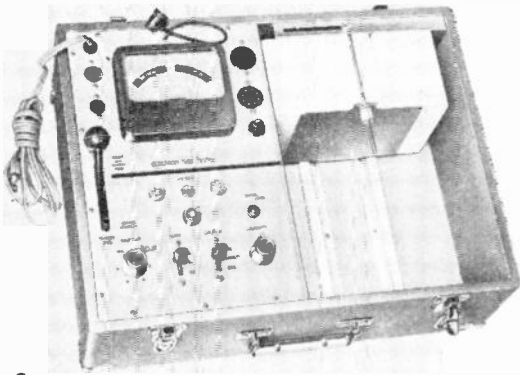
*User Price (Optional)

RCA TEST EQUIPMENT
FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

WT-110A

Automatic

ELECTRON-TUBE TESTER



A new approach in fast, accurate tube testing, the WT-110 *Automatic* Electron-Tube Tester utilizes punched cards of heavy-duty plastic for automatic internal set-up of pin connections and test voltages. Complete transconductance test-set-up takes only seconds; cards are permanently hinged in case for convenient insertion into test slot. The WT-110A tests for gas, shorts, interelectrode leakage and over-all tube quality. Quality of tube indicated on "Renew—?—Good" meter scale. Tests 7-pin, 9-pin, octal, and loctal types. Simplified, automatic design speeds testing of diodes, triodes, and other multi-element tubes, as well as double- and triple section tubes having similar or dissimilar sections. Designed especially for TV and general electron-tube service testing, the WT-110A punch-card system provides for flexibility and easy addition of cards for new tube types. Width 17¼", Height 6½", Depth 13¼".

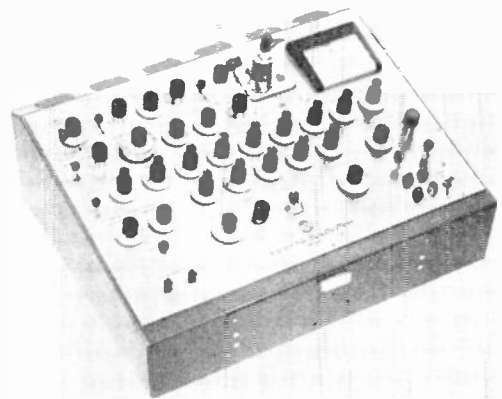
\$199.50 complete with 1 set of 239 punched cards, 1 master punch-card, test card, plus 24 additional punched cards, 24 unpunched cards, a card punch and instruction booklets covering card-punching and operation of the tester.

**User Price (Optional)*

WT-100A

Electron-Tube MicroMhoMeter

A precision laboratory measuring instrument which tests tubes under typical operating conditions as specified in the tube manufacturers' technical data manuals. It is particularly useful in production line testing, design and development work, pre-selecting for critical applications, quality control programs, and preventive maintenance. MEASUREMENTS PERFORMED: ac heater current from 0.02 ampere to 5 amperes • dc filament current up to 250 ma • voltage drop across rectifier tubes and semiconductor diodes • transconductance from 10 micromhos to 100,000 micromhos. Within the range of its facilities it will test: vacuum tubes—diodes, triodes, tetrodes, pentodes, heptodes, septodes, octodes, and multi-unit types; gas tubes—thyratrons, voltage regulators, cold-cathode and hot cathode rectifiers; in these bases and envelopes—bases with 4, 5, and 6 pins, lock-in, miniature, sub-miniature, pencil and lighthouse; and semi-conductor diodes—small dry-disc rectifiers, germanium and silicon diode types. Size: W 23½" x H 8" x D 18½". Weight: 50 lbs.



- measures transconductance to an accuracy of better than $\pm 3\%$
- accurate measurement of "hybrid" auto receiver tube types under actual operating conditions
- built-in shorts test for any combination of tube elements
- measures transconductance up to 100,000 micromhos in six ranges
- measures both control-grid-to-plate and suppressor-grid-to-plate transconductance
- built-in calibrating circuit—no null meters or extra devices required
- meter completely burnout-proof
- regulated power supplies for dc plate and screen test voltages

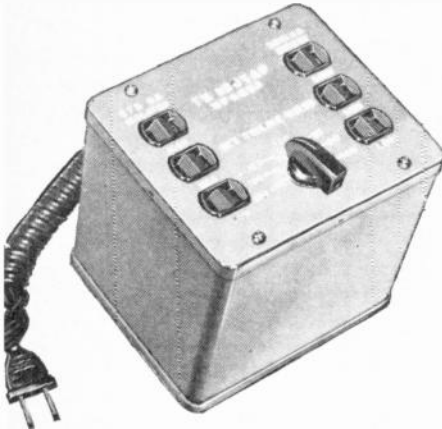
\$1,075.00* Electron-Tube MicroMhoMeter

(complete with 4 multiple-socket plug-in units, instruction booklet, and tube data chart)

** User Price (Optional)*

RCA TEST EQUIPMENT
FOR SERVICE, INDUSTRY, SCHOOLS, LABORATORIES

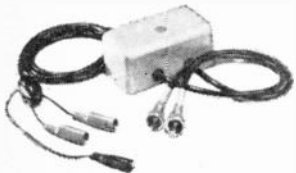
**WP-25A
TV ISOTAP**



Speeds up servicing, prevents damage to test equipment, minimizes shock hazards, cuts down costly returns. The WP-25A may be used as a high-medium-low voltage isolation transformer or as an auto-transformer for testing TV receivers at various settings of line voltage. Supplies outputs of 130, 115 and 105 volts at maximum load

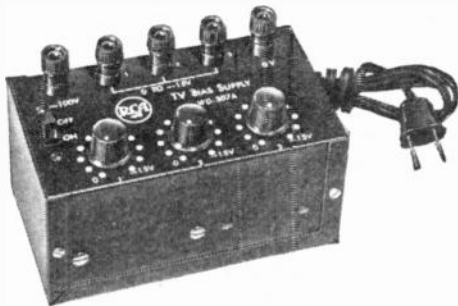
and is tapped to match line voltages from 105 to 130 volts in six steps **\$22.00***

**WG-304B
RF MODULATOR**



An accessory used to check the over-all frequency response of TV receivers from antenna to picture tube grid. The unit permits modulation of an rf marker signal from a marker generator (such as WR-89A or WR-99A) by a signal from a video sweep generator (such as WR-59C or WR-69A).

\$28.50*

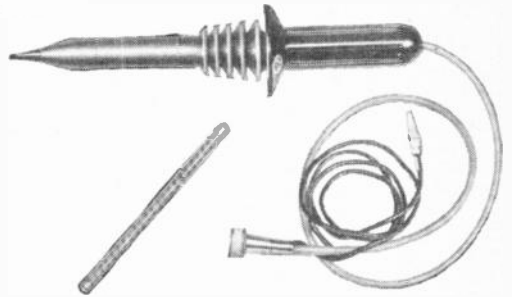


WG-307A TV BIAS SUPPLY

Three fully adjustable 0 to 15V negative, plus a negative 100V nominal for biasing the burst keyer. Size: 2½" x 3" x 5¼"; weight: 22 ounces. **\$22.50***

WG-306B VIDEO-TEST ADAPTER

Designed to simplify trouble-shooting in the video stages of color TV receivers, making it possible to inject video signals from the WR-36A directly into the grid circuit of the video amplifier stages. Designed for use in all sets using either 6CL6 or 12BY7-A tubes in video amplifier stages. **\$4.50***



**WG-289, WG-297
HIGH-VOLTAGE PROBES**

The WG-289 extends the dc-voltage range of the WV-77A, WV-77B, WV-77C, WV-87A, WV-87B, WV-97A, and WV-98A VoltOhmysts to 50,000 volts. The WG-297 extends the range of the WV-77E VoltOhmyst® and the WV-77E(K) VoltOhmyst Kit to 50,000 volts dc. The WG-289 is provided with a microphone-type connector, and the WG-297 is provided with banana-plugs for use with appropriate VoltOhmysts and other VTVM's, VOM's.

A choice of three multiplier resistors is available, enabling these probes to be used with many popular electronic and non-electronic volt-ohm-meters!

WG-206—1090-megohm multiplier resistor for VTVM's having 11-megohm input (multiplying factor 100).

WG-210—900-megohm resistor multiplies 5000-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 10.

WG-211—495-megohm resistor multiplies 250-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 100.

WG-289 or WG-297, Probe Only **\$7.15***

WG-206, WG-210, or WG-211, Multiplier Resistor Only **\$2.80***

*User Price (Optional)



WG-295B VIDEO MULTIMARKER

Provides seven simultaneous absorption-type markers at accurately preset frequencies for marking video response curves in color receivers. Markers are at 0.5 Mc (for Q, R-Y, B-Y, G-Y filters), 1.5 Mc (for I filter), 2.5 Mc (for bandpass filter), 3.58 Mc (color subcarrier frequency), 3 and 4.1 Mc (video and bandpass amplifiers), and 4.5 Mc (sound-trap frequency). Each marker is identified simply by touching a corresponding contact on the WG-295B case. This reduces the amplitude of the particular marker. The WG-295B connects between the IF/VF output on the sweep generator and the video output cable. Equipped with shorting switch. With instruction booklet **\$32.50***

*User Price (Optional)

RCA TEST EQUIPMENT ACCESSORIES

WG-218 DIRECT PROBE AND CABLE



With microphone-type connector, for oscilloscopes and VoltOhmysts®. **\$3.75***

WG-299C DC/AC OHMS PROBE AND CABLE



The WG-299C is a single-unit probe for use with VoltOhmysts®. Switch provides instant selection of dc or ac/ohms operation. The WG-299C replaces both the WG-299A & WG-299B **\$8.75***

WG-222 DC/DIRECT PROBE



"Slip-on" type with built-in 1-megohm isolating resistor and a unique switching facility, making it possible to measure dc or resistance without changing probes. The WG-222 slips on the front of the WG-218 or WG-220 **\$3.50***

WG-300B DIRECT/LOW CAPACITANCE PROBE AND CABLE



Designed for use with the RCA WO-91A, WO-88A and WO-78B 'Scopes. Cable is 48" long, completely shielded from microphone connector to probe tip to minimize hum and stray field pick-up. Built-in switch provides instant selection of direct or low-capacitance operation. Input characteristics: 10 megohms resistance, less than 12.5 μmf capacitance in low capacitance position. Includes ground lead and clip. **\$14.25***

WG-220 DIRECT PROBE AND CABLE



A shielded input cable for use with voltmeters and oscilloscopes. It is fitted with a probe tip at one end and a microphone-type connector at the other. WG-220 is the same electrically as the WG-218, but is fitted with pin-plug tips. **\$3.75*** (WG-218 or WG-220).

WG-264 CRYSTAL-DIODE PROBE



Consists of a germanium diode rectifier and RC network in a plastic housing. It conveniently slips on the direct probe of VoltOhmysts,® such as the WV-97A. RF voltages at frequencies up to 250 Mc may be accurately measured with the WG-264. The ac voltage range extends from 20 millivolts to 20 volts rms; dc voltages up to 250 volts can be present **\$7.75***

WG-302A RF/IF/VF SIGNAL TRACING PROBE



"Slip-on" type high-frequency probe designed for use with the WG-300A and B probe and cable to permit visual signal tracing for rapid isolation of trouble in radio receivers and in television if and video stages. **\$8.50***

WG-291 DEMODULATOR PROBE



Has an input range of 500 Kc to 250 Mc with input capacitance of only 2.25 μmf . It separates the modulation from the rf carrier in an amplitude-modulated wave by means of a rectifier and a filter having a short time constant and an output frequency range of 30 to 500 cps. The WG-291 has a maximum input voltage of 20 rms volts and a maximum dc voltage rating of 250 volts. **\$7.95***

WG-301A CRYSTAL-DIODE PROBE



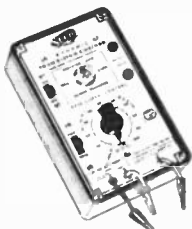
"Slip-on" type for use with the WG-299A, B or C DC/AC Ohms Probe and Cable extending the frequency range of VoltOhmysts® to 250 Mc. **\$7.75***
*User Price (Optional)



TEST EQUIPMENT

DYNAMIC TRANSISTOR CHECKER

Based on entirely new and proved principle of operation. New low-cost checker safely and automatically tests PNP and NPN transistors either "in or out" of circuit. Covers wide range of types: small signal including "drift" types; medium power, and power types. Provides positive check for "opens," shorts, and gain — indicates results by means of a simple visual signal. Also provides GO—NO GO test at practical collector currents — and permits matching of similar transistor types. Transistors under test may be easily plugged into unit or "clipped" into circuit with external leads. No set-up required — existing dynamic distribution of leakage is taken into account in testing — no further leakage tests necessary. Size: 2 1/4" deep x 3 1/4" wide x 6 1/4" high. Shipping weight: 1 1/2 lbs.

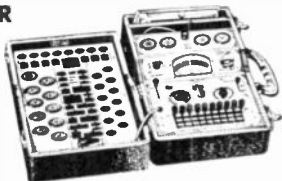


MODEL 100

MODEL 100.....\$19.95 NET

COMPLETE TUBE TESTER

Three complete tests in one compact, portable instrument! Dynamic mutual conductance test on voltage amplifiers such as RF and IF types on a pre-wired chassis — Cathode emission test for all tubes by free point selector system — Good-Bad meter indicates merit. Electron eye indicator for the GRID CIRCUIT TEST developed and patented by SECO. Ideal tester for Radio-TV, Industrial and Foreign tube types. Saves valuable time — quickly pays for itself. 12AU7 Cascade Amplifier; 6AF6G Electron-Eye Indicator; 3" meter. Size: 13 1/2" long x 9" high x 6 1/2" wide. Shipping weight: 14 1/2 lbs. Complete in compact portable carrying case with handy flip-chart for fast, easy tube set-up data. 105-115V AC 60 cycle operation.



MODEL 107

MODEL 107.....\$139.50 NET

GRID CIRCUIT AND TUBE MERIT TESTER

Brand new — compact, low-cost tester that's fast and extremely easy to use. Five sockets offer complete TV tube type coverage as well as all modern heater type radio tubes including hybrid types. Incorporates patented Seco Grid Circuit Test plus other selected leakage tests — also checks filament continuity and provides open element test. One easy-to-read meter indicates results for both Grid Circuit and Tube Merit Tests. Two-stage DC amplifier isolates meter from tube under test to protect meter — and makes it possible to achieve a wide range of load currents and test conditions. Size: 9" wide x 10 1/2" high x 5" deep. Shipping weight: 6 lbs. For 110 to 120V 60 cycle operation. Complete with portable carrying case, pin straighteners, and flip-chart for quick set-up data.



MODEL 78

MODEL 78.....\$69.50 NET

GRID CIRCUIT TUBE TESTER (U.S. Pat. No. 2,784,372)

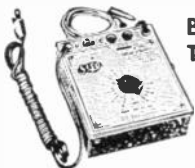
MODEL GCT-8

Here's the perfect companion to any tube tester! Quickly spots grid errors and leakage — checks critical "control grid" condition of vacuum tubes faster, more accurately than any other tester! As many as eleven simultaneous checks — automatically. Eliminates guessing, substitution checking and costly call-backs. 12AU7 Cascade Amplifier; 6AF6G Electron-Eye Indicator; Filament Selector Switch for 2V through 12V tubes; 10 pre-wired sockets and one spare socket for popular tube types. Size: 6 1/2" wide x 2 1/2" deep x 6 1/2" high. Shipping weight: 4 lbs. Truly portable — may be stored and carried anywhere. For 105-115V AC. Easy-to-assemble kit or factory wired and tested.



MODEL GCT-8 Kit.....\$19.95 NET
MODEL GCT-8 Wired and tested.....29.95 NET

BATTERY ELIMINATOR FOR TRANSISTOR EQUIPMENT



MODEL PS-2

Replaces battery normally used to operate and service portable radios and other low-power transistorized equipment. Speeds up servicing — quickly pays for itself in time savings alone! Supplies clean, filtered DC — can't be damaged by a short circuit. Voltage may be varied from 0 to 15 volts for

checks on sensitivity and operation under virtually all conditions. Output is sufficient for checking transistor receivers up to 22 1/2V. Output supply continuously variable and isolated from power line by transformer. Substitution of PS-2 in circuit quickly spots faulty batteries. Voltage scale calibrated at 15 ma. — maximum output is 100 ma. Size: 4 1/2" wide x 5" long x 1 1/2" deep. Shipping weight: 1 1/2 lbs. Complete with plug-in jacks for external voltmeter, 40" leads and insulated clips. Excellent for shop or lab — ideal for technicians or hobbyists.

MODEL PS-2.....\$13.95 NET

VACUUM TUBE VOLTMETER



MODEL 208

Practically "foolproof" — loaded with features! Large, easy-to-read 4 1/2", 200 ma. meter provides 7 AC, 7 DC, and 7 ordinary Ohm ranges — plus special RETMA (EIA) Ohm scale to check standard resistors and tolerance limits. Specially designed "shift-lever" function switch identifies and connects proper probe — isolates probe not in use. Line voltage check is independent of VTVM bridge circuit — ON-OFF switch shunts meter in OFF position. All-metal shielded case permits use in

strong RF fields — accurate within 3% on all scales. Meter equipped with burn-out protective circuit. 12AU7 Twin Triode Meter bridge; 6AL5 Twin Diode Full Wave AC Rectifier. 105 to 125V 50-60 cycle AC operation. Size: 5 1/4" wide x 8 1/2" long x 3 1/2" high. Shipping weight: 5 lbs. Complete with bracket for wall mounting, leads and probes, extra jack for HV, and RF probe.

MODEL 208.....\$74.50 NET

FLYBACK CIRCUIT AND INDUCTANCE ANALYZER



MODEL FB-4

Troubleshoot TV Deflection Circuits fast — 100% accuracy! Simply connect on test lead to plate of horizontal output tube, ground the other — then without disconnecting anything, rotate control knob and Electron-Eye tube instantly tells you whether or not flyback transformer and yoke are all right. Resonant frequency and "Q" meter principle used for testing — will not be

obsoleted due to variable in engineering design of circuits to be checked. 12AU7 Variable Frequency Oscillator; 6C4 Cathode Follower and Output Equalizer; 6E5 Electron-Eye Indicator. Size: 7" wide x 5 1/2" deep x 5 1/4" high. Shipping weight: 5 lbs. Complete with self-contained power supply and matched 18" leads.

MODEL FB-4.....\$38.95 NET

IN-CIRCUIT CURRENT CHECKER



MODEL HC-6

New low-cost current checker provides a positive on-the-spot means of checking output cathode current — indicates whether or not TV horizontal circuitry is overloading output tube and associated components. Unit incorporates an appropriate range milliammeter with by-pass and two adaptors for all currently used horizontal output tubes — front panel lists tube types checked by each adaptor and typical cathode current specified by tube manufacturer. Place in circuit in seconds. No unsoldering or disturbing of circuit wiring. Complete and ready to use with two self-storing 8-pin socket adaptors and 24" cable leads. Meter jacks permit direct meter connection when desired. Shipping weight: approx. 1 lb. — for 115V 60 cycle AC operation.

MODEL HC-6.....\$12.95 NET

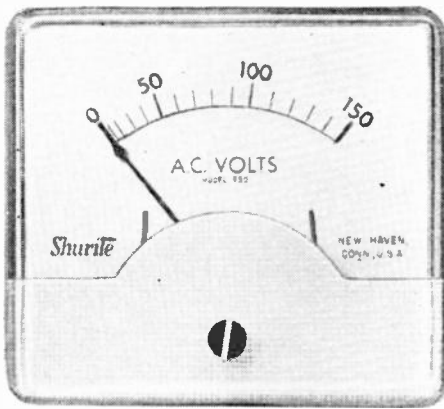


SECO MANUFACTURING CO.
MINNEAPOLIS • MINNESOTA

PANEL *Shurite* METERS

TYPICAL USES:

Popular for a wide variety of electrical and electronic uses such as plate current indicators in transmitters . . . "S" meters in receivers . . . battery chargers . . . battery eliminators . . . battery condition testers . . . fire or burglar alarm systems . . . basic meters in volt-ohm-milliammeters and kits . . . metal locators . . . transistor testers . . . antenna rotators . . . emergency lighting units . . . school and demonstration panels . . . voltage regulators . . . rectifiers . . . tuning circuits of stereo sets and tape recorders . . . line voltage reading in appliance servicing . . . soil moisture testers . . . detergent strength analyzers . . . plating apparatus . . . electric fence controllers . . . polarity indicators for metals analysis . . . and model train set-ups.



**MODEL 850 SERIES
ZERO-ADJUSTER OPTIONAL**

Shurite meters are attractive, rugged, dependable instruments with accuracy well within 5%, and have the ability to duplicate readings. DC meters are polarized-vane solenoid type, or moving-magnet construction when indicated; AC meters are double-vane repulsion type with jeweled bearing. The jewel construction costs more to build, but it pays off by providing continuing accuracy during a long useful life. All models fit $\frac{3}{32}$ " hole, and Model 850 also fits a smaller size down to $\frac{2}{64}$ ". All are guaranteed.

GUARANTEE: Meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 40¢ handling charge within one year after purchase.

ALL-METAL DIALS are moisture resistant, lithographed in black on white for high visibility.

STURDY DESIGN with husky new coil frames designed to prevent breakage, rigidly mounted in cases with a protective square head studs.

MODERN APPEARANCE with concealed coil and jewel mounted dial design enhances appearance and greatly increases readability.

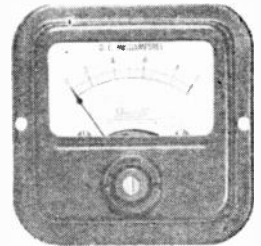
WIDE SELECTION Shurite offers the broadest line of standard meters in the economy-priced field. Distributors are backed by an extensive factory inventory.

CLEAR PLASTIC INSTRUMENTS

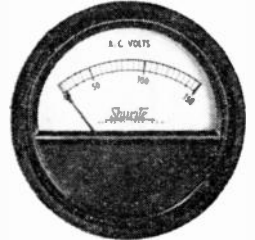
Now No. 1 in popularity, the 850 Series dresses up panels and retains the characteristically sturdy construction of Shurite. The snap-on front, of crystal polystyrene, $2\frac{1}{32}$ " wide x $2\frac{1}{16}$ " high, admits light from all sides and accentuates the appearance of the scale arc, which is the longest in its field. The case back with interior frosted finish is molded of the same material to provide weight reduction and superior insulation.

0-1 D.C. MILLIAMPERES

Sensitive-type meters such as stock Nos. 9300Z or 8300Z, 0-1 D.C. Ma. with approximately 1000 ohms internal resistance, and stock Nos. 9332Z and 8332Z, 0-3 D.C. Ma., 500 ohms internal resistance, are specified in many circuits. Volume production makes moderate prices possible.



**MODEL 950 SERIES
WITH ZERO-ADJUSTER**



MODEL 550 SERIES

DC MILLIAMMETERS

RANGE Ma.	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 850* Stock No.	Model 950* Net Each	Model 850* Net Each
0-1**	10	5300Z	9300Z	8300Z	\$3.50	\$3.70
0-3L**	30	5332Z	9332Z	8332Z	3.15	3.35
0-3	40	5301	9301		2.60	
0-5	30	5302	9302	8302	2.35	2.55
0-10	80	5303	9303	8303	2.20	2.40
0-15	45	5304	9304	8304	1.90	2.10
0-25	15	5305	9305	8305	2.85	2.05
0-50	4	5306	9306	8306	1.85	2.05
0-100	1.4	5307	9307	8307	1.85	2.05
0-150	40	5308	9308	8308	1.85	2.05
0-200	0.8	5309	9309	8309	1.85	2.05
0-300	1.0	5310	9310	8310	1.85	2.05
0-400	0.40	5311	9311	8311	1.85	2.05
0-500	0.30	5312	9312	8312	1.85	2.05

* For zero adjuster add 35c to price and Z to stock number.
** Sensitive type, note internal resistance. Moving-magnet construction patent pending. Price includes zero adjuster built-in.

DC AMMETERS

RANGE Amps	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 850* Stock No.	Model 950* Net Each	Model 850* Net Each
0-1	.10	5201	9201		\$1.85	
0-3	.02 Max	5202	9202	8202	1.85	\$2.05
0-5	.02 Max	5203	9203	8203	1.85	2.05
0-8	.02 Max	5204	9204		1.85	
0-10	.02 Max	5205	9205	8205	1.85	2.05
0-15	.02 Max	5206	9206	8206	1.85	2.05
0-25	.02 Max	5207	9207	8207	2.30	2.50
0-50	.02 Max	5208	9208	8208	2.50	2.70
3-0-3	.02 Max	5210	9210		2.05	
5-0-5	.022	5211	9211		2.05	
6-0-6	.02 Max	5212	9212		2.05	
10-0-10	.02 Max	5213	9213	8213	2.30	2.50
20-0-20	.02 Max	5214	9214	8214	2.35	2.55
30-0-30	.02 Max	5215	9215		2.50	
50-0-50	.02 Max	5216	9216		2.60	

* For zero adjuster add 35c to price and Z to stock number.

DC VOLTMETERS

RANGE	RESIST. Approx. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 850* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	10	5101	9101	\$1.85		
0-3	93	5102	9102	1.85	8102	\$2.05
3-0-3	250	5103	9103	1.95		
0-5	300	5104	9104	1.85	8104	2.05
0-6	390	5105	9105	1.85		
0-8	600	5106	9106	1.85	8106	2.05
0-10	880	5107	9107	1.85	8107	2.05
0-15	2370	5108	9108	1.85	8108	2.05
0-20	3500	5121	9121	1.90		
0-25	1240	5109	9109	2.15	8109	2.35
0-25H**	5800	5110	9110	2.75		
0-50	2540	5122	9122	2.30	8122	2.50
0-50H**	11800	5111	9111	2.95		
0-75	3740	5112	9112	2.30		
0-100	5140	5113	9113	2.30		
0-100H**	23600	5114	9114	3.00		
0-150	7540	5115	9115	2.35	8115	2.55
0-150H**	34800	5116	9116	3.10		
0-300H***†	74800	5117	9117	3.20		
0-500H***†	124800	5118	9118	3.45		
0-750H***†	184800	5119	9119	4.05		

* For zero adjuster add 35c to price and Z to stock number.
 ** H denotes high resistance.
 † Supplied with external resistors.

AC AMMETERS

RANGE	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
0-1	.42 Max	5501	9501	\$2.95		
0-3	.072 Max	5502	9502	2.95	8502	\$3.15
0-5	.041 Max	5503	9503	2.95	8503	3.15
0-10	.02 Max	5504	9504	2.95	8504	3.15
0-15	.02 Max	5508	9508	2.95	8508	3.15
0-30	.02 Max	5505	9505	3.20	8505	3.40
0-50	.02 Max	5506	9506	3.40	8506	3.60

NO ZERO ADJUSTER ON AC METERS; EXCEPT ON MODEL 850
 * For zero adjuster add 35c to price and Z to stock number.

AC VOLTMETERS

RANGE	RESIST. Approx. Ohms/Volt	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-4	11	5401	9401	\$3.00		
0-6	15.6	5402	9402	3.00		
0-10	27	5403	9403	3.00	8403	\$3.20
0-15	32.3	5404	9404	3.00		
0-25	53	5412	9412	3.00	8412	3.20
0-50	96	5405	9405	3.60	8405	3.80
0-150	100	5406	9406	3.60	8406	3.80
0-300**	100	5407	9407	4.25	8407	4.45
0-600**	100	5408	9408	4.65		
0-750**	100	5409	9409	5.25		

NO ZERO ADJUSTER ON AC METERS; EXCEPT ON MODEL 850
 * For zero adjuster add 35c to price and Z to stock number.
 ** Supplied with external resistors.

AC MILLIAMMETERS

RANGE	RESIST. Approx. Ohms	Model 550 Stock No.	Model 950 Stock No.	Model 950 Net Each	Model 850* Stock No.	Model 850* Net Each
0-10	4800	5607	9607	\$3.30		
0-25	750	5601	9601	3.00	8601	\$3.20
0-50	150	5602	9602	3.00	8602	3.20
0-100	37	5603	9603	3.00	8603	3.20
0-250	5.4	5604	9604	3.00	8604	3.20
0-500	1.34	5605	9605	3.00	8605	3.20

NO ZERO ADJUSTER ON AC METERS; EXCEPT ON MODEL 850
 * For zero adjuster add 35c to price and Z to stock number.

RESISTANCE METERS

RANGE	RESIST. Ohms	Model 550* Stock No.	Model 950* Stock No.	Model 950* Net Each	Model 850* Stock No.	Model 850* Net Each
10,000	4.5**	5701	9701	\$2.45	8701	\$2.65

* For zero adjuster add 35c to price and Z to stock number.
 ** Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.

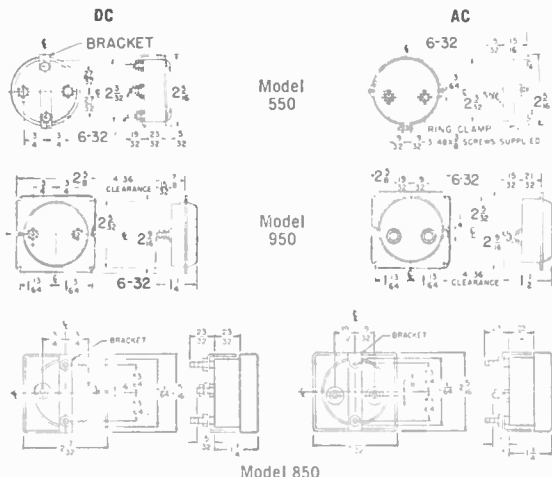
POCKET TYPE METERS



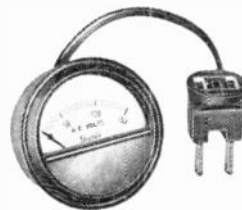
A typical pocket meter in bright-plated Model 450 case is this transistor battery meter, 0-7 DC volts. Please ask for Catalog 94 which includes Battery Testers (Pocket Type) which have stock numbers beginning with the digit 4.
Stock No. 4151, 0-7 DC volts, approx. resistance 670 ohms. (illustrated) \$2.30

3-HOLE MOUNTING ADAPTER

To adapt any Model 550 (round) meter for 3-hole flange mounting (former Model 650) attach this 2 3/4" flange from front of panel Model 5-A, standard black with hardware, each \$0.18



HANDY AC-DC LINE VOLTAGE TESTER



Stock 5406-LT—Here's how to use this highly popular line tester: push in the plug and read line voltage, then plug in the TV set, ironer, toaster, washer, air-conditioner, or other appliance and note the new reading. Find (and demonstrate) voltage drop or inadequate wiring as a major source of service problems with this compact, sturdily-built device. Cord is permanently attached to metal-cased meter which tests single outlets without accessories. Range 0-150 Volts A.C. Standard package of 6 individually boxed meters includes attractive counter display at no extra charge. Per meter **\$3.95**

Fixed meters includes attractive counter display at no extra charge. Per meter **\$3.95**

IMPORTANT — HOW TO ORDER

For all standard models, give (1) Model Number, (2) Range, (3) Stock Number. If Model number and stock number are not stated, Model 550 will be supplied.

ZERO ADJUSTERS (Z) For DC meters, zero adjusters are available on Models 550, 950 and 850. For AC meters, zero adjusters are available only on Model 850. When ordering, zero adjuster, add Z to stock number. Example: Model 550-DC voltmeter, 0-1 volt range without zero adjuster is 5101. With zero adjuster, it is 5101Z. Add 35c to price.

PANEL CALIBRATION (S) Meters are calibrated for non-magnetic panels. If for magnetic (steel) panel mounting, specify thickness and overall size of panel, and add -S to stock number when ordering, as 5101-S.

VISCOSITY DAMPING Careful application of new silicone compound on bearing surfaces damps pointer overtravel.

SEE YOUR DISTRIBUTOR Besides carrying most types, and remaining able to obtain your other needs promptly, your authorized Shurite distributor of electronic parts is qualified to suggest the right meter for your need.

Sec. 2900

Simpson



INSTRUMENTS THAT STAY ACCURATE

The VOM That Outsells All Others Combined is Now Better Than Ever!

Simpson

260*

AC-DC VOLT-OHM-MILLIAMMETER

Seven Features

Make the 260 More Valuable Than Ever!

For years, the rugged dependability of the Simpson 260 has made it the world's most popular volt-ohm-milliammeter. Now . . . Simpson offers a new and improved 260 . . . easier to operate, more sensitive, more accurate . . . a better buy than ever before. Over 3 1/4 million Simpson 260's have been purchased by technicians, service organizations, laboratories, factories, and the armed forces. Such overwhelming preference is proof that the 260 best meets the needs of VOM users. When you're in the market for a VOM, you can feel sure that the 260 is your best buy.

NEW FEATURES

1. POLARITY REVERSING SWITCH: Speeds up servicing when making direct current measurements.
2. 50 MICROAMPERE-250 MILLIVOLT RANGE: Gives more sensitive measurements . . . reads lower values of current and voltage.
3. EASIER-TO-READ SCALES: Black and red scales have been spread out for faster reading, less chance of error.
4. LESS CIRCUIT LOADING: Sensitivity of AC voltage ranges has been increased to 5000 ohms per volt.
5. POPULAR DBM RANGES: -20 DBM to +50 DBM, one milliwatt in 600 ohms.
6. IMPROVED FREQUENCY RESPONSE IN AC MEASUREMENTS: Five to 500,000 cycles per second.
7. FULL-WAVE BRIDGE RECTIFIER SYSTEM: Provides more accurate AC voltage measurements.



*Trademark

The 260 in Ever-Redy Carrying Case



The 260RT (Roll-Top Safety Case Unit)



RANGES

DC VOLTAGE (20,000 ohms-per-volt): 0-250 mv; 0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v; 0-5000 v. Accuracy, $\pm 3\%$ of full scale..

AC VOLTAGE (5000 ohms-per-volt): 0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v; 0-5000 v. Accuracy, $\pm 5\%$ of full scale.

AF OUTPUT VOLTAGE (With .1 microfarad internal series capacitor): 0-2.5 v; 0-10 v; 0-50 v; 0-250 v.
 VOLUME LEVEL IN DECIBELS (Zero DB equal to 1 milliwatt across a 600 ohm line): -20 to +10 DB; -8 to +22 DB; +6 to +36 DB; +20 to +50 DB.
 DC RESISTANCE: 0-2000 ohms (12 ohms center); 0-200,000 ohms (1200 ohms center); 0-20 megohms (120,000 ohms center). Accuracy, $\pm 3\%$ of arc length.
 DIRECT CURRENT: 0-50 μ a; 0-1 ma; 0-10 ma; 0-100 ma; 0-500 ma; 0-10 amp.

DEALER'S NET PRICES

- 260 VOM, complete with test leads and Operator's Manual **\$43.95**
(Size: 5 1/4" x 7" x 3 1/8". Wt: 3 1/2 lbs. Ship Wt: 5 lbs.)
- 1818 LEATHER CARRYING CASE **7.75**
- 4236 EVER-REDY VINYL CARRYING CASE **9.75**
- 260RT VOM, in Roll-Top Safety Case, complete with test leads and Operator's Manual **49.95**
(Size: 6 3/8" x 9" x 4 1/4". Wt: 6 1/2 lbs. Ship. Wt: 9 lbs.)
- HIGH VOLTAGE PROBE for 260 (25,000 v) **9.95**
- HIGH VOLTAGE PROBE for 260 (50,000 v) **12.50**

Adjust-A-Vue Handle - holds the 260 at convenient viewing angle. Eliminates separate gadgets and makeshift props.

MIDGETESTER, Model 355, AC-DC Volt-Ohmmeter

SELF SHIELDED, 10,000 Ohms Per Volt AC and DC

World's smallest! Ideal for appliance repair, radio-TV service, etc. Utilizes the rugged Core Magnet Meter Movement.
 VOLTS, DC: 3, 12, 60, 300, 1200.
 VOLTS, AC: 3, 12, 60, 300, 1200.
 RESISTANCE, DC: 0-10K ohms (120 ohms center); 0-100K ohms (1.2K ohms center); 0-1 megohm (12K ohms center); 0-10 megohms (120K ohms center).

SIZE: 2 3/4" wide, 4 1/2" high, and 1" thick.

WEIGHT: 7 oz.

MODEL 355 with Leads, Operator's Manual

\$34.95

ZIPPER CASE. Leather with Belt Loop #6355

\$2.95

Fits in Your Shirt Pocket



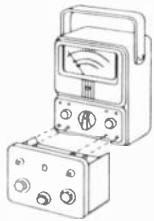


Simpson



INSTRUMENTS THAT STAY ACCURATE

NEW! ADD - A - TESTER



JUST PLUG THEM IN



Converts Your 260* VOM into 7 Testers

Think of it! A small investment turns your 260 VOM into a whole array of testers — equipment with a quality that is found only in individual pieces of test equipment at much higher prices. The secret lies in combining an adapter with the *top-notch meter and circuitry* of your 260.

Each combination of Add-A-Tester unit and 260 is self-contained, self-powered. Each adapter goes on

and off in a jiffy. No gadgets, no complicated connections. Furthermore, Add-A-Tester units require only 1/2 to 1/3 the storage space of individual testers. By reducing bench clutter, this compactness makes jobs go faster, raises shop efficiency. Make your 260 do double duty. See your Electronic Parts Distributor and get all the facts soon.

*Trademark

ADD-A-TESTER Adapters (All measure 5 5/16" x 4 3/8" x 3 1/16")

TRANSISTOR TESTER, Model 650 \$26.95

Beta Ranges: 0-10, 0-50, 0-250. (F.S.)

Beta Accuracy: ±3%, with 260, ±5% nominal

Ico Range: 0-100 ua

Ico Accuracy: ±1%, with 260, ±3% (F.S.)

DC VTVM, Model 651 \$32.95

Voltage Ranges: 0-.5/1.0 2.5/5.0/10 25/50/100/250 500

Accuracy: ±1%, with 260 ±3% (F.S.)

Input Impedance: greater than 10 megohms for all ranges

TEMPERATURE TESTER, Model 652 \$38.95

Temperature Ranges: -50°F to +100 F, +100°F to +250°F

Accuracy: with 260 ±2° (nominal)

Three lead positions provided

Sensing Element: Thermistor

AC AMMETER, Model 653 \$18.95

Ranges: 0-0.25/1/2.5/12.5/25 amps

Accuracy: ±1%, with 260 ±3% nominal

AUDIO WATTMETER, Model 654 \$18.95

Load Ranges: 4,8,16,600 ohms

Wattage: Continuous 25 watts (8,600 ohms)

50 watts (4,16 ohms)

Intermittent 50 watts (8,600 ohms)

100 watts (4,16 ohms)

Accuracy: ±5%, with 260 ±10% nominal

Direct reading scale from 17 microvolts to 100 watts

MICROVOLT ATTENUATOR, Model 655 \$18.95

Ranges: 2.5 microvolts to 250,000 microvolts continuously variable in decade steps

Frequency: DC to 20 KC

BATTERY TESTER, Model 656 \$19.95

Checks all radio and hearing aid batteries up to 90 volts at the manufacturer's recommended load, or any external load.

Note: All Simpson 260 Adapters provide for normal

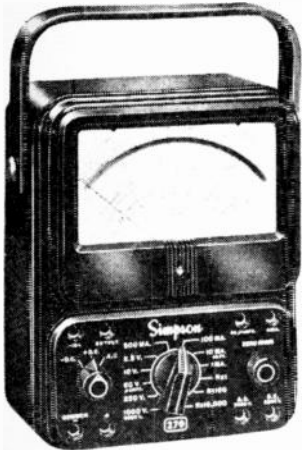
260 usage without disconnecting the adapter.

Sec. 2900

Simpson



INSTRUMENTS THAT STAY ACCURATE



ADJUST-A-VUE HANDLE

NEW! HIGH ACCURACY VOM—MODEL 270

Excellent Repeatability
Greater Accuracy Predictable Over a Wide Temperature Range
DC Accuracy, 1½%* Full Scale
AC Accuracy, 2%* Full Scale
Resistance Accuracy, ±1½% of Arc
*At an Ambient Temperature of 77°F

RANGES

DC VOLTAGE (20,000 ohms-per-volt):
0-250 mv; 0-2.5 v; 0-10 v; 0-50 v; 0-250 v;
0-1000 v; 0-5000 v.
AC VOLTAGE (5000 ohms-per-volt):
0-2.5 v; 0-10 v; 0-50 v; 0-250 v; 0-1000 v;
0-5000 v.
AF OUTPUT VOLTAGE (With .1 microfarad internal series capacitor): 0-2.5 v;
0-10 v; 0-50 v; 0-250 v.

VOLUME LEVEL IN DECIBELS (Zero DB equal to 1 milliwatt across a 600 ohm line): —20 to +10 DB; —8 to +22 DB; +6 to +36 DB; +20 to +50 DB.
DC RESISTANCE: 0-2000 ohms (12 ohms center); 0-200,000 ohms (1200 ohms center); 0-20 megohms (120,000 ohms center).
DIRECT CURRENT: 0-50 mu a; 0-1 ma; 0-10 ma; 0-100 ma; 0-500 ma; 0-10 amp.

MODEL 270, complete with test leads and Operator's Manual \$59.95
MODEL 270 RT, in Roll-Top Case \$65.95
25,000 V High Voltage Probe, No. 0247 \$ 9.95
50,000 V High Voltage Probe, No. 0248 \$12.50
Leather Carrying Case, No. 1818 \$ 7.75
Vinyl Carrying Case, No. 4236 \$ 9.75

100,000 OHMS PER VOLT

MODEL 269*, AC-DC Volt-Ohm-Microammeter

Self Shielded . . . 33 ranges . . . 7" scale . . . rugged Core Magnet Meter Movement with spring backed jewels. Can replace VTVM's for many voltage and resistance checks. Carrying case and accessory probes available.

VOLTS DC: 1.6, 8, 40, 160, 400, 1600, 4000 . . . 100,000 ohms per volt. Accuracy, ±3% of full scale.

VOLTS AC: 3, 8, 40, 160, 800 . . . 5,000 ohms per volt. Accuracy, ±5% of full scale.

OUTPUT: 3, 8, 40, 160 volts AC.

DECIBELS: —12 to +45.5 DB in 4 ranges. ODB = .001 watt in 600 ohms.

RESISTANCE DC: 0-2K ohms (18 ohms center); 0-20K ohms (180 ohms center); 0-200K ohms (1.8K ohms center); 0-2 megohms (18K ohms center); 0-20 megohms (180K ohms center); 0-200 megohms (1.8 megohms center). Accuracy, ±3% of arc length.

CURRENT DC: 0-16, 0-160 ua; 0-1.6, 0-16, 0-160 ma; 0-1.6, 0-16 a.

SIZE: 7-15/16" x 6" x 2-15/16". WEIGHT: 4 lbs.

MODEL 269 with leads and Operator's Manual

\$88.00



*ADJUST-A-VUE HANDLE

DELUXE VOM

MODEL 262*, AC-DC Volt-Ohm-Milliammeter

This compact instrument is made possible by the Simpson Self Shielded Core Magnet Meter Movement with spring backed jewels. . . 20,000 ohms per volt . . . 33 ranges . . . 7" scale. Carrying case and accessory probes available.

VOLTS DC: 1.6, 8, 40, 160, 400, 1600, 4000 . . . 20,000 ohms per volt. Accuracy, ±3% of full scale.

VOLTS AC: 3, 8, 40, 160, 800 . . . 5,000 ohms per volt. Accuracy, ±5% of full scale.

OUTPUT: 3, 8, 40, 160 volts AC.

DECIBELS: —12 to +45.5 DB in 4 ranges. ODB = .001 watt in 600 ohms.

RESISTANCE DC: 0-500 ohms (4.5 center); 0-5K ohms (45 ohms center); 0-50K ohms (450 ohms center); 0-500K ohms (4.5K ohms center); 5 megohms (45K ohms center); 0-50 megohms (450K ohms center). Accuracy, ±3% of arc length.

CURRENT DC: 80, 160 ua; 1.6, 16, 160 ma; 1.6, 16 a.

SIZE: 7-15/16" x 6" x 2-15/16". WEIGHT: 4 lbs.

MODEL 262 with leads and Operator's Manual

\$59.50



*ADJUST-A-VUE HANDLE

The MASTER — 2nd Edition

Use Index (pg. 2) for Quick, Easy Location of ALL Products

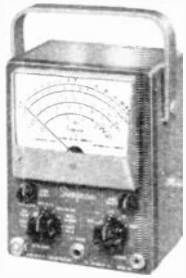
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Page 878

Net

Simpson

INSTRUMENTS THAT STAY ACCURATE



HIGH SENSITIVITY VTVM Model 311

Compare these features: 22 MEGOHM Input Impedance • Peak-to-Peak Readings of Complex AC Voltages • Accessory RF Probe with High Frequency Response and Accuracy • New "TIMESAVER" Probe Tip Hangs on Wire for Continuous Readings, Gives Quick Pressure Contact also for Point-to-Point Readings • Unbreakable Metal Case • Sensibly Priced.

SPECIFICATIONS

DC VOLTS: 0-1.5, 5, 15, 50, 150, 500, 1500 ($\pm 3\%$ accuracy). AC VOLTS: 0-1.5, 5, 15, 50, 150, 500, 1500 ($\pm 3\%$ accuracy, of full scale).
 AC PEAK-TO-PEAK: 0-4, 14, 40, 140, 400, 1400, 4000 volts ($\pm 5\%$ accuracy, of full scale).
 INPUT IMPEDANCE: 22 Megohms.
 OHMS: X1; X10; X100; X1000; X10,000; X100,000; X1 megohm (meter can be set for center zero for FM alignment).
 AC FREQUENCY RANGE: 30 to 100,000 cycles per second.
 MODEL 311, complete with slimline probe, lead, ground cable, clips, and Operator's Manual. **\$64.95**
 RF PROBE: 50 cycles to 100 megacycles. $\pm 5\%$; 0-150 volts RMS, maximum. Input capacity, 10 mmf **\$10.95**



*ADJUST-A-VUE HANDLE

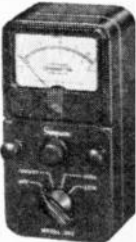
VACUUM TUBE VOLT-OHMMETER* MODEL 303*

AC VOLTS: 1.2, 12, 60, 300, 1200
 Accuracy, $\pm 5\%$ of full scale.
 DC VOLTS: 1.2, 12, 60, 300, 1200
 Accuracy, $\pm 3\%$ of full scale.
 OUTPUT: 1.2, 12, 60 volts AC.
 RESISTANCE DC: 1K ohms (10 ohms center); 100K ohms (100 ohms center); 1 megohm (10K ohm center); 10 megohms (100K ohm center); 1000 megohms (10 meg ohms center).
 DECIBELS: -20 to +63 DB in 5 ranges. ODB = .001 watt in 600 ohms.
 R.F. VOLTS: (with R.F. probe) 20 volts maximum. Frequency — Flat 20 Kc to 100 Mc.
 LINE VOLTAGE: 105-125V, 50/60 Cycles.
 Accessory Probes and Carrying Case available.
 MODEL 303 with DCV Probe, ACV-Ohms Probe Ground Lead, Operator's Manual **\$68.00**

LOW-OHM-METER MODEL 362

Greater Accuracy from
0.1 to 25 ohms

Low Circuit Current



RANGES:
0-5 ohms and
0-25 ohms.

The two ranges of the Low-Ohm Meter permit highly accurate readings between 0.1 and 25 ohms. This is ideal for checking motor armatures and fields; switch and relay contact resistances; shorts between generator windings and grounds; shorts in TV and radio chassis wiring; electrical equipment in industrial plants; plus many other uses. Accuracy is within 3% of full scale value.

Model 362 with calibrated test leads **\$24.95**

PORTABLE LABORATORY INSTRUMENTS*

MODEL 9 — Accuracy $\frac{1}{2}$ of 1% Full Scale, D'Arsonval Movement

MODEL 10 — Accuracy 1%, Iron Vane Movement

Range	MODEL 9 (DC)	MODEL 10 (AC)	Range	MODEL 9 (DC)
VOLTS			Double Range Milliamperes	
50	\$49.50	\$43.95	10-100	\$55.00
100	49.50	43.95	25-250	55.00
150	49.50	43.95	100-500	55.00
300	55.00	49.50		
Double Range Volts			Double Range Amperes	
15-150	55.00	55.00	2.5-5	55.00
150-300	60.45	55.00	5-10	55.00
300-750	66.00	60.45		
Triple Range Volts			Triple Range Amperes	
15-150-300	63.75	60.45	2.5-10-25	60.45
150-300-600	66.00	60.45	10-25-50	60.45
Milliamperes			Microamperes	
1	57.15		50	71.55
50	49.50	43.95	100	67.00
100	49.50	43.95	200	64.95
500	49.50	43.95		
Amperes				
5	49.50	43.95		
15	49.50	43.95		
30	49.50	43.95		
50	49.50	43.95		
100	49.50	43.95		

* Also available in Simpson Roll-Top Safety Case at \$8.00 additional.

DYNAMOMETER INSTRUMENTS, AC-DC

Model 880*

Accuracy 1% of Full Scale — Portable

SINGLE PHASE WATTMETERS

Max. Volts	AMPERES		WATTS		Price
	Normal	Maximum	Low Range	High Range	
150-300	1	1.5	100	200	\$60.4
150-300	2	3.0	200	400	60.4
150-300	5	7.5	500	1000	60.4
150-300	10	15	1000	2000	60.4
150-300	20	30	2000	4000	66.0
150-300	50	75	5000	10000	66.0

DOUBLE CURRENT RANGE WATTMETERS

150-300	2.5-5	3.75-7.5	250-500-1000	\$76.9
150-300	5-10	7.5-15	500-1000-2000	76.9

VOLTMETERS

0-150	.....	\$60.45	* Also available in Simpson Roll-Top Safety Case (Model 880 RT) at an additional \$8.00
0-150-300 (Double Range)	.....	71.55	
0-75-150-300 (Triple Range)	.....	76.95	
0-150-300-600 (Triple Range)	.....	76.95	

★ Simpson



INSTRUMENTS THAT STAY ACCURATE

COLOR BAR GENERATOR

Model 430

- Service Any Color TV Receiver — Past, Present, and Future
- True, 100% Saturated NTSC Signals
- Exceptionally Wide Range of Outputs
- Outputs Pictured in Color on Single Master Control



IMPORTANT SPECIFICATIONS

OUTPUTS — Y; chroma; color bar (8 bars simultaneously); R-Y; B-Y; R-Y and B-Y simultaneously; I; Q; I and Q simultaneously; G-Y at 90°; sync and burst; horizontal sync; high level 3.58 megacycle output; high level modulated rf output; positive or negative video output. 4.5 Megacycle (crystal controlled) marker for proper tuning.

CHROMA LEVEL SWITCH — 0 db for checking older style receivers and some current models; 6 db for video checks of newer receivers using vestigial color sideband alignment; 15 db for checking color sync lock under weak signal conditions. Variable chroma control position for other chroma levels.

COLOR BAR DISPLAY PATTERN — Left: to right: red, yellow, green, cyan, white magenta, blue, black.

Model 430, complete with Operator's Manual, and Leads

\$395.00

In-Circuit

HORIZONTAL SYSTEM ANALYZER, Model 382



Model 382 is the world's most complete "testing package" for analyzing TV horizontal deflection systems. With this one instrument, you can:

- (1) Check any winding in the horizontal system (transformer or yoke) for **shorts** and **opens**. Even one shorted turn is clearly indicated on a large 4½" meter. Uses reliable, time-proven Q-type test.
- (2) Check flyback and yoke system **IN-CIRCUIT** (disconnect only plate cap of output tube). High-Q systems are checked on a quick-reading, Good-Bad scale (most present day sets use the High-Q system); Low-Q systems on comparative logging scale.
- (3) Measure capacitance value (and check for open capacitors) — direct-reading scales indicate from 10 mmf to 0.1 mfd — no bridge to balance. Measures capacitance to better than 10%.
- (4) Make continuity checks of any wire-wound component, such as width coils, linearity coils, oscillator transformers; check capacitors for direct shorts. Can check many other components for Q, also.

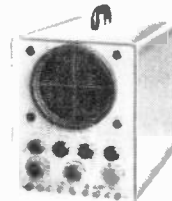
Model 382, test cable, Operator's Manual **\$69.95**

COLORSCOPE

Model 458

- 100% RESPONSE AT 3.58 MC COLORBURST
- DUAL BANDWIDTH — NARROW OR WIDE
- BIG 7-INCH SCREEN

\$229.95



Frequency Response of Vertical Amplifier

Wide Band Position
From 20 cycles/sec. to 4.5 mc/sec.—flat within ±1 db.
From 10 cycles/sec. to 5.0 mc/sec.—within ±2 db.
Rise Time — less than 0.05 microseconds.

Narrow Band Position
From 20 cycles/sec. to 200 kc/sec.—flat within ±1 db.
From 10 cycles/sec. to 300 kc/sec.—within ±2 db.

Maximum Vertical Deflection Sensitivity
WB: 50 Mv RMS/inch; NB: 20 Mv RMS/inch

Frequency Response of Horizontal Amplifier
Same as Vertical Amplifier — Narrow Band Position

Maximum Horizontal Deflection Sensitivity
"Hi" — 150 Mv RMS/inch; "Low" — 1.4V RMS/inch
Z-axis sensitivity 4.0 volts RMS to extinguish beam
Calibrating Voltage (@ 117.5 VAC Input to Colorscope)
1.0 P-P volts ±10%

Maximum Input Voltage—600 volts peak
Input Resistance (Minimum)—3.3 Megohms ±10%
Input Capacitance @ 5.0 mc/sec.—20 uuf ±10%
Sawtooth Sweep Range—14 cycles/sec. to 250 kc/sec.

HANDISCOPE, Model 466

5" SCREEN

Measures only 8" x 12¼" x 16¼"



FREQUENCY RESPONSE OF VERTICAL AMPLIFIER: From 15 cycles/sec to 100 Kc/sec. flat within ±1 db; 6 db down at 250 Kc/sec; usable to 1 Mc/sec.
MAXIMUM VERTICAL DEFLECTION SENSITIVITY: 30 Millivolts R.M.S./inch.

FREQUENCY RESPONSE OF HORIZONTAL AMPLIFIER: From 15 cycles/sec to 20 Kc. flat within ±1 db; 6 db down at 100 Kc/sec.

MAXIMUM HORIZONTAL DEFLECTION SENSITIVITY: 0.7 volt RMS/inch.

Z-AXIS SENSITIVITY (VOLTAGE REQUIRED TO EXTINGUISH BEAM): 20 volts RMS.

CALIBRATING VOLTAGE (at 117.5 VAC power source): 1 volt P-P ±10%.

MAXIMUM INPUT VOLTAGE: 400 volts peak.
INPUT RESISTANCE: 0.1 Meg (at atten. x 1); 0.5 Meg (at atten. x 100).

INPUT CAPACITANCE: 40 uuf (at atten. x 1); 35 uuf (at atten. x 100).

SAWTOOTH SWEEP RANGE: 15 cycles/sec to 80 Kc/sec.

MODEL 466 with lead, Operator's Manual **\$144.95**

PROBE KIT FOR 458 and 466 SCOPES

Adaptable to other Scopes Also

Contains: Low Capacity, Voltage Double-Detector, 100:1 Voltage Divider, and Dual-Direct Probes; Plastic Roll Case; 466 Adapter Socket; and Operator's Manual **\$39.95**



Model 739

★ Simpson



INSTRUMENTS THAT STAY ACCURATE

PORTABLE Field Strength Meter Model 498A

- Multi-Power
- Calibrated
- Operates Anywhere
- Covers All Channels



This newest Simpson calibrated field strength meter provides means for measurement of television signals in any locality. It answers the need of service technicians for a combination power line or battery operated field strength meter that is self-charging.

MODEL 498A covers all channels. UHF and VHF. Measures relative field strength from approximately 20 microvolts to .05 volts. Excellent for fringe areas. Also useful as a tuner substitute when servicing TV. Continuously variable sensitivity. Operates from any one of four sources: (1) 117 VAC line; (2) Self-contained storage battery*; (3) Your automobile battery; and (4) Your external battery.

ACCURACY: VHF (± 6 db); UHF (± 8 db).
SIZE: 8" x 11" x 8½". WEIGHT: 11½ lbs. Shipping Wt: 15 lbs.

MODEL 498A, 117 VAC and 6.3 VDC, less battery. **\$199.95**

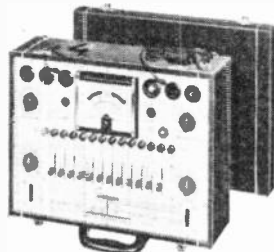
No. 5721 Storage battery, 12 ampere hour capacity. **\$14.00**

*Internal storage battery can be recharged by self-contained charger or from your automobile battery while traveling between jobs.

PLATE CONDUCTANCE

TUBE TESTER Model 1000

Extra Lo-Volt Leakage Test
Will Not Damage Any Tube



MODEL 1000 is ideal for radio-TV and industrial control servicing. Tests any receiving tube, including 9 pin miniatures and sub-miniatures with base arrangements in a line or circle. The Simpson plate conductance method makes testing simpler . . . more positive . . . more accurate. Multi-position toggle switches provide quick adjustment.

Snap-Out-Snap-In transparent plastic windows are provided over the roll chart . . . add new tube data at any time.

LINE VOLTAGE: 105-125 Volts, 50-60 cycle.

SIZE: 15¾" x 11¾" x 6".

WEIGHT: 15 lbs. Shipping Wt: 19 lbs.

MODEL 1000 complete with Operator's Manual **\$135.00**

VARIDOT

WHITE DOT GENERATOR

MODEL 434A



VARIABLE DOT SIZE . . . VARIABLE DOT NUMBER

The NEW Simpson Model 434A provides white dot patterns with variable dot size (from 1 to 8 scanning lines, with corresponding dot widths), and variable dot number, from 6 to 11 horizontal dots, and 6 to 12 vertical dots.

Very high modulation provides bright, clear dots.

With the Model 434A White Dot Generator, you make linearity adjustment of black and white TV and linearity and convergence adjustments on color TV receivers with confidence. Adjustable dot size provides a check of receiver transient response.

Horizontal and vertical sync pulses are provided, with adjustable vertical sync which can be operated at line frequency or off line frequency. This also operates as a hum-check control for both color and black and white receivers. This feature is rarely found in test equipment offered at this price. Vertical and horizontal synchronization assures you of correct aspect ratio . . . ample attenuation . . . 300 ohm RF output.

Positive or negative video output . . . excellent for accuracy and fast checking transient response of video amplifiers is available.

Modulated RF output is available, operating on fundamentals from Channel 2 to Channel 6. Line Voltage: 117 Volts, 50-60 cycles, 45 watts.

DEALER'S NET PRICE, Complete with operating instructions and output cables **\$147.50**

CAPACOHMETER

Model 383A

World's First
IN-CIRCUIT

Capacitor Leakage Tester



The "Capacohmmeter" combines in "one package" the flexibility to: (a) Measure leakage of defective paper, mica, or ceramic capacitors in ohms; (b) indicate directly the capacitance of good paper, mica, or ceramic capacitors over a range of 10.0 micromicrofarads to 10.0 microfarads; (c) detects many marginal capacitors by means of a pulse technique. All tests are read directly on a 4½" instrument. No adjusting of a bridge circuit and balancing controls. All measurements made under load conditions. Borderline capacitors which cause costly "call backs" are immediately "knocked out" with the "pulse test." Many tests are made right "in circuit."

MODEL 383A, complete with test leads and Operator's Manual **\$89.95**

Sec. 2900

★ Simpson



INSTRUMENTS THAT STAY ACCURATE

SIMPSON MICROTESTERS (Size: 3" x 5 7/8" x 2 1/2")

AC-DC VOLT-OHM-MILLIAMMETER, Model 240

Designed for radio testing . . . 1000 ohms per volt, AC and DC.

- AC VOLTS: 15, 150, 750, 3000.
- DC VOLTS: 15, 75, 300, 750, 3000.
- DC MILLIAMPERES: 15, 150, 750.
- OHMS: 0-3000 (center scale 30); 0-300,000 (center scale 3000). Model 240 with Leads.



\$28.95

AC-DC VOLT-OHM-MILLIAMMETER, Model 230 —

- AC Volts: 10, 250, 1000 (400 ohms per volt) — DC Volts: 10, 50, 250, 1000 (1000 ohms per volt) — DC Milliampere: 10, 50, 250 — Ohms: 0-1000, 0-100,000 — with Leads

\$27.95

DC AMMETER, Model 375 — 0-1, 2.5, 5, 10, 25 amps

\$19.95

DC MILLIAMMETER, Model 373 — 0-1, 5, 10, 25, 50, 100, 250, 1000 ma

\$19.95

DC MICROAMMETER, Model 374 — 0-50, 100, 250, 500, 1000 ua

\$23.00

AC AMMETER, Model 370 — 0-1, 0-2.5, 0-5, 0-10, 0-25 amps

\$21.95

AC MILLIAMMETER (Self-contained transformer), Model 378 — 0-5, 25, 100, 250, 1000 ma

\$23.95

DC VOLTMETER (Res. 1000 ohms per volt), Model 377 — 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 DC volts

\$19.95

AC VOLTMETER (Rec. Type — 1000 ohms per volt), Model 376 — 0-5, 10, 25, 50, 100, 250, 500, 1000 AC volts

\$19.95

AC VOLTMETER, Model 371 — 0-150, 0-300, 0-600 volts

\$19.95

OHMMETER, Model 372—0-500 ohms (5 ohms center); 0-5000 ohms (50 ohms center); 0-50,000 ohms (500 ohms center); 0-500,000 ohms (5,000 ohms center); 0-5 meg. (50,000 ohms center); 0-50 meg. (500,000 ohms center) — with Leads

\$27.95

AC VOLT-AMP-WATTMETER, Model 390 — Volts: 0-150, 300 — Amps: 0-0.3, 15 — Watts: 0-300, 600, 1500, 3000—with break-in plug and Leads

\$43.95

AC-DC VOLT-WATTMETER, Model 391 — AC or DC — Volts: 0-130, 0-260 — Watts: 0-1500, 0-3000 — with Cord and Plug

\$34.95

AC-DC VOLT-WATTMETER, Model 392 — AC or DC — Volts: 0-130, 0-260 — Watts: 0-1000, 0-5000 — with Cord and Plug

\$37.95

BATTERY TESTER, Model 379 — (Separate arcs for Radio A Batteries, Hearing Aid A Batteries, and for all B Batteries) — with Leads

\$24.95

TEMPERATURE TESTERS — Check 3 Temperatures at 1 Time

THERM-O-METER*

Model 388-3L

Scale: Fahren./cent.
-50°F to +1000°F
-46°C to +538°C



The Therm-O-Meter measures the temperature of air, gases, liquids, or solids by means of thermocouple type leads. Readings can be made in 15 to 30 seconds, and up to a distance of 7 1/2'. Model 388-3L, the three-lead model, is particularly useful where two or three temperatures must be measured at the same time.

LEADS — Two types available: General Purpose and Surface Temperature probe. Length is 7 1/2'.

SIZE AND WEIGHT—7-15/16" x 6" x 2-15/16", 4 lbs.

MODEL 388-3L* (for three leads) with one No. 0190 general purpose lead, battery, and Operator's Manual. **\$64.50**

MODEL 388* (for one lead) with one No. 0190 general purpose lead, battery, and Operator's Manual. **\$59.50**

Ever-Redy Carrying Case, Vinyl, No. 5262 **\$9.95**

General Purpose Lead, No. 0190 **\$4.95**

Surface Temperature Probe Lead, No. 0187..... **\$6.95**

*Adjust-A-Vue Handle supports instrument at convenient angles.

TEMPERATURE METER

Model 385-3L

Measures Temperatures from -50° to +70° F



The Temperature Meter was developed primarily for servicing refrigeration equipment such as deep-freeze units, home refrigerators, and walk-in coolers. It can also be used to service air-conditioning units when the test requirements fall within its temperature range.

MODEL 385-3L, for three 15-foot leads, is especially useful where two or three temperatures must be checked at the same time, such as in setting up a refrigerator thermostat or in checking ambient temperature rises and control apparatus.

LEADS — General purpose type, 15' long. Thermistor tip.

SIZE AND WEIGHT — 3" x 5 7/8" x 2 1/2", 1 1/2 lbs.

MODEL 385-3L (for three leads) with one test lead and Operator's Manual **\$33.95**

MODEL 385 (for one lead) with one test lead and Operator's Manual **\$30.00**

Additional Thermistor Lead, No. 0010 **\$3.95**

Ever-Redy Carrying Case, Leather, No. 4299 **\$5.95**

Simpson

INSTRUMENTS THAT STAY ACCURATE



NEW! DUAL RANGE THERM-O-METER

Low Range, -50° to 100° F; High Range, 100° to 250° F

APPLICATIONS — Frozen Food Packaging, Ice Manufacturing, Freezer Storage, Refrigeration, Photo Processing, Air Conditioning, Heating Systems, Pasteurization, Distillation, and numerous others. Readings are made in 15 to 30 seconds.

ACCURACY — Over-all accuracy is $\pm 3^{\circ}$ F, in any position. However, near center scale, accuracy is within $\pm 2^{\circ}$ F or better. Compensated for room temperature effects from 60° F to 100° F.

PROBE — Thermistor tip with a 15' lead.

The lead cord is only .144" in diameter to permit closing doors of equipment being checked. Model 389-3L is designed to accommodate 3 leads simultaneously with separate readings through one selector switch.

MODEL 389-3L, Complete with single Thermistor, Lead, and Operator's Manual \$62.50

Additional Thermistor Lead, No. 0010 3.95
Carrying Case, No. 5262 9.95



Model 389-3L

Can Measure Temperatures In Up to Three Locations at One Time!

Checks Safety Thermocouples on GAS-FIRED Equipment

MILLIVOLTMETER

MODEL 387

For Servicing Gas-Fired—

Furnaces • Boilers • Heaters • Hot Water Heaters • Dryers • Refrigerators

The new Simpson Millivoltmeter makes gas unit servicing faster, more accurate. Simply place the probe leads across the thermocouple terminals and test for correct value. Ranges are 10, 30, 100, 300, and 1000 millivolts. Accuracy is 3% of full scale from 50° to 120° F. Handy pocket size—only 3" x 5 7/8" x 2 1/2".



\$29⁹⁵

MODEL 387, with leads and Operator's Manual

EDGEWISE PANEL INSTRUMENTS



VERTICAL
(Special Order)



HORIZONTAL

- Require only 1/2 the panel area of a conventional 2 1/2" meter
- Self Shielded Core Magnet Meter Movement
- Scale length comparable to a 2 1/2" meter
- Accurate comparative readings by mounting meters next to each other

Edgewise Panel Meters are available in popular DC and AC rectifier types, and can be adapted to use also, as position indicators, or as null indicators for tuning circuits. Supplied complete with mounting hardware, including a bezel with two Speed Nuts for quick, simple mounting. Write for information on your special requirements in scales, ranges, sensitivities, and resistances.

Accuracy — DC, 2% of full scale. AC Rectifier Type, 5% of full scale.

Scale Length — 1 7/8".

Case — Dustproof, molded Lucite.

Terminals — Solder or stud type for ammeters.

Weight — Approximately 5 ounces.

HORIZONTAL TYPE	RANGE	SENSITIVITY OHMS/VOLT	MODEL 1502
DC VOLTMETER	0-10 v	1000	\$12.60
DC VOLTMETER	0-15 v	1000	12.60
DC VOLTMETER	0-50 v	1000	12.60
DC VOLTMETER	0-150v	1000	12.60
DC VOLTMETER	0-300v	1000	12.60
DC VOLTMETER	0-500v	2000	12.75
Approx. Terminal Res.			
DC AMMETER	0-5 amp	.010	13.35
DC AMMETER	0-10 amp	.005	13.35
DC AMMETER	0-15 amp	.003	13.35
DC AMMETER	0-25 amp	.002	13.35
DC AMMETER	0-50 amp	.001	13.35
DC MILLIAMMETER	0-1 ma	20	13.05
DC MILLIAMMETER	0-5 ma	5.0	13.05
DC MILLIAMMETER	0-10 ma	1.5	13.05
DC MILLIAMMETER	0-25 ma	2.0	13.05
DC MILLIAMMETER	0-50 ma	2.5	13.05
DC MILLIAMMETER	0-100 ma	1.2	13.05
DC MILLIAMMETER	0-150 ma	.80	13.05
DC MILLIAMMETER	0-200 ma	.60	13.05
DC MILLIAMMETER	0-250 ma	.48	13.05
DC MILLIAMMETER	0-300 ma	.40	13.05
DC MILLIAMMETER	0-500	.24	13.05
DC MICROAMMETER	0-25 ua	6000	20.70
DC MICROAMMETER	0-50 ua	2000	18.15
DC MICROAMMETER	0-100 ua	1750	16.05
DC MICROAMMETER	0-200 ua	650	13.95
DC MICROAMMETER	0-500 ua	100	13.50

VU METERS

HORIZONTAL TYPE	MODEL 1507
"A" Scale	\$21.60
"B" Scale	21.60

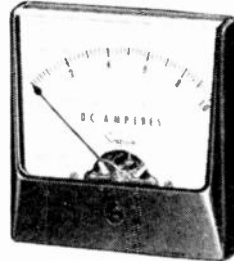


Simpson PANEL INSTRUMENTS

WIDE-VUE

PANEL INSTRUMENTS

2 1/2", 3 1/2", 4 1/2" SIZES



New Wide-Vue meters provide not only ultramodern styling, but also wide-angle readability and longer scales, compared with conventional units. The black, plastic cover is formed in one piece and wraps around the dial for maximum protection. Meters mount in round holes

by means of four studs. All DC meters listed below, except those marked by an (*), have the Simpson self shielded Core Magnet Meter Movement which eliminates calibration problems.

DC VOLTMETERS

RANGE	APPROX. RESISTANCE (OPV)	2 1/2" MODEL 1227	3 1/2" MODEL 1327	4 1/2" MODEL 1329
0-5	1000	\$11.55	\$12.00	\$13.20
0-8	1000		12.00	13.20
0-10	1000 opv	11.55	12.00	13.20
0-15	1000	11.55	12.00	13.20
0-25	1000	11.55	12.00	13.20
0-30	1000	11.55	12.00	13.20
0-50	1000	11.55	12.00	13.20
0-100	1000	11.55	12.00	13.20
0-150	1000	11.55	12.00	13.20
0-200	1000	-----	12.00	13.20
0-350	1000		12.00	13.20
0-500	1000	11.55	12.00	13.20
0-750	2000	12.00	12.60	13.65
0-1000	2000	12.00	12.60	13.65
		14.25*	14.85*	16.05*

*Supplied w/Ext. Resistor

DC MILLIAMMETERS

RANGE	APPROX. RESISTANCE (OHMS)	2 1/2" MODEL 1227	3 1/2" MODEL 1327	4 1/2" MODEL 1329
0-1	46	\$10.80	\$11.25	\$12.00
0-3	46	10.80	11.25	12.00
0-5	23	10.80	11.25	12.00
0-10	7	10.80	11.25	12.00
0-15	2.20	10.80	11.25	12.00
0-25	2.0	10.80	11.25	12.00
0-50	3.0	10.80	11.55	12.60
0-100	1.5	10.80	11.55	12.60
0-150	1.0	10.80	11.55	12.60
0-200	75	10.80	11.55	12.60
0-250	60	10.80	11.55	12.60
0-300	50	10.80	11.55	12.60
0-500	30	10.80	11.55	12.60
0-750	20		11.55	12.60
0-1000	.05		11.55	12.60

DC AMMETERS

RANGE	APPROX. RESISTANCE (OHMS)	2 1/2" MODEL 1227	3 1/2" MODEL 1327	4 1/2" MODEL 1329
0-1	.050	\$10.95	\$11.40	\$12.60
0-1.5	.033	10.95	11.40	12.60
0-2	.025	10.95	11.40	12.60
0-3	.0166	10.95	11.40	12.60
0-5	.010	10.95	11.40	12.60
0-10	.005	10.95	11.40	12.60
0-15	.0033	10.95	11.40	12.60
0-25	.002	10.95	11.40	12.60
0-30	.00166		11.40	12.60
0-50	.001	10.95	11.40	12.60
0-100	10.0*	10.95	11.40	12.60
0-150	10.0*	10.95	11.40	12.60
0-200	10.0*	-----	11.40	12.60
0-300	10.0*	-----	11.40	12.60
0-500	10.0*	-----	11.40	12.60
15-0-15	.0033	-----	12.15	-----
30-0-30	.00166	-----	12.15	-----
50-0-50	.001	-----	12.15	-----

* Basic 50MV Meter Reques. Ext. Shunt. Self-contained for ranges shown.

NOTE—AC-DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MV) listed above CAN be supplied with external shunts and include 6 foot leads. Higher range AC ammeters can be supplied with external current transformers and include 2 foot leads. Price of external shunts or current transformers should be added to meter prices shown.

DC MICROAMMETERS

RANGE	APPROX. RESISTANCE (OHMS)	2 1/2" MODEL 1227	3 1/2" MODEL 1327	4 1/2" MODEL 1329
0-15*	4500		\$21.00	\$22.95
0-25*	2200		18.60	20.70
0-50*	2000	\$17.85	15.75	17.10
0-100	2000	13.80	14.40	16.05
0-200	1000	11.70	12.45	13.80
0-500	200	11.25	11.85	13.20
25-0-25*	2000		15.90	17.25
50-0-50	2000	13.95	14.55	16.20
100-0-100	1000		12.60	13.95
500-0-500	46		11.40	12.15

*Ext. Magnet Movement

AC VOLTMETERS — IRON VANE TYPE

Frequency Range 25-120 CPS

RANGE	APPROX. RESISTANCE (OHMS)	2 1/2" MODEL 1257	3 1/2" MODEL 1357	4 1/2" MODEL 1359
0-5	33		\$10.95	\$12.60
0-10	133	\$40.20	10.95	12.60
0-15	300		10.95	12.60
0-25	833	10.80	11.25	12.60
0-50	3,333	10.80	11.25	12.60
0-100	16,666		11.70	12.60
0-150	25,000	11.40	12.15	13.20
0-250	41,166		12.15	13.20
0-300	50,000	11.40	12.15	13.20
0-500*	25,000		16.95	18.15

*SUPPLIED WITH EXT. MULTIPLIER. TOTAL RESISTANCE OF METER AND MULTIPLIER IS 83,333 OHMS.



Simpson



INSTRUMENTS THAT STAY ACCURATE

WIDE-VUE Panel Instruments (Continued)

AC AMMETERS — IRON VANE TYPE

Frequency Range 25—1000 CPS

RANGE	APPROX. RESISTANCE (OHMS)	2 1/2" MODEL 1257	3 1/2" MODEL 1357	4 1/2" MODEL 1359
0-1	.287	\$10.20	\$10.80	\$12.75
0-1.5	.185	10.20	10.80	12.75
0-2	.115	—	10.80	12.75
0-3	.028	—	10.80	12.75
0-5	.012	10.20	10.80	12.75
0-10	.003	10.20	10.80	12.75
0-15	.0015	10.20	10.80	12.75
0-25*	.0003	10.20	11.10	13.20
0-50*	.0001	10.20	12.00	15.45
0-100**	.012	—	10.80	12.75
0-150**	.012	—	10.80	12.75
0-200**	.012	—	10.80	12.75
0-300**	.012	10.20	10.80	12.75

*FREQUENCY RANGE 25-125 CPS

**REQUIRES EXTERNAL CURRENT TRANSFORMER FREQUENCY RANGE 25-400 CPS

AC MILLIAMMETERS

RANGE	APPROX. RESISTANCE (OHMS)	2 1/2" MODEL 1257	3 1/2" MODEL 1357	4 1/2" MODEL 1359
0-50	80	—	\$10.95	\$12.75
0-100	20	—	10.95	12.75
0-250	3	—	10.95	12.75
0-500	1.0	\$10.20	10.95	12.75

AC VOLTMETERS — RECTIFIER TYPE

(Frequency Range 25—5000 CPS)

RANGE	SENSITIVITY OHMS VOLT	3 1/2" MODEL 1347	4 1/2" MODEL 1349
0-5	1000	\$16.20	\$17.85
0-10	1000	16.20	17.85
0-15	1000	16.20	17.85
0-50	1000	16.20	17.85
0-150	1000	16.20	17.85
0-150	2000	16.80	18.45
0-300	1000	16.20	17.85

NEW 4 1/2" METER RELAYS

Externally Adjusted DC Type

The Simpson standard design of these front adjust relays features nonlocking contacts which may be positioned along the instrument scale are by means of an extremely adjusted gear drive. Controlling source is DC voltage within limits of the relay design.



MODEL 29XA

RANGES	Model 29XA
0-50 Microammeter	\$44.10
0-100 Microammeter	42.15
0-500 Microammeter	39.00
0-1 Milliammeter	38.10
0-50 Millivoltmeter	38.25

RF — AMMETERS

(Frequency Range 10 CPS—40MC)

RANGE	APPROX. IMPEDANCE @ 1 MC	3 1/2" MODEL 1337	4 1/2" MODEL 1339
0-1	.325	\$13.35	\$16.05
0-3	.100	13.35	16.05
0-5	.050	13.35	16.05
0-8	.031	13.35	16.05
0-10	.025	13.35	16.05

VOLUME LEVEL INDICATORS VU METERS

RANGE	3 1/2" MODEL 1347	4 1/2" MODEL 1349
A—Scale	\$19.80	\$21.00
B—Scale	19.80	21.00

DECIBEL METERS

RANGE	2 1/2" MODEL 1247	3 1/2" MODEL 1347	4 1/2" MODEL 1349
General-Purpose 5000 ohms	\$16.35	\$16.50	\$18.00

DC GALVANOMETERS

SCALE	MICRO-AMPERES SENSITIVITY	RES.	MODEL 1227	MODEL 1327
50-0-50	75-0-75 MICS	2000	\$12.15	\$13.35
50-0-50	500-0-500 MICS	46	10.80	11.40

DC MILLIVOLTMETER

RANGE	RESIST. (OHMS)	MODEL 1227	MODEL 1327	MODEL 1329
0-50	10	\$10.95	\$11.40	\$12.60

SHUNTS

External switchboard type for use with DC ammeters. Adjusted for 50 millivolt drop. Shunts available for one ampere to 7000 amperes. Six-foot lead included with each unit.



CURRENT TRANSFORMERS

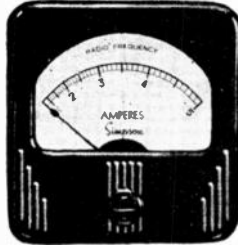
These current transformers are of the inserted, one turn, primary type. Designed for switchboard and panel AC ammeters that require external transformers. Models available for 50-1000 amperes primary — all with 5 amperes secondary.





Simpson

PANEL INSTRUMENTS



MODELS 125, 135, 145, 155

2½" ROUND CASE — OPEN FACE STYLE. Flange diameter, 2¾"; depth overall, 2-5/16"; body diameter, 2-11/64"; scale length, 1¾". Bakelite case.

MODELS 127, 137, 147, 157

2½" RECTANGULAR CASE. Width, 2¾"; height, 2¾". Mounts in round hole. Body diameter, 2-3/16". Scale length, 1¾". Bakelite case.

MODEL 27-37-57 ILLUMINATED

3½" RECTANGULAR CASE. Width, 3"; height, 3¾". Mounts in round hole. Body diameter, 2¾". Scale length, 1-5/16". Bakelite case.

NOTE: The 2½" and 3½" rectangular instruments indicated (*) are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb for an additional cost of \$1.95 dealer's net. RF ammeters, lucite illuminated, must be supplied with external thermocouple. Add \$5.55 for couple. All instruments are calibrated for use on non-magnetic panels.

VOLTMETERS

RANGE	APPROX. RESISTANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29	APPROX. RESISTANCE	MODEL 155-157	MODEL 55-57 AC	MODEL 59
0-1.5		\$10.95	\$11.40	\$12.60	3 ohms	\$ 9.60	\$10.35	\$12.00
0-3		10.95	11.40	12.60	12	9.60	10.35	12.00
0-5		10.95	11.40	12.60	33	9.60	10.35	12.00
0-8		10.95	11.40	12.60				
0-10		10.95*	11.40*	12.60	133	9.60*	10.35*	12.00
0-15		10.95	11.40	12.60	300	9.60*	10.35*	12.00
0-25		10.95	11.40	12.60	833	10.20	10.65	12.00
0-30		10.95	11.40	12.60				
0-50	1000 ohms per volt	10.95*	11.40*	12.60	3,333	10.20	10.65	12.00
0-100		10.95	11.40	12.60	16,666	10.65	11.10	12.00
0-150		10.95*	11.40*	12.60	25,000	10.80*	11.55*	12.60
0-200		10.95	11.40	12.60				
0-250		10.95	11.40	12.60	41,166	10.80	11.55	12.60
0-300		10.95*	11.40*	12.60	50,000	10.80*	11.55*	12.60
0-500		11.40	12.00*	13.05	83,333	15.60	16.35	17.55
0-750		11.40	12.00	13.05	125,000	15.60	16.35	17.55
0-1000		13.65	14.25*	15.45	166,666	15.60	16.35	17.55
0-1500		13.65	14.25	15.45				
0-2000		13.65	14.25*	15.45				
0-2500		13.65	14.25	15.45				
0-3000		13.65	14.25*	15.45				
0-4000		13.65	14.25*	15.45				
0-5000		13.65	14.25*	15.45				

External resistors are furnished on AC meters having a range of 500 volts or higher. DC 1000 volts or higher.

MILLIAMMETERS

RANGE	APPROX. RESISTANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29	APPROX. RESISTANCE	MODEL 155-157	MODEL 55-57 AC	MODEL 59
0-1	46 ohms	\$10.20*	\$10.65*	\$11.85				
0-1.5	46	10.20	10.65	11.85				
0-3	46	10.20	10.65	11.85				
0-5	23	10.20	10.65	11.85				
0-10	7	10.20*	10.65*	11.85	2,000 ohms	\$ 9.60	\$10.35	\$12.15
0-15	1.5	10.20*	10.65*	11.85	875	9.60	10.35	12.15
0-20	1.0	10.20	10.65	11.85				
0-25	2.2	10.50*	10.95*	12.45	390	9.60	10.35	12.15
0-50	3.0	10.50*	10.95*	12.45	80	9.60	10.35	12.15
0-75	2.0	10.50	10.95	12.45				
0-100	1.5	10.50*	10.95*	12.45				
0-150	1.0	10.50	10.95	12.45	20	9.60	10.35	12.15
0-200	.75	10.50*	10.95*	12.45				
0-250	.60	10.50	10.95	12.45				
0-300	.50	10.50*	10.95*	12.45	5	9.60	10.35	12.15
0-500	.30	10.50*	10.95*	12.45				
0-750	.20	10.50	10.95	12.45	.9	9.60	10.35	12.15
0-1000	.15	10.50	10.95	12.45				

MICROAMMETERS

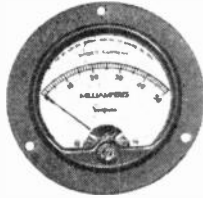
RANGE	APPROX. RESISTANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29
0-15	4800 ohms		\$21.00	\$22.95
0-25	2200	\$17.85	18.60	20.70
0-50	2000	15.30	15.75	17.10
0-100	2000	13.20	13.80	15.45
0-200	1000	11.10	11.85	13.20
0-500	200	10.65	11.25	12.60
25-0-25	2000		15.90	17.25
50-0-50	2000		13.95	15.60
100-0-100	1000		12.00	13.50
500-0-500	46		10.80	12.00

MILLIVOLTMETERS

RANGE	APPROX. RESISTANCE	MODEL 125-127	MODEL 25-27 DC	MODEL 29
0-50	5 ohms	\$10.35	\$10.80	\$12.00
0-100	10	10.35	10.80	12.00

Simpson

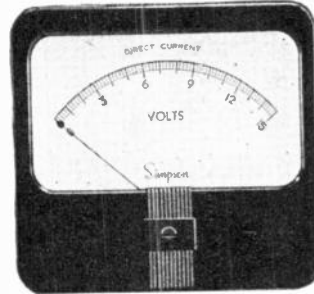
PANEL INSTRUMENTS



MODELS 25, 35, 45, 55
 3 1/2" ROUND CASE — OPEN FACE STYLE. Flange diameter, 3 1/2"; depth over-all, 2 1/4"; body diameter, 2 3/4"; scale length, 2-9/16". Bakelite case.



MODELS 27, 37, 47, 57
 3 1/2" RECTANGULAR CASE. Width, 3"; height, 3 3/8". Mounts in round hole. Body diameter, 2 3/4". Scale length, 2-9/16". Bakelite case.



MODELS 29, 39, 49, 59
 4 1/2" RECTANGULAR CASE. Width, 4-21/32"; height, 4-13/64". Mounts in round hole. Body diameter, 2 3/4". Scale length, 3-29/32". Bakelite case.



MODELS 1160, 1161, 1162
 New 5 1/2" Modernistic Meter. Supplied on special orders only. Also available in 2 1/2", 3 1/2" and 4 1/2" sizes.

DC AMMETERS

RANGE	APPROX. RES.	MOD. 125-127	MOD. 25-27	MOD. 29	APPROX. RES.	MOD. 155-157	MOD. 55-57	MOD. 59
0-1	.0500 ohms	\$10.35	\$10.80	\$12.00	.287 ohms	\$9.60	\$10.20	\$12.15
0-1.5	.0330	10.35	10.80	12.00	.185	9.60	10.20	12.15
0-2	.0250	10.35	10.80	12.00	.115	9.60	10.20	12.15
0-3	.0166	10.35	10.80	12.00	.027	9.60	10.20	12.15
0-5	.0100	10.35	10.80	12.00	.012	9.60	10.20	12.15
0-10	.0050	10.35	10.80	12.00	.003	9.60	10.20	12.15
0-15	.0033	10.35	10.80	12.00	.0015	9.60	10.50	12.75
0-25	.0020	10.35	10.80	12.00	.003*	9.60	10.50	12.75
0-30	.0017	10.35	10.80	12.00	.002*	9.60	10.50	12.75
0-50	.0010	10.35	10.80	12.00	.001*	9.60	11.40	14.85
0-75	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-100	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-150	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-200	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-250	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-300	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-500	10	10.35	10.80	12.00	.012**	9.60	10.20	12.15
0-750	10	10.35	10.80	12.00	.....	.....	.....	.....
0-1000	10	10.35	10.80	12.00	.....	.....	.....	.....
15-0-15	.0033	10.95	11.55	12.75	.....	.....	.....	.....
30-0-30	.0017	10.95	11.55	12.75	.....	.....	.....	.....
50-0-50	.0010	10.95	11.55	12.75	.....	.....	.....	.....

*Frequency range, 25-125 CPS.

**Requires external current transformer. Frequency range, 25-400 CPS.

WATTMETERS — DYNAMOMETER TYPE

RANGE WATTS	MAX. VOLTS	MAX. AMPS	MODEL 175-177	MODEL 75-77	MODEL 79	RANGE WATTS	MAX. VOLTS	MAX. AMPS	MODEL 175-177	MODEL 75-77	MODEL 79
0-75	150	1.0	\$22.65	\$24.15	\$31.35	0-600	300	4.0	\$25.20	\$26.40	\$33.75
0-150	150	2.0	22.65	24.15	31.35	0-1500	300	10.0	25.20	26.40	33.75
0-300	150	4.0	22.65	24.15	31.35	0-3000	300	20.0	25.20	26.40	33.75
0-750	150	10.0	22.65	24.15	31.35						

AC VOLTMETERS — RECTIFIER TYPE

RANGE	FREQ. RANGE 25-5000 CPS	SENSITIVITY	MOD. 45-47	MOD. 49
0-1			\$15.60	\$17.25
0-3			15.60	17.25
0-5			15.60	17.25
0-10			15.60	17.25
0-15			15.60	17.25
0-50			15.60	17.25
0-100			15.60	17.25
0-150			15.60	17.25
0-300			15.60	17.25
0-1			\$16.20	\$17.85
0-3			16.20	17.85
0-5			16.20	17.85
0-10			16.20	17.85
0-15			16.20	17.85
0-50			16.20	17.85
0-100			16.20	17.85
0-150			16.20	17.85
0-300			16.20	17.85

AC MILLIAMMETERS — RECTIFIER TYPE

RANGE	APPROX. IMPEDANCE @ 60 CPS	MOD. 45-47	MOD. 49
0-1	600 ohms	\$15.45	\$16.80
0-2	400	15.45	16.80
0-5	200	15.45	16.80

AC MICROAMMETERS — RECTIFIER TYPE

RANGE	APPROX. IMPEDANCE @ 60 CPS	MOD. 45-47	MOD. 49
0-100	3400 ohms	\$18.60	\$20.10
0-200	2400	16.35	18.00
0-300	1800	16.20	17.70
0-500	1200	15.90	17.40

DC GALVANOMETERS

SCALE	SENSITIVITY MICRO-AMPS	RESIST.	MODEL 125-127	MODEL 25-27
50-0-50	500-0-500	46 ohms	\$10.20	\$10.80
50-0-50	75-0-75	2000	11.55	12.75

AC AMMETERS (Iron Vane Type: Freq., 25-1000 CPS)

RF AMMETERS

RANGE	APPROX. IMP. @ 1 MC	MODEL 135-137	MODEL 35-37	MODEL 39
0-1	.205 ohms	\$11.40*	\$12.75*	\$15.45
0-1.5	.177	11.40	12.75	15.45
0-2	.104	11.40*	12.75*	15.45
0-2.5	.088	11.40	12.75	15.45
0-3	.076	11.40*	12.75*	15.45
0-5	.039	11.40*	12.75*	15.45
0-8	.025	11.40	12.75	15.45
0-10	.021	11.40	12.75	15.45

*These 2 1/2" and 3 1/2" rectangular instruments are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb for an additional cost of \$1.95 dealer's net. 2 1/2" R.F. ammeter lucite illuminated must be supplied with external thermocouple. Add \$8.55 for couple.

RF MILLIAMMETERS

RANGE	APPROX. IMPEDANCE @ 60 CPS	MOD. 45-47	MOD. 49
0-115	..... ohms	.....	\$26.10
0-150	4.5	.....	15.45
0-250	3.0	.....	15.45
0-500	.6	.....	15.45

VOLUME LEVEL INDICATORS—DECIBEL METERS

ZERO POWER LEVEL—6 MW, 500 OHM LINE
 RANGE MOD. 145-147 MOD. 45-47 MOD. 49

GENERAL PURPOSE TYPE	MOD. 145-147	MOD. 45-47	MOD. 142
-10 to +6 db 5000 ohms	\$15.75	\$15.90	\$17.40
HIGH SPEED TYPE			
-10 to +6 db 5000 ohms	.....	16.95	18.15
LOW SPEED TYPE			
-10 to +6 db 5000 ohms	.....	16.95	18.15

VOLUME LEVEL INDICATORS—VU METERS

REFERENCE LEVEL—1 MW 600 OHM LINE
 RANGE MOD. 145-147 MOD. 45-47 MOD. 142

Scale—3900 ohms	MOD. 145-147	MOD. 45-47	MOD. 142
Not illuminated A or B	\$19.20
Scale—3900 ohms	\$20.40
Illuminated A or B Scale—			
3900 ohms	23.40

Model 142 has same physical appearance as Model 29

Test with confidence

WRITE FOR DATA SHEETS ON THE INSTRUMENTS SHOWN . . . ALL ARE STANDARD PRODUCTION MODELS, AVAILABLE FOR IMMEDIATE DELIVERY FROM STOCK . . . LET US QUOTE ON YOUR REQUIREMENTS FOR MODIFIED UNITS OR SPECIAL TEST EQUIPMENT.

SLAUGHTER CO.
PIQUA 3, OHIO

High-Voltage Leakage Tester

checks insulation for leakage



. . . grounds
. . . arcing

MODEL
122

16 lb Portable
for lab and
field work

0/2100 V.A.C. . . . 0/100/1000 MICROAMPS
CAPACITY COMPENSATION . . . MEASURES
A.C. RESISTANCE, CAPACITY, AND POWER
FACTOR.

Precision Stroboscope

with high intensity daylight lamp



. . . stable
. . . accurate

MODEL
162

Interchangeable
Heads . . .
0.1% accuracy

FOR SPEED MEASUREMENTS TO 30,000 RPM
FOR MOTION STUDIES . . . CAN BE SYNCHRO-
NIZED WITH EXTERNAL SIGNALS . . . CAN BE
TRIGGERED WITH EXTERNAL CONTACTS . . .
CAN BE COUPLED TO COUNTER, SCOPE, OR
OTHER EQUIPMENT.

SLAUGHTER CO. • PIQUA 3, OHIO

High-Voltage Insulation Tester

with buzzer signal on breakdowns



. . . grounds
. . . shorts

MODEL
101

Watch what you
are doing . . .
not the tester

SIX TEST VOLTAGES . . . 500 to 2500 V.A.C.
PRICED SO YOU CAN AFFORD TO SPOT A
FEW ALONG YOUR ASSEMBLY LINES.

FOR SAFETY

Adjustable High-Voltage Tester

with buzzer signal on breakdowns



. . . grounds
. . . shorts

MODEL
106

Voltmeter
shows actual
Test Voltage

ADJUSTABLE VOLTAGES TO 2500 V.A.C. REC-
COMMENDED FOR BREAKDOWN TESTING AT
FINAL ASSEMBLY AND INSPECTION.

High-Voltage Leakage Tester

audibly signals excess leakage



. . . grounds
. . . arcing

MODEL
103

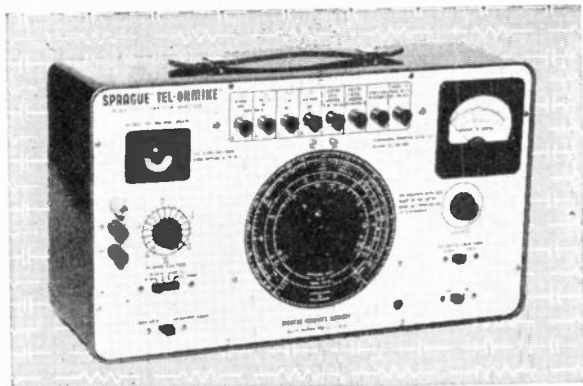
Measures Leakage
. . . not capacity
current

TEST VOLTAGE ADJUSTABLE TO 2100 V.A.C.
LEAKAGE LIMIT ADJUSTABLE . . . 0 TO 5 MA.
DETECTS 20 MICROAMPERE ARCS . . . CAN-
CELS CHARGING CURRENT CAUSED BY IN-
HERENT CAPACITY. USED AT FINAL INSPEC-
TION FOR BREAKDOWN AND LEAKAGE TESTS.

SLAUGHTER CO. • PIQUA 3, OHIO

SPRAGUE TEST EQUIPMENT

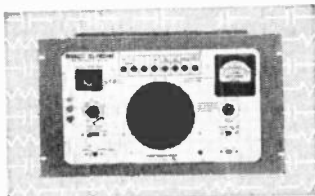
TO-5 TEL-OHMIKE® CAPACITOR ANALYZER



Modern service shops find the TEL-OHMIKE a must. The TO-5 is a moderately priced instrument with laboratory quality and accuracy — the highest accuracy of any instrument of its type available to the service trade!

MODEL TO-5RM FOR RACK MOUNTING

Electrically identical with the standard instrument, Model TO-5RM has a standard 19" wide x 10½" high panel so that it can be mounted in standard relay racks.
Model TO-5RM .. \$93.90 net



- **CAPACITANCE BRIDGE** measures up to 2000 mfm in five overlapping ranges. The special 1 mfm to 100 mfm range is exclusive with the Tel-Ohmike.
- **INSULATION RESISTANCE** directly read on large meter up to 20,000 megohms for papers, ceramics, and micas. No guessing with neon lamps.
- **LEAKAGE CURRENT** of electrolytics measured directly on meter, with exact rated voltage up to 600v. applied from continuously adjustable power supply. Two ranges: 0-6-60 ma. No guessing on eye-width or counting lamp blinks!
- **POWER FACTOR** of electrolytics measured by Wien Bridge up to 55% in three ranges.
- **TURNS RATIO SCALE** to measure turns ratio of power and audio transformers.
- **MAGIC-EYE TUBE** simplifies bridge balancing for capacitance and power factor measurements.
- **PUSH-BUTTONS** for instant range selection, also discharge capacitors for safety upon release.
- **MODERN CASE** finished in two-tone gray; measures 8⅞" high, 14⅝" wide, 6⅞" deep. Weight only 12½ pounds.

MODEL TO-5 115 VAC 50-60 cy \$83.90 net
Model TO-5X 115-230 V/25-60 cy \$89.90 net

LF-1 TRANSIMULATOR®

SPEEDS DESIGN OF TRANSISTOR CIRCUITS BY ELIMINATING BREADBOARD LAYOUT

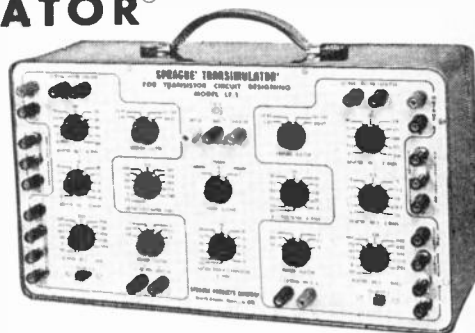
Bring transistor circuits to life in a matter of minutes with the Sprague LF-1 Transimulator. This new instrument lets you simulate any amplifier stage, a-c or direct-coupled, short of high power audio output; also multivibrator, switching, phasing, push-pull, Class A and B, and many others using cross-coupled Transimulators . . . whether the circuit is common or grounded emitter, base, or collector . . . whether the transistors are PNP, NPN, or Surface Barrier. You can simulate circuits stage-by-stage for cascade operation . . . or use a separate Transimulator for each stage to get simultaneous multi-stage operation.

Bring Circuit Diagrams To Life In Minutes

Everything you need for RC amplifier circuits is built right into the LF-1, including coupling capacitors . . . bias and load resistors . . . battery voltage supplies . . . Base Collector—Voltage Divider stabilization circuits . . . 5-way binding posts for transformer coupling and metering. Whether you're designing audio circuits or switching circuits, you'll get a true picture of operating parameters minutes after you've drawn the circuit diagram . . . without wasting valuable time with breadboard and soldering gun.

Pays For Itself In A Matter Of Weeks

An ideal laboratory instrument, Transimulators are inexpensive enough to justify several on every bench. You can even use the LF-1 to test transistors *in the circuit* . . . the only real proof of design parameters. And a complete step-by-step instruction manual makes operation fast, simple, and easy.



FEATURES OF THE LF-1 TRANSIMULATOR

- **TRANSISTORS**—PNP and NPN Junction, and Surface Barrier.
- **CIRCUITS**—Common or Grounded Emitter, Base, Collector.
- **RANGE**—Audio, up to 100 kc.
- **TRANSISTOR POWER**—Through medium power audio output.
- **BATTERY SUPPLY**—Separate bias and load. 1.5, 3, 4.5, 6 volts d-c. Polarity Reversing Switch.
- **COUPLING**—2 μf and 20 μf Direct, and Ext. C. posts, on both Input and Output.
- **BIAS RESISTANCE**—Up to 555,000 ohms continuously variable.
- **LOAD RESISTANCE**—Up to 277,500 ohms continuously variable.
- **EMITTER RESISTANCE**—Up to 2,500 ohms variable. Series resistor and bypass capacitor can be added.
- **BASE COLLECTOR STABILITY**—Up to 250,000 ohms variable. Series resistor and bypass capacitor can be added.
- **VOLTAGE DIVIDER STABILITY**—Up to 50,000 ohms variable.
- **5-WAY BINDING POSTS**—For meters, transformer coupling, external supply voltage, degeneration, bypass, coupling, signal input and output, almost any connection required.

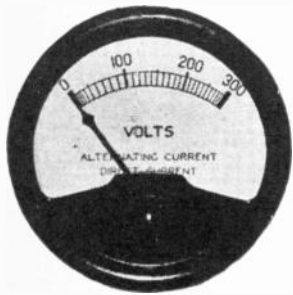
\$79.50 NET

STERLING PANEL METERS



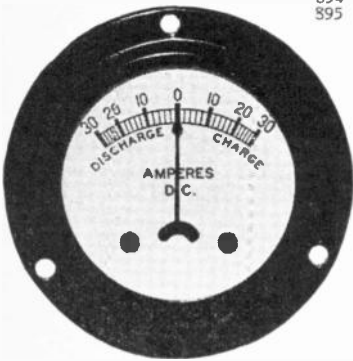
TYPE 80

Flush case, narrow flange, standard finish black enamel. Speed Nut Mounting. Diam. flange 2 3/8". Speed Diam. case 2". Depth case 3/4". Requires hole 2 1/2" in diam. Length terminals 7/8".



TYPE 88

Flush case, narrow apron flange. Standard finish black enamel. Same dimensions as Type 80. Speed Nut Mounting.



TYPE 70

Flush case, wide flange, standard finish black enamel. Screw holes in flange for mounting. Diam. flange 2 5/8". Diam. case 2". Depth case 7/8". Requires hole 2 3/8" in diam.



STERLING'S NEW SPEED NUT CLAMP



REGULAR BACK CLAMP

ALTERNATING CURRENT METERS

A.C. VOLTMETERS

Number	Range	Dealers' Net Price
870	0-4 Volts	\$2.70
871	0-6 Volts	2.70
872	0-10 Volts	2.70
873	0-15 Volts	2.70
910	0-30 Volts	2.70
879	0-50 Volts	2.70
911	0-75 Volts	2.85
874	0-150 VHR†	3.45
912	0-250 Volts	3.90
875	0-300 Volts	3.90
913	0-500 Volts	4.50
876	0-600 Volts	4.50
877	0-750 Volts	5.25
878	0-10-140 Volts	3.60

†VHR—Volts High Resistance

A.C. MILLIAMMETERS

Number	Range	Dealers' Net Price
880	0-25 Milliampers	\$2.70
881	0-50 Milliampers	2.70
882	0-100 Milliampers	2.70
883	0-250 Milliampers	2.70
914	0-300 Milliampers	2.70
884	0-500 Milliampers	2.70

A.C. AMMETERS

Number	Range	Dealers' Net Price
886	0-1 Amperes	\$2.70
915	0-2 Amperes	2.70
887	0-3 Amperes	2.70
888	0-5 Amperes	2.70
916	0-7 1/2 Amperes	2.70
889	0-10 Amperes	2.70
917	0-15 Amperes	2.70
890	0-20 Amperes	2.85
918	0-25 Amperes	2.85
892	0-30 Amperes	2.85
891	0-50 Amperes	3.00
893	0-60 Amperes	3.15
894	0-75 Amperes	3.15
895	0-100 Amperes	3.15

DIRECT CURRENT METERS

D.C. VOLTMETERS

Number	Range	Dealers' Net Price
801	0-1 Volts	\$1.65
802	0-3 Volts	1.65
803	3-0-3 Volts	1.65
804	0-5 Volts	1.65
805	0-6 Volts	1.65
806	0-8 Volts	1.65
807	0-10 Volts	1.65
808	0-15 Volts	1.65
809	0-25 Volts	1.65
810	0-25 Volts High Res.	2.55
811	0-50 Volts	1.65
812	0-50 Volts High Res.	2.70
823	0-75 Volts	1.95
813	0-100 Volts	1.95
814	0-100 Volts High Res.	2.85
815	0-150 Volts	2.10
816	0-150 Volts High Res.	2.85
817	0-300 Volts	2.85
818	0-500 Volts	3.45
819	0-750 Volts	4.05
820	0-8-160 Volts	2.70

RESISTANCE METERS

Direct Reading
 901.....1.5 Volts, 10,000 Ohms
 3 Flashlight cells required
 Dealers' Net Price \$2.40
 902....2 M.A., 9 Volts, 100,000 Ohms, 6 Flashlight cells required
 Dealers' Net Price \$3.30

D.C. MILLIAMMETERS

Number	Range	Dealers' Net Price
834	0-1 Milliamps.	\$3.45
835	0-2 Milliamps.	2.55
836	0-5 Milliamps.	2.10
837	0-10 Milliamps.	1.95
838	0-15 Milliamps.	1.65
839	0-25 Milliamps.	1.65
840	0-50 Milliamps.	1.65
841	0-100 Milliamps.	1.65
842	0-150 Milliamps.	1.65
843	0-200 Milliamps.	1.65
844	0-300 Milliamps.	1.65
845	0-400 Milliamps.	1.65
846	0-20-100 Milliamps	2.40
847	0-15-150 Milliamps.	2.40
848	0-500 Milliamps.	1.65

D.C. AMMETERS

No.	Range	Dealers' Net Price	No.	Range	Dealers' Net Price
855	0-1 Amperes	\$1.65	868	0-20 Amperes	\$1.65
859	1-0-1 Amperes	1.65	863	20-0-20 Amperes	1.65
856	0-3 Amperes	1.65	865	0-30 Amperes	1.65
860	3-0-3 Amperes	1.65	867	30-0-30 Amperes	1.65
857	0-5 Amperes	1.65	869	0-40 Amperes	2.25
861	6-0-6 Amperes	1.65	866	0-50 Amperes	2.25
858	0-10 Amperes	1.65	925	50-0-50 Amperes	2.40
862	10-0-10 Amperes	1.65	926	60-0-60 Amperes	2.40
864	0-15 Amperes	1.65	927	75-0-75 Amperes	2.55

Now you can plan your panel meter requirements with the new Sterling clear plastic face unit at moderate cost. Its fine physical construction assures satisfying operation and provides accuracy to within ±5%. No need to fear the disturbance of the internals when loosening or adjusting the terminal nuts, for construction assures no damage. Here is handsome appearance plus long life utility.

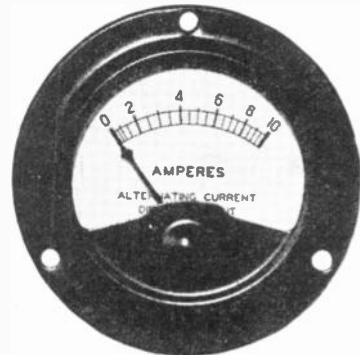
Furnished in quantity only. Prices on request.

Order your Sterling Plastic Face panel meters from this range:

- 1 Volt D.C. to 750 Volts D.C.
- 1 Mill D.C. to 75 Amps D.C.
- 1 Volt A.C. to 750 Volts A.C.
- 25 Mill A.C. to 100 Amps A.C.

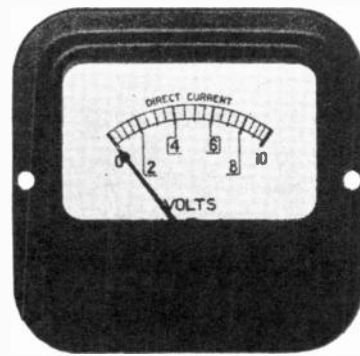
PRICES LISTED FOR TYPE 70 ONLY

Note: Specify if for magnetic steel panel mounting.
 Type 80, 88, 78, and 68N square flange case furnished for any range of meter at an additional net price of 15c each.



TYPE 78

Flush case, wide flange with apron. Standard finish black, screw holes in flange for mounting. Same dimensions as Type 70.



TYPE 68N

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange 2 5/8". Diam. case 2 3/4". Depth case 3/4".



STERLING HEARING AID BATTERY TESTERS



No. 31A

NO. 31A DOUBLE VOLTMETER—for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries. scale 0-50 v. 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs Dealers' Net Price \$2.70

NO. 32A DOUBLE VOLTMETER—for special 30 v. "B" batteries and 1½ v. "A" batteries. scale 0-35 v. 1 v. div. scale 0-2 v. 1/10 v. divisions. Equipped with new STERLING flexible plugs Dealers' Net Price \$2.70

NO. 10 DUAL CONTACT PROD METER in pocket or desk model. Marked "A" at one contact and "B" at the other, the prod is simply inserted into the corresponding battery contact and "B" at the other, the prod is simply inserted into the corresponding battery contact for quick and easy reading. No. 10 is for earlier type hearing aid batteries. Scale 50-0-50 v., 2 v. div. and 2-0-2 v., 1/10 v. div. No. 10 has one cord and one plug Dealers' Net Price \$3.15

NO. 11 Formerly called the 10S this tester is used on 22½ v. and 30 v. "B" batteries. The load requirement is proportionately less than 1 mil. No. 11 has one cord and one plug. Dealers' Net Price \$4.50

NO. 12 This new meter has no spur and a new voltage scale 30-0-30 v., 1 v. div. and 2-0-2 v., 1/10 v. div. Made extra sensitive for the latest type miniature batteries. Load: on 22½ v. batteries approx. 565 micro-amperes, on 15 v. batteries approx. 375 micro-amperes, on 1½ v. batteries approx. 40 mils Dealers' Net Price \$4.50

NO. 13 TRANSISTOR TYPE BATTERY TESTER with voltage scale 0-7, 2/10 v. divisions. Tests up to five mercury batteries in series. Indicates battery strength with a minimum consumption of power Dealers' Net Price \$2.79



No. 10

STERLING POCKET METERS

Standard Line Direct Current Pocket Ammeters, Voltmeters and Voltammeters.

Ammeters DEALERS' NET PRICE

- No. 23 for photo-flash dry batteries. 0-20 amp. scale, ½ amp. div. \$1.95
- No. 24 for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions \$1.80
- No. 24A for testing dry cells including the heavy-duty ignition type of cell. 0-50 ampere scale, 1 ampere divisions \$1.86

Voltmeters

- No. 33 for ordinary single cells and "Flashlight" cells. 0-3 v. scale 1/10 v. div. \$1.86
- No. 34 for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt. div. \$1.86
- No. 34A for 12 volt batteries. 0-16 volt scale, ½ volt divisions \$1.35
- No. 34B for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions \$1.95
- No. 34C for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div. \$2.10

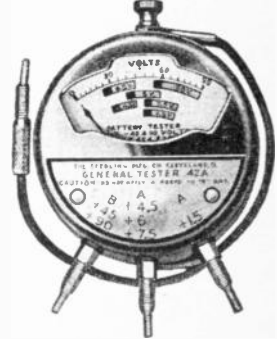
Voltammeters

- No. 44 for "Hot Shot" and Radio batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions \$2.25
- No. 44A for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, ½ volt divisions \$2.25
- No. 45 for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale; 1 volt divisions \$2.70
- No. 45A for testing dry cells including the heavy-duty ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div. \$2.85

SPECIAL PURPOSE POCKET METERS

Voltmeters DEALERS' NET PRICE

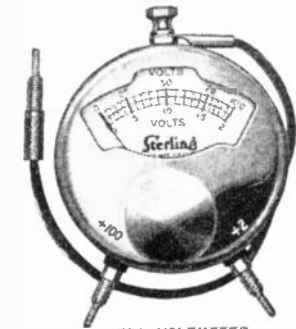
- No. 37A for 45 v. "B" batteries and 1.5 "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries \$2.40
- No. 38A for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries \$2.55
- No. 39A for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5-v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries \$2.55
- No. 40A for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries \$2.70
- No. 42A Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., 6 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries. 5 v. div. Tests all Portable Radio batteries \$3.90



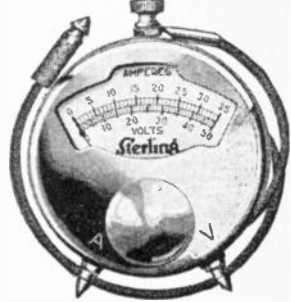
No. 42A GENERAL TESTER



No. 23 AMMETER



No. 38A VOLTMETER



No. 45 VOLTAMMETER

STANDARD LINE—Sterling's direct current pocket ammeters, voltmeters and voltammeters may be used in all kinds of battery testing, in railroad signal work, for photo flash purposes and in telephone and low-voltage electrical work generally. They are polarity indicators. Meters 2½" in diameter and 5/8" thick. Nickel finish. Standard package, ten instruments. Shipping Weight 4 lbs.

THE STERLING MANUFACTURING COMPANY

CLEVELAND 2, OHIO

SUPERIOR TEST EQUIPMENT

SUPERIOR'S NEW MODEL 77-A

The FIRST Pocket-Sized VOLT-OHM MILLIAMMETER



USING THE NEW "FULL-VIEW" METER
71% MORE SCALE AREA!

Yes, although our new FULL-VIEW D'Arsonval type meter occupies exactly the same space used by the older standard 2 1/4" Meters, it provides 71% more scale area. As a result, all calibrations are printed in large easy-to-read type and for the first time it is now possible to obtain measurements instead of approximations on a popular priced pocket-sized V.O.M.

• Compact—measures 3 1/4" x 5 3/4" x 2 1/4". • Uses "Full View" 2 1/2" accurate, 850 Microampere D'Arsonval type meter. • Housed in round-cornered molded case. • Beautiful black etched panel. Depressed letters filled with permanent white, insures long-life even with constant use.

Specifications

• 6 A.C. VOLTAGE RANGES: 0-15/30/150/300/1500/3000 Volts. • 6 D.C. VOLTAGE RANGES: 0-1.5/15/75/150/750/1500 Volts. • 2 RESISTANCE RANGES: 0-10,000 Ohms, 0-1 Megohm • 3 D.C. CURRENT RANGES: 0-15/150 Ma., 0-1.5 Amps. • 3 DECIBEL RANGES: -6 db to +18 db, +14 db to +38 db, +34 db to +58 db.

The Model 77-A comes complete with self-contained batteries, test leads and all operating instructions.

\$15.85

SUPERIOR'S NEW MODEL 77

VACUUM TUBE VOLTMETER WITH NEW 6" FULL-VIEW METER



Compare it to any peak-to-peak V. T. V. M. made by any other manufacturer at any price!

• Uses new improved SICO printed circuitry. • Employs a 12AU7 as D.C. amplifier and two 9006's as peak-to-peak voltage rectifiers to assure maximum stability. • Meter is isolated from the measuring circuit by a balanced push-pull amplifier. • Uses selected 1% zero temperature coefficient resistors as multipliers.

AS A DC VOLTMETER: The Model 77 is indispensable in Hi-Fi Amplifier servicing and a must for Black and White and color TV Receiver servicing where circuit loading cannot be tolerated.

AS AN ELECTRONIC OHMMETER: Because of its wide range of measurement leaky capacitors show up clearly. Because of its sensitivity and low loading, intermittents are easily found, isolated and repaired.

SPECIFICATIONS

• DC VOLTS — 0 to 3/15/75/150/300/750/1,500 volts at 11 megohms input resistance. • AC VOLTS (RMS) — 0 to 3/15/75/150/300/750/1,500 volts. • AC VOLTS (Peak to Peak) — 0 to 8/40/200/400/800/2,000 volts. • ELECTRONIC OHMMETER — 0 to 1,000 ohms/10,000 ohms/100,000 ohms/1 megohm/10 megohms/100 megohms/1,000 megohms. • DECIBELS — -10 db to +18 db, +10 db to +38 db, +30 db to +58 db. All based on 0 db = .006 watts (8 mw) into a 500 ohm line (1.73v). • ZERO CENTER METER — For discriminator alignment with full scale range of 0 to 1.5/1.5/37.5/15/150/375/750 volts at 11 megohms input resistance.

AS AN AC VOLTMETER: Measures RMS value if sine wave, and peak-to-peak value if complex wave. Pedestal voltages that determine the "black" level in TV receivers are easily read.

Comes complete with operating instructions, probe, leads, and steamlined carrying case. Operates on 110-120 volt 60 cycle. Only..

\$42.50

SUPERIOR'S NEW MODEL 79

SUPER-METER

WITH NEW 6" FULL-VIEW METER



A Combination VOLT-OHM MILLIAMMETER Plus CAPACITY, REACTANCE, INDUCTANCE, AND DECIBEL MEASUREMENTS Also Tests SELENIUM AND SILICON RECTIFIERS, SILICON AND GERMANIUM DIODES.

The Model 79 represents 20 years of continuous experience in the design and production of SUPER-METERS, an exclusive SICO development. It includes not only every circuit improvement perfected in 20 years of specialization but, in addition includes those services which are "musts" for properly servicing the ever-increasing number of new components used in all phases of today's elec-

tronic production. For example with the Model 79 SUPER-METER you can measure the quality of selenium and silicon rectifiers and all types of diodes—components which have come into common use only within the past five years, and because this latest SUPER-METER necessarily required extra meter scale, SICO used its new full-view 6-inch meter.

SPECIFICATIONS:

• D.C. VOLTS: 0 to 7.5/15/75/150/750/1,500. • A.C. VOLTS: 0 to 15/30/150/300/1,500/3,000. • D.C. CURRENT: 0 to 1.5/15/150 Ma. test potentials. Two separate BADO to 1.5/15 Amperes • RESISTANCE: 0 to 1,000/100,000 Ohms, 0 to 10 Megohms. • CAPACITY: .001 to 1 Mfd., 1 to 50 Mfd. • REACTANCE: 50 to 2,500 Ohms 2,500 Ohms to 2.5 Megohms. • INDUCTANCE: 15 to 7 Henries, 7 to 7,000 Henries. • BELS: -6 to +18, +14 to +38, +34 to +58. All Silicon Diodes. All Selenium Rectifiers. All Silicon Rectifiers. All Germanium Diodes. All Germanium Diodes.

Model 79 comes complete with operating instructions, test leads, and steamlined carrying case. Use it on the bench—use it on calls. Only

\$38.50

SUPERIOR'S NEW MODEL 80

20,000 OHMS PER VOLT ALLMETER

THE ONLY 20,000 OHMS PER VOLT V.O.M. SELLING FOR LESS THAN \$50 WHICH PROVIDES ALL THE FOLLOWING FEATURES:



- ✓ 6 INCH FULL-VIEW METER provides large easy-to-read calibrations. No squinting or guessing when you use Model 80.
- ✓ MIRRORED SCALE permits fine accurate measurements where fractional readings are important.
- ✓ CAPACITY RANGES permit you to accurately measure all condensers from .00025 MFD to 30 MFD in addition to the standard volt, current, resistance and decibel ranges.
- ✓ HANDSOME SADDLE-STITCHED CARRYING CASE included with Model 80 Allmeter at no extra charge enables you to use this fine instrument on outside calls as well as on the bench in your shop.

SPECIFICATIONS:

- 7 D.C. VOLTAGE RANGES (At a sensitivity of 20,000 Ohms per Volt) 0 to 15/75/150/300/750/1500/7500 Volts.
- 6 A.C. VOLTAGE RANGES: (At a sensitivity of 5,000 Ohms per Volt) 0 to 15/75/150/300/750/1500 Volts.
- 3 RESISTANCE RANGES: 0 to 2,000/200,000 Ohms. 0-20 Meg-ohms.
- 2 CAPACITY RANGES: .00025 Mfd. to .3 Mfd., .05 Mfd. to 30 Mfd.
- 5 D.C. CURRENT RANGES 0-75 Microamperes, 0 to 7.5/75/750 Milliamperes, 0 to 15 Amperes.
- 3 DECIBEL RANGES: -6 db to +18 db, +14 db to +38 db +34 db to +58 db

NOTE: The line cord is used only for capacity measurements. Resistance ranges operate on self-contained batteries.

FEATURES: • A built-in Isolation Transformer automatically isolates the Model 80 from the power line when capacity service is in use. • Selected, 1% zero temperature coefficient metalized resistors are used as multipliers to assure unchanging accurate readings on all ranges.

Model 80 Allmeter comes complete with operating instructions, test leads and portable carrying case. Only

\$42.50

SUPERIOR'S NEW MODEL 70 UTILITY TESTER

FOR REPAIRING ALL ELECTRICAL APPLIANCES and AUTOMOBILE CIRCUITS



As an electrical trouble shooter the Model 70:

- Will test Toasters, Irons, Broilers, Heating Pads, Clocks, Fans, Vacuum Cleaners, Refrigerators, Lamps, Fluorescent Switches, Thermostats, etc. • Measures A.C. and D.C. Voltages, A.C. and D.C. Current, Resistances, Leaks, etc. • Will measure current consumption while the appliance under test is in operation. • Incorporates a sensitive direct-reading resistance range which will measure all resistances commonly used in electrical appliances, motors, etc. • Leakage detecting circuit will indicate continuity from zero ohms to 5 megohms (5,000,000 ohms).

As an Automotive Tester the Model 70 will test:

- Both 6 Volt and 12 Volt Storage Batteries • Generators • Starters • Distributors • Ignition Coils • Regulators • Relays • Circuit Breakers • Cigarette Lighters • Stop Lights • Condensers • Directional Signal Systems • All Lamps and Bulbs • Fuses • Heating Systems • Horns • Also will locate poor grounds, breaks in wiring, poor connections, etc.

Handsome round-cornered molded bakelite case, 3 1/4" x 5 3/4" x 2 1/4". Complete with all test leads. Also included is a 64 page book giving detailed instructions, for testing all electrical appliances, automotive equipment, etc. Only

\$15.85

SUPERIOR TEST EQUIPMENT

SUPERIOR'S NEW MODEL TW-11 STANDARD PROFESSIONAL TUBE TESTER



- * Tests all tubes, including 1, 5, 6, 7, Octal, Lock-in, Hearing Aid, Thyatron, Miniatures, Sub-miniatures, Novals, Sub-minars, Proximity fuse types, etc.
- * Uses the new self-cleaning Lever Action Switches for individual element testing. Because all elements are numbered according to pin-number in the RMA base numbering system, the user can instantly identify which element is under test. Tubes having tapered filaments and tubes with filaments terminating in more than one pin are truly tested with the Model TW-11 as any of the pins may be placed in the neutral position when necessary.
- * The Model TW-11 does not use any combination type sockets. Instead individual sockets are used for each type of tube. Thus it is impossible to damage a tube by inserting it in the wrong socket.
- * Free-moving built-in roll chart provides complete data for all tubes. All tube listings printed in large easy-to-read type.

NOISE TEST: Plug jack on front panel for plugging in either phones or external amplifier. Will detect microphonic tubes or noise due to faulty elements and loose inter-connection.

EXTRAORDINARY FEATURE

SEPARATE SCALE FOR LOW-CURRENT TUBES: Previously, an emission-type tube tester has been standard practice to use one scale for all tubes. As a result, the calibration for low-current types has been restricted to a small portion of this scale. The extra scale used here greatly simplifies testing of low-current types.

The Model TW-11 operates on 105-130 Volt 60 Cycles A.C. Com2, housed in a beautiful hand-rubbed oak cabinet complete with portable cover.

\$47⁵⁰

SUPERIOR'S NEW MODEL 82A

Multi-Socket Type TUBE TESTER

TEST ANY TUBE IN 10 SECONDS FLAT!



- 1 Turn the filament selector switch to position specified.
- 2 Insert tube into a numbered socket as designated on our chart (over 600 types included).
- 3 Press down the quality button—

THAT'S ALL! Read emission quality direct on bad-good meter scale.

SPECIFICATIONS

- Tests over 600 tube types
- Tests OZ1 and other gas-filled tubes
- Employs new 1" meter with sealed air-damping chamber resulting in accurate vibrationless readings
- Use of 22 sockets permits testing all popular tube types and prevents possible obsolescence
- Dual Scale meter permits testing of low current tubes
- 7 and 2 pin straighteners mounted on panel
- All sections of multi-element tubes tested simultaneously
- Ultra-sensitive leakage test circuit will indicate leakage up to 5 megohms

Production of this Model was delayed a full year pending careful study by Superior's engineering staff of this new method of testing tubes. Don't let the low price mislead you! We claim Model 82A will outperform similar looking units which sell for much more.

To test any tube, you simply insert it into a numbered socket as designated, turn the filament switch and press down the quality switch — THAT'S ALL! Read quality on meter. Inter-element leakage if any indicates automatically.

Model 82A comes housed in handsome, portable Saddle-Stitcher Texon case. Only

\$36⁵⁰

SUPERIOR'S NEW MODEL 83

C.R.T. TESTER

Tests and Rejuvenates ALL PICTURE TUBES



ALL BLACK AND WHITE TUBES
From 50 degree to 110 degree types — from 8" to 30" types.

ALL COLOR TUBES

Test ALL picture tubes—in the carton—out of the carton—in the set!

- Model 83 is not simply a rebalanced black and white C.R.T. Tester with a color adapter added. Model 83 employs a new improved circuit designed specifically to test the older type black and white tubes, the newer type black and white tubes, and all color picture tubes.
- Model 83 provides separate filament operating voltages for the older 6.3 types and the 2.5, 5.0, 8.1 types.
- Model 83 employs a 1 1/2" air-lamped meter with quality and calibrated scales.
- Model 83 properly tests the red, green and blue sections of color tubes individually — for each section of a color tube contains its own filament, plate grid and a coil.
- Model 83 will detect tubes which are apparently good but require rejuvenation. Such tubes will provide a picture seemingly good but lacking in proper definition, contrast and focus. To test for such malfunction, you simply press the test switch of Model 83. If the tube is weakening, the meter reading will indicate this condition.
- Rejuvenation of picture tubes is not simply a matter of applying a high voltage to the filament. Such voltages, improperly applied can strip the cathode of the over-coating essential for proper emission. The Model 83 applies a selective low voltage uniformly to assure increased life with no danger of cathode damage.

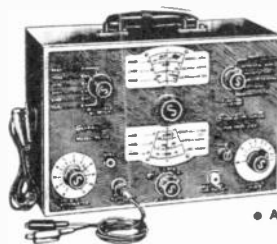
Model 83 comes housed in handsome portable Saddle-Stitcher Texon case — complete with sockets for all black and white tubes and all color tubes. Only

\$38⁵⁰

SUPERIOR'S NEW MODEL TV-50A

GENOMETER

7 Signal Generators in One!



- ✓ R.F. Signal Generator for A.M.
- ✓ R.F. Signal Generator for F.M.
- ✓ Audio Frequency Generator
- ✓ Marker Generator
- ✓ Bar Generator
- ✓ Color Dot Pattern Generator
- ✓ Cross Hatch Generator

This Versatile All-Inclusive GENERATOR Provides All the Outputs for Servicing:

- A.M. RADIO • F.M. RADIO • AMPLIFIERS
- BLACK AND WHITE TV • COLOR TV

R. F. SIGNAL GENERATOR: 100 Kilocycles to 60 Megacycles on fundamentals and from 10 Megacycles to 180 Megacycles on powerful harmonics.

VARIABLE AUDIO FREQUENCY GENERATOR: Provides a variable 300 cycle to 20,000 cycle peaked wave audio signal.

MARKER GENERATOR: The following markers are provided: .80 Kc., 262.5 Kc., 150 Kc., 600 Kc., 1,000 Kc., 1,400 Kc., 1,600 Kc., 2,000 Kc., 2,400 Kc., 3,200 Kc., 4,500 Kc., 5,000 Kc., 10,700 Kc. (3570 Kc. is the color burst frequency.)

BAR GENERATOR: Pattern consists of 1 to 16 horizontal bars or 7 to 20 vertical bars.

DOT PATTERN GENERATOR (FOR COLOR TV): The Dot Pattern projected on any color TV Receiver tube by the Model TV 50A will enable you to adjust for proper color convergence.

CROSS HATCH GENERATOR: The pattern consists of non-shifting horizontal and vertical lines interlaced to provide a stable cross-hatch effect.

The Model TV-50A comes complete with shielded leads and operating instructions. Only

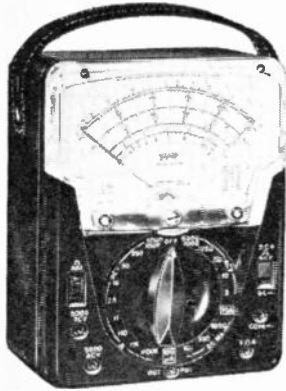
\$47⁵⁰



Manufactured by
SUPERIOR INSTRUMENTS CO.
NEW YORK 67, N. Y.

TRIPLET

TEST EQUIPMENT



MODEL 630-PL VOLT-OHM-MILLIAMMETER

Instant-vision, wider spread scales; streamlined case, handsome modern design. Outstanding linear ohm scale; low reading .1 ohm; high to 1G0 megohms. One switch selects any range; minimizes chance of incorrect settings and burnouts. 5 to 500,000 cycles per second frequency response in AC measurements. DC Polarity reversing switch. High Sensitivity: 5,000 ohms per volt AC; 20,000 ohms per volt DC.

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000—at 20,000 ohms/volt.
AC Volts: 0-3-10-50-250-1,000-5,000—at 5,000 ohms/volt.
Decibels: -20 to +11, +21, +35, +49, -61, +75; "0" DB at 1 MW on 600 ohm line.
DC Microamperes: 0-100—at 250 millivolts.
DC Milliampers: 0-10-100-1,000—at 250 millivolts.
DC Amperes: 0-10—at 250 millivolts.

Ohms: 0-1,000-10,000—(4.4-44 at center scale).
Megohms: 0-1-100—(4,400-440,000 at center scale).
Output V (AC): 0-3-10-50-250-1,000—at 5,000 ohms/volt, jack with condenser in series with AC ranges.
Case: Molded, fully insulated; 3-11 3/2" x 5-1/2" x 7-1/2".

MODEL 630-PL—U.S.A. Dealer Net \$44.50
 Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

MODEL 630-APL VOLT-OHM-MILLIAMMETER

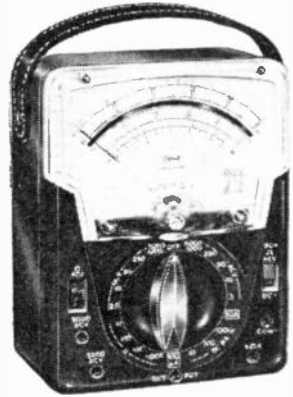
Laboratory type V-O-M featuring 1/2% resistors and more accurate movement for greater accuracy. Long MIRRORED scales to eliminate parallax in reading. One switch selects any range; minimizes chance of incorrect settings and burnouts. 5 to 500,000 cycles per second frequency response in AC measurements. DC Polarity Reversing switch. High Sensitivity: 5,000 ohms per volt AC, 20,000 ohms per volt DC.

RANGES

DC Volts: 0-2.5-10-50-250-1,000-5,000—at 20,000 ohms/volt.
AC Volts: 0-3-10-50-250-1,000-5,000—at 5,000 ohms/volt.
Decibels: -20 to +11, +21, +35, +49, +61, +75; "0" DB at 1 MW on 600 ohm line.
DC Microamperes: 0-100—at 250 millivolts.
DC Milliampers: 0-10-100-1,000—at 250 millivolts.
DC Amperes: 0-10—at 250 millivolts.

Ohms: 0-1,000-10,000—(4.4-44 at center scale).
Megohms: 0-1-100—(4,400-440,000 at center scale).
Output V (AC): 0-3-10-50-250-1,000—at 5,000 ohms/volt, jack with condenser in series with AC ranges.
Case: Molded, fully insulated; 3-11 3/2" x 5-1/2" x 7-1/2".

MODEL 630-APL—U.S.A. Dealer Net \$54.50
 Complete with leads, alligator clips, rubber feet, batteries and instruction manual.

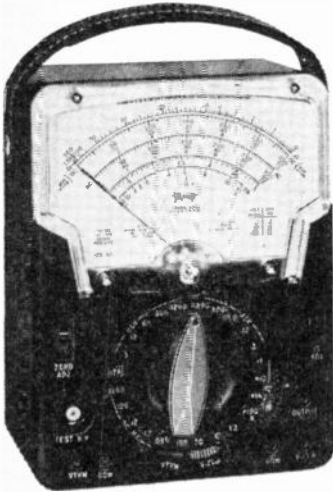


MODEL 631 — COMBINATION VOLT-OHM-MILLIAMMETER AND VACUUM TUBE VOLTMETER

Two fundamental units at the price of a single tester; the number one instrument for all electronic men. VTVM stability assured by battery operation. Sensitivity plus—sensitivity of the 1.2 volt (VTVM) range is equal to over nine million ohms per volt. Long battery life on VTVM section. A V-O-M for general use and a VTVM when needed; ranges entirely adequate for servicing needs. Large meter easy to read; unbreakable meter face. Single switch selects all ranges; minimizes chance of incorrect settings and burnouts. Accuracy 3% DC to 1200 V. **DC Volts:** 0-3-12-60-300-1,200 (20,000 ohms per volt). **AC Volts:** 0-3-12-60-300-1,200 (5,000 ohms per volt). **Ohms:** 0-1,500-15,000. **Megohms:** 0-1.5-150. **DC Milliampers:** 0-1.2-12-120-1,200 at 250 MV. **DC Amperes:** 0-12 at 250 MV. **DB:** -20, +4, +16, +30, +44, +56. (600 ohm line at 1 MW).

VTVM RANGES

DC Volts: 0-1.2-6-30-120.
CASE—Molded, fully insulated, 3 1/2" x 5 1/2" x 7 1/2".
MODEL 631—U. S. A. Dealer Net \$64.50
 Complete with leads, alligator clips, rubber feet, batteries and instruction manual.



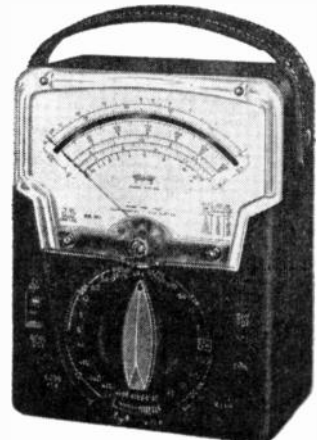
MODEL 630-NA — VOLT-OHM-MILLIAMMETER

The super deluxe of VOMs. Seventy ranges; nearly double those of conventional testers. Frequency compensated from 35 cps to 20 kc. Temperature compensated. Accurate within 1 1/2% of full scale reading on DC. Large open front meter easy to read. Mirrored scale. Meter protection against overloads.

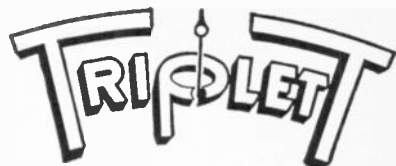
RANGES

DC Volts: 0-.240-.6-3-12-60-300-1,200-6,000 at 10,000 ohms per volt.

Ohms: 0-1K-10K-100K.
Megohms: 0-1-10-100.
DC Microamperes: 0-120 at 240 millivolts.
DC Milliampers: 0-1.2-12-120-1,200 at 240 millivolts.
DC Amperes: 0-60-600 at 120 millivolts.
DB: -20 to +70 (600 ohm line at 1 MW).
CASE—Molded, fully insulated, 3 1/2" x 5 1/2" x 7 1/2".
MODEL 630-NA—U. S. A. Dealer Net \$74.50
 Complete with leads, alligator clips, rubber feet, batteries and instruction manual.



TEST EQUIPMENT



MODEL 630 — VOLT-OHM-MILLIAMMETER

Popular streamlined tester with long meter scales arranged for easy reading. Outstanding linear ohm scale; low reading .1 ohm, high 100 megs. One switch will select any range; minimizes chance of incorrect settings and burnouts. Accuracy 3% DC to 1200 V.

RANGES

- DC Volts: 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.
- AC Volts: 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
- Ohms: 0-1,000-10,000.
- Megohms: 0-1-100.
- DC Microamperes: 0-60 at 250 millivolts.
- DC Milliamperes: 0-1.2-12-120 at 250 millivolts.
- DC Amperes: 0-12.
- DB: —20 to +70 (600 ohm line at 1 MW).
- CASE—Molded, fully insulated, 3½" x 5½" x 7½".
- MODEL 630—U. S. A. Dealer Net

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. **\$44.50**

MODEL 630-A — VOLT-OHM-MILLIAMMETER

A laboratory type VOM with ½% resistors for greater accuracy. Long mirrored scale to eliminate parallax. Banana jacks, low resistance connections. High flux magnet for increased ruggedness. One switch selects any range; minimizes chance of incorrect settings and burnouts. Accuracy 1½% on DC to 1200 V.

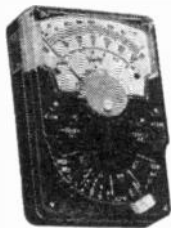
RANGES

- DC Volts: 0-3-12-60-300-1,200-6,000 at 20,000 ohms per volt.
- AC Volts: 0-3-12-60-300-1,200-6,000 at 5,000 ohms per volt.
- Ohms: 0-1,000-10,000.
- Megohms: 0-1-100.
- DC Microamperes: 0-60 at 250 millivolts.
- DC Milliamperes: 0-1.2-12-120 at 250 millivolts.
- DC Amperes: 0-12 at 250 millivolts.
- DB: —20 to +70 (600 ohm line at 1 MW).
- CASE—Molded, fully insulated, 3½" x 5½" x 7½".
- MODEL 630-A—U. S. A. Dealer Net

Complete with leads, alligator clips, rubber feet, batteries and instruction manual. **\$54.50**



MODEL 310 VOLT-OHM MILLIAMMETER



MODEL 310 — HAND-SIZE MIGHTY MITE

The only complete miniature V-O-M with 20,000 ohms per volt and selector range switch. Self-shielded for checking in strong magnetic field. Rugged, high torque, bar-ring instrument. Unbreakable plastic meter window. Fitting interchangeable test prod into top of tester makes it the common probe, freeing one hand. Standard sensitivity 20,000 ohms per volt DC, and 5,000 ohms per volt AC. Accuracy 3% DC.

RANGES

- DC Volts: 0-3-12-60-300-1,200 (at 20,000 ohms per volt).
- Ohms: 0-20,000-200,000.
- DC Microamperes: 0-600 at 250 millivolts.
- MEGHT—Approx. 14 oz., complete with batteries.
- MODEL 310—U. S. A. Dealer Net
- AC Volts: 0-3-12-60-300-1,200 (at 5,000 ohms per volt).
- Megohms: 0-2-20.
- DC Milliamperes: 0-6-60-600 at 250 millivolts.
- CASE—Molded, fully insulated, 2¾" x 4¼" x 1¾".

Complete with leads, batteries and instruction manual. **\$34.50**

TRIPLET MODEL 10 CLAMP-ON ADAPTER



Just plug into any Triplet Model 310 Miniature V-O-M it becomes an AC clamp-on ammeter to measure AC amperes without cutting or opening current carrying wires. The split transformer yoke opens at the touch of a lever to fit around a single conductor or bus-bar for direct readings of AC amperes from 6 to 300 in 6 steps. MODEL 10 in addition, to use with the Model 310, the Model 10 Adapter also can be used as a Clamp-On Ammeter with any Volt-Ohm-Milliammeter having a 3 AC Volt scale at 5,000 ohms

per volt such as Triplet Models 630, 630-A, 630-NA, 630-PL, 630-APL, 631, etc. by employing Triplet No. 611 Leads

RANGES

MODEL 10: AC Amperes: 0-6-12-30-60-120-300.



TRIPLET MODEL 101 LINE SEPARATOR

Serves to plug in at outlet to divide 2 conductor cords for clamp-on measuring. Makes accurate, rapid testing of radio and TV sets, phonographs, appliances, motors, etc. possible without opening or splitting double conductors. Also serves to increase ammeter sensitivity 10X and 20X, if desirable, for easier reading. Model 101

RANGE	Max. Capacity Amps.
Direct	30
Divide by 10	12
Divide by 20	6

TRIPLET

TEST EQUIPMENT



MODEL 630-T — VOLT-OHM-MILLIAMMETER

Specially designed for telephone maintenance. Accuracy 2% on DC.
Fused protected circuit protects resistors and meter in ohms ranges.
Special neck strap supplied to hold instrument, leaving both hands free.
Banana jack connectors to eliminate all shock hazard.
Completely insulated case to protect instrument from ground.

RANGES
DC Volts: 0-3-3-12-60-300-600 at 20,000 ohms per volt.
AC Volts: 0-3-12-60-300-600 at 3,000 ohms per volt.
Ohms: 0-1K-10K-100K.
Megohms: 0-1-10.
DC Microamperes: 0-60 at 150 millivolts.
DC Milliampers: 0-1.2-12-120 at 150 millivolts.
DB: -20 to +57.
CASE—Molded, completely insulated to protect instrument from ground, 3 7/8" x 5 1/2" x 7 1/2".
WEIGHT—4 lbs.

MODEL 630-T—U. S. A. Dealer Net

\$54.50

MODEL 666-R — POCKET VOLT-OHM-MILLIAMMETER

Hand-size — the ideal tester for electrical maintenance. Recessed range knob enables tester to fit in tool kit. AC rectifier pre-calibrated unit for easy replacement. Banana jacks at top of the panel lessen possibility of leads falling over the meter dial. Single switch selects all ranges; minimizes chance of incorrect settings and burnouts. Accuracy 3% DC to 1000 V.

RANGES
DC Volts: 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
AC Volts: 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
Ohms: 0-3,000-300,000.
Megohms: 0-3.
DC Milliampers: 0-10-100 at 250 MV.
DC Amperes: 0-1 at 250 MV.
CASE—Black molded, streamlined, completely insulated. Handy pocket size, 3 1/8" x 5 7/8" x 2 9/16".

MODEL 666-R—U. S. A. Dealer Net

\$29.50



Complete with leads, alligator clips, batteries and instruction manual. Special field case designed for the 666-R. Camera-type leather case, No. 669-RL, \$6.60.

MODEL 625-NA — VOLT-OHM-MILLIAMMETER

Dual sensitivity provides extra ranges. Large mirror scale for excellent readability. Three color meter scale, 5" long. Six inch instrument, 0-50 microamp. AC volts at 10,000 O/V permits checking many audio and high impedance AC circuits where a VTVM usually is required. Accuracy 3% DC to 1000 V.

0-2.5-10-50-250-1,000-5,000 at 10,000 ohms per volt.
AC Volts: 0-2.5-10-50-250-1,000-5,000 at 10,000 ohms per volt.
Ohms: 0-2,000-200,000.
Megohms: 0-40.
DC Microamperes: 0-50 at 250 millivolts.
DC Milliampers: 0-1-10-100-1,000 at 250 millivolts.
DC Amperes: 0-10 at 250 millivolts.
DB: -30 to +76 on 500 ohm line 6 MW.
CASE—Black molded, insulated, 2 1/2" x 5 1/2" x 6".

RANGES

DC Volts: 0-1.25-5-25-125-500-2,000 at 20,000 ohms per volt.

MODEL 625-NA—U. S. A. Dealer Net

\$54.50

MODEL 666-HH — POCKET VOLT-OHM-MILLIAMMETER

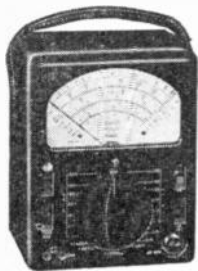
Compact, hand-size V-O-M. Three-inch meter integral with panel, adjusted to 400 microamperes at 250 millivolts. Only three jacks necessary for all ranges. Accuracy 3% DC to 1000 V.

RANGES
DC Volts: 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
AC Volts: 0-10-50-250-1,000-5,000 at 1,000 ohms per volt.
Ohms: 0-2,000-400,000.
DC Milliampers: 0-10-100-500 at 250 millivolts.
CASE—Black molded, insulated, 3 1/8" x 5 7/8" x 2 9/16".

MODEL 666-HH—U. S. A. Dealer Net

\$27.50

Complete with leads, alligator clips, battery and instruction manual.



MODEL 650 — VACUUM TUBE VOLTMETER

Complete frequency coverage from 15 cps to over 150 MC, with one probe supplied with instrument. One volt full scale reading on both DC-AC. Reads peak to peak AC volts and RMS. Separate 1 volt AC and 5 volt AC scales for greater accuracy. Pointer will remain zero when changing ranges. Single selector switch for all ranges. Accuracy 3% DC.

RANGES
DC Volts: 0-1-5-10-50-100-500-1,000.
AC-RF Volts: 0-1-5-10-50-100-500 (15 cps to over 150 MC).
Peak to Peak Volts: 0-2.8-14-28-140-280-700.
Ohms: 0-1K-10K-100K-1 Meg.-100 Meg.-1,000 Meg.
CASE—Insulated molded case and panel, 3 3/4" x 5 1/2" x 7 1/2". Removable strap handle.
MODEL 650—U. S. A. Dealer Net
Complete with leads, alligator clips, rubber feet, battery and instruction manual.
DC High Voltage Probe: 50 KV 500 DC volt; 10 KV-100 DC volt; 5 KV 50 DC volt. \$14.50 net each.

\$89.50

LEATHER CARRYING CASES

FOR TESTERS, 630, 630-A, 630-PL, 630-APL, 630-NA, 631

Case 639	Net \$ 9.40
Case 639-N (Center open flap snaps back, use tester in case)	Net \$ 9.50
Case 639-P	Net \$14.90
FOR TESTERS 666-R, 666-HH	
Case 669	Net \$ 6.10
FOR TESTER 666-R	
Case 669-RL (Use Tester in Case)	Net \$ 6.60
FOR TESTER 310	
Case 369	Net \$ 3.20
Case 379 (For 310-10-101)	Net \$ 5.50
Case 659 (For Tester 650)	Net \$10.50
Case 659-P (For Tester 650)	Net \$16.00
Case 629 (For 625-NA, 660, 661, 690-A)	Net \$ 7.20

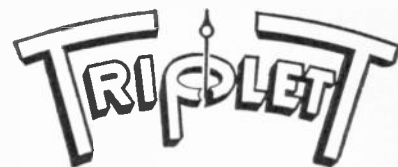
TESTER STAND

Metal stand holds Model 630, 630 A, 630-PL, 630-APL, 630-NA, 630-T, 631 or 650 tester in approximately a 45° angle; will enable you to make easier readings.

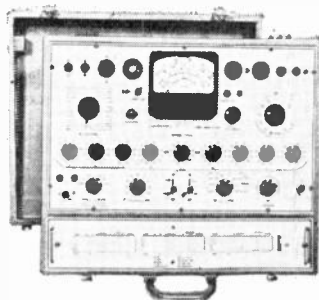
STAND ONLY—Pt. T-255-A-33. U. S. A. Dealer Net \$.50

EXTERNAL SHUNTS

Pt. T-91-247— 30 Amperes (Plug-In)	\$ 9.00
Pt. T-91-248— 60 Amperes (Portable)	\$12.00
Pt. T-91-255—120 Amperes (Portable)	\$12.00



TEST EQUIPMENT



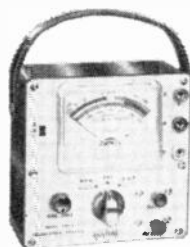
MODEL 3444 — NEW PORTABLE TRUE DYNAMIC MUTUAL CONDUCTANCE TUBE ANALYZER

Rapid, positive, completely analyzes, solves the most perplexing tube analysis problems — Laboratory, Research, Industrial Production, Radio, TV, Theatre, PA Equipment, Communications, etc.

Measures true GM — no extra compensating factors — using proper value DC electrode potentials, 5 KC-AC signal source and vacuum tube micro-ammeter at very low 33 ohm plate impedance.

Offers unique test advantages never before available in portable models: CHECKS PLATE current cut-off. PLOTS tube characteristic curves. CHECKS GAS under actual operating condition. CHECKS RECTIFIERS under load. CHECKS THYRATRON firing voltage, grid current. CHECKS DUAL section tubes with only 1 lever movement. CHECKS ACCURACY GM circuits by self-checking GM circuit. PROVIDES SHORTS, LEAKAGE measurements from 0-10 megohms using filtered DC supply 85V. New easy tube chart data. PROVIDES cut-off measurements voltage amplifiers. RECESSED SOCKET SAVERS (under-panel-mounted) easily removable for replacement.

Model 3444 U.S.A. Dealer Net \$249.50

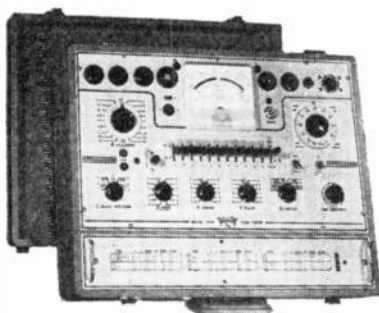


NEW MODEL 690-A TRANSISTOR TESTER

Leakage and gain tests for all low and medium power PNP and NPN type transistors . . . Measures DC Beta (current gain from base to collector with grounded emitter) from 5 to Infinity. The long, GOOD scale provides a better indication of the degree of quality . . . Affords an exact test for shorts and leakage . . . Checks forward and reverse leakage of diodes. Prevents drain on batteries in case of accidental shorting of leads. Battery operation eliminates need for external power supply . . . Error-proof controls . . . Easily portable. Transistor socket and external leads for any basing layout. CASE—Black molded 2½" x 5½" x 6" with removable black leather strap handle. Overall thickness of tester 3".

PANEL—Black and red markings etched on aluminum.

Model 690-A U.S.A. Dealer Net \$29.50



MODEL 3423 — MUTUAL CONDUCTANCE TUBE TESTER

Variable Plate Voltage, 0-250 volts, available only in better testers.

Uses high frequency signal on grid (4KC).

Selenium rectifiers, crystal diodes and transistors can be tested with no extra accessories.

All new heater voltages are available from .63 to 117 voltage.

Direct leakage measurement on meter from 0 to 10 Meg. between any one element and all other elements.

METER SCALES—0-1,800-6,000-18,000-36,000 for micromhos.

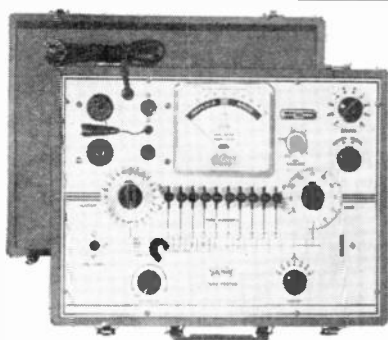
GOOD-?-BAD scale for diodes and rectifiers.

0-100 scale for thyatron tubes.

This tester registers per cent of target value. Speed roll tube chart; easy to use; easily replaced when listings are revised to include new tubes.

CASE—Wood, gray leatherette covered, with white trim. Chrome hardware. Hinged removable lid, 6-13/32" x 14-3/4" x 18-25/32". Instrument model 420, 4" long scales.

Model 3423 U.S.A. Dealer Net \$199.50



NEW MODEL 3414 TUBE TESTER — FASTER, MORE FLEXIBLE

All Switch settings made before tube warms up; ready for testing before filaments reach proper temperature. Rejects burned out tubes instantly without filament heatup. Complete flexibility for new tube setups; plus non-obsolescence factor. Few simple switch settings give complete accurate story tube capabilities. Modified plate conductance circuit for closer correlation to tube characteristics. Neon indicator shorts test. Slightest inter-element shorts show while cathodes are hot. New variable leakage test from 0.3 Meg. to over 3 Meg. Checks all today's and tomorrow's tubes (including new series filament tubes). With BV adapter (\$5.40) tests TV picture tubes in set. Wide angle neon indicator for greater visibility glow test. Checks appliances for shorts, open circuits. CASE: Counter-portable, wood, dark gray leatherette covered. PANEL: Etched, heavy gauge aluminum, black and red markings, 12 lbs.

Model 3414 U.S.A. Dealer Net \$79.50



MODEL 3441-A — NEW 5" OSCILLOSCOPE

Maximum sensitivity (10 millivolts per inch). Wide band width 4.5 MC (Usable to 9 MC).

Wide band amplifiers for color TV servicing.

Calibration voltage metered so line voltage is not a factor.

Horizontal amplifier frequency range flat to + or -1 DB from 20 cycles to 60 KC.

Deflection sensitivity .15 volts RMS per inch.

Saw tooth output supplies a saw tooth wave form from 10 to 60,000 cycles. Output variable 0-70 volts peak to peak. Polarity-reversing switch keeps wave form showing in conventional manner.

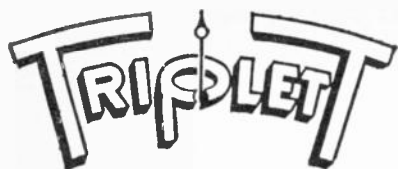
PANEL—Black and red on white. Characters etched on aluminum.

CASE—Metal with black suede enamel finish, 15-11/32" x 11-1/32" x 16". Leather handle.

Model 3441-A U.S.A. Dealer Net \$249.50

Crystal (Demodulating or Signal Tracing) Probe. Part No. 9989 \$10.50

Low capacity (10-1). Part No. 10379-A \$11.90



TEST EQUIPMENT

A NEW SERIES OF MATCHED HAND SIZE INSTRUMENTS

THE "LITTLE TRIPLET" LINE

In standard models or specialized test equipment to quantity order
 Completely self-contained — Selector switch speeds range selection
 Fits easily into palm of hand — Strong plastic meter window
 Plus fully insulated black molded case — Banana type jacks
 All have Bar-Ring design self-shielded, rugged, high-torque meters



MODEL 307 AC AMMETER

RANGES: Ac Amperes 0-1, 0-2.5, 0-5, 0-10, 0-25. Using Model 10 Clamp-on Ammeter (\$14.50) ranges can be extended to: 0-6, 0-12, 0-30, 0-60, 0-120, 0-300. A general-purpose AC Ammeter with built-in transformer (for use on 60 cycles). Among its many advantages: Permits measurement of current drawn by electric appliances and motors, heating elements, lamps, radio sets, etc.

METER — Bar-Ring design, self-shielded, 50 microamperes full-scale.

ACCURACY — Within 4% on all ranges.

CASE — Fully insulated black molded, 2 3/4" x 4 1/4" x 1-3/16".

Posts extend 3/8" below case.

WEIGHT — Approx. 14 ounces.

Model 307 U.S.A. Dealer Net \$29.50



MODEL 305 DC MILLIVOLTMETER

RANGES: DC MILLIVOLTS 0-10, 0-30, 0-100, 0-300, 0-1 000. Servicing of gas-fired equipment and appliances can be accomplished quickly and more accurately with Little Triplet Model 305. It is indispensable for faster servicing of furnaces, boilers, heaters, hot water heaters, refrigerators, dryers, and gas-fired equipment. Simply place the probe leads across the thermocouple terminals for correct value measurements.

METER — Bar-Ring design, self-shielded, 1 Milliampere full scale.

ACCURACY — Within 2% on all ranges.

CASE — Fully insulated black molded, 2 3/4" x 4 1/4" x 1-3/16".

WEIGHT: Approximately 12 ounces.

LEADS — One set (Black and Red) 42 inches long.

Model 305 U.S.A. Dealer Net \$29.50



MODEL 308 LOW OHMMETER

RANGES: OHMS 0-50, 0-500, 0-5000. 1 Ohm center scale on 0-50 range; lowest reading .1.

For motor testing, armatures and fields, shorts between generator windings and grounds, and for many other phases of testing, including: Switch and relay contact resistances, shorts in TV or radio chassis wiring; electrical equipment in industrial plants, etc.

OHMS ADJUST — Knob on side of case, to compensate for variations in battery voltages.

METER — Bar-Ring design, self-shielded, 1 Milliampere full scale.

ACCURACY — Within 3% on all ranges.

CASE — Fully insulated black molded, 2 3/4" x 4 1/4" x 1-3/16".

WEIGHT — Approximately 14 ounces.

LEADS — One set (Black and Red) 42 inches long, with battery switch incorporated in the Black lead.

BATTERIES — One Mercury cell 1.3 volt, Eveready E-601-E or equivalent.

Model 308 U.S.A. Dealer Net \$29.50



MODEL 309 OHMMETER

RANGES: OHMS, MEGOHMS 0-2000, 0-20,000, 0-200,000 Ohms; 0-2, 0-20 Megohms. 20 Ohm Center Scale on 0-2000 range. A general purpose Ohmmeter to 20 Megohms for industrial, Laboratory and servicing use.

OHMS ADJUST — Knob on side of case, to compensate for variations in battery voltages.

METER — Bar-Ring design, self-shielded, 50 Microamperes full scale.

ACCURACY — Within 3% on all ranges.

CASE — Fully insulated, black molded, 2 3/4" x 4 1/4" x 1-3/16".

WEIGHT — Approximately 14 ounces.

LEADS — One set (Black and Red) 42 inches long.

BATTERIES — One Mercury cell 1.3 volt; Eveready E-401-E or equivalent. One Eveready 15 volt #504 or equivalent.

Model 309 U.S.A. Dealer Net \$29.50



MODEL 369 CARRYING CASE

Handsome leather carrying case with adequate space for Model 305, 308, 309 or 310 and accessories. Trouser belt slips through loop on back of the case for out-of-the-way carrying.

Model 369 Case U.S.A. Dealer Net \$3.20

MODEL 3439 — COLOR BAR GENERATOR

Crystal controlled RF output. A built-in VTVM circuit with meter on the panel provides quick and easy checking of sync, subcarrier and modulation amplitudes. Unit completely self-contained—no extra accessories or equipment needed. Easy to set up, with RF output direct. Sound carrier (unmodulated) insures precise tuning of the receiver, and permits checking sound rejection and presence of beat interference between the color subcarrier and the sound carrier.

Brightness modulation is available to check for possible shift of hue in the bright areas or highlights.

Amplitude of the color subcarrier is adjustable; for checking the color sync lock action in the receiver.

Video signals of positive or negative polarity are provided for low impedance (75 ohms) and high impedance (5,000 ohms) video circuits.

CASE: Metal with black baked enamel suede finish, 15-11/32" x 11-1/32" x 6 1/4". Leather handle.

Model 3439 U.S.A. Dealer Net \$249.50

MODEL 3438 — DOT BAR COLOR GENERATOR

Frequency RF output fundamental coverage on channels 2 to 6. Provides its own horizontal and vertical sync pulses. RF and IF output.

Video output—Video signals as above with positive or negative polarity supplied across low impedance source of 2,000 ohms with 1 mfd. 200 volt blocking condenser.

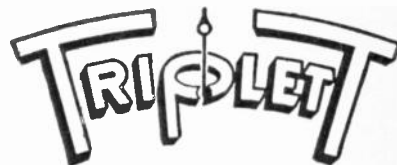
Color oscillator provides three base colors (red, blue and green) plus colors corresponding to phases of R-Y, B-Y, I and Q axis.

Completely self-contained; no extra accessories or equipment is needed. No additional sync is required from the set.

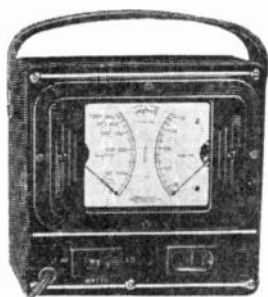
Can be used for signal tracing completely through either b/w or color TV sets.

CASE: Metal with attractive baked black enamel suede finish, 6 1/4" x 11-1/32" x 15-11/32", panel silver black and red etched aluminum. Shielded output coaxial cable.

Model 3438 U.S.A. Dealer Net \$229.50



TEST EQUIPMENT



MODEL 660 — LOAD CHECK

A time-saver, designed for TV servicing. Helps prevent repair come-backs. No time lost in connecting this unit. Just plug in the power cord of the radio and all meters are connected. Quick way to locate hidden shorts and overloaded circuits. Double meter indicator provides simultaneous check of line voltage and power. Shows faulty power line wiring as well as proper functioning of the appliance under test. Simple operation by means of only one toggle switch to change watts range. Double range on Watts meter permits one unit to serve from a 5-tube radio to the largest TV set.

RANGES

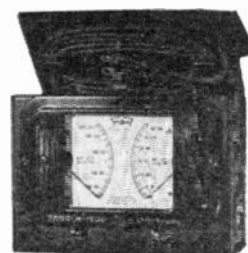
Watts: DC-AC: 0-500-1,000.
Volts: DC-AC: 0-150.
CASE—Black molded, 2½" x 5½" x 6", insulated to protect instrument from ground. Removable black leather strap handle.
MODEL 660—U. S. A. Dealer Net \$34.50

MODEL 661

Designed for Radio and Low Wattage Appliances. Appearance and construction same as 660 with watt range 150-300.

RANGES

Watts: DC-AC: 0-150-300.
Volts: DC-AC: 0-150.
MODEL 661—U. S. A. Dealer Net \$34.50



MODEL 2002 — APPLIANCE TESTER

For installations and servicing. Shows power consumption of industrial equipment, radios, electric ranges, refrigerators, washers and other household appliances under actual operating conditions, on either DC or AC between 25 and 133 cycles. A Wattmeter on the left and a Voltmeter on the right permit Watts and Volts to be read simultaneously or independently. Shows if voltage remains within limits under operating loads. Current coils assure ample capacity for momentary tests on motor starting overloads. Heavy inner construction assures ample current capacity for momentary tests on motor starting overloads. Shows faulty power lines.

RANGES

Watts: DC-AC: 0-1,500-3,000.
Volts: DC-AC: 0-130-260.
CASE—Heavy leather and snap button cover and leather handle, 6½" x 4½" x 3¼". Storage space for leads furnished which include one cord to plug into wall socket, another with a socket to receive connections from appliances under test.
MODEL 2002—U. S. A. Dealer Net \$44.50

MODEL 2000-B

Same as Model 2002, but with Watt range 750-1,500
MODEL 2000-B—U. S. A. Dealer Net \$42.50

MODEL 3432-A — SIGNAL GENERATOR

Designed for new servicemen coming into the service field. One generator to align radio, television (monochrome and color). Complete frequency coverage 160 KC to 110 MC fundamental with seven bands (220 MC harmonics). R.F. circuits are double shielded with copper steel shields. Large easily read etched aluminum dial. Cathode follower output provides good stability by acting as a buffer to the oscillator.

The generator is provided with a 400 cycle audio frequency with variable control for 0-100 per cent modulation.

Band A	160-370 KC	Band E	4.85-13 MC
B	360-735 KC	F	12.5-35 MC
C	715-1875 KC	G	34-110 MC
D	1825-4950 KC	G (Harmonics)	68-220 MC

CASE—Metal with black baked enamel suede finish, 15½" x 11½" x 6¼". Black leather strap handle, rubber feet.
MODEL 3432-A—U. S. A. Dealer Net \$99.50

NEW TRIPLET UNIMETERS

An innovation in self-service meters these Select-Your-Range Unimeters consist of two basic meter movements, which can be combined with any one of a number of separate dial-component units for a wide variety of meter ranges. The basic meter movements and the Dial-Component units lock together simply; no soldering, no wiring, no opening of the dust-proof movement is required. In two sizes, 327-U 3½" rectangular and 420-U 4½" rectangular with mirror scale for greater accuracy in reading. Also in handy kits, both sizes, as below. The triple-purpose kit case with handle provides handy portability; easy protective storage and attractive display.

**UNIMETER PRICE LIST
BASIC MOVEMENTS**

	U.S.A. Dealer Net
Model 327-U 0-1 DC Milliammeter (50 MV)	\$11.00
Model 327-U 0-50 DC Microammeter (250 MV)	15.90
Model 420-U 0-1 DC Milliammeter (50 MV)	12.00
Model 420-U 0-50 DC Microammeter (250 MV)	17.00

DIAL-COMPONENT UNITS

U.S.A. Dealer Net Price Each Unit
(Specify for use with 327-U or 420-U) \$ 2.50

DC-MA	DC-VM 1000 o/v Film Type	DC-AM	AC-VM Rectifier Type*	DC-UA
0-1	0-100	0-10	0-10	0-50
0-5	0-150	0-25	0-150	0-100
0-10	0-200	0-50	0-300	0-200
0-15	0-250	0-150	0-15	0-500
0-25	0-300	0-300	0-25	
0-50	0-500	0-500	0-50	*500 o/v

KIT A—WITH 3½" MOVEMENT

KIT 1—WITH 4½" MOVEMENT

Contains: One DC MA Basic Movement and 8 Components

Complete Kit, (As Above)	Kit A \$29.50	Kit 1 \$30.50
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KIT B—WITH 3½" MOVEMENT

KIT 2—WITH 4½" MOVEMENT

Contains: Two 0-1 DC MA Basic Movements and 12 dial components

Complete Kit, (As Above)	Kit B \$49.50	Kit 2 \$51.50
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KIT C—WITH 3½" MOVEMENT

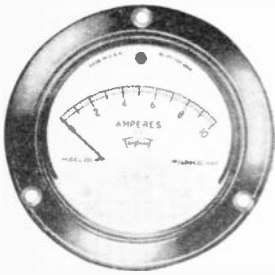
KIT 3—WITH 4½" MOVEMENT

Contains: Four Basic Movements and 23 dial components

Complete Kit, (As Above)	Kit C \$89.50	Kit 3 \$103.50
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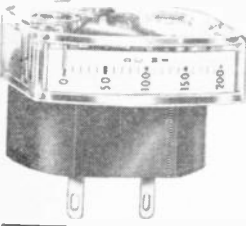
TRIPLET

INSTRUMENTS



RUGGEDIZED INSTRUMENTS

A complete line of 2 1/2" and 3 1/2" ruggedized and scaled instruments designed to meet government specification MIL-M-10301A. Triplett ruggedized instruments employ the unique and exclusive bar ring construction so well adapted to ruggedization, that the addition of spring loaded jewels and an internal rubber mount (both designed for jewel protection) constitute the essential difference between the commercial and ruggedized movements. The bar-ring construction is inherently self-shielding so that the heavy steel case does not affect instrument calibration nor does mounting in a steel panel of any thickness. The unusually strong housing consists of a drawn steel case with heavy die cast window bezel. The bezel seals the window to the case with a simple gasket and screws. A tough plastic window is used instead of glass. Husky gasket sealed studs are used for electrical connections to provide additional protection over delicate glass sealed types. Most catalog ranges of DC, MV, Volts, Amp, Ma, Amp and AC rectifier type can be supplied. Regular dials in accordance with MIL-M-10301A are supplied although special dials of all descriptions can be made up for special applications.



MINIATURE EDGEWISE PANEL METERS

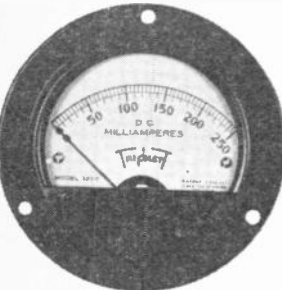
If space on your panel is at a premium here is a miniature meter that will fit into even the most restricted area - yet give you the readability, performance and reliability you expect from the conventional 2 1/2" size. Weighing only four ounces this meter also is of value to the user who has a weight limitation factor on his hands. Accuracy—D.C. 2% of full scale, A.C. Rectifier type 5% of full scale. Self-Shielded Bar-Ring Magnet—Not affected by magnetic panels. High torque exceeding 1000 Ft. and accurate. Mounting—Horizontal, zero at left and barrel down is standard. Vertical mounting or other special adaptations in quantity orders. Panel Hole Required—Only 9/16" x 1 1/16".

DC-MA	Dealer Net	DC-UA	Dealer Net
0-1	\$10.40	0-50	\$15.40
0-10	10.40	0-100	13.50
0-25	10.80	0-200	11.90
0-50	10.80		
0-100	10.80	DC-AM	
0-150	10.80	0-10	\$11.20
0-200	10.80	AC-VM (Rect. Type)	
0-300	10.80	0-150	\$16.40
0-500	10.80	0-300	17.40
		VU Meters	
DC-VM		A or B Scales	\$19.90
0-10	\$11.20		
0-50	11.20		
0-150	11.20		

D.C. MILLIVOLTMETERS

Range	Approx. Res.	Scale Div.	2" Models 221-T 227-T	2" Models 221-PL 227-PL	3" Models 321-T 327-T	3" Models 321-PL 327-PL	4" Model 420	4" Model 420-PL	6" Model 626
0-50	6.3		\$9.90	\$10.40	\$10.50	\$11.00	\$11.60	\$11.60	\$13.60
0-100	12.5		9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-150	20	(30)	9.90		10.50		11.60		13.80

D.C. VOLTMETERS — (1000 Ohms Per Volt — Film Type Resistors)



Range	2" Models 221-T 227-T	2" Models 221-PL 227-PL	3" Models 321-T 327-T	3" Models 321-PL 327-PL	4" Model 420	4" Model 420-PL	6" Model 626
0-10	\$10.70	\$11.20	\$11.20	\$11.70	\$12.30	\$12.30	\$14.50
0-25	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-50	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-100	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-150	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-200	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-250	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-300	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-500	11.20*	11.70*	11.80	12.30	12.90	12.90	15.10
0-750	11.20*	11.70*	11.80	12.30	12.90	12.90	15.10
0-1000*	13.30	13.80	13.90	14.40	15.00	15.00	17.20
0-2000*	13.30	13.80	13.90	14.40	15.00	15.00	17.20
0-3000*	13.30	13.80	13.90	14.40	15.00	15.00	17.20
0-4000*	13.30	13.80	13.90	14.40	15.00	15.00	17.20
0-5000*	13.30	13.80	13.90	14.40	15.00	15.00	17.20

* Supplied with external resistors

D.C. VOLTMETERS — 1000 Ohms Per Volt (Wirewound)

Range	Scale Div.	2" Models 221-T 227-T	2" Models 221-PL 227-PL	3" Models 321-T 327-T	3" Models 321-PL 327-PL	4" Model 420	4" Model 420-PL	6" Model 626
0-1	50	\$10.70	\$11.20	\$11.20	\$11.70	\$12.30	\$12.30	\$14.50
0-3	(30) 60	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-5	50	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-10	50	10.70	11.20	11.20	11.70	12.30	12.30	14.50
0-25	50	13.10	13.60	13.60	14.10	14.70	14.70	16.90
0-50	50	13.10	13.60	13.60	14.10	14.70	14.70	16.90
0-100	50	13.60	14.10	14.20	14.70	15.30	15.30	17.50
0-150	(30) 75	13.60	14.10	14.20	14.70	15.30	15.30	17.50
0-300	(30) 60	16.60	17.10	17.20	17.70	18.30	18.30	20.50
0-500	50	18.60*	19.10	19.10	19.60	20.20	20.20	22.40
0-750	(30) 75	21.30*	21.80	21.90	22.40	23.00	23.00	25.20
0-1000	50	37.50	38.00	38.10	38.60	39.20	39.20	41.40
0-2000	40	61.50	62.00	62.00	62.50	63.10	63.10	65.30

The following supplied with external resistor boxes at prices shown.

* Supplied with external resistors. Scale divisions for 2" models in parenthesis.

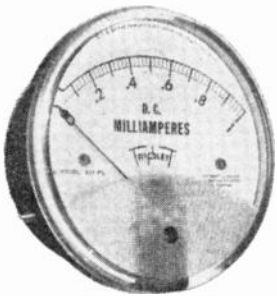
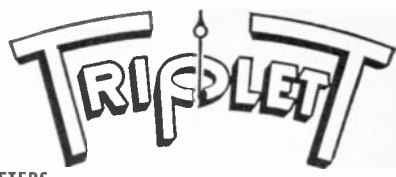
D.C. MICROAMMETERS

Range	Approx. Res.	Scale Div.	2" Models 221-T 227-T	2" Models 221-PL 227-PL	3" Models 321-T 327-T	3" Models 321-PL 327-PL	4" Model 420	4" Model 420-PL	6" Model 626
0-20	2600	40	\$17.60	\$18.10	\$18.20	\$18.70	\$19.30	\$19.30	\$18.70*
0-50	2000	50	14.90	15.40	15.40	15.90	16.50	16.50	16.80*
0-100	825	50	13.00	13.50	13.50	14.00	14.60	14.60	16.80*
0-200	360	40	11.10	11.60	11.70	12.20	12.80	12.80	15.00
0-500	156	50	10.60	11.10	11.10	11.60	12.20	12.20	14.40
50-0-50	825	50	13.00	13.50	13.50	14.00	14.60	14.60	
100-0-100	360	50	11.10	11.60	11.70	12.20	12.80	12.80	
500-0-500	55	50	9.90	10.40	10.50	11.00	11.60	11.60	

* Supplied only with knife-edge pointers.



INSTRUMENTS



Models 221-PL, 231-PL, 321-PL, 331-PL, 341-PL

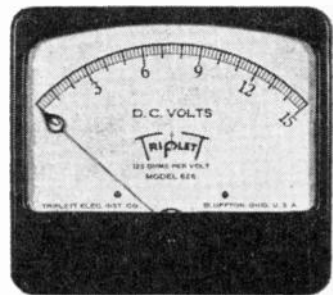
Range	Approx. Res.	Scale Div.	D.C. MILLIAMMETERS							
			2" Models 221-T, 227-T	2" Models 221-PL, 227-PL	3" Models 321-T, 327-T	4" Model 420	4" Model 420-PL	6" Model 626		
0-1	55	50	\$ 9.90S	\$10.40S	\$10.50S	\$11.00S	\$11.60	\$11.60	\$13.80	
0-1.5	30	** (30)	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-3	14	** (30)	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-5	8.5	50	S 9.90	10.40	10.50S	11.00	11.60	11.60	13.80	
0-10	3.1	50	9.90S	10.40	S 10.50S	11.00	11.60	11.60	13.80	
0-15	6.6	° (30)	9.90	10.40	10.50S	11.00	11.60	11.60	13.80	
0-25	4	50	10.30S	10.80	10.90S	11.40	12.00	12.00	14.20	
0-50	2	50	10.30S	10.80	S 10.90S	11.40	12.00	12.00	14.20	
0-75	1.3	** (30)	10.30	10.80	10.90	11.40	12.00	12.00	14.20	
0-100	1	50	S 10.30S	10.80	S 10.90S	11.40	12.00	12.00	14.20	
0-150	0.6	** (30)	S 10.30S	10.80	10.90S	11.40	12.00	12.00	14.20	
0-200	0.5	40	10.30S	10.80	S 10.90S	11.40	12.00	12.00	14.20	
0-250	0.4	50	10.30	10.80	10.90	11.40	12.00	12.00	14.20	
0-300	0.33	** (30)	60	10.30S	10.80	10.90S	11.40	12.00	12.00	14.20
0-400	0.25	40	10.30	10.80	10.90	11.40	12.00	12.00	14.20	
0-500	0.2	50	S 10.30S	10.80S	S 10.90S	11.40	12.00	12.00	14.20	
0-750	0.13	** (30)	75	10.30	10.80	10.90	11.40	12.00	12.00	14.20
0-1000	0.1	50	10.30	10.80	10.90	11.40	12.00	12.00	14.20	

Ranges above 10 Milliamperes are shunted and have a drop of approximately 100 millivolts. Special resistance may be obtained to order. Double-range Milliammeters available on special order. Prices on request.

D.C. AMMETERS

Range	Scale Div.	2" Models			3" Models		4" Models		6" Model	
		221-T, 227-T	221-PL, 227-PL	321-T, 327-T	321-PL, 327-PL	Model 420	Model 420-PL	Model 626		
0-1	50	\$ 9.90	\$10.40	\$ 11.00	\$11.60	\$11.60	\$13.80			
0-3	** (30)	9.90	10.40	11.00	11.60	11.60	13.80			
0-5	50	10.70	11.20	S 11.20S	11.70	12.30	14.50			
0-10	50	10.70S	11.20	S 11.20S	11.70	12.30	14.50			
0-15	** (30)	10.70	11.20	11.20S	11.70	12.30	14.50			
0-25	50	10.70	11.20	11.20S	11.70	12.30	14.50			
0-30	** (30)	10.70	11.20	221-PL only	11.70	321-PL only	12.30	14.50		
0-50	50	10.70	11.20	S 11.20S	11.70	12.30	14.50			

D.C. Ammeters are self-contained up to and including 50 Amperes. Shunts 75 Amperes (50 M.V.) and higher are switchboard type with 5 ft. leads.



Models 626, 636, 646

A.C. VOLTMETERS

Range	Approx. Ohms/Volt	Scale Div.	2" Models		3" Models		4" Models		6" Model	
			231-S, 237-S	231-PL, 237-PL	331-S, 337-S	331-PL, 337-PL	Model 430	Model 430-PL	Model 636	
0-1.5	1.33	** (30)	75	\$ 9.90	\$10.40	\$10.50	\$11.00	\$11.60	\$11.60	\$13.80
0-3	3.33	** (30)	60	9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-5	4	50	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-10	10	50	50	9.90	10.40	10.50S	11.00	11.60	11.60	13.80
0-15	16	** (30)	75	9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-25	20	50	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-50	50	50	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-100	91	50	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80
0-150	125	** (30)	75	S 10.90S	11.40	S 11.40S	S 11.90S	S 12.50	S 12.50	14.70
0-250	144	50	50	11.40	11.90	12.00	12.50	S 13.10	S 13.10	15.30
0-300	144	** (30)	60	12.00	12.50	S 12.50S	13.00	13.60	13.60	15.80
0-500	125	50	50	15.70†	16.20†	16.30†	16.80†	17.40†	17.40†	19.60†
0-750	125	** (30)	75	16.30*	16.80*	16.80*	17.30*	17.90*	17.90*	20.10*
0-1000	125	50	50	16.80*	17.30*	17.40*	17.90*	18.50*	18.50*	20.70*

These A.C. Voltmeters are for use on frequencies from 25 to 133 cycles. † Indicates instruments supplied with external wire-wound series resistors at prices shown. *Supplied with external resistor boxes at prices shown above. All other instruments are self-contained. Double-range Voltmeters are available on special order. Prices on request.

A.C. AMMETERS

Range	Approx. Res.	Scale Div.	2" Models		3" Models		4" Models		6" Model	
			231-S, 237-S	231-PL, 237-PL	331-S, 337-S	331-PL, 337-PL	Model 430	Model 430-PL	Model 636	
0-1	.21	50	\$9.90	\$10.40	\$10.50S	\$11.00	\$11.60	\$11.60	\$13.80	
0-2	.11	40	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-3	.02 ** (30)	60	9.90	10.40	10.50S	11.00	11.60	11.60	13.80	
0-5	.01	50	9.90S	10.40	S 10.50S	11.00	S 11.60	11.60	13.80	
0-10	.005	50	9.90S	10.40	S 10.50S	S 11.00	11.60	11.60	13.80	
0-15	.002 ** (30)	75	9.90	10.40	S 10.50S	11.00	11.60	11.60	13.80	
0-25	.001	50	9.90	10.40	S 10.50S	11.00	S 11.60	11.60	13.80	
0-30	.011 ** (30)	60	9.90	10.40	S 10.50S	11.00	11.60	11.60	13.80	
0-50	.0005	50	9.90	10.40	S 10.50S	11.00	11.60	11.60	13.80	
0-75	.0003 ° (30)	75			12.10S		13.20		15.40	

For use on frequencies from 25 to 500 cycles. Instruments listed above are self-contained. For ranges above 75, (above 50 on 2" models) use current transformers, with 5 Amp. secondary (60-133 cycles). Add Do-Nut transformer price to price of 0-5 A.C. Ammeter shown above. Transformers: Primary Ampere Range 75, 100, 200, 250, 300, 400 Amp. \$10.50 net each; 500, 600 Amp., \$13.80 net each; 750, 1000 Amp. \$19.30 net each, and 1200 Amp., \$28.60 net each.

A.C. MILLIAMMETERS

Range	Approx. Res.	Scale Div.	2" Models		3" Models		4" Models		6" Model	
			231-S, 237-S	231-PL, 237-PL	331-S, 337-S	331-PL, 337-PL	Model 430	Model 430-PL	Model 636	
0-10	2900	50	\$ 9.90	\$10.40	\$10.50	\$11.00	\$11.60	\$11.60	\$13.80	
0-15	1150	** (30)	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-25	344	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-50	82	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-100	21	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-200	6.7	40	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-250	3.4	50	9.90	10.40	10.50	11.00	11.60	11.60	13.80	
0-500	0.8	50	9.90	10.40	S 10.50	11.00	11.60	11.60	13.80	

For use on frequencies from 25 to 500 cycles.

THERMO AMMETERS (R. F.)

Range	Approx. Res.	Scale Div.	2" Models		3" Models		4" Models		6" Model	
			241-T, 247-T	341-T, 347-T	341-PL, 347-PL	Model 440	Model 440-PL	Model 646		
0-.5 Amps	.93	50	\$11.00	\$11.60	\$12.10	\$12.70	\$12.70	\$14.90		
0-1 Amps	.35	50	11.00	11.60	12.10	12.70	12.70	14.90		
0-1.5 Amps	.21	** (30)	11.00	11.60S	12.10	12.70	12.70	14.90		
0-2.5 Amps	.13	50	11.00	11.60	12.10	12.70	12.70	14.90		
0-5 Amps	.06	50	11.00	11.60	12.10	12.70	12.70	14.90		
0-10 Amps	.03	50	11.00	11.60	12.10	12.70	12.70	14.90		

Internal couples are normally furnished at prices shown. If external couples are required, please specify on order, adding \$5.50 net to price of instrument shown above. External couples only less meter, with leads, \$6.60 net each. **Scale divisions for 2-Inch Models in parentheses. S - NORMALLY CARRIED IN STOCK.

WESTON INSTRUMENTS

The newly expanded CROWN SERIES distinguished by handsome, functional design

Weston's Crown Line represents the ultimate in meter design, performance and readability. The series now includes a 4.5-inch group of D.C. instruments... both A.C. and D.C. types in the 2.5-inch group. Their striking cases will enhance the most modern panels or electronic equipment.

Scales are exceptionally long for the case diameters: 5.3 inches for the 4.5-inch models, up to 2.5 inches for the 2.5-inch models. Ballistic characteristics are greatly improved.

Clear plastic covers and exceptionally long scales afford unmatched readability, with excellent natural illumination from top, front and sides. Confusing shadows are eliminated. In poorly lighted areas, one bulb mounted above the instrument furnishes adequate illumination. The neutral tone of the multi-prism front is designed to complement test equipment or panels of any color. CORMAG[®] mechanisms eliminate the need for external shielding; they can be closely grouped on magnetic or nonmagnetic panels without special adjustments or danger of intereffects.

SPECIFICATIONS

MECHANISM—Models 1721/1722/1741 core magnet moving coil type. Model 1724—Movable iron vane.

ACCURACY—D.C. instruments are with $\pm 2\%$ of full scale value. Model 1722 rectifier type a-c instrument is within $\pm 3\%$ of full scale when used on sine wave 60 cycle source at normal room temperature of 25°C.

Model 1724 a-c instrument is within $\pm 2\%$ of full scale value.

CASE—Crown shape with molded Bakelite base and clear plastic cover.

MOUNTING—Models 1721/1722/1724—Interchangeable with any 2.5" MIL Spec instrument, including the flush round Bakelite case Weston 506 Series.

Model 1741—four #6-32 mounting studs in flange. Conforms to ASA C39.1-1955 for 4 1/2" panel instrument.

TERMINALS—8-32 BC rods with nuts and washers.

POINTERS—Lance type, black finish.

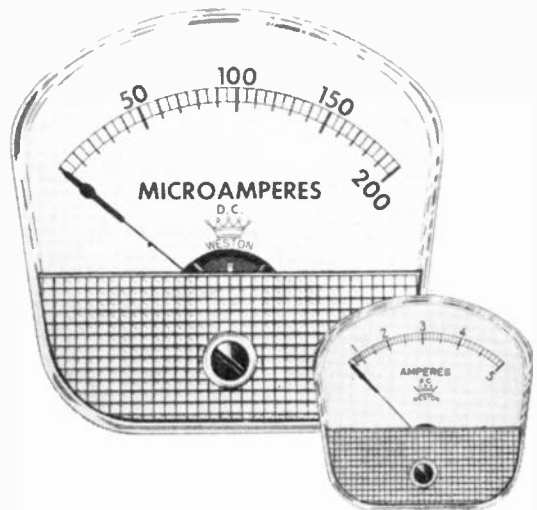
SCALES—Models 1721/1722—Full 2.5" long—(longer than most 3 1/2" panel instruments) 100° arc.

Model 1724—2.25" long, 90° arc.

Model 1741—5.3" long, 100° arc.

ZERO CORRECTOR—Screwdriver type, 360° rotation.

SHIELDING—Models 1721/1722/1741—CORMAG[®] mechanism. Model 1724 is unshielded.



TYPICAL RANGES

D-C MODEL 1721-1741 VOLTMETERS—1,000 Ohms Per Volt			
Range	Scale Div.	1721	1741
5	50	\$12.75	\$17.50
15	75	12.75	17.50
50	50	12.75	17.50
150	75	12.75	17.50
300	60	13.25	18.00
500	50	—	18.50

AMMETERS			
Range (Self-Contained)	Scale Div.	1721	1741
1	50	\$12.25	\$17.00
3	60	12.25	17.00
5	50	12.25	17.00
10	50	12.25	17.00

External Shunt Type			
Range	Scale Div.	1721	1741
50 MV	100 amps	\$12.50	\$17.25
50 MV	150 amps	12.50	17.25
50 MV	200 amps	12.50	17.25

MILLIAMMETERS			
Range	Approx. Res.	Scale Div.	Price
1	80	50	\$12.25
5	8	50	12.25
10	1.1	50	12.25
20	1.1	40	12.25
50	2	50	12.25
100	1	50	12.25
200	0.5	40	12.25
300	0.33	60	12.25
500	0.2	50	12.25
1-0-1	45	50	12.25

MICROAMMETERS			
Range	Approx. Res	Scale Div.	Price
20	5500	40	\$22.25
50	4800	50	18.25
100	1230	50	15.25
200	600	40	12.75
500	230	50	12.75
50-0-50	1230	50	15.25

RECTIFIER TYPE A-C MODEL 1722 VOLTMETERS—1,000 Ohms Per Volt			
Range	Scale Div.	Price	
5	50	\$18.75	
15	75	18.75	
50	50	18.75	
150	75	18.75	
300	60	18.75	
500	50	18.75	

MILLIAMMETERS			
Range	Approx. Res.	Scale Div.	Price
1	470	50	\$18.75
5	150	50	18.75

MICROAMMETERS			
Range	Approx. Res.	Scale Div.	Price
200	2,000	40	\$21.25
500	750	50	18.75

MODEL 1724 A-C VOLTMETER 25-125 CYCLES			
Range	Scale Div.	Approx. Ohms/Volt	Price
5	50	10	\$16.00
10	50	10	16.00
15	30	14	16.00
30	30	27	16.00
50	50	45	16.00
80	40	70	16.00
150	30	130	16.50
300	30	260	18.00
500	50	260	20.50

A-C AMMETER 25-500 CYCLES			
Range	Scale Div.	Approx. Resis. Ohms	Price
1	50	0.125	\$16.00
2	40	0.035	16.00
3	30	0.0165	16.00
5	50	0.002	16.00
10	50	0.001	16.00

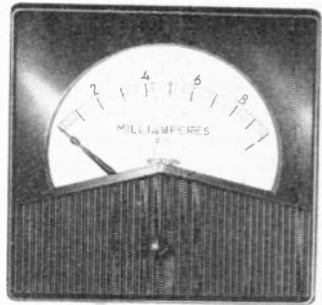
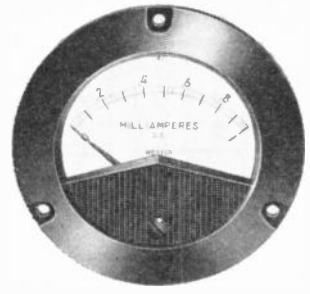
A-C MILLIAMMETER 25-500 CYCLES			
Range	Scale Div.	Approx. Resis. Ohms	Price
15	60	600	\$16.00
50	50	82	16.00
100	50	21	16.00
500	50	0.65	16.00

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WESTON INSTRUMENTS

201/301

PANEL INSTRUMENT SERIES



The Weston 301 Line—famous and trusted throughout industry for many years—has undergone important changes. The 3 1/2-inch instruments look different, are more versatile, work better and longer. And now a sister line of 2 1/2-inch instruments has been introduced—the 201 Group—matching the 301 instruments in appearance and incorporating the same new features. The renowned Weston CORMAG[®] mechanism is now standard equipment... permits mounting on magnetic or nonmagnetic panels, close to other instruments, without special adjustments. It makes the "301" and "201" immune to the effects of stray magnetic fields. Ballistic characteristics are improved; even critical damping can be obtained. New, modernistically styled Bakelite cases—round or rectangular—are standard. These cases are interchangeable for A.C. and D.C. models.

MODELS 201/301—D.C. VOLTMETERS 1000 Ohms/Volt

Range	Scale Div.	201	301	Price
1	20	50	201	301
1.5	30	75	\$14.25	\$15.25
3	30	60	14.25	15.25
5	25	50	14.25	15.25
8	40	40	14.25	15.25
10	20	50	14.25	15.25
15	30	75	14.25	15.25
30	30	75	14.25	15.25
50	25	60	14.25	15.25
80	40	50	14.25	15.25
100	20	50	14.25	15.25
150	30	75	14.25	15.25
200	40	40	14.25	15.25
300	30	40	14.75	15.75
500	30	60	14.75	15.75
1KV	25	50	15.25	16.25

MODEL 204/304 SERIES—A.C. VOLTMETERS

Range	Scale Div.	204/304	Approx. Ohms/Volt	Price
1.5	30	3	7C4	304
3	30	6	\$17.50	\$18.50
5	50	10	17.50	18.50
10	50	10	17.50	18.50
15	30	14	17.50	18.50
30	30	27	17.50	18.50
50	50	45	17.50	18.50
80	40	70	17.50	18.50
130	26	115	18.00	19.00
150	30	130	18.00	19.00
250	25	220	19.00	20.00
300	30	260	19.50	20.50
500	50	260	22.00	22.00

MODELS 201/301—D.C. MILLIAMMETERS

Range	Scale Div.	201	301	App. Resis. Ohms	Price
1	20	50	201	301	201
1.5	30	75	100	88	\$13.75
2	40	40	40	88	13.75
3	30	60	40	45	13.75
5	25	50	40	45	13.75
10	20	50	6	8	13.75
15	30	75	2.5	2.5	13.75
20	40	40	2.5	2.5	13.75
30	30	60	2.5	2.5	13.75
50	25	50	2	2	13.75
100	20	50	1	1	13.75
150	30	75	0.66	0.66	13.75
200	40	40	0.5	0.5	13.75
300	30	60	0.33	0.33	13.75
500	25	50	0.2	0.2	13.75
800	40	40	0.12	0.12	13.75
1000	20	50	0.05	0.05	13.75
1-0-1	40	40	40	45	13.75
50-0-50	50	50	2	2	13.75
100-0-100	40	40	1	1	13.75

A.C. AMMETERS—25-500 CYCLES

Range	Scale Div.	204/304	Approx. Resis. Ohms	Price
1	50	0.125	204	304
2	40	0.035	\$17.00	\$18.00
3	30	0.0165	17.00	18.00
5	50	0.002	17.00	18.00
10	50	0.001	17.00	18.00
20	40	0.001	17.00	18.00
30	30	0.00085	17.00	18.00
50	50	0.00072	17.00	18.00

A.C. MILLIAMMETERS

Range	Scale Div.	204/304	Approx. Resis. Ohms	Price
15	30	600	204	304
50	50	82	\$17.00	\$18.00
100	50	21	17.00	18.00
500	50	0.65	17.00	18.00

208 THERMO SERIES—THERMO-AMMETER

Range	Scale Div.	Price	Range	Scale Div.	Price
1	20	\$29.00	8	40	\$29.00
1.5	30	29.00	10	20	29.00
2	40	29.00	15	30	29.00
3	30	29.00	20	40	29.00
5	25	29.00			

THERMO-MILLIAMMETER

Range	Scale Div.	Price	App. Resis. Ohms	Price
100	20	5.2	5.2	\$33.00
*115	20	5.2	5.2	33.00
120	30	5.2	5.2	33.00
300	30	1.8	1.8	33.00
500	25	1.3	1.3	33.00

*Current Squared Galvanometer with uniform 100 division scale.

MODEL 308 SERIES—THERMO-AMMETER

Range	Scale Div.	Price	Range	Scale Div.	Price
1	50	\$30.00	5	50	\$30.00
1.5	60	30.00	8	40	30.00
2	40	30.00	10	50	30.00
2.5	50	30.00	15	60	30.00
3	60	30.00	20	40	30.00
4	40	30.00			

THERMO-MILLIAMMETER

Range	Scale Div.	Price	App. Resis. Ohms	Price
† 10	50	85	85	\$66.00
† 20	40	22	22	66.00
† 50	50	5	5	66.00
100	50	8	8	34.00
*115	50	5.2	5.2	34.00
120	60	5.2	5.2	34.00
150	75	5.2	5.2	34.00
200	40	2.7	2.7	34.00
300	60	2.4	2.4	34.00
500	50	1.3	1.3	34.00

For ranges of 100 MA or higher, expanded scale can be furnished at an additional \$8.00.

†Vacuum Thermocouple type

*Current Squared Galvanometer with uniform 100 division scale

MODELS 201/301—D.C. AMMETERS

Range	Scale Div.	201	301	Price
1	20	50	201	301
1.5	30	75	\$13.75	\$14.75
2	40	40	13.75	14.75
3	30	60	13.75	14.75
5	25	50	13.75	14.75
10	20	50	13.75	14.75
15	30	75	13.75	14.75
30	30	60	14.75	15.75
50	25	50	14.75	15.75
5-0-5	50	50	14.75	15.75
10-0-10	40	40	14.75	15.75
15-0-15	60	60	14.75	15.75
20-0-20	40	40	15.75	15.75
30-0-30	40	40	15.75	15.75
50-0-50	50	50	15.75	15.75

MODELS 201/301—D.C. MICROAMMETERS

Range	Scale Div.	201/301/	Approx. Resis.	Price
10	206	306	201 206 301 306	201
20	20	50	— 4500 — 4500	206 301 306
30	40	40	— 1520 5500 — 1520	\$31.00
30	30	60	— 1520 5500 — 1520	26.00 \$24.75
50	25	50	4150 1140 4800 1140	25.00 23.00
100	20	50	870 660 1230 600	19.75 24.00 20.75 24.00
200	40	40	600 — 600 —	16.75 22.00 17.75 22.00
500	25	50	160 — 230 —	14.25 15.25 15.25 22.00
50-0-50	20	50	870 — 1230 —	14.25 15.25
100-0-100	40	40	600 — 600 —	16.25 17.75
500-0-500	20	50	100 — 88 —	14.25 15.25

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

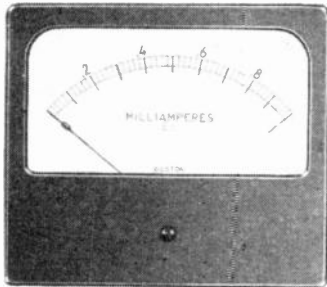
WESTON INSTRUMENTS

PANEL INSTRUMENT SERIES, CONT.

202/302 RECTIFIER TYPE A.C. SERIES				A.C. VOLTMETER				A.C. MILLIAMMETERS			
1000 Ohms/Volt				2000 Ohms/Volt				Approx. Resis.			
Range	Scale Div.	Price		Range	Scale Div.	Price		Range	Scale Div.	Price	
302	202		302	302	202		302	0.5	50	1030	\$20.25
3	60	\$20.25	\$21.25	1	50	\$20.75	\$21.75	1	50	470	20.25
5	50	20.25	21.25	1.5	75	20.75	21.75	2	40	270	20.25
10	50	20.25	21.25	3	60	20.75	21.75	5	50	150	20.25
15	75	20.25	21.25	5	50	20.75	21.75				
30	60	20.25	21.25	10	50	20.75	21.75	A.C. MICROAMMETERS			
50	50	20.25	21.25	15	75	20.75	21.75	Approx. Resis.			
100	50	20.25	21.25	30	60	20.75	21.75	Range	Scale Div.	Price	
150	75	20.25	21.25	50	50	20.75	21.75	100	50	3400	\$24.00
300	60	20.75	21.75	100	50	20.75	21.75	200	40	2400	22.75
				150	50	20.75	21.75	300	60	2000	22.75
					150	75	20.75	500	50	1030	20.25

NEW 1751 SERIES

An important new addition to the Weston panel instrument line. Noteworthy features include an all-Bakelite case with glass window... the Weston CORMAG[®] self-shielded mechanism... 4" long scale. Method of mounting conforms to ASA C39.1-1955 for 4 1/2" panel instruments.



TYPICAL RANGES D-C MODEL 1751

D-C AMMETERS				D-C MILLIAMMETERS			
Range (Self-contained)	Scale Div.	Price		Range	Scale Div.	Approx. Res.	Price
1	50	\$16.25		1	50	88	\$16.25
3	60	16.25		5	50	8	16.25
5	50	16.25		10	50	1.1	16.25
10	50	16.25		20	40	1.1	16.25
				50	50	2.0	16.25
				100	50	1	16.25
				200	40	0.5	16.25
				300	60	0.33	16.25
				500	50	0.2	16.25

D-C MICROAMMETERS				D-C VOLTMETERS (1000 Ohms per Volt)			
Range	Scale Div.	Approx. Res.	Price	Range	Scale Div.	Price	
50	50	4700	\$22.25	5	50	\$16.75	
100	50	1230	19.25	15	75	16.75	
200	40	600	16.75	50	50	16.75	
500	50	230	16.75	150	75	16.75	
				300	60	17.25	

RECTIFIER TYPE A-C—MODEL 1752				A-C VOLTMETERS (1000 Ohms per Volt)			
Range	Scale Div.	Approx. Res.	Price	Range	Scale Div.	Price	
200	40	2400	\$25.25	5	50	\$22.75	
500	50	750	22.75	15	75	22.75	
				50	50	22.75	
				150	75	22.75	
				300	60	22.75	

A-C MILLIAMMETERS			
Range	Scale Div.	Approx. Res.	Price
1	50	470	\$22.75
5	50	150	22.75



Model 980 Mark II

Price \$44.50

Combination protective front cover and tilt stand \$5.50

MARK II ANALYZER

The new thin-line Mark II is a highly sensitive and extremely rugged volt-ohm-milliammeter designed for a wide range of accurate test measurements in the electronic field.

Famous CORMAG[®] mechanism protects the instrument against false readings due to magnetic disturbances. Electrostatic shielding assures accu-

rate measurements at high d-c voltages. Fuses in the low ohmmeter circuits prevent burnout if voltages are mistakenly applied. Interchangeable parts eliminate all need for parts selection in the event replacements are ever necessary. The break-proof case will withstand dropping and thus eliminate the major source of repair and maintenance costs.

FEATURES

- Modern Thin-Line Design
- Spring Back Jewels for Maximum Shock Resistance
- Fused Resistance Ranges
- Transit Switch Position to Dampen Movement During Transportation
- Fully Insulated Craakproof Case
- Single Selector Knob for all Functions and Ranges
- Wide Angle Scale for Maximum Visibility
- Precision Components—No Parts Selection Required
- Single Board Etched Wiring Circuit for Easy Maintenance
- Static Shielded for Accurate High Voltage Measurement
- 4-Way Combination Tilt Stand and Protective Cover Available

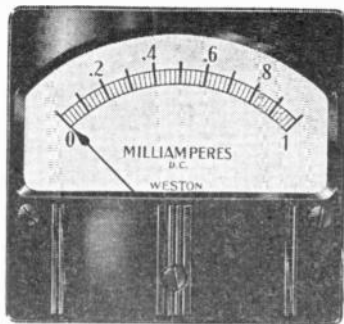
SPECIFICATIONS

Accuracy: 2%, d-c; 3%, a-c.
Scale Length: 4.63"
Ranges:
D-C Volts: 1.6, 8, 40, 160, 400, 800, 4000
... at 20,000 ohms/volt.
A-C Volts: 1.6, 8, 40, 160, 400, 1600 ... at 1,000 ohms/volt.
DB Range: -15 db to +54 db (in six ranges).
D-C Milliamperes: 1.6, 8, 80, 800.
D-C Microamperes: 80.
Ohms Range Center Scale Full Scale
R x 1 25 1,000
R x 10 250 10,000
R x 100 2,500 100,000
R x 1,000 25,000 1 megohms
R x 10,000 250,000 10 megohms

Case: Black molded HYCAR, with carrying strap. Break resistant.
Panel: Black molded HYCAR with engraved white markings.
Size: 6.25" x 7.50" x 2.25".
Approx. Weight: 2.5 lbs.
Ohms: Four decade ranges: 1K to 10 meg full scale; 25 ohms to 250K center scale.
High Voltage Probes: High voltage probes are available for measuring high voltages up to 20 kv at 50 microamperes or less. Probes have multiplier resistors encased in insulated handles. Multipliers are rated with a flash voltage of 30 kv.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WESTON INSTRUMENTS



MODEL 961

MODEL 961—D-C INSTRUMENTS

Rated accuracy 2% of full scale—Scale 3:17" (80.3 mm)—Permanent Magnet Moving Coil

D-C VOLTMETERS

Range	Scale Div.	Price
1	50	\$34.25
2	40	34.25
3	60	34.25
5	50	34.25
7.5	75	34.25
10	50	34.25
15	75	34.25
25	50	34.25
30	—	34.25
50	50	34.25
80	40	34.25
100	50	35.00
130	65	35.75
150	75	35.75
200	40	36.50
250	50	38.00
300	60	38.75
500	50	41.75

Self-contained ranges listed have sensitivity of approximately 200 ohms per volt up to and including 200 volts; higher ranges are 1000 ohms per volt.

4 1/4" PANEL INSTRUMENTS

D-C MILLIAMMETERS

Range	Scale Div.	Approx. Res.	Price
1	50	80	\$34.25
3	60	7.3	34.25
5	50	2.8	34.25
10	50	1.25	34.25
25	50	1.0	34.25
30	50	—	34.25
50	50	2	34.25
100	50	1	34.25
200	40	0.5	34.25
300	60	0.33	34.25
500	50	0.2	34.25

Ranges above 25 milliamperes are shunted and have a drop of approximately 100 millivolts.

D-C AMMETERS

Range	Scale Div.	Price	Range	Scale Div.	Price
1	50	\$34.25	5	50	\$34.25
1.5	75	34.25	10	50	34.25
2	40	34.25	25	50	34.25
3	60	34.25	50	50	34.25

Regularly supplied with self-contained shunts up to and including 50 amperes, but can be supplied with external 50 mv shunts and 5 foot (0.065 ohm) leads.

D-C MICROAMMETERS

Range	Scale Div.	Approx. Res. Ohms	Price
30	60	1800	\$50.00
50	60	720	48.25
75	75	450	48.25
100	50	250	48.00
200	40	400	38.00
300	60	175	38.00
500	50	80	38.00

MODEL 963—THERMO AMMETERS

Rated accuracy 2% of full scale . . . Scale 3:17" . . . Thermocouple type.

POWER CONSUMPTION: 1 to 4 amperes incl. varies from 0.2 to 0.4 watt per ampere. Approx. 5 amperes and above—0.2 watt per ampere.

Frequency errors less than 2% up to 65 megacycles.

Amps.	Scale Div.	Price	Amps.	Scale Div.	Price
1	50	\$43.00	5	50	\$43.00
1.5	75	43.00	6	60	43.00
2	40	43.00	8	40	43.00
2.5	50	43.00	10	50	43.00
3	60	43.00	15	75	43.00
4	40	43.00	20	40	43.00

The ranges are all self-contained.

Through the use of specially controlled characteristics, thermo ammeters can be supplied to meet the special requirements of the FCC for antenna ammeters.

MODEL 962—TYPE 30 VU METERS

Model 962 VU Meters are available with a choice of two scales. Type A stresses the level in VU and is used largely in monitoring wire lines. Type B emphasizes per cent use of transmitter output and is the standard for broadcast service. Scale backgrounds are buff colored.

Scale A or B Model 962—\$55.50

MATCHED A-C AND D-C PORTABLE INSTRUMENTS

MODEL 433—A-C INSTRUMENTS
Scale Length 4.04"—Accuracy within 2% of 1% — Movable Iron Type — Shielded Case Size 5-1/16" x 5 1/4" x 3 1/4"—Weight 1 1/2 lbs.—Hand Calibrated Mirror Scales — Bakelite Case with Carrying Strap.

Note: These instruments are calibrated for use in a horizontal position.

A-C VOLTMETERS

Made with single, double and triple ranges. For use on frequencies from 25 to 125 cycles.

Range	Price
10, 30, 50, 75	\$ 85.75
10/5, 20/10, 30/15	87.25
150/300/150	103.75
500/300/150	103.75
750/300/150	103.75

A-C MILLIAMMETERS

Made in single and double ranges only, for use on frequencies from 25 to 500 cycles.

Range	Price
15, 30, 75, 500	\$ 79.25
100/150	91.75

A-C AMMETERS

Made in single, double and triple ranges for use on frequencies from 25 to 500 cycles. All instruments have two binding posts; double and triple range instruments are provided with a range selector switch.

Range	Price
1, 1.5, 2, 3	\$ 80.75
15, 25, 30	80.75
2/1, 5/2.5, 10/5	93.75
3/1.5/0.75, 5/2.5/1, 10/5/1	131.75
20/5/2, 30/7.5/3, 50/20/5	131.75



MODEL 432—D-C AND SINGLE PHASE A-C WATTMETERS

Double voltage and single or double current ranges, self-contained up to 300 volts and 50 amperes, frequencies from 25 to 125 cycles.

Electrodynamometer Type
Accuracy 1/2 of 1% — Scale Length 4.04"
Case Size 5 1/8" x 5 1/4" x 3 1/4" — Wt. 3 1/4 lbs.

Normal Volts	Normal Amps	Price
150/75	.1	\$173.75
300/150	5/2.5	173.75

Double Current Ranges

MODEL 931—D-C INSTRUMENTS

Scale Length 4.04"—Accuracy within 1/2 of 1%

Core Magnet Moving Coil Type.
Case Size 5-1/16" x 5 1/4" x 3 1/4"—Weight 2 lbs. — Hand Calibrated Mirror Scales — Bakelite Case with Carrying Strap.
Note: These instruments are calibrated for use in a horizontal position.

D-C VOLTMETERS

Range	Net Price 1,000 Ohms Per Volt	Price 5,000 Ohms Per Volt
3, 15, 50	\$ 78.25	\$ 89.75
300/150/3	92.25	103.50
750/300/150	92.25	103.50

D-C AMMETERS

Range	Price
1, 1.5, 3, 5	\$ 79.25
30/15/3	92.25
50/20/5	92.25

Self-contained up to 50 amperes inclusive, but can be supplied with external 50 mv shunts and 5 ft. leads.

D-C MILLIAMMETERS

Range	Price
15, 150	\$ 76.25
1500/150/15	89.75
15/1.5/15	101.25

Single range Milliammeters with ranges above can be supplied with external 50 mv shunts and 30 ma are shunted and have a drop of 50 mv ±5%.

D-C MICROAMMETERS

Range	Approx. Res. Ohms	Price	Approx. Res. Ohms	Price
30	2300	101.25	490	\$103.50
100	2000	89.75	60	\$101.25
200	600	84.75	15	89.75

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

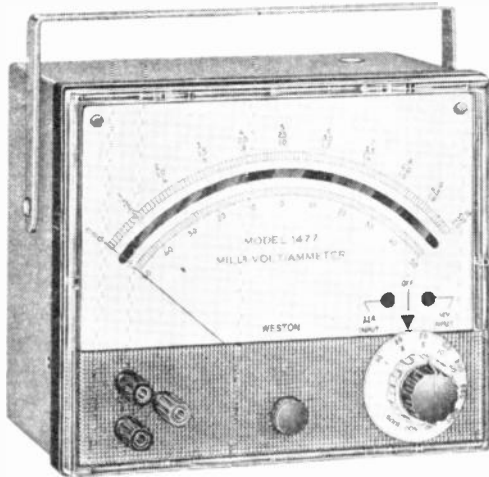
WESTON INSTRUMENTS

MODEL 1477 ELECTRONIC MILLI-VOLT/AMMETER

This versatile Electronic Milli-Volt/Ammeter provides in a single, compact, light-weight unit measurement and amplification of a wide span of d-c current and voltage ranges. The Weston Model 1477 uses a unique electronic servo-amplifier whose extreme high gain, coupled with full feedback, provides accuracy and stability without the adverse affects resulting from variations of line voltage or frequency, condition of amplifier tubes or other variables.

No mechanical switches or choppers are used. The device is a true d-c meter with zero-drift comparable to a typical permanent magnet moving coil instrument. It offers the advantage of essentially zero power-drain from the source being measured, and combines this with power-gain sufficient to supply 1 ma output to drive its own indicating meter, and any external load of 5000 ohms or less. The power output is available at terminals in the back of the unit.

The indicating instrument, incorporating the famous Weston self-shielded CORMAG II mechanism which permits its use in close proximity to magnetic fields without affecting accuracy, knife-edge pointer and mirror scale, all combine to provide dependable performance and unmatched visibility.



- Calibration is dependent only on precision resistors in the range standard.
- No tube selection is necessary when replacements are needed.
- Neither input or output need be grounded, but if grounding is desired, either side or some intermediate point can be grounded. Output polarity may be selected at will.
- Since zero-drift is dependent only on position of galvanometer coil, long-time drift can be maintained to less than 2 microvolts after a few minutes warm-up time.
- Gain stability and output linearity are both within 0.1% at ranges above 1 mv or 200 μ a.
- Resolution capability is within 2 microvolts or .02 microamperes.
- Adjustable to zero-left or zero-center.

SPECIFICATIONS

Ranges: 10-20-50-100-200-500-1000 microamperes.

1-2-5-10-20-50-100-200-500-1000 millivolts.

Accuracy: 2% on lowest current and lowest potential range. 1% on all others.

Instrument Scale: mirror, 7.12" long; black and red printing on white dial.

Approx. Size: 7 $\frac{3}{4}$ " wide x 6 $\frac{1}{2}$ " high x 4 $\frac{3}{8}$ " deep.

Approx. Weight: 5 $\frac{1}{2}$ lbs.

Power: 105-125 volts a-c 50-1600 cycles, 35 watts internally fused.

Amplifier Component: Weston Model 1411 INDUCTRONIC[®] DC Amplifier.

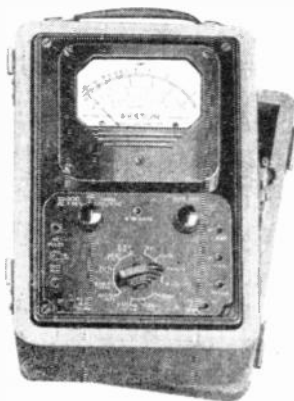
Model 1477—Price\$355.00

SUPER-SENSITIVE ANALYZER MODEL 779

ACCURACY: A-C within 3%; D-C within 2% to 250 volts; 3% on 1,000 volt range.

Size: 6 $\frac{3}{8}$ " x 9 $\frac{1}{8}$ " x 4 $\frac{7}{8}$ " (162 x 232 x 124 mm) Approx. Wt.: 6 lb. (2.72 kgs.)

A compact 26 range ultra-sensitive analyzer with five d-c voltage ranges at a sensitivity of either 1,000 or 20,000 ohms per volt. A-C temperature compensated; precision resistors throughout. Supplied in a rugged solid oak case with a removable cover and convenient carrying handle. Test leads are provided.



Model 779 Type 1
Price \$151.25

RANGES

Volts		Current		Decibels	Ohms
D-C	A-C	D-C Only			
2.5	2.5	.1 Ma	- 14 to + 2*	500 ohms, zero level)	0-3000
10	10	1 Ma	- 2 to + 14*		0-30,000
50	50	10 Ma	+ 12 to + 28*		0-300,000
250	250	50 Ma	+ 26 to + 42†		0-30 Meg
1000	1000	250 Ma	+ 38 to + 54††		
		1 Amp	($\frac{1}{2}$ milliwatts,		
		10 Amp	500 ohms, zero level)		

* Substantially flat to 10,000 cycles.

† Substantially flat to 3,000 cycles. †† Substantially flat to 1,000 cycles.

MODEL 799 INSULATION TESTER

ACCURACY: Within $\frac{1}{8}$ " of scale length.

SCALE: 2.375" (60.3 mm)

Size: $\frac{3}{16}$ x 5 $\frac{1}{4}$ x 5" (86 x 133 x 127 mm)

Approx. Wt.: 3.8 lbs. (1.7 kgs.)

For leakage measurements up to 10,000 megohms at low voltage at a maximum test potential 50 volts. Test leads, tubes, batteries and oak case are supplied.

RANGES: 0-10,000 megohms (Logarithmic scale)

Price \$86.50



Model 799

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WESTON INSTRUMENTS

WESTON MODEL 981 PROPORTIONAL MUTUAL CONDUCTANCE TUBE CHECKER

FEATURES

- METER MEASUREMENT OF HIGH LEAKAGE RESISTANCE:** Provides an accurate meter measurement of leakage resistance as high as 5 megohms between tube elements, thus being particularly useful for TV servicing and TV line production assembly.
- MULTIPLE SWITCHING FACILITIES:** Protection against obsolescence is assured through the use of nine single circuit, twelve position, selector switches.
- TWIN SECTION TUBES:** Three toggle switches make it possible to rapidly check and compare the respective sections of twin section tubes at only one setting of the selector switches.
- SINGLE SOCKET FOR EACH TUBE BASE REGARDLESS OF TUBE CONNECTION:** Eliminates the possibility of plugging a tube into the wrong socket.
- Gm MEASUREMENTS:** Gm measurements are made more accurately by using filtered d-c plate, screen grid and control grid potentials. A precision voltage divider network and selector switch allows a proportionate value of signal voltage to be chosen for testing tubes having transconductances up to 30,000 micromhos. Signal voltages of 5.2, 2.6, 1.3, and 0.65 volts peak-to-peak having a frequency of 5000 cycles are provided.
- ROLL INDEX CHART—**A complete listing of tube test data is available at the flick of a finger by means of an easy-to-read, built-in roll chart.
- LEAKAGE TEST:** The leakage tests are performed at a d-c potential of 125 volts. For each numbered position of the LEAKAGE TEST switch, a specific tube element is isolated and connected into a series ohmmeter circuit consisting of the isolated element, the 125 volt d-c potential, a current limiting resistor, a milliammeter, and all other elements of the tube.
- VOLTAGE REGULATOR TUBES:** A selenium rectifier supply furnishes 200 volts d-c for testing of voltage regulator tubes.
- SUBMINIATURE TYPE TUBES:** A 45 volt potential source facilitates testing of subminiature tubes.



SPECIFICATIONS

- FILAMENT VOLTAGES:** .65, 1.1, 1.5, 2, 2.5, 0.6a, 3.3, 5, 6.3, 7.5, 10, 13, 20, 27.5, 35, 47, 70, 115.
- PLATE VOLTAGES:** 90, 130, 220 volts d-c; 22, 44, 160 volts a-c.
- SIGNAL VOLTAGES:** 5.2, 2.6, 1.3, 0.65 volts peak-to-peak.
- Gm RANGE:** Up to 30,000 micromhos.
- POWER REQUIREMENTS:** 100 to 125 volts, 60 cycles single phase a-c, 30 watts.
- CASE:** Grey hammertone finished steel.
- SIZE:** 17.50" x 13.25" x 6.00".
- WEIGHT:** 23½ lbs. (10.7 Kgs.).

Model 981 Type 3A Price \$283.50

Model 749 Miniature Clamp Volt-Ammeter

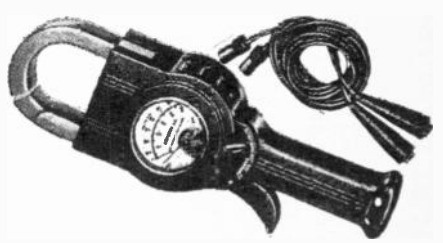


Light weight and rugged pocket-size instrument for quick easy servicing. Has self-shielded core magnet mechanism with spring backed jewels, and shatter-proof Plexiglas window. Only one scale for all ranges and functions. Jaws take up to 1" round, or 1 3/4" x 3/8" rectangular conductors. Furnished with test leads in scuff-proof case.

Plug-In Adapter available for making both current and voltage measurements . . . has female receptacles on both sides for plugging in load without disturbing circuit being tested . . . convenient for lead insertion for voltage checks . . . serves as 10 to 1 divider for low current measurements.

RATED ACCURACY: (Model 749) ±3% full scale deflection.
RANGES: Current 300/150/60/30/15/6 amperes a-c.
Voltage 600/300/150 volts a-c.
Model 749 — \$44.50 complete Plug-In Adapter — \$4.75

Model 633 Clamp Volt-Ammeter and Clamp- Ammeter



MODEL 633 Type VA-1

- Price
- Model 633 Type VA-1 (Incl. Potential leads) — 1000/250/100/25/10 amperes a-c 700/350/175 volts a-c \$112.50
- Model 633 Type A-3 — 2000/1000/500/250/100/50 amperes a-c \$105.25
- Model 9958, 50 Foot Extension Cable, Plug & Receptacle for Model 633 Types A-1, A-2, A-3..... \$ 72.00
- Leather Carrying Case (Model 633 Types VA-1, A-1, A-2, A-3) \$ 13.50
- Leather Carrying Case (Model 9958—Cable, Plug and Receptacle) \$ 22.50

NOTE—Model 633 instruments may be used for continuous duty up to 500 amperes.

- Approximate Dimensions and Weights**
- Model 633 Types VA-1, A-1, A-2, A-3.....135/8x43/8"x21/2" 3 1/4 lbs.
- Leather Carrying Case (Types VA-1, A-1, A-2, A-3)....14 1/2"x51/2"x33/8" 2 1/4 lbs.
- Model 9958, 50 Foot Extension Cable, Plug & Receptacle.....4 1/4 lbs.
- Leather Carrying Case (Model 9958—Cable, Plug & Receptacle) 14"x8 1/2"x3 3/4" 4 1/4 lbs.

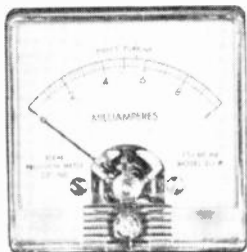
Prices Subject To Change Without Notice.



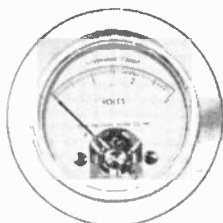
COMPLETE NEW LINE OF HIGHEST QUALITY ALL-PURPOSE PANEL METERS

Designed for accurate, dependable lifetime service. Rugged construction insures trouble-free performance even under the most extreme conditions.

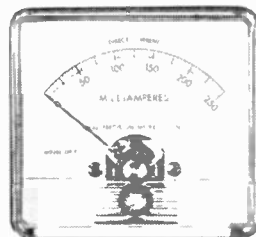
Standardized mountings and panel cutouts enable replacement for other units of similar nominal size.



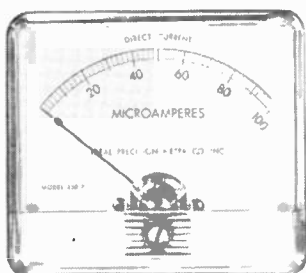
Model 212P
Clear Plastic
2 1/8 INCH



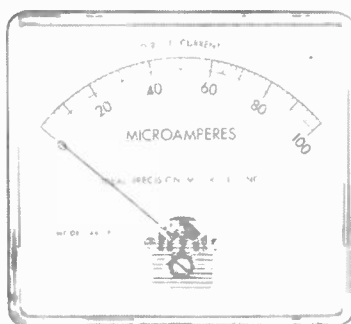
Model 250PR
Clear Plastic
2 1/2 INCH



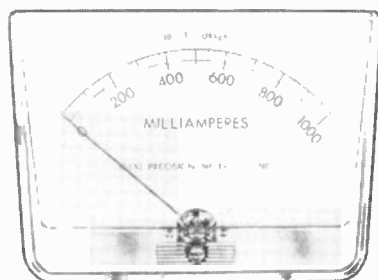
Model 250P
Clear Plastic
2 1/2 INCH



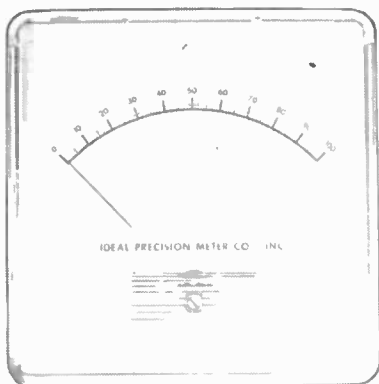
Model 350P
Clear Plastic
3 1/2 INCH



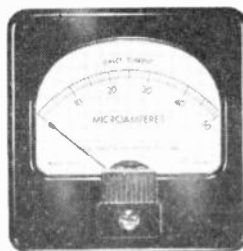
Model 460P
Clear Plastic
4 1/2 INCH



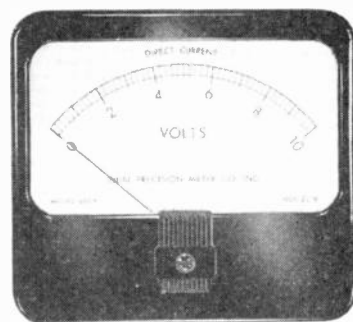
Model 600PI
Clear Plastic
6 INCH



Model 725P
Clear Plastic
7 INCH



Model 350B
Bakelite
3 INCH



Model 460B
Bakelite
4 1/2 INCH

Each meter individually inspected for accuracy and craftsmanship. Assembled in controlled atmosphere to insure highest quality and dependability.

Ask your Distributor for WALDOM Sales Bulletin 5A9 with complete listings and prices.

WALDOM ELECTRONICS INC. Chicago 32, Illinois

See Waldom Solderless Terminals and Connectors in another section.

Manufactured by IDEAL PRECISION METER CO., INC. Sold to Electronic Parts Distributors exclusively through WALDOM ELECTRONICS INC.

RANGES AND TYPES



RANGE	APPROXIMATE RESISTANCE
D.C. VOLTMETER	
0-1.5	V.D.C.
0-3	V.D.C.
0-5	V.D.C.
0-8	V.D.C.
0-10	V.D.C.
0-15	V.D.C.
0-25	V.D.C.
0-30	V.D.C.
0-50	V.D.C.
0-75	V.D.C.
0-100	V.D.C.
0-150	V.D.C.
0-200	V.D.C.
0-250	V.D.C.
0-300	V.D.C.
0-500	V.D.C.
0-750	V.D.C.
0-1000	V.D.C.
0-1500	V.D.C.
0-2000	V.D.C.
0-2500	V.D.C.
0-3000	V.D.C.
0-4000	V.D.C.
0-5000	V.D.C.

External resistors are furnished on meters having a range of 1000 volts or higher.

RANGE	APPROXIMATE RESISTANCE
D.C. MILLIAMMETER	
0-1	ma D.C. 100 ohms
0-2	ma D.C. 50 ohms
0-3	ma D.C. 35 ohms
0-5	ma D.C. 20 ohms
0-10	ma D.C. 5 ohms
0-15	ma D.C. 3.5 ohms
0-25	ma D.C. 2 ohms
0-50	ma D.C. 2 ohms
0-100	ma D.C. 1 ohm
0-150	ma D.C. .66 ohm
0-200	ma D.C. .5 ohm
0-250	ma D.C. .4 ohm
0-300	ma D.C. .33 ohm
0-500	ma D.C. .20 ohm
0-750	ma D.C. .125 ohm
0-600	ma D.C. .125 ohm
0-900	ma D.C. .10 ohm
0-1000	ma D.C. .05 ohm

RANGE	APPROXIMATE RESISTANCE
D.C. AMMETER	
0-1	A.D.C. .050 ohm
0-3	A.D.C. .0166 ohm
0-5	A.D.C. .010 ohm
0-10	A.D.C. .005 ohm
0-15	A.D.C. .0033 ohm
0-25	A.D.C. .002 ohm
0-50	A.D.C. *5 ohms
0-75	A.D.C. *5 ohms
0-100	A.D.C. *5 ohms
0-150	A.D.C. *5 ohms
0-200	A.D.C. *5 ohms
0-250	A.D.C. *5 ohms
0-300	A.D.C. *5 ohms
0-500	A.D.C. *5 ohms
0-750	A.D.C. *5 ohms
0-1000	A.D.C. *5 ohms

Meters are self contained up to and including 25 amperes. Higher range Ammeters are supplied with a basic 50 MV movement, and require use of an external shunt with 6 foot leads. * Meter Resistance Only.

RANGE	APPROXIMATE RESISTANCE
D.C. MICROAMMETER	
0-40	uo D.C. 2400 ohms
0-50	uo D.C. 2000 ohms
0-100	uo D.C. 1000 ohms
0-200	uo D.C. 500 ohms
0-400	uo D.C. 250 ohms
0-500	uo D.C. 200 ohms
0-800	uo D.C. 100 ohms

RANGE	APPROXIMATE RESISTANCE
D.C. MILLIVOLTMETER	
0-50	mv D.C. 5 ohms
0-100	mv D.C. 10 ohms

RANGE	APPROXIMATE RESISTANCE
A.C. VOLTMETER Rectifier Type (Low Current)	
0-1	V.A.C. 1000
0-3	V.A.C. 1000
0-5	V.A.C. 1000
0-10	V.A.C. ohms
0-15	V.A.C. ohms
0-50	V.A.C. per
0-100	V.A.C. per
0-150	V.A.C. volt
0-300	V.A.C. volt

RANGE	APPROXIMATE RESISTANCE
A.C. MILLIAMMETER Rectifier Type	
0-1	ma A.C. 600 ohms
0-2	ma A.C. 400 ohms
0-5	ma A.C. 200 ohms

RANGE	APPROXIMATE RESISTANCE
A.C. MICROAMMETER Rectifier Type	
0-100	ua A.C. 3400 ohms
0-200	ua A.C. 2400 ohms
0-300	ua A.C. 1800 ohms
0-500	ua A.C. 1200 ohms

RANGE	APPROXIMATE RESISTANCE
VOLUME LEVEL METER -- DECIBEL METER Zero Power Level -- 6 MW. 500 ohm Line	
General Purpose Type	-10 to +6 db 5000 ohms
High Speed Type	-10 to +6 db 5000 ohms
Low Speed Type	-10 to +6 db 5000 ohms

RANGE	APPROXIMATE RESISTANCE
VOLUME LEVEL INDICATOR -- VU METER Reference Level -- 1 MW. - 600 ohm Line	
Not Illuminated	A or B Scale 3900 ohms
Illuminated	A or B Scale 3900 ohms

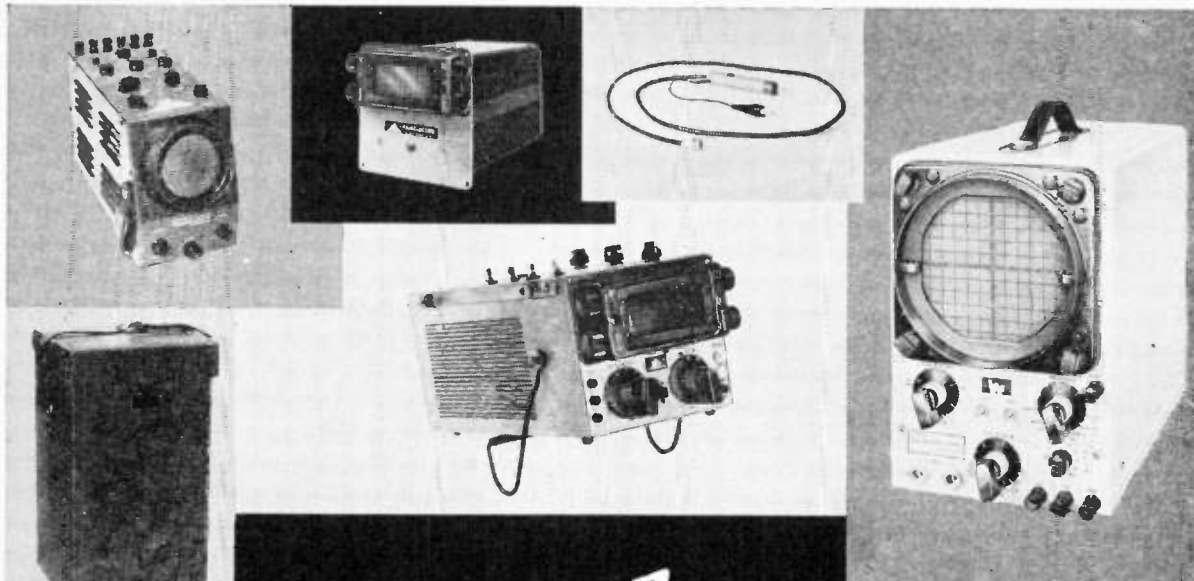
NOTE: Ranges other than those shown, and zero center meters, can be made available on special order. Custom scale plates can also be designed to your specifications of any number of scales, divisions, or colors.

Meters are furnished normally calibrated for usage on non-magnetic panels. For usage on steel panels, please specify thickness of panel when ordering, and unit will be specially calibrated.

Moistureproof or waterproof meters can be supplied in some types on special request

Ask your distributor for WALDOM'S complete catalog of Electronic Components and Croname Products including . . .

- | | | | | |
|----------------------|-------------------------|---------------------------|------------------------------|-----------------------|
| Anode Connectors | Diode Sockets | Instrument Cases & Panels | Plastic Boxes | Title Plates |
| Azimuth Dials | Direct Drive Dials | Interlock Sockets | Printed Circuit Tube Sockets | Transistor Socket |
| Cord Sets | Fasteners | Jack or Trimmer Covers | Shaft Locks | Tube Shields |
| Crimping Tools | Fastener Assortments | Knobs | Solderless Terminals | Tube Sockets |
| Crystal Sockets | Grid Caps | Knob Assemblies | Terminal Assortments | Tuner Dial Assemblies |
| Dial Assemblies | Hi-Fidelity Accessories | Paint (Aerosol) | Terminal & Spade Lugs | TV Accessories |
| Dial Locks | Horns Aerosol | Phono Connectors | Terminal Strips | TV Mask Assemblies |
| Dial & Switch Plates | | Planetary Drives | | Washers |



SEE **Waterman** **POCKETSCOPES®**
CRAFTSCOPES® · PANELSCOPES® FIRST

LIGHT · ACCURATE · PORTABLE · DC COUPLED

	Industrial POCKETSCOPE® S-11-A	Hi Gain POCKETSCOPE® S-14-A	Wide Band POCKETSCOPE® S-14-B	Computer POCKETSCOPE® S-14-C	Twin Tube POCKETSCOPE® S-15-A	TV & Hi Fi CRAFTSCOPE® S-16-A	Direct Reading POCKETSCOPE® Hi-Gain S-17-A	Basic PANELSCOPE® P-1	Indicator PANELSCOPE® P-100
CR Tube Size—Inches	3	3	3	3	1½x3**	5	1½x3	1½x3	1½x3
Accelerating Voltage	560	850	850	1000	850**	800/1400	850	900	900
V Sens. (MV rms)	100/in	10/in	50/in	70/in*	—	2.5/cm	3.6/div	—	20 V/in
V Sens. (MV dc)	280/in	28/in	140/in	200/in	28/in**	100/cm	10/div	56 V/in	—
V Response	DC-200 KC	DC-155 KC	DC-700 KC	DC-700 KC	DC-155 KC**	DC-5.7 MC†	DC-230 KC	From DC††	From 3c††
V Pulse rise—µ sec.	2	2.2	0.35	0.35	2.2**	0.07	2	††	††
H Sens. (MV rms)	100/in	15/in	150/in	—	—	10/cm	140/div	—	28 V/in
H Sens. (MV dc)	280/in	42/in	420/in	—	28 V/in**	—	—	80 V/in	—
H Response	DC-200 KC	DC-155 KC	DC-200 KC	—	DC-140 KC**	3c-300 KC	3c-170 KC	From DC††	From 3c††
Sweep Range	REP 3c-50 KC	REP-TRIG 0.5c-50 KC	REP-TRIG 0.5c-50 KC	TRIG 20µS-25	REP-TRIG 0.5c-50 KC	REP 5c-50 KC	TRIG 100µS-10S	—	—
Case Depth—in.	11	12	12	12	12	12½	10	10	10
Case Width—in.	5	6	6	6	6	7	5½	5¼	5¼
Case Height—in.	7	7	7	7	7	10½	4¾	5¼	5¼
Weight—lbs.	8¾	12¾	14	16	16¼	18½	8	5	5
Shipping Weight—lbs.	10	16	17	19	19	21	10	7	7
AC Voltage Input	105-125	105-125	105-125	105-125	105-125	105-125	105-125	105-125	105-125
Frequency in cps	50-400	50-400	50-400	50-400	50-400	50-400	50-400	50-400	50-400
Watts	30	50	65	85	75	65	48	10	10
PRICE	\$149.50	\$249.00	\$239.00	\$289.00	\$399.00	\$245.00	\$295.00	\$109.50	\$129.50

*7 MV rms with Amplifier Probe A-11-D

**Each Channel

†Hi-Sensitivity V Response 5c-500 KC

††Coupling is direct to deflection plates making upper limit dependent on driving source

PRICES & SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

MODEL	FUNCTION	PROBES USED WITH	PRICE
A-10-A	Combination Probe (1 & 10:1)	S-14-A, B S-15-A	\$19.90
A-10-B	Combination Probe (1 & 10:1)	S-16-A	9.95
A-10-C	Combination Probe (1 & 10:1)	S-14-C	19.90
A-10-H	Combination Probe (1 & 10:1)	S-17-A	11.95
A-11-D	Amplifier Probe (1:10)	S-14-C	39.90

MODEL	CARRYING CASES For POCKETSCOPE® Model	PRICE
A-20-A	S-11-A	\$11.95
A-20-B	S-14-A, B, C S-15-A	\$11.95
A-20-C	S-17-A	11.95

Engineering data sheets available with complete descriptions

See page 1461 for Waterman Rayonic® Cathode Ray Tubes

WATERMAN PRODUCTS CO., INC.

Philadelphia 25, Pa.
 Cable Address—Pocketscope, Philadelphia 25, Pa.



POLYSTYRENE ROD — TUBING — SHEET

For radio and electronic applications, because of its very low loss factor at ultra high frequencies, Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.

POLYSTYRENE ROD — Transparent

Available in 12" or 48" lengths

Catalog Number	Diameter	Net Price	
		12" lgth.	48" lgth.
JB-100	1/8"	\$.03	\$.12
JB-101	3/16"	.07	.28
JB-102	1/4"	.12	.48
JB-103	5/16"	.18	.72
JB-104	3/8"	.26	1.04
JB-105	7/16"	.36	1.44
JB-106	1/2"	.48	1.92
JB-107	5/8"	.72	2.88
JB-108	3/4"	1.00	4.00
JB-109	7/8"	1.42	5.68
JB-110	1"	1.90	7.60
JB-111	1 1/8"	2.50	10.00
JB-112	1 1/4"	3.00	12.00
JB-113	1 3/8"	3.60	14.40
JB-114	1 1/2"	4.30	17.20
JB-116	1 3/4"	6.00	24.00
JB-118	2"	7.50	30.00

POLYSTYRENE SHEET

The following sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

Catalog Number	Thickness	Sheet Size	Net Price
JB-125	1/16"	12" x 12"	\$4.15
JB-126	3/32"	12" x 12"	4.80
JB-127	1/8"	12" x 12"	5.50
JB-128	3/16"	12" x 12"	7.15
JB-129	1/4"	12" x 12"	8.15
JB-245	1/16"	12" x 24"	7.80
JB-246	3/32"	12" x 24"	9.15
JB-247	1/8"	12" x 24"	10.50
JB-248	3/16"	12" x 24"	13.15
JB-249	1/4"	12" x 24"	15.65
JB-315	1/32"	24" x 24"	9.65
JB-301	1/16"	24" x 24"	11.15
JB-302	3/32"	24" x 24"	13.00
JB-303	1/8"	24" x 24"	14.80
JB-304	3/16"	24" x 24"	18.75
JB-305	1/4"	24" x 24"	23.00
JB-316	5/16"	24" x 24"	27.65
JB-309	3/8"	24" x 24"	31.25
JB-311	1/2"	24" x 24"	38.65
JB-317	5/8"	24" x 24"	50.00
JB-318	3/4"	24" x 24"	69.25
JB-319	1"	24" x 24"	94.15

POLYSTYRENE TUBING — Satin Finish

Available in 12" or 48" lengths.

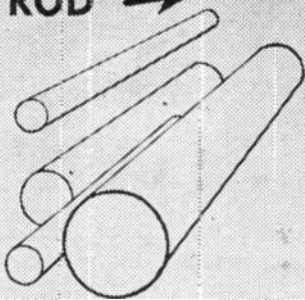
Catalog Number	O.D.	I.D.	Net Price	
			12" lgth.	48" lgth.
JB-201	1/4"	1/8"	\$.10	\$.40
JB-202	5/16"	3/16"	.14	.56
JB-203	3/8"	1/4"	.18	.72
JB-205	1/2"	3/8"	.26	1.04
JB-206	5/8"	1/2"	.32	1.28
JB-207	3/4"	5/8"	.40	1.60
JB-208	1"	7/8"	.56	2.24
JB-220	1 1/2"	1 1/4"	1.50	6.00
JB-222	2"	1 3/4"	2.20	8.80

JULIUS BLUM & CO., INC.
CARLSTADT, N. J.

Serving Industry
Since 1910

PLASTICS for electronics

ROD →



(R = Rcnds, B = Bars;
1/2R = Half Round)

EXAMPLE: Cat. No. R11A-1/2 is 1/2" diameter Acrylic Rod 1/2 foot long.

illumitronic

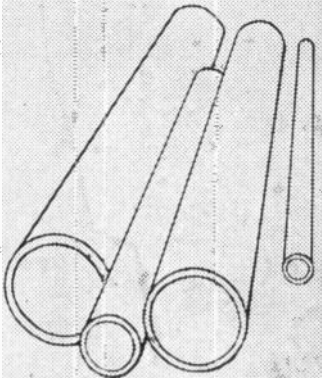
sunnyvale,



california

engineering

TUBING →



EXAMPLE: Cat. No. T15A-1/4x1/2 is 1/4" O.D. with 1/8" I.D. Nylon Tubing 1/2 foot long.

MATERIAL →	POLY- STY- RENE				ACRYLIC				Paper Base	Canvas Base	POLY- ETHY- LENE	NYLON			TEFLON		MACH- INABLE LAVA	MACH- INABLE CER- AMIC
Length →	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	1'	6"	3"	1'	8"
CAT. NO. →	R10A	R11A	R11A	B11A	R12A	R13A	R14A	R15A	R15A	R16P	R16L	B17A	B18R					
Di.																		
1/16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1/8	.03	.05	—	—	.69	1.02	—	.18	—	—	—	—	—	—	—	—	—	—
3/16	.06	.09	—	—	.71	1.04	—	.27	—	—	—	—	—	—	—	—	—	—
1/4	.09	.15	—	.27	.72	1.05	—	.45	1.18	.77	.47	—	—	—	—	—	—	—
5/16	.14	.21	—	—	.80	1.16	—	.63	1.52	.97	.58	—	—	—	—	—	—	—
3/8	.18	.29	—	.53	.92	1.36	—	.39	.87	1.34	.81	—	—	—	—	—	—	—
1/2	.36	.48	.35	.84	1.38	2.03	—	.53	1.49	3.10	2.25	1.34	1.95	.90	—	—	—	—
5/8	.60	.75	.60	1.50	2.12	2.85	—	.72	1.94	4.55	3.32	2.00	—	—	—	—	—	—
3/4	.81	1.08	.86	—	2.76	3.72	—	1.05	2.64	6.38	4.64	2.78	2.70	1.80	—	—	—	—
7/8	1.20	1.43	—	—	3.44	4.67	—	1.43	3.48	8.47	6.30	3.78	—	—	—	—	—	—
1"	1.70	1.88	—	—	4.16	5.70	—	2.03	4.38	10.95	7.32	4.79	4.05	2.70	—	—	—	—
1 1/4"	2.11	2.33	—	—	4.56	6.91	—	—	5.43	13.76	9.58	6.14	—	—	—	—	—	—
1 1/2"	2.54	2.78	—	—	5.37	8.13	—	2.93	6.39	16.87	11.08	7.45	—	—	—	—	—	—
1 3/8"	3.38	3.83	—	—	6.43	9.74	—	—	7.28	20.12	13.60	8.96	—	—	—	—	—	—
1 1/2"	3.58	4.13	—	—	7.55	11.43	—	4.20	8.40	23.88	16.29	10.57	9.45	—	—	—	—	—
1 3/8"	4.23	—	—	—	8.64	13.08	—	—	10.25	27.95	19.60	12.56	—	—	—	—	—	—
1 3/4"	4.91	5.47	—	—	10.79	16.34	—	—	11.97	32.35	22.92	13.88	—	—	—	—	—	—
1 7/8"	5.54	—	—	—	12.75	19.32	—	—	13.29	40.70	26.48	16.03	—	—	—	—	—	—
2"	6.24	6.98	—	—	15.05	22.77	—	7.05	15.42	41.48	29.86	17.38	14.63	—	—	—	—	—

R10, 11, 14, 15 and 16 also available in 4' and 6' lengths. R12 and 13 also available in 3' random lengths. Smaller sizes in the R15 are available in 100' and 500' continuous lengths.

The Illumitronic Jobber Line of PLASTICS is the most complete line available in small standard sizes and short lengths. All sizes are available from stock. For quantity requirements request quotation.

MATERIAL →	POLY- STY- RENE		ACRY- LIC	Paper Base	Canvas Base	POLY- ETHY- LENE	NYLON			TEFLON		MACH- INABLE CER- AMIC
Length →	1'	1'	1'	1'	1'	1'	1'	1'	1'	6"	3"	8"
CAT. NO. →	T10A	T11A	T11A	T12A	T13A	T14A	T15A	T16A	T16P	T18R		
O. D. I. D.												
1/8 x 3/32	—	—	—	—	—	—	—	.06	—	—	—	—
1/4 x 1/8	.09	.15	.60	.83	.09*	—	—	—	—	—	—	—
1/4 x 3/16	—	—	—	—	—	—	.14	1.53	1.01	—	—	—
3/8 x 1/4	.15	.21	.64	.88	.18*	—	—	1.79	1.17	—	—	—
3/8 x 1/4	—	—	—	—	—	—	.27	—	—	—	—	—
1/2 x 3/8	.21	.37	.74	.97	.24*	—	.72	—	—	—	—	—
1/2 x 1/4	—	—	—	—	—	—	—	2.99	1.96	—	—	—
3/8 x 1/2	.24	.41	.81	1.05	.36	—	—	—	—	—	—	—
3/4 x 5/8	.30	.51	.88	1.20	.42	—	—	—	—	—	—	—
3/4 x 1/2	—	—	—	—	—	—	—	5.08	3.30	—	—	—
3/8 x 3/4	.39	.63	.94	1.30	—	—	—	—	—	—	—	—
7/8 x 5/8	—	—	—	—	—	—	—	5.98	3.88	—	—	—
1 x 7/8	.42	—	1.04	1.47	.54	—	—	—	—	—	—	—
1 x 3/4	.81	1.13	1.42	2.22	—	—	—	7.69	5.00	—	—	—
1 1/4 x 1	1.12	1.35	1.58	2.55	.81	—	—	—	—	—	—	—
1 1/2 x 1 1/4	1.20	1.65	1.73	3.00	1.05	—	—	—	—	—	—	3.30
1 3/4 x 1 1/2	1.58	1.80	2.02	3.30	1.27	—	—	—	—	—	—	—
2 x 1 3/4	1.65	2.25	—	—	—	—	—	—	—	—	—	5.40
2 1/4 x 2	—	3.00	—	—	—	—	—	—	—	—	—	—
2 1/2 x 1 3/4	—	—	—	—	—	—	—	—	—	—	—	5.85
3 x 2 1/4	—	3.60	—	—	—	—	—	—	—	—	—	—
3 x 2 1/2	—	—	—	—	—	—	—	—	—	—	—	6.15

T10, T11 and T14 also available in 4' and 6' lengths. T12 and T13 also available in 3' random lengths. *T14 also available in 100' and 500' continuous lengths.

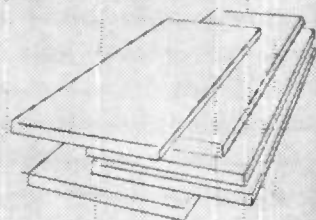
PLASTICS for electronics

SHEET

MATERIAL →	POLYSTYRENE			ACRYLIC			PHENOLIC Paper Base			PHENOLIC Canvas Base		
	6"x12"	12"sq.	24"sq.	6"x12"	12"sq.	24"sq.	6"x12"	12"sq.	24"sq.	6"x12"	12"sq.	24"sq.
CAT. NO. →	S10A	S10C	S10E	S11A	S11C	S11E	S12A	S12C	S12E	S13A	S13C	S13E
Thickness												
1/32	1.77	2.82	9.18	—	—	—	.39	.80	1.86	.57	.36	3.02
1/16	1.84	3.08	10.77	1.58	2.65	8.41	.51	1.02	2.23	1.05	1.76	5.56
1/8	2.45	4.11	14.50	1.63	2.79	8.84	.83	1.23	2.04	1.10	3.51	11.13
3/16	3.20	5.32	18.35	1.99	3.34	10.53	.83	3.05	2.67	3.15	5.27	15.69
1/4	3.64	6.07	21.55	2.35	3.93	12.45	2.44	4.03	12.93	4.21	7.10	22.25
3/8	5.03	8.47	29.93	2.78	5.30	19.96	2.67	5.14	19.44	6.33	10.56	33.38
1/2	6.27	10.46	36.71	5.03	8.39	28.57	4.90	8.18	25.67	8.43	14.06	44.52
5/8	8.55	14.25	47.35	6.22	10.33	32.85	6.13	10.23	32.37	10.54	17.47	55.83
3/4	11.79	19.65	65.44	7.42	12.38	39.21	7.35	12.26	38.60	12.56	21.05	65.77
7/8	12.65	21.07	70.09	8.65	14.42	45.66	8.58	14.31	45.31	14.76	24.40	77.83
1"	16.02	26.70	89.24	9.84	16.40	51.92	9.82	16.37	51.82	16.85	28.11	89.02

S11 also available in sizes 36"x60", 36"x36". S12 and S13 also available in sizes 36"x48", 36"x36".

EXAMPLE Cat. No. S14C-1/4 is 1/4" thick Polyethylene Sheet 12"x12".



MATERIAL DESIGNATION

- 10 = Polystyrene
- 11 = Acrylic*
- 12 = Paper Base Phenolic
- 13 = Canvas Base Phenolic
- 14 = Polyethylene
- 15 = Nylon
- 16 = Teflon
- 17 = Machinable Lava**
- 18 = Machinable Ceramic**

*(Acrylic is also called Plexiglas or Lucite)

** May be drilled or machined.

SHEET

MATERIAL →	POLYETHYLENE			NYLON				TEFLON		
	6"x12"	12"sq.	24"sq.	3"x6"	4"x12"	6"x12"	12"sq.	3"x6"	6"x12"	12"sq.
CAT. NO. →	S14A	S14C	S14E	S15L	S15M	S15A	S15C	S16L	S16A	S16C
Thickness										
.005	.14	.27	.33	—	—	—	—	.32	.53	1.43
.010	.24	.36	1.26	—	.48	—	—	.51	1.73	2.65
.015	.33	.48	1.65	—	.68	—	—	.86	2.55	3.90
.020	.39	.60	2.00	—	.83	—	—	1.05	3.45	5.33
.025	—	—	—	—	1.05	—	—	1.30	4.34	6.53
.030	.51	.90	3.05	—	1.20	—	—	1.57	5.11	8.00
.040	.68	1.17	4.46	—	1.50	—	—	2.10	6.81	10.65
.050	.75	1.35	4.66	—	1.83	—	—	2.63	8.57	13.23
.060	.97	1.65	5.45	—	2.25	—	—	3.17	10.21	15.99
1/16	.54	.90	3.05	—	1.70	—	—	1.57	5.11	8.00
1/8	.97	1.65	5.45	—	2.25	4.48	9.38	3.14	10.21	15.99
3/16	1.62	2.70	9.31	—	5.03	10.84	15.00	4.81	16.01	25.32
1/4	2.01	3.36	11.77	3.99	—	14.30	18.75	7.08	23.67	37.00
3/8	3.00	4.95	17.26	5.19	—	17.29	24.38	8.92	29.79	46.50
1/2	4.45	7.74	25.73	7.18	—	23.94	33.75	13.77	45.75	71.63
3/4	6.30	10.50	36.77	9.95	—	28.60	37.50	17.82	59.32	92.75
5/8	7.95	13.26	46.42	9.98	—	33.25	46.88	22.34	—	—
7/8	11.55	19.20	—	11.97	—	39.90	56.25	26.80	—	—
1"	—	—	—	—	—	—	—	30.46	—	—
1 1/8	15.60	25.95	—	—	—	—	—	35.35	—	—

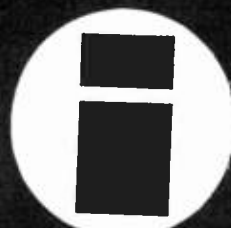
S14 also available in sizes 60"x36" and 36"x36". S16 also available in size 24"x24".

* 1/16 and smaller are skived sheets, larger are cast sheets.

** Larger sizes available on request.

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sunnyvale,



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engineering

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- 6" ± 1/16"
- 1' ± 1/8"
- 3' ± 1/4"
- 4' ± 1/2"
- 6' ± 1"
- 3"x6" ± 1/16"
- 6"x12" ± 1/4"
- 12"x12" ± 1/4"
- 24"x24" ± 1/2"
- 36"x36" ± 1"

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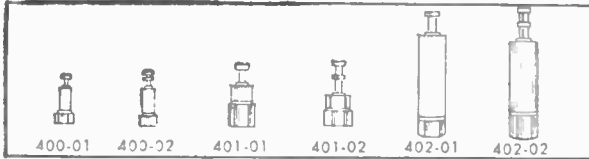
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ERIE RESISTOR CORPORATION — ERIE, PA.

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ERIE TEFLON* STAND-OFF INSULATORS

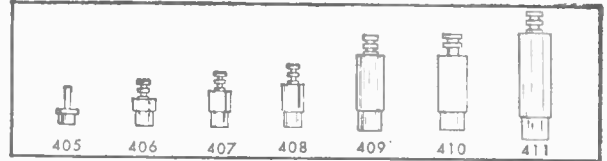
TE-400 SERIES



These Insulators are designed for low-loss, high frequency service in radar, television and other electronic equipment, as completely insulated tie-points in circuit wiring — unaffected by a wide range in ambient temperatures, pressure, altitudes, humidity, and mechanical shock and vibration.

*duPont Trademark

TE-405 SERIES



These Miniature Stand-Off Insulators are compressed into mounting holes, are self-fastening, requiring no additional hardware. Hand tool for mounting available. High heat resistance permits soldering without damage to insulators. Excellent electrical characteristics adapt them to miniaturization and high frequency, high temperature, high voltage circuits.

Order by Catalog Number from Table Below

Insulator Number	RATING		DIMENSIONS					Mounting Hole	
	Flash Over Point†	Capacitance	A	B	C	D	E		F
TE-400	7,000 VAC-RMS	.12 mmfd.	3/4	3/4	3/32	.066	1/8	.181	
TE-401	6,300 VAC-RMS	.25 mmfd.	3/32	1/32	1/4	.140	1/4	.258	
TE-402	15,500 VAC-RMS	.14 mmfd.	1 1/32	1 1/4	1/4	.140	1/4	.258	

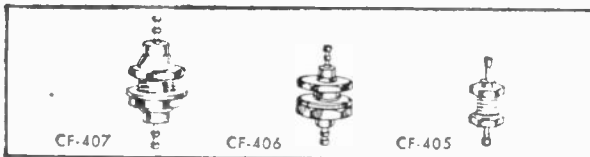
†Readings taken at Sea Level, Short Time Test.

Insulator Number	RATING		DIMENSIONS					Mounting Hole	
	Flash Over Point†	Capacitance	A	B	C	D	E		F
TE-405	3,500 VAC	.5 mmfd.	.365	.040	.148	.045	.172	.115	.136
TE-406	5,000 VAC	.32 mmfd.	.421	.125	.165	3/32	3/16	.150	.152
TE-407	6,300 VAC	.25 mmfd.	.483	.187	.165	3/32	3/16	.150	.152
TE-408	7,500 VAC	.20 mmfd.	.546	.250	.165	3/32	3/16	.150	.152
TE-409	10,000 VAC	.10 mmfd.	.696	.400	.165	3/32	3/16	.150	.152
TE-410	11,000 VAC	.14 mmfd.	.972	.500	.215	3/4	1/4	.187	.202
TE-411	15,500 VAC	.18 mmfd.	1.272	.800	.215	3/4	1/4	.187	.202

†Readings taken at Sea Level, Short Time Test.

ERIE TEFLON FEED-THRU INSULATORS

CF-405 SERIES

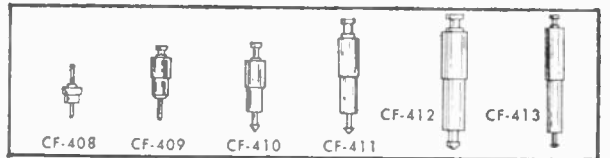


Series CF-405 Feed-Thru Insulators have a hollow threaded metal body which fits through the bed plate and is secured by a hex nut.

The terminal, which passes through the hollow body, is spaced by a force-fitted Teflon plug.

These Feed-Thru Insulators combine the unsurpassed insulating properties of Teflon for high frequency, high temperature, high voltage service with mechanical ruggedness unusual in miniature insulator design.

CF-408 SERIES



Teflon Miniature Feed-Thru Insulators, compression type, are force-fitted into mounting holes, are self-fastening and self-sealing. No additional hardware is required for assembly. The resiliency of the Teflon bodies insures against breakage in assembly and transit, and offers shock-proof and vibration-proof durability in service. Hand tool for mounting available. Teflon's unexcelled electrical properties for high frequency, high temperature and high voltage use, unaffected by a wide range in ambient temperatures, pressure, altitudes and humidity, recommend them for critical circuits.

Order by Catalog Number from Table Below

Insulator Number	RATING		DIMENSIONS					Mounting Hole	
	Flash Over Point†	Capacitance	A	B	C	D	E		F
CF-405	3500 VAC	2.0 mmfd.	.690	.140	12-28	.082	.163	.369	
CF-406	4500 VAC	1.5 mmfd.	.876	.168	1/4-32	.093	.188	.500	
CF-407	6300 VAC	1.95 mmfd.	1.316	.257	3/8-32	.125	.283	.750	

†Readings taken at Sea Level, Short Time Test.

Insulator Number	RATING		DIMENSIONS					Mounting Hole	
	Flash Over Point†	Capacitance	A	B	C	D	E		F
CF-408	3,500 VAC	.72 mmfd.	.515	.040	.148	.045	.172	.100	.136
CF-409	5,000 VAC	.9 mmfd.	.740	.187	.171	3/32	3/16	.212	.158
CF-410	7,000 VAC	.82 mmfd.	.865	.250	.171	3/32	3/16	.275	.158
CF-411	9,000 VAC	.8 mmfd.	1.115	.375	.171	1/4	3/16	.400	.158
CF-412	10,000 VAC	.83 mmfd.	1.365	.500	.217	1/4	1/4	.525	.204
CF-413	15,500 VAC	1.02 mmfd.	1.965	.800	.217	1/4	1/4	.825	.204

†Readings taken at Sea Level, Short Time Test.

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High Dielectric Strength—Flexible—Good Stretch and Conformability—Snug Wrap—Waterproof—Resists Oil, Gasoline, Water, Salt Water, Alkalis and Sunlight. Hundreds of uses!

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Thickness	7 mils
Adhesion (oz./inch)	25
Tensile strength (lbs./inch)	20
Elongation	175%



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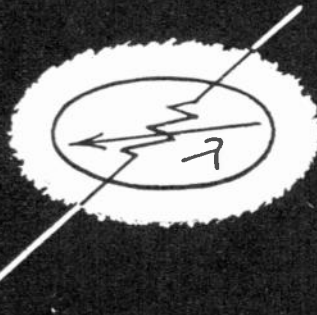
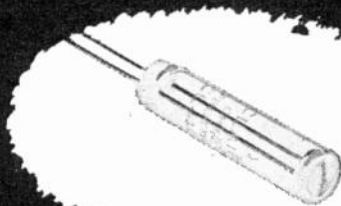
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in
automation
and

control



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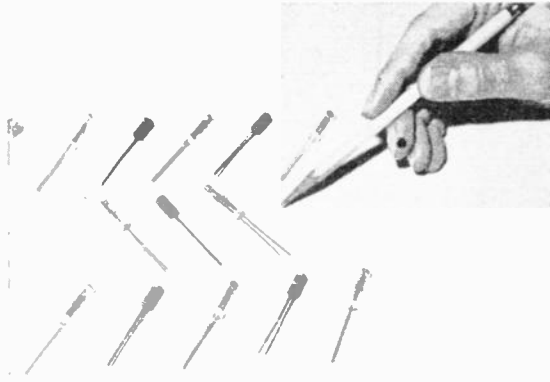
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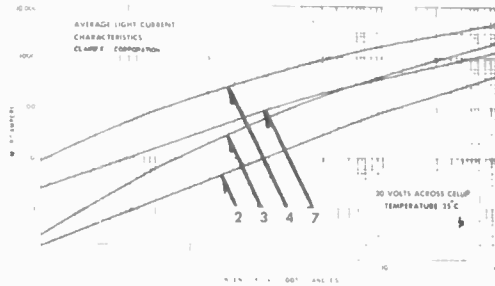
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 TO SUIT YOUR APPLICATION**

Photocell Type	Sensitive Material	Peak Response	Light Resistance	Enclosure Type	Sensitivity, see curve	Spectral Response, see curve
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CL-402	CdS	5150 A	1M	Y	2	A
CL-402S	CdS	5150 A	1M	Z	2	A
CL-3	CdSe	7350 A	160K	X	3	D
CL-3A	CdSe	7350 A	70K	X	3	D
CL-403	CdSe	7350 A	160K	Y	3	D
CL-403S	CdSe	7350 A	160K	Z	3	D
CL-4	CdSe	6900 A	30K	X	4	C
CL-404	CdSe	6900 A	30K	Y	4	C
CL-404S	CdSe	6900 A	30K	Z	4	C
CL-7	CdS	6150 A	133K	X	7	B
CL-407	CdS	6150 A	133K	Y	7	B
CL-407S	CdS	6150 A	133K	Z	7	B

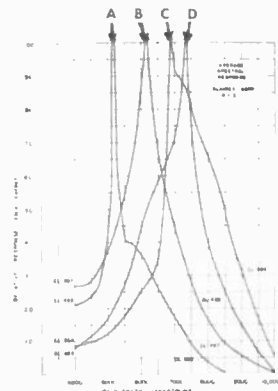
¹ Measured at 2 foot candles infrared source.
² See table of enclosure types below.



NOTE!
HIGH SENSITIVITY . . .



**AND CHOICE OF
 SPECTRAL RESPONSE**



GLASS OR PLASTIC ENCLOSURES

Enclosure	Material	Length	Diameter	View	Leads
X	Polyester-plastic	1/2"	0.25"	end ¹	0.03" dia. copper 1 3/4" long
Y	Glass ²	1"	0.265"	end ¹	0.02" dia. copper 1 1/2" long
Z	Glass ²	1"	0.265"	side ³	0.02" dia. copper 1 1/2" long

¹ Hermetically sealed.
² Element at one end with sensitive surface at right angles.
³ Element at one end with sensitive surface parallel to long axis of cell.

PRICED FROM \$1.15

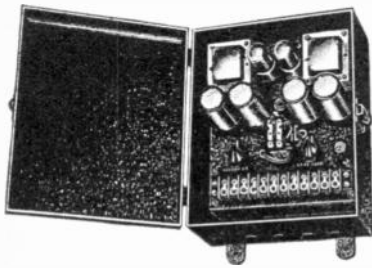
DEPENDING ON QUANTITY

The First, and Oldest, Manufacturer of CdS and CdSe Cells

CLAIREX
 CORPORATION
 New York City 10, N.Y.

"Photoconductors are our only business"

ELECTRONICALLY OPERATED RELAYS
MODEL 63



Especially designed for use with a correct combination of the standardized Worner Photo-Cell and Exciter Lamp units shown at right. Will operate also from light sources such as daylight, artificial lights, radiant energy, etc.

Model 63 Electronically Operated Relay is a specially engineered, highest quality unit. It enjoys wide preference as it efficiently meets exacting requirements and replaces the need of costly individually engineered equipment. Technical details on request.

Price, Each

- Model 63, Described Above\$111.00
- Model 63-A, combines Model 63 and Time Delay Circuit giving delay from zero to 45 seconds....\$121.80
- Model 63-B, same as Model 63 with additional amplification to operate on less active change of light\$129.69
- Model 63-C, same as Model 63 but operates with "on" light\$111.00

Model 64, Electronically Operated Relay is an efficient unit for practically any industrial applications that do not require fine detection and where the Relay is not required to operate in excess of 450 times a minute. (For fine detection at greater speeds, we recommend a choice of Model 63 series.)

Model 64 Electronically Operated Relay ca. \$67.35

"MINIATURE" FOTOELECTRIC HEADS

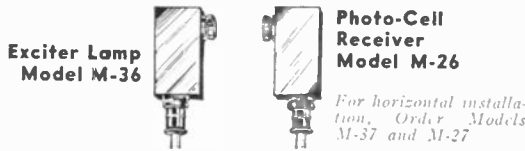


Photo-Cell Receiver Model M-26
For horizontal installation, Order Models M-37 and M-27

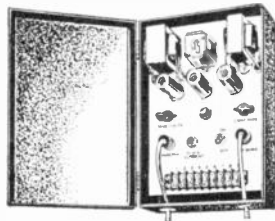
Size 1 1/2" x 3/4" x 2 1/2" for space limitations. One-piece solid aluminum machined for components. Pin-point detection on cross-over beam at distances from 3 in. to 12 in. Diverging beam supervises objects 1 in. or larger at a distance up to 8 ft. Operates up to 10,000 counts per minute with Model 66-A below. Units equipped with 6 ft. of cable with prong type positive connectors. For guaranteed efficiency, Miniture Heads should be used only with Electronically Operated Relays described below.

- Model M-36 Vertical Exciter Lamp\$17.97
- Model M-26 Vertical Photo cell Receiver 21.72
- Model M-37 Horizontal Exciter Lamp 17.97
- Model M-27 Horizontal Photo cell Receiver 21.72

ELECTRONICALLY OPERATED RELAYS

For Use With Miniture Heads Above

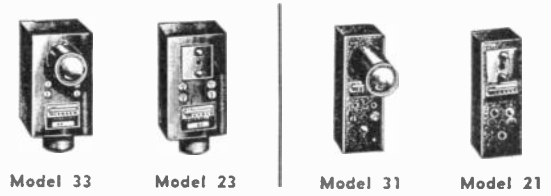
Speeds based upon "on" and "off" periods being equal. Models 66-A and 66, double-pole, double-throw relay with contact rating of 110 v. 60 cy. a.c., 10 amps, non-inductive, 5 amps, inductive. Light beam intensity control.



- Model 66-A Electronically Operated Relay for use with ultra high speed electronic decade counters. Accurate counts of light beam interruption or variation of intensity up to 10,000 counts per minute.Each \$138.60
- Model 66 Electronically Operated Relay same as Model 66-A except it operates up to 900 counts per minute.Each \$131.10
- Model 67 Electronically Operated Relay for applications where fine detection at high speeds is not a factor or Relay is not required to operate in excess of 450 times per minute. Each \$69.90

EXCITER LAMP & PHOTO-CELL RECEIVER UNITS

For Use With Models 63, 63-A, 63-B, 63-C and 64 Electronically Operated Relays



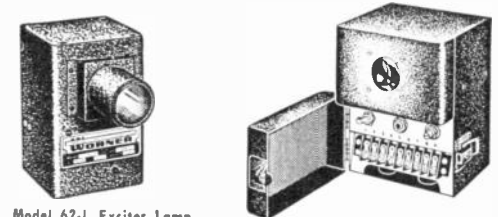
The Exciter Lamp unit is designed to project the light beam and the Photo-Cell Receiver is designed to pick up the beam and convert its light into electrical energy through the Electronically Operated Relay unit.

Model 33 Exciter Lamp and Model 23 Photo-cell Receiver units operate as a Set. Unit to unit light beam covers a distance of from a few inches to 25 ft. The Set is heavy cast iron with 1/2 in. conduit fittings. Gray finish. For use in damp areas, the Set can be made moisture-proof at slight add'l. cost.

Model 31 Exciter Lamp and Model 21 Photo-cell Receiver Set is smaller and lighter. 18 ga. steel case construction, gray wrinkle finish, with 1/2 in. knock-out. Light beam distance from a few inches to 25 ft.

Model No.	Description	Size, Inches	Price, Each
33	Exciter Lamp Unit.....	4 1/4 x 2 3/4 x 2 3/4	\$17.82
23	Photo-Cell Receiver.....	4 1/4 x 2 3/4 x 2 3/4	20.88
31	Exciter Lamp Unit.....	6 5/8 x 2 x 1 3/4	13.14
21	Photo-Cell Receiver.....	6 5/8 x 2 x 1 3/4	17.43

MODEL 62 R & L • TWO UNIT SET



Model 62-L Exciter Lamp (Light Source Unit)

Model 62-R Electronically Operated Relay Unit

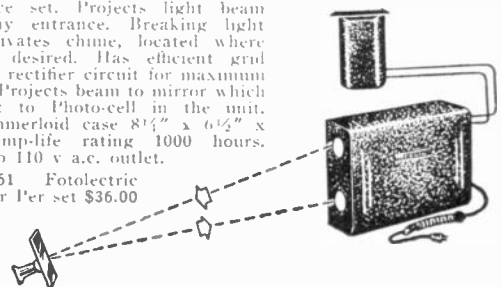
This Electronically Operated Relay Unit includes Photo-Cell Relay and components. Efficient for distances from a few inches to 75 feet, where Relay is not required to operate in excess of 400 times a minute, such as: Counting, sorting large objects; limit switches; start, stop operations; opening doors, etc.

- Model 62 R & L "Two-Unit Set" Per set \$82.50
- Model 62-R Electronically Operated Relay Each 69.30
- Model 62-L Exciter Lamp Unit Each 24.60

ELECTRONIC RECEPTIONIST

Three-piece set. Projects light beam across any entrance. Breaking light beam activates chime, located where signal is desired. Has efficient grid controlled rectifier circuit for maximum stability. Projects beam to mirror which reflects it to Photo-cell in the unit. Gray hammerloid case 8 1/2" x 6 1/2" x 3 3/4". Lamp-life rating 1000 hours. Plugs into 110 v a.c. outlet.

Model 61 Fotoelectric Announcer Per set \$36.00



Designed and Manufactured by

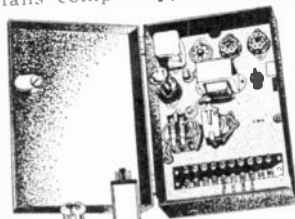
ELECTRONIC DEVICES
WORNER

Rankin, Illinois • U. S. A.

FOTOLECTRIC BURGLAR ALARM SYSTEMS

MODEL 9000 SERIES. The Worner Master Control System consists of a Master Control Panel used in combination with 1, 2, 3 or 4 Fotoelectric Sets. (Each Fotoelectric Set consists of Exciter Lamp for invisible beam and Photo-cell). Operates alarms the user installs. May be used with foil systems, etc. Sets off alarm if wiring of Fotoelectric Set is tampered with.

MODEL 9000-N Master Control Panel prevents false alarm if power fluctuates 5 volts or more. If power fails completely, the unit automatically resets supervision when power is restored. Relays controlled by a switch. For 110-120 V. Panels are supplied with plate relays for the number of Fotoelectric Sets ordered. Should Fotoelectric Sets be added later, plug-in relays are supplied with Fotoelectric Sets ordered.



MODEL 9000-N Master Control Panel...ea. \$61.05
Sets for 150', 250', and 500' ranges have unwanted light day-light range. Ranges listed are for infra-red light.

Model No.	Fotoelectric Set	Range	Per Set
9100	Master Trespass	Trap..... 100 ft.	\$ 82.50
9150	Master Trespass	Trap..... 150 ft.	95.88
9250	Master Trespass	Trap..... 250 ft.	118.50
9500	Master Trespass	Trap..... 500 ft.	146.25

MODEL 7000 SERIES operates with burglar alarm company's central office control, police signal or local alarm. The Relay may be connected either in series or parallel to meet circuit requirements. One or more Fotoelectric Sets (illustrated below) can be used and can be operated by an existing control panel. Can be used with foil systems, etc. For 110-120V or 24V.

Model No.	Fotoelectric Set	Range	Per Set
7100	Remote Cont. Trespass	Trap..100 ft.	\$ 82.50
7150	Remote Cont. Trespass	Trap..150 ft.	95.88
7250	Remote Cont. Trespass	Trap..250 ft.	118.50
7500	Remote Cont. Trespass	Trap..500 ft.	146.25

MODEL 5000 SERIES for 100' range and 150' range for interior use where a single beam is ample protection. Not intended for use with foil systems, etc. Equipped with lock and key. 110V. Illustrated below.

Model No.	Fotoelectric Set	Range	Per Set
5100	Single Beam Trespass	Trap.... 100 ft.	\$80.85
5150	Single Beam Trespass	Trap.... 150 ft.	93.00

FOTOLECTRIC SETS FOR ALL ABOVE SYSTEMS



Exciter Lamp (Light Source Unit) 100' and 150' range

Electronically Operated Relay for 100 ft. Range.

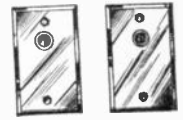
Electronically Operated Relay for 150 ft. Range. Model 9150



Exciter Lamps (Light Source Units) and Electronically Operated Relays for 250' and 500' ranges are externally the same and are weather-proof.

"MINIATURE" FOTOLECTRIC BURGLAR ALARM

"In-Wall" Concealment



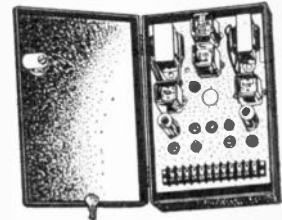
Light Source and Photo-cell Receiver units concealed in light-switch type face plates. Projects invisible light beam ranging up to 35 feet (indoors).

Standard size wall plates concealing Fotoelectric detection units are high finish stainless steel. Light bulb rated 2000 hours. For guaranteed efficiency Fotoelectric sets must be used only with specially engineered amplifiers listed below.

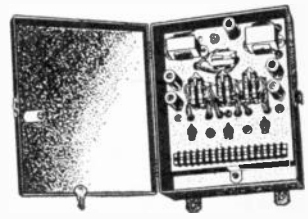
Model 81 "In-Wall" Light Source, each..... \$21.18
Model 82, "In-Wall" Photo Cell Receiver, each 22.92

WORNER AMPLIFIER PANELS

Two specially engineered units. Circuits with no-voltage control relay prevent false alarms due to line voltage irregularities and will sound alarm if tampered with. Standard alarm continuous, regulated warning signal "special" upon order. For 110, 120 volts, 60 cycle a.c. (For operation on 24 volts a.c. use Model 302-T Step-Down Transformer listed below.)



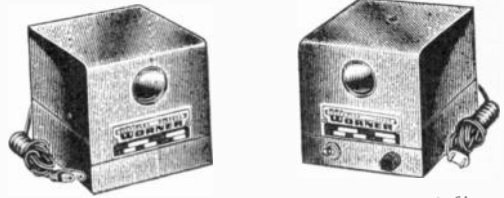
Model 86-1 is a single channel Amplifier Panel that will amplify current flow of one Fotoelectric Set, each \$114.00



Model 86-2 is a dual channel Amplifier Panel that will amplify current flow of two Fotoelectric Sets, each installed to guard a separate area. Will also supervise one Fotoelectric Set where amplification is provided for future addition of a second Fotoelectric Set, each..... \$176.25

Model 302-T Step-down Transformer, each \$24.00

THE TWO-UNIT WORNER WATCHMAN



Exciter Lamp is equipped with removable infra-red filter. Provides invisible light beam ranging up to 50 ft. The Electronically Operated Relay combines Photo-cell and electrical components. Equipped with toggle switch for either continuous alarm or to sound only while light beam is broken. Extraneous light rejector maintains daylight range. Two-piece case construction enables removal of cover without unmounting. Identical cases 5" x 5" x 3 1/2" welded steel, mahogany hammerloid finish. For indoor use; 110-120V, 60 cycle A.C.

Model 4000 Two Unit Watchman,per set \$55.80

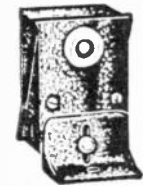
FOTOLECTRIC FIRE PROTECTION

The Worner Fan Motor Stop installed on ventilating ducts detects smoke, gives alarm, stops fan to prevent fan-driven fire to a succession of outbreaks. Approved by Underwriters Laboratories. Write for Bulletin 650.

AUTOTRON Photoelectric Controls

AUTOTRON, INC. DANVILLE, ILL.

S SERIES PHOTOELECTRIC CONTROLS



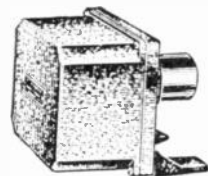
Rugged, industrial quality controls preadjusted for use with 100% light beam interruption. Used for counting and control applications where phototube dark time and phototube light time each is .060 second or more. Control Relay Contacts SPDT rated 8 amperes at 115 v. AC non-inductive load. Splashproof cast aluminum case with adjustable mounting bracket, tapped for 1/2" conduit. Power consumption 10 watts.

S1A, S4A Photoelectric Controls—Require 20 foot-candle minimum light. Lens diameter 3/4".
S2A, S5A Photoelectric Controls—Require 10 foot-candle minimum light. Lens diameter 1 1/2".

Energized		50-60 Cycles Volts	Net Each
†Dark	†Light		
S1A	S4A	115 230	\$38.75
S1AR	S4AR	115 or 230 (specify)	50.75
S2A	S5A	115 230	45.00
S2AR	S5AR	115 or 230 (specify)	57.00



F SERIES PHOTOELECTRIC CONTROLS



"Fail Safe", sensitive, high speed. Widely used where "safe" relay action is required in case of tube failure, where light change is limited, and where phototube dark time or light time is short. Special, quick response DC circuit permits speeds to 1200 operations (cycles) per minute. Sensitivity adjustment inside case inhibits tampering. Shaftlock secures setting.

Minimum light, 5 foot-candles. Minimum phototube dark time, .025 second; minimum phototube light time, .025 second.

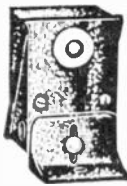
Plate Relay: Contacts DPDT, rated 8 amps at 115 v. AC, non-inductive load. Splashproof cast aluminum case tapped for 1/2" conduit. Rigid mounting feet. Lens dia. 1 1/2". 115/230 v., 50-60 cycles. Power consumption, 20 watts.

Energized		For 115/230 v., 50-60 Cycles Description	Net Each
†Dark	†Light		
*F2B	*F1B	Photoelectric Control	\$67.50
*F2BR	*F1BR	Above with R feature	79.50

TUBELESS PHOTOELECTRIC CONTROLS

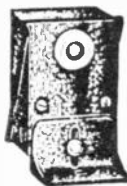
Reliable photoelectric control without vacuum tubes has been made possible by development of transistors, magnetic amplifiers and light-sensitive elements such as cadmium cells. The following AUTOTRON controls represent months of development utilizing the best of the latest developments.

BC1 PHOTOELECTRIC CONTROL

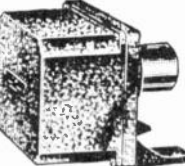


†Light-Energized—Cad Cell Sensing Element
 10 foot-candles minimum light.
 .07 second minimum dark time.
 .07 second minimum light time.
 Plate Relay: Energizes when light is on the Cad Cell Sensing Element; Contacts SPDT, silver cadmium oxide, rated 4 amps at 115 v. AC, non-inductive load.
 Splashproof cast aluminum case tapped for 1/2" conduit. Adjustable mounting bracket. Lens dia. 3/4". 115/230 v., 50-60 cycles. Power consumption, 2 watts.
BC1 Photoelectric Control—Net . . . \$42.50

TRANSISTORIZED PHOTOELECTRIC CONTROL



BT1 †LIGHT ENERGIZED
 10 foot-candles minimum light.
 .04 second minimum dark time.
 .04 second minimum light time.
 Plate Relay: Contacts SPDT, silver cadmium oxide, rated 8 amps at 115 v. AC, non-inductive load.
 Splashproof cast aluminum case tapped for 1/2" conduit. Adjustable mounting bracket. Lens dia. 3/4". 115/230 v., 50-60 cycles. Power consumption, 2 watts.
BT1 Photoelectric Control— \$49.50
 Net Each



BMI PHOTOELECTRIC CONTROL †LIGHT ENERGIZED— MAGNETIC AMPLIFIER

10 foot-candles minimum light.
 .04 second minimum dark time.
 .04 second minimum light time.
 Plate Relay: Energizes when light is on the Sensing Element.
 Contacts SPDT, silver cadmium oxide, rated 10 amps at 115 v. AC, non-inductive load.

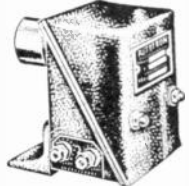
Splashproof cast aluminum case tapped for 1/2" conduit. Rigid mounting feet. Lens dia. 1 1/2". 115/230 v., 50-60 cycles. Power consumption, 2 watts.
BM1 Photoelectric Control—Net Each \$69.50

PHOTOELECTRIC TIMING CONTROLS

For applications requiring delayed plate relay response to light change, such as conveyor jam-up, spraying, processing, etc.

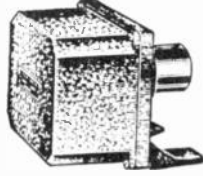
T1A Photoelectric Timing Control

Plate relay energizes when phototube is dark and timing period has expired; de-energizes when light is on the tube. Time delay with shaft lock adjustment from 1 to 10 seconds. Repeat accuracy 4%. Minimum light, 40 foot-candles. Plate relay: Contacts SPDT, rated 8 amps at 115 v. AC, non-inductive load. Splashproof aluminum case, tapped for 1/2" conduit. Adjustable mounting bracket. Lens dia. 1 1/2". Power consumption, 10 watts. 115/230 v., 50-60 cycles.
\$57.50



T2B and T3A Photoelectric Timing Controls

Plate Relay: Contacts DPDT, rated 8 amps at 115 v. AC, non-inductive load. Time delay adjustment has shaft lock. Splashproof cast aluminum case tapped for 1/2" conduit. Lens diameter 1 1/2". 115/230 v., 50-60 cycles. Power consumption 20 watts.



T2B Photoelectric Timing Control: Plate relay energizes when light is on the phototube, de-energizes when the light beam is interrupted and the timing period expires. Repeat accuracy 3%. Minimum light 20 foot-candles.

Adjustable Timing Ranges (specify)	Minimum Light Time
No. 1. .25 to 3 seconds	.25 second
No. 2. 1.25 to 10 seconds	.5 second
No. 3. 3.0 to 20 seconds	1.0 second

*T2B Photoelectric Timing Control—Net Each \$72.50
 *T2BR—Above with Safety Relay. Net Each 84.50

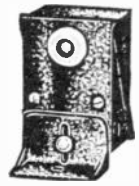
T3A Photoelectric Timing Control: Plate relay energizes when light is on the phototube and timing period expires. De-energizes when the light beam is interrupted. Timing accuracy, 2%. Minimum light, 10 foot candles.

Adjustable Timing Ranges (specify)		No. 1. .5 to 15 seconds	No. 2. 1 to 30 seconds
No. 0.1	.03 to 0.1 second		
No. 0.5	.25 to 8.0 seconds		
No. 3.	20 seconds to 5 minutes		

*T3A Photoelectric Timing Control—Net Each \$72.50
 *T3AR—T3A—Above With Safety Relay—Net Each 84.50

L1A LIGHT SOURCE

Has 3/4" OD straight, fixed beam conservatively rated as follows—
 Foot-Candles 20 10 5 2
 Distance in feet 8 12 15 18
 Dustproof, cast aluminum case. Adjustable bracket. Tapped for 1/2" conduit. 115/230 v., 50-60 cycles.



Model	L1A	L1AY	L1AR	L1ARY
Net Each	\$14.30	\$21.80	\$26.30	\$33.80

L2A LIGHT SOURCE

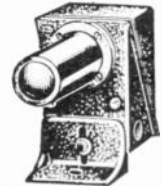
Has 1 1/2" OD straight, fixed beam conservatively rated as follows—
 Foot-Candles 20 10 5 2
 Distance in feet 13 20 30 45
 Splashproof, cast aluminum case. Adjustable bracket. Tapped for 1/2" conduit. 115/230 v., 50-60 cycles.



Model	L2A	L2AY	L2AR	L2ARY
Net Each	\$21.80	\$29.30	\$33.80	\$41.30

L3A LIGHT SOURCE

Light beam adjustable from a minimum focal length of 4 1/2" and corresponding focal size of 3/4" x 1/4" to a straight light beam of 1 1/2" OD. Light input at twice the focal distance exceeds 30 foot-candles. Splashproof, cast alum. case; adjustable bracket, tapped for 1/2" conduit. 115/230 v., 50-60 cycles.



Model	L3A	L3AY	L3AR	L3ARY
Net Each	\$29.30	\$36.80	\$41.30	\$48.80

FEATURES AND NOTES

R—Built-in SAFETY Relay—In control: Energizes when power comes on; de-energizes when tube filament burns out or power goes off. In light source: Energizes when light comes on; de-energizes when lamp fails or goes off. (Contacts SPDT, rated 5 amps at 115 v. AC.)

Y—Built-in Light Beam Intensity Adjustment.
 *Available with built-in heating element at \$7.50 extra.

†**Dark Energized**—Plate relay energizes when light beam is interrupted; de-energizes when the light beam is restored, when a tube filament falls, or any tube loses emission.

Light Energized—Plate relay energizes when light beam is restored; de-energizes when light beam is interrupted, when a tube filament falls or any tube loses emission.

†Specified minimum dark and light time are based on the specified minimum foot-candles.

SEND FOR CATALOG



Sub-Miniature PILOT LIGHTS

Two Terminal • Fully Insulated

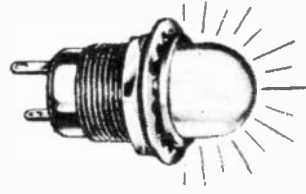
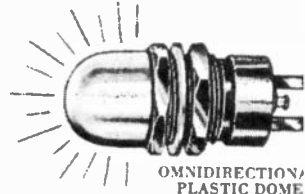
The Ultimate in Compactness

(Illustrations are approx. actual size)

THESE PILOT LIGHTS CONFORM TO ALL APPLICABLE MILITARY SPECIFICATIONS.

For FRONT of Panel Insertion:
Requires single 17/32" clearance hole.

For BACK of Panel Insertion:
Requires single 15/32" clearance hole.



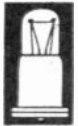
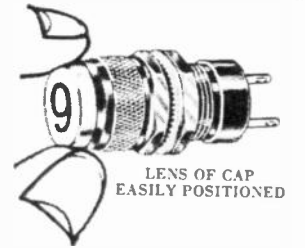
EASY LAMP REPLACEMENT: All assemblies (whether for front or rear insertion) have this important feature: The plastic domes or metal caps are easily removed from front of panel — thus making the lamps accessible for easy lamp replacement. Please refer to our Form L-156C which describes these units in detail.

PLASTIC DOME — OMNIDIRECTIONAL: The unique "stovepipe" lens, moulded of high heat plastic, radiates light in all directions. Heavy plastic walls are reinforced by threaded brass insert. This fitting receives lamp well up into plastic dome for maximum light dispersion.

LENS WITH MESSAGE — easily positioned. A DIALCO exclusive is the specially designed cap-and-lens (as shown at right). By pressing on spring-mounted lens and rotating in either direction the legends may be positioned after installation of the assembly.

INSULATED: Lamp, socket, and all connections are completely insulated from the bushing and panel to which it is attached.

FINISH: Black nickel . . . **TERMINALS:** Soldering or Taper-Tab.



LIGHT SOURCE: T-1 1/4 midget flanged incandescent lamps. Available in the following voltages.

Lamp No.	Volts	Amps.	Life (Hours)
331	1.3	.06	500
338	2.7	.06	500
328	6.0	.20	500
345	6.0	.04	1000
344	10.0	.015	L
330	14.0	.08	750
327	28.0	.04	1000

L = indefinite, over 6000 hours

CATALOGUE NUMBERS

PLASTIC DOME TYPES

All caps are available in transparent or completely diffusing plastic. Two colors only are made in light diffusing material.

Non-diffusing (transparent) colors

Color	Catalogue No. (Back insertion)	Catalogue No. (Front insertion)
Red	101-3830-931	101-5030-931
Green	101-3830-932	101-5030-932
Amber	101-3830-933	101-5030-933
Blue	101-3830-934	101-5030-934
White (Opal)	101-3830-935	101-5030-935
Yellow	101-3830-936	101-5030-936
Clear (Colorless)	101-3830-937	101-5030-937

Completely diffusing colors

Red	101-3830-971	101-5030-971
Green	101-3830-972	101-5030-972
Amber	101-3830-973	101-5030-973
Blue	101-3830-974	101-5030-974
White (Opal)	101-3830-975	101-5030-975
Yellow	101-3830-976	101-5030-976

Light diffusing colors

Red	101-3830-951	101-5030-951
Green	101-3830-952	101-5030-952

LIGHTS WITH MESSAGES

Trans-lucent Colors	(Back insertion)	(Front insertion)
Red	134-3830-351	134-5030-351
Green	134-3830-352	134-5030-352
Amber	134-3830-373	134-5030-373
White	134-3830-375	134-5030-375
Yellow	134-3830-376	134-5030-376

INDICATOR LIGHT (Non-dimming)

Lens, frosted back	Lens, frosted all over	Lens, unfrosted
111-3830-111	111-3830-121	111-3830-131

DIMMER TYPES (Mechanical or Polaroid)

Semi-	Lens, frosted back	Lens, frosted all over	Lens, unfrosted
Blackout	109-3830-111	109-3830-121	109-3830-131
Blackout	108-3830-111	108-3830-121	108-3830-131
Polaroid	112-3830-111	112-3830-121	112-3830-131

LENS COLOR: The final figure in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Trans.—5 Yellow—6 Clear (Colorless)—7

New . . . NEON INDICATOR LIGHTS SUB-MINIATURE

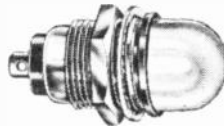
Use tiny T-2 G.E. Glow Lamps



This series houses newly improved lamps with formed bulbs and midget flanged bases. Lamps are designated as NE-2D for the regular lamp, and as NE-2J for the high brightness type which may be operated at high current. The NE-2J has higher voltage characteristics requiring 110V. A.C. or 160V. D.C. for reliable performance . . . a resistor (or other ballast device) must be used to limit the lamp current. Since the current is never more than 3 milliamperes, the resistor may be the small 1/3 watt type . . . All assemblies have 2 terminals (Soldering or Taper-Tab); conform to applicable Mil. Specs. . . . For full details, see our Brochure L-159A.

*New HIGH BRIGHTNESS lamp.

Also ONE terminal units For use on grounded circuits



DIALCO also makes a complete line of single terminal sub-miniature pilot lights intended for use where it is desired to ground one side of circuit. Available in the

styles similar to the above. Instead of the single solder terminal, a binding screw terminal may be specified. Brochure L-157A describes these units in detail.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

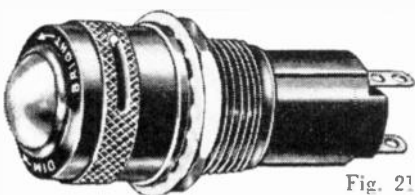


Fig. 21

mechanical

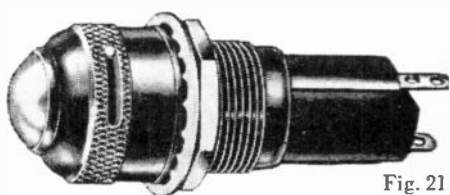


Fig. 21

polaroid

Any of the mechanical dimmers can be supplied either for "Complete Blackout" or for "Semi-Blackout". Typical Catalogue Numbers are as follows:

98B410-111 ("Complete Blackout" . . . 98SB410-111 ("Semi-Blackout")

DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

PILOT LIGHT ASSEMBLIES

 for **T-3¼ NEON LAMP • NE-51 types**



DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

All illustrations are approximately actual size

LENS CAPS

FRICTION

Convex

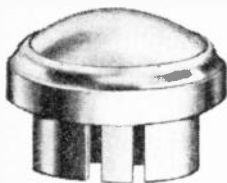


Fig. 34

BAYONET

Convex

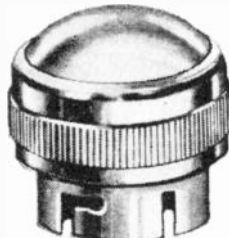


Fig. 6

SCREW

Large Convex



Fig. 2

Torpedo



Fig. 3

Small Convex



Fig. 1

Large Torpedo

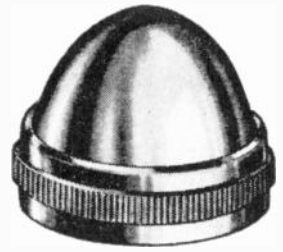


Fig. 4

Dome

SCREW

Faceted

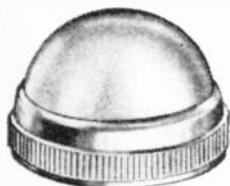
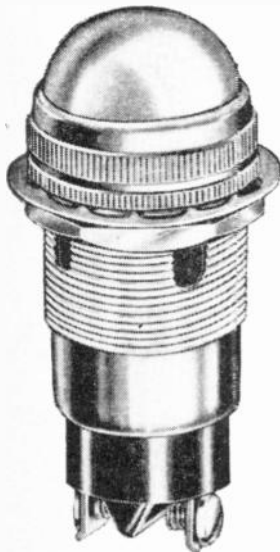


Fig. 35

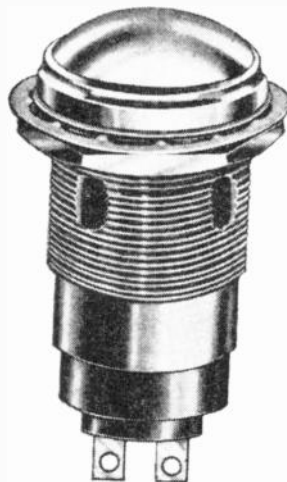


Fig. 5

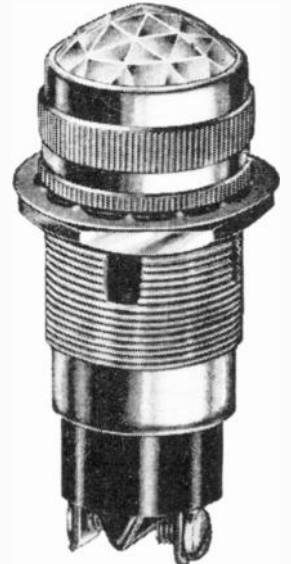
**ASSEMBLIES FOR 1 INCH MOUNTING HOLE
DOUBLE CONTACT BAYONET**



Screw terminals Fig. 11
(moveable type)

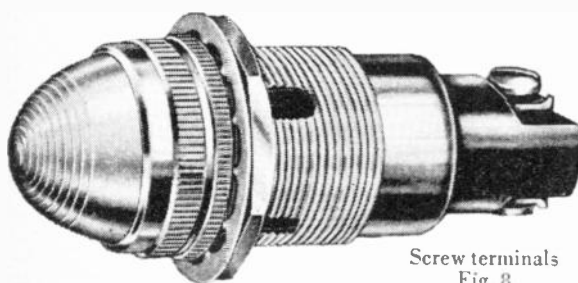


Soldering terminals Fig. 12

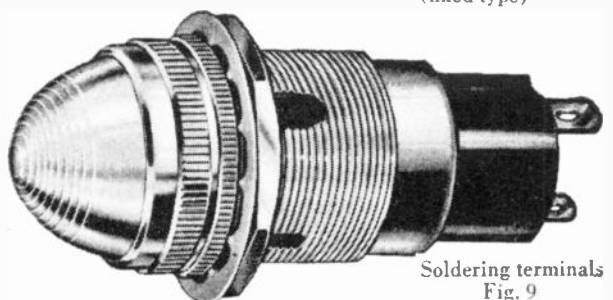


Screw terminals Fig. 10
(fixed type)

CANDELABRA SCREW



Screw terminals
Fig. 8



Soldering terminals
Fig. 9

DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

CATALOG NUMBERS FOR ENCLOSED ASSEMBLIES

Mount in ONE INCH clearance hole

UNDERWRITERS' LISTED

For S-6 Lamp with Candelabra Screw Base

- 51901-111 Screw cap, Convex lens, frosted back (Fig. 1). Screw terminals (Fig. 8)
- 61901-211 Screw cap, Large convex lens, frosted back (Fig. 2). Screw terminals (Fig. 8)
- 51901-431 Screw cap, Faceted lens (Fig. 5). Screw terminals (Fig. 8)
- 19901-531 Screw cap, Large torpedo lens (Fig. 4). Screw terminals (Fig. 8)
- 514001-111 Screw cap, Convex lens, frosted back (Fig. 1). Soldering terminals (Fig. 9)
- 41901-111 Bayonet cap, Convex lens, frosted back (Fig. 6). Screw terminals (Fig. 8)
- 31901-111 Friction cap, Convex lens, frosted back (Fig. 34). Screw terminals (Fig. 8)
- 47901 Light Shield cap (Fig. 13). Binding Screw terminals (Fig. 8)
- 71B4001-111 Mechanical dimmer, Screw cap, Convex lens, frosted back (Fig. 14)
- 784001-111 Polaroid dimmer, Screw cap, Convex lens, frosted back (Fig. 14)

For S-6 Lamp with Double Contact Bayonet Base

- 513202-111 Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 10)
- 613202-211 Screw cap, Large convex lens, frosted back (Fig. 2) Screw terminals (Fig. 10)
- 513202-431 Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 10)
- 803202-531 Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 10)
- 413202-111 Bayonet cap, Convex lens, frosted back (Fig. 6) Screw terminals (Fig. 10)
- 313202-111 Friction cap, Convex lens, frosted back (Fig. 34) Screw terminals (Fig. 10)

For G-6 Lamp with Double Contact Bayonet Base

- 513504-111 Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 11)
- 513504-431 Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 11)
- 803504-531 Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 11)
- 803504-121 Screw cap, Dome glass lens, frosted back (Fig. 35) Screw terminals (Fig. 11)
- 51201-111 Screw cap, Convex lens, frosted back (Fig. 1) Soldering terminals (Fig. 12)
- 41204-111 Bayonet cap, Convex lens, frosted back (Fig. 6) Soldering terminals (Fig. 12)
- 31204-111 Friction cap, Convex lens, frosted back (Fig. 34) Soldering terminals (Fig. 12)

For NE-15 Neon Glow Lamp, Candelabra Screw Base

- 51914-131 Screw cap, Convex lens, unfrosted (Fig. 1) Screw terminals (Fig. 8)
- 80914-811 Screw cap, Dome lens, matted back (Fig. 35) Screw terminals (Fig. 8)
- 41914-131 Bayonet cap, Convex lens, unfrosted (Fig. 6) Screw terminals (Fig. 8)
- 31914-131 Friction cap, Convex lens, unfrosted (Fig. 34) Screw terminals (Fig. 8)
- 514014-131 Screw cap, Convex lens, unfrosted (Fig. 1) Soldering terminals (Fig. 9)
- 804014-531 Screw cap, Torpedo lens, unfrosted (Fig. 3) Soldering terminals (Fig. 9)

LENS COLOR: The final figure in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 *Green—2 Amber—3 *Blue—4
 White Translucent—5 Yellow—6 Clear (Colorless)—7
 *Green and blue lenses are not recommended with neon glow lamps.

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

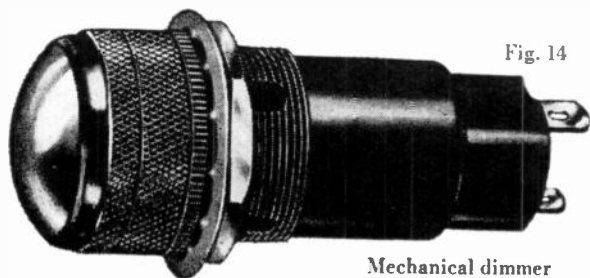
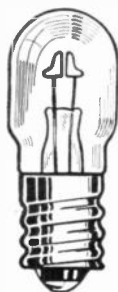
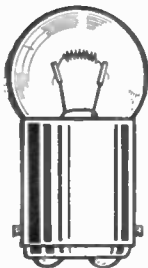
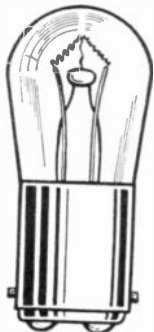
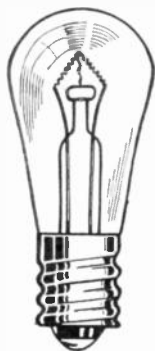


Fig. 14

Mechanical dimmer
Polaroid dimmer

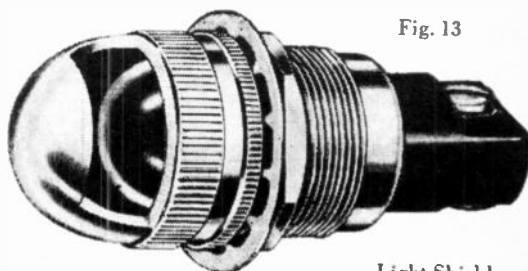


Fig. 13

Light Shield

DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

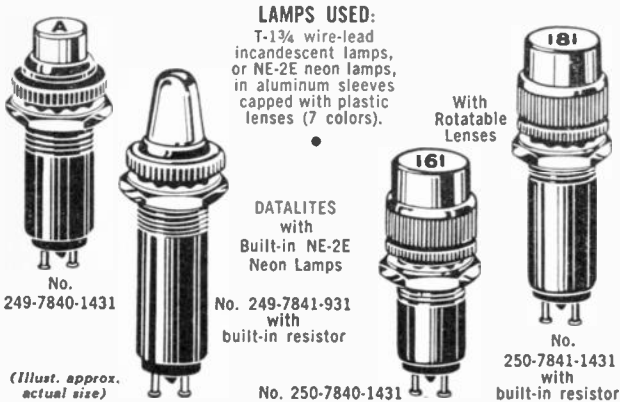


In this brochure—complete facts on DIALCO's

DATALITES®

For the Computer-Automation Industries

DATALITES by DIALCO are ultra-miniature Indicator Lights specially designed to meet the critical requirements of the computer-automation fields. Made in 2 basic styles: *Lamp Holders with DIALCO's own replaceable Lamp Cartridges* (see above); or *integrated DATALITES with Built-in Neon Lamps* which are *not replaceable* (see below). Ultra-compact, single units mount in $\frac{3}{8}$ " clearance hole; the twin-lamp assembly mounts in $\frac{3}{4}$ " clearance hole.

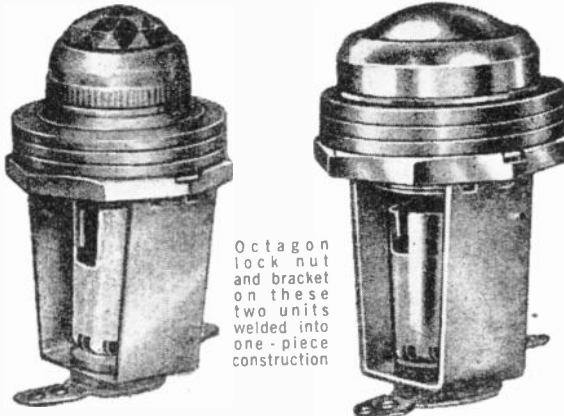
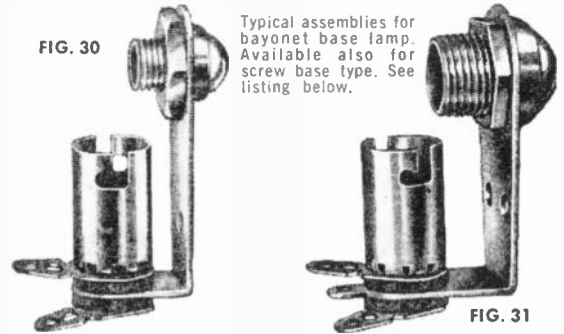
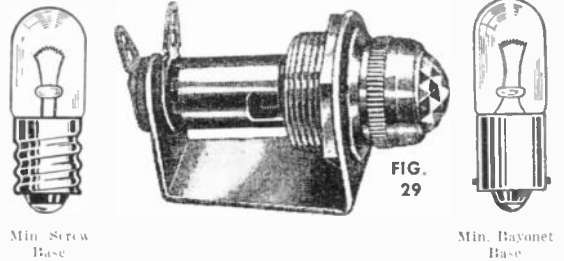


DATALITES have fully insulated terminals and conform to all applicable military specifications. Integrated units are available *with or without built-in resistors*. The cylindrical lenses can be hot-stamped with digits, letters, etc. Complete details in *Brochure L-160A*. Send for it now.

DIALCO PILOT LIGHTS

A SELECTION OF OPEN TYPES

For T-3/4 Low Voltage Incandescent Lamps



CATALOGUE NUMBERS
Assemblies for T-3/4 miniature bayonet base lamps

No. 810B-131	Faceted $\frac{1}{2}$ " lens.	For 11/16" mounting hole.	Fig. 29
No. 710-121	Convex $\frac{1}{2}$ " lens.	For 7/16" mounting hole.	Fig. 31
No. 755-621	Convex 11/32" lens.	For 9/32" mounting hole.	Fig. 30
No. 857B-131	Faceted $\frac{1}{2}$ " lens.	For 11/16" mounting hole.	Fig. 32
No. 67B-111	Convex $\frac{3}{4}$ " lens.	For 13/16" mounting hole.	Fig. 33

Assemblies for T-3/4 miniature screw base lamps

No. 810M-131	Faceted $\frac{1}{2}$ " lens.	For 11/16" mounting hole.	Fig. 29
No. 510-121	Convex $\frac{1}{2}$ " lens.	For 7/16" mounting hole.	Fig. 31
No. 555-621	Convex 11/32" lens.	For 9/32" mounting hole.	Fig. 30
No. 855-131	Faceted $\frac{1}{2}$ " lens.	For 11/16" mounting hole.	Fig. 32
No. 66M-111	Convex $\frac{3}{4}$ " lens.	For 13/16" mounting hole.	Fig. 33

LENS COLOR: The final figure in the catalogue number indicates that lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

PILOT LIGHT ASSEMBLIES

A SELECTION OF OPEN TYPES
For Candelabra Screw Base Lamps

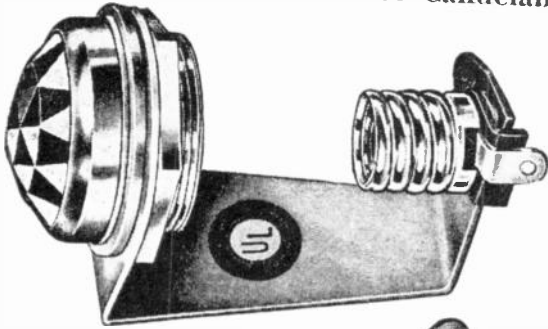


FIG. 24

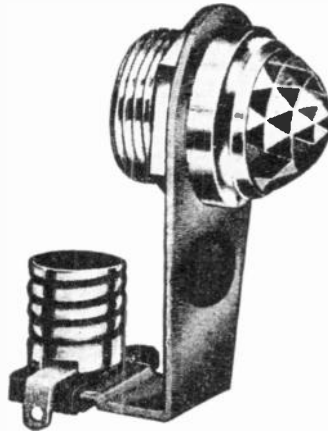


FIG. 23

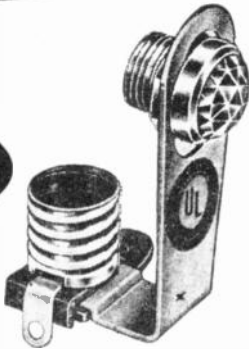
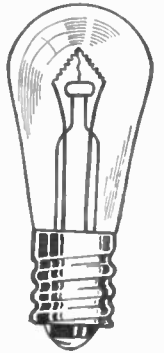


FIG. 22

For S-6 Incandescent Lamps, candelabra screw base

- No. 10-18-11-131 Faceted 1/2" Lens (for 7/16" mounting hole) (Fig. 22)
- No. 25-18-15-131 Faceted 5/8" Lens (for 11/16" mounting hole) (Fig. 23)
- No. 31-18-16-131 Faceted 1" Lens (for 1" mounting hole) (Fig. 24)

All of the above assemblies are listed by Underwriters' Laboratories, Inc.

LENS COLOR: The final figure in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfrosted.

- Red—1 Green—2 Amber—3 Blue—4
- White Translucent—5 Yellow—6 Clear (Colorless)—7

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.

Octagon lock nut and bracket on these two units welded into one-piece construction.

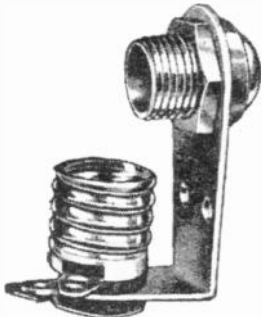
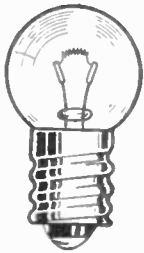


FIG. 25

For G-6 Low voltage lamps, candelabra screw base

- No. 610-121 Convex 1/2" lens Fig. 25 (for 7/16" mounting hole)

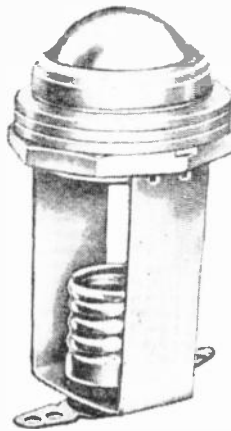


FIG. 26



FIG. 27

For NE-45 Neon Glow Lamps, candelabra screw base

- No. 67BN-831 Dome Plastic Lens (3/4" diam.) Fig. 26
- No. 66N-131 Convex Glass Lens (3/4" diam.) Fig. 27
- (Both mount in 13/16" hole. Cap removable)

DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

BROOKLYN 37, N. Y.

Lens Holders with Lenses for Panel Mounting
Screw Types Are Complete With Nut for Shank



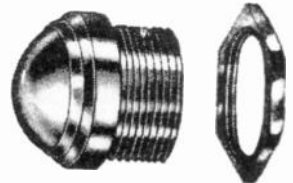
5006-631
9/32"-32 thread



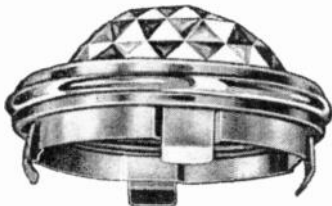
7005-631
3/8"-24 thread



10006-111
7/16"-27 thread



25006-111
11/16"-27 thread



34-431
GLASS LENS



34-841
PLASTIC LENS

These holders snap into 1 1/2" hole

PUSH-IN TYPES



6004-631
9/32" hole



38003-631
3/8" hole

Shank, 3/16" long

FLAT



76006-231

FACETED



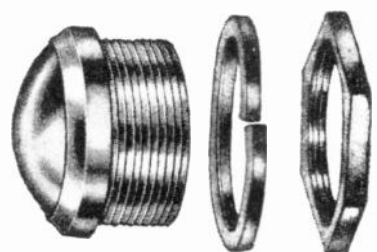
76006-431

TORPEDO



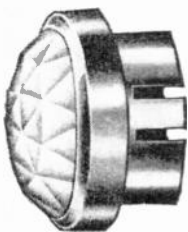
76006-531

CONVEX



76006-111

FACETED



31-431

TORPEDO



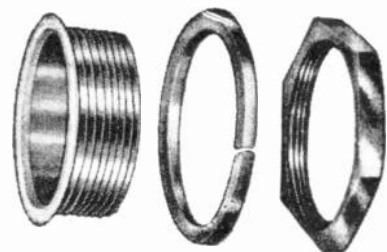
31-531

CONVEX



31-111

BUSHING



31246

The above two groups mount in 1" clearance hole. The upper series lock to the panel and are tamper proof. The lower series permit lamp replacement from the front of the panel.

LENS COLOR: The final figure in the catalogue number indicates that the lens has RED color. When color other than red is desired, change this digit to a figure from the listing below. Note that white lenses are translucent and are always furnished unfretted.

Red—1 Green—2 Amber—3 Blue—4
White Translucent—5 Yellow—6 Clear (Colorless)—7

ORDER COMPLETE WITH LAMPS so that you will be assured of receiving the pilot lights and correct lamps at one time, ready for immediate use.



SOCKETS — Bracket Mounted



Underwriters Labs. Listed— 75 Watts, 125 Volts —Appr. Canadian Standards Assoc.



Double Contact Candelabra Bayonet

12-200 Series



Cat. No. 12-258

12-200 Series Sockets are furnished with bakelite discs, including separately sprung contacts, and have 6" wire leads. They can also be furnished with ceramic discs (called 1200 Series) for heat-resistant applications.

5700 Series Sockets use tab terminals. These assemblies are ruggedly constructed with moulded bakelite housings and specially designed contacts.

5700 Series



Cat. No. 57-07

CANDELABRA SCREW

400 Series

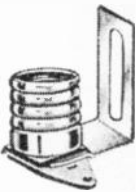


Cat. No. 4-45

400 Series Sockets are housed in heavy moulded bakelite. They are equipped with built-in wire leads, 6" long.

1800 Series Sockets are intended for use with lamps on commercial voltages. Terminals are locked in place and thoroughly insulated from the bracket and each other.

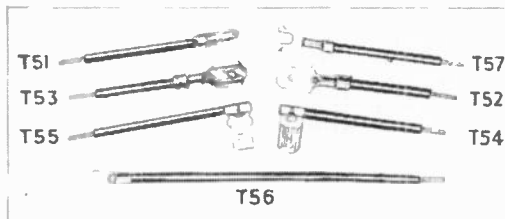
1800 Series



Cat. No. 18-79

WIRE TERMINATIONS

All wire assemblies are furnished with 6" long standard leads, ends stripped 1/2". Standard insulation is vinyl plastic with copper conductors. Special insulations such as Asbestos, 105°C Plastic,

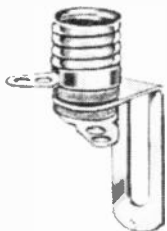


Rubber, SRIR, etc., may be furnished.

A large variety of solderless terminals can be furnished with most wire lead assemblies. Some standard popular types are shown here. To assure your receiving the correct terminal, please specify our assembly part number as well as the terminal required.

600 Series

Candelabra Screw



Cat. No. 6-06

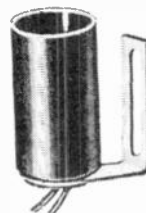
600 Series Sockets have soldering terminals, and can be furnished with the same basic brackets as shown in grouped illustration below.

MINIATURE BAYONET SOCKETS

300 Series Sockets have moulded bakelite housing. They are listed by Underwriters Laboratories, and have Canadian Standards Association approval.

700 Series Sockets have soldering terminals. Some popular basic types are shown in illustration below. 200 Series Sockets are supplied with insulating sleeves, eliminating any accidental grounding.

300 Series



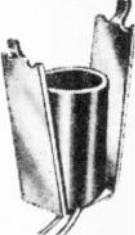
Cat. No. 3-05

700 Series



Cat. No. 7-02

200 Series



Cat. No. 2-15

Miniature Screw

500 Series



Cat. No. 5-03

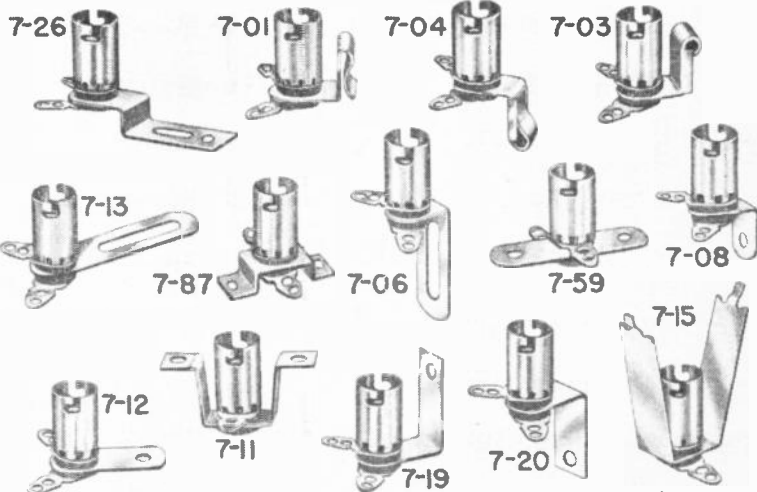
500 Series Sockets are supplied with soldering terminals. This group, as well as those sockets in the 600 and 700 Series, are also furnished for Grounded

use. When grounded sockets are required, one terminal only will be furnished.

ORDER COMPLETE with LAMP so that you will be assured of receiving the proper socket and correct lamp at one time, ready for immediate use.

CHOICE OF BRACKETS

The series of brackets shown at the right can be used with any of our 200, 300, 600, and 700 Series Sockets. All the sockets have 2 terminals.



DIALIGHT CORPORATION

Foremost Manufacturer of Pilot Lights

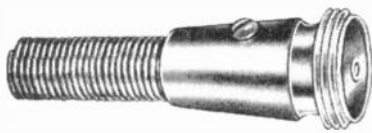
BROOKLYN 37, N. Y.

**CONNECTORS FOR SINGLE CONDUCTOR CABLE
FOR MICROPHONES - SPEAKERS - PICK-UPS - JACKS**

(using cable shield for second conductor)

The fittings shown here are designed for use with standard metal shielded single conductor cable up to 1/4" diameter. These connectors are heavily constructed from solid brass and all exposed parts are chrome plated and highly polished.

The cable end connectors are provided with rugged wire spring protectors which prevent sharp bends at the connection. The protector is soldered to the cable sheath and secured in the connector by a set screw so that all strain is relieved from the conductor.



No. 101

No. 101 MALE CONNECTOR FOR CABLE — With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.



No. 100

No. 100 FEMALE CONNECTOR FOR CABLE — With spring protector to prevent sharp bending of cable. Solders to cable sheath — secured by set screw.



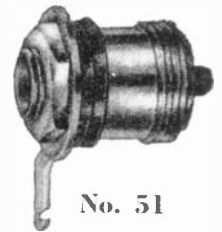
No. 103

No. 51 MALE CONNECTOR FOR CHASSIS — Has sprung center contact which grounds before cable connection is broken preventing open circuit howls.

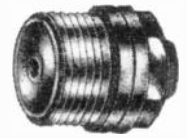
No. 103 CAP AND CHAIN — To protect unused male connectors. Chain secured by screw prevents loss when removed to make connection.

No. 50 MALE CONNECTOR FOR CHASSIS — Shell grounds to panel — or may be insulated by washers. Fit 3/8"-24 threaded hole or may be secured by nut.

No. 50P MALE CONNECTOR FOR CHASSIS (Similar to No. 50 above) — Designed for force fit in hole in panel. Requires no nut to secure in place.

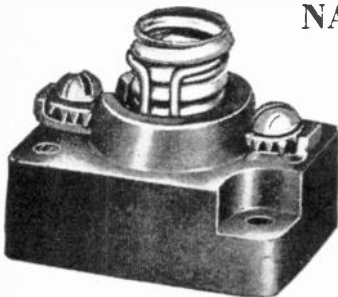


No. 51

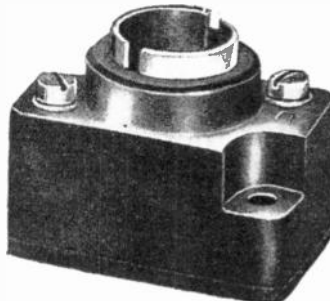


No. 50

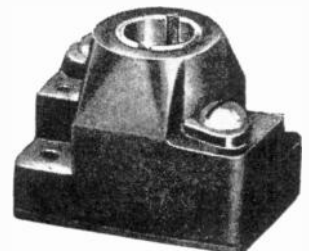
NAVY SPECIFICATION SOCKETS



Candelabra screw 9S2036-L
Candelabra screw 9S5038-L
(not illustrated)



Double Contact bayonet 9S4634-L



Miniature bayonet 9S4931-L

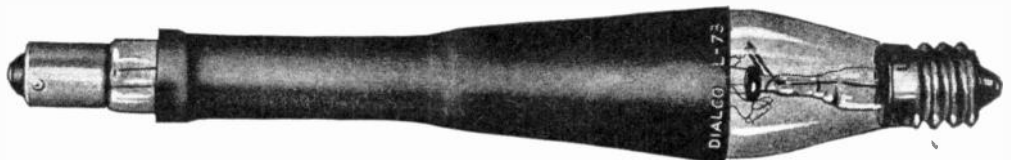
LAMP INSTALLER

The DIALCO lamp installer shown below is a useful tool in installing lamps and in servicing pilot lights.

No. L-73

No. L-45

For NE-45 Neon



CHICAGO MINIATURE LAMPS

Standard or Special
Design

If you can use one of the standard styles of miniature lamps, of which only the most popular are listed here, this company offers a dependable, prompt source of supply. If a special lamp is required for a new product development, the Chicago Miniature Lamp Works has

the experience and the engineering ability and resources to design and produce it quickly and economically.

Standard or special design, your lamps will be built to the highest standards of quality and precision for long life and superior service.

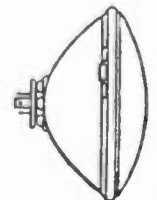
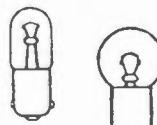
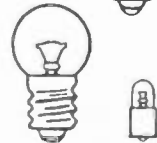
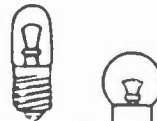
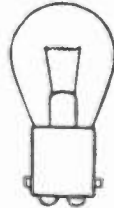
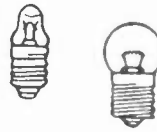
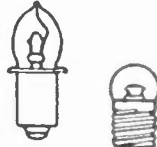
CHICAGO MINIATURE LAMP WORKS • Chicago, Illinois

INDICATOR — RADIO — COIN MACHINE LAMPS

Lamp No.	Bulb	Base	Volts	Amps	Hours Life
10	G-3 $\frac{1}{2}$	Min. 2 Pin	2.5	.50	3000
12	G-3 $\frac{1}{2}$	Min. 2 Pin	6.3	.15	L
19	G-3 $\frac{1}{2}$	Min. 2 Pin	14.4	.11	1000
39	T-3 $\frac{1}{4}$	Min. Bay	6.3	.37	5000
40	T-3 $\frac{1}{4}$	Min. Screw	6.3	.15	3000
41	T-3 $\frac{1}{4}$	Min. Screw	2.5	.50	3000
43	T-3 $\frac{1}{4}$	Min. Bay	2.5	.50	3000
44	T-3 $\frac{1}{4}$	Min. Bay	6.3	.25	3000
45	T-3 $\frac{1}{4}$	Min. Bay	3.2	.35	3000
46	T-3 $\frac{1}{4}$	Min. Screw	6.3	.25	3000
47	T-3 $\frac{1}{4}$	Min. Bay	6.3	.15	3000
48	T-3 $\frac{1}{4}$	Min. Screw	2.0	.06	1000
49	T-3 $\frac{1}{4}$	Min. Bay	2.0	.06	1000
50	G-3 $\frac{1}{2}$	Min. Screw	7.5	.25	500
51	G-3 $\frac{1}{2}$	Min. Bay	7.5	.22	1000
53	G-3 $\frac{1}{2}$	Min. Bay	14.4	.12	1000
55	G-4 $\frac{1}{2}$	Min. Bay	7.0	.41	500
63	G-6	S. C. Bay.	7.0	.63	1000
71K	G-6	Cand. Sc.	22	.20	200
81	G-6	S. C. Bay.	6.5	1.02	500
82	G-6	D. C. Bay.	6.5	1.02	500
87	S-8	S. C. Bay.	6.75	1.82	300
89K	G-6	Cand. Sc.	13	.58	750
509K	G-6	Cand. Sc.	24	.18	1000
1224K	G-6	Cand. Sc.	32	.19	200
1446	G-3 $\frac{1}{2}$	Min. Sc.	12	.20	250
1447	G-3 $\frac{1}{2}$	Min. Sc.	18	.15	250
1456	G-5	Min. Bay.	18	.25	250
1458	G-5	Min. Bay.	20	.25	250
1471	G-6	Cand. Sc.	12	.26	250
1474	T-3	Min. Sc.	14	.17	250
1476	T-3	Min. Sc.	18	.17	250
1477	T-3	Min. Sc.	24	.17	250
1481	T-3 $\frac{1}{4}$	Min. Sc.	14	.15	200
1487	T-3 $\frac{1}{4}$	Min. Sc.	14	.20	3000
1488	T-3 $\frac{1}{4}$	Min. Bay.	14	.15	200
1489	T-5	S. C. Bay.	6.5	2.75	125
1490	T-3 $\frac{1}{4}$	Min. Bay.	3.2	.16	3000
1493	S-8	D. C. Bay.	6.5	2.75	100
1767	T-1 $\frac{1}{4}$	Mid. Sc.	2.5	.20	500
1768	T-1 $\frac{1}{4}$	Mid. Sc.	6	.20	500
1815	T-3 $\frac{1}{4}$	Min. Bay.	14	.20	3000
1816	T-3 $\frac{1}{4}$	Min. Bay.	13	.33	1000
1820	T-3 $\frac{1}{4}$	Min. Bay.	28	.10	1000
1822	T-3 $\frac{1}{4}$	Min. Bay.	36	.10	1000
1891	T-3 $\frac{1}{4}$	Min. Bay.	14	.24	500
1892	T-3 $\frac{1}{4}$	Min. Bay.	14	.12	L

FLASHLIGHT AND LANTERN LAMPS

Lamp No.	Bulb	Base (Min.)	Design Volts	Amps	Hours Life
PR2	B-3 $\frac{1}{2}$	Flanged	2.38	.50	15
PR3	B-3 $\frac{1}{2}$	Flanged	3.57	.50	15
PR4	B-3 $\frac{1}{2}$	Flanged	2.33	.27	10
PR6	B-3 $\frac{1}{2}$	Flanged	2.47	.30	30
PR7	B-3 $\frac{1}{2}$	Flanged	3.70	.30	30
PR8	B-3 $\frac{1}{2}$	Flanged	1.90	.60	10
PR9	B-3 $\frac{1}{2}$	Flanged	2.7	.15	45
PR12	B-3 $\frac{1}{2}$	Flanged	5.95	.50	15
PR13	B-3 $\frac{1}{2}$	Flanged	4.75	.50	15
PR15	B-3 $\frac{1}{2}$	Flanged	4.8	.50	15
13	G-3 $\frac{1}{2}$	Screw	3.70	.30	15
14	G-3 $\frac{1}{2}$	Screw	2.47	.30	15



Lamp No.	Bulb	Base (Min.)	Volts	Design Amps	Hours Life
27	G-4 $\frac{1}{2}$	Screw	4.90	.30	30
112	TL-3	Screw	1.20	.22	5
114	TL-2 $\frac{3}{4}$	Sp. Screw	1.20	.20	5
123	G-3 $\frac{1}{2}$	Screw	1.25	.30	10
131	G-3 $\frac{1}{2}$	Screw	1.30	.1	50
136	G-4 $\frac{1}{2}$	Screw	1.25	.60	75
222	TL-3	Screw	2.25	.25	5
224	TL-2 $\frac{3}{4}$	Sp. Screw	2.15	.22	5
425	G-4 $\frac{1}{2}$	Screw	5.0	.50	15
502	G-4 $\frac{1}{2}$	Screw	5.10	.15	100
605	G-4 $\frac{1}{2}$	Screw	6.15	.50	15
965	T-4 $\frac{1}{2}$	Screw	9.84	.50	15
1209	RP-11	S. C. Pref.	6.1	32 cp.	125
1651	S-8	S. C. Bay.	5.0	.60	20
P4512	PAR-36	Screw Term.	5.0	.50	..
P4546	PAR-36	Screw Term.	4.7	.50	..

P4512 & P4546: plastic sealed beams w/replaceable bulb

AIRCRAFT TYPES

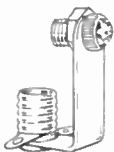
Lamp No.	Bulb	Base	Volts	C. P. or Amps	Hours Life
301	G-5	S. C. Bay.	28	3 CP	500
301NR	G-5	S. C. Bay.	28	3 CP	500
302	G-5	D. C. Bay.	28	3 CP	500
303	G-6	S. C. Bay.	28	6 CP	500
303-OF	G-6	S. C. Bay.	28	6 CP	500
303NR	G-6	S. C. Bay.	28	6 CP	500
304	G-6	D. C. Bay.	28	6 CP	500
305	S-8	S. C. Bay.	28	15 CP	300
305IF	S-8	S. C. Bay.	28	15 CP	300
305NR	S-8	S. C. Bay.	28	15 CP	300
306	S-8	D. C. Bay.	28	15 CP	300
307	S-8	S. C. Bay.	28	21 CP	300
307IF	S-8	S. C. Bay.	28	21 CP	300
307NR	S-8	S. C. Bay.	28	21 CP	300
308	S-8	D. C. Bay.	28	21 CP	300
309	S-11	S. C. Bay.	28	32 CP	300
309IF	S-11	S. C. Bay.	28	32 CP	300
309NR	S-11	S. C. Bay.	28	32 CP	300
310	S-11	D. C. Bay.	28	32 CP	300
311	S-11	S. C. Bay.	28	50 CP	300
311NR	S-11	S. C. Bay.	28	.17 A	300
312	S-11	D. C. Bay.	28	50 CP	300
313	T-3 $\frac{1}{4}$	Min. Bay.	28	.17 A	500
313NR	T-3 $\frac{1}{4}$	Min. Bay.	28	.17 A	500
315	S-8	S. C. Bay.	28	32 CP	300
323	T-1 $\frac{1}{4}$	Special	3	.19 A	350
323NR	T-1 $\frac{1}{4}$	Special	3	.19 A	350
324	T-1 $\frac{1}{4}$	Wire Term.	3	.19	350
325	T-1 $\frac{1}{4}$	Special	3	.19 A	350
327	T-1 $\frac{3}{4}$	Mid. Flngd.	28	.04 A	1000
328	T-1 $\frac{3}{4}$	Mid. Flngd.	6	.20 A	500
330	T-1 $\frac{3}{4}$	Mid. Flngd.	14	.08 A	750
331	T-1 $\frac{3}{4}$	Mid. Flngd.	1.35	.06	500
334	T-1 $\frac{3}{4}$	Mid. Gr.	28	.04 A	1000
335	T-1 $\frac{3}{4}$	Mid. Scr.	28	.04 A	1000
1251	G-6	S. C. Bay.	28	3 CP	1000
1816	T-3 $\frac{1}{4}$	Min. Bay.	13	.33 A	1000
CM680	T-1	Wire Term.	5	.06 A	L
CM682	T-1	Spec.	5	.06 A	L

Only the more popular of the standard lamps produced are listed. Information regarding others, and Neon Glow and Small Standard Voltage Lamps available, on request.



Dial and Jewel PILOT LIGHT ASSEMBLIES

JEWEL LIGHT ASSEMBLIES



No. 5 Type

11/32" JEWEL . . VERTICAL MOUNTING

Mounts in 5/16" diameter hole on panels up to 1/8" thick. Tested at 125 volts. Panel Hardware cadmium and iridite — other parts cadmium. Standard colors. Available with faceted plastic jewels as standard.

- No. 5.....Min. Screw (globular lamp)...List \$0.40
- No. 5B ..Min. Bayonet (globular lamp). List .40
- No. 5T ..Min. Bayonet (tubular lamp)...List .42



No. 10 Type

1/2" JEWEL . . VERTICAL MOUNTING

Mounts in 7/16" hole on panels up to 1/4" thick. Tested at 125 volts. Standard colors. Panel Hardware, bright nickel — other parts cadmium. No. 10B has bracket with oblong hole permitting adjustment to obtain best position for lamp filament back of Jewel. (Frosted jewels, 7c extra).

- No. 10Min. ScrewList \$0.42
- No. 10GMin. BayonetList .42
- No. 10BMin. BayonetList .42

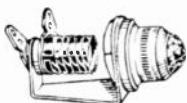


No. 10C Type

1/2" JEWEL . . VERTICAL MOUNTING UNDERWRITERS APPROVED

Candelabra screw base Jewel light which is Underwriters Approved for 75 watt — 125 volt service. Takes minimum depth behind panel. Oblong hole permits adjustment for placing lamp filament behind Jewel for maximum illumination. Mounts in 7/16" hole on panels up to 1/4" thick. Standard colors. (Frosted, 7c extra).

- No. 10C.....Candelabra Screw.....List \$0.48



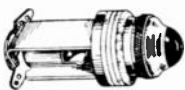
No. 20S Type

1/2" JEWEL HORIZONTAL MOUNTING

Lamp removable from front of panel. Mounts in 11/16" hole. Tested at 125 volts. Standard colors. Faceted glass. Bulk pack.

TYPE NUMBER	STYLE SOCKET	DEPTH BACK OF PANEL	PANEL THICKNESS	LIST PRICES
20.....	Min. Bay.....	1-13/32"	0" to 7/64"	\$0.55
30.....	Min. Bay.....	1-7/32"	1/4"	.55
40.....	Min. Bay.....	1-11/32"	1/8" to 15/64"	.55
20S.....	Min. Screw.....	1-1/16"	0" to 15/64"	.55
30S.....	Min. Screw.....	15/16"	1/4"	.55

1/2" POLARIZED VARIABLE INTENSITY



No. 80 Type

Incorporates use of polarized discs to regulate light intensity. A partial turn of the Jewel dims the light. Supplied with three fibre washers to compensate for different panel thicknesses. Mounts in 11/16" hole. Finish bright nickel. Standard Colors. Regularly supplied with smooth glass frosted on back only. Other glass types optional.

TYPE NUMBER	STYLE SOCKET	LIST PRICE
80.....	Miniature Bayonet	\$1.62



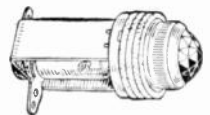
No. 75AP\$1.66

1" JEWEL . . . Underwriters App.

A heavy-duty Candelabra screw base assembly designed to be used on rugged equipment. UL for 125 volt 75 watt service. The socket assembly and mounting tube are one piece. Solder terminals. Mounts in 1" hole on panels up to 1/2" thick. Panel Hardware, highly polished chrome. All other parts cadmium plated. Standard colors in FAC, SP or SFB glass. Depth back of panel 2 1/4".

1/2" JEWEL . . . HORIZ. MOUNTING

Specially designed for use on more than one thickness of panel. Three fibre washers compensate for panel thicknesses. Mounts in 11/16" hole. Lamp removable from front of panel. Tested at 125 volts. Faceted glass in standard colors.



No. 50 Type

TYPE NUMBER	STYLE SOCKET	DEPTH BACK OF PANEL	PANEL THICKNESS	LIST PRICES
50.....	Min. Bayonet	1-5/16"	0" to 1/4"	\$0.88
50S.....	Min. Screw	1-1/4"	0" to 1/4"	.87

*Subtract panel thickness.

5/8" PLASTIC CAP HORIZONTAL MOUNTING

Gives wide angle vision . . . easily seen from sides. Lamp removable from front of panel. Supplied with three 1/16" thick fibre washers for adjustment of thickness of panel. Mounts in 1 1/8" hole. Tested at 125 volts. Standard colors.



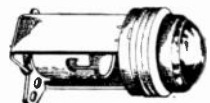
No. 51 Type

TYPE NUMBER	STYLE SOCKET	DEPTH BACK OF PANEL	PANEL THICKNESS	LIST PRICE
51.....	Min. Bayonet	1-1/4"	0" to 1/4"	\$0.81

*Subtract panel thickness.

3/4" JEWEL . . . HORIZ. MOUNTING

Polished chrome "slip-fit" bezel. Mounts in 13/16" hole. Supplied with fibre washers to compensate for panel thickness. Miniature types tested at 125 volts. Candelabra type UL listed for 75W — 125 V. Standard colors. No. 60 Types are regularly supplied with colorless smooth glass frosted on back, and bag of 6 colored discs with retaining ring; or with colored jewel.



No. 60 Type

TYPE NUMBER	STYLE SOCKET	LIST PRICES
		With Colored 6 Discs Jewel
60.....	Miniature Bayonet	\$1.41 \$1.28
A460N-IL.....	Cand. Screw for NE45 Lamp	not avail. 1.41
60S.....	Miniature Screw	1.40 1.27
A460T-IL.....	Cand. Screw for 115V, 6W, T4 1/2 Lamp	1.56 1.43

1" JEWEL . . . HORIZ. MOUNTING

Easy to install. Has "slip-fit" bezel. Mounts in 1" diameter hole on panels up to 1/2" thick. UL listed. No. 75 will take any candelabra screw base lamp up to 2 1/8" long and 7/8" diameter. Nos. 175 and 275 take any miniature lamp up to 1-3/16" long and 7/8" diameter. The bezel has a highly polished chrome finish. Standard colors. No. 75 Types are regularly supplied with colorless smooth glass frosted on back, and bag of 6 colored discs with retaining ring; or with colored jewel. Comes in FAC, SP, or SFB. We recommend smooth plain glass for use with Neon Glow Lamps.



No. 75 Type

TYPE NUMBER	STYLE SOCKET	LIST PRICES
		With Colored 6 Discs Jewel
75.....	Candelabra Screw	\$1.55 \$1.40
175.....	Miniature Screw	1.58 1.44
275.....	Miniature Bayonet	1.59 1.45



Dial and Jewel PILOT LIGHT ASSEMBLIES

TOTALLY ENCLOSED MINIATURE BAYONET ASSEMBLIES



UNDERWRITERS LISTED



No. 100 Type—1/2" JEWEL (ALSO Types 100N, 101N for Use with NE51 NEON GLOW LAMPS)
No. 101 Type—PLASTIC DOME

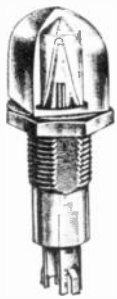
The 100 and 100N have glass Jewels. The 101 and 101N have transparent plastic domes. The fluted-on-inside type plastic dome has three times the visibility of the plain cap. All types mount in 11/16" diameter hole on panels up to 3/8" thick. Breckdown 2000 volts. 101 and 101N come in amber, colorless, red and milky white in the transparent; and standard colors in the translucent.

With proper current limiting resistors 100N and 101N can be operated on any voltage over 65 volts AC and 50 volts DC. Resistor is built into the housing. Units carried in stock have 100,000 ohm resistors for 115 volt operation.

LIST PRICES

No. 100 \$1.03 No. 100N \$1.24 No. 101 \$0.96 No. 101N \$1.16
With screw terminals, 13c extra (prefix BS to part no.)

NEON INDICATOR LIGHTS



No. 105 POSTLITE

for maximum visibility



No. 110 FLUSHLITE

No. 110 FLUSHLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Can be mounted by two screws or on studs on either front or back of panel. Body is milky white polystyrene. Rated at 125 volts, 1/10 watt.

No. 105 POSTLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Body and head molded in one piece from clear, colorless polystyrene. Mounts in 1/2" diameter hole. Rated at 125 volts, 1/10 watt. Other colors available on special order on both items.

LIST PRICES

No. 105 POSTLITE \$0.96 No. 110 FLUSHLITE \$0.71

DIAMOND-CUT JEWELS IN STANDARD COLORS THREADED TYPE — WITH NUTS

TYPE NO. SHANK O.D. LIST PRICE

*14-15	1/4" long	5/16"	\$0.16
*16-17	3/8" long	7/16"	.17
*16L-17	1/2" long	7/16"	.22
*16S-17	9/32" long	7/16"	.18
60A3-27	3/8" long	11/16"	.64
(* Frosted Jewels, 7c extra)			
75A3-C	3/8" long	1"	.84



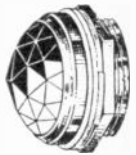
TYPES 16-17 1 1/2" Jewels
No. 60A3-27 3/4" Jewels

No. 60A3-27 and 75A3-C POLISHED CHROME FINISH. OTHER NOS., NICKEL FINISH.

SLOTTED TYPES

TYPE No SHANK O.D. LIST PRICES

23	3/16" long	3/8"	\$0.15
24	1/4" long	9/32"	.15
(Frosted, 7c extra)			



No. 75A3-C 1" Jewels



No. 24 11/32" JEWEL
OTHER JEWEL FINISHES
SP.....Smooth Plain
SFB.....Smooth Frosted Back
SFA.....Smooth Frosted All Over

No. 23 1/2" JEWEL

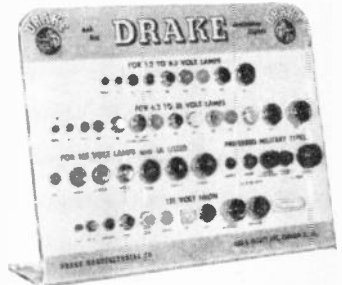


LOOK FOR THIS

DRAKE DISPLAY BOARD

AT YOUR DEALER'S

It shows a representative assortment of DRAKE units... will help you in selecting exactly the right Indicator Lights for your requirements.



BASIC TYPES



117H MINIATURE SCREW



217H MINIATURE BAYONET



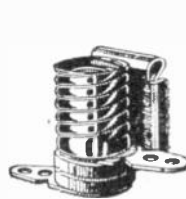
417H CANDELABRA SCREW

LAMPHOLDER ASSEMBLIES

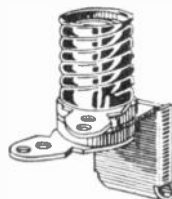
Code numbers for Types:

MIN. SCREW — 100 SERIES MIN. BAYONET — 200 SERIES
CAND. SCREW — 400 SERIES

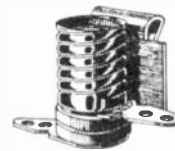
CLIP BRACKET TYPES



103AH - 203AH
403AH



103CE
203CE - 403CE
WITH FLANGE BRACKETS



104AH - 204AH
404AH
WITH FLAT BRACKETS

MISCELLANEOUS TYPES

106AE
206AE
406AE

108AH
208AH
408AH

109CH
209CH
409CH

LIST PRICES

103	\$0.14	109	.14	206	\$0.15	403	\$0.16	409	\$0.16
104	.14	117H	.14	208	.15	404	.16	417H	.16
106	.14	203	.15	209	.15	406	.16	617H	.16
108	.14	204	.15	217H	.15	408	.16		

HETHERINGTON

AIRCRAFT TYPE SWITCHES AND INDICATOR LIGHTS

INDICATOR LIGHTS

Exceptionally tiny, lightweight Hetherington Indicators withstand severe shock and vibration. Many types fully moistureproof. Wide-angle types "pipe" light evenly thru long plastic lenses. In "Press-to-Test" types, bulb is "tested" by depressing lens to make contact thru separate circuit.

Red lenses supplied. Green, amber, and white also available. Use AN3140 midget flange base bulbs — 6, 14, or 28 volts. 28 volt bulb supplied. Special 115 volt neon bulb and clear lens furnished on L7100C.

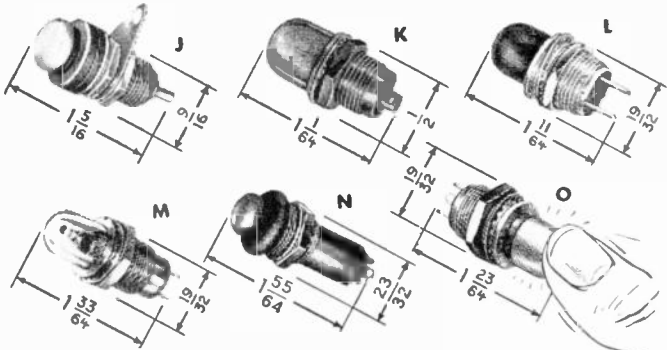
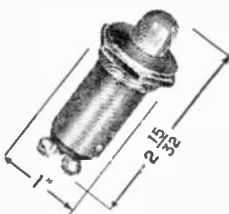


FIG.	TYPE	CIRCUIT	MTG. HOLE	DEPTH		SPECIAL FEATURES
				LENS TO PANEL	FLANGE TO TERMINAL	
J	L1000R	Case ground	1 3/32"	1 3/64"	1 1/4"	Fully moistureproof. Has insulating spacers and lug for un-grounded panels.
K	L6000R	Case ground	1 3/32"	2 3/64"	3/16"	Subminiature, Wide angle lens.
L	L6600R	2-terminal	1 3/32"	2 3/64"	2 5/32"	Miniature, Wide angle lens.
M	L7100C	2-terminal neon	1/2"	1 7/32"	4 3/64"	Clear, wide angle lens. Requires external 200K series resistor for 115V operation.
N	L3000R	Press-to-test	1/2"	3 5/64"	1 3/16"	Pressing lens cap makes contact thru separate circuit. Un-grounded case. Moisture-proof.
O	L3200R	Press-to-test	1/2"	1 7/32"	5 3/64"	Miniature version of L3000R (above). Wide angle lens.

*Available to MIL-L-6723 (ASG), Drawing MS25256, as Type L14,000R.

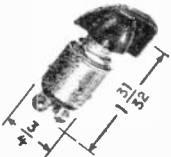
**Available to MIL-L-6723 (ASG), Drawing MS25257, as Type L15,000C. Internal 62,000 ohm resistor.

SPECIAL SWITCHES



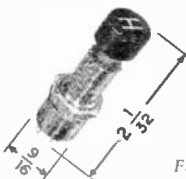
PUSH "ON" — PUSH "OFF"
Maintained Contact

Type J100 — Used as reading light switch by leading airlines. Anodized alum. Screw terminals. 20 amps @ 28v dc; 10 amps @ 115v ac. Mounts in 7/8" hole.



2-Position, Snap-Action
ROTARY

Type R1003 — Same construction and ratings as J100, but SPDT. Knob not supplied. Mounts in 15/32" hole.



NON-SNAP
PUSHBUTTON

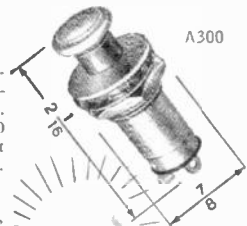
Type B5023 — For keyboards of calculators, etc. Smooth, 1/2-lb. oper. press. 1/4" travel. 2-circuit, momentary contact. 3 amps @ 30v dc. Black button furnished. Mounts in 1/2" hole.

Features and dimensions are subject to change based on engineering requirements. Dimensions or specifications are critical, obtain drawings from Hetherington's engineering department.

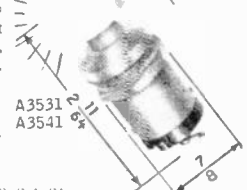
SWITCLITES®

Switches with Built-in Lights

Unique design combines switch and light in 1 unit — saves space, wiring, installation time. Simplifies operation of complicated panels. Push-button lenses unscrew for bulb replacement. Use 6, 14, or 28 volt AN3140 bulbs. 28v bulb supplied. Lenses and mtg. flanges can be lettered. Anodized aluminum cases.



Type A300 — The original aircraft hostess call light. Push on — Pull off, SPST switch with aux. momentary contact on "push." 10 amps @ 28v dc. Red translucent lens. Lamp grounded to case. Mounts in 7/8" hole.



Type A3531 — Momentary contact, SPST (N.O.) switch. 10 amps @ 28v dc. Independent lamp circuit with 2 separate terminals. 7/8" dia., flat-top red translucent lens. Mounts in 7/8" hole.

Type A3541 — Same as Type A3531 but with Push on — Pull off, maintained contact action.

Industrial Devices, Inc.

EDGEWATER, NEW JERSEY



OMNI-GLOW PILOT LIGHT

For instrument panels, appliances, switchboards, all electrical and electronic apparatus. Will give 10,000 to 25,000 hours of operating life.

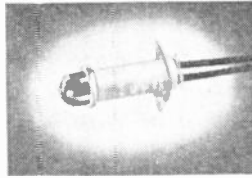
Glow lamp and current-limiting resistor built in. All mechanical spring contacts are eliminated, providing a cost-saving, rugged unit free from failure due to vibration or shock.

Easy mounting — only 1/2" hole required for any panel thickness. Speed nut assures permanent shock and vibration-proof attachment.

Draws less than 1/10 watt at 115 volts. Long life and high reliability provided over 75-150 volt range; can be used at higher voltage with decreased life.

1 13/16" long overall, lens extends 1 1/2" in front of panel. Black plastic (105°C) leads are 4 1/2" long, stripped and tinned 1/2".

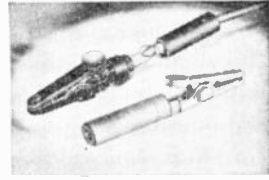
Four standard models available. Furnished complete with lamp and speed nut. OMNI-GLOW is UL and CSA approved.



SAFE-T-KLIP

(U. S. Patent 2,754,490)

New convenience and safety through use of 100% insulated test clips. Nylon insulation covers entire clip, including nose, without bulky rubber boots or insulating tape. Danger of short circuit from clips touching each other or other components is eliminated. Test leads may be changed from one connection to another without cutting off power.



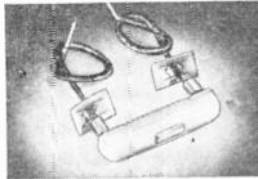
Tough nylon insulation can't loosen or come off, provides positive permanent protection in excess of 600 volts. Available in pairs (one red, one black) SAFE-T-KLIP incorporates a cadmium plated steel alligator clip 3/8" wide, 5/8" high.

Catalog Number	Description	List Price
1410A	SAFE-T-KLIP for use with lead wire provides screw terminal or solder. Assembled length 2 1/16".	\$1.75 pr.
	Color—black (Model No. 1410-A1)	.90 ea.
	Color—red (Model No. 1410-A2)	.90 ea.
1410B	SAFE-T-KLIP for use with standard .080" test prod. Assembled length 2 1/32".	1.75 pr.
	Color—black (Model No. 1410-B1)	.90 ea.
	Color—red (Model No. 1410-B2)	.90 ea.
1410C	SAFE-T-KLIP for use with banana plug. Assembled length 2 1/16".	1.75 pr.
	Color—black (Model No. 1410-C1)	.90 ea.
	Color—red (Model No. 1410-C2)	.90 ea.

TINY-GLOW PILOT LIGHT

Midget size. For instrument panels, switchboards, electrical and electronic apparatus. Neon lamp draws less than 1 milliamperes at 110 volts. Over 25,000 hours of actual service, operates over range of 75 to 250 volts A.C. or D.C.

Shock and vibration proof — all connections are soldered. Requires less back-of-panel space than any other pilot light. Polished chrome plated housing, 3/4" brass mounting studs. Mounts with speed nuts (furnished) on two 1 3/16" holes, 1 3/4" apart. Dimensions: 1 1/16" x 7/16" x 3/8".



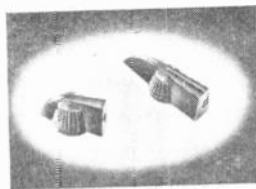
Catalog Number	Description	List Price
300	TINY-GLOW Pilot Light	\$1.25

NYLON CONTROL KNOBS

Molded nylon pointer knobs. Nylon toughness eliminates metal bushings; nylon resilience provides positive, vibration-proof, high-torque lock against the shaft.

Nylon knobs are practically unbreakable, can't fade or chip, have high insulation resistance, are virtually immune to acid and solvents.

Knobs fit a 1/4" shaft. They are available in red or black, complete with set-screw.



Catalog Number	Description	List Price
1431-1	Nylon pointer knob, 1 1/4" x 1/2" x 3/4", black	\$.25
1431-2	Same in red	.25
1432-1	Nylon pointer knob, 2" x 3/8" x 3/4", black	.30
1432-2	Same in red	.30

MINI-VOLT VOLTMETER

(U.S. Patent 2,644,134)

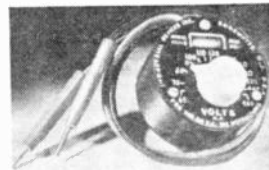
MINI-VOLT is an "abuse-proof" voltmeter, sufficiently accurate to indicate a 2 or 3 volt drop on 110 volt line. Virtually burn-out proof, this rugged unit is used by electricians, radio and TV repairmen, appliance servicemen, lab technicians, handymen.

Used to identify AC or DC lines, check rectifiers, filter capacitor, chokes; tests for blown fuses, grounded components. DC polarity; measures voltage drops with load, and 1001 other uses.

For use on AC (any frequency) or DC. MINI-VOLT, with an impedance of approximately 1/2-megohm, draws negligible current—ideal for electronic apparatus.

Glow lamp guaranteed for 25,000 hours operation. Furnished complete with extra heavy insulated 12-inch flexible test leads and test prods.

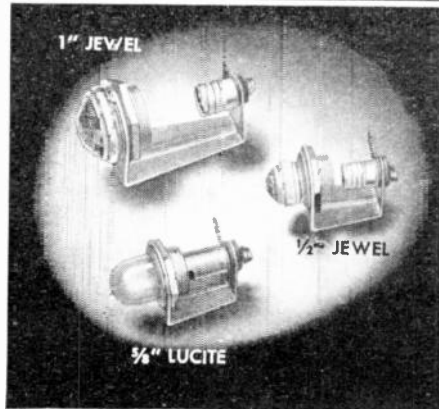
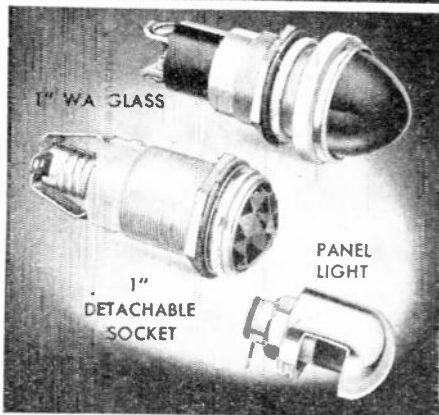
Lightweight, thoroughly insulated, and so rugged that instrument can be thrown into tool box or dropped to floor without damage. C.S.A. approval #8910.



Catalog Number	Description	List Price
400B	Range 65 to 660 volts	\$3.75
401CC	Carrying Case	2.25

INDUSTRIAL DEVICES, INC.

EDGEWATER, NEW JERSEY



Quick and Easy... Pilot Light Selection!

Now you can save valuable replacement or specification time with Johnson Panel Indicators. Available in a wide variety of types, Johnson "preferred" units are immediately available at parts distributors throughout the country. Careful standardization, with an eye to replacement as well as interchangeability, makes Johnson Pilot Lights the first choice of leading manufacturers.

Available types include: continuous indication neon types; models for high and low voltage incandescent bulbs; standard or wide angle glass and lucite jewels in clear, red, green, amber, blue or opal. Specials, including those meeting military specifications are also available in production quantities. For full information, write today!

NEW PILOT LIGHT CATALOG!

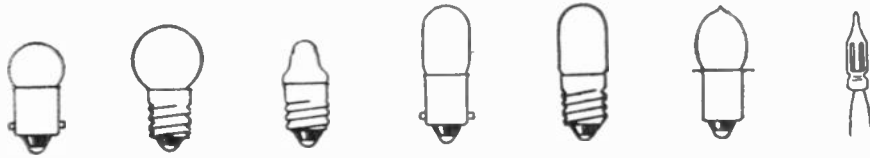
Write for your copy today. Complete specifications, prices and technical data . . . everything you need to pick a unit for original equipment manufacture or "in the field" replacement.



(See pages 600, 601, 618-639 for complete listing)

HUDSON Miniature Lamp Bulbs

for RADIOS - FLASHLIGHTS - COIN MACHINES - TOYS - APPLIANCES



LAMPS for RADIO PANEL, COIN MACHINE and OTHER SERVICE

LAMP NUMBER	RETAIL PRICE INCL. TAX	BULB	BASE	DESIGN VOLTS	AMPS (CP)
39	\$0.23	T-3/4	Min. Bay.	6.3	.37
40	.15	T-3/4	Min. Sc.	6.3	.15
41	.15	T-3/4	Min. Sc.	2.5	.50
42	.20	T-3/2	Min. Sc.	3.2	.25
43	.15	T-3/4	Min. Bay.	2.5	.50
44	.15	T-3/4	Min. Bay.	6.3	.25
45	.15	T-3/4	Min. Bay.	3.2	.35
46	.15	T-3/4	Min. Sc.	6.3	.25
47	.15	T-3/4	Min. Bay.	6.3	.15
48	.15	T-3/4	Min. Sc.	2.0	.06
49	.15	T-3/4	Min. Bay.	2.0	.06
50	.15	G-3/2	Min. Sc.	7.5	1 cp
51	.15	G-3/2	Min. Bay.	14.4	1 cp
52	.20	G-3/2	Min. Sc.	14.4	1 cp
53	.15	G-3/2	Min. Bay.	14.4	1 cp
55	.15	G-4/2	Min. Bay.	7.0	2 cp
57	.15	G-4/2	Min. Bay.	14.0	2 cp
57X	.20	G-4/2	Min. Bay.	14.0	2 cp
63	.20	G-6	S.C. Bay.	7.0	3 cp
81	.20	G-6	S.C. Bay.	6.5	6 cp
313	.35	T-3/4	Min. Bay.	28.0	.17
1458	.17	G-5	Min. Bay.	20.0	.25
1490	.15	T-3/4	Min. Bay.	3.2	.16
1816	.30	T-3/4	Min. Bay.	13.0	.33
1891	.15	T-3/4	Min. Bay.	14.0	.25

LAMPS for FLASHLIGHT, BICYCLE and OTHER SERVICE

LAMP NO.	RET. PRICE INCL. TAX	BULB	BASE	DESIGN VOLTS	AMPS	BATTERY
PR2	\$0.20	B-3/2	Min. Fig.	2.38	.50	2 D Cells
PR3	.20	B-3/2	Min. Fig.	3.57	.50	3 D Cells
PR4	.20	B-3/2	Min. Fig.	2.33	.27	2 C Cells
PR6	.20	B-3/2	Min. Fig.	2.47	.30	2 D Cells
PR7	.20	B-3/2	Min. Fig.	3.70	.30	3 D Cells
PR12	.20	B-3/2	Min. Flgd.	5.95	.50	3 D Cells
13	.17	G-3/2	Min. Sc.	3.70	.30	3 D Cells
14	.17	G-3/2	Min. Sc.	2.47	.30	2 D Cells
27	.17	G-4/2	Min. Sc.	4.9	.30	4 F Cells
31	.20	G-4/2	Min. Sc.	6.15	.30	5 D Cells
112	.17	TL-3	Min. Sc.	1.20	.22	1 AA Cell
123	.17	G-3/2	Min. Sc.	1.25	.30	1 C or D Cell
131	.17	G-3/2	Min. Sc.	1.30	.10	1 D Cell
222	.17	TL-3	Min. Sc.	2.25	.25	2 AA Cells
233	.17	G-3/2	Min. Sc.	2.33	.27	2 C Cells
502	.17	G-4/2	Min. Sc.	5.10	.15	4 F Cells
605	.17	G-4/2	Min. Sc.	6.15	.50	5 D Cells

NEON GLOW LAMPS

LAMP NO.	RET. PRICE INCL. TAX	BULB	BASE	CIRCUIT VOLTS	EXTERNAL RESISTANCE	WATTS NOMINAL
NE-2	\$0.10	T-2	Unbased (Wire Term.)	105-115	200,000 Ohms	1/25
NE-2H	.12	T-2	Unbased (Wire Term.)	105-115	25,000 Ohms	1/25
NE-17	.90	T-4/2	D.C. Bay.	105-115	30,000 Ohms	1/4
NE-32	1.20	G 10	D.C. Bay.	105-115	7,500 Ohms	1
NE-45	.85	T-4/2	Cand. Sc.	105-115	None	1/4
NE-47	.85	T-4/2	S.C. Bay.	105-115	30,000 Ohms	1/4
NE-48	.70	T-4/2	D.C. Bay.	105-115	30,000 Ohms	1/4
NE-51	.21	T-3/4	Min. Bay.	105-115	200,000 Ohms	1/25
NE-51H	.23	T-3/4	Min. Bay.	105-115	25,000 Ohms	1/25
NE-57	.99	T-4/2	Cand. Sc.	105-115	None	1/4
NE-58	.95	T-4/2	Cand. Sc.	210-230	None	1/2

LAMPS for TOY TRAIN SERVICE

LAMP NUMBER	RETAIL PRICE INCL. TAX	BULB	BASE	DESIGN VOLTS	AMPS
1445	\$0.20	G-3/2	Min. Bay.	18.0	.15
1447	.20	G-3/2	Min. Sc.	18.0	.15
1449	.17	G-3/2	Min. Sc.	14.0	.20
1458	.17	G-5	Min. Bay.	20.0	.25
1490	.15	T-3/4	Min. Bay.	3.2	.16
1813	.25	T-3/4	Min. Bay.	14.4	.10
1815	.20	T-3/4	Min. Bay.	14.4	.20
1816	.30	T-3/4	Min. Bay.	13.0	.33
1847	.20	T-3/4	Min. Bay.	6.3	.15
1891	.15	T-3/4	Min. Bay.	14.0	.25
1892	.20	T-3/4	Min. Bay.	14.4	.12

LAMPS for HOME SERVICE, NITE LITE and INDICATOR

LAMP NUMBER	RETAIL PRICE INCL. TAX*	BULB	WATTS	BASE	VOLTAGE	RATED LIFE
656	.22	56 Type	6	Candelabra Screw	120	1500 hrs
7C7	.20	C7 White or Clear	7	Candelabra Screw	115-125	3000



Manufactured by HUDSON LAMP CO., Kearney, New Jersey

SOLD THROUGH

OXFORD Components, Inc. CHICAGO, ILL.

Subsidiary of OXFORD ELECTRIC CORP.

IN CANADA: ATLAS RADIO CORP., LTD., TORONTO

EXPORT: ROBURN AGENCIES, NEW YORK CITY



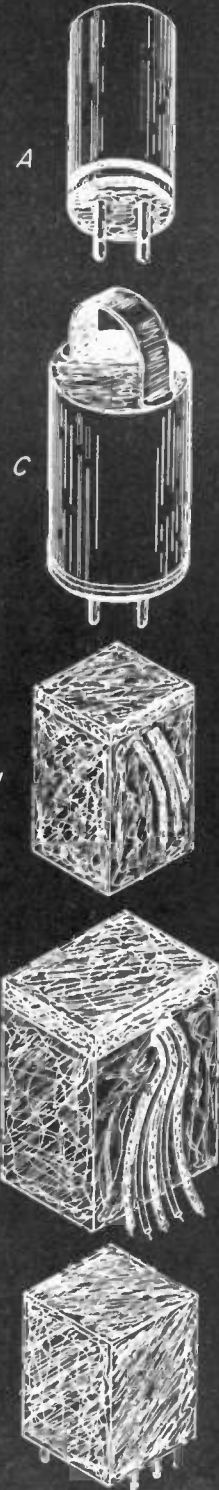
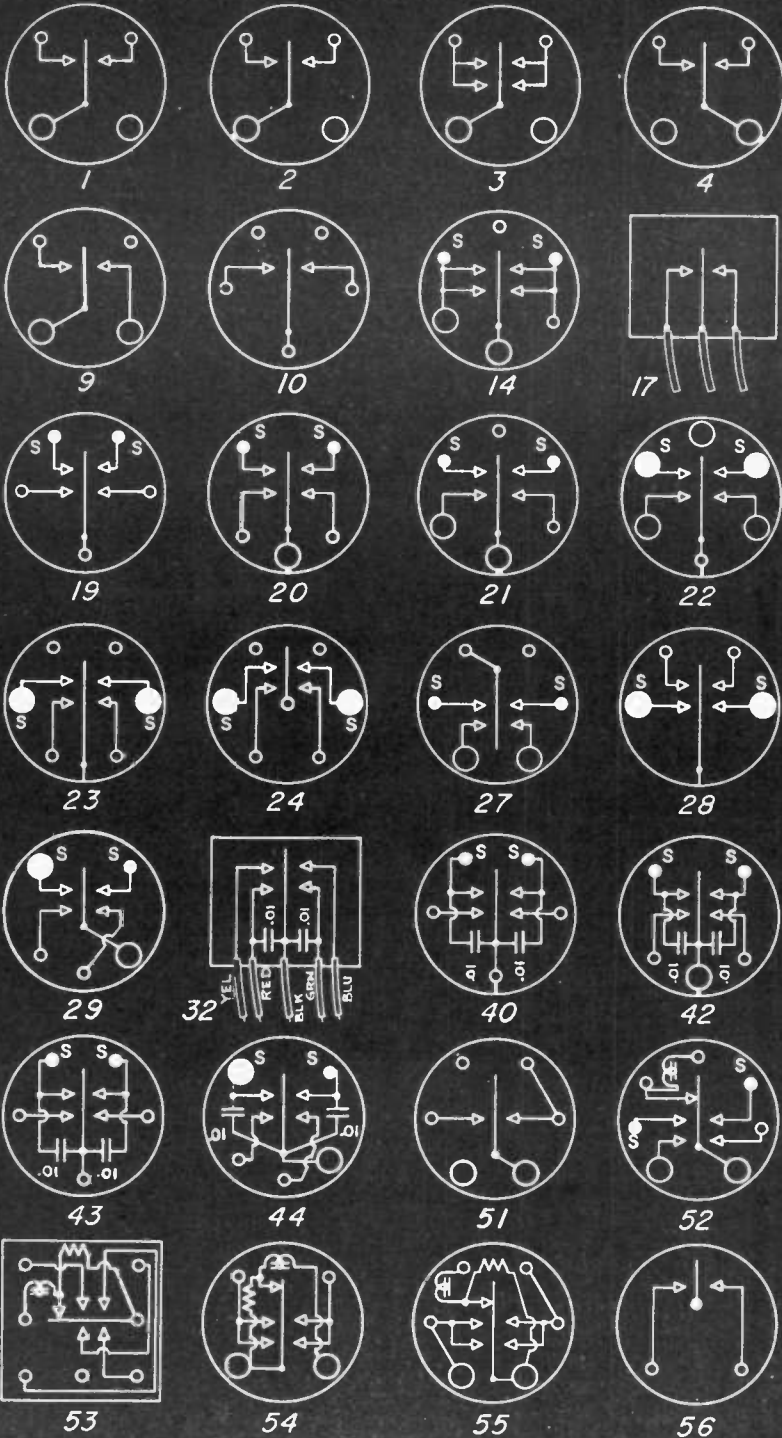
INSIST on ATR VIBRATORS—Get the Best!!



ATR Replacement Vibrator Specifications

Base Diagrams

External Views





ATR VIBRATORS have Ceramic Stack Spacers



ATR Replacement Vibrator Specifications

Frequency: 115 Cycles except as noted.

N.S.—Non Synchronous S.—Synchronous

Type No.	Voltage	Type	Base Dia.	Can Style	Dimensions	List Price	Type No.	Voltage	Type	Base Dia.	Can Style	Dimensions	List Price
303	6	N.S.	17	J	1½" x 1⅜" x 2½"	\$6.35	523	6	S.	22	A	1½" x 3⅜"	\$7.70
320	6	N.S.	10	A	1¼" x 3¼"	6.35	524	6	S.	23	A	1½" x 3⅜"	7.70
324	6	N.S.	1	A	1½" x 3⅜"	4.90	525	6	S.	24	A	1½" x 3⅜"	7.70
324A	6	N.S.	2	A	1⅝" x 3⅜"	4.90	529	4	S.	21	A	1½" x 3⅜"	7.70
324B	6	N.S.	1	A	1⅝" x 3½"	4.90	540	6	S.	27	A	1½" x 3⅜"	7.70
324C	6	N.S.	2	A	1⅝" x 4¾"	4.90	541	4	S.	19	A	1½" x 3⅜"	8.25
325	6	N.S.	51	A	1½" x 2⅞"	6.35	541A	4	S.	19	A	1⅝" x 3½"	8.25
328	6	N.S.	4	A	1½" x 3⅜"	4.90	544†	6	S.	28	A	1⅝" x 2⅞"	7.70
335	6	N.S.	9	A	1⅝" x 3⅜"	4.90	545†	6	S.	28	A	1½" x 3⅜"	7.70
337	6	N.S.	14	A	1⅝" x 3½"	6.35	547	6	S.	29	C	1⅝" x 3½"	7.70
338	6	N.S.	9	C	1½" x 3⅜"	4.90	*548	6	S.	24	A	1½" x 3⅜"	8.55
340	6	N.S.	1	A	1½" x 2⅞"	4.45	*549	6	S.	21	A	1½" x 3⅜"	8.95
*344	6	N.S.	3	A	1½" x 3¼"	8.55	550	6	S.	32	K	4⅞" x 1¼" x 1¼"	9.15
345	6	N.S.	9	A	1½" x 2⅞"	4.90	561	6	S.	24	A	1½" x 2⅞"	7.70
347†	6	N.S.	1	A	1½" x 3¼"	6.35	562	6	S.	21	A	1¼" x 3⅜"	7.70
*348	6	N.S.	51	A	1½" x 2⅞"	8.95	564#	6	S.	23	A	1½" x 2⅞"	7.70
*349	6	N.S.	55	A	1½" x 2⅞"	8.95	*574	6	S.	23	A	1½" x 3⅜"	8.95
350	6	N.S.	1	A	1¼" x 2⅞"	4.90	*575	6	S.	24	A	1½" x 3⅜"	8.95
380	4	N.S.	1	A	1½" x 2⅞"	4.90	900	2	S.	52	A	1⅝" x 2⅞"	9.80
503	6	S.	43	A	1⅝" x 4½"	9.15	902	2	S.	53	M	1½" x 2⅞" x 1½"	10.70
ADAPTER						1.50	1340	12	N.S.	1	A	1½" x 2⅞"	5.50
506	6	S.	40	A	1⅝" x 4½"	9.15	1343	12	N.S.	56	A	1½" x 3⅜"	4.90
507	6	S.	44	A	1⅝" x 4½"	9.15	*1344	12	N.S.	3	A	1½" x 3⅜"	9.95
508	6	S.	42	A	1⅝" x 4½"	9.15	*1348	12	N.S.	54	A	1½" x 2⅞"	9.95
520	6	S.	19	A	1½" x 3⅜"	7.70	1520	12	S.	19	A	1½" x 3⅜"	9.95
520A	6	S.	19	A	1⅝" x 3½"	7.70	1524	12	S.	23	A	1½" x 3⅜"	8.55
521	6	S.	20	A	1½" x 3⅜"	7.70	*1548	12	S.	24	A	1½" x 3⅜"	9.95
522	6	S.	21	A	1½" x 3⅜"	7.70	2324	32	N.S.	1	A	1½" x 3⅜"	7.15
522A	6	S.	21	A	1⅝" x 3½"	7.70	2401	32	S.	22	A	1½" x 3⅜"	8.55

#140 Cycles †180 Cycles †With 5 Ohm Resistors *Communications Type Vibrator for Super Service.

Recommended Substitutions for Discontinued Vibrators

Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement
305	303	330	324C	543	522A (Refer Note 3)
307	303 (Refer Note 1)	332	522 (Refer Note 8)	543A	522A (Refer Note 3)
314	324	342	325	546	522 (Refer Note 6)
316	324	504	503	551	550 (Refer Note 14)
317	324	505	503 (Plus Adapter)	553	550 (Refer Note 11)
323	340	531	550 (Refer Note 13)	591	524 (Refer Note 9)
326	325	536	524 (Refer Note 10)	2327	2324 (Refer Note 12)
327	325	537	525	2403	2324

The Installation Notes listed above are shown in Section I.

Sec. 4000

**Communication
Vibrators for
SUPER SERVICE**

As introduced in the 1954 May-June issues of many leading radio magazines, ATR COMMUNICATION VIBRATORS are truly THE WORLD'S FINEST. See reprint of ad on this page for feature specifications.

ATR COMMUNICATION VIBRATORS eliminate the problem of short-life call-backs on those tough two-way communication rigs. Yes, Sir! these ATR COMMUNICATION VIBRATORS deliver SUPER SERVICE.

For additional specifications pertaining to ATR SUPER SERVICE COMMUNICATION VIBRATORS, see page 939.

ATR VIBRATORS FEATURE:

CERAMIC STACK SPACERS with Two-Bolt Stack Construction—for adjustment permanency under any operating condition.

INSTANT STARTING—as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

LARGE OVERSIZED TUNGSTEN CONTACTS having Full Wiping Action—for greater reliability and longer life.

PERFORATED REED of Highest Quality Swedish Spring Steel—for uniform flexibility and prevention of reed breakage.

HIGHEST PRECISION CONSTRUCTION AND WORKMANSHIP—Practically all parts used are held to within a tolerance of 0.0005 of an inch.

VALUE PLUS—as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship.



INTRODUCES

ATR

The World's Finest
**Communication
VIBRATORS**

featuring:

- CERAMIC STACK SPACERS
- 1/4" DIAMETER POWER CONTACTS
- DRIVER-TYPE COIL CONSTRUCTION
- SPECIAL REED HINGE and WIRING
- POWER CAPABILITY UP TO 15 AMPERES

A COMPLETE LINE OF REPLACEMENT

ATR VIBRATORS

FOR AUTOMOTIVE, HOUSEHOLD and TWO-WAY COMMUNICATION SETS

ATR VIBRATORS are proven units of the highest quality, engineered to perfection. They are backed by more than 26 years of vibrator design and research, development and manufacturing. ATR pioneered in the vibrator field.



FREE

ATR VIBRATOR
MASTER MANUAL



"A" BATTERY ELIMINATORS

... FOR DEMONSTRATING AND TESTING AUTO RADIOS

**6 VOLT OR 12 VOLT!
TRANSISTOR or VIBRATOR OPERATED!
LOW RIPPLE!!**

Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Apparatus on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

- ✓ Eliminates Storage Batteries and Battery Chargers.
- ✓ Operates the Equipment at Maximum Efficiency at All Times.
- ✓ Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.
- ✓ Minimum Ripple
- ✓ Fully Automatic and Fool-Proof
- ✓ Adjustable Voltage Control



Featured cut illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIT; equipped with Voltmeter, Ammeter and Voltage Control.



Illustrates Standard "A" Battery Eliminator, Model 610C-ELIF; equipped with Voltmeter, Ammeter and Voltage Control.

Equipped with Full-Wave Dry Disc Selenium Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.

TYPE 610C-ELIF—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6½" x 9⅞" x 8½". Shipping weight, 22 lbs. Code word "SELIT." USER NET PRICE \$49.95

TYPE 620C-ELIT—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Sizes 6½" x 12⅞" x 8½". Shipping weight, 33 lbs. Code word "HELIT." USER NET PRICE \$66.95

Either 6 or 12 volt output obtainable by means of simple output toggle switching arrangement having locking device to prevent accidental switching.

All ATR Eliminators have as standard equipment: On-Off Switch, 8-Position Voltage Control, Meter(s), Fuse Protection, Rubber Mounting Feet, 6-ft. All-Rubber Cord Set and Cabinet of heavy gauge metal having attractive grey-hammerloid finish.

JOBBERS ATTENTION: See Pages 944 and 945 in this ATR Section for your Catalog Needs!



UNIVERSAL INVERTERS

Specially Designed for Operating Standard A.C. Tape Recorder, Television Set,

Dictating Machine, Radio Set, Ham Gear, Public Address System, Amplifier, Record Player, Electric Razor, Food Mixer, Vacuum Cleaner, Sewing Machine, Business Machine, Electric Drill, Fluorescent and Incandescent Lamp, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

ATR Universal Inverters are actually a combination of 4 Inverter designs in one unit! These Inverters are especially recommended for applications as mentioned above and feature complete RF frequency interference suppression, instant starting, frequency stability, and built-in power factor corrector utilizing a simple toggle switch. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation at high efficiency and maximum reliability. All models indicated are equipped with ATR heavy duty plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulator which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of 75%. To figure approximate current consumption from storage battery, divide the rated input wattage of the recorder (or load) being operated by the storage battery voltage and further divide this answer by .75 which will give the actual current consumption based on the actual load and efficiency. The battery current consumption required for a tape recorder is normally less than that drawn by ordinary automobile headlight(s). These Universal Inverters are recommended only for use with loads having power factors in excess of 70%.



Featured cut above illustrates Model 12U-RHG.

ATR Inverters should be used only for the applications as outlined above and on the reverse side of this sheet.

"-P" models equipped with cigarette lighter card set to plug into dash receptacle.

All ATR Universal Inverters are housed in attractively finished grey-hammerclad metal cabinets.

Dimension of Standard (RSF) Model Universal Inverters, 8 1/2" x 9 7/8" x 5 1/4"; shipping weight 22 lbs.

Dimensions of Heavy Duty (RHG) Model Universal Inverters, 6 7/8" x 11 1/4" x 8 1/2"; shipping weight 27 lbs.

Dimensions of Super Heavy Duty (HSJ) Model Universal Inverters 6 1/2" x 12 7/8" x 8 1/2"; shipping weight 37 lbs.

For correct replacement Vibrator, consult Inverter Vibrator Guide.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Watt.		Shipping Weight	List Price
			Int.	Cont.		
6U-RSF	6	110 Volts	100	80	22 lbs.	\$ 75.00
6U-RSF-P	6	110	100	80	22	75.00
6U-RHG	6	110	150	125	27	99.50
6U-HSJ	6	110	175	150	37	125.00
12U-RSF	12	110	125	100	22	75.00
12U-RSF-P	12	110	125	100	22	75.00
12U-RHG	12	110	175	150	27	99.50
12U-HSJ	12	110	250	200	37	125.00
*28U-RSF	28	110	125	100	22	89.95
*28U-RHG	28	110	175	150	27	119.50
*28U-HSJ	28	110	250	200	37	145.00
32U-RSF	32	110	150	100	22	89.95
32U-RHG	32	110	200	180	30	105.75
32U-HSJ	32	110	325	225	37	145.00
50U-RSF	50	110	150	100	22	89.95
50U-RHG	50	110	225	200	27	119.50
110U-RSF	110	110	250	150	22	75.00
110AU-RHG	110	110	325	250	27	89.95
110BU-RHG	110	110	450	350	30	105.75
110U-HSJ	110	110	600	400	37	145.00
220U-RSF	220	110	250	150	22	79.50
220U-RHG	220	110	325	250	27	99.50
220U-HSJ	220	110	500	300	37	155.00

* Recommended for 24 volt battery systems.

ACCESSORIES for 6, 12, and 28 Volt D.C. Input Inverters.



REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto-trunk compartment. List Price \$8.95

MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated. List Price \$4.95 pr

EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment. List Price \$9.95 pr.

JOBBER ATTENTION: See Pages 944 and 945 in this ATR Section for your Catalog Needs!

PORTABLE – Plug-in Type INVERTERS



Specially Designed for Operating Standard A.C. Dictating Machines, Record Players, Incandescent Lamps, Electric Razors, Electronic Test Equipment, and Other Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, Trains, and D.C. Districts.

ATR Portable Inverters are light-weight plug-in units for applications as recommended above. These Inverters feature instant starting, frequency stability, and high efficiency and reliability. Inverters have partial RF filtering which is only suitable for small insensitive type radios. For sensitive radio sets, ATR Universal Inverters, catalog sheet 657U, must be used. The 6 and 12-volt units are equipped with cigarette lighter cord set to plug into dash receptacle; whereas, the other higher input voltage units are equipped with standard two-blade plug-in cord sets. With ATR Inverters the need for special equipment is eliminated. They are designed for quiet, long-life operation. All ATR Models indicated are equipped with ATR plug-in Inverter Vibrators. Models RME and RMF come equipped with a four-point voltage regulator which makes possible the correct output voltage for minimum to maximum loads. The battery current consumption required is normally less than that drawn by one ordinary automobile headlight. The operating efficiency is approximately 75%. To figure battery current consumption see catalog sheet 657U. These Inverters are recommended only for use with loads having power factors in excess of 80% and should be used only for the applications as outlined above and on the reverse side of this sheet. These Portable Inverters are not recommended for tape recorder operation, except as specified in (2) below.



Illustrates ATR Mighty Midget (DME) Model Inverter having Cigarette Lighter Plug Attachment.



Illustrates ATR Medium (RME and RMF) Model Inverter having Four-Point Voltage Regulator and Cigarette Lighter Plug Attachment.

EASY TO INSTALL
EASY TO OPERATE

Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

TYPE	INPUT D.C. VOLTS	A.C. OUTPUT 60 CYCLES	OUTPUT WATTAGE Int.	OUTPUT WATTAGE Cont.	SHIPPING WEIGHT	LIST PRICE
6-DME (1)	6	110 Volts	40	30	5 lbs.	\$24.95
6C-DME (1)	6/12	110	40	30	5	28.95
6-RMF (2)	6	110	80	60	12	49.50
6C-RMF (2)	6/12	110	80	60	12	54.95
12-DME (1)	12	110	50	40	5	24.95
12T-RME (2) (3)	12	110	125	90	12	49.50
*28-RME (2)	28	110	100	80	12	69.50
32-RME (2)	32	110	100	80	12	69.50
110-RME (2)	110	110	150	100	12	59.50

- * Recommended for 24-Volt Battery Systems. For Inverters having larger or smaller output capacities, or for operation on other D.C. input voltages, please consult available ATR Inverter catalog sheets. All models designated above are housed in attractively finished grey-hammerloid metal cabinets. Dimensions of Medium (RME and RMF) Model Inverters, 8 3/8" x 8" x 3 3/4"; shipping weight, 12 lbs. Dimensions of Mighty Midget (DME) Model Inverters, 5 1/4" x 4 3/4" x 2 3/4"; shipping weight, 5 lbs. For correct replacement vibrator, consult Inverter Vibrator Guide.
- (1) These Inverters primarily recommended for Edison VP dictating machines. May also be used with Model 200 Soundscriber (with engine of car not running).
 - (2) Primarily recommended for Dictaphone's Time Master, Gray Audograph and DeJur Stenorette dictating machines, or other similar types. Also, highly recommended for Norelco Tape Recorder Model EL-3516 and Geloso Model G255-S.
 - (3) THIS INVERTER SPECIALLY DESIGNED AND RECOMMENDED ALSO FOR USE WITH RCA 8 1/2" PORTABLE TV SET OR G.E. 9" PORTABLE TV SET IN AN AUTOMOBILE.



Illustrates Under-Dash Mounting for ATR Models RME and RMF. See Page 942 for available accessories.

JOBBERS ATTENTION: See Pages 944 and 945 in this ATR Section for your Catalog Needs!



PRODUCTS

AMERICAN TELEVISION & RADIO Co. *Quality Products Since 1931*

ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*



UNIVERSAL INVERTERS

IDEAL FOR PORTABLE TV AND TAPE RECORDERS!

Specially Designed for Operating A.C. Tape Recorder, Television Set, Dictating Machine, Radio Set, Ham Gear, Public Address System, Amplifier, Record Player, Electric Razor, Food Mixer, Vacuum Cleaner, Sewing Machine, Business Machine, Electric Drill, Fluorescent and Incandescent Lamp, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Ideal for Emergency Lighting Applications for Civil Defense, Red Cross, Rescue Work, etc., Simply Using Extension Cords.

Type	Input DC Volts	A.C. Output 60 Cycles	OUTPUT WATT. Int.	Cont.	Shipping Weight	List Price
6U-RSF	6	110 Volts	100	80	22 lbs.	\$75.00
6U-RSF-P	6	110	100	80	22	75.00
6U-RHG	6	110	150	125	27	95.50
6U-HSJ	6	110	175	150	37	125.00
12U-RSF	12	110	125	100	22	75.00
12U-RSF-P	12	110	125	100	22	75.00
12U-RHG	12	110	175	150	27	95.50
12U-HSJ	12	110	250	200	37	125.00
*28U-RSF	28	110	125	100	22	89.95
*28U-RHG	28	110	175	150	27	115.50
*28U-HSJ	28	110	250	200	37	145.00
32U-RSF	32	110	150	100	22	89.95
32U-RHG	32	110	200	180	30	105.75
32U-HSJ	32	110	325	225	37	145.00
50U-RSF	50	110	150	100	22	89.95
50U-RHG	50	110	225	200	27	119.50
110U-RSF	110	110	250	150	22	75.00
110AU-RHG	110	110	325	250	27	89.95
110BU-RHG	110	110	450	350	30	105.75
110U-HSJ	110	110	600	400	22	145.00
220U-RSF	220	110	250	150	37	79.50
220U-RHG	220	110	325	250	27	99.50
220U-HSJ	220	110	500	300	37	155.00

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.
*Recommended for 24 Volt Battery System.



SHAV-PAKS

EASY to OPERATE

Keep in Glove Compartment

PLUGS INTO CIGARETTE LIGHTER RECEPTACLE ON DASH

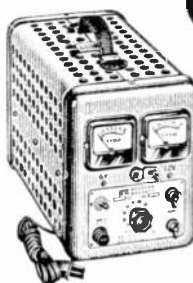
Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.

TYPE	INPUT D.C. VOLTS	OUTPUT WATTAGE	SHIPPING WEIGHT	LIST PRICE
6-SPB	6	15	2 1/2 lbs.	\$11.95
12-SPB	12	15	2 1/2	11.95

ATR SHAV-PAKS deliver 115 Volts A.C. 60 Cycles Current.

Features —

- Small Size
- Plug-in ATR Vibrator
- Fuse Protection
- Rubber Mounting Feet
- Steel Case
- Rugged Construction



"A" BATTERY ELIMINATORS

FOR DEMONSTRATING AND TESTING AUTO RADIOS
6 Volt or 12 Volt

TRANSISTOR or VIBRATOR OPERATED!

Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Appliances on Regular A.C. Lines, 105-125 Volts, 50-60 Cycles.

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.

Featured cut illustrates Heavy Duty "A" Battery Eliminator, Model 620C-ELIT; equipped with Voltmeter, Ammeter and Voltage Control.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

TYPE 610C-ELIF—Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size 6 1/2" x 9 1/8" x 8 1/2". Shipping weight 22 lbs. Appearance similar to 620C-ELIT, above
USER NET PRICE \$49.95

TYPE 620C-ELIT—Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size 6 1/2" x 12 7/8" x 8 1/2". Shipping weight 33 lbs.
USER NET PRICE \$66.95



Illustrates ATR Mighty Midget (DME) Model Inverter Having Cigarette Lighter Plug Attachment.

Illustrates ATR Medium (RME and RMF) Model Inverter Having Four-Point Voltage Regulator and Cigarette Lighter Plug Attachment.

DICTATING MACHINE INVERTERS

Specially Designed for Operating Standard A.C. Dictating Machines, Small Radios, Record Players, Mix-masters, Food Blenders, Electric Razors, Electronic Test Equipment, and Most Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes; and Trains.

Type	Input D.C. Volts	A.C. Output 60 Cycles	OUTPUT WATT. Int.	Cont.	Shipping Weight	List Price
6-DME (1)	6	110 Volts	40	30	5 lbs.	\$24.95
6C-DME (1)	6/12	110	40	30	5	28.55
6-RMF (2)	6	110	80	60	12	49.50
6C-RMF (2)	6/12	110	80	60	12	54.95
12-DME (1)	12	110	50	40	5	24.95
12T-RME (2) (3)	12	110	125	90	12	49.50
*28-RME (2)	28	110	100	80	12	69.50
32-RME (2)	32	110	100	80	12	69.50
110-RME (2)	110	110	150	100	12	59.90

All ATR Inverters deliver 110 Volts A.C. 60 Cycles Current.

* Recommended for 24 volt battery systems.
Dimensions of Mighty Midget (DME) Model Inverters, 5 1/4" x 4 3/8" x 2 3/4".
Dimensions of Medium (RME) and (RMF) Model Inverters, 8 3/8" x 8" x 3 3/4".

† DME AND RME MODELS NOT RECOMMENDED FOR TAPE RECORDERS.



PRODUCTS

AMERICAN TELEVISION & RADIO Co. *Quality Products Since 1931*

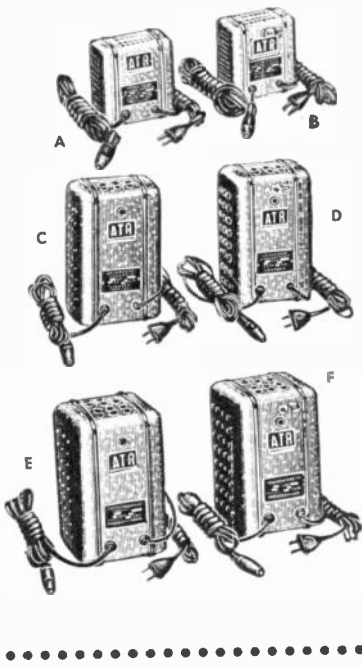
ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. *Household* ELECTRICITY *Anywhere!*



AUTO Plug-In Type — Portable BATTERY CHARGERS

NO INSTALLATION —
JUST PLUG INTO CIGARETTE
LIGHTER RECEPTACLE

For keeping the storage battery fully charged right in the car, truck, boat, or plane! A storage battery necessity — needed more now than ever before — makes motor starting easy!



ATR Charger Model Number	As Illustrated Right	Nominal Battery DC Voltage	Maximum Charge Rate DC Amps.	Approx. Tapered Rate DC Amps.	Approx. Shipping Wt. in Pounds	List Price
6CA4	A	6	4	2	5	\$19.95
6CA6	C	6	6	3	7	26.95
6CA10	E	6	10	5	9	29.95
12CA4	A	12	3	1	5	21.95
12CA6	C	12	6	2	7	28.95
12CA10	E	12	10	4	9	32.95
612CA4	B	6 or 12	4	2	6	25.95
612CA6	D	6 or 12	6	3	8	29.95
612CA10	F	6 or 12	10	4	10	36.95
612CT20	G	6.....20 (Hi) 14 (Lo) and 12.....10 (Hi) 9 (Lo)	20 (Hi) 14 (Lo) 10 (Hi) 9 (Lo)	9 5 4 1	18	57.50
612CT40	H	6.....40 (Hi) 27 (Lo) and 12.....20 (Hi) 15 (Lo)	40 (Hi) 27 (Lo) 20 (Hi) 15 (Lo)	17 10 6 1	24	65.95

All Prices Subject to Change Without Notice.

Clamp Type Portable BATTERY CHARGER

(as illustrated below)



EASILY CONNECTED DIRECTLY TO STORAGE BATTERY TERMINALS BY MEANS OF LARGE BATTERY CLIPS.

Especially recommended for charging storage batteries in trucks, tractors, boats, and planes.



Illustrates ATR Electronic Tube Protector Model 250



Electronic TUBE PROTECTOR

Specially designed to protect ALL Electronic Tubes in TV or Hi-Fi Sets, Amplifiers, and similar Electronic Equipment. Will double or triple tube life including picture tubes.

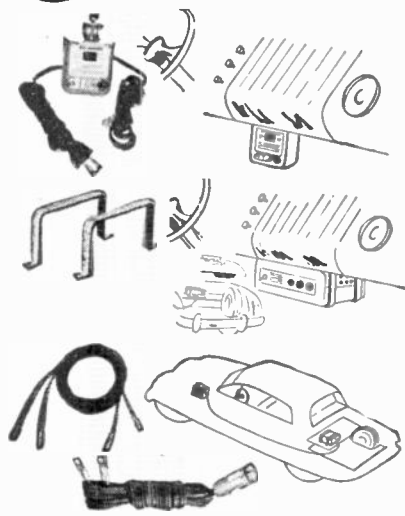
Type	INPUT A.C. Volts	A.C. OUTPUT Volts	Shipping Weight	List Price
250	115	115	1-3	\$3.95
300	115	115	1-3	4.95

Two (2) models are available as illustrated.

FEATURES

- Small Size
- Fuse Protection
- Metal Case
- Long Life
- Rugged Construction
- Automatic Operation

ACCESSORIES For all Mobile INVERTERS



REMOTE CONTROL UNIT — for under-dash mounting permitting installation of Inverter in auto trunk compartment.
List Price \$8.95

MOUNTING BRACKETS — to securely mount Inverter in trunk compartment of car or under-dash, as illustrated.
List Price \$4.95 pr.

EXTENSION CABLES — to provide additional cable lengths for installation of Inverter in trunk compartment.
List Price \$9.95 pr.

CIGARETTE LIGHTER CORD SET — to plug into cigarette lighter receptacle on dash.
List Price \$3.95

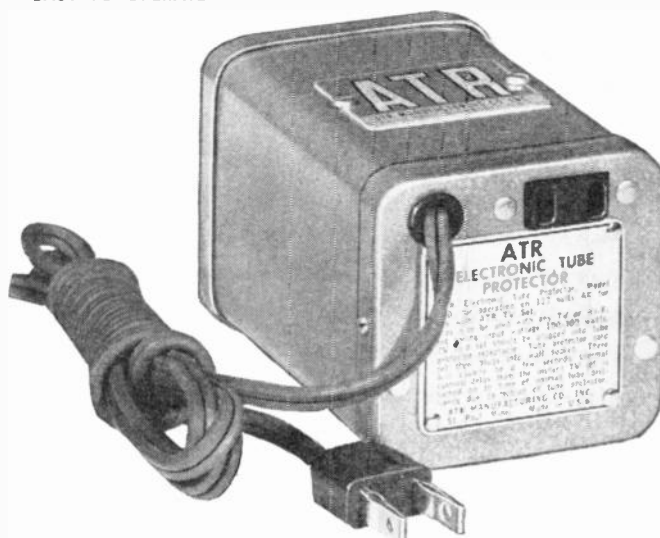
Electronic Tube PROTECTOR



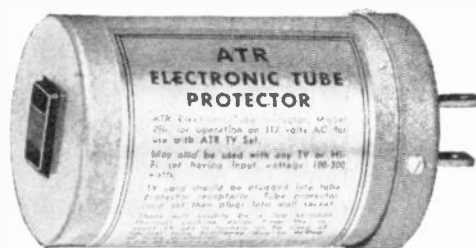
Specially Designed To Protect ALL Electronic Tubes in TV or Hi-Fi Sets, Amplifiers, and Similar Electronic Equipment. Will Double or Triple Tube Life Including Picture Tubes.

EASY TO OPERATE

ATR Electronic Tube Protectors should double or triple the life of all electronic tubes including picture tube in TV or Hi-Fi Sets, Amplifiers, Electronic Organs, and other similar electronic equipment. The ATR Electronic Tube Protector utilizes a thermal cushion-action principle which also protects all other components by eliminating initial damaging surge currents. The ATR Electronic Tube Protector can be used with any electronic equipment having input wattage of 100 to 300 watts. The Electronic Tube Protector plugs into the AC wall socket; whereas, the TV or Hi-Fi Set then plugs into the tube protector receptacle. There will usually be a few seconds thermal cushion-action delay from the instant TV set is turned on to time of normal tube brilliancy due to action of Tube Protector.



Illustrates ATR Electronic Tube Protector Model 300



Illustrates ATR Electronic Tube Protector Model 250

Two (2) models are available as illustrated

Features —

- Small Size
- Fuse Protection
- Metal Case
- Long Life
- Rugged Construction
- Automatic Operation

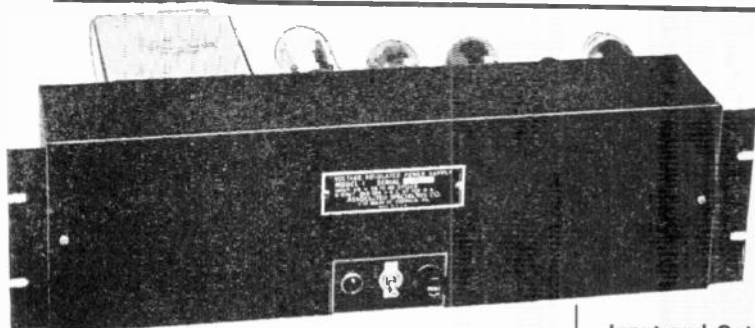
TYPE	INPUT A.C. Volts	A.C. OUTPUT Volts	Amperes	SHIPPING WEIGHT	LIST PRICE
250	115	115	1-3	1	\$3.95
300	115	115	1-3	2	4.95

ATR Type 250 Electronic Tube Protector has dimensions 1 1/16" OD x 3 1/8" in length. Housed in attractively finished golden brown hammerloid metal container. Plugs directly into wall socket as illustrated on reverse side.

ATR Type 300 Electronic Tube Protector has dimensions 4" x 2 5/8" x 2 3/4". Housed in attractively finished golden brown hammerloid steel case having rubber mounting feet. Has cord set to plug into wall socket providing flexibility in positioning.

Associated Specialties Co.

OREFIELD, PA.



ELECTRONICALLY REGULATED D.C. CONSTANT VOLTAGE POWER SUPPLIES

MODEL 1
RELAY RACK MOUNTING \$52.50

Input: 105-125 volts AC, 50-60 cycles.

DC Output Voltage: Continuously variable from 200 to 325 volts DC for load currents 0 to 100 ma.

Regulation of DC Voltage: Better than 1% for loads of 0 to 100 ma. and line voltage variations from 105 to 125 volts.

Ripple Output: Less than 10 millivolts rms.

Isolated Output: Both positive and negative sides of the output are isolated from ground. Either side may be grounded or the output may be left floating.

AC Output for Filaments: An isolated AC voltage of 6.3 volts AC at 3 amperes is available at the output terminal connections.

Overload Protection: A fuse mounted on the front panel protects supply against external overloads or internal failure.

Input and Output Connections: All input and output connections are made to a single terminal strip conveniently located on the rear of the chassis.

Dimensions: Standard 19" relay rack mounting. Panel Width: 19 inches; Panel Height: 5 1/4 inches; Depth Behind Panel: 7 1/4 inches.

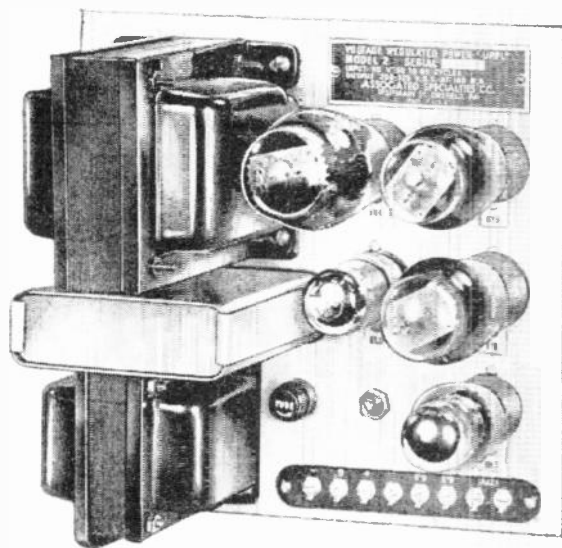
Cabinet and Panel Finish: Standard Black ripple enamel.

Controls: Rear Chassis—DC output voltage control. Front Panel—Pilot light, input power switch, and fuse.

Weight: Net weight is approximately 20 pounds.

High Quality Components: Only components of the highest quality are used in this equipment insuring you years of trouble-free dependable operation.

Accessibility: By removing two small screws, the front panel may be removed while the supply stays mounted on a relay rack or cabinet. This allows quick and easy inspection.



MODEL 2 SUB-CHASSIS MOUNTING \$49.50

Sub-chassis mounting type regulated power supplies are designed to save space and money. They can be mounted on a chassis along with other components and thereby save space which would be used by a relay rack mounting supply. Savings are made in the size and cost of the cabinet required for a job along with the lower cost of the sub-chassis mounting supplies.

SAME AS MODEL 1 EXCEPT

Dimensions: 9" wide, 8 3/4" long, 4 3/8" high above chassis, 1 1/2" clearance required below chassis. Size of cut-out required, 8 1/4" wide x 8" high. Location of four mounting holes: 8 3/8" wide x 8 1/4" high.

Chassis Finish: Zinc plated or equivalent.

Controls: DC output voltage control adjustable from the top side of the chassis.



MODEL 3 CABINET MOUNTING \$69.50

An ideal unit for bench work or assembly into equipment.

SAME AS MODEL 1 EXCEPT

Input Connections: A line cord at rear of cabinet.

Output Connections: 5 way binding posts.

Dimensions: 5" wide, 7" high, 16" deep.

Panel Finish: Aluminum.

Cabinet Finish: Gray enamel.

Controls: D.C. output voltage on front panel.

Meters: Output voltage.

Weight: Net weight is approximately 20 pounds.

Weight: Net weight is approximately 14 1/2 lbs.

MODEL P2 PANEL \$9.00

Mounts two Model 2 power supplies side by side in a 19 inch relay rack space 8 1/4" high.

BURGESS BATTERIES



P6M



2U6



H233



2R



C5



P45M



XX45

BURGESS Number	NEDA Numbers	Other	Volts	Terminal Type	Overall Dimensions			Unit Package Quantities	Weight of Unit Package in Pounds	List Price Each
					L	W	H			
BURGESS ACTIVATORS FOR TRANSISTOR CIRCUITS										
NE			1½	Flashlight	7/16 (diam.)	1 11/64		48	4/5	\$.125
XX9	1900	239	9, 13½	Socket	1 9/32 2 29/32	2 1/32		1	2 oz.	1.35
D6	1603	276	9	Snap Type	2 2/16 2	3 3/32		1	1	1.80
2N6	1602	246	9	Snap Type	1 3/8 1 3/8	2 3/4		1	3/10	1.85
4D4	1400	274	6	Snap Type	2 1/32 2	7 3/16		1	2 1/2	4.35
2U6	1604	216	9	Snap Type	1 39/64	1 7/8		1	1 oz.	1.35
A4			6	Flat Contacts	1 9/32 1 9/32	2 11/32		1	1 1/4	1.00
D6PI	1601	2506	3, 6, 9	Socket	2 19/32 1 7/16	7 29/32		1	1 3/8	2.25
C6X		2356	9	Snap Type	2 5/16 1 1/32	6 1/16		1	5/8	1.60
P6	1600	226	9	Snap Type	3 1/32 3 1/32	1 1/32		1	1 1/8	1.10
P6M	1600	226	9	Snap Type	3 1/32 3 1/32	1 63/64		1	1 1/8	1.35
D5	26	707	7½	Snap Type	2 9/16 2	2 23/32		1	7/8	1.50
130	14	635	1½	Flashlight	63/64 (diam.)	1 15/16		12	1 1/4	.25
230	13	A100	1½	Flashlight	1 21/64 (diam.)	2 25/64		24	5	.25
930	15	1015	1½	Flashlight	35/64 (diam.)	1 31/32		12	1 1/2	.20
M6	1605	266	9	Snap Type	1 12/16 1 12/16	2 1/16		1	2 1/8	1.50
D6S	1608	2761	9	Socket	2 1/4 1 1/4	7 29/32		1	1 1/8	1.50
2Z3	1610		4½	Snap Type	1 3/8 1 3/8	2 3/4		1	3/8	1.59
BURGESS MERCURY ACTIVATORS										
HG-3		E3	1.3	Flat Contacts	63/64 (diam.)	2 1/32		4	3/5	.80
H233	1300	E233	4	Flat Contacts	1 1/32 (diam.)	1 31/32		1	1/4	2.65
BURGESS PORTABLE RADIO "A"										
Z4	2	724	6	Flat Contacts	1 3/16 1 3/16	2 7/32		1	1/5	.90
F3	736	736	4½	Socket	4 1 17/16	4 1/8		6	6 1/2	1.17
4F	4	742	1½	Socket	2 5/8 2 5/8	4 3/32		6	8 1/2	1.65
F4PI	6	744	6	Socket	2 21/32 2 21/32	4 1/8		6	9	1.50
G3	7	746	4½	Socket	4 1/16 1 7/8	4 11/16		6	7 1/2	1.20
B5	8	713	7½	Socket	3 29/32 7/8	2 27/32		1	1 1/2	1.80
C5	9	717	7½	Socket	2 7/32 1 15/16	3 1/32		6	3 5/8	1.50
T5	10	W360	7½	Socket	2 17/32 2 19/32	3 29/32		3	4	1.90
2F	11	W353	1½	Socket	2 19/32 1 3/8	4 1/4		1	3/4	1.10
2R	13	950	1½	Flashlight	1 21/64 (diam.)	2 25/64		48	10	.20
1	14	935	1½	Flashlight	63/64 (diam.)	1 15/16		12	1 1/4	.20
Z	15	915	1½	Flashlight	35/64 (diam.)	1 31/32		12	1 1/2	.125
2D	18	720	1½	Socket	2 9/16 1 9/32	2 31/32		1	2 1/8	1.00
D3	19	726	4½	Socket	3 7/8 1 5/8	2 15/16		6	4 1/2	1.10
21R	20	964	1½	Flashlight	1 21/64 (diam.)	4 1/8		12	4 3/8	.40
37			1½	Flashlight	1 5/16 (diam.)	6 1/8		1	1 1/8	.98
8R	23	960P	1½	Socket	1 3/32 (diam.)	3 15/16		1	1 1/4	.65
F4X			6	Binding Post	5 5/16 1 13/32	4 1/8		1	1 3/4	3.79
2F4	1	718	6	Socket	4 2 13/16	5 1/16		1	2 1/2	3.90
6F	5	743	1½	Socket	4 3/32 2 3/4	4 1/16		1	2 1/8	2.40
4FL	12		1½	Socket	4 7/8 1 3/8	5 9/16		1	1 1/2	2.20
8F	17	741	1½	Socket	3 29/32 2 23/32	5 1/2		1	3	3.15
2F4L	16	747	6	Socket	4 1 1/2	10 3/4		2	6 1/2	3.95
BURGESS PORTABLE RADIO "B" BATTERIES										
P45	211P	477	6 7/16	Snap Type	1 29/32 1	5 9/32		6	3 3/4	3.10
XX45	200	467	6 7/16	Snap Type	2 3/4 1 11/32	3 43/64		1	3/4	3.50
P45M	211M		6 7/16	Snap Type	1 29/32 1	5 9/32		6	4	4.00
XX30	201	455	45	Snap Type	2 17/32 3 1/32	3 21/32		6	3 3/10	2.75
M30	202	482	45	Socket	3 9/16 1 3/4	5 1/2		1	2	3.50
K45	203	457	6 7/16	Snap Type	2 11/16 1 5/16	2 1/4		6	2 1/2	3.15
N60	204	490	90	Snap Type	3 11/16 1 9/32	3 19/32		6	6	4.50
Z30	205	738	45	Socket	3 2 2 5/16	4 1/16		2	2 3/4	3.95
A30	206	W359	45	Socket	3 9/16 2 1/4	4 5/16		2	3 1/2	3.55
B30	207	484	45	Socket	4 1/16 2 17/32	5 5/16		2	4 1/2	4.25
U200	722	493	300	Pin Jacks	2 3/4 2 29/32	3 7/8		1	1	11.00
XX69	227	W361	103½	Flashlight	1 11/32 1 11/32	11 23/32		1	1	6.57
XX50	212	437	75	Snap Type	1 27/32 1 5/16	6 5/16		6	5 1/4	4.50
U30	213	415	45	Snap Type	1 3/32 1 9/32	3 17/32		1	1 1/8	2.50
P60	214	479	90	Snap Type	1 29/32 1	7 13/32		6	5	3.95
U15	209	412	22½	Flat Contact	1 39/64	1 31/32		1	1 oz.	1.50
UX45	217	416	6 7/16	Snap Type	1 7/32 3 1/32	3 31/32		1	1 1/4	2.95
N60X	216	495	90	Snap Type	1 7/8 1 11/32	7 1/8		1	1	4.50
A60			90	Socket	4 7/16 3 3/8	4 1/2		1	3 1/3	7.95
W30PI		733	45	Socket	2 31/32 1 7/32	3 29/32		1	3/8	3.33
W20PI			30	Socket	1 5/16 1 13/16	3 7/32		1	1/2	2.47

BURGESS BATTERIES

BURGESS Number	NEDA Numbers	Other	Volts	Terminal Type	Overall Dimensions			Unit Pack- age Quantities	Weight of Unit Package in Pounds	List Price Each
					L	W	H			
BURGESS PORTABLE RADIO "A & B" BATTERIES										
G6B60	400	752	9A, 90B	Recessed Plug	13 ²⁹ / ₃₂	2 ¹ / ₁₆	4 ²¹ / ₃₂	1	7	\$8.25
F6A60	401	753	7 ¹ / ₂ , 9A, 90B	Socket	9 ⁵ / ₁₆	2 ²¹ / ₃₂	4 ⁵ / ₁₆	1	6	7.75
G6M60	402	754	7 ¹ / ₂ , 9A, 90B	Socket	10 ³ / ₁₆	3 ¹ / ₈	4 ¹ / ₃₂	1	6	8.50
T5Z50	403	755	6, 7 ¹ / ₂ A, 75B	Socket	8 ¹ / ₂	3 ¹ / ₃₂	2 ³ / ₈	1	3 ¹ / ₂	6.50
T5Z50P	431	785	7 ¹ / ₂ A, 75B	Recessed Plug	8 ¹ / ₂	3 ¹ / ₃₂	2 ³ / ₈	1	3 ¹ / ₂	6.90
F6A60P	406	757	9A, 90B	Recessed Plug	9 ¹ / ₁₆	2 ³ / ₄	4 ¹¹ / ₃₂	1	6	7.25
6TA60	410	W369	1 ¹ / ₂ A, 90B	Socket	9 ³¹ / ₃₂	2 ¹ / ₄	4 ⁷ / ₁₆	1	4 ¹ / ₂	7.85
2TXX40	412	W370	1 ¹ / ₂ A, 60B	Socket	2 ¹³ / ₃₂	1 ¹¹ / ₃₂	7 ³ / ₃₂	1	1 ¹ / ₂	5.85
T6Z60	405	756	7 ¹ / ₂ , 9A, 90B	Socket	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ¹³ / ₁₆	1	4 ¹ / ₂	6.95
T6Z60P	428	727	9A, 90B	Recessed Plug	8 ¹⁵ / ₁₆	2 ³ / ₁₆	3 ¹³ / ₁₆	1	4 ¹ / ₂	6.85
4TZ60	424	729	1 ¹ / ₂ A, 90B	Socket	7 ⁵ / ₈	2 ¹ / ₈	3 ³ / ₄	1	3 ³ / ₄	5.75
F4A50	411	W368	6A, 75B	Recessed Plug	9 ³ / ₃₂	2 ²³ / ₃₂	3 ² / ₃₂	1	4 ³ / ₄	9.50
G5A42	408	W367	7 ¹ / ₂ A, 63B	Socket	9 ¹ / ₈	2 ¹³ / ₁₆	4 ¹ / ₃₂	1	5	9.20
4GA42	407	W366	1 ¹ / ₂ A, 63B	Socket	9 ¹ / ₁₆	2 ¹ / ₈	4 ³ / ₄	1	4	8.80



F6A60



CD3



CD7



F2BP



CD25



F4BP



5308

BURGESS SEALED NICKEL CADMIUM CELLS AND BATTERIES

*(L after cell number indicates types with solder lugs on terminals).

CD1			1.25		.460 (diam.)	.225	1		1.45
CD2			1.25		.610 (diam.)	.236	1		1.00
CD3			1.25		.984 (diam.)	.275	1		1.15
*CD3L			1.25		.984 (diam.)	.300	1		1.25
CD4			1.25		.984 (diam.)	.350	1		1.20
*CD4L			1.25		.984 (diam.)	.375	1		1.40
CD5			1.25		1.700 (diam.)	.300	1		2.10
*CD5L			1.25		1.700 (diam.)	.325	1		2.20
CD6(AA)			1.25		.560 (diam.)	1.950	1		2.75
CD7(D)			1.25		1.300 (diam.)	2.425	1		5.00
CD21			6		1.065 (diam.)	1.525	1		7.15
CD22			6		1.065 (diam.)	1.975	1		7.50
CD23			6		1.800 (diam.)	1.725	1		14.50
CD24			9.6		1.065 (diam.)	2.650	1		11.60
CD25			9.6		1.065 (diam.)	3.110	1		12.10
CD26			9.6		1.800 (diam.)	2.575	1		22.50
CD27			12		1.065 (diam.)	2.925	1		14.00
CD28			12		1.065 (diam.)	3.600	1		15.20
CD29			12		1.800 (diam.)	3.100	1		27.95
CD30			6		1 ¹ / ₂	1 ¹ / ₂	3 ¹ / ₁₆	1	26.40
CD31			6		3 ¹³ / ₁₆	1 ¹⁷ / ₃₂	3 ³ / ₈	1	42.30

BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR BATTERIES ("A" TYPES)

Z	15	915	1 ¹ / ₂	Flashlight	3 ⁵ / ₆₄ (diam.)	1 ³¹ / ₃₂	12	1/2	.125	
7	24	912	1 ¹ / ₂	Flashlight	1 ³ / ₃₂ (diam.)	1 ³ / ₄	12	1/4	.125	
1	14	935	1 ¹ / ₂	Flashlight	6 ³ / ₆₄ (diam.)	1 ¹ / ₁₆	12	1 ¹ / ₄	.20	
2R	13	950	1 ¹ / ₂	Flashlight	1 ² / ₆₄ (diam.)	2 ²⁵ / ₆₄	48	10	.20	
5R	...	...	1 ¹ / ₂	Flashlight	4 ⁹ / ₆₄ (diam.)	2 ¹ / ₆₄	12	3/4	.20
8R	23	960P	1 ¹ / ₂	Socket	1 ³ / ₃₂ (diam.)	3 ¹⁵ / ₁₆	1	1/4	.65	
9R	...	1015E	1 ¹ / ₂	Flashlight	3 ³ / ₆₄ (diam.)	1 ⁴ / ₆₄	12	1/2	.17	
2Z	...	1016E	1 ¹ / ₂	Flashlight	1 ¹ / ₈	1 ¹ / ₃₂	10	3/4	.34	
2FBP	700	W354	1 ¹ / ₂	Binding Post	2 ²¹ / ₃₂	1 ³ / ₈	4 ¹ / ₃₂	5	4 ¹ / ₅	1.15
F2BP	701	W352	3	Binding Post	2 ² / ₃₂	1 ³ / ₈	4 ¹ / ₃₂	5	4	1.15
F4BP	915	510S	6	Binding Post	2 ⁵ / ₈	2 ³ / ₄	4	1	1 ² / ₅	1.19
2F2H	703	W356	3	Binding Post	2 ⁵ / ₈	2 ³ / ₄	5	7	1.55	
422	704	750	3	Brass Straps	1 ¹¹ / ₃₂	2 ²³ / ₃₂	2 ⁵ / ₁₆	10	1 ¹ / ₅	.85
432	705	751	4 ¹ / ₂	Brass Straps	1 ³¹ / ₃₂	2 ¹⁷ / ₃₂	2 ¹ / ₄	10	2	1.00
532	706	703	4 ¹ / ₂	Brass Straps	2 ¹⁵ / ₃₂	1 ¹³ / ₁₆	2 ²³ / ₃₂	1	3 ¹⁰ / ₁₀	1.02
2F4FL	6	Flexible Leads	4 ¹ / ₈	2 ¹ / ₁₆	5 ¹ / ₂	1	2 ⁴ / ₅	2.35
44	...	...	1 ¹ / ₂	Binding Post	1 ²⁹ / ₃₂ (diam.)	4 ³ / ₃₂	1	3/8	1.43
4	...	...	1 ¹ / ₂	Flashlight	4 ¹ / ₆₄ (diam.)	2	50	3	.61
2BBP	1 ¹ / ₂	Binding Post	1 ¹⁹ / ₃₂	2 ²⁷ / ₃₂	2 ¹¹ / ₁₆	6	1 ¹ / ₂	1.35
B2BP	3	Binding Post	1 ⁵ / ₈	1 ¹³ / ₁₆	2 ¹¹ / ₁₆	6	1 ¹ / ₂	1.40
2F2BP	3	Binding Post	5 ³ / ₁₆	1 ⁵ / ₁₆	4 ⁵ / ₃₂	1	1 ⁴ / ₅	3.20

BURGESS INDUSTRIAL - ELECTRONIC - TRANSISTOR BATTERIES ("B" TYPES)

4156	710	763	22 ¹ / ₂	Binding Post	3 ¹⁷ / ₃₂	2 ¹ / ₈	2 ²⁹ / ₃₂	1	1	2.35
5156SC	708	778	22 ¹ / ₂	Spring Clip	4 ¹ / ₈	2 ¹ / ₂	2 ³ / ₄	5	8	3.65
K10	709	W376	45	Binding Post	4 ¹ / ₁₆	2 ⁹ / ₁₆	5 ¹ / ₈	1	3	4.35
5308	224	417	15	Flat Contact	1 ¹ / ₄	7 ⁸ / ₈	1 ¹⁷ / ₃₂	1	2 ozs.	1.65
K15	225	420	22 ¹ / ₂	Flat Contact	1 ¹ / ₄	7 ⁸ / ₈	2 ²⁹ / ₃₂	1	2 ozs.	1.75
K20	226	430	30	Flat Contact	1 ¹ / ₄	1 ¹⁵ / ₁₆	2 ²³ / ₃₂	1	3 ozs.	2.15

(Continued on next page)

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Page 949

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The MASTER - 24th Edition

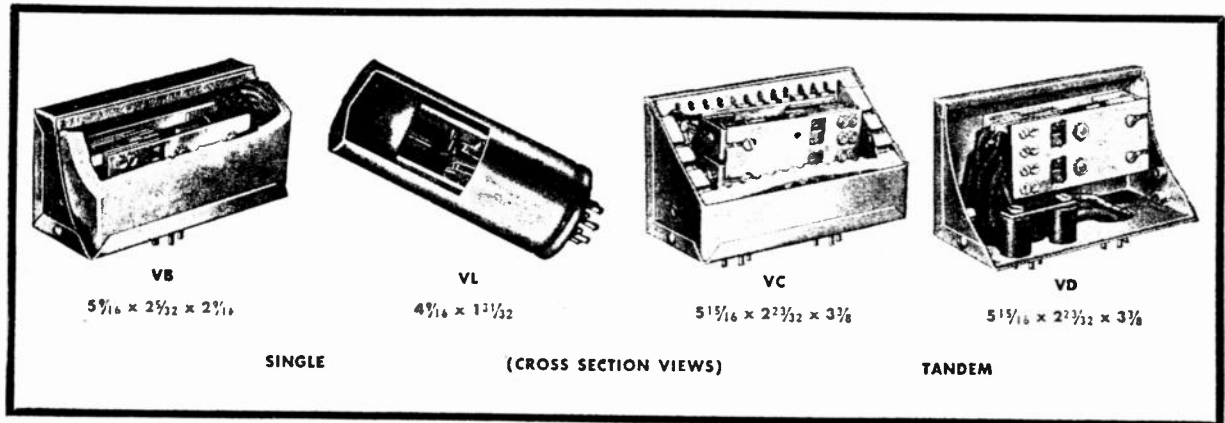
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Page 951

Sec. 4000

CORNELL DUBILIER

STANDARD HEAVY-DUTY SINGLE AND TANDEM VIBRATORS



CORNELL-DUBILIER HEAVY DUTY VIBRATORS are available in the above four styles for operation at 60 or 100 cycles with regular or close frequency adjustment in any of 6 standard operating voltages — 6, 12, 28, 32, 64 and 110. Although these combinations result in 96 "standard" vibrators, only those models which are generally used are listed below for Jobber distribution.

All heavy duty vibrators have separate driving circuits with provision for external suppression. Two or four sets of power contacts are brought out individually. Center reeds are common.

Precision ground ceramic spacers, micrometrically selected Swedish steel center reeds, and precision oscillographic adjustments combine to insure uniform reliable service life.

Coding of the heavy duty vibrators is meaningful. In a typical part number such as 110VB6, the prefix 110 denotes operating voltage, V denotes vibrator, B denotes the style, and 6 denotes 60 cycles with regular frequency tolerance. Close frequency adjustment as desired for television is denoted by a final H suffix. A typical close frequency vibrator is 110VB6H.

HEAVY-DUTY VIBRATOR SPECIFICATIONS

Type No.	Voltage	Frequenc.	List Price	Type No.	Voltage	Frequenc.	List Price	Type No.	Voltage	Frequenc.	List Price	
6VB6	6	60 ± 2	Note 1 \$13.50	32VB6	32	60 ± 2	Note 1 \$13.50	427	6	60 ± 2	Popular Old Types in Stock \$12.25	
6VB6H	6	60 ± 1/2		32VB6H	32	60 ± 1/2		490	6	60 ± 3		23.50
6VD6	6	60 ± 2		32VD6H	32	60 ± 1/2		491	6	60 ± 2		23.50
6VD6H	6	60 ± 1/2		32VL6	32	60 ± 2		1315	110	60 ± 2		13.50
6VL6	6	60 ± 2		32VL6H	32	60 ± 1/2		1315H	110	60 ± 1/2		14.50
6VL10	6	100 ± 3		12.25	32VL10	32		100 ± 3	12.25	3077		110	60 Adj.	14.50
12VB6	12	60 ± 2	Note 1 13.50	64VL10	64	100 ± 3	Note 1 12.25	11028	110	60 ± 2	Auto Radio Types—Small Powercons 8.65	
12VB6H	12	60 ± 1/2		110VB6	110	60 ± 2		2522	110	60 ± 3		4.15
12VD6	12	60 ± 2		110VB6H	110	60 ± 1/2		2529	6	60 ± 5		4.15
12VD6H	12	60 ± 1/2		110VC6H	110	60 ± 1/2		2530	12	60 ± 5		4.15
12VL6	12	60 ± 2		110VL6H	110	60 ± 1/2		2531	6	60 ± 3		7.70
12VL6H	12	60 ± 1/2		13.50	110VL10	110		100 ± 3	12.25	2532		12	60 ± 3	7.70
12VL10	12	100 ± 3	12.25	28VB6	28	60 ± 2	Note 1 13.50	2533	110	60 ± 3	4.15	
28VB6H	28	60 ± 1/2	Note 1 23.50	28VB6H	28	60 ± 1/2		2563	6	60 ± 3	10.35	
28VD6	28	60 ± 2		12.25	28VD6H	28		60 ± 1/2	2564	24	60 ± 3	10.35
28VL6	28	60 ± 2		12.25	28VL10	28		100 ± 3	2565	110	60 ± 3	10.35
28VL10	28	100 ± 3		12.25	29A9	Replaced by		32VB6H	5301	6	115 ± 7	4.70
					3047	Replaced by		12VD6H	5725	6	115 ± 7	6.90
					3079	Replaced by	110VC6H	6301	12	115 ± 7	4.90	
				30R7	Replaced by	12VB6H						
				3103	Replaced by	6VB6H						
				4'23	Replaced by	6VD6H						

NOTE 1. This vibrator, which had a broad frequency tolerance, is no longer manufactured. Use similar type (such as 6VB6H) listed directly below, which has close frequency tolerance.

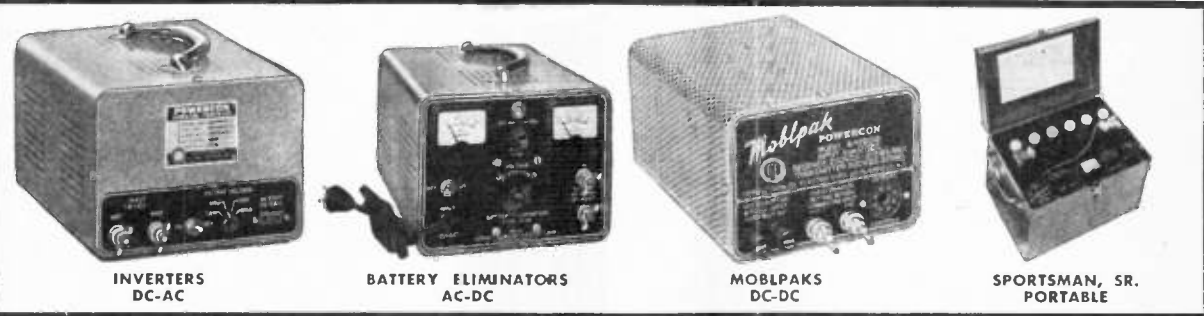
VIBRATOR REPLACEMENTS—CURRENT MODEL POWERCONS

OLD POWERCONS

For Powercon	Use Vibrator	For Powercon	Use Vibrator	For Powercon	Use Vibrator	For Powercon	Use Vibrator	Old Listing
6DC3	5301	12DC3	6301	32H18	32VB6H	6/110DH6	6VB6H	3103
6H10	6VD6H	12H15	12VD6H	32L8	2564	6R5	6VB6H	3103
6L6	2563	12L8	2563	32S12	32VB6H	6R10	6VD6H	4123
6LM3	2529	12LM4	2530	32SH22	32VD6H	12R8	12VB6H	3087
6M4	2531	12M6	2532	110H25	110VB6H	12RU15	12VD6H	3047
6S8	6VB6H	12S10	12VB6H	110H35	110VD6H	32R8	32VB6H	2989
6SH15	6VD6H	12SH20	12VD6H	110L10	110VB6H	32RU15	32VB6H	2989
6SP2	2529	12SP2	2530	110L10	110VB6H	110PA5	2522	2522
6SW8	6VB6H	12SW10	12VB6H	110LM5	2533	110PB5	2522	2522
6SW15	6VD6H	12SW25	12VD6H	110M7	2565	110R10	1315	1315
				110S15	110VB6H	110RA15	1315	1315
6/12D6	2563	28H15	28VB6H	110SH40	110VC6H	110RT15	3077	3077
6/12DC6	5725	28L8	2564	110SW15	110VB6H	110RT25	1315H	1315H
6/12DC12	(2) 5725	28S10	28VB6H	110SW40	110VC6H	110RT25DL	1315H	1315H
		28SH20	28VD6H	220H25	110VB6H	110RT35	110VC6H	3079
				220S15	110VB6H	110WR15A	1315	1315
				220SH40	110BC6H	110WR15B	1315	1315

CORNELL DUBILIER

POWERCON LINE



**INVERTERS
DC-AC**

**BATTERY ELIMINATORS
AC-DC**

**MOBLPAKS
DC-DC**

**SPORTSMAN, SR.
PORTABLE**

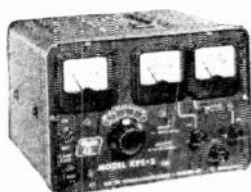
- **COMPLETE COVERAGE** — Each inverter applicable to widest variety of uses. Good inventory turnover.
- **SIMPLIFIED SERVICING** — All components individually and readily accessible. No potted assemblies.
- **SINE-WAVE-REGULATED** — Models hold output steady as input or load varies and provide commercial wave form for best operation of sensitive equipment.
- **POWER FACTOR CORRECTION** — Auxiliary PF Correctors available to permit standard inverters to handle low PF loads. Special Inverters are not required.
- **SPORTSMAN, SR. POWERCON** — Combines a vibrator inverter, battery charger and a compartment for standard 12 volt auto battery, so that 110 volt AC power is available for operation of TV, radio, record players, etc.
- **MOBLPAK POWERCONS** — Supply up to 500 V. DC — 225 MA from 6 or 12 volt sources for mobile radio service.
- **BATTERY ELIMINATORS** — Compact, well filtered, conveniently styled power package for test bench.

REGULAR POWERCONS (DC to 110 V.AC)					SINE-WAVE-REGULATED POWERCONS (DC to AC)					POWERCON ACCESSORIES														
Model	Input Volts	Output Watts	Class	List Price	Model	Input Volts	Output Watts	Class	List Price	Model No.	Explanation	List Price												
12SP2	12	20	SP	13.40	125W10	12	100	H	139.50	LK-605	Dual #6 — 5 feet	\$8.95												
12LM4	12	40	LM	23.95	125W25	12	250	SH	154.50	LK-612	Dual #6 — 12 feet	16.50												
12M6	12	60	M	34.50	110S15	110	150	H	139.50	LK-616	Dual #6 — 16 feet	20.50												
12L8	12	80	L	44.95	110S40	110	400	SH	199.50	LK-805	Dual #8 — 5 feet	6.25												
12S10	12	100	S	72.50	SPORTSMAN, SR. POWERCON (110 V.AC from self-contained battery) Model 125514 Input Volts 12 Output Watts 140 Class S5 User Net \$79.50 Note: Unit includes 140 Watt Inverter, built-in Battery Charger and compartment for standard 12 V. auto battery (not provided)					LK-812	Dual #8 — 12 feet	10.75												
12H15	12	150	H	99.50						LK-816	Dual #8 — 16 feet	13.00												
12SH20	12	200	SH	129.50						LK-1005	Dual #10 — 5 feet	5.25												
28L8	28	80	L	74.50						LK-1012	Dual #10 — 12 feet	8.50												
28S10	28	100	S	69.95						LK-1016	Dual #10 — 16 feet	10.25												
28H15	28	150	H	112.95	DICTATOR POWERCON (6 1/2 V.DC to 110 V.AC) 6/12D6 6/12 60 L \$50.00					MOUNTING KITS														
28SH20	28	200	SH	167.50						MK-3544-1 For L and S cases \$5.50														
32L8	32	80	L	69.50						MK-3544-2 For H case only 6.00														
32S12	32	125	S	83.95						MK-3544-3 For SH case only 7.50														
32H18	32	180	H	118.00						REMOTE CONTROL KITS (For 6 and 12 volt models in L, S, H and SH cases)														
32SH22	32	225	SH	162.50	RK-105 5' extension cable \$9.00																			
110LM5	110	50	LM	28.50	RK-112 12' extension cable 11.00																			
110M7	110	70	M	44.50	RK-116 16' extension cable 12.00																			
110L10	110	100	L	57.50	MASTER FUSE KITS (2" cartridge) FK-220 20 ampere \$3.50 FK-230 30 ampere 3.50 FK-240 40 ampere 4.50 FK-250 50 ampere 4.50 FK-260 60 ampere 4.50																			
110S15	110	150	S	72.00						POWER FACTOR CORRECTORS PF-1 60% PF loads 10-100 watts; 30% PF loads 10-25 watts \$19.95 PF-2 60% PF loads 150-300 watts; 30% PF loads 50-75 watts 39.95 PF-3 60% PF loads 350-500 watts; 30% PF loads 100-150 watts 49.95														
110H25	110	250	H	89.50											BATTERY ELIMINATOR POWERCONS 110B6 110 6A-12V.DC 10A-6V.DC H \$99.50 110B12 110 10A-12V.DC 20A-6V.DC H 127.50									
110H35	110	350	H	135.00																MOBLPAK POWERCONS (Low DC to High DC) 12DC3 12 300 V.DC 10C MA M 39.95 6/12DC6 6/12 300 V.DC 20C MA S 74.85 6/12DC12 6/12 50C V.DC 225 MA S 119.8C				
110SH40	110	400	SH	170.00																					MOBLPAK POWERCONS (Low DC to High DC) 12DC3 12 300 V.DC 10C MA M 39.95 6/12DC6 6/12 300 V.DC 20C MA S 74.85 6/12DC12 6/12 50C V.DC 225 MA S 119.8C
220S15	220	150	S	91.50	MOBLPAK POWERCONS (Low DC to High DC) 12DC3 12 300 V.DC 10C MA M 39.95 6/12DC6 6/12 300 V.DC 20C MA S 74.85 6/12DC12 6/12 50C V.DC 225 MA S 119.8C																			
220H25	220	250	H	139.50						MOBLPAK POWERCONS (Low DC to High DC) 12DC3 12 300 V.DC 10C MA M 39.95 6/12DC6 6/12 300 V.DC 20C MA S 74.85 6/12DC12 6/12 50C V.DC 225 MA S 119.8C														
220SH40	220	400	SH	199.50											MOBLPAK POWERCONS (Low DC to High DC) 12DC3 12 300 V.DC 10C MA M 39.95 6/12DC6 6/12 300 V.DC 20C MA S 74.85 6/12DC12 6/12 50C V.DC 225 MA S 119.8C									

- Standard models deliver 110 volts, 60 cycle, AC power. Output watt ratings are based on continuous operation on high power factor loads. They should be reduced by the percent of power factor where inductive loads are involved.
- All models are housed in cases of similar design and appearance. The class designations signify approximate size and weight as follows:
 SP — Shaver Pack—2 1/8 x 2 1/2 x 3 7/8 2 lbs.
 LM — Light Midget—3 x 3 1/2 x 4 13/16 4 lbs.
 M — Midget—3 1/8 x 4 3/8 x 5 1/16 6 lbs.
- For complete information, refer to Cornell-Dubilier Bulletins EB-3006 for 6, 12 volts; EB-3007 for Power Factor Correctors; EB-3008 for 28, 32 volts; EB-3009 for Moblpak series; EB-3010 for 110, 220 volts; EB-3011 for Dictator Model only; EB-3012 for Battery Eliminators; EB-3013 for Accessories and installation procedures; EB-3015 for Sportsman, Sr.

Sec. 4000

KIT POWER SUPPLY



Operates transistor circuits, "hybrid" and 12/6v. auto radios without hum
"KPS-2" net \$43.50

Two output ranges: one for transistor circuits . . . one for today's 12/6v auto radios.

Low ripple: Less than 0.5% (60 mv.) to 5 amps., less than 0.15% (3 mv.) up to 75 MA.

"PS-2" FACTORY ASSEMBLED (same as above)....net \$49.95

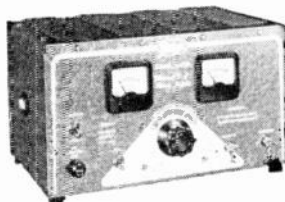


**DC
POWER
SUPPLIES**

Top Quality Line
Since 1937

Test and operate all types of DC equipment ranging from 0 to 125 volts DC

ASSEMBLED POWER SUPPLIES



Operates transistor and "hybrid" auto radios, transistor portable radios and 6/12 volt tube auto radios.

"D612T" net \$49.95

Dual range: 0-8 and 0-16v. continuously variable. 10 amps. continuous duty up to 12 v. 1/2% ripple (up to 5 amps.). No finer servicing unit at this price.

Patented EPL conduction cooling lengthens rectifier life and increases current carrying capacity, (exclusive with every model in Electro's complete line).



Operates aircraft and missile electronic equipment; universal servicing.

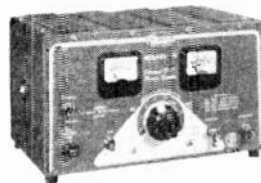
"NFB" net \$210.00

0-32v. continuously variable. 15 amps. continuous rating. Less than 1/2% ripple. High efficiency germanium rectifiers. Internal impedance: 1/2 ohm.



"NB" . . . Similar to "NFB" except for 5% ripple at 15 amps. . . . net \$195.00

"NFBR" . . . Similar to "NFB" but with rack panel for Western Electric and RETMA racks. Panel 10 1/2" high by 19" wide net \$235.00



Operates mobile communication equipment. For heavy duty, high current, low voltage requirements.

"H" net \$69.50

Dual range: 6-12 v. — 20 amps. up to 6 v., 10 amps. up to 12 v. Continuous rating. Up to 50% overload for intermittent duty. Less than 5% ripple. Services LPI and 10 watt 2-way mobile sets. Paralleling units permit servicing higher power mobile equipment.



For design work on transistor circuits, electronic equipment.

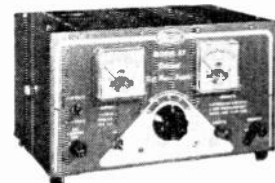
"EFB" net \$120.00

Dual range: 0-16 and 0-32v. continuously variable. 8 amps. continuous duty up to 16v., 4 amps. to 32v. Less than 1/10% (10 mv.) ripple for transistor design and servicing. Internal impedance: 4 ohms at 32v., 2 ohms at 16v.



"EB" . . . Same as "EFB" except for 5% ripple at top load. . . . net \$92.50

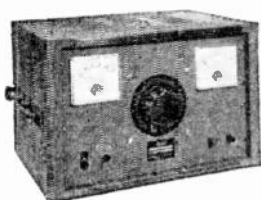
"EFBR" . . . Similar to "EFB" but with rack panel for Western Electric and RETMA racks. Panel 8 3/4" high by 19" wide. . . net \$145.00



For laboratory and design work on electronic equipment.

"EF" net \$84.50

Dual range: 0-14 and 0-28v. continuously variable. Up to 5 amps. continuous duty. Ripple less than 1%. This inexpensive unit has coarser voltage control but has many desirable features of "EFB".



For heavy duty universal higher voltage servicing and DC power source.

"GFA" net \$495.00

0-125v. continuously variable 0-10 amps. continuous duty. Less than 1% ripple. High-efficiency germanium rectifiers. Internal impedance: 1.6 ohms.

Most power supplies can be rack mounted at additional cost.

ELECTRO PRODUCTS LABORATORIES
CHICAGO 40, ILLINOIS
All prices subject to change without notice

SILICON RECTIFIERS
 •
 SELENIUM RECTIFIERS
 •
 TRANSFORMERS
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 CHOKES

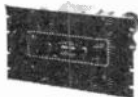
GATES
 DESIGNER &
 MANUFACTURER
 of D.C.
 POWER
 SUPPLIES

POWER SUPPLIES UNLIMITED

SILICON POWER RECTIFIER



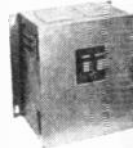
for transistor circuits & electronic equipment
MODEL G92F
INPUT: 115 volts AC 60 cycles, 1 phase
OUTPUT: 0-30 Volts DC 0-10 Amperes D.C. continuous duty
REGULATION: No load to full load 15%
RIPPLE: less than 0.5% RMS
METERS: 2% Accuracy
PRICE: \$145.00 NET
 *Also available in 5 Amperes
PRICE: \$95.00 NET



SILICON RACK MOUNT SUPPLY

Model #GX30-10
INPUT: 115 Volts A.C. 60 Cycles, Single Phase
OUTPUT: 30 Volts D.C. 0-10 Amperes Continuous Duty
REGULATION: 10% No Load to Full Load
RIPPLE: Below 0.5% R.M.S.
Dimensions: 8 3/4" H x 19" W x 10" D
PRICE: \$125.00 NET

INDUSTRIAL POWER UNITS



AC Input 115 or 230 Volts, 60 cycles -Single Phase.
 DC Output 115 Volts D.C. 125 Watts.
 Application: Power sources for operating D.C. Motors, Relays, Solenoids, Magnetic Chucks.
 Dimensions: 11 H x 9W x 6 1/2" D
PRICE: \$63.00 NET

SILICON POWER RECTIFIER



Model G30.10FR
INPUT: 115 Volts A.C. 60 Cycles, Single Phase
OUTPUT: 0-30 Volts D.C., 0-10 Amperes, continuous duty
CONTROL: Continuously Variable Over Entire Range
REGULATION: 6% No Load to Full Load
RIPPLE: 0.2% R.M.S.
METERS: 2% ACCURACY
DIMENSIONS: 19" Wide x 13" Deep x 10 1/2" High
PRICE: \$175.00 NET

SELENIUM POWER SUPPLY



Model GX 30-5
INPUT: 115 Volts A.C. 60 cycles, singles phase
OUTPUT: 30 Volts D.C., 0-5 Amperes D. C. Continuous Duty
REGULATION: 12% No Load to full load
RIPPLE: Below 1% R.M.S.
DIMENSIONS: 7" Wide x 15" long x Overall Height 10"
PRICE: \$70.00 NET

SELENIUM POWER SUPPLY



Model G48-6FM
INPUT: 115 Volts A.C. 60 Cycles - Single Phase
OUTPUT: 0-48 Volts D.C., 0-6 Amperes
CONTROL: Continuously Variable Over Entire Range
RIPPLE: 1% R.M.S.
Dimensions: 19" WIDE 13" DEEP x 10 1/2" HIGH, Fits RETMA, Western Electric racks.
PRICE: \$190.00 NET

SILICON POWER SUPPLY

INPUT: 115 Volts, 1 Phase, 60 Cycles
OUTPUT: 0-34 Volts D.C. 0-20 Amperes, Continuous Duty.
REGULATION: No Load to Full Load: 18%
RIPPLE: Below 1%
 Silicon Rectifiers, High Efficiency
Dimensions: 10" x 17" x 3"
PRICE: \$185.00 NET



Model GX 30-20

AIRCRAFT BATTERY ELIMINATOR

Input: 115 volts A.C. 60 cycles, single phase
Output: 0-28 volts D.C., 0-20 amperes, continuous duty
Ripple: 1% R.M.S.
 Unique overload device prevents needle slam and shows overload condition
Regulation: D.C.V. at full load: 28
 D.C.V. at 1/10 load: 33
Meters: 2% Accuracy
Price: \$200.00 Net Model No. G101F



May be used for Rack or Bench

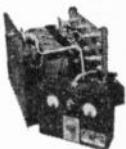
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GATES ELECTRONIC CO.

NEW YORK 60, N. Y.

SILICON REMOTE CONTROL

INPUT: 208/120, 3 Phase, 4 Wire, 60 cycles, AC
OUTPUT: 30 volts D.C., 0-100 Amperes DC continuous duty
REGULATION: No load to full load to 8%
RIPPLE: 4% RMS
DIMENSIONS: Main Unit supplied with griffled cover, 19" wide 17 1/2" High 21" Deep



MODEL GX 28-100R
 Control Unit 8" x 8" x 8"

GTDC SALES DIVISIONS

SPECIALLY SELECTED QUALITY PRODUCTS



Technitrol Distributor Sales

Low power PULSE TRANSFORMERS, covering a wide range of possible applications. For *blocking oscillator* or *interstage coupling* requirements in miniature or sub-miniature sizes.



® GLENNITE® THERMISTOR DISTRIBUTORS

THERMISTORS, in *wafer*, *bead* and *rod* styles, for temperature measurement, temperature control and compensation, time delay, liquid level detection, flow measurement and countless other applications.



EFCON DISTRIBUTOR SALES

For tolerance requirements of $\pm 5\%$, $\pm 2\%$, $\pm 1\%$ or better; PRECISION FILM CAPACITORS in a complete variety† of types, styles, capacities, voltages and tolerances in *mylar*° and *polystyrene*.

† See detailed listing in capacitor section

° DuPont Trademark



® GLENNITE® BATTERY DISTRIBUTORS

Maintenance-free, hermetically-sealed, sintered plate construction NICKEL CADMIUM RECHARGEABLE BATTERIES used as miniature DC power supplies covering an extremely wide area of application; transistor radios, burglar alarm systems, test equipment, scientific laboratory equipment, etc.



COLUMBUS ELECTRONICS DISTRIBUTORS

SILICON RECTIFIERS, a complete line produced by the most advanced techniques, the *double diffusion* process; from 50V. to 2000V.; from 100Ma. to 50 Amperes; reverse currents in the millimicroampere range.

GENERAL TRANSISTOR DISTRIBUTING CORP.

JAMAICA, NEW YORK

VIBRATORS AND VIBRAPACK® POWER SUPPLIES

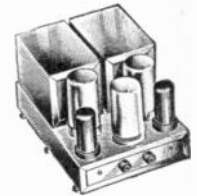
P. R. MALLORY & CO., INC. · INDIANAPOLIS



Vibrators

Mallory Vibrators are engineered to exacting specifications. Their superior action is a result of more than 20 years' research. Pure, natural rubber liners deaden sound and assure quiet operation. Special, tough-spring steel eliminates reed breakage. Heavy framing insures correct and exact alignment. Extra size and quality of contact points assure longer life. Each Mallory Vibrator is tested individually for correct output, starting voltage and wave form.

VP-555H
VP-557



Vibrapacks

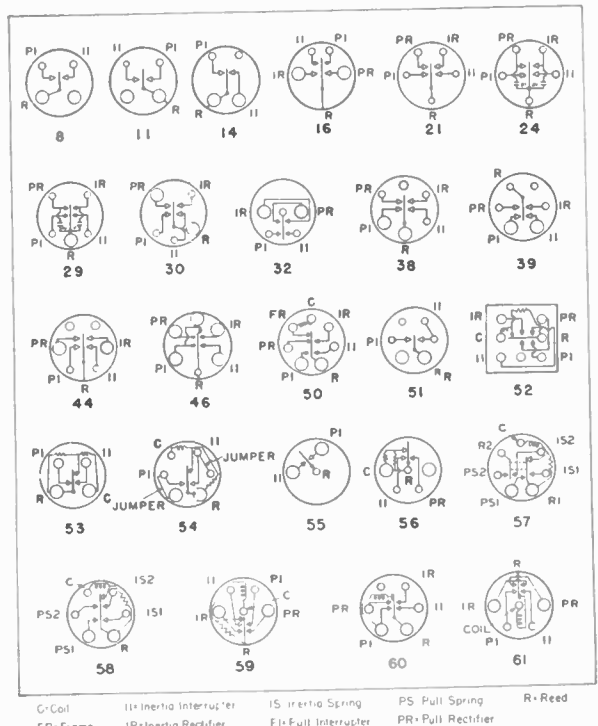
Mallory Vibrapacks are the ideal vibrator power supplies designed to provide at low cost, dependable, high-voltage, direct current from low-voltage, storage batteries. Mallory Vibrapacks offer high efficiency, dependability, low maintenance cost and long life because of years of field testing. Added features are: light weight, compactness and simplicity of installation.

Type No.	Notes*	Volt	Type	Base Dia.	Can Type	Size A B C	List Price
F294	1	32	Int.	8	1	1 1/2 x 2 7/8	\$ 7.15
F826S F826C	1, 2	32	Int.	8	1	1 1/2 x 2 7/8	7.70
G1803S G567C	12	Int.	38	1	1	1 1/2 x 3	9.95
G1801S G725C	1, 2	12	Syn.	32	1	1 1/2 x 2 1 3/16	9.95
G1802S G749C	1, 2	12	Syn.	21	1	1 1/2 x 2 1 3/16	9.95
G1603S G826C	1, 2	12	Int.	8	1	1 1/2 x 2 1 3/16	7.70
G1601 G859	12	Int.	8	1	1	1 1/2 x 2 5/8	4.70
G1602 G883	12	Int.	55	9	1	1 1/2 x 2 5/8	4.70
G1501 G4501	1	12	Int.	53	1	1 1/2 x 2 7/8	6.90
G1808 G4546	12	Syn.	38	1	1	1 1/2 x 2 7/8	8.55
G1807 G4548	12	Syn.	44	1	1	1 1/2 x 2 7/8	8.55
G1801 G4549	12	Syn.	32	1	1	1 1/2 x 2 7/8	8.55
M1501 M4501	24	Int.	53	1	1	1 1/2 x 2 7/8	6.90
T4002	2	Syn.	52	8	1	1 1/2 x 2 1/8 x 1 1/2	10.70
T4003	2	Syn.	50	1	1	1 5/16 x 2 1/8	9.80
W1802 W759	3	4	Syn.	21	1	1 1/2 x 2 7/8	8.25
W1601 W859	3	4	Int.	8	1	1 1/2 x 2 5/8	4.90
1802 245	1	6	Int.	21	1	1 1/2 x 2 7/8	7.70
1609/671	6	Int.	8	1	1	1 1/2 x 2 7/8 x 2 1 3/16	7.50
247	6	Syn.	46	1	1	1 1/2 x 3 1/4	7.70
273C	6	Syn.	29	1	1	2 x 4 1/2	9.15
294	6	Int.	8	1	1	1 1/2 x 2 7/8	4.90
298	6	Int.	51	1	1	1 1/2 x 2 7/8	6.35
509P	6	Int.	8	1	1	1 1/2 x 2 7/8	4.15
1806 576	6	Syn.	61	1	1	1 1/2 x 2 7/8	7.70
716	6	Syn.	30	7	1	1 1 3/16 x 3 1/2	7.70
1801S 725C	1, 2	6	Syn.	32	1	1 1/2 x 2 1 3/16	8.55
1801 742	6	Syn.	32	1	1	1 1/2 x 2 7/8	7.70
743	6	Syn.	38	1	1	1 1/4 x 2 7/8	7.70
748	6	Syn.	44	1	1	1 1/2 x 2 7/8	7.70
825S 825C	1, 2	6	Int.	8	1	1 1/2 x 2 7/8	6.90
1603S 826C	1, 2	6	Int.	8	1	1 1/2 x 2 1 3/16	6.35
854	6	Int.	11	1	1	1 1/2 x 2 5/8	4.90
1601 859	1	6	Int.	8	1	1 1/2 x 2 5/8	4.70
870	6	Int.	14	1	1	1 1/2 x 2 7/8	4.90
903M	6	Int.	8	1	1	1 1/2 x 2 7/8	3.60
954	6	Syn.	39	1	1	1 1/2 x 3 3/16	7.70
1604 1100	6	Int.	8	1	1	1 5/16 x 2 3/16	4.90
1701	6	12	Int.	57	1	1 1/2 x 3	9.60
1751	6	Int.	58	1	1	1 1/2 x 3	9.80
1752	6	12	Int.	62	1	1 1/2 x 3	9.70
1852	6	Syn.	59	1	1	1 1/2 x 2 7/8	9.70
1501 4501	1	6	Int.	53	1	1 1/2 x 2 7/8	6.35
1512 4512	6	Int.	54	1	1	1 1/2 x 2 7/8	6.90
1513 4513	6	12	Int.	56	1	1 1/2 x 2 7/8	6.90
1514 4514	6	Int.	53	1	1	1 1/2 x 2 7/8	6.90
1808 4546	6	Syn.	38	1	1	1 1/2 x 2 7/8	7.70
1807 4548	6	Syn.	44	1	1	1 1/2 x 2 7/8	7.70
1801 4549	6	Syn.	32	1	1	1 1/2 x 2 7/8	7.70

Catalog Number	Nominal Operating Voltage	Nominal Output Voltage	Maximum Output Current	Type	List Price
VP-552	6	225 250	50 60 80 100 ma.	Self-Rectifying	\$55.00
VP-G556	12	225 250	50 60 80 100 ma.	Self-Rectifying	55.00
VP6-260	6	200 260	60 ma.		28.95
VP12-260	12	200 260	60 ma.		28.95
VP24-260	24	200 260	60 ma.		30.95
VP6-325	6	325	100 ma.		29.95
VP12-325	12	325	100 ma.		29.95
VP24-325	24	325	100 ma.		32.95
VP-557†	6	400	150 ma.	Tube Rectifier	79.95

* Includes complete audio filter.
 † Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vibrator life is essential. Reduces maximum output watts ratings to 75% of listed values.
 ‡ Will be deleted when present stock is exhausted.

Vibrator Base Diagrams



C-Coil I-Inertia Interrupter IS-Inertia Spring PS-Pull Spring R-Resistor
 FR-Frame IR-Inertia Rectifier FI-Full Interrupter PR-Pull Rectifier

Int.—Interrupter Syn.—Synchronous

* Notes:

- Use only these types in design of new equipment. Other types are for replacement purposes only.
- Hermetically Sealed Construction.
- Designed for photo flash applications.
- A grounding cup for 1 1/2" dia. vibrators which makes a low r.f. ground connection between vibrator can and power supply chassis.
- Will be discontinued when present stocks are exhausted.
- Five special sockets for Practical Vibrator Tester. Supplied as complete kit only.
- For 1 1/2" diameter vibrators. See next column for Vibrator Base Diagrams.

RECTIFIER STACKS & POWER SUPPLIES



P. R. MALLORY & CO., INC. - INDIANAPOLIS

Chart of Replacement Magnesium-Copper Sulfide Rectifier Stacks

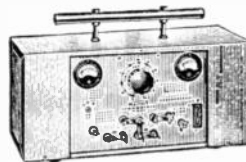
New Catalog Number	List Price	Maximum AC Volts (Normal Line)		Approx. DC Volts			Max. DC† Amperes		Approximate Overall Dimensions in Inches		
		No Load	Full Load	Inductive Load	Resistive Load	Capacitive-Battery Load	Continuous Duty‡	Intermittent Duty	Length	Width	Height
IB4R	\$2.90	3.6	3.2	1.5	1.7	2.5	1.5	5.0	1	9/16	7/8
IB8R	3.45	7.2	6.4	3.1	3.4	5.1	1.5	5.0	1 3/4	9/16	7/8
IB12R	3.95	10.8	9.7	4.8	5.2	7.8	1.3	5.0	1 3/4	9/16	7/8
IB12L5	7.10	10.8	9.7	4.5	5.0	7.6	4.5	15.0	2 1/2	2 1/8	2 3/8
IB12C1J	7.25	10.8	9.8	4.6	5.1	7.7	3.2	24	2 3/4	1 3/4	1 1/8
IB12C3	8.25	10.8	9.7	4.5	5.0	7.6	4.5	24	2 3/4	1 3/4	2 1/8
IB12C5	8.95	10.8	9.7	4.5	5.0	7.6	5.3	24.0	3	2 1/8	2 3/8
F16C3	10.70	14.4	13.0	6.1	6.8	10.2	3.9	24	3	1 3/4	2 1/8
IF16CB7M	12.30	14.4	12.8	5.9	6.6	9.9	6.0	24	3	2 1/2	3 3/8
IS16CB7	12.30	14.4	12.8	5.9	6.6	9.9	6.0	24	3 3/4	2 1/2	3
IS16B7	13.60	14.4	12.8	5.8	6.5	9.8	8.3	24	5 1/2	2 1/2	3
IS16B9	15.50	14.4	12.7	5.7	6.4	9.7	11.6	24	5 1/2	2 1/2	4 1/4
F20C7	15.40	18.0	16.2	7.6	8.4	12.6	4.8	24	4 3/8	2 1/2	3 3/8
IS24C7J	15.45	21.6	19.4	9.0	10.1	15.1	4.0	24	4 3/4	2 1/2	3 3/8
IS24B9	21.70	21.6	19.1	8.5	9.6	14.4	11.0	24	7 1/2	2 1/2	4 1/4
IS28C7J	18.50	25.2	22.7	10.7	11.7	17.8	4.3	24	6	2 1/2	3

NOTE: All rectifiers are single phase, full wave, bridge type. Mounting Prefix: IB=Insulated Bolt; F=Grounded Foot; IF=Insulated Foot; IS=Insulated Stud. P suffix designates reverse polarity stacking. Center terminal is DC positive. J suffix designates universal construction with loose mounting feet for foot, bolt or stud mounting replacement.

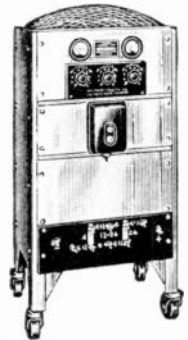
† To determine AC Amps: Multiply the DC amps by the following factors: Inductive load by 1.1; resistive load by 1.2; capacitive load by 1.4. § Ratings given are for resistive and inductive loads. To determine the Max. continuous DC amp. rating for capacitive and battery loads multiply these ratings by 0.82.

Mallory VA Series Rectopower® Rectifier DC Power Supplies

Seven models are contained in the line of general utility filtered rectifier DC power supplies for designing, building, testing and repairing electrical and electronic equipment for the automotive, aviation and military equipment industries. The models may also be used for battery charging and electrolytic processes such as plating, anodizing, electrocleaning and electropolishing. These units incorporate voltmeter, ammeter, isolating-type transformer and many other features which make them desirable for production or laboratory use. The four independent filtered output circuits may be paralleled, series-paralleled, seriesed, used independently or connected in several different combinations to provide simultaneous outputs as required. Delivery information and more detailed specifications on special Rectostarters® for aircraft engine starting and industrial electric truck battery charging, may be had by writing to P. R. Mallory & Co., Inc., Box 1558, Indianapolis, Ind.



VA400
VA800



VA1500
VA3000
VA4500
VA6000

MODEL	VA400	VA800	VA1500	VA3000	VA4500	VA6000
AC Input						
Volts ± 10%	115	208-230 or 115	208-230 or 460	208-230 or 460	208-230 or 460	208-230 or 460
Phase*	1	1	3	3	3	3
Cycles	60	60	60	60	60	60
KVA	1.2	2.4	3.0	6.0	9.0	12.0
DC Output Rating						
Max. Amperes at Nominal Volts of different Circuit Combinations.	Amps.	Amps.	Amps.	Amps.	Amps.	Amps.
6 volts (all paralleled)	50	100	200	400	600	800
12 (series-paralleled)	25	50	100	200	300	400
24 (all seriesed)	12 1/2	25	50	100	150	200
DC Output Adjustment						
Voltage Adjustment Range at Max. Rated Ampere Output.	Volts	Volts	Volts	Volts	Volts	Volts
6 volt nominal	0-8	0-8	4-8	4-8	4-8	4-8
12 volt nominal	0-16	0-16	8-16	8-16	8-16	8-16
24 volt nominal	0-32	0-32	16-32	16-32	16-32	16-32
Number of Voltage Controls	1	1	1	1	1	1
Number of Voltage Control Positions	Infinite	Infinite	28	28	28	28
DC Output Ripple - At Rated Output Less Than	2%	2%	2%	2%	2%	2%
DC Output Regulation						
From 0 to Rated Amps. at Max. DC Volts and Constant AC Volts	15%	15%	25%	25%	25%	25%
Overall Dimensions —Width	22	25 1/2	25 1/2	25 1/2	25 1/2	25 1/2
Depth	9	12 1/2	19	19	19	19
Height	14	15 1/2	55	55	55	55
Weight in Pounds —Net	90	175	300	370	415	480
Shipping	95	175	415	485	530	600
List Price	\$375.00	\$575.00	\$850.00	\$1055.00	\$1160.00	\$1325.00

*25 and 50 cycle Rectopower supplies are available at additional cost. Note—Ask your Distributor about the 12RS6DF; 12RS14D and 28RS15D Bench Power Supplies.



Mercury Batteries • Transistor Radio Batteries

P. R. MALLORY & CO., INC. · INDIANAPOLIS



Mercury "A" Batteries



Provide up to 4 times energy-volume ratio of other types of batteries. Ideal for use in portable electronic equipment, etc. Perform under wide range of adverse weather and humidity conditions. No need for rotation or rest periods. Uniform and optimum discharge voltage throughout long service life. 1.34 volts. Button height .058".

Catalog Number	Capacity MAH	Diameter (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
RM-1R	1000	.620	.650	100	1.34	\$0.59
RM-1RT	1000	.620	.650	100	1.34	.00
RM-3R	2200	.980	.650	60	1.34	.82
RM-4R	3400	1.190	.650	80	1.34	1.05
RM-12R	3600	.620	1.950	250	1.34	1.25
RM-42R*	14,000	1.190	2.375	1000	1.34	3.15
RM-400R	80	.450	.125	10	1.34	.36
RM-401R	800	.455	1.130	100	1.34	.53
RM-450R*	400	.450	.560	40	1.34	.51
RM-502R	2400	.530	1.950	200	1.34	.96
RM-601R*	1800	.620	1.125	150	1.34	.75
RM-625R	250	.610	2.33	20	1.34	.45
RM-630R	350	.610	.233	20	1.40	.45
RM-640R	500	.620	.430	50	1.34	.47
RM-675R	175	.450	.200	5	1.3	.38

Transistor Batteries

Mallory Mercury Batteries are preferred by original equipment manufacturers of transistor radios. The batteries marked* above and those on page 3 are especially recommended for replacement purposes.

Catalog Number	Capacity MAH	Length (Inches)	Diameter (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
TR-113R**	250		.650	.844	20	4.0	\$2.00
TR-114R**	250		.650	1.060	20	5.0	2.35
TR-115R	250		.650	1.295	20	6.5	2.55
TR-120R*	800	.980	.505	1.227	100	2.5	1.60
TR-132R	1000		.655	1.305	100	2.5	1.25
TR-133R	1000		.655	1.960	100	4.0	1.75
TR-134R	1000		.655	2.605	100	5.0	2.25
TR-135R	1000		.655	3.218	100	6.5	2.75
TR-136R	1000		.655	3.906	100	8.0	3.40
TR-140R	1600	.960	.505	1.227	200	1.3	1.65
TR-145R	350		.650	1.050	20	7.5	2.20
TR-146R	400	1.000	.531	1.938	40	9.0	2.25
TR-152R	400		.480	1.125	40	2.5	1.05
TR-153R*	400		.480	1.687	40	4.0	1.35
TR-162R**	500		.655	.875	50	2.5	1.30
TR-163R**	500		.655	1.350	50	4.0	1.60
TR-164R**	500		.655	1.780	50	5.0	2.00
TR-165R**	500		.655	2.185	50	6.5	2.45
TR-233R	2200		1.015	1.969	60	4.0	2.65

**Available on special order.

Transistor Type Zinc-Carbon Batteries for Radio and Instrument Applications

Mallory's new line of special mix Zinc-Carbon Batteries for use with the new and popular portable transistor radios and industrial electronic applications are now available. They offer greatly improved shelf and service life as well as a more stable current drain.

Catalog Number	Capacity MAH	Length (Inches)	Width (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
M-215		1 1/32	5/8	2		22 1/2	\$1.50
M-1600		1	1 1/32	1 31/32		9	1.10
M-1601		2 5/8	1 11/32	7 1/16		3, 6, 9	1.65
M-1602		1 3/8	1 5/16	2 9/16		9	1.85
M-1603		2 1/2	1 15/16	3 3/8		9	1.65
M-1604		1 3/16	1 3/16	2 7/16		9	1.65
M-1900		1 1/2	7/8	2 9/16		9, 13 1/2	1.35

Mallory Power-Pak Batteries

Multi-cell power-pak batteries are available in various standard and special sizes for applications in geophysical, radiation detection, recording instruments, transceivers and other approved applications requiring batteries of various capacities and voltages to meet specialized power supply requirements.

Catalog Number	Description	Nominal Voltage	Capacity MAH	Suggested Industrial Prices
302125-M	Fire Alarm	5.3	2400	\$ 3.20
302157	SU-10 Radiation Detector "A"	1.3	28000	10.35
302158	SU-10 Radiation Detector "B"	45.0-22.5	500	24.38
302227*	P. H. Meter	4.0	250	1.47
302229*	P. H. Meter	5.3	250	1.63
302240	Aircraft Instrument	24.0	2400	21.28
302249	Radiation Detector	6.7	250	2.13
302250	Radiation Detector	9.4	250	2.30
302257*	Aircraft Test Equipment	1.3	14400	6.40
302351-M	Home Fire Alarm Battery	5.3	2200	2.39
302354*	Radiation Detector	5.3	250	1.54
302358	Radiation Detector	10.4	250	2.60
302360*	Radiation Detector	13.0	250	3.60
302362*	Radiation Detector	15.6	250	3.80
302424	Automotive Test Meter	6.7	1000	1.90
302425	Standard "B" Battery	45.0	250	15.40
302435	Radiation Detector	6.7	250	2.13
302437	Radiation Detector	9.4	250	2.23
302462	Transmitter "B" Supply	96.0	1000	31.38
302463	New Style Geophysical	1.3	18000	5.70
302464	New Style Geophysical	6.7	3600	5.70
302465	New Style Geophysical	45.0	1000	15.40
302467*	Test Meter	5.3	1000	1.70
302478-M	Minifon Recorder	9.0	2300	3.75
302497*	Test Meter	6.5	2200	4.00
302499	Missile Equipment	64.0	500	28.50
302502	Geophysical Amplifier	90.0	250	26.50
302506*	Telemetry Equipment	16.0-4.0	250	8.97
302510*	Voltage Reference for Computer	1.3	36000	14.50
302519*	Aircraft Test Equipment	10.4	3600	9.00
302527	Standard "B" Battery	90.0	250	26.50
302530*	Nike Equipment	10.4	14000	35.00
302539	Aircraft Test Equipment	21.5	250	8.85
302540	Aircraft Test Equipment	1.3	14000	2.26
302554	Standard "B" Battery	90.0	250	26.50
302558	Missile Equipment	64.0-35.0	500	25.50
302579	Aircraft Test Equipment	30.0	250	10.50
302580	Aircraft Test Equipment	27.0	3400	19.00
302589	Portable Radio	21.5	250	12.20
302642-M	Fire Alarm	6.5	2400	3.22
302702*	Geophysical Equipment	2.6	2200	2.25
302800	Aircraft Test Equipment	70.0	1000	27.50
302830	Portable Communications Equipment	12.06-6.7	1000-7200	19.25
302896-M	Portable Communications Equipment	9.0-1.3	3600	7.80
302904	Aircraft Meter	5.3	3400	3.91
302905	Aircraft Test Equipment	6.5	3400	5.00
302908	Radiation Detector	10.6	3400	7.48

*Available on special order.

New Mercury Batteries for Radio and Instrument Applications

A series of new standard size Mercury Batteries recently added to the Mallory line is now available. They are suitable for the direct replacement of zinc-carbon types now used in existing electronic and radio applications. These new Mallory Mercury Batteries provide two to three times the service and shelf life of the ordinary type, and at a lower operating cost to the user.

Catalog Number	Capacity MAH	Length (Inches)	Width (Inches)	Overall Height (Inches)	Max. Drain (Ma.)	No Load Voltage	List Price
RM-42R	14,000		1.190	2.375	1000	1.34	3.15
RM-630	350		.610	.233	20	1.4	.45
RM-640	500		.620	.435	15	1.4	.47
ZM-9	2400		.530	1.950	200	1.5	.75
TR-145R	350		.650	1.050	20	7.5	2.20
TR-146R	400	1.000	.531	1.938	40	9.0	2.25
TR-233R	2200		1.015	1.969	60	4.0	2.65

Sec. 4000



COMPLETE LINE SPECIFICATIONS



Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: ENERGIZERS FOR TRANSISTOR RADIOS and Other Electronic Applications.

Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: CATHODIC ENVELOPE ENERGIZERS For Transistor Radios and Other Modern Battery Powered Transistorized Circuitry.

Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: PORTABLE 'A' TYPES For Portable Radios, Instruments and Other Applications.

Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: PORTABLE 'B' TYPES For Portable Radios, Instruments and Electronic Applications.

Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: PORTABLE 'A-B' BATTERY PACKS.

Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: 'B' BATTERY FOR FARM TYPE RECEIVERS and Miscellaneous Applications.

Table with columns: Battery Number, NEDA Number, Other Stock Numbers, Overall Dimensions (L, W, H), Terminals and Voltages, Battery Weight (lbs., oz.), Unit Pkg. Quan., List Price. Section: 'A-B' FARM PACK.

*NEDA number same as an "Eveready" battery number on a different battery. Omitted to prevent errors in shipping. †Flashlight Types. ††Shipped from factory only.

Sec. 4000

PRECISE MEASUREMENTS COMPANY BUILDS HIGH VOLTAGE POWER SUPPLIES

These well designed and constructed power packs are proven by many years of service in industry, laboratories, universities and by the United States Government. Only the best available selected material goes into these units. Listed below are some of our standard design models. Other voltages and currents available as we stock large quantities of specialized transformers and components to give you faster more efficient service. Since 50 per cent of our orders are for special supplies, we will cheerfully give you quotations on your specific requirements.

HANDY PORTABLE MODELS



New Mirror Scale Instrument Illustrated

One of the most popular power supplies on the market. Completely redesigned for greater ruggedness and convenience of operation. Widely used for powering electronic equipment and for routine breakdown and insulation testing. Output voltage is well filtered D.C. which is adjustable with convenient front panel control. Input is 115 Volt, 60 cycle A.C. Equipment is available without meter, with one meter (4½"), with two meters or with larger 6" precision 1% mirror scale movement. Regulated models offer closely stabilized output voltage regardless of line or load changes.

Model	Maximum Voltage	Price	Price Regulated Model
6000-1 With Kilovolt Meter	1,000	\$75.00	
6000	2,500	60.00	
6000-A With Kilovolt Meter	2,500	80.00	120.00
6005	5,000	75.00	
6005-A With Kilovolt Meter	5,000	95.00	135.00
6010	10,000	85.00	
6010-A With Kilovolt Meter	10,000	105.00	145.00
6015	15,000	95.00	
6015-A With Kilovolt Meter	15,000	115.00	155.00
6025-A With Kilovolt Meter	25,000	175.00	205.00

Mirror Scale Higher Accuracy Meter. Recommended for more exact calibration or test purposes. Add \$35.00 to any meter equipped power supply.

For additional built-in current meter (both meters are 3 inch size), including automatic meter protector circuit, add \$35.00 to any power supply.

PACKAGED POWER SUPPLIES



These conveniently packaged power units will be found ideal for applications requiring minimum size and weight. Features isolated high voltage terminals permitting either the positive or negative side to be grounded. Rectifier tubes are operated from separate filament transformers so that DC output voltage can be varied from zero to full rated value. Selenium rectifier types have extra cells to assure operation under high line voltage or light loading. All standard units have well filtered DC output. Power packs with AC output available on order.

Model	Output Voltage	Current
05-KV-5MA	500 Volts DC	5 Ma.
1-KV-5MA	1-KV-DC	5 Ma.
2-KV-5MA	2-KV-DC	5 Ma.
5KV-1MA	5-KV-DC	1 Ma.
5-KV-5MA	5-KV-DC	5 Ma.
10-KV-1MA	10-KV-DC	1 Ma.
10-KV-5MA	10-KV-DC	5 Ma.
15-KV-1MA	15-KV-DC	1 Ma.
15-KV-5MA	15-KV-DC	5 Ma.
20-KV-1MA	20-KV-DC	1 Ma.
20-KV-5MA	20-KV-DC	5 Ma.
30-KV-1MA	30-KV-DC	1 Ma.
30-KV-5MA	30-KV-DC	5 Ma.
50-KV-1MA	50-KV-DC	1 Ma.
50-KV-5MA	50-KV-DC	5 Ma.
75-KV-1MA	75-KV-DC	1 Ma.
100-KV-1MA	100-KV-DC	1 Ma.

TRANSFORMERS, HIGH VOLTAGE

For experimental, industrial, or production use. These units are small and compact and rated for constant service. Primary designed for 115 Volts, 60 Cycle. Secondary is isolated. Only standard models are listed. We can wind specials for any frequency or voltage.

Model	Voltage	Current
1 KVT*	1 KV	5 MA
2 KVT*	2 KV	5 MA
3 KVT*	3 KV	5 MA
5 KVT*	5 KV	5 MA
10 KVT	10 KV	5 MA
15 KVT	15 KV	5 MA
25 KVT	25 KV	5 MA
50 KVT	50 KV	5 MA



* Primary tapped at 105/115/125V, secondary isolated with tap at half voltage point.

PRECISE MEASUREMENTS COMPANY FLEMINGTON • NEW JERSEY

PRECISE MEASUREMENTS COMPANY BUILDS HIGH VOLTAGE POWER SUPPLIES

FOR INDUSTRIAL APPLICATIONS

INDUSTRIAL POWER SUPPLIES



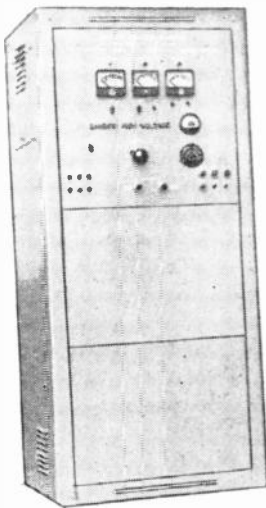
Regulated Types Available

Standard hum level 5% or less. .01% to 1% ripple available. All power supplies have automatic overload cutout control circuits. Regulated models available.

These industrial type power supplies are built for service and efficiency. All are of the transformer type and employ husky components that have been selected for their power handling capacity. Controls are arranged so that operation is greatly simplified and a number of safety features are built in for maximum protection of personnel and equipment. Output is continuously variable from zero to full rated value. Polarity reversing models (as illustrated) can be had at additional cost.

Model	Voltage	Current	Price
F-500V	0-500	3 Amp	\$800.00
F-6001	0-1000	2 Amp	975.00
F-6002	0-2000	1 Amp	985.00
F-6003-A1	0-3000	100 MA	375.00
F-6003-AV	0-3000	500 MA	550.00
F-6003-AK	0-3000	1 Amp	1100.00
F-6005-A1-H	0-5000	100 MA	550.00
F-6005-AV	0-5000	500 MA	750.00
F-6005-A1K	0-5000	1 Amp	1200.00
F-6010-A1	0-10,000	100 MA	800.00
F-6020-A05	0-20,000	50 MA	975.00
F-6050-T	0-50,000	1/2 MA	600.00
F-6100-T	0-100,000	1/2 MA	1100.00

HEAVY DUTY POWER SUPPLIES



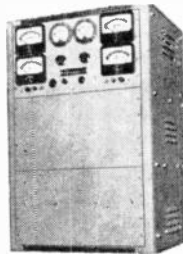
For use in applications where high voltages at extra high currents are required. Illustrated is our 100 KW Model, rated for 0 to 7,000 Volts at 14 Amperes DC. This unit is housed in a single convenient cabinet. Output voltage is regulated against line and load changes. Voltage is smoothly adjustable from zero to full output. Automatic circuits protect against overvoltage or over current conditions, turning off main power in a split second. Use of special transformer construction allows constant load drain at full rated output. All power supplies in this series is available with fixed or adjustable output and with or without regulation.

Model	Voltage	Current
A-10	0-10,000	5 amperes
A-30	0-30,000	5 amperes
A-31	0-30,000	10 amperes
A-32	0-30,000	20 amperes
A-50	0-50,000	5 amperes
A-51	0-50,000	10 amperes
A-72	0-70,000	15 amperes
A-100	0-10,000	5 amperes
A-110	0-10,000	10 amperes
A-300	0-30,000	5 amperes

CONSTANT CURRENT POWER SUPPLIES

Designed for application where output current must remain constant regardless of loading resistance changes. Used for magnet fields, plating applications, gaseous lamps. Dependable magnetic current stabilizer has no moving parts, no tubes, no transistors to replace. Simply set current to desired level, no balancing or other adjustments needed. Ideal for lamp operation since operating state ionizing voltage in no way affects lamp current. Standard hum level 5%. Lower hum levels available on order.

Model	Maximum Voltage	Maximum Current
C-25-700	25 Volts	700 Amperes
C-70-70	70 Volts	70 Amperes
C-500-10	500 Volts	10 Amperes
C-Dual 500-10	500 or 1,000 Volts	10 or 20 Amperes
C-800-2	800 Volts	2 Amperes
C-1000-100	1000 Volts	100 Amperes



Dual 500 V - 500 V, 10 Ampere Power Supply. Isolated outputs may be series or paralleled.

AC INSULATION AND BREAKDOWN TESTERS

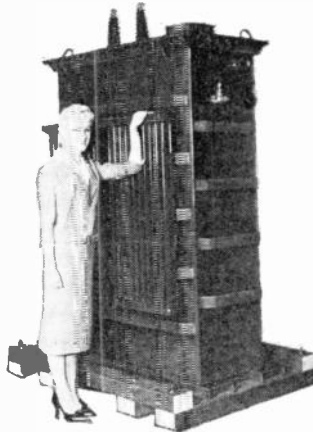


Used in testing insulation where AC voltages are desired. Dual instruments are also available which provide choice of AC or DC output with simple toggle switch selection. Units include kilovoltmeter, current meter and automatic overload cutout circuits.

Model	Voltage	VA	Price	
			AC	AC and DC
3000	0 to 3,000	75	\$150.00	\$ 250.00
3010	0 to 3,000	300	250.00	400.00
3050	0 to 3,000	1,500	500.00	650.00
3100	0 to 6,000	3,000	700.00	1,100.00
5000	0 to 5,000	75	175.00	300.00
1000	0 to 10,000	75	200.00	350.00

INDUSTRIAL SERVICE PACKAGED POWER SUPPLIES

For use in applications where large amounts of DC output power is required. Input is usually 220 Volt or 400 Volt, three phase (single phase types also available). Output is rectified DC which is completely isolated so that either side can be grounded. All units use new type WIDE AREA silicon rectifiers. No tubes or other delicate parts to replace or wear out. Low forward conducting resistance results in excellent voltage regulation. Special cell balance precautions guard against surge damage. Simply connect one of these units to the power lines and obtain direct current output. Variable voltage output is obtainable by adjusting input voltage. Standard models are listed below. Good delivery on other voltages and currents.



Model	Output Voltage	Current Amps.
100-100	100	100
100-1000	100	1000
500-50	500	50
500-500	500	500
1000-50	1000	50
1000-100	1000	100
3000-10	3000	10
3000-50	3000	50
5000-10	5000	10
5000-25	5000	25
10,000-2	10,000	2
10,000-5	10,000	5
20,000-2	20,000	2
20,000-5	20,000	5
30,000-2	30,000	2
30,000-5	30,000	5

PRECISE MEASUREMENTS COMPANY

FLEMINGTON • NEW JERSEY

THE **RADIART CORPORATION**
CLEVELAND 2, OHIO



- * ROTATORS
- * VIBRATORS
- * AUTO AERIALS
- * TV ANTENNAS
- * POWER SUPPLIES

BATTERY ELIMINATORS



There are many reasons for the nation-wide preference for Radiart Vibrators! One is the absolutely complete selection of types manufactured . . . there is a CORRECT Radiart replacement vibrator for most every need, to original specifications. In addition, the precision engineering behind the design of each type is backed up by highest standards of manufacture that assure peak performance . . . always!

The Radiart Vibrator Guide is the Standard of the Industry — Ask your jobber for your copy today!

Subject to change without notice.

AUTO-RADIO OR SPECIAL PURPOSE VIBRATORS

INTERRUPTER						SYNCHRONOUS					
6 Volt		6 Volt		12 Volt		6 Volt		6 Volt		12 Volt	
Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price	Type No.	Price
5300	\$4.70	5342	\$3.60	6301	\$4.90	5480	\$7.70	5607	\$8.55	6607	\$9.95
5301	4.70	5363	6.35	6326	4.50	5404	7.70	5610	7.70	6609	9.95
5303	4.90	5366	6.35	6330	4.90	5486	7.70	5616	8.55	6610	8.55
5304	6.35	5370	4.90	6370	4.70	5407	7.70		7.70	6614	8.55
5307	4.90	5506	7.15	6511	7.70	5408	7.70	6561	9.40	6615	8.55
5314	4.90	5510	7.15	6513	7.70	5409	7.70	6719	6.90	6616	9.95
5320	4.90	5513	7.70	6514	9.95	5410	7.70				
5371	4.90	5516	6.90	6517	7.70	5411	7.70				
5323	4.15	5560	8.55			5425	9.15				
5326	4.15	5561	9.40	Other Voltages		5426	7.70			Other Voltages	
5331	4.90	5719	6.90	5300-32	7.15	5429	9.15			5468-2	10.70
5333	4.90			5314-4	4.90	5437	7.70			5469-2	9.80
5335	4.90			5513-4	7.70	5438	7.70			5615-24	8.55
				5514-4	7.70	5454	7.70				

Section II contains additional listings of many vibrators now out of Production.

COMMUNICATIONS VIBRATORS

INTERRUPTER				SYNCHRONOUS							
6 Volt		12 Volt for 6/12*		12 Volt only**		6 Volt		12 Volt for 6/12*		12 Volt only**	
5715	\$6.90	6715	\$6.90	6715S	\$6.90	5805	\$7.70	6805	\$7.70	6820S	\$7.70
5718	6.90	6718	6.90			5820	7.70	6820	7.70		
5721	6.90	6721	6.90			5821	6.90	6821	6.90		
5722	8.55	6722	8.55			5822	8.55	6822	8.55		
5725	6.90	6725	6.90			5824	9.95	6824	9.95		

Vibrators as produced by different manufacturers employ driving circuits which require more or less power. Such power is applied by either series or shunt driving means. Where shunt drive is employed, a given vibrator must be used at its design voltage only. Where series drive is used, an external resistor may be used to drop a higher voltage for use of a particular vibrator. These considerations apply to many 6/12 Mobile Communications equipment.

* Radiart vibrators have always used an exceptionally strong driving coil to obtain long and dependable service. When a 6 volt Radiart series drive vibrator is used for 12 volt operation in a 6/12 equipment, the usual resistor may not pass enough power to drive it properly. To avoid any dependence at all upon the coil resistor, Radiart provides similarly numbered shunt drive vibrators for use when 6/12 equipment is used on 12 volts.

In addition to insuring proper drive, the practice of using a 6 volt vibrator at 6 volts and a 12 volt vibrator on 12 volts, permits the factory to provide an adjustment and selection of contact that is best for each application.

** Where 12 volt operation only is involved, a choice of either shunt drives such as 6715 or series drive such as (6715 S) is available.

- ★ ROTATORS
- ★ VIBRATORS
- ★ AUTO AERIALS
- ★ TV ANTENNAS
- ★ POWER SUPPLIES



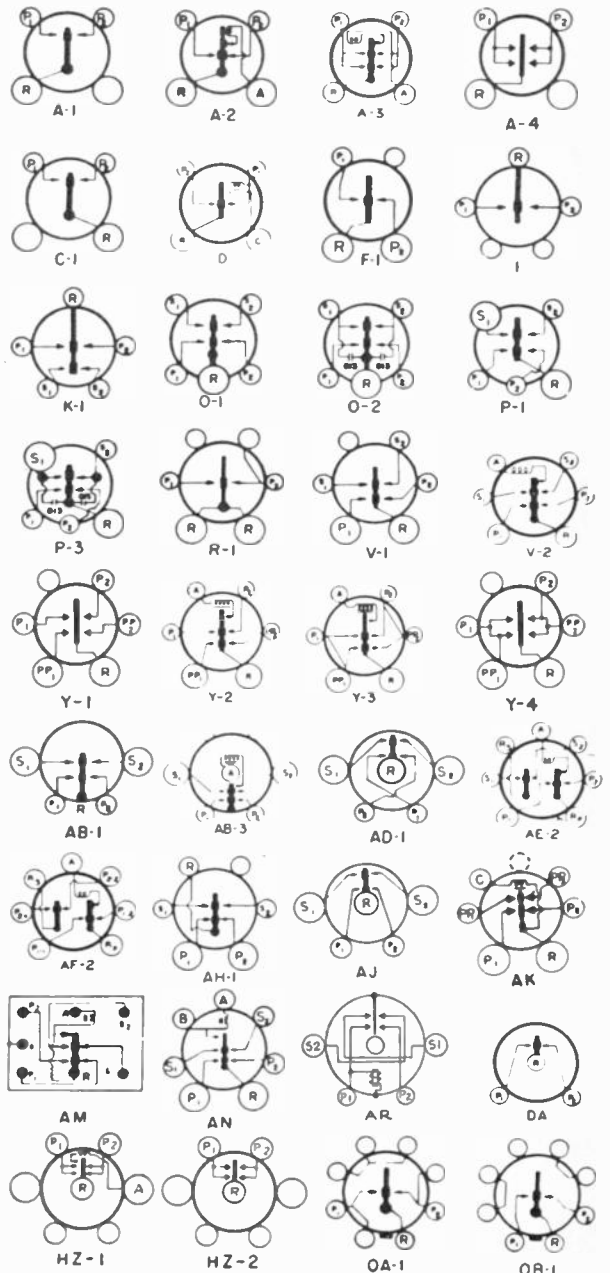
THE RADIART CORPORATION
CLEVELAND 2, OHIO

Cross Index by Base Diagrams

Diagram	Number	Voltage	Frequency	Maximum Load, Amps	Diameter*	Height*	Use or Characteristic	
A-1	5300	6	115	6	1 1/2	3 1/8	Std. 1 prong	
	5300 32	12	115	1.4	1 1/2	3 1/8	32 v.	
	5301	6	115	6	1 1/2	2 7/8	Shorter height	
	5307	6	150	6	1 1/2	3 1/8	Spl. base	
	5311	6	115	6	1 1/2	3 1/8	Small size	
	5314 4	4	115	4	1 1/2	3 1/8	Photoflash	
	5320	6	115	6	1 1/2	3 1/2	Phileo Dup.	
	5321	6	115	6	1 1/2	3 1/2	Large Can	
	5323	6	115	6	1 1/2	3 1/8	Phileo Dup.	
	5326	6	115	6	1 1/2	2 7/8	Late Phileo	
	5319	6	115	6	1 1/2	2 7/8	Late Motorola	
	5370	6	115	6	1 1/2	3 1/8	Autronic Eye	
A-4	5314 4	4	150	5	1 1/2	2 7/8	Photoflash	
	5316	6	115	6	1 1/2	3 1/8	H. D. with handle	
	6301	12	115	4	1 1/2	2 7/8	12v. Standard	
	6326	12	115	4	1 1/2	2 7/8	Phileo 12v.	
A-2	6370	12	115	4	1 1/2	3 1/8	Autronic Eye	
	6311	12	180	3	1 1/2	2 7/8	Aviation	
A-3	5715	6	60	5	1 1/2	3 1/8	Phono Inverter	
	6715 S	12	115	5	1 1/2	2 7/8	Communications	
A-4	6715	12	115	5	1 1/2	2 7/8	Communications	
	5331	6	115	6	1 1/2	3 1/8	Stewart Warner	
C-1	5506	6	115	10	1 1/2	3 1/8	Radiart Vpowers	
F-1	5303	6	115	6	1 1/2	3 1/8	Large Size	
	5333	6	115	6	1 1/2	2 7/8	Fuller Handle	
	5335	6	115	6	1 1/2	2 7/8	Standard	
I	5304	6	115	6	1 1/4	3 1/8	Stechell Carlson	
K	5109	6	115	6	1 1/2	3 1/8	Standard	
	6009	12	115	3	1 1/2	3 1/8	Aviation Spl.	
O-1	5410	6	115	6	1 1/2	3 1/8	Deleo base	
O-2	5425	6	115	6	1 1/2	1 1/2	Internal buffers	
	5426	6	115	6	1 1/2	3 1/2	Buck Dup.	
P-1	5429	6	115	6	1 1/2	1 1/2	Internal Buffers	
R-1	5306	6	115	6	1 1/2	2 7/8	Spl. Base wiring	
	5411	6	115	6	1 1/2	3 1/4	Standard	
V-1	5135	6	115	6	1 1/2	3 1/8	Smaller diameter	
	5610	5	115	6	1 1/2	3 1/8	Motorcycle sets	
	5815 24	24	180	1.4	1 1/2	2 7/8	Bendix Spl.	
	6337	12	180	3	1 1/2	3 1/8	Aviation Spl.	
	6610	12	115	3	1 1/2	3 1/8	Aviation Spl.	
	6615	12	180	3	1 1/2	2 7/8	Bendix Spl.	
	6821	12	115	5	1 1/2	2 7/8	Communications	
	Y-1	5821	6	115	10	1 1/2	2 7/8	Communications
		6718	12	115	6	1 1/2	2 7/8	Communications
		5718	5	115	10	1 1/2	2 7/8	Communications
5721		6	115	10	1 1/2	2 7/8	Communications	
Y-4	6721	12	115	6	1 1/2	2 7/8	Communications	
	5400	5	115	6	1 1/2	3 1/8	Std. reversible	
	5407	6	180	5	1 1/2	3 1/8	180 cycles	
	5408	6	140	6	1 1/2	2 7/8	140 cycles, short	
AB-1	5457	6	180	5	1 1/2	2 7/8	Small 180 cycles	
	5438	5	140	6	1 1/2	3 1/8	Std. 110 cycles	
	5620	6	115	6	1 1/2	2 7/8	Cab and Police	
	6820	12	115	5	1 1/2	2 7/8	Communications	
	5830	5	115	6	1 1/2	2 7/8	Communications	
	6820-S	12	115	5	1 1/2	2 7/8	Communications	
	AD-1	5106	6	115	6	1 1/2	3 1/8	Std. reversible
		5454	6	115	6	1 1/2	2 7/8	Short reversible
		5805	6	115	10	1 1/2	2 7/8	Communications
		6805	12	115	5	1 1/2	2 7/8	Communications
6614		12	115	1	1 1/2	2 7/8	Aviation Spl.	
AE-2		5822	5	106	6	1 1/2	2 7/8	Communications
	6822	12	106	1	1 1/2	2 7/8	Communications	
	5722	4	106	6	1 1/2	2 7/8	Communications	
	6722	12	106	1	1 1/2	2 7/8	Communications	
AH-1	5104	6	150	6	1 1/2	3 1/8	Spl. base wiring	
AJ	5607	6	180	5	1 1/2	2 3/8	Small 180 cycle	
	3816	6	180	5	1 1/2	2 3/8	Std. 180 cycle	
	6607	12	180	3	1 1/2	2 3/8	Small 180 cycle	
	6616	12	180	3	1 1/2	2 3/8	12v. std. 180 cycle	
AK	5513	6	180	5	1 1/2	3 1/8	Photoflash	
	5513-4	4	180	6	1 1/2	3 1/8	Photoflash	
	6513	11	180	3	1 1/2	3 1/8	Aviation	
	5468-2	2	115	2	1 1/2	2 1/2	Sq. 2 v. portable	
AN	5469-2	2	115	2	1 1/2	2 1/2	Round 2 v. port.	
	5824	6	115	10	1 1/2	2 7/8	Communications	
AR	6824	12	115	5	1 1/2	2 7/8	Communications	
	6330	12	115	4	1 1/2	2 7/8	Delco 12 v.	
HA-1	5725	6	115	9	1 1/2	2 7/8	Communications	
HA-2	6725	12	115	5	1 1/2	2 7/8	Communications	
OA-1	5510	6	115	10	1 1/2	3 1/8	Aviation Spl.	
OB-2	6511	12	115	6	1 1/2	3 1/8	12 v. aviation	

Symbols Used in Vibrator Base Diagrams

- A - A hot line into vibrator.
- B - By pass for driving point.
- C - External coil lead in shunt vibrator coil or shunt vibrator.
- P1 - Primary contact, usually, but not necessarily connected to the magnet coil in shunt vibrator.
- PP1 - Dual primary contact, closed when P1 is closed.
- P2 - Primary contact, may be the magnet coil connection instead of P1.
- PP2 - Dual primary contact, closed when P2 is closed.
- R - Vibrating reed in single reed vibrators.
- RP - Primary vibrating reed in split reed vibrators.
- RS - Secondary vibrating reed in split reed vibrators.
- S1 - Secondary contact closed when P1 is closed.
- S2 - Secondary contact closed when P2 is closed.
- *All dimensions given in inches.



- ROTATORS
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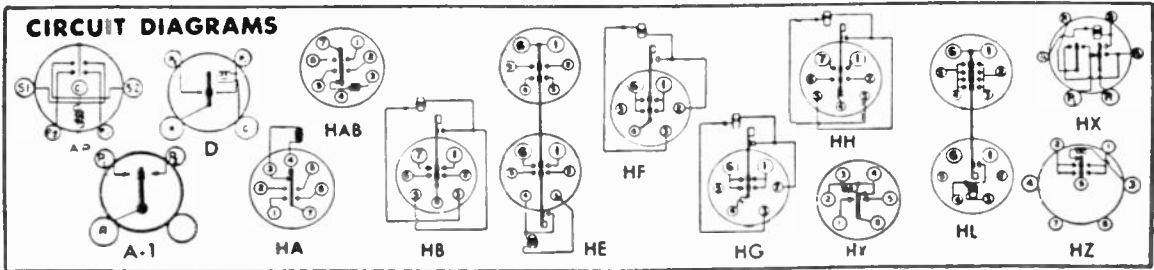


THE RADIART CORPORATION
CLEVELAND 2, OHIO

Heavy-Duty Vibrator Specifications

Vibrator	Voltage	Frequency	*D.C. Amps.	Base	Type	Size
POPULAR TYPES IN STANDARDIZED SERIES						
6VB6H	6	60 ± 2	15	HB	Horiz. Single	2 ³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
6VD6H	6	60 ± 2	30	HE	Horiz. Tandem	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 3 ³ / ₈
6VL6	6	60 ± 2	12	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
6VL10	6	100 ± 3	10	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
12VB6H	12	60 ± 2	10	HB	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
12VD6H	12	60 ± 1/2				
12VL6	12	60 ± 2	9	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
12VL10	12	100 ± 3	8	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
28VB6H	28	60 ± 2	8	HB	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
28VD6H	28	60 ± 1/2	15	HE	Horiz. Tandem	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 3 ³ / ₈
28VL6	28	60 ± 2	7	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
28VL10	28	100 ± 3	6	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
32VB6H	32		6	HB		
32VD6H	32	60 ± 1/2	12	HE	Horiz. Tandem	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 3 ³ / ₈
32VL6	32	60 ± 2	6	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
32VL10	32	100 ± 3	5	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
110VB6H	110	60 ± 1/2	3	HB	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
110VC6H	110	60 ± 1/2	6	HE	Horiz. Tandem	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 3 ³ / ₈
110VL6H	110	60 ± 1	3	HA	Vert. Single	1 ³¹ / ₃₂ Dia. x 4 ¹ / ₁₆
POPULAR OLD TYPES (Not directly replaceable by Standardized Series)						
427	6	60 ± 2	12	HF	Vert. Single	2 ¹ / ₁₆ Dia. x 4 ¹ / ₁₆
490	6	60 ± 3.0	25	HL	Horiz. Tandem	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 3 ³ / ₈
491	6	60 ± 2	20	HL	Horiz. Tandem	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
1315	110	60 ± 2	3	HH	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
1315H	110	60 ± 1/2	3	HH	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
1684	6	120 ± 5	8	HB	Single-Sync.	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
3077	110	60 Adj.	2	HH	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
11028	110	60 ± 2	3	HF	Horiz. Single	2 ²³ / ₃₂ x 5 ¹ / ₁₆ x 2 ¹ / ₁₆
SMALL VIBRATORS USED IN VIPOWERS						
2522	110	60 ± 3	5	HX	Vert. ARV	1 1/2 dia. x 27/8
2529	6	60 ± 5		None	Wire-in	1 x 1 x 23/8
2530	12	60 ± 5	3	None	Wire-in	1 x 1 x 23/8
2531	6	60 ± 3	10	A-1	Vert ARV	1 1/2 Dia. x 27/8
2532	12	60 ± 3	5	A-1	Vert ARV	1 1/2 Dia. x 27/8
2533	110	60 ± 5	6	None	Wire-in	1 x 1 x 3/8
2563	6	60 ± 3	15	HZ	Vert ARV	1 1/2 Dia. x 27/8
2564	28	60 ± 3	5	HZ	Vert ARV	1 1/2 Dia. x 27/8
2565	110	60 ± 3	8	HY	Vert ARV	1 1/2 Dia. x 27/8
5301	6	115 ± 7	6	A-1	Vert ARV	1 1/2 Dia. x 27/8
5725	6	115 ± 7	9	HZ	Vert ARV	1 1/2 Dia. x 27/8
6301	12	115 ± 7	4	A-1	Vert ARV	1 1/2 Dia. x 27/8
POPULAR OLD TYPES (Directly replaceable by Standardized Series)						
Old 2989 3047	New 32VB6H 12VD6H		Old 3079 3087	New 110VC6H 12VB6H	Old 3103 4123	New 6VB6H 6VD6H

* D.C. Amperage rating is based upon measurement made with a D.C. ammeter in primary lead. Circuit must be properly designed for load being handled. Technical advice is available through Jobber Service Department.



OBSOLETE TYPES

It is entirely impractical to continue to stock the hundreds of different heavy-duty vibrators that have been supplied in past years for a large variety of uses. Every attempt is made to maintain equipment in service, even though it originally used vibrators which have generally become obsolete. Some obsolete vibrator types are still carried in limited stock at the factory. In a great many cases, simple instructions are available so that a radio technician can change wiring,

sockets, or other minor features in an old design to adapt it for use with new standard vibrators.

For information regarding a possible replacement for obsolete vibrators, send details including model number of equipment, original vibrator type number, voltage and frequency to the Jobber Service Department.

THE RADIART CORPORATION
CLEVELAND 2, OHIO



- * ROTATORS
- * VIBRATORS
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RADIART VIPOWERS
SPECIFICATIONS—6, 12, and 28 VDC TO 110 VAC VIPOWERS
(See Engineering Bulletin EB3006 for 6 and 12 volt models and EB-3008 for 28 volt models)

MODEL	INPUT		OUTPUT VAC	OUTPUT WATTS		REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
	VDC	AMPS.		CONT.	INT.				
12SP2	12	2 1/2	110	20	20	2530	5A-3AG	SP	SH, PH, A
12LM4	12	5	110	40	50	2530	10A-3AG	LM	SH, DI, RA, PH, A
12M6	12	7 1/2	110	60	80	2532	10A-3AG	M	RA, DI, TR, A, IN
12L8	12	10	110	80	100	2563	15A-3AG	L	RA, DI, TR, PA, IN
12S10	12	12 1/2	110	100	125	12VB6	15A-3AG	S	RA, DI, TR, TV, IN
12H15	12	20	110	150	175	12VD6	20A-2 in.	H	TV, DI, TR, RA, IN
12S15	12	26	110	200	250	12VD6H	30A-2 in.	SH	RA, DI, TR, PA, IN
12S10	12	26	110	100	125	12VB6	20A-2 in.	H	TV, DI, TR, RA, IN
12S10	12	26	110	100	125	12VD6H	30A-2 in.	SH	RA, DI, PA, PH, SHR IN
12SW10	12	12 1/2	110	200	250	12VD6H	30A-2 in.	L	RA, TR, DI, PA, PH, IN
12SW20	12	26	110	200	100	2564	10A-3AG	S	RA, TR, DI, TV, PH, IN
28L8	28	4	110	80	125	28VB6	10A-3AG	H	RA, TR, DI, TV, PH, IN
28S10	28	5	110	100	175	28VB6	15A-3AG	H	TV, RA, TR, DI, PA, IN
28H15	28	7 1/2	110	150	250	28VD6H	20A-3AG	SH	
28SH22	28	10	110	200	250				

SPECIFICATIONS—32, 110 and 220 VDC TO 110 VAC VIPOWERS
(See Engineering Bulletin EB-3008 for 32 volt models and EB-3010 for 110 or 220 volt models)

MODEL	VDC	AMPS.	OUTPUT VAC	CONT.	INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
32L8	32	3 1/2	110	80	100	2564	10A-3AG	L	RA, DI, PA, PH, SH, IN
32S12	32	5	110	125	150	32VB6	10A-3AG	S	RA, TR, DI, PA, PH, IN
32H18	32	7 1/2	110	180	200	32VB6H	15A-3AG	H	RA, TR, DI, PA, PH, IN
32SH22	32	10	110	225	275	32VD6H	20A-3AG	SH	TV, RA, TR, DI, PA, IN
110LM5	110	.6	110	50	60	2533	2A-3AG	LM	PH, DI, A
110M7	110	.8	110	70	90	2565	2A-3AG	M	RA, DI, PH, PA, A
110L10	110	1.1	110	100	150	110VB6	3A-3AG	L	RA, TR, DI, PA, IN
110S15	110	1.7	110	150	200	110VB6H	5A-3AG	S	TV, RA, TR, DI, PA, IN
110H25	110	2.8	110	250	325	110VB6H	10A-3AG	H	TV, RA, TR, DI, PA, IN
110S35	110	4.0	110	350	450	110VC6H	10A-3AG	H	TV, RA, TR, DI, PA, IN
110SH40	110	4.5	110	400	600	110VC6H	10A-3AG	SH	TV, RA, TR, DI, PA, IN
110SW15	110	1.7	110	150	200	110VB6H	5A-3AG	SH	TV, RA, TR, DI, PA, IN
110SW40	110	4.5	110	400	500	110VC6H	10A-3AG	S	TV, RA, TR, DI, PA, IN
220S15	220	.85	110	150	200	110VB6H	2A-3AG	H	TV, RA, TR, DI, PA, IN
220H25	220	1.4	110	250	325	110VB6H	3A-3AG	H	TV, RA, TR, DI, PA, IN
220SH40	220	2.2	110	400	600	110VC6H	5A-3AG	SH	TV, RA, TR, DI, PA, IN

SPECIFICATIONS—MOBLPAK VIPOWERS—LOW DC TO HIGH DC
(See Sales Bulletin for Dictator model)

MODEL	VDC	AMPS.	OUTPUT VAC	CONT.	INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
6DC3	6	8		300VDC - 100MA		5301	15A-3AG	M	A, RA, PA
6/12DC6	6/12	16/8		300VDC - 200MA		5725	20/10A-3AG	S	A, MT, PA
12DC3	12	4		300VDC - 100MA		6301	10A-3AG	M	A, RA, PA
6/12DC12	6/12	30/15		500VDC - 225MA		5725(2)	(2) 20/10A-3AG	S	A, MT, PA

SPECIFICATIONS—DICTATOR VIPOWERS—6/12 VDC TO 110 VAC
(See Sales Bulletin EB-3009 for Mabipak line)

MODEL	VDC	AMPS.	OUTPUT VAC	CONT.	INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
6/12D6	6/12	15/7	110	60	75	2563	25A-3AG	L	D, PH, A

SPECIFICATIONS—BATTERY ELIMINATOR VIPOWERS—110 VAC TO 6/12 VDC
(See Engineering Bulletin EB-3012 for Battery Eliminators)

MODEL	VDC	AMPS.	OUTPUT VAC	CONT.	INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
110B6	110 VAC to 6VDC-10A or 12VDC-6A						3A-3AG	H	BE
110B12	110 VAC to 6VDC-20A or 12VDC-10A						5A-3AG	H	BE

SPECIFICATIONS—SPORTSMAN SENIOR VIPOWER

MODEL	VDC	AMPS.	OUTPUT VAC	CONT.	INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
12SS14	12	55	110	140	175	12VL6H	20A-3AG 110VAC-2A-3AG	SH	TV, RA, SH, TR, PA

SPECIFICATIONS—TRANSIPOWER
(See Engineering Bulletin EB3016)

MODEL	VDC	AMPS.	OUTPUT VAC	CONT.	INT.	REPL. VIB.	REPL. FUSE	CLASS	PRINCIPAL USES
12TP12	12VDC to 500VDC @ 240MA, or 500VDC @ 150MA, with 250VDC Tap @ 100MA						20A-3AG		MT
12TP3	12VDC to 300VDC @ 100MA, or 300VDC @ 70MA, with 150VDC Tap @ 60MA								MT

NOTES ON SPECIFICATIONS

Note 1: Continuous ratings are based on operation of nameplate rating indefinitely at ambient temperatures not to exceed 100° F. with free air circulation. Intermittent ratings are based on 25% duty cycle, with on-time not in excess of 15 minutes. Up to 30 minutes operation at the intermittent maximum is not detrimental, provided it can be followed with approximately two hours of cooling time.

Note 2: Output watts ratings are based upon 70%-100% Power Factor loads.

Note 3: Classes of Models indicate case size and approximate weight as follows:

- SP—Shaver Pack 2-5/8 x 2-1/2 x 3-7/32 — 2 Lbs.
- LM—Light Midget 3-1/2 x 3 x 4-13/16 — 4 Lbs.
- M—Midget 4-5/8 x 3-15/16 x 5-5/16 — 6 Lbs.
- L—Lightweight 5-1/2 x 6-1/4 x 8 — 12 Lbs.
- S—Standard 5-1/2 x 6-1/4 x 9 — 14 Lbs.
- H—Heavy Duty 6-1/2 x 7-1/2 x 11 — 20 Lbs.
- SH—Super Heavy 8 x 9-1/2 x 13 — 35 Lbs.

Note 4: RADIART VIPOWERS contain added components required to make them universally applicable to various kinds of loads within their name-plate rating. For example, the same unit may be used for television, radio, dictating service, office machines, and even for industrial purposes. Principal uses are coded in Specifications as follows. Any model is suitable for uses coded for models of lower output rating.

- RA—Radio
- TV—Television
- DI—Dictation
- TR—Tape Recorder
- BE—Battery Eliminator
- MT—Mobile Transmitters
- A—Amplifiers
- PH—Phonometers
- IN—Industrial
- SH—Shaver
- PA—Public Address

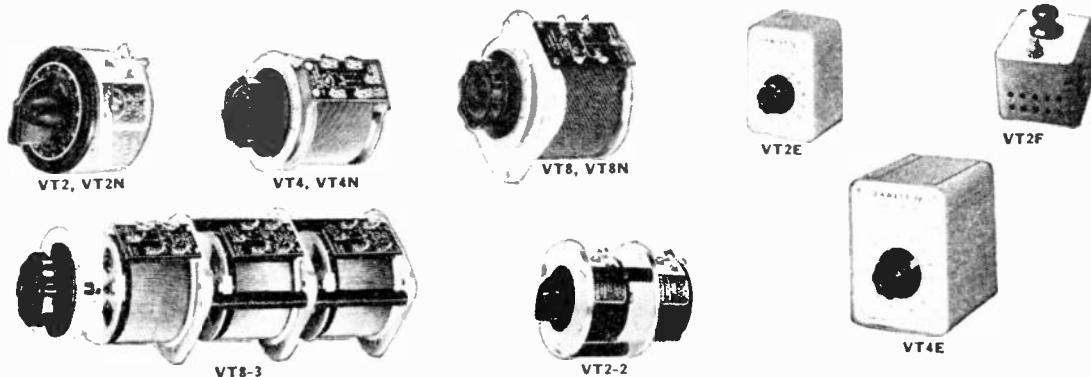
Note 5: Power Factor Correctors are available for use with highly inductive loads, so that they may be handled by Regular VIPOWERS. Model PF1 corrector used on 60% PF loads handles up to 100 watts; On 30% loads, to 25 watts. PF2 on 60% PF loads handles 150-300 watts; on 30% loads, 50-75 watts. PF3 on 60% loads handles 350-500 watts; on 30% loads 100-150 watts. See Engineering Bulletin EB-3007 for details.

Note: See Engineering Bulletin EB-3013 for mounting kits for all models, and for leads, master fuse kits and remote control kits for 6 or 12 volt models.



RESISTORS • RHEOSTATS • TAP SWITCHES
RELAYS • TANTALUM CAPACITORS
VARIABLE TRANSFORMERS • RF CHOKES

OHMITE "V.T." VARIABLE TRANSFORMERS



Toroidal core type autotransformers providing distortion-free continuously adjustable voltage from AC line. Highly advanced Ohmite design offers: Greater current capacity for equivalent size (In VT2 and VT4 sizes) **plus a sizable bonus in current in all units where output greater than line volts ("overvoltage") is not required ("N" suffix);** positive current transfer achieved with direct brush to slip spring shunt; rhodium plated brush track. **Mounting:** VT2 panel mounting by 3/4-32 bushing; VT2 tandem units by 1/4-20 bolts; all VT4 and VT8 types panel or table mounting by 1/4-20 bolts—shaft slides to brush or base side.

Adapter plate available for 4-hole mounting of single VT4, Stock No. 6512. Units not cased except where indicated. Frequency 60 to 400 cps except *50 to 400. Over-all dimensions include shaft. Suffixes "-2" and "-3" indicate number of units in tandem assembly (shipped with connection instructions). Cased units as follows: VT2E, VT4E, VT8E—fixed mounting, in-conduit-line; VT2F, VT4F, VT8F—portable with switch, outlet, fuse; VT8G—portable with overvoltage—no overvoltage switch, outlet, circuit breaker, adjustable handle (not included in dimension).

SINGLE PHASE SINGLE TRANSFORMERS—UNCASED

Ohmite No.	Max. Output Amps	Volts	Feature or Connection	Size, Inches	Wt.††† Lbs.	Net††† Each
VT2	1.5	0-120/132	Basic 1.5 amp model	2 1/4" dia. x 2 1/4" w	2.4	\$ 8.50
VT2N	1.8	0-120	No overvoltage	2 1/4" dia. x 2 1/4" w	2.4	9.00
VT4*	3.5	0-120/140	Basic 3.5 amp model	4 1/2" x 4 1/2" x 3 1/4" w	5.25	12.50
VT4N*	4.75	0-120	No overvoltage	4 1/2" x 4 1/2" x 3 1/4" w	5.25	13.00
VT8*	7.5	0-120/140	Basic 7.5 amp model	4 7/8" x 5 1/4" x 5 1/2" w	10.25	18.00
VT8N*	10.0	0-120	No overvoltage	4 7/8" x 5 1/4" x 5 1/2" w	10.25	18.50
VT8H*	3.0	0-240/280	240 v. input**	4 7/8" x 5 1/4" x 5 1/2" w	10.25	20.00
VT8HN*	4.0	0-240	240 v. input. No overvoltage**	4 7/8" x 5 1/4" x 5 1/2" w	10.25	21.00

SINGLE TRANSFORMERS—CASED

Ohmite No.	Max. Output Amps	Volts	Feature or Connection	Size, Inches	Wt.††† Lbs.	Net††† Each
VT2E	1.2	0-132‡	Fixed mounting	3 1/4" x 2 1/2" x 4 1/4" w	2.8	\$12.50
VT2F	1.5	0-132‡	Portable	3 1/4" x 2 1/2" x 4 1/4" w	3.2	14.50
VT4E	2.8	0-140‡	Fixed mounting	4 1/2" x 4 1/2" x 3 1/4" w	7.4	17.50
VT4F*	3.5	0-140‡	Portable	4 1/2" x 4 1/2" x 3 1/4" w	7.8	18.50
VT8E*	6.0	0-140‡	Fixed mounting	5 1/2" x 5 1/4" x 5 1/2" w	13.5	23.00
VT8F*	7.5	0-140‡	Portable	5 1/2" x 5 1/4" x 5 1/2" w	13.8	24.00
VT8G*	3.0	0-120/140‡	De luxe portable	5 1/2" x 5 1/4" x 7 1/2" w	14.2	28.50

TWO-IN-TANDEM ASSEMBLIES††

Ohmite No.	Max. Output Amps	Volts	Feature or Connection	Size, Inches	Wt.††† Lbs.	Net††† Each
VT2-2	1.5	0-240/284	Series connection†††	3 1/4" dia. x 6 1/4" w	5.25	\$25.00
VT2N-2	1.8	0-240	Series connection†††	3 1/4" dia. x 6 1/4" w	5.25	26.00
VT4-2*	3.5	0-240/280	Series connection†††	4 1/2" x 4 1/2" x 8 1/4" w	11.3	37.00
VT4N-2*	4.75	0-240	Series connection†††	4 1/2" x 4 1/2" x 8 1/4" w	11.3	38.00
VT8-2*	7.5	0-240/280	Series connection†††	4 7/8" x 5 1/4" x 10 1/2" w	20.6	44.50
VT8N-2*	10.0	0-240	Series connection†††	4 7/8" x 5 1/4" x 10 1/2" w	20.6	45.50
VT8H-2*	3.0	0-480/560	Series connection†††	4 7/8" x 5 1/4" x 10 1/2" w	20.6	48.50
VT8HN-2*	4.0	0-480	Series connection†††	4 7/8" x 5 1/4" x 10 1/2" w	20.6	50.50

TWO-IN-TANDEM ASSEMBLIES††

Ohmite No.	Max. Output Amps	Volts	Feature or Connection	Size, Inches	Wt.††† Lbs.	Net††† Each
VT2-2	1.5	0-120/132	Open delta connection	3 1/4" dia. x 6 1/4" w	5.25	\$25.00
VT2N-2	1.8	0-120	Open delta connection	3 1/4" dia. x 6 1/4" w	5.25	26.00
VT4-2*	3.5	0-120/140	Open delta connection	4 1/2" x 4 1/2" x 8 1/4" w	11.3	37.00
VT4N-2*	4.75	0-120	Open delta connection	4 1/2" x 4 1/2" x 8 1/4" w	11.3	38.00
VT8-2*	7.5	0-120/140	Open delta connection	4 7/8" x 5 1/4" x 10 1/2" w	20.6	44.50
VT8N-2*	10.0	0-120	Open delta connection	4 7/8" x 5 1/4" x 10 1/2" w	20.6	45.50
VT8H-2*	3.0	0-240/280	Open delta connection	4 7/8" x 5 1/4" x 10 1/2" w	20.6	48.50
VT8HN-2*	4.0	0-240	Open delta connection	4 7/8" x 5 1/4" x 10 1/2" w	20.6	50.50

THREE-IN-TANDEM ASSEMBLIES††

Ohmite No.	Max. Output Amps	Volts	Feature or Connection	Size, Inches	Wt.††† Lbs.	Net††† Each
VT2-3	1.5	0-240*	"Y" connection	3 1/4" dia. x 8 1/4" w	8.0	\$40.00
VT4-3†	3.5	0-240/280	"Y" connection	4 1/2" x 4 1/2" x 12 1/4" w	17.0	59.50
VT8-3†	7.5	0-240/280	"Y" connection	4 7/8" x 5 1/4" x 15 1/4" w	31.0	64.00
VT8H-3†	3.0	0-480/560	"Y" connection	4 7/8" x 5 1/4" x 15 1/4" w	31.0	70.00

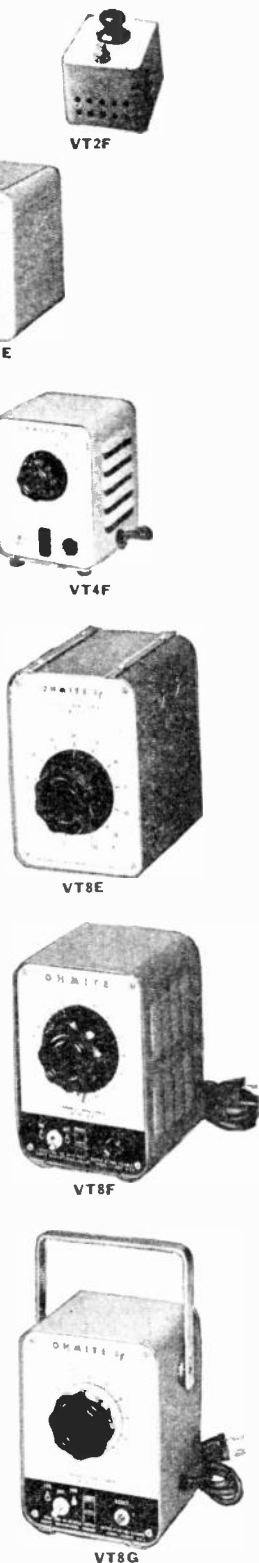
*Frequency 50 to 400 cps; all others 60 to 400. †May be used at 50 cps if connected for no-overvoltage output. ‡User wires for desired output. Dial normally calibrated for overvoltage. §Factory connected overvoltage output, may be also easily reconnected for no-overvoltage output. VT8G has overvoltage/overvoltage switch. ¶Overvoltage connection must not be used. **Also have taps for 120 v. input with 280 v. output for VT8H and 240 v. output for VT8HN. With use of 120 v. input the max. current rating applies up to 120 v. output but reduces to approx. 50% at max. output voltage. ††Tandem assemblies are normally furnished without interconnection between units. †††When series connected, load cannot be grounded. §§Add 1/4" for knob thickness. **Add 1" for knob thickness. *6 3/4" including handle fittings. •Case height only. †††Includes knob and dial.

ACCESSORIES

Ohmite No. 6512 Adapter Plate—For four-hole mtg. of VT4. Matches other popular four-hole mtgs. Dimensions: 1/4"-20 tap, two sets of four panel mtg. holes: 2 1/4" centers and 3 1/4" centers. Net Each..... **67c**
Ohmite No. 6515 Brush-Contact Assembly—For No. VT4. Net Each..... **\$1.00**
Ohmite No. 6516 Brush-Contact Assembly—For No. VT8. Net Each..... **\$1.25**

EXTRA DIALS

Ohmite No.	For VT No.	Dial Calibration	Net Each
5005	VT2	0-120, 0-132 C. W.	25c
5006	VT4, VT8	0-120, 0-140 C. W.	50c
5008	VT4, VT8	0-120, 0-140 C. C. W.	50c
5009	VT4, VT8	0-240, 0-280 C. W.	50c
5010	VT4, VT8	0-240, 0-280 C. C. W.	50c





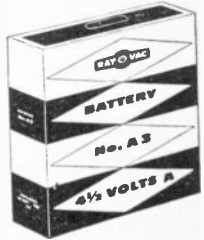
BATTERIES FOR ALL RADIO, ELECTRONIC, LIGHTING & HOBBY NEEDS
A COMPLETE LINE OF POWERFUL BATTERIES

LIGHTING AND IGNITION BATTERIES

STOCK NO.	VOLT-AGE	MAX. DIMENSIONS			TERMINALS	COMPARATIVE GUIDE			LIST PRICE
		L	W	+ O.A.H.		EVEREADY	BURGESS	RCA	
1LP (NEDA 14)	1 1/2	1 1/2 Diam.	—	1 1/2	Flashlight	935	1	VS035	.20
2LP (NEDA 13)	1 1/2	1 1/2 Diam.	—	2 3/32	Flashlight	950	2R	VS036	.20
3LP	1 1/2	1 1/2 Diam.	—	2 3/32	Flashlight	1050	210	—	.25
5LP	1 1/2	1 1/2 Diam.	—	2 3/32	Flashlight	D99	—	—	.25
7LP	1 1/2	9/16 Diam.	—	1 3/32	Flashlight	915	Z	VS034	.20
7R (NEDA 15)	1 1/2	9/16 Diam.	—	1 3/32	Flashlight	915	Z	VS034	.15
400 (NEDA 24)	1 1/2	7/16 Diam.	—	1 13/32	Flashlight	912	7	VS074	.15
716 (NEDA 910)	1 1/2	29/64 Diam.	—	1 13/32	Flashlight	W468	N	VS073	.125
941 SP (NEDA 908)	6	2 11/16	2 11/16	4 7/8	2 Coil Spring	509	F4H	VS040C	1.19
941 SCREW (NEDA 915)	6	2 11/16	2 11/16	4 7/8	Screw	510S	F4BP	—	1.19
941 CLIP (NEDA 917)	6	2 11/16	2 11/16	4 7/8	Clip	510F	F4SC	—	1.19
941 RR (NEDA 916)	6	2 11/16	2 11/16	4 7/8	Spring	409	—	—	1.19
918	6	5 3/8	2 11/16	4 1/2	2 Screw	731	TW1	—	2.45
900	1 1/2	2 11/16	2 11/16	4 1/2	2 Screw	735	4FH	VS106	1.25
6 Ign. SC. (NEDA 905)	1 1/2	2 5/8 Diam.	—	6 7/16	2 Screw	6 Ign.	6 Ign.	VS006S	1.25
6 Ign. Clip (NEDA 914)	1 1/2	2 5/8 Diam.	—	6 5/8	2 Spring Clip	6 Ign. Clip	6 Ign. Cl.	VS006C	1.25
6 Tel CLIP (NEDA 906)	1 1/2	2 5/8 Diam.	—	6 5/8	2 Spring Clip	6 CL	6 Tel.	VS042C	1.25
641 (NEDA 907)	6	10 3/8	2 11/16	7 3/8	2 Screw	1461	S461	VS039	4.98
903	7 1/2	7 1/4	4	6 5/16	2 Screw	715	4F5H	VS139	6.45
904	9	8 7/16	4	6 17/32	2 Screw	716	4F6H	VS140	7.50



20



A3*

A BATTERIES

STOCK NO.	VOLT-AGE	MAX. DIMENSIONS			TERMINALS	COMPARATIVE GUIDE			LIST PRICE
		L	W	+ O.A.H.		EVEREADY	BURGESS	RCA	
A1*	6	3 7/8	2 1/4	5 1/2	RMA 104	718	2F4	VS010	3.90
A2*	6	1 5/32	1 5/32	2 11/32	Flashlight	724	Z4	VS068	.90
A3*	4 1/2	4	1 3/8	4 1/8	RMA 103	736	F3	VS067	1.17
A4*	1 1/2	2 5/8	2 5/8	4	RMA 101	742	4F	VS004	1.65
A6*	6	2 5/8	2 5/8	4	RMA 104	744	F4P1	VS009	1.50
A7*	4 1/2	4	1 3/8	4 1 1/16	RMA 103	746	G3	VS002	1.35
8	7 1/2	4 1/16	1 5/16	3	RMA 105	713	B5	VS129	1.80
9	7 1/2	2 5/16	2	3 1/16	RMA 105	717	C5	VS065	1.50
11	1 1/2	2 5/16	1 5/16	4 1/4	RMA 101	W353	2F	VS141	1.10
12	1 1/2	3 3/4	1 3/8	5 11/16	RMA 101	—	4FL	VS005	1.86
13	1 1/2	1 11/32 Diam.	—	2 13/32	Flashlight	A100	230 2R	—	.25
14	1 1/2	1 1/2 Diam.	—	2 13/32	Flashlight	635	130	—	.25
A7*	1 1/2	9/16 Diam.	—	2 13/32	Flashlight	1015	930	—	.20
16	6	3 7/8	1 7/16	10 1/2	RMA 104	747	2F4L	VS011	3.95
18	1 1/2	2 5/16	1 5/16	1 21/32	RMA 101	720	2D	VS069	1.00
19	4 1/2	3 7/8	1 3/8	3	RMA 103	726	D3	VS072	1.10
20	1 1/2	1 3/8 Diam.	—	4 11/32	Flashlight	964	21R	VS236	.40
23	1 1/2	1 5/16 Diam.	—	4 1/16	RMA 101	960P	ER	VS070	.65
400 (NEDA 24)	1 1/2	7/16 Diam.	—	1 13/32	Flashlight	912	7	VS074	.15



211M



1600

B BATTERIES

STOCK NO.	VOLT-AGE	MAX. DIMENSIONS			TERMINALS	COMPARATIVE GUIDE			LIST PRICE
		L	W	+ O.A.H.		EVEREADY	BURGESS	RCA	
200	67 1/2	2 11/16	1 3/8	3 3/4	RMA 119	457	XX45	VS016	3.50
201	45	2 21/32	1 1	3 11/16	RMA 119	455	XX30	VS055	2.95
202	45	3 3/16	1 13/16	3 1/2	RMA 110	482	M30	VS013	3.50
203	67 1/2	2 5/8	1 3/8	2 1/2	RMA 119	457	K45	VS082	3.15
204	90	3 11/16	1 3/8	3 3/4	RMA 119	490	N60	VS090	4.50
205	22 1/2, 45	3 1/16	2 5/16	4 1/16	RMA 111	738	Z30	VS015	3.95
206	45	3 1/16	2 1/4	4 1/16	RMA 111	W359	A30	VS014	3.55
207	45	4 1/8	2 5/8	5 1/16	RMA 111	484	B30	VS012	4.25
208	15	1 1/2	3 9/16	1 7/16	RMA 120	411	U10	VS083	1.15
A210*	30	1 3/64	3 9/64	2 11/32	RMA 120	413	U20	VS085	1.75
211M	67 1/2	1 25/32	6 3/64	5 31/64	2 Snap Fasteners	—	P45M	VS216/215	3.95
211P	67 1/2	1 7/8	1	5 15/32	2 Snap Fasteners	477	P45	VS218	3.10
212	75	1 13/16	1 3/8	6 1/4	2 Snap Fasteners	437	XX50	VS217	4.50
213	45	1 3/16	3 5/64	3 7/16	2 Snap Fasteners	415	U30	VS086	2.50
214	90	1 7/8	1	7 15/32	2 Snap Fasteners	479	P60	VS219	3.95
215	22 1/2	1 3/64	3/64	3 1/2	Fasteners	412	U15	VS084	1.50
217	67 1/2	1 3/64	6 3/64	3 1/2	RMA 120 Snap Fasteners	416	UX45	VS318	2.95



204



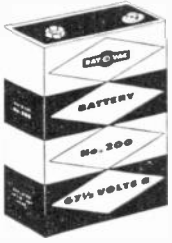
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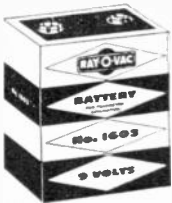
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200



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Sec. 4000

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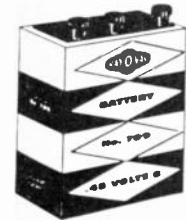
A B BATTERIES



A400*



401



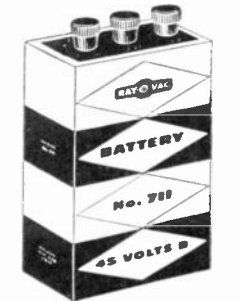
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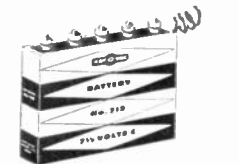
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STOCK NO.	VOLTAGE	DIMENSIONS			TERMINALS	COMPARATIVE GUIDE			LIST PRICE
		L	W	† O.A.H.		EVEREADY	BURGESS	RCA	
A400*	9, 90	13 ³ / ₈	2 ³ / ₄	4 ⁹ / ₁₆	4 Prong Recessed Plug	752	G6B60	VS047	8.25
401	7 ¹ / ₂ , 9, 90	9 ³ / ₈	2 ³ / ₃₂	4 ³ / ₈	RMA 116	753	F6A60	VS019	7.75
403	6, 7 ¹ / ₂ , 75	8 ³ / ₁₆	3 ¹ / ₁₆	2 ⁷ / ₁₆	RMA 116	755	T5Z50	VS050	6.50
405	7 ¹ / ₂ , 9, 90	8 ¹ / ₁₆	2 ³ / ₈	3 ³ / ₄	RMA 116	756	T6Z60	VS057W	6.95
406	9, 90	9 ¹ / ₂	2 ³ / ₃₂	4 ³ / ₈	4 Prong Recessed Plug	757	F6A60P	VS058	7.25
407	1 ¹ / ₂ , 63	9 ¹ / ₈	2	4 ³ / ₄	4 Hole Socket	W366	4GA42	VS053	8.80
408	7 ¹ / ₂ , 63	8 ³ / ₈	2 ³ / ₄	4 ⁷ / ₈	RMA 116	W367	G5A42	VS038	9.20
409	1 ¹ / ₂ , 90	5 ¹ / ₂	2 ¹ / ₁₆	7 ¹ / ₈	RMA 115	—	5DA60	VS043	6.13
410	1 ¹ / ₂ , 90	10	2 ³ / ₈	4 ¹³ / ₁₆	RMA 115	W369	6TA60	VS054	7.85
413	1 ¹ / ₂ , 90	15 ³ / ₄	4 ¹ / ₄	6 ¹³ / ₁₆	RMA 115	759	17GD60	VS022	9.65
415	7 ¹ / ₂ , 9, 90	8 ¹ / ₈	4 ³ / ₈	13 ³ / ₈	RMA 116 & 4 Prong Plug	776	S6D60	VS119	13.65
422	6, 75	12 ³ / ₈	2 ³ / ₄	4 ¹ / ₈	4 Prong Recessed Plug	—	G4B50	VS046	5.95
425	1 ¹ / ₂ , 90	3 ¹ / ₁₆	2 ¹ / ₄	7 ¹³ / ₁₆	RMA 115	729	4TZ60	VS064	5.75
426	1 ¹ / ₂ , 90	12 ⁹ / ₁₆	5 ³ / ₈	6 ⁵ / ₈	RMA 115 & 8 Hole Socket	—	18GD60	VS045	9.65
428	9, 90	8 ¹ / ₁₆	2 ³ / ₈	3 ³ / ₄	4 Prong Recessed Plug	756P	T6Z60P	VS059	6.85
431	7 ¹ / ₂ , 75	8 ³ / ₈	3 ¹ / ₁₆	2 ³ / ₈	5 Prong Recessed Plug	—	—	VS060	6.90

INDUSTRIAL AND SPECIAL-PURPOSE BATTERIES

STOCK NO.	VOLTAGE	DIMENSIONS			TERMINALS	COMPARATIVE GUIDE			LIST PRICE
		L	W	† O.A.H.		EVEREADY	BURGESS	RCA	
700	1 ¹ / ₂	2 ⁵ / ₈	1 ³ / ₈	4 ⁹ / ₁₆	2 Screw	W354	2FBP	VS101	1.25
701	3	2 ³ / ₈	1 ³ / ₈	4 ⁹ / ₁₆	2 Screw	W352	F2BP	VS100	1.25
703	3	2 ¹ / ₁₆	2 ¹ / ₁₆	4 ³ / ₈	2 Screw	W356	2F2H	VS136	1.55
704	3	1 ³ / ₈	3 ¹ / ₄	2 ⁹ / ₁₆	2 Flat Spring	750	422	VS134	.85
705	4 ¹ / ₂	2	3 ¹ / ₄	2 ⁵ / ₈	2 Flat Spring	751	432	VS142	1.00
706	4 ¹ / ₂	2 ¹ / ₃₂	1 ⁵ / ₁₆	3 ¹ / ₁₆	2 Flat Spring	703	532	VS133	1.02
708	3, 4 ¹ / ₂ , 6, 9, 10 ¹ / ₂ , 16 ¹ / ₂ , 22 ¹ / ₂	4 ¹ / ₈	2 ¹ / ₂	3 ³ / ₈	8 Spring Clip	778	51565C	VS131	3.65
709	22 ¹ / ₂ , 45	4 ¹ / ₈	2 ³ / ₈	5 ⁷ / ₁₆	3 Screw	W376	5308	VS112	4.35
A710	22 ¹ / ₂	3 ³ / ₈	2 ³ / ₈	2 ³ / ₄	Screw	4156	763	VS102	2.35
711	22 ¹ / ₂ -45	2 ³ / ₃₂	1 ²⁷ / ₃₂	5	3 Screw	W350	Z30NX	VS114	3.85
712	1 ¹ / ₂ , 3, 4 ¹ / ₂	3 ¹ / ₈	1 ³ / ₈	3	4 Screw	761T	2370ST	VS130	1.65
713	1 ¹ / ₂ , 3, 4 ¹ / ₂ , 6, 7 ¹ / ₂	3 ¹ / ₈	7 ¹ / ₈	3	5 Screw 1 Pigtail	773	5540	VS029	1.95

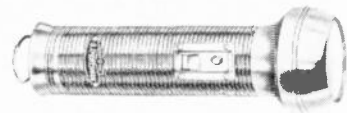
TRANSISTOR BATTERIES

STOCK NO.	VOLTAGE	MAX. DIMENSIONS			TERMINALS	COMPARATIVE GUIDE			LIST PRICE
		L	W	† O.A.H.		EVEREADY	BURGESS	RCA	
1600	9	3 ¹ / ₃₂ diam.		1 ¹ / ₃₂	2 Snap Fasteners	226	P6	VS300	1.59
1601	9, 6, 3		2 ³ / ₄	1 ¹ / ₁₆	4-Hole Socket	2506	D6PI	VS301	2.25
1602	9	1 ³ / ₈	1 ³ / ₈	2 ³ / ₄	2 Snap Fasteners	246	2N6	VS305	1.85
1603	9	2 ⁹ / ₁₆	2 ¹ / ₃₂	3 ³ / ₃₂	2 Snap Fasteners	276	D6	VS306	1.80
1604	9	1	1 ⁸ / ₃₂	1 ¹ / ₃₂	2 Snap Fasteners	216	2U6	VS312	1.75
1605	9	1 ¹ / ₁₆	1 ¹ / ₄	2 ³ / ₈	Snap Fasteners	M6	266	—	1.50
1900	9, 13 ¹ / ₂	1 ¹ / ₄	7 ¹ / ₈	2 ⁹ / ₁₆	3 Hole Socket	239	XX9	VS304	1.35

Note: 2LP or 5LP size D, 1LP size C and 7R or 7LP size AA 1¹/₂ Volt batteries are also used in transistor applications. These batteries are listed under the lighting and ignition battery section.
 † Over-all height. * Prefix A added to NEDA number to eliminate duplication of existing Ray-O-Vac number.

RAY-O-VAC FIRST WITH NEDA NUMBERING

WORLD-FAMOUS FLASHLIGHTS
LANTERNS . . . HEADLIGHTS



S22F



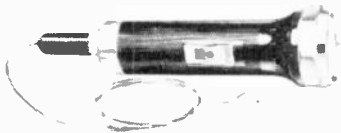
S302



ML22



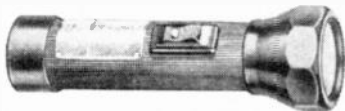
G32



N22T



AN22



BM32



298



Z53R

STOCK No.	DESCRIPTION	LIST PRICE
SPORTSMAN[®] LINE		
S21F	2-cell chrome knurled baby spotlight, ring hanger	\$ 1.85
S22F	2-cell chrome knurled regular spotlight, ring hanger	1.95
S32F	3-cell chrome knurled spotlight, ring hanger	2.35
S62F	6-cell chrome spotlight — converts to 3-cell	4.95
300	Prefocused SPORTSMAN [®] lantern powered by 6-volt battery — price includes battery	8.98
301	Sealed beam SPORTSMAN [®] lantern, knurled barrel grip — price includes battery	9.95
302	Sealed beam SPORTSMAN [®] lantern with prefocused spotlight and red signal flasher	10.98
303	Sealed beam SPORTSMAN [®] lantern has shock absorber and red signal flasher — price includes battery	12.40
304	SPORTSMAN [®] lantern with swivel head — allows diffused glow or piercing beam — price includes battery	8.95
RAY-O-VAC MAGNET LIGHTS		
ML12	2-cell baby, magnet independent of switch	1.89
ML22	2-cell regular, magnet independent of switch	1.99
RAY-O-VAC PENLIGHTS		
P20	2-cell pen size	.89
Z21P	2-cell size "AA"	.89
HEAVY-DUTY FLASHLIGHTS Rubber End Caps		
BR22	2-cell prefocused spotlight with 3-position switch	1.85
G22	2-cell prefocused spotlight with replaceable switch	2.60
G32	3-cell prefocused spotlight with replaceable switch	2.67
HEAVY-DUTY WORKMAN[®] FLASHLIGHTS		
N22	2-cell prefocused spotlight, replaceable lock switch	3.25
N22T	2-cell prefocused spotlight, continuity tester built into removable end cap	6.75
N32	3-cell prefocused spotlight, replaceable lock switch	3.65
UNDERWRITER-APPROVED SAFETY LIGHTS		
AN22	2-cell prefocused spotlight with safety head	3.98
AN32	3-cell prefocused spotlight with safety head	4.40
BM22	2-cell prefocused spotlight with safety head	3.45
BM32	3-cell prefocused spotlight with safety head	4.20
WOODSMAN[®] SEARCHLIGHTS		
Z33R	3-cell chrome searchlight with ring hanger	2.95
Z53R	5-cell chrome searchlight with ring hanger	3.95
HUNTER[®] LANTERN		
398	Versatile HUNTER [®] lantern with 3" reflector for piercing beam. Signal button on switch.	4.95
NITE HAWK[®] HEADLIGHT		
298	Headlight with battery pouch	3.29

RAY-O-VAC COMPANY, MADISON 10, WISCONSIN

A DIVISION OF THE ELECTRIC STORAGE BATTERY COMPANY

RCA BATTERIES


RADIO • FLASHLIGHT • FARM • TRANSISTOR • INDUSTRIAL • SPECIAL

RCA TYPE NO.	DEALER PRICE EA.*	LIST PRICE EA.*	VOLTAGE	INTERCHANGEABILITY GUIDE			STANDARD PKG.		MAX. DIMENSIONS (in.)		
				EVEREADY	NEDA	BURGESS	QTY.	WT. (lbs.)	L.	W. or DIAM.	HT.
PORTABLE "B" TYPES											
VS002	.77	1.10	4½	746	7	G3	6	8	4	1¾	4½
VS004	.95	1.35	1½	742	4	4F	6	9	2½	2½	4½
VS009	.95	1.35	6	744	6	4FP1	6	9¼	—	2¾	4½
VS010	2.07	2.95	6	718	1	2F4	5	17	3¾	2¼	5½
VS035A	.125	.20	1½	935	14	I	120	11	—	1	1½
VS036A	.125	.20	1½	950	13	2R	192	38	—	1½	2¾
VS065	.95	1.35	7½	717	9	C5	12	6½	2¾	1½	3½
VS067	.74	1.05	4½	736	3	F3	6	7	4	1¾	4¾
VS068	.63	.90	6	724	2	Z4	24	3¼	1¼	1¼	2¾
VS069	.53	.75	1½	720	18	2D	12	3¼	2½	1¾	2½
VS072	.63	.90	4½	726	19	D3	12	9½	3¾	1¾	3
VS129	1.05	1.50	7½	713	8	B5	12	7½	4¼	1½	3
VS236	.28	.40	1½	964	20	21R	48	19	—	1¾ (dia.)	4½
VS315	.78	1.45	7½	707	26	—	6	4½	2¾	2½	2½
PORTABLE "A" TYPES											
VS012	2.70	3.85	45	484	207	B30	6	19¾	3¾	2¼	5½
VS013	2.21	3.15	45	482	202	M30	6	12½	3¾	1¾	5½
VS014	2.12	3.05	45	W359	206	A30	6	12	3¾	2¼	4¾
VS015	2.76	3.95	22½-45	738	205	Z30	6	8½	3	2½	4¾
VS016	2.45	3.50	67½	467	200	XX45	24	19½	2¼	1¾	3½
VS055	1.72	2.45	45	455	201	XX30	12	6¾	2¾	1	3½
VS082	2.21	3.15	67½	457	203	K45	12	6½	2¼	1¾	2½
VS084	1.05	1.50	22½	412	215	U15	12	1	1½	5/8	2
VS086	1.75	2.50	45	415	213	U30	24	3½	1¾	5/8	3½
VS090	2.98	4.25	90	490	204	N60	12	13	3¾	1¾	3½
VS215	2.45	3.50	67½	477	211M	P45M	24	14¾	1¾	1	5½
VS217	2.77	3.95	75	437	212	XX50	12	12½	1½	1½	6½
VS218	2.17	3.10	67½	477	211P	P42	12	6¾	1¾	5/8	5½
VE219	2.63	3.75	90	479	214	P60	12	9½	1¾	1½	7½
VS316	2.33	4.25	90	495	216	—	6	6¼	1½	1½	7½
VS318	2.07	2.95	67½	416	—	—	6	1¾	1¾	6¾	3½
PORTABLE "A-B" TYPES											
VS019	5.08	7.25	7½-9-90	753	401	F6A60	6	36¾	9¼	2¼	4¾
VS047	5.43	7.75	9-90	752	400	G6B60	6	55	13¾	2¼	4¾
VS050	4.38	6.25	6-7½-75	755	403	T5Z50	6	21½	8½	2¼	3½
VS057W	4.73	6.75	7½-9-90	756	405	T6Z60	6	25½	8¾	2¼	3¾
VS058	4.80	6.85	9-90	757	406	F6A60P	6	36¾	9¼	2¼	4¾
VS059	4.80	6.85	9-90	727	428	T6Z60P	6	25½	9¼	2¼	3½
VS060	4.38	6.25	7½-75	785	431	T5Z50P	6	21½	8¾	2¼	3½
VS064	4.03	5.75	1½-90	729	—	4T260	6	21½	7¼	2¼	3½
TRANSISTOR BATTERIES											
VS165	1.64	2.45	6.5	—	—	TR165R	10	1	—	0.662	2.217
VS300A	1.23	1.75	9	226	1600	—	24	6½	—	3½	1¾
VS301	1.16	1.65	3, 6, 9	2506	1601	—	12	17	8	1¾	2¼
VS304	.95	1.35	13½	239	1900	XX9	12	2½	1¾	1½	2¼
VS305	1.30	1.85	9	246	1602	2N6	12	4	1¾	1½	3¾
VS306	1.16	1.65	9	276	1603	D6	6	5¾	2½	2¾	3¾
VS309A	.88	1.61	9	—	1606	—	12	¾	—	3½	1¾
VS312	1.85	2.75	8	216	—	—	12	1¼	1	1½	1¾
VS313	.51	.75	1.4	E9	15	—	20	1½	—	¾	1¾
VS321	1.93	2.75	4½	2731	—	—	12	36¾	2¼	1¾	8½
VS322	1.05	1.50	9	266	1605	M6	12	5¾	1¾	1¾	2¾
VS323	.95	1.35	9	216	1604	2U6	12	1	1¾	1¾	2¾
VS324	1.19	1.70	4.5	243	1610	2Z3	12	3½	1¾	1½	2¾
VS334	.13	.20	1.5	1015	15	930	120	5	—	¾	2
VS335	.155	.25	1.5	635	14	130	72	7	—	1	1½
VS336	.155	.25	1½	A-100	13	230	192	40½	—	1½	2¼
VS400	1.80	2.65	4	E233	1300	—	10	2¼	—	1¾	1¾


■ Sealed-in-Steel. * Optional.

RCA BATTERIES

RADIO • FLASHLIGHT • FARM • TRANSISTOR • INDUSTRIAL • SPECIAL

	RCA TYPE NO.	DEALER PRICE EA.*	LIST PRICE EA.*	VOLTAGE	INTERCHANGEABILITY GUIDE			STANDARD PKG.		MAX. DIMENSIONS (in.)		
					EVEREADY	NEDA	BURGESS	QTY.	WT. (lbs.)	L.	W. or DIAM.	HT.
LIGHTING TYPES 	VS034A	.08	.125	1½	915	15	Z	120	4	—	¾	2
	VS035A	.125	.20	1½	936	14	1	120	11	—	1	1½
	VS036A	.125	.20	1½	950	13	2	192	38	—	1½	2¾
	VS040C	.65	.98	6	509	908	F4H	10	16	2¾	2¾	4¾
	VS040S	.65	.98	6	510S	915	F4BP	10	16	2¾	2¾	4¼
	VS073	.08	.125	1½	W468	910	N	240	5	—	¾	1¾
	VS138	1.25	1.85	3	W357	901	4F2H	5	14½	3½	2¾	6¼
	VS074	.08	.125	½	912	24	7	60	1½	—	¾	1¾
	VS317	1.63	2.45	6	731	TW1	—	4	14½	5½	2¾	4¾

	RCA TYPE NO.	DEALER PRICE EA.*	LIST PRICE EA.*	VOLTAGE	INTERCHANGEABILITY GUIDE			STANDARD PKG. QTY.	WT. (lbs.)	MAX. DIMENSIONS (in.)		
					EVEREADY	NEDA	BURGESS			L.	W. or DIAM.	HT.
FARM TYPES 	VS022	7.21	9.65	1½-90	750	413	17GD60	1	22½	16½	4¼	6¼
	VS026	3.19	4.55	22½-45	W365P	717	2308PI	3	24	8½	3¾	7¾
	VS119	8.75	12.50	7½-9-90	776	415	SD60	1	20	8¼	4½	13¾

	RCA TYPE NO.	DEALER PRICE EA.*	LIST PRICE EA.*	VOLTAGE	INTERCHANGEABILITY GUIDE			STANDARD PKG. QTY.	WT. (lbs.)	MAX. DIMENSIONS (in.)		
					EVEREADY	NEDA	BURGESS			L.	W. or DIAM.	HT.
INDUSTRIAL and SPECIAL-PURPOSE TYPES 	VS006C	.70	1.05	1½	6GL	914	—	12	22	—	2½	6½
	VS006S	.70	1.05	1½	61GN	905	61GN	12	22	—	2½	6½
	VS026	3.19	4.55	22½-45	W365P	717	2308PI	3	24	8½	3¾	7¾
	VS028	.53	.90	4½	781	714	5360	5	1½	2½	1¾	3¼
	VS029	1.02	1.47	1½-3-4½-6-7½	773	713	5540	10	6¼	4½	1¾	3
	VS039	2.90	4.35	6	1461	907	S461	3	28	10¾	2¾	7¾
	VS070	.35	.50	1½	960P	23	8R	25	9	—	1½	3½
	VS083	.31	1.15	15	411	208	U10	12	¾	1½	5/8	1¾
	VS085	1.23	1.75	30	413	210	U20	12	1¼	1½	5/8	2¾
	VS093	7.70	11.00	300	493	722	U200	3	3½	2½	2¾	3¾
	VS100	.74	1.05	3	W352	701	F2BP	8	6½	2½	1¾	4¾
	VS101	.74	1.05	1½	W354	700	2FBP	8	6½	2½	1¾	4¾
	VS102	1.61	2.35	-22½	763	710	4156	6	6	3¼	2½	2½
	VS103	2.90	4.35	6	706	902	4F4H	4	27	8½	2½	6½
	VS106	.70	1.05	1½	735	900	4FH	10	16	2½	2½	4¾
	VS112	2.64	3.75	22½-45	W376	709	5308	5	18	4¾	2½	6
	VS114	2.37	3.40	22½-45	W350	711	Z30NX	5	8	3	1¾	4½
	VS127W	4.41	6.30	22½-45	W363F	724	10308SC	3	37	8¾	4¾	8
	VS130	.92	1.32	-1½-3-4½	761T	712	2370ST	8	6	4	1½	3¼
	VS131	2.02	2.90	-22½	778	708	5156SC	5	7½	4½	2½	3½
	VS132	1.98	2.95	9	—	909	D6BP	5	7¾	4½	2½	3
	VS133	.52	.75	4½	703	706	532	5	1½	2¾	1¾	3¼
	VS134	.42	.60	3	750	704	422	10	3	1¾	¾	2¾
	VS139	3.67	5.50	7½	715	903	4F5H	5	39½	7¼	4	6¾
	VS141	.59	.85	1½	W353	11	2F	6	5	2½	1¾	4¼
	VS143	.38	.59	1.34	E1	—	RM1R	40	2	—	0.625	0.650
	VS144	.82	1.25	1.34	E12	—	RM12R	10	1¼	—	0.640	1.968
	VS145	.25	.36	1.34	E400	—	RM400R	50	½	—	0.455	0.135
	VS147	.30	.45	1.34	E630	—	RM630R	40	½	—	0.615	0.238
	VS148	.84	1.25	2.7	E132	—	TR132R	10	¾	—	0.662	1.315
VS149	1.18	1.75	4	E133	—	TR133R	10	1	—	0.662	1.965	
VS317	1.63	2.45	6	731	TW1	—	4	14½	5½	2¾	4¾	

VS054	4.80	7.15	1½-90	W369	410	6TA60	5	24	10	2½	4¾
VS126	3.13	4.55	22½-45	W365F	723	2308SC	5	37	8½	3¼	7¾
VS136	.94	1.35	3	W356	703	2F2H	5	8	2½	2½	4¾
VS140	4.30	6.45	9	716	904	4F6H	5	50	8½	4½	6¾
VS142	.43	.70	4½	751	705	432	10	4	2	¾	2½
VS157W	4.83	6.90	22½-45	—	705	—	5	68½	8½	4¾	7½

● Wax coated. ♦ Other voltage *aps: 3, 4½, 6, 9, 10½, 16½. * Optional ■ Sealed-in-Steel

RCA COMPONENTS DIVISION, Camden, N. J.



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

VOLTAGE REGULATORS

Effective July 1, 1959

STANDARD MODELS (60 CYCLE, 1Ø INPUT)

Catalog Number	Style	Output (Volt-Amps)	Input Volts (Nominal)	Output Volts	Approximate: Weight		List Price
					Net	Shipping	
VR-6110	F	15	115	115	4	6	\$ 16.00
VR-61F0**	F	15	115	6.3	4	6	16.00
VR-61D0**	D	15	115	6.3	6	8	23.00
VR-6710A**	W	25	115	6.0	4	6	17.00
VR-6101*	E	30	115	6.0 7.5	5	7	18.00
VR-6111	E	30	115	115	5	7	18.00
VR-6111CP†	E	30	115	115	5	7	18.00
VR-6221	E	30	230	230	5	7	20.00
VR-6112	E	60	115	115	8	10	25.00
VR-6112CP†	E	60	115	115	8	10	25.00
VR-6222	E	60	230	230	8	10	28.00
VR-6931**	E	60	115	115	10	12	25.00
VR-6113	E	120	115	115	14	16	33.00
VR-6113CP†	E	120	115	115	14	16	33.00
VR-6223	E	120	230	230	14	16	34.00
VR-6827**	E	120	115	115	25	29	33.00
VR-6114	E	250	115	115	25	29	52.00
VR-6114CP	E	250	115	115	25	29	52.00
VR-6224	E	250	230	230	25	29	54.00
VR-6115	E	500	115	115	45	50	81.00
VR-6225	E	500	230	230	45	50	85.00
VR-6116|	H	1000	115	115	92	105	135.00
VR-6226	H	1000	230	230	92	105	140.00
VR-6117	H	2000	115	115	185	210	245.00
VR-6227	H	2000	230	230	185	210	250.00
VR-7B	C	2000	115/230	115/230	200	230	310.00
VR-6470A	—	2000	115	115	232	267	335.00
VHF-6114	H	250	115	115	49	54	95.00
VHF-6115	H	500	115	115	75	85	120.00
VHF-6116	H	1000	115	115	150	170	200.00

* Special model—outputs 6.0 and 7.5 volts stabilized to $\pm 1/2\%$, isolated secondary.
 ** Isolated Secondary Units.
 † Portable models, supplied with cord and plug, and output receptacle.
 Cord, plug, and socket assembly available for Catalog No's VR-6101, VR-6111, VR-6112, VR-6113 at \$1.50 each net. Specify assembly No. 51-590G1.
 Cord, plug and socket assembly available for Catalog No's VR-6114, VR-6115 and VR-6116 at \$2.00 each net. Specify assembly No. 51-590G2.
 For Further information refer to Raytheon Catalog 4-260A.
 PRICE: All f.o.b. Waltham, Massachusetts, and subject to change without notice. Export packing extra on Models VR-6101 to VR-6115 inclusive.
 TERMS: Net 30 days from date of invoice.

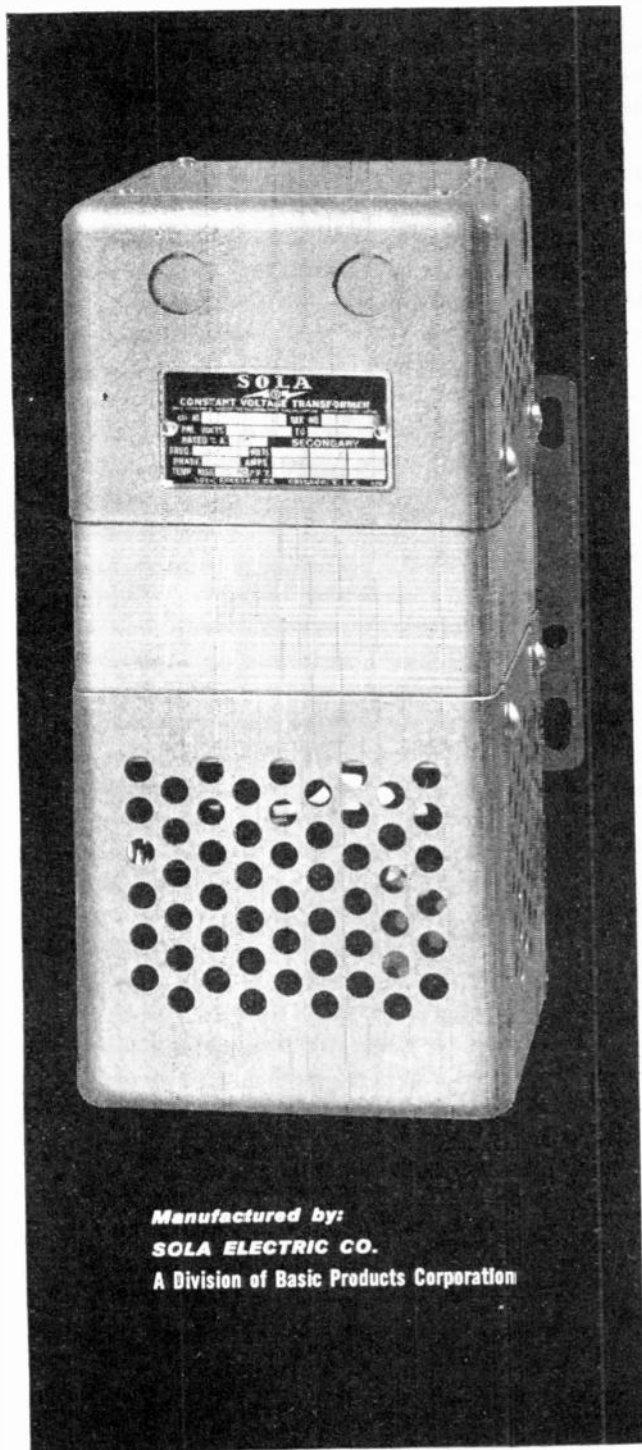
50 cycle, single phase models

Catalog Number	Style	Output (Volt-Amps)	Input Volts (Nominal)	Output Volts	Approximate: Weight		List Price
					Net	Shipping	
VR-5110	F	15	115	115	5	8	\$ 18.40
VR-5710A	W	25	115	6	5	7	30.00
VR-5111	E	30	115	115	6	9	20.70
VR-5112	E	60	115	115	10	12	28.75
VR-5112CP	E	60	115	115	10	12	28.75
VR-5113	E	120	115	115	17	19	38.00
VR-5113CP	E	120	115	115	17	19	38.00
VR-5223	E	120	230	230	17	19	42.00
VR-5114	E	250	115	115	30	35	59.80
VR-5115	E	500	115	115	55	60	93.15
VR-5225	E	500	230	230	55	60	97.15
VR-5116	H	1000	115	115	110	125	155.25
VR-5117	H	2000	115	115	225	225	270.00

All prices are f.o.b. Waltham, Massachusetts and are subject to change without notice. Sales are subject to Raytheon Standard Terms and Conditions of Quotation or Sale.

SOLA Constant Voltage Transformers

for automatic, continuous voltage regulation



Manufactured by:
SOLA ELECTRIC CO.
 A Division of Basic Products Corporation

Sola Constant Voltage Transformers are static-magnetic voltage regulators. They are designed to provide a stabilized output voltage even though the input voltage varies over a considerable range. They have nine distinct advantages over electronic-type regulators or regulators which depend solely upon saturation of core materials for their regulating action.

1. Ultra-fast regulating action. Response time is usually 1.5 cycles or less.
2. Absence of moving or renewable parts or manual adjustments eliminates need for routine maintenance and spare parts stock.
3. Completely automatic, continuous regulation. No manual adjustments or instruction booklets are required.
4. Self-protecting against short circuits on output or load circuit.
5. Current-limiting characteristic protects load equipment from excessive fault currents.
6. Availability of transformer ratio for step-up, step-down, plate and/or filament supply permits substitution in place of conventional, non-regulating transformers.
7. Relatively compact compared to other equipment for comparable ac voltage regulation.
8. High degree of isolation between input and output circuits.
9. Negligible external field.

Design and manufacturing innovations at Sola have lowered costs and reduced size and weight of the entire line of stabilizers. Now Sola offers harmonic-free constant voltage transformers as the "standard" design—and at prices formerly charged for units without the patented Sola harmonic-neutralizing circuit. Conventional units, without harmonic neutralization, are available at a reduced level of cost that merits your new consideration in comparison with ordinary, non-regulating transformers. The following pages list the widest range of stock ratings and types offered by any manufacturer of static-magnetic voltage regulators.

Specifications subject to change without notice

Sec. 4000

Standard Sinusoidal Type

±1% regulated sine-wave output with less than 3% total rms harmonic content

SOLA

Sola Standard Sinusoidal Constant Voltage Transformers regulate voltage output within ±1% regardless of input voltage variations as great as ±15%. Their response to voltage variations is usually 1.5 cycles or less. With less

than 3% total rms harmonic content in their output voltage wave, they are particularly suitable for use with equipment having elements sensitive to power frequencies harmonically related to the fundamental.

electrical specifications				typical structures	mechanical specifications							
Catalog Number	Output Capacity in VA	Voltage Rating		Regulated ±1% Output	Dimensions in Inches	Outline		Mounting		Approx. Ship. Wt. in lb.	Type* Structure	
		Input Range	Regulated ±1% Output			A	B	C	E			F
23-13-060	60	95-130	118		6 1/4	4	5 3/8	3	3 1/2	10	(1)	
23-13-112	120	95-130	118		8 1/2	5 3/8	7 7/8	4 1/8	4 3/4	14	(1)	
23-13-125	250	95-130	118		11 1/4	9	6 7/8	5 3/8	8 1/8	32	(1)	
23-13-150	500	95-130	118		12 3/8	9	6 7/8	5 3/8	8 1/8	47	(1)	
23-13-210	1000	95-130	118		17 1/4	9	6 7/8	5 3/8	8 1/8	80	(1)	
23-25-220	2000	95-130x 175-235x	118x236		21 3/8	12 3/4	10 1/8	6 1/4	11 3/4	183	(1)	
23-25-230	3000	190-260	118x236		29 1/8	12 3/4	10 1/8	9 1/4	11 3/4	270	(1)	
23-26-250	5000	190-260x 380-520	118x236		23 1/8	25 1/8	10 1/8	8	24 1/2	475	(1)	
23-28-275	7500	190-260x 380-520	118x236		23 1/8	38 1/4	10 1/8	8	37 1/4	710	(1)	

Normal Harmonic Constant Voltage Transformers

±1% regulated voltage for electrical and electronic equipment

These units provide the same ±1% regulation as the standard sinusoidal models above. They have an average of 14% total rms harmonic content in their output voltage. Along with the sinusoidal type they offer simplicity,

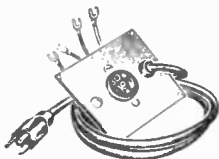
reliability and freedom from maintenance. They are reliable sources of regulated voltage for filaments, relays and solenoids. This series includes those mechanical designs specially engineered for use as built-in components.

electrical specifications				typical structures	mechanical specifications							
Catalog Number	Output Capacity in VA	Voltage Rating		Regulated ±1% Output	Dimensions in Inches	Outline		Mounting		Approx. Ship. Wt. in lb.	Type* Structure	
		Input Range	Regulated ±1% Output			A	B	C	E			F
20-10-015	15	95-130	118		5 3/8	2 3/8	3 1/2	5 1/8	1 1/8	6	(1)	
20-11-015	15	95-130	118		5 1/2	3 1/2	2 1/4	3	1 1/2	4	(2)	
20-14-015	15	95-130	118		4 3/8	2 3/8	2 3/8	1 3/8	1 3/4	(3)	(3)	
20-13-030	30	95-130	118		6	4	5 3/8	3	3 1/2	6.5	(4)	
20-13-060	60	95-130	118		6 13/16	4	5 3/8	3	3 1/2	9.5	(4)	
20-13-112	120	95-130	118		7 7/8	4	5 3/8	3	3 1/2	13	(4)	
20-21-112	120	190-260	236		7 7/8	4	5 3/8	3	3 1/2	13	(4)	
20-13-115	150	95-130	118		8 7/8	5 3/8	7 7/8	4 1/8	4 3/4	22	(4)	
20-13-125	250	95-130	118		11 1/8	6 13/16	6 7/8	4 3/8	6 1/8	24	(4)	
20-23-125	250	190-260x380-520	118		11 1/8	6 13/16	6 7/8	4 3/8	6 1/8	24	(4)	
20-13-150	500	95-130	118		12 1/2	6 13/16	6 7/8	4 3/8	6 1/8	36	(5)	
20-23-150	500	190-260x380-520	118		12 1/2	6 13/16	6 7/8	4 3/8	6 1/8	36	(5)	
20-24-150	500	190-260x380-520	236	12 1/2	6 13/16	6 7/8	4 3/8	6 1/8	36	(5)		
20-13-210	1000	95-130	118	15 1/8	6 13/16	6 7/8	4 3/8	6 1/8	52	(6)		
20-20-210	1000	190-260	118	15 1/8	6 13/16	6 7/8	4 3/8	6 1/8	52	(6)		
20-25-220	2000	95-130x 175-235x 190-260	118x236	21 1/2	10 1/2	9 1/8	6 1/8	9 1/2	168	(7)		
20-25-230	3000	95-130x 175-235x 190-260	118x236	27 1/8	10 1/2	9 1/8	9 3/4	9 1/2	246	(7)		
20-27-250	5000	190-260x380-520	118x236	21	14 1/2	14 3/8	7	13	283	(1)		
20-26-310	10000	190-260x380-520	118x236	21	29 7/8	14 3/8	7	27 1/8	600	(8)		

DIMENSIONS: A, B & C: Outside cubic dimensions of unit, not including capacitor where furnished separately. E & F: Mounting dimensions.

*Numbers refer to transformer case: (1)—Drawn case, (2)—Hermetically sealed case, (3)—End bell unit with separate capacitor, (4)—Housed unit, (5)—Duplex housed unit, (6)—Triplex housed unit.

Adapter kits may be used when the convenience of input plug and output receptacle is preferred to the standard arrangement of terminals in the transformer housing. Kits are available for most transformers with ratings from 30 to 500va and are supplied at slight additional cost. Kits permit use of 2 and 3-wire input and have 2 and 3-wire output receptacles and output jacks.



Adapter Kit Catalog No.	Input Cord	Output Connection	Kit Fits These Transformers Catalog No.
999-004	2-wire	2-wire receptacle	23-13-060,
999-018	3-wire	3-wire receptacle	20-13-030,
999-015	3-wire	2 jacks	20-13-060 and 20-13-112
999-005	2-wire	2-wire receptacle	23-13-112 and
999-019	3-wire	3-wire receptacle	20-13-115
999-016	3-wire	2 jacks	
999-009	2-wire	2-wire receptacle	23-13-125,
999-020	3-wire	3-wire receptacle	23-13-150,
999-017	3-wire	2 jacks	20-13-125 and 20-13-150

Electronic Power Type

±1% regulation for filament voltage; ±3% regulation of plate-filament supply

Sola Electronic Power Type Constant Voltage Transformers are designed for simple installation by electronic manufacturers as components for their equipment. The filament type provides 6.3 volts output, regulated within ±1% over line voltage variations as great as ±15%. The

combination plate and filament type provides voltage regulated within ±3% for line voltages varying up to ±15%. Both types operate filaments under maintained voltage levels and contribute to extended tube life and reliability.

For Filament Service

electrical specifications				typical structures	mechanical specifications						
Catalog Number	Output Capacity in VA	Voltage Rating			Dimensions in Inches					Approx. Ship. Wt. in lb.	Type* Structure
		Input Range	Regulated ±1% Output		Outline			Mounting			
A	B	C	E	F							
20-01-015	15	95-125	6.0	5 1/4	2 3/8	3 1/2	5 1/4	6	①		
20-02-015	15	95-130	6.3	5 3/4	2 3/8	3 1/2	5 1/4	1 1/4	①		
20-03-015	15	95-130	6.3	5 3/4	3 1/2	2 1/4	3	1 1/2	②		
20-04-015	15	95-130	6.3	4 3/4	2 3/8	2 3/8	1 3/8	1 3/4	③		
20-06-015	15	95-130	6.0	4 3/4	2 3/8	2 3/8	1 3/8	1 3/4	③		
20-04-030	30	95-130x190-260	6.3	4 1 3/4	3 1/8	3 1/8	2 1/2	2 1/4	③		
20-04-065	65	95-130x190-260	6.3	4 1 3/4	3 1/8	3 3/4	2 1/2	2 1 1/4	③		
20-04-095	95	95-130x190-260	6.3	4 1 3/4	3 1/8	4 1 1/4	2 1/2	3 3/8	③		
20-04-113	113	95-130x190-260	6.3	7	4 1/2	5 1/8	3 3/8	3 3/4	③		
20-04-116	116	95-130x190-260	6.3	7	4 1/2	5 1 1/4	3 3/8	4 1/8	③		

For Plate-Filament Service

electrical specifications					typical structures	mechanical specifications					
Catalog Number	Typical Rectifier Tube	Average D. C. Input Volts to Filter*	Regulated Filament Windings			Dimensions in Inches					Approx. Ship. Wt. in lbs.
			6.3 volts	5.0 volts		Outline			Mounting		
A	B	C	E	F							
7104	5Y3	275v D.C. (at 50 M.A.)	2.5 amps C.T.	2.0 amps	4 1 3/4	3 3/8	3 3/8	2 1/2	2 1/8	5	
7106	5Y3	385v D.C. (at 110 M.A.)	3.0 amps C.T.	2.0 amps	4 1 3/4	3 3/8	3 1 3/4	2 1/2	3	8	
7107	5U4	380v D.C. (at 250 M.A.)	No. 1: 4.0 amps No. 2: 8.0 amps unregulated	3.0 amps	7	4 1/2	5	3 3/8	3 3/8	19	

*Voltage values are taken at output of 5Y3GT rectifier for No. 7104 and No. 7106 transformers and at output of 5U4GA-GB for No. 7107. Guaranteed regulation of ±3% on plate voltage output is

contingent on the use of Sola-regulated 5.0v filament supply winding for the rectifier tube.

For Filament Service, Portable

Convenient source of 6.3 volts regulated within ±1%

The Portable Constant Voltage Filament Transformer provides stabilized 6.3-volt output. It is specially designed to serve as a standard source of closely-regulated filament voltage for design, experimental, and test work in labora-

tories and shops. Prototype development and component performance studies are important areas of application. The unit has a handle, input cord, output jacks and an on-off switch.

electrical specifications				typical structures	mechanical specifications			
Catalog No.	Output Capacity in VA	Voltage Rating			Dimensions in Inches			Approx. Ship. Wt. in lbs.
		Input Range	Regulated ±1% Output		A	B	C	
20-05-030	30	95-130	6.3	6 1/4	4 1 3/4	4 3/4	8	

Television Voltage Regulator

±3% plug-in regulator for television receivers and other appliances

Voltage regulation for home TV Receivers eliminates flicker and distortion due to line voltage variations. Moderate price . . . regulation ±3% or less.

The "TeleVolt" Cat. No. 72103 should be selected for sets rated at 105 to 170 watts power input; No. 72104 for sets rated at 165 to 285 watts power input.

Input 95-130v, Nominal Output Value in 115-120 volt range; 60 cycle, single phase						Typical Characteristics of 300 VA No. 72104 Transformer with 285 VA Load					
Catalog Number	Output Capacity in VA	Dimensions in Inches			Approx. Shipping Weight in lbs.	Primary			Secondary		
		A	B	C		Volts	Amps	Watts	Volts	Amps	Regulation
72103	180	8 3/4	7 1/4	4 1/2	20	95	3.84	345	113.2	2.57	-2.84%
72104	300	8 1 3/4	7 1/4	4 1/2	27	117	3.28	360	116.5	2.62	
						130	3.28	368	117.9	2.66	+1.2%

Sec. 4000

Adjustable AC Voltage Supply

±1% regulated output with less than 3% rms harmonic content. Adjustable from 0-130 volts.

One outlet regulated ±1% and adjustable from 0 to 130 volts. One outlet for fixed value 115 volts regulated ±1%. Total rms harmonic content less than 3%. Regulating

response 1.5 cycles or less. Self-protecting against short circuit. Portable for use in shop or laboratory; also mountable on standard 19" relay rack.

electrical specifications

mechanical specifications

Catalog Number	Output Capacity in VA	Voltage Rating		Max. Current in Amperes	
		Input Voltage	Regulated Voltage No. 1 Fixed		
22-90-150	500	100-130	115	0-130	7.5



Dimensions in Inches			Approx. Shipping Weight in Lbs.
A	B	C	
9	19	12 11/16	77

Sola DC power supplies:

compact, regulated, for high-amp loads

This combination of a special Sola Constant Voltage Transformer, semi-conductor rectifier, and high-capacitance filter yields a dc power supply compact in size, low in weight, and with other important advantages.

1. Output regulation of ±1% or less with ±10% line voltage variations.
2. Minimum output voltage change with wide, rapid load changes.
3. Low input power, with resultant good efficiency.
4. Ability to withstand high, short-time overloads without damage to components.
5. Ripple voltage of approximately 1% (rms) or less.
6. High overall economy by eliminating overload capacity needed in other types of power supplies for certain applications.

7. Low ratio of size and weight to power output.

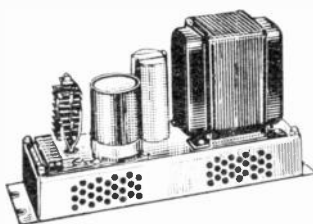
8. Freedom from routine adjustment and maintenance.

9. Exceedingly low output impedance.

In addition to its important function of correcting line voltage variations, the Sola CV's inherent current-limiting action permits safe, economical use of the efficient semi-conductor rectifier with its low forward voltage drop and other advantages. This same current-limiting action also permits use of high-capacitance filter sections by controlling excessive charging currents which might damage rectifier junctions. The high-capacitance filter yields very low ripple voltage without need for heavy, bulky choke components, with their substantial and often-varying load voltage drops.

Fixed Designs

For intermittent, variable, or pulse loads



Electrical Specifications

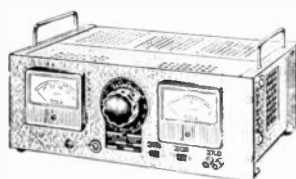
All Inputs 100-130 volts, 60 cps

Catalog Number	Output Rating			Efficiency Approx. %	Ripple Voltage (rms)- % of Total	Approx. Shipping Weight Each—Lbs.
	Watts	Volts	Amps			
28154	144	24	6.0	72	Less Than 1%	45
28120	192	48	4.0	77	Less Than 1%	45
28152	250	125	2.0	82	Less Than 1%	55
28106	300	150	2.0	80	Less Than 1%	50
28193	200	200	1.0	76	Less Than 1/2%	45
28192	250	250	1.0	81	Less Than 1/2%	55

DIMENSIONS—Above six stock units have identical dimensions: overall length, 19"; overall width, 5 1/4"; overall height, 9 3/4". All supplies furnished with drilling for standard relay rack mounting.

Adjustable Designs

Give all the advantages of fixed designs plus an output adjustable over a considerable range of voltages.



The transformer described in this folder are manufactured under one or more of the following United States Patents: Nos. 2,694,177; 2,753,513; 2,806,199, and patents pending.

Electrical Specifications

All Inputs 100-130 volts, 60 cps

Catalog Number	Adjustable Output Voltage Range	Rated Loadings In Amperes		Ripple* Voltage— % of Total Output	Approx. Shipping Weight Each—Lbs.
		At max. Voltage Setting	At min. Voltage Setting		
28510	5-35	7.0	7.0	0.10	80
28520	25-60	4.0	6.0	0.05	80
28530	30-90	2.8	4.0	0.04	80
28540	60-180	1.4	2.0	0.03	80
28550	150-250	1.0	1.5	0.02	80
28560	250-400	0.6	0.75	0.02	80

*Figures in this column are ripple voltages measured at full rated load and input of 115 volts.

DIMENSIONS—Above six stock units are for relay rack mounting on standard, 19" frame. Front panel is 7" high and chassis is 12 1/4" deep. Removable handles, for portability, are available as an accessory.

SOLA

SOLA ELECTRIC CO., A Division of Basic Products Corporation

The MASTER—2nd Edition

Use Index (pg. 2) for Quick, Easy Location of ALL Products

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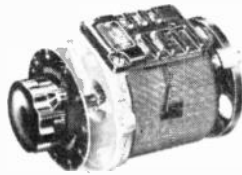
Page 984

POWERSTAT® variable transformers

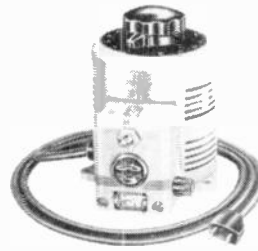
POWERSTAT variable transformers feature excellent regulation, high efficiency, conservative ratings, zero waveform distortion and rugged construction. Complete ratings and specifications are given in POWERSTAT Catalog P258G available from your distributor.



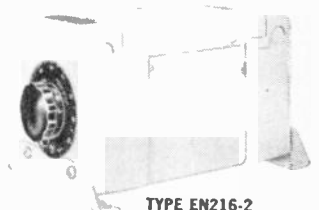
TYPE 2PF10



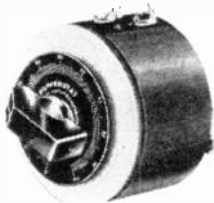
TYPE 116U



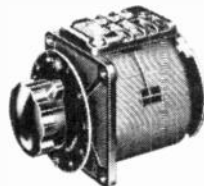
TYPE 116



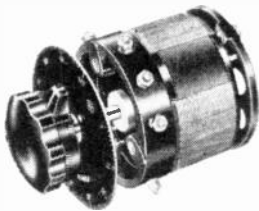
TYPE EN216-2



TYPE 10B



TYPE Q116U



TYPE 20



TYPE EN216

116-216 and 117-217 SERIES†						
INPUT		OUTPUT			TYPE	SHIP. WT. LBS.
VOLTS	CYCLES	VOLTS	MAX. AMPS.*	MAX. KVA*		
SINGLE PHASE						
120	50/60	0-120	7.5	1.2	116	12
120	50/60	0-140	7.5	1.0		
120	60	0-120	10.0	1.6	117	12
240	50/60	0-240	3.0	1.1		
240	50/60	0-280	3.0	.84	216	12
240	60	0-240	4.0	1.5		
240	50/60	0-240	7.5	2.4	116-2	24
240	50/60	0-280	7.5	2.1		
240	60	0-240	10.0	3.1	117-2	24
480	50/60	0-480	3.0	2.2		
480	50/60	0-560	3.0	1.7	216-2	24
480	60	0-480	4.0	3.0		
THREE PHASE						
120	50/60	0-120	7.5	2.1	116-2	24
120	50/60	0-140	7.5	1.8		
120	60	0-120	10.0	2.7	117-2	24
240	50/60	0-240	3.0	1.9		
240	50/60	0-280	3.0	1.5	216-2	24
240	60	0-240	4.0	2.6		
240	50/60	0-240	7.5	4.2	116-3	36
240	60	0-280	7.5	3.6		
240	60	0-240	10.0	5.4	117-3	36
480	50/60	0-480	3.0	3.7		
480	60	0-560	3.0	2.9	216-3	36
480	60	0-480	4.0	5.2		

10B SERIES						
INPUT		OUTPUT			TYPE	SHIP. WT. LBS.
VOLTS	CYCLES	VOLTS	MAX. AMPS.*	MAX. KVA*		
SINGLE PHASE						
120	60	0-132	1.0	.132	2PF10	3.3
120	50/60	0-120	1.75	.30		
120	60	0-132	1.75	.23	10B	2.4
240	50/60	0-240	1.75	.60		
240	60	0-264	1.75	.46	10B-2	5.6
THREE PHASE						
120	50/60	0-120	1.75	.52	10B-2	5.6
120	60	0-132	1.75	.40		
240	60	0-240	1.75	1.0	10B-3	8.3
THREE PHASE						

EN116-EN216 and EN117-EN217 SERIES						
INPUT		OUTPUT			TYPE	SHIP. WT. LBS.
VOLTS	CYCLES	VOLTS	MAX. AMPS.*	MAX. KVA*		
SINGLE PHASE						
120	50/60	0-120	6.5	1.2	EN116	15
120	50/60	0-140	6.5	.91		
120	60	0-120	8.5	1.5	EN117	15
240	50/60	0-240	2.6	.96		
240	50/60	0-280	2.6	.73	EN216	15
240	60	0-240	3.5	1.2		
240	50/60	0-240	6.5	2.4	EN217	15
240	50/60	0-280	6.5	1.8		
240	60	0-240	8.5	3.0	EN116-2	28
480	50/60	0-480	2.6	1.9		
480	50/60	0-560	2.6	1.5	EN216-2	28
480	60	0-480	3.5	2.5		
THREE PHASE						
120	50/60	0-120	6.5	2.1	EN116-2	28
120	50/60	0-140	6.5	1.6		
120	60	0-120	8.5	2.6	EN117-2	28
240	50/60	0-240	2.6	1.7		
240	50/60	0-280	2.6	1.3	EN216-2	28
240	60	0-240	3.5	2.2		
240	50/60	0-240	6.5	4.2	EN217-2	28
240	60	0-280	6.5	3.2		
240	60	0-240	8.5	5.2	EN116-3	39
480	50/60	0-480	2.6	3.3		
480	60	0-560	2.6	2.5	EN117-3	39
480	60	0-480	3.5	4.3		

20 SERIES						
INPUT		OUTPUT			TYPE	SHIP. WT. LBS.
VOLTS	CYCLES	VOLTS	MAX. AMPS.*	MAX. KVA*		
SINGLE PHASE						
120	50/60	0-120	3.0	.60	20	5.5
120	60	0-140	3.0	.42		
240	50/60	0-240	3.0	1.2	20-2	11
240	60	0-280	3.0	.84		
THREE PHASE						
120	50/60	0-120	3.0	1.0	20-2	11
120	60	0-140	3.0	.73		
240	60	0-240	3.0	2.1	20-3	16
THREE PHASE						

FOOTNOTES { *Maximum current is for constant-current load; maximum KVA is for constant-impedance load.
 † Also available with open construction for back-of-panel mounting (suffix U when ordering).
 Prefix Q if square frame is desired instead of round frame.

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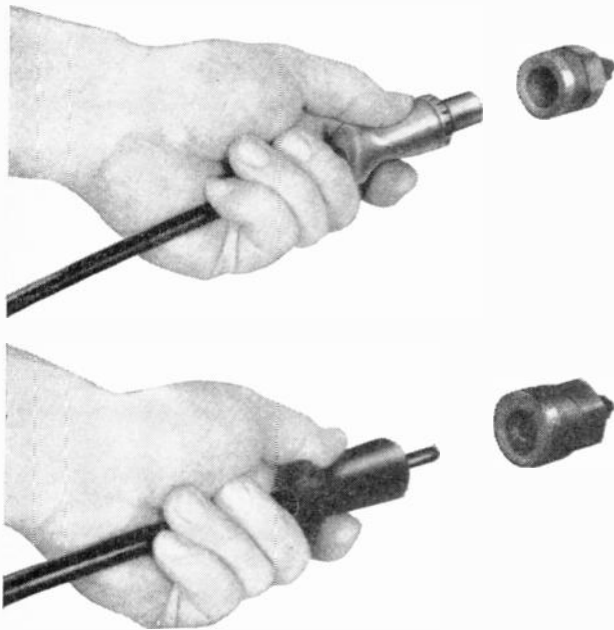
Use Index (pg. 2) for Quick, Easy Location of ALL Products

The MASTER—24th Edition

electrical connectors

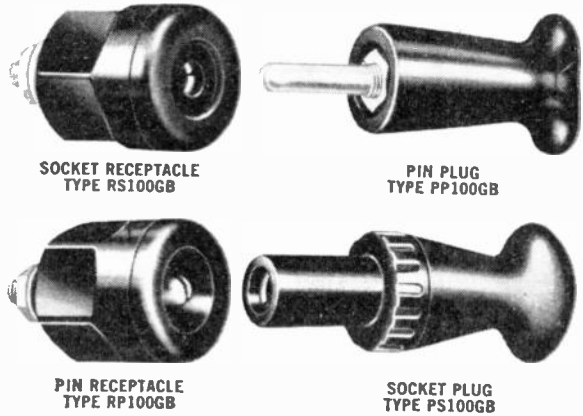
Supercon

ELECTRICAL CONNECTORS



- 50 and 100 ampere capacities
- Current carrying parts gold-plated
- Plastic parts molded of durable nylon in six colors
- Functional, positive-grip plug design
- Simplified, quick assembly
- Receptacle parts color-match in front and back of panel
- Flexible soldered or solderless cable connections
- Solderless connections permit versatile application

Socket and pin types of single conductor plugs and receptacles are offered. Plugs have a functionally designed grip for handling ease and convenience. Wiring connection to the same plug can be either soldered or solderless. Two cable fastening screws are provided which permit a range of cable sizes to be accommodated by the plug. Socket plug grips are of a simple, two-piece threaded construction for quick assembly. Pin plugs are assembled by a single nut after cable connection. All plastic parts of a receptacle are molded of the same color nylon to permit more rapid and accurate circuit identification on both the front and back of the panel when installed. Request Bulletin PR259.



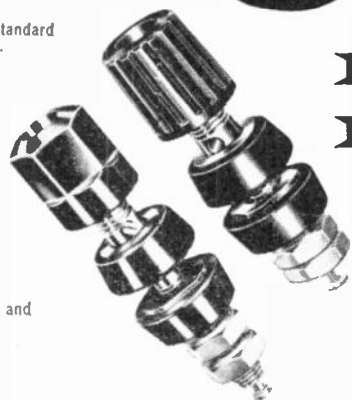
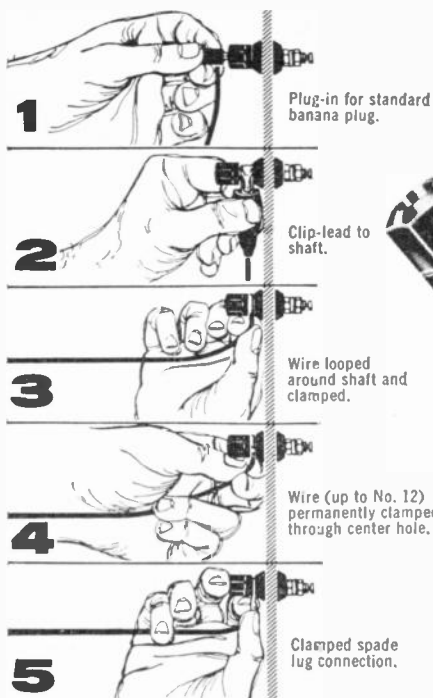
	50 AMPERE TYPES				100 AMPERE TYPES			
	SOCKET RECEPTACLES	PIN PLUGS	PIN RECEPTACLES	SOCKET PLUGS	SOCKET RECEPTACLES	PIN PLUGS	PIN RECEPTACLES	SOCKET PLUGS
BLACK	RS50GB	PP50GB	RP50GB	PS50GB	RS100GB	PP100GB	RP100GB	PS100GB
YELLOW	RS50GY	PP50GY	RP50GY	PS50GY	RS100GY	PP100GY	RP100GY	PS100GY
RED	RS50GR	PP50GR	RP50GR	PS50GR	RS100GR	PP100GR	RP100GR	PS100GR
BLUE	RS50GBL	PP50GBL	RP50GBL	PS50GBL	RS100GBL	PP100GBL	RP100GBL	PS100GBL
GREEN	RS50GGN	PP50GGN	RP50GGN	PS50GGN	RS100GGN	PP100GGN	RP100GGN	PS100GGN
WHITE	RS50GWT	PP50GWT	RP50GWT	PS50GWT	RS100GWT	PP100GWT	RP100GWT	PS100GWT

precision products of **THE SUPERIOR ELECTRIC COMPANY** Bristol, Connecticut

**GOLD-PLATED
6 COLORS
5 WAYS TO CONNECT**

**SUPERIOR
5-way**

**BINDING
POSTS**



TYPE	COLOR
DF30BC	BLACK
DF30YC	YELLOW
DF30RC	RED
DF30BLC	BLUE
DF30GNC	GREEN
DF30WTC	WHITE

These are the original SUPERIOR 5-WAY Binding Posts and are the first choice of electrical and electronic equipment manufacturers, engineers and technicians. Their 30 amperes current capacity and 1000 volt working voltage satisfy a wide range of user requirements. All current-carrying metal parts are gold-plated for long life, resistance to corrosion, stable electrical contact and faster soldering. Offered with either hexagonal or fluted type thumbnut. Available in six colors nylon for more attractive panels and easier circuit identification. They can be mounted and securely locked in any panel from 1/16" to 1/4" thick (adapter spacers are available for mounting in thinner panels). Complete insulation from the panel is provided. Ask for Bulletin BP958

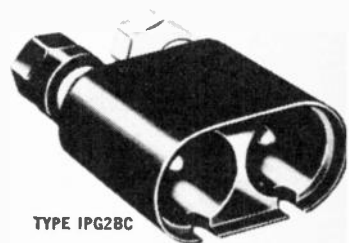
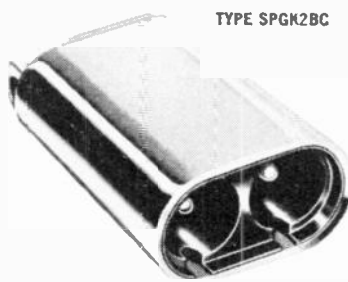
DUB-L-PLUG

DUAL CONNECTOR

SHIELDED/INSULATED AND INSULATED TYPES AVAILABLE

ALL CONDUCTING METAL PARTS GOLD-PLATED

NYLON BODIES ON INSULATED TYPES AVAILABLE IN SIX COLORS

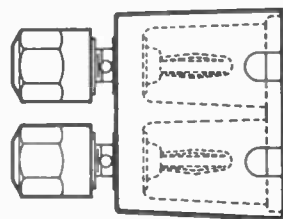
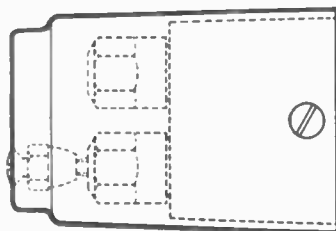


DUB-L-PLUG Dual Connectors are valuable accessories for making quick electrical connections to SUPERIOR 5-WAY and similar binding posts mounted on 3/4" centers. Completely recessed integral banana plugs prevent accidental shorting. Captive black and white thumbnuts permit ready circuit and polarity identification. Wiring connections to insulated DUB-L-PLUGS can be made by clamping through center hole, spade lug, clip-lead, banana plug or looping and clamping. Ask for Data Sheet SE-L115810.

SHIELDED/INSULATED DUB-L PLUG used where protection from stray fields is desired as in high impedance testing. Supplied with sturdy die-cast chrome-plated case that can be removed if only insulated plug is needed. Has grounding banana plug that can be removed when used with 2-wire ungrounded circuits. Nylon body supplied in black only. Has one black and one white thumbnut.

INSULATED DUB-L-PLUG ideal for making rapid connections in power circuits and other electronic and electrical applications where shielding is not required. All metal parts are recessed for maximum safety of user and equipment. Design permits stacking of several DUB-L-PLUGS if desired. Nylon body supplied in red, white, blue, yellow, green or black. Has one white and one black thumbnut.

	TYPE	NYLON BODY COLOR
SHIELDED/INSULATED	SPGK2BC	BLACK
INSULATED	IPG2RC	RED
	IPG2WTC	WHITE
	IPG2BLC	BLUE
	IPG2YC	YELLOW
	IPG2GNC	GREEN
	IPG2BC	BLACK



electrical components

VARICELL[®] adjustable A-C/D-C power supply

- VERSATILE ... EITHER A-C OR D-C OUTPUT
- SMALL, COMPACT
- LOW COST PER KVA
- GOOD REGULATION
- LOW PERCENTAGE RIPPLE
- FULL CURRENT RATING AT ANY VOLTAGE SETTING



TYPE V4050-3

VARICELL adjustable A-C/D-C Power Supply type V4050-3 is a small, compact unit designed to provide a source of adjustable low a-c or d-c voltages from a-c power lines. It can be used independently or as an apparatus component. Essentially, VARICELL type V4050-3 consists of a 3-phase, low voltage POWER-STAT variable transformer combined with a static d-c power supply. The power supply uses highly efficient silicon rectifier cells connected for full-wave, 3-phase operation. Ask for Bulletin V359.

FLEXIFORMER packaged transformer primary

"Do-it-yourself"
TRANSFORMER

- A MULTIPLE SOURCE OF A-C VOLTAGES
- A CURRENT TRANSFORMER

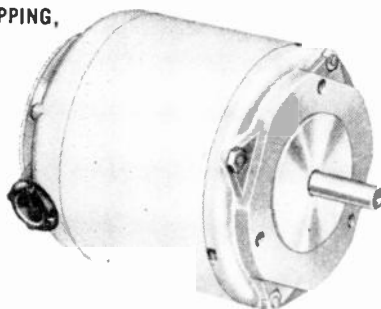


TYPE TP150

This "do-it-yourself" transformer is a self-contained toroidal primary coil complete with SUPERIOR 5-WAY Binding Posts for connections. The binding posts are colored for relative polarity identification. The primary consists of a strip-wound silicon steel core having a coil of 400 turns of #24 B&S gauge copper wire. When used as a source of a-c voltage, the center opening permits hand threading the proper number of secondary winding turns to obtain the desired output voltage. When used as a current transformer, the FLEXIFORMER winding becomes the secondary winding with the current induced by a wire passing through the center opening. Ask for Bulletin TP659.

slo-syn SYNCHRONOUS MOTORS

- INSTANT STARTING, STOPPING, REVERSING
- CAN BE USED AS A D-C STEPPING MOTOR
- 72 RPM SHAFT SPEED WITHOUT GEARS
- STARTS AT FULL 150 OUNCE-INCHES TORQUE



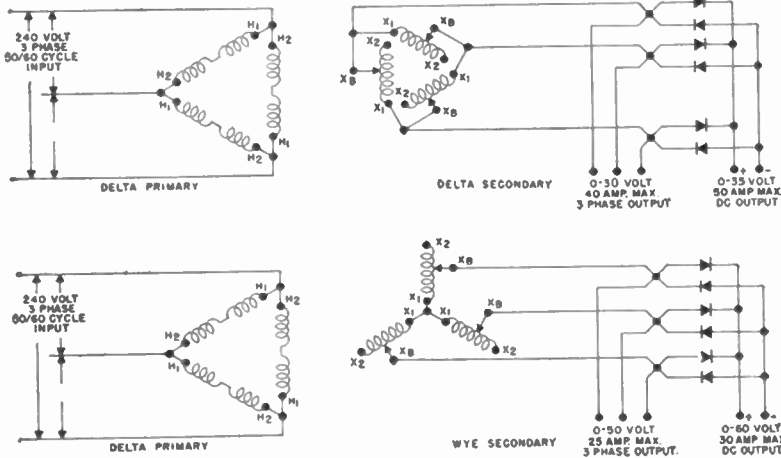
TYPE SS150

A SLO-SYN Synchronous Motor is an enclosed, permanent magnet type synchronous a-c motor adaptable for a wide variety of control applications. At 60 cycles the speed accurately remains at a constant 72 RPM without gear reduction. A single-pole, three-position switch can give instant starting, stopping and reversing control because the motor has three leads only. When used as a stepping or "inching" motor, d-c impulses are converted into either 200 or 400 precise increments of one revolution of the motor shaft. Bulletin SS459.

precision products of **THE SUPERIOR ELECTRIC COMPANY** Bristol, Connecticut

VARICELL type V4050-3 seldom requires filtering because of the low ripple content of approximately 4.2 percent and the ripple frequency of 360 cycles per second at a supply frequency of 60 cycles. The full current rating can be obtained at any voltage setting. The a-c or d-c regulation is approximately 10% at the maximum voltage setting.

VARICELL TYPE V4050-3 RATINGS

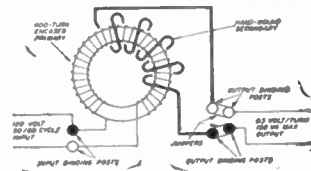
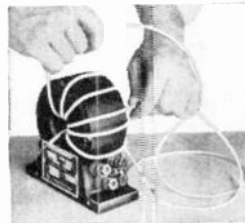


- A-C INPUT: { 240 volts, 50/60 cycles, 3-phase
(Primary delta connected)
- A-C OUTPUT: { 0-30 volts, 40 amperes, 3-phase
(Secondary delta connected)
0-50 volts, 25 amperes, 3-phase
(Secondary wye connected)
- D-C OUTPUT: { 0-35 volts, 50 amperes
(Secondary delta connected)
0-60 volts, 30 amperes
(Secondary wye connected)

The a-c and d-c outputs cannot be simultaneously loaded or externally interconnected. The a-c output can be used either single or three phase.

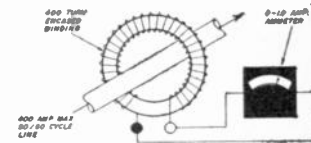
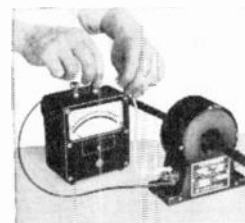
... AS A SOURCE OF A-C VOLTAGE

FLEXIFORMER type TP150 has an input rating of 120 volts, 50/60 cycles single phase and an output rating of 150 V.A. The voltage of the secondary is proportional to the number of turns hand wound through the center opening. The correct number of turns is determined by dividing the desired output voltage (plus approximately 25%) by 0.3 which is the volt/turn ratio of the FLEXIFORMER.



... AS A CURRENT TRANSFORMER

FLEXIFORMER type TP150 becomes the secondary winding when used as a current transformer. A current carrying conductor passing through the center opening serves as the primary. When used with a 0-1 ampere ammeter, currents up to 400 amperes can be measured with an accuracy of 1% at 60 cycles. Can be used as portable units or fastened permanently in place.



SLO-SYN TYPE SS150 RATINGS AND SPECIFICATIONS

INPUT	120 volts, 40/70 cycles, 1 phase
OUTPUT SPEED	72 RPM at 60 cycles
CURRENT	0.3 ampere maximum at 60 cycles,
TORQUE	150 ounce-inches
WEIGHT	6.5 pounds
SHAFT DIAMETER	1/4"
SHAFT LENGTH	1 1/16"
DIMENSIONS	4 1/4" dia., 4 3/4" depth

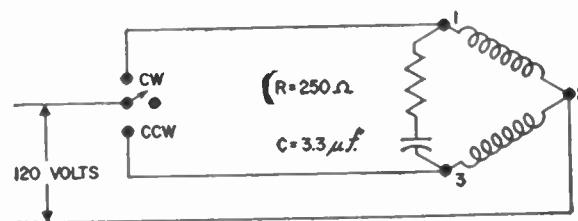
SLO-SYN SYNCHRONOUS MOTORS

TYPE*	SPEED (RPM)	TORQUE (OZ.-IN.)
SS150	72	150
SS150-P2†	3.323	2500
SS150-P3†	0.665	2500
SS150-P4†	0.133	2500
SS150-P5†	0.027	2500

*All types are available with a resistor and a capacitor integrally mounted in an enclosure on the end of the motor (suffix—RC when ordering).
†Standard types having specially-designed planetary gear speed reduction assemblies.

WIRING CONNECTION

A phase-shifting network must be used to operate a SLO-SYN Synchronous Motor from a single phase source. For 60 cycle service this network consists of a 3.3 microfarad ($\pm 5\%$) 330 volt a-c capacitor and a 250 ohm ($\pm 5\%$) 25 watt resistor in series. A capacitor/resistor set can be specified for exceptionally quiet motor operation at any particular frequency between 40 and 70 cycles.



DIRECTION DETERMINED FROM END OPPOSITE SHAFT

Sec. 4000

Adjust-A-Volt

VARIABLE TRANSFORMER

**AUTO-TRANSFORMERS
BENCH AND PANEL MOUNTINGS
GANGED ASSEMBLIES**

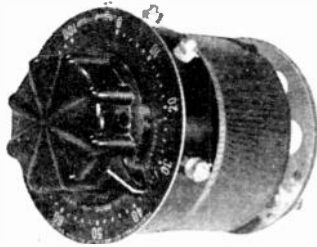
**FOR CONTROL OF AC LINES
POWER, HEAT, SPEED AND LIGHT**

**SPECIFICATIONS FOR THESE
MODELS ON OPPOSITE PAGE**

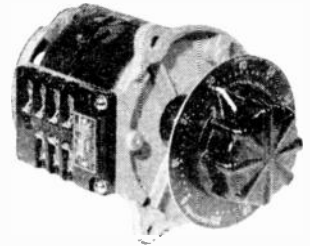
500BU



100BU



300BU



Type	Input Voltage	Load Rating, Maximum	Output Voltage		Output Current, Maximum	Driving Torque in.-oz.
			Over-Voltage	Line Voltage		
100BU	120V	.165KVA	0-132V	0-120V	1.25A	5-10
300BU	115V	0.4KVA	0-135V	0-115V	3.0A	15-30
500BU	115V	1.0KVA	0-135V	0-115V	7.5A	20-40

500B



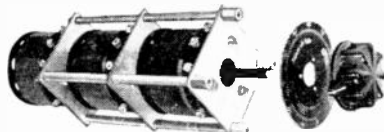
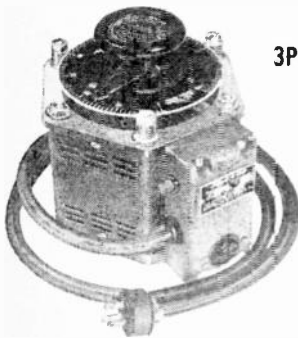
3000B

1500B



Type	Input Voltage	Load Rating, Maximum	Output Voltage		Output Current, Maximum	Driving Torque in.-oz.
			Over-Voltage	Line Voltage		
500B	115V	1.0KVA	0-135V	0-115V	7.5A	20-40
1500B	115V	2.0KVA	0-135V	0-115V	15.0A	30-70
3000B	115V	4.0KVA	0-135V	0-115V	30.0A	30-70

3PF 1500B



300BU-3

ADJUST-A-VOLT FEATURES

- Smooth, continuous control
- No Waveform distortion
- High efficiency
- Excellent regulation
- 50/60 cycle operation
- Standard mountings
- LoRes Commutator surface on all models

Type	Input Voltage	Load Rating, Maximum	Output Voltage		Output Current, Maximum	Driving Torque in.-oz.
			Over-Voltage	Line Voltage		
3PF1500B	115V	2.0KVA	0-135V	0-115V	15.0A	30-70
300BU-3	230V	1.2KVA	0-270V	0-230V	3.0A	25-50

STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

SEE NEXT PAGE FOR ALL GANGED MODELS AND THEIR APPLICATIONS

ADJUST-A-VOLT SPECIFICATIONS AND APPLICATION INDEX

SINGLE PHASE

THREE PHASE

Input Volts	OUTPUT			Type	Description	Code Word	Approx. Wt. Lbs.		Net Price
	Volts	Amp. Max.	KVA Max.				Net	Ship	
120	0-115	1.25A	.165	100BU	Uncased with terminal strip.	YOOBU	2	3	\$ 8.50
115	0-115 0-135	3.0 3.0	0.34 0.40	300BU	Uncased with terminal strip.	TREED	4	6	\$ 12.50
115	0-115 0-135	7.5 7.5	0.86 1.0	500B 500BU 3PF500B 3TF500B	With case, line cord plug, input receptacle, switch and fuse. Uncased with terminal box. With case, 3 prong plug-cord, output receptacle, switch and fuse. With case, 3 prong twist blade plug-cord, output receptacle and fuse.	FEDEN FIVED PLEAD TELFE	11 10 11 11	12 11 12 12	\$ 23.00 18.00 30.00 30.00
115	0-115 [†] 0-135	15.0 15.0	1.7 2.0	1500B F1500B 2PF1500B 3PF1500B 3TF1500B	With case and terminal board. With case, fuse and terminal cover. With case, 2 prong plug-line cord, output receptacle and fuse. With case, 3 prong straight blade plug-cord, output receptacle and fuse. With case, 3 prong twist blade plug-cord, output receptacle and fuse.	TOODE FOODE POODE MOODE LOODE	21 21 22 22 22	25 25 26 26 26	\$ 46.00 50.00 56.00 56.00 56.00
115	0-115 [†] 0-135	30.0 30.0	3.4 4.0	1500B-2 3000B 3000BU	2-gang, Parallel Circuit. With case and terminal cover. Without case and terminal cover.	DOUBE THIPT UTAHA	43 23 22	50 27 26	\$ 96.00 55.00 49.00
115	0-115 0-135	60.0 60.0	6.9 8.0	3000B-2	2-gang, Parallel Circuit, requires paralleling (choke, Type 30L-1).	TOUBE	52	62	\$126.00
115	0-115 0-135	90.0 90.0	10.3 12.1	3000B-3	3-gang, Parallel Circuit, requires paralleling (chokes, 1 ea., Types 30L-1 and 30L-2).	MOUBE	79	83	\$182.00
230	0-230 0-270	3.0 3.0	0.69 0.81	520B 520BU	With case, line cord plug, output receptacle, switch and fuse. Uncased with terminal box.	CRANY BRANY	11 10	12 11	\$ 26.00 20.00
115	0-270 0-300	3.0 [‡] 3.0 [‡]	0.35 0.35	3PF520B 3TF520B	With case, 3 prong straight blade plug-cord, output receptacle and fuse. With case, 3 prong twist blade plug-cord, output receptacle and fuse.	PANNY TANNY	11 11	12 12	33.00 33.00
230	0-230 0-270	7.5 7.5	1.7 2.0	500B-2 500BU-2	2-gang, Series Circuit, cased. 2-gang, Series Circuit, uncased.	DEBEN UBBEN	22 21	25 25	\$ 49.00 44.00
230	0-230 [†] 0-270	9.0 9.0	2.1 2.4	1520B F1520B	With case and terminal board. With case, fuse and terminal cover.	DANNY FANNY	21 21	25 25	\$ 46.00 50.00
115	0-270 0-300	9.0 [‡] 9.0 [‡]	1.05 1.05	2PF1520B 3PF1520B 3TF1520B	With case, 2 prong plug-line cord, output receptacle and fuse—No switch. With case, 3 prong straight blade plug-cord, output receptacle and fuse—No switch. With case, 3 prong twist blade plug-cord, output receptacle and fuse—No switch.	MANNY CANNY JANNY	21 21 21	25 25 25	56.00 56.00 56.00
230	0-230 [†] 0-270	15.0 15.0	3.4 4.0	1500B-2 F1500B-2	2-gang, Series Circuit. 2-gang, Series Circuit, fused output.	DOUBE JOOBE	43 43	50 50	\$ 96.00 104.00
230	0-230 [†] 0-270	18.0 18.0	4.1 4.8	1520B-2	2-gang, Parallel Circuit.	TWOBE	43	50	\$ 96.00
115	0-270 0-300	18.0 [‡] 18.0 [‡]	2.1 2.1						
230	0-230 0-270	12.0 12.0	2.8 3.2	3020B 3020BU	With case and terminal cover. Without case and terminal cover.	RANNY VOITA	23 22	26 26	\$ 55.00 49.00
115	0-270 0-300	12.0 [‡] 12.0 [‡]	1.4 1.4						
230	0-230 0-270	24.0 24.0	5.5 6.5	3020B-2	2-gang, Parallel Circuit, requires one paralleling (choke, Type 30L-1).	ZOOAD	50	61	\$126.00
115	0-270 0-300	24.0 [‡] 24.0 [‡]	2.8 2.8						
230	0-230 0-270	36.0 36.0	8.3 9.7	3020B-3	3-gang, Parallel Circuit, requires paralleling (chokes, 1 ea., Types 30L-1 and 30L-2).	ZOOBA	75	88	\$182.00
115	0-270 0-300	36.0 [‡] 36.0 [‡]	4.2 4.2						
460	0-460 0-540	3.0 3.0	1.4 1.6	520B-2 520BU-2	2-gang, Series Circuit. 2-gang, Series Circuit.	ZANNY VANNY	22 21	25 25	\$ 53.50 48.50
230	0-540 0-600	3.0 [‡] 3.0 [‡]	0.7 0.7						
460	0-460 [†] 0-540	9.0 9.0	4.1 4.9	1520B-2	2-gang, Series Circuit.	TWOBE	43	50	\$ 96.00
230	0-540 0-600	9.0 [‡] 9.0 [‡]	2.1 2.1						
460	0-460 0-540	12.0 12.0	5.5 6.5	3020B-2	2-gang, Series Circuit.	ZOOAD	50	61	\$126.00
230	0-540 0-600	12.0 [‡] 12.0 [‡]	2.8 2.8						
115	0-115 0-135	3.0 3.0	0.6 0.7	300BU-2	2-gang, Open Delta Circuit, uncased.	WREED	10	14	\$ 36.50
115	0-115 0-135	7.5 7.5	1.5 1.8	500B-2 500BU-2	2-gang, Open Delta Circuit, cased. 2-gang, Open Delta Circuit, uncased.	DEBEN UBBEN	22 21	25 25	\$ 49.00 44.00
115	0-115 [†] 0-135	15.0 15.0	3.0 3.5	1500B-2	2-gang, Open Delta Circuit.	DOUBE	43	50	\$ 96.00
115	0-115 0-135	30.0 30.0	6.0 7.0	3000B-2	2-gang, Open Delta Circuit.	TOUBE	50	61	\$126.00
230	0-230 [†] 0-270	3.0 3.0	1.2 1.4	300BU-3 520B-2 520BU-2	3-gang, Wye Circuit, uncased. 2-gang, Open Delta Circuit, cased. 2-gang, Open Delta Circuit, uncased.	MEADE ZANNY VANNY	14 22 21	20 25 25	\$ 58.75 \$ 53.50 48.50
115	0-270 0-300	3.0 [‡] 3.0 [‡]	0.6 0.6						
230	0-230 0-270 [†]	7.5 7.5	3.0 3.5	500B-3 500BU-3	3-gang, Wye Circuit, cased. 3-gang, Wye Circuit, uncased.	MEBEN ZUBEN	35 34	45 45	\$ 67.25 60.75
230	0-230 [†] 0-270	9.0 9.0	3.6 4.2	1520B-2	2-gang, Open Delta Circuit.	TWOBE	43	50	\$ 96.00
115	0-270 0-300	9.0 [‡] 9.0 [‡]	1.8 1.8						
230	0-230 [†] 0-270 [†]	15.0 15.0	6.0 7.0	1500B-3	3-gang, Wye Circuit.	DOODE	65	75	\$147.00
230	0-230 0-270	12.0 12.0	4.8 5.6	3020B-2	2-gang, Open Delta Circuit.	ZOOAD	50	61	\$126.00
115	0-270 0-300	12.0 [‡] 12.0 [‡]	2.4 2.4						
230	0-230 0-270 [†]	30.0 30.0	12.0 14.0	3000B-3	3-gang, Wye Circuit.	MOUBE	50	61	\$182.00
460	0-460 0-540 [†]	3.0 3.0	2.4 2.8	520B-3 520BU-3	3-gang, Wye Circuit, cased. 3-gang, Wye Circuit, uncased.	TURNE YURNE	35 34	45 45	\$ 75.25 68.25
230	0-540 [†] 0-600	3.0 [‡] 3.0 [‡]	1.2 1.2						
460	0-460 [†] 0-540 [†]	9.0 9.0	7.2 8.4	1520B-3	3-gang, Wye Circuit.	MORKE	65	75	\$147.00
230	0-540 [†] 0-600	9.0 [‡] 9.0 [‡]	3.6 3.6						
460	0-460 0-540 [†]	12.0 12.0	9.6 11.2	3020B-3	3-gang, Wye Circuit.	ZOOBA	70	82	\$182.00
230	0-540 [†] 0-600	12.0 [‡] 12.0 [‡]	4.8 4.8						

Over-voltage connection (0 to 17% above line voltage) or line voltage connection is available to the user by the type of connections made, however, line voltage connection on Types 1500B and 1520B must be specified. † Ganged units of these types when connected for over-voltage operate from 60 cycle service only. ‡ Output current reduces to approx. 44% at full voltage.

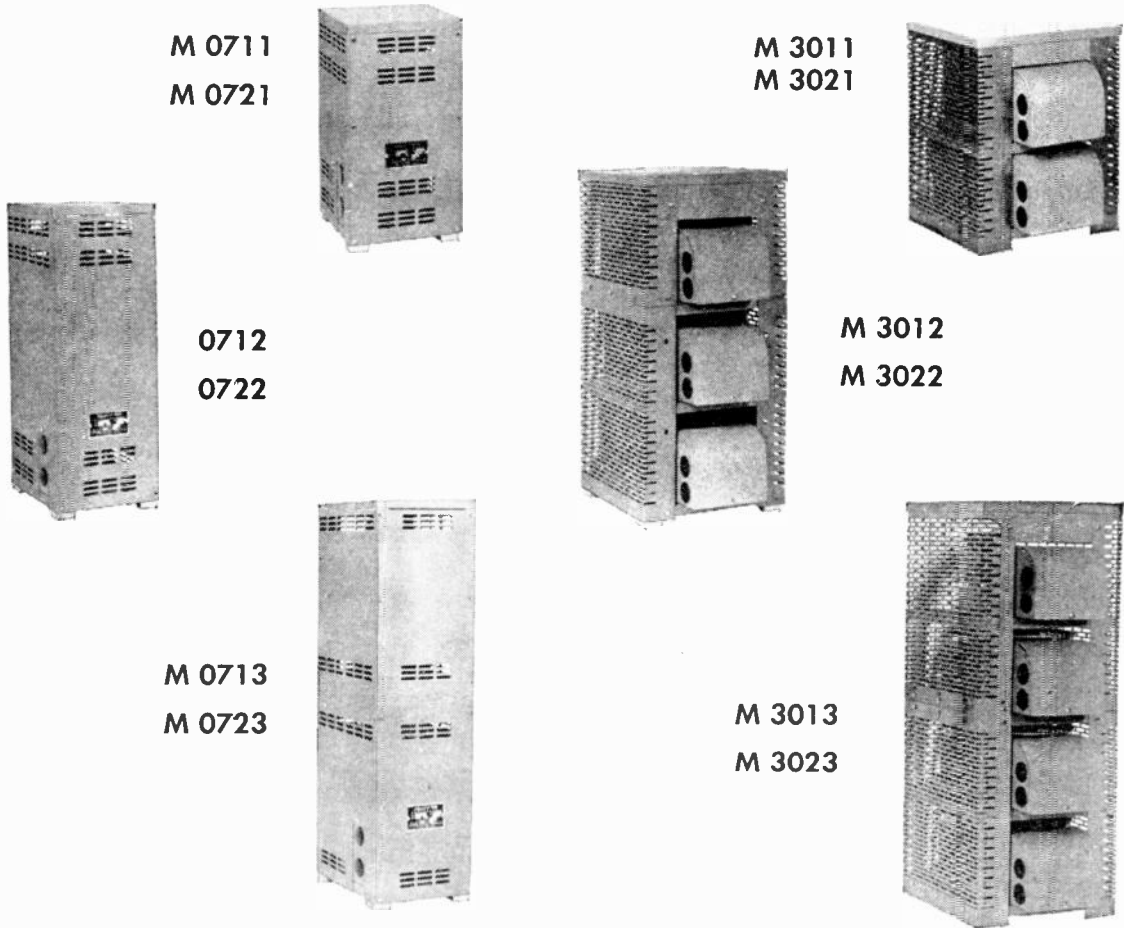
Sec. 4000

Adjust-A-Volt

VARIABLE TRANSFORMER

MOTORIZED FOR REMOTE CONTROL OPERATION

ELECTRICAL SPECIFICATIONS EQUIVALENT TO TYPES LISTED ON SPECIFICATION INDEX PAGE



TYPE	ELECTRICAL EQUIVALENT OF	OVERALL DIMENSIONS (INCHES)	SHIPPING WTS.	NET PRICE
M 0711-*	500B	7 5/16 x 6 5/16 x 12 5/16	22	123.00
M 0712-*	500B-2	7 5/16 x 6 5/16 x 17 1/4	33	149.00
M 0713-*	500B-3	7 5/16 x 6 5/16 x 22 9/16	43	167.25
M 0721-*	520B	7 5/16 x 6 5/16 x 12 11/16	22	126.00
M 0722-*	520B-2	7 5/16 x 6 5/16 x 17 15/16	33	153.50
M 0723-*	520B-3	7 5/16 x 6 5/16 x 22 9/16	43	175.25
M 3011-*	3000B	9 7/8 x 8 3/8 x 12 3/8	48	155.00
M 3012-*	3000B-2	9 7/8 x 8 3/8 x 16 15/16	79	226.00
M 3013-*	3000B-3	9 7/8 x 8 3/8 x 21 3/4	104	282.00
M 3021-*	3020B	9 7/8 x 8 3/8 x 12 3/8	48	155.00
M 3022-*	3020B-2	9 7/8 x 8 3/8 x 16 15/16	79	226.00
M 3023-*	3020B-3	9 7/8 x 8 3/8 x 21 3/4	104	282.00

* Motor Speeds for Full Range Travel are available as follows: 6, 13, 26 and 45 seconds. A speed must be designated after the type number such as M 0711-06 for a 6 second speed, M 3011-45 for a 45 second speed etc.

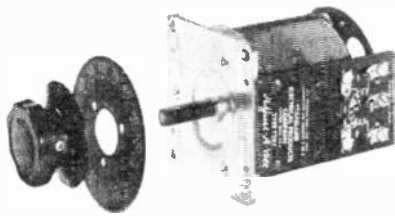
STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

WRITE FOR COMPLETE ADJUST-A-VOLT CATALOG

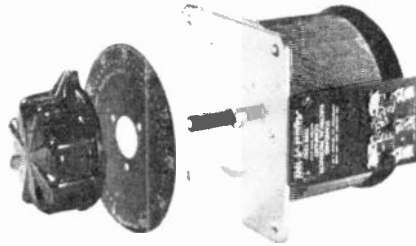
Adjust-A-Volt

VARIABLE TRANSFORMER

NEW PANEL-MOUNTED AUTO-TRANSFORMERS

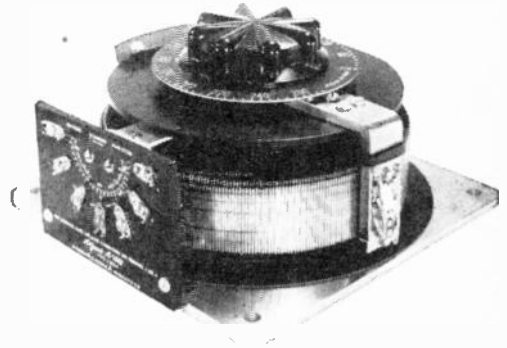


Type T21U



Type T51U

Type T502U



Type	T21U	T51U	T502U
INTERCHANGEABLE WITH OTHER SQUARE BASE UNITS.			
Input Voltage	115	115	230
Load Rating (KVA)	0.36	0.90	7.5
Output Voltage	0-135V	0-135V	0-270V
Maximum Current (Amp.)	3.1	7.8	32.5
Rated Current (Amp.)	2.4	6.0	25
Shipping Wgt.	4.5 lbs.	7.5 lbs.	61 lbs.
Net Price	\$13.50	\$17.00	\$120.00

NEW IMPROVED DESIGN FEATURES

TERMINAL BOARD—mounted with lock nut on permanently attached aluminum bracket . . . no screws in base to come loose. Brush Assembly is mechanically tied to rotor plate with 2 screws, can't spring loose under impact. Type T502U has six independently replaceable brushes.

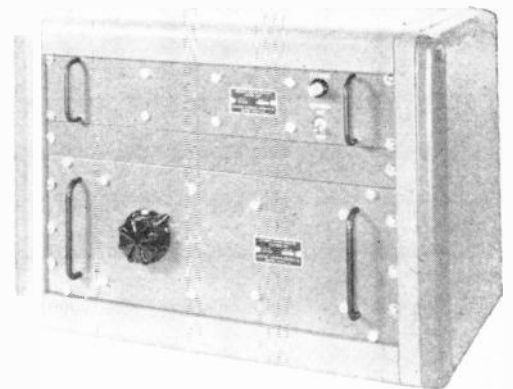
MOUNTING HOLES fully threaded plated steel inserts 5/16" long in aluminum bases gives over twice effective thread length. Ganged units are available.

WRITE FOR COMPLETE
ADJUST-A-VOLT CATALOG

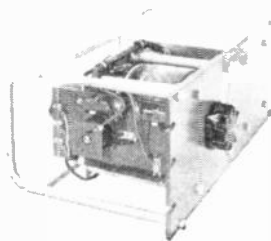
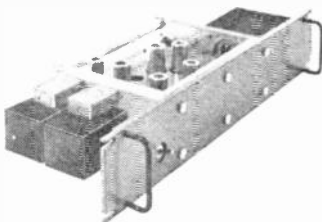
MILITARIZED AUTOMATIC VOLTAGE REGULATORS

115 and 230 volt models for correction ranges $\pm 10\%$ and $\pm 20\%$ up to $1/4\%$ accuracy—No waveform distortion.

Unaffected by frequency deviations. Detailed specifications upon request. We invite your inquiries for commercial automatic voltage regulators.



6 KVA Power Capacity for 115 Volt, 50-60 cycle service.



STANDARD ELECTRICAL PRODUCTS CO. • DAYTON, OHIO

Sec. 4000

Terado DC-AC Converters, Chargers, Relays

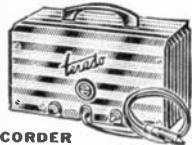
CONVERTERS—110 VOLT AC 60 CYCLE

BATTERY CHARGERS

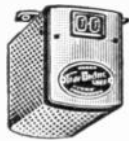
ROV-A-LITE



SUPREME WITH REMOTE CONTROL



RECORDER



CHIEF



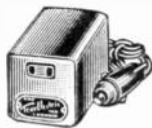
AUTOMATIC, SUPER, AND MASTER



ELECTRA



SPORTSMAN



SENIOR



AUTO SHAVER



10 AMP



5 AMP



22-WATT

CONVERTERS

SUPREME

Converts 12 v. DC to AC; power output, 175-200 watts. Complete with wire for installation and remote control. Remote control has variable AC output switch and signal light indicating proper AC output voltage. Equipped with cooling fan. Filtered for use with tape recorders and portable TV. Steel case. Two tone striped gold finish. Size: 10 1/2" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs. **Terado No. 50153—** \$66.63
Net Each.....

RECORDER

Same case as "Supreme" less remote control. Input, 12 v. DC output, 150-175 w. Plugs into cigarette lighter. Hi-low voltage selector switch to maintain proper output volt. Filtered for use with tape recorders and portable TV. Size: 10 1/2" w. x 6" d. x 6" h. Shpg. Wt., 21 lbs. **Terado No. 50175—** \$59.97
Net Each.....

CHIEF

Operates tape recorders, power tools, dictation machines, mixers, blenders, etc. Two models available. Direct connection to battery. Front AC receptacle. Toggle switch output control. Ventilated steel case. Easy to mount. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shipping Weight, 8 lbs. **Terado No. 50137—** Voltage Input, 6 v. \$43.30
AC Power Output, 75-100 watts. Net. **Terado No. 50138—** Voltage Input, 12 v. \$43.30
AC Power Output, 100-125 watts. Net.

AUTOMATIC

Operates automatically from 6 or 12 v. DC without vibrator change or switching (6 v., 55-75 watts; 12 v., 85-110 watts). Easy installation into cigarette lighter. For dictation machines, radios, tape recorders, phonographs, heating pads, etc. Steel case. Seal brown baked enamel. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shpg. Wt., 8 lbs. **Terado No. 50134—** Net Each..... \$36.63

SUPER

Operates dictation machine, radios, phonograph, tape recorders, massaging equipment, etc. Two compact, lightweight models available. Simple installation into cigarette lighter. Steel case. Seal brown baked enamel. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shipping Weight, 8 lbs. **Terado No. 50126—** Voltage input, 6 v. \$31.30
AC Power Output, 60-75 watts. Net. **Terado No. 50127—** Voltage Input, 12 v. \$31.30
AC Power Output, 75-100 watts. Net.

MASTER

Operates some dictation machines and tape recorders, radios and phonographs, emergency lighting, etc. Easy to install into cigarette lighter. Steel case. Seal brown baked enamel. Size: 3 1/2" w. x 6 1/2" d. x 4" h. Shipping Weight, 6 lbs. **Terado No. 50121—** Voltage Input, 6 v. \$25.97
AC Power Output, 50-60 watts. Net. **Terado No. 50122—** Voltage Input, 12 v. \$25.97
AC Power Output, 60-75 watts. Net.

ELECTRA

Glove compartment size converters, available in 6 v. or 12 v. input. Easy installation into cigarette lighter. Operates De Jur Stenorette, Geloso, G.B.C., Stenocord, Noreleo dictation machines, radios, etc. Vinyl coated steel case with leatherette appearance. Size: 3" w. x 2 1/4" d. x 5 1/2" h. Shipping Weight, 3 lbs. **Terado No. 50174—** Voltage Input, 6 v. \$16.63
AC Power Output, 32-42 watts. Net. **Terado No. 50167—** Voltage Input, 12 v. \$16.63
AC Power Output, 42-52 watts. Net.

SPORTSMAN

Same as "Electra" but with 20-ft. cigarette lighter cord and AC switch. Available in 6 v. or 12 v. input. Ideal for use by campers, picnicers, boaters. Applications, size, and weight same as "Electra". **Terado No. 50179—** Voltage Input, 12 v. \$19.97
AC Power Output, 42-52 watts. Net. **292X-59A**

SENIOR

Operates radios, lights, phonographs and small tape recorders. Available in 6 v. or 12 v. input. Simple to install into cigarette lighter. Aluminum case. Seal brown baked enamel. Size: 2 1/2" w. x 4 1/2" d. x 2 1/2" h. Shipping Weight, 3 lbs. **Terado No. 50115—** Voltage Input, 6 v. \$14.63
AC Power Output, 35-40 watts. Net.

Terado No. 50116— Voltage Input, 12 v. \$14.63
AC Power Output, 40-50 watts. Net.

AUTO SHAVER

Operates all electric shavers by plugging into AC receptacle provided. Available in 6 v. or 12 v. input. Easy installation into cigarette lighter. Polyethylene non-breakable case. Size: 2 1/2" w. x 2 1/2" d. x 4 1/2" h. Shipping Weight, 2 lbs. **Terado No. 50102—** Voltage Input, 6 v. \$8.63
AC Power Output, 10-15 watts. Net.

Terado No. 50103— Voltage Input, 12 v. \$8.63
AC Power Output, 15-20 watts. Net Each.

BATTERY CHARGERS

HI-POWER

Very efficient full wave 5 amp, 12 v. battery charger using two miniature silicon rectifiers and special transformer steel. Simple to operate; just plug into cigarette lighter of car and 110 v. AC outlet in garage and let charge overnight. Indicator light tells condition of battery. Complete with display. Size: 3" w. x 2 1/4" d. x 5 1/2" h. Shipping Weight, 3 lbs. **Terado No. 50186—** Net Each..... \$13.30

SUPER CHARGER

Very efficient full wave 10 amp, 6 12 v. battery charger; uses two miniature silicon rectifiers and special transformer steel. Charges at same rate on either 6 or 12-volt batteries. Battery clamps provided. Can also be plugged into cigarette lighter. Automatic circuit breaker. Ten-ampere meter shows condition of battery. Size: 3 1/4" w. x 6 1/2" d. x 5" h. Shipping Weight, 7 1/2 lbs. **Terado No. 50181—** Net Each..... \$26.63

ROV-A-LITE

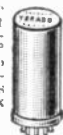
Dual voltage fluorescent lamp. Operates on battery or 110 v. AC. Heavy chrome plated fixture. Complete with standard white tube. Size: 10" dia. x 2 1/2" thickness. Shipping Weight, 7 lbs. **Terado No. 50146—** Six volts DC and \$23.30
110 v. AC, 22 watts. Net Each.....

Terado No. 50147— Twelve volts DC \$23.30
and 110 v. AC, 22 watts. Net Each.....

SERIES 6000 MICRO-RELAYS

60 MILLIWATT OPERATING POWER

Hermetically sealed, single pole double throw (Form C) silver contacts, rated at 1 amp at 24 v. non-inductive load. Operating temperature range -55° C to +85° C. Insulation: 500 v. at any terminal to ground. Excellent vibration characteristics due to short armature. Base fits 7-pin miniature tube socket. Size: 1/2" x 1 1/8" long.



STOCK RELAYS

Terado No.	Coil Resistance	Operating Volts DC	Net Each*
B1330	21 ohms	1.5	\$2.43
B1331	300 ohms	6	7.43
B1332	2,000 ohms	12	7.54
B1333	5,000 ohms	21	7.91
†B1249	8,000 ohms	20	8.43
B1334	8,000 ohms	32	8.43
B1335	10,000 ohms		8.70

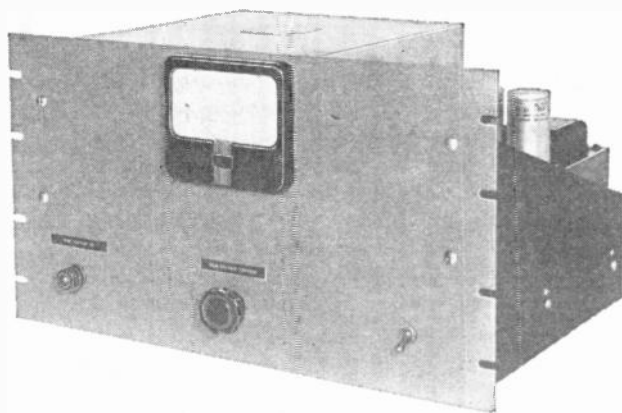
*Write for quantity prices.
†Used in most TV cameras.

**SPECIAL RELAYS AVAILABLE:
WRITE FOR QUOTATIONS**

SPELLMAN HIGH VOLTAGE POWER SUPPLIES

RF TYPE

**MODEL 2040
40 KV DC POWER SUPPLY**



A ruggedly built RF type power supply which is in constant use in laboratories and industrial plants throughout the world for condenser changing, electrostatic paint spraying and insulation testing, electrostatic flocking, etc. In wide use for spot knocking by TV tube manufacturers. Designed for constant use and will stand severe abuse. Available with either positive or negative 40 KV output. Voltage range is approx. 15 to 40 KV, continuously variable. The 15 to 40 KV variance in voltage is controlled through a knob on the front panel. If desired, automatic overload cutout relay and reset button may be installed at slight additional charge. Voltage supplied through a 6 ft. HV Safety Cable. Specify desired polarity when ordering. 19" wide x 12 1/4" high x 13" deep. **\$165.00 Net** With HV meter installed in front panel.

\$50 additional

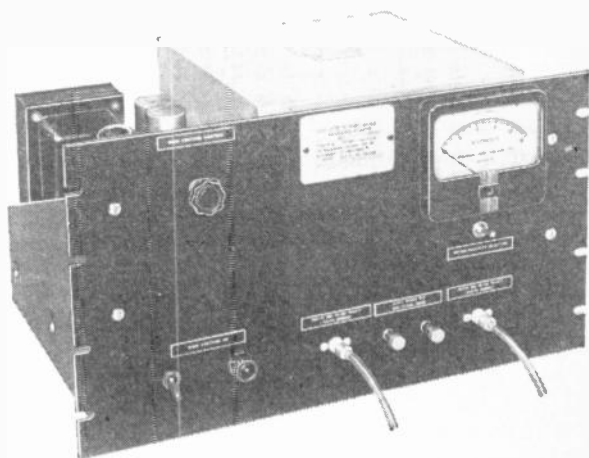
MODEL PN-30R

REVERSIBLE POLARITY

**Continuously Variable 1-30 KV
Unregulated DC Power Supply**

A light, compact unit in wide use for insulation testing, precipitators and laboratory research. Polarity reversible from front panel. Current output — approx. 2 milliamperes at 20 KV; 250 microamperes at 30 KV. Input — 110V AC 60 cycles. Dimensions: 19" x 10 1/2" x 13" **\$225.00 Net**

With meter installed on front panel **\$50 additional**



MODEL 4575

5 KV POWER SUPPLY

For an output voltage of 5 KV DC at 1 milliamperes, the low voltage input requirement is 250 V at 50 milliamperes. By varying the DC input the output voltage can be varied from approx. 1 KV to 7 1/2 KV. Dimensions: 5 5/8" high x 5" deep x 4 1/4" wide. In completely enclosed metal housing.

\$32.50 Net

MODEL 4575-2 Same as above with 2 ma. output at 5 KV. **\$42.50 Net**

FOR REVERSIBLE POLARITY MODELS (floating secondary) add letters PN after number.

\$10.00 additional

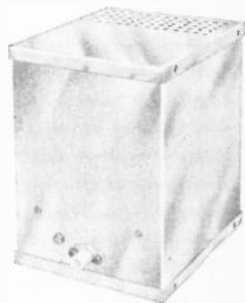


MODEL 7512

12 KV POWER SUPPLY

Voltage output of approx. 7.5 to 12 KV, 1 ma. of current may be drawn throughout the voltage range. To obtain an output voltage of 7.5 KV at 1 ma., low voltage input requirement is 300 V DC at 50 ma. By varying the DC input, the output voltage can be increased. Maximum input voltage of 425 V at 100 ma. will give an output of 12 KV at 1 ma. 5 3/4" W., 8 1/4" H., 6 1/4" D. **\$42.50 Net**

MODEL 7516 Same as above with output of 16 KV at .5 ma. **\$48.50**



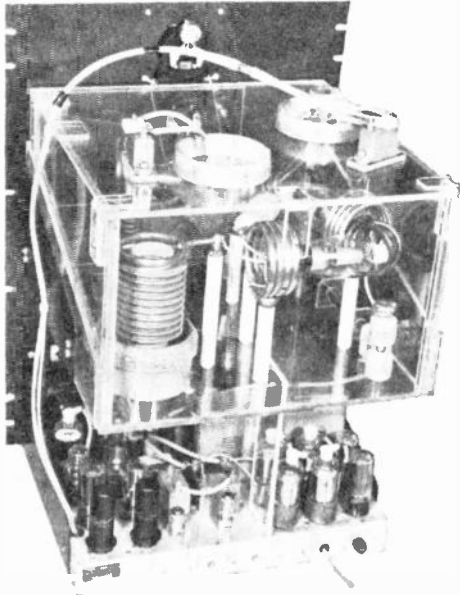
SPELLMAN HIGH VOLTAGE CO. | **BRONX 67, N. Y.**
FORMERLY SPELLMAN TELEVISION CO., INC.

Sec. 4000

SPELLMAN

HIGH VOLTAGE

POWER SUPPLIES

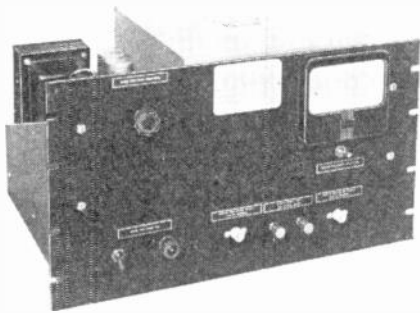


**MODEL
LAB-90
0-90 KV
RF TYPE
REGULATED
DC
POWER
SUPPLY**



Continuously variable 0 to 90 KV DC Power Supply. Output current .7 ma. at 90 KV. 1 ma. at 80 KV. 2 ma. from 40 KV down. Voltage regulations better than 1% throughout entire range. Dimensions in cabinet: 28" high x 21 $\frac{3}{4}$ " wide x 18" deep. For rack mounting, Panel dimensions 19" wide x 26" high x 18" deep.

LAB-90 Complete with HV meter \$900.00 Net
Specify polarity output — positive or negative.

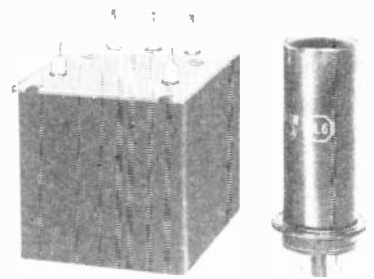


MODEL PN-15

**FLOATING REVERSIBLE POLARITY
CONTINUOUSLY VARIABLE 1 TO 15 KV
UNREGULATED DC POWER SUPPLY**

The high voltage output available through Alden connectors on front panel. Reversible and floating — either positive or negative can be grounded or left floating. Current output 2 ma. at 15 KV. Voltage continuously variable through knob on front panel. Dimensions 8 $\frac{3}{4}$ " high x 19" wide x 11" deep.

Complete with meter \$250.00



MODEL T-7

TRANSISTORIZED 7000V DC POWER SUPPLY

Transistorized silicon rectifier High Voltage Power Supply — 7000V at 1 ma. Input 12V DC. Dimensions: 3" wide x 3" high x 3 $\frac{1}{2}$ " deep. Check with your jobber for information on additional transistorized types and prices.

SPELLMAN HIGH VOLTAGE CO.
FORMERLY SPELLMAN TELEVISION CO., INC.

BRONX 67, N. Y.

The MASTER — 24th Edition

Use Index (pg. 2) for Quick, Easy Location of ALL Products
Net

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Page 1004

SPELLMAN HIGH VOLTAGE POWER SUPPLIES

RF TYPE

MODEL LAB-60PN

**REVERSIBLE POLARITY CONTINUOUSLY
VARIABLE 0-60 KV DC REGULATED
POWER SUPPLY**

A continuously variable regulated DC Power Supply. Output current 60 KV at 1 ma. 2 ma. may be drawn from 50 KV down. Regulation — no load to full load 1% at 1 ma. Polarity reversing control on front panel. Dimensions in cabinet: 23½" high x 21¾" wide x 18" deep. For rack mounting — panel dimensions: 19" wide x 21" high x 18" deep.

LAB-60PN Complete with meter and cabinet \$820.00 Net

LAB-60 Same specifications as above except available in either positive or negative polarity — not reversible. Specify polarity when ordering. \$765.00 Net



MODEL RG-30

**CONTINUOUSLY VARIABLE 15-30 KV REGULATED DC
POWER SUPPLY WITH REGULATED FOCUS VOLTAGE TAP**

A continuous duty DC supply with regulations better than 0.5% at 1 ma. — no load to full load. A variable focus tap 4-6 KV for use with 5WP11, 5TP4 and flying spot tubes. Dimensions: 19" wide x 10½" high x 13" deep.

\$325.00 Net

With HV meter installed on front panel.

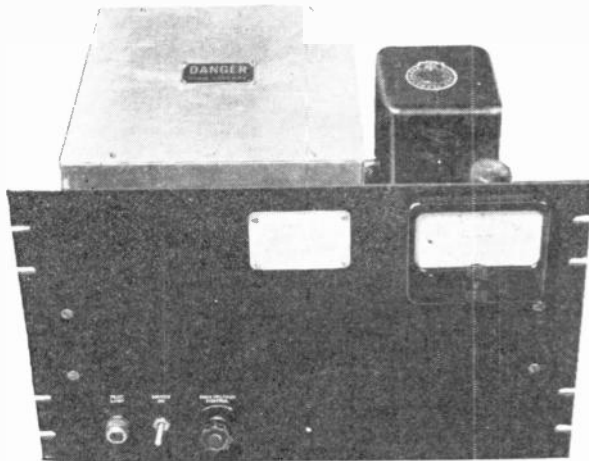
\$50 additional

MODEL RG-40 is a 20-40 KV unit with focus tap designed for use with 5AZP4 projection tube. In wide use in projection television systems. Same specifications as RG-30 except .7 ma. at 40 KV.

\$325.00 Net

With meter installed on front panel.

\$50 additional

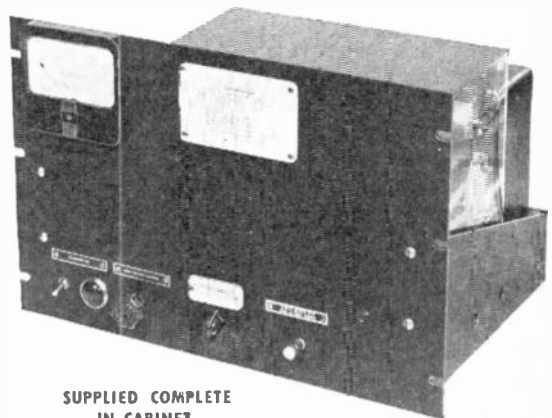


MODEL LAB-30PN

DC POWER SUPPLY

REVERSIBLE POLARITY CONTINUOUSLY VARIABLE 1 TO 30 KV

Regulated DC Power Supply with regulations of 0.5% at 1 milliamper. Although rated at 1 ma. this unit is capable of 2 ma. operation within regulation specifications. This 16 tube unit is of the RF type consisting of a separate oscillator and buffer feeding the power oscillator into a double rectifier. Regulations accomplished through feed-back into a DC amplifier plus simultaneous output control of the buffer. Polarity reversible from front panel. Standard Rack Model — 19" wide x 12" high x 13" deep. Standard Bench Model — 21" wide x 14" high x 15" deep. **With HV Meter \$645.00 Net — Less Meter \$595.00 Net.** **MODEL LAB-30** is a positive polarity output regulated High Voltage DC Power Supply with same electrical characteristics and dimensions as the LAB-30PN. Available in either positive or negative polarity. **With Meter \$545.00 Net — Less Meter \$495.00 Net**



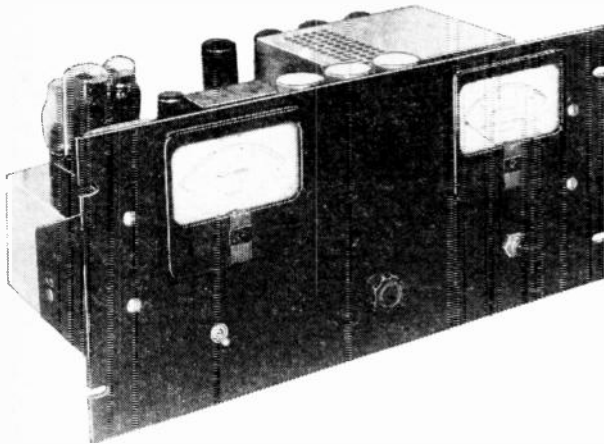
**SUPPLIED COMPLETE
IN CABINET**

SPELLMAN HIGH VOLTAGE CO. | BRONX 67, N. Y.
FORMERLY SPELLMAN TELEVISION CO., INC.

SPELLMAN

HIGH VOLTAGE

POWER SUPPLIES



**MODEL RG-10, 10 KV DC
REGULATED POWER SUPPLY**

Output current 2 ma. Regulated against line and load 1%. Variable 8 to 12 KV.

Complete with Current and Volt

Meters \$260 Net

**MODEL RG-5
5 KV DC REGULATED
POWER SUPPLY**

Output current 2 ma. Regulated against line and load 1%. Variable 4 to 6 KV.

Complete with Current and Volt

Meters \$250 Net

**MODEL RG-15, 15 KV DC
REGULATED POWER SUPPLY**

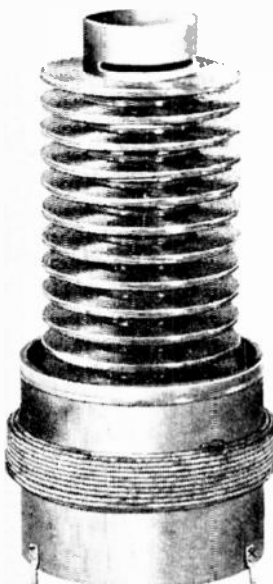
Output current 2 ma. Regulated against line and load 1%. Variable 13 to 17 KV.

Complete with Current and Volt

Meters \$275 Net

DIMENSIONS: Panel Height 8 3/4", Width 19", Depth 11".

70 KV



Secondary Height 10"
 Secondary Windings 4" dia.
 Consisting of 12 Pie Windings
 Primary—
 (separate from secondary)
 Height 4"
 Diameter 5"
 Secondary Voltage Output 70 KV
 Secondary Current 5 Milliamperes
 Approx. Frequency 70 KC
 70KV Coil \$75.00 Net



**RF FILAMENT
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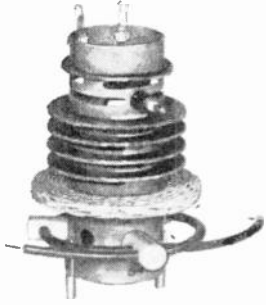
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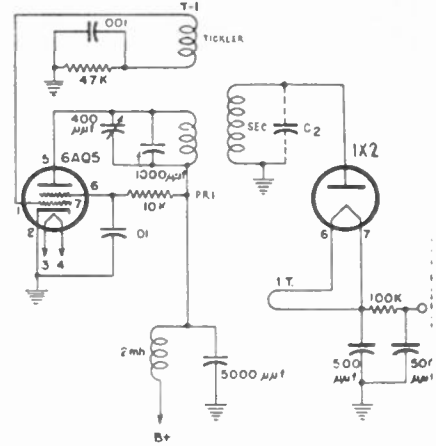
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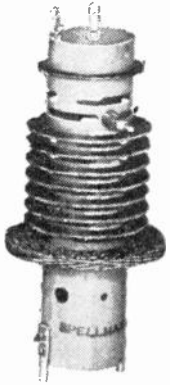


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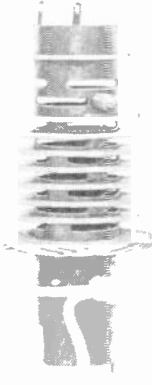


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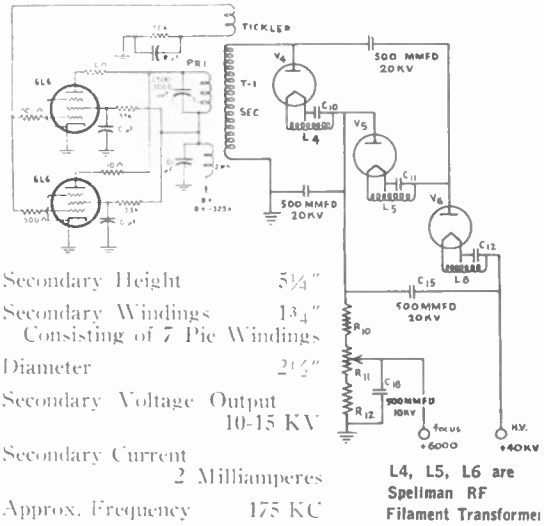
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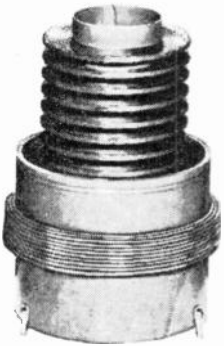
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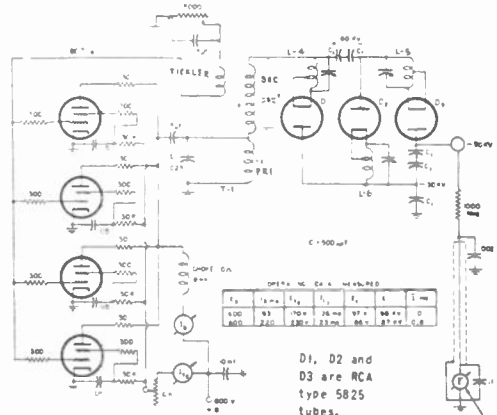
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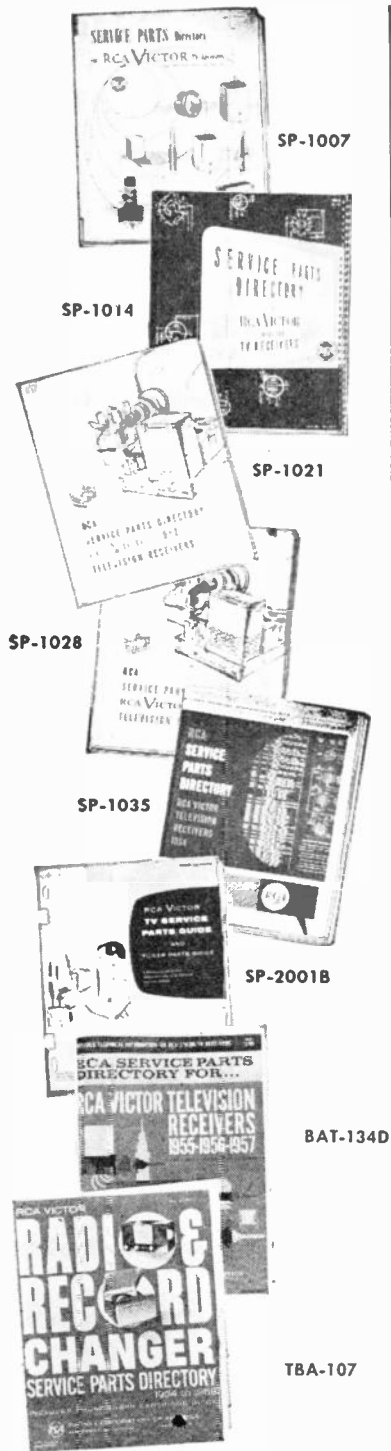
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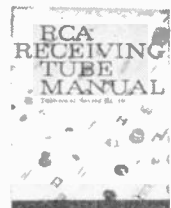
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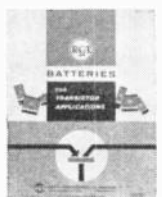


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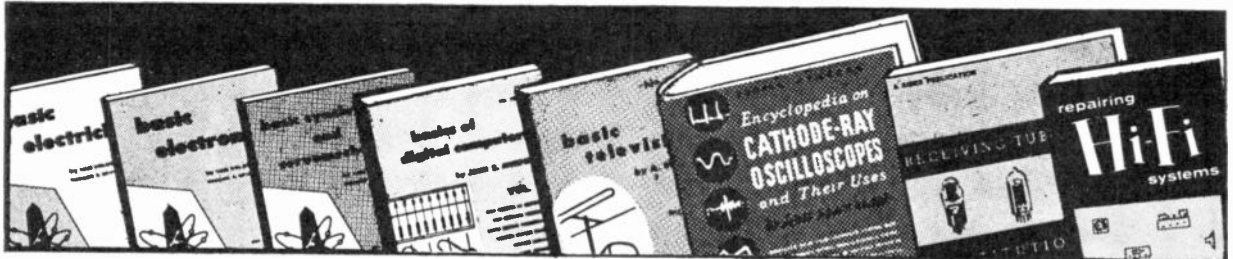
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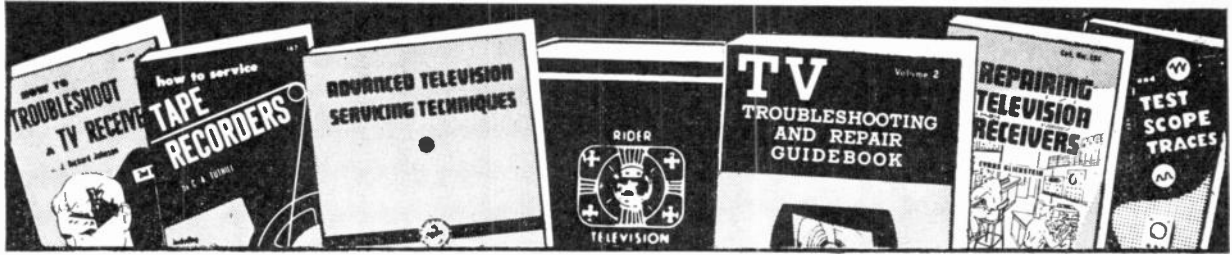
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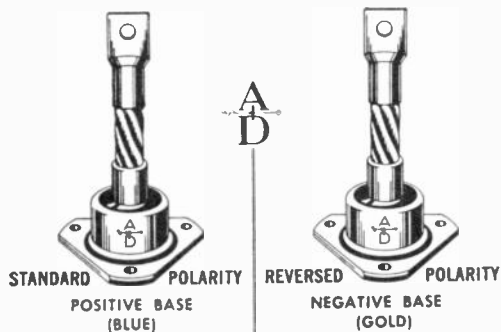
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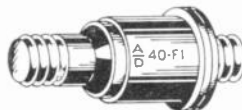
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Series	Pos. Base Model No.	Neg. Base Model No.	Max PIV	*DC Amps	Base Diam.	Height
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K	20K7	20K7R	200	25	1 3/4"	3 1/2"
K	30K7	30K7R	300	25	1 3/4"	3 1/2"
K	40K7	40K7R	400	25	1 3/4"	3 1/2"
M	10M7	10M7R	100	35	1 3/8"	3 1/2"
M	20M7	20M7R	200	35	1 3/8"	3 1/2"
M	30M7	30M7R	300	35	1 3/8"	3 1/2"
M	40M7	40M7R	400	35	1 3/8"	3 1/2"
P	10P7	10P7R	100	50	2 1/4"	3 1/2"
P	20P7	20P7R	200	50	2 1/4"	3 1/2"
P	30P7	30P7R	300	50	2 1/4"	3 1/2"
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R	10R7	10R7R	100	75	2 1/4"	3 3/8"
R	20R7	20R7R	200	75	2 1/4"	3 3/8"
R	30R7	30R7R	300	75	2 1/4"	3 3/8"
R	40R7	40R7R	400	75	2 1/4"	3 3/8"
T	10T7	10T7R	100	100	2 3/4"	5 1/4"
T	20T7	20T7R	200	100	2 3/4"	5 1/4"
T	30T7	30T7R	300	100	2 3/4"	5 1/4"
T	40T7	40T7R	400	100	2 3/4"	5 1/4"
V	10V7	10V7R	100	150	2 3/4"	5 1/4"
V	20V7	20V7R	200	150	2 3/4"	5 1/4"
V	30V7	30V7R	300	150	2 3/4"	5 1/4"
V	40V7	40V7R	400	150	2 3/4"	5 1/4"
X	10X7	10X7R	100	200	2 3/4"	5 1/4"
X	20X7	20X7R	200	200	2 3/4"	5 1/4"
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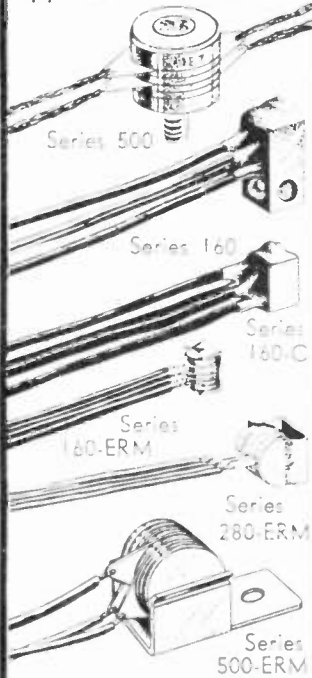
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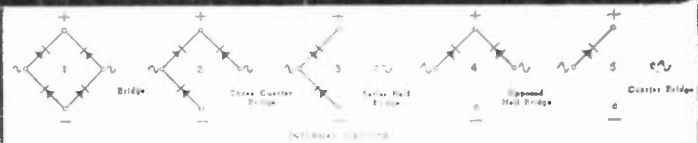
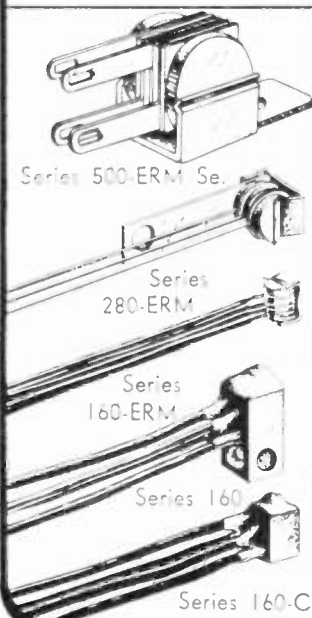
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TYPE	CIRCUIT	CELL SIZE	ACTIVE AREA	INPUT	OUTPUT	MOUNTING	FINISH	PRICE
M	1	.500"	.125 sq. in.	5V	100 ma.	6-32 stud	Lacquer	\$2.10
TH	Series 2	"	"	"	75 ma.	" "	"	1.86
HS	500	"	"	"	50 ma.	" "	"	1.53
T	4	"	"	"	100 ma.	" "	"	1.53
H	5	"	"	"	50 ma.	" "	"	1.20
B	1	.166"	.012 sq. in.	"	10 ma.	≡2 screw	Solid fill	2.10
BTH	Series 2	"	"	"	7 ma.	" "	"	1.86
BHS	160	"	"	"	5 ma.	" "	"	1.53
BT	4	"	"	"	10 ma.	" "	"	1.53
BH	5	"	"	"	5 ma.	" "	"	1.20
B-C	1	"	"	"	10 ma.	Fuse clip	"	2.10
BTH-C	Series 2	"	"	"	7 ma.	" "	"	1.86
BHS-C	160-C	"	"	"	5 ma.	" "	"	1.53
BT-C	4	"	"	"	10 ma.	" "	"	1.53
BH-C	5	"	"	"	5 ma.	" "	"	1.20
B-ERM*	1	"	"	"	10 ma.	Leads	Lacquer	1.59
BTH-ERM*	Series 2	"	"	"	7 ma.	" "	"	1.35
BHS-ERM*	160-	"	"	"	5 ma.	" "	"	1.05
BT-ERM*	ERM	"	"	"	10 ma.	" "	"	1.05
BH-ERM*	5	"	"	"	5 ma.	" "	"	.75
I-ERM*	1	.280"	.035 sq. in.	"	30 ma.	" "	"	1.59
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IH-ERM*	5	"	"	"	15 ma.	" "	"	.75
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TH-ERM*	Series 2	"	"	"	75 ma.	" "	"	1.35
HS-ERM*	500	"	"	"	50 ma.	" "	"	1.05
T-ERM*	ERM	"	"	"	100 ma.	" "	"	1.05
H-ERM*	5	"	"	"	50 ma.	" "	"	.75

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SeTH-ERM*	500	"	"	"	40 ma.	" "	"	.87
SeHS-ERM*	ERM	"	"	"	30 ma.	" "	"	.87
SeT-ERM*	Se.	"	"	"	60 ma.	" "	"	.87
SeH-ERM*	5	"	"	"	30 ma.	" "	"	.66
SeI*	1	.280"	.06 sq. in.	"	20 ma.	Bracketterminal	"	.66
SeITH*	Series 2	"	"	"	15 ma.	" "	"	.60
SeIHS*	280	"	"	"	10 ma.	" "	"	.51
SeIT*	ERM	"	"	"	20 ma.	" "	"	.51
SeIH*	5	"	"	"	10 ma.	" "	"	.42
SeB-ERM*	1	.166"	.02 sq. in.	"	10 ma.	Leads	"	.87
SeBTH-ERM*	Series 2	"	"	"	7 ma.	" "	"	.81
SeBHS-ERM*	160	"	"	"	5 ma.	" "	"	.69
SeBT-ERM*	ERM	"	"	"	10 ma.	" "	"	.69
SeBH-ERM*	5	"	"	"	5 ma.	" "	"	.57
SeB	1	"	"	"	10 ma.	≡2 screw	Solid fill	2.10
SeBTH	Series 2	"	"	"	7 ma.	" "	"	1.86
SeBHS	160	"	"	"	5 ma.	" "	"	1.53
SeBT	4	"	"	"	10 ma.	" "	"	1.53
SeBH	5	"	"	"	5 ma.	" "	"	1.20
SeB-C	1	"	"	"	10 ma.	Fuse clip	"	2.10
SeBTH-C	Series 2	"	"	"	7 ma.	" "	"	1.86
Se-BHS-C	160-C	"	"	"	5 ma.	" "	"	1.53
SeBT-C	4	"	"	"	10 ma.	" "	"	1.53
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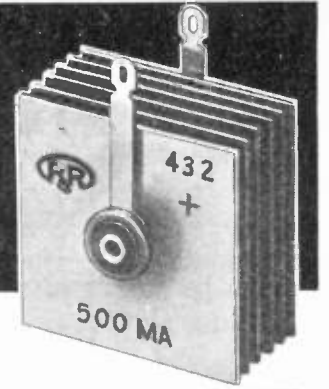
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Semiconductors

RADIO RECEPTOR SELENIUM RECTIFIERS

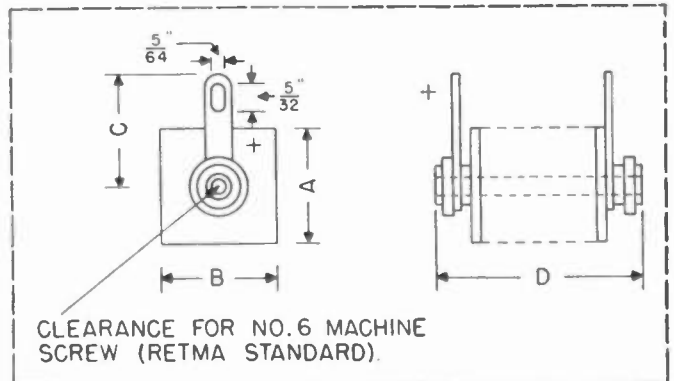


Radio and TV Types

MAX. D. C. OUTPUT MA.	CATALOG NO.	MAX. A. C. INPUT VOLTS	MIN. SERIES RESISTOR (OHMS)	MAX. PEAK INVERSE VOLTAGE	A (INCHES)	B (INCHES)	C (INCHES)	D (INCHES)
150	6GA150	130	7.5	380	1	1	1 1/8	1 1/8
175	6GA175	130	5.	380	1	1	1 3/8	1 3/8
200	6GA200	130	5.	380	1	1	2	2 5/16
200	8GA200	130	5.	380	1.13	1.13	1 1/8	1 1/8
250	8GA250	130	5.	380	1.13	1.13	1 3/8	1 3/8
300	8GA300	130	5.	380	1.13	1.13	2	2 1/16
300	11GA300	130	5.	380	1.3	1.3	1 3/8	1 3/8
350	11GA350	130	5.	380	1.3	1.3	2	2 5/16
400	11GA400	130	5.	380	1.3	1.3	2 1/4	2 5/16
400	16GA400	130	5.	380	1.6	1.6	1 3/8	1 3/8
450	16GA450	130	3.	380	1.6	1.6	1 3/4	2 1/16
500	16GA500	130	3.	380	1.6	1.6	2	2 5/16
550	16GA550	130	3.	380	1.6	1.6	2 1/4	2 5/16
600	16GA600	130	3.	380	1.6	1.6	2 1/2	2 3/16
750	25GA750	130	3.	380	2	2	2 1/2	2 13/16
25	16Y1	260	47	760	1/2	1/2	19/32	7/8
30	8Y1	130	47	380	1/2	1/2	19/32	1/2
65	8J1	130	33	380	11/16	11/16	19/32	1/2
65	16J1	260	33	720	11/16	11/16	19/32	7/8
75	6M1	156	22	456	1	1	15/16	7/8
100	6M2	156	22	456	1	1	15/16	1 1/8

If locking lug is required, add suffix "L" to catalog number, i.e. 6GA150L.
The ratings above are for half wave capacitive load.

Radio Receptor rectifiers, designed and tested to eliminate arc-over danger, short circuits and heating at the center contact point, have underwriters laboratories acceptance for operation at a cell temperature of 85° C. This "safe center" feature combined with long life and lower forward drop at high current densities gives you a rectifier years ahead in design.



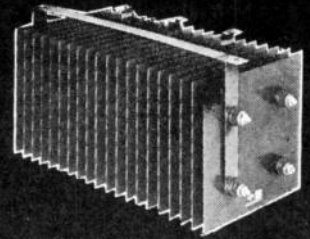
GENERAL INSTRUMENT DISTRIBUTOR DIVISION
General Instrument Corporation

See Additional Radio Receptor—General Instrument Diodes, Semiconductors and Rectifiers on Pages 1433 to 1435



General Instrument
Semiconductors

RADIO RECEPTOR
Tri-Amp
RECTIFIERS



INDUSTRIAL TYPE POWER UNITS—SINGLE PHASE FULL WAVE

OUTPUT DC VOLTS	MAX. OUTPUT DC AMPS	MAX. IN-PUT AC VOLTS	CKT	CATALOG NO.	NO. OF MTG. STUDS	CELL SIZE INCHES	OUTPUT DC VOLTS	MAX. OUTPUT DC AMPS	MAX. IN-PUT AC VOLTS	CKT	CATALOG NO.	NO. OF MTG. STUDS	CELL SIZE INCHES
0-10	0.6	26	C.T. †	C301°	1	1" sq.	0.63	18	78	BR.	C347	1	4 x 5.3
	1.5			C302°	1	1.3 sq.		C348			2	4 x 8	
	2.2			C303°	1	1.6 sq.		C349			3	4 x 12	
	3.4			C304°	1	2 sq.		C350			4	8 sq.	
	6.6			C305°	1	2.6 sq.		C351			4	8 x 12	
	9			C306	1	2.3 x 4		C352			4	8 x 16	
	12			C307	1	4 sq.							
	18			C308	1	4 x 5.3							
	24			C309	2	4 x 8							
	36			C310	3	4 x 12		C353			1	1 sq.	
	48			C311	4	8 sq.		C354			1	1.3 sq.	
	70			C312	4	8 x 12		C355			1	1.6 sq.	
	90			C313	4	8 x 16		C356			1	2 sq.	
0-21	0.6	26	BR.	C314	1	1 sq.	0-84	12	104	BR.	C357	1	2.6 sq.
	1.5			C315	1	1.3 sq.		C358			1	2.3 x 4	
	2.2			C316	1	1.6 sq.		C359			1	4 sq.	
	3.4			C317	1	2 sq.		C360			1	4 x 5.3	
	6.6			C318	1	2.6 sq.		C361			2	4 x 8	
	9			C319	1	2.3 x 4		C362			3	4 x 12	
	12			C320	1	4 sq.		C363			4	8 sq.	
	18			C321	1	4 x 5.3		C364			4	8 x 12	
	24			C322	2	4 x 8		C365			4	8 x 16	
	36			C323	3	4 x 12							
	48			C324	4	8 sq.		C366			1	1 sq.	
	70			C325	4	8 x 12		C367			1	1.3 sq.	
	90			C326	4	8 x 16		C368			1	1.6 sq.	
0-41	0.6	52	BR.	C327	1	1 sq.	0-106	12	130	BR.	C369	1	2 sq.
	1.5			C328	1	1.3 sq.		C370			1	2.6 sq.	
	2.2			C329	1	1.6 sq.		C371			1	2.3 x 4	
	3.4			C330	1	2 sq.		C372			1	4 sq.	
	6.6			C331	1	2.6 sq.		C373			1	4 x 5.3	
	9			C332	1	2.3 x 4		C374			2	4 x 8	
	12			C333	1	4 sq.		C375			3	4 x 12	
	18			C334	1	4 x 5.3		C376			4	8 sq.	
	24			C335	2	4 x 8		C377			4	8 x 12	
	36			C336	3	4 x 12		C378			4	8 x 16	
	48			C337	4	8 sq.							
	70			C338	4	8 x 12		C379			1	1 sq.	
	90			C339	4	8 x 16		C380			1	1.3 sq.	
0-63	0.6	78	BR.	C340	1	1 sq.	0-127	12	156	BR.	C381	1	1.6 sq.
	1.5			C341	1	1.3 sq.		C382			1	2 sq.	
	2.2			C342	1	1.6 sq.		C383			1	2.6 sq.	
	3.4			C343	1	2 sq.		C384			1	2.3 x 4	
	6.6			C344	1	2.6 sq.		C385			1	4 sq.	
	9			C345	1	2.3 x 4		C386			1	4 x 5.3	
	12			C346	1	4 sq.		C387			2	4 x 8	
								C388			3	4 x 12	
								C389			4	8 sq.	
								C390			4	8 x 12	
								C391			4	8 x 16	

NOTES:

Mounting brackets are available for the above types, except for the 4 x 8 cell size and larger.

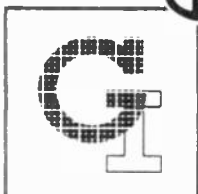
*These units use one bracket; all others require two.

†Across outer legs of center tap connection.

Mounting studs are centrally located on the cell and where more than one is used the measurement is 3 1/4" between centers. A 10-32 stud is

used with cell sizes up to 2.6" square and a 3/16-18 stud is used with the larger cell sizes;

The stacks shown above are adaptable for a wide range of common applications. The ratings are for stacks mounted with cells in a vertical position with normal convection cooling, and in a maximum ambient temperature of 35° C (95° F) with a resistive or inductive load. Many other types are available for special requirements.



GENERAL INSTRUMENT DISTRIBUTOR DIVISION
General Instrument Corporation

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• TV AND RADIO RECTIFIERS



The basic replacement rectifier line offering the widest range in the industry. Input ratings from 25 to 195 volts AC and up. DC output current 10 to 1,200 MA.

HIGH DENSITY TYPES — RATINGS & DIMENSIONS

Catalog Number	Output Current Range, ma	Max. RMS Volts	Min. Series Resistor, Ohms	Dimensions, inches	
				Nom. Plate Size	Max. Mounting Dimension
T065	to 65	130	22	0.67 X 0.67	3/4
T100	to 100	130	22	1 X 1	1 1/4
T150	to 150	130	15	1 X 1	1 3/4
T075 T150	75 150	130	15	1 X 1	3/4
T200 T300	150 300	130	5	1.25 X 1.25	1 3/4
T350 T400	300 400	130	5	1.5 X 1.5	1 3/4
T450 T500	400 500	130	5	1.5 X 1.5	1 3/4
T550 T650	500 650	130	5	2 X 2	2

UNIVERSAL REPLACEMENT TYPES

Catalog Number	Output Current Range, ma	Max. RMS Volts	Min. Series Resistor, Ohms	Dimensions, inches
MR300	300	130	5	1.5 X 1.5
RS350	350	130	5	2 X 2
RS400	400	130	5	2 X 2
MR500	500	130	5	2 X 2

SILICON REPLACEMENT RECTIFIER

Hermetically sealed to provide positive safeguard against contaminants destroying the rectifier junction. Assures long, trouble-free life. Manufactured to the same rigid requirements specified for critical military and industrial applications.

Type No.	Max. DC Ma	Max. RMS Volts	Peak Inv. Volts
SD-91	300	70	100
SD-92	300	140	200
SD-93	300	210	300
SD-94	300	280	400
SD-95	300	350	500
SD-500	500	130	400
SE4	350	140	400
TV-500	750	130	400
TV-502	750	260	800

• SILICON SOLAR CELLS

UNMOUNTED CELL TYPES—COMMERCIAL GRADES*

TYPICAL ELECTRICAL CHARACTERISTICS FOR MAXIMUM POWER TRANSFER AT 30°C CELL TEMPERATURE

CELL TYPE	OVERALL DIMENSIONS (cm x cm)	NOMINAL ACTIVE AREA (cm²)	AVG. CONVERSION EFFICIENCY %	INCIDENT ENERGY (100 mW/cm² @ 1 SUN)		
				OUTPUT POWER mW	APPROX. OUTPUT VOLTAGE VOLTS	APPROX. OUTPUT CURRENT mA
S1020	1.4 x 2	2.8	4	11.5	0.4	12.5
S1020A	1.4 x 2	2.8	6	18.5	4	18
S1020B	1.4 x 2	2.8	8	14.0	4	15
S0520	0.7 x 2	1.4	8	11.5	2.5	7.5
S0520A	0.7 x 2	1.4	6	4.5	4	11.2
S0520B	0.7 x 2	1.4	8	6.3	4	15
S0510	0.7 x 1	0.7	8	5.8	3.5	3.5
S0510A	0.7 x 1	0.7	6	2.25	4	5.6
S0510B	0.7 x 1	0.7	8	3.0	4	7.5

Module Types and Typical Characteristics

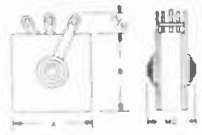
For Maximum Power Transfer Design (at 100 mW/cm² solar energy radiation (1 sun), 30°C cell temperature)

MODULE TYPES	NUMBER OF CELLS IN SERIES	CONVERSION EFFICIENCY AT MAX. POWER OUTPUT %	MAX. POWER OUTPUT mW	TYPICAL OUTPUT VOLT AT MAX. POWER VOLTS	TYPICAL OUTPUT CURRENT AT MAX. POWER mA
SD 1020A	1	4 to 6	7 to 10.5	0.32	27
SD 1020B	1	6 to 8	10.5 to 14	0.35	35
SD2 1020A	2	4 to 6	14 to 21	0.64	27
SD2 1020B	2	6 to 8	21 to 28	0.70	35
SMS 1020A	5	4 to 6	35 to 52.5	1.60	27
SMS 1020B	5	6 to 8	52.5 to 70	1.75	35

• SINGLE PLATE HALF WAVE RECTIFIERS



These rectifiers are used for small power applications. Voltage regulation of 15% to 20% may be realized. Ratings shown are for resistive load.



Catalog Number	Max DC MA	Max RMS Volts	Min. Series Resistor Ohms	Dimensions			Catalog Number
				Nominal		Max	
				A	B	MD	
Q1H	65	75	27	0.7	0.7	0.7	Q1H
A1H	100	75	27	1.0	0.7	0.7	A1H
R1H	150	75	15	1.5	1.0	0.7	R1H
C1H	250	75	5	2.0	1.5	0.7	C1H
M1H	500	75	5	2.5	2.0	0.7	M1H

• FULL WAVE BRIDGE RECTIFIERS

Catalog Number	Max DC MA	Max RMS Volts	Min. Series Resistor Ohms	Dimensions			Catalog Number
				Nominal		Max	
				A	B	MD	
Q1B	100	75	27	0.7	0.7	0.7	Q1B
Q4B	100	130	27	1.0	0.7	0.7	Q4B
A1B	180	75	27	1.5	1.0	0.7	A1B
B1B	300	75	27	2.0	1.5	0.7	B1B
C1B	600	75	27	2.5	2.0	0.7	C1B
M1B	1200	75	27	3.0	2.5	0.7	M1B

Trade discounts apply only to list price items. Prices subject to change without notice.

• HIGH VOLTAGE CARTRIDGE RECTIFIERS



These rectifiers are designed with ferrule terminals for quick insertion into, and withdrawal from, standard fuse clips. Recommended for high voltage power supplies where long life and extreme reliability are of prime importance.

Type	DC Output*		Max Volt Input RMS	Peak Inverse Voltage	Case	Dimensions		Type
	Volts	MA				Dia	Length	
V50HF	1000	5	1650	2400	A	3/4"	2 3/4"	V50HF
V75HF	1500	5	2475	3600	A	3/4"	3"	V75HF
V100HF	2000	5	3300	4800	A	3/4"	4"	V100HF
V175HF	2500	5	4125	6000	A	3/4"	4 1/4"	V175HF
V150HF	3000	5	4950	7200	A	3/4"	5 1/2"	V150HF
V175HF	3500	5	5775	8400	A	3/4"	6"	V175HF
U45HP	900	1.5	1485	2160	B	1/4"	2"	U45HP
U50HFP	1000	1.5	1650	2400	C	1/4"	2"	U50HFP

* Into Capacitive load

• SELENIUM PHOTOELECTRIC CELLS

Type	Style	Cell Size	Average Output (µA)	Type
A-15	Unmounted	2" diam	750	A-15
A-10	Unmounted	1 3/4" diam	500	A-10
A-5	Unmounted	1 1/4" diam	250	A-5
A-2	Unmounted	3/4" diam	12	A-2
B-15	Unmounted	1 1/2" x 1 1/4"	750	B-15
B-10	Unmounted	1 1/4" x 1 1/4"	350	B-10
B-5	Unmounted	1 1/4" x 1 1/4"	220	B-5
B-2	Unmounted	7/8" x 7/8"	75	B-2
B-1	Unmounted	7/8" x 7/8"	32	B-1
A-15M	Mounted	2" diam	750	A-15M
A-10M	Mounted	1 3/4" diam	350	A-10M
A-5M	Mounted	1 1/4" diam	220	A-5M
A-2M	Mounted	3/4" diam	12	A-2M
B-10M	Mounted	1 1/4" x 1 1/4"	350	B-10M
**DP-2	Mounted	1 1/2" x 1 1/4"	24	**DP-2
**DP-3	Mounted	3/4" x 3/4"	60	**DP-3
**DP-5	Mounted	1 1/4" x 1 1/4"	600	**DP-5
B-2M	Mounted	7/8" x 7/8"	55	B-2M

* At 100 ft. candles illumination and 100 ohm external resistance. ** Hermetically sealed

PB-1 The Use of Selenium Photocells and Sun Batteries PB-1

International Rectifier

C O R P O R A T I O N

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

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

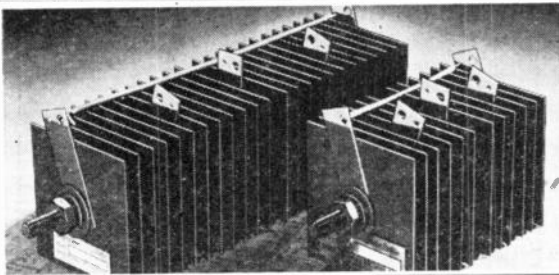
THE WORLD'S LARGEST SUPPLIER OF INDUSTRIAL METALLIC RECTIFIERS



International Rectifier

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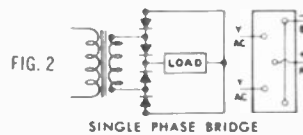
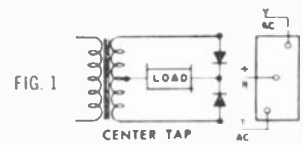
• SELENIUM INDUSTRIAL POWER RECTIFIERS



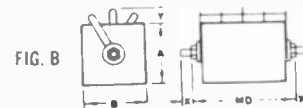
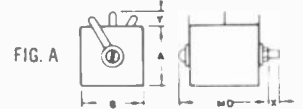
Where space and weight considerations are paramount, these high voltage and current rectifiers will deliver approximately twice the current output of standard selenium units. They possess high inverse voltage ratings and outstanding ability to handle temporary overloads. They feature direct adaptability to a wide range of industrial and commercial applications, and require no paralleling devices in installation for voltage division.

Type	Output		Max. Input AC Volts	Circuit & Connecting Diag. Fig.	Dimensions (Inches)						
	DC Volts	DC Amp			Fig.	A	B	MD*	X	Y	Stud
J14C04	0	0.4	36	1	A	1	1	1 1/8	3/8	1/4	8-32
J14C1	1.5	36	1	A	1 1/2	1 1/2	1 1/8	3/8	5/8	8-32	
J14C5	to 4.8	36	1	A	3	3	1 1/8	3/4	3/8	3/8-16	
J14C8	8.4	36	1	A	4	4	1 7/8	3/4	1 1/8	3/8-16	
J14C17	14	17.0	36	1	A	6	5	2 1/8	3/4	1 1/4	3/8-16
J29B04	0	0.4	36	2	B	1	1	1 1/2	3/8	1/4	8-32
J29B1	1.5	36	2	B	1 1/2	1 1/2	1 1/2	3/8	5/8	8-32	
J29B5	to 4.8	36	2	B	3	3	2 5/8	3/4	3/8	3/8-16	
J29B8	8.4	36	2	B	4	4	2 5/8	3/4	1 1/8	3/8-16	
J29B17	29	17.0	36	2	B	6	5	3 1/4	3/4	1 1/4	3/8-16
J58B04	0	0.4	72	2	B	1	1	2 1/4	3/8	1/4	8-32
J58B1	1.5	72	2	B	1 1/2	1 1/2	2 1/4	3/8	5/8	8-32	
J58B5	to 4.8	72	2	B	3	3	4 1/8	3/4	3/8	3/8-16	
J58B8	8.4	72	2	B	4	4	4 1/8	3/4	1 1/8	3/8-16	
J58B17	58	17.0	72	2	B	6	5	5 5/8	3/4	1 1/4	3/8-16
J116B04	0	0.4	144	2	B	1	1	3 13/16	3/8	1/4	8-32
J116B1	1.5	144	2	B	1 1/2	1 1/2	3 13/16	3/8	5/8	8-32	
J116B5	to 4.8	144	2	B	3	3	7 1/8	3/4	3/8	3/8-16	
J116B8	8.4	144	2	B	4	4	7 3/8	3/4	1 1/8	3/8-16	
J116B17	116	17.0	144	2	B	6	5	10 1/4	3/4	1 1/4	3/8-16
J135B04	0	0.4	180	2	B	1	1	4 9/16	3/8	1/4	8-32
J135B1	1.5	180	2	B	1 1/2	1 1/2	4 9/16	3/8	5/8	8-32	
J135B5	to 4.8	180	2	B	3	3	8 1/16	3/4	3/8	3/8-16	
J135B8	8.4	180	2	B	4	4	8 1/16	3/4	1 1/8	3/8-16	
J135B17	135	17.0	180	2	B	6	5	12 9/16	3/4	1 1/4	3/10-16

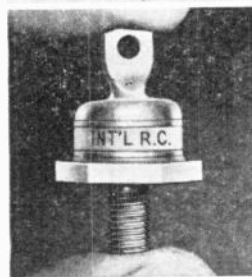
Circuit and Connecting Diagrams



Diagrams of Dimensions



• 25 AMP SILICON POWER RECTIFIERS



Part Number	Rated PIV ¹	RMS Max. ²	Recommended ³ Max. RMS Volts
25H5	50	35	12
25H10	100	70	24
25H15	150	105	36
25H20	200	140	48
25H25	250	175	60
25H30	300	210	72
25H35	350	245	84
25H40	400	280	96
25H45	450	310	108
25H50	500	350	120

A WORLD OF DIFFERENCE THROUGH RESEARCH

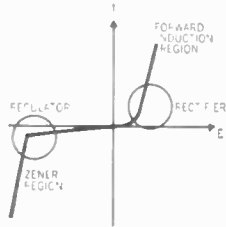
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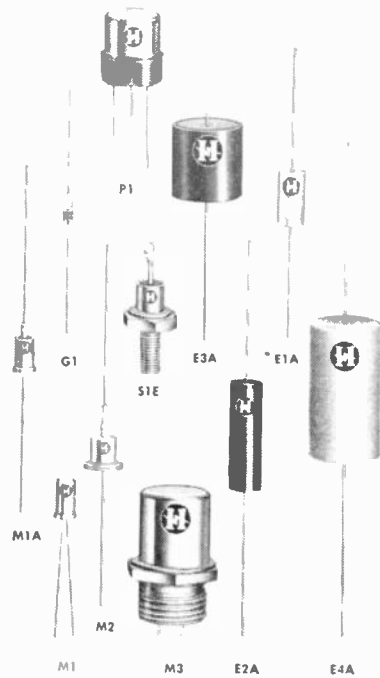
Sec. 4400



Typical I-E characteristic curve for a Silicon Diode.

Hoffman

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SEMICONDUCTOR
DEVICES**



180 Zener Devices	6 ZENER LOW VOLTAGE DIODES • 200mw • Zener Voltage Range: 2.0V — 8.0V	6 ZENER MICRO-MINIATURE GLASS LOW VOLTAGE DIODES • 250mw • Zener Voltage Range: 2.0V — 8.0V	5 ZENER "DOUBLE ANODE" LOW VOLTAGE DIODES • 200mw • Zener Voltage Range: 3.0V — 8.0V	15 ZENER "SINGLE ANODE" MEDIUM VOLTAGE DIODES • 150mw • Zener Voltage Range: 7.5V — 145V	9 ZENER "DOUBLE ANODE" MEDIUM VOLTAGE DIODES • 150mw • Zener Voltage Range: 7.5V — 45V	6 ZENER REFERENCE DIODES & ELEMENTS • Operating Zener Voltage: 1N429 6.2V ± 5% • Operating Zener Voltage: 1N430, 1N430A, 1N430B, 1N1530, 1N1530A 8.4V ± 5% • Dyn. Imp.: 1N429 20 ohms Others: 15 ohms	4 ZENER REFERENCE MICRO-MINIATURE DIODES • Operating Zener Voltage: 5.9V to 6.5V • Dyn. Imp.: 15 ohms	15 ZENER REFERENCE STRINGS • Operating Zener Voltage: 49.6V ± 5% • Dyn. Imp.: 29 ohms to 180 ohms (over the entire line)	38 ZENER VOLTAGE REGULATORS 10 WATT • Zener Voltage Range: 5.6V to 200V ± 10% • Dyn. Imp.: 1 ohm to 140 ohms (over the entire line)	38 ZENER VOLTAGE REGULATORS 1 WATT • Zener Voltage Range: 5.6V to 200V ± 10% • Dyn. Imp.: 1.2 ohms to 1100 ohms (over the entire line)	38 ZENER VOLTAGE REGULATORS 1/4 WATT • Zener Voltage Range: 5.6V to 200V ± 10% • Dyn. Imp.: 3.5 ohms to 1400 ohms	
	Case Type	M1	G1	M1	M1	M1	M1, M3, P1	G1	E1A, E2A, E3A, E4A	S1E	M1A	G1
45 Diodes	26 GENERAL PURPOSE SILICON DIODES • 150mw • PIV Range: 5.6V thru 470V		6 HB GENERAL PURPOSE SILICON DIODES • 150mw • PIV Range: 5.6V thru 270V			8 GLASS GENERAL PURPOSE DIODES • 200mw • PIV Range: 25V to 175V		5 GLASS FAST RECOVERY SILICON DIODES • 200mw • PIV Range: 25V to 175V				
	Case Type	M1		M1			G1		G1			
26 Rectifiers	11 SILICON DIFFUSED JUNCTION MEDIUM POWER RECTIFIERS • PIV Range: 50V to 1000V			7 SILICON DIFFUSED JUNCTION MEDIUM POWER RECTIFIERS • PIV Range: 50V to 500V				8 SILICON DIFFUSED JUNCTION MEDIUM POWER RECTIFIERS • PIV Range: 95V to 570V				
	Case Type	M1A			M2				S1E			
17 Solar Cells	9 SILICON SOLAR CELLS • Typical Power Output Range: 0.7mw to 34.0mw (at 10,000 ft. candles—sunlight) • Spectral Response: Range: 4000 to 11,500 angstroms; Peak: 8500 angstroms					8 PHOTO-VOLTAIC READOUT CELLS • Number of readout positions: from 4 to 10 • Spectral Response: Range: 4000 to 11,500 angstroms; Peak: 8500 angstroms						

Design Parameter Data Available On All Above Items Upon Request.

**IF YOU NEED A JOB IN ELECTRONICS DONE
QUICKER AND BETTER, CONTACT**

Hoffman Electronics
CORPORATION
SEMICONDUCTOR DIVISION
EVANSTON, ILLINOIS



MALLORY
P. R. MALLORY & CO. INC.

SILICON RECTIFIERS

P. R. MALLORY & CO., INC. - INDIANAPOLIS



Diffused Junction—Silicon Rectifiers

Mallory now offers the widest line of silicon rectifiers for selenium rectifier replacement, commercial radio and TV, and industrial and military applications. Four types have been developed to fit virtually every application requirement. Peak inverse ratings from 50 to 600 Volts, DC current output from 200 ma up to heavy industrial current requirements, and operating temperature ranges from -65° to +100°C. Types include axial lead, ferrule, fuse clip or stud type mountings.

Catalog Number	P.I.V.	MA.	List Price
Type "T" Disc (5 pieces per standard package)			
TSR 500	50	500	\$1.60
TSR 1050	100	500	1.80
TSR 2050	200	500	1.90
TSR 3050	300	500	2.00
TSR 3620	365	200	1.40
TSR 4050	400	500	2.35
TSR 5050	500	500	2.70
TSR 6050	600	500	3.40
TSRD 4050	(Replacement unit for kit K2T)		4.85

Catalog Number	P.I.V.	MA.	List Price
Type "P"—Plug-in (5 pieces per standard package)			
PSR 550	50	500	\$1.90
PSR 1050	100	500	2.00
PSR 2050	200	500	2.25
PSR 3050	300	500	2.35
PSR 3620	365	200	1.60
PSR 4050	400	500	2.65
PSR 5050	500	500	3.15
PSR 6050	600	500	4.00

Catalog Number	P.I.V.	MA.	List Price
Type "E"—Top Hat (2 pieces per standard package)			
ESR 575	50	750	\$2.25
ESR 1075	100	750	2.35
ESR 2075	200	750	2.60
ESR 3075	300	750	2.90
ESR 4075	400	750	3.75
ESR 5075	500	750	4.75
ESR 6075	600	750	6.95

For Type "S"—Stud mounts—see your Distributor.

Catalog Number		P.I.V.	MA.	List Price
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Conversion Kits—Boxed with Holder

K2T	(2 TSR4050 with Plug and Socket)	400	500	\$5.00
K1P	(1 PSR3620 with holder)	365	200	1.65
K2P	(2 PSR4050 with holder)	400	500	5.40

Power Bridge

K4P1	(Four PSR1050)	100	500	\$7.00
K4P2	(Four PSR2050)	200	500	7.50
K4P3	(Four PSR3050)	300	500	8.00
K4P4	(Four PSR4050)	400	500	10.25
K5P5	(Four PSR5050)	500	500	11.35

Rectifier Accessories—Minimum Order 25

SH	Single Holders	\$0.15
DH	Double Holders	.25
BH	Power Bridge Holders	.80
DPS	Double Plug and Socket Combination	.26
SI	Insulator for Single Holders	.03
DI	Insulator for Double Holders	.03
BI	Insulator for Power Bridges	.09
CG	Grid Caps	.08
SIL10	1 Watt, 10 Ohm Resistor, 20%	.30

Gold Plated Metallic Contacts

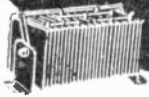
All metallic connections with the semiconductor material are gold plated to permit etching the silicon wafer. Result—a cleaner junction and higher reliability.

Always Ask for

MALLORY STA-LOC Controls

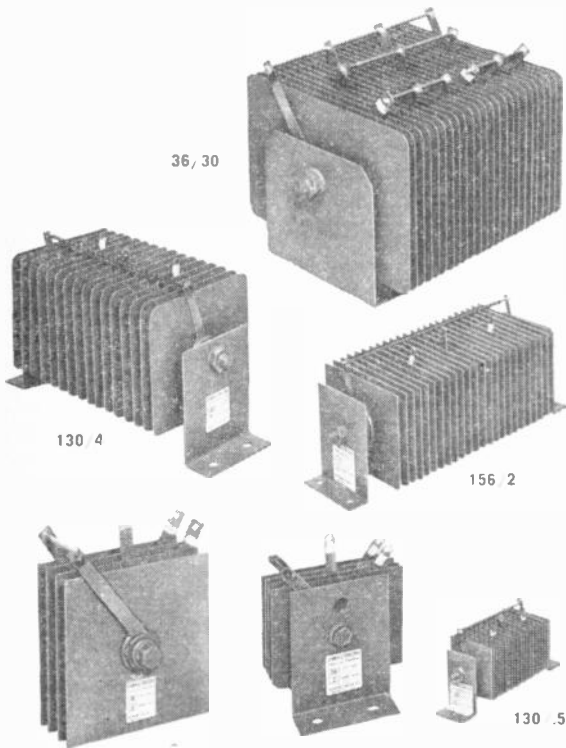
A good way to cut "time consuming delays"

DIRECTRON



Industrial Selenium Rectifiers, Transformers, Chokes and Power Supplies

**FULL WAVE BRIDGE RECTIFIERS,
SINGLE PHASE, RESISTIVE-INDUCTIVE LOADS
ALL PRICES SHOWN ARE USER NET PRICES**

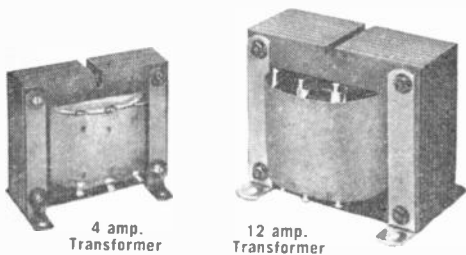


Max. Amps.	18v. in— 14v. out	36v. in— 28v. out	54v. in— 42v. out	130v. in— 100v. out
1/2	\$1.20	\$ 2.10	\$ 3.20	\$ 6.00
1	1.50	2.40	3.80	9.00
2	2.40	3.30	5.40	12.00
3	3.00	4.20	6.60	15.00
4	3.75	7.50	11.50	25.25
6	4.50	9.00	13.00	33.00
10	6.60	12.75	20.00	42.50
12	8.20	16.25	22.50	46.00
15	10.50	21.00	30.00	60.00
20	13.25	25.50	38.00	79.50
24	16.25	32.50	45.00	86.50
30	20.00	38.00	57.00	—
36	25.00	48.50	—	—

For Half-Wave, Center-Tap, Doubler, Tripler or 3-Phase Quotations on Request — Custom Built Stacks — 24 Hour Service

SELENIUM RECTIFIER TRANSFORMERS

Transformers are with 2 — 18 volt center-tapped windings. Connected in series delivers 36 volts as rated. Connected in parallel — delivers 18 volts at twice rated current. (Taps 9, 18, 27, 36 V.)

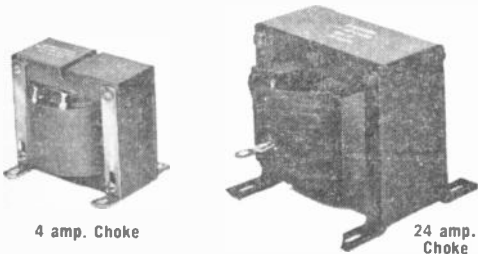


Amps	User's Net Price	Amps	User's Net Price
1 Amp	\$ 5.25	12 Amps	\$16.75
2 Amps	7.20	24 Amps	35.75
4 Amps	8.75	30 Amps	45.00
8 Amps	15.00	50 Amps	59.75

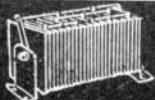
Primary taps at 100, 105, 110 and 115 volts now available on 12 amp, 24 amp, 30 amp and 50 amp transformers. No extra charge. Custom built transformers — 48 hour service.

With two 28 V center-tapped windings — 56 volt 12 amps — \$30.00
With two 28 V center-tapped windings — 56 volt 6 amps — 22.50

HIGH CURRENT CHOKES



Amps	Inductance	Resistance	User's Net Price
1 Amp	.1 hy	1.5 ohm	\$ 4.95
2 Amps	.04 hy	.9 ohm	6.00
4 Amps	.07 hy	.6 ohm	7.95
8 Amps	.03 hy	.3 ohm	12.00
12 Amps	.01 hy	.1 ohm	14.95
20 Amps	.004 hy	.05 ohm	15.00
24 Amps	.004 hy	.025 ohm	29.95
30 Amps	.003 hy	.01 ohm	36.00
50 Amps	.001 hy	.01 ohm	45.00
100 Amps	0005 hy	.005 ohm	60.00



Mfd. by SANFORD MILLER COMPANY
BROOKLYN 6, N. Y.

SILICON POWER RECTIFIERS

HY-A-SIL
High - Ampere - Silicon



FEATURES

- High forward current (Low voltage drop)
- Low reverse current (Magnetic amplifier quality)
- High operating temperature, 190 C (Up to 120 C ambient)
- High operating voltage (Up to 600 p.i.v.)
- No noticeable aging (Long life)
- Hermetically sealed
- High efficiency (99% compared to about 75% for selenium)
- Excellent regulation (4% compared to about 15% for selenium)
- Small size (Easy to fan cool)

Stock No.	Type	AC Input up to	DC Output up to	Max. Amps. Self Cooled	Max. Amps. Fan Cooled	Size and Weight	User Met
SI-CT-A	Center-tap	18.0-18v.	16v.	40	80	B	\$30.00
SI-CT-B	Center-tap	36.0-36v.	32v.	40	80	B	40.00
SL-CT-B	Center-tap	36.0-36v.	32v.	50	100	C	45.00
SL-CT-D	Center-tap	72.0-72v.	64v.	50	100	C	48.00
SL-CT-F	Center-tap	140.0-140v.	125v.	50	100	C	54.00
SK-CT-A	Center-tap	18.0-18v.	16v.	75	150	C	48.00
SM-CT-B	Center-tap	36.0-36v.	32v.	200	400	C	72.00
SO-CT-B	Center-tap	36.0-36v.	32v.	400	800	C	120.00
SA-BR-D	1φ Bridge	140v.	125v.	1	—	—	9.00
SC-BR-D	1φ Bridge	140v.	125v.	2	—	—	10.50
SC-BR-F	1φ Bridge	280v.	250v.	2	—	—	12.00
SD-BR-D	1φ Bridge	140v.	125v.	6	—	—	33.00
SD-BR-F	1φ Bridge	280v.	250v.	6	—	—	42.00
SE-BR-A	1φ Bridge	36v.	32v.	10	—	—	21.00
SE-BR-D	1φ Bridge	140v.	125v.	10	—	D	40.00
SE-BR-F	1φ Bridge	280v.	250v.	10	—	D	48.00
SI-BR-A	1φ Bridge	36v.	32v.	40	80	D	54.00
SI-BR-B	1φ Bridge	72v.	64v.	40	80	D	72.00
SI-BR-C	1φ Bridge	105v.	95v.	40	80	D	96.00
SI-BR-D	1φ Bridge	140v.	125v.	40	80	D	110.00
SL-BR-A	1φ Bridge	36v.	32v.	50	100	D	33.00
SL-BR-F	1φ Bridge	280v.	250v.	50	100	D	140.00
SK-BR-A	1φ Bridge	36v.	32v.	75	150	D	100.00
SK-BR-B	1φ Bridge	72v.	64v.	75	150	D	144.00
SK-BR-C	1φ Bridge	105v.	95v.	75	150	D	165.00
SK-BR-D	1φ Bridge	140v.	125v.	75	150	D	210.00
SK-BR-F	1φ Bridge	210v.	190v.	75	150	D	270.00
SJ-BR-A	1φ Bridge	36v.	32v.	130	300	E	180.00
SJ-BR-B	1φ Bridge	72v.	64v.	130	300	E	250.00
SJ-BR-C	1φ Bridge	105v.	95v.	130	300	E	300.00
SJ-BR-D	1φ Bridge	140v.	125v.	130	300	E	360.00
SM-BR-B	1φ Bridge	72v.	64v.	200	400	E	180.00
SM-BR-F	1φ Bridge	280v.	250v.	200	400	E	360.00
SO-BR-B	1φ Bridge	72v.	64v.	400	800	E	270.00
SO-BR-F	1φ Bridge	280v.	250v.	400	800	E	570.00
SI-PH-A	3φ Bridge	36v.	48v.	60	120	F	80.00
SI-PH-B	3φ Bridge	72v.	96v.	60	120	F	100.00
SI-PH-C	3φ Bridge	105v.	144v.	60	120	F	144.00
SI-PH-D	3φ Bridge	140v.	188v.	60	120	F	165.00

All above ratings based on 30 C ambient. Fan-cooled ratings based on air velocity of 1000 linear ft/minute.

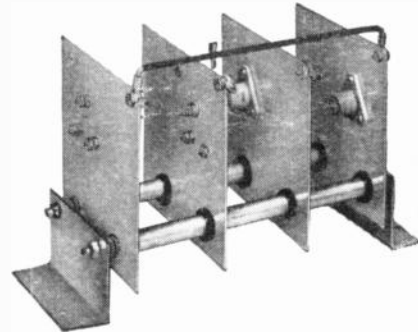
For resistive or inductive loads, as rated. For capacitive or battery loads, derate amperage 20%.

Doublers, triplers, 3 phase half wave and 3 phase center-tap also available. Custom-built stacks, 24 hour service.

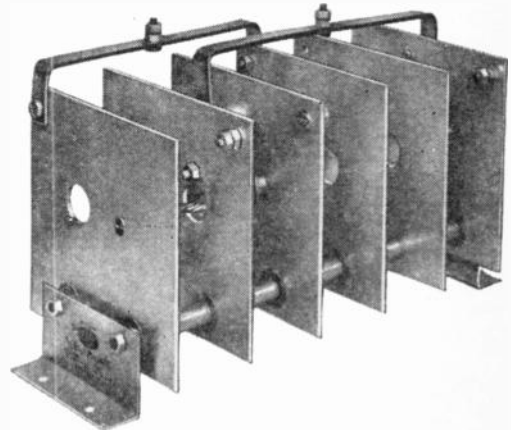
DIMENSIONS WITH BRACKETS

Size	Length	Height	Width	Weight
B	3"	6"	5"	12 oz.
C	3"	6"	5"	16 oz.
D	6"	6"	5"	1 1/4 lbs.
E	8"	6"	5"	3 lbs.
F	9"	7"	5"	2 1/4 lbs.

*Not suitable for fan cooling.



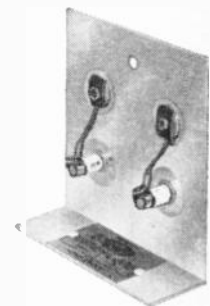
SL-BR-F



SK-PH-A



SA-BR-D

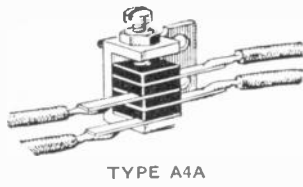


SC-BR-F

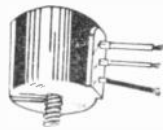
Mfd. by **SANFORD MILLER COMPANY**
BROOKLYN 6, N. Y.



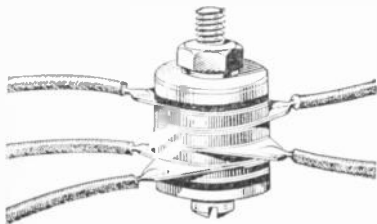
SCHAUER INSTRUMENT RECTIFIERS



TYPE A4A



TYPE BP2B



TYPE C4A

Schauer copper oxide rectifiers for instrument and other uses are processed and individually tested to meet the requirements of the user. Versatile processing techniques make possible variations in characteristics for special or unusual applications. Each rectifier is rated conservatively for long life and dependable operation.

Size "B" Rectifiers are encapsulated — fully sealed in special formula polyester plastic in attractive red color. Cells are specially processed with vacuum evaporated gold contact areas to give maximum efficiency, stable operation and low aging characteristics. All rectifiers are supplied with 3" leads, color-coded. (Red, positive; black, negative; yellow, A.C.) Plastic encapsulated rectifiers have lead insulation imbedded in the plastic for better sealing, eliminating short circuits at the rectifier. Lead lengths of other

than 3" can be supplied on special order.

"A" SIZE CELLS have good frequency response above the audio range and can be used at higher frequencies. Recommended for meter applications needing 1MA or less for operation. Can be used for other applications requiring up to 5 MA.

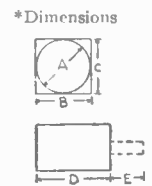
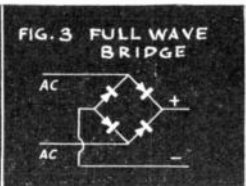
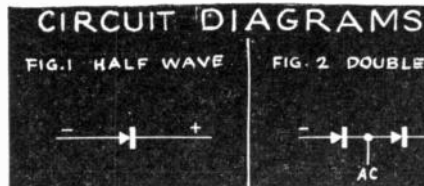
"B" SIZE CELLS are for meter, relay and other applications requiring 1MA up to their maximum rating. Recommended for commercial and low audio frequency operation.

"C" SIZE CELLS—are for general applications requiring larger output currents and operation of meters, relays and other apparatus. Special process cells for varistor applications.

Write, wire or telephone for complete information. We welcome your inquiries concerning any special rectification problem.

NOTE: The Schauer Mfg. Corp. is the exclusive manufacturer of replacement Westinghouse copper oxide rectifiers.

Max. Cont. Rating			Circuit Diagram Fig.	Cell Dia. Inches	No. of Cells	Leads	Mounting Screw Size	DIMENSIONS*					Type	
D.C. M.A.	D.C. Volts	Max. RMS Volts						(Dia.) A	B	C	D	E		
3	6.0		2	$\frac{3}{16}$ sq.	2	3	Hole for 2-56		$\frac{3}{8}$	$\frac{1}{4}$	$\frac{9}{16}$			A2C
5	3.0	5.0	3	$\frac{1}{16}$ sq.	4	4	Hole for 2-56		$\frac{3}{8}$	$\frac{1}{4}$	$\frac{9}{16}$			A4A
13	3.0		1	$\frac{7}{16}$	1	2	6-32	$\frac{9}{16}$			$\frac{7}{16}$	$\frac{9}{32}$		BP1C
13	6.0		2	$\frac{7}{16}$	2	3	6-32	$\frac{9}{16}$			$\frac{1}{2}$	$\frac{5}{16}$		BP2B
26	1.5	2.5	4	$\frac{7}{16}$	2	3	6-32	$\frac{9}{16}$			$\frac{1}{2}$	$\frac{5}{16}$		BP2C
26	3.0	5.0	3	$\frac{7}{16}$	4	5	6-32	$\frac{9}{16}$			$\frac{23}{32}$	$\frac{5}{16}$		BP4A
32	3.0		1	$\frac{3}{4}$	1	0	10-32	$\frac{3}{4}$			$\frac{11}{16}$	$\frac{5}{16}$		C1C
32	6.0		2	$\frac{3}{4}$	2	0	10-32	$\frac{3}{4}$			$\frac{3}{4}$	$\frac{5}{16}$		C2C
32	9.0		1	$\frac{3}{4}$	3	0	10-32	$\frac{3}{4}$			$\frac{7}{8}$	$\frac{1}{4}$		C3C
64	3.0	5.0	3	$\frac{3}{4}$	4	5	10-32	$\frac{3}{4}$			$\frac{21}{16}$	$\frac{5}{16}$		C4A



SCHAUER MANUFACTURING CORP. • Cincinnati 42, Ohio

Manufacturers of high-quality, dry-disc rectifiers since 1930.

Transitron...

leadership in semiconductors

TECHNICAL LEADERSHIP — Transitron engineering skill has developed the world's broadest line of semiconductor components . . . and that same know-how is at *your* service. Our applications engineers are always available to help solve your applications problems.

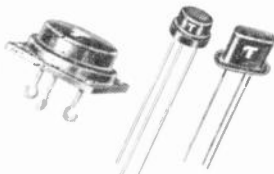
LEADERSHIP IN QUALITY — Transitron semiconductors have achieved a reputation for reliability. More than 2000 employees and two plants with a total floor space exceeding 300,000 square feet are devoted exclusively to building that reputation. The most advanced production methods are employed, and each unit is carefully checked against specifications before it is shipped. That's your assurance of quality.

for every application . . . a broad line of quality semiconductors

SILICON TRANSISTORS

(see bulletins TE-1355 and TE-1353)

- High Power
- Medium Power
- Small Signal



GERMANIUM DIODES

(see bulletins TE-1319 and TE-1300)

- JAN types
- Computer types
- High Temperature types
- High Resistance types
- Very Fast Switching types



SILICON VOLTAGE REGULATORS

(see bulletin TE-1352)

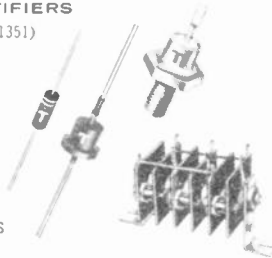
- Subminiature
- Miniature
- Stud Mounted Power types



SILICON RECTIFIERS

(see bulletin TE-1351)

- JAN types
- Subminiature
- Axial Lead
- Stud types
- Special Assemblies
- High Voltage types



SILICON DIODES

(see bulletin TE-1350)

- JAN types
- High Conductance types
- High Frequency types
- Fast Switching types
- Very Fast Switching types



SILICON VOLTAGE REFERENCES

(see bulletin TE-1352)

- Low Temperature Coefficient types
- Precision Voltage types



Transitron

electronic corporation
wakefield, massachusetts



T
authorized
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Stotts Friedman Co. 135 E. Second St., Dayton 2 BALdwin 4-8373
- OKLA. — Radio, Inc. 1000 S. Main St., Tulsa GIBson 7-9127
- PENNA. — Radio Electric Service Co. of Penna., Inc. Northwest Corner 7th & Arch Sts., Philadelphia WAInut 5-5840
- TEXAS — Contact Electronics, Inc. 2403 Farrington St., Dallas RIVERSide 1-9891
Busacker Electronic Equipment Co. 1216 W. Clay, Houston JACkson 9-9653
- UTAH — Kimball Distributing Co. 350 Pierpont Ave., Salt Lake City EMpire 3-5813

Sec. 4500



ADVANCE RELAYS



GH RELAYS—LOW COST GENERAL PURPOSE TYPES

GH SERIES

5 Amps resistive, 2 Amps inductive*

GHB SERIES

10 Amps resistive, 5 Amps inductive*

Maximum Size:

Height 1.100" Length 1.732" Width .937"



Dustite Plastic Enclosure

GHP SERIES (5-Amp Relay)

GHE SERIES (5-Amp Plate Circuit)

5 Amps resistive, 2 Amps inductive*

Size of Enclosure:

Overall length 2-11/16" x 1-13/32" x 1-13/32"
Length above chassis 2 1/8"

Enclosed in a clear polystyrene dustite enclosure with 8-pin octal for GHP1C and 2C, 11-pin for 3C versions

GH GROUP SPECIFICATIONS

GH, GHB, GHP Series:

NOMINAL POWER REQUIRED:

DC Relays:		AC Relays:	
1 to 2 watts nominal		2 to 3 Volt Amperes nominal	
Voltage	Resistance	Voltage	Resistance
6	25 Ohms	6	4 Ohms
12	100 Ohms	12	16 Ohms
24-28	400 Ohms	24	63 Ohms
100-120	8,000 Ohms	115	1,600 Ohms
		220	5,000 Ohms

GHE, Plate Circuit Series:

Nominal power required for relay pull-in:

- 1C — 130 milliwatts
- 2C — 260 milliwatts
- 3C — 350 milliwatts

Standard Resistance and Factory Adjusted Pull-In Current Values:

Resistance	Pick-Up Current		
	1C	2C	3C
2,500 Ohms	7.2 MA Max.	10.0 MA Max.	11.8 MA Max.
5,000 Ohms	5.0 MA Max.	7.2 MA Max.	8.3 MA Max.
10,000 Ohms	3.6 MA Max.	5.0 MA Max.	5.8 MA Max.

OPEN SERIES

AC Relays		6-12-24-115 VAC	220 VAC
Type	Contacts*	Net	Net
GH 1C	SPDT	3.05	3.55
GH 2C	DPDT	3.55	4.05
GH 3C	3 PDT	4.05	4.55
DC Relays		6-12-24 VDC	110 VDC
Type	Contacts*	Net	Net
GH 1C	SPDT	3.05	3.55
GH 2C	DPDT	3.35	3.85
GH 3C	3PDT	3.75	4.25

AC RELAYS		6-24-115 VAC	
Type	Contacts*	Net	
GHB 1C	SPDT	3.50	
GHB 2C	DPDT	4.05	
GHB 3C	3PDT	4.60	
DC RELAYS		6-12-24 VDC	
Type	Contacts*	Net	
GHB 1C	SPDT	3.50	
GHB 2C	DPDT	3.80	
GHB 3C	3PDT	4.40	

DUSTITE PLASTIC ENCLOSURE SERIES

AC RELAYS		6-12-24-115 VAC	220 VAC
Type	Contacts*	Net	Net
GHP 1C	SPDT	5.10	5.60
GHP 2C	DPDT	5.75	6.25
GHP 3C	3 PDT	7.05	7.55
DC RELAYS		6-12-24 VDC	110 VDC
Type	Contacts*	Net	Net
GHP 1C	SPDT	5.15	5.65
GHP 2C	DPDT	5.65	6.15
GHP 3C	3PDT	6.95	7.45
PLATE CIRCUIT RELAYS		2.500	5.000
Type	Contacts*	Net	Net
GHE 1C	SPDT	5.40	5.85
GHE 2C	DPDT	6.30	6.70
GHE 3C	3PDT	7.80	8.25

*Contacts rated at 115 VAC or 26.5 VDC resistive loads.

POWER CONTROL TYPES

PJ SERIES (general purpose)

This has a higher current rating than the similar-appearing PG Series. The additional rating is achieved by including a jumper between blades, which effects a single-pole design. Such construction, providing double-make double-break heavy-duty contacts, raises the relay current rating without affecting the physical size, vibration or shock characteristics.



Dimensions:
H. 1 1/8" W. 1 1/8" L. 1 1/2"
Mounting Data:
4 tapped holes 6-32 NC-2;
1/2" x 1 1/8" centers.

Type	Coil Resistance	Contacts*	Net
PJ/1C/6VD	16 ohms	SPDT 30 amps	8.95
PJ/1C/115VA	400 ohms	SPDT 30 amps	10.40

*Contacts rated at 115 VAC or 26.5 VDC resistive loads.

PC SERIES (1, 2, 3 & 4 pole)

These are compact and positive-acting relays for either AC or DC. They are used in air conditioning and lighting systems, small motor starting, transformers, garage door openers—wherever dependable circuit switching is necessary.



Dimensions: H. 1 1/8" W. 1 1/8"
L. 2 1/8" — 1 & 2 pole.
H. 1 1/8" W. 2 1/8"
L. 2 1/8" — 3 & 4 pole.

Mounting Data:
2 tapped holes 6-32 NC-2, 2" centers

AC RELAYS		6-12-24-115 VAC	220 VAC
Type	Contacts*	Net	Net
PC 1C	SPDT	3.95	4.95
PC 2C	DPDT	5.95	6.95
PC 3C	3PDT	8.45	9.45
PC 4C	4PDT	10.95	12.45
DC RELAYS		6-12-24 VDC	110 VDC
Type	Contacts*	Net	Net
PC 1C	SPDT	3.95	4.45
PC 2C	DPDT	5.95	6.55
PC 3C	3PDT	8.45	8.95
PC 4C	4PDT	10.95	11.45



ADVANCE RELAYS



CRYSTAL CAN SIZE

MV SERIES

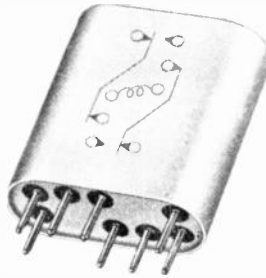
The MV is a rotary action relay available in a wide variety of header and mounting arrangements including solder-lug and plug in terminals.

New spring lead design contact blades provide a new kind of action insuring less contamination and longer life with rapid heat dissipation.

The high performance of this relay offers wide versatility for severe military and industrial applications.

Vibration: 10 to 34 cycles per second at maximum excursions of .4" 34 to 2000 CPS 20G's acceleration.

Shock: 50G for 11 milliseconds.



Dimensions:
H. 7/8" W. 1/4" D. 3/4"

Type	Coil Resistance	Pull-in Current Max.	Net
MV2C30D	30 Ohms	85 MA	13.60
MV2C120D	120 Ohms	44 MA	13.60
MV2C600D	600 Ohms	21 MA	13.60
MV2C1000D	1000 Ohms	16 MA	13.85
MV2C2500D	2500 Ohms	10 MA	15.05
MV2C5000D	5000 Ohms	7 MA	16.90
MV2C10,000D	10,000 Ohms	5 MA	19.35

Contacts rated at 115 VAC or 32 VDC

ORDERING INFORMATION

TERMINAL ARRANGEMENT

Solder-Hook Code 1
Plug in Pin Code 2
3" leads Code 3 (add .35)

MOUNTING ARRANGEMENT

Side Studs Code 1 (add .25)
Top Studs Code 2 (add .25)
2 Hole Bracket Code 3
Plain Can Code 4
Wide Strap Bracket Code 5
Side Angle Brackets Code 6

EXAMPLES:

- Solder hook terminals with side angle mounting brackets with 12 volt DC coil MV 2C 120D-16
Price 13.60 - no extras = 13.60
- 3" leads, top studs with 110 volt DC coil MV 2C 10,000 D-32
Price 16.35 - 35 for 3" leads - 25 for top studs - 16.95

COAXIAL TYPES



CB SERIES (coaxial type)

These relays are unsurpassed for meeting the problems of coaxial cable switching. Designed for performance on 52-ohm coaxial lines. Low standing-wave ratios permit usage on frequencies up to 300 megacycles. The units operate equally well in any position.

Dimensions: H. 1 7/8" W. 3 1/8" L. 3 7/8"
Mounting Data: 2 tapped holes 6-32 NC-2; 1 1/8" centers.

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.

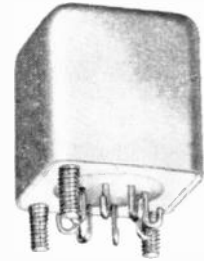
ROTARY TYPES

VG SERIES

An exceptionally high-precision, high-performance relay is this new VG series.

Primarily designed for aircraft and missile applications, the VG performs well in various control operations and specialized electronic equipment.

Of importance to engineers—the VG series has a contact rating of 5 amps, occupying less than 1 cubic inch of space and weighing only 1.5 oz., operating over a temperature range of -65 C to +125 C.



Dimensions:
7/8" ± 1/4 sq. x 1 1/8" ± 1/4"

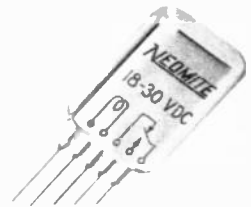
Type	Coil Resistance	Contacts*	Net
VG2C 6VD	25 Ohms	DPDT 5 amps	20.50
VG2C12VD	100 Ohms	DPDT 5 amps	20.50
VG2C24VD	500 Ohms	DPDT 5 amps	20.50

*Contacts rate at 28 VDC or 115 VAC

SUB-MINIATURE TYPES

NM SERIES (neomite)

A transistor size DC relay ideal for missiles, aircraft, control equipment and printed circuits. Operating power 100 milliwatts—vibration resistance 10 G to 500 CPS.



Dimensions:
H. 1 1/2" W. 3/4" D. 3/16" Wt. .09 oz.
SPDT Only

Type	Coil Resistance	Coil Volt. Nom.	Pull-in Current Max.	Net
NM1C50	50 Ohms	4VDC	44 MA	24.00
NM1C200	200 Ohms	8VDC	22 MA	24.00
NM1C500	500 Ohms	12VDC	14 MA	24.00
NM1C1K	1000 Ohms	16VDC	10 MA	24.00
NM1C2K	2000 Ohms	24VDC	7 MA	24.00

Contact Rating: 25 Amp at 28VDC resistive load.

Type	Coil Resistance	Contacts*	Net
CB 1C 6VD	18 ohms	SPDT 5 amps	12.00
CB 1C 12VD	70 ohms	SPDT 5 amps	12.00
CB 1C 24VD	280 ohms	SPDT 5 amps	12.00
CB 1C 115VA	280 ohms	SPDT 5 amps	12.15
CB 1C2C 6VD	18 ohms	SPDT (int) DPDT (aux) 5 amps	13.00
CB 1C2C 12VD	70 ohms	SPDT (int) DPDT (aux) 5 amps	13.00
CB 1C2C 24VD	280 ohms	SPDT (int) DPDT (aux) 5 amps	13.00
CB 1C2C 115VA	280 ohms	SPDT (int) DPDT (aux) 5 amps	13.25



ADVANCE RELAYS

MINIATURE TYPES

MK SERIES (*Tiny-Mite*)

Ultra-small and feather-light, these direct current devices require less than 1/2 cubic inch mounting space!

All switching is entirely above ground... insulation material is silicone glass. Beryllium copper armature hinges assure stable performance under vibration and shock.



Dimensions:
H. 3/16" W. 4/16" L. 3/16"

Mounting Data:
Relay supplied with single 2-56 NC-2 machine screw.

Type	Coil Resistance	Contacts*	Net
MK/1C/6VD	50 ohms	SPDT 1 amp	4.95
MK/1C/12VD	200 ohms	SPDT 1 amp	4.95
MK/1C/24VD	800 ohms	SPDT 1 amp	4.95
MK/2C/6VD	30 ohms	DPDT 1 amp	5.95
MK/2C/12VD	120 ohms	DPDT 1 amp	5.95
MK/2C/24VD	500 ohms	DPDT 1 amp	5.95
MK/2C/5000D	5000 ohms	DPDT 1 amp	6.95

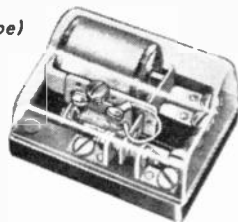
SENSITIVE TYPES

SV SERIES (very sensitive type)

For use in any DC circuit restricted to a few thousandths of a watt power consumption.

Transparent, molded plastic cover guards against dust or dirt reaching the contacts or other working parts.

Adjustments are quickly made with the vernier screws which vary relay sensitivity from the 5-milliwatt factory setting. Both the two stationary contacts and the spring tension can be accurately and permanently set—yet easily changed!



Dimensions:
H. 1 1/2" W. 2" L. 2 3/8"

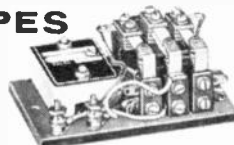
Mounting Data:
2 holes .52 dia.

Type	Coil Resistance	Coil Current	Contacts*	Net
SV/1C/005D	.005 ohms	1.00 AMP	SPDT 1 amp	7.95
SV/1C/1000D	1000 ohms	2.25 MA	SPDT 1 amp	8.25
SV/1C/1600D	1600 ohms	1.80 MA	SPDT 1 amp	8.40
SV/1C/2200D	2200 ohms	1.50 MA	SPDT 1 amp	8.40
SV/1C/3500D	3500 ohms	1.20 MA	SPDT 1 amp	8.40
SV/1C/5500D	5500 ohms	0.95 MA	SPDT 1 amp	8.75
SV/1C/8700D	8700 ohms	0.75 MA	SPDT 1 amp	9.40
SV/1C/10000D	10000 ohms	0.70 MA	SPDT 1 amp	9.40
SV/1C/14000D	14000 ohms	0.60 MA	SPDT 1 amp	10.10
SV/1C/20000D	20000 ohms	0.50 MA	SPDT 1 amp	11.10
SV/1C/30000D	30000 ohms	0.40 MA	SPDT 1 amp	11.85
SV/1C/40000D	40000 ohms	0.35 MA	SPDT 1 amp	13.30

TIME DELAY TYPES

DB & DM SERIES

The DB Series provides a time-delay before break. The DM Series provides a delay before make. Both series utilize bimetal thermal units which can be adjusted for delays from 5 to 60 seconds. Cooling of the thermal units for proper re-cycling requires 8 to 10 times the delay period.



Dimensions:
H. 1 3/8" W. 2 3/8" L. 3 3/8"

Mounting Data:
2 holes .152 dia.;
3 3/8" centers.

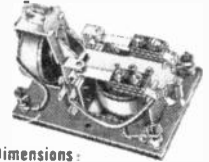
Type	Coil Resistance	Contacts*	Net
DB/2C/115VA	450 ohms	DPDT 15 amps	13.60
DM/1C/115VA	450 ohms	SPDT 15 amps	12.80
DM/2C/115VA	450 ohms	DPDT 15 amps	14.35
DM/2C/220VA	1600 ohms	DPDT 15 amps	14.85

LATCHING TYPES

LE (electrical) & LH (manual) SERIES

The LE and LH Series relays are employed in industrial and power control applications where it is desirable to eliminate continuous use of current consumption by the duty coil.

The latching mechanism in these relays is positive, and assures consistent performance. The units are assembled on a heavy bakelite base.



Dimensions:
H. 2 3/8" W. 2 1/2" L. 3 3/8"

Mounting Data:
2 holes .152 dia., clearance for 6-32 NC-2 screws, 2" centers.

Type	Coil Resistance	Contacts*	Net
LE/2C/6VA	.63 ohms	DPDT 15 amps	12.00
LE/2C/115VA	160 ohms	DPDT 15 amps	12.00
LE/2C/24VD	100 ohms	DPDT 15 amps	11.65
LH/2C/115VA	250 ohms	DPDT 15 amps	10.15

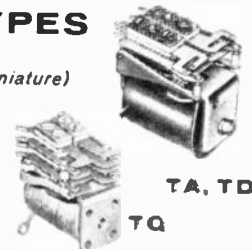
TELEPHONE TYPES

TA, TD & TQ SERIES (miniature)

Power consumption in the two TA telephone relays listed below is minimized through the use of bifurcated blades, short armature travel, and highly efficient magnetic structure. Contacts are platinum-silver alloy.

The TQ relay occupies only .94 cu. in. of space. The conventional hinge pin is replaced by a beryllium copper retaining spring, hence no hinge pin to wear out.

The TD series uses the TA series frame and coil, but has single 5-amp contacts.



TA, TD
TQ

Dimensions:
TA, TD—H. 1 1/2" W. 1 1/4" L. 1 3/8"
TQ—H. 1 3/8" W. 3/4" L. 1 3/8"

Mounting Data
TA, TD—2 tapped holes,
6-32 NC-2
TQ—4 tapped holes,
3-48 NC-2; 3/8" centers.

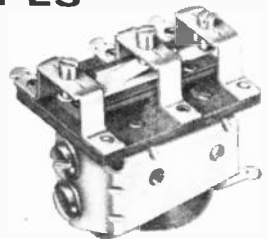
Type	Coil Resistance	Contacts*	Net
TA/2C/115VA	900 ohms	DPDT 2 amps	6.45
TA/4C/115VA	900 ohms	4PDT 2 amps	8.45
TQ/2C/24VD	600 ohms	DPDT 3 amps	5.75
TQ/4C/24VD	300 ohms	4PDT 3 amps	7.75
TD/2C/115VA	900 ohms	DPDT 5 amps	5.95
TD/4C/115VA	900 ohms	4PDT 5 amps	7.95
TD/2C/24VD	630 ohms	DPDT 5 amps	5.45
TD/4C/24VD	300 ohms	4PDT 5 amps	7.45

SENSITIVE TYPES

SO SERIES (miniature)

Here is a sensitive relay small enough for use in the tiniest spaces, and weighing only 1 1/2 ounces. Yet it's adjustable by fine screw contacts to a close differential between pick-up and drop-out. A balanced armature on the relay provides extremely sensitive operation.

Factory adjusted at 40 milliwatts



Type	Coil Resistance	Coil Current	Contacts*	Net
SO/1C/1000D	1000 ohms	6.2 MA	SPDT 1.5 amps	5.45
SO/1C/4000D	4000 ohms	3.2 MA	SPDT 1.5 amps	5.85
SO/1C/6500D	6500 ohms	2.5 MA	SPDT 1.5 amps	6.35
SO/1C/10000D	10000 ohms	2.0 MA	SPDT 1.5 amps	6.70

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.



ADVANCE RELAYS

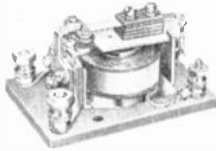


POWER TRANSFER TYPES

PV SERIES (very heavy-duty)

This series of very heavy-duty power-transfer relays is excellent for motor starting, lighting circuits and numerous applications where heavy double-make contacts are needed.

The "T" blade is equipped with two $\frac{3}{16}$ " silver-cadmium oxide contacts, with ample contact gap. These contacts minimize pitting and burning under heavy non-inductive or inductive loads.



Dimensions:
H. $1\frac{1}{8}$ " W. $2\frac{1}{4}$ " L. $3\frac{1}{4}$ "

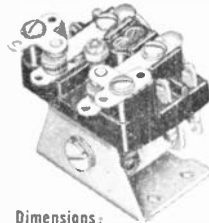
Mounting Data:
2 holes .169 dia. clearance for 8-32 NC-2 screws.
 $1\frac{1}{8}$ " centers.

Type	Coil Resistance	Contacts*	Net
PV/1A/6VD	16 ohms	SPST-NO 30 amps	7.35
PV/1A/115VA	450 ohms	SPST-NO 30 amps	7.70
PV/1C/6VD	16 ohms	SPDT 30 amps	8.55
PV/1C/115VA	450 ohms	SPDT 30 amps	8.70

PG SERIES (general purpose)

Efficient coil structure provides the high magnetic strength necessary for high-pressure contacts on short blades, and excellent wiping action. You'll find these to be excellent double-pole relays for general industrial power-control circuits.

Vibration and shock are withstood easily by these relays due to the special armature and frame design. PG types can be built to meet Army-Navy specifications.



Dimensions:
H. $1\frac{1}{8}$ " W. $1\frac{1}{8}$ " L. $1\frac{1}{2}$ "

Mounting Data:
4 tapped holes 6-32 NC-2;
 $\frac{1}{2}$ " x $1\frac{1}{16}$ " centers.

Type	Coil Resistance	Contacts*	Net
PG/2C/6VA	1.4 ohms	DPDT 15 amps	7.50
PG/2C/24VA	25 ohms	DPDT 15 amps	7.50
PG/2C/115VA	400 ohms	DPDT 15 amps	7.50
PG/2C/220VA	1600 ohms	DPDT 15 amps	7.95
PG/2C/6VD	16 ohms	DPDT 15 amps	6.90
PG/2C/12VD	63 ohms	DPDT 15 amps	6.90
PG/2C/24VD	400 ohms	DPDT 15 amps	6.90

RADIO CONTROL TYPES

RC SERIES (miniature)

You can mount this tiny relay in a jiffy, using just one #2-56 screw. You can adjust it quickly, too, even in the field. Open and closed contacts, and hard knocks won't affect the sensitivity of this rugged little relay. It meets the most stringent requirements for precision equipment.



Type	Coil Resistance	Pull-in Current	Contacts*	Net
RC1C5000D	5000-Ohms	1.5 MA	SPDT 0.2 amps	5.75
RC1C7250D	7250-Ohms	1.0 MA	SPDT 0.2 amps	5.75

*Contacts rated at 110 VAC or 28 VDC, 60 Cycles

ANTENNA TYPES

AM SERIES (midget antenna type)

These space-saving "transmit-receive" antenna relays are ideally suited for hundreds of different low-power RF applications. These units fill the need for 300-ohm circuit switching in mobile, marine, aircraft, television, communication and fixed-station service.

Conically-shaped silver contacts assure low resistance paths for either "receive" or "transmit" positions.



Dimensions:
H. $1\frac{1}{16}$ " W. $1\frac{1}{16}$ " L. $1\frac{1}{16}$ "

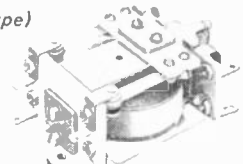
Mounting Data:
Relay supplied with single 6-32 NC-2 mounting stud with hex nut.

Type	Coil Resistance	Contacts*	Net
AM/2C/6VA	4 ohms	DPDT 2 amps	4.70
AM/2C/115VA	1600 ohms	DPDT 2 amps	5.05
AM/2C/6VD	25 ohms	DPDT 2 amps	4.20
AM/2C/12VD	100 ohms	DPDT 2 amps	4.20

AH SERIES (small antenna type)

A changeover relay designed specifically for RF operation. The small size of this relay makes it ideal for use in compact sets where the load does not exceed $\frac{1}{2}$ KW.

Low-loss handling of RF energy is assured by the Sreatite insulation used throughout, and by adequate spacing between contacts. Units are fast and positive in action, and will operate in any position.



Dimensions:
H. $1\frac{1}{4}$ " W. $1\frac{1}{4}$ " L. $2\frac{3}{4}$ "

Mounting Data:
2 tapped holes; 6-32 NC-2;
2" centers.

Type	Coil Resistance	Contacts*	Net
AH 2C/6VD	16 ohms	DPDT 10 amps	11.75
AH 2C 12VD	4 ohms	DPDT 10 amps	11.75
AH 2C 6VA	16 ohms	DPDT 10 amps	13.00
AH/2C/115VA	450 ohms	DPDT 10 amps	13.00
AH 2C1C 115VA	450 ohms	DPDT - SPDT (aux) 10 amps	14.25

AT SERIES (antenna type)

For heavy-duty RF transmitter antenna changeover applications. Primarily designed for fixed-station usage, with a conservative 1-kilowatt RF rating. These relays are insulated with ceramic Sreatite. Excellent wiping action of the contacts assures flow of the most minute currents for receiving positions. The efficiency of these relays is very high. Available with auxiliary single-pole, normally open contacts.



Dimensions:
H. $1\frac{1}{16}$ " W. $2\frac{1}{16}$ " L. $3\frac{3}{16}$ "

Mounting Data:
4 holes .157 dia.;
clearance for 6-32 screws.

Type	Coil Resistance	Contacts*	Net
AT/2C/115VA	450 ohms	DPDT 10 amps	13.20

*Contacts: rated at 115 VAC or 26.5 VDC resistive loads.

THERMOSTATIC

AMPERITE

DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT



AMPERITE THERMOSTATIC DELAY RELAYS

Amperite Thermostatic Delay Relays are actuated by a heater... can therefore be used on A.C., D.C., or pulsating current. Being hermetically sealed, Amperite Relays are not affected by altitude, moisture, or other atmospheric conditions. **REPLACED AS EASILY AS A RADIO TUBE.**

CIRCUITS: At the present time only SPST is available — normally open or normally closed.

HEATER VOLTAGES: Relays are available with heater voltages from 2.5 to 115 V. For short delays 2 to 10 seconds a low voltage heater, preferably 6.3 V. is recommended. **STANDARD HEATER VOLTAGES:** 6.3, 26 (for 22-30 V.), 115 V. Other voltages available are 2.5, 5.0, 12.6 and 50 V. For 220 V., use a 115 V. relay with a dropping resistor of 6500 Ohms—5W. in series with the heater.



STANDARD



MINIATURE

EFFECT OF HEATER VOLTAGE VARIATION ON DELAY

FIGURE 1 — Effect of change in heater voltage on delay in seconds. Only low voltage heaters (2.5 to 26 V.) incorporate heater voltage regulations as shown in this diagram.

For 22 to 30 V. supply: We recommend Amperite Delay Relays with 26 V. heaters for airplanes and similar power supplies. These heaters are regulated for battery variation of 22 to 30 V. as shown in this diagram.

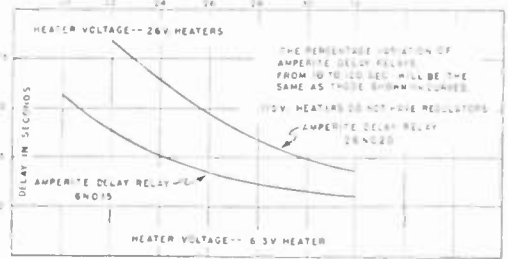


Figure 1

STANDARD HEATER VOLTAGES:

Amperite Delay Relays with low voltage heaters such as 2.5, 5.0, 6.3, 12.6 and 26 V. are designed with automatic voltage regulation of the heater to compensate for line voltage variation. The effect of voltage variation on a typical relay is shown in Fig. 1. Without regulation, the delay would vary as the square of the supply voltage variation. 115 V. heaters CANNOT be supplied with heater voltage regulation. **HEATER WATTAGE:** The wattage consumed by the heater is approx. 2 W. Flashers approx. 1.5 W. All Heaters may be operated continuously.

CONTACT RATING

	Delay	Contact Rating Non-Inductive	DC Voltage Breakdown	
			Contact-to-Contact	Heater to Contact
STANDARD RELAYS	2 to 10 Sec.	115V — 3a AC	250V	500V
	15 to 180 Sec.	115V — 3a AC	1000V	1500V
		220V — 1a AC	1000V	1500V
MINIATURE RELAYS	2 to 10 Sec.	115V — 2a AC	250V	500V
	15 to 180 Sec.	115V — 2a AC	1000V	1500V
		220V — 1a AC	1000V	1500V
FLASHERS		115V — 1/2a AC	250V	500V

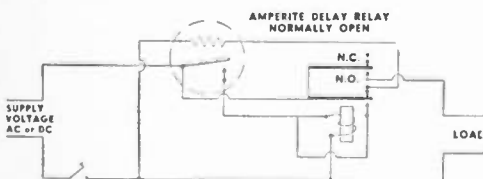
CONTACT DROP: —0.1V — Prox. at 1A.

AMBIENT TEMPERATURES: Relays are compensated for temperatures of —55° to +70°C. (Relays can be operated to 125°C without damage.) Tolerances given are 20°C. Ambient temperature tolerances depend on type. Low voltage heaters 26V or less have better ambient compensation than high voltage heaters.

DELAYS AVAILABLE: From 2 to 180 seconds. Relays can be used in series to obtain longer delays. The delay of any individual relay can be increased up to 50% by using a resistor in series with the heater.

LIFE of any individual relay will depend on the service the contacts are subjected to. With a 115 V. — 2A A.C. non inductive load the contacts will withstand at least 250,000 operations. Heater can be operated continuously. Heaters will not be damaged by a 50% overload in voltage for short durations (1 hour approximately).

INDUCTIVE A.C. LOADS: When breaking an inductive A.C. load, use a condenser of .01 to .1 mfd. across contacts.



INSTANTANEOUS RECYCLE: This can be obtained by using a normally open Amperite Delay Relay in conjunction with a DPDT Magnetic Relay as shown at left. If normally closed is required — use a normally open Amperite Delay Relay — and use the NC contacts on the magnetic relay. Choose the Amperite Delay Relay for the voltage required and the delay required (e.g. — 115N030 — would be used on 115 volt supply — for a 30 second delay).

THERMOSTATIC

AMPERITE

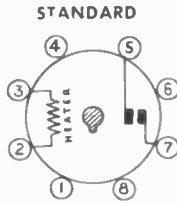
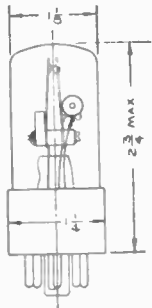
DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT



BREAKING D.C. CURRENT: When Relay contacts open D.C. Current above 50 volts, a condenser with a resistor in series with the condenser must be connected across the contacts. The following condenser values are approximate.

	50 V. D.C.	115 V. D.C.	230 V. D.C.
0 to .5 Amps.	None	.1 MF	.25 MF
.5 to 1.5 Amps.	"	.25 "	.25 "
1.5 to 3 Amps.	.25 MF	1 "	.5 "



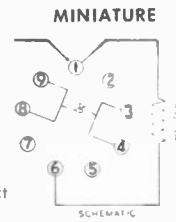
Bottom View Schematic Diagram

Standard Octal Base

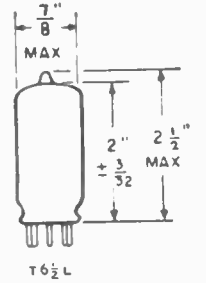
BASE WIRING:

Standard Radio Octal:
Prongs 2-3-heater;
Prongs 5-7-contacts.

9-Pin Miniature:
Prongs 1-6 heater;
Prongs 3-4, 1 contact;
Prongs 8-9, 2nd contact



Bottom View Schematic Diagram

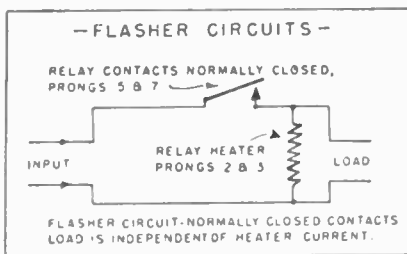


9-Pin Miniature Base

STANDARD AND MINIATURE TYPES OF AMPERITE DELAY RELAYS AND FLASHERS... List \$4.00 ea.

MINIATURE TYPES: Designated by letter T. (e.g. 6N05T). Types shown in Bold Type are the more popular types, and are more readily available. Miniature type relays available in 2-120 Seconds Delay, EXCEPT those with a 6.3V Heater which are available in 2-180 Seconds. All Standard Octal Base Types are available in 2-180 Seconds Delay.

Delay-Seconds	Tolerance-Seconds at 20°C	NORMALLY OPEN CONTACTS						NORMALLY CLOSED CONTACTS					
		HEATER VOLTAGES						HEATER VOLTAGES					
		2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	115 V.	2.5 V.	5.0 V.	6.3 V.	12.6 V.	26 V. (22-30)	115 V.
2	± 1	2N02	5N02	6N02	12N02	26N02	115N02	2C2	5C2	6C2	12C2	26C2	115C2
3	± 1	2N03	5N03	6N03	12N03	26N03	115N03	2C3	5C3	6C3	12C3	26C3	115C3
5	± 2	2N05	5N05	6N05	12N05	26N05	115N05	2C5	5C5	6C5	12C5	26C5	115C5
8	± 3	2N08	5N08	6N08	12N08	26N08	115N08	2C8	5C8	6C8	12C8	26C8	115C8
10	± 3	2N010	5N010	6N010	12N010	26N010	115N010	2C10	5C10	6C10	12C10	26C10	115C10
15	± 3	2N015	5N015	6N015	12N015	26N015	115N015	2C15	5C15	6C15	12C15	26C15	115C15
20	± 4	2N020	5N020	6N020	12N020	26N020	115N020	2C20	5C20	6C20	12C20	26C20	115C20
30	± 8	2N030	5N030	6N030	12N030	26N030	115N030	2C30	5C30	6C30	12C30	26C30	115C30
45	± 10	2N045	5N045	6N045	12N045	26N045	115N045	2C45	5C45	6C45	12C45	26C45	115C45
60	± 12	2N060	5N060	6N060	12N060	26N060	115N060	2C60	5C60	6C60	12C60	26C60	115C60
75	± 15	2N075	5N075	6N075	12N075	26N075	115N075	2C75	5C75	6C75	12C75	26C75	115C75
90	± 15	2N090	5N090	6N090	12N090	26N090	115N090	2C90	5C90	6C90	12C90	26C90	115C90
120	± 30	2N0120	5N0120	6N0120	12N0120	26N0120	115N0120	2C120	5C120	6C120	12C120	26C120	115C120
150	± 30	2N0150	5N0150	6N0150	12N0150	26N0150	115N0150	2C150	5C150	6C150	12C150	26C150	115C150
180	± 40	2N0180	5N0180	6N0180	12N0180	26N0180	115N0180	2C180	5C180	6C180	12C180	26C180	115C180



Normally closed flashers are standard, and are indicated by the letter "F." The number following letter "F" denotes flashes per minute. For example a 6F30 flasher, has 6.3V heater, normally closed 30 FPM with a ± 10 flashes per minute tolerance. A 6F30T, would be the same type but in 9-pin miniature. Flashers are available from 30 to 90 Flashes per minute with tolerances as shown in the chart below:

Tolerance FPM - 20°C	Standard Flashers Available		
± 10	6F30	26F30	115F30
± 12	6F45	26F45	115F45
± 15	6F60	26F60	115F60
± 15	6F75	26F75	115F75
± 20	6F90	26F90	115F90

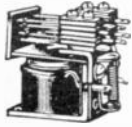
Flashers operate approximately 1/3 on, 2/3 off. The percentage time on can be increased by reducing the voltage of the heater.

FLASHERS have contact rating of 115V — 1/2a AC, non-inductive.



GUARDIAN Industrial Controls

RELAYS · SOLENOIDS · STEPPERS · SWITCHES



ALL PURPOSE ECONOMY RELAY AC-DC

Type IR-500-505. Compact, lightweight relay capable of unusually heavy power control for its size. Long life, high quality relay, available in a variety of AC and DC voltages with a selection of contact combinations. Contact rating at 60 cycles, 115 V. non-inductive load. Size, 1¹¹/₁₆"x1¹/₂"x1". Shipping wt., 4 oz.

6 VOLTS-AC						
Mfg. No.	Coil Res.	Cont. Amps.	Cont. Comb.	Quantities		
				1-24	25-49	50-99
IR-500-A6	1.7	10	SPST*	\$2.50	\$2.25	\$2.13
IR-500-C6	1.7	10	SPDT	2.80	2.52	2.38
IR-500-G6	1.7	10	DPDT	3.10	2.79	2.64
IR-500-GG6	1.7	8	4PDT	4.30	3.87	3.66
24 VOLTS-AC						
IR-500-A24	24	10	SPST*	2.50	2.25	2.13
IR-500-C24	24	10	SPDT	2.80	2.52	2.38
IR-500-G24	24	10	DPDT	3.10	2.79	2.64
IR-500-GG24	24	8	4PDT	4.30	3.87	3.66
115 VOLTS-AC						
IR-500-A115	725	10	SPST*	2.50	2.25	2.13
IR-500-C115	725	10	SPDT	2.80	2.52	2.38
IR-500-G115	725	10	DPDT	3.10	2.79	2.64
IR-500-GG115	725	8	4PDT	4.30	3.87	3.66
230 VOLTS-AC						
IR-500-G230	2950	10	DPDT	3.70	3.33	3.15
6 VOLTS-DC						
IR-505-A6	12	10	SPST*	2.50	2.25	2.13
IR-505-C6	12	10	SPDT	2.80	2.52	2.38
IR-505-G6	12	10	DPDT	3.10	2.79	2.64
IR-505-GG6	12	8	4PDT	4.30	3.87	3.66
12 VOLTS-DC						
IR-505-A12	50	10	SPST*	2.50	2.25	2.13
IR-505-C12	50	10	SPDT	2.80	2.52	2.38
IR-505-G12	50	10	DPDT	3.10	2.79	2.64
IR-505-GG12	50	8	4PDT	4.30	3.87	3.66
24 VOLTS-DC						
IR-505-A24	200	10	SPST*	2.50	2.25	2.13
IR-505-C24	200	10	SPDT	2.80	2.52	2.38
IR-505-G24	200	10	DPDT	3.10	2.79	2.64
IR-505-GG24	200	8	4PDT	4.30	3.87	3.66
110 VOLTS-DC						
IR-505-A110	4000	10	SPST*	3.05	2.75	2.59
IR-505-C110	4000	10	SPDT	3.15	2.84	2.68
IR-505-G110	4000	10	DPDT	3.50	3.15	2.98
IR-505-GG110	4000	8	4PDT	4.70	4.23	4.00

*Normally Open

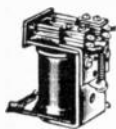


PLATE CIRCUIT RELAY AC-DC

Type IR-625 with extra long coil for greater sensitivity. Adaptable to voltage operating as well as sensitive plate circuit control installations. Coil impregnated for reliability and longer life. Average power requirement, 0.2 watts. Contacts, fine silver. Size, 2³/₈"x2"x1¹/₂". Shipping wt., 5.5 oz.

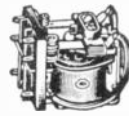
Mfg. No.	Oper. Mils.	Coil Res. Ohms	Contact Amps	Cont. Comb.	Quantities		
					1-24	25-49	50-99
IR-625-2.5	9M.A.	2,500	8	DPDT	\$3.85	\$3.47	\$3.27
IR-625-5	6.3M.A.	5,000	8	DPDT	4.25	3.83	3.61
IR-625-10	4.5M.A.	10,000	8	DPDT	5.25	4.73	4.46



MICRO-MINIATURE RELAY-DC

Type IR-1005. Hermetically sealed. Provides maximum power in minimum space. Ideal for industrial or military use. Meets or surpasses requirements of specifications MIL-R-25018 and MIL-R-5757-C. Contact Rating: 3 amps. max., 28 v. DC. Resistive at 125° C. Available Plug-In. Also Hook Type with mounting bracket. Contact comb: DPDT. Size: .844"L x .781"W x .344"D. Wt: 0.35oz.

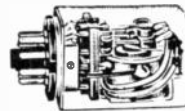
Mfg. No.	Type	Coil	Contact Rating	Quantities		
				1-24	25-49	50-99
IR-1	Plug-In	26.5 v. DC	Up to 3 Amps.	\$13.80	\$12.42	\$11.73
IR-1005-H	Solder Hook	26.5 v. DC	Up to 3 Amps.	13.80	12.42	11.73



MEDIUM POWER RELAY AC-DC

Type IR-1200. Small sized, this highly efficient relay is rated at 8 amps., 60 cycles, 115 V. non-inductive load. Heavy solder lug type terminals molded in phenolic block, with barriers for over-surface insulation. Built to meet Underwriters' Laboratories specifications. Applicable to automation, communications, remote control, selectors, switching devices and experimental uses. Size, 1⁵/₈"x1"x1¹/₄". Shipping wt., 2.5 oz.

60 CYCLES-AC							
Mfg. No.	Volts	Coil Res.	Cont. Amps.	Cont. Comb.	Quantities		
					1-24	25-49	50-99
1200-G6	6	2	8	DPDT	\$3.60	\$3.24	\$3.06
1200-GC6	6	2	8	3PDT	4.00	3.60	3.40
1200-G24	24	33	8	DPDT	3.60	3.24	3.06
1200-GC24	24	33	8	3PDT	4.00	3.60	3.40
1200-G115	115	800	8	DPDT	3.60	3.24	3.06
1200-GC115	115	800	8	3PDT	4.00	3.60	3.40
DC							
1205-G6	6	12	8	DPDT	3.30	2.97	2.81
1205-GC6	6	12	8	3PDT	3.70	3.33	3.15
1205-G24	24	192	8	DPDT	3.30	2.97	2.81
1205-GC24	24	192	8	3PDT	3.70	3.33	3.15



ENCLOSED PLUG-IN RELAY AC-DC

Type IR-1210. Small sized relay in NEW Lucite enclosure for efficient, dust-free, and trouble-free operation. This transparent, lightweight Lucite case has high impact strength, unaffected by weather, and is resistant to temperatures of 200° F. Relay is powerful and economical. Relay available with 8 pin octal plug for DPDT and 11 pin for 3 PDT. Contacts rated for 8 amperes, 60 cycles, 115 V. AC non-inductive. Size, 2³/₈"x1³/₈"x1³/₈". Shipping wt., 3.5 oz.

AC							
Mfg. No.	Volts	Coil Res.	Cont. Amps.	Cont. Comb.	Quantities		
					1-24	25-49	50-99
1210-G6	6	3	8	DPDT	\$5.70	\$5.13	\$4.85
1210-GC6	6	3	8	3PDT	7.10	6.39	6.04
1210-G24	24	48	8	DPDT	5.70	5.13	4.85
1210-GC24	24	48	8	3PDT	7.10	6.39	6.04
1210-G115	115	1000	8	DPDT	5.70	5.13	4.85
1210-GC115	115	1000	8	3PDT	7.10	6.39	6.04
DC							
1215-G6	6	15	8	DPDT	5.80	5.22	4.93
1215-GC6	6	15	8	3PDT	7.25	6.53	6.16
1215-G24	24	227	8	DPDT	5.80	5.22	4.93
1215-GC24	24	227	8	3PDT	7.25	6.53	6.16



HEAVY DUTY INDUSTRIAL RELAY-AC

Type IR-220. Rugged unit breaks up to 20 amperes, at 230 volts. Armature is equipped with bakelite contact mounting block carrying ⁵/₁₆" dual contacts. Bakelite is tested at 1500 volts breakdown to ground. Contacts are silver alloy. Relay is available in single pole, single throw, normally open contact combination only. Contact rating at 60 cycles, 230 V. non-inductive load. Size, 3"x1³/₈"x1³/₈". Shipping wt., 5.5 oz.

60 CYCLES-AC							
Mfg. No.	Volts	Coil Res.	Cont. Amps.	Cont. Comb.	Quantities		
					1-24	25-49	50-99
IR-220-A24	24	25	20	SPST*	\$3.95	\$3.56	\$3.36
IR-220-A115	115	600	20	SPST*	4.45	4.01	3.78
IR-220-A230	230	2500	20	SPST*	4.95	4.46	4.21

*Normally Open



SENSITIVE RELAY-AC

Type IR-120. Designed as an economical unit for requirements not exceeding single pole, double throw combinations. Armature carries the contact blade and both are common to the field piece. Contact rating at 60 cycles, 115 V. non-inductive load. Size, 3"x1³/₈"x1³/₈". Shipping wt., 4.5 oz.

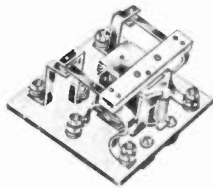
60 CYCLES-AC							
Mfg. No.	Volts	Coil Res.	Cont. Amps.	Cont. Comb.	Quantities		
					1-24	25-49	50-99
IR-120-C24	24	25	8	SPDT	\$3.05	\$2.75	\$2.59
IR-120-C115	115	600	8	SPDT	3.50	3.15	2.98
IR-120-C230	230	2500	8	SPDT	5.30	4.77	4.51



GUARDIAN Highest Quality Industrial Controls Available NOW from your STOCKING DISTRIBUTOR

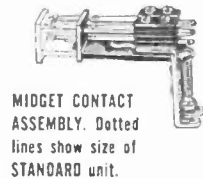
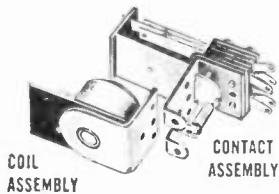
ANTENNA RELAY A-300

The A-300 Relay is designed for low loss antenna change-over operation. Straight line positioning of screw terminals and contact springs maintains equal spacing through the relay from transmission line to transmitter. This reduces impedance mismatch to a minimum. Silver contacts, low loss Mycalex insulation, Mycalex base, contact bar. Will withstand 3000 volts to ground. Coil operates on 110 volt, 60 cycles A.C. Consumes 7 V.A. Applications: Radio—used in circuits of any transmitter having up to 1 KW input power; Industrial—widely used for high frequency heat treating and short wave therapy control. Mounting: (2) holes, 6-32 clearance.



Mfg. No.	Size	Shpg. Wt.	Quantities		
			1-24	25-49	50-99
A-300	3 x 2 1/2 x 3	7 oz.	\$8.70	\$7.83	\$7.37

UNIVERSAL SERIES 200 RELAY with completely interchangeable COIL and CONTACT ASSEMBLIES



MIDGET CONTACT ASSEMBLY. Dotted lines show size of STANDARD unit.

Coil and contact assemblies for building your own relays. Many possible combinations are available, covering most electrical and electronic applications. Select the two basic parts, a coil assembly and a contact switch assembly, from the listing below. The coil assembly consists of the coil and the field piece; the contact assembly consists of switch blades, armature, return spring and mounting bracket. Use contact switch parts to add poles. All contacts rated at 60 cycles A.C., non-inductive. Shipping weight, 4 oz., each unit. Standard contact assembly is 2 1/2" long, 1 1/4" high, 1" wide. Midget assembly is 1 1/2" long. Mounting, all Series 200 relays: (2) 6-32 mtg. holes, .687" centers.

A.C. COILS

Type	Volts	Net Price
200-6A	6 A.C.	\$1.75
200-12A	12 A.C.	1.75
200-24A	24 A.C.	1.75
200-115A	115 A.C.	2.05
200-230A	230 A.C.	2.70

D.C. COILS

Type	Volts	Net Price
200-6D	6 D.C.	\$1.90
200-12D	12 D.C.	1.90
200-24D	24 D.C.	1.90
200-32D	32 D.C.	1.90
200-110D	110 D.C.	2.50
200-5000D	Plate Coil	2.20
200-10000D	Plate Coil	2.50

CONTACT SWITCH ASSEMBLIES

Type	Net Price Ea.
200-1 — Standard, SPDT, 8 Amps	\$1.50
200-2 — Standard, DPDT, 8 Amps	2.00
200-4 — Standard, DPDT, 12.5 Amps	2.25
200-5 — Standard, 4PDT, 8 Amps	3.50
200-M1 — Midget, SPDT, 8 Amps	1.40
200-M2 — Midget, DPDT, 8 Amps	1.75
200-M3 — Midget, 4PDT, 8 Amps	2.85
Type 200-3. Contact switch parts for adding poles to types 200-1 and 200-2	
Net Price Ea.	\$1.50
Type 200-M3. Midget contact switch parts for adding poles to types 200-M1 and 200-M2.	
Net Price Ea.	\$1.50

Engineer's CONTACT SWITCH KIT



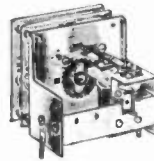
Indispensable to those who design, build, repair or test electrical controls. Contains large assortment of switch blades, contacts, separators, adapters, fish papers, bushings, etc. All standard high-quality Guardian parts.

Engineer's Switch Kit..... Net Ea. \$10.95

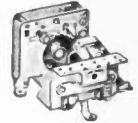
STEPPING RELAYS

For accurate sequence selecting, pulse multiplying, pulse dividing, circuit selecting, automatic homing, remote homing, counting and latching.

CONTINUOUS ROTATION



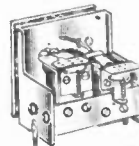
IR-P.C.



IR-M.C.

Type IR-P.C. Constructed with micro-finished shaft and Oilite shaft bearing. Beryllium copper pawl control shutter. Selection contacts are terminated on a phenolic board, solder banded for easy soldering. Mechanical life expectancy estimated 4,000,000 steps. Will operate satisfactorily at 15% below or 10% above rated voltage. **Type IR-M.C.** is a smaller continuous operation stepper similar to the P.C. with life expectancy of 2,000,000 steps.

ELECTRICAL RESET



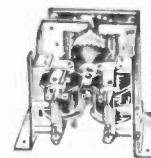
IR-P.E.R.



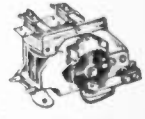
M.E.R.

Type IR-P.E.R. Constructed with micro-finished shaft and Oilite shaft bearing. Positive mechanical stops limit total number of "steps" in any single unit. Returns automatically to home or start position when reset coil is energized. **Type M.E.R.** A direct drive (steps on energization) with positive mechanical reset interlock actuated by the reset magnet and unlocked on the first energization of the step magnet. Assures positive reset on as short a pulse as one-hundredth of a second or even from its own selection contacts. Unit is capable of counting in groups up to 21, then resetting automatically. By interconnecting two or more Steppers, count can be increased to any desired total counting by tens, or any convenient multiple. Will control a sequence of operation and then automatically reset to starting position.

ADD AND SUBTRACT



IR-R.A.S.



IR-M.A.S.

Type IR-R.A.S. Non-ferrous shutters control motion of pawl to extend life of unit and prevent skipping of the ratchet. Steps one step at a time in either direction depending upon which one of two coils may be energized. **Type IR-M.A.S.** Midget Add and Subtract Stepper is similar to the R.A.S. in general operation. A zero position switch is opened at home position.

Auxiliary switches connected in series with the commutator of the selecting finger may be added to the step and/or reset magnet to increase the normal contact rating. The Guardian Series 200-M3 Contact Switch Kit may be used to add switches (except RAS stepper). Contact fingers are insulated from the shaft. Guardian Steppers are *intermittent duty units* rated at 10% duty cycle (out of each hour), maximum energization single period, 5 minutes. See chart for details.

DATA CHART FOR STEPPING RELAYS

Mfg. No.	Coil* Voltage	Volt Amperes	Watts	Number of Points	No. of Active Contacts ***	Max. Steps Per Second			
							SIZE			Quantities
		Length	Width	Height	Shpg. Wt.	1-24	25-49	50-99	
IR-PC-115	115 AC	70	45	40	40	20	\$18.15	\$16.34	\$15.43
IR-MC-115	115 AC	30	18	24	24	20	13.00	11.70	11.05
IR-PER-115	115 AC	70-25**	45-15**	40	36	20	24.20	21.78	20.57
MER-115	115 AC	30.9**	18.7**	24	22	20	14.00	12.60	11.90
IR-RAS-115	115 AC	100	45	40	38	10	15.95	14.36	13.56
IR-MAS-115	115 AC	15	10	30	****	10	25.30	22.77	21.51

*Steppers will operate satisfactorily at 15% below or 10% above rated voltage. **Settings are for stepping coil and reset coil, respectively. ***Includes Zero (0) position. ****Zero (0) position switch only.



GUARDIAN Highest Quality Industrial Controls Available NOW from your STOCKING DISTRIBUTOR

32 POLE RELAY-DC

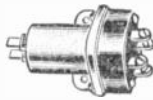


Group selector relay can simultaneously make common up to 32 circuits. All circuits insulated from ground. Contact blades molded in thermosetting phenolic. All contacting members completely enclosed. Phenolic plunger housing, 32 poles made common upon energization. Size, $2\frac{7}{32} \times 1\frac{11}{32} \times 2\frac{1}{8}$ ". Shipping wt., 6 oz.

Mfg. No.	Volts	Coil Res. Ohms	Contacts	Quantities		
				1-24	25-49	50-99
IR-805-S	24-DC	72	32 P Shorting Relay	\$4.30	\$3.87	\$3.66

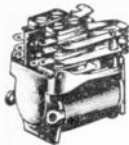
POWERLOID-AC

Rugged, totally enclosed control with contact rating, 3 H.P. U/L motor load at 230 volts, or 8,000 watts resistive heater load. This unique unit, exclusive with Guardian, combines functions of a relay and a solenoid. A.M.P. terminals on coil; screw-type terminals on contacts. Contacts, S.P.S.T.N.O.D.B., Size, $3\frac{3}{8} \times 2\frac{1}{2} \times 2$ ". Shipping wt., 5.5 oz.



Mfg. No.	Volts	Coil Res. Ohms	Cont. Comb.	Quantities		
				1-24	25-49	50-99
IR-1410-A-115	115 AC	450	SPSTNODB	\$4.30	\$3.87	\$3.66

TELEPHONE TYPE RELAY-AC-DC



Small size, lightweight communications relay. Armature is formed outward, away from coil permitting use of longer coil without increasing length of unit for faster and more efficient operation. Armature releases when current is reduced approx. 50% of attract value. Size, $1\frac{3}{16} \times 1\frac{11}{32} \times 1$ ". Shipping wt. 3.5 oz.

60 CYCLES—24 VOLTS—AC COILS

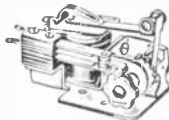
Mfg. No.	Volts	Coil Res. Ohms	Contact Amps.	Cont. Comb.	Quantities		
					1-24	25-49	50-99
IR-590-C115	115	700	1 1/2	SPDT	\$4.25	\$3.83	\$3.61
IR-590-G115	115	700	1 1/2	DPDT	4.75	4.28	4.04

DC COILS

IR-595-GG24	24	165	1 1/2	4PDT	5.65	5.09	4.80
IR-595-GG115	115	4600	1 1/2	4PDT	6.35	5.72	5.40

IMPULSE RATCHET RELAY-AC

Ratchet type, on-off relay. Each momentary impulse causes relay to reverse the position of its cam actuated contacts. Heavy duty 1/4" silver contacts rated at 1500 watts non-inductive, 115 volts, 60 cycles or up to 20 amperes locked rotor current, motor load control on 115 volts, 60 cycles. Intermittent duty coil can be operated by push button for remote on-off control of lights, motors, appliances, speakers, among others. Coil requires approx. 38. VA. (DPDT). Size, $3\frac{1}{4} \times 1\frac{1}{2} \times 2\frac{3}{16}$ ". Shipping wt., 8 oz.



Mfg. No.	Volts	Coil Res. Ohms	Cont. Comb.	Quantities		
				1-24	25-49	50-99
RC-100-115AR	115 AC	125	4PST	\$6.00	\$5.40	\$5.10
RC-100-115BR	115 AC	125	SPDT & DPST	6.25	5.63	5.31
RC-100-115CR	115 AC	125	SPDT	5.75	5.18	4.89
RC-100-115GR	115 AC	125	DPDT	5.85	5.27	4.97

LATCHING ON/OFF RELAY



Type IR-610L. Midget Latching Relay with single coil and 5 ampere contact rating for single pole, single throw, or single pole, double throw, contact combinations. Recommended for positive ON/OFF control of positioning devices, remote controls, lighting circuits and many additional applications. Impulse as short as 20 M.S. energizes coil to reverse position of snap-action switches. Holds last position of switch with coil de-energized. Size: $2\frac{1}{8} \times 1 \times 1\frac{1}{8}$ " W. x $1\frac{3}{8}$ " H. Shipping Wt. 4 oz.

60 CYCLES—AC

Mfg. No.	Volts	Cont. Amps.	Cont. Comb.	Quantities		
				1-24	25-49	50-99
IR-610L-A115	115 AC	5	SPST	\$3.80	\$3.42	\$3.23
IR-610L-C115	115 AC	5	SPDT	3.95	3.56	3.36

INTERLOCKING RELAY-AC

Two interlocking AC relays in sturdy metal frame bracket. Used to maintain circuits continuously without coil power consumption. Unit is electrically pulse operated with mechanical hold and electrical release. Contacts rated at 8 amps., 60 cps, non-inductive. Size, $1\frac{13}{16} \times 1\frac{1}{4} \times 2\frac{3}{8}$ ". Shipping wt., 5.5 oz.



Mfg. No.	Volts	Coil Res. Ohms	Cont. Comb.	Quantities		
				1-24	25-49	50-99
IR-1200/1200-GG115	115 AC	800	4PDT	\$10.25	\$9.23	\$8.71

SEQUENCE RATCHET RELAY-AC

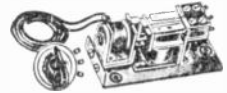


Small but rugged 4 PDT stepper with 3-position switch operation, center position "off." Large cam assures precision "step" action. 24 pt. ratchet. Fine silver contacts rated for 10 amps., 115 volts, 60 cps. Unit rated at intermittent duty. Size, $3 \times 2\frac{1}{4} \times 2\frac{5}{16}$ ". Shipping wt., 10 oz.

Mfg. No.	Volts	Coil Res. Ohms	VA.	Watts	Max. Steps /sec.	Quantities		
						1-24	25-49	50-99
IR-M-120-115	115 AC	50	100	70	10	\$11.75	\$10.58	\$9.99

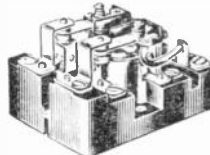
ELECTRICAL RESET OVERLOAD RELAY-DC

Applicable for use in industrial panel installation, provides precise protection from current surges and continuous overloads. Remote panel installation of control potentiometer simplifies adjustment of relay to operate on any current value from 250 to 750 milliamperes. Auxiliary for pilot light indication of "overload" or "clear" position. Reset relay can be operated from any point convenient to operator. Insulation between coil and ground rated at 3,000 volts.

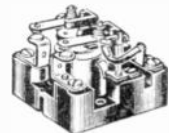


Mfg. No.	Size	Shpg. Wt.	Quantities		
			1-24	25-49	50-99
X-300-ER	$4\frac{3}{4} \times 2 \times 1\frac{1}{16}$	13 oz.	\$8.85	\$7.97	\$7.52

POWER RELAYS



25 Amperes
Mounting: 2 holes
for 1/2" screws
on 1 1/2" centers.



2200 D.P.D.T. Size: $3\frac{3}{8}$ " L. x $2\frac{1}{2}$ " W. x $2\frac{3}{16}$ " H. Wt. 11.5 oz.
2210 D.P.S.T. (normally open) Size: $2\frac{1}{16}$ " L. x $2\frac{1}{2}$ " W. x $2\frac{3}{16}$ " H. Wt. 10 oz.

Series 2200 and 2210 power relays are rated at 25 amperes, continuous duty at 230 volts A.C., with 75% power factor. Operating power requirement for A.C. is 9.5 volt amperes, 60 cycles. Coil drain approximately .080 amperes at 115 volts, 60 cycles. Approx. wt. of replacement coil assemblies is 6 ounces.

Mfg. No.	Volts	Net Ea.	Mfg. No.	Volts	Net Ea.
2200-DPDT-6	6 AC	\$6.10	2210-DPST-NO6	6 AC	\$5.25
2200-DPDT-24	24 AC	6.10	2210-DPST-NO24	24 AC	5.25
2200-DPDT-115	115 AC	6.10	2210-DPST-NO115	115 AC	5.25
2200-DPDT-230	230 AC	6.50	2210-DPST-NO230	230 AC	5.60

INTERCHANGEABLE COIL ASSEMBLIES

By removing two easily accessible screws, coil assembly can be replaced by coil of another value. Complete instructions for this operation are included with each unit. Solder connections are not required when changing coils.

Replacement Coils for Either Relay

Mfg. No.	Volts	Net Ea.	Mfg. No.	Volts	Net Ea.
2200-6	6 AC	\$2.25	2200-115	115 AC	\$2.25
2200-24	24 AC	2.25	2200-230	230 AC	2.50

POWER RELAY REPLACEMENT CONTACT SWITCH PARTS

Available for Series 2200 only—Replacement Contact Switch Parts for easy right or left S.P.D.T. assembly. No solder needed. Package contains one normally open and one normally closed contact bracket, complete moving blade and terminal. CS-2200—Left, net ea. \$1.85. CS-2200—Right, net ea. \$1.85. Left or Right Switch Assemblies determined by viewing relay from armature hinge end with contacts up.

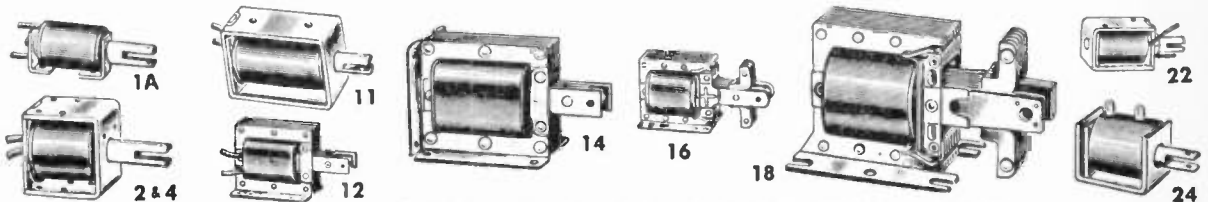


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A.C. INDUSTRIAL SOLENOIDS D.C.

INTERMITTENT AND CONTINUOUS

A Complete Line for Every Industrial Application



WHEN ORDERING SOLENOIDS SPECIFY TYPE, VOLTAGE AND DUTY.

Available in both intermittent and continuous duty types. Intermittent types should not be energized for more than 5 consecutive minutes, or be permitted to rise more than 85° C. above 24° C. ambient, without giving sufficient time to cool between operation

cycles. Continuous duty types are designed so they will not rise more than 85° C. above the 24° C. ambient temperature when operated at rated load. Plunger has slotted end with 1/8" diameter hole for coupling.

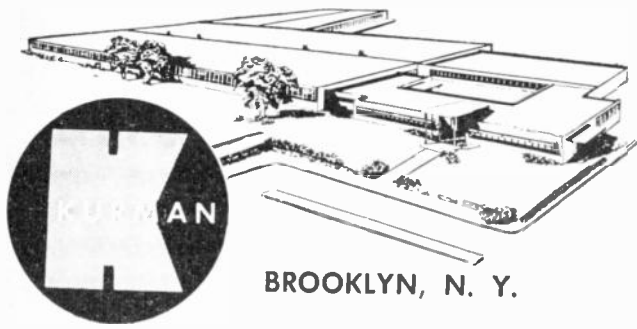
Mfg. No.	Volts	Current	Duty	Ohms	Amps	Adj. Stroke (in.)	*Max. Lift (oz.)	SIZE			Shpg. Wt. (oz.)	Quantities		
								Height (in.)	Length (in.)	Width (in.)		1-24	25-49	50-99
1A	115	AC	Inter.	300	.17	1/4-1/2	8	1 1/4	1 3/4	1 3/16	4.5	\$2.35	\$2.12	\$2.00
1A	115	AC	Cont.	675	.076	1/4-1/2	3	1 1/4	1 3/4	1 3/16	4.5	2.35	2.12	2.00
2	115	AC	Inter.	60	.50	1/4-3/8	27	1 3/4	1 1/4	1 1/4	10	3.20	2.88	2.72
2	115	AC	Cont.	166	.155	1/4-3/8	10.5	1 3/4	1 1/4	1 1/4	10	3.20	2.88	2.72
4	115	AC	Inter.	37	.64	1/4-1 1/8	24	1 3/4	2	1 1/4	14.5	3.20	2.88	2.72
4	115	AC	Cont.	133	.14	1/4-1 1/8	6	1 3/4	2	1 1/4	14.5	3.20	2.88	2.72
IR-11	24	AC	Inter.	5.1	1.10	1/4-1	20	1 3/4	1 3/4	1 3/16	7.5	2.70	2.43	2.30
IR-11	24	AC	Cont.	12	.33	1/4-1	8	1 3/4	1 3/4	1 3/16	7.5	2.70	2.43	2.30
IR-11	115	AC	Inter.	125	.240	1/4-1	20	1 3/4	1 3/4	1 3/16	7.5	2.70	2.43	2.30
IR-11	115	AC	Cont.	300	.072	1/4-1	8	1 3/4	1 3/4	1 3/16	7.5	2.70	2.43	2.30
12	115	AC	Inter.	100	.27	1/4-1	32	1 3/4	1 3/4	1 3/16	6	4.15	3.74	3.53
12	115	AC	Cont.	150	.155	1/4-1	22	1 3/4	1 3/4	1 3/16	6	4.15	3.74	3.53
14	115	AC	Inter.	11	1.4	1/4-1 1/2	110	2 1/4	2 1/4	1 1/4	19	5.50	4.95	4.68
14	115	AC	Cont.	18	.52	1/4-1 1/2	65	2 1/4	2 1/4	1 1/4	19	5.50	4.95	4.68
16	115	AC	Inter.	41	.54	1/4-3/4	96	1 3/4	1 3/4	1 1/4	7.5	3.20	2.88	2.72
16	115	AC	Cont.	85.2	.19	1/4-3/4	60	1 3/4	1 3/4	1 1/4	7.5	3.20	2.88	2.72
16	230	AC	Inter.	224	.215	1/4-3/4	96	1 3/4	1 3/4	1 1/4	7.5	3.40	3.06	2.89
16	230	AC	Cont.	355	.10	1/4-3/4	60	1 3/4	1 3/4	1 1/4	7.5	3.40	3.06	2.89
18	115	AC	Inter.	8.8	1.45	1/4-1	304	2 1/4	2 1/2	1 1/4	16.5	4.50	4.05	3.83
18	115	AC	Cont.	19.7	.39	1/4-1	145	2 1/4	2 1/2	1 1/4	16.5	4.50	4.05	3.83
18	230	AC	Inter.	45.2	.590	1/4-1	304	2 1/4	2 1/2	1 1/4	16.5	4.70	4.23	4.00
18	230	AC	Cont.	78.2	.20	1/4-1	145	2 1/4	2 1/2	1 1/4	16.5	4.70	4.23	4.00
24	115	AC	Inter.	310	.130	1/4-3/4	19	3/4	1 1/4	1	3.0	2.95	2.66	2.51
24	115	AC	Cont.	500	.07	1/4-3/4	12	3/4	1 1/4	1	3.0	2.95	2.66	2.51
IR-1A	24	DC	Inter.	42.6	.58	1/4-1/2	5	1 1/4	1 3/4	1 3/16	4.5	2.35	2.12	2.00
IR-1A	24	DC	Cont.	74.4	.32	1/4-1/2	2	1 1/4	1 3/4	1 3/16	4.5	2.35	2.12	2.00
IR-1A	115	DC	Inter.	803	.14	1/4-1/2	5	1 1/4	1 3/4	1 3/16	4.5	2.35	2.12	2.00
IR-1A	115	DC	Cont.	2070	.05	1/4-1/2	2	1 1/4	1 3/4	1 3/16	4.5	2.35	2.12	2.00
IR-4	24	DC	Inter.	15	1.6	1/4-1	57	1 3/4	2	1 1/4	14.5	3.20	2.88	2.72
IR-4	24	DC	Cont.	50	.48	1/4-1	20	1 3/4	2	1 1/4	14.5	3.20	2.88	2.72
IR-4	115	DC	Inter.	346	.33	1/4-1	57	1 3/4	2	1 1/4	14.5	3.20	2.88	2.72
IR-4	115	DC	Cont.	1210	.09	1/4-1	20	1 3/4	2	1 1/4	14.5	3.20	2.88	2.72
11	6	DC	Inter.	1.98	3.00	1/4-1	39	1 3/4	1 3/4	1 1/2	7.5	2.70	2.43	2.30
11	6	DC	Cont.	4.5	1.35	1/4-1	21	1 3/4	1 3/4	1 1/2	7.5	2.70	2.43	2.30
11	24	DC	Inter.	32	.750	1/4-1	39	1 3/4	1 3/4	1 1/2	7.5	2.70	2.43	2.30
11	24	DC	Cont.	80	.300	1/4-1	21	1 3/4	1 3/4	1 1/2	7.5	2.70	2.43	2.30
IR-22	6	DC	Inter.	5	1.20	1/4-3/4	24	3/4	1 1/4	3/4	2.5	2.60	2.34	2.21
IR-22	6	DC	Cont.	9	.667	1/4-3/4	11	3/4	1 1/4	3/4	2.5	2.60	2.34	2.21
IR-22	24	DC	Inter.	75	.320	1/4-3/4	24	3/4	1 1/4	3/4	2.5	2.60	2.34	2.21
IR-22	24	DC	Cont.	144	.167	1/4-3/4	11	3/4	1 1/4	3/4	2.5	2.60	2.34	2.21

* Pull Data Obtained During "Cold" Operation, when plunger is down.

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GUARDIAN[®] ELECTRIC
 MANUFACTURING COMPANY
 "Everything Under Control"
 CHICAGO 12, ILLINOIS

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QUALITY DESIGNED RELAYS

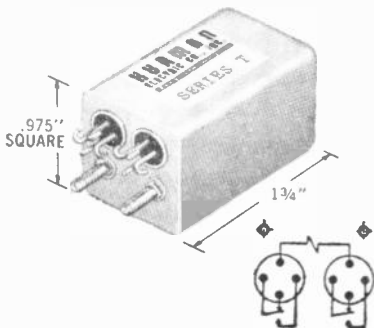
Kurman, one of the pioneers in relay manufacturing, has been designing and manufacturing relays for industry and governmental agencies since 1928.

Kurman relays that have been engineered to the highest standards, featuring top quality, ruggedness, dependability, and long life.

Our Engineering Department is available to solve your relay problems regardless of size or requirement.

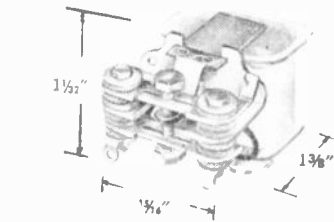
IMMEDIATE DELIVERY FROM FRANCHISED DISTRIBUTORS

SENSITIVE RELAYS



SERIES T002 — SUB-MINIATURE

Highest quality sensitive relay meeting both military and commercial DC requirements. Sensitivity — 40 milliwatts—DPDT. Wide range of coil resistances up to 20,000 ohms. Special versions as low as 10 milliwatts. Mounting: 2 \pm 4-40 screws on $\frac{1}{2}$ " centers.

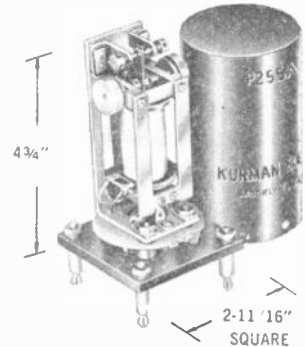


SERIES 51C — MIDGET

Smallest, lightest plate circuit relay offering self-wiping contacts. DC operation only. Standard adjustment — 10 milliwatts*. Adjustable 2 amp SPDT screw contacts. New rigid front pile-up.

Variations—including 5 amp contacts, H. S. military relays, coils to 20,000 ohms available. Mounting: 2 \pm 6-32 tapped holes on 0.437" centers.

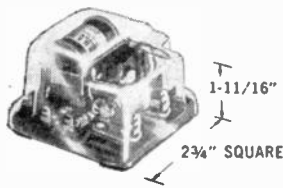
*51CB44D factory adjusted for 5 milliwatt operation others can be field adjusted — 1 amp contact rating.



SERIES P — ULTRA SENSITIVE POLAR

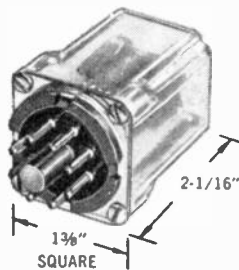
The P255A relay has been unconditionally approved as an equal to W. E. type 255A. No adaptors or modifications necessary.

Many special versions including replacements for W. E. #215 available. The series P is ideal for teletypewriter applications (100 w.p.m.). Available as a sensitive (50 microwatt) relay. P255 714 mounting block and springs (W. E. #18B).



SERIES 300 — MICROAMP

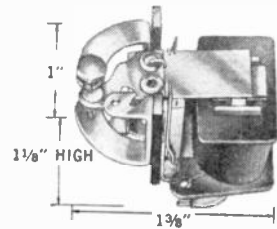
High sensitivity relay—2 milliwatts. Ideal for all low power in-pur circuits where available current is at a premium. Typical applications include high speed keying, remote control, or battery operated devices. May be field adjusted to handle currents up to 3 amps at reduced sensitivity. Transparent plastic dust cover. Mounting: Two .196" clearance holes on $2\frac{1}{8}$ x $2\frac{1}{8}$ centers. For DC Relays see Series 310. For AC Relays see Series 321.



SERIES 5D1C — DUST COVER — DC OPER.

SERIES 23D — DUST COVER — AC OPER.

All standard operating characteristics of series 51C and 23C available in this new polystyrene enclosed plug in unit. Easily removable case permits field adjustment without special equipment. Mounting: 8 pin octal plug in.



SERIES 23 —

MIDGET AC ONLY

Light weight (1 1/2 ozs.), economical sensitive relay, ideal for all plate circuit, photoelectric, remote control applications, where space, economy and current drain are chief design features. SPDT. High speed flexible armature assures long life. AC operation. Adjustable screw contacts and spring tension. Mounting: 2 \pm 6-32 tapped holes on 0.437" centers.

DC RELAYS

Relay No.	(Ohms) Coil Resistance	Operating Current	Contact Rating (Amps)	Net
T002-2000	2000	4.5 MA	DPDT	2 \$15.10
T002-5000	5000	2.8 MA	DPDT	2 16.25
T002-8000	8000	2.2 MA	DPDT	2 16.75
310DC35	470	2.1 MA	SPDT	1 8.85
310DC37	1200	1.3 MA	SPDT	1 8.85
310DC40	4680	0.7 MA	SPDT	1 8.85
310DC42	11700	0.4 MA	SPDT	1 10.75
310DC44	29250	0.25 MA	SPDT	1 12.40
51CA37D	500	4.5 MA	SPDT	2 4.95
51CA40D	2000	2.3 MA	SPDT	2 4.95
51CA42D	5000	1.4 MA	SPDT	2 5.50

DC RELAYS

Relay No.	(Ohms) Coil Resistance	Operating Current	Contact Rating (Amps)	Net
51CA43D	8000	1.2 MA	SPDT	2 \$ 5.50
51CB44D	13000	0.6 MA	SPDT	1 5.95
5D1CA37D	500	4.5 MA	SPDT	2 5.95
5D1CA40D	2000	2.3 MA	SPDT	2 5.95
5D1CA42D	5000	1.4 MA	SPDT	2 6.50
5D1CA43D	8000	1.2 MA	SPDT	2 6.50
5D1CB44D	13000	0.6 MA	SPDT	1 6.95
P255A	136	0.75 MA*	SPDT	1 30.00
P255.714	MOUNTING BLOCK INCLUDING SPRINGS			6.00

*With coils in series aiding.

AC RELAYS

Relay No.	Operating Voltage	Contact Arrangement	Contact Rating (Amps)	Net
321DC78	6 V	SPDT	2	\$9.25
321DC81	12 V	SPDT	2	9.25
321DC84	24 V	SPDT	2	9.25
321DC91	110 V	SPDT	2	9.50
23CB3	6 V	SPDT	2	4.05
23CB6	12 V	SPDT	2	4.05
23CB9	24 V	SPDT	2	4.05
23DB3	6 V	SPDT	2	5.85
23DB6	12 V	SPDT	2	5.85
23DB9	24 V	SPDT	2	5.85

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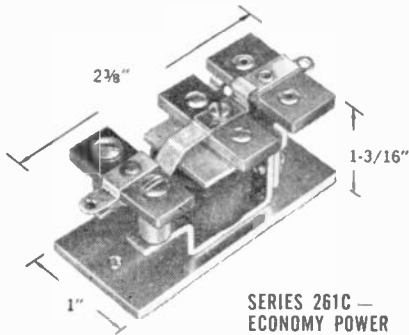


relays

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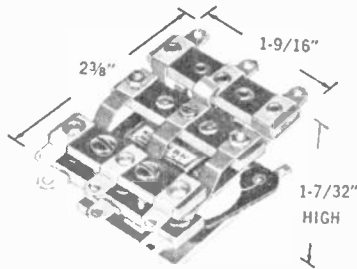
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FRANCHISED DISTRIBUTORS
AT FACTORY PRICES

POWER AND ANTENNA RELAYS



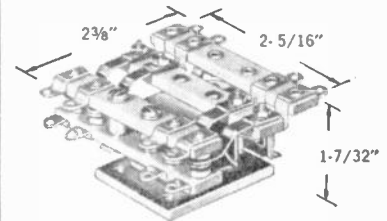
SERIES 261C — ECONOMY POWER

Both space and cost economy have been carefully balanced in the design of this heavy duty power relay. SPDT contacts rated at carrying continuous loads of 20 amps are standard. AC or DC operation. Tested and approved for direct use with high powered cadmium sulphide photocells, handling high current lamp loads. Other applications include small motor control, appliances, industrial control, and transmitters. Mounting: 2 ϕ 6-32 tapped holes on 1-3/16" centers.



SERIES 262C-263C — MEDIUM POWER

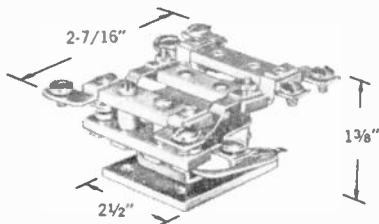
The DPDT and 3PDT relays feature self wiping contacts, which will continuously handle 20 amp loads. Can be wired for double make or break operations. AC or DC coils. This high speed relay will handle the majority of all power applications. Standard operating power; 1 watt DPDT; 1 1/2 watts - 3PDT. Mounting: 4 ϕ 6-32 tapped holes on 13/16" x 1-3/16" centers.



SPECIAL ORDER ONLY

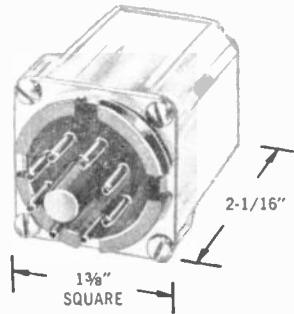
SERIES 264C — MEDIUM POWER

Special version of Series 26 for DC application only. Available as 4PDT. With a minimum of operating power, it is now possible to handle up to 4 power control circuits at one time. Mounting: 4 ϕ 6-32 tapped holes on 13/16" x 1-3/16" centers.



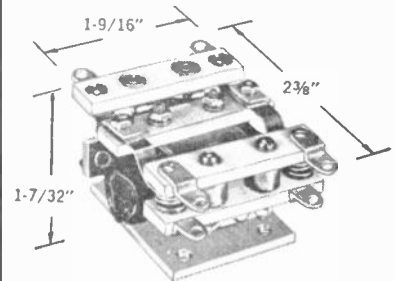
SERIES 26L — SCREW TERMINALS

Heavy duty industrial control relay for all applications requiring high speed operation, long life and reliable high current contacts. All contacts rated at 30 amp. Heavy duty screw terminals. Mounting: two 3/16" diameter holes on 1 7/8" centers.



SERIES 26D — DUST COVER

Midget version of standard Series 26 in clear polystyrene enclosure. Available up to 3PDT with standard contacts rated at 10 amps. Mounting: 8 pin octal plug in for standard DPDT; 11 pin octal type plug in for 3PDT.



SERIES 252C-253C — ANTENNA

Powerful antenna change-over relay, capable of transferring up to 1500 watts RF load. High speed DPDT self-wiping contacts. AC or DC operation. Low loss handling of RF energy is insured by the use of G-7 insulating bridges. Present use includes the 450 megacycle range. Standard operating power - 1 watt. Mounting: 4 ϕ 6-32 tapped holes on 13/16" x 1-3/16" centers.

DC RELAYS

AC RELAYS

TYPE	CONTACT ARRANGEMENT	CONTACT RATING (AMPS)	6, 12, 24 V NET	110 V NET
261C	SPDT	20	\$5.45	\$6.00
262C	DPDT	20	6.45	7.00
263C	3PDT	20	6.95	7.50
264C	4PDT	10	8.55	9.15
26L2C	DPDT	30	6.95	7.50
26D1C	SPDT	10	5.45	5.95
26D2C	DPDT	10	6.45	7.00
26D3C	3PDT	10	7.95	8.50
252C	DPDT	1.5 KW RF	7.50	8.10
253C	3PDT	1.5 KW RF (2C) 20 amp (1C)	8.50	8.60

TYPE	CONTACT ARRANGEMENT	CONTACT RATING (AMPS)	6, 12, 24, 115 V NET	230 V NET
261C	SPDT	20	\$5.45	\$6.00
262C	DPDT	20	6.45	7.00
263C	3PDT	20	6.95	7.50
26L2C	DPDT	30	6.95	7.50
26D1C	SPDT	10	5.45	6.15
26D2C	DPDT	10	6.45	8.00
26D3C	3PDT	10	7.95	8.50
252C	DPDT	1.5 KW RF	7.50	
253C	3PDT	1.5 KW RF (2C) 20 amp (1C)	8.00	

KURMAN MANUFACTURES A COMPLETE LINE OF HERMETICALLY SEALED RELAYS

RELAYS TO MEET ALL SPECIAL APPLICATIONS ARE AVAILABLE FROM DISTRIBUTORS
SEE LOCAL FRANCHISED DISTRIBUTORS FOR IMMEDIATE DELIVERY

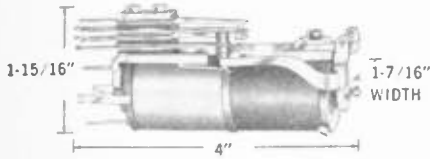


relays

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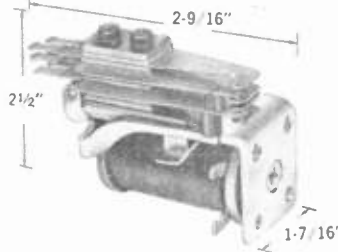
IMMEDIATE DELIVERY FROM
FRANCHISED DISTRIBUTORS
AT FACTORY PRICES

MICRO-MINIATURE AND TELEPHONE TYPE RELAYS



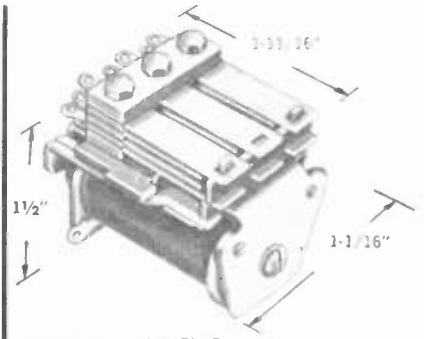
SERIES A — LONG FORM

Designed for applications requiring rapid opening and closing of up to 15 individual circuits (forms A-E). Single or double wound coils with resistances up to 75,000 ohms. The heavy duty armature hinge with a non-loosening knurled armature pin provides an extra long operational life. Tinned solder terminals for rear of panel wiring. For sensitivity, ruggedness, reliability, multiple switching and economy, the Series A has no equal. Mounting: 2 = 8-32 tapped holes on 3/4" centers.



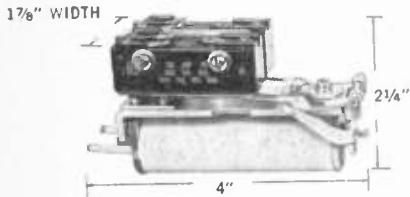
SERIES E — SHORT FORM

Featuring all the benefits of the long form relay, and incorporating a shortened coil and heel piece, this relay is desired where space economy is a factor. Extremely fast contact switching — ideal for computer applications. High reliability — designed for hundreds of millions of operations. Sensitive versions as low as 100 milliwatt per pole. Mounting: 4 = 8-32 tapped mounting holes on 5/8" x 3/4" centers.



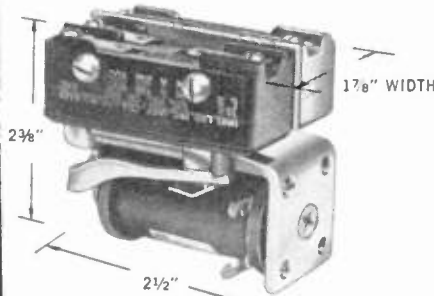
SERIES M — MINIATURE

Ideal for all applications where space, weight and economy are factors. Short springs and light-weight armature provide fast action, reliability and long life. Up to 18 contact arms, forms (A-D). For aircraft, computer, data recording, industrial programming and other applications requiring good shock and vibration characteristics. DC operation only. Mounting: 2 = 4-40 tapped holes on 3/4" centers.



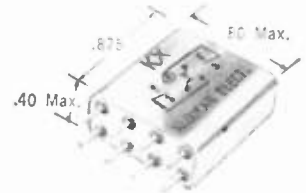
SERIES AS — SNAP ACTION

Special version of Series A shown above, offered with either one or two snap action switches. For sensitive switching of power control circuits, carrying currents of up to 15 amps per pole. Dust-free, tamper-proof contacts — easily replaceable snap action switches. Mounting: 2 = 8-32 tapped holes on 3/4" centers.



SERIES ES — SNAP ACTION

Either one or two snap action switches mounted on standard Series E frame, offering sensitive operation, handling high currents in 5/8" of the volume of the Series AS. Mounting: 4 = 8-32 tapped holes on 5/8" x 3/4" centers.



SERIES KX1 — MICRO-MINIATURE

Equipped with special DPDT 2 amp contacts rated to carry any load from any circuit to full rating. Features a .010" grid spaced header. Nominal operating power — 250 milliwatts.

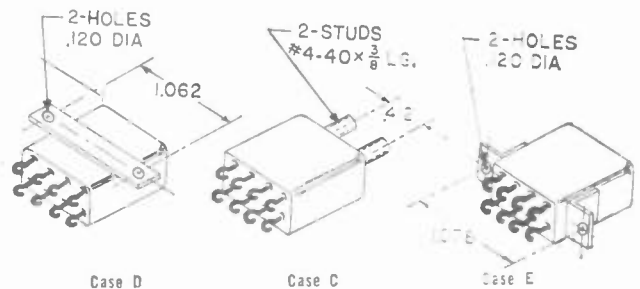
New torsional rotation balanced armature offers 20G 2,000 cycle vibration and 50G shock immunity. Proven reliability under all environmental conditions. A frictionless bearing assures repeatability and long life.

DC TELEPHONE RELAYS

RELAY NO.	CONTACT ARRANGEMENT	COIL VOLTAGE	COIL RESISTANCE (OHMS)	CONTACT RATING (AMPS)	NET
A004-6	4PDT	6	40	3	\$ 8.65
A004-12	4PDT	12	140	3	9.10
A004-24	4PDT	24	600	3	9.20
A004-110	4PDT	110	10,000	3	10.30
E004-6	4PDT	6	40	3	7.65
E004-12	4PDT	12	145	3	8.10
E004-24	4PDT	24	590	3	8.20
E004-110	4PDT	110	10,000	3	9.30
M004-6	4PDT	6	30	3	6.30
M004-12	4PDT	12	120	3	6.30
M004-24	4PDT	24	480	3	6.30
M004-110	4PDT	110	12,000	3	7.25
AS2-6	DPDT	6	40	15	12.00
AS2-12	DPDT	12	140	15	12.45
AS2-24	DPDT	24	600	15	12.55
AS2-110	DPDT	110	10,000	15	13.70
ES2-6	DPDT	6	23	15	11.50
ES2-12	DPDT	12	93	15	11.95
ES2-24	DPDT	24	370	15	12.05
ES2-110	DPDT	110	8,250	15	13.20

MICRO-MINIATURE RELAYS

RELAY NO.	CASE STYLE	HEADER	CONT. ARR.	CONTACT RATING (AMPS)	\$ 12 24 VDC NET
KX1P20	O	Plug-in	DPDT	2 amp	\$15.95
KX1H2D	D	Solder	DPDT	2 amp	16.20
KX1H2C	C	Solder	DPDT	2 amp	16.20
KX1H2E	E	Solder	DPDT	2 amp	16.20



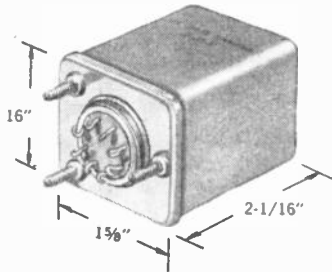
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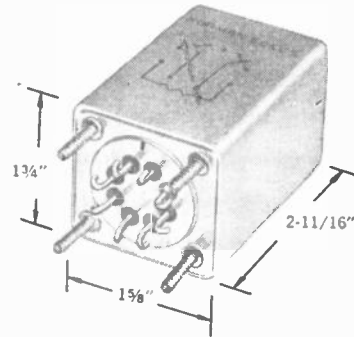
IMMEDIATE DELIVERY FROM
FRANCHISED DISTRIBUTORS
AT FACTORY PRICES

HERMETICALLY SEALED



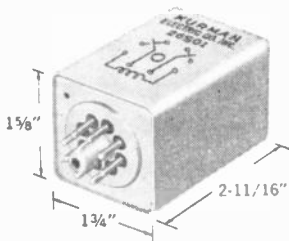
SM004E — MINIATURE TELEPHONE

Hermetically sealed version of Series M. This relay equipped with 4PDT contacts rated at 3 amp. Operating from a 26.5 V DC nominal input source. Solder lug terminals. Hermetic enclosure makes the relay impervious to all detrimental atmospheric conditions, including contaminating gases, dust salt, etc. Mounting: 3 #6-32 studs on 15/16" x 1-3/16" centers.



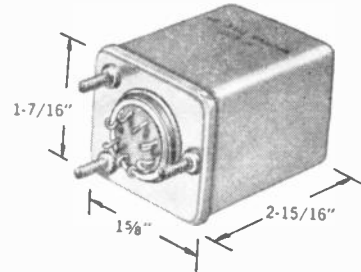
#26S20 — HEAVY DUTY

Hermetically sealed version of Series 26, equipped with heavy duty construction, offering contacts rated at 25 amps. Relay operates at 115 V AC nominal, and offers a standard DPDT construction. Can be externally wired for double-make or break arrangements. Excellent for all industrial and other remote power controls. Mounting: 4 #6-32 studs on 1 3/4" x 1 1/8" centers.



#26S01 — MEDIUM POWER

Hermetically sealed Series 26 relay. DPDT contacts — rated at 10 amps. 115 V AC nominal coil operation. Equipped with octal plug-in. Small enclosures. Mounting: 8 pin octal plug-in.



SM004F — 400 CYCLE

Special version of Series M relay equipped with internal rectifiers. Nominal operation — 110 V AC, 400 cycle (this relay can be used on frequencies as low as 60 cps). 4PDT contacts rated at 3 amp. Excellent vibration and shock characteristics. Solder lug terminals. Mounting: 3 #6-32 studs on 15/16" x 1-3/16" centers.

RELAY TYPE	CONTACT ARRANGEMENT	CONTACT RATING (AMPS)	COIL VOLTAGE	NET
SM004E	4PDT	3	26.5 V DC	\$11.60
26S01	DPDT	10	115 V AC	12.85
26S20	DPDT	25	115 V AC	14.80
SM004F	4PDT	3	115 V AC-400 cps	13.60

ORDERING INFORMATION

FILE-O-MATIC Sec. 23

Relays PREVIOUSLY ORDERED are readily identified by the Kurman type number, which is placed on the relay. Please include this number when re-ordering.

Relays shown in this bulletin are STANDARD relays in stock for immediate shipment. From this bulletin a relay can be chosen meeting the needs of most electrical or electronic applications.

VARIATIONS of these relays are available, as shown in our GS catalog, with slightly extended delivery schedules. All CONTACT RATINGS shown in this bulletin are for 115 V AC-60 cycles, resistive loads.

Please SPECIFY the Kurman relay type and coil voltage or resistance, AC or DC.

CONTACT LEGEND: S—Single; D—Double; P—Pole; T—Throw; N—Normally; O—Open; C—Closed

All prices and specifications are subject to change without notice. Prices shown are for quantities of 1-10. Consult a Kurman Sales Agency for discounts on larger quantities.

IMMEDIATE DELIVERY FROM FRANCHISED DISTRIBUTORS — KURMAN SALES AGENCIES



Line Electric Company

General Purpose Relays



Thermal Time Delay Relays

Precision workmanship, skillful design, quality materials and quality control testing guarantee dependable performance of these relays. Used in lighting systems, signal devices, motor starting, heater loads, photographic applications, or any load circuit requiring fast, positive switching of A.C. or D.C. power.

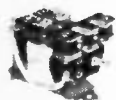
General Purpose Relays



**MK-MKO
OPEN TYPES**

SERIES	A.C. RELAYS 6, 12, 24, 115 230 V. - 60 Cy.		D.C. RELAYS 6, 12, 24, 110V.		CONTACT RATING 115 V. A. C. 60 Cy. Non-Inductive
	5 AMPERES				
MK OPEN TYPES					
CONTACTS	TYPE	NET	TYPE	NET	Dimensions: 1-11/16 x 29/32 x 1-3/16 high Mounting: One 6-32 tapped hole. Weight: 2 1/2 oz.
SPDT	MK1A	\$2.95	MK1D	\$2.90	
DPDT	MK2A	3.55	MK2D	3.25	
3PDT	MK3A	3.95	MK3D	3.65	
MKO HEAVY DUTY OPEN TYPES 10 AMPERES					
CONTACTS	TYPE	NET	TYPE	NET	Dim: 1-11/16 x 29/32 x 1-3/16 high. M'ting: One 6-32 tapped hole. Weight: 2 1/2 oz.
SPDT	MK01A	\$3.00	MK01D	\$2.95	
DPDT	MK02A	3.65	MK02D	3.35	
3PDT	MK03A	4.05	MK03D	3.80	

Add 40c to net price for 230 V.A.C., 60 Cy. and 110 V.D.C. Relays



SERIES LR

RATING—10 Amperes
15 Amperes double break
Dimensions: 2 3/8 x 1 1/2 x 1-13/16 high.
Mounting: Two holes tapped 6-32 on 2" centers.
Weight: 10 oz.

Contacts	A.C. RELAYS 6-12-24-115-230 V. 60 C.		D.C. RELAYS 6-12-24-110 V.	
	Type	Net	Type	Net
SPDT	LR1A	3.75	LR1D	3.75
DPDT	LR2A	4.00	LR2D	4.00
SPST-NO	LR4A	3.50	LR4D	3.50
DPST-NO	LR5A	3.80	LR5D	3.80
SPST-NO-DB	LR10A	3.60	LR10D	3.60

Add 40c to above prices for 220 V. A.C., 60c for 110 V. D.C.



SERIES LG

RATING—15 Amperes

Dimensions: 3 3/8 x 1 1/2 x 1-13/16 high.
Mounting: Two holes tapped 6-32 on 2" centers.
Weight: 10 oz.

Contacts	A.C. RELAYS 6-12-24-115-230 V. 60 C.		D.C. RELAYS 6-12-24-110 V.	
	Type	Net	Type	Net
SPDT	LG1A	4.10	LG1D	4.00
DPDT	LG2A	4.75	LG2D	4.60
3PDT	LG3A	5.60	LG3D	5.45

Add 40c to above prices for 220 V. A.C., 60c for 110 V. D.C.



**MKP-MKH
PLUG-IN TYPES**

SERIES	A.C. RELAYS 6, 12, 24, 115 230 V. 60 Cy.		D.C. RELAYS 6, 12, 24, 110V		CONTACT RATING 115 V. A. C. 60 Cy. Non-Inductive
	5 AMPERES				
MKP PLUG-IN TYPES					
CONTACTS	TYPE	NET	TYPE	NET	Dim: 1 1/8 x 1 1/8 x 2 1/8 high Weight: 3 1/2 oz.
SPDT	MKP1A	\$5.20	MKP1D	\$5.15	
DPDT	MKP2A	5.75	MKP2D	5.70	
3PDT	MKP3A	7.15	MKP3D	7.10	
MKH HEAVY DUTY PLUG-IN TYPES 10 AMPERES					
CONTACTS	TYPE	NET	TYPE	NET	Dim: 1 1/8 x 1 1/8 x 2 1/8 high Weight: 3 1/2 oz.
SPDT	MKH1A	\$5.25	MKH1D	\$5.20	
DPDT	MKH2A	5.85	MKH2D	5.80	
3PDT	MKH3A	7.30	MKH3D	7.25	

Add 40c to net price for 230 V.A.C., 60 Cy. and 110 V.D.C. Relays



SERIES LRP

RATING—10 Amperes
15 Amperes double break

Dimensions: 1-15/16 x 1-15/16 x 3/8 high
Mounting: Plug-in Standard Octal for LRP 1 and LRP 2, 11 Pin for LRP 3.
Weight: 10 oz.

Contacts	A.C. RELAYS 6-12-24-115-230 V. 60 C.		D.C. RELAYS 6-12-24-110 V.	
	Type	Net	Type	Net
SPDT	LRP1A	6.25	LRP1D	6.25
DPDT	LRP2A	7.00	LRP2D	7.00
SPST-NO	LRP4A	6.00	LRP4D	6.00
DPST-NO	LRP5A	6.80	LRP5D	6.80
SPST-NO-DB	LRP10A	6.10	LRP10D	6.10

Add 40c to above prices for 220 V. A.C., 60c for 110 V. D.C.



SERIES LGP

RATING—15 Amperes

Dimensions: 1-15/16 x 1-15/16 x 3/8 high
Mounting: Plug-in, Standard Octal for LGP 1 and LGP 2, 11 Pin for LGP 3.
Weight: 14 oz.

Contacts	A.C. RELAYS 6-12-24-115-230 V. 60 C.		D.C. RELAYS 6-12-24-110 V.	
	Type	Net	Type	Net
SPDT	LGP1A	6.60	LGP1D	6.50
DPDT	LGP2A	7.75	LGP2D	7.60
3PDT	LGP3A	9.10	LGP3D	8.95

Add 40c to above prices for 220 V. A.C., 60c for 110 V. D.C.

Plate Circuit Relays

Type	Ctks.	Res.	Pull-In	Net
MKC	MKC-1	SPDT	2500	7.2 Ma. 3.00
	MKC-1	SPDT	5000	5.0 Ma. 3.10
	MKC-1	SPDT	10000	3.5 Ma. 3.60
OPEN	MKC-1	SPDT	20000	1.8 Ma. 3.85
	MKC-2	DPDT	2500	10.0 Ma. 3.50
	MKC-2	DPDT	5000	7.2 Ma. 3.60
TYPES	MKC-2	DPDT	10000	5.0 Ma. 4.10
	MKC-2	DPDT	20000	2.4 Ma. 4.35
	MKC-3	3PDT	2500	12.0 Ma. 3.90
	MKC-3	3PDT	5000	8.5 Ma. 4.00
	MKC-3	3PDT	10000	6.0 Ma. 4.50
	MKC-3	3PDT	20000	3.0 Ma. 4.75

Type	Ctks.	Res.	Pull-In	Net
MKF	MKF-1	SPDT	2500	7.2 Ma. 5.30
	MKF-1	SPDT	5000	5.0 Ma. 5.40
	MKF-1	SPDT	10000	3.5 Ma. 5.90
PLUG-	MKF-1	SPDT	20000	1.8 Ma. 6.15
	MKF-2	DPDT	2500	10.0 Ma. 5.45
	MKF-2	DPDT	5000	7.2 Ma. 5.55
IN	MKF-2	DPDT	10000	4.0 Ma. 6.05
	MKF-2	DPDT	20000	2.4 Ma. 6.30
	MKF-3	3PDT	2500	12.0 Ma. 7.30
	MKF-3	3PDT	5000	8.5 Ma. 7.40
	MKF-3	3PDT	10000	6.0 Ma. 7.90
	MKF-3	3PDT	20000	3.0 Ma. 8.15

ORDERING INFORMATION

WHEN ORDERING RELAYS OR BUZZERS PLEASE SPECIFY TYPE AND COIL VOLTAGES. SPECIFY LUGS OR LEAD FOR TYPE MA MB.

Prices and Specifications are subject to change without notice.

Newark 3, New Jersey
 AFFILIATE—INDUSTRIAL TIMER CORPORATION



Latch Relays ★ Foot Switches ★ Indicating Relays ★ Buzzers

"Spot-Lite"[®]
 Indicating Relay

PAT. #2,866,964

Contact Rating
 5 Amperes—Resistive
 2 Amperes—Inductive
Contact Material
 5/32" Dia. Fine Silver
Dimensions
 Height Width Length
 2 1/8" 1 3/8" 1 3/8"

Mounting
 Standard RETNA Octal or Eleven Pin Base
Weight—3 ounces

Neon Lamp
 Breakdown Voltage—65 Volts A.C.
 90 Volts D.C.

Incandescent Lamp—Supplied on Type "A" Relays for 6, 12, 24 Volt use.

Colored Styrene Cases
 Available in Green, Red, Blue, Purple and Amber.



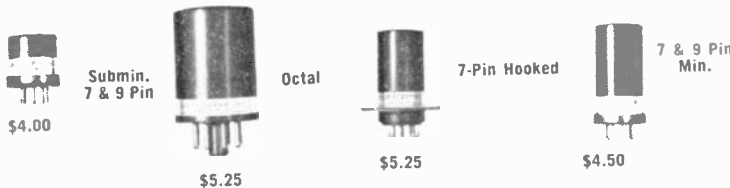
General purpose plug-in relay, featuring a lamp to indicate circuit function.

	Transparent Cases Clear or Colors		A.C. RELAYS		D.C. RELAYS	
			6, 12, 24, 115, 230 V. 60 C.	6, 12, 24, 110 V.		
	Contacts	Base	Model	Net	Model	Net
TYPE "A" Neon Across Coil	SPDT	OCTAL	A-1A	6.10	A-10	6.05
	DPDT	OCTAL	A-2A	6.65	A-20	6.60
	3PDT	11 PIN	A-3A	8.05	A-30	8.00
TYPE "B" Neon to N.C. Contact	SPDT	OCTAL	B-1A	6.10	B-10	6.05
	DPDT	OCTAL	B-2A	6.65	B-20	6.60
	2-SPDT 1-SPST-N.O.	11 PIN	B-3A	8.05	B-30	8.00
TYPE "C" Neon to N.O. Contact	SPDT	OCTAL	C-1A	6.10	C-10	6.05
	DPDT	OCTAL	C-2A	6.65	C-20	6.60
	2-SPDT 1-SPST-N.C.	11 PIN	C-3A	8.05	C-30	8.00
TYPE "D" Neon for External Use	SPDT	OCTAL	D-1A	6.10	D-10	6.05
	DPDT	11 PIN	D-2A	6.85	D-20	6.80

Add 40c for 230 V. A.C., 60 Cy. and 110 V. D.C. Relays.

Thermaline[®]
 (PAT. PENDING)

THERMAL TIME DELAY RELAYS



Description
 "Thermaline" is a Thermostatically operated Time Delay Relay built to give long, trouble free service.

Ordering information—use the following code.

Heater Voltage	Time Delay in Seconds	Contact Arrangement	Base Type
115	180	O	A

Contact Arrangement— O = SPST—N.O.
 C = SPST—N.C.

KEY

Base Type—
 "A"—7 Pin miniature plug-in
 "B"—8 Pin (octal) plug-in.
 "C"—9 Pin miniature plug-in.
 "D"—7 Pin hooked solder terminals with mounting flange.

Heater Data

Relays are available in these standard ratings: 2.5, 5.0, 6.3, 26.5, 48, 117 volts A.C., D.C. or pulsating current. Use a 115 volt Relay with a 3000 ohm 5 watt series resistance for 230 volt applications. Maximum power requirements for "Thermaline" Relays is 4 watts. Heater characteristics are such that a short time overload of 50% will not alter time setting.

Operating Time

Operating time tolerance with the designated heater voltage fixed is — 10% at 20 C.
 All "Thermaline" Relays are preset at the factory for any time delay setting covered by the following ranges:
 1/4 second to 2 seconds — 1/4 second steps
 2 seconds to 10 seconds — 1 second steps
 10 seconds to 60 seconds — 5 second steps
 60 seconds to 180 seconds — 10 second steps

Contacts

At this time only S.P.S.T., N.O. or N.C. contacts are available. Contacts are 1/8 dia. fine silver and are rated 3 amperes at 115 volts 60 cycles non-inductive.

Pedaline[®]

FOOT SWITCH



Compact, light weight foot operated switch. For any electrically operated equipment.
Dimensions: 3 1/2" long, 2 5/8" wide, 1" high.
Weight: 7 oz. single, 7 1/2 oz. double.
Contact Rating: 5 amperes resistive at 115 and 230 volts 60 cycles.

Model-PL1

Basic switch with a single pole double throw momentary snap action contacts. \$3.00

Model-PL1C

Single switch unit with a 6 foot 2 conductor line cord and a series plug. \$4.25

Model-PL5

Contains two single pole double

throw switches arranged so that a partial movement of the treadle will actuate the first switch. Then by added pressure the second switch will actuate. \$4.55

Model-PL5C

Contains two switches which operate in sequence, same as Model PL5, with 6 foot 4 conductor line cord. \$5.40

ALSO AVAILABLE IN 15 AMPERE MODELS

PE Housings



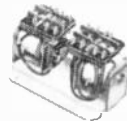
Polystyrene, transparent plastic plug-in enclosures. Available in clear and colors—Green, Blue, Red, Purple, Amber.

Dimensions: PE-8, PE-11: 1 1/8 x 1 3/8 x 2 1/8.
 PE-8L, PE-11L: 1-15/16 x 1-15/16 x 3 1/8 high.

	Model	Net	Model	Net	Weight
Octal	PE-8	.50	PEL-8	.65	1 1/4 oz.
	PE-11	.65	PEL-11	.80	1 3/4 oz.
11 Pin			PEL-20	3.25	2 1/2 oz.

Latch Relays

SERIES RL



Voltage: D.C.—6, 12, 24 and 110 V.
 A.C.—6, 12, 24, 115 and 230 V.
Power: 2.7 watts min. 4 watts max.
Resistance: 16,000 OHMS max.

Contacts:

Material: fine silver for 5 Amp. units silver cadmium oxide for 10 Amp. units.
Rating: 5 and 10 Amps. at 115 V.A.C. non-inductive or 26.5 V.D.C.
Arrangements: up to 6 PDT.
Mounting Dimensions: 2-15 16 L., 1 3/4 W., 2 H.
Mounting Data: 2 holes 5 3/2 dia. on 1 3/4 centers.

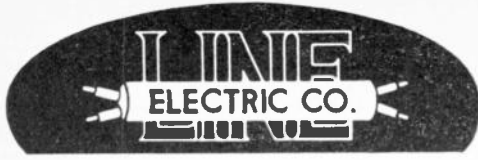
SERIES RLP



Voltage: D.C.—6, 12, 24 and 110 V.
 A.C.—6, 12, 24, 115 and 230 V.
Power: 2.7 watts min. 4 watts max.
Resistance: 16,000 OHMS max.

Contacts:

Material: fine silver for 5 Amp. units, silver cadmium oxide for 10 Amp. units.
Rating: 5 and 10 Amps. at 115 V.A.C. non-inductive or 26.5 V.D.C.
Arrangements: up to 5 PDT standard.
Dimensions: 1-15/16 x 1-15/16 x 3 1/8 high.
Mounting: Plug-in—Standard octal for SPDT. Standard 11 Pin for DPDT. Twenty Pin for 3 PDT, 4 PDT and 5 PDT. (Female receptacles for 20 Pin plug available.)



Line Electric Company

Newark 3, New Jersey

AFFILIATE — INDUSTRIAL TIMER CORPORATION

General Purpose Relays ★ Thermal Time Delay Relays
 Latch Relays ★ Foot Switches ★ Indicating Relays ★ Buzzers

Precision workmanship, skillful design, quality materials and quality control testing guarantee dependable performance of these relays. Used in lighting systems, signal devices, motor starting, heater loads, photographic applications, or any load circuit requiring fast, positive switching of A.C. or D.C. power.

GT Relays

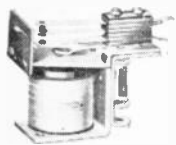


MINIATURE TELEPHONE TYPE

Voltage: D.C. 6, 12, 24 and 110 V.
 A.C. 6, 12, 24 and 115 V.
Contact Rating: 5 Amps at 115 V.A.C. non inductive.
Arrangements: up to 6 PDT.
Coils: Potent varnish impregnated with insulation of 500 volts.
 RMS 60 cycles, coil to frame.
Pull-in Time: 7 to 9 milliseconds.
Weight: approx. 2 oz.
Dimensions: 1.9 16 x 25 32 x 1.34 high (for 6 PDT).

Contacts	Type	Net	Type	Net
SPDT	GT1A	4.90	GT1D	4.50
DPDT	GT2A	5.25	GT2D	4.85
3 PDT	GT3A	6.25	GT3D	5.35
4 PDT	GT14A	6.65	GT14D	5.65
5 PDT	GT15A	6.90	GT15D	6.80
6 PDT	GT16A	7.30	GT16D	7.20

Multiple Leaf Relay



SERIES W

Voltage: D.C.—6, 12, 24 and 110 V.
 A.C.—6, 12, 24, 115 and 220 V.
Contact Material: .14" fine silver rated at 10 Amps., with silver cadmium oxide available on request for higher current carrying capacity.
Arrangements: up to 4 PDT (2 pile ups of 2 contacts each).

Dimensions: 2 1/2 x 1 x 2 1/2 high (for 4 PDT arrangements).

Contacts	Type	Net	
		6, 12, 24, 115 VAC	Net—220 VAC
SPDT	W1A	2.55	2.95
DPDT	W2A	3.15	3.55
3 PDT	W3A	3.60	4.00
4 PDT	W14A	4.40	4.80

Contacts	Type	Net	
		6, 12, 24 VDC	Net—110 VDC
SPDT	W1D	2.50	2.90
DPDT	W2D	3.10	3.50
3 PDT	W3D	3.55	3.95
4 PDT	W14D	4.35	4.75

Industrial Type Buzzers

DIRECT TO LINE • TRANSFORMER UNNECESSARY
 Available in the following AC Voltages: 6-12-24-115-230-460
TYPE MC—Encased Type Mini-Buzzer



Dimensions: 3 3/4 x 2 1/2 x 1 5/8 high.
Mounting: Two holes .156 dia. on 3-7 16 centers.
Weight: 12 oz.

- Ideally suited for paging systems, warning alarms, starting and dismissal signals.
- These A.C., non-contact type buzzers were designed to give a clear penetrating signal.
- Totally enclosed, ideal for external mounting.
- Finished in two-tone baked on grey enamel.
- Heavy gauge pressed steel base and cover.
- Snap on dust cover.
- Screw terminal connections for easier wiring. **NET PRICE \$2.50**

TYPE MB—Bracket Mounted Buzzer



Dimensions: 2 7/8 x 7/8 x 1 5/16 high.
Mounting: Two holes .128 dia. on 2 5/16 centers.
Weight: 7 oz

- Supplied with bracket for on chassis mounting. **NET PRICE: \$2.00**

TYPE MA—Assembly Type Buzzer



Dimensions: 2 1/8 x 1-1/16 x 1 1/4 high.
Mounting: One 8-32 tapped hole.
Weight: 6 oz.

- This unit is identical to above buzzer with mounting bracket eliminated for requirements where space is at a premium. **NET PRICE: \$1.80**

TYPE MD Available in the following AC Voltages: 6, 12, 24, 115 and 230 V.



Power required: 1.1 watts minimum, 4 watts maximum.
Dimensions: 1-21/32 x 7/8 x 1 1/8 high.
Mounting: Two 6-32 screws on 6/25 centers.

- Ideally suited for warning signals and OEM applications requiring small size and clear, audible sound. **NET PRICE: \$1.50**
 Add 40c to above price for 230 and 460 V.C. coils.

TYPE BD Designed for OEM applications calling for units of high quality, good appearance and dependable operation.



Voltage: 6, 12 and 24 V.D.C. for 48 V.D.C., consult factory. (Units may also be utilized for A.C. applications.)

- Dust-proof chrome cover.
- Phosphor bronze springs.
- Pure hard-drawn silver contacts.
- Each buzzer size has a different tone and an adjustable volume of sound.

Type	Dimensions	6-8 V.D.C.	12 V.D.C.	24 V.D.C.	48 V.D.C.
		(8-10 V.A.C.)	(12 V.A.C.)	(24 V.D.C.)	(48 V.A.C.)
BD0	1 5/8 x 1 1/8 x 1/2	3.65	4.30	4.30	6.95
BD1	2 1/8 x 2 x 1 1/16	3.45	4.00	4.00	6.65
BD2	2 7/8 x 2 1/2 x 1	3.65	4.30	4.30	6.95

ORDERING INFORMATION

WHEN ORDERING RELAYS OR BUZZERS PLEASE SPECIFY TYPE AND COIL VOLTAGES. SPECIFY LUGS OR LEAD FOR TYPE MA MB.

Prices and Specifications are subject to change without notice.

OHMITE® RESISTORS • RHEOSTATS • TAP SWITCHES RELAYS • TANTALUM CAPACITORS VARIABLE TRANSFORMERS • RF CHOKES

OHMITE ALL-PURPOSE RELAYS



MODEL DO RELAY AC or DC OPERATION

Ideal for mobile equipment applications where severe shock and vibration are encountered. Coil drain: 3-watts DC, 6 watts 60 cycle AC. Contact ratings: 10 amps. at 115 v. AC; 32 volt DC non-inductive load. Insulation tested at 1500 v. AC. Size, (4 pole) 2 1/4 x 2 1/8 x 1 1/8"; (3 pole) 2 1/4 x 1 5/8 x 1 1/8".

Stock No.	Type	Coil Data		Net Price	Stock No.	Type	Coil Data		Net Price
		V. A. C.	Amps.				V. D. C.	Amps.	
DOX-50T	3PDT	6	2.10	8.65	DOX-145T	3PDT	6	4.87	17.47
DOX-183T	4PDT	6	2.10	9.85	DOX-186T	4PDT	6	4.87	9.65
DOX-49T	3PDT	12	1.33	8.65	DOX-51T	3PDT	12	2.31	7.87
DOX-184T	4PDT	12	1.33	9.85	DOX-102T	4PDT	12	2.31	8.65
DOX-181T	3PDT	24	.57	8.65	DOX-141T	3PDT	24	1.05	7.47
DOX-185T	4PDT	24	.57	9.85	DOX-137T	4PDT	24	1.05	8.65
DOX-226T	DPST*	115	1.10	8.65	DOX-93T	3PDT	110	0.22	7.47
DOX-227T	3PDT	115	1.10	2.84	DOX-187T	4PDT	110	0.22	8.65
DOX-46T	3PDT	115	1.10	8.65	DOX-182T	3PDT	220	0.4	8.15
DOX-228T	3PDT	115	1.10	8.65	DOX-183T	4PDT	220	0.4	9.33
DOX-53T	4PDT	115	1.10	9.85					
DOX-51T	3PDT	130	0.80	8.65					
DOX-130T	4PDT	130	0.80	9.85					

* Normally open
* AC Voltage is 60 cycle
* Double Break Contacts



MODEL DOSY RELAY FOR PLATE CIRCUIT OPERATION

The high operating sensitivity makes the DOSY relay adaptable to a wide range of electronic control circuits, such as plate circuit controls, etc. Other industrial applications may be as an overload or underload control where the relay would be used in a DC circuit in which it is desirable to obtain a signal indication when the control current increases above a predetermined maximum or drops below a predetermined minimum.

The insulation is of high grade, molded phenolic material. At 115 v. AC or 32 v. DC, non-inductive load. Model DOSY relay has a contact rating of 15 amperes.

There are two DPDT types, one having 10,000 ohms coil resistance (maximum pull-in current of 8 ma. DC); the other having 5,000 ohms coil resistance.

Stock No.	Type	Coil Data		Net Price
		D.C. Ohms	Max. Pull-in Current	
DOSYX-67T	DPDT	10,000	8 MA	\$6.09
DOSYX-68T	DPDT	5,000	11 MA	6.09
DOSYX-69T	SPDT	10,000	5 MA	5.62
DOSYX-70T	SPDT	5,000	7 MA	5.62

ADDITIONAL RELAYS AVAILABLE

In addition to the listings of the Ohmite stock relays shown on this page, Ohmite has nine additional standard types of relays available. These can be promptly made to order. Therefore, if none of the relays shown on this page exactly suits your needs, we suggest you write to us and allow Ohmite engineers to make a recommendation designed to meet your requirements. All Ohmite relays — both standard and made-to-order — are exceptionally high quality, rugged relays designed to give the maximum in precision performance, dependability, and long life. Metal parts are plated where necessary for corrosion resistance. Springs are made of nickel-silver or phosphor-bronze and the contacts are fine silver. Special contact materials can be supplied when desired.



MODEL DOS RELAY AC or DC OPERATION

Quality, general-purpose relays originally designed to meet rigorous aircraft specs. Extremely compact yet rugged. Coil drain: 2.5 watts DC, 3 watts at 60 cycles AC. Contact ratings: DP, 15 amps. at 115 v. AC or 32v. DC non-inductive load; SP, 25 amps. Molded phenolic insulation; tested at 1500 v. AC. 1 7/8 x 1 5/8 x 1 1/8".

Stock No.	Type	Coil Data		Net Price	Stock No.	Type	Coil Data		Net Price
		V. A. C.	Amps.				V. D. C.	Amps.	
DOSX-229T	SPST*	6	6.50	4.84	DOSX-158T	DPDT	6	5.50	\$4.96
DOSX-230T	DPST	6	6.50	4.94	DOSX-66T	DPDT	12	2.10	4.96
DOSX-30T	DPDT	6	6.50	8.46	DOSX-9T	DPDT	24	1.05	4.96
DOSX-16T	DPDT	12	3.80	5.46	DOSX-237T	SPST*	110	0.22	4.96
DOSX-231T	SPST*	24	1.66	4.84	DOSX-238T	DPDT	110	0.22	4.96
DOSX-232T	DPDT	24	1.66	5.46	DOSX-59T	DPDT	110	0.22	4.96
DOSX-162T	DPDT	24	1.66	5.46	DOSX-177T	DPDT	220	0.43	5.54
DOSX-233T	SPST*	115	0.83	4.84					
DOSX-234T	DPDT	115	0.83	4.94					
DOSX-7T	DPDT	115	0.83	5.86					
DOSX-235T	SPST*	220	0.43	4.84					
DOSX-236T	DPDT	220	0.43	4.94					
DOSX-12T	DPDT	220	0.43	5.46					

* Normally open
* AC Voltage is 60 cycle
* Double Break Contacts



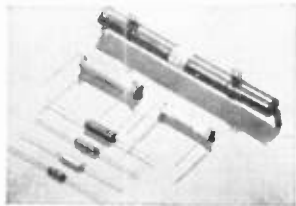
MODEL CRU RELAY AC or DC OPERATION

Precision-engineered, general-application relays. Used in recorders, vending machines, etc. Features small size and extremely rugged construction. Designed for long life performance. Has nickel-silver springs and pure silver contacts. Coil drain: 2.75 watts DC, 5.6 watts 60 cycle AC. Contact ratings: 5 amps. at 115 v. AC; 32 v. DC non-inductive load. Insulation tested at 750 v. AC between all insulated metal parts and between insulated metal parts and ground. 2 1/4 x 2 x 1 1/8".

Stock No.	Type	Coil Data		Net Price	Stock No.	Type	Coil Data		Net Price
		V. A. C.	Amps.				V. D. C.	Amps.	
CRUX-192T	SPDT	6	1.20	\$3.02	CRUX-198T	SPDT	6	40	\$2.81
CRUX-193T	DPDT	6	1.20	3.55	CRUX-199T	DPDT	6	40	3.33
CRUX-171T	4PDT	6	1.20	4.62	CRUX-133T	4PDT	6	40	4.34
CRUX-194T	SPDT	24	3.8	3.02	CRUX-200T	SPDT	24	10	2.82
CRUX-195T	DPDT	24	3.8	3.55	CRUX-201T	DPDT	24	10	3.33
CRUX-196T	4PDT	24	3.8	4.62	CRUX-165T	4PDT	24	10	4.34
CRUX-197T	SPDT	115	0.75	3.02	CRUX-202T	SPDT	110	0.22	3.66
CRUX-198T	DPDT	115	0.75	3.55	CRUX-145T	DPDT	110	0.22	4.17
CRUX-163T	4PDT	115	0.75	4.62	CRUX-137T	4PDT	110	0.22	5.18

* AC Voltage is 60 cycle

OHMITE R.F. PLATE CHOKES



This series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The four highest frequency chokes are wound on low power factor plastic cores while the other three units

are wound on steatite tubes. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

Stock Number	Operating Range Megacycles	Microhenries	Core Dimensions	Net Price
Z-7	3 to 20 Mc.	84.0	6" x 1 1/2"	\$1.23
Z-14	7 to 35 Mc.	44.0	2" x 1 1/2"	.54
Z-28	20 to 60 Mc.	21.0	1 3/4" x 1 1/2"	.48
Z-50	35 to 110 Mc.	7.0	2" x 1 1/2"	.30
Z-144	80 to 200 Mc.	1.8	3" x 1 1/2"	.30
Z-235	160 to 350 Mc.	0.84	3" x 1 1/2"	.30
Z-160	320 to 520 Mc.	0.20	1 1/2" x 1 1/2"	.30

Non-magnetic Brackets Furnished with Z-7. The Z-14 and Z-28 are rated at 600 ma. All others 1000 ma.

RELAYS

POTTER & BRUMFIELD

POTTER & BRUMFIELD — PHONE FULTON 5-5251 — TWX 73 — PRINCETON, INDIANA — DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY

STOCK CATALOG 100

ALPHABETICAL INDEX

Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page	Relay	Page
AB	3	CA	3	KA	5	KM	7	LS	1	MP	5	PW	2	SS	3
ABC	3	FR	6	KB	7	KRP	6	MA	8	MR	4	RS	3	M \bar{S} Cover	6
AF	6	GA	5	KCP	2	KT	7	MB	1	MS	8	SC	8	"P" Case	6
AG	3	GB	2	KE	7	LB	2	MC	1	PC	7	SL	8	PR Cover	4
AP	6	GC	7	KF	7	LK	8	MG	2	PR	4	SM	3	Bobbin Kit	4
BS	1	GP	6	KL	5	LM	2	MH	1	PS	4	SP	4	GP 100 Kit	5

ORDERING INSTRUCTIONS — File-O-Matic Sec. 23

All relay contacts are rated at 115 volt-60 cycle, non inductive load. When ordering specify relay type and coil voltage or resistance. Example: PR5AY, 115 Volts AC, 60 cycles or LBS, 2500 ohms resistance. To operate 110V DC relays on 220V DC use a 5 watt wire-wound

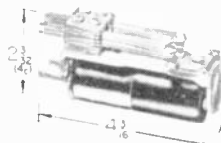
resistor of a value approximately the relay coil resistance in series with the relay coil.

CONTACT LEGEND: S-Single; D-Double; P-Pole; T-Throw; N-Normally; O-Open; C-Closed; B-Break; M-Make.

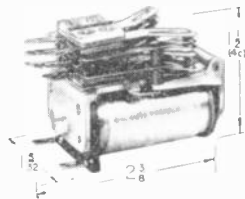
Prices and Specifications subject to change without notice. For latest prices refer to United Pricing Service.

TELEPHONE TYPE RELAYS

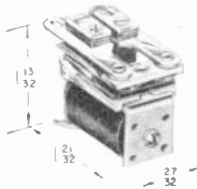
BS SERIES Long coil telephone type. Large size provides high sensitivity and simplifies maintenance. Suited for computer and automatic test equipment applications requiring large numbers of poles. Tinned solder type terminals for rear panel wiring. Mounting: Two No. 8-32 tapped holes on $\frac{3}{16}$ " centers. Contacts: Twin palladium. Weight: Approximately 9 ozs.



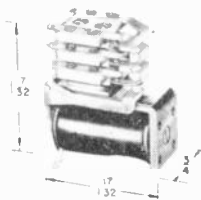
LS SERIES Short springs and light weight armature provides fast action without sacrificing reliability and long life. Stainless steel hinge bearing designed to give 100 million operations. Mounting: Four No. 6-32 holes on $\frac{3}{16}$ " x $\frac{5}{16}$ " centers. Twin palladium contacts. Weight: Approximately 4 ozs.



MB SERIES Miniature DC contactor. Designed for very high current applications. Handles 150 ampere surges for .3 ms. Contact arms heavy brass with large silver contacts, solder terminals. Mounting: Four No. 3-48 holes on $\frac{3}{16}$ " x $\frac{3}{8}$ " centers. Weight: 2 ozs.

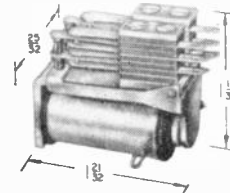


MC SERIES Built for RF switching with ceramic contact spacers to minimize losses at high frequencies. Intercontact capacitance 1.5 mmfd. D. C. types withstand 10 G vibration up to 300 C.P.S. and 25G shock. Mounting: Four No. 3-48 holes on $\frac{3}{16}$ " x $\frac{3}{8}$ " centers. Weight: 2 ozs. All standard models have palladium contacts.



MH SERIES MINIATURE TYPE

Extremely fast acting and long life. Ideal for applications where space and weight are factors. DC models withstand .065" vibration to 55 cps. Open AC models for intermittent duty only. Sealed AC MH17 AMR operates with a built-in rectifier. Mounting: MH11L model has No. 6-32 threaded stud $\frac{11}{32}$ " long plus locating boss. All other open models have four No. 3-48 holes on $\frac{3}{16}$ " x $\frac{3}{8}$ " centers. Contacts: Fine silver. Weight: Open model 2 ozs. Sealed model 4 ozs.

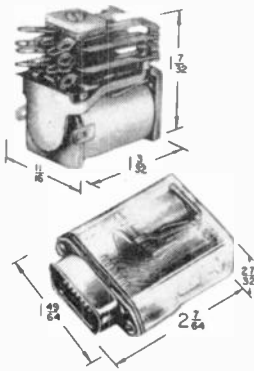


TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
BS17A	115V	71	17.9VA	4PDT	4	\$12.35
BS17D	6V	40	900MW	4PDT	4	11.65
BS17D	12V	200	720MW	4PDT	4	11.65
BS17D	24V	750	770MW	4PDT	4	11.65
BS17L	5.5MA	10,000	300MW	4PDT	4	12.30
BS23A	115V	71	17.9VA	6PDT	4	15.40
BS23D	6V	40	900MW	6PDT	4	13.75
BS23D	12V	200	720MW	6PDT	4	13.75
BS23D	24V	750	770MW	6PDT	4	13.75
BS23L	7.6MA	10,000	600MW	6PDT	4	14.90
LS17D	6V	20	1.8W	4PDT	4	9.50
LS17D	12V	100	1.8W	4PDT	4	9.50
LS17D	24V	300	1.8W	4PDT	4	9.50
LS23D	110V	8,000	1.8W	4PDT	4	10.50
LS23D	6V	20	1.8W	6PDT	4	12.10
LS23D	12V	100	1.8W	6PDT	4	12.10
LS23D	24V	300	1.8W	6PDT	4	12.10
LS23D	110V	8,000	1.8W	6PDT	4	13.10
MB3D	6V	13.3	2.5W	SPST-NO-DB	60	5.15
MB3D	12V	62.3	2.5W	SPST NO DB	60	5.25
MB3D	24V	245	2.5W	SPST NO DB	60	5.25
MB3D	110V	5,000	2.5W	SPST NO DB	60	5.65
MCSA	6V	2.1	4.6VA	SPDT	1	4.75
MCSA	115V	800	4.6VA	SPDT	1	4.75
MCSD	6V	2.1	1.6W	SPDT	1	4.20
MCSD	12V	96	1.6W	SPDT	1	4.20
MCSD	24V	365	1.6W	SPDT	1	4.20
MC11A	6V	2.1	4.6VA	DPDT	1	6.55
MC11A	115V	800	4.6VA	DPDT	1	6.55
MC11D	6V	2.1	1.6W	DPDT	1	6.05
MC11D	12V	96	1.6W	DPDT	1	6.05
MC11D	24V	365	1.6W	DPDT	1	6.05
MC11D	110V	6,200	1.6W	DPDT	1	6.55
MH11L	4.5MA	10,000	200MW	DPDT	5	5.75
MH11LM†	4.5MA	10,000	200MW	DPDT	5	9.70
MH17A†	6V	2.1	4.6VA	4PDT	5	6.75
MH17A†	24V	37	4.6VA	4PDT	5	6.75
MH17A†	115V	800	4.6VA	4PDT	5	6.75
MH17AMR†	24V	365	2VA	4PDT	5	25.00
MH17AMR†	115V	6,200	2VA	4PDT	5	19.00
MH17D	6V	2.1	1.6W	4PDT	5	5.75
MH17D	12V	96	1.6W	4PDT	5	5.75
MH17D	24V	365	1.6W	4PDT	5	5.75
MH17DM†	6V	2.1	1.6W	4PDT	5	11.60
MH17DM†	12V	96	1.6W	4PDT	5	11.60
MH17DM†	24V	365	1.6W	4PDT	5	11.60
MH23D	6V	13.3	2.5W	6PDT	5	7.25
MH23D	12V	62.3	2.5W	6PDT	5	7.25
MH23D	24V	245	2.5W	6PDT	5	7.25
MH23D	110V	5,000	2.5W	6PDT	5	7.25
MH23DD†	6V	13.3	2.5W	6PDT	5	15.50
MH23DD†	12V	62.3	2.5W	6PDT	5	15.50
MH23DD†	24V	245	2.5W	6PDT	5	15.50
MH23DD†	110V	5,000	2.5W	6PDT	5	16.10

† For intermittent duty only
‡ Sealed Relay

Potter & Brumfield Relays

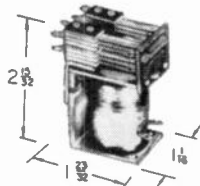
MG SERIES Sub-miniature telephone type relay for aircraft, computer and other applications requiring good shock and vibration characteristics. Can be furnished open, sealed or in a plastic dust cover. Mounting: Open model has 4 tapped No. 3-48 holes on $\frac{3}{8}$ " x $\frac{3}{8}$ " centers. Sealed model has three No. 4-40 studs on $\frac{3}{8}$ " x $\frac{3}{4}$ " centers. Dust cover model has plug-in header that fits Amphenol receptacle No. 57-20140 or similar. Weight: Open 1.2 ozs.; Dust cover 2.00 ozs.; Sealed 2.76 ozs. Contacts: $\frac{3}{32}$ " dia. silver.



TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
MG11D	6V	23	1.6W	DPDT	2	\$ 4.95
MG11D	12V	90	1.6W	DPDT	2	4.95
MG11D	24V	365	1.6W	DPCT	2	4.95
MG11D	110V	7,560	1.6W	DPCT	2	5.40
MG11DP	6V	23	1.6W	DPCT	2	9.00
MG11DP	12V	90	1.6W	DPCT	2	9.00
MG11DP	24V	365	1.6W	DPCT	2	9.00
MG11DP	110V	7,560	1.6W	DPCT	2	9.60
MG11DT	6V	23	1.6W	DPDT	2	10.00
MG11DT	12V	90	1.6W	DPCT	2	10.00
MG11DT	24V	365	1.6W	DPCT	2	10.00
MG11DT	110V	7,560	1.6W	DPCT	2	10.60
MG17D	6V	23	1.6W	4PDT	2	6.60
MG17D	12V	90	1.6W	4PDT	2	6.60
MG17D	24V	365	1.6W	4PDT	2	6.60
MG17D	110V	7,560	1.6W	4PDT	2	7.05
MG17DP	6V	23	1.6W	4PDT	2	11.00
MG17DP	12V	90	1.6W	4PDT	2	11.00
MG17DP	24V	365	1.6W	4PDT	2	11.00
MG17DP	110V	7,560	1.6W	4PDT	2	11.60
MG17DT	6V	23	1.6W	4PDT	2	12.00
MG17DT	12V	90	1.6W	4PDT	2	12.00
MG17DT	24V	365	1.6W	4PDT	2	12.00
MG17DT	110V	7,560	1.6W	4PDT	2	12.60

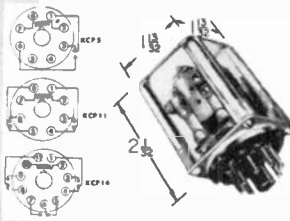
PLATE CIRCUIT and SENSITIVE RELAYS

GB SERIES (See GA series for similar voltage actuated relays.) Sensitivity 116 milliwatts for single pole and 275 milliwatts for 4 pole. Medium cost, high quality relay with silver contacts. Pull-in is not adjustable. Mounting: No. 8-32 tapped core and locating half-punch. Weight: Approximately 5 ozs.



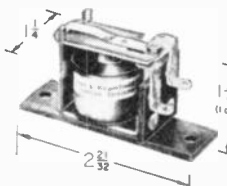
GB5D	6.8MA	2,500	115MW	SPDT	5	3.30
GB5D	4.8MA	5,000	115MW	SPDT	5	3.45
GB5D	3.4MA	10,000	115MW	SPCT	5	3.90
GB11D	7MA	2,500	125MW	DPDT	5	4.60
GB11D	5MA	5,000	125MW	DPDT	5	4.70
GB11D	3.53MA	10,000	125MW	DPDT	5	5.25
GB17D	10.5MA	2,500	275MW	4PDT	5	5.50
GB17D	7.4MA	5,000	275MW	4PDT	5	5.65
GB17D	5.25MA	10,000	275MW	4PDT	5	6.10

KCP SERIES Low cost plate circuit relay enclosed in polystyrene case. $\frac{1}{8}$ " silver contacts. Sensitivity 125 mw single pole; 250 mw double pole; 375 mw three pole. Mounting: Standard octal plug in type. Eight pin for KCP 5 and KCP 11. Eleven pin for KCP 14. Weight: Approximately 3 ozs.



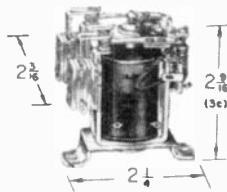
KCP5	7.2MA	2,500	125MW	SPDT	3	5.60
KCP5	5MA	5,000	125MW	SPCT	2	5.70
KCP5	3.6MA	10,000	125MW	SPCT	2	6.10
KCP11	10MA	2,500	250MW	DPCT	2	6.00
KCP11	7.2MA	5,000	250MW	DPCT	2	6.10
KCP11	5MA	10,000	250MW	DPCT	2	6.50
KCP14	12.3MA	2,500	375MW	3PCT	2	7.40
KCP14	8.7MA	5,000	375MW	3PCT	2	7.50
KCP14	6.1MA	10,000	375MW	3PCT	2	7.90

LB SERIES Designed for top performance, long life at an unusually low cost. Each coil is wound with a given coil resistance and factory adjusted to operate on minimum current requirements. Mounting: Two $\frac{3}{16}$ " holes on $2 \frac{7}{32}$ " centers. Weight: Approx. 2 ozs. Silver contacts.



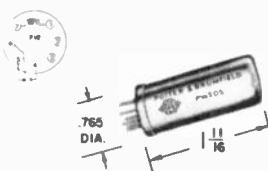
LBS	9MA	2,500	200MW	SPDT	5	2.35
LBS	6.3MA	5,000	200MW	SPCT	5	2.55
LBS	4.5MA	10,000	200MW	SPCT	5	2.70

LM SERIES (See KL for similar voltage actuated relays.) Sensitivity 100 milliwatts for single pole and 200 milliwatts for double pole. Medium cost, high quality relay with silver contacts. Pull-in adjustable by tail spring adjusting screw. Mounting: Two No. 6-32 tapped holes on $1 \frac{13}{16}$ " centers. Weight: Approx. 5 ozs. DC Coils only.



LMS	6.3MA	2,500	100MW	SPDT	5	3.70
LMS	4.5MA	5,000	100MW	SFDT	5	3.90
LMS	3.2MA	10,000	100MW	SPCT	5	4.20
LM11	9MA	2,500	200MW	CPCT	5	5.30
LM11	6.3MA	5,000	200MW	CPCT	5	5.50
LM11	4.5MA	10,000	200MW	DPCT	5	6.05

PW SERIES (In both voltage and current actuated models.) Sensitivity 40 mw for current actuated models. 175 milliwatts for voltage actuated models. Precision, light weight, hermetically sealed relay for aircraft and missile applications. Will withstand 10G vibration to 500 cps. Mounting: Standard 7-pin miniature tube base. Weight: Approximately 1 oz.

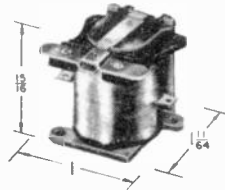


PWSDS†	6V	202	180MW	SPDT	2	10.25
PWSDS†	12V	810	180MW	SPCT	2	10.25
PWSDS†	24V	3,240	180MW	SPCT	2	10.25
PW5LS‡	2.8MA	5,000	40MW	SPCT	2	10.60
PW5LS‡	2.0MA	10,000	40MW	SPCT	2	11.00

† Sealed Relay
‡ Enclosed Relay

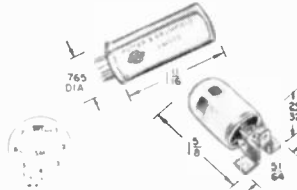
Potter & Brumfield Relays

RS SERIES (In both voltage and current actuated models.) 60 mw. sensitivity. Low-cost, small, light weight, sensitive relay for radio-sonde, light dimmer and model applications. Withstands 10G vibration 5-55 cycles and 25G shock. Mounting: Two No. 4-40 tapped holes on diagonal $\frac{3}{8}$ " x $\frac{5}{8}$ " centers. Weight: Approx. 1 $\frac{1}{2}$ oz. Bar palladium contacts.



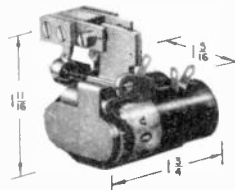
TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
RSSD	6V	335	110MW	SPDT	2	\$ 2.50
RSSD	12V	1,350	110MW	SPDT	2	2.60
RSSD	5MA	2,500	60MW	SPDT	2	2.70
RSSD	3.5MA	5,000	60MW	SPDT	2	3.00
RSSD	2.5MA	10,000	60MW	SPDT	2	3.45

SM SERIES (In both voltage and current actuated models.) Sensitivity 75 mw for current actuated models. Medium cost, light weight, dust covered (right) or hermetically sealed (left) relay for light contact load applications such as computers, model airplanes and similar applications. Extremely long mechanical life because of reed armature. Mounting: (Sealed) Standard 7-pin miniature tube socket; (Dust cover) Two $3/32$ " holes on $17/32$ " centers. Weight: Approximately 1 oz. Silver-rhodium contacts.



SM5D8	6V	80	500MW	SPDT	.25	5.10
SM5D4	12V	360	500MW	SPDT	.25	5.10
SM5D3	24V	900	500MW	SPDT	.25	5.10
SM5D5†	6V	80	500MW	SPDT	.25	6.25
SM5D5†	12V	360	500MW	SPDT	.25	6.25
SM5D5†	24V	900	500MW	SPDT	.25	6.25
SM5L‡	3.9MA	5,000	75MW	SPDT	.25	5.40
SM5L‡	2.7MA	10,000	75MW	SPDT	.25	5.95
SM5L5†	3.8MA	5,000	75MW	SPDT	.25	6.55
SM5L5†	2.7MA	10,000	75MW	SPDT	.25	7.00

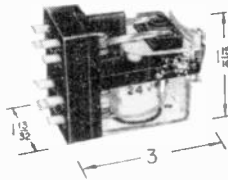
SS SERIES Ultra sensitive precision relay. 10 mw. sensitivity. Dual series-connected coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. Mounting: Two No. 6-32 tapped holes on $23/32$ " centers. Weight: Approx. 3 $\frac{1}{2}$ ozs. Silver contacts.



SSSD	1MA	10,000	10MW	SPDT	2	12.00
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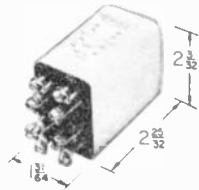
POWER TYPE RELAYS

AB SERIES For appliance and general purpose operations where rugged construction, long life and quiet operation are required. All AC models carry U/L and CSA* labels Mounting: Two No. 8-32 tapped holes, on $1\frac{1}{4}$ " centers. Silver contacts.



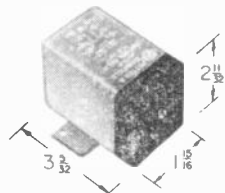
AB11AY	6V	1.3	6.4VA	DPDT	10	5.05
AB11AY	12V	5.1	6.4VA	DPDT	10	5.05
AB11AY	24V	23	6.4VA	DPDT	10	5.05
AB11AY	115V	510	6.4VA	DPDT	10	5.05
AB11AY	230V	2,050	6.4VA	DPDT	10	5.45
AB11D	6V	18	2.0W	DPDT	10	4.95
AB11D	12V	72	2.0W	DPDT	10	4.95
AB11D	24V	288	2.0W	DPDT	10	4.95
AB11D	110V	6,050	2.0W	DPDT	10	5.45

ABC SERIES Medium duty power relay with dust cover. For small motor, industrial control and similar applications. All equipped with terminals to fit clip on connectors and may also be applied in printed circuit technique using dip soldering. Snap on and screw connectors packed with each relay. All AC models carry U/L and CSA* labels. Mounting: Two 8-32 studs $\frac{3}{8}$ " long. Wt.: 7 oz. Silver contacts.



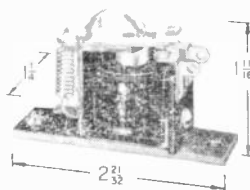
ABC11AY8	6V	1.3	6.4VA	DPDT	10	6.10
ABC11AY‡	12V	5.1	6.4VA	DPDT	10	6.10
ABC11AY‡	24V	23	6.4VA	DPDT	10	6.10
ABC11AY‡	115V	510	6.4VA	DPDT	10	6.10
ABC11AY‡	230V	2,050	6.4VA	DPDT	10	6.50
ABC11D‡	6V	18	2.0W	DPDT	10	6.00
ABC11D‡	12V	72	2.0W	DPDT	10	6.00
ABC11D‡	24V	288	2.0W	DPDT	10	6.00
ABC11D‡	110V	6,050	2.0W	DPDT	10	6.50

AG SERIES Excellent for Machine Tool and product automation controls. Screw terminals molded in phenolic base. All AC models carry U/L and CSA* labels. (The AG is an SP relay in a special enclosure.) Mounting: Welded bracket with two $3/16$ " dia. holes on $2\frac{3}{8}$ " x $\frac{5}{8}$ " diagonal centers. Wt.: 9 $\frac{1}{2}$ ozs. Silver contacts.



AG11AY	12V	13.25	3.25VA	DPDT	5	8.75
AG11AY‡	115V	1,250	3.25VA	DPDT	5	8.75
AG11D‡	24V	360	1.6W	DPDT	5	8.65

CA SERIES Low cost, high capacity power relay. Small over-all dimensions. Solder terminals. Mounting: Two $3/16$ " dia. holes on $2\frac{7}{32}$ " centers. Weight: 3 oz. Fine silver contacts.



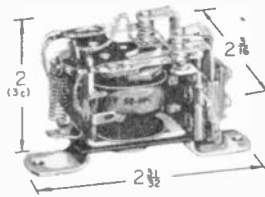
CA3A	6V	2.75	3.25VA	SP5T-NO-DB	10	3.05
CA3A	24V	13.75	3.25VA	SP5T NO DB	10	3.05
CA1A	115V	1,250	3.25VA	SP5T NO DB	10	3.05
CA3D	12V	96	1.6W	SP5T NO DB	10	2.75
CA3D	24V	360	1.6W	SP5T NO DB	10	2.75

*Canadian Standards Association

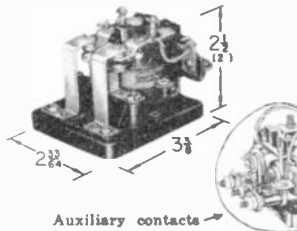
† Sealed Relay
‡ Enclose 1 Relay

Potter & Brumfield Relays

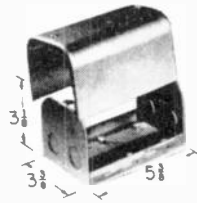
MR SERIES A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Mounting: Two holes 5/32" dia. on 2 1/4" centers for 1 and 3 pole and 2 1/4" centers for 2 pole. Weight: 4 oz. Silver contacts.



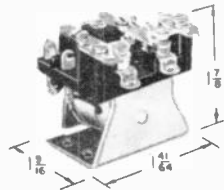
PR SERIES Heavy duty relay for industrial control applications requiring long life and fast action. Heavy duty screw type terminals. All AC models except PR11AL5 carry U/L and CSA* labels. Mounting: Two holes 3/16" dia. on 1 1/8" centers. Weight: 11 oz. max. Silver contacts. PR11AL5: DPDT with SPDT Auxiliary contacts rated 5 amps.



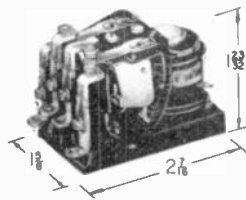
"PR" COVER A sheet steel base with aluminum cover all finished in gray hammer-tone baked enamel with 4 knockouts for 1/2" conduit. Mounting: Three No. 10 holes on 1 1/8" x 4 1/8" ctrs. Type 35D013. NET \$2.85



PS SERIES Extremely compact long life power relay. Ideal for mobile communication, appliances and similar applications. Solder type terminals. Mounting: Four No. 6-32 tapped holes on 1/2" x 1 5/16" centers. Weight: 4 oz. Silver contacts.



SP SERIES Medium duty relays, with balanced armature. Frequently used in industrial equipment, control circuits, transmitter keying circuits or any application requiring fast, positive operation with high resistance to shock and vibration. Mounting: Two No. 6-32 tapped holes on 13/16" centers. Weight: 4 oz. Silver contacts. (For enclosed SP see AG relay.)



COIL BOBBIN KIT — 75A047
Twenty-four assorted molded phenolic bobbins. Three each of 3 different sizes; core diameters from 7/32" to 7/16". For industrial, experimenters and amateurs. NET \$2.50



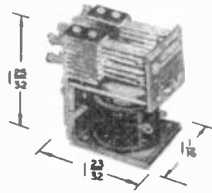
TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
MR2A	24V	30	3.25VA	SPST-NC	8	\$ 3.15
MR3A	6V	2.75	3.25VA	SPST-NO-DB	10	3.65
MR3A	24V	50	3.25VA	SPST-NO-DB	10	3.65
MR3A	115V	1,250	3.25VA	SPST-NO-DB	10	3.65
MR3D	6V	24	1.6W	SPST-NO-DB	10	3.35
MR3D	12V	96	1.6W	SPST-NO-DB	10	3.35
MR3D	24V	360	1.6W	SPST-NO-DB	10	3.35
MR5A	6V	2.75	3.25VA	SPDT	8	3.30
MR5A	12V	13.25	3.25VA	SPDT	8	3.30
MR5A	24V	50	3.25VA	SPDT	8	3.30
MR5A	115V	1,250	3.25VA	SPDT	8	3.30
MR5A	230V	4,600	3.25VA	SPDT	8	3.30
MR5D	6V	24	1.6W	SPDT	8	3.05
MR5D	12V	96	1.6W	SPDT	8	3.05
MR5D	24V	360	1.6W	SPDT	8	3.05
MR5D	110V	8,000	1.6W	SPDT	8	3.55
MR11A	6V	2.75	3.25VA	DPDT	8	4.60
MR11A	12V	13.25	3.25VA	DPDT	8	4.60
MR11A	24V	50	3.25VA	DPDT	8	4.60
MR11A	115V	1,250	3.25VA	DPDT	8	4.60
MR11A	230V	4,600	3.25VA	DPDT	8	5.00
MR11D	6V	24	1.6W	DPDT	8	4.40
MR11D	12V	96	1.6W	DPDT	8	4.40
MR11D	24V	360	1.6W	DPDT	8	4.40
MR11D	110V	8,000	1.6W	DPDT	8	4.90
MR14A	6V	2.75	3.25VA	3PDT	8	5.55
MR14A	12V	13.25	3.25VA	3PDT	8	5.55
MR14A	24V	50	3.25VA	3PDT	8	5.55
MR14A	115V	1,250	3.25VA	3PDT	8	5.55
MR14A	230V	4,600	3.25VA	3PDT	8	5.95
MR14D	6V	24	1.6W	3PDT	8	5.20
MR14D	12V	96	1.6W	3PDT	8	5.20
MR14D	24V	360	1.6W	3PDT	8	5.20
MR14D	110V	8,000	1.6W	3PDT	8	5.70
PR1AY	24V	12	9.8VA	SPST-NO	13	3.85
PR3AY	6V	0.86	9.8VA	SPST-NO-DB	13	3.95
PR3AY	12V	3.2	9.8VA	SPST-NO-DB	13	3.95
PR3AY	24V	12	9.8VA	SPST-NC-DB	13	3.95
PR3AY	115V	290	9.8VA	SPST-NO-DB	13	3.95
PR3AY	230V	1,200	9.8VA	SPST-NO-DB	13	4.30
PR3D	6V	18	2.0W	SPST-NO-DB	20	3.95
PR3D	12V	71	2.0W	SPST-NO-DB	20	3.95
PR3D	24V	288	2.0W	SPST-NO-DB	20	3.95
PR3D	110V	6,050	2.0W	SPST-NO-DB	20	4.55
PR5AY	6V	0.86	9.8VA	SPDT	13	4.15
PR5AY	12V	3.2	9.8VA	SPDT	13	4.15
PR5AY	24V	12	9.8VA	SPDT	13	4.15
PR5AY	115V	290	9.8VA	SPDT	13	4.15
PR5AY	230V	1,200	9.8VA	SPDT	13	4.55
PR5D	6V	18	2.0W	SPDT	15	4.15
PR5D	12V	71	2.0W	SPDT	15	4.15
PR5D	24V	288	2.0W	SPDT	15	4.15
PR5D	110V	6,050	2.0W	SPDT	15	4.75
PR7AY	6V	0.86	9.8VA	DPST	13	4.65
PR7AY	12V	3.2	9.8VA	DPST	13	4.65
PR7AY	24V	12	9.8VA	DPST	13	4.65
PR7AY	115V	290	9.8VA	DPST	13	4.65
PR7AY	230V	1,200	9.8VA	DPST	13	5.05
PR7D	6V	18	2.0W	DPST	15	4.65
PR7D	12V	71	2.0W	DPST	15	4.65
PR7D	24V	288	2.0W	DPST	15	4.65
PR7D	110V	6,050	2.0W	DPST	15	5.25
PR11AY	6V	0.86	9.8VA	DPDT	13	6.15
PR11AY	12V	3.2	9.8VA	DPDT	13	6.15
PR11AY	24V	12	9.8VA	DPDT	13	6.15
PR11AY	115V	290	9.8VA	DPDT	13	6.15
PR11AY	230V	1,200	9.8VA	DPDT	13	6.55
PR11AL5	6V	0.86	9.8VA	DPDT	15	7.75
PR11AL5	12V	3.2	9.8VA	DPDT	15	7.75
PR11AL5	24V	12	9.8VA	DPDT	15	7.75
PR11AL5	115V	290	9.8VA	DPDT	15	7.75
PR11AL5	230V	1,200	9.8VA	DPDT	15	8.15
PR11D	6V	18	2.0W	DPDT	15	6.15
PR11D	12V	71	2.0W	DPDT	15	6.15
PR11D	24V	288	2.0W	DPCT	15	6.15
PR11D	110V	6,050	2.0W	DPCT	15	6.75
PS11A	6V	1.2	6VA	DPDT	10	7.60
PS11A	24V	17	6VA	DPCT	10	7.60
PS11A	115V	330	6VA	DPDT	10	7.60
PS11A	230V	1,800	6VA	DPCT	10	8.00
PS11D	6V	14	2.7W	DPDT	10	6.55
PS11D	12V	54	2.7W	DPDT	10	6.55
PS11D	24V	230	2.7W	DPDT	10	6.55
PS11D	110V	4,800	2.7W	DPCT	10	6.95
SP11A	6V	2.75	3.25VA	DPDT	5	6.80
SP11A	12V	13.25	3.25VA	DPCT	5	6.50
SP11A	24V	50	3.25VA	DPCT	5	6.50
SP11A	115V	1,250	3.25VA	DPDT	5	6.50
SP11D	6V	24	1.6W	DPCT	5	6.25
SP11D	12V	96	1.6W	DPCT	5	6.25
SP11D	24V	360	1.6W	DPDT	5	6.25
SP11D	110V	8,000	1.6W	DPDT	5	6.75

*Canadian Standards Association

Potter & Brumfield Relays

GENERAL PURPOSE RELAYS

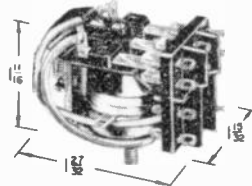
GA SERIES Multiple leaf, all purpose relays permitting a wide range of contact combinations. Dimensions: 1 1/16" W. x 1 23/32" L. x 1 25/32" H. max. Mounting: No. 8-32 tapped core with locating boss. Weight: 3 1/2 oz. Silver contacts.



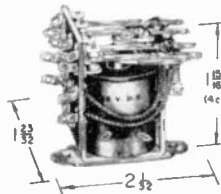
GP-100 A complete kit of GP Series coils and switches consisting of the following: AC coils: Two 6 V., Two 12 V., Four 24 V., Six 115 V., Two 230 V. DC coils: Two 6 V., Two 12 V., Two 24 V., Four 110 V. Also Two 2,600 and Four 10,000 ohm coils; Eighteen DPDT switch assemblies. The complete kit is ideal for experimenters, school and industrial laboratories. NET \$127.30



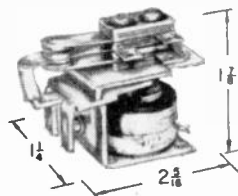
KA SERIES A small, low cost, highly efficient general purpose relay for handling light power loads such as small motors, solenoids and other relays, and general automation work. All AC models carry U/L and CSA* labels. Mounting: One No. 6-32 stud and locating tab. Wt.: 2.0 ozs. Silver contacts.



KL SERIES Multiple contact relays. Varied contact combinations and high dielectric phenolic insulation affords extreme versatility and utility. Mountings: All models—Two No. 6-32 tapped holes on 1 7/16" centers. Weight: 5 oz. Silver contacts.



MP SERIES Snap action relay. Small size, heavy duty, low price, SPDT-relay used with capacitor-start, induction-run motor. Mounting: Four No. 6-32 tapped holes, 3/8" x 3/8" on center. Wt. 3 1/2 ozs. Silver contacts.

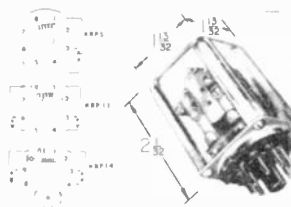


TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
GA11A	6V	1.7	6VA	DPDT	5	\$ 3.20
GA11A	12V	6.8	6VA	DPDT	5	3.20
GA11A	24V	27	6VA	DPDT	5	3.20
GA11A	115V	725	6VA	DPDT	5	3.20
GA11D	6V	1.8	20W	DPDT	5	3.20
GA11D	12V	7.2	20W	DPDT	5	3.20
GA11D	24V	288	20W	DPDT	5	3.20
GA11D	110V	6,050	20W	DPDT	5	3.65
GA14A	6V	1.7	6VA	3PDT	5	3.85
GA14A	12V	6.8	6VA	3PDT	5	3.85
GA14A	24V	24	6VA	3PDT	5	3.85
GA14A	115V	725	6VA	3PDT	5	3.85
GA14D	6V	1.8	20W	3PDT	5	3.85
GA14D	12V	7.2	20W	3PDT	5	3.85
GA14D	24V	288	20W	3PDT	5	3.85
GA17A	6V	1.7	6VA	4PDT	5	4.60
GA17A	12V	6.8	6VA	4PDT	5	4.60
GA17A	24V	24	6VA	4PDT	5	4.60
GA17A	115V	725	6VA	4PDT	5	4.60
GA17A	230V	2,950	6VA	4PDT	5	5.00
GA17D	6V	1.8	20W	4PDT	5	4.60
GA17D	12V	7.2	20W	4PDT	5	4.60
GA17D	24V	288	20W	4PDT	5	4.60
GA17D	110V	6,050	20W	4PDT	5	5.05
KASAY	6V	5.1	2VA	SPDT	5	3.05
KASAY	12V	21	2VA	SPDT	5	3.05
KASAY	24V	75	2VA	SPDT	5	3.05
KASAY	115V	2,250	2VA	SPDT	5	3.05
KASAY	230V	9,110	2VA	SPDT	5	3.45
KASD	6V	32.1	12W	SPDT	5	2.90
KASD	12V	120	12W	SPDT	5	2.90
KASD	24V	472	12W	SPDT	5	2.90
KASD	110V	10,000	12W	SPDT	5	3.50
KA11AY	6V	5.1	2VA	DPDT	5	3.65
KA11AY	12V	21	2VA	DPDT	5	3.65
KA11AY	24V	75	2VA	DPDT	5	3.65
KA11AY	115V	2,250	2VA	DPDT	5	3.65
KA11AY	230V	9,110	2VA	DPDT	5	4.05
KA11D	6V	32.1	12W	DPDT	5	3.25
KA11D	12V	120	12W	DPDT	5	3.25
KA11D	24V	472	12W	DPDT	5	3.25
KA11D	110V	10,000	12W	DPDT	5	3.85
KA14AY	6V	5.1	2VA	3PDT	5	4.05
KA14AY	12V	21	2VA	3PDT	5	4.05
KA14AY	24V	75	2VA	3PDT	5	4.05
KA14AY	115V	2,250	2VA	3PDT	5	4.05
KA14AY	230V	9,110	2VA	3PDT	5	4.45
KA14D	6V	32.1	12W	3PDT	5	3.65
KA14D	12V	120	12W	3PDT	5	3.65
KA14D	24V	472	12W	3PDT	5	3.65
KA14D	110V	10,000	12W	3PDT	5	4.25
KL5A	6V	2.25	2.9VA	SPDT	5	3.65
KL5A	115V	760	2.9VA	SPDT	5	3.65
KL5D	6V	36	1.1W	SPDT	5	3.45
KL5D	12V	140	1.1W	SPDT	5	3.45
KL5D	24V	600	1.1W	SPDT	5	3.45
KL11A	6V	2.25	2.9VA	DPDT	5	4.55
KL11A	12V	7.8	2.9VA	DPDT	5	4.55
KL11A	24V	33	2.9VA	DPDT	5	4.55
KL11A	115V	760	2.9VA	DPDT	5	4.55
KL11D	6V	36	1.1W	DPDT	5	4.40
KL11D	12V	140	1.1W	DPDT	5	4.40
KL11D	24V	600	1.1W	DPDT	5	4.40
KL11D	110V	10,000	1.1W	DPDT	5	4.90
KL14A	6V	2.25	2.9VA	3PDT	5	5.10
KL14A	24V	33	2.9VA	3PDT	5	5.10
KL14A	115V	760	2.9VA	3PDT	5	5.10
KL14D	6V	36	1.1W	3PDT	5	4.90
KL14D	12V	140	1.1W	3PDT	5	4.90
KL14D	24V	600	1.1W	3PDT	5	4.90
KL14D	110V	10,000	1.1W	3PDT	5	5.50
KL17A	6V	2.25	2.9VA	4PDT	5	6.00
KL17A	12V	7.8	2.9VA	4PDT	5	6.00
KL17A	24V	33	2.9VA	4PDT	5	6.00
KL17A	115V	760	2.9VA	4PDT	5	6.00
KL17D	6V	36	1.1W	4PDT	5	5.70
KL17D	12V	140	1.1W	4PDT	5	5.70
KL17D	24V	600	1.1W	4PDT	5	5.70
KL17D	110V	10,000	1.1W	4PDT	5	6.30
MP5A	6V	1.7	6VA	SPDT	15	5.70
MP5A	12V	6.8	6VA	SPDT	15	5.70
MP5A	24V	24	6VA	SPDT	15	5.70
MP5A	115V	725	6VA	SPDT	15	5.70
MP5A	230V	2,950	6VA	SPDT	15	5.95
MP5D	6V	1.8	20W	SPDT	15	5.70
MP5D	12V	7.2	20W	SPDT	15	5.70
MP5D	24V	288	20W	SPDT	15	5.70
MP5D	110V	6,050	20W	SPDT	15	6.50

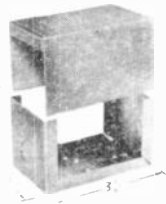
*Canadian Standards Association

Potter & Brumfield Relays

KRP SERIES Versatile, multi-contact arrangements. Enclosed in polystyrene dust cover. Standard octal-type plug 8 pin for KRP5 and KRP11, 11 pin for KRP14. Weight: 3 oz. Silver contacts on 6 amp relays; silver cadmium oxide contacts on 10 amp relays.



"MS/MR" COVER Provides neater installation, easier maintenance; minimizes broken leads, protects against dust, dirt, solder shorts, accidental jars. Standard conduit fittings seal knock out holes. Relay mounts on pre-drilled base. Fits MS, MR and SP relays.



NET: \$1.80

"P" — CASE A clear polystyrene case for mounting rectifiers, capacitors, resistors or a combination of these. Available with octal-type plug with 8 or 11 pins complete with 4 screws.

35D070 Case (8 pin plug) NET \$.50
35D072 Case (11 pin plug) NET \$.65

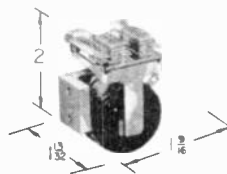


TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
KRP5AR	6V	5.1	2VA	SPDT	5	\$ 5.20
KRP5AG	24V	7.5	2VA	SPDT	5	5.20
KRP5AGt	115V	2,250	2VA	SPDT	5	5.20
KRP5AGt	6V	5.1	2VA	SPDT	10	5.30
KRP5AGt	24V	7.5	2VA	SPDT	10	5.30
KRP5AGt	115V	2,250	2VA	SPDT	10	5.30
KRP5Dk	6V	32.1	12W	SPDT	5	5.15
KRP5Dk	12V	120	12W	SPDT	5	5.15
KRP5Dk	24V	472	12W	SPDT	5	5.15
KRP5Dk	110V	10,000	12W	SPDT	5	5.75
KRP5DGk	6V	32.1	12W	SPDT	10	5.25
KRP5DGk	12V	120	12W	SPDT	10	5.25
KRP5DGk	24V	472	12W	SPDT	10	5.25
KRP5DGk	110V	10,000	12W	SPDT	10	5.85
KRP11A	6V	5.1	2VA	DPDT	5	5.75
KRP11A	12V	21	2VA	DPDT	5	5.75
KRP11A	24V	75	2VA	DPDT	5	5.75
KRP11A	115V	2,250	2VA	DPDT	5	5.75
KRP11A	230V	9,110	2VA	DPDT	5	6.15
KRP11AG	6V	5.1	2VA	DPDT	10	5.95
KRP11AG	12V	21	2VA	DPDT	10	5.95
KRP11AG	24V	75	2VA	DPDT	10	5.95
KRP11AG	115V	2,250	2VA	DPDT	10	5.95
KRP11AG	230V	9,110	2VA	DPDT	10	5.95
KRP11D	6V	32.1	12W	DPDT	5	5.70
KRP11D	12V	120	12W	DPDT	5	5.70
KRP11D	24V	472	12W	DPDT	5	5.70
KRP11D	110V	10,000	12W	DPDT	5	6.30
KRP11DG	6V	32.1	12W	DPDT	10	5.90
KRP11DG	12V	120	12W	DPDT	10	5.90
KRP11DG	24V	472	12W	DPDT	10	5.90
KRP11DG	110V	10,000	12W	DPDT	10	6.50
KRP14A	6V	5.1	2VA	3PDT	5	7.15
KRP14A	12V	21	2VA	3PDT	5	7.15
KRP14A	24V	75	2VA	3PDT	5	7.15
KRP14A	115V	2,250	2VA	3PDT	5	7.15
KRP14A	230V	9,110	2VA	3PDT	5	7.55
KRP14AG	6V	5.1	2VA	3PDT	10	7.45
KRP14AG	12V	21	2VA	3PDT	10	7.45
KRP14AG	24V	75	2VA	3PDT	10	7.45
KRP14AG	115V	2,250	2VA	3PDT	10	7.45
KRP14AG	230V	9,110	2VA	3PDT	10	7.85
KRP14D	6V	32.1	12W	3PDT	5	7.10
KRP14D	12V	120	12W	3PDT	5	7.10
KRP14D	24V	472	12W	3PDT	5	7.10
KRP14D	110V	10,000	12W	3PDT	5	7.70
KRP14DG	6V	32.1	12W	3PDT	10	7.40
KRP14DG	12V	120	12W	3PDT	10	7.40
KRP14DG	24V	472	12W	3PDT	10	7.40
KRP14DG	110V	10,000	12W	3PDT	10	8.00

SPECIAL PURPOSE RELAYS

AF SERIES 400 CYCLE RELAY

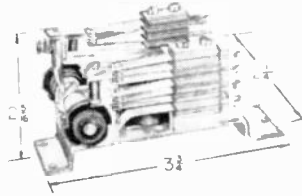
Used in governmental or industrial laboratories and aircraft applications on 400 cycle power. Mounting: Two No. 4-32 tapped holes on 7/16" centers. Weight: 2 3/4 ozs. Silver contacts.



AF11A	115V (400 Cycle)	84	11.5VA	DPDT	5	8.20
AP11A	6V	6.6	18.5VA	DPDT	5	8.30
AP11A	12V	27.8	18.5VA	DPDT	5	8.30
AP11A	24V	81	18.5VA	DPDT	5	8.30
AP11A	115V	240	18.5VA	DPDT	5	8.30
AP11A	230V	900	18.5VA	DPDT	5	8.75
AP11D	6V	4.0	9.0W	DPDT	5	8.30
AP11D	12V	15.5	9.0W	DPDT	5	8.30
AP11D	24V	65	9.0W	DPDT	5	8.30
AP11D	110V	1,350	9.0W	DPDT	5	8.95
AP17A	6V	0.6	18.5VA	4PDT	5	10.00
AP17A	12V	2.28	18.5VA	4PDT	5	10.00
AP17A	24V	6.8	18.5VA	4PDT	5	10.00
AP17A	115V	240	18.5VA	4PDT	5	10.00
AP17A	230V	900	18.5VA	4PDT	5	10.45
AP17D	6V	4.0	9.0W	4PDT	5	10.00
AP17D	12V	15.5	9.0W	4PDT	5	10.00
AP17D	24V	65	9.0W	4PDT	5	10.00
AP17D	110V	1,350	9.0W	4PDT	5	10.65

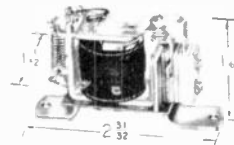
AP SERIES RATCHET, IMPULSE

A reliable compact unit for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 20 ms. Intermittent operation only. Mounting: Three 5/32" holes on 3/8" x 7/8" triangular centers. Weight: 7 oz. Silver contacts.



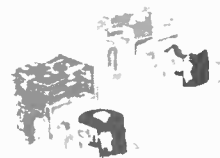
FR SERIES PHOTO FLASH

A special variation of the MR5. Relay contacts and insulation handle photo flash surge currents without sticking or pitting. Intermittent duty coils for high repetitive accuracy. Mounting: Two holes 5/32" dia. on 2 1/2" centers. Weight: 3 1/2 oz. Contacts: Silver Cadmium oxide.



FR5A	6V	2.75	3.25VA	SPDT	8	3.80
FR5C	2V	55	7.2W	SPDT	8	3.80

GP SERIES Separate AC and DC coils to match with 2PDT or 4PDT switches. AC coils (GPA) available in 6, 12, 24, 115 and 230 volts. DC coils (GPD) available in 6, 12, 24 and 110 volts; current coils: 2,500 and 10,000 ohms. Silver contacts.



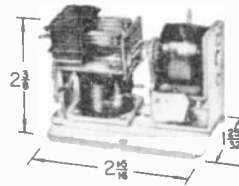
GPA	6V	1.7	6VA	None	-	1.55
GPA	12V	6.8	6VA	None	-	1.55
GPA	24V	24	6VA	None	-	1.55
GPA	115V	275	6VA	None	-	1.55
GPA	230V	2,950	6VA	None	-	2.00
GPD	-	2,500	-	None	-	1.45
GPD	-	10,000	-	None	-	2.00
GPD	6V	1.8	2.0W	None	-	2.00
GPD	12V	7.2	2.0W	None	-	2.00
GPD	24V	27.8	2.0W	None	-	2.00
GPD	110V	6,050	2.0W	None	-	3.00
GP11	Switch	Assembly	-	DPDT	5	1.60
GP17	Switch	Assembly	-	4PDT	5	2.80

Enclosed Relay

Potter & Brumfield Relays

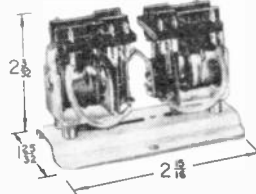
GC SERIES OVERLOAD RELAY

Equipped with a 6 V or 115 V AC reset coil and a 50 ma DC trip coil for overload protection of expensive tubes, instruments or other apparatus. An externally mounted rheostat (not furnished) may be employed to adjust trip current over 100-1000 ma. Complete instructions packed with each relay. Weight: 6 1/2 oz. Silver contacts.



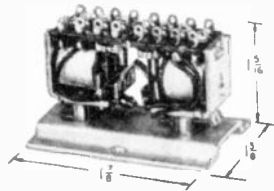
KB SERIES LATCHING RELAY

Both release and trip coils must be for the same voltage. One coil operates relay to set latch and other coil releases it. Ideal for memory work and overload applications. Operates on momentary impulse to either coil. Mounting: Two 5/32" holes on 1 1/4" centers. Weight: 6 oz. Silver contacts rated 5 amps. "G" suffix indicates silver cadmium contacts on moveables rated 10 amps. AC relays with 5 amp. contacts carry U/L and CSA* labels..



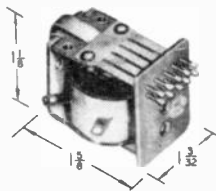
KE SERIES Sub-miniature latching relay

with mechanical latch and electric release. Operates on momentary impulse to either coil. For intermittent duty only. Mounting: Sealed Three No. 6-32 studs. Open Two 5/32" dia. holes on 1 1/16" centers. Wt.: Open 4 ozs.; sealed 6 ozs. Silver contacts.



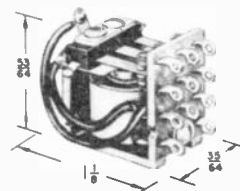
KF SERIES An unusual design with many contact combinations up to 5PDT

with common movable arms. Mounting: Locating tab and core hole tapped No. 6-32. Wt.: 1 1/2 ozs. Palladium contacts against silver.



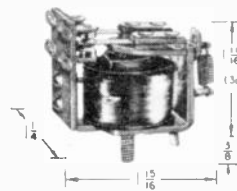
KM SERIES Sub-miniature, 3-pole relay

for multiple switching. For use where size and weight are critical factors. Solder lug terminals. Mounting: No. 2-56 tapped core and locating boss. Weight: Approx. 3/8 oz. Silver contacts.



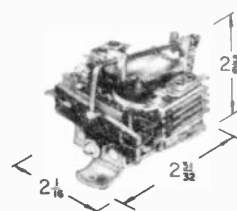
KT SERIES ANTENNA SWITCHING RELAY

Glass base insulation for minimum RF loss to switch 300 ohm line. Mounting: One No. 6-32 stud. Weight: 1 1/2 oz. Fine silver contacts.



PC SERIES Single coil impulse latching relay

for on-off and current reversal switching on alternate pulses. Operates on 30 millisecond pulses to the coil. Mounting: Two 5/32" dia. holes on 2 5/8" x 5/8" centers. Wt.: 5 oz. Gold-flashed silver cadmium oxide contacts.



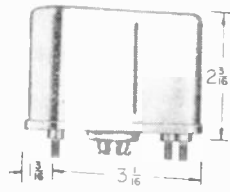
TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
GC11A GC11A	6V 115V	2.75 1,250	3.25VA 3.25VA	DPDT DPDT	5	\$ 6.50 8.50
KB17AY	6V	2.3	5VA	4PDT	5	10.00
KB17AY	12V	10	5VA	4PDT	5	10.00
KB17AY	24V	42	5VA	4PDT	5	10.00
KB17AY	115V	1,030	5VA	4PDT	5	10.00
KB17AY	230V	4,100	5VA	4PDT	5	10.00
KB17AG	6V	2.3	5VA	4PDT	10	10.10
KB17AG	12V	10	5VA	4PDT	10	10.10
KB17AG	24V	42	5VA	4PDT	10	10.10
KB17AG	115V	1,030	5VA	4PDT	10	10.10
KB17AG	230V	4,100	5VA	4PDT	10	10.90
KB17D	6V	13.1	2.7W	4PDT	5	9.00
KB17D	12V	52.0	2.7W	4PDT	5	9.00
KB17D	24V	230	2.7W	4PDT	5	9.00
KB17D	110V	4,560	2.7W	4PDT	5	10.20
KB17DG	6V	13.1	2.7W	4PDT	10	9.20
KB17DG	12V	52.0	2.7W	4PDT	10	9.20
KB17DG	24V	230	2.7W	4PDT	10	9.20
KB17DG	110V	4,560	2.7W	4PDT	10	10.40
KB23AY	6V	1.8	7.8VA	6PDT	5	12.00
KB23AY	24V	27	7.8VA	6PDT	5	12.00
KB23AY	115V	700	7.8VA	6PDT	5	12.00
KB23AY	230V	2,750	7.8VA	6PDT	5	12.80
KB23AG	6V	1.8	7.8VA	6PDT	10	12.20
KB23AG	12V	7.2	7.8VA	6PDT	10	12.20
KB23AG	24V	27	7.8VA	6PDT	10	12.20
KB23AG	115V	700	7.8VA	6PDT	10	12.20
KB23AG	230V	2,750	7.8VA	6PDT	10	13.00
KB23D	6V	13.1	2.7W	6PDT	5	10.90
KB23D	12V	52.0	2.7W	6PDT	5	10.90
KB23D	24V	230	2.7W	6PDT	5	10.90
KB23D	110V	4,560	2.7W	6PDT	5	12.10
KB23DG	6V	13.1	2.7W	6PDT	10	11.20
KB23DG	12V	52.0	2.7W	6PDT	10	11.20
KB23DG	24V	230	2.7W	6PDT	10	11.20
KB23DG	110V	4,560	2.7W	6PDT	10	12.40
KE17D†	6V	13	2.8W	4PDT	2	9.00
KE17D†	12V	50	2.8W	4PDT	2	9.00
KE17D†	24V	230	2.8W	4PDT	2	9.00
KE17DM††	6V	13	2.8W	4PDT	2	19.50
KE17DM††	12V	50	2.8W	4PDT	2	19.50
KE17DM††	24V	230	2.8W	4PDT	2	19.50
KE23D†	6V	13	2.8W	6PDT	2	11.50
KE23D†	12V	50	2.8W	6PDT	2	11.50
KE23D†	24V	230	2.8W	6PDT	2	11.50
KE23DM††	6V	13	2.8W	6PDT	2	25.00
KE23DM††	12V	50	2.8W	6PDT	2	25.00
KE23DM††	24V	230	2.8W	6PDT	2	25.00
KF20D	4V	32.1	1.2W	5PDT	2	2.75
KF20D	12V	120.0	1.2W	5PDT	2	2.75
KF20D	24V	472	1.2W	5PDT	2	2.75
KF20D	110V	10,000	1.2W	5PDT	2	3.35
KMSD	4V	36	1.1W	5PDT	2	3.20
KMSD	12V	144	1.1W	5PDT	2	3.20
KMSD	24V	500	1.1W	5PDT	2	3.20
KM11D	6V	36	1.1W	DPDT	2	3.50
KM11D	12V	144	1.1W	DPDT	2	3.50
KM11D	24V	500	1.1W	DPDT	2	3.50
KM14D	6V	36	1.1W	3PDT	2	4.05
KM14D	12V	144	1.1W	3PDT	2	4.05
KM14D	24V	500	1.1W	3PDT	2	4.05
KT11A	6V	5.1	2VA	DPDT	5	3.50
KT11A	115V	2,250	2VA	DPDT	5	3.50
KT11D	6V	32.1	1.2W	DPDT	5	3.50
KT11D	12V	120	1.2W	DPDT	5	3.50
PC11A	6V	0.6	18.5VA	DPDT	7.5	5.25
PC11A	12V	2.28	18.5VA	DPDT	7.5	5.25
PC11A	24V	8.8	18.5VA	DPDT	7.5	5.25
PC11A	115V	240	18.5VA	DPDT	7.5	5.25
PC11A	230V	900	18.5VA	DPDT	7.5	5.65
PC11D	6V	4.0	9.0W	DPDT	7.5	5.10
PC11D	12V	15.5	9.0W	DPDT	7.5	5.10
PC11D	24V	65.0	9.0W	DPDT	7.5	5.10
PC11D	110V	1,350	9.0W	DPDT	7.5	5.60
PC17A	6V	0.6	18.5VA	4PDT	7.5	7.25
PC17A	12V	2.28	18.5VA	4PDT	7.5	7.25
PC17A	24V	8.8	18.5VA	4PDT	7.5	7.25
PC17A	115V	240	18.5VA	4PDT	7.5	7.25
PC17A	230V	900	18.5VA	4PDT	7.5	7.55
PC17D	6V	4.0	9.0W	4PDT	7.5	7.10
PC17D	12V	15.5	9.0W	4PDT	7.5	7.10
PC17D	24V	65	9.0W	4PDT	7.5	7.10
PC17D	110V	1,350	9.0W	4PDT	7.5	7.60

*Canadian Standards Association.

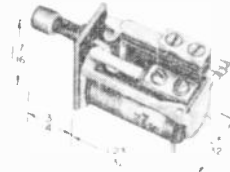
† Intermittent Duty only
‡ Sealed Relay

Potter & Brumfield Relays

LK SERIES Hermetically sealed latching relay. Fitted with glass insulated solder terminal header. Mechanical latch, electric release. Mounting: Three No. 8-32 studs on 2 1/2" x 1/2" centers. Weight: 6 1/2 ozs. Silver contacts.

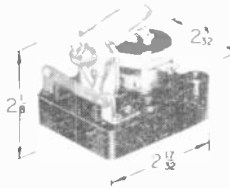


MA SERIES Mechanical latch on electrical impulse to coil, manual reset. Available with multiple contacts and DC coils. Mounting: Two No. 4-10 tapped holes on 1" x 1/2" centers. Weight: 2 1/4 ozs. Silver contacts.

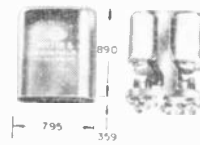


MS SERIES MOTOR STARTING RELAYS

For starting capacitor start, induction-run motors. Operates on back EMF of running winding. Armature gap can be altered to change pull-in. Meets all U/I requirements. Mounting: Two 5/32" dia. holes on 1 9/16" ctrs. Weight: 5 ozs. max.

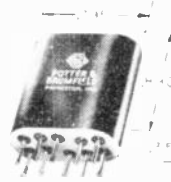


SC SERIES Micro-miniature permanent magnet relay with same shock/vibration resistance and ambient temperature range as SL. Features single coil action and conforms to standard micro-miniature coil operation except polarized connections because of magnetic circuit. Positive terminal marked with red dot. Mountings: SC11D**, -DA, -DB, and -DK correspond to similarly designated SL mountings. Weight: 3/4 oz.



**Cinch No. 54A20730 and Arnel No. HRK-1 8-pin receptacles available from distributors for plug-in applications.

SL SERIES Dual coil micro-miniature magnetic latching relay for low power, high shock vibration applications. 100g shock, 30g vibration to 2000 cps with no contact openings. Coils may be connected in series for polar operation. Ambient temperature range: -65°C to +125°C. Mounting: SL11D* for plug-in to printed circuit; -DA with shoulder flanges with two .104" x .126" holes on a 1.062" center; -DB has a welded bracket with four .125" dia. holes on 1.062" x .281" centers; -DK has two No. 4-40 studs .250" long on .412" centers on top of case. Weight: 3/4 oz.



* Viking No. P/N VB10/3DV1 10-pin receptacles available from distributors for plug-in applications.

TYPE	COILS			CONTACTS		NET
	Voltage or Current	Resistance in Ohms	Nominal Power	Arrangement	Rate in Amps	
LK17AH*	115V	2,250	2VA	4PDT	5	\$ 19.00
LK17DH*	24V	472	1.1W	4PDT	5	18.50
MA17D	6V	23	1.6W	4PDT	5	7.95
MA17D	12V	96	6.5W	4PDT	5	7.95
MA17D	24V	385	17.5W	4PDT	5	7.95
MA17D	110V	1,200	17.5W	4PDT	5	8.45
MS2AY	115V	530	5.9VA	SPST-NC	3HP	3.40
MS4AY	230V	2,100	5.9VA	P.T.C.	4HP	3.80
MS4AY	115V	530	4.9VA	SPST-NC DB	3HP	3.95
MS4AY	230V	2,100	4.9VA	SPST-NC DB	3HP	4.35
SC11D+	6V	35	1W	DPDT	1*	15.75
SC11D+	12V	135	1W	DPDT	1	15.75
SC11E+	24V	550	1W	DPDT	1	15.75
SC11E+	36V	1,250	1W	DPDT	1	16.25
SC11EA†	6V	35	1W	DPDT	1	15.75
SC11EA†	12V	135	1W	DPDT	1	15.75
SC11EA†	24V	550	1W	DPDT	1	15.75
SC11EA†	36V	1,250	1W	DPDT	1	16.25
SC11EB†	6V	35	1W	DPDT	1	15.75
SC11EB†	12V	135	1W	DPDT	1	15.75
SC11EB†	24V	550	1W	DPDT	1	16.25
SC11EB†	36V	1,250	1W	DPDT	1	16.25
SC11E†	6V	35	1W	DPDT	1	15.75
SC11E†	12V	135	1W	DPDT	1	15.75
SC11E†	24V	550	1W	DPDT	1	15.75
SC11E†	36V	1,250	1W	DPDT	1	16.25
SC11DK†	6V	35	1W	DPDT	1	15.75
SC11DK†	12V	135	1W	DPDT	1	15.75
SC11DK†	24V	550	1W	DPDT	1	15.75
SC11DK†	36V	1,250	1W	DPDT	1	16.25
SL11D+	6V	40	1W	DPDT	1*	17.25
SL11D+	12V	160	1W	DPDT	1	17.25
SL11D+	24V	630	1W	DPDT	1	17.25
SL11D+	36V	1,400	1W	DPDT	1	18.50
SL11DA†	6V	40	1W	DPDT	1	17.25
SL11DA†	12V	160	1W	DPDT	1	17.25
SL11DA†	24V	630	1W	DPDT	1	17.25
SL11DA†	36V	1,400	1W	DPDT	1	18.50
SL11DE†	6V	40	1W	DPDT	1	17.25
SL11DE†	12V	160	1W	DPDT	1	17.25
SL11DE†	24V	630	1W	DPDT	1	17.25
SL11DE†	36V	1,400	1W	DPDT	1	18.50
SL11DK†	6V	40	1W	DPDT	1	17.25
SL11DK†	12V	160	1W	DPDT	1	17.25
SL11DK†	24V	630	1W	DPDT	1	17.25
SL11DK†	36V	1,400	1W	DPDT	1	18.50

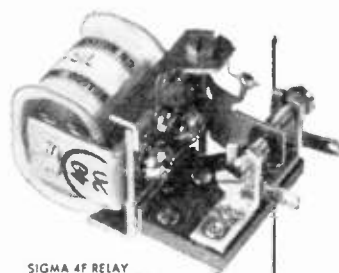
† Sealed Relay

* 2 Amps @ 28VDC

SIGMA SENSITIVE RELAYS

PLATE CIRCUIT RELAY . . . SERIES 4

Single-pole, double-throw, general purpose relay with 20 and 50 mw. sensitivity. Balanced armature. Operates in any position. Spring tension and air gaps screwdriver adjustable in open style only. Silver (SIL) contacts rated 2 amp. 28 VDC / 120 VAC for 100,000 operations. 4F-3,000-S SIL widely used for radio controlled models. Available in other mountings and enclosures.

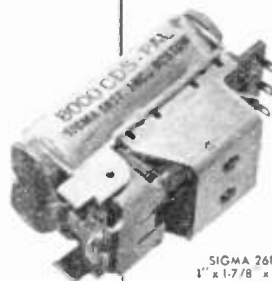


TYPICAL ADJUSTMENTS	Relay	Coil Ohms	Operate Ma. DC	Net Each
	4F-1,000-S SIL	1,000	4.5	\$6.05
	4F-2,500-S SIL	2,500	3.0	6.05
	4F-5,000-S SIL	5,000	2.0	6.35
	4F-8,000-S SIL	8,000	1.6	6.60

SIGMA 4F RELAY
1-1/2" x 1-5/8" x 1-5/32" h.
Wt. 2-1/4 oz.

RADIO CONTROL MODEL RELAY . . . SERIES 26

Single-pole, double-throw, balanced armature relay with adjustments from 4 mw. to 20 mw. sensitivity. Silver (SIL), gold alloy (GSP), and palladium (PAL) contacts for CDS adjustment rated 0.5 amp. at 28 VDC / 120 VAC. 26F-8,000-CDS SIL (unenclosed only) exceptionally rugged and especially designed for R/C models. Uses less plate current thus prolonging tube life. "S", "G" and "W" adjustments available unenclosed or hermetically sealed.



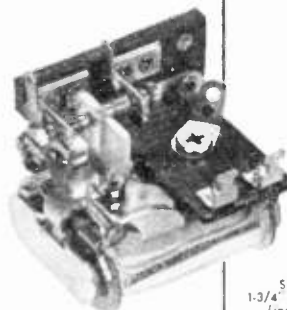
TYPICAL ADJUSTMENTS	Relay	Operate Ma. DC	Net Each
	26F-1,000-S SIL	2.3	\$7.80
	26F-8,000-CDS SIL	0.7	9.55
	26F-12,000-G SIL	0.9	10.80

SIGMA 26F RELAY
1" x 1-7/8" x 1-1/16" h.
Wt. 2 oz.

EXTRA SENSITIVE PRECISION RELAY . . . SERIES 5

Extremely precise, rugged AC* and DC general purpose sensitive relay. Balanced armature, single-pole, double-throw. Suitable for wide range of adjustments from 1.0 mw. to 2.0 watts. Contact rating varies up to 3 amp. at 28 VDC / 120 VAC for 100,000 operations, depending on contact material and adjustment.

*AC operation accomplished by means of built-in rectifiers. Available in other mountings and enclosures.



TYPICAL ADJUSTMENTS	Relay	Coil Ohms	Operate Ma. DC	Net Each
	5F-1,000-S SIL	1,000	2.3	\$8.25
	5F-2,500-S SIL	2,500	1.4	8.25
	5F-5,000-S SIL	5,000	1.0	8.80
	5F-10,000-S SIL	10,000	0.7	9.65

SIGMA 5F RELAY
1-3/4" x 1-5/8" x 1-1/16" h.
(including terminals)
Wt. 4-1/4 oz.

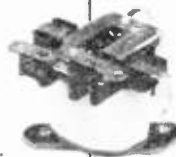
SMALL LOW-COST RELAY . . . SERIES 11

Small, single-pole double-throw AC and DC relay. DC operating sensitivities 50 mw. in "G" Adjustment, 200 mw. in "W" Adjustment. AC version: 0.3 v-a. in "ACS" Adjustment. Contacts rated 1 amp. ("G" and "ACS"), 5 amp. ("W") at 28 VDC / 120 VAC. Available unenclosed only in four mounting styles:

- 11F — 2 tapped holes, uninsulated
- 11F2 — Insulated base
- 11F3 — Insulated base, interchangeable with relays of other manufacture
- 11FP — Shoulder lug mounting for use in printed circuits

TYPICAL ADJUSTMENTS

AC Types*	Coil Volts	Operate Voltage	Net Each	DC Types	Coil Ohms	Operate Ma. DC	Net Each
11FZ-40-ACS SIL	6	4.9	\$2.50	11F-1,000-G SIL	1,000	7.0	\$1.75
11FZ-150-ACS SIL	12	9.5	2.50	11F-2,300-G SIL	2,300	4.6	1.75
11FZ-550-ACS SIL	24	18	2.80	11F-6,000-G SIL	6,000	2.9	1.95
11FZ-9,000-ACS SIL	120	75	2.95	11F-9,000-G SIL	9,000	2.4	2.15



SIGMA 11F RELAY
1-5/32" x 1-5/32" x 1" h.
Wt. 1 oz.

Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.



SIGMA INSTRUMENTS, INC.

So. Braintree 85, Mass.

Sec. 4500

SIGMA SENSITIVE RELAYS

HIGH SPEED POLAR SWITCHING RELAY . . . SERIES 72

For high speed switching and pulse repeating applications. Capable of switching 500 pulses per second with virtual elimination of contact bounce. High immunity to extremes of temperature, vibration and shock. Form "Z" side-stable. Maintenance and adjustment manual available for easy field repair and adjustment.
Removable nylon cover.



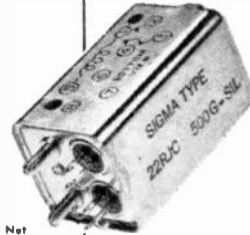
SIGMA 72AOZ RELAY
1-7/16" dia. x 2-5/8" h.
Wt. 3-1/2 oz. max.

TYPICAL ADJUSTMENTS

Relay	Operate Ma DC either way, either coil	Operate Ma. DC	Recommended Drive for Operate Ma. DC	Source Voltage	Net Each
72AOZ-160-TS TCP	1.4	1.4	15	50 VDC	\$33.00
72AOZ-160-1G TCP	3.6	3.6	6.0	50 VDC	33.00

MISSILE TYPE RELAY . . . SERIES 22

Miniature DC relay widely used in special commercial and military applications. "G" adjustment operates at sensitivities of 20 mw. SPDT and 40 mw. DPDT. Contact rating at 28 VDC/120 VAC silver (SIL) 2 amp; palladium (PAL) and gold (GSP) 0.5 amp. New "HG" adjustment operates at 20 and 40 mw. "W" adjustment operates at 40 and 80 mw. Silver alloy (SGP) contact rated 1.0 amp at 28 VDC/120 VAC. Both adjustments vibration resistant: "HG" 10 g to 500 cps, "W" 15 g to 500 cps, 5 g to 2,000 cps.



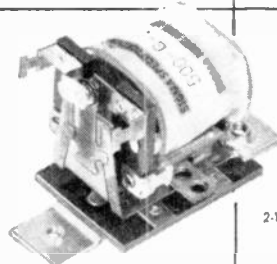
SIGMA 22RJC RELAY
1" square x 1-3/4" h.
Wt. 3 oz.

TYPICAL ADJUSTMENTS

SPDT Relay	Coil Ohms	Operate Ma. DC	Net Each	DPDT Relay	Coil Ohms	Operate Ma. DC	Net Each
22RJC-1,000-G SIL	1,000	4.5	\$13.00	22RJCC-1,000-G SIL	1,000	6.3	14.50
22RJC-2,500-G SIL	2,500	2.8	13.50	22RJCC-2,500-G SIL	2,500	4.0	15.00
22RJC-5,000-G SIL	5,000	2.0	14.00	22RJCC-5,000-G SIL	5,000	2.8	15.50
22RJC-8,000-G SIL	8,000	1.6	14.50	22RJCC-8,000-G SIL	8,000	2.3	16.00

SINGLE-POLE AC AND DC RELAY . . . SERIES 41

General purpose, highly sensitive, rugged design. Quiet enough for electric blanket controls. Contact rating from 0.5 amp. to 5.0 amp. at 28 VDC/120 VAC. AC operation by pole shading with sensitivity down to 0.06 volt-ampere. "K" adjustment adapted for high speed keying, largely free of contact bounce when operated SPST, normally open. Tungsten (TUN) contacts only, rated at 1.0 amp. 28 VDC/120 VAC. Other mountings and enclosures available.



SIGMA 41F RELAY
2-1/4" x 1-1/4" x 1-5/16" h.
Wt. 2-1/2 oz.

TYPICAL ADJUSTMENTS

AC TYPES	Operate Voltage	Nominal Voltage	Contact Rating amp.	Net Each	DC TYPES	Coil Ohms	Operate Ma. DC	Net Each
41FZ-10-ACG SIL	4.0	6	5	\$3.50	41F 5-5 SIL	5	93	\$3.85
41FZ-35-ACS SIL	5.0	6	2	4.00	41F 50 5 SIL	50	30	3.85
41FZ-200-ACG SIL	18	24	5	3.50	41F-200-5 SIL	200	15	3.85
41FZ-500-ACS SIL	19	24	2	4.90	41F-1,000-5 SIL	1,000	6.5	3.85
41FZ-5,000-ACG SIL	90	115	5	3.65	41F-5,000-5 SIL	5,000	3.0	4.00
41FZ-10,000-ACS SIL	85	115	2	4.45	41F-10,000-5 SIL	10,000	2.0	4.25
41FZ-12,000-ACG SIL	140	230	5	4.15				

Contact rating — 2 amp.

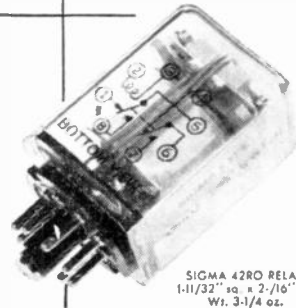
DOUBLE-POLE AC AND DC RELAY . . . SERIES 42

General purpose, double-pole version of Series 41. Shown with plastic dust cover. Operates under 0.2 watt DC and under 0.5 volt-ampere AC.

TYPICAL ADJUSTMENTS

AC TYPES	Operate Voltage	Nominal Voltage	Contact Rating amp.	Net Each	DC TYPES	Coil Ohms	Operate Ma. DC	Net Each
42ROZ-8-ACG SIL	4.0	6	5	\$6.20	42RO-5-G SIL	5	200	\$6.20
42ROZ-25-ACS SIL	5.0	6	2	7.15	42RO-50-G SIL	50	65	6.20
42ROZ-200-ACG SIL	19.0	24	5	6.20	42RO-200-G SIL	200	32	6.20
42ROZ-340-ACS SIL	19.0	24	2	7.15	42RO-1,000-G SIL	1,000	14	6.20
42ROZ-4,000-ACG SIL	90.0	120	5	6.20	42RO-5,000-G SIL	5,000	6.5	6.40
42ROZ-7,000-ACS SIL	90.0	120	2	7.35	42RO-10,000-G SIL	10,000	4.5	6.63

Contact rating — 3 amp.



SIGMA 42RO RELAY
1-11/32" sq. x 2-1/16" h.
Wt. 3-1/4 oz.

Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.



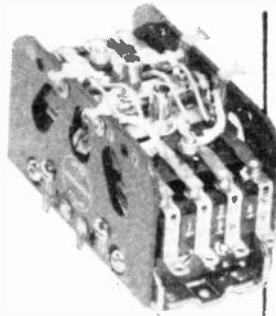
SIGMA INSTRUMENTS, INC.

So. Braintree 85, Mass.

SIGMA SENSITIVE RELAYS

POLARIZED MULTIPOLE RELAY . . . SERIES 6

Up to four pole, double-throw in either single or dual coil arrangement. Sensitive enough for low power electronic circuits. Fast enough for follow-up systems. Contacts rated 2 and 5 amp. at 28 VDC/120 VAC.
 "X" — 3-position center stable (up to 4 Form K)
 "Y" — Magnetic bias (up to 4 Form C)
 "Z" — Magnetic latching (up to 4 Form C)
 Available hermetically sealed or unenclosed.

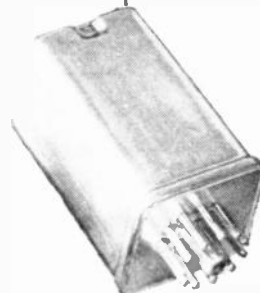


SIGMA 6FX4C RELAY
 1-7/8" x 3-7/16" x 1-7/8" h.
 Wt. 10 oz.

TYPICAL ADJUSTMENTS		Relay	Coil Ohms	Operate Ma. DC	Net Each
Single coil		6FX2A2A-5,000-G SIL	5,000	1.9	\$29.90
		6FX2A2A-10,000-G SIL	10,000	1.5	30.50
Dual Coil		6FX2A2A-2,500-GD SIL	2500 2500	4.2	30.75
		6FX2A2A-5,000-GD SIL	5000 5000	3.0	31.60

DOUBLE-POLE 3-POSITION POLAR RELAY . . . SERIES 23

For single or double pole 3-position switching with single or dual coil. Unusual magnetic circuit restores armature to mid-position between fixed contacts improving mechanical and thermal stability. Sensitivity varies from 6 mw. to 24 mw. Silver (SIL) contacts rated 2 amp. at 28 VDC/120 VAC for 100,000 operations. Hermetically sealed only. Also available Form "Y" Magnetic bias.

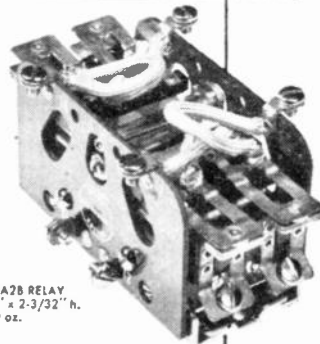


SIGMA 23J0X RELAY
 1-5/8" sq. x 2-9/16" h.
 Wt. 8-5/8 oz.

TYPICAL ADJUSTMENTS		Relay	Coil	Operate Ma. DC	Net Each
Single Coil		23J0XC-4,000-G SIL	4,000	1.2	\$53.40
		23J0XC-6,000-G SIL	6,000	1.4	54.25
Dual Coil		23J0XC-2,500-GD SIL	2500 2500	2.2	55.15
		23JMXCC-4,200-GD SIL	4200, 4200	2.3	59.50

LATCHING POWER RELAY . . . SERIES 61

Heavy duty Form "Z" 2-position, single or dual coil; modification of Series 6. For switching heavy loads with small coil power. Load switched by momentary signal of appropriate polarity. Remains magnetically latched until signal of opposite polarity received. 2A2B only. Silver cadmium (SC) contacts only, rated 20 amp. at 28 VDC/120 VAC. Also available Form "Y" Magnetic bias

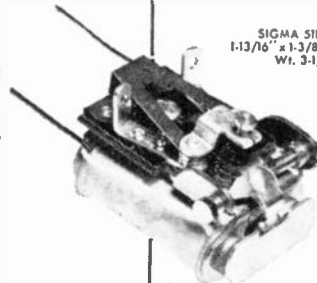


SIGMA 61FZ2A2B RELAY
 3-1/2" x 2-3/16" x 2-3/32" h.
 Wt. 10 oz.

TYPICAL ADJUSTMENTS		Relay	Operate Each Polarity	Net Each
Single Coil		61FZ2A2B-10,000-G SC	50 VDC	\$23.75
Dual Coil		61FZ2A2B-10,000-GD SC	72 VDC	26.25

SENSITIVE POWER RELAY . . . SERIES 51

Single-pole, double-break, normally closed DC, for control of loads from 10 amp. to 1 kw. Used in commercial photoelectric streetlighting control. Rated for 1,000 watt incandescent 120 VAC loads with inrush currents in the order of 100 amp. Double-break contact construction eliminates faulty circuit operation due to sticking contacts. Unenclosed style (FB) only.



SIGMA 51FB RELAY
 1-13/16" x 1-3/8" x 1-5/16" h.
 Wt. 3-1/4 oz.

TYPICAL ADJUSTMENTS		Relay	Operate Ma. DC	Net Each
		51FB-5,000-G SIL	4.5	\$10.20

Limited quantities available through stocking distributors in major cities. All prices subject to change without notice.

SIGMA

SIGMA INSTRUMENTS, INC.

So. Braintree 85, Mass.

SIGMA SENSITIVE RELAYS

Sec. 4500

CdS PHOTORELAY . . . MODEL #1

A miniature tubeless photorelay with a cadmium sulfide photo cell. For furnace flame-out controls, pinball machines, elevators, conveyors, etc. 5-pin plug-in base, operates at 3 foot-candles or less, releases at 0.1 foot-candle or more. 2 operations per second guaranteed minimum.

120 VAC 50, 60 cps at temperature range of -40° to 75° C.

Model #2 for slowly changing light source also available.

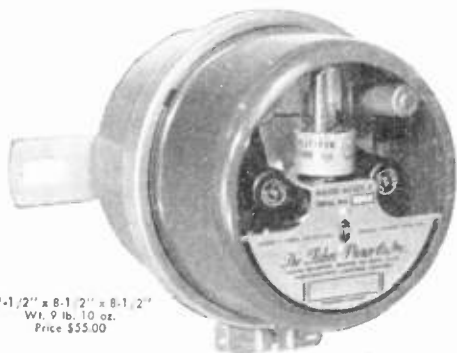
SIGMA CdS PHOTORELAY MODEL #1
1 1/2" square x 1 7/8" h
Wt. 3 oz. . . Price \$15.00



PHOTOELECTRIC LIGHTING CONTROLS

by FISHER - PIERCE

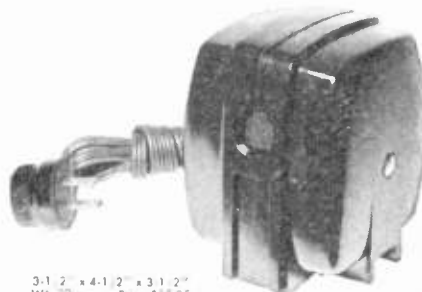
AFFILIATE OF SIGMA INSTRUMENTS, INC.



11-1/2" x 8-1/2" x 8-1/2"
Wt. 9 lb. 10 oz.
Price \$55.00

EXTERIOR LIGHTING CONTROL . . . MODEL 63305-C

Rugged, stable and reliable photoelectric unit for controlling aircraft obstruction lighting on towers, smoke stacks, bridges, buildings, etc., and other types of outdoor lighting. Automatically switches lights on as daylight drops to CAA-recommended turn-on point (35 foot-candles), off when daylight returns. No seasonal adjustment needed; unaffected by time of day or weather. Load rating 3000 watts. Contactor SPST, double break. Adjustable turn-on range 25-45 foot-candles; standard factory setting, 35 f-c. Supply voltage 105-130, 50/60 cycles; power consumption 10-11 watts daytime, 6-7 watts nighttime. Features pre-aged tubes for 20,000 hours min. life; highest quality components; fail-safe operation; time delay to prevent accidental turn-off by transient lights; weatherproof housing; standard meter socket with mounting bracket; glass-enclosed plug-in chassis.



3-1/2" x 4-1/2" x 3-1/2"
Wt. 20 oz. . . Price \$15.95

INTERIOR LIGHTING CONTROL . . . MODEL 6502

Dependable, low cost, tubeless device for automatic turn-on of lights as darkness approaches, turn-off when daylight returns. No setting or resetting needed. Light to be controlled is simply plugged into 6502 plug, which is then connected to any 110V, 60 cycle AC outlet. "Eye" of control is faced toward daylight. Maximum lamp load 300 watts; handles heavier loads by energizing auxiliary relays. Compact, sturdy bakelite case. Max. power consumption 2 watts. Ideal for controlling lights in store windows, outdoor telephones, greenhouses, poultry houses, porches, etc., and in many other commercial and industrial applications.

All prices subject to change without notice.

SIGMA INSTRUMENTS, INC.

So. Braintree 85, Mass.

AEROVOX

CAPACITORS RESISTORS

INDUSTRIAL SECTION

* CARBOFILM RESISTORS

Commercial Stock Values Carbofilm Resistors ± 1%

OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	Megohms
3.0	35	330	3500	27,000	330,000	3.5
3.3	36	350	3600	30,000	350,000	3.6
3.5	39	360	3900	33,000	360,000	3.9
3.6	40	390	4000	35,000	390,000	4.0
3.9	43	400	4300	36,000	400,000	4.3
4.0	44.5	430	4450	39,000	430,000	4.5
4.3	45	450	4500	40,000	450,000	4.7
4.5	47	470	4700	43,000	470,000	5.0
4.7	50	500	5000	45,000	500,000	5.1
5.0	51	510	5100	47,000	510,000	5.5
5.1	55	550	5500	50,000	550,000	5.6
5.5	56	560	5600	51,000	560,000	6.0
5.6	59.5	600	5950	55,000	600,000	6.2
6.0	60	620	6000	56,000	620,000	6.5
6.2	62	650	6200	60,000	650,000	6.8
6.5	65	680	6500	62,000	680,000	7.0
6.8	68	700	6800	65,000	700,000	7.5
7.5	70	750	7000	68,000	750,000	8.0
8.0	74.5	800	7450	70,000	800,000	8.2
8.2	75	820	7500	75,000	820,000	8.5
8.5	80	850	8000	80,000	850,000	9.0
9.0	82	900	8200	82,000	900,000	9.1
9.1	85	910	8500	85,000	910,000	10.0
10.0	89.5	1000	8950	90,000		12.0
11.0	90	1100	9000	91,000		12.5
12.0	91	1200	9100			
				MEGOHMS		
12.5	99.5	1250	9950	100,000	1.0	13.0
13.0	100	1300	10,000	110,000	1.1	15.0
14.5	110	1450	11,000	120,000	1.2	16.0
15.0	120	1500	12,000	125,000	1.25	18.0
16.0	130	1600	12,500	130,000	1.3	20.0
17.5	150	1750	13,000	150,000	1.5	22.0
18.0	160	1800	13,500	160,000	1.6	25.0
20.0	175	2000	15,000	175,000	1.8	27.0
22.0	180	2200	16,000	180,000	2.0	30.0
22.5	200	2250	17,500	200,000	2.2	33.0
24.0	220	2400	18,000	220,000	2.225	36.0
25.0	225	2500	20,000	225,000	2.4	39.0
27.0	240	2700	22,000	240,000	2.5	43.0
29.5	250	2950	22,500	250,000	2.7	47.0
30.0	270	3000	24,000	270,000	3.0	50.0
33.0	300	3300	25,000	300,000	3.3	100.0†

†Only stock value above 50 megohms is 100 megohms furnished in ±2% tolerance.

Packaging: Small quantities packaged individually in sealed plastic tubes. Also available in larger quantities, protected by paper sleeves and packed in bulk.

CARBOFILM PRECISION RESISTORS



These precision resistors are the result of years of intensive research in developing components with extreme accuracy and stability. Carbofilm resistors are intended for circuits calling for the accuracy and stability of wire-wound resistors with the marked economy of carbon resistors. They serve a real need in test equipment and laboratory instruments.

Carbofilm Characteristics

TEMPERATURE COEFFICIENT

Temperature coefficient of deposited carbon resistors increases with resistance value and varies from -0.00018 per °C. for lowest values to -0.0005 per °C. for the higher values over the temperature range of -55°C to +85 C.

HUMIDITY

Will meet the requirements of MIL-STD-202 Method 106.

OVERLOAD

Application of a D.C. Test potential 2½ times the rated continuous working voltage, but not exceeding twice the maximum voltage specified in MIL-R10509B for a period of 5 seconds will not cause a change in excess of .5%.

LOAD LIFE

A maximum change of 1% may be expected with operation at full rated wattage applied intermittently 1½ hours on—½ hour off for a period of 1,000 hours at 40°C., provided voltage ratings of MIL-R10509B are not exceeded.

ACCURACY

Guaranteed tolerance of plus/minus 1% at 25°C. (77°F.).

AGING

Due to manufacturing process and control, changes attributed to aging are negligible. The average change in resistance for self-aging is approximately 0.2% per year.

NOISE

Noise level will not exceed .2 microvolts per volt.

FREQUENCY

Because of inherently low inductance and absence of skin effects deposited carbon resistors are superior in performance at high frequencies to conventional resistors.

DERATING

Full load operation at 40°C.—Derate to zero load at 120°C.

TYPE	SIZES	MIN. OHMS	MAX. MEGOHMS	MIL-R10509B	Equiv. to MIL-R-10509B			MARKING
				Max. DC Voltage	Type	Char.	Tol.	
**CPS-½ watt	0.162D x 1/8"L	7	2	350	RN20	X	1%	RN20 Number Type, Value, Tolerance Type, Value, Tolerance Type, Value, Tolerance and RN25 Number Type, Value, Tolerance and RN30 Number
CP-½ watt	0.230D x 1/8"L	3	5	350	—	—	—	
CPL-½ watt	0.230D x 1/8"L	5,100,000	7.5	500	RN25	—	—	
CP-1 watt	0.293D x 1/8"L	10	15	500	—	X	1%	
CP-2 watt	0.293D x 2 1/8"L	50	100	750	RN30	X	1%	

**CPS½ available in both commercial and Mil-Bell values.

*Trademark

AEROVOX

CAPACITORS RESISTORS

INDUSTRIAL SECTION * CARBOMOLD RESISTORS

CARBOMOLD PRECISION RESISTORS



Stability—precision—reliability—obtained by rigid manufacturing tolerances and maintained under adverse operating conditions by encapsulation of the carbomold resistor unit in a strongly reinforced, moisture and heat resistant plastic. These units will withstand rough production handling.

CARBOMOLD CHARACTERISTICS

TESTING

All testing conducted in accordance with MIL-R-10509C requirements.

MOISTURE RESISTANCE . . .

Will meet or surpass the requirements of MIL-R-10509C.

TEMPERATURE CYCLING . . .

After 5 complete temperature cycles there is an average change of 0.21% with a maximum change less than 0.5%.

LOW TEMPERATURE EXPOSURE . . .

When exposed to -65°C for 24 hours there is a maximum change of less than 0.5%.

TEMPERATURE COEFFICIENT . . .

Extends from approximately 200 PPM in the lower resistance ranges to not exceeding 500 PPM at the highest values specified for each type.

SHORT-TIME OVERLOAD . . .

When subjected to 2.5 times the rated voltage, but not exceeding 2 times the maximum rated voltage for 5 seconds, changes are less than 0.25% with an average change of 0.13%.

LOAD LIFE . . .

When tested for not more than 5000 hours at full load operation in 70°C ambient temperature, maximum changes are less than 1% with an average change of less than 0.5%.

ACCURACY . . .

Guaranteed tolerance of plus minus 1%.

AGING . . .

Average change in resistance for self-aging, approximately 0.2% in a year.

NOISE . . .

Noise level will not exceed .2 microvolts per volt.

DERATING . . .

Full load operation at 70°C—Derate to zero load at 150°C.

PACKAGING . . .

Small quantities packaged individually in sealed plastic tubes. Also available in larger quantities packed in bulk.

** MIL-BELL STOCK VALUES CARBOMOLD RESISTORS ± 1%

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
10.0	20.5	42.2	86.6	178	365	750	1540	3160	6490
10.2	21.0	43.2	88.7	182	374	768	1580	3240	6650
10.5	21.5	44.2	90.9	187	383	787	1620	3320	6810
10.7	22.1	45.3	93.1	191	392	806	1650	3400	6980
11.0	22.6	46.4	95.3	196	402	825	1690	3480	7150
11.3	23.2	47.5	97.6	200	412	845	1740	3570	7320
11.5	23.7	48.7	100	205	422	866	1780	3650	7500
11.8	24.3	49.9	102	210	432	887	1820	3740	7680
12.1	24.9	51.1	105	215	442	909	1870	3830	7870
12.4	25.5	52.3	107	221	453	931	1910	3920	8060
12.7	26.1	53.6	110	226	464	953	1960	4020	8250
13.0	26.7	54.9	113	232	475	976	2000	4120	8450
13.3	27.4	56.2	115	237	487	1000	2050	4220	8660
13.7	28.0	57.6	118	243	499	1020	2100	4320	8870
14.0	28.7	59.0	121	249	511	1050	2150	4420	9090
14.3	29.4	60.4	124	255	523	1070	2210	4530	9310
14.7	30.1	61.9	127	261	536	1100	2260	4640	9530
15.0	30.9	63.4	130	267	549	1130	2320	4750	9760
15.4	31.6	64.9	133	274	562	1150	2370	4870	10000
15.8	32.4	66.5	137	280	576	1180	2430	4990	10200
16.2	33.2	68.1	140	287	590	1210	2490	5110	10500
16.5	34.0	69.8	143	294	604	1240	2550	5230	10700
16.9	34.8	71.5	147	301	619	1270	2610	5360	11000
17.4	35.7	73.2	150	309	634	1300	2670	5490	11300
17.8	36.5	75.0	154	316	649	1330	2740	5620	11500
18.2	37.4	76.8	158	324	665	1370	2800	5760	11800
18.7	38.3	78.7	162	332	681	1400	2870	5900	12100
19.1	39.2	80.6	165	340	698	1430	2940	6040	12400
19.6	40.2	82.5	169	348	715	1470	3010	6190	12700
20.0	41.2	84.5	174	357	732	1500	3090	6340	13000

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Meg-ohms	Meg-ohms	Meg-ohms	Meg-ohms
13300	27400	56200	115000	237000	487000	1.00	2.05	4.22	8.66
13700	28000	57600	118000	243000	499000	1.02	2.10	4.32	8.87
14000	28700	59000	121000	249000	511000	1.05	2.15	4.42	9.09
14300	29400	60400	124000	255000	523000	1.07	2.21	4.53	9.31
14700	30100	61900	127000	261000	536000	1.10	2.26	4.64	9.53
15000	30900	63400	130000	267000	549000	1.13	2.32	4.75	9.76
15400	31600	64900	133000	274000	562000	1.15	2.37	4.87	10.0
15800	32400	66500	137000	280000	576000	1.18	2.43	4.99	
16200	33200	68100	140000	287000	590000	1.21	2.49	5.11	
16500	34000	69800	143000	294000	604000	1.24	2.55	5.23	
16900	34800	71500	147000	301000	619000	1.27	2.61	5.36	
17400	35700	73200	150000	309000	634000	1.30	2.67	5.49	
17800	36500	75000	154000	316000	649000	1.33	2.74	5.62	
18200	37400	76800	158000	324000	665000	1.37	2.80	5.76	
18700	38300	78700	162000	332000	681000	1.40	2.87	5.90	
19100	39200	80600	165000	340000	698000	1.43	2.94	6.04	
19600	40200	82500	169000	348000	715000	1.47	3.01	6.19	
20000	41200	84500	174000	357000	732000	1.50	3.09	6.34	
20500	42200	86600	178000	365000	750000	1.54	3.16	6.49	
21000	43200	88700	182000	374000	768000	1.58	3.24	6.65	
21500	44200	90900	187000	383000	787000	1.62	3.32	6.81	
22100	45300	93100	191000	392000	806000	1.65	3.40	6.98	
22600	46400	95300	196000	402000	825000	1.69	3.48	7.15	
23200	47500	97600	200000	412000	845000	1.74	3.57	7.32	
23700	48700	100000	205000	422000	866000	1.78	3.65	7.50	
24300	49900	102000	210000	432000	887000	1.82	3.74	7.68	
24900	51100	105000	215000	442000	909000	1.87	3.83	7.87	
25500	52300	107000	221000	453000	931000	1.91	3.92	8.06	
26100	53600	110000	226000	464000	953000	1.96	4.02	8.25	
26700	54900	113000	232000	475000	976000	2.00	4.12	8.45	

TYPE	SIZES	Std. Min. Ohms	Std. Max. Meg.	MIL-R10509C Max. DC Voltage	Equivalent to MIL-R-10509C			MARKING
					Type	Char.	Tol.	
CPM-1/2	1/4 x .735	10	2.49	350	RN70	B	F	Type, Value, Tolerance, RN70 Number
CPM-1	3/8 x 1 1/2	10	5.11	500	RN75	B	F	Type, Value, Tolerance, RN75 Number
CPM-2	3/8 x 2 1/2	30	10	750	RN80	B	F	Type, Value, Tolerance, RN80 Number

** CPS 1/2 available in both commercial and MIL-BELL values.

* Trade Mark

Centralab®

Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CONTROLS

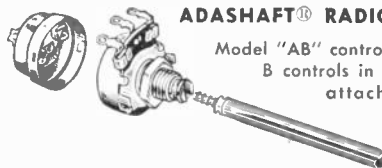
UNIVERSAL SHAFT RADIOHMS®



Model "B" controls, carbon, 1/2 watt, 15/16" diam., 7/16" deep. Breakdown vdtage 900 VAC-RMS to ground. Shaft 1/4" diam. 3 3/8" long from mtg. surface; UNIVERSAL shaft

knurled type shaft — will fit knurl, shallow flat, deep flat, slotted, or round applications. Bushing 3/8" long, 3/8" — 32 thrd. equipped with mounting nut. Can easily be converted to switch type by snapping on a "KR" switch listed on next page.

ADASHAFT® RADIOHMS®



Model "AB" controls are identical to Model B controls in every respect except for attachable shaft construction thru use of a locking "C" ring attached to a stub, screwdriver

slot shaft, 9/16" long from mtg. surface. This stub can be used as is or extended by using any one of the 14 AK shaft styles shown on next page. Can easily be converted to switch type by snapping on a "KR" switch listed on next page.

PLAIN TYPE

Ohms.	Taper	Model B Cat. No.	Model AB Cat. No.	Ohms.	Taper	Model B Cat. No.	Model AB Cat. No.	Ohms.	Taper	Model B Cat. No.	Model AB Cat. No.
100	C-1	B-1	AB-1	20K	C-5	B-23	AB-23	500K	C-6	B-616	AB-616
200	C-1	B-2	AB-2	20K	C-6	B-24	AB-24	500K	C-7	B-617	AB-617
500	C-1	B-4	AB-4	25K	C-1	B-26	AB-26	750K	C-1	B-66	AB-66
750	C-5	B-415	AB-415	25K	C-2	B-25	AB-25	1 Meg.	C-1	B-69	AB-69
1,000	C-1	B-5	AB-5	25K	C-4	B-29	AB-29	1 Meg.	C-2	B-70	AB-70
1,000	C-5	B-505	AB-505	25K	C-5	B-27	AB-27	1 Meg.	C-4	B-744	AB-744
1,500	C-5	B-515	AB-515	25K	C-6	B-28	AB-28	1 Meg.	C-5	B-68	AB-68
2,000	C-1	B-6	AB-6	50K	C-1	B-31	AB-31	1 Meg.	C-7	B-697	AB-697
2,500	C-1	B-7	AB-7	50K	C-2	B-32	AB-32	1.5 Meg.	C-1	B-742	AB-742
2,500	C-2	B-702	AB-702	50K	C-5	B-34	AB-34	2 Meg.	C-1	B-75	AB-75
2,500	C-5	B-705	AB-705	75K	C-1	B-35	AB-35	2 Meg.	C-2	B-76	AB-76
3,000	C-1	B-8	AB-8	75K	C-5	B-36	AB-36	2 Meg.	C-5	B-77	AB-77
4,000	C-1	B-9	AB-9	100K	C-1	B-40	AB-40	2.5 Meg.	C-1	B-83	AB-83
5,000	C-1	B-10	AB-10	100K	C-2	B-41	AB-41	3 Meg.	C-1	B-84	AB-84
5,000	C-2	B-11	AB-11	150K	C-1	B-43	AB-43	3 Meg.	C-2	B-85	AB-85
5,000	C-5	B-12	AB-12	150K	C-2	B-44	AB-44	3 Meg.	C-5	B-855	AB-855
7,500	C-1	B-13	AB-13	200K	C-1	B-46	AB-46	4 Meg.	C-1	B-86	AB-86
10K	C-1	B-14	AB-14	250K	C-1	B-50	AB-50	4 Meg.	C-2	B-862	AB-862
10K	C-2	B-15	AB-15	250K	C-2	B-51	AB-51	5 Meg.	C-1	B-87	AB-87
10K	C-4	B-18	AB-18	250K	C-5	B-52	AB-52	5 Meg.	C-2	B-88	AB-88
10K	C-5	B-17	AB-17	500K	C-1	B-59	AB-59	7 Meg.	C-7	B-89	AB-89
10K	C-6	B-16	AB-16	500K	C-2	B-60	AB-60	7.5 Meg.	C-1	B-90	AB-90
15K	C-5	B-19	AB-19	500K	C-3	B-613	AB-613	10 Meg.	C-1	B-98	AB-98
15K	C-6	B-20	AB-20	500K	C-4	B-58	AB-58				
20K	C-1	B-22	AB-22	500K	C-5	B-61	AB-61				

SINGLE TAP

Ohms.	Taper	Tap	Cat. No.	Cat. No.
50K	C-11	Tap-25K	BT-33	ABT-33
100K	C-11	Tap-50K	BT-39	ABT-39
200K	C-11	Tap-100K	BT-47	ABT-47
250K	C-11	Tap-125K	BT-53	ABT-53
250K	C-12	Tap-50K	BT-54	ABT-54
250K	C-13	Tap-75K	BT-55	ABT-55
250K	C-16	Tap-125K-62 1/2% Rot.	BT-56	ABT-56
350K	C-12	Tap-70K	BT-57	ABT-57
500K	C-11	Tap-250K	BT-65	ABT-65
500K	C-12	Tap-100K	BT-66	ABT-66
500K	C-13	Tap-150K	BT-67	ABT-67
500K	C-15	Tap-50K-50% Rot.	BT-63	ABT-63
500K	C-16	Tap-250K-62 1/2% Rot.	BT-64	ABT-64
500K	C-17	Tap-50K-37 1/2% Rot.	BT-62	ABT-62
1 Meg.	C-11	Tap-500K	BT-71	ABT-71
1 Meg.	C-12	Tap-200K	BT-72	ABT-72
1 Meg.	C-13	Tap-300K	BT-73	ABT-73
1 Meg.	C-16	Tap-500K-62 1/2% Rot.	BT-74	ABT-74
1 Meg.	C-17	Tap-100K	BT-7417	ABT-7417
2 Meg.	C-11	Tap-1 Meg.	BT-78	ABT-78
2 Meg.	C-12	Tap-400K	BT-79	ABT-79
2 Meg.	C-13	Tap-600K	BT-80	ABT-80
2 Meg.	C-15	Tap-200K	BT-81	ABT-81
2 Meg.	C-16	Tap-1 Meg.-62 1/2% Rot.	BT-82	ABT-82
3 Meg.	C-15	Tap-300K-50% Rot.	BT-8515	ABT-8515
3 Meg.	C-17	Tap-300K-37 1/2% Rot.	BT-8517	ABT-8517

DUAL TAP TYPE

Ohms.	Taps	Cat. No.	Cat. No.
15K	Taps 5K and 10K	BT-154	ABT-154
250K	Taps 50K and 125K	BT-155	ABT-155
500K	Taps 41K and 82K	BT-156	ABT-156
500K	Taps-82K and 165K	BT-159	ABT-159
500K	Taps-100K and 250K	BT-160	ABT-160
1 Meg.	Taps 165K and 330K	BT-164	ABT-164
1 Meg.	Taps 200K and 500K	BT-165	ABT-165
1.5 Meg.	Taps 250K and 500K	BT-167	ABT-167
2 Meg.	Taps-250K and 500K	BT-174	ABT-174
2 Meg.	Taps 400K and 1 Meg.	BT-175	ABT-175
2.5 Meg.	Taps 300K and 625K	BT-176	ABT-176
3.3 Meg.	Taps-330K and 1650K	BT-180	ABT-180

MODEL B SWITCH TYPE RADIOHMS

Factory assembled switch type units are universal D.P.S.T., for S.P.S.T., D.P.S.T., or 3 wire usage.

Ohms.	Taper	Catalog Number
500K	C-2	B-60 S
1 Meg.	C-2	B-70 S

CONTROL PRICES

All B Units	List Price \$1.55
B-60-S and B-70-S	List Price 2.25
All BT Units	List Price 2.25
All AB Units	List Price 1.43
All ABT Units	List Price 2.10

Centralab®

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CONTROLS (Cont'd)

TYPE KR FASTATCH® SWITCHES



Circuit	Rating	Cat. No.	List Price
SPST	5 amp., 125 v.a.c.	KR-1	\$.70
DPST	3 amp., 125 v.a.c.	KR 2	.85
DP (1 Pole "on" 1 Pole "off")	3 amp., 125 v.a.c.	†KR 3	.85
SPST	15 amp., 10 v.d.c.	KR 4	1.10
SPST	15 amp., 10 v.d.c.	*KR 6	1.10
DPST	15 amp., 10 v.d.c.	KR 7	1.10

* (With Dummy Lug)

† (Can be used as SPDT by adding a jumper wire between terminals 1 and 3)

SWITCH SHIELDS

For use with Switch Type units where AC shielding is required. Packaged 5 per carton... Cat. No. KR-5 — List Price: \$1.20/Pkg.

ADASHAFT SHAFTS — COUPLERS — SHAFT EXTENSIONS

Cat. No.	Description	List Price Per Pkg.
AK-1	Fingertip knurl and screwdriver slot 3/8" long from bushing	\$1.00/5
AK-2	1-9/16" long from bushing, with .078" wide slot	1.50/5
AK-7	3" long from bushing with full length .156" flat	1.50/5
AK-8	3/16" diameter, full round, 2 1/8" long from bushing	1.50/5
AK-9	1/4" diameter, full round, 3 1/4" long from bushing	1.50/5
AK-10	10" long from bushing, with flat mill .216" x 4-5/16"	3.00/5
AK-11	Universal, including split knurl, flat, and slot, 4" long from bushing	1.85/5
AK-16	Coupler adaptable to 1/4" and 1/4" or 1/4" and 3/16" shafts	2.50/5
AK-19	Insulating nylon, 2-1/16" long from bushing	3.25/5
AK-21	Shaft extension 4" long, 1/4" diam., .218" flat	3.50/5
AK-22	Shaft extension 4" long, 1/4" diam., .154" flat	3.50/5
AK-23	Shaft extension 4" long, 3/16" diam., .172" flat	3.50/5
AK-24	1/4" diameter, full round, 3/8" long	1.00/5
AK-25	1/4" diameter, flattened to .218", 3/8" long	1.00/5
AK-26	Adapter bushing, 3/8"-32 thd. to 7/16"-28 thd., with nuts and lockwasher, length 1 1/8"	.75 ea.
AK-28	Auto adapter bushing, 3/8" to 1/2"-28 thd., with nuts and lockwasher, length 2 1/4"	.75 ea.
AK-30	Grounding lug, grounds bushing to terminal	.50/doz.



MODEL SR AND STR STEREO — TWIN

Snap-on rear units added to Model B or AB Controls provide an unlimited variety of twin control combinations. Easily converts to switch type by snapping on KR Fastatch® switch. 1/2 watt, 1 1/8" diameter.

Model SR Plain Type

Ohms.	Taper	Cat. No.	Ohms.	Taper	Cat. No.
7500	C-1	SR-13	500K	C-4	SR 58
25K	C-1	SR-26	500K	C-7	SR 617
50K	C-1	SR-31	1 Meg.	C-1	SR 69
100K	C-1	SR-40	1 Meg.	C-2	SR 70
100K	C-2	SR 41	2 Meg.	C-1	SR 75
250K	C-1	SR 50	2 Meg.	C-2	SR 76
250K	C-2	SR 51	3 Meg.	C-1	SR 84
500K	C-1	SR 59	3 Meg.	C-2	SR 85
500K	C-2	SR 60	5 Meg.	C-1	SR 87
500K	C-3	SR-613	5 Meg.	C-2	SR 88

Model STR Single Tap

Ohms.	Taper	Cat. No.	Tap
500K	C-11	STR 65	Tap 250K
500K	C-12	STR 66	Tap-100K
500K	C-16	STR 64	Tap 250K
1 Meg.	C-11	STR 71	Tap-500K
1 Meg.	C-16	STR 74	Tap 500K

Model STR Dual Tap

Ohms.	Taper	Cat. No.	Tap
1.5 Meg.	STR 167	250K & 500K
3.3 Meg.	STR 180	330K & 1650K

List Price \$1.90



SNAP-TITE® RADIOHMS® For speed-servicing of "hidden" or TV rear controls

The revolutionary new Centralab control with amazing time-saving features:

- SNAP-TITE is installed by just pushing it into the chassis mounting hole. It holds itself in place.
- No tools needed for mounting; no nuts, lockwashers, or any other hardware. A clean, fast replacement.
- Six spring clips grip the panel for positive, non-twist mounting. Replaces any standard control type. (One or two locating lugs.)
- Shaft is molded, high-strength polystyrene, fingertip knurled and slotted for screwdriver adjustment. Extends 1/2" from face of mounting surface.

The ten values below will replace 75% of current rear-end or "hidden" television controls:

Ohms	Taper	Cat. No.	Ohms	Taper	Cat. No.
5000	C-1	BX-10	1 Meg.	C-1	BX-69
50K	C-1	BX-31	1 1/2 Meg.	C-1	BX-742
100K	C-1	BX-40	2 Meg.	C-1	BX-75
200K	C-1	BX 46	2 1/2 Meg.	C-1	BX-83
500K	C-1	BX-59	3 Meg.	C-1	BX-84

List Price \$0.85 each

*Trademark

MODEL JP AND JL RADIOHM®



Designed originally to meet rugged military specifications. These miniature controls are completely closed — can be sealed or potted — making them ideal for miniature amplifiers, geophysical equipment, guided missiles, and other application where small size, high quality and dependability are primary factors. Rated at 1/4 watt, carbon, .671" diameter. Shaft: Model JP — plain round 1/8" diam., 3/4" long from mtg. surface. Model JL — screwdriver slotted 1/8" diam., 1/2" long from mtg. surface. Model JP has 1/4" — 32 thread bushing, 1/4" long. Model JL has split locking bushing 1/4" — 32 thread, 3/8" long with jam nut. Both types equipped with lockwasher and mtg. nut.

Ohms.	Tol.	Taper	Catalog Number	Catalog Number
1000	20%	C-1	JP 102	JL-102
1500	20%	C-1	JP 152	JL-152
2500	20%	C-1	JP 252	JL 252
5000	20%	C-1	JP 502	JL-502
7500	20%	C-1	JP 752	JL-752
10K	20%	C-1	JP 103	JL-103
10K	20%	C-2	JP2 103	.....
25K	20%	C-1	JP 253	JL 253
50K	20%	C-1	JP 503	JL-503
100K	20%	C-1	JP 104	JL-104
250K	20%	C-1	JP 254	JL 254
500K	20%	C-1	JP 504	JL 504
500K	20%	C-2	JP2 504	.....
1 Meg.	20%	C-1	JP 105	JL 105
2.5 Meg.	20%	C-1	JP 255	JL 255

List Price: JP — \$5.85; JL — \$6.10

KNOB

KC-3	knob	Black
KC-4	knob	White
KC-5	knob	Red

KC knobs — \$1.50/5

Centralab®

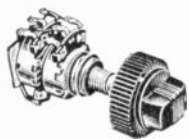
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CONTROLS (Cont'd)

THE COMPENTROL®

The COMPENTROL is a volume control and special Packaged Electronic Circuit network designed to better reproduce the apparent bass and treble response in radio sets, audio amplifiers, or phono combinations when volume is at low level.

SENIOR COMPENTROL® WITH LEVEL-SET



Designed for use in hi-fi amplifiers, or pre-amplifiers, a compact dual concentric unit to replace standard gain controls, permits any degree of compensation at low listening levels where compensation is required. For high level (or flat response) listening, compensation can be completely removed. Universal (replaces 250K to 2 Meg.) control. Supplied with dual knob.

CAT. NO. C2-100.....Audio Net \$4.50

FASTATCH® SENIOR COMPENTROL® With High-Boost PEC Plates

The ultimate in compensated control for the advanced hi-fi owner. The Senior Compentrol is furnished as two separate units that can be snapped together after shafts are cut to any length up to 3³/₄" from mounting surface. Compensating PEC plate is pre-wired to rear unit. Two high-frequency boost plates are furnished for medium or substantial boosting of highs. Contains knobs and complete instructions.

CAT. NO. C2-200.....Audio Net \$4.50

COMPENSATED TONE CONTROL

The C3-300 is a compensated tone control as used in Baxandall circuit. Not to be confused with the C2-100 and C2-200 Compensated volume controls.

CAT. NO. C3-300.....Audio Net \$4.50

JUNIOR COMPENTROLS



The C1-60 and C1-70 Compentrol is available in 500K and 1 Meg. plain or switch type for use in radios, phonographs or phono-radio combinations. SPST line switch is optional. An insulated switch shield is furnished for AC shielding where space permits.

Ohms.	Type	Cat. No.
500K	Plain Type	C1-60
500K	Switch Type	C1-60-S
1 Meg.	Plain Type	C1-70
1 Meg.	Switch Type	C1-70-S

Audio Net — Plain.....\$2.75 ea. Switch.....\$3.30 ea.

STEREO TWIN COMPENTROLS



These stereo twin compentrols are designed especially for stereo preamplifiers and stereo control centers. Synchronized compensation is provided for both channels in a stereo system.

FRONT Ohms.	REAR Ohms.	Type	Cat. No.
500K	500K	Plain	C2-60
1 Meg.	1 Meg.	Plain	C2-70

Audio Net\$4.50

MODEL "SM" SERIES (Switch Type Only)

Model SM is a precision made sub-miniature unit designed primarily for transistor circuit applications. Rated 1/10 watt. 0.502" diam. without knob — 19/32" with knob. Stud mounted.

Ohms.	Taper	Catalog Number
2,500	C-2	SM2-252-S
5,000	C-2	SM2-502-S
10K	C-2	SM2-103-S
25K	C-2	SM2-253-S

List Price \$6.25



MODEL B16 SERIES

Miniature controls designed originally for the hearing aid industry. Rated 1/10 watt, 5/8" diam. without knob — 23/32" with knob. 1/4" total thickness with knob. Control including switch complete within knob.



Ohms.	Taper	Catalog Number	
		Plain	Switch
500	C-1	B16-107	.....
1,000	C-1	B16-109	.....
2,500	C-1	B16-111	.....
2,500	C-2	B16-112	B16-212
5,000	C-1	B16-113	.....
5,000	C-2	B16-114	B16-214
10K	C-1	B16-115	.....
10K	C-2	B16-116	B16-216
25K	C-2	B16-117	B16-217
50K	C-1	B16-119	.....
100K	C-1	B16-121	.....
250K	C-1	B16-123	.....
500K	C-2	B16-118	B16-218
1 Meg.	C-2	B16-120	B16-220
2 Megs.	C-2	B16-122	B16-222
3 Megs.	C-2	B16-124	B16-224
5 Megs.	C-2	B16-128	B16-228

List Price: Plain Type \$2.50; Switch Type \$4.00.

5 WATT WIREWOUND RADIOHMS®



Rated at full 5 watts. 1 1/2" diam. x 9/16" deep. Linear taper. Shaft (WW-Style) full round, aluminum, 1/4" diam. x 3" long from mtg. surface. (WN-Style) Finger tip knurl, screwdriver slotted, 1/4" diam. x 3/4" long from mtg. surface. Bushing 3/8" long — 3/8" — 32 thrd. Mtg. nut and lockwasher incl.

Ohms.	WW		List Price	Ohms.	WN		List Price
	Cat. No.	Cat. No.			Cat. No.	Cat. No.	
1	WW-010	WN-010	\$1.90	400	WW-401	WN-401	\$1.90
2	WW-020	WN-020	1.90	500	WW-501	WN-501	1.90
3	WW-030	WN-030	1.90	750	WW-751	WN-751	1.90
4	WW-040	WN-040	1.90	1000	WW-102	WN-102	1.90
5	WW-050	WN-050	1.90	1500	WW-152	WN-152	1.90
6	WW-060	WN-060	1.90	2000	WW-202	WN-202	1.90
8	WW-080	WN-080	1.90	2500	WW-252	WN-252	1.90
10	WW-100	WN-100	1.90	3000	WW-302	WN-302	1.90
15	WW-150	WN-150	1.90	4000	WW-402	WN-402	1.90
20	WW-200	WN-200	1.90	5000	WW-502	WN-502	1.90
25	WW-250	WN-250	1.90	7500	WW-752	WN-752	1.90
30	WW-300	WN-300	1.90	10K	WW-103	WN-103	1.90
40	WW-400	WN-400	1.90	15K	WW-153	WN-153	1.90
50	WW-500	WN-500	1.90	20K	WW-203	WN-203	2.50
60	WW-600	WN-600	1.90	25K	WW-253	WN-253	2.50
75	WW-750	WN-750	1.90	30K	WW-303	WN-303	2.50
100	WW-101	WN-101	1.90	40K	WW-403	WN-403	3.00
200	WW-201	WN-201	1.90	50K	WW-503	WN-503	3.00
250	WN-251	WN-251	1.90	75K	WW-753	WN-753	4.10
300	WW-301	WN-301	1.90	100K	WW-104	WN-104	4.10

Centralab®

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CONTROLS (Cont'd)

FASTATCH® DUAL RADIOHMS®



Any dual concentric you need is instantly available — just select front and rear units with proper resistance and taper, cut shafts to length, “snap” together — snap on “KR” switch if needed and your control is assembled. Carbon units are 1/2” watt, 15/16” diam.; Wirewound units are 5 watts, 1 3/32” diam. Voltage breakdown 900 VAC-RMS to ground. (AK-26 or AK-28 adapter bushings can be added for auto radio applications, Hi-Fi speaker cabinets, etc.)

FASTATCH® — FRONT UNIT (Prefixes F1, F3, F7)

Shaft .265” diam., 3 5/16” from mtg. surface. Hollow brass shaft with universal double flat mill. Can be used as a single flat, double flat or round shaft. Scored for single or double slotted applications. Bushing 3/8” long, 3/8” x 32 thread.

FASTATCH® — Rear Units (Prefixes R2, R4)

Shaft .187” diam., 3 3/4” long from mtg. surface with .156” flat. Fits .187” or .202 push on knobs without alteration — spring adapter furnished for other knob types.

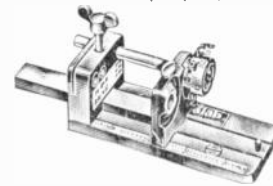
Ohms.	Taper or Tap	Front Unit Carbon	Front Unit Wirewound	Rear Unit Carbon
250	C-1	....	F7-50	....
300	C-1	F1-0	F7-53	....
500	C-1	F1-1	F7-59	R2-1
750	C-1	F1-2	F7-65	....
750	C-5	F3-2	....	....
750	500	F1-3	....	....
1000	C-1	F1-4	F7-68	R2-4
1000	C-5	F1-5	....	R2-5
1500	C-1	F1-6	F7-72	R2-6
1500	C-5	F1-7	....	R2-7
1500	187 and 375	F1-8	....	....
2000	C-1	F1-9	F7-75	R2-9
2000	C-5	F1-10	....	R2-10
2000	1500	F1-11	....	....
2000	250 and 500	F3-11	....	....
2250	C-1	....	F7-78	....
2500	C-1	F1-12	F7-82	R2-12
2500	C-2	....	....	R2-13
2500	C-3	....	....	R2-14
2500	C-5	F1-15	....	....
2500	500	F1-16	....	....
2500	625	F1-17	....	....
3000	C-1	....	F7-85	....
3500	C-5	....	....	R2-18
5000	C-1	F1-19	F7-90	R2-19
5000	C-3	F1-20	....	....
5000	C-5	F1-21	....	....
7500	C-1	....	....	R2-22
10K	C-1	F1-23	F7-96	R2-23
10K	C-2	F1-24	....	....
10K	C-5	F1-25	....	R2-25
15K	5K and 10K	F1-26	....	....
25K	C-1	F1-27	....	R2-27
35K	C-1	F1-28	....	....

Ohms.	Taper or Tap	Front Unit	Rear Unit
50K	C-1	F1-29	R2-29
75K	C-1	F1-30	R2-30
100K	C-1	F1-31	R2-31
125K	C-1	F1-32	R2-32

Ohms.	Taper or Tap	Front Unit	Rear Unit
200K	C-1	F1-33	R2-33
250K	C-1	F1-34	R2-34
250K	C-2	F1-35	R2-35
250K	C-4	....	R2-36
250K	C-5	F1-37	R2-37
250K	75K	F3-37	R4-37
330K	66K	....	R2-38
350K	C-2	F1-39	....
500K	C-1	F1-40	R2-40
500K	C-2	F1-41	R2-41
500K	C-4	F1-42	R2-42
500K	250K	F3-42	R4-42
500K	100K	F1-44	R2-44
500K	150K	....	R2-45
500K	250K	....	R2-46
500K	50K	F1-47	R2-47
500K	150K	....	R2-48
750K	C-2	F1-49	....
850K	C-1	F1-50	....
1 Meg.	C-1	F1-51	R2-51
1 Meg.	C-2	F1-52	R2-52
1 Meg.	C-3	F1-53	R2-53
1 Meg.	C-4	F1-54	R2-54
1 Meg.	C-7	F1-55	....
1 Meg.	500K	F1-56	R2-56
1 Meg.	200K	....	R2-57
1 Meg.	250K	....	R2-58
1 Meg.	300K	F1-59	R2-59
1 Meg.	500K	....	R2-60
1 Meg.	100K	....	R2-61
1 Meg.	300K	....	R2-62
1 1/2 Meg.	200K and 500K	F1-63	....
1 1/2 Meg.	C-1	F1-64	R2-64
1 1/2 Meg.	C-7	F1-65	....
1 1/2 Meg.	250K and 500K	....	R2-66
2 Meg.	C-1	F1-67	R2-67
2 Meg.	C-2	F1-68	R2-68
2 Meg.	C-4	F1-69	....
2 Meg.	C-5	....	R2-70
2 Meg.	C-7	F1-71	....
2 Meg.	1 Meg.	....	R2-72
2 Meg.	400K	F1-73	R2-73
2 Meg.	200K	F1-74	R2-74
2 Meg.	600K	....	R4-74
2 Meg.	1 Meg.	F1-75	R2-75
2 1/2 Meg.	C-1	F1-76	R2-76
2 1/2 Meg.	C-7	F1-77	R2-77
3 Meg.	C-1	F1-78	R2-78
3 Meg.	C-2	F1-79	R2-79
3 Meg.	1 1/2 Megs.	....	R2-80
3 Meg.	900K	F1-81	R2-81
4 Meg.	C-7	F1-82	....
5 Meg.	C-7	F1-83	R2-83
5 Meg.	C-3	....	R2-84

Compentrol Rear Unit with Plate.....RC2-200
 List Price: F1, F3, R2, R4 — \$1.90; F7 — \$2.25; RC2-200 — \$2.75.

SK-2 SHAFT-KUT TOOL



The SK-2 is a precision instrument guaranteed to make a simple job of cutting shafts to the exact size needed. With this tool any standard solid or hollow shaft can be measured and cut accurately to 1/4 of an inch. Includes mounting screws and complete operating instructions . . . \$4.95 NET.

Centralab[®]

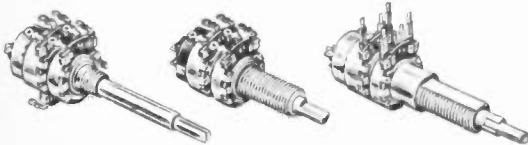
Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CONTROLS (Cont'd)

AUTO RADIO EXACT REPLACEMENT CONTROLS

A completely new line of exact replacement controls for auto radios.



Year	Radio Model No.	Original Part No.	Centralab Cat. No.	List Price
BUICK				
42, 56-53	BK2A, BK3A6	18B512084	M U 3	\$2.95
50-53	980868, 980899 980847, 980979 980980, 981111 981320, 981321 981322, 981323 981550, 981551	7263119	BD-50-3	3.50
54	6M-12	7264309	BD-54-5	3.50
54-56	6M-12	18K533457	M U 4	2.95
55	981651, 981652	7265742	BD-54-5	3.50
56	981707, 981708	7266996	BD-56	3.50
57	981813, 981814	7268944	BD-57	3.50
57	7MX	18B540768	M U 5	2.95
58	981902, 981903	7271329	BD-58	3.50
CHEVROLET				
49-50	986389, 986241	1218641	CD-49-0-A	3.50
51-52	986516	1219708	CD-51-A	3.50
51-52	CT2A, CT2M, CT2A6, CT52M6	18B512084	M, U-3	2.95
53-54	986669	7264211	CD-53-4-A	3.50
53-56	6M	18K533457	M U 4	2.95
55	987087	7265265	CD-55	3.50
55-56	987088, 987366	7265220	CD-55-6-B	3.50
55-57	987086, 987364 3725156 (Corvette)	7265302	CD-55-6-A	3.50
56	987368	7266842	CD-56	3.50
57	987577	7269211 1220961 7269199	CD-57-A CD-57-C	3.50 3.50
57	987575, 987693	7269186- 1220962	CD-57-B	3.50
57	987573	7269186- 1220962	CD-57-B	3.50
57	7MX	18B540768	M U 5	2.95
58	987727	7270479	CD-58-A	3.50
58	987724	7270450	CD-58-B	3.50
CHEVROLET TRUCK				
48-53	GMT2A, GMT2M, GMT3A6	18B512084	M U-3	2.95
54	986771	7264211	CD-53-4-A	3.50
DESOTO				
57	MOPAR 846, 919, 919HR	18B539819	DEM-57	2.95
58	MOPAR 923	18B539819	DEM-57	2.95
DODGE				
57	MOPAR 815, 918	18K539820	DOM-57	2.95
DODGE TRUCK				
53	610T	18K512740	M U 1	2.95
FORD				
49-50	M1, M1A, M1A1	L222808	FB-49-0	2.95
50	OMF	18B591266	FM-50	2.95
51	M2	L219586-2	FB-51	2.95
51	IMF	18B501153	FM-51	2.95
52-53	M4, M4A	L219586-3	FB-52-3	2.95
52-53	2MF, 3MF	18B511635	FM-52-3	2.95
54	M4B, M4BA, M4BP	L219586-7	FB-54	2.95
54	4MF	18B530018	FM-54	2.95
55	5BF, R5BF	L219656-1	FB-55	1.95
55	5MF, 5MF8	18B531299	FM-55	1.95
55	6MF	L219681-1	FB-56	2.95
56	6MF, 66MFP, 69MF	18B534483	FM-56	2.95
57	R75BF	2090035-1	FR-57	2.95
57	75MF	18K539059	FM-57	2.95
57-58	R74BF, R84BF	2090035-2	FB-58	2.95
57-58	74MF, 84MF	18B541819	FM-57, 8	2.95
FORD TRUCK				
57	R74BT	2090253-1	FB-57-T	1.95

Year	Radio Model No.	Original Part No.	Centralab Cat. No.	List Price
GMC TRUCK				
48-53	GMT2A, GMT2M, GMT3A6	18B512084	M U-3	2.95
54-58	223396, 223398	7264211	CD-53-4-A	3.50
HENRY J				
51-53	HJ2A, HJ2M, HP3A6, HJ3M6	18K512740	M U-1	2.95
KAISER				
51-53	KR2A, KR2M, KR3A6	18B512084	M U-3	2.95
OLDSMOBILE				
51	982700	7260294	OD-51-A	3.50
51-52	OE2A, OE2M, OE2A6	18B512084	M U-3	2.95
53	983004	7263540	OD-53-A	3.50
54-56	983091, 983205, 983336	7264128	OD-54-6	3.50
54-56	6M-12	18K533457	M U-4	2.95
57	989002	7268847	OD-57-B	3.50
57	989001	7269055	OD-57-A	3.50
58	989127, 989129	7270679	OD-58	3.50
PACKARD				
51-53	PD2A, PD2M	18B512084	M U-3	2.95
PLYMOUTH				
56	MOPAR 916, 916HR	18B536704	PM-56	2.95
57	MOPAR 849	18B540376	PM-57	1.95
57	PS701, MOPAR 848	33-5580-12	PP-57	1.95
58	MOPAR 854	18B560415	PM-58	1.95
PONTIAC				
46-52	PC2A6, PC2M6	18K512740	M U-1	2.95
55-56	6M-12	18K533457	M U-4	2.95
56	988623	7268308	POD-56	3.50
57	988671	7270189	POD-57	3.50
57	7MX	18B540768	M U-5	2.95
58	988823	7270939A	POD-58-1	3.50
58	988822	7271446	POD-58-1	3.50
STUDEBAKER				
50-53	SR2A6, SR2M6	18K512740	M U-1	2.95
53	SR3A6	18B512084	M U-3	2.95
53-56	6M, 6M-12	18K533457	M U-4	2.95
57	7MX	18B540768	M U-5	2.95
UNIVERSAL				
54-56	5M, 5M-12	18K533457	M U-4	2.95
VOLKSWAGON				
53-56	6M	18K533457	M U-4	2.95
WILLYS				
56	694866	7264211	CD-53-4-A	3.50



TYPE SP ON/OFF SWITCHES FOR AUTO RADIO REPLACEMENT

SP-1, Replacement Switch for 1951-52-53-54 Plymouth, Dodge, Desoto and Chrysler

SP-4, Replacement Switch for 1946 thru 1956 Ford, Lincoln, Mercury, Plymouth, Dodge, Desoto and Chrysler.

SP-6, Replacement Switch for 1955-56 Lincoln, Mercury 1956-57 Ford Thunderbird 1957-58 Ford 1958 Mercury

SP-7, Replacement Switch for 1942, 46-47-48 Plymouth, Dodge, Desoto and Chrysler, MOPAR No. 802

SP-8, Replacement Switch for 1956-57 Mercury 1957 Lincoln

List Price: SP-1, SP-4, SP-7, SP-8 — \$0.75.

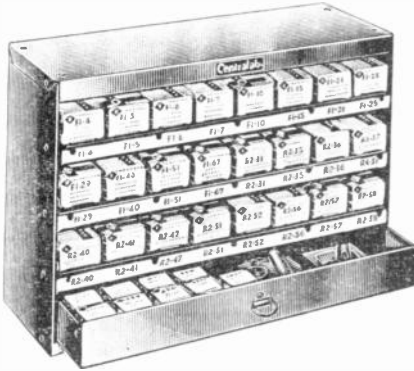
List Price: SP-6 — \$1.00.

Centralab[®]

Milwaukee 1, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

CONTROL KITS



FDK-100 Kit
Fastatch[®] Dual Concentric Controls

The FDK-100 Kit provides a handy stock of the 12 most popular front units and the 12 most popular rear units in the "Fastatch" control system plus a stock of "Fastatch" line switches. Over 720 different dual concentric control combinations, including those with a switch can be assembled from this compact stock. Controls and switches snap together in a jiffy. Kit packed in sturdy steel shelf cabinet as illustrated, labeled and set up ready to use.

Front Units

Ohms	Taper	Cat. No.	Qty.
1000	C-1	F14	1
1000	C-5	F15	1
1500	C-1	F16	1
1500	C-5	F17	1
2000	C-5	F110	1
2500	C-5	F115	1
5000	C-5	F121	1
10K	C-5	F125	1
50K	C-1	F129	1
500K	C-1	F140	1
1 Meg.	C-1	F151	1
2 Meg.	C-1	F167	1

Rear Units

Ohms	Taper	Cat. No.	Qty.
100K	C-1	R231	1
250K	C-2	R235	1
250K	C-4	R236	1
250K	C-14 (tap 75K)	R437	1
500K	C-1	R240	1
500K	C-2	R241	1
500K	C-17 (tap 50K)	R247	1
1 Meg.	C-1	R251	1
1 Meg.	C-2	R252	1
1 Meg.	C-11 (tap 500K)	R256	1
1 Meg.	C-12 (tap 200K)	R257	1
1 Meg.	C-13 (tap 250K)	R258	1

Type KR Fastatch[®] Switches

Circuit	Rating	Cat. No.	Qty.	
SPST	5 amp., 125 V.A.C.	KR 1	5	
DPST	3 amp., 125 V.A.C.	KR 2	2	
DP	1 pole "on" 1 pole "off"	3 amp., 125 V.A.C.	KR 3	1
SPST	15 amp., 10 V.D.C.	KR 4	1	
DPST	15 amp., 10 V.D.C.	KR 7	1	

Adapter Bushings (for auto radios)

	Cat. No.	Qty.
3/8" to 7/16" —		
28 thread with nuts and lockwashers	AK 26	1
3/8" to 1/2" —		
28 thread with nuts and lockwashers	AK-28	1

List Price: \$54.50.

BK-100 Kit
Universal Shaft Radiohms[®]

The BK-100 kit contains 24 type B controls in the 12 fastest moving values. These controls plus 10 KR "Fastatch" line switches provides a versatile balanced stock for service needs. Set up, labeled, ready to use.

Ohms	Taper	Cat. No.	Qty.
1000	C 1	B 5	1
5000	C 1	B 10	1
10K	C 1	B 14	1
50K	C 1	B 31	2
100K	C 1	B 40	2
500K	C 1	B 59	2
500K	C 2	B 60	2
1 Meg.	C 1	B 69	6
1 Meg.	C 2	B 70	2
2 Meg.	C 1	B 75	1
2 Meg.	C 2	B 76	1
5 Meg.	C 1	B 87	1

Type KR Fastatch[®] Switches

Circuit	Rating	Cat. No.	Qty.	
SPST	5 amp., 125 V.A.C.	KR 1	6	
DPST	3 amp., 125 V.A.C.	KR 2	3	
DP	1 pole "on" 1 pole "off"	3 amp., 125 V.A.C.	KR 3	1

Includes steel cabinet.

List Price: \$44.80.

ABK-100 Kit
Adashaft Radiohms[®]

The ABK-100 Kit contains 24 type AB Adashaft Controls in the 10 fastest moving values. Combined with Fastatch Switches and assorted shafts, it provides a flexible stock of replacement controls, housed in a sturdy steel shelf cabinet, labeled, set up and ready to use.

Ohms	Taper	Cat. No.	Qty.
1000	C 1	AB 5	1
5000	C 1	AB 10	2
50K	C 1	AB 31	2
100K	C 1	AB 40	2
500K	C 1	AB 59	2
500K	C 2	AB-60	6
1 Meg.	C 1	AB-69	2
1 Meg.	C-2	AB-70	4
2 Meg.	C 1	AB 75	1
5 Meg.	C 1	AB-87	2

Type KR Fastatch[®] Switches

Circuit	Rating	Cat. No.	Qty.	
SPST	5 amp., 125 V.A.C.	KR 1	5	
DPST	3 amp., 125 V.A.C.	KR-2	2	
DP	1 pole "on" 1 pole "off"	3 amp., 125 V.A.C.	KR 3	1

Plus 21 assorted shafts and Couplers.
Includes steel cabinet.

List Price: \$45.35.

WWK-100 Kit
5 Watt Wirewound Controls

The WWK-100 Kit contains 24 5-watt wirewound controls in the 14 best selling values. Packed in sturdy steel shelf cabinet, labeled and set up ready to use. Extra drawer space for expansion.

Ohms	Cat. No.	Qty.	Ohms	Cat. No.	Qty.
10	WW 100	1	500	WW-152	2
50	WW 500	1	2000	WW-202	1
100	WW-101	3	2500	WW-252	2
200	WW 201	1	3000	WW-302	1
500	WW-501	1	5000	WW-502	3
750	WW 751	1	10K	WW-103	3
1000	WW-102	3	15K	WW-153	1

Includes steel cabinet.

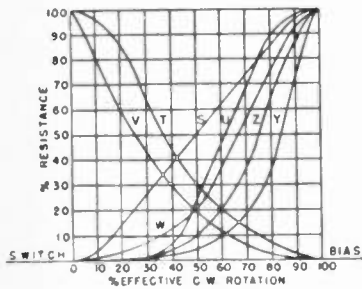
List Price: \$45.60.

PRODUCTS OF
THE HOUSE OF RESISTORS®



RESISTORS • CONTROLS
RESISTANCE DEVICES

COMPOSITION-ELEMENT CONTROLS



Graph Explanation:
Taper S—Straight or uniform resistance change with rotation.
Taper T—Right-hand 30% resistance at 50% of C.W. rotation.
Taper U—Left-hand 1% resistance at 33 1/3% of C.W. rotation.
Taper V—Right-hand 20% resistance at 50% of C.W. rotation.
Taper W—Left-hand 20% resistance at 50% of C.W. rotation.
Taper Z—Left-hand 10% resistance at 50% of C.W. rotation.
Taper Y—Left-hand 5% resistance at 50% of C.W. rotation.

SERIES "A47" 1/2-WATT CONTROLS

Composition element controls in the popular 1 1/2" dia size Series A47 controls are field-assembled with the selected "Pick-A-Shaft" and "Ad-A-Switch". These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type shaft desired when ordering. Example: 47-100K-S with FKS 1/4 shaft.



SERIES A47 (INDUSTRIAL) SERIES 47

CAT No.	OHMS	TAPER	CAT No.	OHMS	TAPER
A47-500-S	500	S	A47-75K-V	75K	V
A47-750-S	750	S	A47-100K-S	100K	S
A47-1000-S	1000	S	A47-100K-Z	100K	Z
A47-1500-S	1500	S	A47-150K-S	150K	S
A47-2000-S	2000	S	A47-200K-S	200K	S
A47-2500-S	2500	S	A47-250K-S	250K	S
A47-3000-S	3000	S	A47-250K-Z	250K	Z
A47-4000-S	4000	S	A47-300K-S	300K	S
A47-5000-S	5000	S	A47-500K-S	500K	S
A47-7500-S	7500	S	A47-500K-Z	500K	Z
A47-10K-S	10K	S	A47-750K-S	750K	S
A47-10K-V	10K	V	A47-750K-Z	750K	Z
A47-10K-W	10K	W	A47-1 Meg-S	1 Meg.	S
A47-10K-Z	10K	Z	A47-1 Meg-Z	1 Meg.	Z
A47-15K-S	15K	S	A47-1.5 Meg-S	1.5 Meg.	S
A47-15K-V	15K	V	A47-2 Meg-Z	2 Meg.	Z
A47-15K-W	15K	W	A47-2 Meg-S	2 Meg.	S
A47-20K-S	20K	S	A47-2.5 Meg-S	2.5 Meg.	S
A47-25K-S	25K	S	A47-3 Meg-S	3 Meg.	S
A47-25K-W	25K	W	A47-3 Meg-Z	3 Meg.	Z
A47-25K-V	25K	V	A47-4 Meg-S	4 Meg.	S
A47-30K-S	30K	S	A47-4 Meg-Z	4 Meg.	Z
A47-40K-S	40K	S	A47-5 Meg-Z	5 Meg.	Z
A47-50K-S	50K	S	A47-5 Meg-S	5 Meg.	S
A47-50K-W	50K	W	A47-7.5 Meg-S	7.5 Meg.	S
A47-50K-Z	50K	Z	A47-10 Meg-S	10 Meg.	S
A47-75K-S	75K	S			

LIST PRICE \$1.55

Standard Packing—10 per Carton

SERIES "AD47" 1/2-WATT DUAL CONTROLS

These composition-element controls are ganged together so that both sections are operated by a single shaft in corresponding rotation. Available with "Pick-A-Shaft" and "Ad-A-Switch" features, for audio, radio-TV and industrial applications. Controls take any shaft listed on page R-24, including High Voltage Coupler and Insulated Shafts. Your choice of 13 shafts listed (this does not include insulated shafts) with each control. Tolerances of plus minus 20% up to and including 100K ohms; plus minus 30% above 100K. Controls take Series SWE Switches. Items not listed are special; prices and information on request.

Cat. No.	Panel	Taper	Rear	Taper
AD47-50-S	50K	S	50K	S
AD47-100K-S	100K	S	100K	S
AD47-250K-S	250K	S	250K	S
AD47-250K-Z	250K	Z	250K	Z
AD47-500K-Z	500K	Z	500K	Z
AD47-1 Meg.-S	1 Meg.	S	1 Meg.	S
AD47-1 Meg.-Z	1 Meg.	Z	1 Meg.	Z
AD47-2 Meg.-S	2 Meg.	S	2 Meg.	S
AD47-2 Meg.-V	2 Meg.	V	2 Meg.	V
AD47-5 Meg.-S	5 Meg.	S	5 Meg.	S

LIST PRICE \$3.75

Standard Packing—Individual Carton.

SERIES "A47F"

These are the popular 1 1/2" dia composition element controls which are replacing the larger 1-1/8" dia units, without sacrifice in rating or performance. Series "A47F" controls are field-assembled with the selected "Pick-A-Shaft" and "Ad-A-Switch". A47F controls have taps 1, 2, 3 located at 30%, 50% and 70% of rotation, respectively. These controls are also available with factory-assembled shafts at no extra charge, by omitting prefix "A" from catalog number and designating the type of shaft desired when ordering. Example: 47F-200K with FKS shaft.



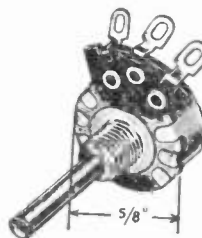
SERIES A47F (INDUSTRIAL) SERIES 47F

Cat. No.	Res. Ohms.	Tap No. 1 30%	Tap No. 2 50%	Tap No. 3 70%
A47F-50K	50K		25K	
A47F-200K	200K			100K
A47F-250K	250K			50K
A47F1-250K	250K		125K	
A47F-350K	350K	75K		
A47F1-350K	350K		75K	
A47F-500K	500K			100K
A47F1-500K	500K	25K		200K
A47F2-500K	500K		100K	
A47F3-500K	500K		50K	
A47F4-500K	500K		250K	
A47F5-500K	500K			
A47F-1 Meg.	1 Meg.	250K		
A47F1-1 Meg.	1 Meg.			200K
A47F2-1 Meg.	1 Meg.		50K	
A47F3-1 Meg.	1 Meg.		100K	
A47F4-1 Meg.	1 Meg.		225K	
A47F5-1 Meg.	1 Meg.		500K	
A47F-2 Meg.	2 Meg.	20K		
A47F1-2 Meg.	2 Meg.	5000		
A47F2-2 Meg.	2 Meg.	15K		
A47F3-2 Meg.	2 Meg.		1 Meg.	
A47F4-2 Meg.	2 Meg.		200K	
A47F5-2 Meg.	2 Meg.		400K	
A47F6-2 Meg.	2 Meg.		500K	
A47F-3 Meg.	3 Meg.		250K	

LIST PRICE \$2.25 Standard Packing—10 per Carton Reg. U.S. Pat. Off.

SERIES 44 — 0.02 WATT CONTROLS

Composition Element Controls rated at 0.2 watt, designed specifically for miniaturized applications such as transistORIZED circuits, pocket radios, hearing aids, etc. Stocked controls have "Clarostat" "W" taper (20% log audio). Other tapers available on special order. Series 44 is without switch, while Series 44S has factory-attached 0.5 am. 25 v.d.c. DPST switch. Other shrouds available on special order. 200 ohms to 5 meg. linear; 1500 to 2.5 meg. tapered. Also available on special order, controls with 0.5 a. 25 v.d.c. DPST switch. Items not listed are special. Prices and information on request.



Without Switch Cat. No. 44-5K-W 44-10K-W 44-15K-W 44-20K-W 44-25K-W 44-30K-W 44-40K-W 44-50K-W 44-75K-W 44-100K-W
With DPST Switch Cat. No. 44S-25K-W 44S-500K-W
LIST PRICE \$2.55 Standard Packing—10 Per Carton

SERIES B47 1/2-WATT TAB-MOUNT

Composition element controls designed for radio and TV applications, where push-button controls are required. Phenolic shaft insures insulation of control is used on a "hot" chassis. Items not listed are special, for which information and prices will be supplied on request.

Cat. No.	Cat. No.	Cat. No.	Cat. No.	
B47-500-S	B47-10K-S	B47-250K-S	B47-1.5 Meg-S	
B47-750-S	B47-25K-S	B47-330K-Z	B47-2 Meg-S	
B47-1500-S	B47-50K-S	B47-500K-Z	B47-2.5 Meg-S	
B47-2500-S	B47-100K-S	B47-500K-S	B47-3 Meg-S	
B47-3000-S	B47-150K-S	B47-1 Meg-S	B47-5 Meg-S	
B47-5000-S	B47-200K-S	B47-1 Meg-Z	B47-5 Meg-Z	
		B47-1.5 Meg-Z	B47-7.5 Meg-Z	
		B47-200K-S	B47-1 Meg-Z	B47-7.5 Meg

LIST PRICE \$1.00

Standard Packing—10 per Carton.



PRODUCTS OF
THE HOUSE OF RESISTORS®



RESISTORS · CONTROLS
RESISTANCE DEVICES

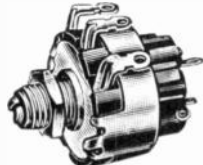
WIRE-WOUND CONTROLS

These are "Pick-A-Shaft" controls which take any one of 12 shaft tolerances of plus minus 10% for all values. All controls are linear. Listed on page R-24 including High Voltage Coupler and insulated. Available with factory-assembled shafts at no extra charge, by omitting shaft. Your choice of any one of the 12 shafts listed (this does not include the prefix "A" from the catalog number and designating the include insulated shaft) with each control. Tolerances of these con-type of shaft desired when ordering. Example: 13-500 with FKS-1/2 trols are in accordance with RETMA standards. Overall resistanceshaft, or 43S-10K with FS-3 shaft and SPST switch.

SERIES "A43" and "A43S" 2-WATT CONTROLS



**SERIES A43
(INDUSTRIAL)
SERIES 43**



**SERIES A43S
(INDUSTRIAL)
SERIES 43S**

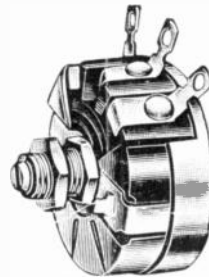
"A43" is without switch, while "A43S" has factory-attached SPST switch. When ordering "A43S" controls, specify type of switch. Controls with other than SPST switch are special. Prices and information on request.

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms
A43-5	A43S-5	5	A43-400	A43S-400	400
A43-10	A43S-10	10	A43-500	A43S-500	500
A43-20	A43S-20	20	A43-750	A43S-750	750
A43-25	A43S-25	25	A43-1,000	A43S-1,000	1,000
A43-30	A43S-30	30	A43-1,500	A43S-1,500	1,500
A43-40	A43S-40	40	A43-2,000	A43S-2,000	2,000
A43-50	A43S-50	50	A43-2,500	A43S-2,500	2,500
A43-75	A43S-75	75	A43-3,000	A43S-3,000	3,000
A43-100	A43S-100	100	A43-4,000	A43S-4,000	4,000
A43-150	A43S-150	150	A43-5,000	A43S-5,000	5,000
A43-200	A43S-200	200	A43-7,500	A43S-7,500	7,500
A43-300	A43S-300	300	A43-10K	A43S-10K	10K

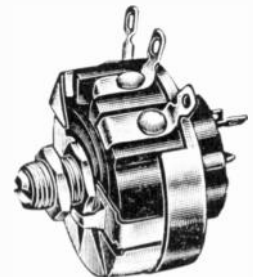
LIST PRICE \$1.55 (Without Switch) — \$2.45 (With SPST Switch)
Standard Packing: 10 per Carton.

SERIES "A58" and "A58S" 3-WATT CONTROLS

"A58" is without switch, while "A58S" has factory-attached SPST switch. Available with factory-assembled shafts, at no extra charge, by omitting prefix "A" from catalog number, and designating type of shaft desired when ordering. Example: 58-50K with KSS-3 shaft, or 58S-25K with RS 3 shaft and SPST switch. Controls with other than SPST switch are special. Prices and information on request.



**SERIES A58
(INDUSTRIAL)
SERIES 58**



**SERIES A58S
(INDUSTRIAL)
SERIES 58S**

Without Switch Cat. No.	Res. Ohms	List Price	Without Switch Cat. No.	Res. Ohms	List Price
A58-1	1	\$1.55	A58-4000	4,000	\$1.55
A58-2	2	1.55	A58-5,000	5,000	1.55
A58-4	4	1.55	A58-7,500	7,500	1.55
A58-6	6	1.55	A58-10K	10K	1.55
A58-10	10	1.55	A58-15K	15K	2.00
A58-15	15	1.55	A58-20K	20K	2.00
A58-20	20	1.55	A58-25K	25K	2.00
A58-25	25	1.55	A58-30K	30K	2.70
A58-30	30	1.55	A58-40K	40K	2.70
A58-40	40	1.55	A58-50K	50K	2.70
A58-50	50	1.55			
A58-60	60	1.55			
A58-75	75	1.55			
A58-100	100	1.55			
A58-200	200	1.55			
A58-300	300	1.55			
A58-400	400	1.55			
A58-500	500	1.55			
A58-750	750	1.55			
A58-1,000	1,000	1.55			
A58-1,500	1,500	1.55			
A58-2,000	2,000	1.55			
A58-2,500	2,500	1.55			
A58-3,000	3,000	1.55			

With SPST Switch Cat. No.	Res. Ohms	List Price
A58S-1	1	\$2.45
A58S-2	2	2.45
A58S-4	4	2.45
A58S-6	6	2.45
A58S-10	10	2.45
A58S-15	15	2.45
A58S-20	20	2.45
A58S-25	25	2.45
A58S-30	30	2.45
A58S-40	40	2.45

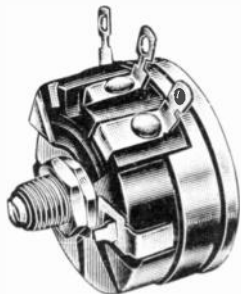
With SPST Switch Cat. No.	Res. Ohms	List Price	Without Switch Cat. No.	Res. Ohms	List Price
A58S-50	50	\$2.45	A58S-2,000	2,000	\$2.45
A58S-60	60	2.45	A58S-2,500	2,500	2.45
A58S-75	75	2.45	A58S-3,000	3,000	2.45
A58S-100	100	2.45	A58S-4,000	4,000	2.45
A58S-200	200	2.45	A58S-5,000	5,000	2.45
A58S-300	300	2.45	A58S-7,500	7,500	2.45
A58S-400	400	2.45	A58S-10K	10K	2.45
A58S-500	500	2.45	A58S-15K	15K	2.45
A58S-750	750	2.45	A58S-20K	20K	2.85
A58S-1,000	1,000	2.45	A58S-25K	25K	2.85
A58S-1,500	1,500	2.45	A58S-30K	30K	3.60
			A58S-40K	40K	3.60
			A58S-50K	50K	3.60

Standard Packing: 10 per Carton.

Standard Packing: 10 per Carton.

SERIES "A10" and "A10S" 4-WATT CONTROLS

"A10" is without switch, while "A10S" has factory-attached SPST switch. Also available with factory-assembled shaft at no extra charge, by omitting prefix "A" from catalog number. See above for examples. Controls with other than SPST switch are special. Price and information on request.



**SERIES A10
(INDUSTRIAL)
SERIES 10**

Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch List Price	With SPST Switch List Price	Without Switch Cat. No.	With SPST Switch Cat. No.	Res. Ohms	Without Switch List Price	With SPST Switch List Price
A10-1	A10S-1	1	\$2.25	\$3.15	A10-750	A10S-750	750	\$2.25	\$3.15
A10-2	A10S-2	2	2.25	3.15	A10-1,000	A10S-1,000	1,000	2.25	3.15
A10-4	A10S-4	4	2.25	3.15	A10-1,500	A10S-1,500	1,500	2.25	3.15
A10-6	A10S-6	6	2.25	3.15	A10-2,000	A10S-2,000	2,000	2.25	3.15
A10-10	A10S-10	10	2.25	3.15	A10-2,500	A10S-2,500	2,500	2.25	3.15
A10-15	A10S-15	15	2.25	3.15	A10-3,000	A10S-3,000	3,000	2.25	3.15
A10-20	A10S-20	20	2.25	3.15	A10-4,000	A10S-4,000	4,000	2.25	3.15
A10-25	A10S-25	25	2.25	3.15	A10-5,000	A10S-5,000	5,000	2.25	3.15
A10-30	A10S-30	30	2.25	3.15	A10-7,500	A10S-7,500	7,000	2.25	3.15
A10-40	A10S-40	40	2.25	3.15	A10-10K	A10S-10K	10K	2.25	3.15
A10-50	A10S-50	50	2.25	3.15	A10-15K	A10S-15K	15K	2.65	3.50
A10-60	A10S-60	60	2.25	3.15	A10-20K	A10S-20K	20K	2.65	3.50
A10-75	A10S-75	75	2.25	3.15	A10-25K	A10S-25K	25K	2.65	3.50
A10-100	A10S-100	100	2.25	3.15	A10-30K	A10S-30K	30K	3.05	4.25
A10-200	A10S-200	200	2.25	3.15	A10-40K	A10S-40K	40K	3.35	4.25
A10-300	A10S-300	300	2.25	3.15	A10-50K	A10S-50K	50K	3.35	4.25
A10-400	A10S-400	400	2.25	3.15	A10-75K	A10S-75K	75K	4.10	4.95
A10-500	A10S-500	500	2.25	3.15	A10-100K	A10S-100K	100K	4.10	4.95

*Reg. U. S. Pat. Off.

Standard Packing: 10 per Carton.

PRODUCTS OF
THE HOUSE OF RESISTORS®



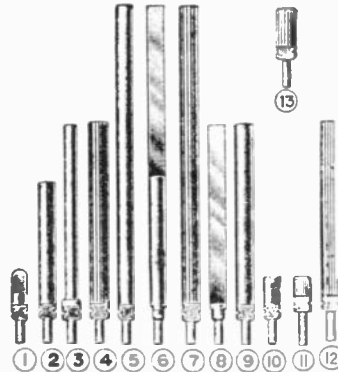
RESISTORS • CONTROLS
RESISTANCE DEVICES

SHAFTS and SWITCHES • BALLASTS • REGULATORS

SHAFTS FOR "PICK-A-SHAFT"* CONTROLS

For use with all Clarostat "Pick-A-Shaft"* controls, either carbon or wire-wound. Your choice of shaft furnished with each control.

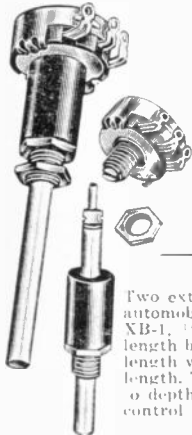
- (1) RS 5/8" length—(Male) to take female fitting.
- (2) RS 7—Round shaft, 2" long.
- (3) RS-6—Round shaft 5/8" dia., 3" long.
- (4) KRS-3—Knurled, split shaft, 3" long.
- (5) RS-5—Round shaft, 5" long.
- (6) FS-5—Flatted shaft, 5" long.
- (7) KRS 5—Knurled, split shaft, 5" long.
- (8) FS-3—Flatted shaft, 3" long.
- (9) RS-3—Round shaft, 3" long.
- (10) DFS 1/2—Double flatted Philco Type, 1/2" long.
- (11) FKS 1/4—Fine knurled slotted shaft, 1/4" long.
- (12) KFS-3—Knurled flatted shaft, 3" long.
- (13) FKS 1/2—Fine knurled slotted shaft 1/2" long.



List Price, Each Shaft \$0.55

HIGH VOLTAGE COUPLER

High-voltage shaft unit for operation up to 10K volts. Attaches to any Clarostat "Pick-A-Shaft" control, composition-element or wire-wound. Also available as a factory-attached unit on order. For example: "47-500K-S" unit with factory-attached high voltage coupler, order as a "47-500K-S-HVC." Manufacturers Series 47 - 1/2 meg.-S-HVC.



- | | |
|---|------------|
| Cat. No. | List Price |
| 59-186 Spacer and Bushing Assembly | \$1.40 |
| RN-3 Non-Metallic Shaft, Round, 3" long | 1.40 |

BUSHINGS

Two extension bushings for the make-up of automobile replacement controls. Series XB-1, 3/8" d. x 2 1/4" l.; Series XB-2, same length but 7/16" d. Threaded on outside full length with 28 thread; 1/32" flat milled full length. Threaded 1/8" x 32 on inside, one end, to depth of 1/2". Adaptable to any Clarostat control using 3/8" x 32 bushing.



List Price \$0.65

SERIES "SWE" SWITCHES FOR "AD-A-SWITCH"* CONTROLS

For use with "A47" and "A47F" controls. Underwriters' Laboratories Inc. approved.



U. S. Pat. 2,642,506

- | | | |
|----------|--|------------|
| Cat. No. | Wiring | List Price |
| SWE-12 | S.P.S.T. — Single Pole Single Throw, 5A-125V, A.C. | \$0.75 |
| SWE-13 | S.P.S.T. — Single Pole Single Throw, 15A-10V, D.C. | 1.10 |
| SWE-20 | D.P.S.T. — Double Pole Single Throw, 3A-125V, A.C. | .85 |
| SWE-21 | Mod. D.P.S.T. one pole on, one off or with Jumper S.P.D.T., 3A-125V, A.C.-D.C. | .85 |
| SWE-23 | D.P.S.T., 15A-10V, D.C. | 1.10 |
- Standard Packing: 10 per Carton.

SERIES "BE" 15/16" ROTARY SWITCH

Underwriters' Laboratories Inc. approved



U. S. Pat. 2,642,506

- | | | |
|------------|---|------------|
| Cat. No. | Wiring | List Price |
| BE-12 SPST | — Single-Pole Single-Throw, 5A-125 V. A.C. | \$0.75 |
| BE-20 DPST | — Double-Pole Single-Throw, 3A-125 V. A.C. | 0.85 |
| BE-21 | — Double-Pole Single-Throw (Mod.) DPST 3A-125 V. A.C. or D.C. | 0.85 |
- Mod. DPST has one pole "on," one pole "off"; or with Jumper it is SPDT.
Standard Packing—Individual Carton.

*Reg. U. S. Pat. Off

UNIVERSAL BALLAST

Universal replacements for most standard tube types. Replacing tube types as listed below.

Universal Tube No.	Replaces AC-DC Tubes Beg. with Letters	Having Numbers From	Ending in Letter
10-23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10-23-E	BK, BL, K, L, M	10 to 23	E
10-23-F	BK, BL, K, L, M	10 to 23	F, G, H
23-55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23-55-E	BK, BL, K, L, M	23 to 55	E
23-55-F	BK, BL, K, L, M	23 to 55	F, G, H
60-92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60-92-E	BK, BL, K, L, M	60 to 92	E
60-92-F	BK, BL, K, L, M	60 to 92	F, G, H
92-105-A	BK, BL, K, L, M	92 to 105	A, B, C, D



List Price \$3.25

Standard Packing: Individual Carton.

STANDARD BALLAST

Exact replacements for resistor tube types.

Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
BK-29-B	BM-49-B	K-49-H	K-80-B	L-49-D	M-80-B
BK-29-D	BM-55-B	K-55-A	K-82-B	L-49-H	
BK-32-D				L-55-B	10-610
BK-36-B	K-36-D	K-55-C			100-37
BK-36-D	K-42-A		K-90-B	L-55-C	
BK-36-H		K-55-D		L-55-D	
BK-42-B		K-55-H			
BK-42-C	K-42-C	K-67-A			
BK-49-B	K-42-D		L-42-D	M-42-B	5459
				M-49-B	28602
BK-67-B				M-55-H	43X10F
BL-42-D	K-49-D		L-49-C		

List Price \$2.75

Standard Packing: Individual Carton.

TELEVISION BALLAST

Specific TV receiver tube-type ballasts.

Motorola 17A170503	Belmont B9M 16067	Pilot 35 37
Motorola 17A183479	Belmont B9M 16534	Emerson 397021
Telefunken TBR102D	Belmont B9M 15822	Emerson 397022
Telefunken TBR101D	Belmont B9M 17571	Emerson 397023
Telefunken TBR104D	Belmont B9M 18941	Emerson 397036
	Stewart Warner SP 507300	

List Price \$5.00 except 397036 List \$3.00

Standard Packing: Individual Carton.

These units act as protective fuses and are therefore expendable.

RADIO AND TV LINE VOLTAGE REGULATORS

A protective unit designed to minimize Line Voltage fluctuation from reaching radio or TV receivers. Will reduce voltage fluctuation from up to 140 volts down to approximately 110 volts. Plugs into outlet and provides plug-in for receiver.

Type No.	Rat. Watts	For sets consuming	List Price
O	50	up to 60 watts	\$3.50
A	100	60 to 100 watts	3.50
B	150	100 to 150 watts	3.50
C	200	150 to 200 watts	3.50
D	250	200 to 250 watts	3.50
TVA	300	200 to 300 watts	3.50
TVB	375	300 to 375 watts	4.00

Standard Packing: 10 per carton



"FUZOHM"* PLUG-IN FUSE-TYPE RESISTORS

Protect TV components. Resistors will withstand repeatedly high surge currents without damage, but will fuse when surge becomes dangerous to expensive components. These units act as protective fuses and are therefore expendable.

- Cat. No. FZ1—5.6 ohms
Cat. No. FZ1—7.5 ohms

List Price \$0.75



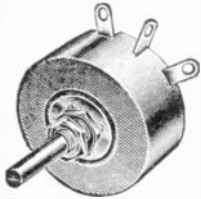
Pat. Pending

PRODUCTS OF
THE HOUSE OF RESISTORS®



RESISTORS • CONTROLS
RESISTANCE DEVICES

POWER RHEOSTATS



U. S. Pat. 2,346,598

Clarostat Power Rheostats maintain their full power rating at settings as low as one-third rotation without excessive temperature rise. Standard overall resistance tolerance plus/minus 10%. Closer tolerances are available upon special order.

The metal cored winding is embedded in a cold-setting, inorganic cement and is thereby bonded to the ceramic body. Unit mounts through a single hole. A locking pin is provided for rear panel mounting.

SERIES 25 — 25-WATT

Cat. No.	Total Res. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to 1/3 Res. Amps.	List Price
25-1	1	5.000	7.500	\$6.45
25-2	2	3.536	5.304	5.70
25-3	3	2.887	4.330	5.70
25-6	6	2.041	3.062	5.70
25-8	8	1.768	2.652	5.70
25-10	10	1.581	2.372	5.70
25-15	15	1.291	1.936	5.70
25-25	25	1.000	1.500	5.70
25-35	35	.845	1.268	5.70
25-50	50	.707	1.061	5.70
25-75	75	.577	.866	5.70
25-100	100	.500	.750	5.70
25-125	125	.447	.671	5.70
25-175	175	.378	.567	5.70
25-250	250	.316	.474	5.70
25-350	350	.267	.401	5.70
25-500	500	.224	.335	5.70
25-750	750	.183	.274	5.70
25-1,000	1,000	.158	.237	6.45
25-1,500	1,500	.129	.194	6.45
25-2,500	2,500	.100	.150	6.45
25-3,500	3,500	.085	.127	6.80
25-5,000	5,000	.071	.107	7.15

Standard Packing: Individual Carton.

SERIES 50 — 50-WATT

Cat. No.	Total Res. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to 1/3 Res. Amps.	List Price
50-0.5	0.5	10.000	15.000	\$7.15
50-1	1	7.071	10.607	7.15
50-2	2	5.000	7.500	7.15
50-4	4	3.536	5.304	6.45
50-6	6	2.887	4.330	6.45
50-8	8	2.500	3.750	6.45
50-12	12	2.041	3.062	6.45
50-16	16	1.768	2.652	6.45
50-22	22	1.508	2.261	6.45
50-35	35	1.195	1.793	6.45
50-50	50	1.000	1.500	6.45
50-80	80	.791	1.186	6.45
50-125	125	.632	.949	6.45
50-150	150	.577	.866	6.45
50-225	225	.471	.707	6.45
50-300	300	.408	.612	6.45
50-500	500	.316	.474	6.45
50-800	800	.250	.375	6.80
50-1,000	1,000	.224	.335	6.80
50-1,600	1,600	.177	.265	6.80
50-2,500	2,500	.141	.212	6.80
50-3,500	3,500	.120	.179	7.15
50-5,000	5,000	.100	.150	7.15
50-8,000	8,000	.079	.118	8.60
50-10K	10K	.071	.106	8.60

Standard Packing: Individual Carton.

AIRCRAFT-TYPE POWER RHEOSTATS

Basically the same unit as the 25 and 50 watt Power Rheostats, mechanically and electrically. Unit is encased in metal housing rendering it explosion-proof and moisture resistant.

Terminals are screw-type lugs plated to prevent corrosion. 25- and 50-watt power rheostats when encased in metal housing, are derated 50%.



U. S. Pat. 2,346,598

SERIES AN-3155-25 (25-WATT)

Cat. No.	Resistance	List Price
AN-3155-25-10	10 ohms	\$8.00
AN-3155-25-11	11 ohms	8.00
AN-3155-25-15	15 ohms	8.00
AN-3155-25-25	25 ohms	8.00
AN-3155-25-50	50 ohms	8.00
AN-3155-25-75	75 ohms	8.00
AN-3155-25-100	100 ohms	8.00
AN-3155-25-200	200 ohms	9.35

Prices include AN-3220—2 knob.
Standard Packing: Individual Carton.

SERIES AN-3155-50 (50-WATT)

Cat. No.	Resistance	List Price
AN-3155-50-5	5 ohms	\$9.35
AN-3155-50-8	8 ohms	9.35
AN-3155-50-10	10 ohms	9.35
AN-3155-50-25	25 ohms	9.10
AN-3155-50-30	30 ohms	9.10
AN-3155-50-50	50 ohms	9.10
AN-3155-50-75	75 ohms	9.10
AN-3155-50-100	100 ohms	9.10
AN-3155-50-150	150 ohms	10.20
AN-3155-50-200	200 ohms	10.20

Prices include AN-3220—2 knob.
Standard Packing: Individual Carton.

RTV *-IZE!

No need to guess, experiment, cultivate trouble, when replacing TV controls. Clarostat provides standard replace-

ments where feasible, and matched duplicate replacements where essential. Refer to RTV listings.

SERIES 39 "HUMDINGER"* WIRE-WOUND CONTROLS



Compact, inexpensive, 2-watt rating. Screwdriver adjusted by slot in drive plate. Mounting ears. For hum balance, centering, hold and locking, linearity, AGC sensitivity, etc.

LIST PRICE \$0.70

Standard Packing: 10 per Carton.

Cat. No.	Total Res. Ohms	Min. Res. Ohms	Cat. No.	Total Res. Ohms	Min. Res. Ohms	Cat. No.	Total Res. Ohms	Min. Res. Ohms
39-5	5	—	39-500	500	—	39-1000-100	1,000	100
39-8	8	—	39-500-100	500	100	39-1500	1,500	—
39-50	50	—	39-600	600	—	39-2000	2,000	—
39-75	75	—	39-650	650	—	39-2000-100	2,000	100
39-100	100	—	39-700	700	—	39-3000	3,000	—
39-125	125	—	39-700-200	700	200	39-3000-700	3,000	700
39-150	150	—	39-800	800	—	39-4000	4,000	—
39-200	200	—	39-800-50	800	50	39-4000-350	4,000	350
39-300	300	—	39-1000	1,000	—	39-4000-1000	4,000	1,000
						39-5000	5,000	—

*Reg. U. S. Pat. Off.



SOUND-SYSTEM CONTROLS

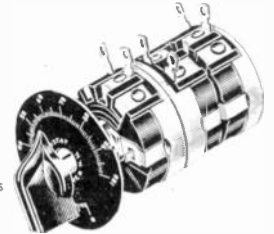
For proper control of volume and tone alike, Clarostat offers a choice of several controls, such as L- and T pads, output attenuators, and individual-speaker volume controls as used for drive-in theatre instal-

lations. These are not ordinary radio controls but rather sound-system controls designed and built for critical requirements.

CONSTANT-IMPEDANCE CONTROLS



Self-compensating volume controls known as L-pads and T pads for use in sound systems. Rated at 2 1/2 watts DC, but will handle up to 10 watts audio. Continuous range from 0.5 to 30 decibels attenuation in 90% rotation. Last 10% affords infinite attenuation. With Clarostat constant-impedance L-pads and T pads the input and output impedances of associated circuits can be kept within the limits of a constant required value. Knob and dial plate furnished with each control.



U. S. Pat. 2,434,248

CIT Cat. No.	CIL Cat. No.	Res. Ohms	CIT Cat. No.	CIL Cat. No.	Res. Ohms
CIT-4	CIL-4	4	CIT-200	CIL-200	200
CIT-6	CIL-6	6	CIT-250	CIL-250	250
CIT-8	CIL-8	8	CIT-500	CIL-500	500
CIT-15	CIL-15	15	CIT-600	CIL-600	600
CIT-50	CIL-50	50	CIT-1,000	CIL-1,000	1,000
CIT-100	CIL-100	100	CIT-2,000	CIL-2,000	2,000

CIT—LIST PRICE \$5.25

CIL—LIST PRICE \$4.65

Standard Packing: Individual Carton.

CONSTANT IMPEDANCE OUTPUT ATTENUATORS



Series "CIB" rated at 10 watts, but will handle up to 30 watts in audio circuit. Linear attenuation provided in 3 decibel steps up to 24db, then 30db followed by infinity. Equipped with dial plate and bar knob. One-hole mounting. 3/8" bushing diameter, 1" shaft. This control has been developed to meet the need for a constant impedance attenuator capable of handling considerable power without measurable insertion loss. Recommended as an output level control for power amplifiers, or as an input attenuator for individual or for a group of speakers in a public address system.

Cat. No.	Res. Ohms	Cat. No.	Res. Ohms
CIB-6	6	CIB-200	200
CIB-8	8	CIB-250	250
CIB-15	15	CIB-500	500
CIB-50	50	CIB-600	600

NET PRICE \$7.70

Standard Packing: Individual Carton

SPECIAL DRIVE-IN THEATRE L-PAD

To meet the needs of theater sound systems, more especially those of drive-in theaters, a special 8 ohm L-Pad is now available, containing two separate windings of 5 ohms and 40 ohms. Also 50 ohm linear rheostat and 25 ohm tapered rheostat, as listed. Units have 1/2" x 3/2" bushing 3/4" long, and 1 1/2" round shaft.

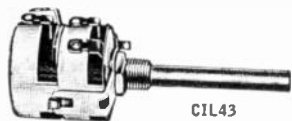


Cat. No. CM8727	1 8 ohm L-Pad	List Price \$3.00
Cat. No. CM17983	50 ohm linear rheostat	List Price \$2.20
Cat. No. CM17984	25 ohm tapered rheostat	List Price \$2.20

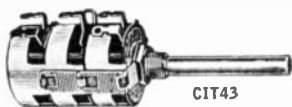
SPACE-SAVER CONSTANT-IMPEDANCE ATTENUATORS

Characterized by reduced depth and diameter, these attenuators are ideal for use in remote control of speakers since they are small enough to be installed in standard electrical boxes in the home, office, stockroom, etc.

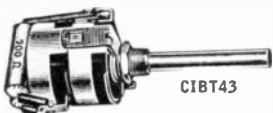
These controls are rated 2 watts D.C., but will handle up to 4 watts of audio, depending upon the type signal being handled. (As the frequency becomes constant, wattage reduces to 2 watts or the same as the D.C. rating).



CIL43



CIT43



CIBT43

Cat. No. CIL43 (L-Pad)	Cat. No. CIT43 (T-Pad)	Cat. No. CIBT43 (Bridged T-Pad)	Impedance
CIL43-4	CIT43-4	CIBT43-4	4 ohms
CIL43-6	CIT43-6	CIBT43-6	6 ohms
CIL43-8	CIT43-8	CIBT43-8	8 ohms
CIL43-15	CIT43-15	CIBT43-15	15 ohms
CIL43-50	CIT43-50	CIBT43-50	50 ohms
CIL43-100	CIT43-100	CIBT43-100	100 ohms
CIL43-200	CIT43-200	CIBT43-200	200 ohms
CIL43-250	CIT43-250	CIBT43-250	250 ohms
CIL43-500	CIT43-500	CIBT43-500	500 ohms

LIST PRICE CIL43 \$4.65 LIST PRICE CIT43 \$5.25

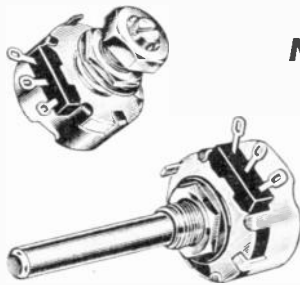
LIST PRICE CIBT43 \$6.05

Standard Packing — Individual Carton

- Attenuation range of 0 to 30 db over 90% of rotation, 60 db in remaining 10% of rotation. Attenuation will increase approximately linearly to 30 db with counter-clockwise rotation.
- Insertion loss less than 0.5 db.
- Input impedance within plus/ minus 20%.
- The CIT43 and CIBT43 (Bridged T Pad) have constant input and output impedances, while the CIL43 has constant impedance in the input only.
- Shafts and bushings are insulated from the circuit elements.
- Pads have 3/8"-32 x 3/8" long bushing.
- 1/4" dia. round shafts 1 1/2" long beyond bushing.
- All pads supplied with bar knob and dial plates, as shown above.
- Dia. 1 1/4". Depth of body from mounting surface: CIL43 — 1 1/2"; CIT43 — 1 3/4"; CIBT43 — 1 1/4".



MOLDED COMPOSITION-ELEMENT POTENTIOMETERS



A new 2-watt Molded Composition Element Potentiometer totally enclosed and sealed against moisture and other environmental. Meets the need for a high quality resistance device incorporating high-stability under extreme climatic and operational conditions. For use in critical applications, such as, test equipment, military requirements, computers, servo systems and industrial metering devices.

1 1/8" diameter and 3/8" deep, wiper assembly of one piece construction. Carbon to carbon contact insures exceptionally low noise level. Stainless steel shaft. Gold plated terminals.

Electrical tolerances are plus/minus 10% for all values up to 1 meg, 1 meg, and above plus/minus 20%.

Cat. No.	Res. Ohms	Taper	Cat. No.	Res. Ohms	Taper	"Z" TAPER
53C1	50	S	53C1	50K	S	53C1-100K-Z 100K
53C1-50-S	50	S	53C1-75K-S	75K	S	53C1-250K-Z 250K
53C1-100-S	100	S	53C1-100K-S	100K	S	53C1-500K-Z 500K
53C1-250-S	250	S	53C1-150K-S	150K	S	53C1-1 Meg-Z 1 Meg
53C1-500-S	500	S	53C1-200K-S	200K	S	53C1-2.5 Meg-Z 2.5 Meg
53C1-750-S	750	S	53C1-250K-S	250K	S	REVERSED "Z" TAPER
53C1-1000-S	1000	S	53C1-500K-S	500K	S	53C1-10K-RZ 10K
53C1-1500-S	1500	S	53C1-750K-S	750K	S	53C1-25K-RZ 25K
53C1-2000-S	2000	S	53C1-1 Meg-S	1 Meg	S	53C1-50K-RZ 50K
53C2-2500-S	2500	S	53C1-1.5 Meg-S	1.5 Meg	S	LIST PRICE \$3.75
53C1-5000-S	5000	S	53C1-2 Meg-S	2 Meg	S	DUAL POTENTIOMETERS
53C1-7500-S	7500	S	53C1-2.5 Meg-S	2.5 Meg	S	D53C1 10K-S D53C1 25K-S
53C1-10K-S	10K	S	53C2-2 Meg-S	2 Meg	S	D53C1 50K-S D53C1 1 Meg-S
53C1-15K-S	15K	S	53C2-2.5 Meg-S	2.5 Meg	S	D53C1 100K-S
53C1-20K-S	20K	S	53C2-3 Meg-S	3 Meg	S	LIST PRICE \$9.75
53C1-25K-S	25K	S	53C2-4 Meg-S	4 Meg	S	Standard Packing—Ind. Carton.
53C1-50K-S	50K	S	53C2-5 Meg-S	5 Meg	S	
53C1-100K-S	100K	S	53C2-10 Meg-S	10 Meg	S	
53C2	50	S	53C2-10K-S	10K	S	
53C2-100-S	100	S	53C2-15K-S	15K	S	
53C2-250-S	250	S	53C2-20K-S	20K	S	
53C2-500-S	500	S	53C2-25K-S	25K	S	
53C2-750-S	750	S	53C2-50K-S	50K	S	
53C2-1000-S	1000	S				
53C2-1500-S	1500	S				
53C2-2000-S	2000	S				
53C2-2500-S	2500	S				
53C2-5000-S	5000	S				
53C2-7500-S	7500	S				
53C2-10K-S	10K	S				
53C2-15K-S	15K	S				
53C2-20K-S	20K	S				
53C2-25K-S	25K	S				
53C2-50K-S	50K	S				
53C2 LIST PRICE \$4.25						

SERIES "43C1" and "43C2" 2-WATT CONTROLS

Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity is to plus minus 2%. All controls rated 2 watts.

43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms	43C1 Cat. No.	43C2 Cat. No.	Res. Ohms
43C1-5	43C2-5	5	43C1-100	43C2-100	100	43C1-1500	43C2-1500	1500	43C1-15K	43C2-15K	15K
43C1-10	43C2-10	10	43C1-150	43C2-150	150	43C1-2000	43C2-2000	2000	43C1-20K	43C2-20K	20K
43C1-20	43C2-20	20	43C1-200	43C2-200	200	43C1-2500	43C2-2500	2500	43C1-25K	43C2-25K	25K
43C1-25	43C2-25	25	43C1-300	43C2-300	300	43C1-3000	43C2-3000	3000	43C1-30K	43C2-30K	30K
43C1-30	43C2-30	30	43C1-400	43C2-400	400	43C1-4000	43C2-4000	4000	43C1-40K	43C2-40K	40K
43C1-40	43C2-40	40	43C1-500	43C2-500	500	43C1-5000	43C2-5000	5000	43C1-50K	43C2-50K	50K
43C1-50	43C2-50	50	43C1-750	43C2-750	750	43C1-7500	43C2-7500	7500			
43C1-75	43C2-75	75	43C1-1000	43C2-1000	1000	43C1-10K	43C2-10K	10K			

LIST PRICES

43C1-5 to 43C1-10K	\$2.25	43C1-30K to 43C1-50K	\$3.35	43C2-15K to 43C2-25K	\$4.25
43C1-15K to 43C1-25K	3.00	43C2-5 to 43C2-10K	3.75	43C2-30K to 43C2-50K	5.00

SERIES 58C1 AND 58C2 3-WATT CONTROLS



Electrical tolerance is plus minus 5% for all ohmages. Independent linearity is to plus minus 1%. All controls rated 3 watts.

58C1 Cat. No.	58C2 Cat. No.	Res. Ohms	58C1 Cat. No.	58C2 Cat. No.	Res. Ohms
58C1-1	58C2-1	1	58C1-500	58C2-500	500
58C1-2	58C2-2	2	58C1-750	58C2-750	750
58C1-4	58C2-4	4	58C1-1000	58C2-1000	1000
58C1-6	58C2-6	6	58C1-1500	58C2-1500	1500
58C1-10	58C2-10	10	58C1-2000	58C2-2000	2000
58C1-15	58C2-15	15	58C1-2500	58C2-2500	2500
58C1-20	58C2-20	20	58C1-3000	58C2-3000	3000
58C1-25	58C2-25	25	58C1-5000	58C2-5000	5000
58C1-30	58C2-30	30	58C1-7500	58C2-7500	7500
58C1-40	58C2-40	40	58C1-10K	58C2-10K	10K
58C1-50	58C2-50	50	58C1-15K	58C2-15K	15K
58C1-60	58C2-60	60	58C1-20K	58C2-20K	20K
58C1-75	58C2-75	75	58C1-25K	58C2-25K	25K
58C1-100	58C2-100	100	58C1-30K	58C2-30K	30K
58C1-200	58C2-200	200	58C1-40K	58C2-40K	40K
58C1-300	58C2-300	300	58C1-50K	58C2-50K	50K
58C1-400	58C2-400	400			

LIST PRICES

58C1-1 to 58C1-10K	\$2.25	58C2-1 to 58C2-10K	\$4.25
58C1-15K to 58C1-25K	3.00	58C2-15K to 58C2-25K	4.25
58C1-30K to 58C1-50K	3.35	58C2-30K to 58C2-50K	5.00

SERIES "10C1" and "10C2" 4-WATT CONTROLS

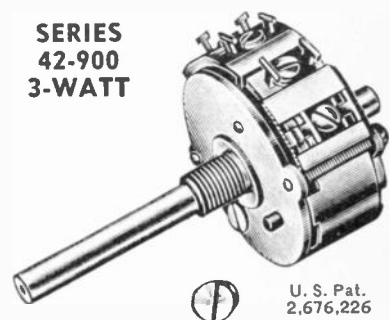
Electrical tolerance is plus/minus 5% for all ohmages. Independent linearity to plus/minus 1%. All controls rated 4 watts. 1 to 50K ohms available on special order. Prices and information on request.

10C1 Cat. No.	10C2 Cat. No.	Res. Ohms
10C1-75K	10C2-75K	75K
10C1-100K	10C2-100K	100K

LIST PRICES

10C1	\$4.75	10C2	\$6.00
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SERIES 42-900 3-WATT



WIRE-WOUND PRECISION POTENTIOMETERS

Series 42-900 is a superlative-grade precision potentiometer with such features as selection of either limited or continuous rotation by simple manipulation; gold plated bushings, terminals, screws; front and rear plates of green anodized aluminum; rear shaft extension for coupling to other potentiometers, switch, servos, etc. Wiring diagram on rear plate indicates terminal connections. Especially intended to meet the needs of your prototypes. Laboratory testing. Instrument-grade assemblies, etc.

Value	*Net Price
42-900—100K ohms	\$19.00
42-900—50K ohms	19.00
42-900—20K ohms	16.00
42-900—10K ohms	16.00
42-900—5000 ohms	14.00
42-900—2500 ohms	14.00
42-900—1000 ohms	14.00
42-900—500 ohms	14.00
42-900—100 ohms	14.00
42-900—50 ohms	14.00

Exceed MIL-R specifications where applicable.

U. S. Pat. 2,676,226

PRODUCTS OF
THE HOUSE OF RESISTORS®



CLAROSTAT

RESISTORS • CONTROLS
RESISTANCE DEVICES

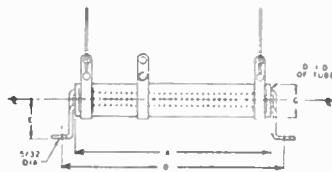
"GREENOHM"* WIRE-WOUND RESISTORS



FIXED TYPES Wire-wound resistors for most rugged applications. Will withstand tremendous overloads and temperature changes without altering resistance values or appearance. Wire windings on high grade ceramic tubing and coated with special inorganic cement. In accordance with RETMA standards, overall tolerances are $\pm 5\%$ for resistors of 50 ohms and higher. For resistors of 49.9 ohms and lower, overall tolerances are $\pm 10\%$.

ADJUSTABLE TYPES Same electrically and mechanically as Fixed types, but incorporating sliding band or bands for tapping any desired resistance values. Slider band tightened by means of screw. In accordance with RETMA standards, overall tolerances are $\pm 10\%$.

DIMENSIONS BY TYPES



SERIES	WATTS	A	B	C	D	E
PR-5-F	5	1 7/16	5/16	3/16	7/16	
PR-10-F	10	1 3/8	2-3/16	5/16	3/16	7/16
PR-20-F	20	1 3/4	2-3/16	5/8	3/16	7/16
PR-25-F	25	2	2-1/2	9/16	3/8	9/16
P-25-K	25	2-1/2	3	9/16	3/8	9/16
P-25-KA	25	2-1/2	3	9/16	3/8	9/16
K-40-N	40	3-1/2	4-1/8	3/4	1/2	7/8
K-50-N	50	4-1/2	5-1/8	3/4	1/2	7/8
K-80-N	80	6-1/2	7-1/8	3/4	1/2	7/8
K-80-NA	80	6-1/2	7-1/8	3/4	1/2	7/8
K-80-NB	80	6-1/2	7-1/8	3/4	1/2	7/8
K-100-W	100	6-1/2	7-1/8	1-1/8	3/4	1-1/8
K-100-WA	100	6-1/2	7-1/8	1-1/8	3/4	1-1/8
K-100-WB	100	6-1/2	7-1/8	1-1/8	3/4	1-1/8
K-160-W	160	8-1/2	9-1/8	1-1/8	3/4	1-1/8
P-60-WA	60	8-1/2	9-1/8	1-1/8	3/4	1-1/8
P-200-W	200	10-1/2	11-1/8	1-1/8	3/4	1-1/8
P-200-WA	200	10-1/2	11-1/8	1-1/8	3/4	1-1/8

FIXED RESISTORS

5-WATT SERIES PR-5-F

These resistors conform to EIA specification for type RRW-125 and 128.

Ohms	Ohms	Ohms	Ohms
1	75	800	5,000
2	100	900	6,000
3	125	1,000	7,000
4	150	1,100	7,500
5	200	1,200	8,000
7.5	225	1,250	8,500
10	250	1,500	9,000
12	300	1,750	10K
15	350	2,000	
20	400	2,250	
25	450	2,500	
30	500	3,000	
35	600	3,500	
40	700	4,000	
50	750	4,500	

LIST PRICE \$0.55

Standard Packing — 10 per Carton.

Mounting brackets supplied at extra cost.

10-WATT SERIES PR-10-F

These resistors conform to military specifications for type RW29, and EIA type RRW-126 and 129.

Ohms	Ohms	Ohms	Ohms
1	200	2,000	14.5K
2	225	2,250	15K
3	250	2,500	16K
4	300	3,000	17.5K
5	350	3,500	18K
7.5	400	4,000	20K
10	450	4,500	22.5K
12	500	5,000	25K
15	600	6,000	30K
20	700	7,000	35K
25	750	7,500	40K
30	800	8,000	50K
35	900	8,500	
40	1,000	9,000	
50	1,100	10K	
75	1,200	11K	
100	1,250	12K	
125	1,500	12.5K	
150	1,750	13.5K	

LIST PRICE \$0.60

Mounting brackets supplied at extra cost.

Standard Packing — 10 per Carton.

20-WATT SERIES PR-20-K

These resistors conform to EIA specifications for type RRW-127.

Ohms	Ohms	Ohms	Ohms
5	850	7,000	70K
10	1,000	7,500	75K
25	1,200	8,000	80K
50	1,250	9,000	85K
75	1,500	10K	90K
100	1,750	12.5K	95K
150	1,850	15K	100K
200	2,000	20K	
250	2,250	25K	
300	2,500	30K	
350	2,750	35K	
400	3,000	40K	
500	3,500	45K	
650	4,000	50K	
700	4,500	55K	
750	5,000	60K	
800	6,000	65K	

LIST PRICES:

5 ohms to 15K ohms	\$0.70
20K to 50K ohms	.95
55K to 100K ohms	1.20

Mounting brackets supplied at extra cost.
Standard Packing — 5 per Carton.

25-WATT SERIES P-25-K

Ohms	Ohms	Ohms	Ohms
1	750	1K	
2	800	12K	
3	1,000	15K	
5	1,250	20K	
7.5	1,500	25K	
10	2,000	30K	
15	2,250	35K	
20	2,500	40K	
25	3,000	45K	
50	3,500	50K	
75	4,000	60K	
100	4,500	70K	
150	5,000	75K	
200	6,000	80K	
250	7,000	85K	
300	7,500	90K	
400	8,000	100K	
500	9,000		

LIST PRICES:

1 ohm to 5,000	\$0.85
6,000 to 15K ohms	.95
20K to 50K ohms	1.10
60K ohms	1.25
70K ohms	1.40
75K ohms	1.45
80K ohms	1.50
85K ohms	1.65
90K ohms	1.75
100K ohms	1.95

Mounting brackets at no extra cost.
Standard Packing — Individually Boxed.

40-WATT SERIES K-40-N

These resistors conform to EIA specification for type RRW-131.

Res.	Res.	Res.	Res.
5	250	5,000	40K
10	300	6,000	50K
15	400	7,500	60K
20	500	8,500	70K
25	750	10K	80K
50	1,000	12.5K	90K
75	1,500	15K	100K
100	2,000	20K	125K
125	2,500	25K	150K
150	3,000	30K	175K
200	4,000	35K	200K

LIST PRICES:

5 ohms to 5,000 ohms	\$1.00
6,000 to 25K ohms	1.10
30K to 100K ohms	1.30
125K to 150K ohms	1.55
175K ohms	1.65
200K ohms	1.75

Mounting brackets at no extra cost.
Standard Packing — Individually Boxed.

50-WATT SERIES K-50-N

These resistors conform to EIA specification for type RRW-132.

Res.	Res.	Res.	Res.
1	500	5,000	35K
5	750	6,000	40K
10	1,000	7,500	50K
25	1,250	8,000	60K
50	1,500	9,000	70K
75	2,000	10K	75K
100	2,250	12K	80K
150	2,500	12.5K	100K
200	3,000	15K	125K
250	3,500	20K	150K
300	4,000	25K	175K
400	4,500	30K	200K

LIST PRICES:

1 ohm to 5,000	\$1.20
6,000 to 25K ohms	1.50
30K to 100K ohms	1.85
125K ohms	2.20
150K to 175K ohms	2.50
200K ohms	3.30

Mounting brackets supplied at no extra cost.
Standard Packing — Individually Boxed.



ADJUSTABLE RESISTORS

80-WATT SERIES K-80-N

Res.	Res.	Res.	Res.
5	500	4,500	25K
10	750	5,000	30K
25	1,000	6,000	35K
50	1,250	7,500	40K
75	1,500	8,000	50K
100	2,000	9,000	60K
150	2,250	10K	70K
200	2,500	12K	75K
250	3,000	12.5K	80K
300	3,500	15K	100K
400	4,000	20K	

LIST PRICES:

5 ohms to 5,000 ohms	\$1.40
6,000 to 25K ohms	1.65
30K to 50K ohms	1.95
60K to 75K ohms	2.20
80K ohms	2.30
100K ohms	2.50

100-WATT SERIES K-100-W

Res.	Res.	Res.	Res.
1	750	7,500	60K
5	1,000	8,000	70K
10	1,250	9,000	75K
25	1,500	10K	80K
50	2,000	12K	100K
75	2,250	12.5K	125K
100	2,500	15K	150K
150	3,000	20K	175K
200	3,500	25K	200K
250	4,000	30K	
300	4,500	35K	
400	5,000	40K	
500	6,000	50K	

LIST PRICES:

1 ohm to 2,500 ohms	\$1.95
3,000 to 4,000 ohms	2.05
4,500 to 25K ohms	2.15
30K to 50K ohms	2.75
60K to 75K ohms	3.05
80K ohms	3.15
100K ohms	3.30
125K ohms	3.40
150K ohms	3.60
175K ohms	3.70
200K ohms	4.15

160-WATT SERIES K-160-W

Res.	Res.	Res.	Res.
5	500	4,500	25K
10	750	5,000	30K
25	1,000	6,000	35K
50	1,250	7,500	40K
75	1,500	8,000	50K
100	2,000	9,000	60K
150	2,250	10K	70K
200	2,500	12K	75K
250	3,000	12.5K	80K
300	3,500	15K	100K
400	4,000	20K	125K
			150K

LIST PRICES:

5 ohms to 10K ohms	\$2.50
12K ohms	2.55
12.5K ohms	2.60
15K to 50K ohms	2.90
60K to 100K ohms	3.30
125K ohms	3.50
150K ohms	3.85

200-WATT SERIES K-200-W

Res.	Res.	Res.	Res.
5	500	4,500	25K
10	750	5,000	30K
25	1,000	6,000	35K
50	1,250	7,500	40K
75	1,500	8,000	50K
100	2,000	9,000	60K
150	2,250	10K	70K
200	2,500	12K	75K
250	3,000	12.5K	80K
300	3,500	15K	100K
400	4,000	20K	125K
			150K

LIST PRICES:

5 ohms to 10K ohms	\$2.75
12K ohms	3.05
12.5K ohms	3.15
15K to 100K ohms	3.30
125K to 150K ohms	4.15

10-WATT SERIES PR-10-FA

These resistors conform to military specification for type RW-29 and EIA specification for type RRW-226.

Res.	Res.	Res.	Res.
1	75	750	4,000
2	100	800	4,500
3	150	1,000	5,000
5	200	1,250	6,000
7.5	250	1,500	7,000
10	300	2,000	7,500
15	350	2,250	8,500
20	400	2,500	8,500
25	500	3,000	9,000
50	600	3,500	10K

LIST PRICE \$0.95

100-WATT SERIES K-100-WA

These resistors conform to EIA specification for type RRW-234.

Res.	Res.	Res.	Res.
1	300	5,000	35K
5	400	6,000	40K
10	500	7,000	45K
15	750	7,500	50K
20	1,000	8,000	60K
25	1,250	9,000	75K
50	1,500	10K	80K
75	2,000	12K	100K
100	2,500	15K	125K
150	3,500	20K	150K
200	4,000	25K	
250	4,500	30K	

LIST PRICES:

1 ohm to 2,500 ohms	\$2.20
3,500 to 25K ohms	2.50
30K to 50K ohms	3.05
60K to 75K ohms	3.30
80K to 125K ohms	3.85
150K ohms	4.15

160-WATT SERIES K-160-WA

These resistors conform to EIA specification for type RRW-235.

Res.	Res.	Res.	Res.
5	300	4,500	25K
10	400	5,000	30K
15	500	6,000	35K
20	750	7,000	40K
25	1,000	7,500	45K
50	1,250	8,000	50K
75	1,500	9,000	60K
100	2,000	10K	75K
150	2,500	12K	80K
200	3,500	15K	100K
250	4,000	20K	125K
			150K

LIST PRICES:

5 ohms to 4,500	\$2.75
5,000 to 10K ohms	2.90
12K ohms	3.20
15K to 60K ohms	3.60
75K to 100K ohms	4.15
125K to 150K ohms	4.70

200-WATT SERIES K-200-WA

These resistors conform to military specification for type RW-47 and EIA specification for type RRW-236.

Res.	Res.	Res.	Res.
5	300	4,500	20K
10	400	5,000	25K
15	500	6,000	30K
20	750	7,000	35K
25	1,000	7,500	40K
50	1,250	8,000	45K
75	1,500	9,000	50K
100	2,000	10K	60K
150	2,500	12K	75K
200	3,500	15K	80K
250	4,000		100K

LIST PRICES:

5 ohms to 4,500	\$3.30
5,000 ohms to 10K	3.60
12K ohms	3.85
15K ohms to 75K	4.15
80K ohms to 100K	4.70

Above adjustable resistors are supplied with mounting brackets at no extra cost.

Extra Slider Bands — \$0.30 each.

Standard Packing — Individually Boxed.



"GREENOHM V"™ VITREOUS-ENAMEL RESISTORS

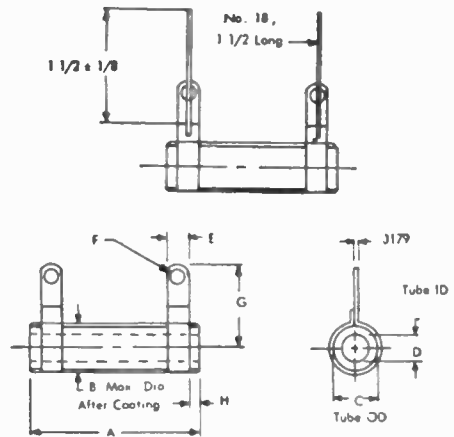
Based on years of research and engineering development, these vitreous-enamel wire-wound power resistors offer superlative performance and life as proved by countless tests. "Greenohm V" resistors provide all the outstanding quality which made Clarostat "Greenohm" cement-coated units famous, plus a glass-smooth vitreous-enamel coating in a handsome bluish-green for maximum eye appeal. Made to MIL-R-26C specifications.

- Fixed and adjustable
- 5-watt to 200 watt sizes
- ± 5% tolerance, 50 ohms and over. ± 10% tolerance, 49.9 ohms and under. ± 10% for adjustable.

Catalog Types		Watts	TUBE SIZE					TERMINALS			
Fixed	Adjustable	Catalog Rating	A Length ± 1/16	B Max OD	C Tube OD	D Tube ID	E Width Min	F** Hole D	G From E	H Min	I Edge
VPR-5-F*		5	1	1/2	5/16	3/16	3/16	0.096	5/8	1/16	
VPR-10F*	VP10FA	10	1 3/4	1/2	5/16	3/16	3/16	0.096	5/8	1/16	
VPR-20H*		20	2	19/32	7/16	1/4	3/16	0.096	11/16	3/32	
VP-25-K	VP-25KA	25	2	3/4	9/16	3/8	3/16	0.096	3/4	3/32	
VP-50-K	VP-50-KA	50	4	3/4	9/16	3/8	3/16	0.096	3/4	1/8	
	VP-75-KA	75	6	3/4	9/16	3/8	3/16	0.096	3/4	3/16	
VK-100-N	VK-100-NA	100	6 1/2	29/32	3/4	1/2	5/16	.150	7/8	3/16	
VK-160-W	VK-160-WA	160	8 1/2	1 5/16	1 1/8	3/4	5/16	.150	1 1/8	3/16	
VK-200-W	VK-200-WA	200	10 1/2	1 5/16	1 1/8	3/4	5/16	.150	1 1/8	3/16	

* Combination Lug and Lead Terminal ** .096 Clearance for No. 2 screw / .150 Clearance for No. 6 screw.

Items not listed are special. Prices and information upon request.



"GREENOHM V"™ FIXED RESISTORS (ENAMEL VITREOUS)

5-WATT SERIES VPR-5-F
Core: 1" x 5/16"
Terminals, wire lead and lug

Resistance Ohms			
1	30	350	7000
1.5	35	400	7500
2	40	450	8000
3	50	500	9000
4	75	600	10K
5	100	700	12.5K
7.5	125	750	15K
10	150	800	17.5K
12	200	900	20K
15	225	1000	22.5K
20	250	1100	25K
25	300	1200	3000

LIST PRICES

1	to 1K	\$.075
1100	to 5K	.80
6K	to 10K	.85
12.5K	to 15K	.90
17.5K	to 20K	.95
22.5K	to 25K	1.00

Standard Packing — 10 per Carton



25-WATT SERIES VP-25-K
Core: 2" x 9/16"
Lug terminals — Mtg. bracket furnished

Resistance Ohms			
1	50	800	5000
2	75	1000	6000
3	100	1500	7500
4	150	2000	10K
5	200	2500	12K
10	250	3000	15K
15	300	3500	20K
25	350	4000	25K

LIST PRICES

1	to 1K	\$1.10
1500	to 5K	1.15
6K	to 10K	1.25
12K	to 15K	1.30
15K	to 20K	1.50
20K	to 25K	1.70
25K	to 30K	2.00
30K	to 35K	2.30

Standard Packing — Individually Boxed

10-WATT SERIES VPR-10-F
Core: 1 3/4" x 5/16"
Terminals, wire lead and lug

Resistance Ohms			
0.4	30	500	3000
1	35	600	3500
1.2	40	700	4000
1.3	50	750	4500
1.5	75	800	5000
2	100	900	6000
3	125	1000	7000
4	150	1100	7500
5	200	1200	8000
7.5	225	1250	8500
10	250	1500	9000
12	300	1750	10K
15	350	2000	11K
20	400	2250	12K
25	450	2500	12.5K

LIST PRICES

0.4	to 1K	\$.080
1100	to 5K	.90
6K	to 10K	1.00
11K	to 20K	1.10
22.5K	to 25K	1.20
20	to 50K	1.35

Standard Packaging — 10 per Carton

20-WATT SERIES VPR-20-H
Core: 2" x 7/16"
Terminals, wire lead and lug

Resistance Ohms			
0.1	350	1850	7500
0.6	400	2000	8000
0.8	500	2250	9000
7	650	2400	10K
10	700	2500	12.5K
25	750	2750	15K
50	800	3000	20K
75	850	3500	25K
100	1000	4000	30K
150	1200	4500	35K
200	1250	5000	40K
250	1500	6000	45K
300	1750	7000	50K

LIST PRICES

0.4	to 1K	\$1.05
1200	to 5K	1.10
6K	to 10K	1.20
12.5K	to 20K	1.30
25K	to 30K	1.50
15K	to 60K	1.75
65K	to 80K	2.00
85K	to 100K	2.30

Standard Packing — 5 per Carton

50-WATT SERIES VP-50-K
Core: 4" x 9/16"
Lug terminals — Mtg. bracket furnished

Resistance Ohms			
1	75	1000	8000
2	100	1500	10K
3	150	2000	12K
4	200	2500	15K
5	250	3000	20K
10	300	4000	25K
20	350	5000	30K
25	400	5500	35K
30	450	6000	40K

LIST PRICES

1	to 1K	\$2.50
2	to 5K	1.80
1500	to 10K	1.90
7500	to 50K	2.10
12K	to 20K	2.30
25K	to 30K	2.55
30K	to 35K	2.85
35K	to 40K	3.20
40K	to 45K	3.50
45K	to 50K	3.70
50K	to 55K	3.95
55K	to 60K	4.00
60K	to 65K	4.15
65K	to 70K	4.65
70K	to 75K	4.65

Standard Packing — Individually Boxed

PRODUCTS OF
THE HOUSE OF RESISTORS®



**RESISTORS • CONTROLS
RESISTANCE DEVICES**

100-WATT SERIES VK-100-N
Core: 6 1/2" x 3/4"
Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	750	7500	50K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	5000	30K	
25	500	5000	40K	

160-WATT SERIES VK-160-W
Core: 8 1/2" x 1 1/8"
Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	750	7500	60K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	3000	30K	
25	500	5000	40K	

200-WATT SERIES VK-200-W
Core: 10 1/2" x 1 1/8"
Lug terminals — Mtg. bracket furnished

Resistance Ohms				
1	50	1000	10K	60K
2	75	1500	15K	75K
3	100	2000	20K	100K
4	150	2500	25K	
5	250	3000	30K	
10	500	5000	40K	
25	750	7500	50K	

LIST PRICES

1	to 5	\$3.70
4	to 1K	2.65
1500	to 5K	2.90
7500	to 10K	3.00
15K	to 20K	3.30
25K	to 40K	3.50
50K	to 60K	3.70
75K	to 100K	3.95
100K		4.20

LIST PRICES

1	to 5	\$4.60
10	to 1K	3.30
1500	to 5K	3.35
7500	to 10K	3.60
15K	to 20K	3.90
25K	to 40K	4.00
50K	to 60K	4.15
75K	to 100K	4.40
100K		4.70

LIST PRICES

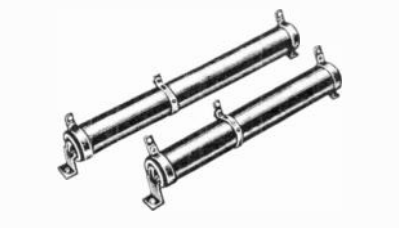
1	to 5	\$5.00
10	to 1K	3.55
1500	to 5K	3.60
7500	to 10K	3.90
15K	to 20K	4.15
25K	to 40K	4.30
50K	to 60K	4.40
75K	to 100K	4.70
100K		5.00

Standard Packing — Individually Boxed

"GREENOHM V"™ ADJUSTABLE RESISTORS (VITREOUS ENAMEL)

10-WATT SERIES VP-10-FA
Core: 1 3/4" x 5/16"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	25	350	1500	5000
2	50	400	2000	6000
3	75	500	2250	7000
5	100	600	2500	7500
7.5	150	750	3000	8000
10	200	800	3500	8500
15	250	1000	4000	9000
20	300	1250	4500	10K



100-WATT SERIES VK-100-NA
Core: 6 1/2" x 3/4"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	10	500	10K	40K
2	25	1000	15K	50K
3	50	1500	20K	75K
4	100	2500	25K	100K
5	250	5000	30K	

LIST PRICES

1	to 1K	\$1.60
1250	to 5K	1.70
6000	to 10K	1.80

Standard Packing — 10 per Carton

50-WATT SERIES VP-50-KA
Core: 4" x 9/16"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	150	1500	7000	30K
2	200	2000	7200	40K
3	250	2250	7500	50K
4	300	2500	8000	60K
5	400	3000	9000	80K
10	500	3500	10K	100K
25	750	4000	12K	
50	800	4500	15K	
75	1000	5000	20K	
100	1250	6000	25K	

LIST PRICES

1	to 3	\$5.00
4	to 1K	3.95
1500	to 5K	4.05
10K	to 20K	4.25
15K	to 40K	4.50
25K	to 100K	4.80
50K		5.00
75K		5.20
100K		5.45

Standard Packing — Individually Boxed

25-WATT SERIES VP-25-KA
Core: 2" x 9/16"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	50	750	3500	9000
2	75	800	4000	10K
3	100	1000	4500	12K
5	150	1250	5000	15K
7.5	200	1500	6000	20K
10	250	2000	7000	25K
15	300	2250	7200	
20	400	2500	7500	
25	500	3000	8000	

LIST PRICES

1 ohm		\$3.30
2	to 1K	2.60
1250	to 5K	2.70
6K	to 10K	2.90
12K	to 20K	3.10
25K	to 40K	3.40
50K	to 60K	3.60
80K	to 100K	4.05
100K		4.30

Standard Packing — Individually Boxed

160-WATT SERIES VK-160-WA
Core: 8 1/2" x 1 1/8"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	10	500	10K	40K
2	25	1000	15K	50K
3	50	1500	20K	75K
4	100	2500	25K	100K
5	250	5000	30K	

OHM'S LAW

Defines relationship between voltage, current and resistance (in dc circuit) or impedance (in ac circuit)

Current is directly proportional to applied voltage. Varies with changes in voltage. If voltage is increased without changing resistance, current will increase. If voltage is reduced without changing resistance, current decreases.

In applying resistors, just remember these simple formulae:

$$I = E \div R$$

$$R = E \div I$$

$$E = I \times R$$

In which I represents current (amperes), R is resistance (ohms), E is voltage.

75-WATT SERIES VP-75-KA
Core: 6" x 9/16"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	200	2000	7200	35K
2	250	2250	7500	40K
3	300	2500	8000	45K
4	400	3000	9000	50K
5	500	3500	10K	60K
10	750	4000	12K	80K
15	800	4500	15K	100K
25	1000	5000	20K	
50	1250	6000	25K	
100	1500	7000	30K	

200-WATT SERIES VK-200-WA
Core: 10 1/2" x 1 1/8"
Lug terminals — Mtg. brackets furnished

Resistance Ohms				
1	10	500	10K	40K
2	25	1000	15K	50K
3	50	1500	20K	75K
4	100	2500	25K	100K
5	250	5000	30K	

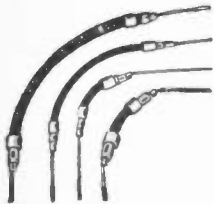
PRODUCTS OF
THE HOUSE OF RESISTORS®



CLAROSTAT

**RESISTORS • CONTROLS
RESISTANCE DEVICES**

“GLASOHM”* FLEXIBLE RESISTORS



Fixed wire-wound resistors on glass fibre core with flexible woven glass fiber casing. Made up to any length on order. A substitute for a wide range of carbon resistors. Standard types 1" long with 2" pigtail leads, 1/8" dia. RETMA color coded. RETMA overall tolerances are plus/minus 10%.

LIST PRICE \$0.50
Standard Packing: 10 per carton.

Cat. No.	Ohms	Cat. No.	Ohms	Cat. No.	Ohms	Cat. No.	Ohms
FYG5	5	FYG75	75	FYG350	350	FYG850	850
FYG10	10	FYG100	100	FYG375	375	FYG900	900
FYG15	15	FYG125	125	FYG400	400	FYG1000	1000
FYG25	25	FYG150	150	FYG500	500	FYG1250	1250
FYG35	35	FYG200	200	FYG600	600	FYG1500	1500
FYG40	40	FYG225	225	FYG700	700	FYG1600	1600
FYG50	50	FYG250	250	FYG750	750	FYG1750	1750
FYG60	60	FYG300	300	FYG800	800	FYG2000	2000

RESISTOR WALL-CARD KITS

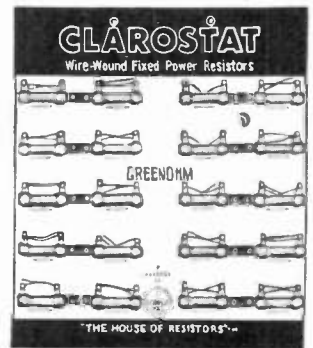
Handy wall-card kits holding different selections of popular ohmages in "Greenohm," "Greenohm Jr." and "Glasohm" resistors. Units readily slip off card and ohmage values show up for reordering. Card size: 10 1/2 x 12". Also serve as attention-getting silent salesmen.

Six carefully selected assortments, meeting widest range of standard service and other requirements. Considerable savings realized.

“GREENOHM”* RESISTOR KIT

- GK-1—10-WATT "GREENOHM" RESISTORS. 20 popular ohmages—25 to 25K ohms. **List Price: \$12.00**
 - GK-2—2-WATT "GLASOHM" RESISTORS. 32 of the most popular ohmages. 5 to 2000 ohms. **List Price: \$16.00**
 - GK-3—5-WATT "GREENOHM Jr." RESISTORS. 36 popular ohmages. 1 ohm to 4000 ohms. **List Price: \$21.60**
 - GK-4—5-WATT "GREENOHM" RESISTORS. 54 popular ohmages. 1 ohm to 10K ohms. **List Price: \$29.70**
 - GK-5—10-WATT "GREENOHM Jr." RESISTORS. 50 popular ohmages. 1 ohm to 900 ohms. **List Price: \$30.00**
 - GK-6—10-WATT "GREENOHM" RESISTORS. 45 popular ohmages. 5 ohms to 50K ohms. **List Price: \$27.00**
- "FUZOHM" FUSE-TYPE RESISTORS also available in wall-card kits. 12 (7.5 ohm) units. GL-1. **List Price: \$9.00**

Also with 12 (5.6 ohm) units. GL-2. **List Price: \$9.00**



POWER RESISTOR DECADE BOX



The Resistance Decade Box Model No. 240C allows changing resistance at a flip of the switch in a working circuit. Any value obtainable from 1 ohm to 999,999 in steps of one ohm and at a maximum power rating of 225 watts using a maximum of 1000 volts D.C. or 660 volts A.C.

Resistance changing switches are of the type that prevents a resistance breakdown between steps, thus protecting delicate meters and measuring instruments in the circuit. Pointer knobs indicate at a glance the resistance value being used.

Clarostat "Greenohm" resistors are used

throughout. These are inorganic-cement-coated wire-wound power resistors. The resistors are mounted on rigid metal supports. A baffle plate separating the resistor bank from the switch assembly protects the latter against heat.

The heavy-gauge metal case is finished in frosted gray wrinkle, with an etched black-and-aluminum front panel, 13 in. long; 8 1/2 in. deep; 5 3/4 in. high. Weight, 11 lbs.

SUGGESTED USES: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters. Providing any desired ohmage as a universal power resistor.

Decade No.	Maximum Current Ratings:	Resistance Tolerance	Decade No.	Maximum Current Ratings:	Resistance Tolerance
Decade No. 1	5 amp.	5%	Decade No. 4	.15 amp.	2%
Decade No. 2	1.5 amp.	2%	Decade No. 5	.05 amp.	2%
Decade No. 3	.5 amp.	2%	Decade No. 6	.005 amp.	2%

NET PRICE \$95.00

“GREENOHM JR.”* Wire-Wound Resistors



Wire-wound power resistors on glass fiber core. Sealed in a cement-filled ceramic case. 1 1/2" axial pigtail leads. C4GJ, 1" l. x 5/8" d.; C7GJ, 1 3/4" l. x 1 1/8" d. Tolerance ±10%.

5-WATT SERIES C4GJ					10-WATT SERIES C7GJ				
Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
1	12	50	250	700	1	25	225	800	2,500
2	15	75	300	750	2	30	250	900	3,000
3	20	100	350	800	3	35	300	1,000	3,500
4	25	125	400	900	4	40	350	1,100	4,000
5	30	150	450	1,000	5	50	400	1,200	4,500
7.5	35	200	500	2,000	7.5	75	450	1,250	5,000
10	40	225	600	3,000	10	100	500	1,500	6,000
				4,000	12	125	600	1,750	7,000
					15	150	700	2,000	8,000
					20	200	750	2,250	9,000

LIST PRICE \$0.60 Standard Packing—10 per Carton.

*Reg. U. S. Pat. Off

PRODUCTS OF
THE HOUSE OF RESISTORS®



RESISTORS • CONTROLS
RESISTANCE DEVICES

"FIXTOHM"™

PRECISION RESISTORS

SERIES CVF

½-WATT RATING
± 1% TOLERANCE



These resistors are equivalent to Military types RN15 and RN20. Working voltage exceeds 350 volts.

*Note—Values shown with asterisk are preferred Military values and are marked with Military style RN20 marking. They are packaged 8 to a carton. All values without asterisk have commercial marking and are packaged 10 to a carton.

51	178	450	1300	9950	*1.90K	13.5K	*78.2K	200K	430K	*825K
*51.1	*163	410	1150	*1K	*2.7K	*11.7K	87K	*217K	450K	820K
55	196	470	1300	*1.1K	*3.3K	15K	90K	220K	*470K	900K
*55.2	200	500	1600	1150	1150	*2.61K	16K	*12.2K	*90.9K	*900K
*61.9	*217	510	1750	1500	1500	*2.87K	18K	18K	91K	500K
62	229	*511	1800	1700	1700	*3.18K	17.5K	15K	*109K	210K
68	225	550	2000	5000	*3.18K	*16.2K	*16.1K	250K	*119K	250K
*68.1	*237	560	2200	5100	*3.89K	18K	17K	120K	*261K	550K
75.0	240	*562	2550	5500	*1.22K	*19.6K	40K	*121K	560K	1.25M
82	250	600	2400	5000	*1.67K	20K	140K	*257K	*257K	1.3M
*82.5	*261	*619	2500	5050	*5.19K	*21.7K	*51.1K	150K	300K	1.33M
*90.9	*270	620	2700	6000	*5.62K	22K	55K	*133K	*310K	*147K
01	*287	*650	2950	6200	*6.19K	*22.5K	56K	*147K	350K	1.5M
*100	*300	680	3000	6500	*6.81K	*23.7K	*56.2K	150K	*318K	1.6M
*110	*316	*681	3300	6800	*7.50K	24K	60K	160K	350K	1.62M
*120	*330	*750	3500	7000	*8.25K	25K	*61.9K	*162K	360K	*1.75M
*131	*348	800	3600	7150	*9.09K	*26.1K	62K	175K	*353K	1.8M
130	340	820	3700	8000	*10K	*28.7K	67K	*175K	390K	1.85M
*133	360	*825	4000	8200	*11K	*28.7K	68K	180K	400K	2.0M
*147	*381	850	4300	*1.21K	12K	70K	*68.1K	*196K	*422K	820K
150	390	900	8500	*1.33K	*12.1K	*31.6K	70K			
150	400	*909	8900	*1.47K	12.5K	55K	*75K			
*162	*122	1200	9000	1.62K	13K	*31.8K	80K			
175	430	1250	9100	*1.78K	*13.3K	56K	82K			

LIST PRICE \$0.67

SERIES CVC

1-WATT RATING
± 1% TOLERANCE



These resistors are equivalent to Military type RN25. Working voltage exceeds 500 volts.

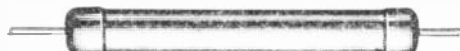
*Note—Values shown with asterisk are preferred Military values and are marked with Military style RN25 marking. They are packaged 8 to a carton. All values without asterisk have commercial marking and are packaged 10 to a carton.

100	320	820	2600	8500	15K	15K	12.5K	*38.1K	700K	2.0M	4.5M
*100	350	850	3.00	8.90	16K	17K	140K	3.00K	*750K	2.2M	4.7M
110	360	900	4000	8.70	17.5K	50K	*117K	400K	800K	2.225M	5.0M
120	*381	1200	4300	9000	18K	51K	150K	420K	820K	2.4M	5.1M
*130	390	1250	4450	9100	*19.6K	*51.1K	160K	450K	850K	2.5M	*5.11M
*147	400	1300	4700	9.50	20K	55K	17.0K	170K	900K	*2.61M	5.5M
150	410	1350	5000	10.00	21K	56K	180K	500K	1M	2.7M	5.6M
150	420	1500	5000	*1.17K	*22.5K	60K	*196K	510K	1.2M	*2.87M	6.0M
175	470	1600	5100	*1.96K	24K	62K	200K	*310K	1.25M	3.0M	6.2M
180	500	1750	5500	*2.61K	25K	65K	220K	250K	1.5M	3.5M	6.5M
*196	510	1800	5600	*2.87K	*26.1K	68K	225K	560K	*1.17M	3.7M	6.8M
200	*511	2000	5950	*3.89K	27K	70K	240K	600K	1.5M	3.8M	7.0M
220	550	2250	6000	*5.11K	*28.7K	*75K	250K	620K	1.6M	*3.8M	8.0M
225	560	2400	6200	*7.50K	30K	80K	*261K	650K	1.8M	3.9M	8.2M
240	600	2500	6500	*10K	31K	82K	270K	680K	*1.96M	4.0M	8.5M
250	620	2700	6800	12K	36K	85K	*287K				
*261	650	2950	7000	12.5K	*38.1K	90K	300K				
270	680	3000	7150	13K	39K	91K	320K				
*287	*750	3300	8000	13.5K	40K	*109K	350K				
300	800	3500	8200	*11.7K	43K	120K	360K				

LIST PRICES
100 ohms to 5 Meg. \$1.00
5.1 Meg. to 9 Meg. 1.10

SERIES CVD

2-WATT RATING
± 1% TOLERANCE



These resistors are manufactured to Military Specifications for type RN30. Working voltage exceeds 750 volts.

*Note—Values shown with asterisk are preferred Military values and are marked with Military style RN30 marking. They are packaged 8 to a carton. All values without asterisk have commercial marking and are packaged 10 to a carton.

100	450	1800	5000	16K	69K	250K	*750K	7.2M	5.1M	9.0M	20.0M
110	470	2000	5950	17.5K	69K	270K	800K	7.2M	*5.11M	*10M	22.0M
120	500	2200	6000	18K	65K	300K	890K	*2.87M	5.5M	11.0M	24.0M
130	510	2250	6200	20K	68K	330K	850K	3.0M	5.6M	12.0M	25.0M
150	550	2400	6500	22K	70K	350K	900K	3.2M	6.3M	12.1M	27.0M
175	600	2700	6800	22.5K	80K	400K	*1M	3.5M	6.5M	12.5M	30.0M
180	620	2950	7000	24K	82K	390K	1.2M	6.6M	6.5M	13.0M	33.0M
200	650	3000	8000	25K	85K	400K	1.25M	6.9M	6.8M	13.5M	36.0M
220	680	3300	8200	27K	90K	43K	1.3M	7.0M	7.0M	*14.7M	39.0M
22.0	800	3500	8500	30K	91K	150K	*1.47M	7.5M	7.5M	15.0M	43.0M
240	820	3600	8900	35K	120K	170K	1.5M	7.7M	8.0M	16.0M	47.0M
240	850	3900	8950	36K	125K	200K	1.6M	8.2M	8.2M	18.0M	50.1M
270	900	4000	9000	39K	130K	210K	1.8M	8.5M			
300	1200	4300	9100	40K	135K	240K	*1.96M				
320	1250	4450	9950	45K	160K	250K	2.0M				
350	1300	4500	12K	17K	175K	560K	2.15M				
360	1350	4700	12.5K	50K	180K	600K	*2.15M				
400	1500	5000	13K	51K	200K	620K	2.2M				
400	1600	5100	13.5K	55K	220K	650K	*2.225M				
430	1750	5500	14K	56K	240K	680K	2.4M				
						700K	2.5M				

LIST PRICES
100 ohms to 10 Meg. \$1.20
11 Meg. to 20 Meg. 1.30
22 Meg. to 30 Meg. 1.75
33 Meg. to 50 Meg. 2.00



MINIATURIZED CARBON AND WIRE-WOUND CONTROLS

Available in single or dual, standard or shaft locking bushing. Standard bushing potentiometers have 1/4" x 32 NEF-2 x 1/4" long bushing and 1/8" dia. x 1/2" long shaft beyond bushing. For single potentiometer order as Series 48M, plus the ohmage and taper. For dual order as Series D48M, plus the ohmage and taper (designate which is panel and rear if different).

Shaft locking bushing potentiometers have 1/2" x 32 NEF-2 x 3/8" long bushing and 1/8" dia. x 1/4" long screwdriver slotted shaft. For single potentiometer with shaft locking bushing order as Series 48M-9 or 49M-9

plus the ohmage and taper. For dual with shaft locking bushing order as Series D48M-9 or D49M-9 plus the ohmage and taper (designate which is panel and rear if different).

All potentiometers furnished with mounting nut 1/8" thick x 3/16" across flats, and one internal tooth lockwasher. Potentiometers with split locking bushings furnished with jam nut also.

PRICE: Due to the special nature of these units, prices and specific information will be sent upon request.

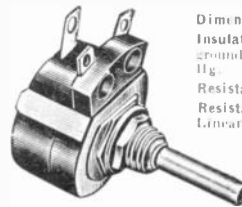
**SERIES 48M — 0.2 WATT
COMPOSITION-ELEMENT**



U.S. Pat. 2,706,760

Dimensions: 5/8" dia., 1/2" body depth
Insulation: Breakdown test between terminals and ground for 1 minute, 1000v a.c.; 250v a.c. at 50° C.
Resistance Range (Ohms): Linear, 200 to 5 meg. Tapered, 1500 to 2.5 meg.
Resistance Tolerance: Linear, ± 10% above 100,000 ohms. Tapered, ± 20% all values.
Tapers: Linear, Left hand, 10% resistance at 50% rotation. "Z"
Mechanical and Electrical Rotation: 300° ± 3°.
Effective Rotation: 300° ± 3°.
Torque: 0.5 to 6 oz./in.
Dual Construction: Available.

**SERIES 49M — 1.5 WATT
WIRE-WOUND**



U.S. Pat. 2,706,760

Dimensions: 25/32" dia., 1/2" body depth
Insulation: Breakdown test between terminals and ground for 1 minute, 1000v a.c.; 200v a.c. at 50° C.
Resistance Range (Ohms): Linear, 1 to 20,000
Resistance Tolerance: Linear, ± 7%. Tapered, Linear only
Mechanical and Electrical Rotation: 300° ± 3°.
Effective Rotation: 300° ± 3°.
Torque: 0.5 to 5 oz./in.
Dual Construction: Available.

SERIES BHM — MINIATURIZED ROTARY SELECTOR SWITCH

Current Rating: 50 milliamperes at 300v a.c. or d.c., 500 milliamperes at 50v a.c. or d.c.

Protection: All moving parts and contact mechanisms are totally enclosed and sealed, protecting same from dust and atmospheric conditions.

Finish: Nickel plating.

Torque: 38 to 42 oz./in.

Bushing: 3/8" x 32 NEF-2 thread, 3/8" long.

Shaft: 1/4" dia. round, 1" beyond bushing.

- BHM-SP12P-S** Single Pole 12 Positions—Shorting
- BHM-SP12P-NS** Single Pole 12 Positions—Non-Shorting
- BHM-2P6P-S** 2 Pole 6 Positions—Shorting
- BHM-2P6P-NS** 2 Pole 6 Positions—Non-Shorting
- BHM-3P4P-S** 3 Pole 4 Positions—Shorting
- BHM-3P4P-NS** 3 Pole 4 Positions—Non-Shorting
- BHM-4P3P-S** 4 Pole 3 Positions—Shorting
- BHM-4P3P-NS** 4 Pole 3 Positions—Non-Shorting



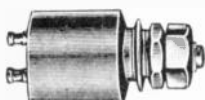
Meets or exceeds test paragraph 4.5.3 through 4.5.13 of MIL-S-3786

Due to the special nature of these units, prices and specific information will be sent upon request.

**SERIES 57 — 1/2" DIA.
WIRE-WOUND**



SERIES 57M9



SERIES 57M

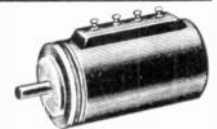
Power Rating: 1.5 watts @ 40° C.
Typical Weight: 1/4 oz.
Dielectric Strength: 1000 v a.c. for 1 minute at atmospheric pressure.
Resistance Tolerance: ± 5%

Linearity (Independent): ± 2%
Rotation: Mechanical-Electrical 320° Effective, 300°.
Torque: 6 oz. in. maximum.

NET PRICES

Cat. No. Standard Bushing		Cat. No. Shaft Locking Bushing	
57M-50	\$19.00	57M9-50	\$19.00
57M-100	19.00	57M9-100	19.00
57M-200	19.00	57M9-200	19.00
57M-500	19.00	57M9-500	19.00
57M-1K	19.00	57M9-1K	19.00
57M-5K	19.00	57M9-5K	19.00
57M-10K	19.00	57M9-10K	19.00
57M-20K	19.00	57M9-20K	19.00
57M-50K	19.00	57M9-50K	19.00

**SERIES 55 — 3 WATT
MULTI-TURN**



Designed for close-tolerance military electronic applications, Clarostat Multi-Turn Potentiometers provide up to 20% more winding length in a given 10-turn outside diameter. Also feature maximum protection against environmental conditions. Features:

1. Each potentiometer center-tapped
2. Functional outputs obtainable by resistance loading each side of center tap.
3. Panel bearing is ball bearing, rear bearing, oil-impregnated sleeve bearing for greater rotational life.
4. Terminals gold-plated for ease in soldering
5. Very low "noise" level obtained by strictly-controlled techniques.
6. Exceeds applicable MIL specifications.

NET PRICES

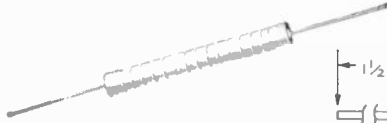
Bushing Mount		Servo Mount	
55-900-500 ohms	\$22.85	55-901-500 ohms	\$25.75
55-900-5000 ohms	22.85	55-901-5000 ohms	25.75
55-900-20K ohms	22.85	55-901-20K ohms	25.75
55-900-50K ohms	28.50	55-901-50K ohms	31.25
55-900-100K ohms	28.50	55-901-100K ohms	31.25

**FIXED • ADJUSTABLE and VARIABLE RESISTORS
SWITCHES • CARBON SPECIALTIES**

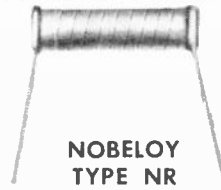
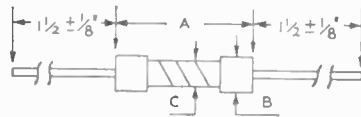


CONTINENTAL CARBON Division of Wirt Company, Phila 44, Pa.

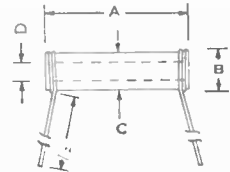
FILM TYPE RESISTORS



NOBLETTE TYPE NA



NOBELEY TYPE NR



Type	Wattage	Resistance Range	Voltage	Dimensions				Wt. (oz.)	List Price	
				A	B	C	D		±1%	±5%
NA15*	1/2	1 ohm to 1 megohm	350	1 1/2" ± 1/8"	3/32" ± .010"	.130"	.026	\$.80	\$.60	
NA25*	1	1 ohm to 1 megohm	500	1 3/8" ± 1/8"	3/32" ± .010"	.250"	.075	1.00	.70	
NA30*	2	1.1 meg. to 5 megohms	750	2 1/8" ± 1/8"	3/32" ± .010"	.250"	.120	1.25	.85	
		2 ohms to 1 megohm						1.25	.85	
NR20**	1/2	1.1 meg. to 10 megohms	350	5/8" ± 1/8"	1 1/32" ± .010"	.250"	.156"	1.70	1.10	
		1 ohm to 1 megohm						.85	.65	
NR25**	1	1.1 meg. to 3 megohms	500	7/8" ± 1/8"	1 1/32" ± .010"	.250"	.156"	1.00	.70	
		1 ohm to 1 megohm						1.25	.85	
NR30**	2	1.1 meg. to 5 megohms	750	2" ± 1/8"	1 1/32" ± .010"	.250"	.156"	1.00	.70	
		2 ohms to 1 megohm						1.25	.85	
NR50**	5	1.1 meg. to 10 megohms	1000	2" ± 1/8"	1 1/32" ± .010"	.500"	.312"	1.65	1.10	
		3 ohms to 25 ohms						2.00	1.50	
		26 ohms to 1 megohm						1.50	1.20	
		1.1 meg. to 15 megohms						2.00	1.50	

* No. 20 AWG Tinned Copper Axial Leads, 1 1/2" long.

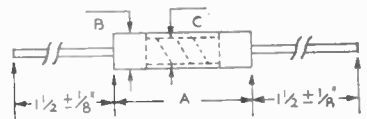
** No. 18 AWG Tinned Copper Radial Leads, 1 1/2" long.

CARBON FILM



Hermetically Sealed—Conform to MIL-R-10509. Fully insulated for hi-frequency use. Carbon deposited on ceramic and encased in non-hygroscopic ceramic tube. High temperature solder sealed ±1, 2, or 5%. 1/4, 1/2, 1 or 2 watts.

Coated—Low cost precision. Highly recommended for test equipment, meters or hi-frequency circuits. ±1, 2, or 5%. 1/4, 1/2, 1 or 2 watt sizes.



Molded—Rugged construction for high production handling and excellent moisture protection. ±1/2%, 1 or 5%. 1/2 or 1 watt sizes.

Type	Watts	Voltage	Resistance Range	Dimensions				Wt. (oz.)	List Price	
				A	B	C	±1%		±5%	
CF10	1/4	300	5 ohms to 1 megohm	1/2" ± 1/16"	3/32" ± .010"	.062"	.011	\$.80	\$.60	
CF15	1/2	350	10 ohms to 2 megohms	3/8" ± 1/16"	3/32" ± .010"	.125"	.030	.50	.40	
CF20	1/2	350	1.1 meg. to 3 megohm	1 1/8" ± 1/16"	3/32" ± .010"	.250"	.078	.60	.45	
CF25	1	500	1.1 meg. to 1 megohm	1 1/8" ± 1/16"	3/32" ± .010"	.250"	.102	.70	.50	
			50 ohms to 1 megohm					.75	.55	
CF30	2	1000	1.1 meg. to 10 megohms	2 1/8" ± 1/16"	3/32" ± .010"	.250"	.184	.90	.70	
			100 ohms to 1 megohm					.90	.70	
			1.1 meg. to 20 megohms					1.20	.90	
CFH10	1/4	300	10 ohms to 500K	.625" ± .031"	.187" ± .031"		.032	1.75	1.50	
CFH15	1/4	350	10 ohms to 1 megohm	.687" ± .062"	.250" ± .031"		.062	1.50	1.25	
CFH25	1	500	50 ohms to 1 megohm	1.062" ± .062"	.375" ± .062"	-.031"	.197	1.65	1.40	
			1.1 meg. to 10 meg.					2.00	1.65	
CFH30	2	1000	100 ohms to 1 megohm	2.156" ± .093"	.375" ± .062"	-.031"	.360	1.90	1.60	
			1.1 meg. to 20 meg.					2.25	1.95	
CFM15	1/2	350	10 ohms to 2 megohms	1/2				1.00	.80	
CFM25	1	500	50 ohms to 1 meg.	1				1.50	1.20	

SLIDE SWITCHES



SW 723 or SW 323

Type	Circuit	Rating / Amps		List Price
		AC	DC	
SW723 (UL)	SPST	.75	.75	\$.20
SW724 (UL)	SPDT	.75	.75	.25
SW725 (UL)	DPST	.5	.5	.30
SW726 (UL)	DPDT	.5	.5	.35
SW728 (3 Pos.)	DPTT	.5	.5	.45
SW731	SPTT	.5	.5	.40
SW729 (3 Pos.)	SPST SR	.5	.5	.35
SW732	SPDT SR	.5	.5	.40
SW734 (3 Pos.)	SP CO	.5	.5	.40
SW736 (3 Pos.)	DP CO	.5	.5	.45

Type	Circuit	Rating / Amps		List Price
		AC	DC	
SW323 (UL)	SPST	3.0	1.0	.25
SW324 (UL)	SPDT	3.0	1.0	.30
SW325 (UL)	DPST	3.0	1.0	.35
SW326 (UL)	DPDT	3.0	1.0	.40
SW328 (3 Pos.)	DPTT	3.0	1.0	.50
SW329 (3 Pos.)	SPTT	3.0	1.0	.45
SW766	TPST	.5	.5	.70
SW769	TPDT	.5	.5	.75
SW366	TPST	3.0	1.0	.90
SW369	TPDT	3.0	1.0	.95

RATING: 125 volts. Shield for terminal protection available.

KNOBS—Standard black, .312 l., .217 w., .375 h. Also available in colors and in heights between 3/16" to 3/4".

HOUSINGS—Corrosion resistant coated steel.

TERMINALS AND CONTACTS—Silver plated.

MOUNTING HOLES—Extruded and tapped 4-36, 4-40, and 6-32. Also available on special order on most models. All switches available on 1 1/8" centers are also available in 1 3/8" centers.

SW 724 or SW 324



SW 726 or SW 326



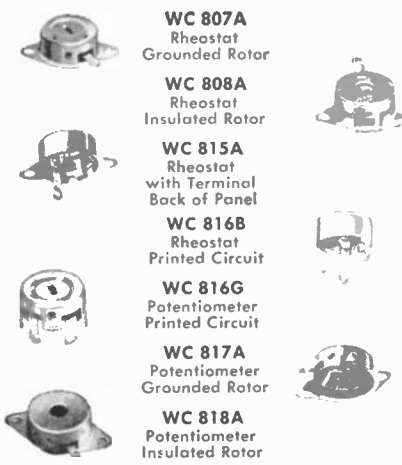
SW 728 or SW 328

Wire Wound POTENTIOMETERS and RHEOSTATS



CONTINENTAL CARBON Division of Wirt Company, Phila 44, Pa.

METAL HOUSED MINIATURES



WC 807A
Rheostat
Grounded Rotor

WC 808A
Rheostat
Insulated Rotor

WC 815A
Rheostat
with Terminal
Back of Panel

WC 816B
Rheostat
Printed Circuit

WC 816G
Potentiometer
Printed Circuit

WC 817A
Potentiometer
Grounded Rotor

WC 818A
Potentiometer
Insulated Rotor

DIMENSIONS

Type	Diameter	Depth	Mtg. Centers	LIST PRICES		
				5 ohm to 1K	1100 ohm to 3K	3100 ohm to 5K
WC 807A	3/4"	3/8"	1"	.40	.45	.50
WC 808A	3/4"	1/2"	1"	.60	.65	.75
WC 815A	3/4"	3/8"	1"	.40	.45	.50
WC 816B	3/4"	3/8"	—	.40	.45	.50
WC 816G	3/4"	3/8"	—	.50	.55	.60
WC 817A	3/4"	3/8"	1"	.50	.55	.60
WC 818A	3/4"	1/2"	1"	.75	.80	.90

RATING: 1.5 Watts

RESISTANCE RANGE: 5 ohms to 5000 ohms

STANDARD TOLERANCE: ±20% Wt. 0.2 oz. each.

Adjustment: Slot is provided in rotor mechanism for screw driver adjustment from front or back.

Also available with stops in pre-selected positions and in other resistance values on special order.

Standard Stock Resistance Values (Ohms)
25, 50, 60, 75, 100, 150, 200, 250, 300, 400, 500
600, 750, 1000, 1500, 2000, 2500, 3000, 4000, 5000.

METAL HOUSED STANDARD SIZE



WC 801 Rheostat. 1 1/8" dia., 3/8" thick

WC 802 Thin Potentiometer 1 1/8" dia., 5/8" thick.

WC 804 Rheostat. Adjustable front or back, 1 3/32" dia., 1/2" thick.

Inexpensive controls for dependability and long life. 2 watts, 5 to 15,000 ohms with linear winding. ±15%.

DIMENSIONS

Type	Dia.	Depth	Rotating Ground	Wt. (oz.)	LIST PRICES			
					5 ohms to 1K	1100 ohms to 5K	5100 ohms to 10K	11K to 15K
WC801	1 1/8"	5/8"	Grounded	0.8	.85	.90	1.00	1.10
WC802	1 1/8"	5/8"	Grounded	1.2	.90	1.00	1.10	1.20
WC804	1 1/8"	1/2"	None	0.4	.60	.70	.75	.80

STANDARD TOLERANCE: ±15%.

SHAFT: WC801 and WC802 — Round aluminum

1/4" dia. x 3/8" long FOEB; flatted, slotted or knurled also available.

MOUNTING BUSHING: WC801 and WC802 — Brass, 3/8" — 32 x 3/8" long.

MOUNTING NUT: 1/2" hex nut with each control. (WC801 and WC802 only.)

ADJUSTMENT: WC804 has slot for screw driver adjustment from front or back.

PHENOLIC HOUSED INSULATED



STYLE WCB

STYLE WCA

STYLE WCD

Style WCB, 3 watts, 10 ohms to 70,000 ohms, 1 35/64" dia., 27/32" depth. List price \$2.00 to \$2.90 depending on resistance.

Style WCA, 4 watt, 10 ohms to 100,000 ohms. 1 25/32" dia., 31/32" depth. List price \$2.10 to \$3.20 depending on resistance.

Style WCD, Dual Control, to 25,000 ohms front panel; to 50,000 ohms rear panel, 1 25/32" dia., 1 1/8" depth. List price \$3.75 to \$5.00 depending on resistance. Rear winding completely insulated. Contact arm of front winding grounded.

Standard Tolerance: ±10% (±5% tolerance available on special order).

Rotary Contact: Insulated from mounting bushing.

Standard Shaft: 1/4" round aluminum, 3/8" long, FOEB; flatted, screw driver and knurled types also available if specified.

Standard Mounting Bushing: 3/8"—32 x 3/8" long; brass.

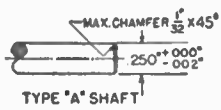
Mounting Nut: One 3/16" hex nut supplied with each control.

Terminals: Hot tin dipped.

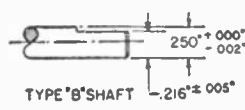
Optional Application: Types WCD and WCA may be used as a rheostat or potentiometer depending upon terminal connections selected.

SHAFTS

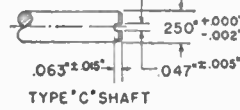
Available with Phenolic Housed Controls Type "A" Shaft is standard and will be furnished unless otherwise specified with order. Type "B", "C", and "D" Shafts available at additional cost.



TYPE "A" SHAFT
TYPE "A" SHAFT Round (Standard)



TYPE "B" SHAFT Flatted



TYPE "C" SHAFT Slotted

TYPE "D" SHAFT Knurled (Same as Type "A" except knurled)

For additional technical information, kindly write the factory. Your inquiry relative to "specials" is invited. Kindly list the details of your specifications and requirements.

RESISTORS, SUPPRESSORS and CONDENSERS



CONTINENTAL CARBON Division of Wirt Company, Phila 44, Pa.

WIRE WOUND RESISTORS



WIRE WOUND FIXED (POWER TYPE)

Ceramic core, vitreous enamel coated. All standard values 5 to 200 watts. $\pm 5\%$ standard. Special types also available.



WIRE WOUND ADJUSTABLE (POWER TYPE)

Ceramic base, tough moisture-resistant high temperature coating. 3 to 20 watts. Specials available.



WIRE WOUND (LOW POWER)

Axial lead, insulated, molded in phenolic. $\frac{1}{3}$ watt (.27 ohms to 10 ohms); $\frac{1}{2}$ watt and 1 watt (.27 to 24 ohms). $\pm 2, 5,$ or 10% standard. 1% available on special order.

TABLE OF SIZES AND RATINGS

Fixed Type No.	Adjustable Type No.	Wattage	Dimensions Length	Dia.	Resistance Min.	Range Max.	Wt. (oz.) Fixed	Wt. (oz.) Adjust.
VFR-1		5	1"	$\frac{3}{8}$ "	1 ohm	10K	0.4	
VFR-3	VAR-3	10	$1\frac{3}{4}$ "	$\frac{3}{8}$ "	1 ohm	25K	0.44	0.88
VFR-4	VAR-4	20	2"	$\frac{3}{8}$ "	1 ohm	50K	0.8	1.2
VFR-7	VAR-7	25	2"	$\frac{3}{4}$ "	1 ohm	50K	1.2	1.5
VFR-12	VAR-12	50	4"	$\frac{3}{4}$ "	5 ohms	100K	2.0	2.6
VFR-15	VAR-15	75	6"	$\frac{3}{4}$ "	5 ohms	100K	3.0	4.0
VFR-19	VAR-19	100	$6\frac{1}{2}$ "	$1\frac{1}{8}$ "	5 ohms	100K	4.9	5.8
VFR-22	VAR-22	160	$8\frac{1}{2}$ "	$1\frac{1}{8}$ "	5 ohms	100K	11.6	12.5
VFR-23	VAR-23	200	$10\frac{1}{2}$ "	$1\frac{1}{8}$ "	5 ohms	100K	15.0	16.0

STANDARD TOLERANCE: Fixed Types (50 ohms and higher) $\pm 5\%$; below 50 ohms $\pm 10\%$; Adjustable Types $\pm 10\%$.

RESISTANCE VALUES: All resistors available in resistance values as listed in EIA Standards.

LIST PRICE

FIXED Resistance Range*	VFR-1 5W	VFR-3 10W	VFR-4 20W	VFR-7 25W	VFR-12 50W	VFR-15 75W	VFR-19 100W	VFR-22 160W	VFR-23 200W
1 Ohm to 1K	.75	.75	.95	1.10	1.60	2.25	2.40	3.00	3.20
1.1K "	.75	.80	1.00	1.15	1.75	2.35	2.50	3.10	3.30
5.1K "	.80	.85	1.10	1.25	1.90	2.50	2.60	3.30	3.40
11K "		.95	1.25	1.40	2.10	2.70	3.00	3.50	3.70
26K "			1.45	1.60	2.40	3.00	3.20	3.70	4.00
51K "					2.70	3.30	3.50	4.00	4.20
76K "					3.00	3.60	3.80	4.30	4.50

ADJUSTABLE	VAR-3	VAR-4	VAR-7	VAR-12	VAR-15	VAR-19	VAR-22	VAR-23
1 Ohm to 1K	1.30	1.50	1.60	2.20	3.00	3.50	3.80	4.00
1.1K "	1.40	1.60	1.70	2.30	3.10	3.60	3.90	4.10
5.1K "	1.50	1.70	1.80	2.40	3.20	3.70	4.00	4.20
11K "		1.90	2.00	2.60	3.40	3.90	4.20	4.40
26K "			2.30	2.90	3.70	4.20	4.50	4.70
51K "				3.20	4.00	4.50	4.80	5.00
76K "				3.70	4.50	5.00	5.30	5.50

*Consult table for minimum and maximum resistance for each type.

Type	Wattage	Resistance Range	Dimensions Length	Dia.	List Price $\pm 5\%$	$\pm 10\%$
WM10	$\frac{1}{2}$	.27 ohms to 10 ohms	$\frac{3}{8}$ "	$\frac{1}{8}$ "	\$.25	\$.20
WM20	$\frac{1}{2}$	.27 ohms to 24 ohms	$\frac{5}{8}$ "	$\frac{1}{2}$ "	.30	.25
WM25	1	.27 ohms to 24 ohms	1"	$\frac{3}{8}$ "	.35	.30

TINNED COPPER LEADS: WM10 - #21AWG; WM20 and WM25 - #20AWG.

RESISTANCE VALUES: All resistors available in resistance values as listed in EIA Standards.

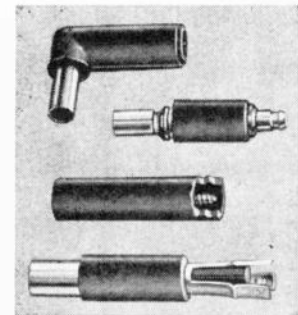
SUPPRESSORS AND CONDENSERS



Distributor and Spark Plug Suppressors... Easy to Install... Fit All Cars, Including 12-volt. Continental Suppressors are exactly engineered to effectively remove radio noise from ignition spark discharge at the plugs and high-tension distributor.

Type	Application	Dimensions Length & Dia.	Mounting	List Price
S20A	Sparkplug	$1\frac{1}{2}$ x $\frac{1}{2}$	Angle	\$.55
S19	Sparkplug	$1\frac{7}{8}$ x $\frac{1}{2}$	Vertical	.45
S21	Sparkplug	$1\frac{7}{8}$ x $\frac{1}{2}$	Vertical	.45
S23	Sparkplug	$1\frac{7}{8}$ x $\frac{1}{2}$	Angle	.45
S27	Sparkplug	$1\frac{1}{8}$ x $\frac{1}{2}$	Vertical-Screw	.50
C11	Distributor	$1\frac{1}{2}$ x $\frac{1}{2}$	Cable	.40
T24	Distributor	$1\frac{1}{2}$ x $\frac{1}{2}$	Angle-Snap	.55
T20	Distributor	$2\frac{3}{8}$ x $\frac{1}{2}$	Vertical Snap	.55

Net Unit Weight: -Approx. .033 Oz.



CARBOMITE RESISTORS



Insulated fixed composition resistors for replacement and service applications. Of compact design to conserve space; provide reliable stability under the most critical operating conditions.

Type	Watts	Resistance Range	Dimensions Length & Dia.	List Price $\pm 5\%$	$\pm 10\%$
M20	$\frac{1}{2}$	10 ohms to 22 meg.	$\frac{3}{8}$ x $\frac{3}{4}$	\$.40	\$.20
M25	1	10 ohms to 22 meg.	$\frac{5}{8}$ x $\frac{1}{2}$	.60	.30
M30	2	10 ohms to 22 meg.	$1\frac{1}{8}$ x $\frac{3}{8}$	.80	.40

Standard package - 50 and 250 per box.

RESIST-O-FILE TYPE MR

Five Type M resistors of one resistance, type and tolerance on a 3x5 index card, using a staggered-tab card file system.

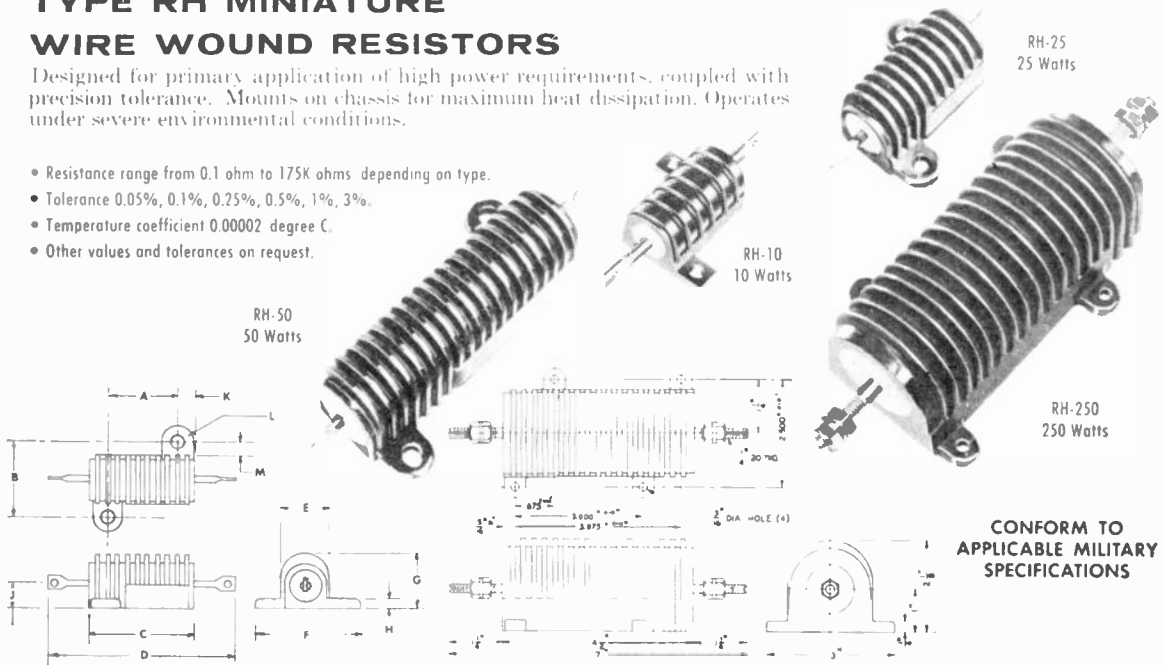
from **DALOHM**
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DALE PRODUCTS, INC.
 Columbus, Nebr.

INHERENT STABILITY Assured in DALOHM Resistors

TYPE RH MINIATURE WIRE WOUND RESISTORS

Designed for primary application of high power requirements, coupled with precision tolerance. Mounts on chassis for maximum heat dissipation. Operates under severe environmental conditions.

- Resistance range from 0.1 ohm to 175K ohms depending on type.
- Tolerance 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%.
- Temperature coefficient 0.00002 degree C.
- Other values and tolerances on request.



CONFORM TO
 APPLICABLE MILITARY
 SPECIFICATIONS

DIMENSIONS													
TYPE	A	B	C	D	E	F	G	H	J	K	L	M	WEIGHT
RH-10	.562 + .005	.625 + .005	3/4 - 1/32	1-3/8 - 1/16	7/16 + 1/32	13/16 + 1/32	13/32 - 1/32	3/32 + 1/64	13/64 - 1/64	.093 + .010	.093 + .005	3/32 - 1/64	5.5 Grams
RH-25	.719 ± .005	.781 + .005	1-1/16 ± 1/32	1-15/16 - 1/16	9/16 + 1/32	1-3/32 + 1/32	9/16 + 1/32	3/32 + 1/64	1/4 - 1/64	.171 + .010	.125 + .005	1/8 + 1/64	11.8 Grams
RH-50	1.563 + .005	.844 + .005	1-31/32 - 1/32	2-25/32 - 1/16	5/8 + 1/32	1-5/32 + 1/32	5/8 - 1/32	3/32 + 1/64	9/32 - 1/64	.196 + .010	.125 + .005	1/8 - 1/64	24.5 Grams

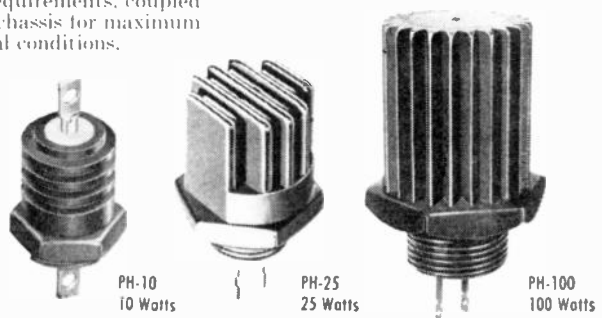
Request Bulletin R-21

TYPE PH POWER HOUSE Miniature Wire Wound Resistors

Designed for primary application of high power requirements, coupled with precision tolerance. Mounts through hole in chassis for maximum heat dissipation. Stable under severe environmental conditions.

- Resistance range from 0.1 ohm to 60K ohms, depending on type.
- Tolerance 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%.
- Temperature coefficient 0.00002/degree C.
- Other values and tolerances on request.

Request Bulletin R-36



from **DALOHM**
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INHERENT STABILITY Assured in DALOHM Resistors

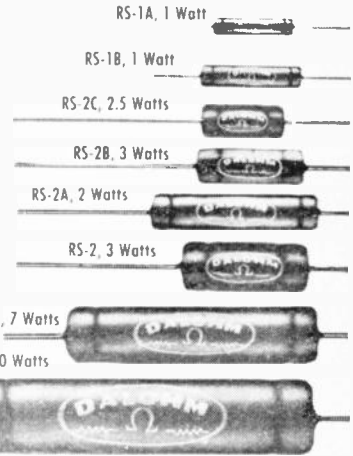
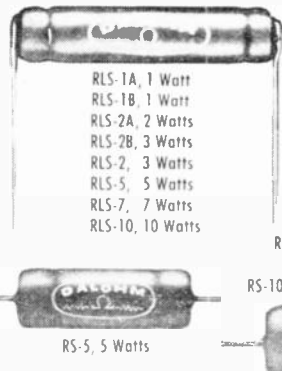
TYPE RS and RLS MINIATURE WIRE WOUND RESISTORS

RS TYPE is designed to meet precision power requirements in advanced electronic circuits where space is a premium. Outstanding silicone coating maintains stable performance under adverse environmental conditions. Type RS supplied with axial leads. Type RLS with radial leads — especially designed for printed circuit applications.

- Resistance range from .05 ohm to 175K ohms, depending on type
- Tolerance 0.05%, 0.1%, 0.25%, 0.5%, 1%, 3%.
- Temperature coefficient 0.00002 degree C.



Type	Dim. A	Dim. B	Max. Res. Value
RS-1A RLS-1A	13/32" ± 1/16"	3/32" ± 1/32"	7,500 Ohms
RS-1B RLS-1B	17/32" ± 1/16"	3/32" ± 1/32"	10,000 Ohms
RS-2A RLS-2A	13/16" ± 1/16"	3/16" ± 1/32"	28,000 Ohms
RS-2B RLS-2B	9/16" ± 1/16"	3/16" ± 1/32"	20,000 Ohms
RS-2C	1/2" ± 1/16"	7/32" ± 1/32"	20,000 Ohms



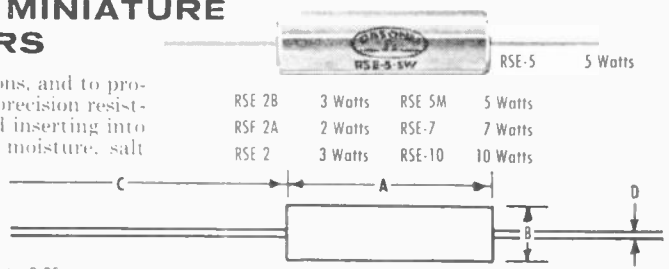
Request Bulletin R-23 & R-30

Type	Dim. A	Dim. B	Max. Res. Value
RS-2 RLS-2	5/8" ± 1/16"	1/4" ± 1/32"	30,000 Ohms
RS-5 RLS-5	7/8" ± 1/16"	5/16" ± 1/32"	60,000 Ohms
RS-7 RLS-7	1 1/32" ± 1/16"	5/16" ± 1/32"	90,000 Ohms
RS-10 RLS-10	1 25/32" ± 1/16"	3/8" ± 1/32"	175,000 Ohms

TYPE RSE RUGGEDIZED MINIATURE WIRE WOUND RESISTORS

Designed to meet toughest environmental conditions, and to provide a complete insulated resistor by suspending precision resistance unit in special shock absorbing material and inserting into metal tube. Gives complete protection against moisture, salt spray, vibration and mechanical shock.

- Resistance range from .5 ohm to 175K ohms, depending on type.
- Tolerance 0.05%, 0.1%, 0.25%, 0.5%, 1% and 3%.
- Dielectric strength: 1000 VAC
- Temperature coefficient: 0.00002 degree C.



Request Bulletin R-25

CONFORM TO APPLICABLE MILITARY SPECIFICATIONS

Type	Wattage Rating	Dim. A (inches)	Dim. B (inches)	Dim. C (inches)	Dim. D	Max Res	Min Res.	MIL R-26-C
RSE-2A	2	15/16 ± 1/32	.220 ± .005	1-7/16 ± 1/8	.032	28 K	.5 Ohms	No
RSE-2B	3	11/16 ± 1/32	.220 ± .005	1-7/16 ± 1/8	.032	20 K	.5 Ohms	No
RSE-2	3	13/16 ± 1/32	.260 ± .005	1-7/8 ± 1/8	.040	30 K	2 Ohms	No
RSE-5	5	1-5/64 ± 1/32	.330 ± .005	1-7/8 ± 1/8	.040	60 K	5 Ohms	No
RSE-5M	5	1-7/16 ± 1/32	.385 ± .005	1-7/8 ± 1/8	.040	100 K	5 Ohms	RW 55
RSE-7	7	1-23/64 ± 1/32	.330 ± .005	1-7/8 ± 1/8	.040	90 K	7 Ohms	No
RSE-10	10	1-61/64 ± 1/32	.385 ± .005	1-7/8 ± 1/8	.040	175 K	10 Ohms	RW 56

NS TYPE is a wire wound resistor designed to meet non-inductive power requirements in electronic circuits where space is at a premium. Non-inductive characteristics are achieved through new winding techniques which provide alternately reversed layers.

Five wattages—2, 3, 5, 7 and 10; six sizes; resistance range from 1 ohm to 37K ohms, depending on size and type; precision tolerance range: ± 0.05% to ± 3%.

NLS TYPE with radial leads for printed circuit applications — available in same sizes, tolerances and values as NS TYPE shown above.

Your request for samples and quotations are cordially invited.

NS-5 5 Watts



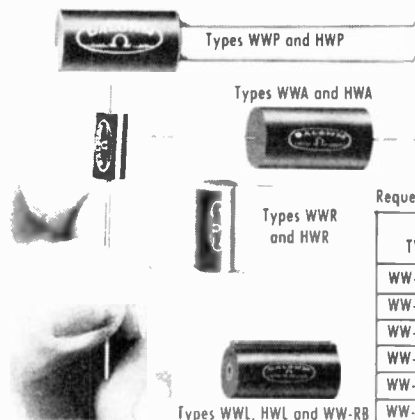
- NS-10 10 Watts
- NS-7 7 Watts
- NS-2 3 Watts
- NS-2A 2 Watts
- NS-2B 3 Watts

Request Bulletin R-34

from **DALOHM**
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INHERENT STABILITY Assured in DALOHM Resistors

WIRE WOUND ENCAPSULATED PRECISION RESISTORS SURPASS MIL-R-93B



Type WW and HW resistors are wire wound, non-inductive resistors encapsulated to provide absolute protection to environments. Series WWA, WWL, WWR and WWP resistors are designed to operate at full power at 85° C. Series HWA, HWL, HWR and HWP are designed to operate at full power up to 125° C.

- Resistance range from 0.1 ohm to 5 Megohms
- Tolerances: 0.05%, 0.1%, 0.25%, 0.5% and 1%
- Powered at .1 watt to 2.5 watts, depending on sizes, type and tolerance
- Temperature coefficient: 0.00002/degree C. Standard tolerance 1%

Request Bulletin R-26

TYPE	A	B	Res. Range	Wattage	Standard Tolerance	MIL. TYPE
WW-RB-09	1/2 ± 1/32	9/16 ± 1/32	.1 Ohm to .25 Megohm	.125 W	1%	RB-09
WW-RB-15	15/32 ± 1/32	5/8 ± 1/32	.1 Ohm to .4 Megohm	.25 W	1%	RB-15
WW-RB-16	5/8 ± 1/32	1/8 ± 1/32	.1 Ohm to .75 Megohm	.33 W	1%	RB-16
WW-RB-17	1 ± 1/32	1/2 ± 1/32	.1 Ohm to 1 Megohm	.5 W	1%	RB-17
WW-RB-18	1-1/4 ± 1/32	3/4 ± 1/32	.1 Ohm to 3 Megohm	.75 W	1%	RB-18
WW-RB-19	2-1/8 ± 1/32	7/8 ± 1/32	.1 Ohm to 6 Megohm	1 W	1%	RB-19

Part number is combination of Type designation and Size suffix:
 WWA-13, HWA-13



TYPE WW - Characteristic A
TYPE HW - Characteristic C

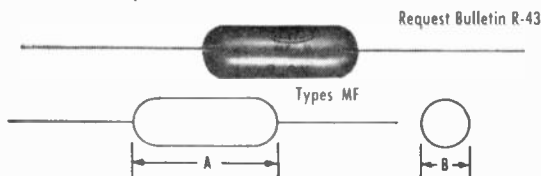
TYPES		SIZE Suffix	A	B	Resistance		WATTAGE			Mil Spec	Max. Mil Res
STANDARD WW	HI-TEMP HW				Max.	Min.	Standard at 85° C. 20 H.R.	40° H.R.	Hi-Temp. at 125° C.		
— — — —	HWA — — —	-13-1	.410	.085	50K	10 Ohms	No	No	2 W	—	—
WWA — — —	HWA — — —	-13	3/8	1/8	50K	10 Ohms	.1 W	.2 W	1 W	—	—
WWA WWP — —	HWA HWP — —	-22	1/4	1/4	150K	10 Ohms	.15 W	.3 W	.15 W	RB-56	125 Megohm
— — WWL WWR	HWA — HWL HWR	-23	3/8	1/4	200K	10 Ohms	—	—	.15 W	—	—
WWA WWP WWL WWR	HWA HWP HWL HWR	-24	1/2	1/4	300K	10 Ohms	.2 W	.4 W	.2 W	RB-55	.225 Megohm
WWA — — — —	HWA — — — —	-26	3/4	1/4	400K	10 Ohms	.25 W	.5 W	.25 W	RB-54	33 Megohm
— — — —	HWA — — — —	-28	1	1/4	500K	10 Ohms	—	—	.3 W	—	—
WWA WWP WWL WWR	HWA HWP HWL HWR	-34	1/2	3/8	500K	10 Ohms	.25 W	.5 W	.25 W	—	—
WWA WWP WWL WWR	HWA HWP HWL HWR	-36	3/4	3/8	750K	10 Ohms	.3 W	.6 W	.3 W	RB-53	.75 Megohm
WWA WWP WWL WWR	HWA HWP HWL HWR	-38	1	3/8	1 Megohm	10 Ohms	.4 W	.8 W	.4 W	RB-52	1 Megohm
WWA — WWL —	— — — —	-44	1/2	1/2	7-00 K	.1 Ohm	.5 W	1 W	—	—	150 K
WWA — WWL —	— — — —	-45	3/8	1/2	1 Megohm	.1 Ohm	.5 W	1 W	—	—	250 K
WWA — WWL —	HWA — — — —	-48	1	1/2	2 Megohms	.1 Ohm	.75 W	1.5 W	.75 W	—	500 K
WWA — WWL —	HWA — — — —	-4-12	1-1/2	1/2	4 Megohms	.1 Ohm	.875 W	1.75 W	.875 W	—	850 K
WWA — WWL —	HWA — — — —	-4-16	2	1/2	5 Megohms	.1 Ohm	1.0 W	2.0 W	1.0 W	—	1.25 Megohms

TYPE MF MINIATURE METAL FILM RESISTORS

CONFORM TO APPLICABLE MILITARY SPECIFICATIONS

A metal film resistor that combines advantages of Dalohm's molding techniques with advanced high vacuum evaporated metal film procedures to provide the best characteristics of wire wound resistors while retaining miniature size. It has inherently good H.F. characteristics, low noise levels, high stability, complete insulation, low and controllable temperature coefficients, and the ability to withstand rigorous environmental conditions.

- Resistance range from 100 ohms to 4 Megohms, depending on size
- Tolerance 1%
- Temperature coefficient 50 PPM and 100 PPM
- Full power to 125° C., derates to 0 at 165° C.
- Completely insulated



TYPE	A	B	Resistance Range	Power Rating
MF-1/8	13/32	9/64	100 Ohms to 100K Ohms	1/8 Watt
MF-1/4	19/32	13/64	100 Ohms to 200K Ohms	1/4 Watt
MFS-1/2	3/4	1/4	100 Ohms to 1 Megohm	1/2 Watt
MF-1	1-3/32	3/8	100 Ohms to 2 Megohms	1 Watt
MF-2	2-1/4	3/8	100 Ohms to 4 Megohms	2 Watts

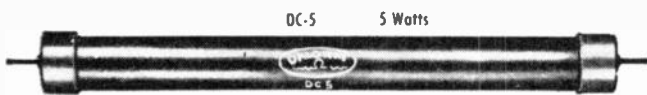
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 Columbus, Nebr.

INHERENT STABILITY Assured in DALOHM Resistors

TYPE DC DEPOSITED CARBON RESISTORS

DC TYPE is a low cost miniature resistor designed for good protection from moisture and other environmental conditions. Ideal for high frequency applications.

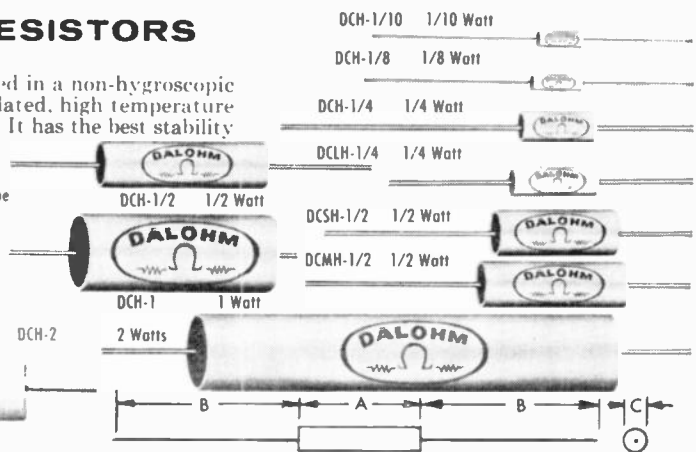
- Resistance range from 10 ohms to 200 Megohms, depending on type
- Tolerance 1%



TYPE DCH HERMETIC SEAL RUGGEDIZED DEPOSITED CARBON RESISTORS

DCH TYPE is a DC TYPE hermetically sealed in a non-hygroscopic ceramic envelope to provide a completely insulated, high temperature resistor with improved electrical characteristics. It has the best stability available in deposited carbon resistors.

- Resistance range from 1 ohm to 150 Megohms, depending on type
- Tolerance 1%
- Completely impervious to moisture and salt spray
- Endures severe mechanical shock
- Best stability available in carbon resistor
- Completely insulated for either clip or lead mounting



TYPE	A	B	C	STANDARD RESISTANCE RANGE	MAX. WEIGHT (Grams)	MIL EQUIVALENT
DC-1/10	1.4 ± 1/8	1-1/2 ± 1/8	5/64 ± 1/64	100 Ohms to 100K Ohms	3 grams	NO
DC-1/8	9.32 ± 1/64	1-1/2 ± 1/8	3/32 ± 1/64	10 Ohms to 500K Ohms	0.2 grams	NO
DC-1/4	13.32 ± 1/64	1-1/2 ± 1/8	3/32 ± 1/64	10 Ohms to 1 Megohm	0.22 grams	RN10
DCL-1/4	17.32 ± 1/64	1-1/2 ± 1/8	3/32 ± 1/64	10 Ohms to 1.5 Megohms	1.0 grams	NO
DCS-1/2	1.2 ± 1/16	1-1/2 ± 1/8	3/16 ± 1/32	10 Ohms to 5 Megohms	0.7 grams	RN20
DCM-1/2	11/16 ± 1/16	1-1/2 ± 1/8	3/16 ± 1/32	10 Ohms to 5 Megohms	0.9 grams	NO
DC-1/2	13/16 ± 1/16	1-1/2 ± 1/8	3/16 ± 1/32	10 Ohms to 5 Megohms	1.1 grams	NO
DC-1	15/16 ± 1/16	1-1/2 ± 1/8	5/16 ± 1/32	10 Ohms to 2 Megohms	2.5 grams	RN25
DC-2	2-1/16 ± 1/16	1-1/2 ± 1/8	5/16 ± 1/32	10 Ohms to 50 Megohms	5.0 grams	RN30
DC-5	4 ± 1/8	1-1/2 ± 1/8	13/32 ± 1/32	100 Ohms to 200 Megohms	9.4 grams	NO
DCH-1/10	1.4 ± 1/8	1-1/2 ± 1/8	7/64 ± .010	100 Ohms to 100K Ohms	.4 grams	NO
DCH-1/8	9.32 ± 1/32	1-1/2 ± 1/8	.155 ± .010	10 Ohms to 500K Ohms	.4 grams	NO
DCH-1/4	7.16 ± 1/32	1-1/2 ± 1/8	.155 ± .010	10 Ohms to 1 Megohm	.6 grams	RN60
DCLH-1/4	39/64 ± 1/32	1-1/2 ± 1/8	.175 ± .010	10 Ohms to 2 Megohms	.7 grams	RN65
DCSH-1/2	21.32 ± 1/32	1-1/2 ± 1/8	.250 ± .010	10 Ohms to 2 Megohms	1.6 grams	NO
DCMH-1/2	3.4 ± 1/32	1-1/2 ± 1/8	.250 ± .010	5 Ohms to 5 Megohms	1.95 grams	RN70
DCH-1/2	7.8 ± 1/32	1-1/2 ± 1/8	.250 ± .010	5 Ohms to 5 Megohms	2.3 grams	NO
DCH-1	1-3.32 ± 1/32	1-1/2 ± 1/8	.400 ± .010	5 Ohms to 10 Megohms	5.2 grams	RN75
DCH-2	2-1.14 ± 1/32	1-1/2 ± 1/8	.400 ± .010	5 Ohms to 50 Megohms	10.2 grams	RN80
DCH-5	4-1/4 ± 1/8	1-1/2 ± 1/8	9/16 ± 1/32	100 Ohms to 150 Megohms	21 grams	NO

Other values available on request

**CONFORM TO
 APPLICABLE MILITARY
 SPECIFICATIONS**

Your request for samples and quotations are cordially invited.

Request Bulletins R-24 and R-27

from **DALOHM**
*Better things in
 smaller packages*
DALE PRODUCTS, INC.
 Columbus, Nebr.

INHERENT STABILITY Assured in DALOHM Resistors

MC TYPE MOLDED DEPOSITED CARBON RESISTORS

MC TYPE is a deposited carbon resistor completely insulated and protected from environmental and mechanical damage by molded housing. It assures outstanding stability and has excellent high frequency characteristics.

- Resistance range from 5 ohms to 50 Megohms, depending on type
- Tolerance 1%



DIMENSIONS				
TYPE	A	B	C	RESISTANCE RANGE
MC-1/8	13/32	1-1/2	9/64	10 ohms to 500K Ohms
MC-1/4	19/32	1-1/2	13/64	5 ohms to 1 Megohm
MCS-1/2	3/4	1-1/2	1/4	10 ohms to 5 Megohms
MC-1	1-3/32	1-1/2	3/8	10 ohms to 10 Megohms
MC-2	2-1/4	1-1/2	3/8	10 ohms to 50 Megohms



- MC-1/8 1/8 Watt
- MC-1/4 1/4 Watt
- MCS-1/2 1/2 Watt
- MC-1 1 Watt

Request Bulletin R-35

TYPE DCF MINIATURE INSULATED DEPOSITED CARBON RESISTORS

Special coating makes this a completely insulated resistor, yet maintains miniature size. Designed for complete protection from moisture, salt spray and other severe environmental conditions and assures outstanding stability for carbon film resistors. Has excellent high frequency characteristics.

- Resistance range from 10 ohms to 50 Megohms, depending on type.
- Tolerance 1%.
- Temperature coefficient 500 P.P.M. maximum.



- DCF-1/10 1/10 Watt
- DCF-1/8 1/8 Watt
- DCF-1/4 1/4 Watt
- DCLF-1/4 1/4 Watt
- DCSF-1/2 1/2 Watt
- DCMF-1/2 1/2 Watt
- DCF-1/2 1/2 Watt
- DCF-1 1 Watt

DIMENSIONS				
TYPE	A	B	C	RESISTANCE RANGE
DCF-1/10	1/4	5/64	1-1/2	100 ohms to 100K ohms
DCF-1/8	5/16	7/64	1-1/2	10 ohms to 500K ohms
DCF-1/4	7/16	7/64	1-1/2	10 ohms to 1 Megohm
DCLF-1/4	17/32	7/64	1-1/2	10 ohms to 1.5 Megohms
DCSF-1/2	9/16	3/16	1-1/2	10 ohms to 5 Megohms
DCMF-1/2	11/16	3/16	1-1/2	10 ohms to 5 Megohms
DCF-1/2	13/16	3/16	1-1/2	10 ohms to 5 Megohms
DCF-1	1	5/16	1-1/2	10 ohms to 10 Megohms
DCF-2	2-1/16	5/16	1-1/2	10 ohms to 50 Megohms



Other values available on request
 Request Bulletin R-42

CONFORM TO APPLICABLE
 MILITARY SPECIFICATIONS

SEALED MINIATURE WIRE WOUND TYPE 1000 and 750 TRIMMER POTENTIOMETERS



1000 and 750 TYPES are precision trimmer potentiometers with completely sealed cases and welded construction throughout, enabling them to withstand stringent environmental conditions. Three terminal configurations provide the solutions for demanding design problems.

	750	1000
• Rated at	2 watts	2.5 watts
• Resistance range	10 ohms to 30K ohms	10 ohms to 50K ohms
• Standard tolerance	± 5%	± 5%
• Size	.180 x .300 x 1.00"	.180 x .300 x 1.25"
• Screw adjustment	17 ± 2 revolutions	25 ± 2 revolutions
• Weight	2 grams	2.5 grams

Request Bulletin R-41 & R-44

WIRE WOUND TRIMMER POTENTIOMETERS



The A10-W, B11-W and C12-W trimmers are ruggedly constructed potentiometers providing reliability under adverse environmental conditions.

	A10-W	B11-W	C12-W
• Rated at	1 watt	1 watt	1/2 Watt
• Resistance range	10 ohms to 30K ohms	10 ohms to 100K ohms	10 ohms to 20K ohms
• Standard tolerance	± 5%	+ 10%	± 15%
• Size	.220 x .312 x 1.250	.220 x .312 x 1.250	.220 x .312 x 1.250
• Screw adjustment	25 ± 2 revolutions	25 ± 2 revolutions	25 ± 2 revolutions
• Weight	2.25 grams	2.25 grams	2.25 grams

Request Bulletins R-32, R-37 & R-38

TYPE A10-C DEPOSITED CARBON TRIMMER POTENTIOMETER

A10-C TYPE is a superior performing deposited carbon trimmer potentiometer.

Request Bulletin R-45



ELECTRONICS DISTRIBUTOR DIVISION

ERIE RESISTOR CORPORATION — ERIE, PA.
National Distributors for Corning Glass Works Electronic Components



CORNING FUSION-SEALED RESISTORS...TYPE NF65

Features

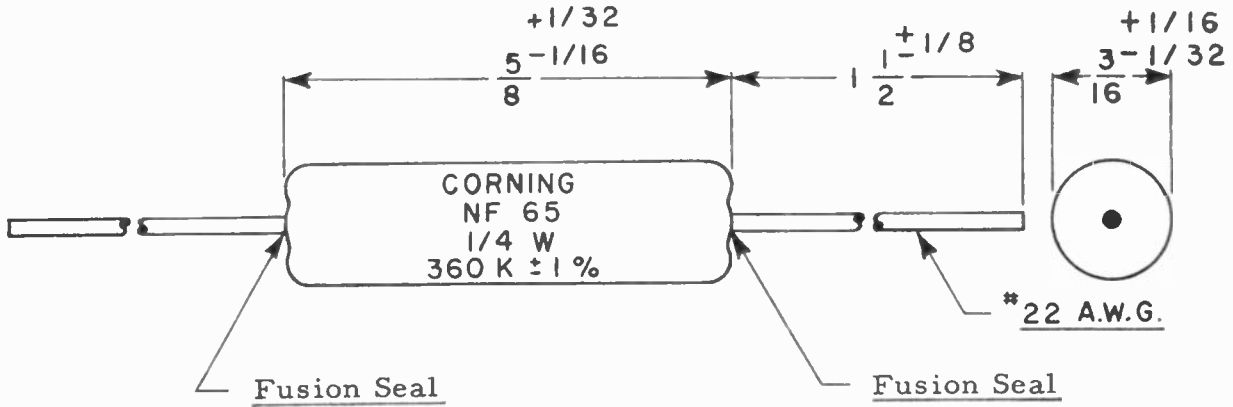
Resistor Element: High stability tin oxide film
Enclosure: Completely fused glass encapsulation with a true glass-to-metal seal at the leads
Terminals: Copper clad nickel-iron, hot solder dipped for reliable soldering or welding

Electrical Characteristics

Power Rating: ¼ watt
Maximum Voltage: 300 volts
Resistance Range: 10-360K ohms
Tolerances: 1, 2 and 5%

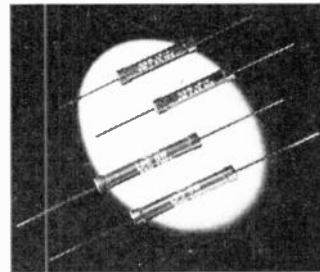
Performance

Exceeds Mil-R-10509C — characteristic B
Temperature Coefficient: ±300 PPM/°C
Withstands boiling salt water immersion with no change in electrical performance



CORNING FILM TYPE RESISTORS...TYPE N

CORNING TYPE N RESISTORS
MIL-R-10509B SPECIFICATIONS
RELIABLE • STABLE • ECONOMICAL



Corning Type N Fixed Film Resistors consist of a metallic oxide film integrally bonded to PYREX brand glass at red heat. The rugged film is non-inductive, inherently impervious to moisture, and unaffected by heat of soldering, repeated overloads or normal production handling.

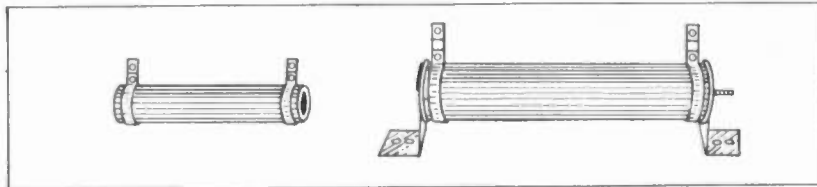
SPECIFICATIONS

Tolerance—Standard tolerances are 1, 2, and 5%. Special resistance-matched pairs as well as ½% tolerance resistors are supplied. Tolerance calibrated at 25°C. ambient.

TYPE		RESISTANCE		WATTAGE	VOLTAGE RATING	DIMENSIONS		TERMINAL		
MIL	CGW	MIN.	MAX.			LENGTH	DIAMETER	TYPE	A.W.G.	LENGTH
RN20	N-20	10	500 K	½	350V	1½ ± ¼"	¼ ± ½"	Axial	20	1-½ ± ⅛"
RN25	N-25	10	1.5 Meg.	1	500V	1¾ ± ¼"	¼ ± ½"	Axial	20	1-½ ± ⅛"
RN30	N-30	30	4.2 Meg.	2	750V	2-¼ ± ½"	¼ ± ½"	Axial	20	1-½ ± ⅛"



CORNING TYPE R HIGH-POWER RESISTORS TO MIL-R-11804B SPECIFICATION



Corning Type R Power Resistors have a range of 10-1,000,000 ohms, ratings of 7-115 watts, and are non-inductive. They are designed for stable long-life service under the most adverse operating conditions. Noise and frequency characteristics are exceptionally good. Moisture resistance and overload capacity are superior.

Cores — The glass tube cores are made from a PYREX brand glass insuring highest resistivity even at elevated temperatures, low expansion, and unusual resistance to chemical and mechanical attack, as well as thermal shock. The cores are impervious, and the glass has been developed to eliminate electrolysis and voltage creepage.

Resistance Film — The resistive film of metallic oxides is as rugged as the glass. It is permanently and integrally bonded to the core at red heat. Expansions are matched. The film is practically noninductive at all usable frequencies.

Terminals — Silver metallized bands are fired onto the film conductor and core. Lug-type terminals of silver-plated copper alloy strip are expansion fitted over the silver bands to insure a perfect electrical and mechanical junction.

Silicone Coating — The coating is tough, moisture and acid resistant, and a good conductor of heat. It adds to the thermal shock resistance but is not essential to overall performance.

Mounting Brackets — These are supplied with the resistors at extra charge. They are made to MIL-R-11804B requirements.

Range — Resistance range varies with size and power. It is summarized on Table I. Standard tolerance is $\pm 5\%$ for striped or spiraled units.

Ratings — Power ratings are based on 25°C. operating ambient. Maximum operating ambient may be as high as 200°C. and hot spot temperature 235°C.

Temperature Coefficient — The value of temperature coefficient in the range of 25-85°C. is less than $\pm .035\%$ per deg. C. Type R resistors meet the requirements of MIL-R-11804B.

Stability — The average change of resistance after 500 hours operation at maximum dissipation at 25°C. ambient is 4%.

Overload — A standard 5-second overload of 6.25 times the rated power causes a permanent resistance change of less than 0.5%.

Humidity — Type R resistors more than meet the specifications for maximum resistance change of MIL-R-11804B.

Voltage Coefficient — The voltage coefficient averages less than .001% per volt.

Noise — Available data show an inherent noise level of less than .1 microvolt per volt.

Frequency Characteristics — The thin film construction of R type resistors makes them inherently noninductive. Inductance is of the order of magnitude of that of the terminals. They are particularly suited to sharp pulse work.

Design Information — The power ratings in Table I are for horizontal operation. When vertically operated, the dissipation may be safely increased by about 12%. Power ratings may be increased 4 times by forced air cooling.

TABLE I

STYLE	RATED WATTS	OHMIC VALUES		Temperature Rise of Rated Load in Centigrade	Maximum Oper. Temperature in Centigrade
		Min.	Max.		
R 31	7	10	70,000	200	225
R 33	13	30	150,000	200	225
R 35	25	20	300,000	200	225
R 37	55	20	500,000	200	225
R 39	115	40	1,000,000	200	225

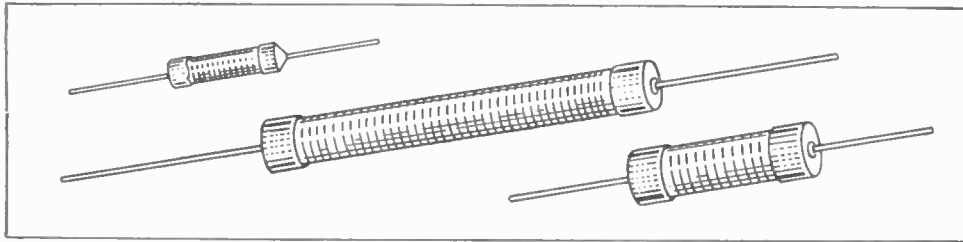
ELECTRONICS DISTRIBUTOR DIVISION

ERIE RESISTOR CORPORATION — ERIE, PA.

National Distributors for Corning Glass Works Electronic Components



CORNING FIXED FILM RESISTORS — TYPE S



CORNING TYPE S RESISTORS (MIL-R-11804B SPECS) FOR RELIABLE, STABLE, ACCURATE OPERATION UP TO 200°C.

Corning has developed these fixed film Type S resistors to meet problems of small space and high ambient temperatures.

These are not ordinary film-type resistors. They are integral units made by bonding a metallic oxide film to PYREX brand glass at red heat. The rugged film is noninductive, impervious to moisture, unaffected by the heat of soldering and is more abrasion resistant than the base glass itself.

APPLICATIONS

- Miniature power units
- High-gain, low-signal amplifiers
- Computers
- Missiles where shelf-life is critical
- Aircraft instruments where weight is critical

SPECIFICATIONS

Resistance Element — An accurate, stable, metallic oxide film, fused to a PYREX brand glass core, meets the most exacting circuit needs. The film thickness ranges from 20-50 microinches. Rugged performance does not depend on encapsulation.

Protective Coating — Moisture-resistant, high temperature Silicone lacquer is baked on the resistor for extra mechanical and dirt protection. Plastic stand-off insulating sleeves over end caps available for special applications. Fungus-resistant coating per MIL-V-173A is available if desired.

Tolerance — Tolerances are 1, 2, 5, and 10%. Tolerance calibrated at 25°C. ambient.

Power Rating — Full rating at 120°C. ambient. Double rating at 40°C. ambient for miniaturized power applications.

Stability — The maximum change in resistance is guaranteed to be less than 3% when tested with DC power on 1½ hours, off ½ hour, for 1,000 hours, employing proper power per derating curve for any particular ambient.

Overload — A standard 5-second overload of 10 times rated power causes a permanent resistance change of less than 1.0%. Repeated overloads cause negligible further changes.

Voltage Coefficient — Negligible factor averaging less than 0.001% per volt.

Temperature Coefficient — For the Type S resistor, a temperature coefficient of ±0.03% per °C. can be guaranteed from -55°C. to +235°C. referenced to 25°C.

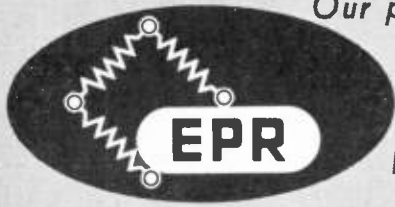
Humidity — Core and film are impervious to moisture. Corning Type S resistors more than meet the moisture-resistance tests per MIL-R-11804B.

Noise — Extremely low noise level. Some sources indicate readings 1,10 those of carbon film resistors.

Frequency Characteristics — Corning Type S resistors are noninductive up to and over 250 mc. The capacitive component varies between 0.2 to 1.0 uuf as frequency increases to 250 mc.

Shelf Life — One year aging shows less than 0.2% resistance change under the most adverse conditions.

TYPE		RESISTANCE		WATTAGE		Voltage	DIMENSIONS		AXIAL TERMINALS	
MIL	CGW	Min.	Max.	120°C.	40°C.	Rating	Length	Diameter	A.W.G.	Length
RD60	S-20	10	500 K	½	1	350	1½/32 ± ¼/32"	1¼/4 ± 1/32"	20	1½ ± 1/8"
RD65	S-25	10	1.5 Meg.	1	2	500	1½/16 ± ¼/16"	1¼/4 ± 1/32"	20	1½ ± 1/8"
RD70	S-30	30	4.2 Meg.	2	4	750	2¼/16 ± ¼/16"	1¼/4 ± 1/32"	20	1½ ± 1/8"



Our principal product—**RELIABILITY**

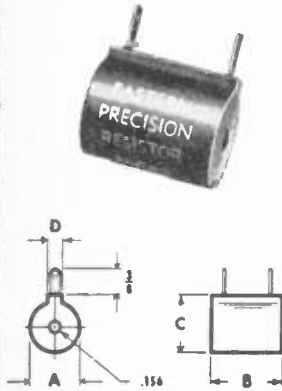
A COMPLETE LINE OF ENCAPSULATED PRECISION WIRE WOUND RESISTORS

EASTERN PRECISION RESISTOR CORPORATION

Brooklyn 7, New York

"N-CAP" Series

ENCAPSULATED LUG TYPE



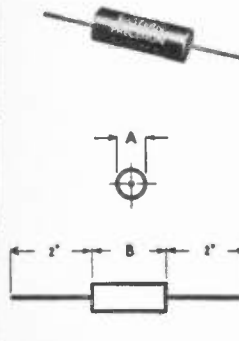
EPR STYLE	A	B	C	D	MIL EQUIV.	MIL WATT	COMM WATT	MIL MAX RES.	MAX COMM RES.
N-109E	1/2"	1/2"			RB-09	.125	.25	250K	1.5M
N-109	9/16"	1/2"	11/16"	3/16"			.25		2.5M
N-110E	5/8"	1/2"			RB-15	.25	5	400K	3M
N-110	5/8"	1/2"	3/4"	3/16"			5		3M
N-111E	9/16"	19/32"			RB-16	.33	66	750K	4M
N-111	3/4"	11/16"	7/8"	3/16"			66		5M
N-112E	5/8"	1"			RB-17	.5	1	1 MEG	5M
N-112A	13/16"	1"	27/32"	5/16"			1		8M
N-113E	11/16"	1-1/4"			RB-18	.75	1.5	3 MEG	10M
N-113	7/8"	1-1/4"	1"	3/16"			1.5		10M
N-114E	7/8"	2-1/8"			RB-19	1.0	2	6 MEG	15M
N-114	1-1/16"	2-1/8"	1-3/16"	1/4"			2		20M

"N-CAPS" are manufactured to surpass the requirements of MIL-R-93B characteristics "A" & "C". Wound on plastic bobbins and totally encapsulated in the same material these resistors represent the optimum in precision wire wound resistors.

* Clearance for a #2 screw

"NS" Series

ENCAPSULATED AXIAL LEAD TYPE

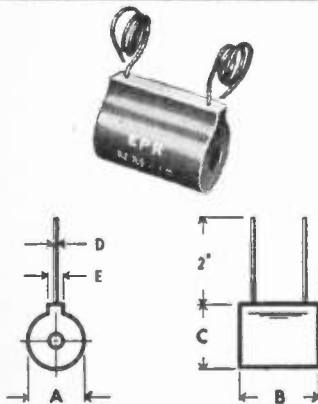


EPR STYLE	A	B	C (AWG)	MIL WATT	COMM WATT	MIL EQUIV.	MIL MAX RES.	MAX COMM RES.
NS-6AV	.150"	3/8"	#24		.2			150K
NS-6AV-SP	3/16"	1/2"	#24 a		.25			400K
NS-6AWE	1/4"	5/16"	#22	.125	.25	RB-56	125K	400K
NS-6AWM	1/4"	1/2"	#20	.15	.3	RB-55	225K	500K
NS-6AWG	1/4"	5/8"	#22		.4			650K
NS-6AH	7/16"	1/2"	#20		.4			1.4 MEG
NS-6AW	1/4"	3/4"	#20	.25	.5	RB-54	330K	800K
NS-6AF	3/8"	3/4"	#20	.33	.6	RB-53	750K	2.0 MEG
NS-6A	3/8"	1"	#20	.4	.8	RB-52	1 MEG	3 MEG
NS-6B	1/2"	1"	#20		1			5 MEG
NS-6C	1/2"	1-3/4"	#20		1.75			8 MEG
NS-6D	1/2"	2"	#20		2			10 MEG
NSH-2A	1/2"	1/2"	#20		.5			1.5 M
NSH-2B	1/2"	5/8"	#20		.6			1.7 M
NSH-2D	1/2"	1-1/2"	#20		1.5			7 MEG

Wound on plastic bobbins and encapsulated to meet the requirements of characteristics "A" & "C" of MIL-R-93B specification. Suitable where point to point wiring is indicated "NS" series resistors are adaptable to automation assembly.

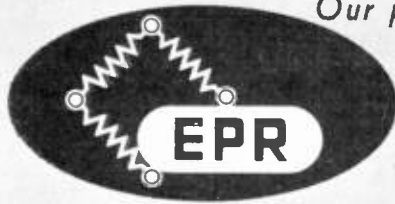
"NM" Series

ENCAPSULATED RADIAL LEAD TYPE



EPR STYLE	MAX RES.	WATT	A	B	C	D (AWG)	E
NM-2	130 K	.125	1/4"	1/4"	11/32"	#24	3/32"
NM-3	360 K	.17	1/4"	7/16"	5/16"	#22	3/32"
NM-4	1 meg	.25	1/4"	3/4"	5/16"	#22	3/32"
NM-5	1.5 meg	.33	1/4"	1"	5/16"	#22	3/32"
NM-6	720 K	.25	5/16"	7/16"	3/8"	#22	1/8"
NM-7	1.8 meg	.33	5/16"	3/4"	3/8"	#22	1/8"
NM-10	480 K	.25	3/8"	5/16"	19/32"	#22	5/32"
NM-12	1.9 meg	.5	3/8"	5/8"	1/2"	#22	1/8"

"NM" series resistors are encapsulated to the requirements of MIL-R-93B characteristics "A" & "C". Sub-miniature in size these resistors are designed to meet the specifications of critical applications wherein space and stability is a prime factor.



Our principal product—**RELIABILITY**

A COMPLETE LINE OF ENCAPSULATED PRECISION WIRE WOUND RESISTORS

EASTERN PRECISION RESISTOR CORPORATION

Brooklyn 7, New York

PRICE LIST

EPR STYLES

N-109, N-110, N-111, N-112A
ALL "NS"-AXIAL LEAD STYLES
ALL "NM"-RADIAL LEAD STYLES

RESISTANCE VALUES	LIST PRICE
25 Ohms	3.25
100 Ohms	2.10
5,000 Ohms	2.10
10,000 Ohms	2.15
15,000 Ohms	2.20
30,000 Ohms	2.45
50,000 Ohms	2.50
75,000 Ohms	3.00
100,000 Ohms	3.30
125,000 Ohms	3.80
150,000 Ohms	4.20
200,000 Ohms	4.65
250,000 Ohms	5.15
300,000 Ohms	5.40
400,000 Ohms	6.00
500,000 Ohms	6.75
600,000 Ohms	7.35
700,000 Ohms	8.05
750,000 Ohms	8.50
900,000 Ohms	9.10
1 Meg	9.55
1.5 Meg	12.40
2 Meg	15.20

EPR STYLES

N-113

RESISTANCE VALUES	LIST PRICE
25 Ohms	4.10
100 Ohms	2.60
5,000 Ohms	2.60
10,000 Ohms	2.75
15,000 Ohms	2.95
30,000 Ohms	3.10
50,000 Ohms	3.30
75,000 Ohms	3.60
100,000 Ohms	4.15
125,000 Ohms	4.50
150,000 Ohms	5.00
200,000 Ohms	5.55
250,000 Ohms	6.25
300,000 Ohms	6.85
400,000 Ohms	7.50
500,000 Ohms	8.30
600,000 Ohms	9.00
700,000 Ohms	9.65
750,000 Ohms	10.15
900,000 Ohms	10.70
1 Meg	11.25
1.5 Meg	13.25
2 Meg	16.95

EPR STYLES

N-114

RESISTANCE VALUES	LIST PRICE
25 Ohms	5.25
100 Ohms	3.55
5,000 Ohms	3.55
10,000 Ohms	3.55
15,000 Ohms	3.60
30,000 Ohms	3.90
50,000 Ohms	4.25
75,000 Ohms	4.80
100,000 Ohms	5.05
125,000 Ohms	5.50
150,000 Ohms	6.00
200,000 Ohms	6.50
250,000 Ohms	6.90
300,000 Ohms	7.00
400,000 Ohms	8.00
500,000 Ohms	8.85
600,000 Ohms	9.50
700,000 Ohms	9.95
750,000 Ohms	10.25
900,000 Ohms	11.00
1 Meg	12.10
1.5 Meg	16.65
2 Meg	20.75

STANDARD TOLERANCE

± 1%

SPECIAL TOLERANCE

± .5%
± .25%
± .10%
± .05%
± .01%

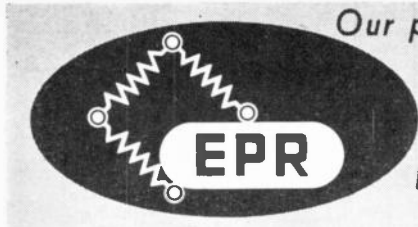
PRICING

Add 5% to Listed Prices
Add 10% to Listed Prices
Add 25% to Listed Prices
Add 50% to Listed Prices
Add 300% to Listed Prices

FOR PRICE OF VALUES NOT LISTED, USE NEXT HIGHER LISTED VALUE

EASTERN PRECISION RESISTOR CORP Brooklyn • New York

"Additional Information on EPR Trimming Potentiometers on Following Page 1094"



Our principal product-

RELIABILITY

A COMPLETE LINE OF ENCAPSULATED PRECISION WIRE WOUND TRIMMING POTENTIOMETERS.

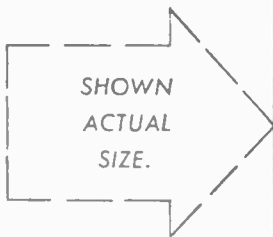
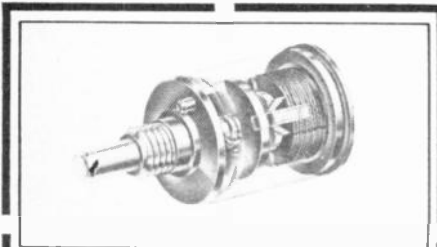
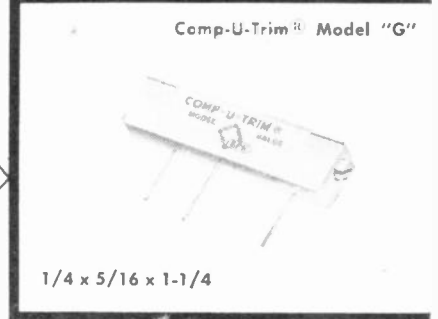
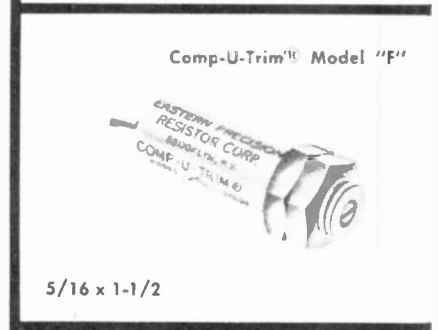
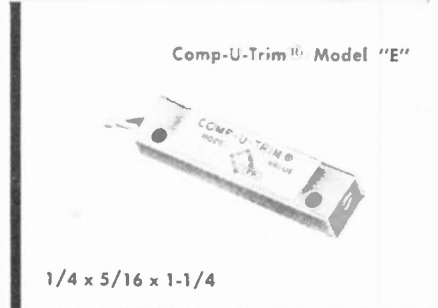
EASTERN PRECISION RESISTOR CORPORATION

Brooklyn 7, New York

COMP-U-TRIM[®] STANDARD VALUES

Part No.	Value in Ohms	Nominal Resolution %	Suggested Selling Price (1-9)
CUT-E-10R00	10	2.3	\$4.73
CUT-E-20R00	20	1.9	4.73
CUT-E-50R00	50	1.3	4.73
CUT-E-100R0	100	1.1	4.73
CUT-E-200R0	200	.8	4.73
CUT-E-500R0	500	.65	4.73
CUT-E-10000	1,000	.52	4.73
CUT-E-20000	2,000	.42	4.73
CUT-E-50000	5,000	.4	4.73
CUT-E-10001	10,000	.32	4.73
CUT-E-20001	20,000	.24	5.94
CUT-E-30001	30,000	.23	5.94

Note: The above part numbers, values, nominal resolutions and prices also apply to Comp-U-Trim[®] "F" and Comp-U-Trim[®] "G"



MULTI-TURN WIRE WOUND INFINITE RESOLUTION POTENTIOMETER

- LOW TEMPERATURE COEFFICIENT
- LOW NOISE
- LINEARITY TO .02%
- UP TO 1,000,000 REVOLUTIONS
- MEETS APPLICABLE MIL SPECIFICATIONS
- ALUMINUM ANODIZED HOUSING
- VALUES TO 30K

A new patented technique enables this wire wound potentiometer with infinite resolution, to operate under adverse conditions for extended periods of time.

Completely encased in all aluminum anodized housings featuring "O" ring seals, EPR's Models 131G and 137 are constructed with low temperature coefficient resistance wire and special precision metal contacts.

Additional literature upon request.



precision wire wound TRIMMING POTENTIOMETERS

Radically different in design, EPR's Comp-U-Trim[®] is the only trimming potentiometer that has the wiper contact inside of the resistance element . . . the only trimming potentiometer that is completely encapsulated . . . the only trimming potentiometer with zero percent end resistance . . . the only trimming potentiometer employing a one-piece metallic housing . . . the only trimming potentiometer that is designed with positive end stops, that ends seeking for minimum and maximum settings.

Massed produced in CLEAN areas these revolutionary trimming potentiometers are stocked by leading distributors everywhere.


Eastern Precision Resistor Corp. also invites inquiries regarding our line of Infinite Resolution wire-wound potentiometers.

Write for complete literature!

G-C ELECTRONICS

RESISTORS, FUSE-SISTORS, SWITCHES


AUTO RADIO ON/OFF SWITCHES



25-800 SWITCH

Replaces Chrysler Philco '51, '53, '54; DeSoto Motorola '51, '53, '54; Dodge Philco '51, '53, '54; Plymouth '51, '53.

No.	List Price
25-800	\$0.75



25-802 SWITCH

Replaces Chrysler Philco '55, '56; DeSoto Motorola '55, '56; Dodge Motorola '55, '56; Ford Zenith '46, '47, '48, '48 (truck), '49, '50; Ford Sylvania '51, '52, '53, '54; Hudson Sylvania '53; Lincoln Zenith '48, '49; Lincoln Sylvania '51, '52, '53, '54; Mercury Sylvania '51, '52, '53, '54; Plymouth Philco '55, '56; Plymouth Motorola '55, '56.


No.	List Price
25-802	\$0.75



25-804 SWITCH

Replaces Ford Motorola '57; Lincoln Bendix '55, '56; Mercury Bendix '55, '56; Thunderbird Motorola '56, '57.


No.	List Price
25-804	\$1.25



25-806 SWITCH

Replaces Chrysler Philco '42 to '48; DeSoto Philco '42 to '48; Dodge Philco '42 to '48; Plymouth Philco '42 to '48.

No.	List Price
25-806	\$0.75




25-808 SWITCH

Replaces Lincoln Bendix '57; Mercury Bendix '56, '57.

No.	List Price
25-808	\$0.75


G-C TIPON TOUCH-UPS



Repair scratches on TV cabinets, appliances, furniture, etc. Brush dispenser; 6 shades.

No.	List
25-850 Walnut	\$1.00
25-851 Mahogany	1.00
25-852 Blonde	1.00
25-853 Gold All-purpose	1.00
25-854 Appliance White	1.00
25-855 Black All-purpose	1.00

SAVE-A-TUBE



Reduces TV set tube failure from initial electrical surge during warm up and prevents cathode stripping. Wires into any set.

No.	List
25-888 (sets using 120-169 watts)	\$4.95
25-890 (sets using 170-275 watts)	\$4.95
25-892 (for all color TV sets)	\$6.95


TUBE SAVER



Simple plug-in protector that will increase tube life up to 300%; prevents voltage surges.

No.	List
25-898 (all black and white sets)	\$4.95
25-900 (all color TV sets)	5.95

SURGIATOR




Stops harmful voltage surges to tube filaments and other circuit components. Connects directly to power line.

No.	List
25-894 (all black and white sets)	\$1.85
25-896 (all color TV sets)	2.15

GLO-BAR THERMISTORS

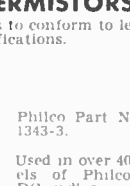
Exact factory replacements to conform to leading TV set specifications.



100% replacement for G.E. filament resistors. Also Motorola, Sears, Crosley, Hoffman, Teletone and Pathe.

No.	List
25-910 Kit of 2	\$2.80

SAVE-A-TUBE



Philco Part No. 33-1343-3.

Used in over 40 models of Philco AC-DC radios.

No.	List
25-922	\$1.20


CARBON RESISTORS



New G-C Stackpole Coldite 70 Carbon Resistors scientifically packaged to prevent damage. All 77 EIA values are clearly indicated in handy re-usable boxes. 1 2, 1, and 2 watt values; packed 6, 4 and 3 to box.

List Price	\$1.20
------------	--------

VOLTAGE DROPPING RESISTORS



These resistors reduce 12 volt auto electrical systems to 6 volts. Wire wound, high quality, for radios and other accessories.

No.	List
26-990 for 6 V. auto radios	\$2.50
12 to 6 V.	
26-992 for 6 V. accessories	3.00
12 to 6 V.	

TV FUSE-SISTORS



4.7 OHM TV FUSE-SISTOR

Replacement for Philco, many others.

No.	List
25-962	\$0.65



5.6 OHM TV FUSE-SISTOR

Replacement for RCA, Raytheon, Western Auto, etc.

No.	List
25-964	\$0.65



7.5 OHM TV FUSE-SISTOR

Replacement for RCA, Motorola, Zenith, Sylvania, etc. 1955 sets.

No.	List
25-960	\$0.65



9 OHM TV FUSE-SISTOR

Replacement for Gamble-Skogmo, Firestone, Raytheon, etc.

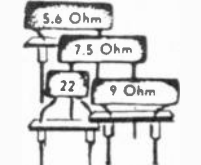
No.	List
25-966	\$0.65



22 OHM TV FUSE-SISTOR

Replacement for Motorola, many others.

No.	List
25-968	\$0.65



FUSE-SISTOR KIT

One each of 5.6, 7.5, 9 and 22 ohm Fuse-Sistors.

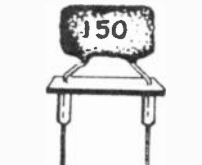
No.	List
25-998	\$2.50



150 OHM FUSE-SISTOR

0.12 Amp. replacement for Motorola radio.

No.	List
25-970	\$0.65



150 OHM TV FUSE-SISTOR

5 watt replacement for Motorola TV.

No.	List
25-972	\$0.65

YOURS FREE

Big G-C Catalog... send postcard today.



G-C ELECTRONICS MFG. CO. Division of GC - Textron Inc.
Western Plant: Los Angeles 18, Calif. Main Plant: ROCKFORD, ILLINOIS, U.S.A.



VITREOUS ENAMELED FIXED RESISTORS



5-WATT FIXED		10-WATT FIXED		20-WATT FIXED		25-WATT FIXED	
Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List
1-1000	\$0.75	0.5-1000	\$0.80	0.5-1000	\$1.05	1-1000	\$1.10
1100-5000	.80	1100-5000	.90	1200-5000	1.10	1500-5000	1.15
6000-10000	.85	6000-10000	1.00	6000-10000	1.20	6000-10000	1.25
12500-15000	.90	11000-20000	1.10	12500-20000	1.30	12000-20000	1.30
17500-20000	.95	22500-25000	1.20	25000-40000	1.50	25000-40000	1.50
22500-25000	1.00	30000-50000	1.35	45000-60000	1.75	50000-60000	1.70
				65000-80000	2.00	70000-80000	2.00
				85000-100000	2.30	100000	2.30

50-WATT FIXED		100-WATT FIXED		160-WATT FIXED		200-WATT FIXED	
Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List
1 Ohm	\$2.50	1-3	\$3.70	1-5	\$4.60	1-5	\$5.00
2-1000	1.80	4-1000	2.65	10-1000	3.30	10-1000	3.55
1500-5000	1.90	1250-5000	2.80	1500-5000	3.35	1500-5000	3.60
6000-10000	2.10	7500-10000	3.00	7500-10000	3.60	7500-10000	3.90
12000-20000	2.30	15000-20000	3.30	15000-20000	3.90	15000-20000	4.15
25000-35000	2.55	25000-40000	3.50	25000-40000	4.00	25000-40000	4.30
50000	2.85	50000-60000	3.70	50000-60000	4.15	50000-60000	4.40
75000	3.20	70000-75000	3.95	75000	4.40	75000	4.70
100000	3.50	100000	4.20	100000	4.70	100000	5.00
125000	3.70						
150000	3.85						
175000	4.00						
200000	4.15						
250000	4.65						

VITREOUS ENAMELED SLIDE-WIRE RESISTORS

10-WATT SLIDE-WIRE		25-WATT SLIDE-WIRE		50-WATT SLIDE-WIRE		75- OR 80-WATT SLIDE-WIRE	
Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List
1-1000	\$1.60	1-1000	\$2.05	1 Ohm	\$3.30	1-2	\$3.90
1250-5000	1.70	1250-5000	2.10	2-1000	2.60	3-1000	3.00
6000-10000	1.80	6000-10000	2.20	1250-5000	2.70	1250-5000	3.10
		12000-20000	2.30	6000-10000	2.90	6000-10000	3.30
		25000	2.50	12000-20000	3.10	15000-20000	3.50
				25000-40000	3.40	25000-40000	3.90
				50000-60000	3.60	45000-60000	4.00
				75000-80000	4.05	70000-80000	4.40
				100000	4.30	100000	4.75

100-WATT SLIDE-WIRE		160-WATT SLIDE-WIRE		200-WATT SLIDE-WIRE		SLIDER TERMINALS	
Ohms	Suggested List	Ohms	Suggested List	Ohms	Suggested List	Catalog Number	Suggested List
1-3	\$5.00	1-5	\$5.85	1-5	\$6.25	577A649G1	\$0.30
4-1000	3.95	10-1000	4.55	10-1000	4.80	577A649G3	.30
1500-5000	4.05	1500-5000	4.60	1500-5000	4.90	577A649G4	.30
6000-10000	4.25	7500-10000	4.90	7500-10000	5.20	577A649G5	.45
15000-20000	4.50	15000-20000	5.15	15000-20000	5.40	579A125G1	.40
25000-40000	4.80	25000-40000	5.30	25000-40000	5.50	579A125G2	.40
50000-60000	5.00	50000-60000	5.40	50000-60000	5.70	579A125G3	.50
75000	5.20	75000-80000	5.70	75000	5.95		
100000	5.45	100000	6.00	100000	6.25		



RESISTORS

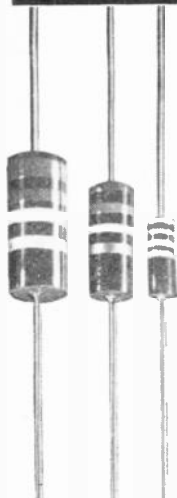
HIGH QUALITY
FIXED COMPOSITION



CAPACITORS

PAPER DIELECTRIC
CUSTOM MANUFACTURED

5% and 10% TOLERANCE, 1/2, 1 and 2 WATT RATINGS



Fixed composition resistors of highest quality, feature permanent electrical characteristics, small physical size for a given wattage rating, great mechanical strength. Leads are differentially tempered—prevent sharp bends near the resistor body while still permitting easy forming to fit a particular wiring arrangement.

Resistor bodies are molded brown phenolic with coding in brilliant colors.

2W 1W 1/2W (ACTUAL SIZE)

These resistors are now supplied in attractive new containers. Three convenient sizes with pull-out sections accommodate standard quantities of 1/2, 1 and 2 watt resistors.

A G-H innovation, Gold and Silver container ends, permits instant identification of 5% or 10% tolerance units. Quantity, wattage and resistance values are also clearly printed on these ends. These attractive black and green containers with Gold and Silver ends provide a space-saving, functional shelf display.



**CONVENIENT
ATTRACTIVE
PACKAGING**

ONE-HALF, ONE AND TWO WATT RATINGS						
10	82	680	5600	47,000	390,000	3.3 meg.
11	91	750	6200	51,000	430,000	3.6 "
12	100	820	6800	56,000	470,000	3.9 "
13	110	910	7500	62,000	510,000	4.3 "
15	120	1000	8200	68,000	560,000	4.7 "
16	130	1100	9100	75,000	620,000	5.1 "
18	150	1200	10,000	82,000	680,000	5.6 "
20	160	1300	11,000	91,000	750,000	6.2 "
22	180	1500	12,000	100,000	820,000	6.8 "
24	200	1600	13,000	110,000	910,000	7.5 "
27	220	1800	15,000	120,000	1.0 meg.	8.2 "
30	240	2000	16,000	130,000	1.1 "	9.1 "
33	270	2200	18,000	150,000	1.2 "	10.0 "
36	300	2400	20,000	160,000	1.3 "	11.0 "
39	330	2700	22,000	180,000	1.5 "	12.0 "
43	360	3000	24,000	200,000	1.6 "	13.0 "
47	390	3300	27,000	220,000	1.8 "	15.0 "
51	430	3600	30,000	240,000	2.0 "	16.0 "
56	470	3900	33,000	270,000	2.2 "	18.0 "
62	510	4300	36,000	300,000	2.4 "	20.0 "
68	560	4700	39,000	330,000	2.7 "	22.0 "
75	620	5100	43,000	360,000	3.0 "	

5%

Tolerance

Available in 1 watt only

2.7 ohms

3.0 ohms

3.3 ohms

3.6 ohms

3.9 ohms

4.3 ohms

4.7 ohms

5.1 ohms

5.6 ohms

6.2 ohms

6.8 ohms

7.5 ohms

8.2 ohms

9.1 ohms

Standard packages, 50 resistors.

ONE-HALF, ONE AND TWO WATT RATINGS						
10	120	1500	18,000	220,000	2.7 meg.	
12	150	1800	22,000	270,000	3.3 "	
15	180	2200	27,000	330,000	3.9 "	
18	220	2700	33,000	390,000	4.7 "	
22	270	3300	39,000	470,000	5.6 "	
27	330	3900	47,000	560,000	6.8 "	
33	390	4700	56,000	680,000	8.2 "	
39	470	5600	68,000	820,000	10.0 "	
47	560	6800	82,000	1.0 meg.	12.0 "	
56	680	8200	100,000	1.2 "	15.0 "	
68	820	10,000	120,000	1.5 "	18.0 "	
82	1000	12,000	150,000	1.8 "	22.0 "	
100	1200	15,000	180,000	2.2 "		

10%

Tolerance

Available in 1 watt only

2.7 ohms.

3.3 ohms.

3.9 ohms.

4.7 ohms.

5.6 ohms.

6.8 ohms.

8.2 ohms.

Standard packages, 50 resistors

PAPER DIELECTRIC CAPACITORS

Custom-manufactured to customers specifications. Can be supplied in any practical capacity, working voltage and tolerance. Containers and terminal arrangements may be in accordance with customers drawings. Capacitors can be manufactured for AC or DC operation—impregnated with Wax, Tensoil or in the stable, highly superior oil impregnant, G-H PERMANOL.

GIRARD - HOPKINS



HARDWICK, HINDLE · INC



FIXED VITREOUS ENAMELED RESISTORS WITH MOUNTING BRACKETS



Five stock sizes fill a great variety of applications.

Ratings are in accordance with NEMA standards, being based on a temperature rise of 300° C. in free air.

Data on types, sizes and values not listed herein, and for resistors with intermediate taps, special mountings, etc., furnished upon request.

TABLE OF RATINGS

25 WATT SIZE Type 2B-35 2" Long x 5/8" O.D. Mounting Centers 2 1/2"				40 WATT SIZE Type 3 1/2 L-35 3 1/2" Long x 3/4" O.D. Mounting Centers 4"				80 WATT SIZE Type 6 1/2 L-35 6 1/2" Long x 3/4" O.D. Mounting Centers 7"				160 WATT SIZE Type 8 1/2 F-35 8 1/2" Long x 1 1/8" O.D. Mounting Centers 9 3/8"				200 WATT SIZE Type 10 1/2 F-35 10 1/2" Long x 1 1/8" O.D. Mounting Centers 11 3/8"			
Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price
1001	5	2225	\$.59	2001	5	2830	\$.83	3001	5	4000	\$1.19	4001	5	5660	\$2.56	5001	5	6310	\$2.75
1002	10	1580	.59	2002	10	2000	.83	3002	10	2830	1.19	4002	10	4000	1.84	5002	10	4470	1.98
1003	25	1000	.59	2003	25	1260	.83	3003	25	1790	1.19	4003	25	2530	1.84	5003	25	2830	1.98
1004	50	700	.59	2004	50	895	.83	3004	50	1260	1.19	4004	50	1788	1.84	5004	50	2000	1.98
1005	75	575	.59	2005	75	730	.83	3005	75	1030	1.19	4005	75	1460	1.84	5005	75	1635	1.98
1006	100	500	.59	2006	100	635	.83	3006	100	890	1.19	4006	100	1260	1.84	5006	100	1414	1.98
1007	150	410	.59	2007	150	518	.83	3007	150	565	1.19	4007	150	1036	1.84	5007	150	1155	1.98
1008	200	353	.59	2008	200	448	.83	3008	200	400	1.19	4008	200	800	1.84	5008	200	895	1.98
1009	250	316	.59	2009	250	400	.83	3009	250	283	1.19	4009	250	566	1.84	5009	250	632	1.98
1010	500	224	.59	2010	500	283	.83	3010	500	231	1.19	4010	500	461	1.84	5010	500	515	1.98
1011	750	182	.59	2011	750	230	.83	3011	750	200	1.24	4011	750	400	1.84	5011	750	447	1.98
1012	1000	158	.59	2012	1000	200	.83	3012	1000	179	1.24	4012	1000	326	1.87	5012	1000	365	2.03
1013	1500	129	.62	2013	1500	163	.89	3013	1500	163	1.24	4013	1500	282	1.87	5013	1500	315	2.03
1014	2000	112	.62	2014	2000	140	.89	3014	2000	141	1.24	4014	2000	253	1.87	5014	2000	283	2.03
1015	2500	100	.62	2015	2500	125	.89	3015	2500	126	1.24	4015	2500	231	1.87	5015	2500	258	2.03
1016	3000	91	.62	2016	3000	115	.89	3016	3000	103	1.39	4016	3000	179	1.87	5016	3000	200	2.03
1017	3500	85	.62	2017	3500	100	.89	3017	3500	89	1.39	4017	3500	146	2.03	5017	3500	163	2.17
1018	4000	79	.62	2018	4000	90	.89	3018	4000	73	1.44	4018	4000	126	2.03	5018	4000	140	2.17
1019	5000	71	.62	2019	5000	73	1.00	3019	5000	63	1.44	4019	5000	105	2.17	5019	5000	115	2.31
1020	6000	64	.65	2020	6000	63	1.00	3020	6000	56	1.49	4020	6000	89	2.17	5020	6000	100	2.31
1021	7500	57	.65	2021	7500	56	1.14	3021	7500	52	1.49	4021	7500	80	2.24	5021	7500	90	2.38
1022	10000	50	.65	2022	10000	52	1.14	3022	10000	48	1.49	4022	10000	73	2.24	5022	10000	81	2.38
1023	12000	44	.68	2023	12000	45	1.14	3023	12000	45	1.49	4023	12000	63	2.24	5023	12000	70	2.38
1024	15000	40	.68	2024	15000	40	1.28	3024	15000	40	1.55	4024	15000	56	2.31	5024	15000	63	2.46
1025	20000	26	.68	2025	20000	33	1.28	3025	20000	36	1.55	4025	20000	46	2.46	5025	20000	51	2.60
1026	25000	23	.73	2026	25000	28	1.50	3026	25000	32	1.61	4026	25000	40	2.60	5026	25000	44	2.75

ADJUSTABLE VITREOUS ENAMELED RESISTORS WITH MOUNTING BRACKETS

Embodying features originated by Hardwick, Hindle, Inc., resulting in a Resistor possessing the many advantages of Vitreous Enamel Construction, plus an adjustable feature.

The winding is closely and evenly spaced, assuring ample insulation between turns. Where the winding appears exposed in the track, its underside is tightly embedded in the enamel, the upper surface only being exposed for contact with the adjustable band.

All sizes of Adjustable Resistors listed herein are furnished complete with mounting brackets and with one adjustable contact band.



TABLE OF RATINGS

25 WATT SIZE Type K-25 2" Long x 5/8" O.D. Mount. Centers 2 1/2"				50 WATT SIZE Type K-50 4 1/2" Long x 5/8" O.D. Mount. Centers 5"				75 WATT SIZE Type K-75 6" Long x 5/8" O.D. Mount. Centers 6 1/2"				100 WATT SIZE Type K-100 6 1/2" Long x 1 1/8" O.D. Mount. Centers 7 3/8"				160 WATT SIZE Type K-160 8 1/2" Long x 1 1/8" O.D. Mount. Centers 9 3/8"				200 WATT SIZE Type K-200 10 1/2" Long x 1 1/8" O.D. Mount. Centers 11 3/8"			
Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price				
6001	1	5000	\$1.03	7001	5	3160	\$1.29	8001	5	3870	\$1.50	9001	5	4470	\$2.19	0030	5	5660	\$3.24				
6002	2	3340	1.03	7002	10	2240	1.29	8002	10	2730	1.50	9002	10	3160	2.19	0031	10	4000	2.52				
6003	3	2890	1.03	7003	25	1420	1.29	8003	15	2270	1.50	9003	25	2000	2.19	0032	25	2530	2.52				
6004	3	2240	1.03	7004	50	1000	1.29	8004	25	1730	1.50	9004	50	1414	2.19	0033	50	1788	2.52				
6005	10	1380	1.03	7005	75	815	1.29	8005	50	1220	1.50	9005	100	1000	2.19	0034	100	1266	2.52				
6006	20	1140	1.03	7006	100	700	1.29	8006	100	865	1.50	9006	250	630	2.19	0035	250	800	2.52				
6007	25	1000	1.03	7007	200	500	1.29	8007	200	612	1.50	9007	500	445	2.19	0036	500	566	2.52				
6008	50	700	1.03	7008	250	447	1.29	8008	300	500	1.50	9008	1000	316	2.19	0037	1000	400	2.52				
6009	75	550	1.03	7009	300	406	1.29	8009	400	424	1.50	9009	1500	257	2.25	0038	1500	335	2.52				
6010	100	500	1.03	7010	400	350	1.29	8010	500	387	1.50	9010	2000	200	2.25	0039	2500	233	2.55				
6011	200	350	1.03	7011	500	316	1.29	8011	750	316	1.50	9011	3000	140	2.25	0040	5000	179	2.55				
6012	300	289	1.03	7012	750	258	1.29	8012	1000	274	1.50	9012	5000	100	2.36	0041	10000	126	2.71				
6013	400	250	1.03	7013	800	250	1.29	8013	1500	223	1.53	9013	15000	81	2.51	0042	15000	105	2.85				
6014	500	224	1.03	7014	1000	224	1.29	8014	2000	193	1.53	9014	20000	70	2.51	0043	20000	89	2.85				
6015	750	182	1.03	7015	1500	183	1.31	8015	2500	173	1.53	9015	25000	63	2.63	0044	25000	80	2.92				
6016	800	177	1.03	7016	2000	158	1.31	8016	3000	158	1.53	9016	30000	57	2.63	0045	30000	73	2.92				
6017	1000	158	1.03	7017	2500	141	1.31	8017	4000	137	1.53	9017	40000	50	2.65	0046	40000	63	2.92				
6018	1250	141	1.06	7018	3000	129	1.31	8018	5000	122	1.53	9018	50000	44	2.75	0047	50000	56	2.99				
6019	1500	129	1.06	7019	4000	112	1.31	8019	6000	112	1.61	9019	75000	36	2.88	0048	75000	46	3.14				
6020	2000	112	1.06	7020	5000	100	1.31	8020	7000	103	1.61	9020	100000	31	3.00	0049	100000	40	3.28				
6021	2500	100	1.06	7021	6000	91	1.34	8021	8000	90	1.61												
6022	3000	91	1.06	7022	8000	84	1.34	8022	10000	86	1.70												
6023	3500	84	1.06	7023	7500	81	1.34	8023	15000	70	1.61												
6024	4000	79	1.06	7024	8000	79	1.34	8024	20000	61	1.70												
6025	5000	70	1.06	7025	9000	74	1.34	8025	25000	53	1.84												
6026	6000	64	1.09	7026	10000	70	1.34	8026	30000	50	1.84												
6027	7000	60	1.09	7027	12000	64	1.40	8027	40000	43	1.84												
6028	8000	56	1.09	7028	15000	57	1.40	8028	50000	39	2.00												
6029	10000	50	1.09	7029	20000	48	1.40	8029	60000	35	2.00												
6030	15000	49	1.12	7030	25000	43	1.47	8030	80000	30	2.00												
6031	20000	35	1.12	7031	30000	41	1.47	8031	100000	25	2.30												
6032	25000	31	1.17	7032	40000	35	1.47																
				7033	50000	30	1.50																

ADJUSTABLE CONTACT BANDS

SCREW TYPE	Diameter of Resistor	Stock No.	Net Price
BAKELITE TYPE KNOB	5/8"	1791-6	\$.11
	1 1/8"	1793-4	.25
	3/8"	1791-6-X	.18
	1 1/8"	1793-4-X	.31



HARDWICK, HINDLE · INC



BLUE RIBBON RESISTORS



Blue Ribbon resistors differ from tubular resistors in that they are wound on an elliptical core. An aluminum bar through the center insures more even distribution of heat, avoiding hot spots.

Our gray enamel eliminates crazing which results in failure of the resistive element due to moisture penetration from humidity, salt and other severe atmospheric conditions.

Mounting studs—corrosion and rust resistant—peened to the ends of the thru-bar conduct heat to the mounting surface. You can stack two or more units. Our method of fastening the tube to the thru-bar prevents loosening. In comparison with tubular units of equivalent wattage rating these resistors offer outstanding advantages: • Higher wattage rating per unit space requirement. • Reduction in space requirement. • Simple sturdy mounting, single or stacked. • Light weight. • Lower inductance.

Designed for and manufactured in accordance with JAN-R-26A specifications.

TYPE 1 1/4" B 30 Watt Rating* Mounting Centers 2"				TYPE 2" B 40 Watt Rating* Mounting Centers 2 1/4"				TYPE 3 1/2" B 55 Watt Rating* Mounting Centers 4 1/4"				TYPE 6" B 75 Watt Rating* Mounting Centers 6 3/4"			
Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price
B101	5	2450	\$.90	B201	5	2830	\$.95	B301	5	3320	\$1.14	B601	5	3880	\$1.49
B102	10	1730	.90	B202	10	2000	.95	B302	10	2350	1.14	B602	10	2750	1.49
B103	15	1410	.90	B203	15	1640	.95	B303	15	1920	1.14	B603	15	2240	1.49
B104	25	1090	.90	B204	25	1260	.95	B304	25	1480	1.14	B604	25	1730	1.49
B105	50	770	.90	B205	50	890	.95	B305	50	1050	1.14	B605	50	1220	1.49
B106	100	550	.90	B206	100	630	.95	B306	100	740	1.14	B606	100	860	1.49
B107	150	440	.90	B207	150	510	.95	B307	150	600	1.14	B607	150	710	1.49
B108	250	340	.90	B208	250	400	.95	B308	250	470	1.14	B608	250	550	1.49
B109	560	245	.90	B209	500	283	.95	B309	500	332	1.14	B609	500	388	1.49
B110	1000	173	.90	B210	1000	200	.95	B310	1000	235	1.14	B610	1000	275	1.49
B111	1500	141	.90	B211	1500	164	.95	B311	1500	192	1.14	B611	1500	224	1.49
B112	2500	109	.90	B212	2500	126	.95	B312	2500	148	1.14	B612	2500	173	1.49
B113	5000	77	.97	B213	5000	89	1.02	B313	5000	105	1.21	B613	5000	122	1.56
B114	10000	55	1.15	B214	10000	63	1.25	B314	10000	74	1.40	B614	10000	86	1.70
				B215	15000	51	1.31	B315	15000	60	1.46	B615	15000	71	1.75
								B316	25000	47	1.61	B616	25000	55	1.90
												B617	50000	39	2.04

*This rating based on a maximum temperature rise of 300 degrees C. with the Resistor mounted horizontally on a 10" x 10" x .040" steel plate supported horizontally 1/2" above a wooden surface.
When Resistors are mounted on a non-metallic base the nominal watt rating should be reduced by approximately 15%.

10 and 20 WATT FIXED VITREOUS ENAMELED RESISTORS

Designed for radio service and replacement use—conservatively rated—wound upon Stealite Tube—combination lug and pigtail terminal connections. Vitreous enamel insulation, insures proof against moisture. 10 watt and 20 watt sizes, in the range of resistance values shown.



TABLE OF RATINGS

10 WATT 1 3/4" Long x 5/16" O.D.				20 WATT 2" Long x 1/2" O.D.			
Stock No.	Ohms	Max. Milli-Amps.	Net Price	Stock No.	Ohms	Max. Milli-Amps.	Net Price
A101	1	3160	\$.44	A201	5	2000	\$.56
A102	3	1825	.44	A202	10	1415	.56
A103	5	1415	.44	A203	25	895	.56
A104	7.5	1150	.44	A204	50	633	.56
A105	10	1000	.44	A205	75	517	.56
A106	15	815	.44	A206	100	447	.56
A107	25	630	.44	A207	150	375	.56
A108	50	450	.44	A208	200	316	.56
A109	75	365	.44	A209	250	282	.56
A110	100	315	.44	A210	400	224	.56
A111	150	260	.44	A211	500	200	.56
A112	200	225	.44	A212	750	163	.56
A113	250	200	.44	A213	1000	141	.56
A114	400	158	.44	A214	1250	126	.58
A115	500	142	.44	A215	1500	115	.58
A116	750	115	.44	A216	2000	100	.58
A117	1000	100	.44	A217	2500	89	.58
A118	1250	89	.47	A218	3000	81	.58
A119	1500	81	.47	A219	4000	71	.58
A120	2000	70	.47	A220	5000	63	.58
A121	2500	63	.47	A221	6000	57	.66
A122	3000	58	.47	A222	7500	51	.66
A123	4000	50	.47	A223	10000	44	.66
A124	5000	45	.47	A224	12500	40	.70
A125	7500	36	.54	A225	15000	37	.70
A126	10000	31	.54	A226	25000	15	.81
A127	12500	16	.60	A227	35000	13	.81
A128	15000	14	.60	A228	40000	12	.81
A129	20000	12	.60	A229	50000	11	.93
A130	25000	11	.64				

"GRAY LINE" AXIAL-LEAD RESISTORS

The "free air" wattage ratings of these axial lead resistors are based on a hot spot temperature rise of 300° C. (540° F.) in an ambient temperature not exceeding 40° C. (104° F.). These are the finest quality vitreous enameled wire-wound resistors made with application-tested parts and employing precision assembly. Since parts have matched heat expansion, crazing and cracks are eliminated. All welded construction.



TABLE OF RATINGS

3 WATT SIZE Type EA — 1/8" lg. x 1/4" o.d.							
Stock No.	Ohms	Max. Amps.	Net Price	Stock No.	Max. Amps.	Net Price	
701	1.0	1.73	\$.44	728	500.	.078	\$.44
702	1.5	1.41	.44	729	600.	.071	.44
703	2.0	1.22	.44	730	700.	.065	.44
704	3.0	1.00	.44	731	750.	.063	.44
705	4.0	.86	.44	732	800.	.061	.44
706	5.0	.78	.44	733	900.	.058	.44
707	7.5	.63	.44	734	1000.	.055	.44
708	10.	.55	.44	735	1100.	.052	.46
709	12.	.50	.44	736	1200.	.050	.46
710	15.	.45	.44	737	1250.	.049	.46
711	20.	.39	.44	738	1500.	.045	.46
712	25.	.35	.44	739	1750.	.041	.46
713	30.	.32	.44	740	2000.	.039	.46
714	35.	.285	.44	741	2250.	.036	.46
715	40.	.274	.44	742	2500.	.035	.46
716	50.	.245	.44	743	3000.	.031	.46
717	75.	.200	.44	744	3500.	.028	.46
718	100.	.173	.44	745	4000.	.025	.46
719	125.	.155	.44	746	4500.	.023	.46
720	150.	.141	.44	747	5000.	.021	.46
721	200.	.122	.44	748	6000.	.019	.48
722	225.	.115	.44	749	7000.	.017	.48
723	250.	.109	.44	750	7500.	.016	.48
724	300.	.1	.44	751	8000.	.015	.48
725	350.	.093	.44	752	9000.	.014	.48
726	400.	.087	.44	753	10000.	.013	.48
727	450.	.082	.44				

(Gray Line Resistor Data Continued on Next Page)



HARDWICK, HINDLE · INC



"GRAY LINE" AXIAL RESISTORS TABLE OF RATINGS (Continued)

5 WATT SIZE

Type 1 WA — 1" lg. x 1 1/2" o.d.

Stock No.	Ohms	Max. Amps.	Net Price	Stock No.	Ohms	Max. Amps.	Net Price
801	1.0	2.23	\$.47	831	750.	.081	\$.47
802	1.5	1.82	.47	832	800.	.079	.47
803	2.0	1.58	.47	833	900.	.074	.47
804	3.0	1.29	.47	834	1000.	.070	.47
805	4.0	1.12	.47	835	1100.	.067	.48
806	5.0	1.0	.47	836	1200.	.064	.48
807	7.5	.818	.47	837	1250.	.063	.48
808	10.	.700	.47	838	1500.	.057	.48
809	12.	.645	.47	839	1750.	.053	.48
810	15.	.575	.47	840	2000.	.049	.48
811	20.	.500	.47	841	2250.	.046	.48
812	25.	.447	.47	842	2500.	.044	.48
813	30.	.408	.47	843	3000.	.039	.48
814	35.	.378	.47	844	3500.	.036	.48
815	40.	.353	.47	845	4000.	.033	.48
816	50.	.316	.47	846	4500.	.031	.48
817	75.	.258	.47	847	5000.	.029	.48
818	100.	.224	.47	848	6000.	.026	.51
819	125.	.200	.47	849	7000.	.024	.51
820	150.	.182	.47	850	7500.	.022	.51
821	200.	.158	.47	851	8000.	.021	.51
822	225.	.149	.47	852	9000.	.019	.51
823	250.	.141	.47	853	10000.	.018	.51
824	300.	.129	.47	854	12500.	.015	.62
825	350.	.120	.47	855	15000.	.013	.62
826	400.	.112	.47	856	17500.	.012	.62
827	450.	.105	.47	857	18000.	.012	.62
828	500.	.100	.47	858	20000.	.011	.62
829	600.	.091	.47	859	22500.	.010	.64
830	700.	.084	.47	860	25000.	.009	.64

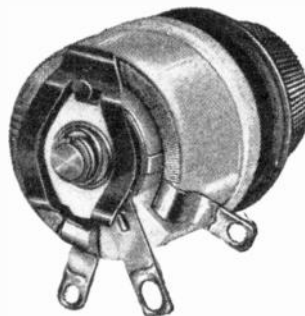
10 WATT SIZE

Type 1 3/4 ZA — 1 3/4" lg. x 1 3/4" o.d.

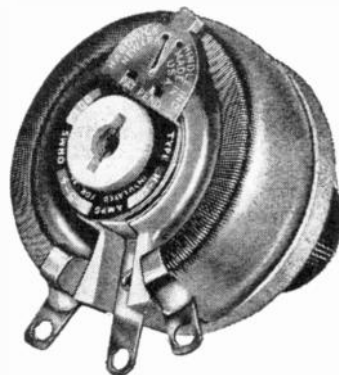
Stock No.	Ohms	Max. Amps.	Net Price	Stock No.	Ohms	Max. Amps.	Net Price
901	1.0	3.16	\$.51	936	1200.	.091	\$.54
902	1.5	2.58	.51	937	1250.	.089	.54
903	2.0	2.235	.51	938	1500.	.079	.54
904	3.0	1.825	.51	939	1750.	.074	.54
905	4.0	1.58	.51	940	2000.	.069	.54
906	5.0	1.414	.51	941	2250.	.064	.54
907	7.5	1.155	.51	942	2500.	.063	.54
908	10.	1.	.51	943	3000.	.056	.54
909	12.	.910	.51	944	3500.	.051	.54
910	15.	.816	.51	945	4000.	.047	.54
911	20.	.707	.51	946	4500.	.045	.54
912	25.	.632	.51	947	5000.	.043	.54
913	30.	.575	.51	948	6000.	.038	.62
914	35.	.535	.51	949	7000.	.034	.62
915	40.	.500	.51	950	7500.	.032	.62
916	50.	.447	.51	951	8000.	.031	.62
917	75.	.365	.51	952	8500.	.029	.62
918	100.	.316	.51	953	9000.	.028	.62
919	125.	.283	.51	954	10000.	.026	.62
920	150.	.258	.51	955	11000.	.024	.68
921	200.	.223	.51	956	12000.	.023	.68
922	225.	.217	.51	957	12500.	.022	.68
923	250.	.200	.51	958	13500.	.021	.68
924	300.	.182	.51	959	15000.	.019	.68
925	350.	.169	.51	960	16000.	.018	.68
926	400.	.158	.51	961	17500.	.017	.68
927	450.	.149	.51	962	18000.	.017	.68
928	500.	.141	.51	963	20000.	.016	.68
929	600.	.129	.51	964	22500.	.015	.72
930	700.	.119	.51	965	25000.	.014	.72
931	750.	.115	.51	966	30000.	.012	.72
932	800.	.111	.51	967	35000.	.010	.72
933	900.	.105	.51	968	40000.	.009	.72
934	1000.	.100	.51	969	45000.	.008	.82
935	1100.	.095	.54	970	50000.	.007	.82

VITREOUS ENAMELED RHEOSTATS

Insulated shafts and mounting bushings



Type A-25 — Will withstand rugged treatment under the most adverse conditions. It has unusually smooth mechanical operation. The terminals, made of strong corrosion resistant alloy, are permanently welded to the winding form. The winding ring is made an integral part of the refractory base by vitreous enamel. The phosphor bronze actuating arm, with its graphite brush, gives smoothest action and excellent electrical control. Shafts are insulated. Three terminals permit either potentiometer or rheostat use; and our new high temperature gray enamel gives an added safety factor.



Types H-50, H-100, H-150 — These are our newest rheostats and they will give longer service and greater protection. They are designed for use under extremes of humidity and abnormal atmospheric conditions. The unique "buss bar" type brush automatically adjusts tension for complete, continuous contact. It eliminates backlash and prevents binding. It assures perfect contact with the entire winding surface. Our new high-temperature gray enamel bonding gives you an increased safety factor and better overall service. These improved rheostats are designed to comply with current standards of: (a) Military Specifications MIL R-22. (b) RETMA. (c) N.E.M.A. (d) "listed by Underwriters Laboratories, Inc."

TABLES OF SIZES AND RATINGS

TYPE A-25 25 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.	Approx. No. Steps	Net Price
0201	0.50	7.06	17	\$4.88
0202	0.75	5.77	17	4.88
0203	1.0	5.00	17	4.62
0204	1.5	4.08	34	4.62
0205	2.5	3.16	34	4.01
0206	5.0	2.22	34	4.01
0207	7.5	1.82	34	4.01
0208	10	1.58	90	4.01
0209	15	1.29	90	4.01
0210	25	1.00	100	4.01
0211	50	0.706	100	4.01
0212	75	0.577	135	4.01
0213	100	0.500	112	4.01
0214	150	0.408	146	4.01
0215	250	0.316	146	4.01
0216	500	0.222	180	4.01
0217	750	0.182	214	4.01
0218	1000	0.158	248	4.62
0219	1500	0.129	292	4.62

TYPE H-50 50 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.	Approx. No. Steps	Net Price
0301	0.50	10.0	25	\$5.15
0302	0.75	8.16	25	5.15
0303	1.0	7.06	52	5.15
0304	1.5	5.77	52	5.15
0305	2.5	4.48	52	4.62
0306	5.0	3.16	52	4.62
0307	7.5	2.58	52	4.62
0308	10	2.22	98	4.62
0309	15	1.82	98	4.62
0310	25	1.41	98	4.62
0311	50	1.00	129	4.62
0312	75	0.816	153	4.62
0313	100	0.706	157	4.62
0314	150	0.577	187	4.62
0315	250	0.448	258	4.62
0316	500	0.316	308	4.62
0317	750	0.258	294	4.86
0318	1000	0.222	390	4.86
0319	1500	0.182	364	4.86
0320	2500	0.141	485	4.86
0321	5000	0.100	590	5.15
0322	7500	0.082	714	5.15
0323	10000	0.070	750	5.15

*Thru all or any part of winding.
Diameter of base: 1 1/4".
Depth behind panel: 1 3/4".
Mounting: Single hole for 3/8" bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 285 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Terminals: Holes for No. 4 screw.

*Thru all or any part of winding.
Diameter of base: 2 3/8".
Depth behind panel: 1 1/2".
Mounting: Single hole for 3/8"-32 bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.



HARDWICK, HINDLE · INC



TYPE H-100 100 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.	Approx. No. Steps	Net Price
0401	0.50	14.2	30	\$7.72
0402	0.75	11.6	30	7.72
0403	1.0	10.0	30	7.72
0404	1.5	8.16	30	7.72
0405	2.5	6.34	54	7.72
0406	5.0	4.48	54	7.72
0407	7.5	3.66	54	7.21
0408	10	3.16	54	7.21
0409	15	2.58	112	7.21
0410	25	2.00	108	7.21
0411	50	1.42	127	7.21
0412	75	1.16	151	7.21
0413	100	1.00	160	7.21
0414	150	0.816	190	7.21
0415	250	0.634	250	7.21
0416	500	0.448	302	7.21
0417	750	0.366	303	7.21
0418	1000	0.316	317	7.72
0419	1500	0.258	375	7.72
0420	2500	0.200	494	7.72
0421	5000	0.141	640	8.22
0422	7500	0.115	760	8.75
0423	10000	0.100	740	9.24

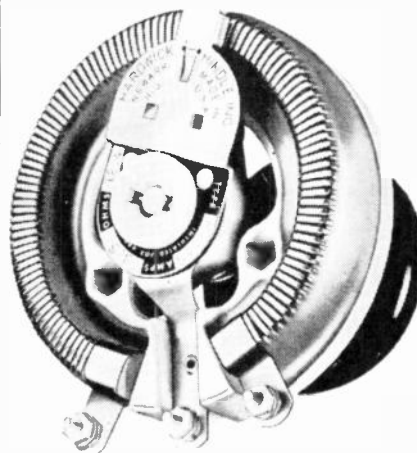
TYPE H-150 150 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.	Approx. No. Steps	Net Price
0501	0.50	17.30	26	\$ 9.78
0502	0.75	14.10	30	9.78
0503	1.00	12.25	40	9.78
0504	1.5	10.00	37	9.78
0505	2.5	7.75	39	9.78
0506	5.0	5.48	79	9.78
0507	7.5	4.47	75	9.78
0508	10	3.88	77	9.24
0509	15	3.16	151	9.24
0510	25	2.45	151	9.24
0511	50	1.73	192	9.24
0512	75	1.41	224	9.24
0513	100	1.22	204	9.24
0514	150	1.00	280	9.24
0515	250	0.775	252	9.24
0516	500	0.548	362	9.24
0517	750	0.447	378	9.78
0518	1000	0.388	398	9.78
0519	1500	0.316	483	10.30
0520	2500	0.245	635	10.30
0521	5000	0.173	790	10.80
0522	7500	0.141	940	11.32
0523	10000	0.122	1020	12.35

TYPE H-225 225 WATT RHEOSTAT

Stock No.	Ohms	Approx. Max. Amps.*	No. Steps	Net Price
0530	1	15.00	55	\$12.83
0531	1.5	12.30	55	12.83
0532	2	10.60	55	12.83
0533	2.5	9.50	55	12.83
0534	3	8.66	55	12.83
0535	4	7.50	55	12.83
0536	5	6.71	55	12.83
0537	7.5	5.49	115	12.83
0538	10	4.74	115	12.83
0539	15	3.87	115	12.83
0540	25	3.00	115	12.83
0541	50	2.12	256	12.83
0542	75	1.73	306	12.83
0543	100	1.50	315	12.83

Stock No.	Ohms	Approx. Max. Amps.*	No. Steps	Net Price
0544	150	1.22	385	12.83
0545	200	1.06	357	12.83
0546	250	.950	350	12.83
0547	300	.866	335	12.83
0548	400	.750	448	12.83
0549	500	.671	450	12.83
0550	700	.567	495	12.83
0551	750	.549	533	12.83
0552	900	.500	500	12.83
0553	1,000	.474	555	12.83
0554	1,200	.433	526	12.83
0555	1,500	.387	630	12.83
0556	1,750	.358	620	12.83
0557	2,500	.300	670	12.83



RATING — current ratings shown for all Rheostats are for use in free air. When units are enclosed values should be reduced about 50%.

Data on non-stock Rheostats — special shafts and bushings; values intermediate to those listed; tapered windings; tandem assemblies; etc., furnished upon request.

*Through all or any part of winding.

*Thru all or any part of winding.
Diameter of base: 3 1/8".
Depth behind panel: 1 3/8".
Mounting: Single hole for 3/8" .32 bushing.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

*Thru all or any part of winding.
Diameter of base: 4".
Depth behind panel: 1 3/8".
Mounting: Two holes as shown 10-32 x 3/8" screws furnished.
Shaft: 1/4" diameter, projecting 1/2" beyond bushing.
Standard Bushing: Will take panels up to 1/4".
Mechanical Rotation: 300 degrees.
Non-Turn Feature: For single hole mounting supplied on request.
Furnished with or without knob.
Terminals: Holes for No. 8 screw.

- a. **High temperature enamel**—bonds the wire to core and the core to base to afford greater safety factor where overloaded conditions are demanded.
- b. **Bus-bar construction** gives minimum resistance and ample safety under maximum current requirements. Made of alloy materials to fit wire size and current requirements of various resistance values and also to give minimum wear on wire.

- c. **Constant pressure contact arm**—This patented feature is made of high carbon spring steel to insure uniform pressure of contact brush on both collector ring and winding surface and to eliminate troublesome contact resistance.
- d. **Tripod Mounting Frame**—Alloy casting designed to give greater safety factor under shock and vibration.

TYPE H-300 300 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	Net Price
0601	1	17.25	49	\$13.89
0602	1.5	14.15	47	13.89
0603	2	12.24	49	13.89
0604	2.5	10.95	70	13.89
0605	3	10.00	73	13.89
0606	4	8.66	70	13.89
0607	5	7.75	66	13.89
0608	7.5	6.32	71	13.89
0609	10	5.48	136	13.89
0610	15	4.47	144	13.89
0611	25	3.46	145	13.89
0612	50	2.45	245	13.89
0613	75	2.00	260	13.89
0614	100	1.73	327	13.89
0615	150	1.41	394	13.89
0616	200	1.22	420	13.89
0617	250	1.09	525	13.89
0618	300	1.00	420	13.89
0619	400	.866	440	13.89
0620	500	.775	440	13.89
0621	700	.655	502	13.89
0622	750	.633	540	13.89
0623	900	.578	521	13.89
0624	1,000	.548	580	13.89
0625	1,200	.500	690	13.89
0626	1,500	.449	680	13.89
0627	1,750	.414	790	13.89
0628	2,500	.346	862	13.89

* Through all or any part of winding.

TYPE H-500 500 WATT RHEOSTAT

Stock No.	Ohms	Max. Amps.*	Approx. No. Steps	Net Price
0701	1	22.3	70	\$20.08
0702	1.5	18.2	64	20.08
0703	2	15.8	68	20.08
0704	2.5	14.1	67	20.08
0705	3	12.9	65	20.08
0706	4	11.2	96	20.08
0707	5	10.0	96	20.08
0708	7.5	8.17	98	20.08
0709	8	7.90	97	20.08
0710	10	7.07	105	20.08
0711	12.5	6.30	103	20.08
0712	15	5.77	202	20.08
0713	16	5.60	192	20.08
0714	25	4.47	195	20.08
0715	40	3.54	205	20.08
0716	50	3.16	200	20.08
0717	75	2.58	395	20.08
0718	80	2.52	382	20.08
0719	100	2.23	450	20.08
0720	125	2.00	505	20.08
0721	150	1.82	544	20.08
0722	175	1.69	500	20.08
0723	250	1.41	570	20.08
0724	325	1.24	515	20.08
0725	500	1.00	620	20.08
0726	750	.817	740	20.08
0727	1,000	.707	780	20.08
0728	1,500	.577	940	20.08
0729	2,000	.500	986	20.08
0730	2,500	.447	940	20.08

* Through all or any part of winding.

TYPE H-750 750 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.*	Approx. No. Steps	Net Price
0801	1	27.4	85	\$28.36
0802	1.5	22.3	85	28.36
0803	2	19.4	81	28.36
0804	2.5	17.3	87	28.36
0805	3	15.8	83	28.36
0806	4	13.6	87	28.36
0807	5	12.2	122	28.36
0808	7.5	10.0	129	28.36
0809	8	9.65	122	28.36
0810	10	8.65	121	28.36
0811	12.5	7.75	120	28.36
0812	15	7.07	127	28.36
0813	16	6.82	120	28.36
0814	25	5.47	240	28.36
0815	50	3.87	238	28.36
0816	75	3.19	250	28.36
0817	80	3.06	266	28.36
0818	100	2.74	265	28.36
0818	150	2.23	500	28.36
0820	160	2.17	485	28.36
0821	200	1.94	472	28.36
0822	250	1.73	470	28.36
0823	300	1.58	500	28.36
0824	400	1.37	472	28.36
0825	500	1.22	565	28.36
0826	600	1.12	677	28.36
0827	750	1.00	670	28.36
0828	1,000	.865	715	28.36
0829	1,200	.791	860	28.36
0830	1,500	.707	840	28.36
0831	1,800	.646	1,020	28.36
0832	2,500	.547	1,085	28.36

* Through all or any part of winding.

TYPE H-1000 1000 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.*	Approx. No. Steps	Net Price
0901	1	31.60	81	\$33.14
0902	1.5	25.80	84	33.14
0903	2	22.40	109	33.14
0904	2.5	20.00	105	33.14
0905	3	18.30	113	33.14
0906	4	15.80	106	33.14
0907	5	14.10	105	33.14
0908	7.5	11.50	158	33.14
0909	8	11.20	168	33.14
0910	10	10.00	166	33.14
0911	12.5	8.95	165	33.14
0912	15	8.16	156	33.14
0913	16	7.90	166	33.14
0914	25	6.33	160	33.14
0915	50	4.47	331	33.14
0916	75	3.65	303	33.14
0917	100	3.16	320	33.14
0918	150	2.58	306	33.14
0919	175	2.39	645	33.14
0920	225	2.11	585	33.14
0921	250	2.00	640	33.14
0922	300	1.83	605	33.14
0923	400	1.58	640	33.14
0924	500	1.41	635	33.14
0925	750	1.15	820	33.14
0926	1,000	1.00	862	33.14
0927	1,500	.816	1,030	33.14
0928	2,500	.633	1,300	33.14

* Through all or any part of winding.



INSULATED RESISTORS

TYPE GBT-BT FIXED COMPOSITION CARBON RESISTORS



More IRC Filament Type GBT-BT Resistors are used in the electronic industry than any other brand of fixed composition resistors. For original equipment, IRC GBT-BT's are by far the leading choice of Electronic Engineers—particularly since the new GBT-½ ½ watt and GBT-1 1 watt give new appearance, new sizes . . . IRC's unsurpassed solderability has been maintained and no wax coating to gum up end equipment. For replacement, Service Technicians favor IRC GBT-BT's over all other brands combined.

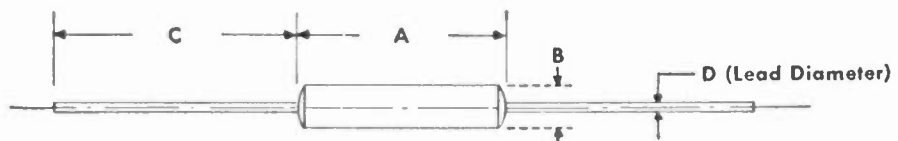
IRC's exclusive filament-type resistance element is combined with superior construction features to provide a stable resistor of extremely low operating temperature and excellent power dissipation in a compact, light weight, fully insulated unit.

COLOR CODING AND STAMPING

Resistance values are clearly indicated by standard EIA (formerly RETMA) Color Code. All resistors in Distributor Packages, except BTR, are individually stamped with value and wattage.

IRC TYPE NUMBER	BTR	GBT-½	GBT-1	BTB	BW-½	BW-1	BW-2
Element Style	Carbon Filament	Carbon Filament	Carbon Filament	Carbon Filament	Wire Wound	Wire Wound	Wire Wound
Equivalent MIL TYPE	RC09	RC20	RC32		RU3 Max. 470 ohms	RU4 Max. 2200 ohms	RU6 Max. 3300 ohms
MIL CHARACTERISTICS	GF	GF	GF		B	B	
Rating in Watts 70° Ambient—GBT-BT 40° Ambient—BW	¼	½	1	2	½	1	2
Minimum Resistance	10 Ohms	10 Ohms	10 Ohms	100 Ohms	0.24 Ohm	0.47 Ohm	1.0 Ohm
Maximum Resistance	22 Meg.	22 Meg.	22 Meg.	22 Meg.	820 Ohms	5100 Ohms	8200 Ohms
Rated Voltage	250V	350V	500V	500V			
Dimensions (Fig. 1)							
A—Body Length	.400 ± .015"	.390 ± .010"	.562 ± .010"	1.260 ± .015"	5/8"	1 1/4"	1 3/4"
B—Body Diameter	.095 ± .010"	.140 ± .008"	.225 ± .008"	.250 ± .020"	1/8"	1/4"	21/64"
C—Lead Length	1 1/2 ± 1/8"	1 1/2 ± 1/8"	1 1/2 ± 1/8"	1 1/2 ± 1/8"	1 1/2 ± 1/8"	1 1/2 ± 1/8"	1 1/2 ± 1/8"
D—Lead Diameter	.0285 ± .002"	.031 ± .002"	.040 ± .002"	.043 ± .002"	.032"	.036"	.036"

Figure 1
Dimensions



TYPE BW INSULATED WIRE WOUND RESISTORS



Type BW's are exceptionally stable, inexpensive wire wound resistors for low range requirements. These small, completely insulated units are similar in appearance to insulated composition resistors but are readily identified by the double width of the first color code band.

The wire element is uniformly and tightly wound on an insulated core. Tinned, solid wire leads are keyed to the element by a specially designed terminal. Leads are anchored inside the insulation and cannot turn or pull loose.



INSULATED RESISTORS

STANDARD STOCK VALUES

GBT-BT and BW Insulated Resistors are available in EIA (formerly RETMA) Ranges within the maximum and minimum values for each type. Stock values are listed below.

STANDARD VALUES AT ±10% TOLERANCE

OHM	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEGS	MEGS
—	1.0	10	100	1,000	10K	100K	1.0	10
—	1.2	12	120	1,200	12K	120K	1.2	12
—	1.5	15	150	1,500	15K	150K	1.5	15
—	1.8	18	180	1,800	18K	180K	1.8	18
—	2.2	22	220	2,200	22K	220K	2.2	22
0.27	2.7	27	270	2,700	27K	270K	2.7	—
0.33	3.3	33	330	3,300	33K	330K	3.3	—
0.39	3.9	39	390	3,900	39K	390K	3.9	—
0.47	4.7	47	470	4,700	47K	470K	4.7	—
0.56	5.6	56	560	5,600	56K	560K	5.6	—
0.68	6.8	68	680	6,800	68K	680K	6.8	—
0.82	8.2	82	820	8,200	82K	820K	8.2	—

STANDARD VALUES AT ±5% TOLERANCE

OHM	OHMS	OHMS	OHMS	OHMS	OHMS	OHMS	MEGS	MEGS
—	1.0	10	100	1,000	10K	100K	1.0	10
—	1.1	11	110	1,100	11K	110K	1.1	11
—	1.2	12	120	1,200	12K	120K	1.2	12
—	1.3	13	130	1,300	13K	130K	1.3	13
—	1.5	15	150	1,500	15K	150K	1.5	15
—	1.6	16	160	1,600	16K	160K	1.6	16
—	1.8	18	180	1,800	18K	180K	1.8	18
—	2.0	20	200	2,000	20K	200K	2.0	20
—	2.2	22	220	2,200	22K	220K	2.2	22
0.24	2.4	24	240	2,400	24K	240K	2.4	—
0.27	2.7	27	270	2,700	27K	270K	2.7	—
0.30	3.0	30	300	3,000	30K	300K	3.0	—
0.33	3.3	33	330	3,300	33K	330K	3.3	—
0.36	3.6	36	360	3,600	36K	360K	3.6	—
0.39	3.9	39	390	3,900	39K	390K	3.9	—
0.43	4.3	43	430	4,300	43K	430K	4.3	—
0.47	4.7	47	470	4,700	47K	470K	4.7	—
0.51	5.1	51	510	5,100	51K	510K	5.1	—
0.56	5.6	56	560	5,600	56K	560K	5.6	—
0.62	6.2	62	620	6,200	62K	620K	6.2	—
0.68	6.8	68	680	6,800	68K	680K	6.8	—
0.75	7.5	75	750	7,500	75K	750K	7.5	—
0.82	8.2	82	820	8,200	82K	820K	8.2	—
0.91	9.1	91	910	9,100	91K	910K	9.1	—



HANDY-PAKS AND EXTRA-VALUE KITS FOR CARBON COMPOSITION RESISTORS

New IRC Handy-Paks were designed with the up-to-date Serviceman and efficient technician in mind. Here is the neatest, most compact resistor package available in the whole electronics industry. And it is exclusive from IRC. Fussing and fuming over stocking small parts is all over as far as carbon composition resistors are concerned. IRC Handy-Paks are easier to buy, easier to stock and easier to use. Ready for you now . . . added convenience for the world's finest resistors.

EASIER TO IDENTIFY!

In clear, large letters the type, resistance value and power rating are printed on every Handy-Pak. Correct identification is fast and certain with Handy-Paks.

7 PREMIUM KITS TO KEEP THE HANDY-PAKS AT YOUR FINGERTIPS

RESIST-O-CHEST

End "cigar box confusion." Select from 10 popular carbon composition resistor stocks, all in sturdy metal chests. Hinged lid and metal separators keep resistor Handy-Paks in order . . . right at your fingertips. Compact 5 3/4" x 3 3/4" x 6 1/4" size takes little bench space. Identification data clearly visible. Included at regular price of these 10 fast-moving assortments—

Assortment No. 42

6 each, Type GBT 1/2-watt (10% tolerance)
204 1/2-watt resistors, 34 values

Assortment No. 46

4 each, Type GBT 1-watt (10% tolerance)
136 1-watt resistors, 34 values

ohms: 47	1000	4700	22K	56K	270K	2.2 meg
100	1500	6800	27K	68K	330K	3.3 meg
150	2200	8200	33K	100K	470K	4.7 meg
220	2700	10K	39K	150K	1.0 meg	10 meg
470	3300	15K	47K	220K	1.5 meg	

Assortment No. 43

6 each, Type GBT 1/2-watt (10% tolerance) 452 1/2-watt resistors, 77 values

ohms: 10	47
12	56
15	68
18	82
22	100
27	120
33	150
39	180

Assortment No. 47

4 each, Type GBT 1-watt (10% tolerance) 308 1-watt resistors, 77 values

220	1000	4700
270	1200	5600
330	1500	6300
390	1800	8200
470	2200	10K
560	2700	12K
680	3300	15K
820	3900	18K

Assortment No. 58

6 each Type GBT 1/2-watt (5% tolerance) 462 1/2-watt resistors, 77 values

22K	100K	470K
27K	120K	560K
33K	150K	680K
39K	180K	820K
47K	220K	1.0 meg
56K	270K	1.2 meg
68K	330K	1.5 meg
82K	390K	1.8 meg

Assortment No. 62

4 each, Type GBT 1-watt (5% tolerance) 308 1-watt resistors, 77 values

2.2 meg	10 meg
2.7 meg	12 meg
3.3 meg	15 meg
3.9 meg	18 meg
4.7 meg	22 meg
5.6 meg	
6.8 meg	
8.2 meg	

Assortment No. 49

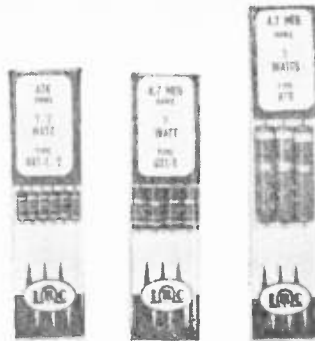
3 each, Type BTB 2-watt (10% tolerance)
102 2-watt resistors, 34 values

ohms: 100	1500	6800	27K	68K	330K	2.2 meg
150	2200	8200	33K	100K	470K	3.3 meg
220	2700	10K	39K	150K	560K	4.7 meg
470	3300	15K	47K	220K	1.0 meg	10 meg
1000	4700	22K	56K	270K	1.5 meg	

Assortment No. 50

3 each, Type BTB 2-watt (10% tolerance)
195 2-watt resistors, 65 values

ohms: 100	390	1500	5600	22K	82K	330K	1.2 meg	4.7 meg	18 meg
120	470	1800	6800	27K	100K	390K	1.5 meg	5.6 meg	22 meg
150	560	2200	8200	33K	120K	470K	1.8 meg	6.8 meg	
180	680	2700	10K	39K	150K	560K	2.2 meg	8.2 meg	
220	820	3300	12K	47K	180K	680K	2.7 meg	10 meg	
270	1000	3900	15K	56K	220K	820K	3.3 meg	12 meg	
330	1200	4700	18K	68K	270K	1.0 meg	3.9 meg	15 meg	



Each IRC Handy-Pak* contains several carbon composition resistors of one type and resistance value . . . to save you unnecessary shopping.

Three types include: 6 1/2-watt resistors; 4 1-watt resistors; and 3 2-watt resistors.

*Patent Pending

QUICKER TO FIND!

In any stocking arrangement, Handy-Paks can be quickly indexed by power rating and resistance. Your resistor stock remains orderly from the time you buy it until you use it.

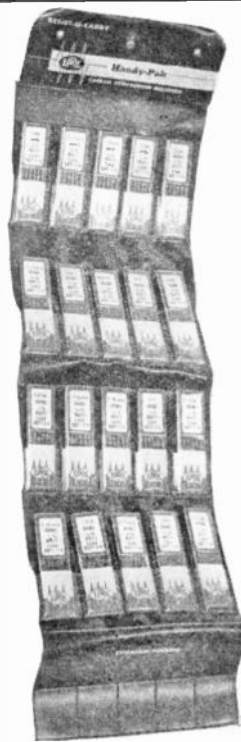
HANDIER TO USE!

IRC Handy-Paks open at both ends. The package slides out of the slimline plastic sleeve. Simply withdraw one or more resistors and slide the package back into the protective shield. Leads are kept straight, and resistors are always factory-clean.

EASIER TO CHECK INVENTORY!

The actual resistors are clearly visible. You always know what you have. Identification tab tears off conveniently for reordering reminder.





RESIST-O-CADDY

Ideal for in-home servicing. Pliable plastic pouch folds to 6 3/4 x 3 7/8 x 1 1/2" . . . fits easily in tube caddy or tool chest. Individual pockets hold resistor Handy-Paks secure and orderly. Accurate inventory always visible. RESIST-O-CADDY included with these "best-seller" assortments (at regular price of assortments)

Assortment #41

6 each, Type GBT 1/2 1/2-watt (10% tolerance) 120 1/2-watt resistors, 20 values

Assortment #45

4 each, Type GBT1 1 watt (10% tolerance) 80 1-watt resistors, 20 values

ohms:	17	470	2200	22K	100K	470K	4.7 meg
	100	1000	4700	27K	220K	1.0 meg	10 meg
	150	1500	10K	17K	270K	2.2 meg	

HANDY-PAKS AND EXTRA-VALUE KITS

FOR CARBON COMPOSITION RESISTORS

Assortment #56

6 each, Type GBT 1/2 1/2-watt (5% tolerance) 120 1/2-watt resistors, 20 values

Assortment #60

4 each, Type GBT1 1 watt (5% tolerance) 80 1-watt resistors, 20 values

100K	470K	4.7 meg
220K	1.0 meg	10 meg
270K	2.2 meg	

RESIST-O-PEDIA

For technicians, here's a unique convenience for stocking carbon composition resistors. Attractive blue and yellow hardback binder measures 9 x 8 1/4 x 2 7/8". 3-ring "fingered" inserts hold resistor Handy-Paks. Indexed stock saves searching . . . speeds servicing. Complete resistor identification always visible. Choose from these popular assortments (Resist-O-Pedia included in cost of assortments.)

Assortment #44

6 each, Type GBT 1/2 1/2-watt (10% tolerance) 462 1/2-watt resistors, 77 values

Assortment #48

4 each, Type GBT1 1-watt (10% tolerance) 308 1-watt resistors, 77 values

ohms:	10	47	220	1000	4700	22K	100K	470K	2.2 meg	10 meg
	12	56	270	1200	5600	27K	120K	560K	2.7 meg	12 meg
	15	68	330	1500	6800	33K	150K	680K	3.3 meg	15 meg
	18	82	390	1800	8200	39K	180K	820K	3.9 meg	18 meg
	22	100	470	2200	10K	47K	220K	1.0 meg	4.7 meg	22 meg
	27	120	560	2700	12K	56K	270K	1.2 meg	5.6 meg	
	33	150	680	3300	15K	68K	330K	1.5 meg	6.8 meg	
	39	180	820	3900	18K	82K	390K	1.8 meg	8.2 meg	

Assortment #59

6 each, Type GBT 1/2 1/2-watt (5% tolerance) 462 1/2-watt resistors, 77 values

Assortment #63

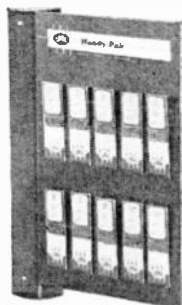
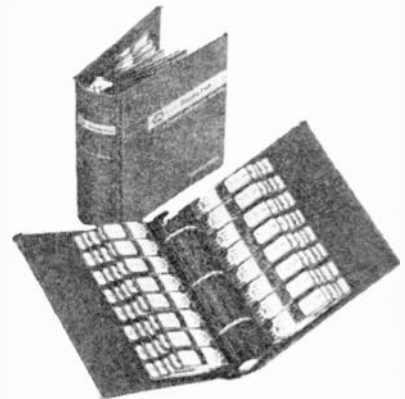
4 each, Type GBT1 1-watt (5% tolerance) 308 1-watt resistors, 77 values

100K	470K	2.2 meg	10 meg
120K	560K	2.7 meg	12 meg
150K	680K	3.3 meg	15 meg
180K	820K	3.9 meg	18 meg
220K	1.0 meg	4.7 meg	22 meg
270K	1.2 meg	5.6 meg	
330K	1.5 meg	6.8 meg	
390K	1.8 meg	8.2 meg	

Assortment #51

3 each, Type BTB 2 watts (10% tolerance) 195 2-watt resistors, 65 values

ohms:	100	390	1500	5600	22K	82K	330K	1.2 meg	4.7 meg	18 meg
	120	470	1800	6800	27K	100K	390K	1.5 meg	5.6 meg	22 meg
	150	560	2200	8200	33K	120K	470K	1.8 meg	6.8 meg	
	180	680	2700	10K	39K	150K	560K	2.2 meg	8.2 meg	
	220	820	3300	12K	47K	180K	680K	2.7 meg	10 meg	
	270	1000	3900	15K	56K	220K	820K	3.3 meg	12 meg	
	330	1200	4700	18K	68K	270K	1.0 meg	3.9 meg	15 meg	



RESIST-O-PANEL

Swing panel is all-metal 7" wide x 12 1/4" high, slotted to accommodate Handy-Paks. Wall brackets are supplied. Can be used singly or in sets to provide a visible resistor stock that saves bench space. IRC Resist-O-Panel included with any of 4 popular assortments (at regular price of Assortments)

Assortment #64

6 each, Type GBT 1/2 1/2-watt (10% tolerance) 60 1/2-watt resistors, 10 values

Assortment #68

4 each, Type GBT1 1-watt (10% tolerance) 40 1-watt resistors, 10 values

1000	1500	10K	22K	47K	100K	220K	470K	1 meg	2.2 meg
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Assortment #72

6 each, Type GBT 1/2 1/2-watt (5% tolerance) 60 1/2-watt resistors, 10 values

Assortment #76

4 each, Type GBT1 1-watt (5% tolerance) 40 1-Watt resistors, 10 values



**HANDY-PAKS AND
EXTRA-VALUE KITS
FOR CARBON COMPOSITION RESISTORS**



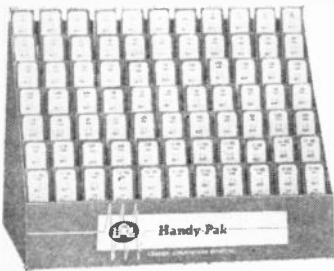
IRC HANDY-PAK*

Exclusive IRC convenience. Most compact resistor package in the industry. Uniform package for 6 half-watt and 4 one-watt and 3 two-watts carbon composition resistors. Slimline plastic sleeve protects modern, reusable package which opens at both ends. Stock and complete identification always visible.

*Patent Pending

RESIST-O-RACK

Compact, convenient means of maintaining an orderly Handy-Pak stock. Full resistor identification always visible. Individual compartments separate stock by resistance values. Measures 11 3/4" wide x 5 1/2" deep x 8" high. Resist-O-Rack furnished FREE with any of 4 fast-moving assortments.



Assortment #67

6 each, Type GBT 1/2 1/2-watt (10% tolerance) 462 1/2-watt resistors, 77 values

Assortment #71

4 each, Type GBT1 1-watt (10% tolerance) 308 1-watt resistors, 77 values

ohms:	10	47	220	1000	4700	22K	100K	470K	2.2 meg	10 meg
	12	56	270	1200	5600	27K	120K	560K	2.7 meg	12 meg
	15	68	330	1500	6800	33K	150K	680K	3.3 meg	15 meg
	18	82	390	1800	8200	39K	180K	820K	3.9 meg	18 meg
	22	100	470	2200	10K	47K	220K	1.0 meg	4.7 meg	22 meg
	27	120	560	2700	12K	56K	270K	1.2 meg	5.6 meg	
	33	150	680	3300	15K	68K	330K	1.5 meg	6.8 meg	
	39	180	820	3900	18K	82K	390K	1.8 meg	8.2 meg	

Assortment #75

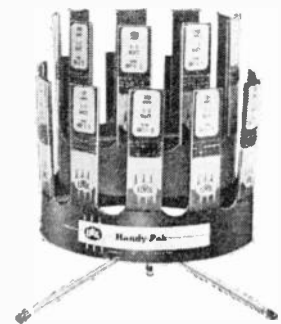
6 each, Type GBT 1/2 1/2-watt (5% tolerance) 462 1/2-watt resistors, 77 values

Assortment #79

4 each, Type GBT1 1-watt (5% tolerance) 308 1-watt resistors, 77 values

RESIST-O-ROUND

Revolutionary stock arrangement! Two tiers of Handy-Paks spin at the flick of a finger for fast, easy resistor selection. Serviceman always knows what he has and has what he needs . . . right at his fingertips. This added convenience measures only 7" diameter x 6 1/4" high, and is available with any of 4 assortments (at regular price of assortments)



Assortment #65

6 each, Type GBT 1/2 1/2-watt (10% tolerance) 120 1/2-watt resistors, 20 values

Assortment #69

4 each, Type GBT1 1-watt (10% tolerance) 80 1-watt resistors, 20 values

ohms:	47	470	2200	22K	100K	470K	4.7 meg
	100	1000	4700	27K	220K	1.0 meg	10 meg
	150	1500	10K	47K	270K	2.2 meg	

Assortment #73

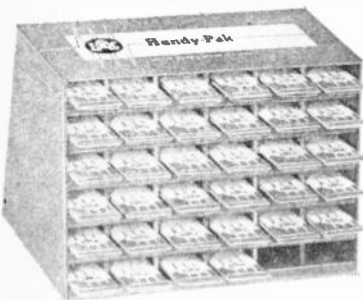
6 each, Type GBT 1/2 1/2-watt (5% tolerance) 120 1/2-watt resistors, 20 values

Assortment #77

4 each, Type GBT1 1-watt (5% tolerance) 80 1-watt resistors, 20 values

RESIST-O-BIN

Here's hard-to-resist sales appeal for any technician. 36 identified compartments in recessed tiers. Every Handy-Pak is instantly accessible. Measures only 6 3/4" wide x 4 1/4" deep x 4 1/2" high. An IRC "extra-value" with any of these 4 assortments (at regular price of assortments)



Assortment #66

6 each, Type GBT 1/2 1/2-watt (10% tolerance) 204 1/2-watt resistors, 34 values

Assortment #70

4 each, Type GBT1 1-watt (10% tolerance) 136 1-watt resistors, 34 values

ohms:	47	1000	4700	22K	56K	270K	2.2 meg
	100	1500	6800	27K	68K	330K	3.3 meg
	150	2200	8200	33K	100K	470K	4.7 meg
	220	2700	10K	39K	150K	1.0 meg	10 meg
	470	3300	15K	47K	220K	1.5 meg	

Assortment #74

4 each, Type GBT 1/2 1/2-watt (5% tolerance) 204 1/2-watt resistors, 34 values

Assortment #78

4 each, Type GBT1 1-watt (5% tolerance) 136 1-watt resistors, 34 values

ALL METAL RESIST-O-CABINETS



**RESIST-O-CABINETS
and
RESIST-O-KITS**

4 practical assortments of most frequently used IRC Resistors.

4 "non-spill" drawers with 28 identified compartments. Attractive blue, yellow and silver finish. Designed for stacking. Cabinets measure 5-3/8" x 5-15/16" x 10-7/8".

1/2 WATT ASSORTMENT #4A 150 GBT 1/2-Watt Resistors.		1 WATT ASSORTMENT #5A 125 GBT 1-Watt Resistors.		2 WATT ASSORTMENT #3A 120 BW-2 and BTB 2-Watt Resistors.		COMB. ASSORTMENT #6A 139 Insulated Resistors & Type DCF Tolerance Resistors.				
QUANTITY	RANGE	QUANTITY	RANGE	QUANTITY	RANGE	RANGE	1/2 Watt	1 Watt	2 Watt	DCF
3	47 ohms	3	47 ohms	2	4.7 ohms	47 ohms	2	1	1	-
4	100 ohms	3	100 ohms	2	10 ohms	100 ohms	2	1	1	-
3	220 ohms	3	150 ohms	1	15 ohms	150 ohms	2	1	-	-
3	270 ohms	3	220 ohms	2	22 ohms	220 ohms	2	1	-	-
4	470 ohms	3	270 ohms	1	27 ohms	270 ohms	2	1	-	-
8	1,000 ohms	3	470 ohms	1	33 ohms	470 ohms	2	1	1	-
4	1,500 ohms	7	1,000 ohms	1	39 ohms	1,000 ohms	1	4	-	1
4	2,200 ohms	3	1,500 ohms	3	47 ohms	1,500 ohms	2	1	-	-
4	2,700 ohms	5	2,200 ohms	2	68 ohms	2,200 ohms	2	1	-	-
5	3,300 ohms	3	2,700 ohms	3	82 ohms	2,700 ohms	2	1	-	-
7	4,700 ohms	3	3,300 ohms	1	100 ohms	3,300 ohms	2	2	-	-
7	10K ohms	5	4,700 ohms	3	150 ohms	4,700 ohms	3	1	1	-
5	22K ohms	7	10K ohms	3	220 ohms	10K ohms	3	4	1	1
5	27K ohms	3	15K ohms	3	270 ohms	15K ohms	2	2	-	-
5	33K ohms	5	22K ohms	4	330 ohms	22K ohms	2	2	1	-
8	47K ohms	7	27K ohms	1	470 ohms	27K ohms	2	4	-	-
4	56K ohms	4	33K ohms	5	1,000 ohms	33K ohms	2	1	-	-
4	68K ohms	4	39K ohms	4	1,500 ohms	39K ohms	2	1	-	-
8	100K ohms	7	47K ohms	1	2,200 ohms	47K ohms	4	3	1	-
7	220K ohms	1	68K ohms	4	3,300 ohms	68K ohms	2	2	-	-
8	47K ohms	7	27K ohms	3	3,900 ohms	47K ohms	4	4	-	1
5	330K ohms	3	100K ohms	4	4,700 ohms	330K ohms	2	2	-	-
8	270K ohms	3	150K ohms	5	6,800 ohms	270K ohms	2	2	-	-
5	330K ohms	3	220K ohms	7	8,200 ohms	330K ohms	3	1	-	-
8	470K ohms	7	270K ohms	7	10K ohms	470K ohms	4	2	-	-
8	1.0 meg.	7	470K ohms	5	15K ohms	1.0 meg.	4	3	-	-
7	2.2 meg.	7	470K ohms	7	22K ohms	2.2 meg.	3	3	-	-
4	3.3 meg.	7	1.0 meg.	4	27K ohms	3.3 meg.	4	4	-	1
5	4.7 meg.	3	2.2 meg.	7	47K ohms	4.7 meg.	3	3	-	-
3	10.0 meg.	3	4.7 meg.	5	100K ohms	10.0 meg.	2	1	-	-
				3	220K ohms		-	-	-	1
				3	470K ohms					
				4	1.0 meg.					



MULTI-RANGE POWER WIRE WOUND RESISTOR

This sensational resistor means that never again will technicians or servicemen need to be delayed to order an odd resistance value. 5 Multi-Range Resistors cover all 10-watt needs . . . 200 values. 0.5 to 50,000 ohms! This unit consists of four ten-watt resistance elements sealed in a special stainless steel housing. Various interconnections of the elements provide replacement for 47 different values, except for the MR5 Multi-Range Resistor. Axial leads speed serving . . . Conservatively rated—10 watts or more.

IRC TYPE MR2 MULTI-RANGE RESISTOR

Provides exceptionally broad coverage of ten-watt resistors between 5 ohms and 150 ohms. The MR2 Multi-Range Resistor has elements of 10, 20, 40 and 80 ohms.

ohms:	5.9	9.1	22	30	48	91
	5.6	10	24	33	50	100
	6.2	11	25	36	56	110
	6.8	12	26	39	60	120
	7.5	13	27	40	70	130
	8.0	15	27.5	45	80	140
	8.2	16	28	46	82	150
	9.0	20	29	47	90	

IRC TYPE MR4 MULTI-RANGE RESISTOR

Provides exceptionally broad coverage of ten-watt resistors between 500 ohms and 15K ohms. The MR4 Multi-Range Resistor has elements of 1K, 2K, 4K, and 8K ohms.

ohms:	500	910	2.2K	3K	4.8K	9.1K
	560	1K	2.4K	3.3K	5K	10K
	620	1.1K	2.5K	3.6K	5.6K	11K
	680	1.2K	2.6K	3.9K	6K	12K
	750	1.3K	2.7K	4K	7K	13K
	800	1.5K	2.75K	4.5K	8K	14K
	820	1.6K	2.8K	4.6K	8.2K	15K
	900	2K	2.9K	4.7K	9K	

SUPER CONVENIENCE . . . NEW! COMPACT! . . . EFFICIENT!

MULTI-RANGE RESISTOR KIT

Complete 10-watt power resistor coverage at your fingertips. Your stock is always visible. Identification of type, value, etc. shows through the plastic case. You always know what you have, and have what is needed with an IRC Multi-Range Resistor Kit.

Kit gives complete 10-watt coverage of 200 values. Contains 5 Handy-Paks—2 of each Type MR resistor . . . 10 Multi-Range units. Rigid, clear-plastic box with hinged lid. Measures only 5 1/4" x 3 1/2" x 1 1/4".

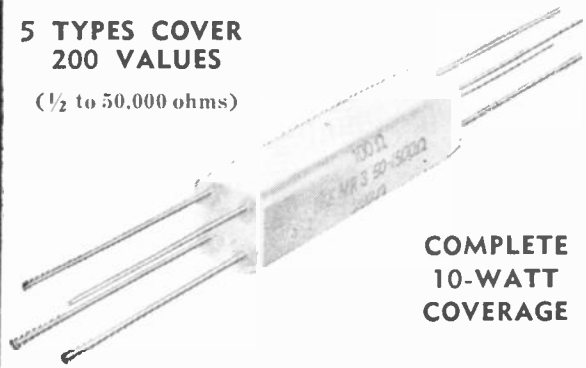


ANOTHER MULTI-RANGE FEATURE . . . EXCLUSIVE IRC HANDY-PAKS!

For greater convenience and ease of stocking and handling, Multi-Range Resistors are supplied in Handy-Paks only . . . 2 of a type to a Pak. Slim-line plastic sleeve protects modern, reusable package which opens at both ends.

5 TYPES COVER 200 VALUES

(1/2 to 50,000 ohms)



COMPLETE
10-WATT
COVERAGE

IRC TYPE MR1 MULTI-RANGE RESISTOR

Provides exceptionally broad coverage of ten-watt resistors between 0.5 ohm and 15 ohms. The MR1 Multi-Range Resistor has elements of 1, 2, 4, and 8 ohms.

ohms:	0.5	0.91	2.2	3.0	4.8	9.1
	0.56	1.0	2.4	3.3	5.0	10
	0.62	1.1	2.5	3.6	5.6	11
	0.68	1.2	2.6	3.9	6.0	12
	0.75	1.3	2.7	4.0	7.0	13
	0.8	1.5	2.75	4.5	8.0	14
	0.82	1.6	2.8	4.6	8.2	15
	0.9	2.0	2.9	4.7	9.0	

IRC TYPE MR3 MULTI-RANGE RESISTOR

Provides exceptionally broad coverage of ten-watt resistors between 50 ohms and 1500 ohms. The MR3 Multi-Range Resistor has elements of 100, 200, 400, and 800 ohms.

ohms:	59	91	220	300	480	910
	56	100	240	330	500	1000
	62	110	250	360	560	1100
	68	120	260	390	600	1200
	75	130	270	400	700	1300
	80	150	275	450	800	1400
	82	160	280	460	820	1500
	90	200	290	470	900	

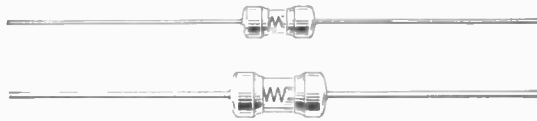
IRC TYPE MR5 MULTI-RANGE RESISTOR

Provides exceptionally broad coverage of ten-watt resistors between 3K and 50K. The MR5 Multi-Range Resistor has elements of 10K, 10K, 15K, and 15K ohms.

ohms:	3K	7.5K	15K	30K
	5K	10K	20K	40K
	6K	12.5K	25K	50K



MICROSTAK SELENIUM DIODES



Type GA Microstak Diodes for use in low current circuits where very high back resistance and low forward resistance are required. Miniature selenium cells with outstanding performance characteristics, they are ideal for such applications as A. V. C., switching, blocking and bias supplies. Design and small size give high frequency performance not found in conventional cells — tests prove their successful performance in circuit applications up to 1 megacycle. Hermetically sealed to assure stable operation under high humidity, dust, fumes and changing pressures.

Dimensions: (Type 6GA1) Length of leads — 1½". Body length — .450". Diameter — .145". (Type 9GA1) Length of leads — 1½". Body length — .500" Diameter — .210".

TYPE 6GA1

Stock No. 6GA1-2B. Minimum forward current (at 2 V.D.C.) is 0.5 M.A. and corresponding resistance, 4000 ohms. Maximum inverse current (at 20 V.D.C.) is 20 microamperes and corresponding resistance, 1 megohm. Peak inverse volts —36. Continuous inverse volts —22. Maximum A.C. input (RMS volts with resistive load only) —26. Temperature range is —55°C to +90°C. Shunt capacitance — approximately 25 mmf (measured with two plates back-to-back on 1000 cycle bridge).

Stock No. 6GA1-3C. Minimum forward current (at 2 V.D.C.) is 1 M.A. and corresponding resistance, 2000 ohms. Maximum inverse current (at 20 V.D.C.) is 10 microamperes and corresponding resistance, 2 megohms.

TYPE 9GA1

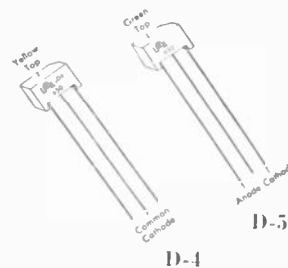
Stock No. 9GA1-3C. Characteristics are the same as the 6GA1-3C.

Stock No. 9GA1-2B. Characteristics are the same as the 6GA1-2B.



SELENIUM DIODES & FUSE RESISTORS

IRC DUAL DIODES



New IRC Universal Selenium Dual Diodes for horizontal phase detectors and remote control in TV Receivers. Also used in radio control devices for model planes, and other circuits. Two basic types: (1) common

cathode; (2) series diodes. Sealed in plastic housing. Attractively packaged.

D4 (replaces former D1 and D2). Common cathode dual diode to replace the following Mfrs.' Parts: G.E. K115J510-1, -2; Hallierafter 27C226; Hoffman 10031; Motorola 48K741255; Philco 34-8037-1-2.

D5 (replaces former D3). Series connected dual diode to replace the following Mfrs.' Parts: Admiral 93A5-2; Citizenship Radio 34-8037; Magnavox 530045-1,-2; Motorola 48K741752; Webcor 65P124.



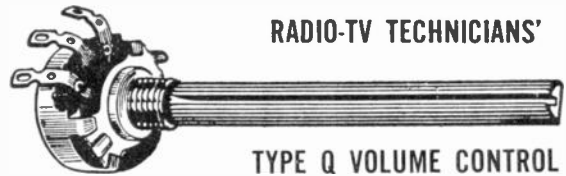
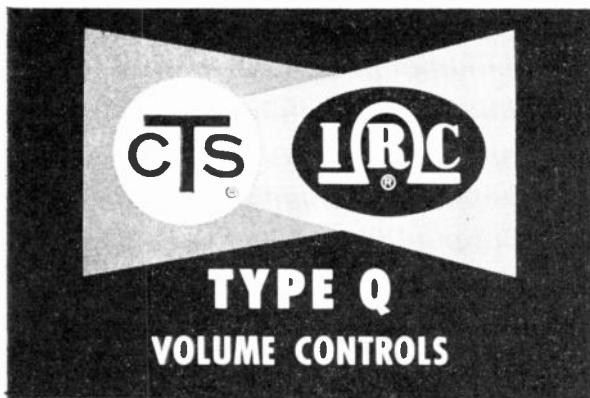
NEW FUSE RESISTOR IRC TYPE FR

New IRC Fuse-Resistor. Modern design in rectangular ceramic shell. Equipped with plug-in terminals. Available in three popular resistance values. Attractively packaged.

FR7.5—Fuse-Resistor 7.5 ohms

FR5 —Fuse-Resistor 5.0 ohms

FR5.6—Fuse-Resistor 5.6 ohms



RADIO-TV TECHNICIANS'

TYPE Q VOLUME CONTROL

IIRC's Type Q Control is the basic control for servicing all sets. It is carefully engineered to meet most replacement requirements with a minimum stock. The quality appearance and "fashioned turn" of the Q Control assure customer satisfaction. Easier installation and dependable performance provide more profitable servicing.

KNOB MASTER STANDARD FIXED SHAFT

Standard shaft is knurled, flatted and slotted and fits most knobs without alteration. For knurled or spring type push-on knobs, cut to length. For over-size, worn or web type knobs, split shaft slot lengthwise and spread ends. For positioned knobs, bend down control locating pins and rotate control base for correct knob position.

1/4" LONG BUSHING

Shorter bushing and compact 15/16" design suit Q Controls to all small sets, yet handle large set needs as well.

"Q" CONTROLS IN ORDER OF RESISTANCE

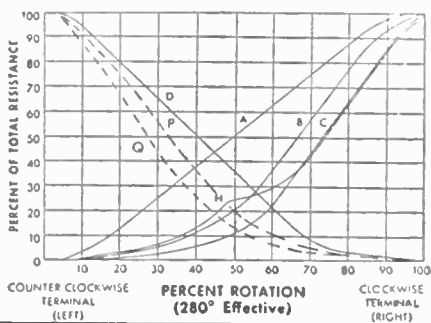
"Q" CONTROLS IN ORDER OF STOCK NUMBER

Ohms	Tap	Stock No.	T	Ohms	Tap	Stock No.	T
250		Q11-201	A	300K		Q11-131	A
500		Q11-103	A	350K		Q11-132	A
750		Q11-105	A	350K	35K	Q13-132	C
750		Q17-105	P	350K		Q17-132X	S
750	150	Q17-103X	S	350K	75K	Q18-132X	H
1000		Q11-108	A	500K		Q11-133	A
1000		Q17-108	P	500K		Q13-133	C
1500		Q11-109	A	500K		Q14-133	D
1500		Q17-109	Q	500K		Q17-133	Q
2000		Q11-110	A	500K	25K	Q17-133X	S
2000		Q17-110	Q	500K	50K	Q18-133X	S
2000	250-500	Q17-110XX	S	500K	125K	Q13-133X	H
2500		Q13-111	C	500K	100K-	Q19-133X	S
2500		Q17-111	Q	500K	200K	Q18-133XX	S
3000		Q11-112	A	600K		Q11-134	A
3000		Q17-112	Q	750K		Q11-136	A
5000		Q11-114	A	1.0M		Q11-137	A
5000		Q13-114	C	1.0M		Q13-137	C
5000		Q17-114	Q	1.0M		Q14-137	D
7500		Q11-115	A	1.0M		Q17-137	Q
10K		Q11-116	A	1.0M	25K	Q17-137X	S
10K		Q13-116	C	1.0M	100K	Q18-137X	S
10K		Q14-116	D	1.0M	250K	Q13-137X	C
10K		Q17-116	Q	1.0M	500K	Q19-137X	S
15K	10K	Q13-118X	S	1.0M	500K	QVC-539X	S
15K	7K	Q13-118XX	S	1.0M	50K		
15K	10K	Q17-118X	S	1.0M	100K	Q17-137XX	S
15K	5K	Q17-118XX	S	1.0M	250K-	Q18-137XX	S
15K	7K	Q17-118XX	S	1.5M	500K	Q11-138	A
20K		Q11-119	A	1.5M	250K	Q13-138X	S
20K		Q16-119	S	2.0M		Q11-139	A
25K		Q11-120	A	2.0M		Q13-139	C
25K		Q13-120	C	2.0M		Q17-139	Q
25K		Q14-120	D	2.0M	50K	Q19-139X	S
30K		Q11-121	A	2.0M	150K	Q17-139X	S
35K		Q11-122	A	2.0M	500K	Q13-139X	H
50K		Q11-123	A	2.0M	1.0M	Q18-139X	S
50K		Q13-123	C	2.0M	250K		
50K		Q14-123	D	2.0M	500K	Q18-139XX	S
75K		Q11-125	A	2.0M	500K		
100K		Q11-128	A	2.0M	1M	Q13-139XX	S
100K		Q13-128	C	2.5M		Q11-239	A
125K		Q11-228	A	3.0M		Q11-140	A
150K		Q11-328	A	3.0M		Q13-140	C
150K		Q13-328	C	3.0M		Q17-140	Q
150K	19K-38K	Q11-328XX	S	3.0M	900K	Q13-140X	S
200K		Q11-129	A	3.0M	1.5M	Q18-140X	S
250K		Q11-130	A	3.0M		Q11-141	A
250K		Q13-130	C	3.0M		Q12-141	S
250K	60K	Q18-130X	S	3.0M		Q13-141	C
250K	125K	Q13-130X	H	3.0M		Q17-141	Q
250K	60K-	Q18-130XX	S	7.5M		Q11-142	A
	120K			10.0M		Q11-143	A

Stock No.	Ohms	Tap	T	Stock No.	Ohms	Tap	T
Q11-103	500		A	Q11-133	500K		A
Q11-105	750		A	Q13-133	500K		C
Q17-105	750		P	Q13-133X	500K	125K	H
Q17-105X	750	250	S	Q14-133	500K		D
Q11-108	1000		A	Q17-133	500K		Q
Q17-108	1000		P	Q17-133X	500K	25K	S
Q11-109	1500		A	Q18-133X	500K	50K	S
Q17-109	1500		Q	Q18-133XX	500K	100K-	S
Q11-110	2000		A		200K		S
Q17-110	2000		Q	Q19-133X	500K	250K	S
Q17-110XX	2000	250	S	Q11-134	600K		A
Q13-111	2500		A	Q11-136	750K		A
Q11-112	3000		A	Q11-137	1.0M		A
Q17-112	3000		Q	Q13-137	1.0M		C
Q13-114	5000		C	Q13-137X	1.0M	250K	H
Q17-114	5000		Q	Q14-137	1.0M		D
Q11-115	7500		A	Q17-137XX	1.0M	25K	S
Q11-116	10K		A	Q18-137X	1.0M	100K	S
Q13-116	10K		C	Q18-137XX	1.0M	500K	S
Q14-116	10K		D		250K		S
Q17-116	10K		Q	Q19-137X	1.0M	500K	S
Q13-118X	15K	10K	S	Q11-138	1.5M		A
Q13-118XX	15K	7K-	S	Q13-138X	1.5M	250K	S
Q17-118X	15K	10K	S	Q11-139	2.0M		A
Q17-118XX	15K	7K-	S	Q13-139X	2.0M		C
Q11-119	20K	10K	S	Q13-139XX	2.0M	500K	H
Q16-119	20K		S	Q17-139	1.0M		S
Q11-120	25K		A	Q17-139X	2.0M		Q
Q13-120	25K		C	Q18-139X	2.0M	150K	S
Q13-120	25K		D	Q18-139XX	2.0M	1.0M	S
Q11-121	30K		A	Q19-139X	2.0M	250K	S
Q11-122	35K		A	Q11-140	3.0M		S
Q11-123	50K		A	Q13-140	3.0M		A
Q13-123	50K		C	Q13-140X	3.0M		C
Q14-123	50K		D	Q17-140	3.0M		Q
Q11-125	75K		A	Q18-140X	3.0M	900K	S
Q11-128	100K		A	Q11-141	5.0M	1.5M	S
Q13-128	100K		C	Q12-141	5.0M		A
Q11-228	125K		A	Q13-141	5.0M		S
Q11-328	150K		A	Q11-142	7.5M		A
Q13-328	150K		C	Q13-142	7.5M		Q
Q11-129	200K		A	Q11-143	10.0M		A
Q13-130	250K		C				
Q18-130X	250K	125K	S	Q11-201	250		A
Q13-130X	250K	60K	H	Q11-228	125K		A
Q18-130XX	250K	60K-	S	Q11-239	2.5M		A
Q11-131	300K	120K	A	Q11-328	150K		A
Q11-132	350K		A	Q13-328	150K		C
Q13-132	350K		C	Q17-328X	150K	19K-	S
Q17-132X	350K	35K	S		38K		S
Q18-132X	350K	75K	H	QVC-539X	1.0M	500K	S

T—Taper M—Megohms

STANDARD TAPERS FOR Q CONTROLS



- A—For Pots or Rheostats where resistance change is Uniform.
- B—Semi-log curve for tone or audio circuit control.
- C—Log curve-reverse taper for contrast and picture control circuits in television.
- D—Tapered at both ends for grid bias and antenna circuit control; where grid bias control is important to volume control.
- H—Tapped log curve for audio level control for automatic bass compensation.
- P—Semi-log curve-reverse taper for use in contrast and picture control circuits in television.
- Q—Log curve-reverse taper for use in contrast and picture control circuits in television.
- S—Special Taper—based on specific specifications.

ASSEMBLE YOUR OWN STANDARD OR SPECIAL IRC Q CONTROLS

For those who would like to use their IRC Base-Element stock for assembly of standard controls, the component parts are available Plain Q Control assemblies with 1-Base-Element, 1-Interchangeable Fixed Shaft, 1-QCB Bushing and 1-QCC Cover. Switch type Q control assemblies with 1-Base-Element, 1-Interchangeable Fixed Shaft, 1-QCB Bushing and 1 of either 76-1 or 76-2 Switch.

QCB-BUSHING— $\frac{3}{8}$ -32 thread, $\frac{1}{4}$ " long. Pkg. of 5.

QCC-COVER—For plain or tapped controls. Pkg. of 5.

IRC VOLUME CONTROL GROUNDING LUG—Same as supplied with IRC Type Q Controls. Fits $\frac{3}{8}$ " bushing. Lug length from hole center— $1\frac{1}{16}$ ". Type QCL Grounding Lugs. Pkg. of 5.

STANDARD Q CONTROL LOCKNUT—Hex nut for $\frac{3}{8}$ -32 thread, $\frac{1}{8}$ " across flats. Type QCN. Pkg. of 10.

New SK1 (QPK) Kit assembles above standard Q control parts with IRC base elements. Contents: AQ Knob Master Shaft, QCB Ground Plate/Bushing, QCC Universal Cover, R-1 Resilient Retainer Ring, QCN Mounting Nut.



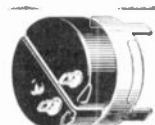
Q CONTROL PARTS KIT

Package of parts for assembly of specific Q Control types. Includes shaft, bushing and cover. Add desired Base-Element.

SK1 Formerly QPK, Includes AQ shaft for Q Control assembly.

SK2—Includes RQ shaft for RQ Control assembly.

SK3 Includes SQ shaft for SQ Control assembly.



SWITCHES FOR TYPE Q CONTROLS

Easily attached power switches for Type Q Controls. Attractively finished to match control.

76-1—Single pole, single throw

76-2—Double pole, single throw

76-4—Single pole, double throw or

Make one - Break one Spot Killer Switch.

16 INTERCHANGEABLE FIXED SHAFTS FOR Q CONTROLS



AQ

Knob Master Shaft. Same as supplied in Type Q Controls. Flatted, grooved and knurled. 3" long.



BQ

Slotted or tongued. For remote control cables. Includes $\frac{3}{8}$ " and $1\frac{1}{8}$ " guide funnels and tongue. Approximately $3\frac{1}{2}$ " long from mounting face. $\frac{1}{4}$ " diameter.



GQ

Specially slotted with hole in bottom. For Philco sets. Slot $\frac{1}{8}$ " x $\frac{3}{8}$ " deep. Approximately $1\frac{1}{2}$ " long from mounting face when installed in control. $\frac{1}{4}$ " diameter.



HQ

Flatted, with groove for dial plate. For Deleco, RCA, Sears-Roebuck and Westinghouse sets. $\frac{3}{8}$ " deep flat. $\frac{3}{8}$ " deep groove. Approximately $1\frac{1}{2}$ " long from mounting face. $\frac{1}{4}$ " diameter.



JQ

$\frac{1}{8}$ " diameter with .105" flat. For Zenith models where shaft must operate inside another shaft. Approximately $4\frac{1}{8}$ " long from mounting face.



KQ

Special $\frac{1}{4}$ " round with two concentric holes in end. For Motorola sets. Approximately $1\frac{3}{8}$ " long from mounting face.



LQ

Short flat with groove and threaded hole in end. For Belmont and Montgomery-Ward sets. $\frac{1}{2}$ " deep flat. $\frac{3}{8}$ " deep groove. Approximately 1" long from mounting face. $\frac{1}{4}$ " diameter.



MQ

Special double-flat, threaded for $\frac{3}{8}$ " on end. For Belmont, Montgomery-Ward and Wells-Gardner sets. Has two concentric holes in end, the smaller being threaded. Approximately $1\frac{1}{2}$ " long from mounting face.



NQ

Universal $\frac{3}{8}$ " flatted and slotted shaft. Slot milled entire length of shaft except for thin web. Approximately 4" long from mounting face.



PQ

Universal $\frac{1}{4}$ " full-round shaft approximately 3" long from mounting face. For $\frac{1}{4}$ " or $\frac{3}{8}$ " bushings. $\frac{3}{8}$ " bushing included.



RQ

Very short screw-driver slot shaft. Slot, $\frac{1}{8}$ " x $\frac{1}{8}$ ". Approximately $\frac{1}{2}$ " long from mounting face. $\frac{1}{4}$ " diameter. For $\frac{3}{8}$ " bushing only. Bushing included.



SQ

Combination finger knurl and screw-driver slot. Shaft knurled at end for $\frac{1}{8}$ ". Screw-driver slot in end, $\frac{3}{8}$ " x $\frac{1}{8}$ ". $\frac{1}{4}$ " diameter. Approximately $\frac{3}{4}$ " long from mounting face.



TQ

Insulated shaft for use in television. Drive arm and shaft of insulating material. Used without retainer ring. 3" long from mounting face. Easily cut to required length. $\frac{1}{4}$ " diameter. CANNOT BE USED WITH SWITCH.



UQ

Identical with BQ Shaft except for addition of friction clutch-drive arm. Used for remote control as in auto radios.



VQ

Special tongued shaft— $1\frac{1}{8}$ " long from mounting face, tongue $\frac{7}{8}$ " wide, $\frac{1}{8}$ " long, .050" thick. For Magnavox TV Receivers.



WQ

Special tongued shaft—1" long from mounting face, tongue $\frac{1}{4}$ " wide, $\frac{1}{2}$ " long, .062" thick. For Zenith TV Receivers.

FOR QUICK, EASY CONVERSION TO "SPECIALS" WITH FIXED SHAFT SECURITY

This feature adapts the Q Control to a "special" in 6 easy steps. (1) Remove control cover by bending up tabs. (2) Remove Resilient Retainer Ring with knife or pointed tool. (3) Remove standard shaft from control base. (4) Insert special shaft in base. (5) Roll new Ring into shaft groove. (6) Replace cover (or add switch).

IRC INTERCHANGEABLE FIXED SHAFTS ARE INDIVIDUALLY PACKAGED with complete instructions and extra Resilient Retainer Ring.



Q CONTROL ACCESSORIES

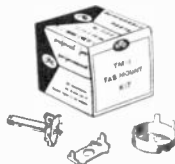
TAB MOUNT CONTROLS

Many recent TV sets use Tab Mount Controls. These are single controls without switch. They differ from standard controls in that bushing is omitted and mounting to chassis is made with two heavy twist-type mounting tabs.

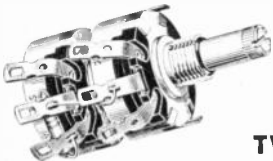
IRC TAB-MOUNT KITS

Since assembly of Tab-Mount Controls is so simple, IRC supplies four 3-Part Tab-Mount Kits which will assemble with any standard plain or tapped IRC Base-Element to provide satisfactory Tab-Mount Controls. Each TM Kit includes a Tab-type Ground Plate, a control cover and a finger-knurled and screw-driver slotted shaft of appropriate length for universal replacement. Packaged with instruction sheet but without necessary Base-Element.

- TM-1 —IRC Tab-Mount Kit—Shaft $\frac{1}{4}$ " long.
- TM-2 —IRC Tab-Mount Kit—Shaft $\frac{5}{8}$ " long.
- TM-3 —IRC Tab-Mount Kit—Shaft 1" long.
- TM-4 —IRC Tab-Mount Kit—Shaft $1\frac{1}{2}$ " long.



SPECIAL PURPOSE CONTROLS



**Type QJ-3
TV ATTENUATOR**

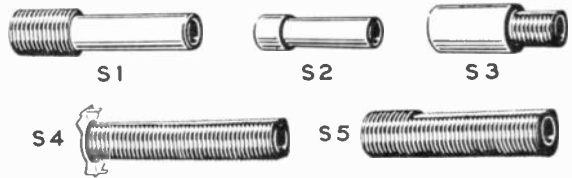
- Reduces overloading effects on TV sets in strong signal areas.
- Diminishes interstation interference caused by nearby or powerful stations.
- Minimizes buzz due to high signal level in intercarrier systems.
- Permits easy adjustment of signal RIGHT AT SET.
- Frequently prevents mismatch of antenna load to set.

IRC's QJ-3 TV Attenuator permits ready adjustment of signal input to TV sets. In most cases, it corrects or substantially reduces such conditions as:—Adjacent channel interference, background picture on weaker stations, poor definition, picture and sound breakover. Also useful in service work—duplicating fringe area signals when shop is near strong local station.



**Type LC-1
LOUDNESS CONTROL**

SLEEVE BUSHINGS



- TYPE S1—For use with standard controls.
- TYPE S2—To provide bearing for switching mechanism.
- TYPE S3—For use with standard controls to set control back from chassis or mounting bracket. $1\frac{1}{2}$ "— $\frac{1}{2}$ " dia. for 1" unthd.— $\frac{3}{8}$ " dia. for $\frac{1}{2}$ " 32 thd.—.344 flat.
- TYPE S4—For use with concentric duals to provide $\frac{1}{8}$ " dia. bushing. $1\frac{1}{2}$ "— $\frac{5}{8}$ "—2s thd. full length—.375 dbl. flat.
- TYPE S5—For use with standard controls to provide $\frac{1}{2}$ " dia. bushing. $2\frac{1}{4}$ "— $1\frac{1}{2}$ "—2s thd. full length—.437 flat.

EXTENSION SHAFTS



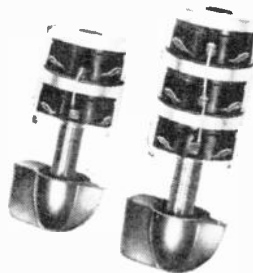
These attach to regular shafts, thus extending length to any needed size. They frequently make it possible to use standard controls for "special" jobs

Type	Dimensions
Shaft 441.....	4" x $\frac{1}{4}$ " dia. x $\frac{3}{2}$ " flat
Shaft 442.....	4" x $\frac{1}{4}$ " dia. x $\frac{3}{2}$ " flat
Shaft 443.....	4" x $\frac{1}{8}$ " dia. x $\frac{3}{4}$ " flat
Shaft 444.....	8" x $\frac{1}{4}$ " dia. x $\frac{3}{2}$ " flat for 4" lengths

SHAFT COUPLER

For use with standard controls to meet special shaft requirements. Two set screws give rigid connection.
TYPE C3—Plain coupler to couple $\frac{1}{4}$ " shafts; insert allows coupling of $\frac{1}{4}$ " shaft to $\frac{3}{16}$ " shaft.

L AND T PAD CONSTANT IMPEDANCE CONTROLS



For use in sound systems and for speaker control. Handle up to 10 watts of audio power (3 watts D.C.) L Pad provides constant input impedance; T Pad provides constant input and output impedances. IRC L and T Pads provide unusual convenience features—small size; Diameter $1\frac{1}{2}$ "; depth behind panel 1.9/32" (L Pad) and 1.27/32" (T Pad). $\frac{7}{32}$ " bushing mounts Pad on panels up to $\frac{3}{4}$ "

thick. Interchangeable bushing available for metal panels. Shaft length is correct for knob supplied — no shaft cutting necessary. Each IRC Pad is individually boxed and includes knob and dial plate.

L PADS		T PADS	
Stock No.	Impedance	Stock No.	Impedance
LP4	4 ohms	TP4	4 ohms
LP8	8 ohms	TP8	8 ohms
LP15	15 ohms	TP15	15 ohms
LP500	500 ohms	TP500	500 ohms

A continuously compensated control that boosts lows and highs as volume is decreased—maintains depth and brilliance even at whisper level. Type LC-1 replaces makeshift compensating units—tapped volume controls, stepped-type loudness controls, bass and treble boost circuits. Automatically maintains proper balance of all frequencies in the audio spectrum at any listening level. Simplicity itself—as easy to wire into an audio circuit as any standard three-terminal volume control. Complete instructions included, showing applications. Type 76-1, 76-2 or 76-4 switch can be added to this control.

HIGH VOLTAGE CONTROLS



TYPE HV A two watt carbon element high voltage control for use in television receivers using picture tubes requiring electrostatic focus. Equipped with Knob Master Shaft. Diameter 2-11/64", depth behind panel 25/32", bushing 1/4", shaft length 3".

TYPE HV

HV-15	15 Meg.	Linear
HV-25	25 Meg.	Linear

2 and 4 WATT WIRE WOUNDS

International Resistance Company's new Universal Wire Wound Control engineered to handle all 2 watt and 4 watt requirements, may be used as a replacement for former types W, WK, TWK, and WWS. Dimensions: 1 1/2" in diameter, 15/64" deep behind mounting face with-out switch; 1-7/32" with switch.



Type WPK (Technician's Replacement)
3/32 x 1/4" long bushing with popular Q Type Knob Master Shaft 3" long from mounting face.



Type WPS (Technicians' Replacement)
3/32 x 1/4" long bushing with combination finger knurl and screwdriver slot shaft 3" long from mounting face.

TYPE WM



Type WM Universal Wire Wound Multisections. Adds to WPK or WPS to make dual or triple section controls. Supplied assembled but may be assembled in field by use of WM Kit and desired WP Base Element. Switches cannot be used.

Switches are available for use with all of the above types. Windings are not compensated and the resistance in approximately 15% rotation will be lost.

Switch type 76-11 SPST
Switch type 76-12 DPST

STANDARD TAPERS

- L Taper**—Left Hand Taper with approximately 15% of total resistance at 50% rotation when measured from Left Terminal to Center Terminal facing shaft end of control with terminals down.
- R Taper**—Right Hand Taper with approximately 15% of total resistance at 50% rotation when measured from Right Terminal to Center Terminal facing shaft end of control with terminals down.
- U Taper**—Standard Linear Taper.



Type WP (Distributors' Industrial Control)
Constructed with 3/32 x 1/4" bushing and 1/2" diameter, full round shaft 3" long from mounting face.

TYPE WPRL



A new line of IRC distributor industrial controls with short screw driver slot shaft 1/4" diameter and approximately 1/2" long from mounting face, with 1/2" locking type bushing and locking nut. 10% resistance tolerance. Linear taper.



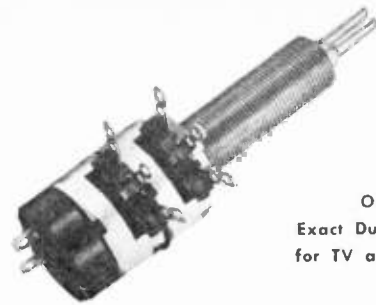
STOCK VALUES OF TYPE WP AND WPRL CONTROLS AND MULTISECTIONS

Ohms	Taper	*MAX. Current in Amps	Type WP	Type WPRL	Multi-sections
2	U (Lin.)	1.111	WP2	WPRL2	—
3	U	1.152	WP3	WPRL3	—
5	U	.895	WP5	WPRL5	—
6	U	.817	WP6	WPRL6	—
8	U	.705	WP8	WPRL8	—
10	U	.652	WP10	WPRL10	—
15	U	.517	WP15	WPRL15	—
20	U	.447	WP20	WPRL20	—
25	U	.400	WP25	WPRL25	—
30	U	.367	WP30	WPRL30	—
40	U	.310	WP40	WPRL40	—
50	U	.282	WP50	WPRL50	WM50
60	U	.258	WP60	WPRL60	—
75	U	.231	WP75	WPRL75	—
100	U	.200	WP100	WPRL100	WM100
200	U	.141	WP200	WPRL200	WM200
250	U	.126	WP250	WPRL250	WM250
300	U	.115	WP300	WPRL300	—
400	U	.090	WP400	WPRL400	—
500	U	0.0	WP500	WPRL500	WM500
750	U	.075	WP750	WPRL750	—
1,000	U	.06	WP1000	WPRL1000	WM1000
1,500	U	.052	WP1500	WPRL1500	WM1500
2,000	U	.045	WP2000	WPRL2000	WM2000
2,500	U	.040	WP2500	WPRL2500	WM2500
3,000	U	.036	WP3000	WPRL3000	WM3000
4,000	U	.031	WP4000	WPRL4000	—
5,000	U	.028	WP5000	WPRL5000	WM5000
7,500	U	.023	WP7500	WPRL7500	—
7,500	L	.016	—	—	WM7500L
10,000	(L.H. Log.)	.020	WP10000	WPRL10000	WM10000
15,000	U	.0163	WP15000	WPRL15000	—
20,000	U	.014	WP20000	WPRL20000	—
25,000	U	.0126	WP25000	WPRL25000	—
30,000	U	.0115	WP30000	WPRL30000	—
40,000	U	.010	WP40000	WPRL40000	—
50,000	U	.0089	WP50000	WPRL50000	—

* Maximum current is given for a single control operating at an ambient temperature of 103°C and mounted on a metal chassis. Multiple controls must be so derated that hot spot temperature (ambient plus temperature rise) will not exceed 110°C on any winding.

STOCK VALUES OF TYPE WPK AND WPS CONTROLS

Ohms	Tap	Taper	Type WPK Control	Type WPS Control	Ohms	Tap	Taper	Type WPK Control	Type WPS Control
10	—	U	WPK10	—	750	250	S	—	—
10	5.	U	—	WPS10X5	1000	—	U	WPK1000	WPS1000
15	7.5	U	—	WPS15X7.5	1250	—	U	WPK1250	—
20	—	U	WPK20	—	1375	—	R	WPK1375R	—
20	10	U	—	WPS20X10	1500	—	U	WPK1500	WPS1500
25	—	U	—	WPS25	1500	—	L	WPK1500L	—
25	12.5	U	—	WPS25X12.5	1500	500	S	—	—
50	—	U	WPK30	—	2000	—	U	WPK2000	WPS2000
50	15	U	—	WPS50X15	2000	—	U	WPK2000U	—
50	—	U	—	WPS50	2250	—	U	—	WPS2250
40	20	U	—	WPS40X20	2250	—	L	WPK2250L	WPS2250L
50	—	U	WPK50	—	2500	—	U	WPK2500	WPS2500
50	25	U	—	WPS50X25	2500	—	R	WPK2500R	—
60	—	U	—	WPS60	3000	—	U	WPK3000	WPS3000
80	40	U	—	WPS80X40	3000	—	R	—	—
100	—	U	WPK100	—	3200	—	U	—	WPS4000
100	50	U	—	WPS100X50	4000	—	L	WPK4000L	WPS4000L
110	70	U	—	WPS110X70	4000	—	U	WPK5000	WPS5000
150	75	U	—	WPS150X75	5000	—	L	WPK5000L	—
200	—	U	WPK200	—	5000	—	—	—	—
200	100	U	—	WPS200X100	6000	—	R	—	—
250	—	U	WPK250	WPS250	6000	—	U	WPK6000	—
300	—	U	WPK300	—	6000	—	L	WPK6000L	—
400	—	U	WPK400	—	7500	—	U	WPK7500	—
500	—	U	WPK500	WPS500	7500	—	L	WPK7500L	—
500	—	L	—	WPS500L	10000	—	U	WPK10000	—
500	—	U	WPK600	—	12500	—	U	WPK12500	—
600	—	U	WPK650	—	15000	—	U	WPK15000	—
650	—	U	WPK700	—	20000	—	U	WPK20000	—
750	—	U	WPK750	—	25000	—	U	WPK25000	—
750	—	L	WPK750L	—	30000	—	U	WPK30000	—
—	—	—	—	—	40000	—	U	WPK40000	—
750	—	R	WPK750R	—	50000	—	U	WPK50000	—



Over 1150
Exact Duplicate Controls
for TV and Auto Radios

For those who prefer factory-assembled special controls, IRC provides an exceptionally broad line of over 1150 Exact Duplicate Controls. Each control is specified closely to manufacturers' original control specifications—required. Carbon and wire-wound elements are used for panel and rear sections as required.

The IRC Exact Duplicate Line now includes over 200 concentric dual controls for auto radios. Modern

in design, these new controls bring many unique and desirable features to provide convenience, economy and long life. The new IRC Printed-Silver Tone Switch eliminates contact fatigue—assures positive, no bump contact. Simple detent assures positive positioning independent of switch action. Control position feature of $\frac{1}{16}$ " and $\frac{1}{2}$ " bushings permits exact duplication of original. Short control depth fits most crowded locations. Power switches amply rated for both TV and Auto Radios. Consult S-012E Part Number Replacement Manual or S-020E Numerical Listing for needed controls.

IRC CONCENTRIKIT ASSEMBLES EXACT DUPLICATE CONTROLS
features quick assembly—no modification of parts.

14 Basic CONCENTRIKITS

IRC Concentrikits are the common parts to various types of Exact Duplicate Controls. When assembled with parts shown in IRC Parts Number Manual (Form S-012E), they will produce any IRC Exact Duplicate TV or Auto Radio Controls. No cutting or filing of shafts or bushings—one minute assembly.

Concentrikit	Depth	Control Panel Section	Rear Section	Bushing	Use
K-2	*	C	C	$\frac{3}{8}$ " x $\frac{3}{8}$ "	TV & Auto
K-3	*	W	C	$\frac{3}{8}$ " x $\frac{3}{8}$ "	TV
K-4	*	C	C	$\frac{3}{8}$ " x $\frac{3}{4}$ "	TV (Motorola)
K-5	*	C	C	$\frac{3}{8}$ " x $\frac{1}{4}$ "	TV (Hallierafters)
K-6	**	C	C	$\frac{3}{8}$ " x $\frac{3}{8}$ "	TV & Auto
K-7	**	C	C	$\frac{3}{8}$ " x $\frac{3}{4}$ "	TV
K-8	**	C	C	none	Auto
K-9	**	TS	C	none	Auto
K-10	**	W	W	$\frac{3}{8}$ " x $\frac{3}{8}$ "	TV
K-11	**	W	C	$\frac{3}{8}$ " x $\frac{1}{4}$ "	TV
K-12	**	C	W	$\frac{3}{8}$ " x $\frac{3}{8}$ "	TV
K-13	**	W	W	$\frac{3}{8}$ " x $\frac{1}{4}$ "	TV
K-14	**	W	W	$\frac{3}{8}$ " x $\frac{3}{4}$ "	TV
K-15	**	C	C	$\frac{3}{8}$ " x $\frac{1}{4}$ "	TV

*—Standard **—Short C—Carbon W—Wire TS—Tone Switch

IRC Printed-Silver Tone Switch Elements

Sensational new development in concentric tone switch permits assembly of special Exact Duplicate Auto Radio Controls in field. Assemblies like standard IRC Base Elements—no loose parts. Packed with detent-type panel cover.

Stock No.	Description
BS1	4 Position Tone Switch Element for Ford
BS2	4 Position Tone Switch Element for Deleo
BS3	3 Position Tone Switch Element for Philco
BS4	4 Position Tone Switch Element for Deleo
BS5	4 Position Tone Switch Element for Lincoln and Mercury

IRC EXACT DUPLICATE BUSHINGS
featuring Adjustable Positioning

A wide assortment of Exact Duplicate Bushings provide easy, quick assembly of Auto Radio Controls without cutting, filing or modification. New adjustable ground plate permits positioning of flats or notched mounting face to duplicate original control positioning. Individually packaged.

IRC EXACT DUPLICATE BUSHINGS

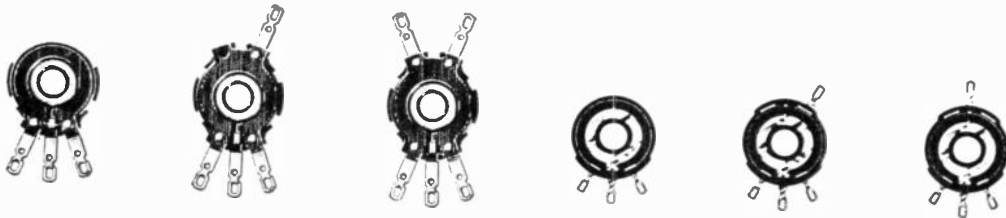
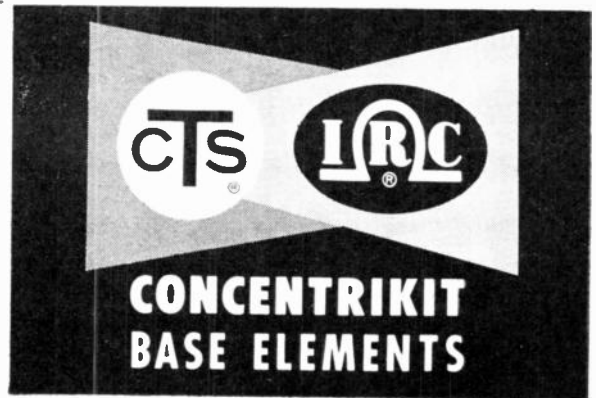
Stock No.	Dimensions	Type
S6	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Double-flat
S7	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Double-flat
S8	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Double-flat
S9	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Double-flat
S10	$\frac{1}{2}$ " x 0.2 "	Single-flat
S11	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S12	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S13	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S14	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S15	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S16	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S17	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S18	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S19	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S20	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S21	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S22	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S23	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S24	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S25	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S26	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S27	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S28	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S29	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S30	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S31	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S32	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S33	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S34	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S35	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S36	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S37	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S38	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S39	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S40	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S41	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S42	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S43	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S44	$\frac{3}{8}$ " x $\frac{5}{16}$ "	Single-flat
S45	$\frac{3}{8}$ " x $\frac{11}{16}$ "	Single-flat
S46	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Double-flat
S47	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Double-flat
S48	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
S49	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Notched
S50	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Single-flat
N1	Mounting Nut for $\frac{1}{16}$ " Bushings—Pkg. of 10	
N2	Mounting Nut for $\frac{1}{2}$ " Bushings—Pkg. of 10	
N3	Mounting Nut for $\frac{1}{2}$ " 0.16 " across flats Bushings—Pkg. of 10	

Base-Elements and Exact Duplicate Shafts for CONCENTRIKIT assembly are listed on 3 pages following →

IRC Base-Elements are a revolutionary advance in concentric dual replacement. A relatively small stock at low investment provides wide coverage of electrical requirements of many concentric duals. Each unit is a complete molded control base with element, terminals and collector ring installed. There are no loose parts.

Two types of Base-Elements are available: Type B for panel or rear carbon sections and Type W for wire-wound panel or rear sections.

Two Base-Elements are required for each concentric dual.

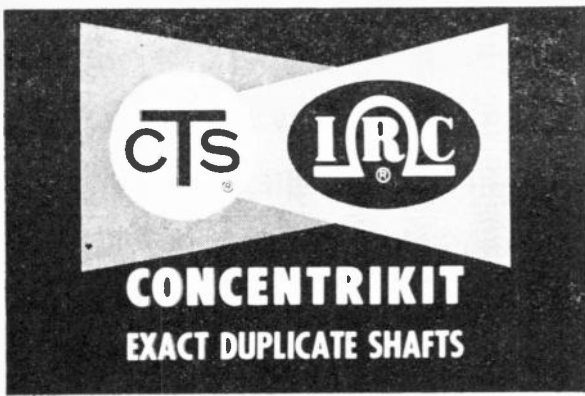


BASE ELEMENT STOCK VALUES

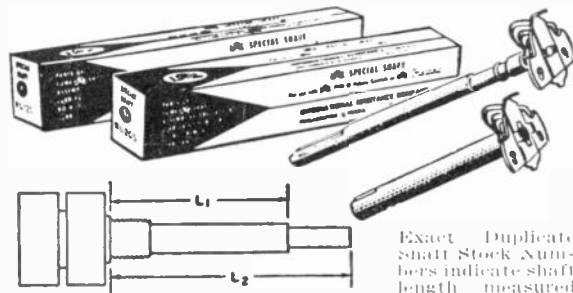
Carbon and Wirewound Base-Elements by Resistance Value

Ohms	Tap	T	Stock No.	Ohms	Tap	T	Stock No.	Ohms	Tap	T	Stock No.	Ohms	Tap	T	Stock No.
10	—	1	W11-010	1350	—	1	W11-308	11.5K	—	Q	B17-117	500K	25K	Z	B17-133X
10	5	1	W11-010X	1250	—	R	W17-308	12.5K	—	U	W11-217	500K	50K	—	B18-133X
15	7.5	1	W11-015X	1500	—	A	B11-109	15K	—	A	B11-118	500K	75K	Z	B15-133X
20	—	1	W11-020	1500	—	1	W11-109	15K	—	1	W11-118	500K	125K	H	B13-133X
20	10	1	W11-020X	1500	—	L	W13-109	15K	10K	Z	B13-118X	500K	150K	—	B20-133X
25	—	1	W11-025	1500	185 &	—	—	15K	5000 &	—	—	500K	167K &	—	—
25	12.5	1	W11-025X	1500	375	S	B17-109X X	15K	10K	—	B13-118X X	500K	250K	Z	B20-133X X
30	—	1	W11-030	2000	500	S	W17-109X	15K	5000	Z	B17-118X	500K	250K	Z	B19-133X
30	15	1	W11-030X	2000	—	A	B11-110	15K	10K &	—	B17-118X X	500K	100K &	—	—
40	—	1	W11-040	2000	—	1	W11-110	20K	—	S	B17-118X X	600K	200K	Z	B18-133X X
40	20	1	W11-040X	2000	—	L	W13-110	20K	—	A	B11-119	750K	—	A	B11-134
50	—	1	W11-050	2000	—	1	W11-110	20K	—	U	W11-119	750K	—	A	B11-136
50	25	1	W11-050X	2000	550	Q	B17-110	20K	—	S	B16-119	1.0M	—	C	B11-137
60	—	1	W11-060	2500	—	S	B17-110X	25K	—	A	B11-120	1.0M	—	A	B13-137
80	40	1	W11-080X	2250	500 &	—	—	25K	5000 &	—	B13-120	1.0M	—	D	B14-137
100	—	1	W11-084	2250	—	1	W11-210	25K	—	C	B13-120	1.0M	37K	—	B17-137
100	50	1	W11-084X	2500	—	L	W13-210	25K	—	D	B14-120	1.0M	37K	—	B17-137X
140	70	1	W11-092X	2500	—	A	B11-111	30K	—	A	B11-121	1.0M	100K	—	B17-137X
150	75	1	W11-094X	2500	—	1	W11-111	30K	—	U	W11-121	1.0M	250K	H	B13-137X
200	—	1	W11-100	2500	—	C	B13-111	35K	—	A	B11-122	1.0M	500K	S	B19-137X
200	100	1	W11-100X	2500	—	Q	B17-111	40K	—	U	W11-222	1.0M	500K	S	BVC539X
250	—	A	B11-201	2500	—	R	W17-111	50K	—	A	B11-123	1.0M	50K &	—	—
250	—	1	W11-201	2500	—	1	W11-111	50K	—	U	W11-123	1.0M	100K	S	B17-137X X
300	—	1	W11-102	2500	500	S	B17-111X	50K	—	C	B13-123	1.0M	250K &	—	—
300	—	1	W11-102	3000	625	S	B27-111X	50K	—	D	B14-123	1.5M	—	S	B18-137X X
300	—	1	W11-202	3000	—	A	B11-112	50K	—	A	B11-125	1.5M	—	A	B11-138
400	—	1	W11-202	3000	—	1	W11-112	75K	—	A	B11-125	1.5M	—	C	B13-138
500	—	A	B11-103	3000	—	1	W11-112	100K	—	A	B11-128	1.5M	250K	—	B13-138X
500	—	1	W11-103	3000	—	Q	B17-112	100K	—	C	B13-128	1.5M	—	Q	B17-138
500	—	L	W13-103	3000	—	R	W17-112	100K	—	Q	B17-128	2.0M	—	A	B11-139
600	—	1	W11-104	3000	150	S	B17-112X	100K	—	A	B11-228	2.0M	—	C	B13-139
600	—	1	W11-104	3000	—	1	W13-212	125K	—	A	B11-228	2.0M	—	Q	B17-139
650	—	1	W11-204	4000	—	L	W13-212	150K	—	A	B11-328	2.0M	50K	S	B19-139X
750	—	A	B11-105	4000	—	1	W11-113	150K	—	C	B13-328	2.0M	150K	Z	B17-139X
750	—	1	W11-105	4000	—	L	W13-113	150K	—	C	B13-328	2.0M	500K	H	Q13-139X
750	—	L	W13-105	5000	—	A	B11-114	150K	19K &	—	—	2.0M	1.0M	S	B18-139X
750	—	1	W11-105	5000	—	1	W11-114	200K	38K	S	B17-328X X	2.0M	250K &	—	—
750	—	P	B17-105	5000	—	1	W11-114	200K	—	A	B11-129	2.0M	500K	S	B18-139X X
750	—	R	W17-105	5000	—	C	B13-114	250K	—	A	B11-130	2.0M	500K &	—	—
750	250	S	B17-105X	5000	—	L	W13-114	250K	—	C	B13-130	2.0M	1.0M	—	B13-139X X
750	250	S	W17-105X	5000	—	Q	B17-114	250K	60K	H	B18-130X	2.5M	—	A	B11-239
1000	—	A	B11-108	6000	—	R	W17-114	250K	125K	S	B13-130X	2.5M	—	Q	B17-239
1000	—	1	W11-108	6000	—	1	W11-214	250K	60K &	—	—	3.0M	—	A	B11-140
1000	—	P	B17-108	6000	—	1	W13-214	300K	120K	S	B18-130X X	3.0M	—	C	B13-140
1000	150	S	B17-108X	7500	—	L	W13-214	350K	—	A	B11-131	3.0M	900K	S	B13-140X
1200	—	Q	B17-208	7500	—	A	B11-115	350K	—	A	B11-132	3.0M	1.5M	S	B18-140X
				7500	—	1	W11-115	350K	—	C	B13-132	5.0M	—	A	B11-240
				10K	—	L	W13-115	350K	35K	S	B17-132 X	5.0M	—	A	B11-141
				10K	—	A	B11-116	350K	75K	H	B18-132 X	5.0M	—	S	B12-141
				10K	—	1	W11-116	500K	—	A	B11-133	5.0M	—	C	B13-141
				10K	—	C	B13-116	500K	—	C	B13-133	5.0M	1.0M	Q	B13-141 X
				10K	—	D	B14-116	500K	—	D	B14-133	7.5M	—	C	B17-141
				10K	—	Q	B17-116	500K	—	Q	B17-133	7.5M	—	A	B11-142
												10.0M	—	A	B11-143

T—Taper M—Megohms



DEPENDABLE MECHANICAL FIT FOR YOUR TV REPLACEMENTS



Exact Duplicate Shaft Stock Numbers indicate shaft length measured from mounting

Save time—be assured of accurate fit! IRC now provides a complete line of Exact Duplicate Shafts for CONCENTRIKIT—factory-tailored for dependable mechanical fit. No filing, slotting, soldering or cutting required! Many shafts are fluted as well as slotted to provide wider replacement coverage. Each shaft is a complete assembly, including contactor. Factory-lubricated, packaged in cellophane and in individual carton.

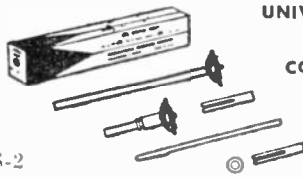
face when installed in control (L_1 is Outer Shaft length; L_2 is Inner Shaft length). First digit is number of whole inches in shaft length; remaining two digits indicate number of additional 32nds of an inch. Thus, P1-210 has shaft lengths of 2-10/32" or 2-5/16". Exception is Inner Shafts when used with K-3 CONCENTRIKIT where 3/32" should be subtracted to determine shaft length.

EXACT DUPLICATE OUTER SHAFTS

Shaft Type	Slot Width-Depth	Flat Length	Round Knurled Band	Type Base Element	Concentrikit
P1	1/8" x 3/8"	17/32"	—	Q	K-2, -4, -5
P2	1/16" x 1/2"	17/32"	—	Q	K-2, -4, -5
P3	1/8" x 3/8"	17/32"	—	W	K-3, -10, -11, -13, -14
P4	1/8" x 3/8"	3/4"	—	W	K-3, -10, -11, -13, -14
P5	1/16" x 3/8"	17/32"	—	W	K-3, -10, -11, -13, -14
P6	1/8" x 3/8"	11/16"	—	Q	K-2, -4, -5
P7	.120" x 3/8"	17/32"	—	Q	K-2, -4, -5
P8	—	—	1 8" wide	W	K-3, -10, -11, -13, -14
P9	—	—	1 8" wide	Q	K-2, -4, -5
P10	1/8" x 7/16"	17/32"	—	Q	K-2, -4, -5
P11	3/64" x 1/16"	—	—	Q	K-2, -4, -5
P12	1/8" x 3/16"	—	—	Q	K-2, -4, -5
P13	1/8" x 1/4"	—	—	Q	K-6, -7, -8, -12, -15
P14	1/8" x 3/16"	—	—	Q	K-6, -7, -8, -12, -15
P15	1/8" x 1/4"	—	—	Tone SW.	K-9
P16	.132" x 3/16"	—	—	Q	K-6, -7, -8, -12, -15
P17	1/8" x 3/8"	5/8"	—	Q	K-6, -7, -8, -12, -15
P18	3/64" x 1/16"	—	—	W	K-3, -10, -11, -13, -14
P19	3/64" x 1/16"	—	—	Q	K-6, -7, -8, -12, -15
P20	—	—	1 8" wide	Q	K-6, -7, -8, -12, -15
P21	1/8" x 7/16"	5/8"	—	Q	K-6, -7, -8, -12, -15

EXACT DUPLICATE INNER SHAFTS

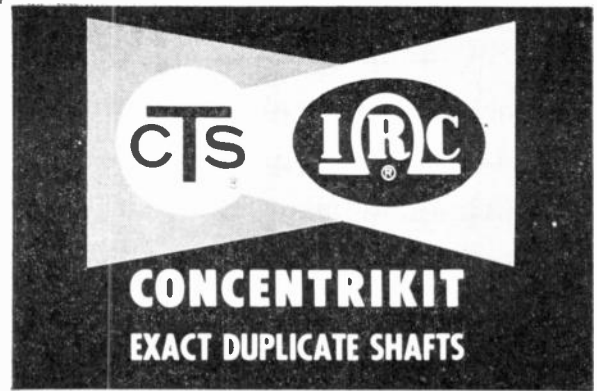
Shaft Type	Diam.	Slot Width - Depth	Flat Length	Round Knurled Band	Type Base Element	Concentrikit
R1	.187"	1/16" x 1/2"	1/2"	—	Q	All but K-10, -12, -13, -14
R2	.202"	1/16" x 1/2"	1/2"	—	Q	All but K-10, -12, -13, -14
R3	.190"	20 Tooth Split Knurl (Zenith)	—	—	Q	All but K-10, -12, -13, -14
R4	.180"	Round and Slotted (Motorola)	—	—	Q	All but K-10, -12, -13, -14
R5	.187"	Rear Extension Type (RCA)	—	—	Q	All but K-10, -12, -13, -14
R6	.202"	Rear Extension Type (Dumont)	—	—	Q	All but K-10, -12, -13, -14
R7	.189"	18 Tooth Split Knurl (Zenith)	—	—	Q	All but K-10, -12, -13, -14
R8	.187"	1/16" x 1/2"	1/2"	—	W	K-10, -12, -13, -14 only
R9	.187"	1/16" x 1/2"	5/8"	—	Q	All but K-10, -12, -13, -14
R10	.187"	—	—	1/8" wide	W	K-10, -12, -13, -14 only
R11	.187"	—	—	1/8" wide	Q	All but K-10, -12, -13, -14
R12	.202"	—	—	7/32"	Q	All but K-10, -12, -13, -14
R13	.180"	Round with 5/8" deep slot (Motorola)	—	—	Q	All but K-10, -12, -13, -14
R14	.202"	1/16" x 1/2"	5/8"	—	Q	All but K-10, -12, -13, -14
R15	.202"	3/64" x 1/16"	—	—	Q	All but K-10, -12, -13, -14
R16	.187"	1/16" x 1/2"	25/32"	—	Q	All but K-10, -12, -13, -14
R17	.202"	1/16" x 1/2"	11/16"	—	Q	All but K-10, -12, -13, -14
R18	.202"	1/16" x 1/2"	1/2"	—	W	K-10, -12, -13, -14 only
R19	.202"	3/64" x 1/16"	—	—	W	K-10, -12, -13, -14 only
R20	.187"	3/64" x 1/16"	—	—	Q	All but K-10, -12, -13, -14
R21	.190"	1/16" x 5/8"	(Motorola)	—	Q	All but K-10, -12, -13, -14



KS-2

**UNIVERSAL SHAFTS
FOR
CONCENTRIKIT**

For use with CONCENTRIKITS in place of Exact Duplicate Shafts. Requires shaft modification to desired specification. KS-2 Shaft Kit is for controls in which both sections are carbon. Use with K-2, K-4 or K-5 CONCENTRIKIT.

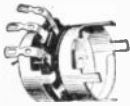


EXACT DUPLICATE SHAFTS

Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length	Stock No.	Shaft Length
R15-005	3/2"	P6-102	1 1/8"	P2-118	1 1/8"	R11-200	2 1/8"	P13-214	2 1/8"	P1-304	3 1/8"
R15-009	3/2"	P11-102	1 1/8"	P3-118	1 1/8"	R18-200	2 1/8"	P14-214	2 1/8"	R1-304	3 1/8"
R19-011	1 1/8"	P14-102	1 1/8"	P14-118	1 1/8"	R21-201	2 1/8"	P17-214	2 1/8"	P1-306	3 1/8"
P19-012	3/8"	P15-102	1 1/8"	P17-118	1 1/8"	P6-202	2 1/8"	R1-214	2 1/8"	R2-306	3 1/8"
P14-014	7/16"	P17-102	1 1/8"	R1-118	1 1/8"	P14-202	2 1/8"	R9-214	2 1/8"	R4-306	3 1/8"
R15-014	1 1/8"	R1-103	1 1/8"	R11-118	1 1/8"	R1-202	2 1/8"	R14-214	2 1/8"	P1-308	3 1/8"
R19-014	1 1/8"	R2-103	1 1/8"	R16-118	1 1/8"	R9-202	2 1/8"	R5-215	2 1/8"	P10-308	3 1/8"
P18-015	1 1/8"	P3-104	1 1/8"	R2-119	1 1/8"	P3-203	2 1/8"	P1-216	2 1/8"	R1-308	3 1/8"
P8-016	1 1/8"	P9-104	1 1/8"	R12-119	1 1/8"	R15-203	2 1/8"	R1-216	2 1/8"	R2-308	3 1/8"
P14-016	1 1/8"	P13-104	1 1/8"	P15-120	1 1/8"	R17-203	2 1/8"	R2-216	2 1/8"	R14-308	3 1/8"
P19-016	1 1/8"	P20-104	1 1/8"	P17-120	1 1/8"	P1-204	2 1/8"	R11-216	2 1/8"	P1-310	3 1/8"
P1-017	1 1/8"	P17-105	1 1/8"	P1-121	1 1/8"	P12-204	2 1/8"	R17-216	2 1/8"	P17-310	3 1/8"
R15-017	1 1/8"	R1-105	1 1/8"	P3-121	1 1/8"	P14-204	2 1/8"	P3-217	2 1/8"	R2-310	3 1/8"
P9-018	1 1/8"	R2-105	1 1/8"	P4-121	1 1/8"	P15-204	2 1/8"	P13-217	2 1/8"	P1-312	3 1/8"
P11-018	1 1/8"	P1-106	1 1/8"	P14-121	1 1/8"	R2-204	2 1/8"	P2-218	2 1/8"	R2-312	3 1/8"
P18-018	1 1/8"	P3-106	1 1/8"	P6-122	1 1/8"	R3-204	2 1/8"	P6-218	2 1/8"	R16-313	3 1/8"
P18-018	1 1/8"	P8-106	1 1/8"	P12-122	1 1/8"	R14-204	2 1/8"	P15-218	2 1/8"	P1-314	3 1/8"
P14-019	1 1/8"	P15-106	1 1/8"	P13-122	1 1/8"	R1-205	2 1/8"	R1-218	2 1/8"	R2-314	3 1/8"
P15-019	1 1/8"	R4-106	1 1/8"	P15-122	1 1/8"	R9-205	2 1/8"	R2-218	2 1/8"	R9-314	3 1/8"
P1-020	5/8"	R16-106	1 1/8"	R1-122	1 1/8"	R16-205	2 1/8"	R11-219	2 1/8"	P17-316	3 1/8"
P8-020	5/8"	R1-108	1 1/8"	R12-122	1 1/8"	P1-206	2 1/8"	P1-220	2 1/8"	R1-316	3 1/8"
P9-021	3/2"	R11-108	1 1/8"	P1-123	1 1/8"	P5-206	2 1/8"	R1-220	2 1/8"	R13-316	3 1/8"
P13-022	1 1/8"	R12-108	1 1/8"	P3-123	1 1/8"	P7-206	2 1/8"	R2-220	2 1/8"	P1-317	3 1/8"
P16-023	3 1/8"	P1-109	1 1/8"	P17-123	1 1/8"	P14-206	2 1/8"	P21-220	2 1/8"	R2-317	3 1/8"
P1-024	3 1/8"	P7-109	1 1/8"	P4-124	1 1/8"	P15-206	2 1/8"	R4-221	2 1/8"	R2-318	3 1/8"
P11-024	3 1/8"	P10-110	1 1/8"	P9-124	1 1/8"	R2-206	2 1/8"	P1-222	2 1/8"	P1-320	3 1/8"
P14-024	3 1/8"	R2-110	1 1/8"	R2-124	1 1/8"	R12-206	2 1/8"	P2-222	2 1/8"	R2-322	3 1/8"
P17-024	3 1/8"	R9-110	1 1/8"	R11-124	1 1/8"	R17-206	2 1/8"	P7-222	2 1/8"	R4-322	3 1/8"
R1-024	3 1/8"	P3-111	1 1/8"	P6-125	1 1/8"	R1-207	2 1/8"	R9-222	2 1/8"	R1-323	3 1/8"
P14-026	1 1/8"	R1-111	1 1/8"	P14-125	1 1/8"	P3-208	2 1/8"	R2-222	2 1/8"	R9-324	3 1/8"
P15-026	1 1/8"	P1-112	1 1/8"	P1-126	1 1/8"	P14-208	2 1/8"	R3-223	2 1/8"	P1-325	3 1/8"
R12-026	1 1/8"	P6-112	1 1/8"	P17-126	1 1/8"	P17-208	2 1/8"	R1-223	2 1/8"	R1-326	3 1/8"
P16-027	3 1/8"	P9-112	1 1/8"	R1-126	1 1/8"	R6-208	2 1/8"	R3-223	2 1/8"	R2-329	3 1/8"
P1-028	7/8"	P14-112	1 1/8"	P3-127	1 1/8"	R7-208	2 1/8"	P1-224	2 1/8"	R3-331	3 1/8"
P3-028	7/8"	P15-112	1 1/8"	R2-127	1 1/8"	R9-208	2 1/8"	P6-224	2 1/8"	R13-331	3 1/8"
P6-028	7/8"	P17-112	1 1/8"	R16-127	1 1/8"	R20-208	2 1/8"	P17-224	2 1/8"	P1-400	4"
P17-028	7/8"	R9-112	1 1/8"	P1-128	1 1/8"	P2-209	2 1/8"	P10-225	2 1/8"	P3-400	4"
R1-028	7/8"	R11-112	1 1/8"	P2-128	1 1/8"	P9-209	2 1/8"	P1-226	2 1/8"	R2-401	4 1/2"
R2-028	7/8"	R16-112	1 1/8"	P9-128	1 1/8"	R1-209	2 1/8"	P2-226	2 1/8"	P1-405	4 1/2"
R10-028	7/8"	P13-113	1 1/8"	P13-128	1 1/8"	R2-209	2 1/8"	P3-226	2 1/8"	P3-405	4 1/2"
R11-028	7/8"	R1-113	1 1/8"	R14-128	1 1/8"	P1-210	2 1/8"	R1-226	2 1/8"	R14-409	4 1/2"
R15-028	7/8"	P1-114	1 1/8"	P3-129	1 1/8"	P13-210	2 1/8"	R2-226	2 1/8"	R14-414	4 1/2"
P14-029	3 1/8"	P3-114	1 1/8"	P17-129	1 1/8"	R1-210	2 1/8"	R4-226	2 1/8"	R1-417	4 1/2"
P21-029	3 1/8"	P15-114	1 1/8"	R12-129	1 1/8"	R4-210	2 1/8"	P10-227	2 1/8"	R1-420	4 1/2"
R12-029	3 1/8"	P4-115	1 1/8"	P6-130	1 1/8"	P6-211	2 1/8"	R1-228	2 1/8"	R2-420	4 1/2"
P1-030	1 1/8"	P14-115	1 1/8"	P14-130	1 1/8"	P14-211	2 1/8"	R4-228	2 1/8"	P8-424	1 3/4"
P2-031	3 1/8"	P17-115	1 1/8"	P15-130	1 1/8"	P1-212	2 1/8"	P1-229	2 1/8"	R2-426	1 1/2"
P17-031	3 1/8"	R1-115	1 1/8"	R1-130	1 1/8"	P3-212	2 1/8"	R7-229	2 1/8"	R14-426	4 1/2"
R11-031	3 1/8"	R9-115	1 1/8"	P3-131	1 1/8"	P9-212	2 1/8"	R14-229	2 1/8"	R2-429	4 1/2"
P3-100	1"	P1-116	1 1/8"	R2-131	1 1/8"	R2-212	2 1/8"	R2-230	2 1/8"	R10-431	4 1/2"
P8-100	1"	P2-116	1 1/8"	R12-131	1 1/8"	R1-212	2 1/8"	P1-300	3"		
R1-100	1"	P3-116	1 1/8"	P1-200	2"	R2-212	2 1/8"	P17-300	3"		
P9-101	1 1/8"	P9-116	1 1/8"	P2-200	2"	R4-212	2 1/8"	R1-300	3"		
P20-101	1 1/8"	P13-116	1 1/8"	P6-200	2"	R7-212	2 1/8"	R2-300	3"		
P1-102	1 1/8"	R14-116	1 1/8"	P13-200	2"	R8-213	2 1/8"	P1-302	3 1/8"		
		R2-117	1 1/8"	P15-200	2"	R20-213	2 1/8"	P6-302	3 1/8"		
		P1-118	1 1/8"	R1-200	2"	P2-214	2 1/8"	R14-302	3 1/8"		
				R2-200	2"	P3-214	2 1/8"	P14-303	3 1/8"		



DISTRIBUTOR CONTROLS FOR INDUSTRY



MULTISECTIONS

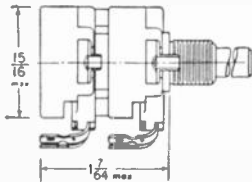
IIRC MULTISECTIONS are complete control sections that can be added like a switch to any Q, PQ, RQ or RQL Control. With these units, the Radio Technician or Engineer is provided with an endless variety of dual, triple or even quadruple controls.

Duals assembled from IIRC MULTISECTIONS will accommodate Type 76 switches. Available in a selection of 25 values, as shown in following table. Each MULTISECTION adds $\frac{1}{16}$ " to basic control.

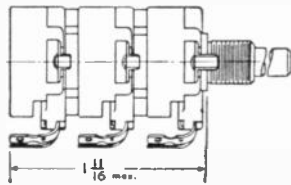
TYPE RQL

IIRC's new line of 10% tolerance Locking Type Bushing Controls. Screw-driver slot shaft $\frac{1}{4}$ " diameter and approximately $\frac{1}{2}$ " long from mounting face, with a $\frac{3}{8}$ " split type bushing, and locking nut.

MULTISECTION DIMENSIONS



DUAL CONTROL



TRIPLE CONTROL

SINGLE CONTROLS



TYPE PQ



TYPE RQL



TYPE RQ

IIRC Distributor Controls for Industry offer commercial users a wide selection of resistance values and two industrial shaft types. Shafts are fixed. This combination of wide selection of values and speedy Distributor delivery holds many advantages for industrial purchasers. These Industrial controls are adaptations of the new, compact $\frac{1}{4}$ " Q Control. Power rating is $\frac{1}{2}$ watt, 500 volts maximum. Electrical rotation is the same with or without switch. $\frac{3}{8}$ " bushing is brass and held to close tolerance for snug shaft fit.

Terminals are heavily tinned for easy soldering, and may be bent without becoming noisy. Two locating lugs are provided, either or both of which may be bent down if not needed. Molded base. Both Types PQ and RQ are supplied in standard tapers.

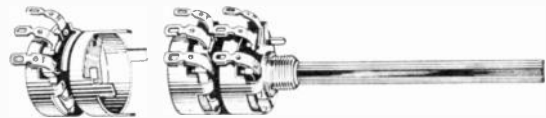
TYPE PQ. Full round $\frac{1}{4}$ " shaft, approximately $\frac{3}{4}$ " from mounting face, with $\frac{3}{8}$ " long bushing. Available in 33 stock values as shown. Regular IIRC stock numbers are used with prefix PQ.

TYPE RQ. Very short screw-driver slot shaft, $\frac{1}{4}$ " diameter and approximately $\frac{1}{2}$ " long from mounting face with $\frac{3}{8}$ " long bushing. Available in 33 values as shown. Regular IIRC stock numbers are used with prefix RQ.

NOTE: Other distributor controls for Industry—Types WP, WPRL—see page R-1255.

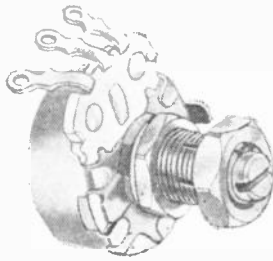
DUALS AND TRIPLES

IIRC Type PQ, RQ and RQL Industrial Controls are supplied as single controls. Dual Control and Triple Control combinations are available by adding IIRC MULTISECTIONS.

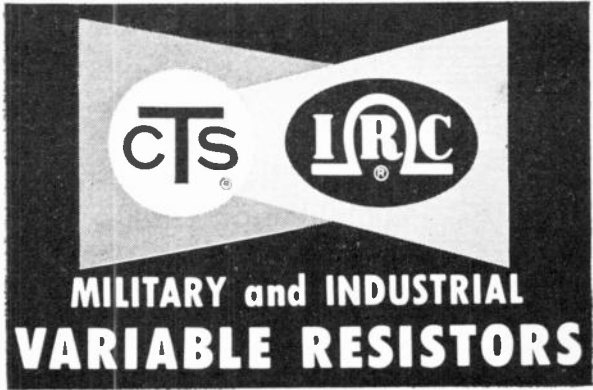


STANDARD VALUES

OHMS	TAPER	TYPE PQ	TYPE RQ	TYPE RQL	MULTISECTIONS
500	A	PQ11-103	RQ11-103	RQL11-103	M11-103
1,000	A	PQ11-108	RQ11-108	RQL11-108	M11-108
2,000	A	PQ11-110	RQ11-110	RQL11-110	M11-110
3,000	A	PQ11-112	RQ11-112	RQL11-112	M11-112
5,000	A	PQ11-114	RQ11-114	RQL11-114	M11-114
7,500	A	PQ11-115	RQ11-115	—	—
10K	A	PQ11-116	RQ11-116	RQL11-116	M11-116
10K	C	PQ13-116	RQ13-116	—	—
10K	D	PQ14-116	RQ14-116	—	—
10K	Q	—	—	—	M17-116
20K	A	PQ11-119	RQ11-119	RQL11-119	—
25K	A	PQ11-120	RQ11-120	RQL11-120	M11-120
25K	D	PQ14-120	RQ14-120	—	—
30K	A	PQ11-121	RQ11-121	RQL11-121	M11-121
50K	A	PQ11-123	RQ11-123	RQL11-123	M11-123
50K	C	PQ13-123	RQ13-123	RQL13-123	—
50K	D	PQ14-123	RQ14-123	—	—
100K	A	PQ11-128	RQ11-128	RQL11-128	M11-128
100K	C	PQ13-128	RQ13-128	—	M13-128
200K	A	PQ11-129	RQ11-129	RQL11-129	—
250K	A	PQ11-130	RQ11-130	RQL11-130	M11-130
250K	C	PQ13-130	RQ13-130	RQL13-130	M13-130
500K	A	PQ11-133	RQ11-133	RQL11-133	M11-133
500K	C	PQ13-133	RQ13-133	RQL13-133	M13-133
1.0 Meg.	A	PQ11-137	RQ11-137	RQL11-137	M11-137
1.0 Meg.	C	PQ13-137	RQ13-137	RQL13-137	M13-137
1.5 Meg.	A	PQ11-138	RQ11-138	RQL11-138	—
1.5 Meg.	C	—	—	—	M13-138
2.0 Meg.	A	PQ11-139	RQ11-139	RQL11-139	M11-139
2.0 Meg.	C	PQ13-139	RQ13-139	RQL13-139	M13-139
2.5 Meg.	A	PQ11-239	RQ11-239	RQL11-239	—
3.0 Meg.	A	PQ11-140	RQ11-140	RQL11-140	—
3.0 Meg.	C	PQ13-140	RQ13-140	—	M13-140
3.0 Meg.	Q	—	—	—	M17-140
5.0 Meg.	A	PQ11-141	RQ11-141	RQL11-141	M11-141
10.0 Meg.	A	PQ11-143	RQ11-143	RQL11-143	M11-143



170 variable resistors, in 6 styles cover the latest MIL-R-94B composition and MIL-R-19A wire wound specifications . . . as well as a MIL Grade control. Each control is available in two shaft styles, plain and locking bushings.



GENERAL SPECIFICATIONS

	MIL-R-19A		Char. X & Y	MIL-R-94B	
	RA20 3-15K	RA30 3-25K		RV2	RV5
Resistance Range (ohms)				100-2.5 meigs	100-5 meigs
Rotational Life	5% max, 25,000 cycles		X-Y	max, 15,000 cycles	Y-10% max, 25,000 cycles
Load Life	3% max, 1,000 hours, rated load, 40°C		X	12% max, 1,000 hours, rated load, 70°C	max, 25,000 cycles
Moisture Resistance	10% max		Y	10% max, 1,000 hours, rated load 70°C	
Low Temp. Storage	4% max		X-Y	X-10% average, 11% max	Y-6% average, 10% max
Low Temp. Operation	4% max		X-Y	X-4% max	Y-2% max
Thermal Cycling	4% max		X-Y	X-4% max	Y-3% max
Acceleration	3% max		X & Y	X-10% max	Y-6% max
Shock	2% max		X & Y	3% max	
High Freq. Vibration	2% max		X & Y	2% max	
Temp. Range	-63°C to +105°C		X & Y	2% max	-63°C to 150°C

MILITARY-INDUSTRIAL COMPOSITION VARIABLE RESISTORS CERTIFIED TO MIL-R-94B

STYLE RV5 1/2 WATT MINIATURE COMPOSITION

Resistance	CTS TYPE 65 7/8" Slotted Shaft 1 1/4" Long Bushing		CTS TYPE 65LT 1/2" Slotted Shaft 3/4" Long Locking Bushing	
	Lin.	Resistance Taper	Lin.	Resistance Taper
250 ± 10%	RV5NAXSD251A		RV5LAXSB251A	
500 ± 10%	RV5NAXSD501A		RV5LAXSB501A	
1,000 ± 10%	RV5NAXSD102A		RV5LAXSB102A	
2,500 ± 10%	RV5NAXSD252A		RV5LAXSB252A	
5,000 ± 10%	RV5NAXSD502A		RV5LAXSB502A	
10,000 ± 10%	RV5NAXSD103A		RV5LAXSB103A	
25,000 ± 10%	RV5NAXSD253A		RV5LAXSB253A	
50,000 ± 10%	RV5NAXSD503A		RV5LAXSB503A	
100,000 ± 10%	RV5NAXSD104A		RV5LAXSB104A	
250,000 ± 10%	RV5NAXSD254A		RV5LAXSB254A	
500,000 ± 10%	RV5NAXSD504A		RV5LAXSB504A	
1.0 Meg ± 20%	RV5NAXSD105B		RV5LAXSB105B	
2.5 Meg ± 20%	RV5NAXSD255B		RV5LAXSB255B	

STYLE RV2 1 WATT COMPOSITION

Resistance	CTS TYPE 90 7/8" Slotted Shaft 3/4" Long Bushing		CTS TYPE 90LT 3/4" Slotted Shaft 1 1/2" Long Locking Bushing	
	Lin.	Resistance Taper	Lin.	Resistance Taper
100 ± 10%	RV2NAXSD101A		RV2LAXSA101A	
250 ± 10%	RV2NAXSD251A		RV2LAXSA251A	
500 ± 10%	RV2NAXSD501A		RV2LAXSA501A	
1,000 ± 10%	RV2NAXSD102A		RV2LAXSA102A	
2,500 ± 10%	RV2NAXSD252A		RV2LAXSA252A	
5,000 ± 10%	RV2NAXSD502A		RV2LAXSA502A	
10,000 ± 10%	RV2NAXSD103A		RV2LAXSA103A	
25,000 ± 10%	RV2NAXSD253A		RV2LAXSA253A	
50,000 ± 10%	RV2NAXSD503A		RV2LAXSA503A	
100,000 ± 10%	RV2NAXSD104A		RV2LAXSA104A	
250,000 ± 10%	RV2NAXSD254A		RV2LAXSA254A	
500,000 ± 10%	RV2NAXSD504A		RV2LAXSA504A	
1.0 Meg ± 20%	RV2NAXSD105B		RV2LAXSA105B	
2.5 Meg ± 20%	RV2NAXSD255B		RV2LAXSA255B	

STYLE RV4 2 WATT COMPOSITION

Resistance	CTS TYPE 96 7/8" Slotted Shaft 3/4" Long Bushing		CTS TYPE 96LT 3/4" Long Bushing 1 1/2" Long Locking Bushing	
	Lin.	Resistance Taper	Lin.	Resistance Taper
100 ± 10%	RV4NAYS101A		RV4LAYS101A	
250 ± 10%	RV4NAYS251A		RV4LAYS251A	
500 ± 10%	RV4NAYS501A		RV4LAYS501A	
1,000 ± 10%	RV4NAYS102A		RV4LAYS102A	
2,500 ± 10%	RV4NAYS252A		RV4LAYS252A	
5,000 ± 10%	RV4NAYS502A		RV4LAYS502A	
10,000 ± 10%	RV4NAYS103A		RV4LAYS103A	
25,000 ± 10%	RV4NAYS253A		RV4LAYS253A	
50,000 ± 10%	RV4NAYS503A		RV4LAYS503A	
100,000 ± 10%	RV4NAYS104A		RV4LAYS104A	
250,000 ± 10%	RV4NAYS254A		RV4LAYS254A	
500,000 ± 10%	RV4NAYS504A		RV4LAYS504A	
1.0 Meg ± 20%	RV4NAYS105B		RV4LAYS105B	
2.5 Meg ± 20%	RV4NAYS255B		RV4LAYS255B	
5.0 Meg ± 20%	RV4NAYS505B		RV4LAYS505B	

**2 WATT INDUSTRIAL COMPOSITION
MILITARY GRADE VARIABLE RESISTOR**

Resistance	CTS TYPE 95 2" Plain Shaft 3/4" Long Bushing		CTS TYPE 95LT 3/4" Slotted Shaft 1 1/2" Long Locking Bushing	
	Lin.	Resistance Taper	Lin.	Resistance Taper
100 ± 10%	95D101		95LD101	
250 ± 10%	95D251		95LD251	
500 ± 10%	95D501		95LD501	
1,000 ± 10%	95D102		95LD102	
2,500 ± 10%	95D252		95LD252	
5,000 ± 10%	95D502		95LD502	
10,000 ± 10%	95D103		95LD103	
25,000 ± 10%	95D253		95LD253	
50,000 ± 10%	95D503		95LD503	
100,000 ± 10%	95D104		95LD104	
250,000 ± 10%	95D254		95LD254	
500,000 ± 10%	95D504		95LD504	
1.0 Meg ± 20%	95D105		95LD105	
2.5 Meg ± 20%	95D255		95LD255	
5.0 Meg ± 20%	95D505		95LD505	

MILITARY-INDUSTRIAL WIRE WOUND VARIABLE RESISTORS CERTIFIED TO MIL-R-19A

STYLE RA20 2 WATT WIRE WOUND

Resistance	CTS TYPE 252 7/8" Slotted Shaft 3/4" Long Bushing		CTS TYPE 252LT 3/4" Slotted Shaft 1 1/2" Long Locking Bushing	
	Lin.	Resistance Taper	Lin.	Resistance Taper
3 ± 10%	RA20NASD3R0A			
10 ± 10%	RA20NASD100A		RA20LASB100A	
25 ± 10%	RA20NASD250A		RA20LASB250A	
50 ± 10%	RA20NASD500A		RA20LASB500A	
75 ± 10%			RA20LASB750A	
100 ± 10%	RA20NASD101A		RA20LASB101A	
200 ± 10%	RA20NASD201A		RA20LASB201A	
250 ± 10%	RA20NASD251A		RA20LASB251A	
500 ± 10%	RA20NASD501A		RA20LASB501A	
1,000 ± 10%	RA20NASD102A		RA20LASB102A	
2,500 ± 10%	RA20NASD252A		RA20LASB252A	
5,000 ± 10%	RA20NASD502A		RA20LASB502A	
7,500 ± 10%	RA20NASD752A		RA20LASB752A	
10,000 ± 10%	RA20NASD103A		RA20LASB103A	
15,000 ± 10%	RA20NASD153A		RA20LASB153A	

STYLE RA30 1 WATT WIRE WOUND

Resistance	CTS TYPE 25 7/8" Slotted Shaft 3/4" Long Bushing		CTS TYPE 25LT 3/4" Slotted Shaft 1 1/2" Long Locking Bushing	
	Lin.	Resistance Taper	Lin.	Resistance Taper
10 ± 10%	RA30NASD100A		RA30LASB100A	
25 ± 10%	RA30NASD250A		RA30LASB250A	
50 ± 10%	RA30NASD500A		RA30LASB500A	
100 ± 10%	RA30NASD101A		RA30LASB101A	
200 ± 10%	RA30NASD201A		RA30LASB201A	
250 ± 10%	RA30NASD251A		RA30LASB251A	
500 ± 10%	RA30NASD501A		RA30LASB501A	
750 ± 10%	RA30NASD751A			
1,000 ± 10%	RA30NASD102A		RA30LASB102A	
2,500 ± 10%	RA30NASD252A		RA30LASB252A	
5,000 ± 10%	RA30NASD502A		RA30LASB502A	
7,500 ± 10%			RA30LASB752A	
10,000 ± 10%	RA30NASD103A		RA30LASB103A	
15,000 ± 10%	RA30NASD153A		RA30LASB153A	
25,000 ± 10%	RA30NASD253A		RA30LASB253A	

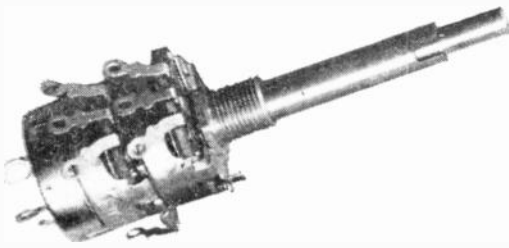
Sec. 4700



The finest line of exact replacement auto radio switches . . . 98 controls for 199 different makes and models of automobiles . . . A greater, up-to-date selection for a greater number of applications. All of these factors are yours with the IRC line of Auto Radio Controls.

CTS-IRC Part No.	Car Mfg.	Year	Radio Mfg.	Radio Model No.	Original Part No.
5308	Ford	1948-50	Bendix	M1, M1A, M1A1	1222808
5309	Ford	1950	Motorola	OMF	184591266
5310	Ford	1951	Bendix	M2	1219586-2
5311	Ford	1951	Motorola	1MF	184501153
5312	Ford	1952-53	Bendix	M4, M4A	1219586-3
5313	Ford	1952-53	Motorola	2MF, 3MF	184511635
5314	Ford	1954	Bendix	M4B, M4BA, M4BP	1219586-7
5315	Ford	1954	Motorola	4MF	184530018
5316	Ford	1955	Bendix	5BF, R5BF	1219656-1
5317	Ford	1955	Motorola	5MF, 5MFS	184531299
5318	Ford	1956	Bendix	R6BF	1219681-1
5319	Ford	1956	Motorola	66MF, 66MFP, 69MF	184534483
5320	Ford	1957	Bendix	R75BF	2090035-1
5321	Ford	1957	Motorola	75MF	184539059
5322	Ford	1957	Motorola	78MF	184539379
5323	Ford	1957-58	Bendix	R74BF, R84BF	2090035-2
5324	Ford	1957-58	Motorola	71MF, 84MF	184541819
5325	Ford	1957-58	Motorola	76MF(SR), 86MF	184542373
5342	Chevrolet	1949-50	Delco	986240, 986388	7258084
5343	Chevrolet	1950	Delco	986389	1218641
5344	Chevrolet	1951-52	Delco	986516	1219708
5345	Chevrolet	1951-52	Delco	986515	7261385
5346	Oldsmobile	1951-52	Motorola	OE2A, OE2M	184512084
	Buick	1946-53		BK2A, BK3A6	
	Chevrolet	1951-52		CT2A, CT2M	
	GMC & Chevy Truck	1948-53		GMT2A, GMT2M	
	Kaiser	1951-53		KR2A, KR2M	
	Packard	1951-53		PD2A, PD2M	
5347	Chevrolet	1953-54	Delco	986669	7262941
5348	Chevrolet	1953-54	Delco	986669, 986771	7264211
	GMC Truck	1971-58		2233396, 2233398	
	Willys	1956		691866	
5349	Chevrolet	1953-54	Delco	986668	7264210
5350	Universal	1954-56	Motorola	5M, 5M-12	184533457
	Chevrolet	1953-56		6M	
	Pontiac	1955-56		6M-12	
	Olds & Buick	1954-56		6M-12	
	Volkswagen	1953-56		6M	
	Studebaker	1953-56		6M, 6M-12	
5351	Chevrolet	1955	Delco	987087	7265265
5352	Chevrolet	1955-56	Delco	987088, 987366	7265220
5353	Chevrolet	1955-57	Delco	987086, 987364, 3725156	7265302
5354	Chevrolet	1955-58	Delco	987187	7266193
	GMC Truck	1955-56		2233478, 2233480	
5355	Chevrolet	1956	Delco	987368	7266842
5356	Chevrolet	1957	Delco	987577	7269211
5357	Chevrolet	1957	Delco	987575, 987693	7269199
5358	Chevrolet	1957	Delco	987773	7269186
5359	Chevrolet	1957	Motorola	7MX	184540768
	Pontiac	1957		7MX	
	Buick	1957		7MX	
	Studebaker	1957		7MX	
5360	Chevrolet	1957	Motorola	CTA7X, C7M7X	184541128
5361	GMC Truck	1947-52	Delco	2233029, 2233297	7256188
	Chevy Truck	1950-52		986067, 986443	
5362	Chevrolet	1957	Delco		7270202
5373	Plymouth	1952	Motorola	Mopar 606	184501616
5374	Plymouth	1953	Motorola	Mopar 608	184521635
5375	Plymouth	1953	Philco	P-5206 Mopar 819	33-5557-11
5376	Plymouth	1954-55	Motorola	Mopar 836	184533014
5377	Plymouth	1955	Motorola	Mopar 613	184532909
5378	Plymouth	1955	Philco	P-5506 Mopar 832	33-5557-15
	Chrysler	1955	Philco	C-5509 Mopar 835, C-5609	
5379	Plymouth	1956	Motorola	Mopar 841	184536152
5380	Plymouth	1956	Motorola	Mopar 916	184536704
5381	Plymouth	1956	Philco	P-5606 Mopar 840	33-5580-4
5382	Plymouth	1957	Motorola	Mopar 849	184540376
5383	Plymouth	1957	Philco	P-5701 Mopar 848	33-5580-12
				P-5702 Mopar 848	
5384	Plymouth	1958	Motorola	Mopar 854	184560415
5385	Plymouth	1958	Philco	P-5801 Mopar 848	33-5580-21
5386	Plymouth	1955	Philco	P-5506	33-5557-14
5398	Mercury	1953-56	Bendix	R6BM	1219660-2
	Lincoln	1953-56		R6BM	
	Continental	1956		6BC	
5399	Mercury	1957	Philco	M-5841, M-5741	33-5570-2
5400	Mercury	1958	Bendix	R84BM, R85BM-5	1219689-4

98 CONTROLS FOR 199 DIFFERENT MAKES AND MODELS OF AUTOMOBILES

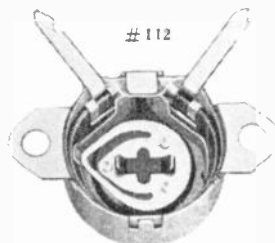


CTS-IRC Part No.	Car Mfg.	Year	Radio Mfg.	Radio Model No.	Original Part No.
5411	Buick	1950-53	Delco	980868, 980899, 980979, 980980, 981111, 981320, 981321, 981322, 981323	7263119
5412	Buick	1954	Delco	981550, 981551	7264309
5413	Buick	1955	Delco	981651, 981652	7265742
5414	Buick	1956	Delco	981707, 981708	7266996
5415	Buick	1957	Delco	981813, 981814	7268914
5425	Cadillac	1950-52	Delco	7258865, 7260105, 7259825, 7260905, 7260705	7259240
5424	Cadillac	1953	Delco	7262615, 7262695, 7263325, 7263515, 7263835	7263321
5425	Cadillac	1954-55	Delco	7261165, 7264185, 7264195, 7265825, 7265835, 7265855	7264638
5426	Cadillac	1956	Delco	7266595, 7266535, 7266565	7266982
5427	Cadillac	1957	Delco	7268005, 7268035, 7268065	7269413
5435	Chrysler	1953	Phileo	C-5109 Mopar S12, C-5209 Mopar S17, C-5110 Mopar S13, C-5211 C-5111 Mopar S15, C-5212 C-5112 Mopar S16	83-5557-10
5436	Chrysler	1953-54	Phileo	C-5109 Mopar S21, C-5110 Mopar S30, C-5111 C-5595 Mopar 992, C-5596 Mopar 993, C-5696 Mopar 912	33-5557-13
5437	Chrysler	1955	Phileo	C-5705 Mopar S47	33-5557-16
5438	Chrysler	1956	Phileo	C-5707	33-5580-16
5439	Chrysler	1957	Phileo	C-5707	33-5580-13
5440	DeSoto	1954	Motorola	Mopar S29	18A530623
5441	DeSoto	1955-56	Motorola	Mopar 901, 911	18B532633
5442	DeSoto	1957	Motorola	Mopar 846, 919, 919 HR	18B539819
5443	DeSoto	1958	Motorola	Mopar 923	18B521099
5460	Dodge	1953	Motorola	Mopar 609	18K533013
5461	Dodge	1954-55	Motorola	Mopar 833	18K532519
5461	Dodge	1955	Motorola	Mopar 614, 621	18K532955
5462	Dodge	1955-56	Motorola	Mopar 900, 901, 910	18K539820
5463	Dodge	1957	Motorola	Mopar S45, S18	18B561317
5464	Dodge	1958	Motorola	Mopar 592	1219582
5473	Oldsmobile	1949	Delco	982120	7260294
5474	Oldsmobile	1951	Delco	983004	7263510
5475	Oldsmobile	1953	Delco	983090, 983204	7264242
5476	Oldsmobile	1954-55	Delco	983091, 983205, 983336	7264128
5477	Oldsmobile	1954-56	Delco	983334	7266887
5478	Oldsmobile	1956	Delco	989002	7268847
5479	Oldsmobile	1957	Delco	989001	7269055
5480	Oldsmobile	1957	Delco	180487, 6180187	7267632
5481	Packard	1956	Delco	981296, 981570	7257708
5511	Pontiac	1949-50	Delco	981592, 984688	7260043
5512	Pontiac	1951-52	Delco	981817	7262482
5513	Pontiac	1953-54	Delco	981961, 988568	7265495
5514	Pontiac	1955-56	Delco	988623	7268308
5515	Pontiac	1956	Delco	988672	7269149
5516	Pontiac	1957	Delco		7269638
5517	Studebaker	1953	Phileo	S-5327-AC-2300, S-5523 S-5323-AC-2301, S-5527 S-5524, S-5528, S-5529	33-5570
5522	Universal	1954	Motorola	397,404	18B531560
	Universal	1955	Motorola	395,395-12	
	Universal	1956	Motorola	396,396-12	

CTS-IRC BUZZ & BIAS SENSITIVITY CONTROLS



110



112

Two new miniature controls for hum balance, centering, hold, locking, etc. Designed for screw driver adjustment. Type 110 available in 5 values; Type 112 available in 21 values.

Type 110		Type 112 (cont'd)	
Stock No.	Value	Stock No.	Value
110-60	60 ohms	112-800	800 ohms
110-100	100 ohms	112-800-50	800 ohms
110-600	600 ohms		fixed min. 50 ohms
110-1000	1000 ohms	112-1000	1000 ohms
110-3000	3000 ohms	112-1000-100	1000 ohms
			fixed min. 100 ohms
Type 112		112-1500	1500 ohms
112-50	50 ohms	112-2000	2000 ohms
112-100	100 ohms	112-2000-100	2000 ohms
112-150	150 ohms		fixed min. 100 ohms
112-200	200 ohms	112-3000	3000 ohms
112-300	300 ohms	112-4000	4000 ohms
112-500	500 ohms	112-4000-350	4000 ohms
112-500-100	500 ohms		fixed min. 350 ohms
	fixed min. 100 ohms	112-4000-1000	4000 ohms
112-600	600 ohms		fixed min. 1000 ohms
112-650	650 ohms	112-5000	5000 ohms



FIXED POWER WIRE WOUND RESISTORS

IRC Power Wire Wounds are rugged resistors specially engineered for dependable heavy-duty performance. They are supplied in a variety of power ratings, resistance values, sizes and terminal types. In addition to the conventional tubular types, IRC also supplies: 4 watt completely insulated Type PW-4 with axial leads, and two new high temperature resistors rated at 7 and 10 watts. Type PW-7 and PW-10 are fully insulated in rectangular ceramic cases and have axial leads.



STOCK VALUES AND LIST PRICES

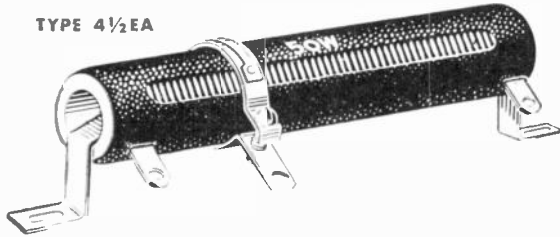
	PW4 4 watts	PW7 7 watts	PW10 10 watts	1 ¹ / ₄ A 10 watts	2D 20 watts	4 ¹ / ₂ E 50 watts	6 ¹ / ₂ H 100 watts	10 ¹ / ₂ H 200 watts
	Ohms 1	Ohms 1	Ohms 1	Ohms 1	Ohms 1	Ohms 1	Ohms 1	Ohms 1
TYPE PW-4 4 WATTS 2 1/4" dia. by 1 3/4" long. Axial leads.	2 3 4 5	2 3 4 5	2 3 4 5	2 3 4 5	— — — 5	— 3 4 5	— 3 4 5	— 3 4 5
TYPE PW-7 7 WATTS 3/8" by 1 1/2" long. Axial leads.	10 15 20 25	10 15 20 25	10 15 20 25	10 15 20 25 30 35 40	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —
TYPE PW-10 10 WATTS 3/8" by 1 1/2" long. Axial leads.	50 75 100	50 75 100	50 75 100	50 75 100 125 150 200	50 75 100 125 150 200	50 75 100 150 200	50 75 100 150	50 75 100 150
TYPE 1 3/4" 10 WATTS 3/8" dia. by 1 3/4" long. Accommodate Z0 brackets (not included).	250 300 400	250 300	250 300	250 300 350 400 450 500 600 700	250 300 350 400 450 500 600 700	250 300 350 400	250	250
TYPE 2D 20 WATTS 3/8" dia. by 2" long. Accommodate Z1 brackets (not included).	500 750 1,000	500 750	500 750	500 700 800 900 1,000 1,100 1,200	500 700 750 800 — — 1,200	500 750 800	500	500
TYPE 4 1/2E 50 WATTS 3/4" dia. by 4 1/2" long. Supplied with Z2 brackets.	1,250 1,500 2,000 2,500 3,000 3,300	1,250 1,500 2,000 2,500 3,000 3,300	1,250 1,500 2,000 2,500 3,000 3,300	1,250 1,500 2,000 2,250 2,500 3,000 3,500	1,250 1,500 2,000 2,250 2,500 3,000 3,500	1,500 2,000 2,500 3,000	1,250 1,500 2,000 2,500 3,000	1,500 2,000 2,500 3,000
TYPE 6 1/2H 100 WATTS 1 1/8" dia. by 6 1/2" long. Supplied with Z3 brackets.	4,000 5,000 6,000 7,500	4,000 5,000 6,000 7,500	4,000 5,000 6,000 7,500	4,000 4,500 5,000 6,000 7,000 7,500 8,000	4,000 4,500 5,000 6,000 7,000 7,500 8,000	4,000 5,000 6,000 7,000 7,500 8,000	5,000 7,500	5,000 7,500
TYPE 10 1/2H 200 WATTS 1 1/8" dia. by 10 1/2" long. Supplied with Z3 brackets.	8,200	8,200	8,200	8,500 9,000 10K 11K 12K 12.5K 15K 20K 25K	8,500 9,000 10K 11K 12K 12.5K 15K 20K 25K 30K 35K 40K 50K	8,500 9,000 10K 11K 12K 12.5K 15K 20K 25K 30K 35K 40K 50K 60K 75K 100K	10K 15K 20K 25K 35K 40K 50K 60K 75K 100K	10K 15K 20K 25K 35K 40K 50K 60K 75K 100K

IRC Power Wire Wounds are designed for continuous operation at full rated power. Derating is unnecessary even for the highest stock values. IRC Power Wire Wounds are full size, thus capable of efficiently handling greater wattage. Cooler performance assures longer resistor life, and safeguards critical components mounted adjacently. Clear, permanent markings show type, size, wattage, and resistance value; markings improve in legibility with temperature rise. Terminals are tin plated for easy soldering.

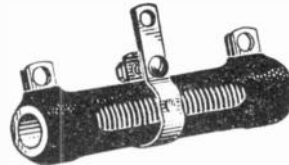


ADJUSTABLE POWER WIRE WOUND RESISTORS

TYPE 4 1/2 EA



TYPE 1 3/4 AA



1 3/4 AA 10 watts	2 1/2 DA 25 watts	4 1/2 EA 50 watts	6 1/2 HA 100 watts	10 1/2 HA 200 watts
Ohms 1	Ohms 1	Ohms 1	Ohms 1	Ohms 1
2	2	2	2	2
3	3	3	3	3
5	5	4	4	4
7.5	7.5	5	5	5
10	10	10	10	10
15	15	—	—	—
20	20	—	—	—
25	25	25	25	25
50	50	50	50	50
75	75	75	—	—
100	100	100	100	100
150	150	150	—	—
200	200	200	200	—
250	250	250	250	250
300	300	300	—	—
400	400	400	400	—
500	500	500	500	500
750	750	750	750	—
800	800	800	—	—
1,000	1,000	1,000	1,000	1,000
1,250	1,250	1,250	—	—
1,500	1,500	1,500	1,500	1,500
2,000	2,000	2,000	2,000	2,000
2,250	2,250	2,250	—	—
2,500	2,500	2,500	2,500	2,500
3,000	3,000	3,000	3,000	3,000
3,500	3,500	3,500	—	—
4,000	4,000	4,000	4,000	—
4,500	4,500	4,500	—	—
5,000	5,000	5,000	5,000	5,000
6,000	6,000	6,000	6,000	—
7,000	7,000	7,000	—	—
7,500	7,500	7,500	7,500	—
8,000	8,000	8,000	8,000	—
9,000	9,000	9,000	—	—
10K	10K	10K	10K	10K
—	12K	12K	—	—
—	15K	15K	15K	15K
—	20K	20K	20K	20K
—	25K	25K	25K	25K
—	—	30K	30K	30K
—	—	—	40K	40K
—	—	40K	—	—
—	—	50K	50K	50K
—	—	60K	60K	60K
—	—	75K	75K	75K
—	—	80K	—	—
—	—	100K	100K	100K

TYPE 1 3/4 AA
10 WATTS
5/8" dia. by 1 3/4" long.
Accommodate Z0
brackets (not included).

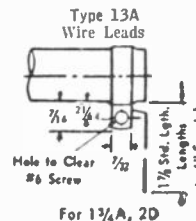
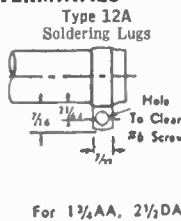
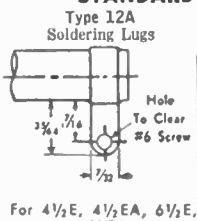
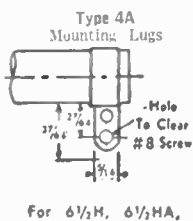
TYPE 2 1/2 DA
25 WATTS
3/4" dia. by 2 1/2" long.
Supplied with Z1
brackets.

TYPE 4 1/2 EA
50 WATTS
3/4" dia. by 4 1/2" long.
Supplied with Z2
brackets.

TYPE 6 1/2 HA
100 WATTS
1 1/8" dia. by 6 1/2" long.
Supplied with Z3
brackets.

TYPE 10 1/2 HA
200 WATTS
1 1/8" dia. by 10 1/2"
long. Supplied with Z3
brackets.

STANDARD TERMINALS



TYPE X BANDS



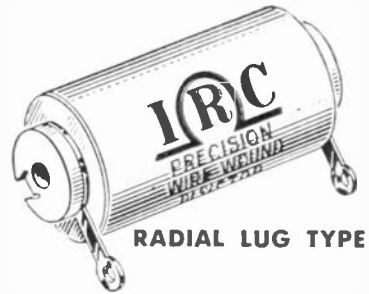
Type "X" bands are furnished for 2 1/2 DA, 4 1/2 EA, 6 1/2 EA, 6 1/2 HA and 10 1/2 HA. Type 1 3/4 AA, because of its small size, is furnished with special adjustable band.

Resistor	Band
2 1/2 DA	X2
4 1/2 EA, 6 1/2 EA	X3
6 1/2 HA, 10 1/2 HA	X4
1 3/4 AA	SPECIAL BAND A

BRACKETS: Bracket holes are for 8-32 screws.



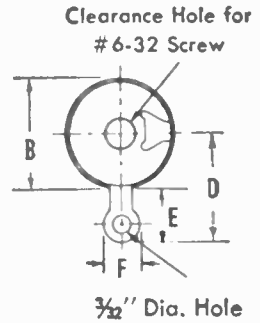
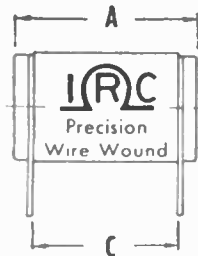
PRECISION WIRE WOUND RESISTORS



RADIAL LUG TYPE

Improved ceramic winding forms have high insulating qualities, high mechanical strength and low coefficient of expansion. Special winding technique, developed by IRC, eliminates shorted turns or strains in the winding.

Improved insulation provides greater humidity protection and contributes to longer trouble-free service. Improved lug and lead terminals assure perfect electrical connections without strain on the windings, and are easily soldered.

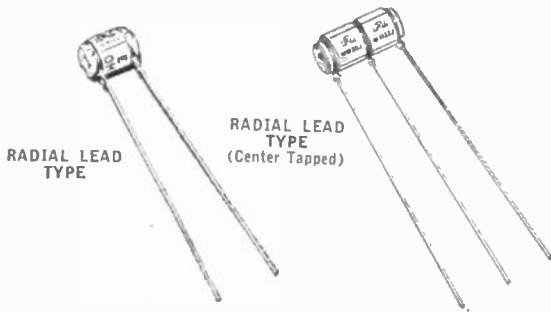


RADIAL LUG TYPE

IRC TYPE No.	WW2J	WW3J	WW4J	WW5J	WW8J	WW11J
Hycor Type Reference MIL-R-93A Style Old JAN-R-93 Style	None RB19 RB14	70L RB16 RB11	72L RB17 RB12	80L RB18 RB13	70L RB15 RB10	None RB16 RB11
Rating in Watts 65° C. Ambient Former MIL Rating	2 1	.50 .35	1 .50	1 .50	.50 .25	.50 .35
Maximum Volts	2000	400	700	1000	250	500
No. of Sections	8	2	4	4	1	2
Maximum Resistance .0015 Diameter Wire	4.0 Meg.	0.3 Meg.	0.75 Meg.	1.7 Meg.	0.29 Meg.	0.4 Meg.
Maximum Resistance .0009 Diameter Wire	20.0 Meg.	1.6 Meg.	4.0 Meg.	7.5 Meg.	1.5 Meg.	2.0 Meg.
Minimum Resistance (ohms)						
±0.05% Tolerance	25	25	25	25	25	25
±0.1% "	10	10	10	10	10	10
±0.25% "	5	5	5	5	5	5
±0.50% "	1	1	1	1	1	1
±1% "	0.1	0.1	0.1	0.1	0.5	0.1
Dimensions (inches)						
A Dimension	2 1/8	1 1/8	1	1 1/4	1 1/2	2 1/2
B Dimension	2 3/8	1 1/2	1 1/2	2 1/2	1 1/2	1 1/2
C Dimension	1 3/8	3/8	2 1/2	3 1/2	1 1/8	1 1/8
D Dimension	2 1/2	5/8	5/8	2 1/2	5/8	5/8
E Dimension	1 1/8	1/8	1/8	1/8	1/8	1/8
F Dimension	3/16	3/16	3/16	3/16	3/16	3/16



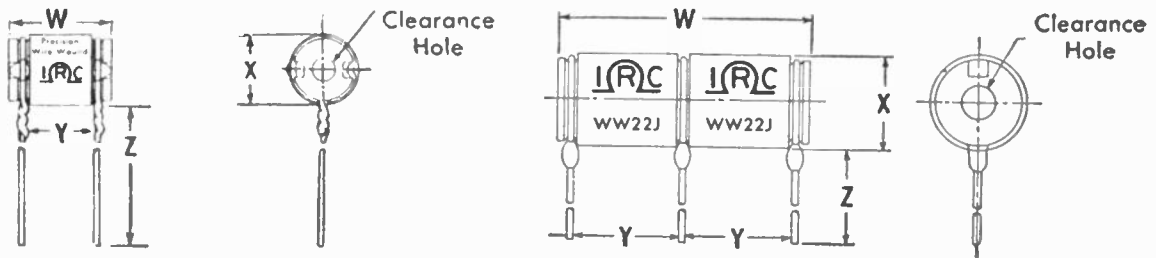
PRECISION WIRE WOUND RESISTORS



IRC Precision Wire Wound Resistors are designed and manufactured to exacting standards necessary to insure consistent accuracy in critical applications.

The unencapsulated resistor types of the former Hycor ceramic bobbin line of resistors have been added to the IRC WW series resistor line (see following page). This results in presenting a more extended line of unencapsulated precision wire wound resistors to the industry.

These resistors are made on modern equipment from specially selected materials. High reliability is assured by maintaining rigid quality control procedures throughout all manufacturing stages.



RADIAL LEAD TYPE

IRC TYPE No.	WW3J	WW4J	WW8J	WW10J	WW11J	WW20J	WW21J	WW22J (Center Tapped)	WW23J	WW24J (Center Tapped)
Hycor Type Reference	70W	72W	70W	52W	None	50W	53W	53WT	60W	72WT
Rating in Watts 65°C. Ambient Former MIL Rating	.50 .35	1 .50	.50 .25	.25 .15	.50 .35	.25 .15	.25 .15	.25† .15†	.50 .35	.50† .25†
Maximum Volts	400	700	250	150	500	150	300	150†	300	400†
No. of Sections	2	4	1	1	2	1	2	2	2	4
Maximum Resistance .0015 Diameter Wire	0.3 Meg.	0.75 Meg.	0.29 Meg.	40K	0.4 Meg.	35K	70K	35K†	225K	350K†
Maximum Resistance .0009 Diameter Wire	1.6 Meg.	4.0 Meg.	1.5 Meg.	0.215 Meg.	2.0 Meg.	150K	500K	250K†	1.5 Meg.	1.5 Meg.†
Minimum Resistance (ohms)										
±0.05% Tolerance	25	25	25	200	25	250	200	200†	25	25 †
±0.10% "	10	10	10	150	10	200	150	150†	10	10 †
±0.25% "	5	5	5	75	5	100	75	75†	5	5 †
±0.5 % "	1	1	1	50	1	75	50	50†	1	1 †
±1.0 % "	0.1	0.1	0.5	10	0.1	10	10	10†	0.5	0.1†
Dimensions										
Lead Diameter (AWG)	#20	#20	#20	#22	#20	#22	#22	#22	#20	#20
W Dimension	9/16"	1"	15/32"	13/32"	21/32"	5/16"	3/4"	3/4"	3/4"	1"
X Dimension	19/32"	19/32"	19/32"	9/32"	19/32"	1/4"	1/4"	1/4"	3/8"	1/2"
Y Dimension	3/8"	25/32"	5/16"	9/32"	7/16"	7/32"	21/32"	5/16"†	19/32"	13/32"†
Z Dimension	2 1/2*	2 1/2*	2 1/2*	2*	2 1/2*	2*	2*	2*	2*	2 1/2*
Clearance hole to fit	#6 Screw	#6 Screw	#6 Screw	#2 Screw	#6 Screw	#2 Screw	#2 Screw	#2 Screw	#6 Screw	#6 Screw

* Lengths shown are standard. 2", 3" and 4" also available upon request.
† Signifies per tapped section.



PRECISION WIRE WOUND RESISTORS

STANDARD STOCK VALUES— IRC PRECISION WIRE WOUND RESISTORS

IRC Precision Wire Wound Resistors are designed and manufactured to exacting standards necessary to insure consistent accuracy in critical applications.

The ceramic winding forms have high insulating qualities, high mechanical strength and low coefficient of expansion. Insulation provides greater humidity protection and also contributes to longer trouble-free service.

Maximum temperature coefficient of .0027% per degree C is standard on all IRC Precision Wire Wound Resistors at no added cost.

IRC Precision Wire Wound Resistors have either radial lug or radial lead terminal, designed to eliminate any strain on the winding. These terminals offer excellent solderability.



TYPE WW2J—1% Tolerance

Stock Resistance Values

600K Ohms	1.0 Megohm	2.5 Megohms
750K Ohms	1.5 Megohms	
900K Ohms	2.0 Megohms	

TYPE WW5J—1% Tolerance

Stock Resistance Values

600K Ohms	900K Ohms
750K Ohms	1.0 Megohm

TYPE WW3J—1% Tolerance

Stock Resistance Values

0.1 Ohm	1,000 Ohms	22.5K Ohms
0.2 Ohm	1,500 Ohms	25K Ohms
0.5 Ohm	2,000 Ohms	30K Ohms
1.0 Ohm	2,500 Ohms	40K Ohms
5 Ohms	3,000 Ohms	50K Ohms
10 Ohms	3,500 Ohms	60K Ohms
25 Ohms	4,000 Ohms	75K Ohms
50 Ohms	5,000 Ohms	100K Ohms
100 Ohms	7,500 Ohms	125K Ohms
200 Ohms	10K Ohms	150K Ohms
250 Ohms	12.5K Ohms	175K Ohms
300 Ohms	15K Ohms	200K Ohms
500 Ohms	20K Ohms	225K Ohms

TYPE WW10J—1% Tolerance

Stock Resistance Values

10 Ohms	2,000 Ohms	20K Ohms
25 Ohms	2,500 Ohms	25K Ohms
50 Ohms	3,000 Ohms	30K Ohms
100 Ohms	3,500 Ohms	40K Ohms
200 Ohms	4,000 Ohms	50K Ohms
250 Ohms	5,000 Ohms	60K Ohms
300 Ohms	7,500 Ohms	75K Ohms
500 Ohms	10K Ohms	100K Ohms
1,000 Ohms	12.5K Ohms	
1,500 Ohms	15K Ohms	

TYPE WW4J—1% Tolerance

Stock Resistance Values

0.1 Ohm	2,000 Ohms	50K Ohms
0.2 Ohm	2,500 Ohms	60K Ohms
0.5 Ohm	3,000 Ohms	75K Ohms
1.0 Ohm	3,500 Ohms	100K Ohms
5 Ohms	4,000 Ohms	125K Ohms
10 Ohms	5,000 Ohms	150K Ohms
25 Ohms	7,500 Ohms	175K Ohms
50 Ohms	10K Ohms	200K Ohms
100 Ohms	12.5K Ohms	225K Ohms
200 Ohms	15K Ohms	250K Ohms
250 Ohms	20K Ohms	300K Ohms
300 Ohms	22.5K Ohms	400K Ohms
500 Ohms	25K Ohms	500K Ohms
1,000 Ohms	30K Ohms	
1,500 Ohms	40K Ohms	

SPECIAL RESISTANCE TOLERANCES

Standard tolerances $\pm 10\%$. Other tolerances, subject to minimum values shown on specification charts, are available on special order, as follows:

ALL WWJ TYPES

Special Tolerance

0.5%	0.2%	0.05%
0.25%	0.1%	

**TYPE DC —
DEPOSITED CARBON RESISTORS.
1% ACCURACY.
PRECISION PACKAGED.
1/2, 1 AND 2 WATTS.**



**CLOSE TOLERANCE
PRECISTORS**

IRC Deposited Carbon Precision Resistors offer a unique combination of close tolerance, stability and economy. Pure crystalline carbon is bonded to selected ceramic cores to produce a resistor ideally suited to the requirements of instrumentation, advanced electronics and critical television circuits.

Deposited Carbon Precistors provide a combination of characteristics not found in any other resistor type. The wide range of values, accuracy, high stability, low voltage coefficient, excellent frequency characteristics, predictable temperature characteristics, high voltage rating, low noise level and small size of PRECISTORS make them superior to many popular applications.

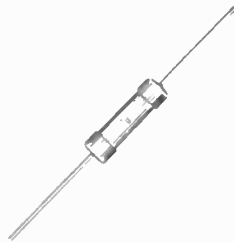
IRC Type DC Deposited Carbon Precistors are available in three sizes: 1/2 watt (body size 3/16" x 1/2"), 1 watt (body size 1/8" x 3/32"), and 2 watts (body size 2 1/16" x 3/32"). Accuracy ±1% (25°C).

For complete protection against scratches, jars and surface injury IRC PRECISTORS are factory packed in capped plastic tubes. This special precision packaging also safeguards these close tolerance resistors against excessive handling.



TYPE DCC DEPOSITED CARBON PRECISTOR — 1/2 WATT — 1% TOLERANCE

Ohms	Ohms	Ohms	Ohms	Ohms	Meg.	Ohms	Ohms	Ohms	Ohms	Ohms	Meg.
—	100	1000	10K	100K	1.0	—	330	3300	33K	330K	—
—	110	1100	11K	110K	1.1	—	360	3600	36K	360K	—
—	120	1200	12K	120K	1.2	—	390	3900	39K	390K	—
—	130	1300	13K	130K	1.3	—	430	4300	43K	430K	—
—	150	1500	15K	150K	1.5	—	470	4700	47K	470K	—
—	160	1600	16K	160K	1.6	51	510	5100	51K	510K	—
—	180	1800	18K	180K	1.8	56	560	5600	56K	560K	—
—	200	2000	20K	200K	2.0	62	620	6200	62K	620K	—
—	220	2200	22K	220K	—	68	680	6800	68K	680K	—
—	240	2400	24K	240K	—	75	750	7500	75K	750K	—
—	270	2700	27K	270K	—	82	820	8200	82K	820K	—
—	300	3000	30K	300K	—	91	910	9100	91K	910K	—



TYPE DCF DEPOSITED CARBON PRECISTOR — 1 WATT — 1% TOLERANCE

Ohms	Ohms	Ohms	Ohms	Meg.	Ohms	Ohms	Ohms	Ohms	Meg.	
100	1000	10K	100K	1.0	390	3900	39K	390K	3.9	
110	1100	11K	110K	1.1	400	4000	40K	400K	4.0	
120	1200	12K	120K	1.2	430	4300	43K	430K	4.3	
130	1300	13K	130K	1.3	470	4700	47K	470K	4.7	
150	1500	15K	150K	1.5	500	5000	50K	500K	5.0	
160	1600	16K	160K	1.6	510	5100	51K	510K	—	
180	1800	18K	180K	1.8	560	5600	56K	560K	*	
200	2000	20K	200K	2.0	620	6200	62K	620K	*	
220	2200	22K	220K	2.2	680	6800	68K	680K	*	
240	2400	24K	240K	2.4	750	7500	75K	750K	*	
250	2500	25K	250K	2.5	820	8200	82K	820K	*	
270	2700	27K	270K	2.7	910	9100	91K	910K	*	
300	3000	30K	300K	3.0	* 5.1 Meg., 5.6 Meg., 6.2 Meg., 6.8 Meg., 8.2 Meg., 9.1 Meg., 7.5 Meg., 10.0 Meg.					
330	3300	33K	330K	3.3						
360	3600	36K	360K	3.6						



TYPE DCH DEPOSITED CARBON PRECISTOR — 2 WATTS — 1% TOLERANCE

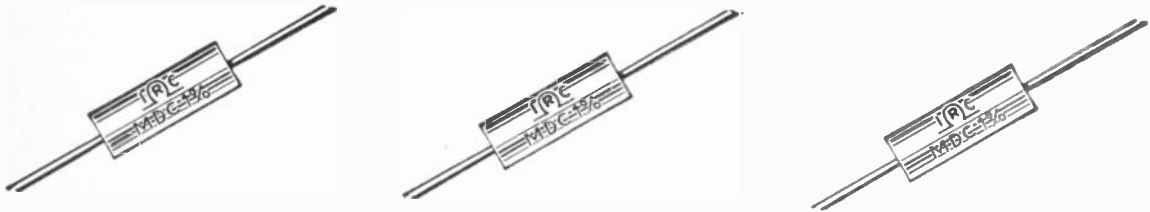
Ohms	Ohms	Ohms	Ohms	Meg.	Ohms	Ohms	Ohms	Ohms	Meg.	
—	1000	10K	100K	1.0	390	3900	39K	390K	3.9	
—	1100	11K	110K	1.1	—	—	—	—	4.0	
—	1200	12K	120K	1.2	430	4300	43K	430K	4.3	
—	1300	13K	130K	1.3	470	4700	47K	470K	4.7	
—	1500	15K	150K	1.5	—	—	—	—	5.0	
—	1600	16K	160K	1.6	510	5100	51K	510K	5.1	
—	1800	18K	180K	1.8	560	5600	56K	560K	5.6	
200	2000	20K	200K	2.0	620	6200	62K	620K	6.2	
220	2200	22K	220K	2.2	680	6800	68K	680K	6.8	
240	2400	24K	240K	2.4	750	7500	75K	750K	7.5	
—	—	—	—	2.5	820	8200	82K	820K	8.2	
270	2700	27K	270K	2.7	910	9100	91K	910K	9.1	
300	3000	30K	300K	3.0						10.0
330	3300	33K	330K	3.3						
360	3600	36K	360K	3.6						





CLOSE TOLERANCE PRECISTORS

**MOLDED
DEPOSITED CARBON
PRECISTORS
1% ACCURACY
1/2 WATT**



TYPE MDC

IRC's Molded Deposited Carbon Precistor is a precision film type resistor that incorporates the added advantages of a fully insulated unit. The molded insulation provides improved load life characteristics, better insulation resistance and greater resistance to moisture effects. The Molded Deposited Carbon Precistor provides all the advantages of the ceramic solder sealed types without the hazards of seal leakage, breakage and low dielectric strength.

APPLICATIONS

Type MDC Molded Deposited Carbon Precistors are particularly suited for applications where an unmolded deposited carbon unit cannot be used due to the risk of mechanical damage to its coating, insulation breakdown and excessive moisture conditions.

SPECIFICATIONS

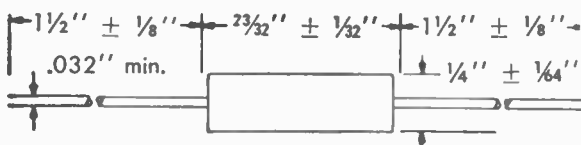
Wattage Rating: 1/2 watt at 70°C. ambient (per MIL-R-10509B) derated to 0 at 120°C.

Resistance Values: 100 ohms to 2.21 megohms.

Tolerance: Standard Tolerance is 1%.

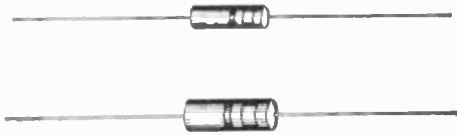
Identification: Housing is distinctive red plastic. Type designation, resistance value and tolerance are stamped on each unit.

Dimensions:



TYPE MDC MOLDED DEPOSITED CARBON RESISTORS 1/2 WATT — 1% TOLERANCE

Ohms	Ohms	Ohms	Ohms	Meg.
100	1000	10.0K	100K	1.00
110	1100	11.0K	110K	1.10
121	1210	12.1K	121K	—
—	—	—	130K	—
133	—	13.3K	—	1.33
147	—	14.7K	147K	1.47
—	1500	15.0K	150K	1.50
162	—	16.2K	162K	1.62
178	—	17.8K	—	—
196	—	19.6K	196K	1.96
200	2000	20.0K	200K	2.00
215	—	21.5K	215K	2.15
—	2210	—	221K	2.21
237	2370	23.7K	237K	—
—	—	24.9K	249K	—
261	—	26.1K	—	—
—	2670	26.7K	—	—
287	2870	—	287K	—
—	3010	30.1K	301K	—
316	—	31.6K	316K	—
—	—	33.2K	332K	—
348	3480	34.8K	348K	—
383	3830	—	383K	—
—	3920	39.2K	—	—
—	4020	40.2K	402K	—
422	4220	42.2K	422K	—
—	4640	46.4K	464K	—
475	4750	47.5K	—	—
—	4990	49.9K	499K	—
—	5110	—	511K	—
—	5620	56.2K	562K	—
—	6190	61.9K	—	—
681	6810	68.1K	681K	—
750	7500	75.0K	750K	—
825	—	82.5K	—	—
—	9090	90.9K	909K	—



IRC

INSULATED CHOKES

IRC Insulated Chokes are available in four sizes designated as types CL $\frac{1}{2}$, CLA, CL1, and CL2. All four are fully insulated in molded phenolic housings for full protection against high humidity. The insulated housing also guards the winding from abrasion and physical damage, and prevents any possibility of shorting to chassis. Color coded for easy identification.

The wide range of size and characteristic combinations available permits accurate replacement with respect to space and electrical requirements.

TYPE CL $\frac{1}{2}$ CHOKES

EIA (formerly RETMA) PREFERRED VALUES AND $\pm 20\%$ TOLERANCES

Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes)	
				(1)*	(2)*
† .22	20 @ 15	.24 $\pm 30\%$	505	1000	1500
† .27	19 @ 14	.33 $\pm 30\%$	455	850	1200
† .33	19 @ 14	.47 $\pm 30\%$	415	700	1000
† .39	18 @ 13	.51 $\pm 30\%$	380	700	950
† .47	17 @ 12	.70 $\pm 30\%$	345	600	800
† .56	17 @ 11	.98 $\pm 30\%$	315	500	700
† .68	16 @ 10	1.0 $\pm 30\%$	290	500	700
† .82	16 @ 9	1.5 $\pm 30\%$	260	400	550
† 1.0	16 @ 9	2.0 $\pm 30\%$	235	350	500

TYPE CLA CHOKES

EIA (formerly RETMA) PREFERRED VALUES AND 10% TOLERANCES

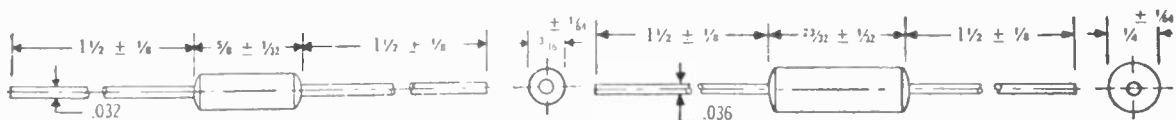
Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes)	
				(1)*	(2)*
† .22	34 @ 15	.085 $\pm 30\%$	440	2600	3900
† .24	33 @ 15	.088 $\pm 30\%$	420	2300	3400
† .27	33 @ 14	.090 $\pm 30\%$	400	2200	3300
† .30	33 @ 14	.12 $\pm 30\%$	380	1900	2800
† .33	32 @ 14	.13 $\pm 30\%$	360	1800	2700
† .36	32 @ 13	.16 $\pm 30\%$	345	1600	2500
† .39	31 @ 13	.17 $\pm 30\%$	330	1600	2400
† .43	31 @ 12	.18 $\pm 30\%$	315	1500	2300
† .47	30 @ 12	.22 $\pm 30\%$	305	1400	2100
† .51	30 @ 11	.25 $\pm 30\%$	290	1300	2000
.56	30 @ 11	.26 $\pm 30\%$	275	1300	1900
† .62	29 @ 11	.34 $\pm 30\%$	265	1100	1700
.68	29 @ 10	.37 $\pm 30\%$	250	1100	1600
† .75	28 @ 10	.38 $\pm 30\%$	240	1000	1600
.82	27 @ 9	.49 $\pm 30\%$	230	950	1400
† .91	26 @ 9	.51 $\pm 30\%$	215	900	1400
1.0	26 @ 9	.66 $\pm 30\%$	205	800	1200
† 1.1	25 @ 8	.67 $\pm 30\%$	200	800	1200
1.2	24 @ 8	.68 $\pm 20\%$	190	800	1200
† 1.3	24 @ 8	.88 $\pm 20\%$	180	700	1050
1.5	23 @ 7	.94 $\pm 20\%$	170	650	1000
† 1.6	22 @ 7	1.2 $\pm 20\%$	165	600	900
1.8	22 @ 7	1.3 $\pm 20\%$	155	550	850
† 2.0	21 @ 6	1.4 $\pm 20\%$	145	550	850
2.2	20 @ 6	1.8 $\pm 20\%$	140	475	700
† 2.4	19 @ 5	1.9 $\pm 20\%$	135	475	700
2.7	19 @ 5	2.0 $\pm 20\%$	125	475	700
† 3.0	18 @ 5	2.6 $\pm 20\%$	120	400	600
3.3	18 @ 5	2.8 $\pm 20\%$	115	400	550
† 3.6	17 @ 5	3.7 $\pm 20\%$	110	350	500
† 3.9	17 @ 4.5	3.8 $\pm 20\%$	105	325	500
† 4.3	16 @ 4.5	4.5 $\pm 30\%$	100	300	450
† 4.7	15 @ 4.0	4.7 $\pm 30\%$	96	300	450
† 5.1	14 @ 4.0	4.9 $\pm 30\%$	92	300	450
† 5.6	13 @ 4.0	5.1 $\pm 30\%$	88	275	425
† 6.2	13 @ 3.5	5.4 $\pm 30\%$	84	275	425
† 6.8	12 @ 3.5	5.6 $\pm 30\%$	80	275	400

† Will be considered discontinued upon consumption of present stocks.

NOTE: Distributed capacitance approximately 0.59 micro-microfarads.

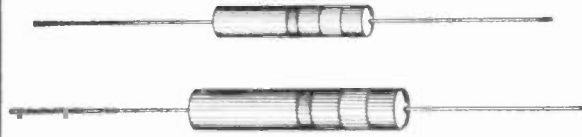
* (1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

* (2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.





INSULATED CHOKES



TYPE CL1 CHOKES

EIA (Formerly RETMA) PREFERRED VALUES AND 10% TOLERANCES

Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes)	
				(1)*	(2)*
.47	35 @ 12	.14 ± 30%	330	1850	2900
† .51	34 @ 11	.15 ± 30%	315	1800	2800
† .56	34 @ 11	.16 ± 30%	300	1750	2700
† .62	33 @ 10	.16 ± 30%	285	1750	2700
† .75	33 @ 10	.23 ± 30%	260	1450	2300
.82	32 @ 9	.29 ± 30%	250	1300	2000
† .91	32 @ 9	.31 ± 30%	235	1250	1950
1.0	32 @ 9	.33 ± 30%	225	1200	1900
† 1.1	31 @ 8	.40 ± 30%	215	1100	1700
† 1.2	31 @ 8	.40 ± 20%	205	1100	1700
† 1.3	30 @ 8	.42 ± 20%	195	1050	1700
1.5	29 @ 7	.56 ± 20%	185	950	1450
† 1.6	29 @ 7	.59 ± 20%	180	900	1400
1.8	28 @ 7	.77 ± 20%	170	800	1250
† 2.0	27 @ 6	.82 ± 20%	160	750	1200
2.2	26 @ 6	.87 ± 20%	150	750	1150
† 2.4	25 @ 6	1.1 ± 20%	145	650	1050
2.7	25 @ 5	1.2 ± 20%	135	600	1000
† 3.0	24 @ 5	1.6 ± 20%	130	550	850
3.3	24 @ 5	1.7 ± 20%	125	500	850
† 3.6	23 @ 5	1.7 ± 20%	120	500	850
3.9	23 @ 4.5	2.3 ± 20%	115	450	750
† 4.3	22 @ 4.5	2.4 ± 20%	110	450	700
4.7	22 @ 4.0	2.5 ± 20%	105	450	700
† 5.1	21 @ 4.0	3.3 ± 20%	100	375	600
5.6	21 @ 4.0	3.4 ± 20%	95	375	600
† 6.2	20 @ 3.5	3.6 ± 20%	90	375	600
6.8	20 @ 3.5	4.7 ± 20%	86	325	550
† 7.5	19 @ 3.5	5.0 ± 20%	82	300	525
8.2	18 @ 3.0	5.2 ± 20%	79	300	500
† 9.1	18 @ 3.0	7.2 ± 20%	75	250	425
10	17 @ 3.0	7.5 ± 20%	71	250	425
† 11	17 @ 2.5	9.5 ± 20%	68	225	375
† 12	16 @ 2.5	9.9 ± 20%	65	225	375
† 13	15 @ 2.5	11 ± 30%	62	200	350
† 15	14 @ 2.5	12 ± 30%	58	200	325
† 16	13 @ 2.5	13 ± 30%	56	175	325
† 18	13 @ 2.0	14 ± 30%	53	175	300
† 20	12 @ 2.0	14 ± 30%	50	175	300
† 22	11 @ 2.0	15 ± 30%	48	175	300
† 24	10 @ 2.0	15 ± 30%	46	175	300

TYPE CL2 CHOKES

EIA (Formerly RETMA) PREFERRED VALUES AND 10% TOLERANCES

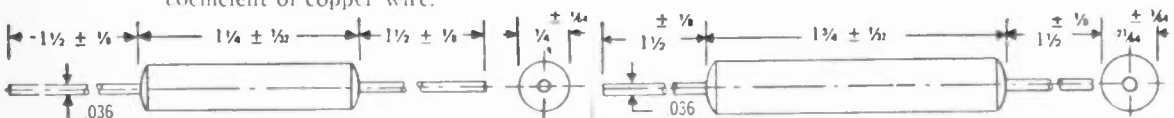
Inductance (Microhenrys)	Approximate "Q" at Frequencies (Mc)	D. C. Resistance (Ohms)	Approximate Self-Resonant Frequency (Mc)	Current Rating (Milliamperes)	
				(1)*	(2)*
† 1.0	31 @ 9	.26 ± 30%	230	1500	2700
† 1.1	30 @ 8	.35 ± 30%	215	1300	2400
† 1.2	30 @ 8	.37 ± 30%	210	1250	2300
† 1.3	30 @ 8	.38 ± 30%	200	1250	2200
† 1.5	29 @ 7	.52 ± 30%	185	1050	1900
† 1.6	28 @ 7	.53 ± 30%	180	1050	1900
† 1.8	28 @ 7	.65 ± 20%	170	950	1700
† 2.0	27 @ 6	.68 ± 20%	160	900	1700
† 2.2	27 @ 6	.71 ± 20%	155	900	1600
† 2.4	26 @ 6	.93 ± 20%	145	800	1450
† 2.7	25 @ 5	.97 ± 20%	140	750	1400
† 3.0	25 @ 5	1.3 ± 20%	130	650	1200
† 3.3	25 @ 5	1.3 ± 20%	125	650	1200
† 3.6	24 @ 5	1.4 ± 20%	120	650	1200
† 3.9	24 @ 4.5	1.8 ± 20%	115	550	1050
† 4.3	23 @ 4.5	1.9 ± 20%	110	550	1000
† 4.7	22 @ 4.0	2.0 ± 20%	105	550	1000
† 5.1	22 @ 4.0	2.6 ± 20%	100	475	850
† 5.6	21 @ 4.0	2.7 ± 20%	95	450	850
† 6.2	21 @ 3.5	3.7 ± 20%	90	400	700
† 6.8	20 @ 3.5	3.8 ± 20%	87	375	700
† 7.5	20 @ 3.5	4.0 ± 20%	83	375	700
† 8.2	19 @ 3.0	5.2 ± 20%	80	325	600
† 9.1	19 @ 3.0	5.5 ± 20%	75	325	600
† 10	18 @ 3.0	5.7 ± 20%	72	300	550
† 11	18 @ 3.0	7.6 ± 20%	69	275	500
† 12	17 @ 2.5	7.9 ± 20%	66	275	500
† 13	17 @ 2.5	8.2 ± 20%	63	250	475
† 15	16 @ 2.5	11 ± 20%	59	225	425
† 16	16 @ 2.5	11 ± 20%	57	225	425
† 18	15 @ 2.0	15 ± 20%	54	175	350
† 20	15 @ 2.0	16 ± 20%	51	175	350
† 22	14 @ 2.0	19 ± 30%	49	175	325
† 24	14 @ 2.0	20 ± 30%	46	150	300
† 27	13 @ 2.0	21 ± 30%	44	150	300
† 30	12 @ 1.5	22 ± 30%	42	150	300
† 33	12 @ 1.5	23 ± 30%	40	150	275
† 36	11 @ 1.5	24 ± 30%	38	150	225
† 39	11 @ 1.5	25 ± 30%	36	150	225

† Will be considered discontinued upon consumption of present stocks.

NOTE: Distributed capacitance approximately 0.59 micro-microfarads.

* (1) Current which will cause resistance to increase approximately 10% due to temperature coefficient of copper wire.

* (2) Current which will cause resistance to increase approximately 25% due to temperature coefficient of copper wire.



LECTROHM

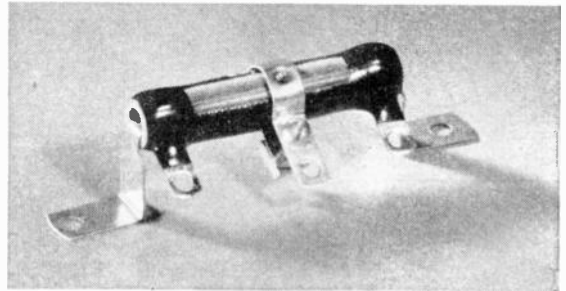
INCORPORATED

CHICAGO 30, ILLINOIS

VITREOUS ENAMELED RESISTORS FIXED AND ADJUSTABLE WIRE-WOUND TYPES

Years ahead in manufacturing techniques. LECTROHM Resistors offer absolutely top quality at consistently lower prices. New winding methods and improved enameling processes are the result of continuing research.

Your wire-wound resistor requirements, whether in small or large quantities, are given immediate attention. Large factory stocks of standard types are maintained for your convenience. Special types to fit particular applications are provided quickly and at low cost.



Adjustable Wire-Wound Types

D10 SERIES — 10 WATT

DIMENSIONS $\frac{1}{2}$ " x $\frac{3}{16}$ " x $1\frac{3}{4}$ "
MOUNTING BRACKET B-32; Centers $2\frac{1}{4}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 10,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
1	3150	\$.96	750	115	\$.96
2	2230	.96	800	111	.96
3	1825	.96	1000	100	.96
5	1415	.96	1250	89	1.02
7.5	1155	.96	1500	79	1.02
10	1000	.96	2000	69	1.02
15	815	.96	2250	64	1.02
20	707	.96	2500	61	1.02
25	630	.96	3000	58	1.02
50	447	.96	3500	53	1.02
75	365	.96	4000	50	1.02
100	315	.96	4500	47	1.02
150	258	.96	5000	45	1.02
200	223	.96	6000	41	1.08
250	200	.96	7000	38	1.08
300	182	.96	7500	36	1.08
350	169	.96	8000	35	1.08
400	158	.96	8500	34	1.08
500	141	.96	9000	33	1.08
600	129	.96	10000	31	1.08

D25 SERIES — 25 WATT

DIMENSIONS $\frac{3}{8}$ " x $\frac{3}{16}$ " x 2"
MOUNTING BRACKET B-33; Centers $2\frac{3}{4}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 25,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
1	5000	\$1.23	1250	141	\$1.26
2	3535	1.23	1500	129	1.26
3	2890	1.23	2000	112	1.26
5	2240	1.23	2500	100	1.26
7.5	1825	1.23	3000	91	1.26
10	1580	1.23	3500	84	1.26
15	1290	1.23	4000	79	1.26
20	1117	1.23	4500	74	1.26
25	1000	1.23	5000	71	1.26
50	707	1.23	6000	64	1.32
75	575	1.23	7000	60	1.32
100	500	1.23	7500	57	1.32
150	400	1.23	8000	55	1.32
200	353	1.23	8500	54	1.32
250	316	1.23	9000	52	1.32
300	288	1.23	10000	50	1.32
400	250	1.23	12000	46	1.38
500	224	1.23	15000	41	1.38
750	182	1.23	20000	35	1.38
300	177	1.23	25000	32	1.50
1000	158	1.23			

D50 SERIES — 50 WATT

DIMENSIONS $\frac{3}{8}$ " x $\frac{3}{16}$ " x 4"
MOUNTING BRACKET B-33; Centers $4\frac{3}{4}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 100,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
5	3160	\$1.56	3000	129	\$1.62
10	2230	1.56	4000	112	1.62
25	1410	1.56	5000	100	1.62
50	1000	1.56	7500	81	1.74
75	816	1.56	10000	70	1.74
100	707	1.56	12000	64	1.86
150	577	1.56	15000	57	1.86
200	500	1.56	20000	50	1.86
250	447	1.56	25000	44	2.04
300	408	1.56	30000	41	2.04
400	354	1.56	40000	35	2.04
500	316	1.56	50000	32	2.16
750	258	1.56	60000	29	2.16
1000	224	1.56	75000	26	2.43
1500	182	1.62	80000	24	2.43
2000	158	1.62	100000	19	2.58
2500	141	1.62			

D75 SERIES — 75 WATT

DIMENSIONS $\frac{3}{8}$ " x $\frac{3}{16}$ " x 6"
MOUNTING BRACKET B-33; Centers $6\frac{3}{4}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 100,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
5	3870	\$1.80	3500	146	\$1.86
10	2740	1.80	5000	121	1.86
15	2236	1.80	7500	100	1.98
25	1730	1.80	10000	86	1.98
50	1220	1.80	15000	70	2.10
100	865	1.80	20000	61	2.34
250	550	1.80	25000	55	2.34
300	500	1.80	30000	50	2.34
400	430	1.80	40000	43	2.34
500	385	1.80	50000	39	2.40
750	318	1.80	60000	35	2.40
1000	270	1.80	75000	31	2.64
1500	225	1.86	80000	30	2.64
2000	192	1.86	100000	27	2.85
2500	171	1.86			

D100 SERIES — 100 WATT

DIMENSIONS $\frac{3}{4}$ " x $\frac{1}{2}$ " x $6\frac{1}{2}$ "
MOUNTING BRACKET B-34; Centers $7\frac{3}{8}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 100,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
5	4470	\$2.37	2500	200	\$2.43
10	3162	2.37	3000	180	2.43
25	2000	2.37	5000	140	2.43
50	1414	2.37	7500	115	2.55
75	1155	2.37	10000	100	2.55
100	1000	2.37	15000	80	2.70
150	815	2.37	20000	70	2.70
250	632	2.37	25000	63	2.88
500	447	2.37	30000	58	2.88
750	365	2.37	40000	50	2.88
1000	315	2.37	50000	45	3.00
1250	280	2.43	60000	41	3.00
1500	250	2.43	75000	36	3.12
2000	220	2.43	100000	32	3.27

D160 SERIES — 160 WATT

DIMENSIONS $1\frac{1}{8}$ " x $\frac{3}{4}$ " x $8\frac{1}{2}$ "
MOUNTING BRACKET B-35; Centers $9\frac{3}{8}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 100,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
5	5660	\$3.51	4500	185	\$2.76
10	4000	2.73	5000	180	2.76
25	2530	2.73	7500	145	2.94
50	1788	2.73	10000	125	2.94
75	1460	2.73	15000	105	3.09
100	1260	2.73	20000	90	3.09
200	900	2.73	25000	80	3.18
500	570	2.73	30000	73	3.18
1000	400	2.73	35000	68	3.18
1500	330	2.76	40000	64	3.18
2000	280	2.76	50000	57	3.24
2500	250	2.76	60000	52	3.24
3000	230	2.76	70000	48	3.42
3500	215	2.76	80000	45	3.60
4000	200	2.76	100000	40	3.60

D200 SERIES — 200 WATT

DIMENSIONS $1\frac{1}{8}$ " x $\frac{3}{4}$ " x $10\frac{1}{2}$ "
MOUNTING BRACKET B-35; Centers $11\frac{3}{8}$ "
TERMINALS Solder lug type
MAXIMUM RESISTANCE 100,000 ohms

Res. Ohms	Max. M.A.	Net Price	Res. Ohms	Max. M.A.	Net Price
5	6310	\$3.75	4500	210	\$2.94
10	4470	2.88	5000	200	2.94
25	2830	2.88	7500	165	3.12
50	2000	2.88	10000	140	3.12
75	1635	2.88	15000	115	3.24
100	1400	2.88	20000	100	3.24
250	900	2.88	25000	90	3.30
500	630	2.88	30000	82	3.30
1000	450	2.88	35000	76	3.30
1500	365	2.94	40000	71	3.30
2000	315	2.94	50000	63	3.42
2500	280	2.94	60000	58	3.57
3000	260	2.94	75000	52	3.57
3500	240	2.94	100000	45	3.75
4000	225	2.94			

Order by series number and resistance required.

Mounting brackets and one band are furnished with all adjustable types.

LECTROHM

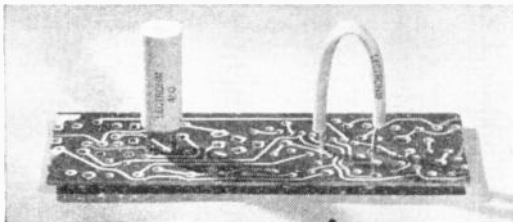
INCORPORATED • CHICAGO 30, ILLINOIS

LECTROHM IS CREATING NEW DESIGNS AND MATERIALS IN WIRE WOUND RESISTORS FOR NEW ASSEMBLY METHODS

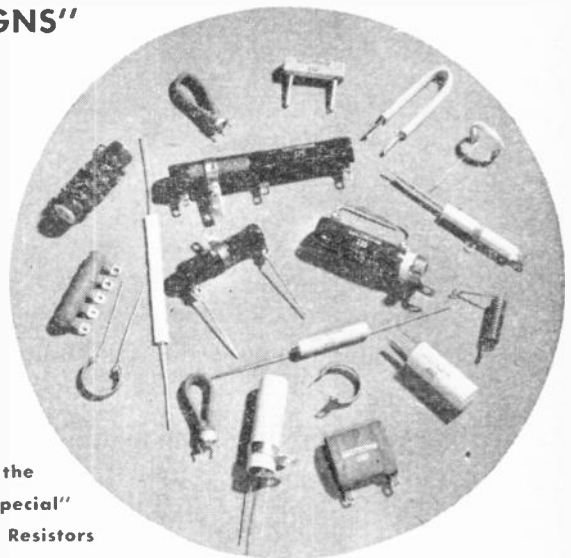
In addition to supplying the electronics industry with superior vitreous enameled wire-wound power resistors in the familiar sizes and ratings, LECTROHM is producing whole new groups of types, each designed to solve a special problem. Miniaturization and printed circuit restrictions in space and ventilation no longer are complicated by conventional power re-

sistor size standards. New coating materials and winding methods developed by LECTROHM permit an infinite variety of configurations yet retain operating and life characteristics expected of the finest grade vitreous enameled types. LECTROHM engineers will fit the resistor size and shape to your design.

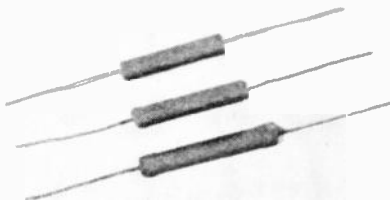
LECTROHM LEADS IN "SPECIAL DESIGNS"



Printed Circuit Upright — Printed Circuit Flexible



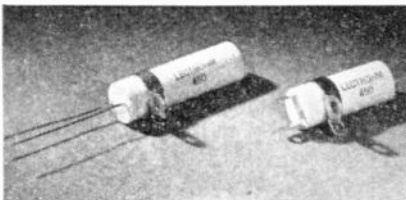
Some of the many "Special" Lectrohm Resistors



LECTROHM AXIAL LEAD WIREWOUNDS

For added convenience in mounting in many types of assembly.

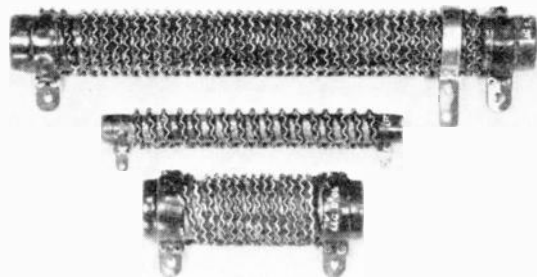
3 to 10 watts, 10 to 50,000 Ohms.



LECTROHM ABOVE-CHASSIS TYPE

More efficient use of space designed to eliminate heat beneath the chassis. Lectrohm engineers will create resistors to fit your available space.

5 to 25 watts, 10 to 15,000 Ohms.



RIB-ON-EDGE LECTROHM (STANDARD SIZES AND VALUES)

155 to 420 watts, .06 to 22 Ohms.



VITREOUS ENAMELED LECTROHM FERRULE TYPE (STANDARD SIZES AND VALUES)

13 to 190 watts, To 100,000 Ohms.



TAB MOUNT CONTROLS

P. R. MALLORY & CO., INC. - INDIANAPOLIS



Phenolic Shaft Tab Mount Controls

Application—Recommended for use as hidden or rear panel controls on Monochrome and Color TV Sets where a bushingless control is required. Particularly adaptable on "HOT" chassis where the shaft must be insulated from the control and the chassis.

Description— $\frac{1}{8}$ inch diameter carbon control using tabs rather than a bushing for mounting. Tabs are inserted in slots provided in the chassis and locked into position with a twisting action on the tab. Available in all popular resistance values and tapers.

Shaft Description—Phenolic hexagonal shaft one inch long with screw driver slot.

Packaging Individual display carton contains one control.

Catalog Number	Ohms Resistance	Taper*
PTA35L	300K	
PTA52L	500	4
PTA53L	5K	4
PTA751L	750	4
PTA152L	1500	4
PTA252L	2500	4
PTA352L	3500	4
PTA46A	4 Meg.	1
PTA54L	50K	4
PTA15L	100K	4
PTA55R	500K	2
PTA1254L	1.25 Meg.	4
PTA26L	2 Meg.	4
PTA355L	3.5 Meg.	4
PTA56R	5 Meg.	2
PTA755L	7.5 Meg.	4
PTA855L	8.5 Meg.	4
PTA754L	750K	4
PTA55L	500K	4
PTA56L	5 Meg.	4

List Price \$1.00 Each.

Type PP Push-Pull Controls

Carbon element controls with a Push-Pull type SPST switch permanently attached.

Catalog Number	Overall Resistance	Tapped @	Taper	List Price
PP15A	100K		1	\$2.25
PP155L	1.5 Meg.		4	2.25
PP16A	1 Meg.		1	2.25
PP16L	1 Meg.		4	2.25
PP16T55	1 Meg.	500K	2	2.95
PP16DT55	1 Meg.	250K & 500K	4	2.95
PP25L	200K		4	2.25
PP254A	250K		1	2.25
PP254DT154	250K	100K-150K	4	2.95
PP26A	2 Meg.		1	2.25
PP26T16	2 Meg.	1 Meg.	4	2.25
PP26DT16	2 Meg.	500K & 1 Meg.	1	2.95
PP36DT26	3 Meg.	1 Meg. & 2 Meg.	4	2.95
PP55T25	500K	200K	4	2.95
PP46T26	4 Meg.	2 Meg.	4	2.95
PP55A	500K		1	2.25
PP55DT1683	500K	84K-168K	4	2.95
PP55L	500K		4	2.25
PP55T254	500K	250K	1	2.95
PP56L	5 Meg.		4	2.25

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Mallory Page 1

The MASTER—24th Edition

Use Index (pg. 2) for Quick, Easy Location of ALL Products

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Page 1134

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

World Radio History



Metal Shaft Tab Mount Controls

Application—Recommended for use as front panel, rear panel or hidden panel controls on Radio, Monochrome and Color TV Sets where tab rather than bushing mount is required.

Description— $\frac{1}{8}$ inch diameter, carbon control using tabs rather than bushing for mounting. Tabs are inserted in slots provided for them in the chassis and locked into position with twisting action on the tab. Available in all popular resistance values and tapers.

Shaft Description—Two inch long round tubular $\frac{1}{4}$ inch shaft can be cut to desired length and one of three different shaft ends can be inserted to meet exacting specifications of the original control.

Accessories One knurled shaft end, one flatted shaft end and one finger knurled shaft end.

Packaging Individual display carton includes one tab mount control with accessories and instruction sheet.

Catalog Number	Ohms Resistance	Taper*
TA52L	500	4
TA751L	750	4
TA13L	1000	4
TA152L	1500	4
TA352L	3500	4
TA53L	5000	4
TA14L	10K	4
TA153L	15K	4
TA253L	25K	4
TA54A	50K	1
TA54L	50K	4
TA15L	100K	4
TA184L	180K	4
TA254L	250K	4
TA334A	330K	1
TA55	500K	2
TA55A	500K	1
TA55L	500K	4
TA16A	1 Meg.	1
TA16L	1 Meg.	4
TA155L	1.5 Meg.	4
TA26A	2 Meg.	1
TA26L	2 Meg.	4
TA255L	2.5 Meg.	4
*TA26T16	2.5 Meg. TAP 1 Meg.	4
TA36L	3 Meg.	4
TA56R	5 Meg.	2
TA56L	5 Meg.	4

List Price \$1.25 Each. *\$1.95.

New ... New ... New
**the Mallory
 Silicon Rectifiers**

See them on Page 1025

Wire-Wound Controls and Pads • Control Accessories



P. R. MALLORY & CO., INC. - INDIANAPOLIS

Midgetrol Accessory Parts

DS-36—Special 3" extension shaft for tubular shaft Midgetrols and 2-watt, wire-wound controls. Also used for coupling a front and rear section together to make a single-shaft, dual control for oscilloscope and other push-pull amplifier service. Packaged with the DS-36 are two shaft-end knob adaptors, one knurled and slotted, one flattened. List Price \$0.55

DS-37— $\frac{3}{16}$ " diameter shafts for use with round-shaft Midgetrols to accommodate knobs requiring $\frac{3}{16}$ " shaft. List Price \$0.55



Attachable Midgetrol Switches

Cat. No.	Description	List Price
US-26	Single Pole—Single Throw	\$0.70
US-26T	Single Pole—Single Throw (with dummy terminal)	
US-27	Double Pole—Single Throw	.90
US-28	Single Pole—Double Throw	.90

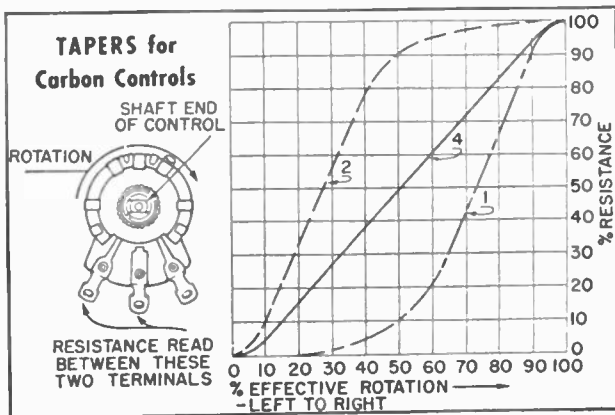
Explanation of Mallory Tapers

Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire-wound type. This taper should always be used in shunt circuits, as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

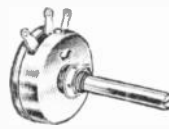
Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire-wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage change is proportional to the degree of rotation.

Taper Number 7 is made only in the wire-wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.



See the New Listing of Mallory Silicon Rectifiers on Page 1025

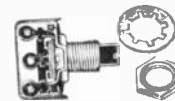


TV Focus Controls

These $1\frac{1}{8}$ " diameter units are designed especially for focus control replacement in TV sets. They are 4 watt, wire-wound, and have a special taper. One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance (Maximum)	Type Element	Shaft Length	List Price
TVF 140	1500	WW	2"	\$2.25
TVF 143	2500	WW	2"	2.25

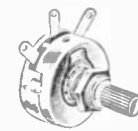
Television and Special Application Midgetrols



For use as exact replacement. Meet physical and electrical requirements for special applications. Equipped with fixed, knurled and screw driver-slotted phenolic shafts, $\frac{1}{4}$ " in diameter and $\frac{1}{4}$ " long. List Price \$1.55 each

Cat. No.	Ohms	Cat. No.	Ohms
SU-6	1500	SU-46	250M
SU-8	3M	SU-50	500M
SU-14	5M	SU-54	1 Meg.
SU-20	10M	SU-56	2 Meg.
SU-29	25M	SU-565	2.5 Meg.
SU-35	50M	SU-59	3 Meg.
SU-41	100M	SU-67	5 Meg.

All SU-No. 4—Linear Taper. (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).



Theater Speaker Controls

Designed for use with Motiograph, Simplex, International and other outdoor theater motion picture equipment. Quality constructed with pig-tail rotor connections and corrosion-resistant finish to assure long, noise-free life. Housed in $1\frac{1}{16}$ " diameter metal case. Mounting nut supplied.

Cat. No.	Description	List Price
TSA-10	4-Ohm L Pad	\$2.45
TSA-35	35-ohm Potentiometer	1.80
TSA-6	6-ohm Potentiometer	1.80

T and L Pad Attenuators

High quality attenuators having a peak audio rating of 15 watts and a continuous DC dissipation rating of 4 watts. Packaged with instructions, 366 knob, 395 dial plate and hex nut.



"T" Pad Attenuators List Price \$5.15 each Catalog Number	"L" Pad Attenuators List Price \$4.55 each Catalog Number	Ohms Impedance
T2	L2	2
T4	L4	4
T6	L6	6
T8	L8	8
T15	L15	15
T50	L50	50
T100	L100	100
T200	L200	200
T250	L250	250
T500	L500	500
T600	L600	600
T1000	L1000	1000
T2000	L2000	2000
T3000	L3000	3000
	L4000	4000
	*LL8	8
	*LL16	16
	*LL50	50

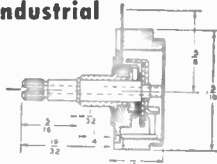
*Dual tracking Stereo controls \$9.95



Variable Wire-Wound Potentiometers and Rheostats

P. R. MALLORY & CO., INC. - INDIANAPOLIS

Two Watt Wire-Wound TV and Industrial Potentiometers



For replacement of positioning, hold and focus controls in TV. Also ideal for industrial circuits up to 1500 volts AC. Completely enclosed in 1 1/8" diameter phenolic case. Thumb-knurled 1/4" diameter, 5/16" long, screw driver, slotted, insulated shaft. All have linear resistance change.

For special 3" extension shaft, DS-36, see page 7, Mallory Resistors and Controls Section, this catalog.

Cat. No.	Ohms Resistance	List Price	Cat. No.	Ohms Resistance	List Price
R2L	2	\$1.55	R50CT	50	\$2.20
R3L	3	1.55	R100L	100	1.55
R5L	5	1.55	R250L	250	1.55
R6L	6	1.55	R500L	500	1.55
R8L	8	1.55	R750L	750	1.55
R10L	10	1.55	R1000L	1000	1.55
R10CT	10	2.20	R1500L	1500	1.55
R15L	15	1.55	R2500L	2500	1.55
R20L	20	1.55	R3000L	3000	1.55
R20CT†	20	2.20	R5000L	5000	1.55
R25L	25	1.55	R7500L	7500	1.80
R30L	30	1.55	R10ML	10000	1.80
R30CT†	30	2.20	R15ML	15000	1.80
R50L	50	1.55	R20ML	20000	1.80

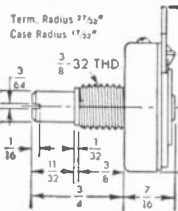
All R type are linear No. 4 taper (see Explanation of Mallory Tapers, page 7, Mallory Resistors and Controls section, this catalog).

Attachable Switches for Above Controls

Cat. No.	Description	List Price
US30	Single Pole-Single Throw	\$0.70
US32	Double Pole-Single Throw	.90

Two Watt Wire-Wound Potentiometers and Rheostats

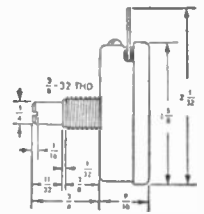
1 1/8" diameter, 1/4" diameter by 3/8" long shaft with screw driver slot. For use in test and special instruments, bias control and bridge circuits. Has grounded contact arm. Rheostat has "open" or "off" position—all have linear No. 4 taper (see Explanation of Mallory Tapers, page 2, Mallory Resistors and Controls section, this catalog).



For Dial plate 393, see page 7, Mallory Resistors and Controls Section, this catalog.

Potentiometer		Rheostat			
Catalog Number	List Price	Catalog Number	List Price	Ohms	Cap. in Amperes
C6P	\$1.80	C6R	\$1.55	6	.58
C10P	1.80	C10R	1.55	10	.45
C15P	1.80	C15R	1.55	15	.37
C20P	1.80	C20R	1.55	20	.32
C30P	1.80	C30R	1.55	30	.26
C40P	1.80	C40R	1.55	40	.22
C50P	1.80	C50R	1.55	50	.2
C100P	1.80	C100R	1.55	100	.14
C200P	1.80			200	.1
C400P	1.80			400	.07
C1MP	2.00			1M	.045
C3MP	2.00			3M	.025
C5MP	2.45			5M	.02
C6MP	2.45			6M	.018
C10MP	2.45			10M	.014
C15MP	2.45			15M	.011

Four Watt Wire-Wound Potentiometers and Rheostats



Four-watt, wire-wound controls designed especially for low voltage TV, test equipment, industrial and electronic applications. These controls are supplied with a 3/8" long bushing and have 1/4" round knurled screw driver slotted shafts 3/8" long. Overall case diameter is 1 3/8". Mounting radius, including solder lugs, is 1 1/4" and mounting depth is 3/8". Rheostat styles have "off" position. All have linear resistance change and insulated shaft. For Dial Plate No. 395, see page 7, Mallory Resistors and Controls Section, this catalog.

Potentiometer		Rheostat*			
Catalog Number	List Price	Catalog Number	List Price	Ohms	Cap. in Amperes
M1PK	\$2.25	M05RK	\$1.55	1 1/2	2.80
		M1RK	1.55	1	2.00
		M2RK	1.55	2	1.4
M3PK	2.25	M3RK	1.55	3	1.15
		M4RK	1.55	4	1.0
M6PK	2.25	M6RK	1.55	6	.82
M10PK	2.25	M10RK	1.55	10	.63
M15PK	2.25	M15RK	1.55	15	.52
M20PK	2.25	M20RK	1.55	20	.45
M25PK	2.25	M25RK	1.55	25	.40
M30PK	2.25	M30RK	1.55	30	.37
M40PK	2.25	M40RK	1.55	40	.32
M50PK	2.25	M50RK	1.55	50	.28
M60PK	2.25	M60RK	1.55	60	.26
M75PK	2.25	M75RK	1.55	75	.23
M100PK	2.25	M100RK	1.55	100	.20
M200PK	2.25			200	.14
M400PK	2.25			400	.10
M500PK	2.25			500	.09
M600PK	2.25			600	.082
M1MPK	2.25			1M	.063
M1.5MPK	2.25			1.5M	.045
M2MPK	2.25			3M	.037
M2.5MPK	2.25			4M	.032
M3MPK	2.25			5M	.028
M4MPK	2.25			10M	.020
M5MPK	2.25			15M	.016
M10MPK	2.25			20M	.014
M15MPK	2.45			25M	.013
M20MPK	2.45			50M	.009
M25MPK	2.45			70M	.0075
M50MPK	2.90				
M70MPK	2.90				
M75MPK	4.10				
M100MPK	4.10				

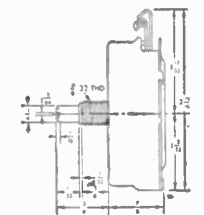
* "Open" or "Off" position counter-clockwise.

Center Tapped Potentiometer

Catalog Number	List Price	Ohms	Cap. in Amperes
MT10PK	\$2.20	10	.63
MT20PK	2.20	20	.45
MT30PK	2.20	30	.37

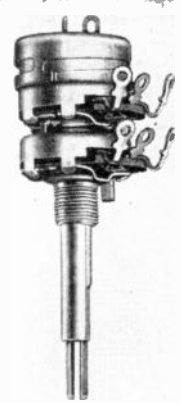
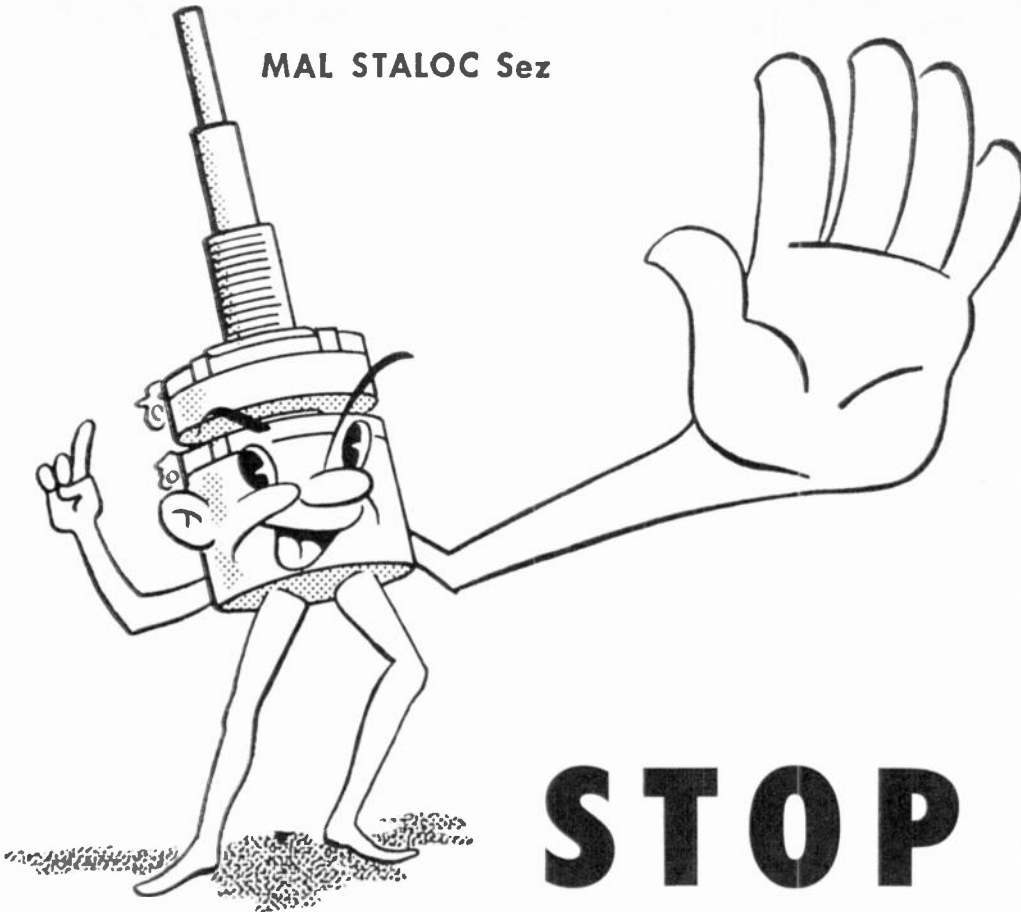
Seven Watt Wire-Wound Potentiometers

Has 7-watt dissipation, grounded contact arm and linear resistance change. Metal case is 2 5/8" diameter, 3/8" deep. Shaft is 1/4" diameter and 3/8" long with screw driver slot. For Dial plate No. 399, see page 7, Mallory Resistors and Controls Section, this catalog.



Catalog Number	Ohms	Capacity in Amperes	List Price
E5MP	5M	.042	\$4.60
E10MP	10M	.03	4.90
E20MP	20M	.021	5.00
E25MP	25M	.019	5.15
E50MP	50M	.0135	5.25
E75MP	75M	.011	5.40
E100MP	100M	.0095	5.50
E125MP	125M	.0085	5.50
E150MP	150M	.0078	5.60

MAL STALOC Sez



STOP

TOURIN' THE TOWN

for Dual Control Replacements . . .
 get the New MALLORY
"Sta-Loc" Dual Controls

A Good Way to Cut "Time Consuming Delays"

Your Mallory Distributor carries a complete line of these easy to assemble direct-replacement dual controls—They go together "to stay" in just **30 seconds**. Sta-Loc controls meet original equipment specifications—and will service just about any make of TV set or home or auto radio. Ask your Distributor for STA-LOC Controls.

MALLORY Service Engineered Products Include:



CAPACITORS • RESISTORS • VIBRATORS • MERCURY & ZINC CARBON BATTERIES
 SWITCHES • JACKS & PLUGS • SILICON RECTIFIERS • FLASHLIGHTS • VOLUME CONTROLS

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Mallory Page 4

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The MASTER—24th Edition

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

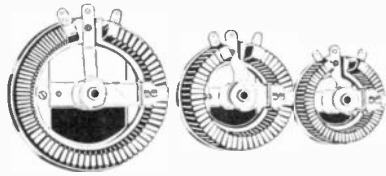
Page 1137

POWER RHEOSTATS



P. R. MALLORY & CO., INC. - INDIANAPOLIS

**Type "K"
Vitreous
Wire-Wound
Power Rheostats
and
Potentiometers**



Mallory Power Rheostats and Potentiometers are used with Battery Chargers, Blue Print Machines, Dental and Medical Equipment, Fans, Film Printers, Generators, Motion Picture Projectors, Motors and other applications where it is desired to vary a stable current. Mallory Power Rheostats and Potentiometers are constructed by uniformly winding resistance wire into position and applying a protective coating of vitreous enamel. The element contact arm is hinged and under constant pressure to insure proper contact with the element at all times. Wattage ratings of 75, 225 and 500 are available, in addition to those below. A knob and dial plate are supplied with each rheostat.

Type 25K—25 Watts
Outside Diameter—1¹/₁₆"
Angle of Rotation—295°

Type 50K—50 Watts
Outside Diameter—2¹/₃₂"
Angle of Rotation—300°

Type 100K—100 Watts
Outside Diameter—3¹/₈"
Angle of Rotation—300°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
25K1P	1	5.000	28	\$7.70
25K2P	2	3.540	28	6.80
25K3P	3	2.880	53	6.80
25K6P	6	2.040	51	6.80
25K8P	8	1.770	56	6.80
25K10P	10	1.580	54	6.80
25K15P	15	1.290	88	6.80
25K25P	25	1.000	117	6.80
25K35P	35	.845	129	6.80
25K50P	50	.707	149	6.80
25K75P	75	.575	174	6.80
25K100P	100	.500	184	6.80
25K125P	125	.447	187	6.80
25K175P	175	.378	178	6.80
25K250P	250	.316	200	6.80
25K350P	350	.267	227	6.80
25K500P	500	.222	256	6.80
25K750P	750	.182	303	6.80
25K1000P	1000	.155	318	7.70
25K1500P	1500	.129	310	7.70
25K2500P	2500	.100	405	7.70
25K3500P	3500	.084	432	8.15
25K5000P	5000	.070	471	8.15

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
50K.5P	.5	10.00	25	\$8.60
50K1P	1	7.07	37	8.60
50K2P	2	5.00	42	8.60
50K4P	4	3.54	66	7.70
50K6P	6	2.89	79	7.70
50K8P	8	2.50	84	7.70
50K12P	12	2.04	100	7.70
50K16P	16	1.76	106	7.70
50K22P	22	1.50	145	7.70
50K35P	35	1.19	145	7.70
50K50P	50	1.00	163	7.70
50K80P	80	.79	210	7.70
50K125P	125	.63	204	7.70
50K150P	150	.58	244	7.70
50K225P	225	.47	298	7.70
50K300P	300	.41	268	7.70
50K500P	500	.32	205	7.70
50K800P	800	.25	363	8.15
50K1000P	1000	.22	354	8.15
50K1600P	1600	.176	449	8.15
50K2500P	2500	.14	455	8.15
50K3500P	3500	.12	500	8.60
50K5000P	5000	.10	550	8.60
50K8000P	8000	.08	690	8.60

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
100K.5P	.5	14.20	30	\$12.85
100K1P	1	10.00	40	12.85
100K2P	2	7.07	42	12.85
100K3P	3	5.77	56	12.85
100K5P	5	4.47	59	12.85
100K7.5P	7.5	3.65	96	12.05
100K10P	10	3.16	101	12.05
100K16P	16	2.50	128	12.05
100K25P	25	2.00	160	12.05
100K50P	50	1.41	200	12.05
100K75P	75	1.15	240	12.05
100K100P	100	1.00	250	12.05
100K200P	200	.71	315	12.05
100K300P	300	.58	302	12.05
100K400P	400	.50	316	12.05
100K500P	500	.45	342	12.05
100K750P	750	.37	406	12.05
100K1000P	1000	.32	435	12.85
100K1500P	1500	.26	520	12.85
100K2000P	2000	.22	544	12.85
100K2500P	2500	.20	535	12.85
100K5000P	5000	.14	692	13.70
100K7500P	7500	.12	820	14.60
100K10000P	10000	.10	840	15.40

Type 150K—150 Watts
Outside Diameter—4¹/₃₂"
Angle of Rotation—305°

Type 300K—300 Watts
Outside Diameter—6¹/₁₆"
Angle of Rotation—315°

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
150K.5P	.5	17.30	31	\$16.35
150K1P	1	12.30	38	16.35
150K2P	2	8.66	51	16.35
150K3P	3	7.07	73	16.35
150K5P	5	5.48	77	16.35
150K7.5P	7.5	4.47	70	16.35
150K10P	10	3.87	145	15.40
150K15P	15	3.16	138	15.40
150K25P	25	2.45	142	15.40
150K35P	35	2.07	198	15.40
150K50P	50	1.73	182	15.40
150K75P	75	1.41	218	15.40
150K100P	100	1.22	229	15.40
150K150P	150	1.00	276	15.40
150K200P	200	.87	289	15.40
150K250P	250	.77	360	15.40
150K350P	350	.66	350	15.40
150K500P	500	.55	400	15.40
150K750P	750	.45	460	16.35
150K1250P	1250	.35	490	16.35
150K1800P	1800	.290	555	17.15
150K2250P	2250	.26	547	17.15
150K3000P	3000	.22	729	17.15
150K4500P	4500	.18	689	18.00
150K7500P	7500	.14	930	18.85
150K10000P	10000	.12	980	20.55

Cat. No.	Ohms	Max. Current Amps.	Steps (Approx.)	List Price
300K1P	1	17.30	48	\$23.15
300K2P	2	12.25	60	23.15
300K3P	3	10.00	64	23.15
300K4P	4	8.66	80	23.15
300K5P	5	7.75	80	23.15
300K7.5P	7.5	6.32	100	23.15
300K10P	10	5.48	139	23.15
300K15P	15	4.47	128	23.15
300K25P	25	3.46	182	23.15
300K50P	50	2.45	228	23.15
300K75P	75	2.00	271	23.15
300K100P	100	1.73	287	23.15
300K150P	150	1.41	338	23.15
300K200P	200	1.22	361	23.15
300K300P	300	1.00	427	23.15
300K400P	400	.87	460	23.15
300K700P	700	.66	555	23.15
300K900P	900	.58	564	23.15
300K1200P	1200	50	605	23.15
300K1500P	1500	45	755	23.15
300K1750P	1750	41	691	23.15
300K2500P	2500	35	785	23.15

Order by wattage and resistance. For example: A 25-watt 100 ohm unit is indicated by 25K100P. A 100-watt 12 ohm unit is 100K12P. Or, a 50-watt .5 ohm unit is 50K.5P . . . etc. Knobs and Dial Plates packaged with each unit.



VITREOUS ENAMEL RESISTORS

P. R. MALLORY & CO., INC. - INDIANAPOLIS

Mallory Fixed and Adjustable Vitreous Enamel Resistors



Wire-wound, covered with a special, vitreous, non-alkaline, non-hygroscopic enamel coating which assures exceptional sealing and permanence of electrical characteristics. Adjust-

able types equipped with slider. 5 and 10 watt sizes have tinned-copper leads. All others supplied with mounting feet.

Fixed Types

Type HHJ-5 Watt Rating
Tube Size 9/16" x 1"

Resistance Ohms					
1	10	40	250	700	1250 3500
1.5	12	50	300	750	1500 4000
2	15	75	350	800	1750 4500
3	20	100	400	900	2000 5000
4	25	125	450	1000	2250
5	30	150	500	1100	2500
7.5	35	200	600	1200	3000

Ohms	List Price
1 Thru 1000	\$0.74
1100 Thru 5000	.83

Type 1HJ-10 Watt Rating
Tube Size 5/16" x 1 3/4"

Resistance Ohms					
1	25	225	800	2500	8500 18000
2	30	250	900	3000	10000 20000
3	35	300	1000	3500	11000 22500
4	40	350	1100	4000	12000 25000
5	50	400	1200	4500	12500 30000
7.5	75	450	1250	5000	13500 35000
10	100	500	1500	6000	14300 40000
12	125	600	1750	7000	15000 45000
15	150	700	2000	7500	16000 50000
20	200	750	2250	8000	17500

Ohms	List Price
1 Thru 1000	\$0.83
1100 Thru 5000	.88
6000 Thru 10000	1.01
11000 Thru 20000	1.13
22500 Thru 50000	1.22

Type 2HJ-20 Watt Rating
Tube Size 7/16" x 2"

Resistance Ohms					
5	100	500	2000	4000	12500 40000
10	150	750	2250	4500	15000 50000
15	200	1000	2500	5000	20000 75000
25	250	1250	2750	6000	25000 100000
50	300	1500	3000	7500	30000
75	400	1750	3500	10000	35000

Ohms	List Price
5 Thru 1000	\$1.05
1250 Thru 5000	1.07
6000 Thru 10000	1.23
12500 Thru 20000	1.32
25000 Thru 40000	1.51
50000	1.65
75000 Thru 100000	1.93

Type 5HJ-50 Watt Rating
Tube Size 9/16" x 4"

Resistance Ohms					
10	250	1500	7500	20000	50000
25	500	2000	10000	25000	75000
50	750	2500	12500	30000	100000
100	1000	5000	15000	40000	

Ohms	List Price
10 Thru 5000	\$1.93
7500 Thru 10000	2.11
12500 Thru 20000	2.33
25000 Thru 40000	2.56
50000	2.84
75000	3.21
100000	3.52

Type 10HJ-100 Watt Rating
Tube Size 3/4" x 6 1/2"

Resistance Ohms					
25	500	2000	10000	25000	50000
50	750	2500	15000	30000	75000
100	1000	5000	20000	40000	100000
250	1500	7500			

Ohms	List Price
25 Thru 1000	\$2.73
1500 Thru 5000	2.78
7500 Thru 10000	2.97
15000 Thru 20000	3.27
25000 Thru 40000	3.59
50000	3.71
75000	3.94
100000	4.18

Type 20HJ-200 Watt Rating
Tube Size 1 1/8" x 10 1/2"

Resistance Ohms					
25	100	750	2000	5000	20000 50000
50	250	1000	2500	7500	30000 75000
75	500	1500	3000	10000	40000 100000

Ohms	List Price
25 Thru 1000	\$3.62
1500 Thru 5000	3.67
7500 Thru 10000	3.89
20000	4.13
30000 Thru 40000	4.29
50000	4.43
75000	4.68
100000	4.98

Adjustable Types

Type 1AV-10 Watt Rating
Tube Size 9/16" x 1 3/4"

Resistance Ohms						
1	15	150	500	1500	4000	8000
2	20	200	600	2000	4500	8500
3	25	250	750	2250	5000	9000
5	50	300	800	2500	6000	10000
7.5	75	350	1000	3000	7000	
10	100	400	1250	3500	7500	

Ohms	List Price
1 Thru 1000	\$1.62
1100 Thru 5000	1.68
6000 Thru 10000	1.79

Type 2AV-25 Watt Rating
Tube Size 9/16" x 2"

Resistance Ohms					
1	25	200	750	2500	6000 20000
3	50	250	1000	3000	7500 25000
5	75	300	1250	3500	10000
10	100	400	1500	4000	12000
15	150	500	2000	5000	15000

Ohms	List Price
1 Thru 1000	\$2.02
1250 Thru 5000	2.07
6000 Thru 10000	2.23
12000 Thru 20000	2.29
25000	2.51

Type 5AV-50 Watt Rating
Tube Size 9/16" x 4"

Resistance Ohms					
5	75	250	1500	4000	15000 40000
10	100	500	2000	5000	20000 50000
25	150	750	2500	7500	25000
50	200	1000	3000	10000	30000

Ohms	List Price
5 Thru 1000	\$2.61
1500 Thru 5000	2.72
7500 Thru 10000	2.89
15000 Thru 20000	3.11
25000 Thru 40000	3.39
50000	3.64

Type 10AV-100 Watt Rating
Tube Size 3/4" x 6 1/2"

Resistance Ohms					
50	2000	5000	15000	30000	50000
100	2500	7500	20000	35000	75000
500	3000	10000	25000	40000	
1000	4000				

Ohms	List Price
50 Thru 1000	\$3.91
2000 Thru 5000	4.04
7500 Thru 10000	4.26
15000 Thru 20000	4.53
25000 Thru 40000	4.81
50000	5.03
75000	5.23

Type 20AV-200 Watt Rating
Tube Size 1 1/8" x 10 1/2"

Resistance Ohms					
50	1000	2500	20000	50000	
100	1500	5000	25000	75000	
500	2000	10000	30000		

Ohms	List Price
50 Thru 1000	\$4.81
1500 Thru 5000	4.90
10000	5.17
20000	5.41
25000 Thru 30000	5.53
50000	5.69
75000	5.96

MILWAUKEE RESISTOR COMPANY

Ohms	$\frac{5}{16}'' \times 1''$ Lugs or Leads 5 Watt		$\frac{5}{16}'' \times 1\frac{3}{4}''$ Lugs or Leads 10 Watt		Adjust. VE Only	$\frac{3}{16}'' \times 1\frac{1}{2}''$ W Series 3 purpose 5-10-15W With Leads B-13 Silic. Coat		$\frac{7}{16}'' \times 2''$ 20 Watt With $1\frac{1}{2}''$ Leads Fixed Only Vitreous B-13 Enamel Silicone Coat		$\frac{5}{16}'' \times 2''$ 25 Watt Lugs Only Fixed Vitreous B13 Enamel Silicone Coat		Adjustable Vitreous Enamel Coat only
	Fixed Only		Fixed			Fixed Only	Fixed Only		Fixed		Coat	
	VE	B-13	VE	B-13			VE	B-13	Coat	Coat		
1	.75	.55	.80	.60	1.60	—	—	—	1.10	.82	2.05	
2	.75	.55	.80	.60	1.60	—	—	—	1.10	.82	2.05	
3	.75	.55	.80	.60	1.60	—	—	—	1.10	.82	2.05	
4	.75	.55	.80	.60	—	—	—	—	1.10	.82	2.05	
5	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
7.5	.75	.55	.80	.60	1.60	.55	—	—	—	—	—	
10	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
12.5	.75	.55	.80	.60	—	.55	—	—	—	—	—	
15	.75	.55	.80	.60	1.60	.55	—	—	1.10	.82	2.05	
17.5	—	—	—	—	—	.55	—	—	—	—	—	
20	.75	.55	.80	.60	1.60	.55	—	—	1.10	.82	2.05	
22.5	—	—	—	—	—	.55	—	—	—	—	—	
25	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
27.5	—	—	—	—	—	.55	—	—	—	—	—	
30	.75	.55	.80	.60	—	.55	—	—	—	—	—	
32.5	—	—	—	—	—	.55	—	—	—	—	—	
35	.75	.55	.80	.60	—	.55	—	—	—	—	—	
37.5	—	—	—	—	—	.55	—	—	—	—	—	
40	.75	.55	.80	.60	—	.55	—	—	—	—	—	
42.5	—	—	—	—	—	.55	—	—	—	—	—	
45	—	—	—	—	—	.55	—	—	—	—	—	
47.5	—	—	—	—	—	.55	—	—	—	—	—	
50	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
52.5	—	—	—	—	—	.55	—	—	—	—	—	
55	—	—	—	—	—	.55	—	—	—	—	—	
57.5	—	—	—	—	—	.55	—	—	—	—	—	
60	—	—	—	—	—	.55	—	—	—	—	—	
62.5	—	—	—	—	—	.55	—	—	—	—	—	
65	—	—	—	—	—	.55	—	—	—	—	—	
67.5	—	—	—	—	—	.55	—	—	—	—	—	
70	—	—	—	—	—	.55	—	—	—	—	—	
75	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
100	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
125	.75	.55	.80	.60	—	.55	—	—	—	—	—	
150	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
200	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
225	.75	.55	.80	.60	—	.55	—	—	—	—	—	
250	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
300	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
350	.75	.55	.80	.60	1.60	.55	1.05	.71	—	—	—	
400	.75	.55	.80	.60	1.60	.55	1.05	.71	—	—	—	
450	.75	.55	.80	.60	—	.55	—	—	—	—	—	
470	—	—	—	—	—	.55	—	—	—	—	—	
500	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
600	.75	.55	.80	.60	1.60	.55	—	—	—	—	—	
700	—	—	.80	.60	—	.55	—	—	—	—	—	
750	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
800	.75	.55	.80	.60	1.60	.55	—	—	—	—	—	
900	—	—	—	—	—	.55	—	—	—	—	—	
1000	.75	.55	.80	.60	1.60	.55	1.05	.71	1.10	.82	2.05	
1100	—	—	—	—	—	.55	—	—	—	—	—	
1250	.80	.55	.90	.60	1.70	.55	1.10	.71	—	—	2.10	
1500	.80	.55	.90	.60	1.70	.55	1.10	.71	1.15	.82	2.10	
1750	.80	.55	.90	.60	—	.55	—	—	—	—	—	
2000	.80	.55	.90	.60	1.70	.55	1.10	.71	1.15	.82	2.10	
2250	.80	.55	.90	.60	—	.55	—	—	—	—	—	
2500	.80	.55	.90	.60	1.70	.55	1.10	.71	1.15	.82	2.10	
2750	.80	.55	.90	.60	—	.55	—	—	—	—	—	
3000	.80	.55	.90	.60	1.70	.55	1.10	.71	1.15	.82	2.10	
3300	—	—	—	—	—	.55	—	—	—	—	—	
3500	.80	.55	.90	.60	1.70	.55	1.10	.71	1.15	.82	2.10	
3900	—	—	—	—	—	.55	—	—	—	—	—	
4000	.80	.55	.90	.60	1.80	.55	1.10	.71	1.15	.82	2.10	
4400	.80	.55	.90	.60	—	.55	—	—	—	—	—	
4500	.80	.55	.90	.60	1.70	.55	1.10	.71	—	—	—	
5000	.80	.55	.90	.60	1.70	.55	1.10	.71	1.15	.82	2.10	
5600	—	—	—	—	—	.55	—	—	—	—	—	
6000	.85	.55	1.00	.60	1.80	.55	1.20	.71	1.25	.94	2.20	
7000	.85	.55	1.00	.60	1.80	.55	1.20	.71	—	—	2.20	
7500	.85	.55	1.00	.60	1.80	.55	1.20	.71	1.25	.94	2.20	
8000	.85	.55	1.00	.60	1.80	.55	1.20	.71	—	—	2.20	
8200	—	—	—	—	—	.55	—	—	—	—	—	
8500	—	—	—	—	—	.55	—	—	—	—	—	
8700	—	—	—	—	—	.55	—	—	—	—	—	
9000	.85	.55	1.00	.60	1.80	.55	1.20	.71	—	—	2.20	
10K	.85	.55	1.00	.60	1.80	.55	1.20	.71	1.25	.94	2.20	
12.5K	—	—	—	—	—	1.10	.60	—	—	—	2.30	
15K	—	—	—	—	—	1.10	.60	—	—	—	2.30	
17.5K	—	—	—	—	—	1.10	.60	—	—	—	2.30	
20K	—	—	—	—	—	1.10	.60	—	—	—	2.30	
22.5K	—	—	—	—	—	1.20	.60	—	—	—	2.30	
25K	—	—	—	—	—	1.20	.60	—	—	—	2.30	
30K	—	—	—	—	—	1.35	.60	—	—	—	2.50	
35K	—	—	—	—	—	1.35	.60	—	—	—	—	
40K	—	—	—	—	—	1.35	.60	—	—	—	—	
45K	—	—	—	—	—	1.35	.60	—	—	—	—	
50K	—	—	—	—	—	1.35	.60	—	—	—	—	
60K	—	—	—	—	—	—	—	—	—	—	—	
70K	—	—	—	—	—	—	—	—	—	—	—	
75K	—	—	—	—	—	—	—	—	—	—	—	
80K	—	—	—	—	—	—	—	—	—	—	—	
90K	—	—	—	—	—	—	—	—	—	—	—	
95K	—	—	—	—	—	—	—	—	—	—	—	
100K	—	—	—	—	—	—	—	—	—	—	—	

5 watt. Wound on $\frac{3}{16}'' \times \frac{3}{16}'' \times 1''$ core. A, AX, or B lug. May be mounted by lugs, thru bolt, leads, or push-on brackets with $1\frac{1}{2}''$ mounting hole centers. Resistance fixed only 1 to 10,000 ohms. Vitreous enamel, or silicone coating.

10 watt. Wound on $\frac{3}{16}'' \times \frac{3}{16}'' \times 1\frac{3}{4}''$ cores. A, AX, or B lugs. May be mounted by lugs, thru bolt, leads, or by push-on mounting brackets with $2\frac{1}{4}''$ mounting hole centers. Resistance fixed 1 to 50,000 ohms. Adjustables 1 to 10,000 ohms. Vitreous enamel or sili-coating.

20 watt. Wound on $\frac{7}{16}'' \times \frac{5}{16}'' \times 2''$ core. A, AX, or B lugs. May be mounted by lugs, thru bolt, leads or by push-on mounting brackets with $2\frac{1}{8}''$ mounting hole centers. Resistance fixed only 5 to 100,000 ohms. Vitreous enamel or silicone coating.

25 watt. $\frac{5}{16}'' \times \frac{5}{16}'' \times 2''$ core. A, AX, or B lugs. May be mounted by lugs, thru bolt with centering washers or by push-on brackets with $2\frac{3}{4}''$ mounting hole centers. Resistance fixed type 1 to 100,000 ohms. Adjustables 1 to 25,000 ohms. Vitreous enamel or silicone coating.

50 watt. $\frac{9}{16}'' \times \frac{9}{16}'' \times 4''$ core. A, AX, or B lugs. May be counted by lugs, thru bolt with centering washers or by push-on brackets with $4\frac{3}{4}''$ mounting hole centers. Resistance fixed type 5 to 100,000 ohms, adjustables 5 to 50,000 ohms. Vitreous enamel.

75 watt. $\frac{9}{16}'' \times \frac{9}{16}'' \times 6''$ core. A, AX, or B lug. May be mounted by lugs, thru bolt with centering washers or by push-on brackets with $6\frac{3}{4}''$ mounting centers. Resistance, adjustables 5 to 100,000 ohms. Vitreous enamel.

100 watt. $\frac{3}{4}'' \times 1\frac{1}{2}'' \times 6\frac{1}{2}''$ core. A, AX, B, C, E or EX lugs. May be mounted by lugs, thru bolt with centering washers or by push-on brackets with $7\frac{3}{8}''$ mounting centers. Resistance fixed type 5 to 100,000 ohms, adjustables 5 to 100,000 ohms. Vitreous enamel.

160 watt. $1\frac{1}{8}'' \times \frac{3}{4}'' \times 8\frac{1}{2}''$ core. A, AX, B, D, E, or EX lugs. May be mounted by lugs, thru bolt with centering washers, or by push-on brackets with $9\frac{3}{8}''$ mounting centers. Resistance fixed type 5 to 100,000 ohms, adjustables 5 to 100,000 ohms. Vitreous enamel.

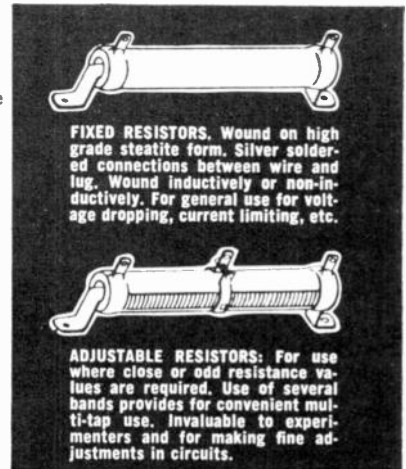
200 watt. $1\frac{1}{8}'' \times \frac{3}{4}'' \times 10\frac{1}{2}''$ core. A, AX, B, D, E, or EX lugs. May be mounted by lugs, thru bolt with centering washers, or by push-on brackets with $11\frac{3}{8}''$ mounting hole centers. Resistance fixed type 5 to 100,000 ohms, adjustables 5 to 100,000 ohms. Vitreous enamel.

MILWAUKEE RESISTOR COMPANY

MILWAUKEE 4, WISCONSIN

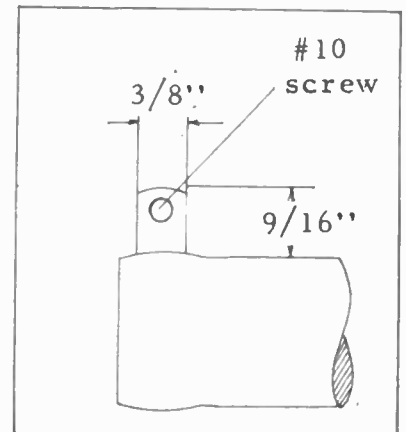
VITREOUS ENAMEL — LUGS ONLY

Ohms	3/8" x 4" 50 Watts		1/4" x 6" 75 Watts Adjustable Only	3/4" x 6 1/2" 100 Watts		1 1/8" x 8 1/2" 160 Watts		1 1/8" x 10 1/2" 200 Watts	
	Fixed	Adjustable		Fixed	Adjustable	Fixed	Adjustable	Fixed	Adjustable
5	1.80	2.60	3.00	2.65	3.95	4.60	6.00	5.00	6.25
10	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
25	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
50	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
75	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
100	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
150	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
200	1.80	2.60	3.00	—	—	—	—	—	—
250	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
300	1.80	2.60	3.00	—	—	—	—	—	—
400	—	2.60	3.00	—	—	—	—	—	—
500	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
750	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
1000	1.80	2.60	3.00	2.65	3.95	3.30	4.55	3.55	4.80
1250	—	2.70	3.10	—	—	—	—	—	—
1500	1.90	2.70	3.10	2.80	4.05	3.35	4.60	3.60	4.90
2000	1.90	2.70	3.10	2.80	4.05	3.35	4.60	3.60	4.90
2500	1.90	2.70	3.10	2.80	4.05	3.35	4.60	3.60	4.90
3000	1.90	2.70	3.10	2.80	4.05	3.35	4.60	3.60	4.90
3500	—	2.70	3.10	—	—	—	—	—	—
4000	1.90	2.70	3.10	—	—	—	—	—	—
4500	—	2.70	—	—	—	—	—	—	—
5000	1.90	2.70	3.10	2.80	4.05	3.35	4.60	3.60	4.90
6000	—	2.70	3.30	—	—	—	—	—	—
7000	—	2.70	3.30	—	—	—	—	—	—
7500	2.10	2.90	3.30	3.00	4.25	3.60	4.90	3.90	5.20
8000	2.10	2.90	3.30	—	—	—	—	—	—
9000	—	2.90	3.30	—	—	—	—	—	—
10K	2.10	2.90	3.30	3.00	4.25	3.60	4.90	3.90	5.20
12.5K	2.30	3.10	3.50	—	—	—	—	—	—
15K	2.30	3.10	3.50	3.30	4.50	3.90	5.15	4.15	5.40
20K	2.30	3.10	3.50	3.30	4.50	3.90	5.15	4.15	5.40
25K	2.55	3.40	3.90	3.50	4.80	4.00	5.30	4.30	5.50
30K	—	3.40	3.90	3.50	4.80	4.00	5.30	4.30	5.50
35K	2.55	—	3.90	—	—	—	—	—	—
40K	—	3.40	3.90	3.50	4.80	4.00	5.30	4.30	5.50
50K	2.85	3.60	4.00	3.70	5.00	4.15	5.40	4.40	5.70
60K	—	3.60	4.00	3.70	5.00	4.15	5.40	4.40	5.70
75K	3.20	4.05	4.40	3.95	5.20	4.40	5.70	4.70	5.95
100K	3.50	4.30	4.75	4.20	5.45	4.70	6.00	5.00	6.25



Drawings on this page are of the standard terminals available. Copper is the metal used. Terminals of other dimensions or of other metals are being supplied regularly ... send us your specifications.

TYPE 'EX'

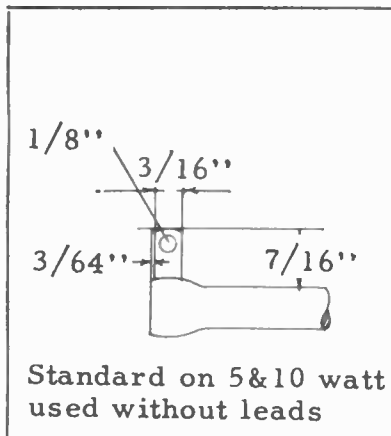


7/16" thru 3-1/4"
diameter cores

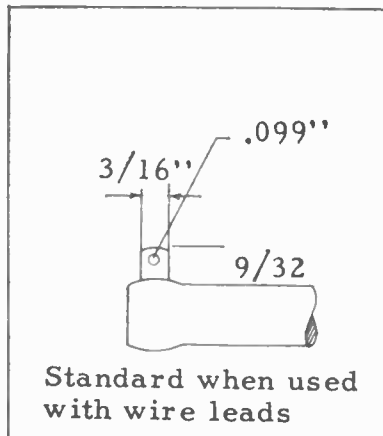
Note: Above listed resistance values are considered stock for the wattage units indicated. Standard tolerance 10%. Closer tolerances available on request.

We manufacture to Mil-R-26C Specifications, RW29 thru RW47.

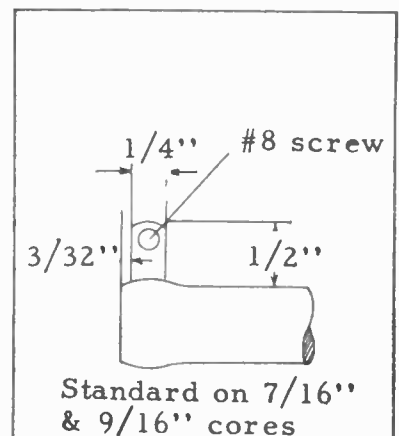
TYPE 'A'



TYPE 'AX'



TYPE 'B'



Available on all cores

MILWAUKEE RESISTOR COMPANY

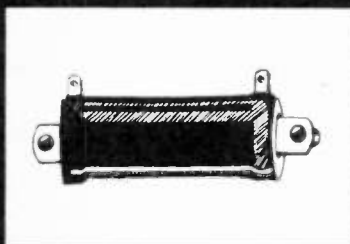
MILWAUKEE 4, WISCONSIN

*A good name in the Power Wirewound Resistor field since 1943.
Our years of experience have resulted in professional know-how
in the manufacture of conventional and many special designs.*



MINIATURE OVAL RESISTORS

Designed to fill demands for use in compact assemblies . . . Aircraft . . . Missiles . . . Etc. Wound on Steatite cores . . . Coated with Silicone or Vitreous enamel . . . Comes complete with Aluminum thru-bracket equipped with spacers for mounting singly or stacking . . . Available also in same sizes but without hardware . . . Available with lugs or wire hook up leads.



REGULAR OVALS

Oval resistors shown are for use where space is a factor. Standard mounting is with aluminum brackets and spacers which allows for quicker heat dissipation. They are also designed for stack mounting for use when more than one resistor is required. Silver soldered connections between resistance wire and terminal. Vitreous enamel or silicone coating available. Standard sizes are shown — specials can be made to your specifications. Wattage ratings shown are based on resistor mounted on 10" x 10" x .040" steel plate. When resistors are not mounted on metal base the nominal wattage rating should be reduced by 15%.



RIBWOUND RESISTORS

75 to 2000 Watts — "Wattage Rating Based on Temperature Rise of 375°C"
FOR USE — when high wattage and low resistance is required.

CONSTRUCTION — edgewound with special crimped resistance ribbon on a special designed steatite core. All connections between wire and terminals are silver soldered to provide absolute security.

MOUNTING — spring clip or 1 high, 2 high, or 3 high thru bolt mounting. Other than Standard Rib-wounds can be made to your specifications.



STRIP RESISTORS

Strip Resistors are designed for high performance at low cost. Wound with high grade resistance wire on asbestos cores. Coated with high temperature cement and sand to assure rapid heat dissipation.

Tinned copper leads 1½" long. Standard tolerance is 10%.

Special tolerances and sizes available upon request.



COMBINATION FUSE RESISTOR

COMBINATION FUSE AND RESISTOR . . . a resistor with a dual purpose, U. S. PATENT NO. 2,672,542 designed to protect your expensive equipment . . . a normal purpose resistor with fuse characteristics to carry a current overload for a predetermined, closely controlled, minimum and maximum time-lapse period before fuse action occurs. No spewing of flame, No spark emission.

TYPICAL APPLICATION: 5 watt, 7.0 ohm unit to operate as resistor at .75 ampere; but, if subjected to a 3 ampere load at ambient temperature, will fuse within a fixed minimum-maximum 30 to 60 seconds time-lapse period.

YOUR SPECIFICATIONS forwarded to us will bring prompt and complete analysis from one of our competent engineers.



RESISTORS • RHEOSTATS • TAP SWITCHES
RELAYS • TANTALUM CAPACITORS
VARIABLE TRANSFORMERS • RF CHOKES

VITREOUS ENAMELED RHEOSTATS

CLOSE CONTROL RHEOSTATS

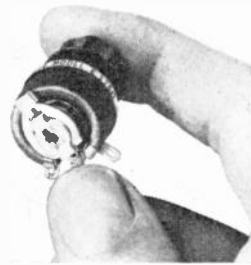
Underwriters' Laboratories Reexamination Service Listed

Eleven sizes in wirewound, vitreous enameled rheostats are stocked by Ohmite distributors all over the country and at the Ohmite factory. This selection, the most extensive available to industry, covers a range from 12½ to 1000 watts, in ratings that meet the major portion of design, production and emergency needs. Ratings of 12½, 25, 50, 75, 100, 150, 225, 300, 500, 750 and 1000 watts are standard.

FEATURES OF CONSTRUCTION: Ohmite rheostats are designed to produce permanently smooth, close control. The construction is all ceramic and metal; there is nothing to smoke, char, shrink, or shift. All models have insulated shafts with provision to keep the rheostat from turning on the panel. The resistance wire is wound over a solid ceramic core. Each turn is a separate resistance step and is locked against shifting by vitreous enamel. The core and base are also bonded by vitreous enamel. The pivoted universal-action-mounted contact brush is of copper-graphite or silver-graphite on the heavier current rheostats. It rides upon a large flat surface and assures perfect contact without wear on the wire. Pressure

at the contact and at the center lead are independent. Ohmite Rheostat Models H, J, G, K, L, P, and N, all marked Series A, are listed under the Underwriters' Laboratories Reexamination Service.

RATING: The current carrying capacities shown in the tables are for use in *free air*; when units are enclosed, these currents should be reduced possibly as much as 30% to 50%, depending upon the degree of ventilation. The rated current will cause the rheostat to dissipate its rated wattage when the full resistance is in the circuit.



Model "E"



Models "J", "G" and "K"

MODEL "E" — 12.5 WATT

Diameter 7/8" —Depth behind panel 1 1/8" —Shaft 1/8" Diameter. Rotation 300° —Mounting for panels up to 1/8" by means of 1/4" .32 Bushing and Hex. Nut —Non-turn lug requires 1/8" hole 1/4" below center of shaft —Stock No. 5151 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0101	1	3.53	\$4.62	0113	125	.32	\$4.11
0102	2	2.50	4.11	0114	175	.27	4.11
0103	3	2.04	4.11	0115	250	.22	4.11
0104	6	1.44	4.11	0116	350	.19	4.11
0105	8	1.25	4.11	0117	500	.16	4.11
0106	10	1.12	4.11	0118	750	.13	4.11
0107	15	.91	4.11	0119	1,000	.11	4.62
0108	25	.71	4.11	0120	1,500	.091	4.62
0109	35	.60	4.11	0121	2,500	.071	4.62
0110	50	.50	4.11	0122	3,500	.060	4.86
0111	75	.41	4.11	0123	5,000	.050	4.86
0112	100	.35	4.11				

MODEL "J", Series A — 50 WATT

Diameter 2 1/8" —Depth behind panel 1 3/8" —Shaft 1/4" Diameter. Rotation 300° —Mounting for panels up to 1/4" by means of 3/8" .32 Bushing and Hex Nut —Non-turn lug requires 1/8" hole 1/2" below center of shaft —Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0308	0.5	10,000	\$5.16	0321	150	.575	\$4.62
0309	1	7,070	5.16	0322	225	.470	4.62
0310	2	5,000	5.16	0323	300	.408	4.62
0311	4	3,530	4.62	0324	500	.316	4.62
0312	6	2,880	4.62	0325	800	.250	4.86
0313	8	2,500	4.62	0326	1,000	.224	4.86
0314	12	2,040	4.62	0327	1,600	.176	4.86
0315	16	1,760	4.62	0328	2,500	.141	4.86
0316	22	1,500	4.62	0329	3,500	.119	5.16
0317	35	1,190	4.62	0330	5,000	.100	5.16
0318	50	1,000	4.62	0331	8,000	.079	5.16
0319	80	.790	4.62	0332	10,000	.070	5.16
0320	125	.630					

MODEL "H", Series A — 25 WATT

Diameter 1 1/8" —Depth behind panel 1 3/8" —Shaft 1/4" diameter. Rotation 295° —Mounting for panels up to 1/4" by means of 3/8" .32 Bushing and Hex. Nut —Non-turn lug requires 7/16" hole 1/2" below center of shaft —Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0140	1	5,000	\$4.62	0152	125	.445	\$4.11
0141	2	3,540	4.11	0153	175	.375	4.11
0142	3	2,880	4.11	0154	250	.316	4.11
0143	6	2,040	4.11	0155	350	.267	4.11
0144	8	1,770	4.11	0156	500	.222	4.11
0145	10	1,580	4.11	0157	750	.182	4.11
0146	15	1,290	4.11	0158	1,000	.155	4.62
0147	25	1,000	4.11	0159	1,500	.129	4.62
0148	35	.845	4.11	0160	2,500	.100	4.62
0149	50	.707	4.11	0161	3,500	.084	4.86
0150	75	.575	4.11	0162	5,000	.070	4.86
0151	100	.500	4.11				

MODEL "G", Series A — 75 WATT

Diameter 2 3/4" —Depth behind panel 1 3/4" —Shaft 1/4" Diameter. Rotation 300° —Mounting for panels up to 1/4" by means of 3/8" .32 Bushing and Hex. Nut —Non-turn lug requires 1/8" hole 1/2" below center of shaft —Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
1100	0.5	12,300	\$6.96	1112	200	.612	\$6.42
1101	1	8,660	6.96	1113	300	.500	6.42
1102	2	6,120	6.96	1114	400	.433	6.42
1103	3	5,000	6.96	1115	500	.388	6.42
1104	5	3,880	6.42	1116	750	.316	6.96
1105	7.5	3,160	6.42	1117	1,000	.274	6.96
1106	10	2,740	6.42	1118	1,500	.224	6.96
1107	16	2,170	6.42	1119	2,000	.194	6.96
1108	25	1,730	6.42	1120	2,500	.173	6.96
1109	50	1,230	6.42	1121	5,000	.123	7.44
1110	75	1,000	6.42	1122	7,500	.100	7.98
1111	100	.866	6.42	1123	10,000	.087	7.98



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VITREOUS ENAMELED RHEOSTATS

MODEL "K", Series A — 100 WATT

Diameter 3 1/8"—Depth behind panel 1 3/4"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4" by means of 3/8"-32 Bushing and Hex. Nut—Non-turn lug requires 5/16" hole 1/2" below center of shaft—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0440	0.5	14.100	\$7.74	0452	200	.707	\$7.23
0441	1	10.000	7.74	0453	300	.575	7.23
0442	2	7.070	7.74	0454	400	.500	7.23
0443	3	5.750	7.74	0455	500	.447	7.23
0444	5	4.470	7.74	0456	750	.365	7.23
0445	7.5	3.650	7.23	0457	1,000	.316	7.74
0446	10	3.160	7.23	0458	1,500	.258	7.74
0447	16	2.500	7.23	0459	2,000	.224	7.74
0448	25	2.000	7.23	0460	2,500	.200	7.74
0449	50	1.410	7.23	0461	5,000	.141	8.22
0450	75	1.150	7.23	0462	7,500	.115	8.76
0451	100	1.000	7.23	0463	10,000	.100	9.24

MODEL "L", Series A — 150 WATT

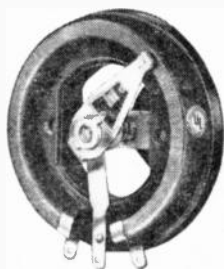
Diameter 4"—Depth behind panel 2"—Shaft 1/4" Diameter. Rotation 300°—Mounting for panels up to 1/4", 3/8"-32 Bushing and Hex. Nut or two 10-32 x 3/4" flat head screws, mounting centers 7/8" each side of center of shaft on line perpendicular to center terminal.—Stock No. 5150 Knob Supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0524	0.5	17.300	\$9.78	0537	150	1.000	\$ 9.24
0525	1	12.300	9.78	0538	200	.865	9.24
0526	2	8.650	9.78	0539	250	.773	9.24
0527	3	7.070	9.78	0540	350	.655	9.24
0528	5	5.180	9.78	0541	500	.548	9.24
0529	7.5	4.470	9.78	0542	750	.447	9.78
0530	10	3.880	9.24	0543	1,250	.346	9.78
0531	15	3.613	9.24	0544	1,800	.288	10.32
0532	25	2.450	9.24	0545	2,250	.259	10.32
0533	35	2.070	9.24	0546	3,000	.224	10.32
0534	50	1.735	9.24	0547	4,500	.182	10.80
0535	75	1.115	9.24	0548	7,500	.141	11.34
0536	100	1.225	9.24	0549	10,000	.122	12.36

MODEL "P", Series A — 225 WATT

Diameter 5"—Depth behind panel 2 1/8"—Shaft 3/8" Diameter. Rotation 310°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 7/8" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
1250	1	15.000	\$12.84	1261	100	1.500	\$12.84
1251	2	10.600	12.84	1262	150	1.220	12.84
1252	3	8.660	12.84	1263	200	1.060	12.84
1253	4	7.500	12.84	1264	300	.866	12.84
1254	5	6.710	12.84	1265	400	.750	12.84
1255	7.5	5.490	12.84	1266	700	.567	12.84
1256	10	4.740	12.84	1267	900	.500	12.84
1257	15	3.870	12.84	1268	1,200	.433	12.84
1258	25	3.000	12.84	1269	1,500	.387	12.84
1259	50	2.120	12.84	1270	1,750	.358	12.84
1260	75	1.730	12.84	1271	2,500	.300	12.84



Models "N" and "R"
("P", "T" and "U" Similar)

MODEL "N", Series A — 300 WATT

Diameter 6"—Depth behind panel 2 3/8"—Shaft 3/8" Diameter. Rotation 315°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 1 1/8" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0650	1	17.320	\$13.92	0661	100	1.730	\$13.92
0651	2	12.240	13.92	0662	150	1.410	13.92
0652	3	10.000	13.92	0663	200	1.220	13.92
0653	4	8.660	13.92	0664	300	1.000	13.92
0654	5	7.750	13.92	0665	400	.866	13.92
0655	7.5	6.320	13.92	0666	700	.655	13.92
0656	10	5.480	13.92	0667	900	.578	13.92
0657	15	4.470	13.92	0668	1,200	.500	13.92
0658	25	3.460	13.92	0669	1,500	.447	13.92
0659	50	2.150	13.92	0670	1,750	.414	13.92
0660	75	2.000	13.92	0671	2,500	.346	13.92

MODEL "R" — 500 WATT

Diameter 8"—Depth behind panel 2 1/8"—Shaft 3/8" Diameter. Rotation 325°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 1 1/2" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
0849	1.0	22.300	\$20.10	0872	50	3.160	\$20.10
0850	1.5	18.200	20.10	0861	80	2.520	20.10
0851	2	15.800	20.10	0862	125	2.000	20.10
0852	2.5	11.100	20.10	0863	175	1.690	20.10
0853	3	12.900	20.10	0864	250	1.410	20.10
0854	4	11.200	20.10	0865	325	1.240	20.10
0855	5	10.000	20.10	0866	500	1.000	20.10
0856	8	7.900	20.10	0867	750	.817	20.10
0857	12.5	6.300	20.10	0868	1,000	.707	20.10
0858	16	5.600	20.10	0869	1,500	.577	20.10
0859	25	4.170	20.10	0870	2,000	.500	20.10
0860	40	3.510	20.10	0871	2,500	.447	20.10

MODEL "T" — 750 WATT

Diameter 10"—Depth behind panel 3"—Shaft 3/8" Diameter. Rotation 330°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 1 7/8" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
1300	1	27.400	\$28.38	1312	50	3.870	\$28.38
1301	1.5	22.300	28.38	1313	80	3.060	28.38
1302	2	19.400	28.38	1314	100	2.740	28.38
1303	2.5	17.300	28.38	1315	160	2.170	28.38
1304	3	15.800	28.38	1316	200	1.940	28.38
1305	4	14.600	28.38	1317	300	1.580	28.38
1306	5	12.200	28.38	1318	400	1.370	28.38
1307	8	9.650	28.38	1319	600	1.117	28.38
1308	10	8.650	28.38	1320	750	1.000	28.38
1309	12.5	7.750	28.38	1321	1,200	.791	28.38
1310	16	6.820	28.38	1322	1,800	.646	28.38
1311	25	5.470	28.38	1323	2,500	.547	28.38

MODEL "U" — 1000 WATT

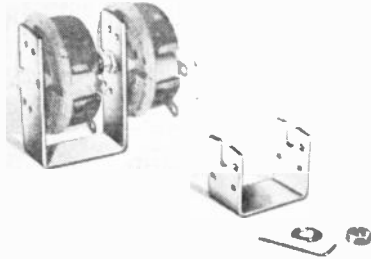
Diameter 12"—Depth behind panel 3"—Shaft 3/8" Diameter. Rotation 335°—Mounting for panels up to 1 1/4", two 1/4"-20 x 1 1/2" flat head screws, mounting centers 3" each side of center of shaft on center line of cross-bar.—Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

Stock No.	Total Ohms	Max. Amps.	Net Price	Stock No.	Total Ohms	Max. Amps.	Net Price
1450	1	31.600	\$33.15	1462	50	4.470	\$33.15
1451	1.5	25.800	33.15	1463	75	3.650	33.15
1452	2	22.400	33.15	1464	100	3.160	33.15
1453	2.5	20.000	33.15	1465	175	2.390	33.15
1454	3	18.300	33.15	1466	225	2.110	33.15
1455	4	15.800	33.15	1467	300	1.830	33.15
1456	5	14.100	33.15	1468	400	1.580	33.15
1457	8	11.200	33.15	1469	500	1.410	33.15
1458	10	10.000	33.15	1470	750	1.150	33.15
1459	12.5	8.950	33.15	1471	1,000	1.000	33.15
1460	16	7.900	33.15	1472	1,500	.816	33.15
1461	25	6.330	33.15	1473	2,500	.633	33.15



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RHEOSTAT TANDEM COUPLING KITS



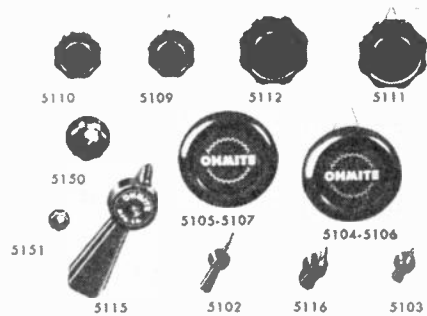
BLACK BAKELITE KNOBS

Stock No.	Description	Knob Dia.	Hole Dia.	Net Price
5102	Bar Knob, 2 1/4" long	1 1/4"	1 1/4"	\$.33
5103	Bar Knob, 1 1/2" long	1 1/4"	1 1/4"	.15
5104	Handwheel with Pointer	3 1/4"	3 1/4"	1.53
5105	Handwheel without Pointer	3 1/4"	3 1/4"	1.20
5106	Handwheel with Pointer	3 1/4"	1 1/4"	1.53
5107	Handwheel without Pointer	3 1/4"	1 1/4"	1.20
5109	Finger-Grip with Pointer	1 5/8"	1 1/4"	.60
5110	Finger-Grip without Pointer	1 5/8"	1 1/4"	.45
5111	Finger-Grip with Pointer	2 3/8"	1 1/4"	.84
5112	Finger-Grip without Pointer	2 3/8"	1 1/4"	.72
*5115	Bar Knob, 1 3/4" long	1 1/4"	3 1/4"	3.09
5116	Bar Knob, 1 1/2" long	1 1/4"	1 1/4"	.33
5150	Skirted Finger-Grip	1 1/2"	1 1/4"	.18
5151	Finger-Grip	3 1/4"	1 1/4"	.18
5152A	Like 5104 but shorter pointer	3 1/4"	1 1/4"	1.66

*Requires pin and tapped hole in shaft.

Inexpensive kits assemble standard Ohmite Model G, H, J, K, L or E (miniature) rheostats. Each kit consists of a steel "U" frame, a coupling with set screw, mica washer, Allen wrench and assembly instructions. Rheostat shafts are joined by the coupling which is fastened to the shaft of the rear unit. Projections on the coupling fit a recess in the rear hub of the front unit. Stock No. 6533 kit, mounts Model G, K or L units but accommodates Models H or J in the rear position. Stock No. 6532 unit mounts Models H or J but accommodates Models G, K or L in the rear position. Stock No. 6591 kit assembles only Model E (miniature) rheostats.

Stock No. 6532 — Max Panel 1/8".....Net Price \$1.83
Stock No. 6533 — Max Panel 5/32".....Net Price 2.28
Stock No. 6591 — Max Panel 1/16".....Net Price 1.83



MOLDED COMPOSITION POTENTIOMETERS, 1/2 and 2 WATTS

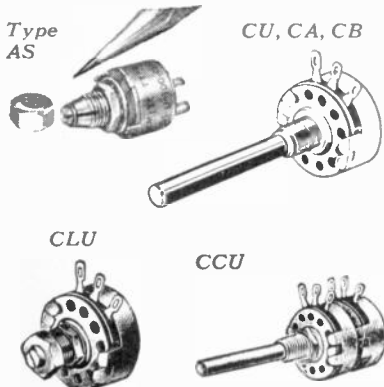
Exceptional reliability along with small size for rated wattage, is provided in Ohmite's molded composition potentiometers. Type AB units, 1 1/2" in diameter and rated two watts at 70°C ambient, are available in a number of styles and find universal application as rheostats or potentiometers in industrial, military or other high quality electronic devices. Type AS is a new Miniature Potentiometer for miniature or lightweight assemblies. Although only 1/2" in diameter, it is rated for continuous duty at 1/2 watt at 70°C ambient. Because of their molded composition elements, these units outlast and outperform film type units. Noise level is exceedingly low and units will pass ARMY-NAVY salt

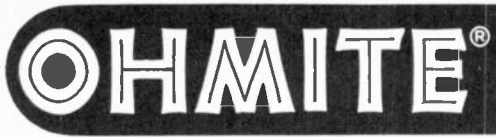
spray test. Specification QQ-M-151. Single control Type AB units extend 5/8" behind panel; dual control 1 1/4".

Type AS Miniature unit extends 1/8" behind panel. A SPST switch for Type AB units is available.

Resistance Ohms Tol. ±10% except * ±20%	TYPE AB — 2 WATT					TYPE AS 1/2 Watt Min. Locking Linear
	Single Unit, 2" Shaft			Locking	Dual	
	Style CU Linear	Style CA CW Log.	Style CB CCW Log.	Style CLU Linear	Style CCU Linear	
50	CU 5001			CLU 5001		
100	CU 1011			CLU 1011		3601
150	CU 1511			CLU 1511		
250	CU 2511			CLU 2511		3602
350	CU 3511			CLU 3511		
500	CU 5011			CLU 5011		3603
750	CU 7511			CLU 7511		
1,000	CU 1021			CLU 1021		3604
1,500	CU 1521			CLU 1521		
2,500	CU 2521			CLU 2521		3605
3,500	CU 3521			CLU 3521		
5,000	CU 5021			CLU 5021		3606
7,500	CU 7521			CLU 7521		
10,000	CU 1031		CB 1031	CLU 1031	CCU 1031	3607
15,000	CU 1531			CLU 1531		
25,000	CU 2531		CB 2531	CLU 2531	CCU 2531	3608
35,000	CU 3531			CLU 3531		
50,000	CU 5031		CB 5031	CLU 5031	CCU 5031	3609
75,000	CU 7531			CLU 7531		
100,000	CU 1041	CA 1041		CLU 1041	CCU 1041	3610
150,000	CU 1541			CLU 1541		
250,000	CU 2541	CA 2541		CLU 2541	CCU 2541	3611
350,000	CU 3541			CLU 3541		
500,000	CU 5041	CA 5041		CLU 5041	CCU 5041	3612
.75 meg.*	CU 7542			CLU 7542		
1.0 meg.*	CU 1052	CA 1052		CLU 1052	CCU 1052	3613
1.5 meg.*	CU 1552			CLU 1552		
2.5 meg.*	CU 2552	CA 2552		CLU 2552		3614
3.5 meg.*	CU 3552			CLU 3552		
5.0 meg.*	CU 5052			CLU 5052		3615

CU.....Net Price \$1.95
CA and CB.....Net Price 2.25
CLU.....Net Price 2.55
CCU.....Net Price 5.85
CS-1 Switch (unmounted) for CU, CA, CB, CLU.....Net Price .66
Type AS Miniature Potentiometer.....Net Price 5.10





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OHMITE VITREOUS ENAMELED FIXED AND DIVIDOHM® RESISTORS



25 WATT FIXED RESISTOR

Core: 2" x 1/8" - Mounting Centers 2 1/2"

Table with columns: Res. Ohms, Max. Amps, Fixed Resist. Stock No., Net Price, Adj. Resist. Stock No., Net Price. Lists various resistor values and prices.

100 WATT FIXED RESISTOR

Core: 6 1/2" x 3/8" - Mounting Centers 7 3/8"

Table with columns: Res. Ohms, Max. Amps, Fixed Resist. Stock No., Net Price, Adj. Resist. Stock No., Net Price. Lists various resistor values and prices.

50 WATT FIXED RESISTOR

Core: 4" x 1/8" - Mounting Centers 4 3/8"

Table with columns: Res. Ohms, Max. Amps, Fixed Resist. Stock No., Net Price, Adj. Resist. Stock No., Net Price. Lists various resistor values and prices.

160 WATT FIXED RESISTOR

Core: 8 1/2" x 1 1/8" - Mounting Centers 9 3/8"

Table with columns: Res. Ohms, Max. Amps, Fixed Resist. Stock No., Net Price, Adj. Resist. Stock No., Net Price. Lists various resistor values and prices.

These all-welded construction resistors have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. Units are wire-wound on ceramic cores and protected by Ohmite Vitreous Enamel. Furnished with mounting brackets and on DIVIDOHM with one adjustable lug.

75 WATT SIZE - Dividohm

Core: 6" x 1/8" - Mounting Centers 6 3/8"

Table with columns: Adjustable Res. Res. Ohms, Max. Amps, Stock No., Adj. Resist. Res. Ohms, Max. Amps, Stock No. Lists resistor values and prices.

Net Price, 5 thru 1,000 ohms \$1.80
Net Price, 1,250 thru 5,000 ohms 1.86
Net Price, 6,000 thru 10,000 ohms 1.98

200 WATT FIXED RESISTOR

Core: 10 1/2" x 1 1/8" - Mounting Centers 11 3/8"

Table with columns: Res. Ohms, Max. Amps, Fixed Resist. Stock No., Net Price, Adj. Resist. Stock No., Net Price. Lists resistor values and prices.

ADJUSTABLE LUGS

Table with columns: Bakelite Knob Res. Dia., Stock No., Net Price, Screw Driver Type Res. Dia., Stock No., Net Price. Lists resistor values and prices.



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**OHMITE® STOCK
AXIAL-LEAD RESISTORS**



Ohmite axial-lead, vitreous-enameled resistors are compact, wire-wound units available in three stock sizes: 3-Watt (1/8" x 1/4"), 5-Watt (1 1/8" x 1 1/2"), and 10-watt (1 1/2" x 1 3/4")... The resistance wire and terminal lead are both welded to the end cap, utilizing the patented Ohmite welding technique. All have 1/2" tinned wire leads, are simple to mount, and occupy small space.

Axial-lead resistors are especially suited for printed circuits, terminal board, and point-to-point wiring applications.

The standard resistance tolerance is ±5%.

Ohms	Ohms	Ohms	Ohms
1.0	125	1,200	9,000
1.5	150	1,250	10,000
2.0	200	1,500	11,000
3.0	225	1,750	12,000
4.0	250	2,000	*12,500
5.0	300	2,250	13,500
7.5	350	2,500	*15,000
10	400	3,000	16,000
12	450	3,500	*17,500
15	500	4,000	*18,000
20	600	4,500	*20,000
25	700	5,000	*22,500
30	750	6,000	*25,000
35	800	7,000	30,000
40	900	7,500	35,000
50	1,000	8,000	40,000
75	1,100	8,500	45,000
100			50,000

*5 and 10-watt size only.
†10-watt size only.

3-WATT SIZE

Net Price, 1 thru 1,000 ohms \$0.51
Net Price, 1,100 thru 5,000 ohms54
Net Price, 6,000 thru 10,000 ohms57

5-WATT SIZE

Net Price, 1 thru 1,000 ohms \$0.54
Net Price, 1,100 thru 5,000 ohms57
Net Price, 6,000 thru 10,000 ohms60
Net Price, 12,500 thru 20,000 ohms72
Net Price, 22,500 and 25,000 ohms75

10-WATT SIZE

Net Price, 1 thru 1,000 ohms \$0.60
Net Price, 1,100 thru 5,000 ohms63
Net Price, 6,000 thru 10,000 ohms72
Net Price, 11,000 thru 20,000 ohms81
Net Price, 22,500 thru 40,000 ohms84
Net Price, 45,000 and 50,000 ohms96

Popular OHMITE "BROWN DEVIL"® RESISTORS



5 Watt—1" x 5/16" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
1	2.23	200	.160	2,250	.047
1.5	1.82	250	.150	2,500	.045
2	1.58	325	.140	3,000	.041
3	1.29	300	.130	3,500	.037
4	1.12	350	.120	4,000	.035
5	1.00	400	.110	4,500	.033
7.5	.810	450	.100	5,000	.032
10	.710	500	.100	6,000	.029
12	.640	600	.091	7,000	.027
15	.580	700	.084	7,500	.026
20	.500	750	.082	8,000	.025
25	.450	800	.079	9,000	.024
30	.410	900	.074	10,000	.022
35	.380	1,000	.070	12,500	.020
40	.350	1,100	.067	15,000	.018
50	.320	1,200	.064	17,500	.017
75	.260	1,250	.063	20,000	.016
100	.220	1,300	.057	22,500	.014
125	.200	1,750	.053	25,000	.013
150	.180	2,000	.050		

Net Price, 1 thru 1,000 ohms \$0.45
Net Price, 1,100 thru 5,000 ohms48
Net Price, 6,000 thru 10,000 ohms51
Net Price, 12,500 and 15,000 ohms54
Net Price, 17,500 and 20,000 ohms57
Net Price, 22,500 and 25,000 ohms60

10 Watt—1 3/4" x 5/16" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
0.5	4.47	300	.18	5,000	.045
1	3.16	350	.17	6,000	.041
2	2.24	400	.16	7,000	.038
3	1.83	450	.15	7,500	.036
4	1.58	500	.14	8,000	.035
5	1.41	600	.13	8,500	.034
7.5	1.16	700	.12	10,000	.032
10	1.00	750	.12	11,000	.030
12	.91	800	.11	12,000	.029
15	.82	900	.11	12,500	.028
20	.71	1,000	.10	13,500	.027
25	.63	1,100	.095	15,000	.026
30	.58	1,200	.091	16,000	.025
35	.53	1,250	.089	17,500	.024
40	.50	1,500	.081	18,000	.023
50	.45	1,750	.075	20,000	.022
75	.37	2,000	.071	22,500	.021
100	.32	2,250	.066	25,000	.020
125	.28	2,500	.063	30,000	.018
150	.26	3,000	.057	35,000	.017
200	.22	3,500	.053	40,000	.016
225	.21	4,000	.050	45,000	.015
250	.20	4,500	.047	50,000	.014

Net Price, 0.5 thru 1,000 ohms \$0.48
Net Price, 1,100 thru 5,000 ohms54
Net Price, 6,000 thru 10,000 ohms60
Net Price, 11,000 thru 20,000 ohms66
Net Price, 22,500 and 25,000 ohms72
Net Price, 30,000 thru 50,000 ohms81

WITH WELDED TERMINALS

High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. These all-welded construction units have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units can be conveniently mounted by means of their 1/2" tinned wire leads.

20 Watt—2" x 7/16" Core Size

Ohms	Amps	Ohms	Amps	Ohms	Amps
0.5	6.32	800	.15	10,000	.043
1.0	4.47	850	.15	12,500	.035
2.0	3.16	1,000	.14	15,000	.032
3.0	2.58	1,200	.13	20,000	.027
4.0	2.24	1,250	.12	25,000	.024
5	2.00	1,500	.12	30,000	.022
10	1.41	1,750	.11	35,000	.021
25	.89	2,000	.10	40,000	.019
50	.63	2,250	.091	45,000	.018
75	.52	2,500	.089	50,000	.017
100	.45	2,750	.085	55,000	.016
150	.36	3,000	.081	60,000	.016
200	.32	3,500	.075	65,000	.015
250	.28	4,000	.070	70,000	.014
300	.26	4,500	.066	75,000	.013
350	.24	5,000	.063	80,000	.012
400	.22	6,000	.057	85,000	.012
500	.20	7,000	.053	90,000	.011
650	.18	7,500	.051	95,000	.010
700	.17	8,000	.050	100,000	.010
750	.16	9,000	.047		

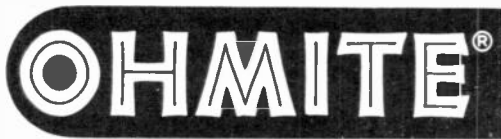
Net Price, 0.5 thru 1,000 ohms \$0.63
Net Price, 1,200 thru 5,000 ohms66
Net Price, 6,000 thru 10,000 ohms72
Net Price, 12,500 thru 20,000 ohms78
Net Price, 25,000 thru 40,000 ohms90
Net Price, 45,000 thru 60,000 ohms 1.05
Net Price, 65,000 thru 80,000 ohms 1.20
Net Price, 85,000 thru 100,000 ohms 1.38

10 WATT DIVIDOHM® ADJUSTABLE RESISTORS

Core: 1 3/4" x 1/2" — Mounting Centers 2 1/4"

Adjustable Res.			Adjustable Res.			Adjustable Res.			Adjustable Res.		
Res.	Max.	Stock	Res.	Max.	Stock	Res.	Max.	Stock	Res.	Max.	Stock
Ohms	Amps	No.	Ohms	Amps	No.	Ohms	Amps	No.	Ohms	Amps	No.
1	3.16	1001	75	.37	1011	750	.12	1021	4,000	.050	1031
2	2.24	1002	100	.32	1012	800	.11	1022	4,500	.047	1032
3	1.83	1003	150	.26	1013	1,000	.10	1023	5,000	.045	1033
5	1.41	1004	200	.22	1014	1,250	.089	1024	6,000	.041	1034
7.5	1.16	1005	250	.20	1015	1,500	.081	1025	7,000	.038	1035
10	1.00	1006	300	.18	1016	2,000	.071	1026	7,500	.036	1036
15	.82	1007	350	.17	1017	2,250	.066	1027	8,000	.035	1037
20	.71	1008	400	.16	1018	2,500	.063	1028	8,500	.034	1038
25	.63	1009	500	.14	1019	3,000	.057	1029	9,000	.033	1039
50	.45	1010	600	.13	1020	3,500	.053	1030	10,000	.032	1040

Net Price, 1 thru 1,000 ohms \$0.96
Net Price, 1,250 thru 5,000 ohms 1.02
Net Price, 6,000 thru 10,000 ohms 1.08



**RESISTORS • RHEOSTATS • TAP SWITCHES
RELAYS • TANTALUM CAPACITORS
VARIABLE TRANSFORMERS • RF CHOKES**

**LITTLE DEVIL® RESISTOR ASSORTMENTS
FOR SERVICE USE**



Servicemen's assortments of 150 Ohmite "Little Devil," 1/2-watt, or 125, 1-watt or 2-watt insulated composition resistors, in the 40 values (10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the

resistors alone—the cabinet is furnished without extra cost! Cabinet is only 9" long, 4 3/4" high, and 5 1/4" deep.

Assortment	Stock No	Quantity of Resistors	Wattages	Net Price
SERVICE				
±10% tolerance	CAB-10	150	1/2 watt	\$18.00
40 resistance values	CAB-2	125	1 watt	22.50
	CAB-3	125	2 watt	30.00

NEW OHM'S LAW CALCULATOR

Redesigned! This new, improved version of the famous Ohmite Ohm's Law Calculator — popular the world over with servicemen, engineers and students — now has scales for solving parallel resistance problems, AND a standard slide rule. More useful than ever! With one setting of the slide the calculator gives the answer to any Ohm's Law problem—reading directly in ohms, volts, amperes, and watts. Three of the new scales on the back provide a quick, one-setting means of solving parallel resistance problems. The slide rule scales will multiply, divide, find squares, and square roots.



Ohm's Law Calculator (Cardboard) **Net Price \$0.25**
Ohm's Law Calculator (Plastic) **Net Price 1.50**

LITTLE DEVIL COLOR CODER



Here is a handy little device that makes it easy to determine the resistance and tolerance values of EIA color coded composition resistors.

Just turn the color wheels until the color corresponds to the color band on the resistor and read the resistance value directly in ohms in the windows.

Little Devil Color Coder **Net Price \$.10**

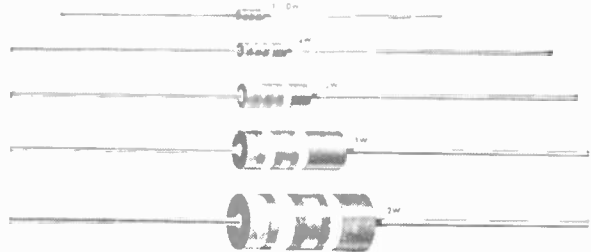
OHMITE FUSE RESISTOR



FR-7.5
Net Price \$0.39

Designed for replacement in all television receivers, the FR-7.5 Fuse Resistor is provided with 1 1/2" tinned lead wires for easy installation directly in the TV circuit. May also be soldered to the plug-in terminal strip which is provided. 7.5 ohms.

OHMITE "LITTLE DEVIL" RESISTORS



All sizes have molded insulation except the 1/10 watt size which is coated with insulating material. Other noted advantages are great stability, low noise level, low voltage coefficient, high insulation breakdown voltage and rapid heat dissipation. "Little Devils" may be used at full rated wattage at 70 C (158°F) ambient temperature.

In the 1/4, 1/2, 1 and 2 watt sizes, "Little Devils" meet stringent government requirements (MIL-R-11B) for "best quality" characteristics. They are available from stock in the standard EIA resistance values in the tolerances and resistance ranges shown in the price table below. Ratings for maximum continuous RMS voltage drop are high: 150 volts for 1/10 watt units, 250 volts for 1/4 watt, 350 volts for 1/2 watt, 500 volts for 1 watt, and 750 volts for 2 watt units.

STANDARD EIA VALUES: Figures in large, bold type are ±10% EIA values. All values listed are ±5% values. Price table lists the various sizes and indicates the tolerances and resistance ranges in which they are supplied.

Ohms	Ohms	Ohms	Ohms	Ohms	Megs.	Megs.	Megs.
2.7	39	300	2,200	16,000	0.1	0.75	5.6
3.3	43	330	2,400	18,000	0.11	0.82	6.2
3.9	47	350	2,700	20,000	0.12	0.91	6.8
4.7	51	390	3,000	22,000	0.13	1.0	7.5
5.6	56	430	3,300	24,000	0.15	1.1	8.2
6.8	62	470	3,600	27,000	0.16	1.2	9.1
8.2	68	510	3,900	30,000	0.18	1.3	10.0
10	75	560	4,300	33,000	0.20	1.5	11.0
11	82	620	4,700	36,000	0.22	1.6	12.0
12	91	680	5,100	39,000	0.24	1.8	13.0
13	100	750	5,600	43,000	0.27	2.0	15.0
15	110	820	6,200	47,000	0.30	2.2	16.0
16	120	910	6,800	51,000	0.33	2.4	18.0
18	130	1,000	7,500	56,000	0.36	2.7	20.0
20	150	1,100	8,200	62,000	0.39	3.0	22.0
22	160	1,200	9,100	68,000	0.43	3.3	...
24	180	1,300	10,000	75,000	0.47	3.6	...
27	200	1,500	11,000	82,000	0.51	3.9	...
30	220	1,600	12,000	91,000	0.56	4.3	...
33	240	1,800	13,000	...	0.62	4.7	...
36	270	2,000	15,000	...	0.68	5.1	...

PRICES, RESISTANCE RANGES, DIMENSIONS

Size	Size	Resistance	Equiv.	Net Price & Code
Watts	Length Dia.	Range	Mil. Type	±5% ±10%
1/10	.140" .067"	10 Ohms thru 1.0 Megohm	—	24¢ LIDVS
1/4	1/4" .090"	47 Ohms thru 22.0 Megohms	RC-07	26¢ LIDED 13¢ LIDSM
1/2	3/8" 9/64"	10 Ohms thru 22.0 Megohms	RC-20	24¢ LIDFA 12¢ LIDLO
1	9/16" 7/32"	10 Ohms thru 22.0 Megohms	RC-32	36¢ LIDBU 18¢ LIDME
		2.7 thru 8.2 Ohms	RC-32	— 36¢ LIDME
2	11/16" 5/16"	10 Ohms thru 22.0 Megohms	RC-42	48¢ LIDOC 24¢ LIDHI

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

SIX WIREWOUND PRECISION POTENTIOMETERS

**In Stock... Available at factory prices
from your local distributor**

Thirty electronics parts houses throughout the US and Canada can furnish off the shelf delivery of these popular models. In addition, 31 Spectrol Sales Engineering representatives located throughout the western world will assist you with special and other potentiometer requirements.

The six precision potentiometers described below satisfy most production and design requirements.

SINGLE TURN

MODEL 130 1-5/16" Diameter



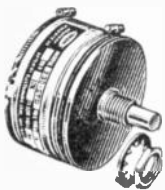
The Model 130 is a new single-turn unit developed to provide economy in a quality precision potentiometer. With Spectrol's characteristic clean and rugged design, the 130 performs dependably up to 125°C and functions reliably under severe humidity conditions. It is available in resistance ranges from 10 to 30,000 ohms with a standard linearity tolerance of ±0.5%.

SPECIFICATIONS

Resistance tolerance . . .	±3.0%
Linearity tolerance . . .	±0.5%
Mechanical rotation . . .	continuous
Electrical rotation . . .	352° ±2°
Power rating (40 C. Amb.) . . .	2.75 watts
Life expectancy (shaft rev's)	1,000,000
Voltage breakdown . . .	1000V RMS
Temperature range . . .	-55°C. to +105°C.
Weight (approx.) . . .	1.5 oz.
Resistance values in stock . . .	1K, 5K, 10K, 20K, 30K

List Price \$8.50 each

MODEL 230 1-3/4" Diameter



Spectrol's Model 230 high resistance precision potentiometer is a reliable single turn unit with resistance values up to 200,000Ω in a compact package only 1 3/4" in diameter. The Model 230 is economy priced, yet built to the highest standards of engineering performance. For limited access phasing, the unit can be locked at any angle by simple adjustment of a single clamp screw.

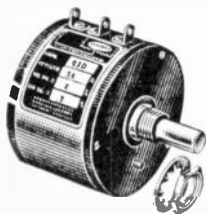
SPECIFICATIONS

Resistance tolerance . . .	±3.0%
Linearity tolerance . . .	±0.3%
Mechanical rotation . . .	continuous
Electrical rotation . . .	354° ±1°
Power rating (40 C. Amb.) . . .	2.5 watts
Life expectancy (shaft rev's)	1,000,000
Voltage breakdown . . .	1000V RMS
Temperature range . . .	-55°C. to +105°C.
Weight (approx.) . . .	3.0 oz.
Resistance values in stock . . .	1K, 5K, 10K, 20K, 30K, 50K, 100K and 200K

List Price \$15.00 each

THREE TURN

MODEL 830 1-13/16" Diameter



The Spectrol Model 830 is an economical 3-turn general purpose precision potentiometer featuring Spectrol quality and reliability at a competitive price. The 830 is available in resistance ranges from 20 to 120,000Ω with a standard linearity tolerance of ±0.25%.

The Model 830 incorporates many design features not normally found at this price. These include front and rear lids

secured with machine screws; clean, smooth outline; 1000 ounce-inch stops and shaft bearings at both ends.

SPECIFICATIONS

Resistance tolerance . . .	±3.0%
Linearity tolerance . . .	±0.25%
Mechanical rotation . . .	±1080° +4° -0°
Electrical rotation . . .	±1080° +4° -0°
Power rating (25°C. Amb.) . . .	4.75 watts
Life expectancy (shaft rev's)	2,000,000
Voltage breakdown . . .	1000V RMS
Temperature range . . .	-55°C. to +105°C.
Weight (approx.) . . .	3.0 oz.
Resistance values in stock . . .	1K, 5K, 10K, 20K, 30K, 50K

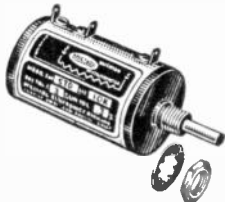
List Price \$10.00 each

SPECTROL

ELECTRONICS CORPORATION

TEN TURN

MODEL 500 7/8" Diameter



The Spectrol Model 500 is a quality 10-turn miniature precision potentiometer only 7/8" in diameter. It is available in resistance ranges from 25 to 120,000Ω with a standard linearity tolerance of ± 0.25%.

Definite superiority of design guarantees low-noise performance and consistently reliable operation.

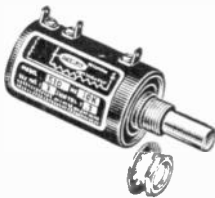
Low starting torque, low running torque, high resolution, and close linearity are achieved by new and improved construction, both inside and out.

SPECIFICATIONS

Resistance tolerance . . . ±3.0%
 Linearity tolerance . . . ±0.25%
 Mechanical rotation . . . 3600° +5° -0°
 Electrical rotation . . . 3600° +5° -0°
 Power rating (40°C. Amb.) . . 3 watts
 Life expectancy (shaft rev's) . . 2,000,000
 Voltage breakdown . . . 1000V RMS
 Temperature range . . . -55°C. to +105°C.
 Weight (approx.) . . . 1.0 oz.
 Resistance values in stock . . 1K, 5K, 10K, 20K, 30K, 50K, 100K

List Price \$15.00 each

MODEL 510 7/8" Diameter



The Spectrol Model 510 is a quality 10-turn miniature precision potentiometer only 7/8" in diameter with 1/4" dia. shaft. It is available in resistance ranges from 25 to 120,000Ω with a standard linearity tolerance of ± 0.25%.

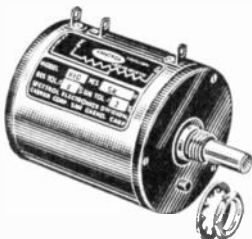
Featuring a new type of construction, the 510 readily adapts itself to high volume production techniques allowing overall reduction in manufacturing costs.

SPECIFICATIONS

Resistance tolerance . . . ±3.0%
 Linearity tolerance . . . ±0.25%
 Mechanical rotation . . . 3600° +6° -0°
 Electrical rotation . . . 3600° +6° -0°
 Power rating (40°C. Amb.) . . 3 watts
 Life expectancy (shaft rev's) . . 1,000,000
 Voltage breakdown . . . 1000V RMS
 Temperature range . . . -55°C to +105°C.
 Weight (approx.) . . . 1.5 oz.
 Resistance values in stock . . 1K, 5K, 10K, 20K, 30K, 50K, 100K

List Price \$12.00 each

MODEL 810 1-13/16" Diameter



The Model 810 is the result of a development program to produce a competitively priced 10-turn precision potentiometer and maintain the Spectrol quality and reliability. The 810 is available in resistance ranges from 50 to 400,000 ohms with a standard linearity tolerance of ±0.25%.

This economy model incorporates many design features not normally found at this price. These include front and rear lids secured with machine screws, clean, smooth outline, 1000 ounce-inch stops and shaft bearings at both ends. A new design through-out with emphasis on consistent performance.

SPECIFICATIONS

Resistance tolerance . . . ±3.0%
 Linearity tolerance . . . ±0.25%
 Mechanical rotation . . . 3600° +4° -0°
 Electrical rotation . . . 3600° +4° -0°
 Power rating (25°C. Amb.) . . 8 watts
 Life expectancy (shaft rev's) . . 2,000,000
 Voltage breakdown . . . 1000V RMS
 Temperature range . . . -55°C. to +105°C.
 Weight (approx.) . . . 4.5 oz.
 Resistance values in stock . . 100 and 500 ohms, 1K, 2K, 5K, 10K, 20K, 30K, 50K, 100K

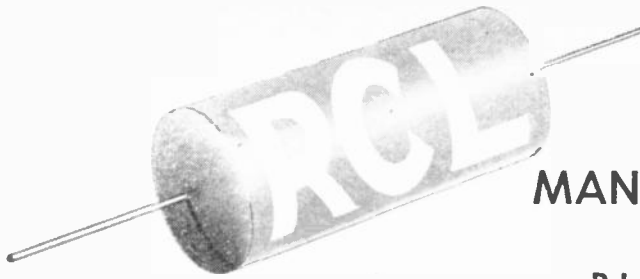
List Price \$10.00 each

For complete electrical and mechanical specifications, contact your nearest Spectrol distributor or write, call or wire direct. Please address Dept. R60.

SPECTROL

ELECTRONICS CORPORATION

SAN GABRIEL, CALIFORNIA



R. C. L.

MANUFACTURING COMPANY

ELECTRONIC SPECIALTIES

RIVERSIDE, NEW JERSEY

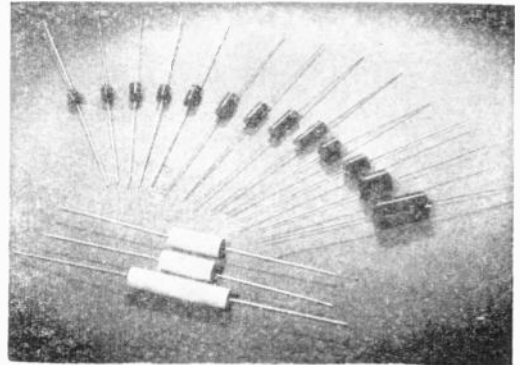
WIRE-WOUND POWER AND PRECISION RESISTORS

Wire-wound precision and power resistors made under exact atmospheric conditions to meet all requirements of the electronic industry. RCL resistors are silicone coated by our own special process, using low-temperature coefficient materials.

AXIAL LEAD PRECISION RESISTORS

RCL Type	Military Spec. Mil-R-93 & Mil-R-9444	Maximum * Resistance Value	Commercial † Wattage Rating	Military ‡ Wattage Rating	Wire Gauge AWG
7009		100K	1/8	—	± 22
7010	AFRT 10	200K!!	1/4	1/8	± 22
7011		150	1/4	—	± 22
7020	AFRT 11	500K!!	1/2	1/4	± 22
7030	AFRT 12	750K!!	1/2	1/3	# 20
7040	AFRT 13	1.5 Meg.	1.0	3/4	# 20
7051		1.0 Meg.	1/2	—	# 20
7050	RB 52	2.0 Meg.	1.0	1.0	# 20
	AFRT 14				
7060	AFRT 15	3.5 Meg.	2.0	2.0	# 20

Prices on Axial Lead Precision Resistors Quoted on Request

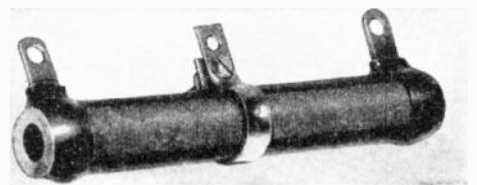


PRECISION WIRE-WOUND RESISTORS

RADIAL LUG PRECISION RESISTORS

RCL Type	Military Specs. Mil-R-93 & Mil-R-9444	Maximum * Resistance Value	Commercial † Wattage Rating	Military ‡ Wattage Rating	Mounting Hole Dia.
6010	RB09	600K!!	1/4	—	.144
6020	RB15	1.0 Meg.	1/2	1/4	.144
6030	RB16	1.5 Meg.	1/2	1/3	.144
6040	RB17	3.0 Meg.	1.0	1/2	.144
6041	RB17	1.5 Meg.	1.0	1/2	.144
6050	RB18	5.0 Meg.	1.0	1/2	.144
6060	RB19	10 Meg.	2.0	1	.144

Prices on Radial Lead Precision Resistors Quoted on Request



POWER WIRE-WOUND RESISTORS

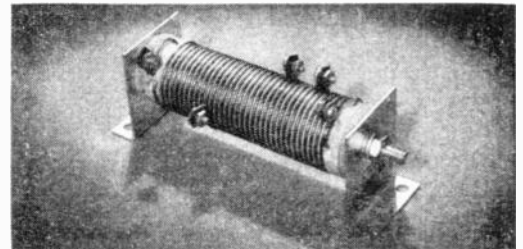
FIXED AND ADJUSTABLE POWER RESISTORS

Standard Band Widths 3/16" and 1/4"

RCL TYPE Fixed	Adj.	Mil-R-26 Type	Maximum Resistance	Wattage Rating	LIST PRICE Fixed	Adj.
2010	2011	RW 30	2,500!!	5	\$.65	\$.72
2020	2021	RW 29	10,000!!	10	.81	.89
2030	2031	RW 32	25,000!!	20	.87	.96
2040	2041		25,000!!	25	.93	1.02
2050	2051		50,000!!	50	2.32	2.55
2060	2061	RW 36	100,000!!	75	3.90	4.29
2070	2071		100,000!!	100	3.42	3.76
2080	2081		125,000!!	150	3.83	4.21
2090	2091	RW 47	150,000!!	200	4.08	4.49

NOTES:

- * Maximum resistance value is based on .0009" E alloy wire.
- † Commercial wattage rating is based on a 40°C. ambient.
- ‡ Military wattage rating is based on ambient specified in the applicable specification.



ADJUSTABLE POWER RESISTORS

ORDERING INFORMATION

When ordering R.C.L. precision wire-wound resistors, please specify the following: Quantity, R.C.L. style and or Military Specification style; resistance value in absolute ohms (1 absolute ohm equals 0.9995 International ohm); resistance tolerance, temperature coefficient; and specific requirements that may apply to your particular application.

SPRAGUE RESISTORS

INDUSTRIAL TAB-TERMINAL BLUE JACKET® WIREWOUND RESISTORS, continued

TAB WITH RADIAL WIRE LEADS				WITH TAB TERMINALS ONLY									
Ohms	5 Watts	10 Watts	20 Watts	5 Watts	10 Watts	20 Watts	35 Watts	50 Watts	100 Watts	160 Watts	200 Watts	Ohms	
	D x L 5/8 x 1	D x L 5/8 x 1 3/4	D x L 5/8 x 2	D x L 5/8 x 1	D x L 5/8 x 1 3/4	D x L 5/8 x 2	D x L 3/4 x 3	D x L 3/4 x 4 1/2	D x L 1/8 x 6 1/2	D x L 1 1/8 x 8 1/2	D x L 1 1/8 x 10 1/2		
5000	97E5025	98E5025	99E5025	57E5025	10E5025	58E5025	15E5025	22E5025	24E5025	25E5025	26E5025	5000	
6000	97E6025	98E6025	99E6025	57E6025	10E6025	58E6025	15E6025	22E6025	—	—	—	6000	
6500	—	98E6525	—	—	10E6525	—	—	—	—	—	—	6500	
7000	97E7025	98E7025	99E7025	57E7025	10E7025	58E7025	—	—	—	—	—	7000	
7500	97E7525	98E7525	99E7525	57E7525	10E7525	58E7525	15E7525	22E7525	24E7525	25E7525	26E7525	7500	
8000	97E8025	98E8025	99E8025	57E8025	10E8025	58E8025	—	—	22E8025	—	—	8000	
8500	—	98E8525	—	—	10E8525	—	15E8525	—	—	—	—	8500	
9000	—	98E9025	—	—	10E9025	—	—	—	—	—	—	9000	
9500	—	98E9525	—	—	10E9525	—	—	—	—	—	—	9500	
10000	—	98E1035	99E1035	—	10E1035	58E1035	15E1035	22E1035	24E1035	25E1035	26E1035	10000	
11000	—	98E1135	—	—	10E1135	—	—	—	—	—	—	11000	
12000	—	98E1235	99E1235	—	10E1235	58E1235	15E1235	22E1235	—	—	—	12000	
14000	—	—	—	—	—	—	—	22E1435	—	—	—	14000	
15000	—	98E1535	99E1535	—	10E1535	58E1535	15E1535	22E1535	24E1535	25E1535	26E1535	15000	
16000	—	98E1635	—	—	10E1635	—	—	—	—	—	—	16000	
18000	—	98E1835	—	—	10E1835	—	—	—	—	—	—	18000	
20000	—	98E2035	99E2035	—	10E2035	58E2035	15E2035	22E2035	24E2035	25E2035	26E2035	20000	
22000	—	98E2235	—	—	10E2235	—	—	—	—	—	—	22000	
25000	—	98E2535	99E2535	—	10E2535	58E2535	15E2535	22E2535	24E2535	25E2535	26E2535	25000	
30000	—	98E3035	99E3035	—	10E3035	58E3035	15E3035	22E3035	24E3035	25E3035	26E3035	30000	
35000	—	—	99E3535	—	—	58E3535	15E3535	22E3535	24E3535	25E3535	26E3535	35000	
40000	—	—	99E4035	—	—	58E4035	15E4035	22E4035	24E4035	25E4035	26E4035	40000	
45000	—	—	99E4535	—	—	58E4535	—	22E4535	—	—	—	45000	
50000	—	—	—	—	—	—	15E5035	22E5035	24E5035	25E5035	26E5035	50000	
60000	—	—	—	—	—	—	15E6035	—	24E6035	25E6035	26E6035	60000	
65000	—	—	—	—	—	—	—	22E6535	—	—	—	65000	
70000	—	—	—	—	—	—	15E7035	—	24E7035	—	—	70000	
75000	—	—	—	—	—	—	15E7535	22E7535	24E7535	25E7535	26E7535	75000	
80000	—	—	—	—	—	—	—	—	—	25E8035	—	80000	
90000	—	—	—	—	—	—	—	22E9035	—	—	—	90000	
100000	—	—	—	—	—	—	—	—	24E1045	25E1045	26E1045	100000	

MIL-R-26C TAB-TERMINAL BLUE JACKET® WIREWOUND RESISTORS

Ohms	11 Watts	11 Watts	14 Watts	17 Watts	26 Watts	55 Watts	78 Watts	113 Watts	159 Watts	210 Watts
	D x L 1/2 x 1 3/4	D x L 1 1/2 x 1	D x L 1 3/2 x 1 1/2	D x L 1 5/2 x 2	D x L 1 5/2 x 3	D x L 2 5/2 x 4	D x L 1 3/4 x 4	D x L 1 3/4 x 6	D x L 1 3/4 x 8	D x L 1 3/4 x 10 1/2
1.0	RW29V1R0	RW30V1R0	RW31V1R0	RW32V1R0	RW33V1R0	RW35V1R0	RW36V1R0	RW37V1R0	RW38V1R0	RW47V1R0
1.1	RW29V1R1	RW30V1R1	RW31V1R1	RW32V1R1	RW33V1R1	RW35V1R1	RW36V1R1	RW37V1R1	RW38V1R1	RW47V1R1
1.2	RW29V1R2	RW30V1R2	RW31V1R2	RW32V1R2	RW33V1R2	RW35V1R2	RW36V1R2	RW37V1R2	RW38V1R2	RW47V1R2
1.4	RW29V1R4	RW30V1R4	RW31V1R4	RW32V1R4	RW33V1R4	RW35V1R4	RW36V1R4	RW37V1R4	RW38V1R4	RW47V1R4
1.6	RW29V1R6	RW30V1R6	RW31V1R6	RW32V1R6	RW33V1R6	RW35V1R6	RW36V1R6	RW37V1R6	RW38V1R6	RW47V1R6
1.8	RW29V1R8	RW30V1R8	RW31V1R8	RW32V1R8	RW33V1R8	RW35V1R8	RW36V1R8	RW37V1R8	RW38V1R8	RW47V1R8
2.0	RW29V2R0	RW30V2R0	RW31V2R0	RW32V2R0	RW33V2R0	RW35V2R0	RW36V2R0	RW37V2R0	RW38V2R0	RW47V2R0
2.2	RW29V2R2	RW30V2R2	RW31V2R2	RW32V2R2	RW33V2R2	RW35V2R2	RW36V2R2	RW37V2R2	RW38V2R2	RW47V2R2
2.5	RW29V2R5	RW30V2R5	RW31V2R5	RW32V2R5	RW33V2R5	RW35V2R5	RW36V2R5	RW37V2R5	RW38V2R5	RW47V2R5
2.8	RW29V2R8	RW30V2R8	RW31V2R8	RW32V2R8	RW33V2R8	RW35V2R8	RW36V2R8	RW37V2R8	RW38V2R8	RW47V2R8
3.1	RW29V3R1	RW30V3R1	RW31V3R1	RW32V3R1	RW33V3R1	RW35V3R1	RW36V3R1	RW37V3R1	RW38V3R1	RW47V3R1
3.5	RW29V3R5	RW30V3R5	RW31V3R5	RW32V3R5	RW33V3R5	RW35V3R5	RW36V3R5	RW37V3R5	RW38V3R5	RW47V3R5
4.0	RW29V4R0	RW30V4R0	RW31V4R0	RW32V4R0	RW33V4R0	RW35V4R0	RW36V4R0	RW37V4R0	RW38V4R0	RW47V4R0
4.5	RW29V4R5	RW30V4R5	RW31V4R5	RW32V4R5	RW33V4R5	RW35V4R5	RW36V4R5	RW37V4R5	RW38V4R5	RW47V4R5
5.0	RW29V5R0	RW30V5R0	RW31V5R0	RW32V5R0	RW33V5R0	RW35V5R0	RW36V5R0	RW37V5R0	RW38V5R0	RW47V5R0
5.6	RW29V5R6	RW30V5R6	RW31V5R6	RW32V5R6	RW33V5R6	RW35V5R6	RW36V5R6	RW37V5R6	RW38V5R6	RW47V5R6
6.3	RW29V6R3	RW30V6R3	RW31V6R3	RW32V6R3	RW33V6R3	RW35V6R3	RW36V6R3	RW37V6R3	RW38V6R3	RW47V6R3
7.1	RW29V7R1	RW30V7R1	RW31V7R1	RW32V7R1	RW33V7R1	RW35V7R1	RW36V7R1	RW37V7R1	RW38V7R1	RW47V7R1
8.0	RW29V8R0	RW30V8R0	RW31V8R0	RW32V8R0	RW33V8R0	RW35V8R0	RW36V8R0	RW37V8R0	RW38V8R0	RW47V8R0
9.0	RW29V9R0	RW30V9R0	RW31V9R0	RW32V9R0	RW33V9R0	RW35V9R0	RW36V9R0	RW37V9R0	RW38V9R0	RW47V9R0
10	RW29V100	RW30V100	RW31V100	RW32V100	RW33V100	RW35V100	RW36V100	RW37V100	RW38V100	RW47V100
11	RW29V110	RW30V110	RW31V110	RW32V110	RW33V110	RW35V110	RW36V110	RW37V110	RW38V110	RW47V110
12	RW29V120	RW30V120	RW31V120	RW32V120	RW33V120	RW35V120	RW36V120	RW37V120	RW38V120	RW47V120
14	RW29V140	RW30V140	RW31V140	RW32V140	RW33V140	RW35V140	RW36V140	RW37V140	RW38V140	RW47V140
16	RW29V160	RW30V160	RW31V160	RW32V160	RW33V160	RW35V160	RW36V160	RW37V160	RW38V160	RW47V160
18	RW29V180	RW30V180	RW31V180	RW32V180	RW33V180	RW35V180	RW36V180	RW37V180	RW38V180	RW47V180
20	RW29V200	RW30V200	RW31V200	RW32V200	RW33V200	RW35V200	RW36V200	RW37V200	RW38V200	RW47V200
22	RW29V220	RW30V220	RW31V220	RW32V220	RW33V220	RW35V220	RW36V220	RW37V220	RW38V220	RW47V220
25	RW29V250	RW30V250	RW31V250	RW32V250	RW33V250	RW35V250	RW36V250	RW37V250	RW38V250	RW47V250
28	RW29V280	RW30V280	RW31V280	RW32V280	RW33V280	RW35V280	RW36V280	RW37V280	RW38V280	RW47V280
31	RW29V310	RW30V310	RW31V310	RW32V310	RW33V310	RW35V310	RW36V310	RW37V310	RW38V310	RW47V310
35	RW29V350	RW30V350	RW31V350	RW32V350	RW33V350	RW35V350	RW36V350	RW37V350	RW38V350	RW47V350
40	RW29V400	RW30V400	RW31V400	RW32V400	RW33V400	RW35V400	RW36V400	RW37V400	RW38V400	RW47V400
45	RW29V450	RW30V450	RW31V450	RW32V450	RW33V450	RW35V450	RW36V450	RW37V450	RW38V450	RW47V450
50	RW29V500	RW30V500	RW31V500	RW32V500	RW33V500	RW35V500	RW36V500	RW37V500	RW38V500	RW47V500
56	RW29V560	RW30V560	RW31V560	RW32V560	RW33V560	RW35V560	RW36V560	RW37V560	RW38V560	RW47V560
63	RW29V630	RW30V630	RW31V630	RW32V630	RW33V630	RW35V630	RW36V630	RW37V630	RW38V630	RW47V630
71	RW29V710	RW30V710	RW31V710	RW32V710	RW33V710	RW35V710	RW36V710	RW37V710	RW38V710	RW47V710
80	RW29V800	RW30V800	RW31V800	RW32V800	RW33V800	RW35V800	RW36V800	RW37V800	RW38V800	RW47V800
90	RW29V900	RW30V900	RW31V900	RW32V900	RW33V900	RW35V900	RW36V900	RW37V900	RW38V900	RW47V900

SPRAGUE RESISTORS

MIL-R-26C TAB-TERMINAL BLUE JACKET[®] RESISTORS, continued

Ohms	11 Watts	11 Watts	14 Watts	17 Watts	26 Watts	55 Watts	78 Watts	113 Watts	159 Watts	210 Watts
	D x L 1/2 x 1 3/4	D x L 1 1/2 x 1	D x L 1 1/2 x 1 1/2	D x L 1 1/2 x 2	D x L 1 1/2 x 3	D x L 2 1/2 x 4	D x L 1 3/4 x 4	D x L 1 3/4 x 6	D x L 1 3/4 x 8	D x L 1 3/4 x 10 1/2
100	RW29V101	RW30V101	RW31V101	RW32V101	RW33V101	RW35V101	RW36V101	RW37V101	RW38V101	RW47V101
110	RW29V111	RW30V111	RW31V111	RW32V111	RW33V111	RW35V111	RW36V111	RW37V111	RW38V111	RW47V111
120	RW29V121	RW30V121	RW31V121	RW32V121	RW33V121	RW35V121	RW36V121	RW37V121	RW38V121	RW47V121
140	RW29V141	RW30V141	RW31V141	RW32V141	RW33V141	RW35V141	RW36V141	RW37V141	RW38V141	RW47V141
160	RW29V161	RW30V161	RW31V161	RW32V161	RW33V161	RW35V161	RW36V161	RW37V161	RW38V161	RW47V161
180	RW29V181	RW30V181	RW31V181	RW32V181	RW33V181	RW35V181	RW36V181	RW37V181	RW38V181	RW47V181
200	RW29V201	RW30V201	RW31V201	RW32V201	RW33V201	RW35V201	RW36V201	RW37V201	RW38V201	RW47V201
220	RW29V221	RW30V221	RW31V221	RW32V221	RW33V221	RW35V221	RW36V221	RW37V221	RW38V221	RW47V221
250	RW29V251	RW30V251	RW31V251	RW32V251	RW33V251	RW35V251	RW36V251	RW37V251	RW38V251	RW47V251
280	RW29V281	RW30V281	RW31V281	RW32V281	RW33V281	RW35V281	RW36V281	RW37V281	RW38V281	RW47V281
310	RW29V311	RW30V311	RW31V311	RW32V311	RW33V311	RW35V311	RW36V311	RW37V311	RW38V311	RW47V311
350	RW29V351	RW30V351	RW31V351	RW32V351	RW33V351	RW35V351	RW36V351	RW37V351	RW38V351	RW47V351
400	RW29V401	RW30V401	RW31V401	RW32V401	RW33V401	RW35V401	RW36V401	RW37V401	RW38V401	RW47V401
450	RW29V451	RW30V451	RW31V451	RW32V451	RW33V451	RW35V451	RW36V451	RW37V451	RW38V451	RW47V451
500	RW29V501	RW30V501	RW31V501	RW32V501	RW33V501	RW35V501	RW36V501	RW37V501	RW38V501	RW47V501
560	RW29V561	RW30V561	RW31V561	RW32V561	RW33V561	RW35V561	RW36V561	RW37V561	RW38V561	RW47V561
630	RW29V631	RW30V631	RW31V631	RW32V631	RW33V631	RW35V631	RW36V631	RW37V631	RW38V631	RW47V631
710	RW29V711	RW30V711	RW31V711	RW32V711	RW33V711	RW35V711	RW36V711	RW37V711	RW38V711	RW47V711
800	RW29V801	RW30V801	RW31V801	RW32V801	RW33V801	RW35V801	RW36V801	RW37V801	RW38V801	RW47V801
900	RW29V901	RW30V901	RW31V901	RW32V901	RW33V901	RW35V901	RW36V901	RW37V901	RW38V901	RW47V901
1000	RW29V102	RW30V102	RW31V102	RW32V102	RW33V102	RW35V102	RW36V102	RW37V102	RW38V102	RW47V102
1100	RW29V112	RW30V112	RW31V112	RW32V112	RW33V112	RW35V112	RW36V112	RW37V112	RW38V112	RW47V112
1200	RW29V122	RW30V122	RW31V122	RW32V122	RW33V122	RW35V122	RW36V122	RW37V122	RW38V122	RW47V122
1400	RW29V142	RW30V142	RW31V142	RW32V142	RW33V142	RW35V142	RW36V142	RW37V142	RW38V142	RW47V142
1600	RW29V162	RW30V162	RW31V162	RW32V162	RW33V162	RW35V162	RW36V162	RW37V162	RW38V162	RW47V162
1800	RW29V182	RW30V182	RW31V182	RW32V182	RW33V182	RW35V182	RW36V182	RW37V182	RW38V182	RW47V182
2000	RW29V202	RW30V202	RW31V202	RW32V202	RW33V202	RW35V202	RW36V202	RW37V202	RW38V202	RW47V202
2200	RW29V222	RW30V222	RW31V222	RW32V222	RW33V222	RW35V222	RW36V222	RW37V222	RW38V222	RW47V222
2500	RW29V252	RW30V252	RW31V252	RW32V252	RW33V252	RW35V252	RW36V252	RW37V252	RW38V252	RW47V252
2800	RW29V282	_____	RW31V282	RW32V282	RW33V282	RW35V282	RW36V282	RW37V282	RW38V282	RW47V282
3100	RW29V312	_____	RW31V312	RW32V312	RW33V312	RW35V312	RW36V312	RW37V312	RW38V312	RW47V312
3500	RW29V352	_____	RW31V352	RW32V352	RW33V352	RW35V352	RW36V352	RW37V352	RW38V352	RW47V352
4000	RW29V402	_____	RW31V402	RW32V402	RW33V402	RW35V402	RW36V402	RW37V402	RW38V402	RW47V402
4500	RW29V452	_____	RW31V452	RW32V452	RW33V452	RW35V452	RW36V452	RW37V452	RW38V452	RW47V452
5000	RW29V502	_____	RW31V502	RW32V502	RW33V502	RW35V502	RW36V502	RW37V502	RW38V502	RW47V502
5600	RW29V562	_____	RW31V562	RW32V562	RW33V562	RW35V562	RW36V562	RW37V562	RW38V562	RW47V562
6300	_____	_____	RW31V632	RW32V632	RW33V632	RW35V632	RW36V632	RW37V632	RW38V632	RW47V632
7100	_____	_____	_____	RW32V712	RW33V712	RW35V712	RW36V712	RW37V712	RW38V712	RW47V712
8000	_____	_____	_____	RW32V802	RW33V802	RW35V802	RW36V802	RW37V802	RW38V802	RW47V802
9000	_____	_____	_____	RW32V902	RW33V902	RW35V902	RW36V902	RW37V902	RW38V902	RW47V902
10000	_____	_____	_____	RW32V103	RW33V103	RW35V103	RW36V103	RW37V103	RW38V103	RW47V103
11000	_____	_____	_____	_____	RW33V113	RW35V113	RW36V113	RW37V113	RW38V113	RW47V113
12000	_____	_____	_____	_____	RW33V123	RW35V123	RW36V123	RW37V123	RW38V123	RW47V123
14000	_____	_____	_____	_____	RW33V143	RW35V143	RW36V143	RW37V143	RW38V143	RW47V143
16000	_____	_____	_____	_____	RW33V163	RW35V163	RW36V163	RW37V163	RW38V163	RW47V163
18000	_____	_____	_____	_____	_____	RW35V183	RW36V183	RW37V183	RW38V183	RW47V183
20000	_____	_____	_____	_____	_____	RW35V203	RW36V203	RW37V203	RW38V203	RW47V203
22000	_____	_____	_____	_____	_____	RW35V223	RW36V223	RW37V223	RW38V223	RW47V223
25000	_____	_____	_____	_____	_____	RW35V253	RW36V253	RW37V253	RW38V253	RW47V253
28000	_____	_____	_____	_____	_____	RW35V283	RW36V283	RW37V283	RW38V283	RW47V283
31000	_____	_____	_____	_____	_____	RW35V313	RW36V313	RW37V313	RW38V313	RW47V313
35000	_____	_____	_____	_____	_____	RW35V353	RW36V353	RW37V353	RW38V353	RW47V353
40000	_____	_____	_____	_____	_____	RW35V403	RW36V403	RW37V403	RW38V403	RW47V403
45000	_____	_____	_____	_____	_____	_____	RW36V453	RW37V453	RW38V453	RW47V453
50000	_____	_____	_____	_____	_____	_____	RW36V503	RW37V503	RW38V503	RW47V503
56000	_____	_____	_____	_____	_____	_____	RW36V563	RW37V563	RW38V563	RW47V563
63000*	_____	_____	_____	_____	_____	_____	_____	RW37V633	RW38V633	RW47V633
71000	_____	_____	_____	_____	_____	_____	_____	RW37V713	RW38V713	RW47V713
80000	_____	_____	_____	_____	_____	_____	_____	RW37V803	RW38V803	RW47V803
90000*	_____	_____	_____	_____	_____	_____	_____	RW37V903	RW38V903	RW47V903
100000	_____	_____	_____	_____	_____	_____	_____	_____	RW38V104	RW47V104
110000	_____	_____	_____	_____	_____	_____	_____	_____	RW38V114	RW47V114
120000	_____	_____	_____	_____	_____	_____	_____	_____	RW38V124	RW47V124
140000	_____	_____	_____	_____	_____	_____	_____	_____	RW38V144	RW47V144
160000	_____	_____	_____	_____	_____	_____	_____	_____	_____	RW47V164
180000	_____	_____	_____	_____	_____	_____	_____	_____	_____	RW47V184

MOUNTING HARDWARE FOR TAB TERMINAL BLUE JACKET[®] RESISTORS

Order Mounting Hardware with Resistors as Required.

Specify Quantity, Resistor, Catalog Number, and Style of Mounting. Hardware not available separately.

THROUGH-BOLT VERTICAL TYPE MOUNTING HARDWARE

Available for sizes up through 50 watts:

Style G—2 Metal flat or centering Washers, Bolt, Nut and Lockwasher

Style H—Style G Hardware plus 2 Mica Washers

Style J—Style G Hardware plus 2 Ceramic Washers

THROUGH-BOLT HORIZONTAL TYPE MOUNTING HARDWARE

Available for all ratings:

Style D—2 Mounting Brackets, 2 Metal Centering Washers (when required), Bolt, Nut and Lockwasher

Style E—Style D Hardware plus 2 Mica Washers

Style F—Style D Hardware plus 2 Ceramic Washers

SPRAGUE RESISTORS

IMPROVED INDUSTRIAL AXIAL-LEAD KOOLOHM® WIREWOUND RESISTORS



- New Smaller Size Koolohm® Insulated-Shell Resistors
- New Smaller Size, Insulated-Shell Design for Severe Duty Cycles Encountered in Heavy-Duty Industrial Electric Equipment
- Windings and Leads are Welded to End-Cap for Superior Mechanical Strength
- Ceramic Insulated Wire is Space Wound and Cemented to Prevent Turn-to-Turn Shorting
- Non-Porous Tubular Ceramic Shells Sealed with High-Temperature Silicone Cement Provides Unexcelled Insulation and Mechanical Protection
- Available in Standard or Non-Inductive Types

STANDARD TYPES

NON-INDUCTIVE TYPES

Ohms	STANDARD TYPES					NON-INDUCTIVE TYPES					Ohms
	3 Watts D x L ¼ x ¾	5 Watts D x L ¼ x 1	7 Watts D x L ½ x 1 ¼	10 Watts D x L ½ x 1 ½	14 Watts D x L ¾ x 1 ¾	3 Watts D x L ¼ x ¾	5 Watts D x L ¼ x 1	7 Watts D x L ½ x 1 ¼	10 Watts D x L ½ x 1 ½	14 Watts D x L ¾ x 1 ¾	
1	450E1R05	452E1R05	454E1R05	456E1R05	458E1R05	451E1R05	453E1R05	455E1R05	457E1R05	459E1R05	1
1.5	450E1R55	452E1R55	454E1R55	456E1R55	458E1R55	451E1R55	453E1R55	455E1R55	457E1R55	459E1R55	1.5
2	450E2R05	452E2R05	454E2R05	456E2R05	458E2R05	451E2R05	453E2R05	455E2R05	457E2R05	459E2R05	2
3	450E3R05	452E3R05	454E3R05	456E3R05	458E3R05	451E3R05	453E3R05	455E3R05	457E3R05	459E3R05	3
4	450E4R05	452E4R05	454E4R05	456E4R05	458E4R05	451E4R05	453E4R05	455E4R05	457E4R05	459E4R05	4
5	450E5R05	452E5R05	454E5R05	456E5R05	458E5R05	451E5R05	453E5R05	455E5R05	457E5R05	459E5R05	5
7.5	450E7R55	452E7R55	454E7R55	456E7R55	458E7R55	451E7R55	453E7R55	455E7R55	457E7R55	459E7R55	7.5
10	450E1005	452E1005	454E1005	456E1005	458E1005	451E1005	453E1005	455E1005	457E1005	459E1005	10
12	450E1205	452E1205	454E1205	456E1205	458E1205	451E1205	453E1205	455E1205	457E1205	459E1205	12
15	450E1505	452E1505	454E1505	456E1505	458E1505	451E1505	453E1505	455E1505	457E1505	459E1505	15
18	450E1805	—	—	—	—	451E1805	—	—	—	—	18
20	450E2005	452E2005	454E2005	456E2005	458E2005	451E2005	453E2005	455E2005	457E2005	459E2005	20
22	450E2205	—	—	—	—	451E2205	—	—	—	—	22
25	450E2505	452E2505	454E2505	456E2505	458E2505	451E2505	453E2505	455E2505	457E2505	459E2505	25
27	450E2705	—	—	—	—	451E2705	—	—	—	—	27
30	450E3005	452E3005	454E3005	456E3005	458E3005	451E3005	453E3005	455E3005	457E3005	459E3005	30
33	450E3305	—	—	—	—	451E3305	—	—	—	—	33
35	—	452E3505	454E3505	456E3505	458E3505	—	452E3505	455E3505	457E3505	459E3505	35
39	450E3905	—	—	—	—	451E3905	—	—	—	—	39
40	450E4005	452E4005	454E4005	456E4005	458E4005	451E4005	453E4005	455E4005	457E4005	459E4005	40
47	450E4705	—	—	—	—	451E4705	—	—	—	—	47
50	450E5005	452E5005	454E5005	456E5005	458E5005	451E5005	453E5005	455E5005	457E5005	459E5005	50
56	450E5605	—	—	—	—	451E5605	—	—	—	—	56
68	450E6805	—	—	—	—	451E6805	—	—	—	—	68
75	450E7505	452E7505	454E7505	456E7505	458E7505	451E7505	453E7505	455E7505	457E7505	459E7505	75
82	450E8205	—	—	—	—	451E8205	—	—	—	—	82
100	450E1015	452E1015	454E1015	456E1015	458E1015	451E1015	453E1015	455E1015	457E1015	459E1015	100
120	450E1215	452E1215	454E1215	456E1215	458E1215	451E1215	453E1215	455E1215	457E1215	459E1215	120
150	450E1515	452E1515	454E1515	456E1515	458E1515	451E1515	453E1515	455E1515	457E1515	459E1515	150
180	450E1815	—	—	—	—	451E1815	—	—	—	—	180
200	450E2015	452E2015	454E2015	456E2015	458E2015	451E2015	453E2015	455E2015	457E2015	459E2015	200
220	450E2215	452E2215	454E2215	456E2215	458E2215	451E2215	453E2215	455E2215	457E2215	459E2215	220
250	450E2515	452E2515	454E2515	456E2515	458E2515	451E2515	453E2515	455E2515	457E2515	459E2515	250
270	450E2715	—	—	—	—	451E2715	—	—	—	—	270
300	450E3015	452E3015	454E3015	456E3015	458E3015	451E3015	453E3015	455E3015	457E3015	459E3015	300
330	450E3315	—	—	—	—	451E3315	—	—	—	—	330
350	—	452E3515	454E3515	456E3515	458E3515	—	452E3515	455E3515	457E3515	459E3515	350
390	450E3915	—	—	—	—	451E3915	—	—	—	—	390
400	450E4015	452E4015	454E4015	456E4015	458E4015	451E4015	453E4015	455E4015	457E4015	459E4015	400
450	—	452E4515	—	—	—	—	452E4515	—	—	—	450
470	450E4715	—	—	—	—	451E4715	—	—	—	—	470
500	450E5015	452E5015	454E5015	456E5015	458E5015	451E5015	453E5015	455E5015	457E5015	459E5015	500
560	450E5615	—	—	—	—	451E5615	—	—	—	—	560
600	450E6015	452E6015	454E6015	456E6015	458E6015	451E6015	453E6015	455E6015	457E6015	459E6015	600
680	450E6815	—	—	—	—	451E6815	—	—	—	—	680
700	450E7015	452E7015	454E7015	456E7015	458E7015	451E7015	453E7015	455E7015	457E7015	459E7015	700
750	450E7515	452E7515	454E7515	456E7515	458E7515	451E7515	453E7515	455E7515	457E7515	459E7515	750
800	450E8015	452E8015	454E8015	456E8015	458E8015	451E8015	453E8015	455E8015	457E8015	459E8015	800
820	450E8215	—	—	—	—	451E8215	—	—	—	—	820
900	450E9015	452E9015	454E9015	456E9015	458E9015	451E9015	453E9015	455E9015	457E9015	459E9015	900
1000	450E1025	452E1025	454E1025	456E1025	458E1025	451E1025	453E1025	455E1025	457E1025	459E1025	1000
1100	450E1125	452E1125	454E1125	456E1125	458E1125	451E1125	453E1125	455E1125	457E1125	459E1125	1100
1200	450E1225	452E1225	454E1225	456E1225	458E1225	451E1225	453E1225	455E1225	457E1225	459E1225	1200
1400	450E1425	452E1425	454E1425	456E1425	458E1425	451E1425	453E1425	455E1425	457E1425	459E1425	1400
1500	450E1525	452E1525	454E1525	456E1525	458E1525	451E1525	453E1525	455E1525	457E1525	459E1525	1500
1800	450E1825	452E1825	454E1825	456E1825	458E1825	451E1825	453E1825	455E1825	457E1825	459E1825	1800
2000	450E2025	452E2025	454E2025	456E2025	458E2025	451E2025	453E2025	455E2025	457E2025	459E2025	2000
2200	450E2225	452E2225	454E2225	456E2225	458E2225	451E2225	453E2225	455E2225	457E2225	459E2225	2200
2500	450E2525	452E2525	454E2525	456E2525	458E2525	451E2525	453E2525	455E2525	457E2525	459E2525	2500
2700	450E2725	—	—	—	—	451E2725	—	—	—	—	2700
3000	450E3025	452E3025	454E3025	456E3025	458E3025	453E3025	455E3025	457E3025	459E3025	459E3025	3000
3300	450E3325	—	454E3325	456E3325	458E3325	—	455E3325	457E3325	459E3325	459E3325	3300
3500	—	452E3525	454E3525	456E3525	458E3525	—	455E3525	457E3525	459E3525	459E3525	3500
3900	450E3925	—	—	—	—	—	455E3925	457E3925	459E3925	459E3925	3900
4000	450E4025	452E4025	454E4025	456E4025	458E4025	453E4025	455E4025	457E4025	459E4025	459E4025	4000
4500	—	452E4525	454E4525	456E4525	458E4525	—	455E4525	457E4525	459E4525	459E4525	4500
4700	450E4725	—	—	—	—	—	—	—	—	—	4700

SPRAGUE RESISTORS

INDUSTRIAL AXIAL-LEAD KOOLOHM[®] WIREWOUND RESISTORS, continued

Ohms	STANDARD TYPES cont.					NON-INDUCTIVE TYPES cont.					Ohms
	3 Watts	5 Watts	7 Watts	10 Watts	14 Watts	3 Watts	5 Watts	7 Watts	10 Watts	14 Watts	
	D x L 1/4 x 1/8	D x L 1/4 x 1	D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 1 7/32	D x L 1 3/32 x 1 7/32	D x L 1/4 x 1/8	D x L 1/4 x 1	D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 1 7/32	D x L 1 3/32 x 1 7/32	
5000	450E5025	452E5025	454E5025	456E5025	458E5025			455E5025	457E5025	459E5025	5000
5600	450E5625										5600
6000	450E6025	542E6025	454E6025	456E6025	458E5025				457E6025	459E6025	6000
6800	450E6825										6800
7000		452E7025	454E7025	456E7025	458E7025				457E7025	459E7025	7000
7500	450E7525	452E7525	454E7525	456E7525	458E7525				457E7525	459E7525	7500
8000	450E8025	452E8025	454E8025	456E8025	458E8025				457E8025	459E8025	8000
8200	450E8225										8200
9000	450E9025	452E9025	454E9025	456E9025	458E9025				457E9025	459E9025	9000
10000	450E1035	452E1035	454E1035	456E1035	458E1035				457E1035	459E1035	10000
11000			454E1135	456E1135	458E1135						11000
12000		452E1235	454E1235	456E1235	458E1235						12000
14000		452E1435	454E1435	456E1435	458E1435						14000
15000		452E1535	454E1535	456E1535	458E1535						15000
16000			454E1635	456E1635	458E1635						16000
18000		452E1835	454E1835	456E1835	458E1835						18000
20000		452E2035	454E2035	456E2035	458E2035						20000
22000			454E2235	456E2235							22000
25000			454E2535	456E2535							25000
30000			454E3035	456E3035							30000
35000			454E3535	456E3535							35000
40000			454E4035	456E4035							40000
45000				456E4535							45000
50000				456E5035							50000
60000				456E6035							60000
70000				456E7035							70000

MIL-R-26C CHARACTERISTIC V AXIAL-LEAD KOOLOHM[®] RESISTORS

Ohms	7 Watts		14 Watts		Ohms	7 Watts		14 Watts		Ohms	7 Watts		14 Watts	
	D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 2	D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 2		D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 2	D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 2		D x L 1 3/32 x 1 3/8	D x L 1 3/32 x 2		
1.0	RW55V1R0	RW56V1R0	11	RW55V110	RW56V110	140	RW55V141	RW56V141	1600	RW55V162	RW56V162			
1.1	RW55V1R1	RW56V1R1	12	RW55V120	RW56V120	160	RW55V161	RW56V161	1800	RW55V182	RW56V182			
1.2	RW55V1R2	RW56V1R2	14	RW55V140	RW56V140	200	RW55V201	RW56V201	2000	RW55V202	RW56V202			
1.4	RW55V1R4	RW56V1R4	16	RW55V160	RW56V160	220	RW55V221	RW56V221	2200	RW55V222	RW56V222			
1.6	RW55V1R6	RW56V1R6	18	RW55V180	RW56V180	250	RW55V251	RW56V251	2500	RW55V252	RW56V252			
1.8	RW55V1R8	RW56V1R8	20	RW55V200	RW56V200	280	RW55V281	RW56V281	2800	RW55V282	RW56V282			
2.0	RW55V2R0	RW56V2R0	22	RW55V220	RW56V220	310	RW55V311	RW56V311	3100	RW55V312	RW56V312			
2.2	RW55V2R2	RW56V2R2	25	RW55V250	RW56V250	350	RW55V351	RW56V351	3500	RW55V352	RW56V352			
2.5	RW55V2R5	RW56V2R5	28	RW55V280	RW56V280	400	RW55V401	RW56V401	4000	RW55V402	RW56V402			
2.8	RW55V2R8	RW56V2R8	31	RW55V310	RW56V310	450	RW55V451	RW56V451	4500	RW55V452	RW56V452			
3.1	RW55V3R1	RW56V3R1	35	RW55V350	RW56V350	500	RW55V501	RW56V501	5000	RW55V502	RW56V502			
3.5	RW55V3R5	RW56V3R5	40	RW55V400	RW56V400	560	RW55V561	RW56V561	5600	RW55V562	RW56V562			
4.0	RW55V4R0	RW56V4R0	45	RW55V450	RW56V450	630	RW55V631	RW56V631	6300	RW55V632	RW56V632			
4.5	RW55V4R5	RW56V4R5	50	RW55V500	RW56V500	710	RW55V711	RW56V711	7100	RW55V712	RW56V712			
5.0	RW55V5R0	RW56V5R0	56	RW55V560	RW56V560	800	RW55V801	RW56V801	8000	RW55V802	RW56V802			
5.6	RW55V5R6	RW56V5R6	63	RW55V630	RW56V630	900	RW55V901	RW56V901	9000	RW55V902	RW56V902			
6.3	RW55V6R3	RW56V6R3	71	RW55V710	RW56V710	1000	RW55V102	RW56V102	10000		RW56V103			
7.1	RW55V7R1	RW56V7R1	80	RW55V800	RW56V800	1100	RW55V112	RW56V112	11000		RW56V113			
8.0	RW55V8R0	RW56V8R0	90	RW55V900	RW56V900	1200	RW55V122	RW56V122	12000		RW56V123			
9.0	RW55V9R0	RW56V9R0	100	RW55V101	RW56V101	1400	RW55V142	RW56V142	14000		RW56V143			
10	RW55V100	RW56V100	110	RW55V111	RW56V111				16000		RW56V163			
			120	RW55V121	RW56V121									

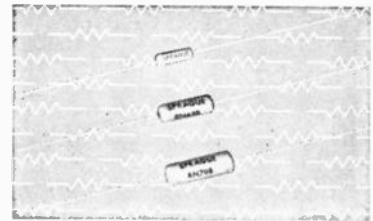
COMMERCIAL TAB-TYPE KOOLOHM[®] WIREWOUND RESISTORS

STANDARD TYPES			STANDARD TYPES cont.			NON-INDUCTIVE TYPES cont.		
Ohms	25 Watts	50 Watts	Ohms	25 Watts	50 Watts	Ohms	25 Watts	50 Watts
	D x L 2 3/32 x 2 7/8	D x L 7/8 x 4		D x L 2 3/32 x 2 7/8	D x L 7/8 x 4		D x L 2 3/32 x 2 7/8	D x L 7/8 x 4	D x L 1 1/16 x 8 3/16
5	25KT5R0	50KT5R0	10000	25KT103	50KT103	500	25NIT501	50NIT501
10	25KT100	50KT100	12000	25KT123	50KT123	600	25NIT601	50NIT601
25	25KT250	50KT250	15000	25KT153	50KT153	750	25NIT751	50NIT751
50	25KT500	50KT500	20000	25KT203	50KT203	1000	25NIT102	50NIT102
75	25KT750	50KT750	25000	25KT253	50KT253	1500	25NIT152	50NIT152
100	25KT101	50KT101	40000	25KT403	50KT403	2000	25NIT202	50NIT202
150	25KT151	50KT151	50000	25KT503	50KT503	2500	25NIT252	50NIT252
200	25KT201	50KT201	75000	25KT753	50KT753	3000	25NIT302	50NIT302
250	25KT251	50KT251	100000	25KT104	50KT104	4000	25NIT402	50NIT402
390						5000	25NIT502	50NIT502
500	25KT501	50KT501	NON-INDUCTIVE TYPES			7500	25NIT752	50NIT752
600	25KT601	50KT601	5	25NIT5R0	50NIT5R0	10000	25NIT103	50NIT103
750	25KT751	50KT751	10	25NIT100	50NIT100	12000	25NIT123	50NIT123
1000	25KT102	50KT102	25	25NIT250	50NIT250	15000	25NIT153	50NIT153
1500	25KT152	50KT152	50	25NIT500	50NIT500	20000	25NIT203	50NIT203
2000	25KT202	50KT202	75	25NIT750	50NIT750	25000	25NIT253	50NIT253
2500	25KT252	50KT252	100	25NIT101	50NIT101	40000	50NIT403	120NIT403
3000	25KT302	50KT302	150	25NIT151	50NIT151	50000	50NIT503	120NIT503
4000	25KT402	50KT402	200	25NIT201	50NIT201	75000		
5000	25KT502	50KT502	250	25NIT251	50NIT251	100000		
7500	25KT752	50KT752	390					

SPRAGUE RESISTORS

FILMISTOR® MOLDED DEPOSITED CARBON RESISTORS

- High Stability Under Toughest Load and Humidity Conditions
- Close Tolerance: ±1% is Standard
- Molded Case for Positive Moisture Protection
- Meet MIL-R-10509C Characteristic B Specifications
- Low-Contact Resistance, Low-Noise End Terminals
- All Sprague Resistors are Furnished with Standard MIL Markings



NOTE: Order by Sprague Type and MIL-Style as shown, Coding Resistance Value as Described Below:

EXAMPLE:

408E	/ RN75	B	158	4	F
Sprague Type	MIL-Style	Characteristic	Significant Figures	No. of Zeros	±1% Tol.

The Above Indicates 1,580,000 Ohms. For Values Below 100 Ohms, the Last Significant Figure is Replaced by R to Represent the Decimal Point and the Last Number then Becomes a Significant Figure. Example: 408E/RN75B17R4F Would Have Value of 17.4Ω

TYPES, SIZES AND ELECTRICAL RATINGS

Sprague	MIL-Type	Watts	Diam.	Length	Min. Ω	Max. Ω	Max. Volt.	Lead AWG
405E	RN60B	1/8	.135 ± .010	.400 ± .010	20	499K	200	No. 22
406E	RN65B	1/4	.200 ± .010	.600 ± .010	10	750K	300	No. 22
407E	RN70B	1/2	.200 ± .010	.750 ± .010	10	1 meg.	350	No. 22
408E	RN75B	1	.375 ± .010 -.020	1 1/4 ± .020	10	1.96 meg.	500	No. 20
409E	RN80B	2	.375 ± .010 -.020	2.220 ± .020	51.1	10 meg.	750	No. 20

STANDARD RESISTANCE VALUES FOR FILMISTOR RESISTORS

Bold Face Type Indicates Items Most Frequently Stocked by Industrial Distributors

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
10.0	32.4	102	324	1.02 K	3.24 K	10.2 K	32.4 K	100 K	316 K	1.00 meg.	3.16 meg.
10.2	33.2	105	332	1.05 K	3.32 K	10.5 K	33.2 K	102 K	324 K	1.02 meg.	3.24 meg.
10.5	34.0	107	340	1.07 K	3.40 K	10.7 K	34.0 K	105 K	332 K	1.05 meg.	3.32 meg.
10.7	34.8	110	348	1.10 K	3.48 K	11.0 K	34.8 K	107 K	340 K	1.07 meg.	3.40 meg.
11.0	35.7	113	357	1.13 K	3.57 K	11.3 K	35.7 K	110 K	348 K	1.10 meg.	3.48 meg.
11.3	36.5	115	365	1.15 K	3.65 K	11.5 K	36.5 K	113 K	357 K	1.13 meg.	3.57 meg.
11.5	37.4	118	374	1.18 K	3.74 K	11.8 K	37.4 K	115 K	365 K	1.15 meg.	3.65 meg.
11.8	38.3	121	383	1.21 K	3.83 K	12.1 K	38.3 K	118 K	374 K	1.18 meg.	3.74 meg.
12.1	39.2	124	392	1.24 K	3.92 K	12.4 K	39.2 K	121 K	383 K	1.21 meg.	3.83 meg.
12.4	40.2	127	402	1.27 K	4.02 K	12.7 K	40.2 K	124 K	392 K	1.24 meg.	3.92 meg.
12.7	41.2	130	412	1.30 K	4.12 K	13.0 K	41.2 K	127 K	402 K	1.27 meg.	4.02 meg.
13.0	42.2	133	422	1.33 K	4.22 K	13.3 K	42.2 K	130 K	412 K	1.30 meg.	4.12 meg.
13.3	43.2	137	432	1.37 K	4.32 K	13.7 K	43.2 K	133 K	422 K	1.33 meg.	4.22 meg.
13.7	44.2	140	442	1.40 K	4.42 K	14.0 K	44.2 K	137 K	432 K	1.37 meg.	4.32 meg.
14.0	45.3	143	453	1.43 K	4.53 K	14.3 K	45.3 K	140 K	442 K	1.40 meg.	4.42 meg.
14.3	46.4	147	464	1.47 K	4.64 K	14.7 K	46.4 K	143 K	453 K	1.43 meg.	4.53 meg.
14.7	47.5	150	475	1.50 K	4.75 K	15.0 K	47.5 K	147 K	464 K	1.47 meg.	4.64 meg.
15.0	48.7	154	487	1.54 K	4.87 K	15.4 K	48.7 K	150 K	475 K	1.50 meg.	4.75 meg.
15.4	49.9	158	499	1.58 K	4.99 K	15.8 K	49.9 K	154 K	487 K	1.54 meg.	4.87 meg.
15.8	51.1	162	511	1.62 K	5.11 K	16.2 K	51.1 K	158 K	499 K	1.58 meg.	4.99 meg.
16.2	52.3	165	523	1.65 K	5.23 K	16.5 K	52.3 K	162 K	511 K	1.62 meg.	5.11 meg.
16.5	53.6	169	536	1.69 K	5.36 K	16.9 K	53.6 K	165 K	523 K	1.65 meg.	5.23 meg.
16.9	54.9	174	549	1.74 K	5.49 K	17.4 K	54.9 K	169 K	536 K	1.69 meg.	5.36 meg.
17.4	56.2	178	562	1.78 K	5.62 K	17.8 K	56.2 K	174 K	549 K	1.74 meg.	5.49 meg.
17.8	57.6	182	576	1.82 K	5.76 K	18.2 K	57.6 K	178 K	562 K	1.78 meg.	5.62 meg.
18.2	59.0	187	590	1.87 K	5.90 K	18.7 K	59.0 K	182 K	576 K	1.82 meg.	5.76 meg.
18.7	60.4	191	604	1.91 K	6.04 K	19.1 K	60.4 K	187 K	590 K	1.87 meg.	5.90 meg.
19.1	61.9	196	619	1.96 K	6.19 K	19.6 K	61.9 K	191 K	604 K	1.91 meg.	6.04 meg.
19.6	63.4	200	634	2.00 K	6.34 K	20.0 K	63.4 K	196 K	619 K	1.96 meg.	6.19 meg.
20.0	64.9	205	649	2.05 K	6.49 K	20.5 K	64.9 K	200 K	634 K	2.00 meg.	6.34 meg.
20.5	66.5	210	665	2.10 K	6.65 K	21.0 K	66.5 K	205 K	649 K	2.05 meg.	6.49 meg.
21.0	68.1	215	681	2.15 K	6.81 K	21.5 K	68.1 K	210 K	665 K	2.10 meg.	6.65 meg.
21.5	69.8	221	698	2.21 K	6.98 K	22.1 K	69.8 K	215 K	681 K	2.15 meg.	6.81 meg.
22.1	71.5	226	715	2.26 K	7.15 K	22.6 K	71.5 K	221 K	698 K	2.21 meg.	6.98 meg.
22.6	73.2	232	732	2.32 K	7.32 K	23.2 K	73.2 K	226 K	715 K	2.26 meg.	7.15 meg.
23.2	75.0	237	750	2.37 K	7.50 K	23.7 K	75.0 K	232 K	732 K	2.32 meg.	7.32 meg.
23.7	76.8	243	768	2.43 K	7.68 K	24.3 K	76.8 K	237 K	750 K	2.37 meg.	7.50 meg.
24.3	78.7	249	787	2.49 K	7.87 K	24.9 K	78.7 K	243 K	768 K	2.43 meg.	7.68 meg.
24.9	80.6	255	806	2.55 K	8.06 K	25.5 K	80.6 K	249 K	787 K	2.49 meg.	7.87 meg.
25.5	82.5	261	825	2.61 K	8.25 K	26.1 K	82.5 K	255 K	806 K	2.55 meg.	8.06 meg.
26.1	84.5	267	845	2.67 K	8.45 K	26.7 K	84.5 K	261 K	825 K	2.61 meg.	8.25 meg.
26.7	86.6	274	866	2.74 K	8.66 K	27.4 K	86.6 K	267 K	845 K	2.67 meg.	8.45 meg.
27.4	88.7	280	887	2.80 K	8.87 K	28.0 K	88.7 K	274 K	866 K	2.74 meg.	8.66 meg.
28.0	90.9	287	909	2.87 K	9.09 K	28.7 K	90.9 K	280 K	887 K	2.80 meg.	8.87 meg.
28.7	93.1	294	931	2.94 K	9.31 K	29.4 K	93.1 K	287 K	909 K	2.87 meg.	9.09 meg.
29.4	95.3	301	953	3.01 K	9.53 K	30.1 K	95.3 K	294 K	931 K	2.94 meg.	9.31 meg.
30.1	97.6	309	976	3.09 K	9.76 K	30.9 K	97.6 K	301 K	953 K	3.01 meg.	9.53 meg.
30.9	100	316	100 K	3.16 K	10.00 K	31.6 K	100 K	309 K	976 K	3.09 meg.	9.76 meg.
											10 meg.

For Applications Requiring the Extra Moisture Protection of Ceramic-Case Filmistors, Substitute the Following Sprague Type Numbers:

Wattage Rating	1/8 W.	1/4 W.	1/2 W.	1 W.	2 W.
Ceramic-Case Filmistor	400E	401E	402E	403E	404E

Sec. 4700



VITREOUS ENAMELED

RESISTORS

- FIXED
- ADJUSTABLE
- TRU-RIB

Our new, modern plant occupies 80,000 square feet devoted to producing the finest power rheostats and wire wound resistors available. If you need a rheostat or resistor, whether it be right from stock or to your specifications, we assure you of courteous service, prompt delivery and quality merchandise.

OHMS	MILLIAMPS	VOLTS	OHMS	MILLIAMPS	VOLTS	OHMS	MILLIAMPS	VOLTS
1	2230	2.2	125	200	25	1250	63	79
1.5	1820	2.7	150	182	27	1500	58	87
2	1580	3.2	200	158	32	1750	53	93
3	1290	3.9	225	149	33	2000	50	100
4	1120	4.5	250	141	35	2250	47	106
5	1000	5.0	300	129	39	2500	45	112
7.5	816	6.1	350	119	42	3000	41	123
10	707	7.1	400	112	45	3500	38	133
12	646	7.8	450	105	47	4000	35	140
15	576	8.6	500	100	50	4500	33	149
20	500	10	600	91	55	5000	32	160
25	447	11	700	84	59	6000	29	171
30	409	12	750	81	61	7000	27	189
35	378	13	800	79	63	7500	26	195
40	353	14	900	74	67	8000	25	200
50	316	16	1000	71	71	9000	23	207
75	258	19	1100	67	74	10,000	22	220
100	223	22	1200	64	77			

OHMS	MILLIAMPS	VOLTS	OHMS	MILLIAMPS	VOLTS	OHMS	MILLIAMPS	VOLTS
1	3160	3.1	350	169	59	7000	38	266
1.5	2580	3.8	400	158	63	7500	36	270
2	2230	4.4	450	149	67	8000	35	280
3	1820	5.4	500	141	70	8500	34	289
4	1580	6.3	600	129	77	9000	33	297
5	1410	7.0	700	120	84	10,000	30	300
7.5	1150	8.6	750	115	86	11,000	27	300
10	1000	10	800	112	89	12,000	25	300
12	914	11	900	105	94	12,500	24	300
15	816	12	1000	100	100	13,500	22	300
20	707	14	1100	95	104	14,300	21	300
25	631	16	1200	91	109	15,000	20	300
30	577	17	1250	89	111	16,000	19	300
35	535	19	1500	82	123	17,500	17	300
40	509	20	1750	76	133	18,000	16	300
50	447	22	2000	71	142	20,000	16	320
75	365	27	2250	67	151	22,500	15	337
100	316	31	2500	63	158	25,000	15	375
125	283	35	3000	57	171	30,000	14	420
150	254	38	3500	53	185	35,000	13	455
200	223	44	4000	50	200	40,000	12	480
225	211	47	4500	47	212	45,000	11	495
250	200	50	5000	45	225	50,000	10	500
300	182	54	6000	41	246			

OHMS	MILLIAMPS	VOLTS	OHMS	MILLIAMPS	VOLTS	OHMS	MILLIAMPS	VOLTS
1	4480	4.4	850	154	131	10,000	41	440
3	2580	7.7	1000	141	141	12,500	36	450
5	2000	10	1200	129	155	15,000	31	465
10	1410	14	1250	126	157	20,000	24	480
15	1150	17	1500	115	172	25,000	20	500
25	895	22	1750	107	187	30,000	17	510
50	633	31	1850	104	192	35,000	15	525
75	516	39	2000	100	200	40,000	14	560
100	447	44	2250	94	211	45,000	13	585
150	365	54	2400	91	218	50,000	12	600
175	338	59	2500	89	222	55,000	11	605
200	316	63	2750	85	234	60,000	10.8	618
250	283	71	3000	81	243	65,000	10.5	684
300	258	77	3500	75	262	70,000	10	700
350	239	81	4000	70	280	75,000	9.5	712
400	223	89	4500	67	301	80,000	9.3	744
500	200	100	5000	63	315	85,000	9.1	773
650	175	114	6000	57	342	90,000	8.8	792
700	169	118	7000	53	371	95,000	8.6	816
750	164	123	7500	51	382	100,000	8.4	810
800	158	126	8000	50	400			

FIXED VITREOUS ENAMELED RESISTORS
5 WATT FRL-5
Core: 5/16" x 3/16" x 1"
Terminal #10-L STD.



FIXED VITREOUS ENAMELED RESISTORS
10 WATT FRL-10
Core: 5/16" x 3/16" x 1-3/4"
Terminal #10-L



FIXED VITREOUS ENAMELED RESISTORS
20 WATT FRL-20
Core: 7/16" x 1/4" x 2"
Terminal #10-L



You are guaranteed to receive 24 hour delivery as we maintain jobber stock items!

TRU-OHM RESISTORS meet MIL-R-26C Specifications!



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General Sales Office: Chicago 18, Ill.

VITREOUS ENAMELED RESISTORS



**FIXED
VITREOUS ENAMELED
RESISTORS**
25 WATT TYPE FR-25



Core: 9/16" x 5/16" x 2"
Mounting Centers 2-3/4"
With Bracket ≡P-3747
Standard Lug ≡12

OHMS	100% RATING		OHMS	100% RATING		OHMS	100% RATING	
	VOLTS	AMPS		VOLTS	AMPS		VOLTS	AMPS
1	5.0	5.000	400	100	.250	7500	427	.057
2	7.0	3.535	500	111	.223	10,000	500	.050
3	8.6	2.885	750	136	.182	12,000	505	.042
4	10	2.500	800	141	.177	15,000	510	.034
5	11	2.236	850	145	.171	20,000	520	.026
10	15	1.580	1000	158	.158	25,000	530	.022
15	19	1.291	1250	176	.141	30,000	540	.018
25	25	1.000	1500	193	.129	35,000	550	.016
50	35	.707	2000	222	.111	40,000	560	.014
75	43	.577	2500	250	.100	50,000	585	.012
100	50	.500	3000	273	.091	60,000	610	.010
150	61	.408	3500	294	.084	70,000	630	.009
200	70	.353	4000	316	.079	75,000	635	.008
250	79	.316	5000	350	.070	80,000	640	.008
300	86	.289	6000	384	.064	100,000	700	.007

**FIXED
VITREOUS ENAMELED
RESISTORS**
50 WATT TYPE FR-50



Core: 9/16" x 5/16" x 4"
Mounting Centers 4-3/4"
With Bracket ≡P-3747
Standard Lug ≡12

1	7	7.070	500	158	.316	12,500	787	.063
2	10	5.000	750	193	.258	15,000	855	.057
3	12	4.070	800	200	.250	20,000	960	.048
4	14	3.535	1000	223	.223	25,000	1024	.041
5	15	3.160	1500	273	.182	30,000	1080	.036
10	22	2.236	2000	316	.158	35,000	1120	.032
25	35	1.414	2500	350	.141	40,000	1140	.029
50	50	1.000	3000	384	.129	50,000	1150	.023
75	61	.816	4000	444	.111	75,000	1200	.016
100	70	.707	5000	500	.100	100,000	1250	.012
150	86	.577	6000	545	.091	125,000	1300	.010
200	100	.500	7500	608	.084	150,000	1350	.009
250	111	.447	8000	632	.079	175,000	1375	.008
300	122	.408	10,000	700	.070	200,000	1400	.007
400	141	.353	12,000	768	.064	225,000	1450	.006
						250,000	1500	.006

**FIXED
VITREOUS ENAMELED
RESISTORS**
75 WATT TYPE FR-75



Core: 9/16" x 5/16" x 6"
Mounting Centers 6-3/4"
With Bracket ≡P-3747
Standard Lug ≡12

1	8	8.660	400	173	.333	8000	769	.096
2	12	6.120	500	193	.387	10,000	860	.086
3	15	5.000	750	237	.316	12,000	918	.079
4	17	4.330	800	242	.306	12,560	962	.077
5	19	3.875	1000	274	.274	15,000	1050	.070
10	27	2.740	1500	334	.223	20,000	1220	.061
25	43	1.732	2000	386	.193	25,000	1225	.049
50	61	1.225	2500	432	.173	30,000	1260	.042
100	86	.866	3000	474	.158	35,000	1270	.036
150	106	.707	4000	548	.137	40,000	1280	.032
200	122	.612	5000	610	.122	45,000	1310	.029
250	137	.548	6000	666	.111	50,000	1320	.026
300	150	.500	7500	750	.100	75,000	1340	.018
						100,000	1360	.013

**FIXED
VITREOUS ENAMELED
RESISTORS**
100 WATT TYPE FR-100



Core: 3/4" x 1/2" x 6-1/2"
Mounting Centers 7-1/4"
With Bracket ≡P-3689
Standard Lug ≡12

1	10	10.000	500	223	.447	10,000	1000	.100
2	14	7.070	750	274	.365	15,000	1217	.081
3	17	5.770	1000	316	.316	20,000	1400	.070
4	20	5.000	1250	356	.285	25,000	1415	.053
5	22	4.470	1500	388	.259	30,000	1425	.047
10	31	3.160	2000	448	.224	35,000	1430	.042
25	50	2.000	2500	500	.200	40,000	1440	.036
50	70	1.414	3000	543	.181	50,000	1450	.029
75	86	1.150	3500	595	.170	60,000	1460	.024
100	100	1.000	4000	640	.160	70,000	1470	.021
125	112	.895	4500	675	.150	75,000	1474	.019
150	122	.816	5000	705	.141	100,000	1500	.015
250	157	.630	7500	864	.115			

**FIXED
VITREOUS ENAMELED
RESISTORS**
160 WATT TYPE FR-160



Core: 1-1/8" x 3/4" x 8-1/2"
Mounting Centers 9-1/4"
With Bracket ≡P-4898
Standard Lug ≡14

1	12	12.650	250	200	.800	10,000	1260	.126
2	18	8.940	500	282	.565	15,000	1560	.104
3	21	7.300	750	346	.461	20,000	1780	.089
4	25	6.320	1000	400	.400	25,000	2000	.080
5	28	5.650	1500	489	.326	30,000	2010	.067
10	40	4.000	2000	564	.282	35,000	2015	.057
15	49	3.265	2500	630	.252	40,000	2020	.050
25	63	2.525	3000	693	.231	50,000	2030	.040
50	89	1.786	3500	753	.215	60,000	2040	.034
75	109	1.460	4000	800	.200	75,000	2065	.027
100	126	1.265	4500	832	.185	80,000	2080	.025
150	155	1.033	5000	895	.179	100,000	2100	.021
200	178	.894	7500	1096	.146			

**FIXED
VITREOUS ENAMELED
RESISTORS**
200 WATT TYPE FR-200



Core: 1-1/8" x 3/4" x 10-1/2"
Mounting Centers 11-1/4"
With Bracket ≡P-4898
Standard Lug ≡14

1	14	14.140	750	387	.516	15,000	1725	.115
2	20	10.000	1000	447	.447	20,000	2000	.100
3	24	8.162	1500	547	.365	25,000	2225	.089
4	28	7.070	2000	632	.316	30,000	2460	.082
5	31	6.325	2500	707	.283	35,000	2470	.071
10	44	4.470	3000	776	.259	40,000	2480	.062
25	70	2.828	3500	840	.240	50,000	2500	.050
50	100	2.000	4000	900	.225	60,000	2500	.042
75	122	1.635	4500	915	.210	75,000	2500	.033
100	141	1.414	5000	1000	.200	100,000	2500	.025
150	173	1.152	7500	1222	.163	125,000	2500	.020
250	224	.895	10,000	1410	.141	150,000	2500	.016
500	316	.632						

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Sec. 4700



VITREOUS ENAMELED RESISTORS

ADJUSTABLE
Vitreous Enameled
RESISTORS
10 WATT TYPE AR-10



Core: 3/4" x 3/4" x 1 3/4"
Mounting Centers—2 1/4"
With Bracket ±P4989
Standard Lug ±10

ADJUSTABLE
Vitreous Enameled
RESISTORS
25 WATT TYPE AR-25



Core: 3/4" x 3/4" x 2"
Mounting Centers—2 3/4"
With Bracket ±P3747
Standard Lug ±12

ADJUSTABLE
Vitreous Enameled
RESISTORS
50 WATT TYPE AR-50



Core: 3/4" x 3/4" x 4"
Mounting Centers—4 1/4"
With Bracket P3747
Standard Lug ±12

ADJUSTABLE
Vitreous Enameled
RESISTORS
75 WATT TYPE AR-75



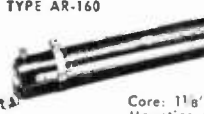
Core: 3/4" x 3/4" x 6"
Mounting Centers—6 3/4"
With Brackets P-3747
Standard Lug ±12

ADJUSTABLE
Vitreous Enameled
RESISTORS
100 WATT TYPE AR-100



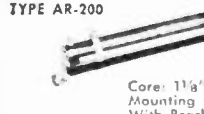
Core: 3/4" x 1 1/2" x 6 1/2"
Mounting Centers—7 1/4"
With Brackets P-3689
Standard Lug ±12

ADJUSTABLE
Vitreous Enameled
RESISTORS
160 WATT TYPE AR-160



Core: 1 1/8" x 3/4" x 8 1/2"
Mounting Centers—9 1/4"
With Brackets P-4898
Standard Lug ±14

ADJUSTABLE
Vitreous Enameled
RESISTORS
200 WATT TYPE AR-200

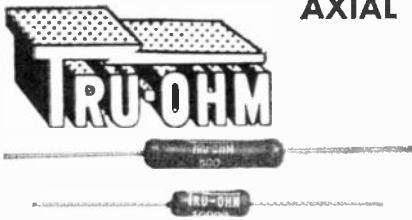


Core: 1 1/8" x 3/4" x 10 1/2"
Mounting Centers—11 1/4"
With Brackets P-4898
Standard Lug ±14

OHMS	100% RATING		OHMS	100% RATING		OHMS	100% RATING	
	VOLTS	AMPS		VOLTS	AMPS		VOLTS	AMPS
1	3.1	3.160	200	44	.223	2500	158	.063
2	4.4	2.230	250	50	.200	3000	171	.057
3	5.4	1.820	300	54	.182	3500	185	.053
5	7.0	1.410	350	59	.169	4000	200	.050
7.5	8.6	1.150	400	63	.158	4500	212	.047
10	10	1.000	500	70	.141	5000	225	.045
15	12	.816	600	77	.129	6000	246	.041
20	14	.707	750	86	.115	7000	226	.038
25	16	.631	800	89	.112	7500	270	.036
50	22	.447	1000	100	.100	8000	280	.035
75	27	.365	1250	111	.089	8500	289	.034
100	31	.316	1500	123	.082	9000	297	.033
150	38	.254	2000	142	.071	10,000	300	.030
			2250	151	.067			
1	5.0	5.000	250	79	.316	3500	294	.084
2	7.0	3.535	300	86	.289	4000	316	.079
3	8.6	2.885	400	100	.250	4500	332	.074
5	11	2.236	500	111	.223	5000	350	.070
7.5	13	1.825	750	136	.182	6000	384	.064
10	15	1.580	800	141	.177	7000	420	.060
15	19	1.291	850	145	.171	7200	425	.059
20	22	1.117	1000	158	.158	7500	427	.057
25	25	1.000	1250	176	.141	8000	440	.055
50	35	.707	1500	193	.129	9000	468	.052
75	43	.577	2000	222	.111	10,000	500	.050
100	50	.500	2250	236	.105	12,000	505	.042
150	61	.408	2500	250	.100	15,000	510	.034
200	70	.353	3000	273	.091	20,000	520	.026
						25,000	530	.022
1	7	7.070	750	193	.258	7500	608	.081
2	10	5.000	800	200	.250	8000	632	.079
3	12	4.070	1000	223	.223	9000	665	.074
4	14	3.535	1250	250	.200	10,000	700	.070
5	15	3.160	1500	273	.182	12,000	768	.064
10	22	2.236	2000	316	.158	15,000	855	.057
25	35	1.414	2250	335	.149	20,000	960	.048
50	50	1.000	2500	350	.141	25,000	1024	.041
75	61	.816	3000	384	.129	30,000	1080	.036
100	70	.707	3500	416	.119	40,000	1140	.029
150	86	.577	4000	444	.111	50,000	1150	.023
200	100	.500	4500	472	.105	60,000	1175	.019
250	111	.447	5000	500	.100	75,000	1200	.016
300	122	.408	6000	545	.091	80,000	1225	.015
400	141	.353	7000	598	.084	100,000	1250	.012
500	158	.316	7200	598	.083			
1	8	8.660	750	237	.316	8000	769	.096
2	12	6.120	800	242	.306	9000	819	.091
3	15	5.000	1000	274	.274	10,000	860	.086
4	17	4.330	1250	280	.244	12,000	948	.079
5	19	3.875	1500	334	.223	15,000	1050	.070
10	27	2.740	2000	386	.193	20,000	1220	.061
15	33	2.236	2250	409	.182	25,000	1225	.049
25	43	1.732	2500	432	.173	30,000	1260	.042
50	61	1.225	3000	474	.158	35,000	1270	.036
75	75	1.000	3500	511	.146	40,000	1280	.032
100	86	.866	4000	548	.137	45,000	1310	.029
200	122	.612	4500	581	.129	50,000	1320	.026
250	137	.548	5000	610	.122	60,000	1330	.022
300	150	.500	6000	666	.111	70,000	1340	.019
400	173	.433	7000	721	.103	80,000	1350	.017
500	193	.387	7200	735	.102	100,000	1360	.013
1	10	10.000	400	200	.500	7500	864	.115
2	14	7.070	500	223	.447	10,000	1000	.100
3	17	5.770	750	274	.365	15,000	1217	.081
4	20	5.000	1000	316	.316	20,000	1400	.070
5	22	4.470	1500	388	.259	25,000	1415	.053
10	31	3.160	2000	448	.224	30,000	1425	.047
25	50	2.000	2500	500	.200	40,000	1440	.036
50	70	1.414	3000	543	.181	50,000	1450	.029
100	100	1.000	4000	640	.160	60,000	1460	.024
200	141	.707	5000	705	.141	75,000	1474	.019
250	157	.630	6000	774	.129	100,000	1500	.015
1	12	12.650	250	200	.800	7,500	1096	.146
2	18	8.910	500	282	.565	10,000	1260	.126
3	21	7.300	1,000	400	.400	15,000	1560	.104
4	25	6.320	1,500	489	.326	20,000	1780	.089
5	28	5.650	2,000	564	.282	25,000	2000	.080
10	40	4.000	2,500	630	.252	30,000	2010	.067
15	49	3.265	3,000	693	.231	40,000	2020	.050
25	63	2.525	3,500	753	.215	50,000	2030	.040
50	89	1.786	4,000	800	.200	60,000	2040	.034
100	126	1.265	4,500	832	.185	75,000	2065	.027
200	178	.894	5,000	895	.179	80,000	2080	.025
						100,000	2100	.021
1	11	11.110	1,000	447	.447	15,000	1725	.115
2	20	10.000	1,500	547	.365	20,000	2000	.100
3	21	8.162	2,000	632	.316	25,000	2225	.089
4	28	7.070	2,500	707	.283	30,000	2460	.082
5	31	6.325	3,000	776	.259	40,000	2480	.072
10	44	4.470	3,500	840	.240	50,000	2500	.062
25	70	2.828	4,000	900	.225	60,000	2500	.042
50	100	2.000	4,500	945	.210	75,000	2500	.033
100	141	1.114	5,000	1000	.200	100,000	2500	.025
250	224	.895	7,500	1222	.163			
500	316	.632	10,000	1410	.141			

Mfd. by TRU-OHM PRODUCTS, DIVISION OF MODEL ENG. & MFG. INC. • General Sales Office: Chicago 18, Ill.

AXIAL LEAD Vitreous Enamel RESISTORS • Type VAL



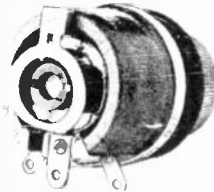
Wattage	Resistance Range (Ohms)	Core Dia.	Core Length	Lead Dia.	Lead Length
3	1 to 10,000	1/4"	3/16"	.032"	1 1/2"
5	1 to 25,000	1 1/32"	1"	.032"	1 1/2"
10	1 to 50,000	1 1/2"	1 3/4"	.040"	1 1/2"
20	1 to 100,000	1/2"	2 3/16"	.040"	1 1/2"

POWER RHEOSTATS Manufactured to meet MIL-R-22 Specifications

POWER RHEOSTAT

25 WATTS
TYPE R-25

INCLUDING KNOB



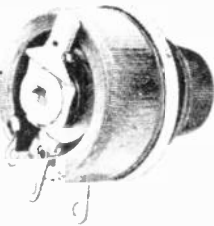
CAT. NO.	RESISTANCE	MAX. AMPS.
100	1	5.000
101	2	3.540
102	3	2.880
103	6	2.040
104	8	1.770
105	10	1.580
106	15	1.290
107	25	1.000
108	35	.845
109	50	.707
110	75	.575
111	100	.500

CAT. NO.	RESISTANCE	MAX. AMPS.
112	125	.445
113	175	.375
114	250	.316
115	350	.267
116	500	.222
117	750	.182
118	1000	.155
119	1500	.129
120	2500	.100
121	3500	.084
122	5000	.070

POWER RHEOSTAT

50 WATTS
TYPE R-50

INCLUDING KNOB



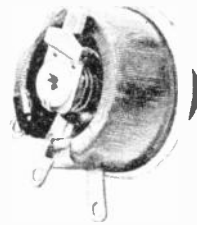
CAT. NO.	RESISTANCE	MAX. AMPS.
200	0.5	10.000
201	1	7.070
202	2	5.000
203	4	3.540
204	6	2.880
205	8	2.500
206	12	2.040
207	16	1.760
208	22	1.500
209	35	1.190
210	50	1.000
211	80	.790

CAT. NO.	RESISTANCE	MAX. AMPS.
212	125	.630
213	150	.574
214	225	.470
215	300	.408
216	500	.316
217	800	.250
218	1000	.223
219	1600	.176
220	2500	.141
221	3500	.119
222	5000	.100
223	8000	.079
224	10,000	.070

POWER RHEOSTAT

75 WATTS
TYPE R-75

INCLUDING KNOB



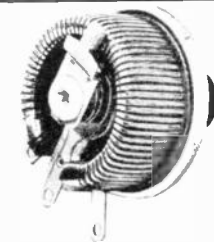
CAT. NO.	RESISTANCE	MAX. AMPS.
300	0.5	12.300
301	1	8.660
302	2	6.120
303	3	5.000
304	5	3.880
305	7.5	3.160
306	10	2.740
307	16	2.170
308	25	1.730
309	50	1.230
310	75	1.000
311	100	.866

CAT. NO.	RESISTANCE	MAX. AMPS.
312	200	.612
313	300	.500
314	400	.433
315	500	.388
316	750	.316
317	1,000	.274
318	1,500	.224
319	2,000	.194
320	2,500	.173
321	5,000	.123
322	7,500	.100
323	10,000	.087

POWER RHEOSTAT

100 WATTS
TYPE R-100

INCLUDING KNOB



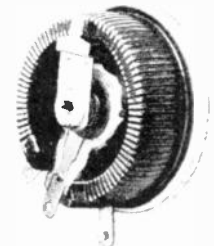
CAT. NO.	RESISTANCE	MAX. AMPS.
400	0.5	14.100
401	1	10.000
402	2	7.070
403	3	5.750
404	5	4.470
405	7.5	3.650
406	10	3.160
407	16	2.500
408	25	2.000
409	50	1.410
410	75	1.150
411	100	1.000

CAT. NO.	RESISTANCE	MAX. AMPS.
412	200	.707
413	300	.575
414	400	.500
415	500	.447
416	750	.365
417	1,000	.316
418	1,500	.258
419	2,000	.224
420	2,500	.200
421	5,000	.141
422	7,500	.115
423	10,000	.100

POWER RHEOSTAT

150 WATTS
TYPE R-150

INCLUDING KNOB



CAT. NO.	RESISTANCE	MAX. AMPS.
500	0.5	17.300
501	1	12.300
502	2	8.650
503	3	7.070
504	5	5.480
505	7.5	4.470
506	10	3.880
507	15	3.163
508	25	2.450
509	35	2.070
510	50	1.735
511	75	1.415
512	100	1.225

CAT. NO.	RESISTANCE	MAX. AMPS.
513	150	1.000
514	200	.865
515	250	.775
516	350	.655
517	500	.548
518	750	.447
519	1,250	.346
520	1,800	.288
521	2,250	.259
522	3,000	.224
523	4,500	.182
524	7,500	.141
525	10,000	.122

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as we maintain jobber stock items!

Mfd. by TRU-OHM PRODUCTS DIVISION OF MODEL ENG. & MFG. INC.
General Sales Office: Chicago 18, Ill.



DESIGNERS and EXPERIMENTORS here's help from VECO

Now VECO Experimentors' Kits and VECO Designers' Kits assist in the preparation of prototype models and enable creative personnel to familiarize themselves with the characteristics and applications of thermistors and varistors.

VECO DESIGNERS' KITS

Each kit includes units covering a wide resistance range and physical size. VECO Designers' Kits are furnished with technical characteristics, curves and schematics to assist in the solution of circuitry designs and problems concerning the use and application of VECO thermistors and varistors.

VECO Number	Resistance @ 25°C (ohms)	Net Price
KD25	Designers' Disc Kit Contains one each: 11E2, 12E2, 15D1, 18E2, 21E21, 22E6, 23D34, 25D4, 31E2, 32D12, 33D10, 35D6, 41D2	\$12.50
KP50	Designers' Probe Kit Contains one each: 21A3, 31A11, 41A11, 51A11, 61A11, 71A11	16.50
KR75	Designers' Rod Kit Contains one each: 33S1, 36S1, 41R1, 41S2, 43R1, 45R1, 51R1, 51R2	11.00
KV100	Designers' Varistor Kit Contains one each: 023L4, 023W1, 063L4, 114L1, 124W1, 143W1, 155L2, 165W2, A818	14.50

VECO EXPERIMENTORS' KITS

Designed to acquaint the experimenter, technician, engineer or designer with a wide variety of VECO thermistor and varistor applications. Each kit includes forms showing typical circuitry and specific characteristics of units in kit.

M-168 Experimentors' Kit, 7 units; a \$15.00 value for \$5.00 net, postpaid
M-168A Experimentors' Kit, 10 units; a \$22.00 value for \$10.00 net, postpaid

VECO THERMISTORS & VARISTORS

VECO Number	Resistance @ 25°C (ohms)	Net Price	VECO Number	Resistance @ 25°C (ohms)	Net Price	VECO Number	Resistance @ 25°C (ohms)	Net Price	VECO Number	Resistance @ 25°C (ohms)	Net Price
SMALL BEAD THERMISTORS .014" Dia.			41A11	10,000 ±20%	3.30	21D2	100 ±10%	1.05	ROD THERMISTORS .5" to 1.6" Long		
32A5	2,000 ±25%	\$4.20	43A11	30,000 ±20%	3.30	21E2	100 ±10%	1.00	33S1	3,150 ±10%	\$1.80
34A2	3,500 ±15%	5.00	45A1	50,000 ±20%	4.20	21E21	100 ±10%	1.00	36S1	6,300 ±10%	1.80
38C2	8,000 ±20%	3.80	51A1	100,000 ±15%	3.40	22E6	200 ±10%	1.05	38S1	8,000 ±10%	1.80
43A1	30,000 ±25%	4.20	51A11	100,000 ±15%	3.00	23D7	295 ±10%	1.00	41R1	10,000 ±10%	1.80
MEDIUM & LARGE BEADS .043" to .088" Dia.			55A11	500,000 ±20%	3.60	23D34	300 ±10%	1.05	41S1	10,000 ±10%	1.80
25A2	500 ±20%	\$4.40	61A1	1 meg ±20%	4.80	23E3	310 ±10%	1.00	41S2	10,000 ±10%	1.80
31A2	1,000 ±20%	3.20	61A11	1 meg ±20%	3.80	25D4	500 ±10%	1.05	43R1	31,500 ±10%	1.80
32A12	2,000 ±20%	3.20	71A11	10 meg ±20%	4.60	25E2	500 ±10%	1.05	45R1	50,000 ±10%	1.80
32A13	2,000 ±20%	3.00	GLASS THERMISTOR RODS & BULBS			27D1	725 ±5%	4.20	51R1	100,000 ±10%	1.80
35A1	5,000 ±20%	3.20	32A3	2,000 ±25%	\$6.80	28D1	760 ±5%	4.20	51R2	100,000 ±10%	2.00
41A2	10,000 ±20%	3.20	37A1	7,000 ±20%	4.20	31D4	1,000 ±10%	1.05	VARISTORS		
43A4	30,000 ±20%	3.20	44A1	35,000 ±25%	2.20	31E2	1,200 ±10%	1.05	023L4	1.5V min. @ 1 ma.	\$.80
45A2	50,000 ±20%	3.20	45B2	50,000 ±40%	3.00	31E21	1,000 ±10%	1.05	023W1	9.09V to 12.3V @ 25 ma.	1.80
51A2	100,000 ±15%	3.00	46A2	60,500 ±29%	3.00	32D12	2,000 ±10%	1.00	063L4	4.6V min. @ 1 ma.	.55
55A2	500,000 ±20%	3.50	49A1	85,000 ±25%	2.20	33D2	3,000 ±10%	1.05	114L1	16V to 24V @ 15 ma.	1.40
61A2	1 meg ±20%	3.70	65A1	5.4 meg ±32%	7.00	33D10	3,000 ±10%	1.05	124W1	26.8V to 32.2V @ 15 ma.	3.00
GLASS THERMISTOR PROBES ½" to 2" Long			71A2	12 meg ±20%	5.80	35D2	5,000 ±10%	1.05	WASHER THERMISTORS .770" Dia.		
21A3	100 ±20%	\$4.70	MATCHED PAIRS OF THERMISTOR BEADS			41D2	10,000 ±10%	1.05	11X1	10 ±10%	\$1.75
31A11	1,000 ±20%	3.30	A33	2,000 ±25%	\$15.00	11X2	38 ±10%	1.75	14X2	38 ±10%	1.75
32A1	2,000 ±20%	3.20	DISC THERMISTORS .1" to 1.0" Dia.			21W1	100 ±10%	1.75	21W4	130 ±10%	1.75
32A11	2,000 ±20%	3.00	11E2	10 ±10%	\$1.05	22W2	180 ±10%	1.75	22X1	150 ±10%	1.50
34A3	3,500 ±30%	3.20	12E2	20 ±10%	1.05	23W1	315 ±10%	1.75	24W1	415 ±10%	1.75
35A11	5,000 ±20%	3.30	15D1	50 ±10%	1.80	MOUNTING ACCESSORIES					
41A1	10,000 ±20%	4.20	18E2	75 ±10%	1.00	A815	Mounting Kit—Washer \$1.25				
						A818 Mounting Kit—Washer 1.65					
						A819 Packing Gland—Probe 4.00					

VECO TAP-A-THERMS

The VECO Tap-A-Therm is a versatile single thermistor unit with a multiplicity of tapped resistance values for experimentation with thermistor parameters, variable range temperature compensation, and many other uses.
Now available in the following ranges at 25°C:

VECO NO.	RESISTANCE RANGE (OHMS)	NET PRICE
T1001	200 to 1,200	\$7.00
T1002	300 to 1,800	7.00
T1003	1,000 to 6,000	7.00
T1004	100 to 2,400	9.00
T1005	150 to 3,600	9.00
T1006	500 to 12,000	9.00
T2001	5,000 to 50,000	9.00
T3001	1,000 to 10,000	8.00
T3002	10,000 to 100,000	8.00



Victory ENGINEERING CORPORATION

UNION, NEW JERSEY

Manufacturers of THERMISTORS, VARISTORS, ELECTRONIC CONTROLS, COMPACTROLS AND SPECIAL INSTRUMENTATION

AND HERE'S TECHNICAL LITERATURE TO HELP YOU FURTHER!

VECO THERMISTOR AND VARISTOR DATA BOOK containing historical background, technical data, typical circuitry, curves and other valuable information \$1.00

FREE! Write for our free literature catalog SB51. Also ask for an interesting informative series entitled "Meet the VECO Thermistor"—FREE. The new Technical Catalog of VECO products (ninth edition) appears in section 4700 of Electronics Engineers Master or may be obtained through your local jobber.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Vitrohm

RING RHEOSTATS

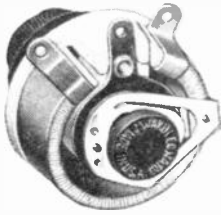


WARD LEONARD

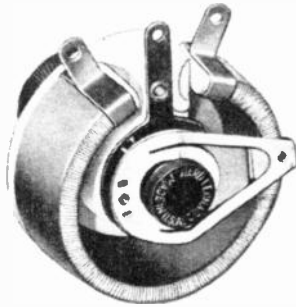
25-Watt — 50-Watt

The Ward Leonard 25-watt (Type 25R) and 50-watt (Type 50R) Type Rheostats are especially suited for use in electronic and electrical circuits where gradual and positive resistance change is essential. Balanced contact arms, self-lubricating metal or graphite contact shoes, and no backlash in the drive shaft combine to assure uniform contact pressure and smooth operation.

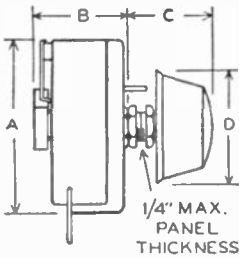
Standard shaft length for back-of-board mounting on 1/4" panel.



TYPE 25R



TYPE 50R



DIMENSION SKETCH

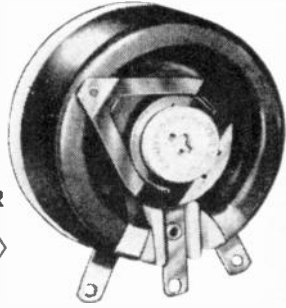
SEE DIMENSIONS HEADING EACH TABLE

25 WATTS				50 WATTS			
TYPE 25R		TYPE 50R		TYPE 25R		TYPE 50R	
Dimensions: A-1 1/8" B-1 1/8"		Dimensions: A-2 1/8" B-1 1/8"		Dimensions: A-2 1/8" B-1 1/8"		Dimensions: A-2 1/8" B-1 1/8"	
C-1" D-1 1/2"		C-1" D-1 1/2"		C-1" D-1 1/2"		C-1" D-1 1/2"	
Current M.A.	Approx. No. of Steps	List Price	Ohms	Current M.A.	Approx. No. of Steps	List Price	Ohms
5000	32	\$7.70	1	7070	45	\$8.60	1
3540	32	6.85	2	5000	56	8.60	2
2880	51	6.85	3				3
			4	3540	56	7.70	4
2040	85	6.85	6	2880	94	7.70	6
1770	95	6.85	8	2500	94	7.70	8
1580	95	6.85	10	2230	94	7.70	10
1280	102	6.85	15	1810	113	7.70	15
1000	102	6.85	25	1415	144	7.70	25
840	102	6.85	35	1190	144	7.70	35
707	97	6.85	50	1000	180	7.70	50
574	129	6.85	75	812	144	7.70	75
500	162	6.85	100	707	216	7.70	100
407	190	6.85	150	574	252	7.70	150
316	200	6.85	250	447	245	7.70	250
267	220	6.85	350	374	288	7.70	350
223	245	6.85	500	316	324	7.70	500
181	292	6.85	750	256	373	8.10	750
158	315	7.70	1000	223	390	8.10	1000
128	369	7.70	1500	181	396	8.10	1500
100	388	7.70	2500	141	547	8.10	2500
84	388	8.10	3500	119	547	8.60	3500
70	595	8.10	5000	100	786	8.60	5000
			7500	81	905	8.60	7500
			10000	70	947	8.60	10000

The Ring Rheostats shown on this page are standard values and sizes carried in stock at our factory and by our Distributors. Information concerning Rheostats of special construction available on request.

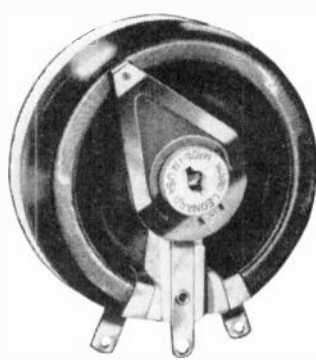
100-Watt — 150-Watt

The Ward Leonard 100-watt (Type 100R) and 150-watt (Type 150R) Ring Type Rheostats are of sturdy construction for electrical applications, such as control of fractional h.p. motors, rectifiers, voltage regulators, and some electronic circuits, such as filament and battery control.



TYPE 100R

100 WATTS				150 WATTS			
TYPE 100R		TYPE 150R		TYPE 100R		TYPE 150R	
Dimensions: A-3 3/32" B-1 1/2"		Dimensions: A-4" B-1 3/4"		Dimensions: A-3 3/32" B-1 1/2"		Dimensions: A-4" B-1 3/4"	
C-1" D-1 1/2"		C-1" D-1 1/2"		C-1" D-1 1/2"		C-1" D-1 1/2"	
Current M.A.	Approx. No. of Steps	Price List	Ohms	Current M.A.	Approx. No. of Steps	List Price	Ohms
10000	30	\$12.90	1	12240	39	\$16.30	1
7070	56	12.90	2	8660	39	16.30	2
5740	66	12.90	3	7070	70	16.30	3
4470	56	12.90	5	5470	73	16.30	5
3640	66	12.05	7.5	4470	70	16.30	7.5
3160	104	12.05	10	3870	70	15.40	10
2560	113	12.05	15	3160	120	15.40	15
2000	144	12.05	25	2440	152	15.40	25
1415	180	12.05	50	1730	190	15.40	50
1150	180	12.05	75	1415	228	15.40	75
1000	216	12.05	100	1224	228	15.40	100
707	252	12.05	200	866	265	15.40	200
574	252	12.05	300	707	303	15.40	300
500	252	12.05	400	612	342	15.40	400
447	324	12.05	500	547	342	15.40	500
364	396	12.05	750	447	418	16.30	750
316	410	12.90	1000	387	432	16.30	1000
223	410	12.90	2000	273	575	17.20	2000
200	410	12.90	2500	244	456	17.20	2500
141	685	13.70	5000	173	865	18.90	5000
115	820	14.60	7500	141	1000	18.90	7500
100	820	15.40	10000	122	1000	20.60	10000



TYPE 150R

For Correct Current Control Use Ward Leonard



Model F4.7
4.7 Ohms
5 watts.
LIST .65



Model F5
5 Ohms
5 watts.
LIST .65



Model F5.6
5.6 Ohms
5 watts.
LIST .65



Model F6
6 Ohms
5 watts.
LIST .65



Model F80
7.5 Ohms
3 Amps
LIST .65



Model F9
9 Ohms
5 watts.
LIST .65



Model #FB1
Universal
LIST 1.65



Model F10
10 Ohms
5 watts.
LIST .65



Model F22
22 Ohms
5 watts.
LIST .65



Model F150
150 Ohms
5 watts.
LIST .65



Model R7
7.5 ohms-3 amps.
LIST .72



Model F12A
150 Ohms
0.12 Amps.
LIST .65



Model F75
5 Ohms
7 Watts
LIST .72



Model 15F7.5
7.5 Ohms 15 watts
LIST .96

**Exactohm
FUSED RESISTOR**

**EXACT
REPLACEMENT
VALUES FOR
ALL TV AND
RADIOS FROM
ADMIRAL
TO ZENITH**

**MODEL #FRK-KIT OF
10 ASSORTED VALUES.
LIST 5.76**



Model 7F5
5 Ohms
7 Watts
LIST .72



Model 200-10
LIST .82



Model LC-200
LIST 1.00



Model KF-200
LIST 1.00

BELIMITER
BY BEL FUSE, INC.

NEW PROTECTIVE DEVICE USED IN DAMPER CIRCUIT OF RCA TV RECEIVERS INSTEAD OF CONVENTIONAL FUSE



**“WISSH”
CONTACT
CLEANER**
SUPER WISSH
AEROSOL CONTACT CLEANER
Super fast action
Model S6 LIST 3.50

Kit containing full quart with 3 dispensers. Non-Flammable Does not contain carbon Tetrachloride.

Modern Handy Aerosol Spray Applicator with Pin-Point control of spray.



Model H6 LIST 1.65



Model FR2
LIST 2.80



Model 051
LIST 1.50



Model 041
LIST 1.60



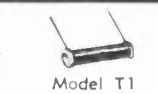
Model 054
LIST 2.20



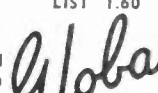
Model FR31
LIST 1.60



Model FR43
LIST 2.00



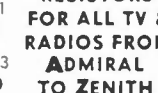
Model T1
LIST 1.60



Model FR19
LIST 1.50



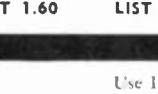
Model FR9
LIST 1.65



Model FR11
LIST 1.50



Model FR50
LIST 1.20



Model 052
LIST 1.85



Model FR19
LIST 1.50



Model FR9
LIST 1.65



Model FR11
LIST 1.50



Model FR50
LIST 1.20



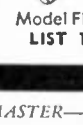
Model 052
LIST 1.85



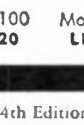
Model 088
LIST 1.85

Globar

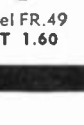
**HEAVY DUTY
TEMPERATURE
SENSITIVE
RESISTORS
FOR ALL TV &
RADIOS FROM
ADMIRAL
TO ZENITH**



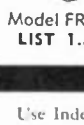
Model FR100
LIST 1.20



Model FR.49
LIST 1.60



Model FR5-8
LIST 1.50



Model FR5K
LIST .79

WORKMAN TV INC.

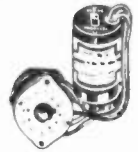
SARASOTA FLORIDA.

SUPER BRIGHTENERS.

**GUARANTEED OUTPUT 9 VOLTS
8.5 VOLTS ISOLATION**

For Standard Tubes.

- W2—Parallel —LIST 2.65
- W3—Series —LIST 2.90
- W4—Isolation —LIST 3.70
- W9—Universal—LIST 4.15



For 110° Picture Tubes.

- W5—Parallel (RCA Type)—LIST 3.90
- W6—Series (RCA Type)—LIST 4.15
- W7—Parallel (SYL. Type)—LIST 3.90
- W8—Series (SYL. Type)—LIST 4.15



MODEL #DLSOW500



**SPECIAL GLOAD RESISTORS
FOR DUMMY LOADS**

Resistance Values up to 1800 Ohms. Wattages up to 118 Watts

PRICES AND DELIVERY QUOTED ON REQUEST.

SERVICE AIDS

XTEND-IT



24" Extension Harness for RCA and Sylvania Type 110° Picture Tubes.
Model X1
LIST 2.15



Model X2
LIST 2.15

ADAPT-IT



Model D1
LIST 2.63



Model D2
LIST 2.63



Model D3
LIST 2.63



Model D4
LIST 2.63

Convert RCA Sylvania type 110° CRT base to Standard (Duo-Decal) Converts RCA 110° CRT base to Sylvania or Sylvania to RCA

REPLACEMENT SOCKET



Model R51
LIST 1.00

RCA or Sylvania type 10° CRT socket assembly with 24" leads.



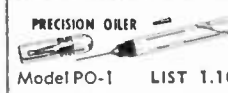
Model R52
LIST 1.00

- | MODEL | LIST |
|-----------------|------|
| DS-7 7"x1/8" | 1.25 |
| DS-8 8"x3/16" | 1.25 |
| DS-12 12"x1/8" | 1.40 |
| DS-14 14"x3/16" | 1.65 |
| DS-16 16"x1/8" | 1.65 |

ALIGNMENT TOOLS



110° PICTURE TUBE
PIN STRAIGHTENER
Model ST1
LIST .85



PRECISION OILER
Model PO-1 LIST 1.10

WORKMAN TV INC.

SARASOTA, FLORIDA.



SERVICE ACCESSORIES

HANDI PLUG

High quality phone plug with strain relief handle and finger-pull. LIST .25
Model #HP

POWER TRANSISTOR MOUNTING KIT

Model #TMK LIST .95



POWDERED IRON CORES

kit of assorted cores which cover most needs in TV and radio servicing. LIST .95
Model #PS10

WIREWOUND RESISTORS

10 WATT ERECTOHM

Direct replacement wire wound, filament resistors. 8 POPULAR VALUES

Model #E10 LIST 1.40

30 WATT ERECTOHM

Direct replacement wire wound, filament resistors. 18 POPULAR VALUES

Model #30W LIST 1.60

10 WATT WIREWOUND RESISTOR

48 POPULAR VALUES

Model #10W LIST .65

CANDOHM

Exact replacement for 41 POPULAR VALUES

SQUARE OHM

Exact Replacement For Transistor Auto Radios.



MODEL	LIST
T27 0.27 Ohm - 5 Watt	.48
T33 0.33 Ohm - 5 Watt	.48
T47 0.47 Ohm - 5 Watt	.48

POWER-OHM

41 Ohms—25 Watts
Model #148 LIST 1.56

Wirewound Filament Resistor

51 Ohms—30 Watts
Model #151 LIST 2.00

CARBON BAR RESISTORS

HIGH VOLTAGE FILTER RESISTOR FOR DOUBLER CIRCUITS

Model #1L	Model #1.5L	Model #2L	Model #2.5L
1 meg-4 watts.	1.5 meg-4 watts.	2 meg-4 watts.	2.5 meg-4 watts.
LIST .95	LIST .95	LIST .95	LIST .95

HIGH VOLTAGE FILTER RESISTOR FOR DOUBLER CIRCUITS

Model #1M	Model #1.5M	Model #2M	Model #2.5M
1 meg-4 watts.	1.5 meg-4 watts.	2 meg-4 watts.	2.5 meg-4 watts.
LIST 1.25	LIST 1.25	LIST 1.25	LIST 1.25

4 WATT NON INDUCTIVE RESISTORS

Model #4W5	Model #4W6
5600 OHMS 4 watts.	6800 OHMS 4 watts.
LIST .95	LIST .95

LO-OHM

Model #1W2	Model #1W3	Model #1W4	Model #1W5
2.2 OHMS	3.3 OHMS	4.4 OHMS	5.5 OHMS
LIST 1.10	LIST 1.10	LIST 1.10	LIST 1.10

12 TO 6 VOLT DC DROPPING RESISTORS

For 6 volt Radios and Equipment in 12 volt systems.

Model #GD1 LIST 4.50

50 WATT WIREWOUND

Tapped for 2, 4 or 6 ampere loads.

Model #GD2 LIST 3.30

50 WATT WIREWOUND

Rated for 5 to 6 ampere load.

Model #GD3 LIST 2.50

50 WATT WIREWOUND

Rated for 7 to 8 ampere load.

Model #GD4 LIST 2.50

PNP TRANSISTORS

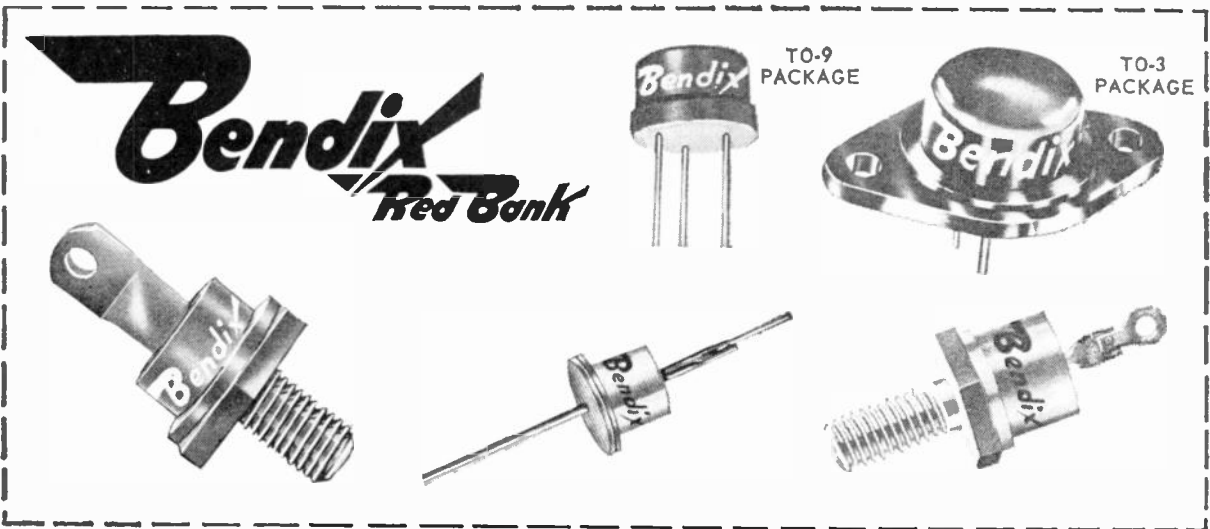
MODEL	DESCRIPTION	LIST
3MC	HF, General Purpose Frequency = 3 mc Max	5.00
6MC	HF, General Purpose Frequency = 6 mc Max	7.95
12MC	HF, General Purpose Frequency = 12 mc Max	12.00
20MC	HF, General Purpose Frequency = 20 mc Max	15.80
BE6	NORMAL GAIN Converter - Oscillator - Mixer	4.70
BA6	NORMAL GAIN I. F. Amplifier	4.25
AT6	NORMAL GAIN Audio Driver	4.05
B5	NORMAL GAIN Audio Output	4.05
BE6A	HIGH GAIN Converter - Oscillator - Mixer	5.45
BA6A	HIGH GAIN I. F. Amplifier	4.70
AT6A	HIGH GAIN Audio Driver	4.50
B5A	HIGH GAIN Audio Output	4.70
15V-MG	MEDIUM GAIN Audio Driver	2.20
20V-LG	LOW GAIN Audio, General Purpose Voltage (Vce)=20 volts Max.	2.65
20V-MG	MEDIUM GAIN Audio, General Purpose Voltage (Vce)=20 volts Max.	3.25
20V-HG	HIGH GAIN Audio, General Purpose Voltage (Vce)=20 volts Max.	4.05
30V-LG	LOW GAIN Audio, General Purpose Voltage (Vce)=30 volts Max.	4.40
30V-MG	MEDIUM GAIN Audio, General Purpose Voltage (Vce)=30 volts Max.	5.90
30V-HG	HIGH GAIN Audio, General Purpose Voltage (Vce)=30 volts Max.	6.70

PNP POWER OUTPUT TRANSISTORS

MODEL	DESCRIPTION	LIST
Power 40	replacement for Very High Wattage type	9.70
Power 25	replacement for High Wattage type	7.80
Power 12	replacement for Medium Wattage type	5.90
Power 6	replacement for Low Wattage type	3.20

Up to date Cross Reference Sheet Available

Association coded for ease of identification. Example BA6 has same purpose as 12 BA6 tube.



Semiconductor Products

TYPE NUMBER	PRIMARY APPLICATIONS				MAXIMUM RATINGS				TYPICAL OPERATION			
	Audio	Push-Pull	Switch	Power Supply	Collector Voltage V _{ce} (a)	Collector Current I _c	Thermal Resistance (b)	Junction Temp. T _j	Current Gain hFE	I _c Adc	Circuit Gain db	Power Output W
High Power Transistors (g)												
2N234A	X				30	3 Adc	2°C/W	90°C	25(c)	0.5	30	2
2N235A,B	X				40	3		90	40,60(c)	0.5	33,36	2
2N236A,B	X			X	40	3	2	95	40,60(c)	0.75	33,36	4
2N255	X	X			15 V _{cb}	3	3	85	40	0.5	22	1
2N256	X	X			30 V _{cb}	3	3	85	40	0.5	25	2
2N285A	X			X	40	3	2	95	150(c)	0.5	40	2
2N307,A	X				35 V _{cb}	1,2	5,3	75	80	0.2	---,27	-,1
2N399	X	X			40	3	2	90	40(c)	0.75	33	8(e)
2N400	X			X	40	3	2	95	50(c)	1.0	36	6
2N401	X	X			40	3	2	90	40(c)	0.5	30	5(e)
2N418			X	X	80	5	2	100	50	4.0	---	100(d)
2N419				X	45	3	2	95	60(c)	0.5	---	5
2N420,A			X	X	40,70	5	2	100	50	4.0	---	---
2N637,A,B	X		X	X	40,70,80	5	2	100	45	3.0	---	35,70(d)
2N638,A,B	X		X	X	40,70,80	5	2	100	30	3.0	---	35,70(d)
2N639,A,B	X		X	X	40,70,80	5	2	100	23	3.0	---	35,70(d)
2N677,A,B,C and 2N1029,A,B,C Replaced by 2N1031,A,B,C. 2N678,A,B,C and 2N1030,A,B,C Replaced by 2N1032,A,B,C.												
2N1031,A,B,C	X		X	X	30,40,70,80	15	1.5	100	40	10.0	---	75,125,250(d)
2N1032,A,B,C	X		X	X	30,40,70,80	15	1.5	100	75	10.0	---	75,125,250(d)
2N1073,A,B(i)	X		X		40,80,120	10	2	100	40	5.0	---	100,150,200(d)
2N1136,A,B	X		X	X	40,70,80	10	2	100	75	3.0	---	35,70(d)
2N1137,A,B	X		X	X	40,70,80	10	2	100	115	3.0	---	35,70(d)
2N1138,A,B	X		X	X	40,70,80	10	2	100	150	3.0	---	35,70(d)
B-177	X			X	30	3	2.2	90	150(c)	0.5	39	2
B-178	X				30	3	2.2	90	40(c)	0.5	33	2
B-179	X				40	3	2.2	90	25(c)	0.5	28	2
Medium Power Transistors (h)												
2N1008,A,B	X	X	X		20,40,60	300 mA	0.15°C/mW	85	95(c)	10 mA	---	400 mW(f)
2N1176,A,B	X		X		15,40,60	300 mA	0.20°C/mW	85	50(c)	10 mA	---	300 mW(f)
NOTE: (a) V _{ce} except where noted. Equivalent V _{cb} 's are 20-50% higher. (b) Collector dissipation is the difference between the maximum junction temperature and the mounting base temperature divided by the thermal resistance. (c) h _{fe} , AC current gain. (d) Square wave output power. (e) Push-pull output. (f) P _c - Maximum collector dissipation 25°C. (g) TO-3 package. (h) TO-9 package. (i) Diffused-Alloy-Power DAP transistor.												

Red Bank Division
LONG BRANCH, NEW JERSEY

Bendix
AVIATION CORPORATION

CANADIAN AFFILIATE
Computing Devices of Canada, Ltd.
P.O. Box 508, Ottawa, Ont. o

EXPORT SALES OFFICE
Bendix International Division
205 E. 42nd St., New York 17, N.Y.



TRANSISTORS AND SILICON RECTIFIERS

Prices as of April 1, 1959

RCA TRANSISTORS

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

GERMANIUM TRANSISTORS



TYPE	DESCRIPTION	DISTRIBUTOR RESALE PRICE*
2N104	Same as 2N215 but has JEDEC No. E3-25 3-pin base	\$2.25
2N105	Class A AF Amplifier	2.90
2N109	Same as 2N217 but has JEDEC No. E3-25 3-pin base	1.51
2N139	Same as 2N218 but has JEDEC No. E3-25 3-pin base	1.86
2N140	Same as 2N219 but has JEDEC No. E3-25 3-pin base	1.93
2N175	Same as 2N220 but has JEDEC No. E3-25 3-pin base	2.42
2N176	AF Power Transistor	2.97
2N206	Class A Amplifier	5.47
2N215	Class A Amplifier	2.09
2N217	Push-Pull Class B AF Amplifier	1.51
2N218	Class A 455-Kc IF Amplifier	1.86
2N219	Converter in 540-1640-Kc Band	1.93
2N220	Class A Low-Noise AF Amplifier	2.25
2N247	"Drift" Transistor RF Amplifier	3.06
2N269	Computer Switching Transistor	2.58
2N270	Class A or Class B Large-Signal AF Amplifier	1.58
2N274	"Drift" Transistor RF Amplifier	3.22
2N301	AF Power Transistor	2.93
2N301A	AF Power Transistor. Like 2N301 but has peak collector voltage rating of 60 volts	4.83
2N307	AF Power Transistor	1.50
2N331	Class A AF Amplifier—JEDEC TO-9 Case	2.02
2N351	AF Power Transistor	3.22
2N356	High Current Computer Switching Transistor (npn type) JEDEC TO-9 Case	5.08
2N357	High Current Computer Switching Transistor (npn type) JEDEC TO-9 Case	6.38
2N358	High Current Computer Switching Transistor (npn type) JEDEC TO-9 Case	8.69
2N370	"Drift" Transistor RF Amplifier	3.06
2N371	"Drift" Transistor Oscillator	3.06
2N372	"Drift" Transistor Mixer	3.06
2N373	"Drift" Transistor Class A 455-Kc IF Amplifier	1.90
2N374	"Drift" Transistor Converter in 540-1640-Kc Band	1.99
2N376	AF Power Transistor	3.38
2N384	VHF "Drift" Transistor	6.44
2N398	High Voltage Computer Switching Transistor—JEDEC TO-9 Case	2.25
2N404	Computer Switching Transistor JEDEC TO-9 Case	2.58
USAF 2N404	Computer Switching Transistor	2.81
2N405	Same as 2N406 but has JEDEC No. E3-25 3-pin base	1.09
2N406	Class A AF Driver Amplifier	1.09
2N407	Same as 2N408 but has JEDEC No. E3-25 3-pin base	1.26
2N408	Class A AF Amplifier	1.26
2N409	Same as 2N410 but has JEDEC No. E3-25 3-pin base	1.51
2N410	Class A 455-Kc IF Amplifier	1.51
2N411	Same as 2N412 but has JEDEC No. E3-25 3-pin base	1.55
2N412	Converter in 540-1640-Kc Band	1.55
2N456	AF Power Transistor	3.54
2N457	AF Power Transistor	5.64
2N544	"Drift" Transistor RF Amplifier Standard AM Broadcast Band	2.06
2N561	For applications such as Power Switching, DC to DC Converter and AF Amplifier	6.44
2N578	High Current Computer Switching Transistor—JEDEC TO-9 Case	3.63
2N579	High Current Computer Switching Transistor—JEDEC TO-9 Case	4.83
2N580	High Current Computer Switching Transistor—JEDEC TO-9 Case	5.64
2N581	Medium-Speed Computer Switching—JEDEC TO-9 Case	2.09
2N582	High-Speed Computer Switching Transistor—JEDEC TO-9 Case	4.83
2N583	Medium-Speed Computer Switching Transistor	2.09
2N584	High-Speed Computer Switching Transistor	4.83
2N585	Medium-Speed Computer Switching Transistor (npn type) JEDEC TO-9 Case	2.90
2N586	Low-Speed Switching Transistor	2.97
2N591	Class A AF Driver Amplifier	1.16
2N640	Automobile Receiver RF Amplifier	2.09
2N641	Automobile Receiver IF Amplifier	1.93

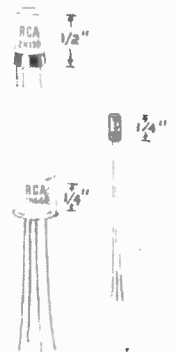
RCA TRANSISTORS AND SILICON RECTIFIERS

RCA TRANSISTORS

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

GERMANIUM TRANSISTORS (Cont'd)

TYPE	DESCRIPTION	DISTRIBUTOR RESALE PRICE*
2N642	Automobile Receiver Converter	2.02
2N643	High-Speed Computer Switching Transistor—JEDEC TO-9 Case	4.03
2N644	High-Speed Computing Switching Transistor—JEDEC TO-9 Case	6.03
2N645	High Speed Computer Switching Transistor—JEDEC TO-9 Case	8.05
2N647	Push-Pull Class B AF Amplifier (npn type)	1.77
2N649	Class A AF Amplifier (npn type)	1.42
2N1010	Class A Low-Noise AF Amplifier (npn type)	2.81
2N1014	Like 2N561 but has higher maximum voltage ratings	12.08
2N1090	Medium-Speed Computer Switching Transistor (npn type) JEDEC TO-9 Case	4.03
2N1091	Medium-Speed Computer Switching Transistor (npn type) JEDEC TO-9 Case	6.03
2N1300	Computer Switching — Mesa Type	6.08
2N1301	Computer Switching — Mesa Type	6.84



SILICON TRANSISTORS

TYPE	DESCRIPTION	DISTRIBUTOR RESALE PRICE*
2N1067	AF Power Transistor	\$36.75
2N1068	AF Power Transistor	49.00
2N1069	AF Power Transistor	96.25
2N1070	AF Power Transistor	113.75
2N1092	AF Power Transistor	28.00



SEMICONDUCTOR DIODES

TYPE	DESCRIPTION	DISTRIBUTOR RESALE PRICE*
1N54-A	High-back resistance type	\$.97
1N58-A	Large-signal type	1.36



SILICON RECTIFIERS

TYPE	DESCRIPTION	DISTRIBUTOR RESALE PRICE*
1N1763	Peak Inverse Volts. 400; DC Forward MA 500—For Operation Direct From Power Line	\$1.20
1N1764	Peak Inverse Volts. 500; DC Forward MA. 500— For Operation From Power Line Through Step U	1.58
1N440B	Magnetic Amplifier Rectifier, 100 V.	2.20
1N441B	Magnetic Amplifier Rectifier, 200 V.	2.55
1N442B	Magnetic Amplifier Rectifier, 300 V.	3.15
1N443B	Magnetic Amplifier Rectifier, 400 V.	4.45
1N444B	Magnetic Amplifier Rectifier, 500 V.	6.30
1N445B	Magnetic Amplifier Rectifier, 600 V.	8.90
1N536	Industrial Rectifier, 50 V.	1.10
1N537	Industrial Rectifier, 100 V.	1.25
1N538	Industrial Rectifier, 200 V.	1.60
1N539	Industrial Rectifier, 300 V.	2.00
1N540	Industrial Rectifier, 400 V.	3.00
1N547	Industrial Rectifier, 600 V.	7.50
1N1095	Industrial Rectifier, 500 V.	5.25



Sec. 4800

TYPE	NET PRICE
DIODES	
1N21A	1.25
*1N21B	1.25
*1N21BM	3.05
*1N21BR	1.85
*1N21BMR	3.65
*1N21C	2.05
*1N21CM	5.20
*1N21CR	3.15
*1N21CMR	6.25
*1N21D	5.35
1N21DM	13.35
1N21DR	8.10
1N21DMR	16.20
1N21E	7.00
1N21EM	17.50
1N21ER	10.50
1N21EMR	21.10
1N21WE	42.90
1N21WEM	107.00
*1N23A	1.25
*1N23B	1.25
*1N23BM	3.15
*1N23BR	1.85
*1N23BMR	3.70
*1N23C	2.05
*1N23CM	5.20
*1N23CR	3.15
*1N23CMR	6.25
1N23D	5.35
1N23DM	13.35
1N23DR	8.10
1N23DMR	16.20
1N23E	7.40
1N23EM	18.60
1N23ER	11.15
1N23EMR	22.30
1N23WE	48.00
1N23WEM	120.00
*1N25	4.10
1N25A	9.90
1N25R	6.20
1N25AR	14.85
*1N26	11.55
1N26M	29.00
1N26R	17.25
1N26MR	34.50
1N26A	14.03
1N26AM	35.00
1N26AR	21.00
1N26AMR	42.00
*1N31	8.25
1N32	15.70
1N34A	.50
1N35	1.55
1N38A	.85
1N38B	.85
*1N38B	.90
1N39A	2.50
1N39B	2.50
1N40	5.00
1N41	12.00
1N42	8.25
1N48	.68
1N52A	.80
*1N53	36.50
*1N53M	91.00
*1N53R	54.50
*1N53MR	109.00
1N53A	48.00
1N53AM	120.00
1N53B	49.00
1N53BM	125.00
1N53BR	73.50
1N53BMR	147.00

*Jan Type Approval

TYPE	NET PRICE
DIODES	
1N54A	.79
1N55A	1.70
1N56A	.90
1N58A	.85
1N60	.50
1N63	1.10
1N64	.50
1N65	.53
1N67A	.95
1N68A	1.04
1N69	.50
1N69A	.50
*1N69A	.55
1N70	.75
1N70A	.75
1N70A	.80
1N71	5.00
1N72	.88
*1N76	3.22
1N76R	4.84
1N76A	3.88
1N77A	7.50
1N77B	7.50
*1N78	12.40
*1N78M	31.00
*1N78R	18.50
*1N78MR	36.00
1N78A	19.75
1N78AM	49.50
1N78AR	29.75
1N78AMR	59.50
1N78B	25.50
1N78BM	64.00
1N78BR	38.50
1N78BMR	77.00
*1N79	2.88
1N81	.85
1N81A	.85
*1N81A	.90
1N82	.95
1N82A	1.15
1N90	.50
1N91	.80
1N92	1.90
1N93	2.65
1N98	.96
1N100	1.35
1N115	.80
1N117	.67
1N118	.80
1N119	1.00
1N120	.60
1N126	.45
1N126A	.45
*1N126A	.50
1N127	.90
1N127A	.90
*1N127A	.95
1N128	.68
*1N128	.73
1N140	.75
1N149	6.60
1N191	1.00
1N192	.60
1N193	6.60
1N194	9.90
1N195	7.85
1N196	11.55
1N198	1.20
*1N198	1.25
1N198A	1.20
1N253	2.40
1N254	2.80
1N255	5.60

*Jan Type Approval

TYPE	NET PRICE
DIODES	
1N256	11.40
1N270	1.69
1N276	1.65
1N279	.90
1N281	.87
1N283	1.63
1N286	61.50
1N294	.52
1N295	.35
1N297	1.15
1N298	.88
1N358	29.50
1N358R	44.50
1N358A	36.00
1N358AR	54.50
1N369	41.00
1N369A	47.50
1N369AR	71.50
*1N415B	7.00
*1N415C	7.85
1N415D	11.15
1N415E	13.20
1N415EMR	39.50
1N415S	25.00
*1N416B	7.00
*1N416C	7.85
1N416D	11.15
1N416E	12.80
1N417	1.15
1N418	.70
1N419	1.50
1N435	9.50
1N446	64.50
1N446R	97.00
1N448	1.25
1N449	1.40
1N450	1.05
1N451	1.50
1N452	2.05
1N453	2.50
1N454	2.90
1N455	3.30
1N456	3.10
1N457	3.58
1N458	3.93
1N459	4.19
1N461	1.24
1N462	1.82
1N463	2.21
1N464	2.08
1N482	1.70
1N482A	2.63
1N483B	4.16
1N486A	4.84
1N571	1.15
1N584	3.00
1N630	65.50
1N630R	98.00
1N634	1.05
1N636	.50
1N805	.34
1N830	3.00
1N831	10.90
1N832	11.50
1N833	12.41
1N1093	1.20
1N1132	64.50
1N1132R	97.00
1N1610	74.00
1N1611	12.40

TRANSISTORS
2N34 3.30

*Jan Type Approval

TYPE	NET PRICE
TRANSISTORS	
2N35	1.16
2N68	5.36
2N94	1.57
2N94A	5.78
2N95	5.36
2N101	4.95
2N102	4.95
2N104	2.25
2N109	1.61
2N123	4.95
2N139	1.86
2N140	1.93
2N141	10.31
2N142	10.31
2N143	9.90
2N144	9.90
2N155	2.93
2N168A	2.06
2N169A	2.00
2N176	2.93
2N193	1.49
2N194	1.57
2N194A	1.65
2N211	1.98
2N212	1.65
2N213	1.29
2N213A	1.29
2N214	1.49
2N214MP	2.98
2N216	1.73
2N217	1.61
2N219	2.06
2N228	1.82
2N229	.65
2N233	.65
2N233A	1.24
2N235A	3.05
2N235B	3.38
2N236B	4.13
2N241A	2.08
2N242	2.93
2N247	3.06
2N250	3.71
2N255	1.35
2N256	1.64
2N257	3.05
2N270	1.73
2N285A	4.04
2N292	1.86
2N296	6.19
2N301	2.93
2N301A	4.83
2N306	.99
2N307	1.35
2N307A	2.15
2N312	8.25
2N321	2.08
2N323	1.85
2N324	1.90
2N326	19.40
2N333	16.20
2N334	16.20
2N335	21.60
2N336	25.60
2N337	19.15
2N338	25.80
2N350	3.30
2N351	3.47
2N356	5.20
2N357	6.53
2N358	8.92
2N370	3.08
2N371	3.06
2N372	3.06

*Jan Type Approval

TYPE	NET PRICE
TRANSISTORS	
2N373	1.95
2N374	2.02
2N377	3.30
2N381	1.73
2N382	1.80
2N383	1.88
2N384	6.60
2N385	4.13
2N388	5.78
2N399	3.55
2N401	3.22
2N404	3.22
2N405	1.12
2N406	1.16
2N407	1.29
2N408	1.29
2N409	1.55
2N410	1.55
2N411	1.58
2N412	1.58
2N419	3.63
2N420	4.52
2N425	4.80
2N426	4.95
2N427	7.26
2N42F	9.90
2N43E	4.13
2N43EA	4.54
2N439	5.78
2N439A	6.35
2N440	8.25
2N440A	9.05
2N515	1.65
2N516	1.73
2N517	1.98
2N519	1.65
2N524	3.05
2N525	3.25
2N544	2.11
2N554	1.35
2N556	5.78
2N557	2.98
2N558	5.78
2N57F	10.73
2N576A	10.73
2N585	2.90
2N586	3.05
2N587	5.36
2N591	1.16
2N624	13.20
2N677	3.71
2N677A	4.28
2N677B	8.59
2N677C	13.07
2N67F	4.95
2N676A	6.07
2N679	2.48
2N100E	1.49
2N100FA	2.19
2N105E	1.65
2N1059	1.07
2N11C1	.91
2N11C2	1.24
2N1114	5.78
2N1244	1.30
2N1245	.65
2N1266	.65

SILICON POWER RECTIFIERS
200 mA86
500 mA 1.35

*Jan Type Approval



GREAT EASTERN

Manufacturing Co.

BROOKLYN 12, N.Y.



"OUR 20th YEAR"

ACRO DIVISION *Robertshaw*

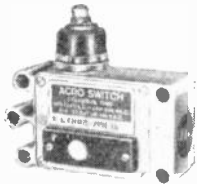


Biggest Line of Little Switches

METAL CLAD • SUB MINIATURE • MINIATURE • GENERAL PURPOSE

Metal-Clad Switches

U. L. Inspected 20 Amp - 120 - 240 - 480 V. A. C.



ACRO-LITE
L-FHD2-7PN-1S
O.F. 2.5 LBS. MAX.



ACRO-LITE
L-FHD2-2PN2-1S
O.F. 2 LBS. MAX.



MACHINE TOOL
242-0003-03
O.F. 3 LBS. MAX.



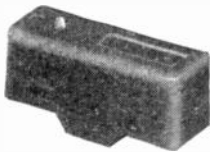
METAL CLAD
S/F-RD-6PQ-1S
O.F. 13 OZ. MAX.



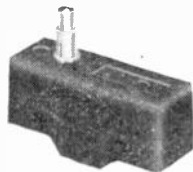
METAL CLAD
S/F-RD-9PR-1S
O.F. 13 OZ. MAX.

GENERAL PURPOSE

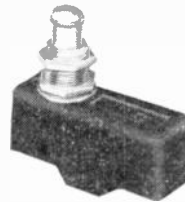
U. L. Inspected 20 Amp - 120 - 240 - 480 V. A. C.



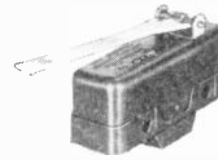
BASIC SWITCH
FAD2-1A-1S
O.F. 18 OZ. MAX.



OVER TRAVEL PLUNGER
FAD2-10-1S
O.F. 18 OZ. MAX.



PANEL-MOUNT PLUNGER
FAD2-1P-1S
O.F. 18 OZ. MAX.



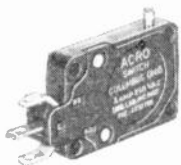
HINGED LEAF
FAD2-LV-1S
O.F. 2.5 OZ. MAX.



LEAF ACTUATOR
FAD2-2M-1S
O.F. 9 OZ. MAX.

MINIATURE & SUBMINIATURE

Acro has more than 20 years experience in the manufacture of precision snap switches. Put this experience to work for you . . . always ask for Acro. Shown are just a few samples from our complete line. Contact your Acro distributor for all of your switch requirements.



MODEL CM
1CMD1-2AXX
O.F. 27 Grams
3 AMPS —
125-250 V.A.C.



MODEL CM Flat Leaf Actuator
1CMD1-2AXX
O.F. 2.5 Grams
3 AMPS —
125-250 V.A.C.



MODEL M
1MD1-1A
O.F. 6 OZ. MAX.
10 AMPS —
125-250 V.A.C.



OPEN BLADE SWITCH
E-SIPOBD-R
O.F. 6 OZ. MAX.
15 AMPS —
125-250 V.A.C.



MODEL D
3D05-5P
O.F. 15 OZ. MAX.
12 AMPS
125-250 V.A.C.

MODEL D Overtravel Plunger
3D05-8P
O.F. 15 OZ. MAX.
12 AMPS
125-150 V.A.C.



MODEL Z Sub-miniature Switch
ZD-0023
O.F. 6 OZ. MAX.
5 AMPS
120-240 V.A.C.



MODEL Z Roller Leaf Actuator
ZLD-0033
O.F. 2 OZ. MAX.
5 AMPS
120-240 V.A.C.



All Acro Switches are Underwriter Laboratory Inspected for Ratings as Indicated.

ALLIANCE TV AND ELECTRONIC PRODUCTS

ALLIANCE TENNA-ROTORS

ALLIANCE GENIE®

GENIE®

Radio-Controlled Garage Door Operators

The first quality, low-cost, automatic garage door operator!

The Alliance Genie opens, closes, locks garage door, turns light on and off automatically! Now available in radio-controlled models (fully automatic), and key-lock switch models (semi-automatic).

The Alliance Genie operates on all standard one-piece and sectional overhead garage doors. The "Genie" radio models are activated from the car dash and by a radio transmitter installed under the car hood.

"Genie" key lock models are operated by turning

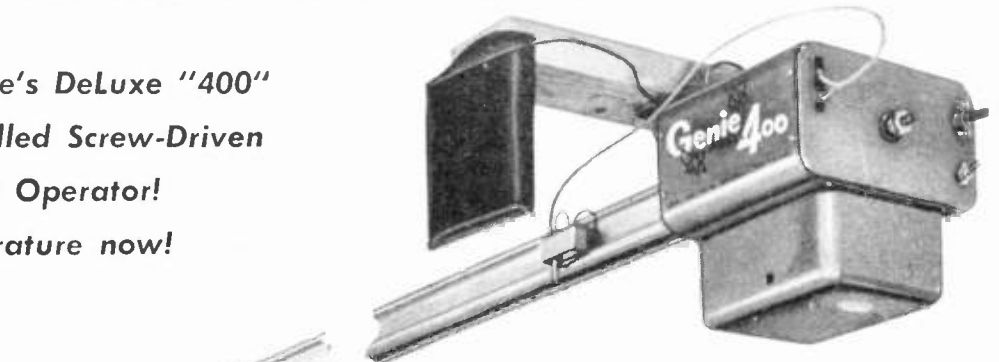
a key mounted in a lock-switch installed along the driveway.

The Alliance Genie incorporates special safety features — a safety clutch which automatically stops the door if it strikes an object while operating and which automatically reverses direction of door's travel the next time operator is activated.

Special Alliance "wobblator" assures instant stop and saves motor wear on CT and ST units.

The Alliance Genie is easily and quickly installed. Comes complete with necessary mounting brackets. Works on standard house circuits.

**New! Alliance's DeLuxe "400"
Radio-Controlled Screw-Driven
Garage Door Operator!
Send for literature now!**



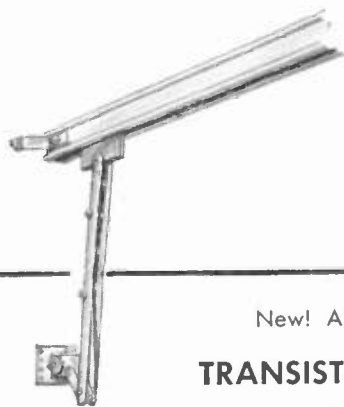
"Genie"

RADIO CONTROLLED MODELS

- "Genie" RCST-1 (solid doors)
- "Genie" RCCT-1 (sectional doors)

KEY LOCK MODELS

- "Genie" KST-1 (solid doors)
- "Genie" KCT-1 (sectional doors)



New! Alliance Genie Model TT-5

TRANSISTORIZED TRANSMITTER

FOR ALLIANCE GARAGE DOOR OPERATORS

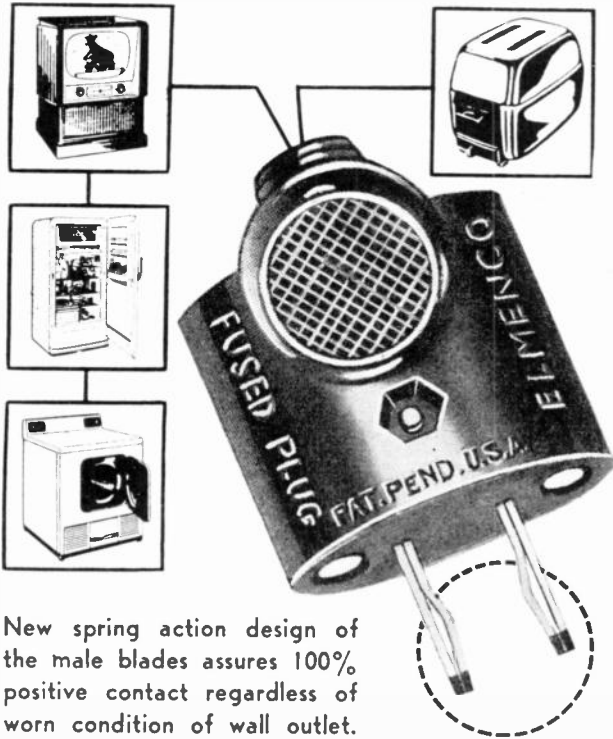


Model TT-5
List Price \$36.75

The newest way to operate automatic garage doors. The Alliance Genie Model TT-5 now actuates models of operators without installation or wiring. Effective range and long-life battery operation with the newest Transistorized construction, guarantees smooth trouble free operation. The TT-5 is a handsome, dependable hand-held portable ready to do the work at a touch of the button.

THE ALLIANCE MANUFACTURING COMPANY, INC. • Alliance, Ohio

Announcing an important NEW Feature



OF THE **ELMENCO** Fused Plug

Spring Action

For
POSITIVE CONTACT
plus
Impact Resistant Cover

New spring action design of the male blades assures 100% positive contact regardless of worn condition of wall outlet.



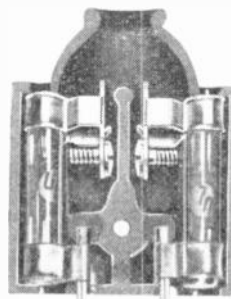
LIST PRICE **75¢** LESS FUSES

**OFFERS COMPLETE PROTECTION
AGAINST CURRENT SURGES & SHORT CIRCUITS
PROTECTS ELECTRICAL APPLIANCES!**



Conveniently Packed
10 to a Box
In Colorful
Self-merchandising
displays.
Easy to handle
for resale

The Elmenco Fused Plug is like any standard plug, is light in weight, but easier to handle because of finger grips. However, it contains 2 small fuses which provide complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.



INSIDE VIEW

**REPLACE
FUSE Instantly!**



Fuses are replaced instantly without need of opening plug. Can be used with standard 3AG and 3AB glass tubular fuses up to 20 amps.

ARCO electronics inc.

NEW YORK 13, N. Y.

BRANCHES: Dallas 19, Texas, Los Angeles 35, California

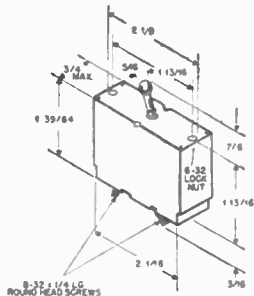
Birnbach

CUTLER-HAMMER SWITCHES MISCELLANEOUS SWITCHES

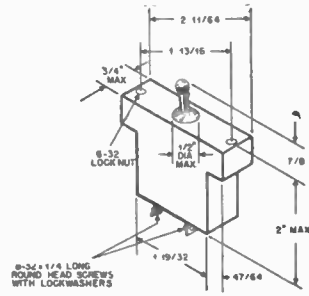


MANUAL TYPE CIRCUIT BREAKERS

Both types combine, in one unit, a standard aircraft type SPST switch and a positive protection device. Molded case, metal strap with locking type mounting nuts.



VERRIDE TYPE
NON-TRIP FREE



NON-OVERRIDE TYPE
TRIP FREE

		NON-TRIP FREE				
CAT. NO.	C-H NO.	SPEC.	TYPE	RATING 24 VOLTS	LIST PRICE	
5460	8750 K11	AN-3160-5	SPST	5 AMPS	15.75	
5461	8751 K8	AN-3160-10	SPST	10 AMPS	15.75	
5462	8752 K8	AN-3160-15	SPST	15 AMPS	15.75	
5463	8753 K8	AN-3160-20	SPST	20 AMPS	15.75	
5464	8754 K8	AN-3160-25	SPST	25 AMPS	15.75	
5465	8755 K8	AN-3160-35	SPST	35 AMPS	15.75	
5466	8756 K8	AN-3160-50	SPST	50 AMPS	15.75	
TRIP FREE						
5470	8750 K3	E-1441-5	SPST	5 AMPS	21.50	
5471	8751 K3	E-1441-10	SPST	10 AMPS	21.50	
5472	8752 K3	E-1441-15	SPST	15 AMPS	21.50	
5473	8753 K3	E-1441-20	SPST	20 AMPS	21.50	
5474	8754 K1	E-1441-25	SPST	25 AMPS	21.50	
5475	8755 K3	E-1441-35	SPST	35 AMPS	21.50	
5476	8756 K1	E-1441-50	SPST	50 AMPS	21.50	

Std. Pkg. 5

POSITIVE ACTION MINIATURE MILITARY SWITCHES "AS SMALL AS A DIME"

Especially designed for aircraft, missile and electronic applications.

EXTREMELY COMPACT — highly reliable power or dry circuit switch, usable as a pre-set switch in aircraft recognition systems, for walkie-talkies, electronic instruments and communication systems.

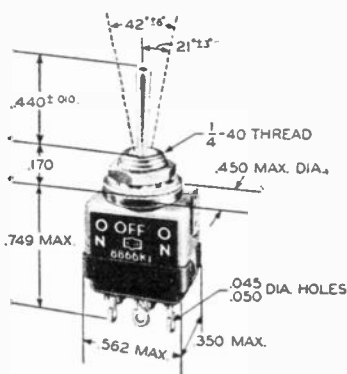
NEW DESIGN — Toggle is linked directly with movable contact member, insuring positive make and break.

NEW TOGGLE LEVER SEAL — Protects switch enclosure under adverse environmental conditions; includes panel bushing seal.

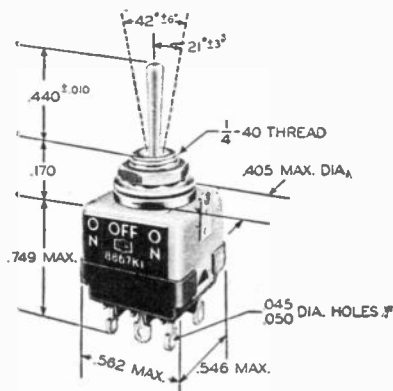
NEW GOLD PLATED CONTACTS — Open and close with wiping action, for good contact even on low energy circuits. Contact bounce is extremely low.

NEW SUPERIOR MATERIAL — In molded parts, provides higher arc-tracking resistance and excellent recovery voltage.

NEW POSITIVE DETENT ACTION — For improved operator "feel."



SINGLE POLE



DOUBLE POLE

CAT. NO.	C-H NO.	TYPE	CIRCUIT			CURRENT RATING			LIST
			UP POSITION	CENTER POSITION	DOWN POSITION	25 VOLTS DC	50 VOLTS DC	115 VOLTS AC	
5480 K1	8866 K1	SPDT	ON	OFF	6N	2 AMPS	1 AMP	2 AMPS	10.10
5480 K2	8866 K2	SPDT	MOM-ON	OFF	MOM-ON	2 AMPS	1 AMP	2 AMPS	11.40
5480 K3	8866 K3	SPDT	ON	OFF	MOM-ON	2 AMPS	1 AMP	2 AMPS	11.40
5480 K4	8866 K4	SPDT	ON	NONE	ON	2 AMPS	1 AMP	2 AMPS	10.10
5480 K5	8866 K5	SPDT	ON	OFF	NONE	2 AMPS	1 AMP	2 AMPS	10.10
5480 K6	8866 K6	SPDT	NONE	OFF	MOM-ON	2 AMPS	1 AMP	2 AMPS	11.40
5480 K7	8866 K7	SPDT	ON	NONE	OFF	2 AMPS	1 AMP	2 AMPS	10.10
5481 K1	8867 K1	DPDT	ON	OFF	ON	2 AMPS	1 AMP	2 AMPS	12.60
5481 K2	8867 K2	DPDT	MOM-ON	OFF	MOM-ON	2 AMPS	1 AMP	2 AMPS	14.70
5481 K3	8867 K3	DPDT	ON	OFF	MOM-ON	2 AMPS	1 AMP	2 AMPS	14.70
5481 K4	8867 K4	DPDT	ON	NONE	ON	2 AMPS	1 AMP	2 AMPS	12.60
5481 K5	8867 K5	DPDT	ON	OFF	NONE	2 AMPS	1 AMP	2 AMPS	12.60
5481 K6	8867 K6	DPDT	NONE	OFF	MOM-ON	2 AMPS	1 AMP	2 AMPS	14.70
5481 K7	8867 K7	DPDT	ON	NONE	OFF	2 AMPS	1 AMP	2 AMPS	12.60

Std. Pkg. 5

SLIDE LEVER SWITCHES

UL APPROVED



Ideal for phonographs, test instruments, electrical equipment, appliances, etc.
1 3/4" x 1/2" with 1 1/4" mounting centers; mounting holes .140".

CAT. NO.	DESCRIPTION	CURRENT RATING	STD. PKGE.
6245	SPST	4 Amps-125 V AC	25
6246	SPDT	4 Amps-125 V AC	25
6247	DPST	.50 Amp-125 V AC-DC	25
6248	DPDT	.50 Amp-125 V AC-DC	25
SPRING RETURN			
6245S	SPST	.75 Amp-125 V AC-DC	25
6246S	SPDT	.75 Amp-125 V AC-DC	25
6239		Slide Switch Shield	25

BIRNBACH KNIFE SWITCHES



Made of special nickel plated spring brass on a rugged base. Screw terminals located conveniently for easy connections in circuit. Two mounting holes.

Cat. No.	Descrip.	Base	Std. Pkg.
6100	SPST	Por.	25
6102	SPDT	Bake.	20
6103	DPST	Por.	10
6104	DPDT	Bake.	10
6105	TPDT	Por.	10

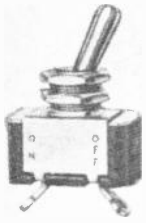
Birnbach

CUTLER-HAMMER SWITCHES



AIRCRAFT SWITCHES

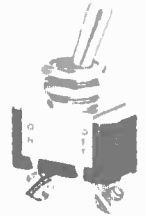
Made to joint Army and Navy specifications. Spec. Jan-S-23 Superseded by Mil-S-3950. Binding Screw Terminals (ST-40 Series and ST-50 series) Per Spec. AN-3021 and AN 3027. The ST-42 and ST-52 Series have solder lugs. These switches are heavy duty; rugged design; bakelite housing; rated 10 amps-250V AC, 15 amps-125V AC, 3, HP 115-230VAC.



1 SINGLE POLE STYLE ST-42—WITH SOLDER LUGS

Cat. No.	C-H No.	Jan-S-23 No.	Type	Circuit			Current Rating	
				Up Position	Center Position	Down Position	125V	250V
5370	SS9K6	ST 12A	SPST	On	None	Off	15 amps	6 amps
5371	SS10K7	ST 12B	SPST	On	None	Mom. Off	15 amps	6 amps
5372	SS17K5	ST 12C	SPST	Off	None	Mom. On	15 amps	6 amps
5373	SS16K5	ST 12D	SPDT	On	None	On	15 amps	6 amps
5374	SS20K6	ST 12E	SPDT	On	None	On	15 amps	6 amps
5375	SS04K5	ST 12F	SPDT	On	None	Mom. On	15 amps	6 amps
5376	SS18K6	ST 12G	SPDT	Mom. On	Off	Mom. On	15 amps	6 amps
5377	SS15K6	ST 12H	SPDT	On	Off	Mom. On	15 amps	6 amps

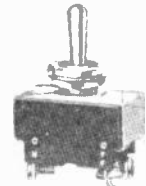
STANDARD PKG. 25



2 SINGLE POLE STYLE 40—WITH SCREW TERMINALS

Cat. No.	C-H No.	Jan-S-23 No.	MIL-S-6745 (AN-S-20A) No.	Type	Circuit			Current Rating	
					Up Position	Center Position	Down Position	125V	250V
5360	SS04K12	ST 10A	AN 3021 2	SPST	On	None	Off	15 amps	6 amps
5361	SS14K12	ST 10B	AN 3021 9	SPST	On	None	Mom. Off	15 amps	6 amps
5362	SS11K12	ST 10C	AN 3021 8	SPST	On	None	Mom. On	15 amps	6 amps
5363	SS10K12	ST 10D	AN 3021 3	SPDT	On	None	On	15 amps	6 amps
5364	SS00K12	ST 10E	AN 3021 1	SPDT	On	Off	On	15 amps	6 amps
5365	SS04K12	ST 10F	AN 3021 6	SPDT	On	None	Mom. On	15 amps	6 amps
5366	SS12K12	ST 10G	AN 3021 7	SPDT	Mom. On	Off	Mom. On	15 amps	6 amps
5367	SS09K12	ST 10H	AN 3021 5	SPDT	On	Off	Mom. On	15 amps	6 amps

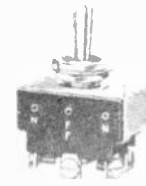
STANDARD PKG. 25



3 DOUBLE POLE STYLE ST-50—WITH SCREW TERMINALS

Cat. No.	C-H No.	Jan-S-23 No.	MIL-S-6745 (AN-S-20A) No.	Type	Circuit			Current Rating	
					Up Position	Center Position	Down Position	125V	250V
5380	SS22K8	ST 50K	AN 3027 2	DPST	On	None	Off	15 amps	6 amps
5381	SS28K7	ST 50L	AN 3027 1	DPST	On	None	Mom. Off	15 amps	6 amps
5382	SS26K7	ST 50M	AN 3027 5	DPST	On	None	Mom. On	15 amps	6 amps
5383	SS24K8	ST 50N	AN 3027 4	DPDT	On	None	On	25 amps	6 amps
5384	SS20K10	ST 50P	AN 3027 1	DPDT	On	Off	On	25 amps	6 amps
5385	SS10K7	ST 50R	AN 3027 6	DPDT	On	None	Mom. On	15 amps	6 amps
5386	SS14K4	ST 50S	AN 3027 7	DPDT	Mom. On	Off	Mom. On	15 amps	6 amps
5387	SS22K1	ST 50T	AN 3027 8	DPDT	On	Off	Mom. On	15 amps	6 amps

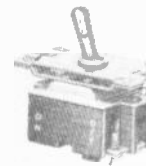
STANDARD PKG. 25



4 DOUBLE POLE STYLE ST-52—WITH SOLDER LUGS

Cat. No.	C-H No.	Jan-S-23 No.	Type	Circuit			Current Rating	
				Up Position	Center Position	Down Position	125 V	250 V
5390	SS7K5	ST 52K	DPST	On	None	Off	15 amp	6 amps
5391	SS24K5	ST 52L	DPST	On	None	Mom. Off	15 amp	6 amps
5391A	SS7K5	ST 52M	DPST	Off	None	Mom. On	15 amp	6 amps
5392	SS10K5	ST 52N	DPDT	On	None	On	25 amp	6 amps
5393	SS21K4	ST 52P	DPDT	On	Off	On	25 amp	6 amps
5394	SS14K4	ST 52R	DPDT	On	None	Mom. On	15 amp	6 amps
5395	SS4K5	ST 52S	DPDT	Mom. On	Off	Mom. On	15 amp	6 amps
5396	SS4K5	ST 52T	DPDT	On	Off	Mom. On	15 amp	6 amps

STANDARD PKG. 25



5 THREE POLE—WITH SCREW TERMINALS FLUSH MOUNTING

Cat. No.	C-H No.	Spec.	Type	Circuit			Terminals
				Up Position	Center Position	Down Position	
5400	ST 10K1	MIL S 6715	SPST	On	None	Off	8, 25 ea
5401	ST 11K1	MIL S 6715	DPDT	On	None	Off	10, 20 ea
5402	ST 12K9	MIL S 6715	SPDT	On	None	Off	8, 25 ea

CURRENT RATING: 125 VAC 20 AMPS, 30 VDC 25 AMPS, STANDARD PKG. 12

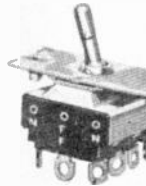


6 FOUR POLE—ONE HOLE MOUNTING

The four pole switches are designed to meet the rigid specifications and requirements of JAN-S-23 and MIL-S-6745 Specs.

Cat. No.	C-H No.	Type	Circuit			Terminals
			Up Position	Center Position	Down Position	
5420	760K8	DPST	On	None	Off	8, 25 ea
5421	760K9	DPST	On	None	Off	10, 20 ea
5422	760K7	DPDT	On	None	Off	8, 25 ea
5423	760K5	DPDT	On	None	Off	10, 20 ea
5424	760K4	DPDT	On	None	On	10, 20 ea
5425	760K1	DPDT	On	None	On	8, 25 ea
5426	760K6	DPST	On	Mom. Off	Mom. Off	8, 25 ea
5427	760K9	DPST	On	None	Mom. Off	10, 20 ea
5428	760K1	DPST	On	None	Mom. Off	8, 25 ea
5429	760K4	DPST	On	None	Mom. Off	10, 20 ea
5430	767K1	DPDT	On	Off	Mom. On	8, 25 ea
5431	767K4	DPDT	On	Off	Mom. On	10, 20 ea
5432	767K1	DPDT	Mom. On	Off	Mom. On	8, 25 ea
5433	767K4	DPDT	Mom. On	Off	Mom. On	10, 20 ea
5434	767K1	DPDT	On	None	Mom. On	8, 25 ea
5435	767K4	DPDT	On	None	Mom. On	10, 20 ea

CURRENT RATING: 125 VAC 10 AMPS, 30 VDC 20 AMPS, STD. PKG. 12



7 FOUR POLE—FLUSH MOUNTING

Cat. No.	C-H No.	Spec.	Type	Circuit			Terminals
				Up Position	Center Position	Down Position	
5410	SS82K5	MIL S 6715	DPST	On	None	Off	8, 20 ea
5411	SS82K5	MIL S 6715	DPST	On	None	On	10, 20 ea
5412	SS86K5	MIL S 6715	DPST	On	Off	On	11, 15 ea
5413	SS84K5	MIL S 6715	DPDT	On	None	On	10, 40 ea
5414	SS85K5	MIL S 6715	DPDT	On	None	On	10, 40 ea
5415	SS80K5	MIL S 6715	DPDT	On	Off	On	10, 40 ea
5416	SS81K5	MIL S 6715	DPDT	On	Off	On	9, 45 ea
5417	SS88K5	MIL S 6715	DPDT	Mom. On	Off	Mom. On	12, 45 ea
5418	SS87K5	MIL S 6715	DPDT	On	Off	Mom. On	12, 45 ea

CURRENT RATING: 125 VAC 10 AMPS, 30 VDC 20 AMPS, STD. PKG. 12

Birnbach

CUTLER - HAMMER SWITCHES



Complete line of Cutler-Hammer quality switches available from our warehouse stocks. Includes commercial, industrial, aircraft and Gov't spec.

LIGHT DUTY TOGGLE SWITCHES

STANDARD DUTY TOGGLE SWITCHES

1 BACK CONNECTED LUG TERMINALS

Quick make-break; bakelite; small, compact size AC-DC UL approved

Cat. No.	C-H No.	Descrip.	Shank	Current Rating 125V	Rating 250V	List Price
5300	8290K10	SPST	.15 3/32"	3 amps.	3 amps.	1.15 ea
5301	8681K8	SPST	.15 3/32"	6 amps.	3 amps.	1.35 ea
5302	8282K11	SPDT	.15 3/32"	3 amps.	1 amp.	1.45 ea
5303	8284K11	2 out	.15 3/32"	3 amps.	1 amp.	1.55 ea
5304	8360K7	DPST	.15 3/32"	3 amps.	2.10 ea	
5305	8370K7	DPST	.15 3/32"	6 amps.	3 amps.	2.30 ea
5306	8368K7	DPDT	.15 3/32"	3 amps.	2.40 ea	
5307	8378K7	DPDT	.15 3/32"	6 amps.	3 amps.	2.60 ea

STD. PKG. 25

5 BACK CONNECTED LUG TERMINALS

Slow make and break; bakelite; AC rated for longer life, greater capacity. 15 amps. 125 volts—10 amps. 250 volts.

Cat. No.	C-H No.	Description	Shank	List Price
5314	7501K13	SPST	.15 3/32"	1.15 ea
5315	7505K4	SPDT	.15 3/32"	1.35 ea
5316	7501K4	DPST	.15 3/32"	1.75 ea
5317	7505K3	DPDT	.15 3/32"	2.05 ea
5318	7611K2	SPST	.15 3/32"	3.45 ea
5319	7615K2	DPDT	.15 3/32"	4.50 ea

STD. PKG. 25

2 SIDE CONNECTED SCREW TERMINALS

Cat. No.	C-H No.	Descrip.	Shank	Current Rating 125V	Rating 250V	List Price
5308	8295K5	SPST	.15 3/32"	3 amps.	3 amps.	1.40 ea
5309	8296K8	SPST	.15 3/32"	6 amps.	3 amps.	1.60 ea
5310	8297K8	SPDT	.15 3/32"	3 amps.	1 amp.	1.85 ea
5311	8362K7	DPST	.15 3/32"	6 amps.	3 amps.	2.75 ea
5312	8365K7	DPDT	.15 3/32"	3 amps.	3.15 ea	
5313	8375K7	DPDT	.15 3/32"	6 amps.	3 amps.	3.35 ea

STD. PKG. 25

6 BACK CONNECTED SCREW TERMINALS

Cat. No.	C-H No.	Description	Shank	List Price
5320	7500K14	SPST	.15 3/32"	1.35 ea
5321	7501K4	SPDT	.15 3/32"	1.60 ea
5322	7569K5	DPST	.15 3/32"	2.10 ea
5323	7561K6	DPDT	.15 3/32"	2.60 ea
5324	7610K2	SPST	.15 3/32"	4.25 ea
5325	7611K2	DPDT	.15 3/32"	5.40 ea

STD. PKG. 25

3 SIX INCH LONG WIRE LEADS

Cat. No.	C-H No.	Descrip.	Shank	Current Rating 125V	Rating 250V	List Price
4335	8290K10	SPST	.15 3/32"	3 amps.	3 amps.	1.40 ea
4336	8391K5	SPST	.15 3/32"	6 amps.	3 amps.	1.60 ea

STD. PKG. 25

4 PUSH BUTTON SWITCHES PUSH TO MAKE—PUSH TO BREAK

Push-push switches; AC-DC, UL approved, bakelite case; rated 6 amps. 125V, 3 amps. 250V. Pushing the button once closes the contacts; pushing it again opens the contacts. 11/16" shank.

Cat. No.	C-H No.	Description	Terminals	List Price
5326	7206K4	SPST	lug	1.60 ea
5327	7208K4	SPST	screw	1.80 ea
5328	7207K4	SPST	wire	1.80 ea

STD. PKG. 25

5 CENTER OFF STANDARD DUTY TOGGLE SWITCHES BACK CONNECTED LUG TERMINALS

Cat. No.	C-H No.	Description	Shank	List Price
5329	7503K13	SPDT	.15 3/32"	1.35 ea
5330	7508K4	DPDT	.15 3/32"	2.10 ea
5331	7613K2	SPDT	.15 3/32"	4.50 ea

STD. PKG. 25

4 PUSH BUTTON MOMENTARY SWITCHES

Joint operated switches, used wherever it is desired to control current by opening or closing of refrigerated doors, telephone booths, closets, vaults, etc. AC-DC, UL approved. 15 3/32" shank; rated at .75 AMP, 125 volts—175 AMPS, 250 volts.

Cat. No.	C-H No.	Description	Terminals	List Price
5337	8411K1	SP norm. open	lug	.80 ea
5338	8411K3	SP norm. open	screw	.90 ea
5339	8411K8	SP norm. closed	lug	.60 ea
5340	8411K7	SP norm. closed	screw	.65 ea

STD. PKG. 25

8, 9 HEAVY DUTY TOGGLE SWITCHES

Quick make—quick break; 15 3/32" shank (No. 8680 11 3/32" shank); AC-DC, UL approved; bakelite case; screw terminals.

Cat. No.	C-H No.	Descrip.	Current Rating 125V	Rating 250V	List Price
5341	77421K1	SPST	12 amps.	6 amps.	2.20 ea
5342	7729K3	DPST	12 amps.	6 amps.	2.20 ea
5343	7736K5	SPST	15 amps.	10 amps.	3.85 ea
5344	7739K8	DPST	15 amps.	10 amps.	3.85 ea
5345	77402K1	DPST	15 amps.	20 amps.	5.40 ea
5346	8680K1	DPDT	10 amps.	5 amps.	7.15 ea
5347	8680K2	DPDT	15 amps.	10 amps.	8.60 ea

@ 1 HP—125/250V * 1 1/2 HP—125/250V ** 1 1/2 HP—125V, 2 HP—250V
STD. PKG. 12

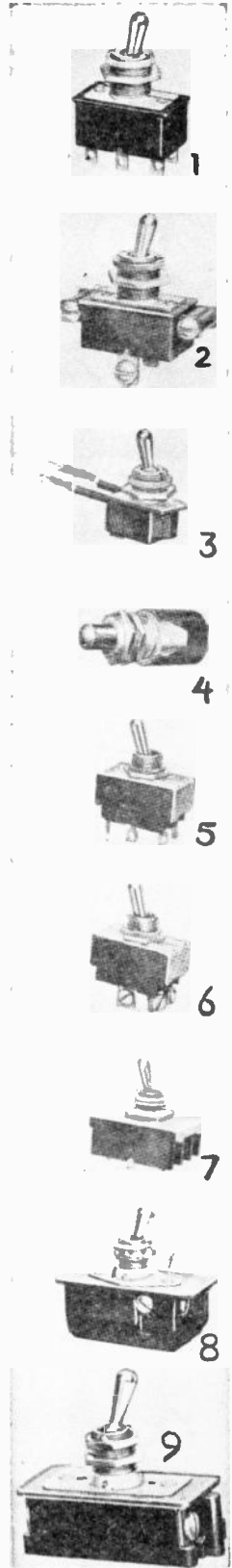
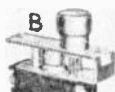
A MULTI-POLE, MULTI-POSITION, ROTARY SWITCHES

Nos. 7290 thru 7296 and Nos. 7271 thru 7276

B PUSHBUTTON OPERATED AIRCRAFT SWITCHES

Nos. 8911K525, 8871, 8875

ADDITIONAL CUTLER-HAMMER EQUIPMENT AVAILABLE



BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

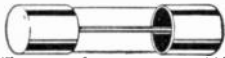
FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.



Formerly called 8AG.
Dimension $\frac{1}{4}$ x 1 inch, Glass tube.
Provide high speed action necessary to protect sensitive instruments.

Listed by Underwriters' Laboratories Inc.
Test specification—carry 100%, open at 200% in 5 seconds.

Voltage	Symbol	Amperes	List Price
250 or less	AGX	$\frac{1}{2}$ 500	\$1.20
"	AGX	$\frac{1}{2}$ 200	.50
"	AGX	$\frac{1}{2}$ 100	.45
"	AGX	$\frac{1}{2}$ 32	.40
250 or less	AGX	$\frac{1}{4}$ 16	.27
"	AGX	$\frac{1}{10}$, $\frac{3}{8}$, $\frac{3}{16}$, $\frac{3}{10}$	.20
"	AGX	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{3}{10}$ or $\frac{1}{2}$	.13
"	AGX	$\frac{3}{4}$	.13
"	AGX	1	.08
125 or less	AGX	1 $\frac{1}{2}$ or 2	.08

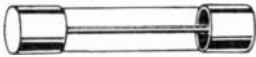


Formerly called 8AG.
Dimension $\frac{1}{4}$ x 1 inch, Glass tube.
Test specification—carry 110%, open at 135% within 1 hour.
125 volt sizes are listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
125 or less	AGX	3, or 4	\$0.08
"	AGX	5	.05
32 or less	AGX	8, 10, 15 or 20	.05
"	AGX	25 or 30	.06

MJB & MJW FUSES NOW CALLED AGX

BUSS GLASS TUBE FUSES, $\frac{1}{4}$ x $1\frac{1}{4}$ inch



Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.
Listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
250 or less	AGC	$\frac{1}{2}$ 500	\$1.20
"	AGC	$\frac{1}{2}$ 200	.50
"	AGC	$\frac{1}{2}$ 100	.45
"	AGC	$\frac{1}{2}$ 32	.40
"	AGC	$\frac{1}{4}$ 16	.20
"	AGC	$\frac{1}{10}$, $\frac{3}{8}$, $\frac{3}{16}$, or 2	.08
"	AGC	$\frac{3}{8}$	.07
"	AGC	$\frac{1}{2}$ 100	.20



Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.

Voltage	Symbol	Amperes	List Price
125 or less	GLH	8 or 10	.15
32 or less	AGC	4	\$0.07
"	AGC	5, 6, 7 $\frac{1}{2}$, 8, 10 or 15	.05
"	AGC	25 or 30	.06

20 ampere size is an SFE 20 fuse.
Sizes larger than 30 ampere are not recommended as clips or fuse holders larger than 30 ampere do not permit fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fuse-tron dual-element fuses.

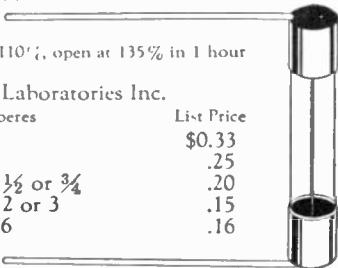
MBW & MBB FUSES NOW CALLED AGC

BUSS PIG-TAIL FUSES

$\frac{1}{4}$ x $1\frac{1}{4}$ inch Glass tube fuse with $1\frac{1}{2}$ inch leads of No. 20 tinned copper wire.

Test specifications—carry 110%, open at 135% in 1 hour or less.
Listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
250 or less	GJV	$\frac{1}{4}$ 16	\$0.33
"	GJV	$\frac{1}{8}$	.25
"	GJV	$\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ or $\frac{3}{4}$	.20
"	GJV	1, 1 $\frac{1}{2}$, 2 or 3	.15
"	GJV	4, 5 or 6	.16



FUSETRON FUSES, $\frac{1}{4}$ x $1\frac{1}{4}$ inch



DUAL-ELEMENT SLOW BLOWING TYPE

Stop needless blows from starting currents or surges. Fuse link operates only on very high overloads or short-circuits. Thermal cutout functions on low overloads—cannot operate quickly at any load, so long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% in 1 hour.
Approximate blowing time: at 200% load MDL 25 sec. MDX 12 sec.
at 300% " " 8 " " 3 " "
at 500% " " 3 " " $\frac{1}{2}$ "

125 and 250 volt sizes listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
250 or less	MDL	$\frac{1}{2}$ 100 or $\frac{1}{32}$	\$0.36
250 or less	MDL	$\frac{1}{16}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{5}$ 100, 17 $\frac{1}{2}$ 100,	
		$\frac{3}{16}$, $\frac{2}{10}$, $\frac{1}{4}$, $\frac{3}{10}$, $\frac{3}{8}$, $\frac{1}{10}$,	
		$\frac{1}{2}$, $\frac{6}{10}$, $\frac{7}{10}$, $\frac{3}{4}$, $\frac{8}{10}$ or 1	.27
"	MDX	$\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{9}{10}$ or 2	.30
125 or less	MDL	$\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{9}{10}$ or 2	.25
"	MDL	2 $\frac{1}{2}$ or 2 $\frac{8}{10}$	.20
"	MDX	3 or 3 $\frac{2}{10}$	.20
"	MDX	4, 5, 6 $\frac{1}{4}$ or 7	.23
32 or less	MDL	3, 3 $\frac{2}{10}$, 4, 5, 6 $\frac{1}{4}$, 8, 10, 15, 20, 25 or 30	.20

FUSETRON PIG-TAIL FUSES

Leads are No. 20 tinned wire $1\frac{1}{2}$ inch long. Listed by Underwriters' Laboratories Inc. Test specifications and performance, MDV $\frac{1}{2}$ 100 to 2 $\frac{8}{10}$ amps. same as MDL fuses. 3 to 7 amps. same as MDX fuses.

Voltage	Symbol	Amperes	List Price
250 or less	MDV	$\frac{1}{2}$ 100 or $\frac{1}{32}$	\$0.45
"	MDV	$\frac{1}{16}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{5}$ 100,	
		17 $\frac{1}{2}$ 100, $\frac{3}{16}$, $\frac{2}{10}$, $\frac{1}{4}$,	
		$\frac{3}{10}$, $\frac{3}{8}$, $\frac{3}{10}$, $\frac{1}{2}$, $\frac{9}{10}$,	
		$\frac{3}{4}$, $\frac{8}{10}$ or 1	.34
125 or less	MDV	$\frac{1}{4}$, 1 $\frac{1}{2}$, 1 $\frac{9}{10}$ or 2	.32
"	MDV	2 $\frac{1}{2}$, 2 $\frac{8}{10}$, 3, 3 $\frac{2}{10}$,	
		4, 5, 6 $\frac{1}{4}$ or 7	.27



BUSS INDICATING FUSES, $\frac{1}{4}$ x $1\frac{1}{4}$ inch



Fibre Tube. Silverplated indicating pin extends from end of fuse when fuse is blown.

This pin can also be used to actuate a signal by using fuses in BUSS HKA Fuseholders or BUSS Signal Fuse Blocks. GLD fuses in sizes larger than 5 amperes have dual tube construction. They can be used in BUSS Signal Fuse Blocks but not in HKA Fuseholders.

125 volt sizes listed by Underwriters' Laboratories Inc.
Test specifications—carry 110%, open at 135% in one hour or less.

Voltage	Symbol	Amperes	List Price
125 or less	GLD	$\frac{3}{4}$	\$0.56
"	GLD	1, 2, 3, or 5	.50
32 or less	GLD	8, 10, 12 or 15	.65

$1\frac{1}{32}$ x $1\frac{1}{2}$ inch INDICATING FUSES

Voltage	Symbol	Amperes	List Price
250 or less	MIC	1, 2, 3, 5, 10 or 15	.33
32 or less	MIC	20, 25 or 30	.33

250 volt sizes listed by Underwriters' Laboratories Inc.

Fuses made in accordance with Military Specifications.

Voltage	Symbol	Amperes	List Price
250 or less	MIN	1, 2, 3, 5, 10 or 15	\$0.30
125 or less	MIN	20, 25 or 30	.30

BUSSMANN MFG. DIVISION McGraw-Edison Co. St. Louis 7, Mo.

BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

FUSETRON FIBRE TUBE FUSES

$1\frac{13}{32} \times 1\frac{1}{2}$ inch



Dual-Element — Slow Blowing Type. Avoid needless blows from starting currents or

surges. Have fuse link that operates only on very high overloads or short-circuits, and thermal cutout on low overloads. Thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is provided against short-circuits or continued overloads.

Test specification—carry 110% open at 135% within 1 hour.
Approximate blowing time: at 200% load 25 seconds.
at 300% load 8 seconds.
at 500% load 5 seconds.

125 and 250 volt sizes listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price			
250 or less	FNM	1, 10, 15, 100, 2, 10, 3, 10, 4, 10, 1, 2,	\$0.33			
		6, 10, 8, 10, 1, 1, 8, 1, 4, 1, 10,				
		10, 10, 18, 10, 2, 2, 4, 2, 2, 2, 2, 8, 10,				
		3, 2, 10, 3, 1, 2, 4, 4, 1, 2, 5, 5, 10,				
		6, 1, 4, 7, 8, 9 or 10				
		125 or less		FNM	12 or 15	.33
		32 or less		FNM	20, 25 or 30	.33

SIGNAL OR VISUAL INDICATING TYPE

FNA are FNM Fusetron fuses with silverplated indicating pin that extends from fuse when fuse blows. Pin can also be used to actuate a signal by using fuse in BUSS Signal Fuse Block.

Voltage	Symbol	Amperes	List Price
250 or less	FNA	1, 10, 15, 100, 2, 10, 3, 10, 4, 10, 1, 2,	\$0.625
		6, 10, 8, 10	
125 or less	FNA	1, 1, 8, 1, 4, 1, 10, 1, 10, 1, 8, 10,	.625
		2, 2, 4, 2, 2, 2, 8, 10, 3, 3, 2, 10, 3, 2,	
		4, 4, 2, 5, 5, 10, 6, 6, 4, 7, 8, 10	
		12 or 15	
32 or less	FNA	20, 25 or 30	.688

BUSS LIMITRON FUSES

600 Volt. $1\frac{13}{32} \times 1\frac{3}{8}$ inch. Fibre tube. For protection of control circuits or wherever a fuse with "quick-blowing" characteristics is desirable. Listed by Underwriters' Laboratories Inc.

Voltage	Symbol	Amperes	List Price
600 or less	BBS	4, 10, 3, 4 or 8, 10	\$0.22
600 or less	BBS	1, 2, 3, 4 or 5	0.20

Fuseholder for BBS fuses. Use HPC-L fuseholder or No. 3845 single pole, side barrier porcelain fuse block. Only BBS fuses (or others with exact same dimensions) will fit these holders. This assures replacement of proper size fuse.

Buss LIMITRON Fuses

For Protection of Semi-Conductor Rectifiers

These fuses furnished with type of terminals needed to meet requirements for easy mounting.

Available in three voltage ranges. Type KAA and type KAH for 130 volts or less. Type KAB for 250 volts or less. Type KAC and type KAJ for 600 volts or less.

Tell us your requirements.

HIGH INTERRUPTING CAPACITY FUSES



$1\frac{13}{32} \times 1\frac{1}{2}$ inch

Glass fibre melamine tube with sand filler surrounding a silver

fuse element. For use on circuits capable of delivering currents as high as 68,000 amperes at voltages of 500 or less AC or DC.

Test specification—carry 110% open at 135% in 1 hour or less.

Voltage	Symbol	Amperes	List Price
500 or less	KTK	1, 10, 15, 2, 10, 1, 4, 3, 10,	\$1.33
		1, 2, 3, 4, 1, 1, 2, 2, 3, 4,	
		5, 6, 8, 10, 15, 20, 25	
		or 30	

BUSS GLASS TUBE FUSES

$\frac{9}{32} \times 1\frac{1}{4}$ inch



Formerly called 4 AG.

Test specifications — carry 110%, open at 135% within 1 hour except 35 and 40 ampere which open at 300% in 2 to 4 seconds when tested in a standard 30 ampere test circuit.

Voltage	Symbol	Amperes	List Price
250 or less	AGS	$\frac{1}{16}$	\$0.38
	AGS	$\frac{3}{8}$	.26
	AGS	$\frac{1}{4}, 1\frac{1}{2}, 1, 2, 2\frac{1}{2}$ or 3	.13
32 or less	AGS	5, 10, 15, 20, 25, 30	.11

BUSS HIGH VOLTAGE FUSES



HVA and HVB



HVJ and HVL

Designed for protection of circuits up to 20 KW on DC and 30 KVA on AC.

Test specification—carry 110% open at 135% in 1 hour.

Voltage	Symbol	Amperes	Diameter of caps	Length inches	List Price
1000 or less	HVA	$\frac{3}{8}, 1\frac{1}{2}, 3\frac{1}{4}, 1, 1\frac{1}{2}$ or 2	$1\frac{3}{32}$	3	\$0.28
2500 or less	HVB	$\frac{1}{2}, 3\frac{1}{4}, 1, 1\frac{1}{2}$ or 2	$1\frac{3}{32}$	$4\frac{1}{2}$	0.36
5000 or less	HVJ	$\frac{1}{16}, 1\frac{1}{8}, 1\frac{1}{4}, 3\frac{1}{8}, 1\frac{1}{2}, 3\frac{1}{4}, 1, 1\frac{1}{2}$ or 2	$1\frac{3}{16}$	5	0.75
10000 or less	HVL	$\frac{1}{16}, 1\frac{1}{8}, 1\frac{1}{4}, 3\frac{1}{8}, 1\frac{1}{2}, 3\frac{1}{4}, 1, 1\frac{1}{2}$ or 2	$1\frac{3}{16}$	10	1.50

BUSS TWIN-CLIPS for $\frac{1}{4}$ " FUSES



Make it easy to replace blown pigtail fuses without cutting or unsoldering pigtails.

Just snap Twin-Clips on blown fuse and insert ordinary or Fusetron fuse of same amperage as blown fuse.

Strong spring clip pressure assures good contact.

No. 4121 BUSS Twin Clips One pair \$0.19

BUSS FUSE TV Service Kit Assortment

Contains 101 of the most popular fuses — 20 slide-cover metal boxes — and five pair of BUSS No. 4121 Twin Clips for use in replacing blown pigtail fuses. All packed in a clear plastic box.

Symbol, TV-STD



List Price \$18.48

VIBRATION CHARACTERISTICS

To determine the vibration characteristics of BUSS and FUSETRON fuses, a costly Caladyne Vibration System has been installed.

This system permits the evaluation of the vibration characteristics of Small Dimension fuses at cycles of 5 to 2000 per second and acceleration levels up to 30g (vector) or with displacements up to $\frac{1}{2}$ inch double amplitude.

Tests with this equipment have permitted great improvement in the designing of fuses to withstand vibration.

FUSSMANN MFG. DIVISION McGraw-Edison Co. St. Louis 7, Mo.

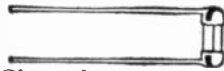
BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

Sub-Miniature Fuses

TRON PIGTAIL FUSES for MINIATURIZED CIRCUITS



Body size .140 x .300 inches. Glass tube. 1 inch leads of No. 24 tinned copper wire. Easily incorporated into miniaturized devices or components. May be potted or encapsulated. Hermetically sealed. Color coded to indicate ampere rating.

Test specifications —
 Type GLN carry 100% load, open within 10 seconds at 200% load.
 Type GLX carry 100% load, open within 10 seconds at 150% load.

Voltage	Symbol	Amperes	(Prices on Request)
125 volts or less if available fault current is not over 50 amps.	GLN	$\frac{1}{20}, \frac{1}{16}, \frac{1}{10}, \frac{1}{8}, \frac{1}{4}, \frac{3}{10}, \frac{1}{10}, \frac{1}{2}$	}
	GLX	$\frac{2}{10}, \frac{1}{4}, \frac{1}{2}, 1, 1\frac{1}{2}, 2, 3, 4, 5$	

BUSS GRASSHOPPER FUSES

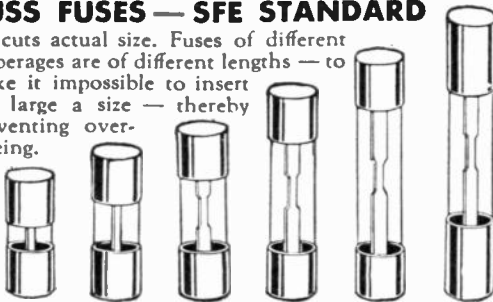
Give a visible signal or activate an alarm circuit when blown. Color coded to indicate type and amperage.



Symbol	Amps	Volts	Color Code	Prices on Request
35A	1 1/2	90 or less	White	}
35B	1 1/2	90 or less	White	
35B	2	90 or less	Orange	
35C	2	90 or less	Orange	
35D	1 1/2	90 or less	White	
35E	3	90 or less	White	
35F	1/2	90 or less	Red	
35G	3	90 or less	Blue	
35H	5	90 or less	Green	
35R	1 8/100	90 or less	Yellow	
35T	6 5/100	90 or less	Tan	
35J	1/2	160 or less	Red	
35K	1 1/2	160 or less	White	
35L	2	160 or less	Orange	
35M	3	160 or less	Blue	
35N	5	160 or less	Green	
35P	3/4	160 or less	Tan	
35S	1/4	160 or less	Pink	

BUSS FUSES — SFE STANDARD

All cuts actual size. Fuses of different amperages are of different lengths — to make it impossible to insert too large a size — thereby preventing over-fusing.



Glass tube — diameter 1/4 inch. Length as per table below. Test specification—carry 100%, open at 125% in 1/4 hour. Listed by Underwriters' Laboratories Inc. Made according to specifications of Society of Automotive Engineers.

Voltage	Symbol & Amperes	Length Inches	Pounds per 100	List Price
32 or less	SFE 4	5/8	.73	\$0.055
"	SFE 6	3/4	.75	.055
"	SFE 7 1/2	7/8	.80	.05
"	SFE 9	7/8	.80	.05
"	SFE 14	1 1/16	.82	.045
"	SFE 20	1 1/4	.87	.045
"	SFE 30	1 7/16	1.60	.06

PANEL MOUNTED HOLDERS for 1 3/32 x 1 1/2 inch Fuses



Screw type knob. Molded phenolic body. Holder attached to panel by screws or rivets. Strong coil spring provides contact pressure on ends of fuse. Normal current carrying capacity 30 amperes. Listed by Underwriters' Laboratories for 15 ampere rating for any voltage up to 250.

HPC (for FNM and KTK fuses)	List Price	\$0.75
HPC-C (Same as above, but has transparent knob)	List Price	\$0.95
HPC-L Holder for 1 3/32 x 1 1/8 inch Fuses.		
Like HPC Holder. Has Underwriters' Laboratories listing for 5 ampere rating and any voltage up to 600.		
HPC-L (for BBS fuses)	List Price	\$0.75

PANEL MOUNTED HOLDERS for 1/4 inch Fuses



Can be used on panels up to 3/16 inch thick. Bayonet type knob. No screw driver is needed.

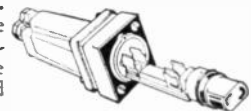
Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen. Vibration will not cause failure of terminals as they are designed to stand severe service. Neoprene washer and steel locking nut furnished with each holder. Wire hole in terminals; .115 inch. Normal current carrying capacity; 30 amperes. Listed by Underwriters' Laboratories Inc.

HJM for 1/4 x 1 inch fuses (AGX, SFE 14)	List Price	\$0.50
HJM-CC (Same as HJM but projects shorter distance behind panel)		.50
HKP for 1/4 x 1 1/4 inch fuses (ABC, AGC, SFE20, MDL, MDX, MTH)		.50
HKP-CC (Same as HKP but projects shorter distance behind panel)		.50

PANEL MOUNTED, LAMP INDICATING FUSEHOLDERS for 1/4 x 1/4 and 1 3/32 x 1 1/2 inch fuses

Made to Military Specifications.

Available as single or two pole units. Transparent knob permits neon indicating light to be readily seen. Body of molded alkyd.



Type	Pole	Fuse Size Inches	Circuit Voltage	Max. Amp. Rating	List Prices
HGB-C	Single	1/4 x 1 1/4	100 to 250	30	on
HGA-C	Two	1/4 x 1 1/4	100 to 250	30	Request
HGC	Single	1 3/32 x 1 1/2	200 to 500	30	Request

LAMP INDICATING FUSEHOLDERS



For panel mounting 1/4 x 1 and 1/4 x 1 1/4 inch fuses. Bayonet type knob. Molded phenolic body. Strong coil spring provides contact pressure at ends of fuse. Transparent knob permits indicating light to be readily seen.

Type	Fuse Size Inches	Circuit Voltage	Max. Amp. Rating	Type Lamp	List Price
HKL	1/4 x 1 1/4	100 to 250	20	Neon	\$2.15
HKL-X	1/4 x 1 1/4	100 to 250	20	Neon	2.15
HKR	1/4 x 1 1/4	24 to 32	20	Incand.	3.50
HKX	1/4 x 1 1/4	24 to 32	20	Incand.	3.50
HKT	1/4 x 1 1/4	10 to 14	20	Incand.	3.50
HKU	1/4 x 1 1/4	4 to 6	20	Incand.	3.50
HJL	1/4 x 1	100 to 250	20	Neon	2.15

BUSSMANN MFG. DIVISION McGraw-Edison Co. St. Louis 7, Mo.

BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment



HKA SERIES

Lamp Indicating, Signal Activating holders for 1/4 x 1 1/4 inch BUSS type GLD fuses

Used on circuits of 125 volts or less. Flashes a light, rings a bell, trips a relay or gives other signals to tell you when and where a fuse blows.

Symbol List Price
HKA for 1/4 x 1 1/4 inch GLD fuses, 3/4 to 5 amps. \$4.70
 GLD fuses listed under Indicating fuses.

IN-THE-LINE HOLDERS for 1/4 inch fuses

For mounting fuse in wire. Holders consist of body and bayonet type knob — two contacts ready to be staked on ends of wire — and a contact pressure spring.



Holders can also be mounted in panel up to 5/16 inch thick by means of a No. 9969 Spring nut (Nut not furnished). Flat area on holder permits locking against rotation. Normal current carrying capacity: 15 amperes.

Symbol List Price
HDI for 1/4 x 1 inch fuses (AGX, SFE 14) \$0.20
 Takes No. 18 or smaller wires.
HDI-A for 1/4 x 1 1/4 inch fuses (ABC, AGC, MDL, MDX, MTH, SFE 20) .20
 Takes No. 18 or smaller wires.
HDI-B for 1/4 x 1 1/4 inch fuses (as above) .20
 Takes No. 14 or 16 wires.
No. 9969 Spring nut for panel mounting above holders. .04

BUSS FUSE & HOLDER COMBINATION

For voltages up to 300

Safeguard against use of wrong size and type of fuse. HLR holder takes only GLR and GMF fuses.



Fuse and knob of fuse-holder are in one piece. When fuse blows, the entire fuse-knob assembly is replaced.

Small and compact, overall length of holder with fuse is approximately 2 7/16 inches.

Fuseholder
 Symbol List Price
HLR takes all sizes GLR and GMF Fuses \$0.22
 No. 6374 Snap-in steel clip for mounting HLR \$0.025

GLR FUSES — Fast-acting type



Symbol List Price
GLR 1, 1 1/2, 1 6/10, 2, 2 1/2, 3, 4, 5, 6 \$0.12
GLR 7, 8, 9, 10 .13

Carry 110%; open at 135% within one hour. Listed by Underwriters' Laboratories, Inc.

GMF FUSES — Dual-Element — slow-blowing type



Symbol List Price
GMF 1/2, 6/10, 8/10, 1, 1 1/4, 1 6/10, 2, 2 1/2, 2 8/10 \$0.36
GMF 3 2/10, 4, 5, 6 1/4 .36

Carry 110%; open at 135% within one hour. Listed by Underwriters' Laboratories, Inc.

FUSETRON and BUSS MATCHED FUSES and FUSEHOLDERS



Safeguard against use of wrong size and type of fuse. FUSETRON Type N are "slow-blowing" fuses for use where harmless surges or starting currents might cause ordinary fuses to open needlessly. Use in Type HN fuseholder.

BUSS Type C are "quick-blowing" fuses for fast interruption of fault current. Use in Type HC fuseholder. Listed by Underwriters' Laboratories Inc.

FUSETRON FUSE		FUSEHOLDER									
Symbol & Amperes	List Price	Symbol & Range	List Price								
N 1/100	\$0.40	HN 0 to 3/10	\$0.20								
N 1/32	.40										
N 1/16	.28										
N 1/10	.28										
N 1 3/100	.28										
N 3/10	.28										
N 1/4	.28										
N 3/10	.28										
N 4/10	.28			HN 3/10 to 1/2	.20						
N 1/2	.28										
N 5/10	.28										
N 7/10	.28	HN 1/2 to 3/4	.20								
N 3/4	.28										
N 8/10	.28										
N 1	.28										
N 1 1/4	.26					HN 3/4 to 1 1/4	.20				
N 1 5/10	.26										
N 1 3/4	.26							HN 1 3/10 to 1 3/4	.20		
N 2	.26										
N 2 1/2	.24			HN 1 3/4 to 2 1/2	.20						
N 2 8/10	.24										
N 3 2/10	.24	HN 2 1/2 to 3 1/2	.20								
N 3 1/2	.24										
N 4	.24									HN 3 1/2 to 5	.20
N 5	.24										
N 6 1/4	.24					HN 5 to 7	.20				
N 7	.24										

BUSS FUSE		FUSEHOLDER									
Symbol & Amperes	List Price	Symbol & Range	List Price								
C 1/32	\$0.42	HC 0 to 3/10	\$0.20								
C 1/16	.27										
C 1/8	.21										
C 3/16	.21			HC 3/10 to 1/2	.20						
C 1/4	.16										
C 3/10	.16					HC 1/2 to 3/4	.20				
C 3/8	.16										
C 1/2	.16							HC 3/4 to 1 1/4	.20		
C 3/4	.16										
C 1	.09									HC 1 1/4 to 1 3/4	.20
C 1 1/4	.09										
C 1 1/2	.09	HC 1 3/4 to 2 1/2	.20								
C 1 3/4	.09										
C 2	.09			HC 2 1/2 to 3 1/2	.20						
C 2 1/2	.09										
C 3	.09					HC 3 1/2 to 5	.20				
C 3 1/2	.12										
C 4	.12							HC 5 to 7	.20		
C 5	.12										
C 6	.12									HC 7 to 10	.20
C 7	.12										
C 8	.17										
C 10	.18										










BUSSMANN MFG. DIVISION McGraw-Edison Co. St. Louis 7, Mo.

BUSS Fuses

FUSETRON DUAL-ELEMENT Fuses and Fuse Holders

for Protection of TV, Radios, Instruments and Electronic Equipment

BUSS FUSE and BUSS SILICON RECTIFIER BLOCKS

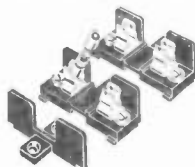
Type of Block	Poles	For $\frac{1}{4} \times 1$ inch Fuses		For $\frac{1}{4} \times 1\frac{1}{4}$ inch Fuses		For $\frac{1}{4} \times 1\frac{7}{16}$ inch Fuses		For $\frac{9}{32} \times 1\frac{1}{4}$ inch Fuses		For $13\frac{32}{32} \times 1\frac{1}{2}$ inch Fuses	
		No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price
 Small bakelite base, solder terminals. Cut shows 1 pole block	1 Pole	4520	\$0.20	4405	\$0.20			4413	\$0.32	4421	\$0.48
	2 Pole	4485	.40	4408	.40			4416	.64	4424	.96
	3 Pole	4403	.60	4411	.60			4419	.96	4428	1.28
 Small bakelite base, screw terminals. Cut shows 1 pole block	1 Pole	4399	\$0.32	4407	\$0.32			4415	\$0.55	4423	\$0.55
	2 Pole	4402	.64	4410	.64			4418	1.10	4427	1.10
	3 Pole	4404	.96	4412	.96			4420	1.65	4429	1.65
 Small bakelite base, solder side terminals. Cut shows 2 pole block	1 Pole	4398	\$0.20	4406	\$0.20			4414	\$0.32	4422	\$0.48
	2 Pole	4401	.40	4409	.40			4417	.64	4426	.96
 Full bakelite base, screw terminals. Cut shows 1 pole block	1 Pole	4514	\$0.43	4512	\$0.43	4513	\$0.55	4481	\$0.55	4515	\$0.65
	2 Pole	4524	.86	4522	.86	4523	1.10	4482	1.10	4525	1.30
	3 Pole	4534	1.29	4532	1.29	4533	1.65	4483	1.65	4535	1.95
 Spare fuse block. Bakelite base.	1 Pole	4393	\$0.20	4574	\$0.20						
 Porcelain base, side barrier, screw terminals. Cut shows 2 pole block	1 Pole			4396	\$0.50					3792	\$0.75
	2 Pole			4161	1.00					4439	2.20
	3 Pole										
 Porcelain base center barrier screw terminals. Cut shows 2 pole block	2 Pole									4575	\$1.40
 Porcelain base, side barrier, screw terminals. Cut shows 1 pole block	1 Pole	3845	For $13\frac{32}{32} \times 1\frac{3}{8}$ inch Fuses (BUSS BBS) — Price Each \$0.75								
 Signal Fuse block. Cut shows 7 pole block	4 Pole	3839	For $13\frac{32}{32} \times 1\frac{1}{2}$ inch BUSS FNA fuses—Prices on request								
	7 Pole	4178	For $\frac{1}{4} \times 1\frac{1}{4}$ BUSS GLD fuses—Prices on request								

BUSS SILICON RECTIFIER BLOCKS

 Silicon rectifier block. Solder terminals. Cut shows 1 pole block	1 Pole	3794	\$0.25								
	2 Pole	3795	.50								

BUSS Add-On Fuse Blocks for $1\frac{3}{32} \times 1\frac{1}{2}$ inch Fuses

Single-pole fuse blocks and separate end barrier assemble into a unit block of one or more poles. Units lock in position. Assembled block becomes a single unit.



Each fuse can be used as a disconnect. See illustration. Raised fuse identifies open circuit and prevents confusion in getting right fuse back in circuit.

Marking strips so each circuit can be identified available.

- No. 3949 Assembly consisting of one No. 3742 End Barrier — plus specified number of No. 3743 One-Pole Blocks
- 3742 End-Barrier Only \$.25
- 3743 One-Pole Block Only 1.38
- Marking Strip in 50 inch lengths \$0.38 per length

When ordering, be sure to specify number of End Barriers and number of One-Pole Blocks desired. Only ONE End Barrier is required for each assembled fuse block of any number of poles.

Other standard and special fuses, fuse blocks, fuse clips and fuse holders

If the fuses, fuse blocks, fuse clips and holders shown do not fit your requirements ask for information on other types.

Fuses and fuse mountings to meet JAN and Military

specifications also are available.

If you have a special problem in protection send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

BUSSMANN MFG. DIVISION McGraw-Edison Co. **St. Louis 7, Mo.**

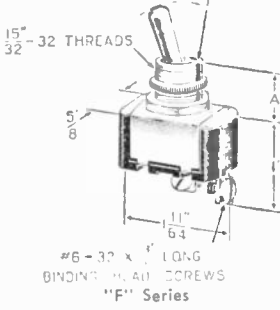
SWITCHES - TOGGLE

*For COLORED PLASTIC Toggles—Inquire

Heavier Duty Types of these
Switches Available — Inquire

Single Pole ("F" Series)

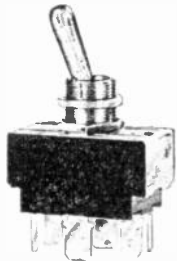
035" DEEP X 068" WIDE KEYWAY



CATALOG NUMBERS				ELECTRICAL CIRCUIT CHARACTERISTICS		
NOMINAL RATINGS				(NOTE—Keyway Indicates "Down" Position)		
15 Amp—125 V. A.C. 10 Amp—250 V. A.C. 3/4 H.P.—115 230 V. A.C.		6 Amp—125 V. A.C. 3 Amp—250 V. A.C. 1/4 H.P.—115 230 V. A.C.		UP POSITION	CENTER POSITION	DOWN POSITION
SOLDER LUGS	SCREW TERMINALS	SOLDER LUGS	SCREW TERMINALS			
*2FA53	*2FA54	2FA63	2FA64	On	None	Off
6FA57	6FA58	6FA67	6FA68	On	None	Momentarily Off
6FA53	6FA54	6FA63	6FA64	On+	None	Momentarily On
2FB53	2FB54	2FB63	2FB64	On	None	On
2FC53	2FC64	2FC63	2FC64	On	Off	On
6FB53	6FB54	6FB63	6FB64	On	None	Momentarily On
6FC53	6FC54	6FC63	6FC64	Momentarily On	Off	Momentarily On
6FC57	6FC58	6FC67	6FC68	On	Off	Momentarily On

Note: For Cross Connected Reversing, Progressive Circuits, and other multiple circuit applications—Inquire.

Double Pole ("G" Series)

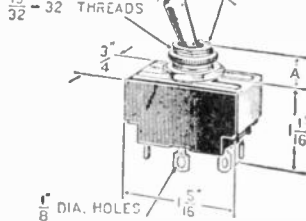


For TAB Terminals as above Add Suffix — "TABS"

CATALOG NUMBERS				ELECTRICAL CIRCUIT CHARACTERISTICS		
NOMINAL RATINGS				(NOTE—Keyway Indicates "Down" Position)		
15 Amp—125 V. A.C. 10 Amp—250 V. A.C. 3/4 H.P.—115 230 V. A.C.		6 Amp—125 V. A.C. 3 Amp—250 V. A.C. 1/4 H.P.—115 230 V. A.C.		UP POSITION	CENTER POSITION	DOWN POSITION
SOLDER LUGS	SCREW TERMINALS	SOLDER LUGS	SCREW TERMINALS			
2GK53	2GK54	2GK63	2GK64	On	None	Off
6GK57	6GK58	6GK67	6GK68	On	None	Momentarily Off
6GK53	6GK54	6GK63	6GK64	On+	None	Momentarily On
2GL53	2GL54	2GL63	2GL64	On	None	On
2GM53	2GM54	2GM63	2GM64	On	Off	On
6GL53	6GL54	6GL63	6GL64	On	None	Momentarily On
6GM53	6GM54	6GM63	6GM64	Momentarily On	Off	Momentarily On
6GM57	6GM58	6GM67	6GM68	On	Off	Momentarily On

*Note: #2FA53 and #2FA54 have a higher rating of 1 H.P.

035" DEEP X 068" WIDE KEYWAY

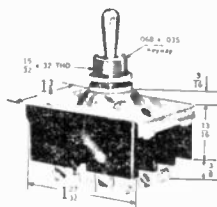


"G" Series (above)

CATALOG NUMBER SUFFIX FOR TOGGLE AND STEM LENGTHS (Bat Toggle Only)					
TOGGLE LENGTH	STEM LENGTH	SUFFIX NO.	TOGGLE LENGTH	STEM	SUFFIX NO.
1 1/2"	1 1/2"	-52	1"	1 1/2"	-A2
1 3/4"	1 3/4"	-62	1 1/4"	1 3/4"	-A3
1 7/8"	1 7/8"	-63	1 1/2"	1 7/8"	-B3
1 5/8"	1 5/8"	-72	3"	1 5/8"	-T3
1 1/2"	1 1/2"	-73			

RATING:
13 Amp.—125 V. A.C.
10 Amp.—250 V. A.C.
1 H.P.—1, 2, 3 Phase
120 240 V. A.C.

Three Pole ("H" Series)

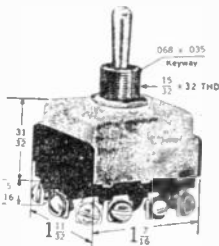


"H" SERIES
Illustration is with Tab type terminals

CATALOG NUMBERS			CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE		
TERMINALS			UP	CENTER	DOWN
LUG	SCREW	TAB			
HK233	HK234	HK23A	On	None	Off
HK633	HK634	HK63A	Off	None	Momentarily On
HK637	HK638	HK63B	On	None	Momentarily Off
HL233	HL234	HL23A	On	None	On
HL633	HL634	HL63A	On	None	Momentarily On
HM233	HM234	HM23A	On	Off	On
HM633	HM634	HM63A	Momentarily On	Off	Momentarily On
HM637	HM638	HM63B	On	Off	Momentarily On

RATING: 15 Amp.—125 V. A.C.
10 Amp.—250 V. A.C.

Four Pole ("I" Series)



"I" SERIES
Illustration above shows Screw Terminals

CATALOG NUMBERS			CIRCUIT CHARACTERISTICS WITH POSITION OF TOGGLE		
TERMINALS			UP	CENTER	DOWN
LUG	SCREW	TAB			
IK253	IK254	IK25A	On	None	Off
IK653	IK654	IK65A	Off	None	Momentarily On
IK657	IK658	IK65B	On	None	Momentarily Off
IL253	IL254	IL25A	On	None	On
IL653	IL654	IL65A	On	None	Momentarily On
IM253	IM254	IM25A	On	Off	On
IM653	IM654	IM65A	Momentarily On	Off	Momentarily On
IM657	IM658	IM65B	On	Off	Momentarily On

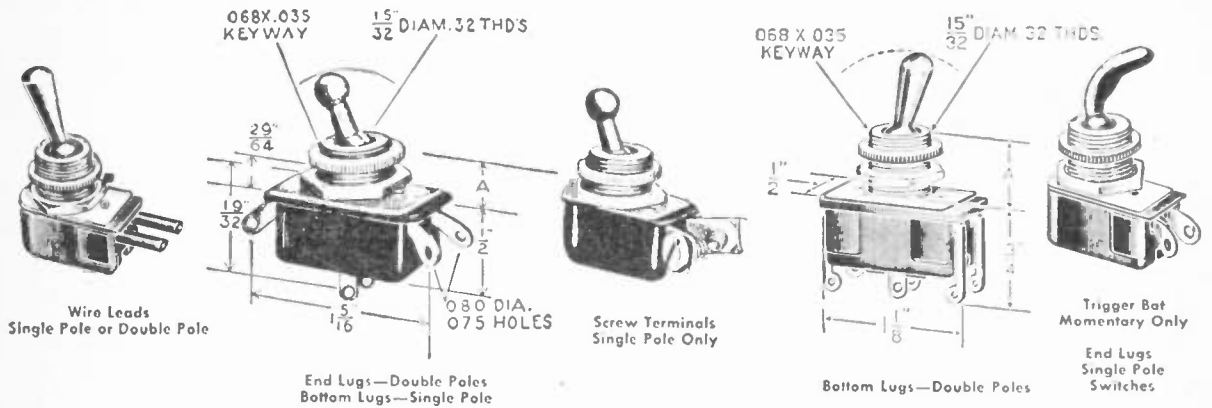
Note: Keyway is in down position on all switches shown.

CARLING ELECTRIC, INC. — West Hartford 10, Conn.

Sec. 5100

SINGLE POLE DOUBLE POLE SWITCHES—TOGGLE

Maintained (Locking) and Momentary (Non-Locking) Types



IMPORTANT—ADD correct SUFFIX NUMBER to CATALOG NUMBER to receive type TOGGLE and STEM wanted.

MAINTAINED CONTACTS			
CATALOG NUMBER	TYPES OF TERMINALS	POLES-CIRCUIT	NOMINAL RATING AC or DC
T-110 T-110-B T-110-S T-111-16	Lugs—End Lugs—Bottom Screw Wire	S.P.—S.T.	3 Amp—250 V. 6 Amp—125 V.T. (T Rated)
110 110-B 110-D 110-S 111-16 111-D	Lugs—End Lugs—Bottom Lugs—2 Ends Wire Wire—2 Ends	S.P.—S.T.	3 Amp—250 V. 6 Amp—125 V.
112 112-A	Lugs—End Wire	S.P.—D.T.	
216 216-A 216-B	Lugs—End Wire Lugs—Bottom	D.P.—S.T.	
316 316-A 316-B	Lugs Wire Lugs—Bottom	D.P.—D.T.	1 Amp—250 V. 3 Amp—125 V.
516 516-A 516-B	Lugs—End Wire Lugs—Bottom	Two Circuit	
28B62 28K62	Lugs—End	S.P.—D.T.	
28L62 28L63	Lugs—End Lugs—Bottom	D.P.—S.T.	3 Amp—250 V. 6 Amp—125 V.
160 160-A 160-B 160-S	Lugs—End Wire Lugs—Bottom Screw	S.P.—S.T.	10 Amp—125 V. 5 Amp—250 V.

MOMENTARY TYPES — Stem Length 1 5/32" ONLY					
NOMINAL RATING AC or DC	POLES-CIRCUIT	TYPES OF TERMINALS	CATALOG NUMBER		
	S.P.—S.T. Normally Open (Off) (Momentarily On)	Lugs—End Lugs—Bottom Lugs—2 Ends Screw Wire Wire—2 Ends	110-M-NO 110-BM-NO 110-M-DNO 110-SM-NO 111-16M-NO 111-16M-DNO		
6 Amp—125 V. 3 Amp—250 V.	S.P.—S.T. Normally Closed (On) (Momentarily Off)	Lugs—End Lugs—Bottom Lugs—2 Ends Screw Wire Wire—2 Ends	110-M-NC 110-BM-NC 110-M-DNC 110-SM-NC 111-16M-NC 111-16M-DNC		
	S.P.—D.T.	Lugs—End Wire	112-M 112-M-A		
	D.P.—S.T. Normally Open (Off) (Momentarily On)	Lugs—End Wire	216-M-NO 216-M-ANO		
	D.P.—S.T. Normally Closed (On) (Momentarily Off)	Lugs—End Wire	216-M-NC 216-M-ANC		
3 Amp—125 V. 1 Amp—250 V.	D.P.—D.T.	Lugs Lugs—Bottom	316-M 316-BM		
	Two Circuit (1 On—1 Off)	Lugs—End Wire Lugs—Bottom Screw	516-M 516-AM 516-BM 516-SM		
TOGGLE TYPE & LENGTH		BALL 3/8"	BAT 1/2"	BAT 5/16"	TRIGGER BAT
SUFFIX NO.		-23	-63	-73	-93

TOGGLE TYPE & LENGTH	BALL 5/16	BALL—3/8" LONG					BAT—1/2"		BAT—5/16"	SLOTTED
STEM LENGTH (A)	1 1/4"	1/4"	1 1/32"	1 1/16"	3/8"	1 1/32"	1 5/32"	1 1/32"	1 1/32"	
Std. SUFFIX NOS.	-11	-21	-22	-23	-25	-62	-63	-73		
*With Neoprene Seal			-57			-67	-68			
& Toggle Type & Length			BAT 3/8			BAT 1/2		BAT 5/16		

**MARINE APPLICATIONS
USE PREFIX M-**

*DUSTPROOF SEAL (Also RAIN RESISTANT)

Note: Solderless quick disconnect terminals are available on #110 switch above

(See Picture on Cover) Use Add'l Suffix No. — "TABS"

CARLING ELECTRIC, INC. — West Hartford, 10, Conn.

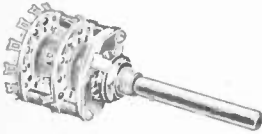
Centralab[®]

Milwaukee 1, Wisconsin In Canada: 669 Bayview Ave., Toronto, Ontario

SWITCHES

PA-1000 SERIES MINIATURE PHENOLIC ROTARY SWITCHES

A complete line of laminated phenolic insulated rotary switches which will meet rigorous military and commercial applications. Laminated phenolic insulation, type PBE, per MIL-P-3115B. Voltage breakdown 1000 volts AC-RMS. Sections: 1 1/2" diam., 1/16" thick. All metal parts except clips and contacts, cadmium plated to withstand 25 hour salt spray test. Bushing: 3/8" - 32 thread, 3/8" long. Shaft: 1/4" diameter full-round, 2 1/4" long from mtg. surface. Rated: 2 amperes at 15 volts DC; 150 milliamperes at 110 volts AC. Indexing: Positive - adjustable stop - in 30° or 60° detents.



MINIATURE SWITCHES WITH 30° INDEXING

Total Poles	Total Positions	Poles Per Section	Number Sections	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-11	1	1	PA 1000	PA 1001	\$2.50
2	2-5	2	1	PA 1002	PA 1003	2.50
2	2-11	1	2	PA 1004	PA 1005	3.60
3	2-3	3	1	PA 1006	PA 1007	2.50
3	2-11	1	3	PA 1008	PA 1009	4.50
4	2	4	1	PA 1010	PA 1011	2.50
4	2-5	2	2	PA 1012	PA 1013	3.60
4	2-11	1	4	PA 1014	PA 1015	5.30
5	2-11	1	5	PA 1016	PA 1017	6.20
6	2-3	3	2	PA 1018	PA 1019	3.60
6	2-5	2	3	PA 1020	PA 1021	4.50
6	2-11	1	6	PA 1022	PA 1023	7.00
8	2	4	2	PA 1024	PA 1025	3.60
8	2-5	2	4	PA 1026	PA 1027	5.30
10	2-5	2	5	PA 1030	PA 1031	6.20
12	2	4	3	PA 1028	PA 1029	4.50
12	2-5	2	6	PA 1032	PA 1033	7.00

SPECIAL CIRCUITS

1 2-10 1 1 PA 1034 \$2.50
(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

1 2-10 1 1 PA 1040 2.50
(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation.)

60° INDEXING SWITCHES

1	2-6	1	1	.....	PA 1035	\$2.50
2	2-6	1	2	.....	PA 1037	3.60

SEPARATE MINIATURE PHENOLIC SECTIONS

Use with index assemblies No. PA-300, PA-301, PA-302 (except as noted) for assembly of special switches to meet your requirements.

Poles	Positions	Indexing	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-11	30°	PA 30	PA 31	\$1.20
2	2-5	30°	PA 32	PA 33	1.20
3	2-3	30°	PA 34	PA 35	1.20
4	2	30°	PA 36	PA 37	1.20
1	2-5	30°	PA 38	PA 39	1.20

(All unused contacts one side of common connected and shorted out.)

1 2-11 30° PA 40 PA 41 1.20
(All unused contacts connected and shorted out.)

1 2-10 30° PA 43 1.20

(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

1 2-10 30° PA 49 1.20

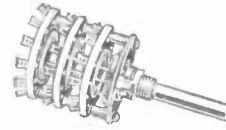
(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation.)

1 2-6 60° PA 45 1.20

(Use with 60° Index Assemblies PA-304 or PA-305.)

PA-2000 SERIES MINIATURE CERAMIC ROTARY SWITCHES

A complete line of ceramic insulated rotary switches offering maximum voltage flashover, high-Q-low-loss steatite body and minimum inter-circuit capacity. Grade L-5A steatite insulation. Voltage breakdown 1500 volts AC-RMS. Sections: 1 1/2" diam.; .100" thick. All metal parts except clips and contacts, cadmium plated to withstand 25 hour salt-spray test. Bushing: 3/8" - 32 thread, 3/8" long. Shaft: 1/4" diam. full-round, 2 1/4" long from mtg. surface. Rated: 2 amperes at 15 volts DC; 150 milliamperes at 110 volts AC. Indexing: Positive - adjustable stop - in 30° or 60° detents.



MINIATURE SWITCHES WITH 30° INDEXING

Total Poles	Total Positions	Poles Per Section	Number Sections	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-12	1	1	PA 2000	PA 2001	\$3.30
2	2-6	2	1	PA 2002	PA 2003	3.30
2	2-12	1	2	PA 2004	PA 2005	4.70
3	2-5	3	1	PA 2006	PA 2007	3.30
3	2-12	1	3	PA 2008	PA 2009	6.00
4	2-6	2	2	PA 2010	PA 2011	4.70
4	2-12	1	4	PA 2012	PA 2013	7.20
5	2-3	5	1	PA 2014	PA 2015	3.30
5	2-12	1	5	PA 2016	PA 2017	8.60
6	2	6	1	PA 2018	PA 2019	3.30
6	2-5	3	2	PA 2020	PA 2021	4.70
6	2-6	2	3	PA 2022	PA 2023	6.00
6	2-12	1	6	PA 2024	PA 2025	10.00
8	2-6	2	4	PA 2026	PA 2027	7.20
9	2-5	3	3	PA 2028	PA 2029	6.00
10	2-3	5	2	PA 2030	PA 2031	4.70
10	2-6	2	5	PA 2032	PA 2033	8.60
12	2	6	2	PA 2034	PA 2035	4.70
12	2-6	2	6	PA 2036	PA 2037	10.00
15	2-3	5	3	PA 2038	PA 2039	6.50
18	2	6	3	PA 2040	PA 2041	6.50

SPECIAL CIRCUITS

1 2-10 1 1 PA 2052 3.00
(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

1 2-10 1 1 PA 2052 3.00

(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation.)

2 2-12 1 2 PA 2048 PA 2049 6.50

(Coin silver clips and contacts.)

2 4 1 2 PA 2050 3.30

(For Switching dual lines.)

MINIATURE SWITCHES WITH 60° INDEXING

1	2-6	1	1	.....	PA 2043	3.00
2	2-6	1	2	.....	PA 2045	4.20

(1 1/2" spacing between sections.)

SEPARATE INDEX ASSEMBLIES

Indexing	Rear Shaft Length	Suggested No. Sections	Catalog Number	List Price
30°	2"	1 to 3	PA 300	\$1.90
30°	4"	4 to 6	PA 301	2.50
30°	6"	7 to 9	PA 302	3.30
60°	2"	1 to 3	PA 304	2.00
60°	4"	4 to 6	PA 305	2.60

Same for PA-2000 and PA-1000 Series.

(Continued on next page)

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SWITCHES (Cont'd)

(Continued from previous page)

SEPARATE STEATITE SECTIONS FOR PA-2000 SERIES

Use with Index Assemblies No. PA-300, PA-301, PA-302 (except as noted) for assembly of special switches to meet your requirements.)

No. Poles	No. Positions	Indexing	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-12	30°	PA 0	PA 1	\$1.65
2	2-6	30°	PA 2	PA 3	1.65
3	2-5	30°	PA 4	PA 5	1.65
5	2-3	30°	PA 6	PA 7	1.65
6	2	30°	PA 8	PA 9	1.65
1	2-5	30°	PA 10	PA 19	1.65

(Unused contacts one side of common connected and shorted out.)

1	2-11	30°	PA 11	PA 18	1.65
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(All unused contacts connected and shorted out.)

1	2-10	30°	PA 12	1.65
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(Nine active contacts, all open in full CCW position and progressively picked up and shorted to common contact with CW rotation.)

1	2-10	30°	PA 13	1.65
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(Nine active contacts, all shorted to common contact in full CCW position, and progressively opened and dropped with CW rotation.)

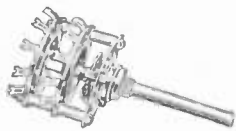
1	2-6	60°	PA 20	PA 17	1.65
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(Use with 60° index assemblies PA-304 or PA-305.)

COIN SILVER CLIPS AND CONTACTS

1	2-12	30°	PA 16	PA 21	\$2.75
2	2-6	30°	PA 14	PA 23	2.75
4	2	30°	PA 15	PA 24	2.75

1400 SERIES PHENOLIC ROTARY SELECTOR SWITCHES



Series 1400 offers compact design and quality construction. Laminated phenolic insulation. Mounting Bushings 3/8" x 32 thd. x 3/8" long. Shafts 2 1/4" long from mounting surface. Positive 30° index with adjustable stop. Rating and applications same as 2500 series.

Total No. Poles	No. Positions	Poles Per Section	No. Sections	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-6	1	1	1400	1401	\$2.90
1	2-11	1	1	1402	1403	2.90
2	2-5	2	1	1404	1405	2.90
2	2-6	1	2	1410	1411	3.60
2	2-11	1	2	1412	1413	3.60
3	2-3	3	1	1406	1407	2.90
3	2-6	1	3	1420	1421	4.50
3	2-11	1	3	1422	1423	4.50
4	2	4	1	1408	1409	2.90
4	2-5	2	2	1414	1415	3.60
4	2-6	1	4	1426	1427	5.30
4	2-11	1	4	1428	1429	5.30
6	2-3	3	2	1416	1417	3.60
6	2-5	2	3	1424	1425	4.50
8	2	4	2	1418	1419	3.60
8	2-5	2	4	1430	1431	5.30

SEPARATE PHENOLIC SECTIONS

DELUXE SECTIONS — .187" rotor slot for use with P-270, P-271, P-272 Indexes. This is strongest, most reliable construction.

FLAT SHAFT SECTIONS — .064" rotor slot for use with P-121, P-122, P-123 Indexes.

No. Poles	No. Positions	Flat Shaft Shorting	Deluxe Shorting	Flat Shaft Non-Shorting	Deluxe Non-Shorting	List Price
1	2-6	A	AD	H	HD	\$1.20
1	2-11	B	BD	J	JD	1.20
2	2-5	C	CD	K	KD	1.20
3	2-3	D	DD	L	LD	1.20
4	2	E	ED	M	MD	1.20
4	2-3	EE	EED	..	BBD	1.65
1	2-5	F	FD	..	AAD	1.20

(Unused contacts one side of common connected and shorted out.)

1	2-11	G	GD	..	CCD	1.20
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(All unused contacts connected and shorted out.)

1	2-10	PI	PID	1.20
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(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation.)

Combine for	N	ND	..	....	1.20
resistance decade	P	PD	..	....	1.20
Capacitance decade	Q	QD	..	....	1.20

SEPARATE INDEX ASSEMBLIES — (See 2500 series)

2500 SERIES CERAMIC ROTARY SELECTOR SWITCHES



The 2500 ceramic insulation series are primarily used for band change and general tap switch application where miniaturization is not a necessity. Grade L5 Steatite insulation. Rated 2 amps. at 15 V.D.C., 150 milliamps at 110 V.A.C. Bushing: 3/8" — 32 thd., 3/8" long, shaft 2 1/4" long from mounting surface. 30° indexing — adjustable stop. See "Ham Switches" for 60° and 90° indexing. Indexes and hardware interchangeable with 1400 phenolic series.

Total No. Poles	No. Positions	Poles Per Section	No. Sections	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	2-6	1	1	2500	2501	\$3.30
1	2-11	1	1	2502	2503	3.30
2	2-5	2	1	2504	2505	3.30
2	2-6	1	2	2510	2511	4.70
2	2-11	1	2	2512	2513	4.70
3	2-3	3	1	2506	2507	3.30
3	2-6	1	3	2520	2521	6.00
3	2-11	1	3	2522	2523	6.00
4	2-5	2	2	2514	2515	4.70
6	2-3	3	2	2516	2517	4.70
6	2-5	2	3	2524	2525	6.00

SEPARATE CERAMIC SECTIONS

DELUXE SECTIONS — .187" rotor slot for use with P-270, P-271, P-272 Indexes. This is strongest, most reliable construction.

FLAT SHAFT SECTIONS — .064" rotor slot for use with P-121, P-122, P-123 Indexes.

No. Poles	No. Positions	Flat Shaft Shorting	Deluxe Shorting	Flat Shaft Non-Shorting	Deluxe Non-Shorting	List Price
1	2-6	T	TD	X	XD	\$1.65
1	2-11	U	UD	Y	YD	1.65
2	2-5	R	RD	RR	RRD	1.65
3	2-3	S	SD	SS	SSD	1.65
4	2	V	VD	Z	ZD	1.65
1	2-11	GG	GGD	..	FFD	1.65

(All unused contacts connected and shorted out.)

1	2-10	PIS	PISD	1.65
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(Nine active contacts, all open in full CCW position, and progressively picked up and shorted to common contact with CW rotation.)

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SWITCHES (Cont'd)

(Continued from previous page)

Combine for	...	NSD	1.65
resistance decade	...	PSD	1.65
Capacitance decade	...	QSD	..	....	1.65

SEPARATE INDEX ASSEMBLIES

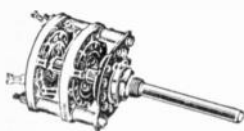
DELUXE — 1 piece shaft, .187" thick flat shaft (DD type) through sections, for use with Deluxe 2500 Series steatite or 1400 series phenolic sections AD thru ZD. 30° positive index. Individually cartoned including hardware and knob.

Catalog Number	Rear Shaft	Suggested No. Sections	List Price
P-270	2"	1 to 3	1.90
P-271	4"	3 to 5	2.50
P-272	8"	5 to 10	3.30

FLAT SHAFT — 2 piece shaft, 0.64" thick flat shaft through sections, for use with "flat shaft" 2500 series steatite or 1400 series phenolic section A thru Z. Individually cartoned including hardware and knob.

P-121	2"	1 to 3	\$1.90
P-122	4 1/4"	3 to 4	2.50
P-123	7"	5 to 8	3.30

HAM SWITCHES



Heavy duty deluxe ceramic construction needed for "Ham" application is available in both 60° and 90° indexing for 5 and 4 band application with an adjustable stop. Size and hardware same as 2500 series. Breakdown voltage, 2000 volts, AC-RMS. Rating

150 milliamp at 150 V.A.C.; 4 milliamp at 1500 V.A.C.; 2 amps. at 15 V.D.C. For use with tubes operating at voltages up to 1 KV and inputs up to 150 watts.

60° HAM TYPE SWITCHES

Total No. Poles	No. Positions	Poles per Section	No. Sections	Catalog No.	List Price
1	2 to 6	1	1	2550	\$3.00
2	2 to 6	1	2	2551	4.25
3	2 to 6	1	3	2552	5.50
4	2 to 6	1	4	2553	6.75
5	2 to 6	1	5	2554	8.00

60° SEPARATE SECTION

1 pole 2-6 position Non Shorting Deluxe Cat. No. ZD \$1.65

60° SEPARATE INDEX ASSEMBLIES

Ham Type — 60° indexing. Two piece shaft construction, phenolic rear, metal front. Use with "ZD" Ham Type sections.

(One index, knob; and sufficient hardware to complete switch are included in each index assembly.)

Catalog Number	Rear Shaft	Suggested No. Sections	List Price
P-273	2"	1 to 2	\$1.90
P-274	4 1/4"	3 to 4	2.40
P-275	7"	5 to 8	3.00

90° HAM TYPE SWITCHES

Total No. Poles	No. Positions	Poles per Section	No. Sections	Catalog No.	List Price
1	2 to 4	1	1	2542	\$3.00
2	2 to 4	1	2	2543	4.25
3	2 to 4	1	3	2544	5.50
4	2 to 4	1	4	2545	6.75
5	2 to 4	1	5	2546	8.00

90° SEPARATE SECTIONS

1 pole, 2 to 4 position, Non-shortening, Cat. No. XX.
1 pole, 2 to 4 position, Non-shortening, Deluxe, Cat. No. XXD.

90° SEPARATE INDEX ASSEMBLIES

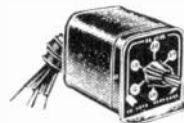
Ham Type — 90° indexing. Use with "XXD" Deluxe Ham type sections. For high voltage operation. Switches using this index will pass 2000 volts AC breakdown to ground test. Individually cartoned including hardware and knob.

Catalog Number	Rear Shaft	Suggested No. Sections	List Price
P-278	2"	1 to 2	1.90
P-279	4 1/4"	3 to 4	2.40
P-280	7"	5 to 8	3.00

Ham Type — 90° indexing. Two piece metal shaft construction. Use with "XX" Ham Type sections. Hardware and knob included.

P-170	2"	1 to 2	\$1.90
P-171	4 1/4"	3 to 4	2.40
P-172	7"	5 to 8	3.00

TV ANTENNA ATTENUATOR PCH-4 SWITCH



Eliminates "tearing" of image due to high power through use of "H" pads. Proper attenuation also eliminates "ghosting" by reducing signal strength — reduces the weaker signal in a single channel. Useful in matching impedance between antennas and receivers.

Unit has six switching positions: 1 — Regular antenna. 2 — a 10 db signal loss inserted between the antenna and receiver. 3 — a 20 db loss. 4 — a 30 db loss. 5 — a 40 db loss. 6 — a 60 db loss — disconnects antenna for areas of immediate proximity to high power transmitter.

CAT. NO. PCH-4 List Price \$10.00

SEPARATE H-PADS FOR TV ATTENUATOR

"H" Pads are a combination of 5 resistors on a steatite ceramic plate — Centralab's Packaged Electronic Circuits. Solder lug terminals, phenolic coated and triple wax impregnated. Each unit clearly marked.

Packaged individually, 5 packages per carton.

Atten.	Catalog Number	Atten.	Catalog Number	List Price
10 db	PCH 10	30 db	PCH 30	\$1.50
20 db	PCH 20	40 db	PCH 40	1.50

CAT. NO. PCH-100 KIT — set of 4. 1 of each value of above "H" Pads (in clear plastic box) List Price \$6.00

DUAL SPEAKER SWITCH KIT



The PK-300 Kit is primarily designed for rear seat auto radio speaker applications, however, it is adaptable to many commercial applications where dual switching is desirable. Includes switch, mounting bracket, dial plate, knob, screws and instructions.

PK-300 List Price \$1.75 ea.

ANTENNA SWITCH KIT



The PK-400 Kit is primarily designed for UHF-VHF antenna switching. The steatite insulated switch is rated at 2 amps. 15 volts DC, 150 milliamperes at 110 volts AC (make-Break resistive load).

Includes switch, mounting bracket, dial plate, knob and screws.
PK-400 List Price \$2.75

INTERCOM CORD OPERATED SWITCH KIT



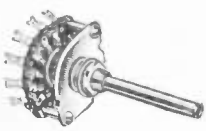
The PK-500 Kit is designed for use in PA and Intercom systems where dependable service and low cost is desired. Includes switch, mounting screws, cord and instruction sheet.

PK-500 List Price \$2.70 ea.

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SWITCHES (Cont'd)



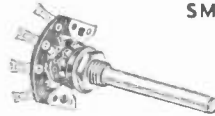
ROTARY ACTION SWITCHES

Rating 2 amperes at 15 volts DC. 150 milliamperes at 110-volts AC resistive load. Bushing, $\frac{3}{8}$ " — 32 thd., $\frac{3}{8}$ " long. Shaft, $\frac{1}{4}$ " diam. full round — $2\frac{1}{4}$ " long from mtg. surface.

- CAT. NO. 1443:** "23 CLIPPER" Single Section Single Pole, 23 active positions; 15° positive indexing requiring only 1" overall behind panel. Fixed stop. List Price: \$3.00
- CAT. NO. 1444:** Same as 1443 except 2 sections, 2 poles. List Price: \$4.00
- CAT. NO. 1445:** Same as 1443 except continuous rotation. List Price: \$3.00
- CAT. NO. 1448:** 6 Pole, 3 Position, Non-Shorting Contacts, Spring Return Index, both sides to center. This switch will replace any unit from 2 pole, 2 position to 6 pole, 3 position. Requires only 1" overall depth behind panel. Ideal for PA and intercom applications. List Price: \$2.75
- CAT. NO. 1449:** 6 Pole, 3 Position, Non-Shorting Contacts, Spring Return Index, one side to center. Positive Index, opposite side to center. Otherwise same as 1448 above. List Price: \$2.75
- CAT. NO. 1450:** "ECONO-SWITCH" — 4 Pole, 2 Position, Non-Shorting, Positive leaf-type spring index. Staked spacer to front plate construction requires only $\frac{7}{8}$ " depth behind the panel. Can be used as SPST and up to 4 pole, 2 position. List Price: \$1.75
- CAT. NO. 1451:** "PERMA-SWITCH" — 4 Pole, 2 Position, Non-Shorting Contacts, Spring Return Index. Has the same long life coil spring index as 1448 and 1449. Designed particularly for long, hard use in industrial test equipment and simple "press to talk" intercom systems. List Price: \$2.00

SECTIONS ONLY FOR 1443-1444-1445

- CAT. NO. W:** For replacement on old type 1443 switches having standard flat shaft and .064" wide rotor slot. List Price: \$1.65
- CAT. NO. WD:** For replacement in above 1443, 1444 and 1445 switches having deluxe shaft and .187" wide rotor slot (DD type). List Price: \$1.65

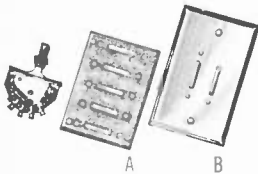


SMALL GENERAL PURPOSE SWITCHES

Rating 2 amperes at 15 volts DC. 150 milliamperes at 110-volts AC resistive load. Bushing, $\frac{3}{8}$ " — 32 thd., $\frac{3}{8}$ " long except 1484 — $\frac{1}{4}$ " long bushing.

- CAT. NO. 1460:** Single pole, 2 position, shorting contacts, positive index. Can be used as SPST or SPDT. For phono-radio, tone or sensitivity control. List Price: \$1.50
- CAT. NO. 1461:** Single pole, 3 position, shorting contacts, positive index. Useful in miniature band change, step type tone or sensitivity control, and P.A. channel selector switch. List Price: \$1.50
- CAT. NO. 1462:** Double pole, 2 position, shorting contacts, positive index. Can be used on SPST, SPDT, DPST, DPDT — for meter reversing, P.A. channel, or switching both lines on phono-radio. List Price: \$1.50
- CAT. NO. 1463:** Single pole, 2 position, non-shorting contacts, spring return index. Useful for meter reversing or momentary intercom talk switch. Non-shorting. List Price: \$1.50
- CAT. NO. 1464:** Double pole, 2 position, non-shorting contacts, spring return index. Used as meter switch and momentary line or remote speaker return on intercoms. List Price: \$1.50
- CAT. NO. 1465:** Single pole, 4 position (3 active) with AC-DPST line switch. Shorting contacts, Positive index. Used as replacement for "on-off", 3 step control switch in many AM and FM receivers. List Price: \$2.50
- CAT. NO. 1472:** 2 pole, 3 position, non-shorting contacts, positive index. An economical change switch for AM, FM, phone selector to amplifier in custom installations. List Price: \$1.50
- CAT. NO. 1473:** Same as 1472 except shorting contacts. List Price: \$1.50
- CAT. NO. 1483:** Single pole, 3 position, shorting contacts, positive index. For use with dual or auxiliary rear seat auto radio speakers. Permits operation of either speaker separately or both simultaneously. List Price: \$1.50
- CAT. NO. 1484:** Single pole, 3 position remote speaker switch. Same as Cat. No. 1483 except with $\frac{1}{4}$ " bushing and $\frac{3}{8}$ " split knurl shaft. $\frac{15}{16}$ " black split knurl knob with chrome center, Cat. No. P-401, is furnished. List Price: \$1.50

LEVER ACTION SWITCHES



Space saving lever action switches can be mounted singly or in groups. Rated 2 amps. at 15 V.D.C.; 150 milliamps at 110 V.A.C. Mtg. — two 6-32 thrd. mtg. holes on $1\frac{5}{8}$ " centers. 30° indexing. Furnished with mtg. screws and knob.

Number Poles	Number Positions	Type Indexing	Cat. No.	Non-Shorting	List Price
2	3	Positive	1452	1454	\$1.75
2	3	Spring Return	1453	1455	1.75
2	3	Positive Spring Return	1466	1467	1.75
4	2	Spring Return	1456	1457	2.00
4	2	Positive	1459	1458	2.00
2	3	Positive	2815	....	1.75

(Special model-railroad reversing or turnout and signal switch.)
 1 3 Positive 1475 1.75
 (Primarily a replacement part for the ganged switches found in tube testers and other testing equipment.)

MOUNTING PLATES FOR LEVER SWITCHES

TYPE A — Made of .035" die cut steel, black crackle finish. Eliminate alignment problems, provide $\frac{3}{4}$ " spacing between switches. Available for 1 to 5 switch mounting. Height of all plates is $2\frac{5}{8}$ ".

TYPE B — For mounting lever switches in electrical outlet boxes. Chrome plated. Mounting holes $3\frac{5}{16}$ " between centers.

MOUNTING PLATE — TYPE A				WALL PLATE — TYPE B		
No. Switches	Length	Cat. No.	List Price	No. Switches	Cat. No.	List Price
1	$\frac{3}{4}$ "	P-1755	\$0.50	2	P-221	\$0.85
2	$1\frac{1}{2}$ "	P-1756	.50	1	P-222	.85
3	$2\frac{1}{4}$ "	P-1757	.50			
4	3"	P-1758	.50			
5	$3\frac{3}{4}$ "	P-1759	.50			

Size: $2\frac{3}{4}$ " x $4\frac{1}{2}$ " overall.
 $\frac{3}{4}$ " spacing between switches.

Centralab[®]

Milwaukee 1, Wisconsin In Canada: 669 Bayview Ave., Toronto, Ontario

SWITCHES (Cont'd)

SUB-MINIATURE ROTARY SWITCHES



Type PS ceramic insulated sub-miniature switches have the same electrical ratings as switches much heavier and larger in diameter. Grade L-5A steatite insulation per MIL-S-3786. Sections — 1" diam., 1/8" thick. All metal parts except clips, contacts and index spring, cadmium plated steel. Bushing: 1/4" — 32 thread x 1/4" long. Shaft: 1/8" diameter, 1 1/4" long from mtg. surface. Rated: 0.5 ampere at 6 volts DC; 100 milliamperes at 110 volts AC. Indexing: positive 30° with fixed stop.

Total Poles	No. of Positions	Poles per Section	No. of Sections	Cat. No. Shorting	Cat. No. Non-Shorting	List Price
1	11	1	1	PS 100	PS-101	\$ 8.00
2	11	1	2	PS-102	PS-103	10.00
2	5	2	1	PS-104	PS-105	8.00
3	11	1	3	PS 106	PS 107	12.00
3	3	3	1	PS-108	PS-109	8.00
4	5	2	2	PS-110	PS 111	10.00
4	2	4	1	PS-112	PS-113	8.00
6	5	2	3	PS 114	PS-115	12.00
6	3	3	2	PS-116	PS-117	10.00
8	2	4	2	PS-118	PS-119	10.00
9	3	3	3	PS-120	PS-121	12.00
12	2	4	3	PS-122	PS-123	12.00

SEPARATE SUB-MINIATURE STEATITE SECTIONS

Use with index assemblies P-501 thru P-511 listed below for fixed stop indexing, and switching not supplied in the above completed PS series switches.

No. Poles	No. Positions	Catalog No. Shorting	Catalog No. Non Shorting
1	2-11	PS 20	PS-21
2	2-5	PS-22	PS 23
3	2-3	PS 24	PS-25
4	2	PS 26	PS 27

List Price: \$4.50

SEPARATE SUB-MINIATURE INDEX ASSEMBLIES

All index assemblies listed below are designed for a maximum 3 sections and contain the following: (1) index and shaft assembly, (1) KC-6 pointer knob, (6) 3/32" spacers, (2) 1/16" spacers, (2) 1/8" spacers, (2) 3/16" spacers, (2) 1 1/8" tie bolts, nuts, lockwashers, washers, and (16) plastic spacer washers.

No. Positions	Catalog No.	No. Positions	Catalog No.
2	P-501	7	P-506
3	P-502	8	P 507
4	P-503	9	P-508
5	P-504	10	P-509
6	P 505	11	P 510
		continuous rotation	P-511

List Price: \$4.50



HEAVY DUTY ROTARY POWER SWITCHES STEATITE — 7 1/2 Amps at 115 Volts A.C.

Designed for high accuracy, long life in transmitters and power supplies. Steatite insulation. Bushing: 3/8" — 32 thread, 3/8" long. Shaft: 1/4" diam. double flat, 2 1/4" long from mounting surface. Rated: 7 1/2 amp. @ 115 volts AC, 25 amps. @ 6 V.D.C., 0.75 amps. @ 500 volts AC, 0.4 amps. @ 1000 V.A.C. 20° positive indexing. Adjustable stop. Dial plate and knob included.

Total Poles	Number Positions	Number Sections	Cat. No. Shorting	Cat. No. Non Shorting	List Price
1	2 17	1	JV 9000	JV-9001	\$16.00
2	2 8	1	JV-9032	JV 9033	16.00
2	2 17	2	JV-9004	JV 9005	26.50
3	2-5	1	JV-9002	JV-9003	16.00
3	2 17	3	JV-9008	JV-9009	37.00
4	2 8	2	JV-9034	JV 9035	26.50
4	2-17	4	JV-9012	JV-9013	47.50
5	2 17	5	JV-9016	JV-9017	58.00
6	2-5	2	JV-9006	JV-9007	26.50
6	2-8	3	JV-9036	JV-9037	37.00
6	2 17	6	JV-9020	JV-9021	68.50
8	2-8	4	JV-9038	JV-9039	47.50
9	2-5	3	JV-9010	JV-9011	37.00
12	2-5	4	JV-9014	JV 9015	47.50
15	2-5	5	JV-9018	JV-9019	58.00

SEPARATE SECTIONS

For new "DD" type rotor shaft

Poles	Positions	Cat. No. Shorting	Non-Shorting	List Price
1	2-17	JV-8	JVN-8	\$10.50
2	2 8	JV 10	JVN-10	10.50
3	2-5	JV-9	JVN-9	10.50

For square rotor shaft

Poles	Positions	Cat. No. Shorting	Non-Shorting	List Price
1	2 17	KV 8	KVN-8	10.50
2	2 8	KV-10	KVN-10	10.50
3	2 5	KV-9	KVN-9	10.50

SEPARATE MULTIPLE FINGER SECTION

For new "DD" type rotor shaft

Poles	Positions	Cat. No. Shorting	Non-Shorting	List Price
1	2-18	JV-18	JVN-18	\$11.50

(Rotor has 17 fingers, making contact with 17 contacts on stator leaving one contact open.) By cutting off unwanted fingers, this section can be adapted for many special circuits. For example, can be adapted to a one off, nine progressively shorting position, pick up and hold each progressive position.

For square rotor shaft

Poles	Positions	Cat. No. Shorting	Non-Shorting	List Price
1	2-18	KV-18	KVN-18	11.50

SEPARATE INDEX ASSEMBLY

For new "DD" type rotor shaft

Indexing	Shaft Length	No. Sections	Catalog No.	List Price
20°	7"	2-6	JV-7	\$7.00

(Includes all necessary hardware.)

For square rotor shaft

Indexing	Shaft Length	No. Sections	Catalog No.	List Price
20°	7"	2-6	KV-7	7.00

(Includes all necessary hardware.)

Centralab[®]

Milwaukee 7, Wisconsin

In Canada: 669 Bayview Ave., Toronto, Ontario

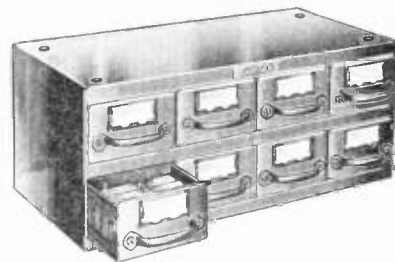
SWITCH KITS



KIT NO. 1000

PA-1000 Series Phenolic Switch Parts

This kit contains 68 miniature phenolic sections, 15 complete index assemblies, plus hardware. All specifications are identical to PA-1000 Series units.



These Switch Kits afford a convenient ready source of stock sections, indexes and hardware. All four kits packed in heavy gauge steel, shelf size cabinets, 23 1/4" wide, 9 1/2" high, 12" deep.

KIT NO. PA-410 — PA-1000 series miniature phenolic switch parts. Kit contains 106 — 1 1/2" diam. phenolic sections, 32 index assemblies including spacers, washers, nuts, knobs and dial plates . . . enough to assemble 32 regular or special switches.

List Price: \$218.65

KIT NO. PA-420 — PA-2000 series miniature ceramic switch parts. Kit contains 102 — 1 1/2" diam. steatite sections, 32 index assemblies including spacers, washers, nuts, knobs and dial plates . . . enough to assemble 32 regular or special switches.

List Price: \$259.75

KIT NO. 414D — 1400 series phenolic switch parts. Kit contains 100 — 1 7/8" diam. phenolic sections, 30 index assemblies including spacers, washers, nuts, knobs and dial plates . . . enough to assemble 30 regular or special switches.

List Price: \$212.20

KIT NO. 419D — 2500 series ceramic switch parts. Kit contains 100 — 1 7/8" diam. steatite sections, 29 index assemblies including spacers, washers, nuts, knobs and dial plates . . . enough to assemble 29 switches. Both 30° and 60° indexes and sections included.

List Price: \$252.70

DIAL PLATES

Etched aluminum, black background. 1 7/8" diameter.

1 2 3	30°	P-178	1 to 23	15°	P-173
1 to 5	30°	P-115	1 2 3 4	90°	P-162
1 to 6	30°	P-116	10 20 40 80	90°	P-163
1 to 10	30°	P-117	1 to 5	60°	P-402
1 to 11	30°	P-118	10 15 20 40 80	90°	P-404
1 to 12	30°	P-112	Min. Max. (T-L Pads)		P-406

2 3/4" diameter, etched aluminum, 20° marking for power switches.

1 to 5	20°	P-240	1 to 17	20°	P-231
			1 to 8	20°	P-242

DIAL PLATES — List Price: \$0.30

MOUNTING BRACKETS

For 1400 and 2500 series. .065" cadmium plated steel. Use to mount, between sections for rigidity, or at rear of long switch assemblies for more accurate indexing. "H" dimension is from base to shaft center. Footed, with slotted mounting holes (1" centers) to chassis.

All 1 5/8" wide.

Bracket 1 3/4" "H"	Cat. No. P-210
Bracket 2" "H"	Cat. No. P-212
Bracket 2 1/4" "H"	Cat. No. P-214

Bracket-Dial Plate — dual speaker

Etched aluminumCat. No. P-215

Bracket-Dial Plate — 4 channel dual lines

(PA 2050 switch)Cat. No. P-218

MOUNTING BRACKETS — List Price: \$0.35

Sections — 30° Indexing

Quantity	Cat. No. Shorting	Cat. No. Non-Shorting
8	PA-30	PA-31
8	PA-32	PA-33
8	PA-34	PA-35
4	PA-36	PA-37
2	PA-38	PA-39
2	PA-40	PA-41
2	PA-49

Sections — 60° Indexing

2	PA-45
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Index Assemblies

Quantity	Cat. No.	Indexing
7	PA-300	30°
4	PA-301	30°
2	PA-302	30°
1	PA-304	60°
1	PA-305	60°

Miscellaneous

Quantity	Cat. No.	Description
5	PA-320	Intersection Shields

(Kit packed in 4 drawer metal cabinet 9 1/2" x 11 1/2" x 9 3/4")

List Price: \$117.60

KIT NO. 2000

PA-2000 Series Ceramic Switch Parts

This kit contains 39 miniature ceramic sections, 12 complete index assemblies, plus hardware. All specifications identical to PA-2000 Series units.

Sections — 30° Indexing

Quantity	Cat. No. Shorting	Cat. No. Non-Shorting
3	PA-0	PA-1
3	PA-2	PA-3
3	PA-4	PA-5
3	PA-6	PA-7
3	PA-8	PA-9
2	PA-10
2	PA-11
2	PA-12

Sections — 60° Indexing

3	PA-17
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Index Assemblies

Quantity	Cat. No.	Indexing
5	PA-300	30°
3	PA-301	30°
2	PA-302	30°
1	PA-304	60°
1	PA-305	60°

Miscellaneous

Quantity	Cat. No.	Description
5	P-320	Intersection Shields

(Kit packed in 4 drawer metal cabinet 9 1/2" x 11 1/2" x 9 3/4")

List Price: \$94.05

KNOBBS

	Cat. No.	List Price
1 1/2" Black Pointer Knob (set screw)	P-120	\$0.25
2" Black Pointer Knob Brass Insert, 2 set screws (power)	P-164	.55
Lever Switch — Black	P-193	.25
Lever Switch — Red	P-194	.25
1 1/2" Paddle — Walnut (PA and Intercom)	P-193	.40
15/16" Round, Split Knurl (Push on), Black with Chrome Center	P-401	.40
Dual Concentric — Inner — .187" Flatted .150"	RC-1	.30
Dual Concentric — Outer — .265" Slotted	RC-2	.30
JP Control — Black — (Set Screw) for 1/4" Shaft	RC-3	.30
JP Control — White — (Set Screw) for 1/4" Shaft	RC-4	.30
JP Control — Red — (Set Screw) for 1/4" Shaft	RC-5	.30
PS Switches (Black Pointer) (Set Screw) for 1/4" Shaft	RC-6	.30
T & L Pads — 1" Round with Pointer — Black (Set Screw)	RC-10	.30

INTERSECTION SHIELDS

Miniature — .035" thick cadmium plated steel. Use with PA-1000 or PA-2000 Series Switches to reduce coupling effects.

CAT. NO. P-320 \$.30

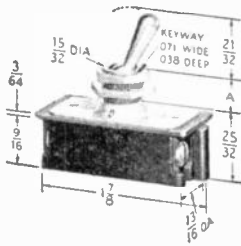
Standard — .035" cadmium plated steel. Use with 1400 or 2500 Series Switches between sections to reduce coupling effects.

CAT. NO. P-200 \$.30

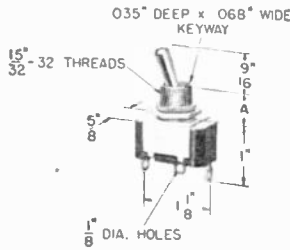
CUTLER-HAMMER SWITCHES...

COMMERCIAL APPLICATIONS — ONE HOLE MOUNTING

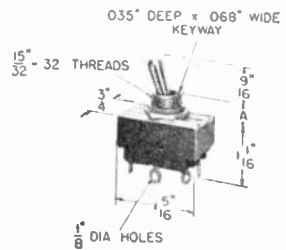
These Cutler-Hammer switches are of the one-hole mounted type, designed for convenient installation on panels, housings and other flat surfaces of machines and appliances. Experienced Cutler-Hammer engineers working closely with the electronics and appliance manufacturers — have developed these devices to meet the requirements of every type of apparatus and every class of service.



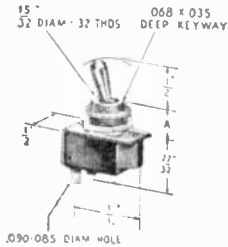
Cat. No. 7320 (D.P. S.T.)
Standard Duty



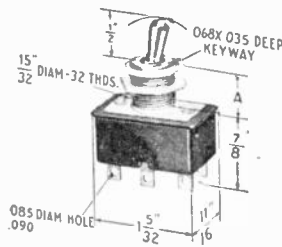
Cat. No. 7503 (S.P. D.T.) Standard Duty
Cat. No. 7581 (S.P. D.T.) Light Duty



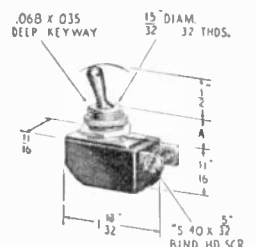
Cat. No. 7563 (D.P. D.T.)
Standard Duty



Cat. No. 8280 (S.P. S.T.)
Light Duty



Cat. No. 8363 (D.P. D.T.)
Light Duty



Cat. No. 8396 (S.P. S.T.)
Light Duty

ONE HOLE MOUNTING — A. C. RATINGS
Standard bushing lengths 1 1/32" and 15 3/32"

RATING	1 POLE		2 POLE		3 POLE		4 POLE		Term. Type
	S. T.	D. T. W/O Off	S. T.	D. T. W/O Off	S. T.	D. T. W/O Off	S. T.	D. T. W/O Off	
250 V.	125 V.	8098	7140 *						L S S
		8098	7141						
3 Amp.	6 Amp.	7580	7581 *	7590	7591 *				S, L & Sp S, L & Sp S, L & Sp S, L & Sp
		7583 ‡	7582 7585 ‡ 7586 * ‡	7593 ‡	7592 7595 ‡ 7596 * ‡				
10 Amp.	15 Amp.	7500	7502 *	7560	7562 *	7610	7612 *		S L & Sp
		7501	7503 * 7504 7505	7561	7563 * 7564 7565	7611	7613 * 7614 7615		
						7616 ‡	7617 * ‡ 7618 ‡		S & Sp S & Sp
10 Amp.		7506 ‡	7508 * ‡	7566 ‡	7568 * ‡			7690	S, L & Sp S, L & Sp S L S L W
		7507 ‡	7510 ‡		7570 ‡			7691 7692 ‡ 7693 ‡ 7694 7695 ‡	
20 Amp.		7533		7522		8320			S

ONE HOLE MOUNTING — AC-DC RATINGS
Standard bushing lengths 1/4", 1 1/32", and 1 1/2"

RATING	1 Pole	2 Pole		Term. Type
		S. T.	D. T. W/O Off	
250 V.	125 V.	S. T.	D. T. W/O Off (3-Way)	
1 Amp.	3 Amp.		8292	L W S
			8292 8297	
3 Amp.			8280	L W S
			8290 8295	
3 Amp.	6 Amp.		8360	L W S
			8361 8362	
3 Amp.			8370	L Sp W S
			8373	
4 Amp.	8 Amp.		8371	L W S Sp
			8372 8375	
5 Amp.	10 Amp.		8391	S
			8396	
6 Amp.	12 Amp.		7740	S
			7741 7742 7743	
10 Amp.	15 Amp.		7321	S
			7321	
20 Amp.			7361	S
			7403	

L = Solder Lug, W = Wire Leads, S = Screw terminals, Sp = Spade terminals.
*Center Off
‡Momentary contact.

‡Parallel Contacts.



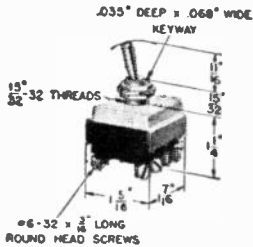
CUTLER-HAMMER Inc.

Cutler-Hammer, Inc., Milwaukee, Wis. . Division: Airborne Instruments Laboratory . Sub.: Cutler-Hammer International, C. A. Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation, Inc.

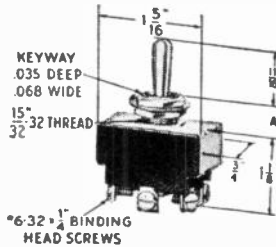
... for Electronics, Radio, Small Motors

MILITARY STANDARD — ONE HOLE MOUNTING

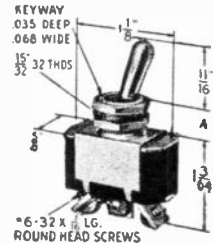
These switches are designed to meet the exacting requirements of communication and power apparatus for all branches of the government. All meet requirements of MIL-S-3950.



Cat. No. 8800
Single Pole — Double Throw



Cat. No. 8820
Double Pole — Double Throw



Cat. No. 7660
Four Pole — Double Throw

Single Pole		Double Pole		Four Pole		Lever Position		
MS Part No.	C-H Cat. No.	MS Part No.	C-H Cat. No.	MS Part No.	C-H Cat. No.			
MS35058-21	8800K16	MS35059-21	8820K16	MS25068-21	7662K7	On	Off	On
MS35058-22	8801K22	MS35059-22	8822K20	.....	.....	On	None	Off
MS35058-23	8810K15	MS35059-23	8824K14	MS25068-23	7664K5	On	None	On
MS35058-24	8801K23	MS35059-24	8822K21	MS25068-24	7660K13	On	Off	None
MS35058-25	8813K13	MS35059-25	8828K12	MS25068-25	7668K7	On	Off★	None
MS35058-26	8804K13	.....	.....	MS25068-26	7664K5	On	None	On★
MS35058-27	8812K14	MS35059-27	8834K5	MS25068-27	7672K5	On★	Off	On★
MS35058-28	8811K18	MS35059-28	8826K14	MS25068-28	7666K9	None	Off	On★
MS35058-29	8813K17	.....	.....	.....	.....	On	None	Off★
MS35058-30	8811K17	.....	.....	.....	.....	Off	None	On★
MS35058-31	8809K16	MS35059-31	8832K6	MS25068-31	7670K6	On	Off	On★

★ Momentary contact.



NEW!—A Highly Reliable Miniature Toggle Switch

An extremely compact power or dry circuit switch . . . usable as a pre-set switch in aircraft recognition systems . . . for walkie-talkies . . . electronic instruments and communications.

RATINGS: 2 Amps. @ 28 volts D-c
1 Amp. @ 50 volts D-c
2 Amps @ 115 volts A-c
Minimum rating: 30 microamps @ 50 millivolts

TYPES: 2 and 3 position switches with maintained or momentary switch action.

DIMENSIONS: Single Pole — 9/16" W. 3/4" H. 3/8" D.
Double Pole — 9/16" W. 3/4" H. 9/16" D.

The switches shown on this page constitute only a partial listing of standard type Cutler-Hammer switches available. Additional data on other standard and special types may be obtained from your Cutler-Hammer electrical distributor or your nearest Cutler-Hammer sales office.

What you should know about Cutler-Hammer

Cutler-Hammer has long held the respect of the aircraft industry because this company has been part of the aircraft industry for over 35 years. Today, as for the decades past, Cutler-Hammer engineers are working closely with the aircraft industry's leaders . . . thinking ahead, planning, designing and building for the future. Here is the record:

1920 Cutler-Hammer designed and manufactured the first line of switches ever created specifically for use in aircraft.

1938 Cutler-Hammer designed and manufactured the first d-c power relays ever created specifically for use in aircraft.

1943 Cutler-Hammer designed and manufactured the first a-c power relays ever created specifically for use in aircraft.

1949 Cutler-Hammer started development of the first environment-free power relays for use in aircraft.

1953 Cutler-Hammer submitted samples and certified test reports on the first hermetically sealed power relay to WADC and Bu. Aer. Cutler-Hammer configuration was adopted as industry standard by ASG.

1955 Cutler-Hammer designed and manufactured the first one hole mounting Lever Lock aircraft switches.

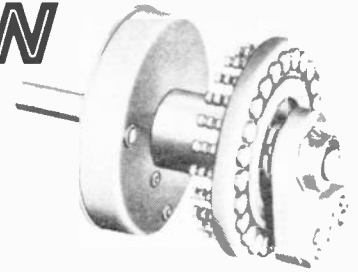
CUTLER-HAMMER Inc.

Cutler-Hammer, Inc., Milwaukee, Wis. . Division: Airborne Instruments Laboratory . Sub.: Cutler-Hammer International, C. A.
Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.; Intercontinental Electronics Corporation, Inc.



Sec. 5100

the versatile, new **DAVEN** Adjustable Stop Switch



For flexibility in all types of circuit experimentation, laboratory work, breadboard setups, and in circuitry where the exact number of switch positions can be changed at any time. Maximum of either 24 positions with 15° spacing or 32 positions with 11¼° spacing. One, two, three, and four pole units available.

Features • sturdy, dependable construction; large silver alloy contacts and slip rings; tamper-proof, KNEE ACTION silver alloy rotor blades; high grade, accurately machined dielectric and gold flashed turret-type terminals for ease of soldering.

Constructed to meet and exceed applicable military specifications on humidity, moisture, environment, temperature cycling, contact resistance, life, vibration and shock.

Available from stock through your local DAVEN distributor.

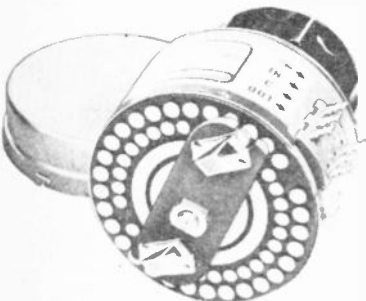
Adjustable in the Following Combinations:

Adjustable Stop with a Maximum of 24 Positions	15° Between Positions	Shorting
11 CM-24A	1 pole	24 pos. max. per pole
21 CM-12A	2 poles	12 pos. max. per pole
31 CM-8A	3 poles	8 pos. max. per pole
41 CM-5A	4 poles	5 pos. max. per pole
Adjustable Stop with a Maximum of 12 Positions	30° Between Positions	Non-Shorting
11 CB-12A	1 pole	12 pos. max. per pole
21 CB-6A	2 poles	6 pos. max. per pole
31 CB-4A	3 poles	4 pos. max. per pole
41 CB-3A	4 poles	3 pos. max. per pole
Adjustable Stop with a Maximum of 32 Positions	11¼° Between Positions	Shorting
12 CM-32A	1 pole	32 pos. max. per pole
22 CM-15A	2 poles	15 pos. max. per pole
32 CM-10A	3 poles	10 pos. max. per pole
42 CM-7A	4 poles	7 pos. max. per pole
Adjustable Stop with a Maximum of 16 Positions	22½° Between Positions	Non-Shorting
12 CB-16A	1 pole	16 pos. max. per pole
22 CB-8A	2 poles	8 pos. max. per pole
32 CB-5A	3 poles	5 pos. max. per pole
42 CB-4A	4 poles	4 pos. max. per pole

These units are exact equivalents of standard catalog switches.

DAVEN Attenuators

For Broadcast, TV,
Recording and
Geophysical Applications



- | | |
|------------|-----------|
| SP-4627 | CP-354-X |
| CP-354-T | T-330-G |
| SP-4633 | T-330-K |
| LA-350-EF | T-321-G |
| LAQ-350-EF | T-255-G |
| LA-350-G | LA-350-AH |
| TA-1000-1 | CP-350-T |
| TA-1000-4 | CP-350-Y |

DAVOHM SERIES 850 RESISTOR hermetically sealed, precision metal film type

To fill the gap between wire-wound and deposited carbon type resistors, Daven has developed the Series 850 with these characteristics: high stability, hermetically sealed, small size, lower cost, immediate availability.



	MIL-R-10509B Allowable Change	Series 850 Typical Change
Temperature Cycling	1%	0.02%
Low Temperature Exposure	3%	0.04%
Short Time Overload	0.5%	0.02%
Effect of Soldering	0.5%	0.02%
Moisture Resistance	5.0%	0.08%
Voltage Coefficient	0.002%	0.000%
Load-Life (per 1000 hours)	1%	0.2%
Temperature Coefficient (PPM° C.)	±500	+360±20

Available in popular values from your local DAVEN distributor.

SUPER DAVOHM ENCAPSULATED PRECISION WIRE WOUND RESISTORS

Wattage ratings shown are maximum military wattage ratings at 125°C. Maximum commercial wattages at 125 C are double these ratings.



MIL Spec	Mil Types	Daven Type No.	Dia. In.	Length In.	MIL TYPES AND DAVEN EQUIVALENTS		
					MIL-R-938	MIL-R-9444	Daven Max. Ohms
MIL-R-938	RB 54	1195	¼	¾	*.250		1 Meg
	RB 55	1250	¼	½	*.15		500K
MIL-R-9444 (USAF)	AFRT 10	1250	¼	½		*.125	150
	AFRT 11	1195	¼	¾		*.250	300
	AFRT 18	1174	½	¾		*.500	300

Standard Tolerance is 1% *MIL WATTS AT 125°C



THE **DAVEN** CO.
Livingston, New Jersey

Available in Popular Values
From Your Local
DAVEN Distributor

SWITCHING PROBLEMS?...

ELECTROSNAP offers over 6,000 standard switch and actuator variations to meet your specific requirements. Availability through local stocks assures prompt delivery and service.

SUB-MINIATURE BASIC SWITCHES



E4 Series

Actual size: $25\frac{1}{2}$ " x $1\frac{1}{4}$ " x $25\frac{1}{4}$ "
Single-Pole, Double-Throw
5 amps.; 125/250 V., A.C.
Temp. Range -65° to $+350^{\circ}$ F.
Conforms to Military Specifications
Operating Characteristics can be tailored to meet any requirements
UL available

E4-103 \$1.50, list

SINGLE-POLE SWITCHES



S Series

Actual size: $1\frac{1}{4}$ " x $1\frac{1}{2}$ " x $1\frac{1}{2}$ "
Single-Pole, Double-Throw, 2 circuit
10 amps.; 125/250 V., A.C.
Conforms to Military Specifications
UL available

S1-4 (solder terminal) \$1.40, list

S2-4 (screw terminal) \$1.50, list

DOUBLE-POLE SWITCHES

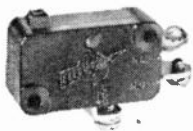


D Series

Actual size: $1\frac{1}{4}$ " x $1\frac{1}{2}$ " x $7\frac{1}{8}$ "
Double-Pole, Double-Throw, 4 circuit
15 amps.; 125/250 V., A.C.
10 amps.; 30 V., D.C., Ind.
Temp. range -100° to $+375^{\circ}$ F.
Conforms to Military Specifications
Simultaneous operation.

D8-4 \$6.25, list

MINIATURE BASIC SWITCHES



F Series

Actual size: $1\frac{3}{32}$ " x $1\frac{1}{32}$ " x $5\frac{1}{8}$ "
Single-Pole, Double-Throw
10 amps.; 125/250 V., A.C.
10 amps.; 28 V., D.C., Ind. or resistive
Temp. range -100° to $+350^{\circ}$ F.
Conforms to Military Specifications
UL available

F2-3 (screw terminals) \$1.00, list

F1-3 (solder terminals) \$1.00, list

ACTUATORS



Toggles



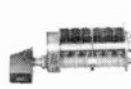
Push-button



Leafs



Roller leafs



Rotary Gangs



Lever

TRIPLE-POLE SWITCHES

Actual size: $1\frac{1}{4}$ " x $1\frac{1}{2}$ " x $1\frac{5}{16}$ "
Triple-Pole, Double-Throw, 6 circuit
15 amps.; 125/250 V., A.C.
15 amps.; 30 V., D.C. Res.
10 amps.; 30 V., D.C. Ind.
Temp. range -100° to $+375^{\circ}$ F.



K Series

Conforms to Military Specifications
Terminals: K3 — front, K1 — side
Simultaneous operation
UL available

K3-4 \$7.45, list

SUB-SUB-MINIATURE BASIC SWITCHES

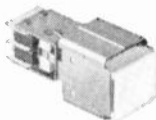


T Series

Actual size: $.526$ " x $.250$ " x $.323$ "
Single-Pole, Double-Throw
7 $\frac{1}{2}$ amps.; 125/250 V., A.C.
7 $\frac{1}{2}$ amps.; 30 V., D.C. Res.
2.5 amps.; 30 V., D.C. Ind.
Temp. range -65° to $+250^{\circ}$ F.
Conforms to Military Specifications
No dead break, perfect for super-sensitive applications.

T3 \$2.00, list

LIGHTED PANEL SWITCHES PERFORM 3 FUNCTIONS Light, Legend, Switching



C6

C6 Series—combines color coded push-button, pilot-light and switching unit in one space-saving component, panel mounted. Use singly or "stacked". Momentary and alternate action. \$5.25 to \$13.90, list

QUADLITE—Combines 4-color monitoring and 2-circuit switching in one compact, modular unit, panel mounted. Front-of-panel lamp replacement. Variety of colors and color arrangements. \$18.00 to \$25.40, list

DIE CAST ENCLOSED SWITCHES



E54 Series

Single-Pole, Single-Throw, Normally Open
10 amp.; 125/250 V., A.C.
Temp. range -67° to $+160^{\circ}$ F.
Housing resists entrance of oil, dust, moisture
One-Way Impulse action type also available

E54-KM2 \$10.50, list

Prices subject to change without notice



ELECTROSNAP CORPORATION

Contact your local distributor

SWITCH DIVISION

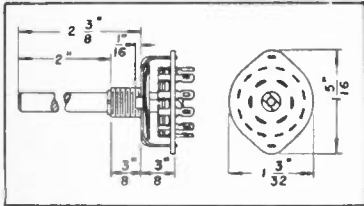
CHICAGO, ILLINOIS



SINGLE SECTION ROTARY SWITCHES



3612-01 to 3612-10

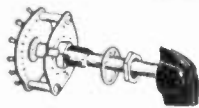


These single section rotary switches were designed to keep pace with the demand for smaller components. They are the smallest switches available to handle multi-circuit switching and are ruggedly built with heavy silver plated contacts, high grade phenolic insulators, best spring brass and steel. These switches are ideal for radio-phonos, wave band, tone control, meter and antennae switching applications, as well as many other uses in electronic equipments. All switches are supplied with one knob, mounting nut and lock washer.

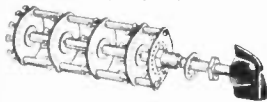
Order by Part Number from Table Below

Erie No. Shorting Type	Erie No. Non-Shorting Type	No. of Circuits Per Switch	No. of Positions	Erie No. Shorting Type	Erie No. Non-Shorting Type	No. of Circuits Per Switch	No. of Positions
3612-01	3612-02	1	12	3612-07	3612-08	3	4
3612-03	3612-04	2	6	3612-09	3612-10	2	3
3612-05	3612-06	1	5				

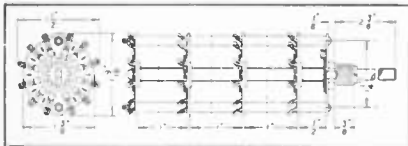
MULTI-SECTION ROTARY SWITCHES



3612-11, 12, 15, 19



3612-18



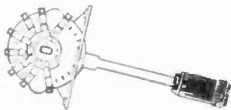
The flat rivet "Wedglock" which fastens the contact to the stator is a unique feature of these switches. The small cross sectional area permits the use of sturdily designed contacts without sacrificing over-all stator size. The outstanding feature of this flat rivet is a contact assembly that will not loosen or rotate due to soldering heat. A free floating rotor assembly results in this rugged construction as the rotor blades do not support the assembly and only required rotor blades are used.

One, two and four section switches in both shorting and non-shorting types are stocked to meet applications such as meter switching, test equipment and various electronic instruments. All switches are supplied with one knob, mounting nut and lock washer.

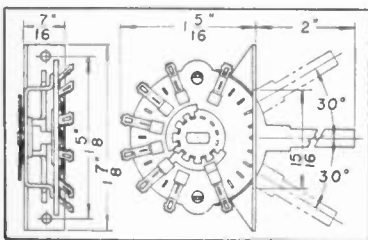
Order by Part Number from Table Below

Erie No. Shorting Type	Erie No. Non-Shorting Type	No. of Circuits Per Section	No. of Sections Per Switch	Total No. of Circuits Per Switch	Number of Positions
3612-11	3612-12	1	1	1	11
3612-13	3612-14	1	2	2	11
.....	3612-15	2	1	2	5
.....	3612-16	3	2	6	3
.....	3612-17	2	2	4	4
.....	3612-18	1	4	4	11
.....	3612-19	3	1	3	3

LEVER ACTION SWITCHES



3612-20, 21, 22



Erie Lever Action Switches employ the same type stator and construction as the Multi-Section Switches assuring a high quality assembly for inter-communication and test equipment applications. Smooth, positive action and indexing, high quality phenolic insulation, heavy silver-plated contacts and best spring brass are features which make the switch ideal for replacement or new uses.

Each switch is supplied with mounting screws and knob. Packaged individually in a durable sealed plastic bag in the familiar Erie display box for maximum protection against corrosion.

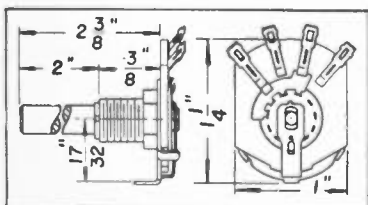
Order by Part Number from Table Below

Erie No. Shorting Type	Erie No. Non-Shorting Type	Type Indexing	Number of Circuits	Number of Positions
3612-20	3612-21	Positive	2	3
....	3612-22	Positive	4	2

GENERAL PURPOSE SWITCHES



3612-23, 24, 25



Extreme care was taken in the design of these very small compact switches to insure a very rugged and accurate construction. Again, the flat rivet is used to firmly secure the contacts against rotation in a very strong phenolic insulator. The stator assembly is attached directly to the detent plate insuring positive indexing. Heavy silver-plated contacts provide dependable and efficient operation. They may be used for simple circuit switching and wherever space is at a premium.

Each switch is supplied with one knob, mounting nut and lock washer. Packaged in individual durable sealed plastic bags and the familiar Erie display box.

Order by Part Number from Table Below

Erie No. Shorting Type	Type Indexing	Number of Circuits	Number of Positions
3612-23	Positive	1	3
• 3612-24	Positive	1	3
3612-25	Positive	2	3

*For Two Speaker operation.



LA GRANGE, ILLINOIS

MINIATURE ROTARY TAP SWITCHES

SERIES 24

For Precision Requirements

Fully enclosed tap switch designed for high reliability military and commercial applications. Accurate indexing and best detent action. One pole per deck, 1 to 10 decks, 2 to 9 positions with built-in stop, or 10 positions continuous rotation, shorting or non-shorting contacts, 36° indexing. Rating: break 1 ampere, 115 VAC, resistive, or carry 5 amperes. $\frac{3}{8}$ -32 threaded and keyed bushing, $\frac{1}{2}$ " O.D. includes solder terminals, $\frac{3}{4}$ " long shaft flattened opposite contacting position. Illustration shows difference between single deck and multiple deck construction. Studs of multi-deck units of 5 decks and over, extended $\frac{1}{4}$ " at rear to facilitate double-ended mounting. Housing of molded melamine and phenolic materials; studs, shaft, end plates of 303 stainless steel; single deck cover, bushings, nuts, of brass, cadmium plated .0003" to .0005" thick; special heavy silver plate on contacts. Have passed military tests such as 125G shock, 10 - 500 cps vibration, 100 hours salt spray, explosion, sand and dust, 28 day fungus exposure, humidity; will operate -55°C to +85°C, and up to 50,000 feet at rated load. Supplied with mounting nut. Non-turn washer and lockwasher, special shafts and bushings, etc., available on special order.



SERIES 6

Miniature Concentric Shaft Switch

Fully enclosed tap switch permitting new flexibility, and allowing 2 switches to be mounted in space normally occupied by one. Each shaft controls from one to three decks, with two to ten shorting, or non-shorting, positions per deck. Can be furnished in over 6500 combinations of decks and positions. Only 1" in diameter including solder lugs.

Rating: Break-1 amp. 115 VAC resistive, carries 5 amps. $\frac{3}{8}$ -32 threaded and keyed bushing, supplied with knobs and mounting nut.



Spring Return Rotary Switch

Same as Series #24 except momentary contact, spring return to either side of center position. Available 1 to 3 decks (incl.), one pole per deck, shorting or non-shorting contacts. Also available with up to 4 detent positions plus spring return position to either right or left of detent position.



PUSH BUTTON SWITCHES

LIGHTED PUSH BUTTON SWITCH

Equipped with a NE2 neon bulb, with light circuit independent of switch circuit. Switch rated at 1 amp, 115 VAC with approximate life of 500,000 operations. Normally open. Momentary contact. $\frac{3}{8}$ -32 threaded bushing, $\frac{7}{16}$ " max dia., $\frac{1}{4}$ " behind panel length. Fine silver contacts. Solder type terminals.



SNAP ACTION SWITCH

Snap action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Rating: 10 amperes, 115 VAC, resistive. Life approximately 50,000 operations. $\frac{1}{8}$ -32 threaded bushing, $\frac{7}{8}$ " O.D., $1\frac{5}{16}$ " overall length including solder type terminals.



- No. 2201—Normally Open (Red Button)
- No. 2202—Normally Closed (Black Button)

SILENT ACTION SWITCH

Silent action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Rating: $\frac{1}{2}$ ampere, 115 VAC, resistive, for approximately 800,000 operations, or 1 ampere for approximately 100,000 operations. $\frac{1}{8}$ -32 threaded bushing, $\frac{1}{4}$ " O.D., $1\frac{1}{32}$ " overall length including solder type terminals.



- No. 4001—Normally Open (Red Button)
- No. 4002—Normally Closed (Black Button)

DOUBLE POLE SWITCH

Silent action, Normally Open, momentary contact, DPST, push button switch. Rating: $\frac{1}{2}$ ampere, 115 VAC, resistive. Life over 100,000 operations. Button and housing molded phenolic. $\frac{3}{4}$ " O.D., $1\frac{1}{4}$ " overall length including solder terminals.



- No. 35-1 (Red Button)

MINIATURE PUSH BUTTON SWITCH

Silent action, momentary contact, Normally Open, SPST, switch rated at $\frac{1}{4}$ ampere, 115 VAC, resistive. Life approximately $\frac{1}{2}$ million operations. Button and housing molded phenolic. $\frac{3}{8}$ -32 threaded bushing, $\frac{1}{2}$ " O.D., $1\frac{1}{4}$ " overall length including solder terminals.



- No. 23-1 (Red Button)

SUB-MINIATURE SWITCH

Silent action, momentary contact, SPST, push button switch. Normally Open or Normally Closed available. Conservatively rated at 1/10 ampere, 115 VAC, resistive. Life approximately $\frac{1}{2}$ million operations. Button and housing molded phenolic. $\frac{1}{4}$ -32 threaded bushing, $\frac{3}{8}$ " O.D., $\frac{3}{4}$ " overall length including solder terminals.



- No. 30-1—Normally Open (Red Button)
- No. 30-2—Normally Closed (Black Button)

ULTRA-MINIATURE SWITCH

Silent action, momentary contact, Normally Open, SPST, push button switch. Conservatively rated at 1/10 ampere, 115 VAC, resistive. Life over 1 million operations. Button and base molded phenolic. $\frac{1}{4}$ " O.D., $1\frac{1}{32}$ " overall length including solder terminals.



- No. 39-1 (Red Button)

SOLDERLESS WIRING SWITCH

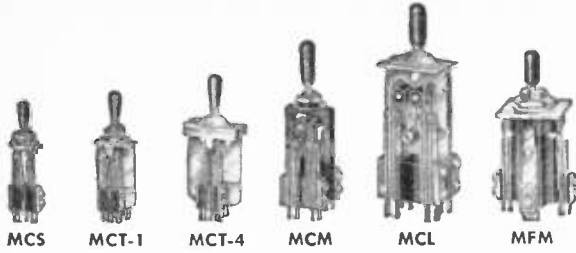
Silent action, Normally Open, momentary contact, SPST, push button switch. Built-in receptacles for A-MP #53 taper pins plus "in-and-out" wiring provision on one side. Rating: $\frac{1}{2}$ ampere, 115 VAC, resistive. Life over 100,000 operations. Button and housing molded phenolic. $\frac{3}{8}$ -32 threaded mounting bushing and knurled nut black anodized aluminum. Lockwasher provided. $\frac{1}{2}$ " O.D., $\frac{3}{16}$ " overall length.



- No. 34-1 (Red Button)

Sec. 5100

A complete line of LEVER SWITCHES by GENERAL CONTROL COMPANY



Type	RATINGS			
	Amps.*	High	Wide*	Long**
MCS	1	7/8"	7/8"	2-1/16"
MCT-1	1	1 1/4"	3/4"	2-5/16"
MCT-4	1	1 1/4"	3/4"	2-17/32"
MCM	5	1 1/2"	1 1/4"	2-25/32"
MCL	10	1 3/4"	1 3/4"	3-15/16"
MFM	5	1 3/4"	1 3/4"	3"

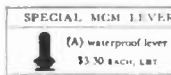
*125 volts, 60 cycles, non-inductive.
**From back panel to end of terminals.

Write for data Sheet CLRM

- MCS** Light-weight, miniature switch. Two contact sections. Single-hole mounting. Especially suited for Instruments and communications systems.
- MCT** Small switch for multiple-circuit control. Four contact sections. Frames available for either single-hole or four-hole screw type mounting.
- MCM** Widely used switch with multiple-position, ball-bearing detents. Four contact sections. Contact assemblies easily removed for wiring. Single-hole mounting.
- MCL** Heavy-duty switch for constant use in electrical control. Rugged cam. Four contact sections; easily removed contact assembly. Four-hole mounting.
- MFM** Versatile five-position switch with four contact sections—one neutral and four switch positions. Single-hole mounting.

LEVER OPERATION									
Symbol	Lock (Stays put)	Non-lock Spring return	Three-Position	Top Position	Half-Travel	Two-Position	Full-Travel	Two-Position	Full-Travel
Designation	MCS	MCT	MCM	MCL	MCL	MCL	MCL	MCL	MCL
	S1	T1	M1	L1	L2	L3	L4	L5	M7

*Lock and non-lock positions may be reversed. To reverse designate as BSL, RMG, RLK, etc.



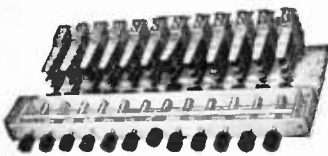
MFM				
DESCRIPTION	LOCK	NON-LOCK	LOCK-POSITION	
SYMBOL				
OPERATION				
OPERATION No.	1	2	3	4

CONTACTS	FRAME TYPES AND PRICES	CONTACT FORMS									
		A	B	C	D	E	F	G	H	O	
To obtain list price:—	MCS \$1.35	MCS	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
add	MCT-4 \$1.60	MCT-4	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
contact prices	MCT-1 \$2.00	MCT-1	0.40	0.40	0.50	0.60	0.70	0.50	—	0.50	—
to frame price.	MCM \$3.00	MCM	.60	.60	.75	.95	1.20	.75	.75	.75	—
	MCL \$4.00	MCL	.95	.95	1.05	1.30	2.00	1.05	1.05	1.05	—
	MFM \$13.75	MFM	.60	.60	.75	.95	1.20	.75	.75	.75	—

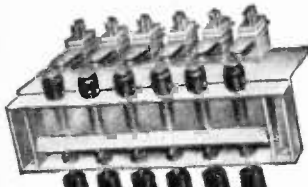
NOTE: Add 20% to MCS and MCT contact prices for contacts of palladium-silver alloy.

PUSH-BUTTON SWITCHES by GENERAL CONTROL COMPANY

A complete heavy duty push button switch with either 1 amp. or 5 amp. ratings at 110/60 AC. Furnished in two or twelve positions. A right-angle MPB is also available where back-of-panel depth is limited, incorporating all of the operating features of the standard MPB. 1 amp. switches are available with palladium silver contacts. It is possible to obtain the standard MPB switch stacked and/or intercoupled, providing all of the features of a single switch. Other variations of the standard MPB switch are also obtainable. Contact the factory with your requirements.



STANDARD MPB SWITCH



RIGHT-ANGLE MPB SWITCH

STANDARD AND RIGHT-ANGLE FRAME PRICES

FRAME TYPES	MPB-2	MPB-3	MPB-4	MPB-5	MPB-6	MPB-7	MPB-8	MPB-9	MPB-10	MPB-11	MPB-12	
CONTACT POSITIONS	2	3	4	5	6	7	8	9	10	11	12	
*Accumulative Lock	B-13	See note	6.70	8.65	10.60	12.55	14.50	16.45	18.40	20.35	22.30	24.25
No Two Interlock	B-14	5.50	5.95	7.40	8.85	10.30	11.75	13.20	14.65	16.10	17.55	19.00
Lock Release	B-15	5.00	5.20	6.10	7.60	8.80	10.00	11.20	12.40	13.60	14.80	16.00
Non-Lock	B-16	5.00	5.20	6.40	7.60	8.80	10.00	11.20	12.40	13.60	14.80	16.00

*Reset button requires one position in addition to standard contact positions. Reset button is on right-hand side unless otherwise specified.
*Reset button normally actuates no contacts but can be used to actuate momentary contacts if required.

CONTACTS							
CONTACT FORMS	A	B	C	D	E	H	O
Circuit							No Contacts
PRICE		.60	.75	.95	1.20	.75	—
	*5 Amps.	.60	.75	.95	1.20	.75	—
	*1 Amp.	.40	.50	.60	.70	.50	—

*Ratings at 125 volts A-C, N.T.

PUSH BUTTON OPERATION

OPERATION	ACCUMULATIVE LOCK	NO TWO INTERLOCK	LOCK RELEASE	NON-LOCK
Description	Buttons pushed in remain locked in position until released by pushing reset button.	Only one button can be pushed in at one time, and releases any other button.	Any button pushed in releases any previously pushed in button.	Has no locking action; returns to normal position on release of finger pressure.
Designation	B-13	B-14	B-15	B-16

ORDERING INFORMATION

- When ordering, specify:
 1 Frame Type Standard MPB-6 Price: \$8.80
 2 Push Button Operation B-15
 3 Contacts C1, C2, C3, etc A-A-B-B-C +.60 +.60 +.60 +.60 +.60 +.75
 4 Contact Rating 5-amperes
 5 Panel Thickness 3/8" panel
 — \$12.55

NOTICE: All prices and specifications subject to change without prior notice. General Control Company, Boston 34, Mass.

"Footrol" FOOT SWITCHES by GENERAL CONTROL COMPANY



Since 1934, General Control Company has been a foremost manufacturer of Foot Switches. These are products of the highest quality; built for rugged industrial applications. The great number of GENERAL CONTROL foot switches now in everyday use throughout the world provides substantial evidence of their acceptance for all types of applications.

Write for data sheet FSRM

TYPE MA A new light weight foot switch with an actuating treadle built into its top to permit operation with unusually light foot pressure. A long-life SPDT "du-op" Limit Switch forms the internal switch action. Especially recommended for fast operation where minimum fatigue is important. Access to the internal "du-op" switch terminals is greatly facilitated by simply removing the front end of the casting.



TYPE MC Especially adapted for unusual applications and hard use. Easily operated for foot, knee, hand, or elbow. Non-slip-tread top may be operated at any point of its surface.



TYPE MI An ideal treadle-type foot switch, especially convenient for many applications. Inclined, non-slip tread has an adjustable throw and includes a heel rest. Two operating pressures: 5 lbs. and 10 lbs. Mounting ears are provided on each side. A BX connector is mounted in the base, and terminal access is by a removable base plate.



TYPES			CONTACT TYPES	CONTACT OPERATION
MA-3 \$4.60	MC-13 \$6.50	*MI-23 \$9.80		Double throw Spring return (ONE NORMALLY OPEN, ONE NORMALLY CLOSED)
---	---	MI-25 \$11.25		First press transfers switch contacts Second press restores switch contacts (ONE NORMALLY OPEN, ONE NORMALLY CLOSED)
---	---	MI-26 \$13.65		1st half-throw closes 1st switch 2nd half-throw closes 2nd switch Spring Return
---	---	MI-27 \$15.00		Double pole Double throw Spring return (TWO NORMALLY OPEN, TWO NORMALLY CLOSED)

*Add \$2.50 to price shown, for foot switch with heavy duty 20-ampere rating.

Standard Foot Switches are available with mounting holes to accommodate special connectors, used on shielded cable.

AUTHORIZED GENERAL CONTROL COMPANY REPRESENTATIVES

REPRESENTATIVE	TERRITORY	REPRESENTATIVE	TERRITORY
JAY C. ANGEL & COMPANY 2743 West Peterson Avenue Chicago 45, Illinois UPtown 3-9953	Illinois; eastern Iowa; eastern Wisconsin	THE G. W. MOLER COMPANY Suite 812A Broadway Stevens Bldg. 309 Broadway Camden 3, New Jersey EMerson 5-5029 (Philadelphia, Pa., Tel. No. WAhant 3-2945)	Maryland, except counties of Garrett and Allegany; Delaware; southern New Jersey; eastern Pennsylvania; Washington D.C.; Virginia
G. E. ARNESON & COMPANY 1107 Holdridge Lane Wauvata, Minnesota EMerson 2-5152	Minnesota; Western Wisconsin; Western Iowa	THOMAS S. EADER, III 811 Edgewood Road Baltimore 4, Maryland VAlex 5-1539	(Handles Maryland, Wash. D.C., and Pennsylvania counties of York, Lancaster, Harrisburg—but all correspondence sent to G. W. Moler Co.)
AIRFLITE COMPONENTS, INC. 71 Dixon Court Weston Toronto 15, Ontario, Canada CHerry 1-5533	All of Canada	C. B. RUSH AND ASSOCIATES Suite 105—McKinley Building 77 Wilshire Boulevard Los Angeles, California DUinkirk 8-7111, DUinkirk 8-7585	California, Colorado, Nevada, Washington, Oregon, Alaska
THE BASIC SERVICE CORP. 16511 Plymouth Road Detroit 27, Michigan VERmont 7-8829	Michigan	P. J. SCANLON COMPANY 605 Inwood Road Dallas 45, Texas EL 1-1181, EL 1-9778	Texas (except County of El Paso, Oklahoma, Arkansas, Louisiana)
COMPONENTS, INCORPORATED 575 Ridge Road P.O. Box 7317 Cleveland 29, Ohio TUxedo 6-1880	Ohio, West Virginia, Western Pennsylvania	P. J. SCANLON COMPANY 1791 Crawford Street P.O. Box 5081 Houston 1, Texas	Houston Texas area (Correspondence Houston area forwarded to Houston office; all other to main office in Dallas)
E. R. A. INC. 310 Great Neck Road Great Neck, New York HUinter 2-9329	New York State north to and incl. counties of Sullivan, Orange, and Putnam; New Jersey State south to but not incl. counties of Burlington and Ocean	J. F. WULFETANGE, JR. 1505 East Genesee Street P.O. Box 293 Buffett 14, New York GLison 6-139	Northern New York
ELECTRICAL APPARATUS COMPANY, INC. 1200 Soldiers Field Road Boston 31, Massachusetts STadium 2-7119	New England	A. E. WILLIAMS COMPANY Rural Route 1 Markle, Indiana SKline 8-5993	Indiana and Kentucky
PAUL HAYDEN & ASSOCIATES P.O. Box 331 East Point, Georgia POPular 7-9616	Alabama, Georgia, Florida, Tennessee, Mississippi, North & South Carolina		

"Promatic" CONTROLS by GENERAL CONTROL COMPANY

SYNCHRONOUS-MOTOR TIMERS



The Series II, Type SY, Synchronous-motor Timers has time ranges from 1 second up to 24 hours, available to match the Type ET Timer. Redesign to incorporate the latest production and quality improvements. A new patented O-Ring clutch eliminates gears and costly maintenance problems. Time period easily adjusted and continuously indicated on large dial. Prices from \$55.00 each, list.

ELECTRONIC TIMERS



Type ET, Electronic Timers with ranges from .060 seconds to 60 seconds, are available in a variety of frame types, terminal arrangements, and mountings. The enclosed type or chassis model have back plates punched with universal mounting holes. Double pole, double throw auxiliary load contacts are rated at 10 amps., 125 volts a-c, n.i. Prices from \$35.00 each, list.

Write for data sheets SERM

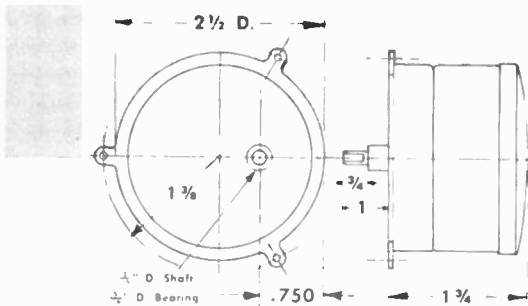


Hurst
PRINCETON, INDIANA

Manufacturing Co.

Lowest Cost . . . Smallest Size SYNCHRONOUS MOTORS

*for heavy duty
continuous timing*



These compact motors are engineered for tough jobs demanding accurate timing. They have excellent shock and vibration resistance and will start instantly at full torque. They will not overheat during continuous duty nor in a stall position. Gear-trains are constructed to withstand loads more than three times the motor's rated capacity.

SERIES SM & RSM SPECIFICATIONS

DIMENSIONS:	2 1/2" dia. 1 3/4" depth
TORQUE: (SM)	40 inch ounces at 1 RPM
TORQUE: (RSM)	80 inch ounces at 1 RPM
OUTPUT SPEEDS	1, 4, 6, 10, 30, 60 RPM
DUTY:	Continuous
WEIGHT:	.12 oz.
SHAFT SIZE:	3/16" diameter, flattened
SHAFT LENGTH:	1"
MOUNTING:	3 No. 6 holes spaced 120
POWER:	60 cy. AC 95 130V., 7 watts
ROTATION: (SM)	Right hand (clockwise facing shaft)
ROTATION (RSM)	Reversible or unidirectional
MAX. TEMP. RISE	40° C above ambient
OPERATE TEMP.:	-40 C (-40 F) to +121.1 C (+250 F)
SHOCK RESISTANCE:	100g without motor damage
VIBRATION RESISTANCE:	Accurate synchronization at 10.55 cps at .065" excursion



SM Series



RSM Series

TYPICAL APPLICATIONS

- Extra large clocks
- Alarm systems
- Animated displays
- Voltage regulators
- Process controls
- Paging systems
- Time switches
- Traffic signals
- Seismograph recorder
- Code signal devices
- Aircraft training devices
- Industrial testing equipment
- Railway signaling equipment
- Street lighting controls
- Program instruments
- Home lighting displays
- Engineering test equipment

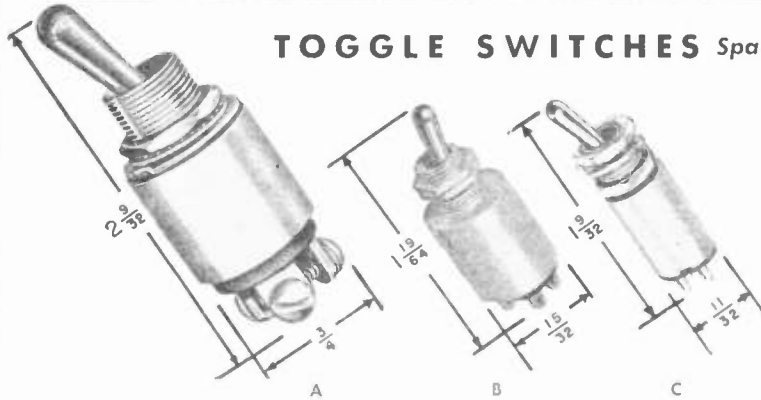
NET PRICES
SM Series \$6.75 each
RSM Series \$8.00 each
When ordering specify motor series and output speed desired.

HURST MANUFACTURING CO. PRINCETON, INDIANA

HETHERINGTON

AIRCRAFT TYPE SWITCHES AND INDICATOR LIGHTS

TOGGLE SWITCHES *Space-Saving, Cylindrical Types*



Exceptionally rugged, cam-roller Hetherington Toggle Switches positively cannot be teased off contact. Cylindrical anodized aluminum cases reduce size by 25% over conventional rectangular switches. Firmly anchored terminals separated by heavy insulation barrier. All are 2-position, snap-action.

FIG.	TYPE	CIRCUIT	RATINGS (Resistive Loads)		MTG. HOLE DIA.	SPECIAL FEATURES
			28v. dc.	115v. ac.		
A	T1003	SPDT	20 amps.	10 amps.	15/32"	Designed to MIL-S-6745 specs.
B	T2104	2-circuit	10 amps.	5 amps.	1/4"	Designed to JAN-S-23, Amend. 3.
C	T3103	SPDT	5 amps.	2½ amps.	1/4"	Anodized aluminum case

PUSHBUTTON SWITCHES *Snap-Action, Momentary Contact*

The exclusive Hetherington snap-action mechanism reduces arcing and contact wear . . . provides far greater current capacity than the small sizes of these switches would indicate. Mechanism enclosed in dust- and moisture-resistant anodized aluminum housings (phenolic in B2001 & B2002). 1-piece terminals and contacts firmly anchored to bases. Many types meet JAN and MIL Specs for aviation and military requirements.

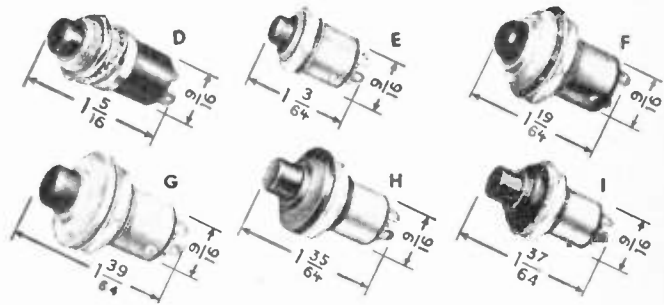


FIG.	TYPE	CIRCUIT	RATINGS (Resistive Loads)		MTG. HOLE DIA.	SPECIAL FEATURES
			28v. dc.	115v. ac.		
D	B2001	SPST (N.O.)	—	8 amps.*	1/2"	Phenolic body
	B2002	SPST (N.C.)				
E	C1006	SPST (N.O.)	17 amps.	15 amps.*	1/2"	Anodized aluminum cases
	C2006	2-circuit	10 amps.			
F	C100U4	SPST (N.O.)	17 amps.	15 amps.*	5/8"	Anodized aluminum cases & mounting flanges
G	C200P3	2-circuit	10 amps.			
H	W103PB6	2-circuit	10 amps.	—	5/8"	Corresponds to MS25089-3C (MIL-S-6743). Black flange.
I	W103UB6	2-circuit	10 amps.	—	5/8"	Corresponds to MS25089-3D (MIL-S-6743). Black flange.

Features and dimensions are subject to change based on engineering requirements. If dimensions or specifications are critical, obtain drawings from Hetherington's engineering department.

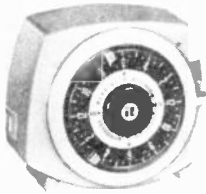
*Inspected by Underwriters' Laboratories, Inc.

Sec. 5100



A COMPLETE LINE OF QUALITY TIME SWITCHES FOR ALL AUTOMATIC CONTROL REQUIREMENTS

PORTABLE PLUG-IN APPLIANCE TIMERS



Time-All — for all-around use in the home, office, or store. Converts any radio to a clock radio . . . provides automatic "on-off" operation of lamps, de-humidifiers, hi-fi, fans, tape recorders, etc. Has manual control with automatic reset. Plug-in receptacle.

TV Show Catcher— Catch favorite radio and TV programs with combination electric clock and signal timer. Positive reminder - pleasant buzzer sound. Plugs in anywhere. Timing periods from 1 minute to 4 hours.

Tape Recorder Timer—Combination clock and appliance timer. The favorite of tape recorder owners who want to hear their favorite show, even though they're away at the time.

Model No.	Description	Watts	Amps	Volts	List Price
A221	Standard Time-All	875	7	125	\$10.95
A211	DeLuxe Time-All	1650	15	125	\$11.95
A301	TV Show Catcher	....	..	125	\$ 8.95*
A401	Tape Recorder Timer	1650	15	125	\$11.95*

*Subject to Retail Federal Excise Tax

STANDARD ON-OFF TIME SWITCHES

Century Series T100

Tungsten-Rated to handle incandescent lighting loads. For ordinary automatic control requirements, with up to 11 on-off operations per day. Minimum on-off time, 1 hour; maximum 23 hours. Manual control with automatic reset.



Model No.	Switch	Amps	Voltage	List Price
T101	SPST	35	125	\$11.95
T102	SPST	35	250	\$12.95
T103	DPST	35	125	\$13.95
T104	DPST	35	250	\$14.95
T105	SPDT	35	125	\$13.95
T106	SPDT	35	250	\$14.95
T101B	SPST	35	125	\$11.95
T102B	SPST	35	250	\$12.95
P101*	SPST	10	125	\$13.95

*Portable Plug-In: 125 volts, 60 cycle only. Models also available for 125 volt 50 cycle, 125 volt 25 cycle or 250 volt 50 cycle.

PROGRAM TIME SWITCH

Supervisor Series T960

For recorded music, process timings, fans, and heaters. Permits 1 to 96 on-off operations every 24 hrs. in 15 min. increments. 96 permanently attached trippers easily slide in and out for fast setting. Portable plug-in model available.



Model No.	Type	Amps per pole	Voltage 60 cycle	List Price
T965	Can be used 3 ways 1. SPST—Normally open	20	125	\$37.50
T966	2. SPST—Normally closed 3. SPDT—Alternate open & close	15	250	\$38.50
P961*	Single Pole, Single Throw	10	125	\$39.50

*Portable Plug-In

12 MINUTE REPEAT CYCLE TIMER

Cycler Series C8300

Dial makes a complete revolution every 12 min. ON operations from 10 sec. to 11 min., 10 sec. OFF operations from 50 sec. to 11 min., 50 sec. Up to 12 sets of on-off trippers can be placed on the dial at one time.



Model No.	Switch	Amps	Voltage	List Price
C8301-5	SPST	15	125	\$14.45

RADIO CLOCK TIMER

Model RC 2021-4—unmounted

An unmounted radio clock timer with front control. For installation in any model radio or other electrical unit. Radio can be turned on automatically, turned on or off manually. Complete with round bezel and crystal. With front switch setting, front "time" and "automatic" set.



Model No.	Watts	Amps	Voltage/60 cycles	List Price
RC2021-4	1650	15	125	\$9.00

Skipper SERIES TIME SWITCHES

T170—for 7-day Operation

Tungsten-Rated to handle incandescent lighting loads. For use where it is desired to skip operation on selected days. SKIPPER has two dials—a 24 hour time dial and a day dial—day dial advances position one day every 24 hours.



Model No.	Switch	Amps	Voltage	List Price
T171	SPST	35	125	\$17.95
T172	SPST	35	250	\$18.95
T173	DPST	35	125	\$19.95
T174	DPST	35	250	\$20.95
T175	SPDT	35	125	\$19.95
T176	SPDT	35	250	\$20.95
T171B	SPST	35	125	\$17.95
T172B	SPST	35	250	\$18.95
P171*	SPST	35	125	\$19.95

*Portable Plug-In: 125 volts, 60 cycle only. Models also available for 125 volt-50 cycle, 125 volt-25 cycle, or 250 volt-50 cycle.

5 OR 15 MINUTE ON-OFF SWITCH

Supervisor DeLuxe Series V27000

For highly accurate on-off operations in 5 or 15 min. intervals, on a 24 hr. basis. Recommended for intermittent 24 hr. control of recorded music in stores, factories and offices, for process timings in food, chemical, and industrial plants, fans, ventilating systems, etc. Timings in multiples of 5 or 15 min.



Model No.	Case Size	Minimum Time Between Settings	Circuit Closure Range in multiples of	No. Circ.	List Price
V27101	LC	5 min.	5 min.	1	\$89.95
V27201	SC	15 min.	15 min.	1	\$79.95
V27107	LC	5 min.	5 min.	2	\$119.95
V27207	SC	15 min.	15 min.	2	\$109.95

Note: All models available for 250 volt operation and/or with Skipper feature. Request catalog No. TS-110 for complete model number listing.

for complete Time Switch information, request Catalog TS-89

INTERNATIONAL REGISTER COMPANY, CHICAGO, ILLINOIS

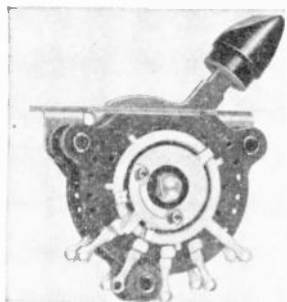
Instrument
Quality



Components

LEVER ACTION SWITCHES, KITS AND SPECIAL MOLDED SWITCHES

3- and 4-Position Lever Switches — New 5-Position — Unique 6-Pole Double-throw per Deck



SS-14-1L4F-2
Two-Deck Lever-Action Switch

POSITIVE TYPE, 3- and 4-Positions. (Single-deck.)
Specified where quality is a consideration, these lever switches offer many of the design features of the J-B-T SS-14 instrument-type rotary switches. The single-deck models (not illustrated) come in the conventional three-positions and in a newer four-position. Present uses include tube checkers, inspection apparatus, communication systems, hobby equipment, consoles, and sound devices. The four-position types, interchangeable except in slot length with the standard three-position, provides the extra circuit which is often needed. Dimensions are shown on the drawing below. Variations in mounting hole sizes, lever length, and tapped mounting holes can be supplied on long runs involving set-up charges. Switches are normally individually boxed with mounting hardware and KN-17 black pointed knob as illustrated. Spacing between single decks: recommended 3/4", minimum 5/8". Also see list of available mounting plates.

Spring Return Type. Single deck 3-position switches also may be ordered with spring return. Lever returns to position 11, giving momentary action at positions 9 and 10 (Model Suffix—R).
Two-Deck Lever Action Switches. These use the same strong parts, 3-pole suspension and double-grip collector arms as the one-deck type, but are specified where quality is the prime requirement. Spacing is 3/8" between decks, the same distance as TV twinlead wires. Non-shorting (break before make) positive action, individually boxed including KN-17 knob and hardware. Recommended spacing between decks 1 1/8"; minimum spacing 1 1/4".

Model	Pos. per Circuit	Ckts. per Deck	Short. Decks	Stand. Non	* Contact Pos.	Boxed Incl. Knob
SS-14-1L3	3, no "off"	1	1	NS	A	\$0.95
SS-14-1L3A	3, no "off"	2	1	NS	B	1.10
SS-14-1L3S	3, no "off"	1	1	S	A	1.00
SS-14-1L3-R Sp. Ret.	3, no "off"	1	1	NS	A	1.10
SS-14-1L3S-R Sp. Ret.	3, no "off"	1	1	S	A	1.15
SS-14-1L3-2	3, no "off"	1	2	NS	A	1.60
SS-14-1L4	3 & "off"	1	1	NS	C	1.05
SS-14-1L4F	4, no "off"	1	1	NS	D	1.05
SS-14-1L4F-2	4, no "off"	1	2	NS	D	1.80
SS-14-1L4S	3 & "off"	1	1	S	C	1.10

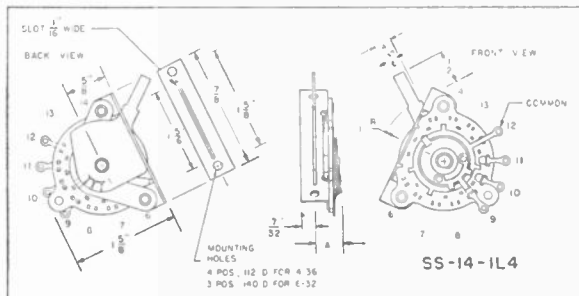
*A—common at 12 contacts at 9, 10, 11; B—common at 9, 10, contacts at 6, 7, 8, 12, 13, 14; C—common and off at 12, contacts at 9, 10, 11; D—common at 12, contacts at 8, 9, 10, 11.

MOUNTING PLATES



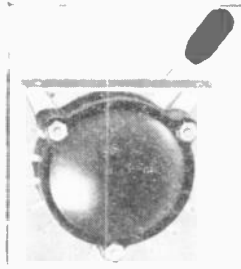
These .035" stamped steel plates in black crackle finish simplify alignment of standard 3-position 1-deck switch models having symbol 1L3. Separation is 3/4" between switches; all plates are 7 5/8" high.

- PL-36, 3/4" long, for one switch \$0.30
- PL-37, 1 1/2" long, for two switches40
- PL-38, 3" long, for four switches (illustrated)45



Dimensions A=13/32" on 1-deck Switches; 23/32" on 2-deck. Non-shorting type with standard level length is shown.

MS-20-1L5A-1
5-Position Lever Switch



MS-20-1L5A 1, 5-position, 2 circuit (1-deck) \$2.95

MODEL MS-20-1L5A-1. For the first time designers and servicemen have available 5 live positions, two circuits per deck in a fully enclosed, lustrous black molded construction. Adapted from the MS-20 series of instrument-quality switches shown on a preceding page and having similar electrical characteristics, this positive action lever switch made an instant hit for sound systems. Now that it is released for general use, control inspection, test and experimental circuits can be simplified by its use. Shipped individually boxed with hardware and threaded black molded knob. Sketch for mounting will be supplied upon request for SK-64.

KNOBBS FOR LEVERS

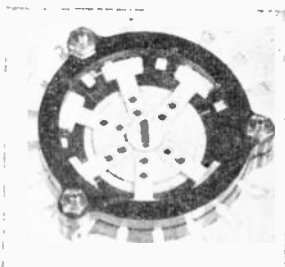
Spare knobs, push-on type, are:

- KN-17, black, modern pointed design, metal insert, shown at left, now regularly supplied \$0.08
- KN-18, walnut, same as KN-1906
- KN-19, black, round, flat-type, shown at right; no insert needed06



6-POLE DOUBLE-THROW PER DECK—1 OR 2 DECKS
(Double — throw switching through 36 -18 per throw.)

6-Pole Switches. Double-throw switching, 6 circuits per deck, becomes easy with this unique rotary-type molded switch. It is fully enclosed and similar in appearance to the molded MS-20 switches described on another page. The illustration at the right shows internal construction with back protective cover cut away. Circuit arrangement is designated on the metal front of the switch. Quality features include .007 ohm average contact resistance; heavy, fine-silver plating for 100-hour salt spray test; double-grip collector arms. Now available in non-shorting (break before make) and shorting (make before break). 2 3/8" maximum diameter, one deck behind panel two deck 1 1/8" behind panel DTS Shorting Type, a rated 1500 volts RMS between contacts and a rated 100 volts RMS between collector arms.



- MS-20-1-6DT, 6-pole, double-throw (1 deck), non-shorting..... \$3.25
- MS-20-1-6DTS, 6-pole, double throw (1 deck), shorting..... 3.35
- MS-20-2-6DT, 6-pole, double throw (2 decks) non-shorting..... 4.70
- MS-20-2-6DTS, 6-pole, double throw (2 decks), shorting..... 4.90

SWITCH KIT — 14-POSITION LAMINATED

MODEL K-2. The instrument-laminated phenolic switches described on page 8 as CS-14 type switches are available in kit form for quick assembly. This arrangement is especially helpful to engineers, experimenters, hams, and electronic maintenance departments for special assemblies or emergency requirements. The sturdy four drawer metal cabinet with 48 compartments contains 15 SS-14 index assemblies and 50 14-position decks. These include non shorting (break-before-make), shorting (make-before-break), A-type (2 circuits), CS-type (complete shorting), and F-type (14 live positions). Kit also is supplied with a simple tool for pushing rotors on shafts, and a replacement parts list for ordering refills through distributors.



SWITCH KIT, MODEL K-2 14-POS. LAMINATED ONLY \$49.00

Instrument Quality



Components

ROTARY SELECTOR SWITCHES — INSTRUMENT TYPE

Laminated, 14-position — Time Saving Ring — Contact, 14- and 20-position, molded

J-B-T Instrument-type Rotary Selector Switches are used widely in quality test equipment, portable instruments, inspection setups and avionics where trouble-free, dependable performance is of major importance. Available non-shorting or shorting as 14-position in laminated type, and 14 and 20 position in molded construction — this design gives extra contacts in minimum space. One to six decks. Switches supplied through distributors are sealed in moisture-proof bags.

FEATURES:

Reliability — Rigid, 3-post deck suspension, instead of the usual 2; all current carrying parts are brass or phosphor bronze, silver flashed and then heavily plated with fine silver to meet 100 hour salt spray test. **SS-14 laminated:** Ball bearing action, beryllium-copper balanced spring, and sharp detent assure positive indexing. Springs are replaceable without disturbing soldered connections. Laminated plastic decks and rotors are selected for maximum mechanical and dielectric strength. Insulation resistance above 50,000 megohms. **MS-14 and MS-20 Molded:** See next page.

Exceptional Compactness—14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2-23/32" circle. Each deck above first adds only 5/16".



SS-14-2



MS-20BR-1 Ring-Contact

Low Contact Loss—Double-grip collector arms, and large-area contacts, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

Ample Dielectric—AC or DC; normal carrying capacity (not make-and-break), 1 amp.; maximum momentary capacity (not make-and-break), 5 amp.; maximum voltage between contacts 1,500 volts R.M.S.; between decks and ground, 2,000 volts R.M.S.

Military Variations—The following can be supplied on special order at extra cost: (a) laminated plastic, Type PBE-P per Spec. MIL-P-3115B; (b) vacuum impregnation of rotors, decks, spacers, and ceramic spacers with approved fungicides; (c) hot tin dip on contact surfaces to be soldered; (d) 14 to 20 live positions, no off, (add suffix F, as SS-14-2F); (e) common position in non-standard location.

BASIC 14-POSITION: 1 1/4" Bar knob (KN-14) supplied only on individually packed units—not on bulk orders unless specified. Collector arm placed directly opposite to that of shaft, unless otherwise specified. Contact lugs and common lugs positioned as shown below. 13 contacts per deck. One to six decks; for each additional deck (or gang) adds 5/16" to depth. Continuous rotation type supplied unless otherwise specified. Adjustable Stop normally is supplied on standard cataloged switches. Fixed Stops can be supplied on quantity orders at moderate cost. Panel locator positioned as shown unless otherwise specified on bulk orders.

COMBINATIONS IN SS-14 SERIES: In addition to the military variations listed above, shorting and non-shorting decks can be assembled on the same switch shaft. Reference to the sketch below will be helpful in numbering decks and contacts when ordering non-standard assemblies. Specialized requirements for stainless steel shafts, no flats or double-flats on shaft, or longer projections beyond flanging also can be supplied with necessarily longer delivery time and additional cost.

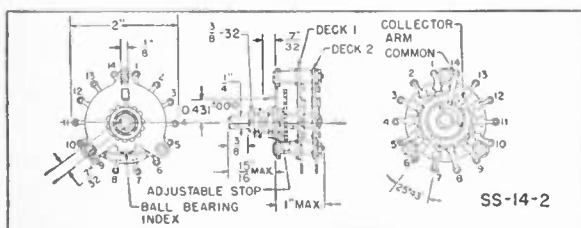
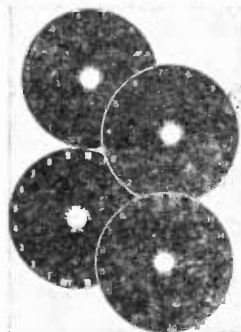
SWITCH KIT (Laminated Phenolic)

Most of the 14 and 20 position laminated switches, plus special variations as needed, can be assembled quickly from the kit shown on an adjoining page. Designers, service engineers, laboratories, and industrial maintenance departments will especially appreciate the convenience, flexibility, and time saved.

ETCHED DIAL PLATES

For SS-14 or MS-14 Series; and for SS-20 or MS-20 Series. Dull black finish — with raised bright metal numerals. 2 1/4" diameter.

- EP-13 off thru 13 \$0.23
- EP-14 1 thru 1423
- EP-19 off thru 1923
- EP-20 1 thru 2023



Non-Shorting—Break before make. Shorting—Make before break.
LAMINATED SWITCHES, SS-14 TYPE
 (14 positions; angular indexing 25° 43')

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Boxed, Including Knob
SS-14-1	14	1	1	N-S	\$1.90
SS-14-1A*	5†	2	1	N-S	2.05
SS-14-1S*	14	1	1	S	1.95
SS-14-1CS‡*	14	1	1	S	2.35
SS-14-2	14	1	2	N-S	2.35
SS-14-2A*	5†	2	2	N-S	2.65
SS-14-2S	14	1	2	S	2.45
SS-14-2CS‡*	14	1	2	CS	3.25
SS-14-3	14	1	3	N-S	2.80
SS-14-3S	14	1	3	S	2.95
SS-14-4	14	1	4	N-S	3.65
SS-14-6	14	1	6	N-S	5.30

* Standard items, but not regularly stocked; check with your electronic parts distributor.
 † Complete shorting — all contacts shorted except one in use.
 ‡ 5 positions include 4 "live" and 1 "off."

NEW IDEA: RING-CONTACT SWITCHES

Both the MS-14 and MS-20 switches described on the next page now are produced with the outside edge of all contacts held together by an integral ring. The MS-20BR-1 shown above also has bonded (suffix B) construction as described on the next page, but the ring assembly is available on molded MS-14R (per print SK-88) and MS-20R (per print SK-89). Rings add 7/32" to o.d. Unique to J-B-T, the ring eliminates the need for soldering jumpers between adjacent contact positions and assures perfect connections. The ring can easily be snapped out between contacts, making this type excellent for development work. On production runs, J-B-T will supply various combinations of joined and unjoined contacts. The switches listed below are normally available. Others, such as 2 decks, 6 decks, and more, or various shorting types, can be made but require substantial lead time.

RING-TYPE MOLDED SWITCH MS-14R

(14 positions; angular indexing 25° 43'; o.d. 2 1/4")

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Depth Behind Panel	Boxed, Including Knob
MS-14R-1	14	1	1	N-S	1 1/8"	\$2.50
MS-14R-2	14	1	2	N-S	1 1/8"	3.05
MS-14R-4	14	1	4	N-S	1 3/4"	5.05

RING-TYPE MOLDED SWITCH MS-20R

(20 positions; angular indexing, 18°; o.d. 2 27/32")

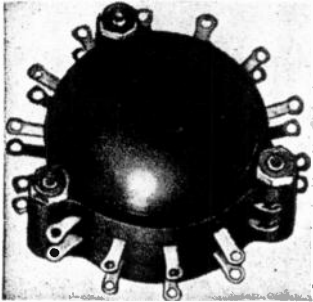
Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Depth Behind Panel	Boxed, Including Knob
MS-20R-1	20	1	1	N-S	1 1/8"	\$3.05
MS-20R-2	20	1	2	N-S	1 1/8"	3.75
MS-20R-4	20	1	4	N-S	1 3/4"	6.35

Instrument Quality J-B-T Components

J-B-T INSTRUMENTS, INC.

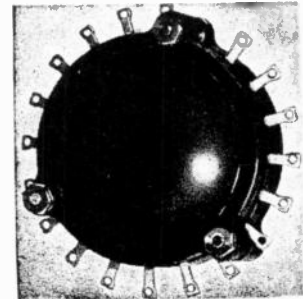
ROTARY SELECTOR SWITCHES — INSTRUMENT TYPE

Molded, 14- and 20-position, fully enclosed



MS-14-2

- All moving contacts enclosed—minimizes dirt and corrosion—also 3-post deck suspension, double grip collector arms, and rectangular drive shaft for precision indexing.
- Interchangeable, electrically and mechanically, with present SS-14 and former SS-20 laminated switches.



MS-20-1

FEATURES: For description of rigid 3-post construction; heavy fine silver plating to meet 100-hour salt-spray test; exceptional compactness; .007 ohm average contact resistance; insulation resistance above 50,000 megohms; current-carrying capacity and voltage breakdown; see adjoining page on SS-14 laminated switches. Besides fully enclosing all the moving contact parts, the molded switches differ from the

laminated construction in the design of the detent mechanism, but both types provide the positive indexing which quickly identifies the superior quality of J-B-T switches. Test results are available on request covering certain procedures of MIL-E-5272A on insulation resistance high and low temperature and temperature shock; humidity; altitude; salt spray; vibration fungus resistance; rain, sand and dust; explosion; shock and endurance values. (Ratings for MS-20-6DTS Types differ somewhat.)

BASIC 14-POSITION MOLDED (MS-14): 13 circuits and "off" per deck in 2 1/2" circle for compactness. Molded end cover regularly supplied. 1 1/4" Bar knob (KN-14) included with individually boxed units—not on bulk orders unless specified. Collector arm placed directly opposite to flat of shaft, so that knob pointer points to live contact. Common or "off" contact lug is bent down for ready identification. Internal construction: double-grip collector arms hold contact lug on upper and lower surfaces; collector ring is self-wiping. One to ten decks add 3/8" per deck (or gang) to depth; for seven decks and over, add 1/2" to depth for shaft support; add 3/8" to depth for adjustable stop mechanism. Continuous rotation type supplied unless adjustable stop (type MAS) is ordered or, on quantity orders, pre-set fixed stops are specified. Panel locator is available at extra cost on quantity orders when specified; on MS-14-4 and MS-14-6, extra hex nut and longer screw can be supplied for inverting supporting screw nearest common, thus converting into panel locator.

BASIC 20-POSITION MOLDED (MS-20): 19 circuits and "off" per deck in 2 3/4" circle for compactness. Molded end cover regularly supplied. 2" Bar knob (KN-16) included with individually boxed units—not on bulk orders unless specified. Collector arm placed directly opposite to flat of shaft, so that knob pointer points to live contact. Common or "off" contact lug is bent down for ready identification. Internal construction: double-grip collector arms and self-wiping collector ring are standard construction. One to seven decks; add 3/8" per deck (or gang) to depth. Continuous rotation type supplied; on quantity orders, pre-set fixed stops are available. Panel locator available at extra cost on quantity orders when specified; on MS-20-4 and MS-20-6, extra hex nut and longer screw can be supplied for inverting supporting screw nearest common, thus converting into panel locator.

MOLDED SWITCHES, MS-14 TYPE

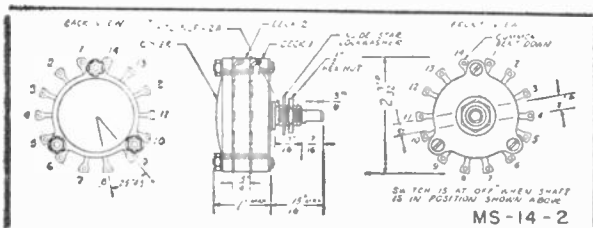
(14 positions; angular indexing 25° 43')

Continuous rotation, no stops

Non-Shorting—Break before make. Shorting—Make before break.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting	Depth Behind Panel	Boxed Including Knob
MS-14-1	14	1	1	N-S	1 1/8"	\$2.00
MS-14-1S*	14	1	1	S	1 1/8"	2.05
MS-14-2	14	1	2	N-S	1 1/8"	2.55
MS-14-2S*	14	1	2	S	1 1/8"	2.65
MS-14-3	14	1	3	N-S	1 1/8"	3.10
MS-14-4	14	1	4	N-S	1 3/4"	4.05
MS-14-6	14	1	6	N-S	2 3/8"	5.90

For more than 6 decks, request prices



NEW BONDED RUGGEDIZED TYPES — All molded rotary switches may be ordered with bonded construction as MS-14B or MS-20B types using cured laminations for ruggedization, shock-proofing and further enclosure. Add 35c per deck to catalog price. Thus, 2 deck switch is MS-14B-2 at \$3.25. Bonding adds 1/4" max. per deck.

Non-Shorting—Break before make. Shorting—Make before break

MOLDED SWITCHES, MS-20 TYPE

(20 positions; angular indexing 18°)

Continuous rotation, no stops (except 6DTS Types)

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting	Depth Behind Panel	Boxed Including Knob
MS-20-1	20	1	1	N-S	1 1/8"	\$2.55
MS-20-1-6DT	2	6	1	N-S	1 1/8"	3.25
MS-20-1-6DTS	2	6	1	S	1 1/8"	3.35
MS-20-1S*	20	1	1	S	1 1/8"	2.60
MS-20-2	20	1	2	N-S	1 1/8"	3.25
MS-20-2-6DT	2	6	2	N-S	1 1/8"	4.70
MS-20-2-6DTS	2	6	2	S	1 1/8"	4.90
MS-20-2S*	20	1	2	S	1 1/8"	3.35
MS-20-3	20	1	3	N-S	1 1/8"	4.30
MS-20-4	20	1	4	N-S	1 3/4"	5.35
MS-20-6	20	1	6	N-S	2 3/8"	7.55

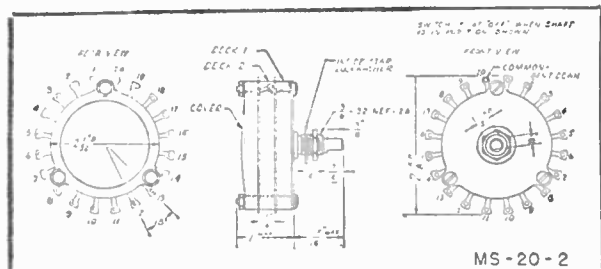
ADJUSTABLE STOP MOLDED SWITCHES, MAS-14 TYPE

(14 positions; angular indexing 25° 43')

IMPORTANT: Enclosed adjustable stop mechanism increases switch length 3/8" behind panel; decreases effective bushing length by 1/8"; and shortens shaft extending from bushing by 1/8". Rings RI-23 and RI-24 are supplied.

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting	Depth Behind Panel	Boxed Including Knob
MAS-14-1	14	1	1	N-S	1 1/8"	\$2.60
MAS-14-1S*	14	1	1	S	1 1/8"	2.70
MAS-14-2	14	1	2	N-S	1 1/8"	3.20
MAS-14-2S*	14	1	2	S	1 1/8"	3.30
MAS-14-3	14	1	3	N-S	1 1/8"	3.85
MAS-14-4	14	1	4	N-S	1 3/4"	4.80
MAS-14-6	14	1	6	N-S	2 1/8"	6.75

For more than 6 decks, request prices
*Standard items, but not regularly stocked; check with your electronic parts distributor.



Instrument Quality



Components

TOGGLE SWITCHES — HEAVY DUTY — SINGLE-HOLE

GOVERNMENT-QUALITY TYPES DESIGNED FOR JAN-S-23, DDAX SERIES, AND MIL-S-21195A (Ships) AND (WITH TOGGLE SEALS AND OTHER VARIATIONS) MIL-S-6745, AN-S-20a, AND MIL-S-3950A.

REGULARLY TESTED TO MEET ADVERSE OPERATING CONDITIONS

Overload . . . Tested to make and break at 50% overload for brief periods. To assure performance of these switches with their comparatively heavy current ratings, J-B-T features ample size solid coin silver contacts and rocker arms instead of clad or brazed construction. Contact resistance is under 0.005 ohms. High dielectric exceeds 1000 volts r.m.s. at 60 cycles at sea level.

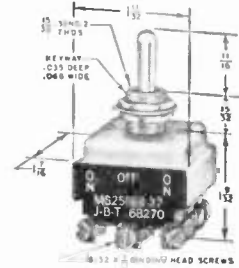
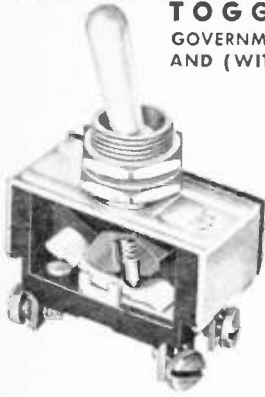
Cold and Heat . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at -85 F to 185 F.

Vibration and Shock . . . No momentary make or break or mechanical damage during severe shake and 75 G's drop tests.

High Humidity . . . Materials, dull finish on outside metal parts (per Armed Services specifications) and lubricant enable switches to withstand tropical climates.

Salt . . . Meet 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum of JAN-S-23.

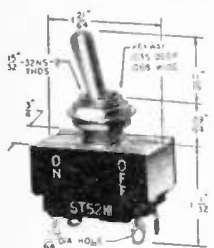
Rugged Service . . . Generously proportioned and substantially built for extra life. For instance, both screw-type terminals and solder lugs easily withstand a 30 pound pull test. Operating cycles far in excess of minimum specified as acceptable. Quality standards are maintained by in-plant production testing.



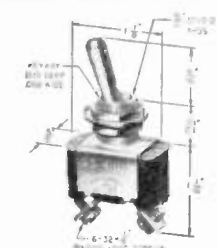
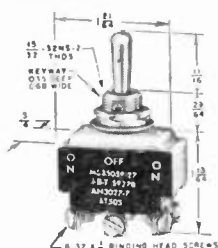
NEW 4-POLE

ST and DT 4-pole toggle switches with one-hole mounting and sealed toggle bushings (8 terminals, sc.) MS25068-24, -25, -28. (12 terminals, sc.) MS25068-21, -23, -26, -27, and -31.

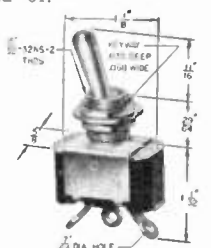
20 AMP. — HEAVY DUTY This page covers 114 models of toggle switches nominally rated at 20 amp. at 125 VAC, and 10 amp., 250 VAC, and other higher and lower ratings where specified in JAN-S-23 or other pertinent specifications.



- (6 terminals s.l.) ST52S, T
- (6 terminals sc.) ST50S, T
- (4 terminals sc.) ST50K, L, M
- (6 terminals sc.) ST50N, P, R
- (4 terminals s.l.) ST52K, L, M
- (6 terminals s.l.) ST52N, P, R



- (2 terminals sc.) ST40A, B, C
- (3 terminals sc.) ST40D E, F, G, H
- (2 terminals s.l.) ST42A, B, C
- (3 terminals s.l.) ST42D, E, F, G, H



For Electrical Characteristics, Current Values, and Full Information, Ask for Bulletin TS-6B

CIRCUIT DIAGRAM AND TYPE	MODEL NUMBER						CIRCUIT ARRANGEMENT		
	SCREW TERMINAL			SOLDER LUG			KEYWAY		
	JAN-S-23 & MIL-S-21195A	MIL-S-6745 See Note A	MIL-S-3950 See Notes A & B	MIL-S-3950A See Notes A & B	JAN-S-23 & MIL-S-21195A (Ships)	MIL-S-3950 See Note A	A	B	C
SPST 2 terminals	ST40A ST40B ST40C	AN3021-2 AN3021-9 AN3021-8 AN3021-10 AN3021-11 AN3021-12	MS35058-1 MS35058-2 MS35058-3	MS35058-22 MS35058-29 MS35058-30 MS35058-24 MS35058-28 MS35058-25	ST42A ST42B ST42C	MS35058-9 MS35058-10 MS35058-11 MS35058-12 MS35058-13 MS35058-14	On On Off On None On	None None None Off Off On*	Off On* On* None On* None
SPDT 3 terminals	ST40D ST40E ST40F ST40G ST40H	AN3021-3 AN3021-1 MS35058-6 AN3021-7 AN3021-5 AN3021-6	MS35058-4 MS35058-5 MS35058-6 MS35058-7 MS35058-8	MS35058-23 MS35058-21 MS35058-26 MS35058-27 MS35058-31	ST42D ST42E ST42F ST42G ST42H	MS35058-15 MS35058-16 MS35058-17 MS35058-18 MS35058-19	On On On On* On On	None Off None Off Off Off	On On On* On* On* On*
DPST 4 terminals	ST50K ST50L ST50M	AN3027-2 AN3027-4 AN3027-5 AN3027-9 AN3027-11 AN3027-10	MS35059-1 MS35059-2 MS35059-3	MS35059-22 MS35059-29 MS35059-30 MS35059-24 MS35059-28 MS35059-25	ST52K ST52L ST52M	MS35059-9 MS35059-10 MS35059-11 MS35059-12 MS35059-13 MS35059-14	On On Off On None On	None None None Off Off Off	Off On* On* None On* None
DPDT 6 terminals	ST50N ST50P ST50R ST50S ST50T	AN3027-3 AN3027-1 AN3027-6 AN3027-7 AN3027-8	MS35059-4 MS35059-5 MS35059-6 MS35059-7 MS35059-8	MS35059-23 MS35059-21 MS35059-26 MS35059-27 MS35059-31	ST52N ST52P ST52R ST52S ST52T	MS35059-15 MS35059-16 MS35059-17 MS35059-18 MS35059-19	On On On On* On	None Off None On Off	On On* On* On* On*
4PST 8 terminals			MS25068-11 MS25068-13 MS25068-12	MS25068-24 MS25068-25 MS25068-28			On On None	Off On* Off	None None On*
4PDT 12 terminals			MS25068-1 MS25068-3 MS25068-10 MS25068-7 MS25068-5	MS25068-21 MS25068-23 MS25068-26 MS25068-27 MS25068-31			On On On On* On	Off None None Off Off	On On On* On* On*

*Not included in this specification. †AN3021-6 same as AN3021-5 with jumper. ‡Same dimensions as ST50S as illustrated.

Instrument
Quality



Components

TOGGLE SWITCHES—MEDIUM DUTY—SINGLE-HOLE
 GOVERNMENT-QUALITY TYPES DESIGNED FOR JAN-S-23, DDAX SERIES, AND MIL-S-21195A (Ships)
 Variations in construction under development for MIL-S-3950A, Series MS25098 and MS25100



6 AMP. — MEDIUM DUTY
 This page covers 40 models of toggle switches nominally rated at 6 amp. at 125 VAC, 3 amp. at 250 VAC. 32 models have threaded bushings 29/64" in length; eight 1/4" in length.

Single Pole - Double Pole
 Single Throw - Double Throw
 Side Connected - Rear Connected
 Series ST12, ST13, ST16, ST17
 Series ST22, ST23, ST26, ST27

For Electrical Characteristics, Current Values, and Full Information, Ask for Bulletin TS-6B

Like J-B-T. Switches in the rotary, lever-action and heavy-duty toggle switch fields, this ST12-27 Series has quality as its first objective. J-B-T controls quality by doing its own designing, actual manufacturing and in-plant testing of production samples.

Sound Electrical Characteristics . . . Stationary contacts are brass, heavily silver plated; double wiping contacts are phosphor bronze, heavily silver plated. Tested to meet 50% overload for brief periods. Contact resistance well under 0.01 ohm requirement of military specifications. High dielectric exceeds 1000 volts r.m.s., 60 cycles at sea level.

Cold and Heat . . . Specialized aircraft lubricant facilitates mechanical and electrical operation at both low and high temperatures (- 67 F to 185 F).

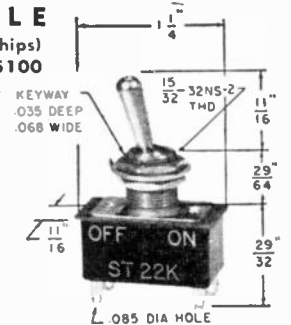
High Humidity . . . Materials, plating, construction and lubricant enable switch to withstand tropical climates.

Salt . . . Meets 100 hour Salt-Spray Test QQ-M-151a which is twice the required minimum.

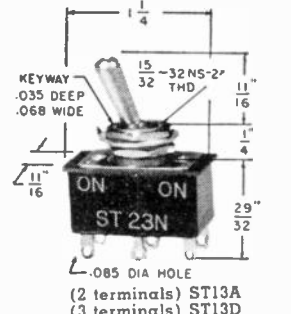
Vibration and Shock . . . No momentary make or break or mechanical damage during stringent shake tests and 75 G's drop test.

Specified Plating . . . Dull finish plating on outside metal parts follows requirements of applicable Government Specifications. For substantial orders, other plating will be quoted on request.

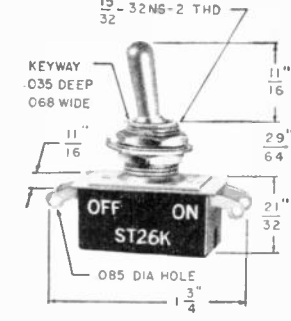
Exceptionally Rugged Construction . . . Enclosed molded body, with no unused holes for side terminals. Terminals in this series are all solder-type, hot-tin dipped, and withstand 5 pound pull test. . . . operating cycles far in excess of minimum specified as acceptable.



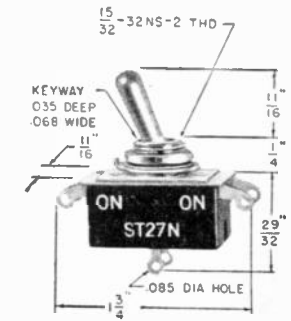
(2 terminals) ST12A, B, C
 (3 terminals) ST12D
 (4 terminals) ST22K, L, M
 (6 terminals) ST22N



(2 terminals) ST13A
 (3 terminals) ST13D
 (4 terminals) ST23K
 (6 terminals) ST23N



(2 terminals) ST16A, B, C
 (3 terminals) ST16D
 (4 terminals) ST26K, L, M
 (6 terminals) ST26N



(2 terminals) ST17A
 (3 terminals) ST17D
 (4 terminals) ST27K
 (6 terminals) ST27N

CIRCUIT DIAGRAM AND TYPE	MODEL NUMBER (Solder Lugs Only)				CIRCUIT ARRANGEMENT		
	JAN-S-23 and MIL-S-21195A (Ships)		MIL-S-3950	MIL-S-3950A				A	B	C
	29 3/64" BUSHING	1 1/4" BUSHING	29 3/64" BUSHING See Notes A & B	29 3/64" BUSHING See Notes A & B	KEYWAY		
SPST 2 terminals	ST12A ST12B ST12C ST16A ST16B ST16C	ST13A # # ST17A # #	MS25098-1 MS25098-2 MS25098-3 #	MS25098-22 MS25098-29 MS25098-30 #	On On Off On	None None None None	Off Off* On* Off
SPDT 3 terminals	ST12D ST16D	ST13D ST17D	MS25098-4 #	MS25098-23 #	On On	None None	On On
DPST 4 terminals	ST22K ST22L ST22M ST26K ST26L ST26M	ST23K # # ST27K # #	MS25100-1 MS25100-2 MS25100-3 # # #	MS25100-22 MS25100-29 MS25100-30 # # #	On On Off On On Off	None None None None None None	Off Off* On* Off Off* On*
DPDT 6 terminals	ST22N ST26N	ST23N ST27N	MS25100-4 #	MS25100-23 #	On On	None None	On On

#Not included in this specification

*Momentary Position

Note A: AN or MS types use internal sand and dust toggle seal and high performance features involving extra cost; some models not regularly stocked.

Note B: Specification MIL-S-3950 covering suffix numbers —19 and below, has been withdrawn by the Government, and is being superseded by MIL-S-3950A which has suffix numbers —21 and above. For heavy-duty switches, specification MIL-S-3950A provides for screw terminals only. This type may be used for soldering by removing screws.

LICON® Precision Switches

LICON TYPE 10 PRECISION BASIC SWITCHES

Features extremely sensitive operation plus long life and high electrical rating. Over 10,000,000 actuations by test. Movement differential of .001 on standard types. 15 amp: 125, 250, 460V A.C. Meets government specs. ½ amp: 125V D.C. U.L. Approved.



TYPE 10-122



TYPE 10-222



TYPE 10-322



TYPE 10-422



TYPE 10-522



TYPE 10-622



TYPE 10-72237



TYPE 10-922

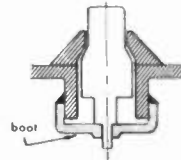
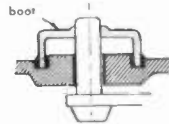


TYPE 10-822



TYPE 10-722

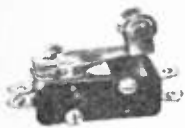
SPLASH PROOF SEAL



Sealing against moisture, dirt and other harmful elements can be provided by a neoprene boot for most type 10 models without altering switch characteristics. Specify by adding 301 to part number, i.e., 10-122301.

Type 10 switches shown are normally supplied with .020" contact gaps with 15 amp rating. Gaps of .010" to .070" and ratings to 20 amps are also available.

TYPE 11 ACTUATORS



70-104

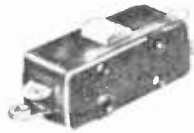


70-301

LICON TYPE 11 PRECISION BASIC SWITCHES

Type 11 combines small size, long life, high rating and double break in one reliable package. Government approved. Rated 10 amps, 30V D.C., 125 or 250V A.C. U.L. Approved. Tested over 20,000,000 life cycles.

TYPE 11-104



TYPE 11-204



TYPE 11-304



RESET MODEL AVAILABLE WITH END OR SIDE TERMINALS

TYPE 11 ACTUATORS



70-302



70-201

LICON TYPE 14 HEAVY DUTY SNAP-ACTION SWITCHES



TYPE 14-124

Rugged, dependable Type 14 switches feature 30,000,000 life cycles by test. Rated 20 amps, 250V A.C. Normally supplied with .020" movement differential. Available with .010" to over .040" movement differential, in choice of mounting means and terminal designs. Operating force normally 12 oz. but can be from 100 grams to 2 lbs. Best suited to industrial and machine tool applications.



TYPE 14-12403

BOTH SWITCH TYPES AVAILABLE IN RESET MODELS

LICON® Precision Switches

LICON TYPE 16 SUBMINIATURE SWITCHES

TYPE 16 ACTUATORS



70-2510 OIL TIGHT PUSHBUTTON
Available in round or hex head in aluminum. Red, Yellow, Black, Green, Orange, Blue or Olive Drab. Also available in DPDT as 70-2520.



70-223 PANEL MOUNT PUSHBUTTON
15/32" Bushing. White nylon plunger or specify color— in 2, 3 or 4 pole.



70-222 MINIATURE PUSHBUTTON
1/4" 20 threaded bushing also with 5/32" overtravel as Type 70-226.

Type 16 offers extremely long life (over 20,000,000 cycles) and big switch performance in a subminiature unit rated 10 amps 30 VDC inductive (L R = .026) yet measures only 1/4" thick and 25/32" long. Offers exceptional shock and vibration resistance meets MIL-S-6743. Wide variety of actuators and terminal types offer unusual flexibility in application.



TYPE 16-104



TYPE 16-304



TYPE 16-404

Type 104 and 304 also available in reset styles.
Type 404 also available with taper tab terminals.

Type 16 also offers wide engineered flexibility in specials — Licon engineers can adapt the type 16 to suit individual requirements. Especially adaptable to aircraft and guided missile applications where size, vibration resistance, and capacity are critical.

TYPE 16 ACTUATORS



70-421 TOGGLE ACTUATOR
2 to 5 poles



70-120 PIVOTED ROLLER LEVER
Also available without roller as 70-121.



70-320 SPRING LEAF
Also available with roller actuator as 70-321.

LICON TYPE 30 INDUSTRIAL ENCLOSED LIMIT SWITCH

SEALED SWITCHES

- 30-200 PLUNGER SWITCH
- 30-400 ROLLER ARM SWITCH
- 30-600 PALM BUTTON SWITCH
- 30-700 ROLLER PLUNGER SWITCH

UNSEALED SWITCHES

- 30-100 OVERTRAVEL PLUNGER SWITCH
- 30-300 ROLLER ARM SWITCH
- 30-500 ROLLER PLUNGER SWITCH

ACTUATORS

70-101 LEVER ACTUATOR

Used to convert 30-200 sealed plunger switch to 30-100 sealed roller arm. 30-100 plunger switch to 30-300 roller arm.

70-102 PALM BUTTON ACTUATOR

Used to convert 30-200 Sealed Plunger Switch to 30-600 Sealed Palm Button Switch. Also attaches to 30-100.

Type 30 is versatile — 3 actuators and 3 housings provide 16 switch types — its effective oil tight sealing is accomplished without boots. Used for industrial control, limit and safety applications. Aluminum diecast housing — adequate wiring room. 1/2"-11 internal tap conduit hub. Excellent mounting means — wide variety of actuators. Actuation is sensitive. Rated 15 amp 125, 250, 460V A.C. 1/2 amp 115V D.C. Tested life 10,000,000 cycles. Types listed are interchangeable with all 16 competitive types.




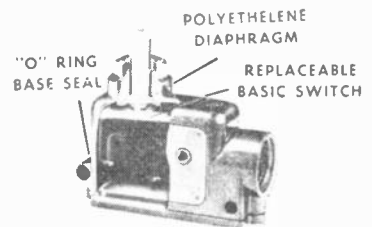
MICROMETER SCREW ADJUSTMENT

Switchpak CONTROL COMPONENTS

Handy plastic kit contains three complete switches, two accessories actuators and 3 optional base mounting plates. Perfect for on-the-job maintenance. Make the right switch at the right time—get Switchpak containing:

Sealed Plunger Switch • Overtravel Plunger Switch • Roller Plunger Switch • Palm Button Actuator • Lever Actuator and three optional base mounting plates.





LICON TYPE 22 DOUBLE POLE DOUBLE THROW SWITCHES



TYPE 22-104

Also reset model Type 22-114

Type 22 features DPDT high current interruption, outstanding vibration resistance (over 25 G's @ 2000 cps.), long dependable life (10,000,000 cycles) and a wide variety of circuit combinations offered by four separate circuits. Switch is rated 10 amp 125/250V A.C. and 30V D.C.



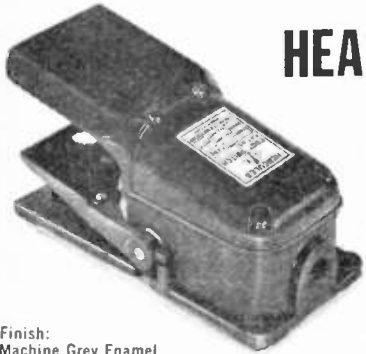
TYPE 22-304

Also reset model Type 22-314

LINEMASTER

AMERICA'S FOOT SWITCH LEADER

LINEMASTER HERCULES HEAVY DUTY



FOOT SWITCH
LINE

- Rugged
- Cast Iron Enclosure
- Safety-Guarded

- 2 Contact Types
- 4 Classes • 40 Models

Finish: Machine Grey Enamel
Wt.: 7 lbs. 2 oz.—11 lbs. 10 oz.
Size: 8-7/16" x 4-5/16" x 4 1/2"

Interior steel parts are cadmium plated or otherwise treated to resist corrosion. All terminals face up for easy wiring upon unfastening cover guard. Casing has 1/2 inch threaded hole for conduit pipe. Pedal position trip point is minutely adjustable. Two and three stage switches have distinct "FEEL" between stages. Special circuit combinations can be supplied in addition to those listed below.

Class—Voltage Rating	Contact Type	Single Stage			2-Stage	3-Stage
		SP DT	DP DT	TP DT	SP DT	SP-DT
General Purpose 125-480 V. AC-20 amps	Maintained 561-D	562-D	563-D	564-D	565-D	
	Momentary 521-S	522-S	523-S	524-S	525-S	
Water Tight NEMA Type 4 125-480 V. AC 20 amps	Maintained 571-DW	572-DW	573-DW	574-DW	575-DW	
	Momentary 531-SW	532-SW	533-SW	534-SW	535-SW	
Explosion-Proof Class 1, Group D NEMA Type 7 125-480 V. AC-20 amps	Maintained 581-DX	582-DX	583-DX	584-DX	585-DX	
	Momentary 541-SX	542-SX	543-SX	544-SX	545-SX	
High DC Rated 125 V. DC 10 amps.	Maintained 591-DDC	592-DDC	593-DDC	594-DDC	595-DDC	
	Momentary 551-SDC	552-SDC	553-SDC	554-SDC	555-SDC	

Tip-Toe Control for Tip-Top Production!

LINEMASTER, Jr. FOOT SWITCH

Lightweight, sensitive... ideal for women workers! Needs only a touch of the toe, while heel remains comfortably on the floor.



#121-S
& #122-S

Aluminum housing, black crackle finish. Weight 1 lb. 5 1/2" long, 3 1/4" wide, 1 1/4" high. Rated at 15 amps., 115 volts A.C.; 15 amps., 250 volts A.C. Can be wired to operate as single pole, normally open; single pole, normally closed; or single pole double throw. Momentary Contact only. #122-S—Rated at 20 amps., 115-250 volts A.C.

The LINEMASTER

CLIPPER SWITCH

In two models:

1. Momentary contact (press to start—release to stop)
2. Maintained contact (press to start—press to release)



Rugged Momentary Contact Clipper has proved invaluable to product engineers and machine operators. Maintained Contact Clipper is now available for heavy duty applications. Molded nylon actuating cams; rugged cast iron housings, sponge rubber skid pads. Weight: 2 1/2 lbs. Size: 4 1/2" x 3 1/2" x 1 1/2".

#632-S—AC Rating: 20-A, 125-250V, Momentary Contact, Single Pole, Double Throw.

#634-S—AC Rating: 10-A, 125-250V, Momentary Contact, Double Pole, Double Throw.

#632-D—AC Rating: 20-A, 125-250V, Maintained Contact, Single Pole, Double Throw.

#634-D—AC Rating: 10-A, 125-250V, Maintained Contact, Double Pole, Double Throw.

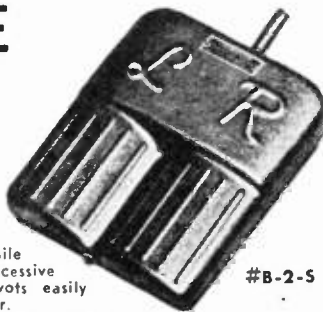
The LINEMASTER EXECUTIVE

Two Switches in One • "On-Center" Mechanical Interlock!

This handsome switch is foot-proof and easy-to-operate! Selective circuits and guaranteed interlock eliminate possibility of accidentally tripping both circuits simultaneously, while low, wide casing saves excessive leg movement—foot pivots easily from one side to the other.

Easy to wire—remove only one screw and switch is ready. Either interior (or both) may be wired as normally open or normally closed—single pole—double throw.

Heavy steel housing, baked hammertone grey finish. Wt., 14 oz., 4 3/4" long, 4" wide, 1 1/4" high. Each interior rated at 15 amps at 125-250 volts A.C.



#B-2-5

The LINEMASTER

CADET

the "little giant" in foot switches that operates from any angle



#HB-2

Small only, 1 1/4" high 3 3/4" in diameter . . .

Lightweight, just 11 oz. including cordset . . .

Rugged, with heavy steel housing and unbreakable plastic actuating cap, the Cadet is an extremely compact foot switch that will give years of service in hundreds of different applications. It is well designed with an attractive grey hammertone effect casing, maroon cap and non-skid sponge rubber base for perfect positioning. The slightest pressure on the actuating cap from any angle puts the switch in operation. The operator has better control of work resulting in better production. Single pole, double throw, momentary contact only. Wired normally open. Rating 5A at 110V and 250V. Furnished with heavy duty 6 ft. 18-25V black rubber cordset, series plug and molded strain relief grommet.

"When awkward jobs hold you up—a LINEMASTER FOOT SWITCH is your third hand!"

LINEMASTER

PRECISION-BUILT • DEPENDABLE • RUGGED • ECONOMICAL • OVER 1000 APPLICATIONS

LINEMASTER "SENIOR" 4000 SERIES



10 Maintained and Momentary Contact Models

A sturdy industrial-type switch that operates with light pressure from foot or knee, leaving both hands free for work. Economical and built to give years of trouble-free service — fully enclosed and hooded for protection against dirt and chips, with additional heavy spring and cast stop under cover casting, to relieve pressure and strain on spring inside switch proper

Heavy-duty cast iron housing; black crackle enamel finish. 7" long, 4" wide, 3 1/4" high. Weight, 5 1/4 lbs.

MAINTAINED CONTACT MODELS: Press to start—press to stop.
MOMENTARY CONTACT MODELS: Press to start—release to stop.

Descrip.	ELECTRICAL CHARACTERISTICS			Horse-power	Ph.	MAINTAINED CONTACT Cat. No.	MOMENTARY CONTACT Cat. No.
	Amperes AC	DC	Volts				
D-P	20	20	125	1	1	4141-D	4141-S
S-T	20	20	250	1	1		
D-P	10	10	125	1/2	1	4142-D	4142-S
D-T	5	5	250	1/2	1		
S-P	15	15	125	1/2	1	4143-D	4143-S
D-T	10	10	250	1/2	1		
D-P	15		115	1	1	4151-D	4151-S
S-T	15		230	2	1		
	5		575	2	1		
Three Pole	15		115-230	2	3	4351-D	4351-S
	5		575	2	3		

Safety guard available for all above models.

The LINEMASTER COMPACT

Amazingly versatile—amazingly low-priced!

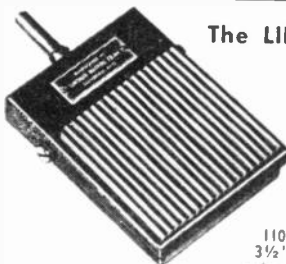


Small, lightweight — and instantly responsive to the slightest pressure of foot, finger, knee or elbow! Substantially built to insure long life, with an actuating mechanism superior to any other on the market today.

Available in a wide variety of wiring plans. Strong steel housing, black crackle finish. 2 3/4" long, 2 1/2" wide, 7/8" high. Weight, 6 1/2 ozs. Momentary contact only.

Cat. No.	DESCRIPTION	RATING
491-S	Single Pole, Double Throw A.C. only	10A at 115V 10A at 230V
492-S	Single Pole, Double Throw A.C. only	20A at 115V 20A at 230V
493-S	Single Pole, Single Throw A.C. only, double break	10A at 115V 5A at 230V
494-S	2 interiors so arranged as to simulate D-P-D-T	10A at 115V 5A at 230V
495-S	Single Pole, Double Throw A.C.	15A at 125V 15A at 250V 15A at 460V
496-S	Foto with cord & light, Single Pole, Double Throw A.C.	20A at 115V 20A at 230V

Twin Compacts Available: Two 491-S Switches Mounted On A Twin Base. Cat. No. 491-S Twin



The LINEMASTER TREADLITE

Trim, small, lightweight, instantaneous!

MODEL T-51-S — Accurate control in a modern, minute, treadle switch! Single pole, double throw, momentary contact interior, that can be wired open or closed. Rubber base pad and rubber-ribbed treadle, formed steel casing with black crackle finish. Interior rated at 5 amps., 110 volts and 250 volts A.C. Weight 7 ozs.; 3 1/2" long, 2 3/4" wide, 1" high (Supplied on order, wired with 6' cord and series plugs.)

MODEL T-52-S — ONE treadle activates TWO switching operations! A partial downward stroke opens or closes one circuit, added pressure actuates the second circuit. Both interiors, as well as exterior, meet specifications for single-switching Model T-51-S.

LINEMASTER "NAUTILUS" FOOT SWITCH

waterproof • dustproof
oilproof • rustproof



A truly great development by Linemaster. The Nautilus is waterproof, dustproof, oilproof, rustproof. Rugged Aluminum casting for long life. Piston type actuator sealed with "O" ring. Electrical interior "well" sealed with "O" ring.

Size: 8" x 4" x 2 1/4" Wt.: 2 lbs., 8 1/2 ozs.

Cat. No. WP541-S 20 Amp. 125-250 VAC SPDT momentary
Cat. No. WP541-D 12 Amp. 125 VAC SPDT maintained

The LINEMASTER LEKTRO-LOK SWITCH

Small, sensitive, automatically safe

Particularly ideal for transmission equipment!



#L-2-S

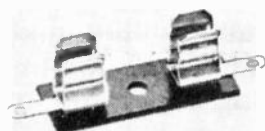
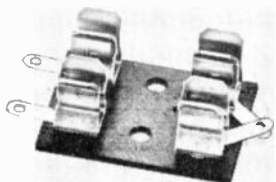
Mechanical interlock allows only one circuit to function at a time—and you can depend on it! LEKTRO-LOK operates on the teeter-totter system, with selective circuits. Pressure on one side actuates one circuit, release of pressure automatically returns switch to normal "off" position. Pressure on the other side is required before second switch is actuated, independent of first. Yet LEKTRO-LOK requires only a single cord—eliminates costly harness assemblies! Rugged stamped metal housing, black crackle finish. Weight, 10 ozs. 5" long, 2 3/4" wide, 1 1/4" high. Single pole, double throw. Rating (A.C. only) 15 amps at 125 volts, 15 amps. at 250 volts. LEKTRO-LOK is available, and can be supplied to your specifications, in many electrical combinations, such as:

Single pole, single throw, A.C. only.....	10 A at 115V
Double break.....	5 A at 230V
Interiors so arranged as to simulate.....	10 A at 115V
Double pole, double throw.....	5 A at 230V

LINEMASTER SWITCH CORPORATION

WOODSTOCK, CONNECTICUT

ANOTHER LITTELFUSE FIRST



MOUNTINGS DESIGNED AND DEVELOPED FOR THE NEW **SARKES- TARZIAN** SILICON RECTIFIERS

Mountings listed below are now tooled and readily available. They are approved by Sarkes Tarzian engineers. Mountings designed to your specifications are available upon request. Let our engineers assist you.

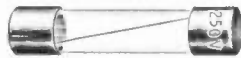
Part No.	Description	Length	Width	Thickness	List Price Each
099062	(a) 1 Pole	1-3/8"	1/2"	3/16"	\$.25
099063	(a) 2 Pole	1-3/8"	1"	3/16"	.50
099065	(b) 2 Pole	1-3/8"	1"	1/16"	.27
099065-2	Fishpaper Insulator	2"	1/2"	1/32"	.009
099065-3	(b) Bakelite Insulator	1-3/8"	1"	1/16"	.018
099067	(b) 1 Pole	1-3/8"	1/2"	1/16"	.14
099067-2	Fishpaper Insulator	2"	1/2"	1/32"	.006
099067-3	(b) Bakelite Insulator	1-3/8"	1/2"	1/16"	.01
099077	(c) 2 Pole	1-3/8"	1-1/8"	3/16"	.51
099078	(c) 3 Pole	1-3/8"	1-11/16"	3/16"	.74
099079	(c) 4 Pole	1-3/8"	2-1/4"	3/16"	.99
099080	(c) 6 Pole	1-3/8"	3-3/8"	3/16"	1.48
099081	(c) 8 Pole	1-3/8"	4-1/2"	3/16"	1.97
099082	(c) 10 Pole	1-3/8"	5-5/8"	3/16"	2.46

NOTE: (a) Designed for M500 rectifier.
 (b) Inexpensive style designed for M500 rectifier recommended particularly for use by the TV servicemen.
 (c) Designed for use with either M500 or L1250 rectifier.

LITTELFUSE, *Des Plaines, Illinois*

LITTELFUSE "Quicker than a Short Circuit"

3 AG "LITTELFUSES"



3/4" x 1 1/4"

Standard Package—100

Blow Time	Percentage of rating	Blow Time
	110%	Life
	135%	0-1 hour
	200%	0-2 minutes

311000 Series Littelfuses—Quick to medium-blowing fuses—for use in radios, auto-radios, amplifiers, etc. Straight-type fuse element—positioned to center of fuse—makes open link always in the visible portion of fuse.

Catalog No.	Amp. rating	Max. volt.	List Price, each
311005	5	32	\$0.05
31107.5	7 1/2	32	.05
311010	10	32	.05
311015	15	32	.05
311020	20	32	.045
311025	25	32	.06
311030	30	32	.06

312000 Series Littelfuses—Quick-acting fuses—for low time-lag applications similar to the 311000 fuse series above. Protective-coated elements, on fuses to 3 amperes, prevent oxidation and promote clean break on fusion. Diagonal element alignment of this fuse assures accurate alignment and calibration, even when the fuse element is expanded by heat.

Catalog No.	Amp. rating	Max. volt.	List Price each
312 062	1 1/8	250	\$0.20
312 125	1 1/2	250	.20
312 150	15-100	250	.20
312 175	.175	250	.20
312 187	1/8	250	.20
312 250	1/4	250	.13
312 300	3-10	250	.13
312 375	3/4	250	.13
312 500	1/2	250	.13
312 750	3/4	250	.13
312001	1	250	.08
31201.5	1 1/2	250	.08
312002	2	250	.08
312003	3	250	.07
312004	4	250	.10
312005	5	250	.10
312006	6	250	.10
312008	8	125	.15

Approved by Underwriters' Laboratories.

3 AG "SLO-BLO" "LITTELFUSES"



3/4" x 1 1/4"

Standard package—100

Blow time	Percentage of rating	Blow Time
	110%	Life
	135%	0-1 hour
	200	60 seconds max. 5 seconds min.

313000 Series Littelfuses—Slo-Blo fuses with high time-lag to withstand heavy surges—quick on shorts. Designed for circuits with equipment having high inductive or capacitive surges, such as magnets, solenoids, etc., and for circuits with heavy starting currents such as motors and lamp circuits. Anti-fatigue construction (compound element, with spring and resistor) makes these fuses ideal for intermittent-duty circuits on vibrators, control circuits, hi-tension electric fences, small magnets, coils, etc. "Pioneered by Littelfuse."

Catalog No.	Former No.	Amp. rating	Max. volt.	List Price, each
313 011	1259	1-100	125	\$0.36
313 032	1261	1/32	125	.36
313 062	1262	1-16	125	.27
313 100	1-10	125	.27	
313 125	1263	1/8	125	.27
313 150	15-100	125	.27	
313 175	1-175	125	.27	
313 187	1263-A	3-16	125	.27
313 200	2-10	125	.27	
313 250	1264	1-4	125	.27
313 300	3-10	125	.27	
313 375	1265	3-8	125	.27
313 400	4-10	125	.27	
313 500	1266	1-2	125	.27
313 600	6-10	125	.27	
313 700	7-10	125	.27	
313 750	1267	3-4	125	.27
313 800	8-10	125	.27	
313001	1268	1	125	.27
31301.2	1 1/2	125	.25	
3131.25	1 1/4	125	.25	
31301.5	1041-C	1 1/2	125	.25
31301.6	1-6-10	125	.25	
313002	1042-C	2	125	.25
31302.5	2 1/2	125	.20	
313003	1043-C	3	125	.20
31303.2	3-2-10	125	.20	
313004	4	125	.20	
313005	1080-C	5	125	.20
3136.25	6 1/4	32	.20	
313008	8	32	.20	
313010	1081-C	10	32	.20
313015	1082-C	15	32	.20
313020	1083-C	20	32	.20
313025	25	32	.20	
313030	30	32	.20	

Approved by Underwriters' Laboratories through 5 amps.

3 AB "TINY MIGHTY" "LITTELFUSES"



3/4" x 1 1/4"

Standard package—100.

Blow Time	Percentage of rating	Blow Time
	110%	Life
	135%	0-1 hour
	200%	0-2 minutes

314000 Series Littelfuses—The smallest Underwriters' Laboratory approved fuses in ratings this high. Stealite enclosed, arc-quenching, powder filled fuses. Shatter-proofed against quick shorts. Medium time lag. Recommended for use with amplifiers, rectifiers, battery charging equipment, small generators, control panels, amusement devices, communication and electronic equipment, radios, signal apparatus, small motor circuits, etc. Take less space than N.E.C. fuses—"Pioneered by Littelfuse."

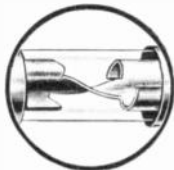
Catalog No.	Amp. rating	Max. volt.	List Price, each
314001	1	250	\$0.17
314002	2	250	.17
314003	3	250	.17
314005	5	250	.17
314008	8	250	.17
314010	10	250	.17
314012	12	250	.17
314015	15	250	.17
314020	20	250	.17
314030	30	125	.20

Approved by Underwriters' Laboratories 8 amps through 15 amps.

LITTELFUSE "Quicker than a Short Circuit"

AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life



4 AG Aircraft Fuse showing reinforced twisted element



Bakelite-enclosed 4 AB Fuse

CONSTRUCTION: Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft services for their strength and greater carrying capacity than 3 AG fuses.

CURRENT RATING: Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

VOLTAGE RATING: Voltage at which fuses will break without arcing over, or bursting under short circuit conditions.

VIBRATION FACTOR: Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

BAKELITE-ENCLOSED: 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

4AG "LITTELFUSES"				
1 1/4" x 3/32" Dia. Unit Wt.—3.5 Gms.				
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
"Sto-Blo"				
413.100	—	1:10	250	.35
413.150	—	15:100	250	.35
413.200	—	2:10	250	.35
413.250	1452C1:4	1:4	250	.35
413.300	—	3:10	250	.35
413.400	—	1:10	250	.35
413.500	1452C1:2	1:2	250	.35
413.600	—	6:10	250	.35
413.750	—	3:4	250	.35
413.800	—	8:10	250	.35
413001	1091C	1	250	.35
4131.25	—	1-1:4	250	.35
41301.6	—	1-6:10	250	.35
413002	1092C	2	250	.35
41302.5	—	2-1:2	250	.27
413003	109 C	3	250	.27

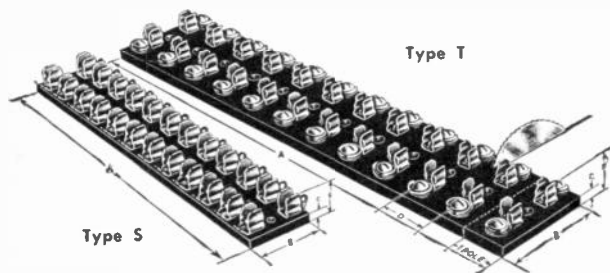
4AG "LITTELFUSES" (Con.)				
1 1/4" x 3/32" Dia. Unit Wt.—3.5 Gms.				
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
41303.2	—	3-2:10	250	.27
413004	—	4	32	.27
413005	1094C	5	32	.27
4136.25	—	6-1:4	32	.27
413008	—	8	32	.27
413010	1095C	10	32	.27
413015	1096C	15	32	.27
413020	1097C	20	32	.27
413025	1098C	25	32	.27
413030	1099C	30	32	.27
Aircraft				
411010.	1095	10	32	.15
411015.	1096	15	32	.15
411020.	1097	20	32	.15
411025.	1098	25	32	.15
411030.	1099	30	32	.15
411035.	—	35	32	.15

4AB "LITTELFUSES"				
1 1/4" x 3/32" Dia. Unit Wt.—3.75 Gms.				
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
414001.	1091B	1	250	.25
414002.	1092B	2	250	.25
414003.	1093B	3	250	.25
414005.	1094B	5	125*	.25
414008.	—	8	125*	.25
414010.	1095B	10	125*	.25
414015.	1096B	15	125*	.25
414020.	1097B	20	125*	.25
414025.	1098B	25	32	.25
414030.	1099B	30	32	.25
414035.	—	35	32	.25
414040.	1100B	40	32	.25

5AG "LITTELFUSES"				
1 1/2" x 1/32" Dia. Unit Wt.—8.5 Gms.				
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Price Each
"Sto-Blo"				
513001.	1160C	1	350	\$0.45
513002.	1161C	2	250	.45
513003	1162C	3	250	.35
513005.	1163C	5	25	.35
513010.	1164C	10	32	.35
513015	1165C	15	32	.35
513020.	1166C	20	32	.35
513025	—	25	32	.40
513030	1167C	30	32	.40
Aircraft				
511005.	—	5	32	.20
511010.	1164	10	32	.20
511015.	1165	15	32	.20
511020.	1166	20	32	.20
511025.	1442	25	32	.20
511030.	1167	30	32	.20
511035.	1472	35	32	.20
511040.	1168	40	32	.20
511050.	1169	50	32	.20
511060.	1222	60*	32	.20

*Good for power supplies up to 25 KVA at 115V—400 cycles.

*Carries only 100% rating on life test.



NEW FUSE MOUNTING PANELS

Open type fuse panels, stocked in 12-pole units as shown—we cut them to 1, 2, 3, 4 or more poles as ordered, or you may cut them in your plant (1/8" allowance for saw cut).

Fuse Type	Mtg. Type	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"
8AG	S	1 3/8	5 7/16	5 7/8	2 1/2
3AG	S	1 3/8	5 7/16	5 7/8	2 1/2
3AG	T	2 3/8	7 3/16	7 3/16	1 1/2
4AG	T	2 3/8	7 3/16	7 3/16	1 1/2
5AG	T	2 3/4	9 3/2	9 3/2	1 1/2

Mountings with Solder Terminals—Type "S". Phosphor-Bronze, bright-dipped finish "Lug-Clips" are firmly anchored to black Bakelite base—have non-turning anchors. For 8AG and 3AG size fuses.

Mountings with Screw Terminals—Type "T". Spaced to U/L requirements for equipment circuit protection. Nickel plated brass screw terminals, nickel plated fuse clips. Type 456 (4AG) and type 556 (5AG or Midget) have cupped wire-retaining washers under terminal screws as required by U/L.

FOR 4AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price Each
456001	1	2 1/2	\$0.55
456002	2	1 1/2	1.10
456003	3	2 1/2	1.65

Prices 456004 to 456012, 4 to 12 poles, on special quotation only.

FOR 3AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	List Price Each
357001	1	1 1/2	\$0.20
357002	2	1 1/8	.40
357003	3	1 3/4	.60

Prices 357004 to 357012, 4 to 12 poles, on special quotation only.

FOR 3AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price Each
356001	1	2 1/2	\$0.43
356002	2	1 1/2	.86
356003	3	2 1/2	1.29

Prices 356004 to 356012, 4 to 12 poles, on special quotation only.

FOR 5AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price Each
556001	1	2 1/2	\$0.65
556002	2	1 1/2	1.30
556003	3	2 1/2	1.95

Prices 556004 to 556012, 4 poles, on special quotation only.

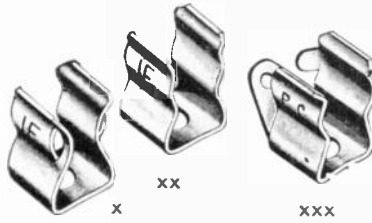
FOR 8AG FUSES—TYPE "S"

Catalog No.	No. Poles	Dim. "A"	List Price Each
387001	1	1 1/2	\$0.20
387002	2	1 1/8	.40
387003	3	1 3/4	.60

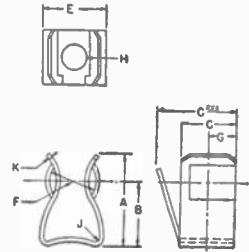
LITTELFUSE

“Quicker than a Short Circuit”

LITTELFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS



Littelfuse fuse clips are available in three standard styles: “X,” with “ears” or fuse stops; “XX,” earless; and “XXX,” “Lug-Clips,” a new Littelfuse clip having a lug or solder terminal made as an integral part of the clip. All styles are furnished in either Phosphor-Bronze or Beryllium Copper.



Catalog Number	Former Number	Fuse Adaptation	Type	DIMENSIONS								Unit Wt. grams	Std. Pkg. 100 Wt.—lbs.	List Price Each
				A	B	C	E	F	G	H				

BERYLLIUM COPPER CLIPS SILVER PLATED—WITH FUSE STOP “EARS”

121001	1216B	SFE, 3AG & 8AG Fuses	X	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{32}$	$\frac{3}{16}$	.131	1	1	\$0.06
123001	1217B	4AG & 4AB Fuses	X	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	.171	1.6	1	.09
125001	1218B	5AG, Hi-Voltage-Midget	X	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{8}$	.196	3	2	.15
127001	1219	N.E.C.-30 Fuses	X	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	.203	5.5	2	.20
129001	1221	Standard Hi-Voltage	X	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{8}$	$\frac{5}{16}$	$\frac{5}{16}$	.265	14.5	4	.50

SILVER PLATED—EARLESS TYPE

121002	1417	SFE, 3AG & AB, & 8AG	XX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{32}$	$\frac{3}{16}$	.131	1	1	.06
123002	1437	4AG & 4AB	XX	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	.171	1.6	1	.09
125002		5AG, Hi-Voltage-Midget	XX	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{8}$	.196	3	2	.15
127002	1475	N.E.C.-30 Fuses	XX	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	.203	5.5	2	.20
129002	1476	Standard Hi-Voltage	XX	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{8}$	$\frac{5}{16}$	$\frac{5}{16}$	.265	14.5	4	.50

SILVER PLATED—“LUG-CLIP”—SOLDER TERMINAL ATTACHED

121004	New	SFE, 3AG, AB, & 8AG	XXX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{37}{64}$	$\frac{11}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{32}$	$\frac{3}{16}$.131	1.2	1	.09
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PHOSPHOR BRONZE CLIPS BURNISHED NICKEL PLATE—WITH FUSE STOP “EARS”

101001	1011B	SFE, 3AG & AB, & 8AG	X	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{32}$	$\frac{3}{16}$.131	1	1	.025
103001	1319	4AG & 4AB	X	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	.173	1.7	1	.05
105001	2049	5AG, Hi-Voltage-Midget	X	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{8}$	.196	3.2	2	.06
107001	5048	N.E.C.-30 Fuses	X	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	.203	5.8	2	.08
109001	1463	Standard Hi-Voltage	X	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{8}$	$\frac{5}{16}$	$\frac{5}{16}$	.265	15.6	4	.22

BURNISHED NICKEL PLATE—EARLESS TYPE

101002	125-2	SFE, 3AG & AB, 7AG & 8AG	XX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{32}$	$\frac{3}{16}$	.131	1	1	.025
104002		4AG & 4AB	XX	$\frac{9}{16}$	$\frac{3}{8}$	$\frac{13}{32}$	.385	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	.173	1.7	1	.05
105002	2049B	5AG, Hi-Voltage-Midget	XX	$\frac{3}{4}$	$\frac{1}{2}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{13}{32}$	$\frac{1}{2}$	$\frac{3}{16}$	$\frac{1}{8}$	.196	3.2	2	.06
107002	SP-178	N.E.C.-30 Fuses	XX	$\frac{13}{16}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{4}$	.203	5.8	2	.08
109002		Standard Hi-Voltage	XX	$\frac{17}{32}$	$\frac{13}{16}$	.750	$\frac{7}{8}$	$\frac{13}{16}$	$\frac{5}{8}$	$\frac{5}{16}$	$\frac{5}{16}$	.265	14.5	4	.22

BRIGHT-DIP PHOSPHOR BRONZE—“LUG CLIP” SOLDER TERMINAL ATTACHED

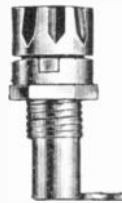
101003		SFE, 3AG & AB & 8AG	XXX	$\frac{29}{64}$	$\frac{1}{4}$	$\frac{37}{64}$	$\frac{11}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{32}$	$\frac{3}{16}$.131	1.2	1	.035
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Finger Operated Knob



341001



3420L3

“LITTELFUSE” FUSE EXTRACTOR POSTS

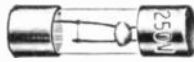
Quicker, safer method for mounting and changing fuses. Held in end of removable knob, fuse is easily replaced by unscrewing knob. Available with finger-operated knob or with screw driver slot knob.

Catalog No.	Former No.	Descr.—Knob, How Operated	Mtg. Hole	Length Under Panel	List Price Each
341001	1075S	3AG—Screw Driver	.500-.505"	$\frac{21}{32}$	\$0.50
342001	1075F	3AG—Finger	.500-.505"	$\frac{27}{32}$	.50
342003		3AG—Miniature	.500-.505"	1.035	.50
342007		3AG—(elongated hole)	.535 x .685" .540 x .690"	1.171	3.30
342008		3AG—Miniature—Dustproof	.500-.505"	1.035	.55
342012		3AG—Finger	.502-.510"	1.3	.50
442001		4AG—Finger	.625-.630"	2.156	1.25
371001	1087S	8AG—Screw Driver	.500-.505"	$\frac{23}{32}$	.50
372001	1087F	8AG—Finger	.500-.505"	$\frac{27}{32}$	.50

LITTELFUSE "Quicker than a Short Circuit"

8AG INSTRUMENT high speed LITTELFUSES

Locked Cap Assembly and other exclusive Littelfuse features for protection of delicate test equipment, galvanometers, microammeters, milliammeters, voltmeters, etc. Glass-enclosed: 1 x 3/4" dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.

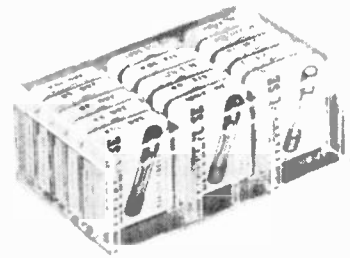


METER BACK MOUNTING



Cat. No. 383002 (1059)—Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1" x 1 1/8". Length over screw terminal, 1 1/2". Standard Package 20. Weight 1/2 lb.

List Price Each..... \$0.35



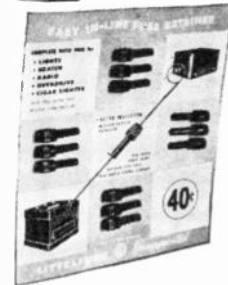
Catalog No.	Former No.	Amp. Rating	Max. Volt.	APPLICATIONS			List Price Ea.
				Volt-meters Ohms P.V.	All Magnetic Movement Milliammeters	Thermocouples	
361.002		1/500	250	Over 1000	Galvanometers	0-0.1 to 0-0.5	\$1.20
361.005	1000	1/200	250	Over 1000	Galvanometers	Up to 0.1	.50
361.010	1001	1/100	250	1000	Up to 0-1	0-5 to 0-10	.45
361.031	1002	1/25	250	500-1000	0-1 to 0-10	0-10 to 0-25	.40
361.062	1003	1/15	250	100-300	0-10 to 0-25	0-25 to 0-60	.27
361.125	1004	1/8	250	20-100	0-25 to 0-75	0-75 to 0-150	.20
361.250	1005	1/4	250	10-20	0-75 to 0-150	0-115 to 0-200	.13
361.375	1006	3/8	250	5-10	0-150 to 0-250	0-200 to 0-300	.13
361.500	1007	1/2	250	3-5	0-250 to 0-350	0-300 to 0-400	.13
361.750	1007-A	3/4	250		0-350 to 0-500	0-400 to 0-600	.13
361001.	1008	1	250		0-500 to 0-750	0-600 to 0-1000	.10
36101.5	1008-A	1 1/2	250		0-750 to 0-1000	0-1000 to 0-1500	.10
361002.	1009	2	250		0-1000 to 0-1500	0-1500 to 0-2000	.10
361003.		3	250		0-1500 to 0-2000	0-2000 to 0-3000	.10
361005.		5	32		0-2000 to 0-4000	0-3000 to 0-5000	.10

BAKELITE IN-LINE FUSE RETAINER



Designed to hang in the cable or mount in the chassis, the in-line fuse retainer molded of high impact bakelite is primarily for low-voltage applications: car radios, heaters, spot lights, clocks, etc.

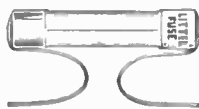
The disassembled unit consists of the bakelite body receptacle, bakelite knob with metal insert, one spring, two knife-edge rivet contacts.



155000 Series—Assembled with a 19" loop of wire lead:
 155004A For 4-amp SFE and 1AG fuses
 155006A For 6-amp SFE fuses
 155009A For 9-amp SFE and 7AG fuses
 155014A For 14-amp SFE and 8AG fuses
 155020A For 20-amp SFE and 3AG fuses

List Prices
.50 ea.

In-line fuse retainer now assembled with 19" loop of wire lead.
 094020 FUSE RETAINER ASSORTMENT—\$6.00 EACH CARD



Catalog Number	Description	List Price Each	Catalog Number	Description	List Price Each
3AG SLO-BLO PIGTAIL FUSES					
315.010	1/100 amp. (125 volt).....	\$.45	318.062	1 1/2 amp. (250 volt).....	\$.25
315.032	1/32 amp. (125 volt).....	.45	318.125	1/8 amp. (250 volt).....	.25
315.062	1/16 amp. (125 volt).....	.34	318.250*	1/4 amp. (250 volt).....	.20
315.100	1/10 amp. (125 volt).....	.34	318.375	3/8 amp. (250 volt).....	.20
315.150	15 100 amp. (125 volt).....	.34	318.500*	1/2 amp. (250 volt).....	.20
315.187	3/16 amp. (125 volt).....	.34	318.750	3/4 amp. (250 volt).....	.20
315.200	2 10 amp. (125 volt).....	.34	318001.	1 amp. (250 volt).....	.15
315.250*	1/4 amp. (125 volt).....	.34	31801.5	1 1/2 amp. (250 volt).....	.15
315.300	3 10 amp. (125 volt).....	.34	318002.	2 amp. (250 volt).....	.15
315.375	3/8 amp. (125 volt).....	.34	318003.	3 amp. (250 volt).....	.15
315.400	4 10 amp. (125 volt).....	.34	318004.	4 amp. (250 volt).....	.16
315.500*	1/2 amp. (125 volt).....	.34	318005.	5 amp. (250 volt).....	.16
315.600	6 10 amp. (125 volt).....	.34	318006.	6 amp. (250 volt).....	.16
315.750	3/4 amp. (125 volt).....	.34	8AG T.V. FUSES (No Pigtail)		
315.800	8 10 amp. (125 volt).....	.34	362.125	1/8 amp. (250 volt).....	.16
315001.	1 amp. (125 volt).....	.34	362.250*	1/4 amp. (250 volt).....	.13
3151.25	1/4 amp. (125 volt).....	.32	362.375*	3/8 amp. (250 volt).....	.13
31501.5	1 1/2 amp. (125 volt).....	.32	362.500	1/2 amp. (250 volt).....	.13
31501.6	1-6/10 amp. (125 volt).....	.32	362.750	3/4 amp. (250 volt).....	.13
315002.	2 amp. (125 volt).....	.27	362001.	1 amp. (250 volt).....	.08
31502.5	2 1/2 amp. (125 volt).....	.27	36201.5	1 1/2 amp. (125 volt).....	.08
315003.	3 amp. (125 volt).....	.27	362002.	2 amp. (125 volt).....	.08
31503.2	3-2/10 amp. (125 volt).....	.27	362003.	3 amp. (125 volt).....	.08
315004.	4 amp. (125 volt).....	.27	362005.	5 amp. (125 volt).....	.05
315005.	5 amp. (125 volt).....	.27			

*Most commonly used by large volume set manufacturers.

All above fuses approved by Underwriters' Laboratories except 315004 and 315005.

FUSE CADDY

A handy fuse kit for instant accessibility—correct fuse at your fingertips. 18 individual compartments contains 15 boxes, 3 spare compartments.

- 3 AG 1/4A
- 3 AG 1/2A
- 3 AG 1A
- 3 AG 2A
- 3 AG 3A
- 3 AG 5A
- 3 AG 1/4A SB
- 3 AG 1/2 A SB
- S AG 1/4
- S AG 1/2
- N 1/4 LC
- N 1/2 LC
- N 1 1/4 LC
- C 2 1/2 LC

Part 094037

List Price..... \$12.68

LC FUSE CADDY

A handy all inclusive LC (Limited Current) Fuse Caddy for servicemen's tube caddy. One call is all 18 individual compartments. LC Fuse Caddy comes with 75 fuses; 15 different types plus three spare compartments.

Part 094041

List Price..... \$16.98

FUSE CHANNELS

Single channel fuse dispensers for servicemen to mount in multiple arrangements over workbench in store.

Part 890-62

- 1-48..... \$0.22
- 49-96..... .18
- 97 and over..... .14



SNAP-ON MOUNTINGS

Time saver for pigtail replacement. Snap on blown pigtail, then use regular fuse in other side. No soldering. This Snap-On mounting has a cut out on both sides which makes the fuse accessible for replacement from both sides. They are available in bulk, on display cards of 24, or in handy merchandising plastic boxes of ten.

List Price

Card of 24 No. 094024..... \$7.20

Box of 10 No. 094025..... 3.00

LITTELFUSE

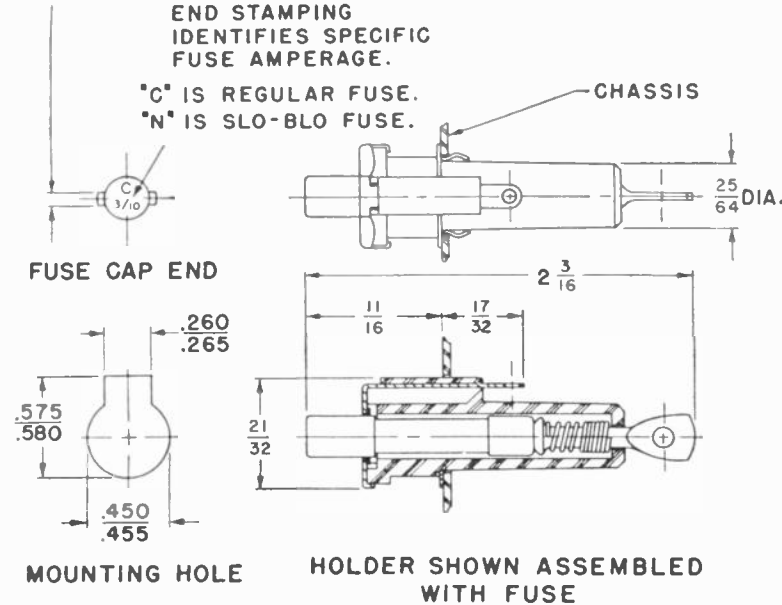
“Quicker than a Short Circuit”

THE LIMITED CURRENT (L.C.) LINE OF FUSES AND FUSE HOLDERS

TAB WIDTH VARIES WITH AMPERAGE

END STAMPING IDENTIFIES SPECIFIC FUSE AMPERAGE.

C IS REGULAR FUSE.
N IS SLO-BLO FUSE.



Here is a completely new approach to circuit protection to completely eliminate the possibility of over-fusing circuits.

This has been accomplished by a combination of three different fuse lengths and seven different widths of bayonet locking tabs on the fuse caps.

The fuse post is made to accept only the size amperage range and type (regular or slo blo) in its range. For example: a 1 amp. slo blo fuse is 1 1/4" long with .115 to .120 width tabs. The holder used with this will only accept a slo blo fuse (N type) above 3/4 to 1 1/4 amps.

The holder is a ruggedly designed unit, molded from high strength bakelite.

It snaps into a predetermined chassis mounting hole and locks into place by means of a quick snap-in type lock washer. It can be pressed into place by hand or simple tools.

The fuse locks into the holder by means of a bayonet lock which permits easy and quick insertion and removal of fuses.

Both solder connections are behind panel making the installation of the unit simple and inexpensive.

REGULAR FUSES

FUSE HOLDERS

Cat. No.	Type	Amps.	(Max.) Volts	Cat. No.	Range (Amps.)
332.032	C	1/32	250	346001	0 to 3 10
332.062	C	1/16	250		
332.125	C	1/8	250		
332.187	C	3/16	250		
332.250	C	1/4	250		
332.300	C	3/10	250		
332.375	C	3/8	250	346002	Over 3/10 to 1/2
332.500	C	1/2	250	346003	Over 1/2 to 3/4
332.750	C	3/4	250		
332001	C	1	250		
3321.25	C	1-1/4	250	346004	Over 3/4 to 1 1/4
33201.5	C	1-1/2	250	346005	Over 1 1/4 to 1 3/4
3321.75	C	1-3/4	250		
332002	C	2	250	346006	Over 1 3/4 to 2 1/2
33202.5	C	2-1/2	250		
332003	C	3	250	346007	Over 2 1/2 to 3 1/2
33203.5	C	3-1/2	250		
332004	C	4	250	346012	Over 3 1/2 to 5
332005	C	5	250		
332006	C	6	250	346013	Over 5 to 7
332007	C	7	125		
332008	C	8	125	346014	Over 7 to 10
332010	C	10	125		

SLO BLO FUSES

FUSE HOLDERS

Cat. No.	Type	Amps.	(Max.) Volts	Cat. No.	Range (Amps.)
333.010	N	1/100	125	346008	0 to 3/10
333.032	N	1/32	125		
333.062	N	1/16	125		
333.100	N	1/10	125		
333.150	N	15/100	125		
333.200	N	2/10	125		
333.250	N	1/4	125	346009	Over 3/10 to 1/2
333.300	N	3/10	125		
333.400	N	4/10	125	346010	Over 1/2 to 3/4
333.500	N	1/2	125		
333.600	N	6/10	125	346011	Over 3/4 to 1 1/4
333.750	N	3/4	125		
333.800	N	8/10	125		
333001	N	1	125	346016	Over 1 1/4 to 1 3/4
3331.25	N	1-1/4	125		
33301.6	N	1-6/10	125	346017	Over 1 3/4 to 2 1/2
3331.75	N	1-3/4	125		
333002	N	2	125	346018	Over 2 1/2 to 3 1/2
33302.5	N	2-1/2	125		
33302.8	N	2-8/10	125	346019	Over 3 1/2 to 5
33303.2	N	3-2/10	125		
33303.5	N	3-1/2	125		
333004	N	4	125	346020	Over 5 to 7
333005	N	5	125		
3336.25	N	6-1/4	32	346020	Over 5 to 7
333007	N	7	32		

Sec. 5100

ROTARY, SELECTOR AND LEVER ACTION SWITCHES

P. R. MALLORY & CO., INC. · INDIANAPOLIS

P. R. MALLORY & CO. Inc.
MALLORY

Multi-Section Rotary Switches

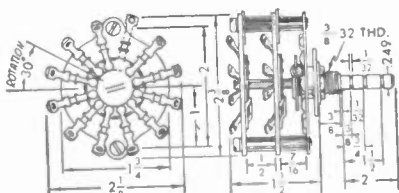


High grade, phenolic-insulated, rotary switches for radio and electronic equipment in circuits not exceeding 500 volts DC. These switches have self-wiping, silver-plated, copper alloy contacts which assure long, useful life. All models feature an adjustable stop. A 2 1/2" mounting area is required. Mounting depth is dependent on number of sections. Switches have 1/4" round shafts, 2" long, and 3/8"-32 bushings. Each switch supplied with pointer knob and mounting hardware. All switches have 1/2" spacing between sections, except the 3 and 4 section which have 1" spacing.

Shorting Type Catalog Number	Non-Shorting Type Cat. No.	No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Positions	List Price
1211L	1311L	1	1	2 to 11	\$2.90
1215L*	1315L*	2	2	2 to 5	2.90
1213L*	1313L*	3	3	2 to 3	2.90
1212L*	1312L*	4	4	2 to 2	2.90
1221L	1321L	1	2	2 to 11	3.60
1225L*	1325L*	2	4	2 to 5	3.60
1223L*	1323L*	3	6	2 to 3	3.60
1222L*	1322L*	4	8	2 to 2	3.60
1231L	1331L	1	3	2 to 11	4.50
1235L*	1335L*	2	6	2 to 5	4.50
1241L	1341L	1	4	2 to 11	5.30
1245L*	1345L*	2	8	2 to 5	5.30
1251L	1351L	1	5	2 to 11	5.70
1256L	1356L	2	10	2 to 6	6.30
1261L	1361L	1	6	2 to 11	6.70
1266L	1366L	2	12	2 to 6	7.65

* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

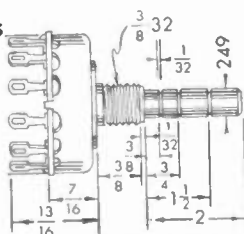
Typical Dimensions of 1200L, 1300L Rotary Switch



Single-Section Rotary Switches



Small, compact, phenolic-insulated switches equipped with 3/8"-32 bushings, and easy-to-cut grooved shafts, 1/4" diameter x 2" long. The 1 1/4" base styles have 30° indexing. The 1 1/16" base styles have 20° indexing and are equipped with adjustable stops.



Shorting Type Catalog Number	Non-Shorting Type Cat. No.	Number of Circuits	Number of Positions	Diameter of Base	List Price
3115J	3215J	1	5	1 1/4	\$1.40
31112J	32112J	1	12	1 1/4	1.40
3122J	3222J	2	2	1 1/4	1.40
3123J	3223J	2	3	1 1/4	1.40
3126J	3226J	2	6	1 1/4	1.40
3134J	3234J	3	4	1 1/4	1.45
3142J	3242J	4	2	1 1/4	1.45
3143J	3243J	4	3	1 1/4	1.45
31117J	32117J	1	2 to 17	1 1/16	2.15
3120J	3229J	2	2 to 9	1 1/16	2.15
3136J	3236J	3	2 to 6	1 1/16	2.30
3163J	3263J	6	2 to 3	1 1/16	2.30

Ceramic Section Selector Switches



High grade, ceramic-insulated, rotary switches for use in transmitters, test and high frequency radio equipment. Supplied with silicone treated, ceramic sections and double, self-wiping, silver-plated, copper alloy contacts. All models have adjustable stops. A 2" mounting area is required. Two-section models have 1/2" spacing; 3-section models have 1" spacing. Equipped with 1/4" round shafts, 2" long, and 3/8"-32 bushings. Pointer knob and mounting hardware included.

Catalog Number	Number of Gangs or Sections	Number of Circuits per Gang or Section	Number of Positions	List Price
172C	1	1	2 to 11	\$3.30
173C*	1	2	2 to 5	3.30
174C*	1	3	2 to 3	3.30
176C	2	1	2 to 11	4.70
177C*	2	2	2 to 5	4.70
178C*	2	3	2 to 3	4.70
180C	3	1	2 to 11	6.00
181C*	3	2	2 to 5	6.00

* These switches are provided with an "Off" position which is in addition to the greatest number of positions listed. The "Off" position precedes the other positions.

Lever Action Switches



Bat-handle design. For circuit selection in intercommunication, PA and similar equipment. 2" mounting depth behind panel required for all models. Switches of the 5000 Series have No. 8 by 1/4" elongated mounting holes with 2 1/4" mounting centers. Switches of the 6000 Series have No. 6 mounting holes with 1 1/2" mounting centers. Provided with knob and hardware.

Positive Indexing

Shorting Type Catalog No.	Non-Shorting Type Catalog No.	Number of Poles or Circuits	Number of Positions of Contacts	List Price
5124	5224	2	4	\$1.90
6142	6242	4	2	1.65
6143	6243	4	3	1.65

24-Position Tap Switch



For test equipment. Switches have 1 circuit and 24 positions. Phenolic insulation. Furnished with 3/8"-32 brass bushing and 1/4" x 2" notched shaft. Dial plate 394, knob and mounting hardware supplied.

Catalog No. 13124L List Price \$3.85

Circuit-Opening Switch



For meter and circuit switching in test equipment and small transmitters. Switches have 4 sections and 2 to 12 positions with adjustable stop. Phenolic-insulated for 500 volt DC operation. Mounting depth behind panel is 2 1/8". Supplied with 1/4" x 2" notched shaft and 3/8"-32 brass bushing. Pointer knob, dial plate 382, and mounting hardware included.

Catalog No. 1400L List Price \$6.50

PRINTED IN U. S. A.

The MASTER—24th Edition

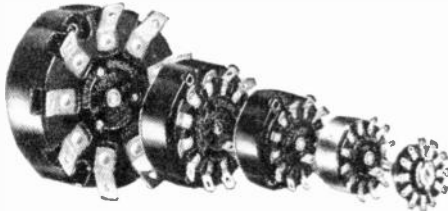
Use Index (pg. 2) for Quick, Easy Location of ALL Products

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RESISTORS • RHEOSTATS • TAP SWITCHES
RELAYS • TANTALUM CAPACITORS
VARIABLE TRANSFORMERS • RF CHOKES

POWER TAP SWITCHES NON-SHORTING TYPE



Each switch is a non-shorting, single pole, rotary, multi-position unit, but switches can be ordered assembled 2 or 3 in tandem (2 maximum, for Model 111) to form multipole assemblies. All ceramic insulation, large, solid silver-to-silver contacts, and "slow-break" action especially designed for alternating current use establish new standards of dependability and performance. Switch shafts are electrically "dead"—insulated by strong ceramic hubs. Contacts and mechanism are entirely enclosed and protected (except for the Model 111).

MODEL 111 TAP SWITCH

Alternating Current Rating 10 Amps, 150 Volts — Diameter 1 3/4" — Shaft Diameter 1/4" — Standard Mounting; For 1/4" panel maximum, by means of 3/8"-32 threaded bushing and hex. nut.

Depth Behind Panel		Single Unit		2 in Tandem	
		1 1/4"		2 3/4"	
No. of Taps	Total Rotation	Stock No.	Net *Price	Stock No.	Net *Price
11	300°	111-11	\$3.09	111-11-T2	\$11.85
10	270°	111-10	3.00	111-10-T2	11.58
9	210°	111-9	3.00	111-9-T2	11.58
8	210°	111-8	2.88	111-8-T2	11.16
7	180°	111-7	2.88	111-7-T2	11.16
6	150°	111-6	2.76	111-6-T2	10.71
5	120°	111-5	2.76	111-5-T2	10.71
4	90°	111-4	2.70	111-4-T2	10.50
3	60°	111-3	2.70	111-3-T2	10.50
2	30°	111-2	2.70	111-2-T2	10.50
Recommended Knobs		Stock No. 5150 or 5116		Stock No. 5109 or 5110	

*Without Knob.

MODEL 212 TAP SWITCH

Alternating Current Rating 15 Amps, 150 Volts — Diameter 2 1/4" — Shaft Diameter 1/4" — Standard Mounting; For 1/4" panel maximum, by means of 3/8"-32 threaded bushing and hex. nut. Tandem Mounting; For 1/4" panel maximum, three No. 10-32 flat-head machine screws 3/8" long.

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		1 3/4"		4 1/8"		6 1/8"	
No. of Taps	Total Rotation	Stock No.	Net *Price	Stock No.	Net *Price	Stock No.	Net *Price
12	330°	212-12	\$ 7.74	212-12-T2	\$20.79	212-12-T3	\$30.90
11	300°	212-11	7.74	212-11-T2	20.79	212-11-T3	30.90
10	270°	212-10	7.47	212-10-T2	20.31	212-10-T3	30.12
9	210°	212-9	7.47	212-9-T2	20.31	212-9-T3	30.12
8	210°	212-8	7.23	212-8-T2	19.80	212-8-T3	29.34
7	180°	212-7	7.23	212-7-T2	19.80	212-7-T3	29.34
6	150°	212-6	6.96	212-6-T2	19.26	212-6-T3	28.56
5	120°	212-5	6.96	212-5-T2	19.26	212-5-T3	28.56
4	90°	212-4	6.69	212-4-T2	18.72	212-4-T3	27.81
3	60°	212-3	6.69	212-3-T2	18.72	212-3-T3	27.81
2	30°	212-2	6.69	212-2-T2	18.72	212-2-T3	27.81
Recommended Knobs		Stock No. 5150 or 5116		Stock No. 5111 or 5112		Stock No. 5111 or 5112	

*Without Knob.

MODEL 312 TAP SWITCH

Alternating Current Rating 25 Amps, 300 Volts, 150 V. A.C. between taps — Diameter 3 1/8" — Shaft Diameter 1/4" — Standard Mounting; For 1/4" panel maximum, three No. 10-32 flat-head machine screws 3/8" long.

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		2 1/4"		4 5/8"		7"	
No. of Taps	Total Rotation	Stock No.	Net *Price	Stock No.	Net *Price	Stock No.	Net *Price
12	310°	312-12	\$10.80	312-12-T2	\$28.14	312-12-T3	\$42.60
11	300°	312-11	10.80	312-11-T2	28.14	312-11-T3	42.60
10	270°	312-10	10.56	312-10-T2	27.60	312-10-T3	41.70
9	210°	312-9	10.56	312-9-T2	27.60	312-9-T3	41.70
8	210°	312-8	10.32	312-8-T2	27.06	312-8-T3	40.98
7	180°	312-7	10.32	312-7-T2	27.06	312-7-T3	40.98
6	150°	312-6	10.02	312-6-T2	26.55	312-6-T3	40.14
5	120°	312-5	10.02	312-5-T2	26.55	312-5-T3	40.14
4	90°	312-4	9.78	312-4-T2	26.04	312-4-T3	39.42
3	60°	312-3	9.78	312-3-T2	26.04	312-3-T3	39.42
2	30°	312-2	9.78	312-2-T2	26.04	312-2-T3	39.42
Recommended Knobs		Stock No. 5109 or 5110		Stock No. 5111 or 5112		Stock No. 5111 or 5112	

*Without Knob.

MODEL 412 TAP SWITCH

Alternating Current Rating 50 Amps, 300 Volts, 150 V. A.C. between taps — Diameter 4 1/8" — Shaft Diameter 1/4" — Standard Mounting; For 1/4" panel maximum three No. 10-32 flat-head machine screws 3/8" long.

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		2 7/8"		5 1/2"		7 5/8"	
No. of Taps	Total Rotation	Stock No.	Net *Price	Stock No.	Net *Price	Stock No.	Net *Price
12	330°	412-12	\$14.40	412-12-T2	\$35.31	412-12-T3	\$53.34
11	300°	412-11	14.40	412-11-T2	35.31	412-11-T3	53.34
10	270°	412-10	13.80	412-10-T2	34.08	412-10-T3	51.48
9	210°	412-9	13.80	412-9-T2	34.08	412-9-T3	51.48
8	210°	412-8	13.53	412-8-T2	33.57	412-8-T3	50.70
7	180°	412-7	13.53	412-7-T2	33.57	412-7-T3	50.70
6	150°	412-6	12.90	412-6-T2	32.34	412-6-T3	48.78
5	120°	412-5	12.90	412-5-T2	32.34	412-5-T3	48.78
4	90°	412-4	12.60	412-4-T2	31.68	412-4-T3	47.88
3	60°	412-3	12.60	412-3-T2	31.68	412-3-T3	47.88
2	30°	412-2	12.60	412-2-T2	31.68	412-2-T3	47.88
Recommended Knobs		Stock No. 5111 or 5112		Stock No. 5111 or 5112		Stock No. 5111 or 5112	

*Without Knob.

MODEL 608 TAP SWITCH

Alternating Current Rating 100 Amps, 300 Volts — Diameter 6" — Shaft Diameter 3/8" — Standard Mounting; For 1" panel maximum, three flat-head machine screws 1/4" x 1 1/4".

Depth Behind Panel		Single Unit		2 in Tandem		3 in Tandem	
		3 5/8"		6 1/8"		10 5/8"	
No. of Taps	Total Rotation	Stock No.	Net *Price	Stock No.	Net *Price	Stock No.	Net *Price
8	280°	608-8	\$30.90	608-8-T2	\$71.88	608-8-T3	\$105.69
7	210°	608-7	30.90	608-7-T2	71.88	608-7-T3	105.69
6	200°	608-6	29.85	608-6-T2	69.84	608-6-T3	102.60
5	160°	608-5	29.85	608-5-T2	69.84	608-5-T3	102.60
4	120°	608-4	28.83	608-4-T2	67.74	608-4-T3	99.51
3	80°	608-3	28.83	608-3-T2	67.74	608-3-T3	99.51
2	40°	608-2	28.83	608-2-T2	67.74	608-2-T3	99.51
Recommended Knobs		Stock No. 5104 or 5115 or 5105		Stock No. 5104 or 5115 or 5105		Stock No. 5115	

*Without Knob.



ELECTRIC COUNTERS & ACTUATORS

AUTOMATION CONTROLS DIVISION

GENERAL CONTROLS CO.

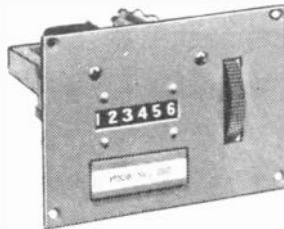
SKOKIE, ILL.



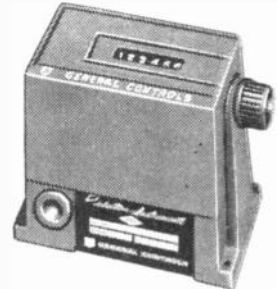
PIC-600 Panelmount



PIC-600 Basemount



CE-800B Panelmount



CE-800C Standard.

CE-800A Dustproof

PIC Electric Counters are actuated by electric impulses which may come from any suitable switch, relay, photoelectric unit or other circuit breaking device. Counters rated for 1000 counts per minute (cpm) require .024 second minimum closed period and .036 second minimum open period for each count. Counters rated at 600 cpm require .040 second minimum closed period and .060 second minimum open period for each count. Models are available for 12 to 230 v. AC and DC. Send for literature or write us for prices and deliveries.

PIC-600 COUNTERS

TO 999,999, WITH RESET

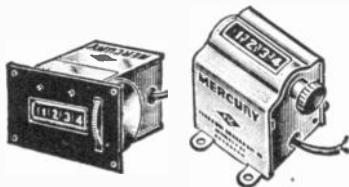
Count life of 50 million; 1000 cpm (1600 cpm with electronic actuation); seven watts power consumption. Built-in rectification provides reliable operation on all AC voltages to 115 v. Quiet operation; no AC hum when energized. Continuous duty coils and balanced armature. White figures on black wheels are easy to read; die cast, dust resistant enclosure. Size: No. 6115A, 1.668" w. x 3.5" d. x 2.5" h.; No. P6115A, 4.4375" x 1.875" panel x 2.6875" d.; No. P6115AK, 5.5" x 2.125" panel x 2.812" d. Models listed are for 115 v. AC, 60 cps.

- 6115A**—Basemount with knob reset. Net. **\$18.50**
- P6115A**—Panelmount with knob reset. Net. **19.50**
- P6115AK**—Panelmount with key reset. Net. **28.50**

MERCURY COUNTERS

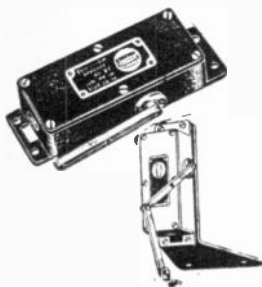
TO 9,999, WITH RESET

For laboratory use and industrial service where duty is moderate. Estimated life six million counts. Counting rate 600 cpm, higher with electronic actuation. Has white figures on black wheels. Coils consume three watts. Tamper-proof metal enclosure has plastic window. Size: Basemount model, 2 1/4" x 1 3/4" x 2 1/4" h.; panelmount model, 2 1/4" x 1 1/4" panel x 2 3/4" d. For 115 v. AC, 60 cps.



- MDA-S4-115A**—Basemount. Net. **\$14.00**
- MDB-S4-115A**—Panelmount. Net. **14.75**

ROTARY AND RECIPROCAL ACTUATOR ES-1A



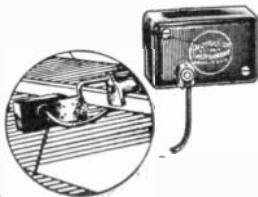
For heavy-duty use on punch presses, printing presses, measuring machines, etc. Withstands continuous operation at relatively high speeds. Life expectancy 100 million counts. Minimum operating torque 2 inch-oz. Rated speed 600 rpm. Arm motion rotary or reciprocal, clockwise or counter-clockwise. In rotary operation SPST switch is closed 140° and open 220°. Reciprocal motion 20° minimum, 340° maximum, overthrow 10° to 60°. Arm position adjustable. Contact rating 4 amps, 115 v. AC. Size: 6" x 1 3/4" x 1 1/4" d., overall. Furnished with arm; bracket and link coupling shown in diagram not included.

ES-1A—Actuator. Net. **\$10.50**

SENSITIVE ACTUATOR ES-41

Widely used on folding machines. Requires only 1/4 in.-oz. torque. Arm motion: 24° min., 59° max. reciprocal; 10° to 45° overthrow. Arm position adjustable, easily shortened or bent. Rated speed, 300 cpm. SPST contacts rated 2 amps, 115 v. AC. Body size, 2 1/4" x 1 1/4" x 1 1/4" d. Furnished with straight spring steel arm 2 1/4" long.

ES-41—Actuator. Net. **\$7.00**



CE-800 SUPER-WIZARD COUNTER

TO 999,999, WITH RESET

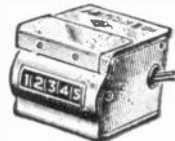
Has 200 million count life; 1000 cpm (1600 cpm with electronic actuation); only five watts power consumption. Built-in rectification provides top reliability from all AC voltages to 230 v. Continuous duty coils and balanced armatures for dependability. Large, white-on-black figures are easy to read. Standard enclosure has tamper-proof, die cast aluminum housing with slaked window of unbreakable plastic; separate wiring compartment with independent cover is tapped for conduit. Dustproof enclosure has same housing with dust-proof gasket seal and cement sealed window. Size: Standard and dustproof models, 3.12" w. x 5.94" l. x 4.69" h.; panelmount model, 5.19" x 3.50" panel x 4.39" d. Models listed are for 115 v. AC, 60 cps.

- CE-800CS602**—Standard enclosure, knob reset. Net. **\$40.00**
- CE-800AS602**—Dustproof enclosure, knob reset. Net. **47.25**
- CE-800BS602**—Panelmount, knob reset. Net. **38.50**

MERCURY COUNTERS

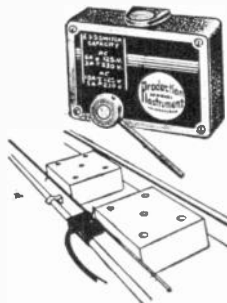
TO 99,999, NO RESET

Counts to 99,999 and then repeats. Widely used in vending machines and similar applications where duty is moderate. Estimated life, three million counts. Counting rate, 600 cpm. Coil consumes three watts. Has white figures on black wheels. Tamper-proof metal enclosure with plastic window. Size: Basemount model, 2 1/4" x 1 3/4" x 2 3/4" h.; panelmount model, 1 3/4" x 2 3/4" x 1 3/4" h. For 115 v. AC, 60 cps operation.



- MEA-N5-115A**—Basemount. Net. **\$4.40**
- MEB-N5-115A**—Panelmount. Net. **5.00**

HEAVY DUTY ACTUATOR ES-5



Arm has spring return. For operation by boxes, cans, packages, etc. Minimum torque of 3 oz.-in. Arm motion: 31° min., 65° max., reciprocal; 10° to 42° overthrow. Arm position adjustable. Rated speed 300 cpm. SPST contacts rated 10 amps, 115 v. AC. Size: 3 1/2" x 2 3/4" x 1 1/4". Furnished with lever as shown in upper illustration.

ES-5—Actuator. Net. **\$8.50**

CM-3 TURNS COUNTER

For precision setting of multi-turn potentiometers, variable capacitors, etc. with rotating adjustment shafts. Mounts on the component shaft so knob operates shaft and counter together, free of backlash. Indicates shaft position in 1/100 turns, through 10 full turns (to 999) and then repeats. Affords sensitive feel for extremely precise adjustment. Friction lock secures setting. Numerals are white on black wheels. Die cast aluminum housing has black enamel finish. Size: 2.06" h. x 1.50" w. x 1.37" d. (including knob).

- CM-3A11A**—1/4" shaft opening. Net. **\$14.35**
- CM-3A12A**—1/2" shaft opening. Net. **\$14.35**



sargent

TOGGLE and TRIGGER SWITCHES

SARGENT ELECTRIC CORP., DIVISION OF PYRAMID INSTRUMENT CORP., LYNBROOK, NEW YORK



APPLIANCE SWITCH
SPST 10 AMPS 125VAC

Cat #	Ground	Handle
1001	NO	BLACK
1002	NO	RED
1003	YES	BLACK
1004	YES	RED



GENERAL PURPOSE SWITCH

Rating —
6 AMPS-125V AC-DC
3 AMPS-250V AC-DC

Cat #	Circuit	Bushing	Terminals
1501	SPST	11 32"	Solder
1502	SPST	15 32"	Solder
1503	SPST	11 32"	Wire Leads 6"
1504	SPST	15 32"	Wire Leads 6"
1505	SPST	11 32"	Screw
1506	SPST	15 32"	Screw
1509	SPST	11 32"	Spade Lugs*
1510	SPST	15 32"	Spade Lugs*

1/2" Toggle available upon special order.
* Quick disconnect .203" wide.




PUSHBUTTON SWITCH
One Hole Mounting

Rating—6 AMPS-125V AC-DC
3 AMPS-250V AC-DC


Cat #	Circuit	Bushing	Terminals
1511	SPST	11 16"	Solder
1512	SPST	11 16"	Wide Leads 6"
1513	SPST	11 16"	Screw
1514	SPST	11 16"	Spade Lug*

* Quick disconnect .203" wide




POWER & MEDIUM MOTOR SWITCH
S.P. Rating—10A-250V AC 3/4HP 125 250V AC
D.P. Rating—10A-250V AC 1/2HP 125 250V AC

Cat. #	Circuit	Bushing	Terminal
2001	DPST	15 32"	Solder
2002	SPST	15 32"	Solder
2003	DPST	15 32"	Screw
2004	SPST	15 32"	Screw
2005	DPST	15 32"	Wire Lds 6"
2006	SPST	15 32"	Wire Lds 6"



POWER SWITCH
For Rugged Duty
Rating—12 AMPS-125V 6 AMPS-250V
1 HP 125 250V AC-DC


Cat #	Circuit	Bushing	Terminal
3001	DPST	15 32"	Screw
3002	SPST	15 32"	Screw
3003	DPST	11 32"	Screw
3004	SPST	11 32"	Screw



TRIGGER SWITCH — Light Duty
Rating — 8 AMPS-125V 4 AMPS-250V 1/2HP 125 250 ACDC

Cat #	Circuit	Description	Terminal
1651	SPST	Trigger with lock	Wire Leads 6"
1652	SPST	Trigger without lock	Wire Leads 6"
1661	SPST	Trigger with lock	Screw
1662	SPST	Trigger without lock	Screw
1663	SPST	Trigger with lock & Envelope insulator	Screw
1664	SPST	Trigger without lock & with envelope insulator	Screw
1671	SPST	Trigger with lock	Spade Lugs*
1672	SPST	Trigger without lock	Spade Lugs*
1673	SPST	Trigger with lock & Envelope insulator	Spade Lugs*
1674	SPST	Trigger without lock & Envelope insulator	Spade Lugs*


* Quick disconnect .203" wide.



TRIGGER SWITCH — Heavy Duty
Rating 12 AMPS-125V 6 AMPS-250V 1 HP 125 250V AC-DC

Cat #	Circuit	Description	Terminals
3101	DPST	Trigger with lock	Screw
3102	DPST	Trigger without lock	Screw
3103	DPST	Trigger with lock & Envelope Insulator	Screw
3104	DPST	Trigger without lock & Envelope Insulator	Screw

POPULAR AIRCRAFT TYPE, 2 and 3 POSITION, SINGLE HOLE MOUNTING




SINGLE POLE
Rating 15 AMPS-125/250V AC 1 HP-250V AC
3/4 HP-125V AC

Circuit	15 32" Bushing	11 32" Bushing
ON OFF ON	4101 4151 4171*	4121 4141 4181*
ON NONE OFF	4102 4152 4172*	4122 4142 4182*
ON NONE ON	4103 4153 4173*	4123 4143 4183*

Rating 6 AMPS-125V AC 3 AMPS-250V AC

Circuit	15 32" Bushing	11 32" Bushing
ON OFF ON	4301 4351 4371*	4321 4341 4381*
ON NONE OFF	4302 4352 4372*	4322 4342 4382*
ON NONE ON	4303 4353 4373*	4323 4343 4383*

* Quick disconnect



DOUBLE POLE
Rating 15 AMPS-125 250V AC 1 HP-250V AC
3/4 HP-125V AC

Circuit	15 32" Bushing	11 32" Bushing
ON OFF ON	4201 4251 4271*	4221 4241 4281*
ON NONE OFF	4202 4252 4272*	4222 4242 4282*
ON NONE ON	4203 4253 4273*	4223 4243 4283*

Rating 6 AMPS-125V AC 3 AMPS-250V AC

Circuit	15 32" Bushing	11 32" Bushing
ON OFF ON	4401 4451 4471*	4421 4441 4481*
ON NONE OFF	4402 4452 4472*	4422 4442 4482*
ON NONE ON	4403 4453 4473*	4423 4443 4483*

* Quick disconnect .250" wide.

SCREW TERMINALS		SOLDER TERMINALS		MOMENTARY SWITCH ACTION (*Momentary)		SPADE TERMINALS		CIRCUIT		RATING	
15/32" Bushing	11/32" Bushing	15/32" Bushing	11/32" Bushing	15/32" Bushing	11/32" Bushing	15/32" Bushing	11/32" Bushing				
4105	4125	4155	4145	4175	4185	SP	ON	NONE	OFF*		
4106	4126	4156	4146	4176	4186	SP	ON	OFF	ON*		
4107	4127	4157	4147	4177	4187	SP	OFF	NONE	ON*	10A 125-250V AC	
4108	4128	4158	4148	4178	4188	SP	ON*	OFF	ON*	1/3 HP 125V AC	
4109	4129	4159	4149	4179	4189	SP	ON	NONE	ON*	3/4 HP 250V AC	
4110†	4130†					SP	ON	OFF	ON*		
4111	4131	4160	4150	4180	4190	SP	NONE	OFF	ON*		
4205	4225	4255	4245	4275	4285	DP	ON	NONE	OFF*		
4206	4226	4256	4246	4276	4286	DP	ON	OFF	ON*		
4207	4227	4257	4247	4277	4287	DP	OFF	NONE	ON*	10A 125-250V AC	
4208	4228	4258	4248	4278	4288	DP	ON*	OFF	ON*	1/3 HP 125V AC	
4209	4229	4259	4249	4279	4289	DP	ON	NONE	ON*	3/4 HP 250V AC	
4211	4230	4260	4250	4280	4290	DP	NONE	OFF	ON*		

† Jumper attached externally to on-on terminals.

SARGENT SWITCHES & JAN SPECIFICATIONS

SINGLE POLE—SINGLE HOLE MOUNTING—1/2" Bushing 1/4" Bat Handle

Circuit	Action	Sargent Screw Terminals	Jan Solder Terminals
ON OFF ON*	SPDT	4101J	ST-40E
ON NONE OFF	SPST	4102J	ST-40A
ON NONE ON	SPDT	4103J	ST-40D
ON NONE OFF*	SPST	4105J	ST-40B
ON OFF ON*	SPDT	4106J	ST-40H
OFF NONE ON*	SPST	4107J	ST-40C
ON* OFF ON*	SPDT	4108J	ST-40G
ON NONE ON*	SPDT	4109J	ST-40F

* Indicates Momentary Action

DOUBLE POLE—SINGLE HOLE MOUNTING—1/2" Bushing 1/4" Bat Handle

Circuit	Action	Sargent Screw Terminals	Jan Solder Terminals
ON OFF ON	DPDT	4201J	ST-50P
ON NONE OFF	DPST	4202J	ST-50K
ON NONE ON	DPDT	4203J	ST-50N
ON NONE OFF*	DPST	4205J	ST-50L
ON OFF ON*	DPDT	4206J	ST-50T
OFF NONE ON*	DPST	4207J	ST-50M
ON* OFF ON*	DPDT	4208J	ST-50S
ON NONE ON*	DPDT	4209J	ST-50R

* Indicates Momentary Action

SWITCHES for PORTABLE ELECTRIC TOOLS ... MOTORIZED ELECTRICAL EQUIPMENT ... SMALL MOTORS ... APPLIANCES ... ELECTRONIC EQUIPMENT ... AIRCRAFT ELECTRICAL CIRCUITS
... ALL SWITCHES LISTED ARE UNDERWRITER'S LABORATORIES APPROVED ...

Superior . . .

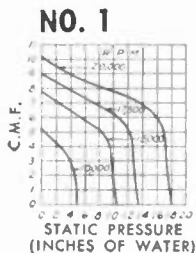
RIPLEY COMPANY, INC.

RIPLEY
ESTABLISHED 1936

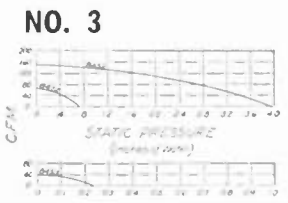
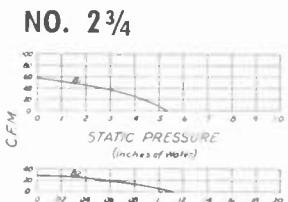
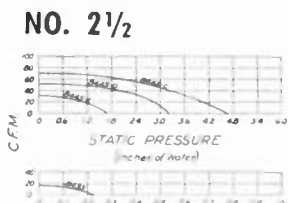
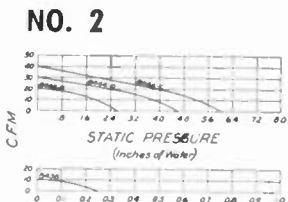
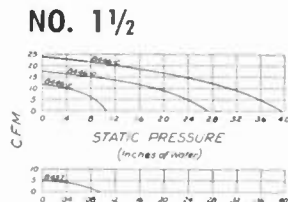
through Research

MIDDLETOWN, CONN.

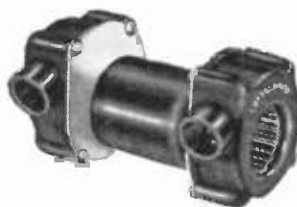
L-R MOTOR & BLOWER ASSEMBLIES



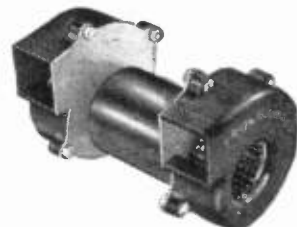
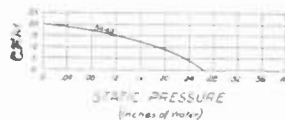
Model No.	Type	Input Voltage	Watts	Duty Cycle	R.P.M.	Output		Dimensions		List Price
						Free Air C.F.M.	Length O.A.	Motor Dia.		
8474	1	27.5V. DC.	8	Continuous	18,000	9	2 1/4	7/8	\$49.00	
8437	1 1/2	115V. AC-60 Cycle	15	Continuous	3,150	4	2 1/4	2 1/4	13.29	
8446-E	1 1/2	115V. AC/DC	25	Intermittent	8,000	12	4 1/2	2 1/2	17.96	
8446-D	1 1/2	115V. AC/DC	45	Intermittent	11,000	17	4 1/2	2 1/2	17.96	
8446-C	1 1/2	115V. AC/DC	70	Intermittent	15,000	23	4 1/2	2 1/2	17.96	
8438	2	115V. AC-60 Cycle	16	Continuous	3,100	10	4 1/2	2 1/4	13.48	
8444-E	2	115V. AC/DC	27	Intermittent	6,500	20	4 1/2	2 1/2	18.14	
8444-D	2	115V. AC/DC	53	Intermittent	10,000	30	4 1/2	2 1/2	18.14	
8444-C	2	115V. AC/DC	90	Intermittent	13,000	40	4 1/2	2 1/2	18.14	
8433	2 1/2	115V. AC-60 Cycle	17	Continuous	2,800	17	4 1/2	2 1/4	13.60	
8445-E	2 1/2	115V. AC/DC	30	Intermittent	6,000	35	4 1/2	2 1/2	18.26	
8445-D	2 1/2	115V. AC/DC	55	Intermittent	9,000	53	4 1/2	2 1/2	18.26	
8445-C	2 1/2	115V. AC/DC	105	Intermittent	12,000	70	4 1/2	2 1/2	18.26	
82	2 3/4	115V. AC-60 Cycle	35	Continuous	1,550	28	5 1/4	2 1/4	16.50	
81	2 3/4	115V. AC-60 Cycle	40	Continuous	3,100	58	5 1/4	2 1/4	16.50	
8453	3	115V. AC-60 Cycle	35	Continuous	1,600	40	5 1/2	3 1/4	16.95	
8472	3	115V. AC-60 Cycle	40	Continuous	3,100	77	6 1/4	2 1/4	16.05	
8452	3	115V. AC/DC	120	Intermittent	6,000	150	6 1/4	2 1/4	22.40	



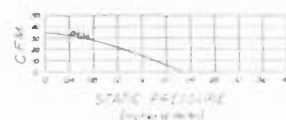
L-R BLOWERS DUAL ASSEMBLY



NO. 2 Dual

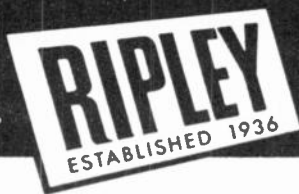


NO. 2 1/2 Dual



Model No.	Type	Input Voltage	Watts	Duty Cycle	R.P.M.	Output		Dimensions		List Price
						Free Air C.F.M.	Length O.A.	Motor Dia.		
8442	2 Dual	115V. AC-60 Cycle	18	Continuous	3,000	10-10	5 1/4	2 1/4	\$19.52	
8434	2 1/2 Dual	115V. AC-60 Cycle	20	Continuous	2,800	17-17	5 1/4	2 1/4	20.59	

Superior . . .
RIPLEY COMPANY, INC.



through Research
MIDDLETOWN, CONN.

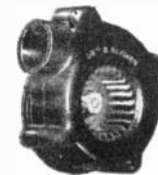
L-R BLOWERS — "Mighty-Mites"



No. 1
High Impact Phenolic Housing. Weight 1 ounce. Wheel is 1" in dia. Standard shaft bores, 1/8" or 3/16". Overall height 2-5/16". Overall width 2-1/8". Depth 63/64". Blower outlet 63/64" wide by 11/16" high.
List Price \$3.64 ea.



No. 1 1/2
High Impact Phenolic Housing. Weight 2-1/2 ounces. Wheel is 1-1/2" dia. Standard shaft bores, 3/16" or 1/4". Overall height 3". Overall width 2-7/8". Depth 1". Blower outlet 1" wide by 1-3/16" high.
List Price \$4.44 ea.



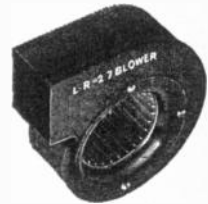
No. 2
High Impact Phenolic Housing. Weight 5 ounces. Wheel is 2" dia. Standard shaft bores, 3/16" or 1/4". Overall height 3-3/4". Overall width 3-1/2". Depth 1-3/8". Blower outlet 1-1/8" diameter.
List Price \$4.53 ea.



No. 2 1/2
High Impact Phenolic Housing. Weight 5-1/2 ounces. Wheel is 2" in dia. Standard shaft bores, 3/16" or 1/4". Overall height 4-3/8". Overall width 3-7/8". Depth 1-7/16". Blower outlet 1-7/16" wide by 1-19/32" high.
List Price \$4.65 ea.

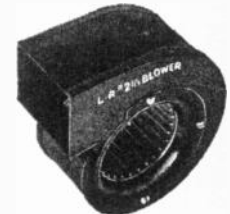
No. 2.7

Rigid Steel Housing. Weight 8-1/2 ounces. Wheel is 2-1/2" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 4-5/8". Overall width 4-13/32". Depth 1-33/64". Blower outlet 1-33/64" wide by 1-3/4" high.
List Price \$4.90 ea.



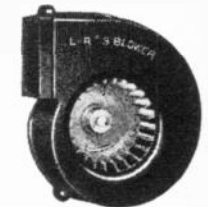
No. 2 3/4

Rigid Steel Housing. Weight 10 ounces. Wheel is 2-1/2" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 4-5/8". Overall width 4-13/32". Depth 2-5/64". Blower outlet 2-5/64" wide by 1 3/4" high.
List Price \$4.90 ea.



No. 3

High impact Phenolic Housing. Weight 12-1/2 ounces. Wheel is 3" in dia. Standard shaft bores, 1/4" or 5/16". Overall height 6-7/16". Overall width 5-1/2". Depth 2-3/8". Blower outlet 2 3/8" wide by 2-1/2" high.
List Price \$5.36 ea.



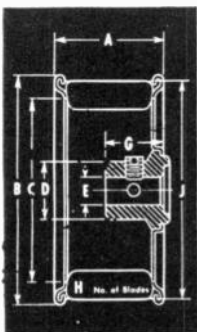
L-R Whirlwind BLOWER WHEELS

A key factor in the superior efficiency of any blower is the wheel utilized in the housing. The Ripley Company provides the utmost in equipment and engineering "know-how" to produce small blower wheels of the highest standard and quality. Manufactured from the finest material available, precision engineered and rigidly inspected to meet your most exacting requirements. Standard wheels are cadmium plated steel. Other material and finishes available. Available for CW or CCW Rotation.

DIMENSIONS AND SPECIFICATIONS

Wheel Size Dia. Width	Used in Blower No.	A Width (± 1/32)	B Dia. (± 1/32)	C Dia. (± 1/64)	D Dia. (± .005)	E* (+.001 -.000)	F Set Screw (± .010)	G of Blades	H Number	J Dia (± 1/32)
1 x 2 5/16	1	1 1/8	1	1 1/16	.3125	.125, .1875	5-40	.3125	10	1 1/8
1 1/2 x 2 5/8	1 1/2	1 1/2	1 1/2	1 1/16	.5625	.1875, .250	8-32	.5156	16	1 1/2
2 x 3 1/4	2, 2 1/2	2 1/4	2	1 3/8	.5625	.1875, .250	8-32	.5156	24	2 1/4
2 1/2 x 3 1/2	2.7	2 1/2	2 1/2	2 1/8	.750	.250, .3125	8-32	.6562	31	2 1/2
2 1/2 x 1 1/2	2 3/4	1 1/2	2 1/2	2 1/8	.750	.250, .3125	10-32	.6562	24	2 1/2
3 x 1 1/2	3	1 1/2	3	2 3/8	.750	.250, .3125	10-32	.6562	24	2 1/2
3 1/2 x 1 1/2		1 1/2	3 1/8	3 1/8	.9375	.250, .3125	1/8-28	.750	30	3 1/2

* Standard Bore—Other Sizes Available



ROTATION

is determined viewing closed end of wheel

Sightmaster[®] FUSES

"C"
LIMITED
CURRENT
SERIES

"N"
LIMITED
CURRENT
SERIES

"3AG"
HIGH
VOLTAGE
SERIES

"3AG"
HIGH
VOLTAGE
Time Lag
SERIES

"3AG"
HIGH
VOLTAGE
Pig-tail
SERIES

"3AB"
SERIES

"4AG"
SERIES



CASE MATERIALS: GLASS **SIZE: 1/4" DIAMETER**
For use where rapid interruption of fault current is required to avoid damage due to delay in opening. Length of fuse is determined by ampere and size. Manufactured in the following ampereages:
250V OR LESS
1-16 Amp through 15 Amps
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%

C SERIES

1-16	.27
1-8	.21
1-4	.16
1-1-4	.09
1-1-2	.12
1-1-1	.17
1-1	.18



CASE MATERIALS: GLASS **SIZE: 1/4" DIAMETER**
Designed with time-lag characteristics to avoid unnecessary opening due to harmless surges or starting currents. Length of fuse is determined by ampere and size. Manufactured in the following ampereages:
125V OR LESS
1-100 Amp through 7 Amps
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%
Blows in not less than 6 seconds at 200%

N SERIES

1-100	.40
1-10	.28
1-10-10	.26
1-10-10-10	.24



CASE MATERIALS: GLASS **SIZE: 1/4" x 1/4"**
Designed for use in Radio, Television and numerous electronic devices. The 3AG High Voltage series blow quickly under overload conditions therefore providing the high speed action necessary to protect electronic apparatus. Manufactured in the following ampereages:
250V OR LESS
1-16 Amp through 6 Amps
125V OR LESS: 0
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%

3 AG HIGH VOLTAGE SERIES

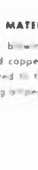
1-16	.27
1-8	.20
1-4	.13
1-1-2	.08
1-1-1	.07
1-1	.10



CASE MATERIALS: GLASS **SIZE: 1/4" x 1/4"**
Designed for circuits with equipment having high inductive or capacitive time-lag for circuits with heavy inductive systems. Manufactured in the following ampereages:
125V OR LESS
1-100 Amp through 6 Amps
32V OR LESS
0 Amps through 25 Amps
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%
Blows within 1 minute, but not less than 5 seconds at 200%

3 AG TIME LAG SERIES

1-100	.36
1-10	.27
1-10-10	.25
1-10-10-10	.20



CASE MATERIALS: GLASS **SIZE: 1/4" x 1/4"**
Quick blowing fuses of the vitre type of the 3AG high voltage series with 1/16" tinned copper leads in either end for easy soldering into electronic circuits. Manufactured in the vitre type specifications of the 3AG high voltage series in the following ampereages:
250V OR LESS
1-16 Amp through 6 Amps
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%

3 AG PIG TAIL SERIES

1-16	.33
1-8	.25
1-4	.20
1-1-2	.15
1-1-1	.16

This series is also available with Time-Lag characteristics.



CASE MATERIAL: CERAMIC **SIZE: 1/4" x 1/4"**
Designed for use with Amplifiers, Rectifiers, Communication and Electronic Equipment, etc. Designed to withstand greater shock than the 3AG series. Manufactured in the following ampereages:
250V OR LESS
1-16 Amp through 15 Amps
125V OR LESS
above 15 Amps
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%

3 AB SERIES

1-16	.18
1-8	.17
1-4	.20

This series is also available with Time-Lag characteristics.

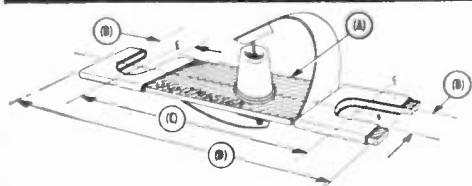
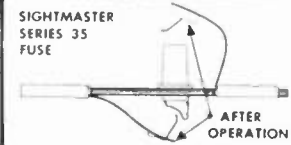
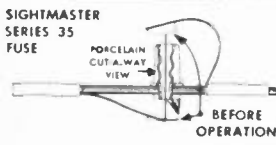


CASE MATERIAL: GLASS **SIZE: 9/32" x 1/4"**
Fuses of the 4AG series may be considered a time-lagged version of the corresponding 3AG series since these fuses offer greater protection against Shock, Vibration and Rough Handling also due to their heavier design. Fuses of the 4AG series are available in ampere ratings up to 30 amps. Most of the applications of this series will found in Aircraft installations. Manufactured in the following ampereages:
250V OR LESS
1-16 Amp through 5 Amps
32V OR LESS
6 Amps through 30 Amps
TEST SPECIFICATIONS:
Continuous duty at 110%; Blows within 1 hour at 125%

4 AG SERIES

1-16	.38
1-8	.26
1-4	.13
1-1-2	.11
1-1-1	.13

This series is also available with Time-Lag characteristics.



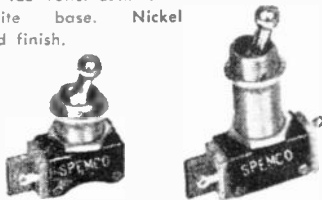
FUSE CAT NO.	RATED CAPACITY (AMPERE)	SUGGESTED RATED VOLTAGE	OPERATES ON		COLOR OF INSULATING TUBE OR HOUSING	SIZE OF SCREW SLOTTED HOUSING	DIMENSIONS			
			AMPS	IN LESS THAN			SLIT WIDTH	MOUNTING CENTERS	OVERALL LENGTH	
35A	1 1/3	90	2	1 1/2 Min	White	10	13 6/16	1 1/4	1 43/64	
35B	1 1/3	90	2	1 1/2 Min	White	6	5 3/32	1 1/4	1 43/64	
35B	2	90	3	3 Min	Orange	6	5 3/32	1 1/4	1 43/64	
35C	2	90	3	3 Min	Orange	10	13 6/16	1 1/4	1 43/64	
35D	1 1/3	90	2	1 1/2 Min	White	6	5 3/32	1 1/4	1 5/8	
35E	3	90	4	5 Min	White	6	5 3/32	1 1/4	1 63/64	
35F	1 2	90	3	4	1 1/2 Min	Red	10	13 6/16	1 1/4	1 43/64
35G	3	90	4	1 2	5 Min	Blue	6	5 3/32	1 1/4	1 43/64
35H	5	90	6	1 2	5 Min	Green	6	5 3/32	1 1/4	1 43/64
**35J	1 2	160	3	4	1 1/2 Min	Red	10	13 6/16	1 1/4	1 43/64
**35K	1 1/3	150	2	3 Min	White	10	13 6/16	1 1/4	1 43/64	
**35L	2	150	3	3 Min	Orange	10	13 6/16	1 1/4	1 43/64	
**35M	3	150	4	1 2	5 Min	Blue	6	5 3/32	1 1/4	1 43/64
**35N	5	150	6	1 2	5 Min	Green	6	5 3/32	1 1/4	1 43/64
**35P	3 4	160	1 1 8	1 1 2	Min	Tan	10	13 6/16	1 1/4	1 43/64
35R	180	90	270	1 1 2	Min	Yellow	10	13 6/16	1 1/4	1 43/64
**35S	1 4	160	3 8	1 1 2	Min	Pink	10	13 6/16	1 1/4	1 43/64
35T	65	90	1 1	3 Min	Tan	10	13 6/16	1 1/4	1 43/64	

* Made with ceramic insulator to protect against arcing
** Made with glass insulator to protect against arcing

SPEMCO H & H SWITCHES

BALL LEVER TOGGLE SWITCHES

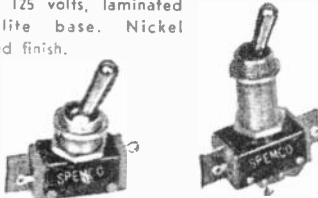
Underwriters' approved, 3 amp. 125 volts. Laminated bakelite base. Nickel plated finish.



No.	Description	Sleeve	List Price
1120	SPST	1 1/2"	\$1.05 ea.
1122	SPDT	1 1/2"	1.35 ea.
1124	DPST	1 1/2"	1.85 ea.
1126	DPDT	1 1/2"	2.15 ea.
1121	SPST	1"	1.35 ea.
1123	SPDT	1"	1.60 ea.
1125	DPST	1"	2.20 ea.
1127	DPDT	1"	2.40 ea.

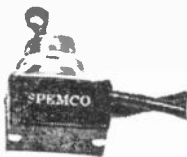
BAT LEVER TOGGLE SWITCHES

Underwriters approved. 3 amp. 125 volts, laminated bakelite base. Nickel plated finish.



No.	Description	Sleeve	List Price
1135	SPST	1 1/2"	\$1.05 ea.
1136	SPDT	1 1/2"	1.35 ea.
1137	DPST	1 1/2"	1.85 ea.
1138	DPDT	1 1/2"	2.15 ea.
1121-B	SPST	1"	1.35 ea.
1123-B	SPDT	1"	1.60 ea.
1125-B	DPST	1"	2.20 ea.
1127-B	DPDT	1"	2.40 ea.

BALL LEVER TOGGLE SWITCH



Underwriters' approved 3A 250V, 6A 125V, molded bakelite base. Nickel plated finished. WITH 6" WIRE LEADS size of case, 7/8" long, 1/2" wide, 9/16" high.

No.	Description	Sleeve	List Price
1154	SPST	3/8"	\$1.45 ea.

MOLDED BAKELITE SWITCH, BAT LEVER

U.L. approved for 6 amp. 125 volts, 3 amp. 250 volts. *Except for 1143 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve.



No.	Description	Sleeve	List Price
1142	SPST	1 1/2"	\$1.40 ea.
*1143	SPDT	1 1/2"	1.65 ea.
1144	DPST	1 1/2"	2.05 ea.
1145	DPDT	1 1/2"	2.35 ea.

*1 amp. 250 volts, 6 amp. 125 volts

UTILITY SWITCHES—Toggle Type For AC Uses

1185
1186



1188
1194



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1185	SPST	1 1/2"	\$1.20 ea.
1186	SPDT	1 1/2"	1.45 ea.
1188	DPST	1 1/2"	1.90 ea.
1194	DPDT	1 1/2"	2.30 ea.

PUSH BUTTON DOUBLE ACTION SWITCH

Underwriters' approved, 6 amp. 125 volts. Press button to make contact, press button to break contact. Nickel plated finish or snap-on plastic button, in red or black.



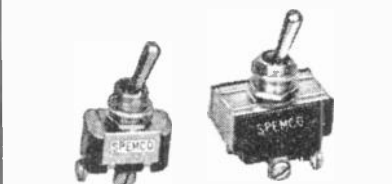
No.	Description	Sleeve	List Price
1156	SP	1 1/2"	\$1.50 ea.
1156-A	Red Dia.	1 1/2"	1.85 ea.
1156-B	Black Dia.	1 1/2"	1.85 ea.

MOMENTARY BAT LEVER TOGGLE SWITCHES

Underwriters' approved, 3 amp. 125 volts, laminated bakelite base. Nickel plated finished.



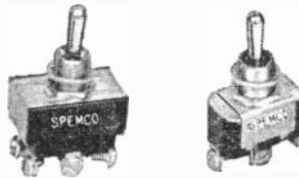
No.	Description	Sleeve	List Price
1166	SPST	1 1/2"	\$1.75 ea.
1167	SPDT	1 1/2"	1.90 ea.
1155	DPST	1 1/2"	2.40 ea.
1150	DPDT	1 1/2"	2.75 ea.



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1196	SPST	15 32"	\$1.55 ea.
1197	DPST	15 32"	2.50 ea.

NEUTRAL CENTER MOMENTARY BOTH ENDS

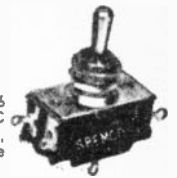


Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1193	DPDT	1 1/2"	\$3.00 ea.
1195	SPDT	1 1/2"	1.85 ea.

BAT LEVER TOGGLE SWITCH Neutral Center

Underwriters' approved, 6 amp. 125 volts, either AC or DC. A 3 position switch, on-off-on. Black bakelite case.



No.	Description	Sleeve	List Price
1175	SPDT	1 1/2"	\$2.55 ea.
1176	DPDT	1 1/2"	3.05 ea.

NEUTRAL CENTER



Underwriters' approved, 10 amp. 250 volts AC, 15 amp. 125 volts AC, 3/4 H.P. 115V-230V AC.

No.	Description	Sleeve	List Price
1187	SPDT	1 1/2"	\$1.45 ea.
1189	DPDT	1 1/2"	2.30 ea.

MIDGET MOMENTARY PUSH BUTTON SWITCHES

Underwriters' approved, 3 amp. 125 volts, AC. Molded bakelite base, nickel plated finish.



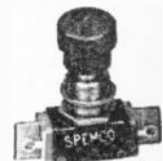
No.	Description	Sleeve	List Price
1141	SP Normally Closed	1 1/2"	\$0.90 ea.
1141-A	SP Normally Open	1 1/2"	0.90 ea.

Underwriters' approved, 3 Amp. 125V, AC. Nickel plated finish, Molded bakelite base, Single Pole, slow make and slow break with bakelite snap-On button in red or black.



No.	Description	Sleeve	List Price
1157-A	Normally Open Red	1 1/2"	\$1.55 ea.
1157-B	Open Black	1 1/2"	1.55 ea.
1157-C	Closed Red	1 1/2"	1.55 ea.
1157-D	Closed Black	1 1/2"	1.55 ea.

Two circuit slow make and slow break, momentary switch. One circuit normally on, the other off, with snap-on plastic button, in red or black. (Pushing the button reverses the contact.) 1 Amp. 125 Volts AC.



No.	Description	Sleeve	List Price
1158-A	Red	1 1/2"	\$1.85 ea.
1158-B	Black	1 1/2"	1.85 ea.

HARDWARE



No.	Description	List Price
1132	On and Off Plate	\$0.06 ea.
1132-H	Hex Nut	0.04 ea.
1132-K	Knurled Nut	0.04 ea.

SPECIALTIES MANUFACTURING CO. • Detroit 38, Michigan

SPEMCO H & H SWITCHES

INTERMEDIATE MOMENTARY PUSH SWITCH NORMALLY OFF

U.L. approved for 6 amp. 125 volts, 3 amp. 250 volts.
*Except for 1147 which is rated at 1 amp. 250 volts, 6 amp. 125 volts. All back connected, slotted sleeve.



No.	Description	Sleeve	List Price
1146	SPST	1/2"	2.35 ea.
*1147	SPDT	1/2"	2.65 ea.
1148	DPST	1/2"	3.05 ea.
1149	DPDT	1/2"	3.35 ea.

*1 amp. 250 volts, 6 amp. 125 volts

POWER SWITCHES



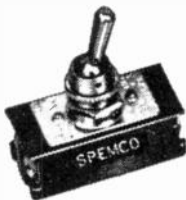
Underwriters' approved, 10 amp. 125 volts. Size of case 1 1/4" long, 3/4" wide, 1 1/8" high.

No.	Description	Sleeve	List Price
1133	SPST	1 1/32"	\$1.80 ea.
1133-B	Bakelite lever		1.15 ea.



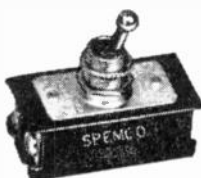
Underwriters' approved, 12 amp. 125 volts. Size of case, 1 3/4" long, 3/4" wide, 1 3/8" high.

No.	Description	Sleeve	List Price
1159	DPST	3/8"	\$2.05 ea.



Underwriters' approved, 12 amp. 125 volts. Size of case, 1 3/4" long, 3/4" wide, 1 3/8" high.

No.	Description	Sleeve	List Price
1159-B	DPST	3/8"	\$2.05 ea.



Underwriters' approved, 15 amp. 125 volts. Size of case, 2" long, 1" wide, 7/8" high.

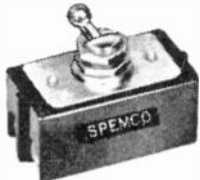
No.	Description	Sleeve	List Price
1134	DPST	3/8"	\$3.45 ea.

POWER SWITCHES



Underwriters' approved, 15 amp. 125 volts. Size of case, 2" long, 1" wide, 7/8" high.

No.	Description	Sleeve	List Price
1134-B	DPST	3/8"	\$3.45 ea.



Fully enclosed tumbler switch, 20 amp. 250 volts, 1 1/2 horsepower, 250 volts. Size of case, 2 1/4" long, 1 1/8" wide, 1 3/8" high.

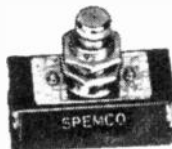
No.	Description	Sleeve	List Price
1170S	DPST	3/8"	\$5.00 ea.



Fully enclosed tumbler switch, 20 amp. 250 volts, 1 1/2 horsepower, 250 volts. Size of case, 2 1/4" long, 1 1/8" wide, 1 3/8" high.

No.	Description	Sleeve	List Price
1170	DPST	3/8"	\$5.00 ea.

MOMENTARY PUSH BUTTON SWITCH, NORMALLY OFF



Rated at 12 amp. 125 volts, 1 horsepower, 250 volt AC. Size of case, 1 3/4" long, 3/4" wide, 1 3/8" high.

No.	Description	Sleeve	List Price
1160	DPST	3/8"	\$3.00 ea.

ROTARY CANOPY SWITCH With Fixed Plastic Handle



U.L. approved, 3 amp. 125 volts, 1 amp. 250 volts.

No.	Stem	Wire Lead	List Price
1179	3/16"	6"	\$0.65 ea.

ROTARY SWITCHES



Underwriters' approved, 3 amp 125 volts. Nickel plated finish. Laminated bakelite base.

No.	Description	Shaft	Sleeve	List Price
1128	SPST	1/8"	3/8"	\$1.35 ea.
1129	SPDT	1/8"	3/8"	1.65 ea.
1130	DPST	1/8"	3/8"	2.20 ea.
1131	DPDT	1/8"	3/8"	2.40 ea.

ROTO-LOCK SWITCH



Underwriters' approved, 3 amp. 250 volts.

No.	Description	Sleeve	List Price
1128-K	SPST	15/32"	\$2.05 ea.

(with key)
(above key removable in off position only)

1128-KA	Key only for above		.35 ea.
1128-KE	SPST	15/32"	2.05 ea.

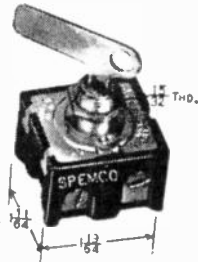
(with key)
(above key removable in either position)

1128-KEA	Key fits 1128KE, 1129K, 1130K		.35 ea.
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1129-K	SPDT	15/32"	\$2.35 ea.
1131-K	DPDT	15/32"	\$3.25 ea.

(above keys removable in either position)

ROTO-LOCK SWITCH



Underwriters' approved, 20 amp. 120 volts, 240 volts AC.

1 H.P. 120 volts AC
2 H.P. 240 volts AC

(with key)
(above key removable in off position only)

No.	Description	Sleeve	List Price
1130-K	DPST	7/16"	\$4.40 ea.
1130-KA	Key Only for Above		.45 ea.

PORTABLE TOOL HANDLE SWITCHES



Tool handle switch, fully enclosed, normally OFF with locking latches. Rated and approved by the Underwriters' for 6 amp 250 volts, 12 amp. 125 volts, 1 H.P. 250 volts, 1 3/4" long, 1 3/8" wide, 7/8" high.

No.	Description	List Price
1168	DPST	\$3.35 ea.



This switch is arranged with momentary contacts, normally OFF. Approved by the Underwriters' at 10 amp. 250 volts, 15 amp. 125 volts, 2 7/8" long, 3 1/8" wide, 1 1/8" high.

No.	Description	List Price
1173	DP Trigger Lever	\$4.25 ea.

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SPEMCO H & H SWITCHES

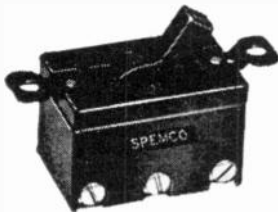
EXTRA HEAVY DUTY SWITCH NEUTRAL CENTER



Used in heavy current circuits, such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to arc. Rated at 10 amp. 125 volts. Size of case 2" long, 1 1/4" wide, 1" high.

No.	Description	Sleeve	List Price
1161	DPDT	1 1/2"	\$7.75 ea.
*1161-A	DPDT	1 1/2"	7.75 ea.

(*Straight thru, no off-center)



Size of Case: 2 1/2" long, 1 1/4" wide, 1 1/4" high, 3 7/32" mounting centers. 10 amp., 250 volts; 20 amp., 125 volts; 5 amp., 600 volts. 1/2 H.P., 250 volts DC. 2 H.P., 230 volts DC.

No.	Description	List Price
1161-B	DPDT	\$11.75 ea.



Size of Case: 2 1/2" long, 2" wide, 1 1/8" high. Rated 10 amp. 125 volts, 1/2 horsepower, 115-230 volt AC.

No.	Description	Sleeve	List Price
1177	3PDT	1 1/2"	\$11.75 ea.
1178	4PDT	1 1/2"	14.75 ea.

THREE & FOUR POLE AC UTILITY SWITCHES



15 amp. 125 volts, 10 amp. at 250 volts AC — 1 H.P. 120 volts AC. With Screw Terminals.

No.	Description	Sleeve	List Price
1198	3PST On-None-Off	1 1/2"	\$4.00
1199	3PDT On-Off-On	1 1/2"	5.00
1200	4PST On-None-Off	1 1/2"	5.75
1201	4PDT On-Off-On	1 1/2"	7.00

Sleeve Diameter, 1 1/4"

FEED THROUGH CORD SWITCH



Underwriters' approved, black bakelite case sliding lever, 10 amp. 125 volts, 5 amp. 250 volts. 1/8" cord hole.

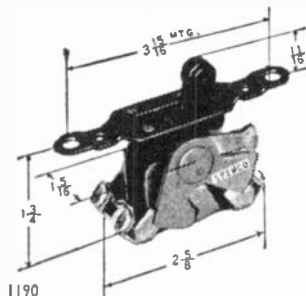
No.	Description	Sleeve	List Price
1163	SP	1 1/2"	\$1.90 ea.

HEAVY DUTY SWITCHES Toggle Type

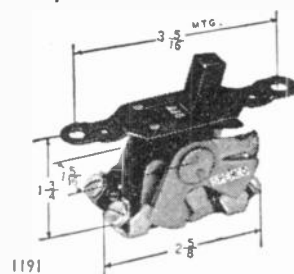
Underwriters' approved, 30 amp., 250 volts, AC-DC; 2 H.P., 115V-230V AC only; 1 H.P., 460V AC only.

For use on Food Machines, Grinders, Sanders, Machine Tools, Gasoline Pumps, etc.

Roller Type Lever

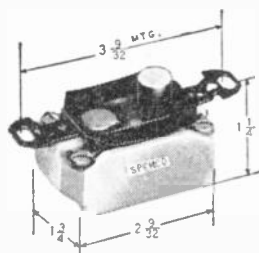


Square Bakelite Lever



No.	Description	*Net Price
1190	DPST	\$2.85 ea.
1191	DPST	2.85 ea.

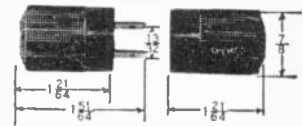
METAL PUSH BUTTON TYPE NORMALLY OPEN



Underwriters' approved, 20 amp. 250 volts, 2 H.P. 230V AC, 2 H.P. 250V DC. For use on Floor Sander, as a foot switch, etc.

No.	Description	NET PRICE
1192	DPST	\$2.85 ea.

CORD CONNECTORS



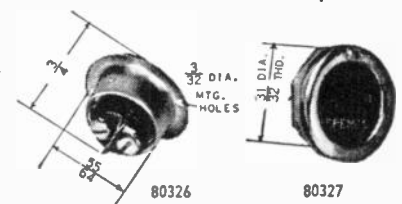
Brown Bakelite Cord Connector Complete, 7/8" O.D. x 2 1/2" long, 10 amp. 250 volts. End opening for wire size up to 3/8" O.D.

No.	Description	List Price
1162	Complete	\$2.65 ea.
1162-F	Female Part	1.50 ea.
1162-M	Male Part	1.50 ea.

RECEPTACLES

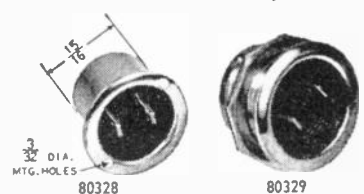
Underwriters' approved, 10 amp. 250 volts AC.

Short Female Flush Receptacle



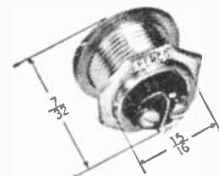
No.	Description	List Price
80326	2 Screw Mounting	\$1.80 ea.
80327	Lock Nut Mounting	2.65 ea.

Recessed Male Receptacle



No.	Description	List Price
80328	2 Screw Mounting	\$2.10 ea.
80329	Lock Nut Mounting	2.65 ea.

Recessed Female Receptacle

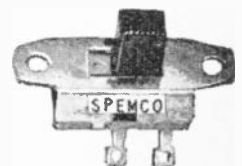


No.	Description	List Price
80331	Lock Nut Mounting	\$2.65 ea.

All aforementioned switches and receptacles are manufactured by H. & H. for S.M.C.

SLIDE SWITCHES

Housings are made of steel and are cadmium plated. 1 1/2" long, 35/64" wide and 1/8" mounting centers.



No.	Description	List Price
1180	SPST .75A-125V AC-DC	\$0.31 ea.
1181	SPDT .75A-125V AC-DC	0.37 ea.
1182	DPST .50A-125V AC-DC	0.44 ea.
1183	DPDT .50A-125V AC-DC	0.55 ea.

SPECIALTIES MANUFACTURING CO.

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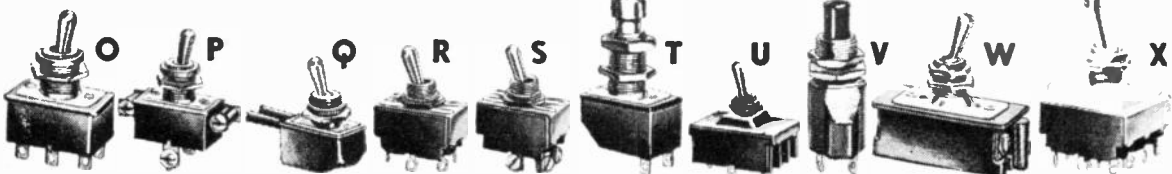
Sec. 1500

HERMAN H. SMITH, INC.



"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

CUTLER-HAMMER SWITCHES



LIGHT DUTY TOGGLE SWITCHES
AC-DC, UL Approved; 15/32" shank; quick make - quick break; bakelite case. Usually small size for electrical capacity. Std. Pkg. 10

(O) BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	Current Rating	125 Volts	250 Volts	Ea.
950	8280K16	SPST			3 Amps.	\$1.15
951	831K8	SPST	6 Amps.		3 Amps.	1.35
952	828K14	SPDT			1 Amp.	1.45
953	828K14	2 circ.	3 Amps.		1 Amp.	1.55
954	8360K7	DPST			3 Amps.	2.10
955	8370K7	DPST	6 Amps.		3 Amps.	2.30
956	836K7	DPDT			3 Amps.	2.40
957	837K7	DPDT	6 Amps.		3 Amps.	2.60

(P) SIDE CONNECTED SCREW TERMINALS
Std. Pkg. 10

No.	C-H No.	Type	Current Rating	125 Volts	250 Volts	Ea.
958	825K8	SPST			3 Amps.	\$1.40
959	839K8	SPST	6 Amps.		3 Amps.	1.60
960	829K8	SPDT			3 Amps.	1.85
961	837K7	DPST	6 Amps.		3 Amps.	2.75
962	835K7	DPDT			3 Amps.	3.15
963	837K7	DPDT	6 Amps.		3 Amps.	3.35

(Q) WIRE LEADS—SIX INCHES LONG
Std. Pkg. 10

No.	C-H No.	Type	Current Rating	125 Volts	250 Volts	Ea.
964	8290K16	SPST			3 Amps.	\$1.40
965	839K8	SPST	6 Amps.		3 Amps.	1.60

STANDARD DUTY TOGGLE SWITCHES
15 Amps. 125 Volts — 10 Amps. 250 Volts
AC, UL Approved; 15/32" shank; slow make and break; bakelite case. AC rated only for longer life and greater capacity. Std. Pkg. 10

(R) BACK CONNECTED LUG TERMINALS

No.	C-H No.	Type	Each
966	750K13	SPST	\$1.15
967	750K4	SPDT	1.35
968	756K4	DPST	1.80
969	756K5	DPDT	2.10
970	761K2	TPST	3.65
971	761K2	TPDT	4.50

(S) BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	Each
972	750K14	SPST	\$1.35
973	756K4	SPDT	1.60
974	756K5	DPST	2.10
975	756K6	DPDT	2.60
976	761K2	TPST	4.25
977	761K2	TPDT	5.40

(T) PUSH BUTTON SWITCHES
Push to make — Push to break
AC-DC, UL Approved; 11/16" shank; bakelite case. Pushing the button once closes the contacts. Pushing it again opens the contacts. Rated at 6 Amps. 125 Volts 3 Amps. 250 Volts. Std. Pkg. 10

No.	C-H No.	Type	Terminals	Each
989	720K4	SPST	Lug	\$1.60
990	720K4	SPST	Screw	1.80
991	720K4	SPST	Wire	1.80

(U) CENTER OFF STANDARD DUTY TOGGLE SWITCHES

No.	C-H No.	Type	Each
978	750K13	SPDT	\$1.35
979	756K4	DPDT	2.10
980	761K2	TPDT	4.50

BACK CONNECTED SCREW TERMINALS

No.	C-H No.	Type	Each
981	750K13	SPDT	\$1.60
982	752K4	DPDT	2.60
983	761K2	TPDT	5.40

(V) PUSH BUTTON MOMENTARY SWITCHES
AC-DC, UL Approved; 15/32" shank; rate at % Amp. 120 volt—1/2 Amp. 250 volts. Std. Pkg. 10

No.	C-H No.	Type	Terminals	Ea.
992	841K4	SP Norm. Open	Lug	\$0.80
993	841K5	SP Norm. Open	Screw	.90
994	841K8	SP Norm. Closed	Lug	.60
995	841K7	SP Norm. Closed	Screw	.65

(W) HEAVY DUTY TOGGLE SWITCHES
AC-DC, UL Approved; 15/32" shank; quick make - quick break; bakelite case. Screw Terminals. Std. Pkg. 10

No.	C-H No.	Type	125 Volts	250 Volts	Ea.
984	732K5	SPST	12 Amps.	6 Amps.	\$2.20
985	732K5	DPST	12 Amps.	6 Amps.	2.20
986	736K5	SPST	15 Amps.	10 Amps.	3.65
987	736K8	DPST	15 Amps.	10 Amps.	3.65
988	740K4	DPST	30 Amps.	20 Amps.	5.40

* 1 Hp—125/250V, 1/2 Hp—125V, 2 Hp—250V

(X) FOUR POLE SWITCHES
AC-DC GOVERNMENT APPROVED PER MIL-S-8745 15/32" shank. Rated 10 amps. 115 volt AC—20 amps. 25 volts DC (Nominal rating per pole) SEALED LEVER. Std. pkg. 10

No.	C-H No.	Type	Terminals	Each
944	7661 K 6	1PST	Solder Lugs	\$2.60
945	7663 K 4	1PDT	Solder Lugs	9.35
946	7660 K 8	4PST	Screw Term.	8.25
947	7661 K 3	4PDT	Screw Term.	10.25



(A) ST-40 SERIES
Nominal Rating Per Pole: 10 Amps. 115 V. AC. 20 Amps. 28 V. DC.
All ST 40 Series switches are equipped with Sealed Lever. Std. Pkg. 10

No.	C-H	JAN Type	Circuit	Each
1720	8801K13	ST40 SPST	On-None-Off	\$2.80
1721	8813K12	ST40 DPST	On-None-Mom-Off	3.10
1722	8811K12	ST40 SPST	On-None-Mom-Off	3.10
1723	8810K12	ST40 SPDT	On-None-Off	3.40
1724	8800K13	ST40 DPDT	On-Off-Off	3.40
1725	8804K12	ST40 DPDT	On-None-Mom-Off	3.65
1726	8820K13	ST40 DPDT	Mom-Off-Off	3.65
1727	8809K13	ST40 DPDT	On-Off-Mom-Off	3.65

(B) ST-42 SERIES
Nominal Rating Per Pole: 10 Amps. 115 V. AC. 20 Amps. 28 V. DC. Std. Pkg. 10

No.	C-H	JAN Type	Circuit	Each
1730	8803K6	ST42 SPST	On-None-Off	\$2.10
1731	8819K5	ST42 SPST	On-None-Mom-Off	2.30
1732	8817K5	ST42 DPST	On-None-Mom-Off	2.30
1733	8816K5	ST42 SPDT	On-None-Off	2.45
1734	8802K6	ST42 DPDT	On-Off-Off	2.45
1735	8805K5	ST42 DPDT	On-None-Mom-Off	2.70
1736	8818K5	ST42 DPDT	Mom-Off-Off	2.70
1737	8815K6	ST42 DPDT	On-Off-Mom-Off	2.70

(C) ST-50 SERIES
Nominal Rating Per Pole: 10 Amps. 115 V. AC. 20 Amps. 28 V. DC. Std. Pkg. 10

No.	C-H	JAN Type	Circuit	Each
1740	8822K8	ST50 DPST	On-None-Off	\$3.75
1741	8828K5	ST50 DPST	On-None-Mom-Off	4.50
1742	8826K5	ST50 DPST	On-None-Mom-Off	4.50
1743	8824K8	ST50 DPDT	On-None-Off	4.50
1744	8820K10	ST50 DPDT	On-Off-Off	4.50
1745	8830K5	ST50 DPDT	On-None-Mom-Off	4.90
1746	8834K4	ST50 DPDT	Mom-Off-Off	4.90
1747	8832K4	ST50 DPDT	On-Off-Mom-Off	4.90

*These switches are equipped with Sealed Lever.

(D) ST-52 SERIES
Nominal Rating Per Pole: 10 Amps. 115 V. AC. 20 Amps. 28 V. DC. Std. Pkg. 10

RHS	C-H	JAN Type	Circuit	Each
1760	8823K5	ST52 DPST	On-None-Off	\$2.50
1761	8829K5	ST52 DPST	On-None-Mom-Off	2.80
1762	8827K5	ST52 DPST	On-None-Mom-Off	2.80
1763	8825K5	ST52 DPDT	On-None-Off	2.80
1764	8821K5	ST52 DPDT	On-Off-Off	2.80
1765	8831K5	ST52 DPDT	On-None-Mom-Off	3.25
1766	8835K3	ST52 DPDT	Mom-Off-Off	3.25
1767	8833K3	ST52 DPDT	On-Off-Mom-Off	3.25

(E) ST-45 SERIES
Nominal Rating Per Pole: 15 Amps. 115 V. AC. 25 Amps. 28 V. DC. Std. Pkg. 10

No.	C-H	JAN Type	Circuit	Each
1770	8210K6	ST45 SPST	On-None-Off	\$3.25
1771	8213K6	ST45 SPST	On-None-Mom-Off	3.60
1772	8211K7	ST45 SPST	Mom-Off-None-Off	3.60
1773	8210K7	ST45 SPDT	On-None-Off	3.95
1774	8209K7	ST45 DPDT	On-Off-Off	3.95
1775	8215K4	ST45 DPDT	On-None-Mom-Off	4.25
1776	8212K6	ST45 DPDT	Mom-Off-Off	4.25
1777	8209K6	ST45 DPDT	On-Off-Mom-Off	4.25

(F) ST-55 SERIES
Nominal Rating Per Pole: 20 Amps. 115 V. AC. 30 Amps. 28 V. DC. Std. Pkg. 10

No.	C-H	JAN Type	Circuit	Each
1780	8701K14	ST55 DPST	On-None-Off	\$6.85
1781	8713K14	ST55 DPST	On-None-Mom-Off	7.50
1782	8711K14	ST55 DPST	On-None-Mom-Off	7.50
1783	8710K14	ST55 DPDT	On-None-Off	8.20
1784	8700K14	ST55 DPDT	On-Off-Off	8.20
1785	8715K14	ST55 DPDT	On-None-Mom-Off	8.90
1786	8712K14	ST55 DPDT	Mom-Off-Off	8.90
1787	8709K14	ST55 DPDT	On-Off-Mom-Off	8.90
1788	8708K14	ST55 DPDT	On-Off-Mom-Off	9.05

*Same as ST55T except with jumper across outside terminals to control one circuit.

(G) SLIDE SWITCHES
With Detent UL APPROVED
General purpose switches used on light equipment, test instruments, etc. Steel cadmium plated housings. Black phenolic buttons. Std. Pkg. 25

No.	Circuit	Rating 125V	Each
515	SPST	.75 Amp.	\$1.19
516	SPDT	.75 Amp.	.20
517	DPST	.75 Amp.	.25
518	DPDT	.75 Amp.	.30

(H) With Spring Return
Steel Cadmium plated housings. Black phenolic buttons. Std. Pkg. 25

No.	Circuit	Rating 125V	Each
568	SPST	.5 Amp.	\$1.40
569	SPDT	.5 Amp.	.48

(I) With Detent
CENTER OFF Std. Pkg. 25

No.	Circuit	Rating 125A	Each
577	SP 3-Position	.5 Amp.	\$1.48
578	DP 3-Position	.5 Amp.	.50

(J) SLIDE SWITCH SHIELD
For terminal protection or electrostatic shielding. Shield is made of steel, cadmium plated, with fibre insulation. Std. Pkg. 25

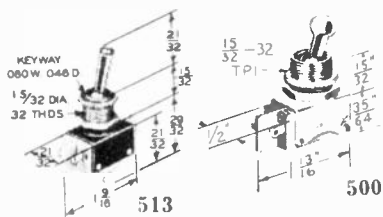
No.	Each
519	\$1.10

HERMAN H. SMITH, INC.

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

ARROW HART & HEGEMAN SWITCHES

SMALL CANOPY TYPE SWITCHES



Laminated type, 15 32-32 slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Solder terminals. SPST rated at 3 amps-250 volts, AC-DC; all others rated at 1 amp-250 volts, 3 amp-125 volts AC-DC. Std. pkg. 10

BAT LEVER POSITIVE ACTION

15 32" long shaft			13 32" long shaft		
No.	Each	CIRCUIT	No.	Each	
510	\$1.15	SPST	584	\$1.15	
511	1.45	SPDT	585	1.45	
542	1.55	2-Circ.	586	1.55	
512	2.10	DPST	587	2.10	
513	2.40	DPDT	588	2.40	

BALL LEVER POSITIVE ACTION

15 32" long shaft		3 4" long shaft		
No.	Each	CIRCUIT	No.	Each
500	\$1.15	SPST	501	\$1.40
502	1.45	SPDT	503	1.80
540	1.45	2 Circ.	541	1.80
504	2.10	DPST	505	2.40
506	2.40	DPDT	507	2.65

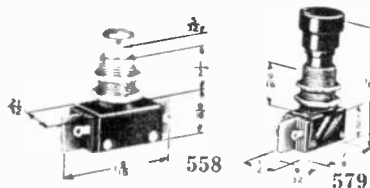
BAT LEVER MOMENTARY ACTION

15 32" long shaft			Normally Open (OFF)		
No.	Each	CIRCUIT	No.	Each	
1020	\$1.85	SPST	1024	\$1.85	
1021	2.15	SPDT			
1022	2.80	DPST	1025	2.80	
1023	3.10	DPDT			

6" WIRE LEADS POSITIVE ACTION

15 32" long shaft			BAT LEVER		
No.	Each	CIRCUIT	No.	Each	
1010	\$1.40	SPST	1015	\$1.40	
1011	1.95	SPDT	1016	1.95	
1012	2.15	2 Circ.	1017	2.15	
1013	2.75	DPST	1018	2.75	
1014	3.35	DPDT	1019	3.35	

CANOPY TYPE MOMENTARY PUSH SWITCHES



Laminated type, 15 32-32 x 9 16" slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. All switches accept snap on button. SPST rated at 3 amps-250 volts AC-DC. All others rated at 1 amp-250 volts, 3 amp-125 volts AC-DC. SUPPLIED LESS BUTTON; ORDER BUTTON SEPARATELY.

QUICK MAKE AND BREAK

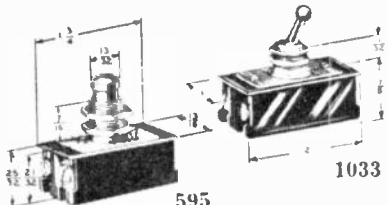
Normally Closed (ON)			Normally Open (OFF)		
No.	Each	CIRCUIT	No.	Each	
552	\$2.25	SPST	555	\$2.25	
556	2.60	SPDT			
557	2.55	2 Circ.			
564	3.10	DPST	558	3.10	
559	3.45	DPDT			

LOW MAKE AND BREAK

Rated at 1 amp-125 volts AC			Normally Open (OFF)		
No.	Each	CIRCUIT	No.	Each	
582	\$1.25	SPST	579	\$1.25	
580	1.60	2 Circ.			

STANDARD DUTY MOMENTARY PUSH SWITCHES

Molded phenolic base, 15 32-32 x 7 16" long slotted sleeve, nickel finish. Screw terminals. Supplied with two hex nuts. All switches accept snap on button. Two circ. rated at 3 amps-250 volts, 6 amps-125 volts AC-DC. All others rated at 3 amps-250 volts, 12 amp-125 volts AC-DC. DPST at 0 rated at 1 HP at 250 volts AC-DC.



Normally Closed (ON)			Normally Open (OFF)		
No.	Each	CIRCUIT	No.	Each	
1026	\$3.30	SPST	544	\$3.30	
1027	3.50	SPDT			
1028	3.50	2 Circ.			
1029	3.30	DPST	595	3.30	

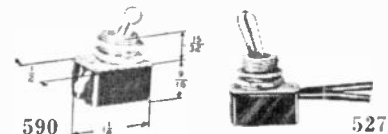
Supplied less button; order button separately.

STANDARD DUTY TOGGLE SWITCHES

QUICK MAKE AND BREAK

BALL LEVER		CIRCUIT		BAT LEVER	
No.	Each	No.	Each	No.	Each
1030	\$2.20	SPST	597	\$2.20	
1031	2.20	SPDT	598	2.20	
1032	2.20	2 Circ.	599	2.20	
1033	2.20	DPST	596	2.20	

MIDGET SIZE TOGGLE SWITCHES



Molded phenolic base, 15 32-32 x 15 32" long slotted sleeve, nickel finish. Side connected silver plated solder contacts. Supplied with hex nut and knurled nut. SPST rated at 3 amps-250 volts, 6 amps-125 volts; all others rated at 1 amp-250 volts, 6 amps-125 volts.

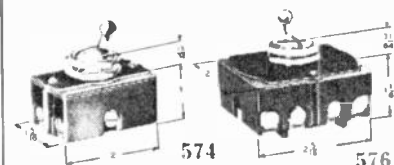
BALL LEVER		CIRCUIT		BAT LEVER	
No.	Each	No.	Each	No.	Each
590	\$1.30	SPST	591	\$1.30	
589	1.65	SPDT	592	1.65	
594	1.70	2 Circ.	593	1.70	

6" WIRE LEADS

BALL LEVER		CIRCUIT		BAT LEVER	
No.	Each	No.	Each	No.	Each
526	\$1.60	SPST	527	\$1.60	
538	2.10	SPDT	528	2.10	
543	2.35	2 Circ.	514	2.35	

EXTRA HEAVY DUTY POWER SWITCHES

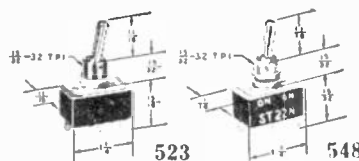
3 POSITION—POSITIVE CENTER OFF



Slotted sleeve 3/4-32, nickel finish. Screw terminals. Supplied with 2 hex nuts. Rated at 5 amps-250 volts, 10 amps-125 volts plus HP rating shown below. Std. pkg. 5

No.	Circuit	Description	Each
574	DPDT 3 4 HP	250 volts AC-DC	\$ 8.15
575	TPDT 1 2 HP	115/230 volts AC, 3 phase	12.55
576	4PDT 1 2 HP	115/230 volts AC, 2 phase	16.75

INTERMEDIATE SIZE TOGGLE SWITCHES



Molded phenolic base, 15 32-32 x 15 32" long slotted sleeve, nickel finish. Supplied with hex nut and knurled nut. Back connected silver plated solder contacts. SPDT rated at 1 amp-250 volts, 6 amps-125 volts AC-DC; all others rated at 3 amps-250 volts, 6 amps-125 volts AC-DC.

BAT LEVER

POSITIVE ACTION		MOMENTARY ACTION		
No.	Each	CIRCUIT	No.	Each
520	\$1.55	SPST	524	OFF \$2.20
521	1.85	SPDT	549	OFF 2.50
583	1.90	2 Circ.		
522	2.25	DPST	537	OFF 3.15
523	2.60	DPDT	525	OFF 3.45

ST TOGGLE SWITCHES

MEETS AN SPEC. JAN-23

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC

No.	AWS No.	CIRCUIT	Position	Each
545	ST 12A	SPST	OFF-ON	\$2.05
546	ST 12D	SPDT	ON-ON	2.34
1040	ST 12V	2 Circ.	ON-OFF	2.40
547	ST 22K	DPST	OFF-OFF	2.95
548	ST 22N	DPDT	ON-ON	3.20

MOMENTARY NORMALLY OPEN (OFF)

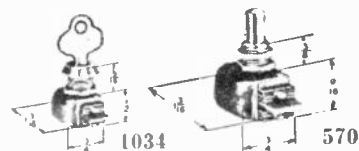
1041	ST 12C	SPST	OFF-ON	\$2.70
1042	ST 22M	DPST	OFF-ON	3.55

3 POSITION—CENTER OFF

Rated at 3 amps-250 volts, 6 amps-125 volts AC-DC

No.	CIRCUIT	Position	Each
566	SPDT		\$2.80
565	2 Circ.		3.15
567	DPDT		3.45

CANOPY TYPE ROTARY SWITCHES



Laminated type, 11 32-32 x 15 32" sleeve, nickel finish. Solder lugs. Supplied with hex nut and dress nut. SPST rated at 3 amps-250 volts AC-DC; all others rated at 1 amp-250 volts, 3 amps-125 volts AC-DC. Key removable in OFF position only on SPST and DPST—key removable in both positions on all others. 1 1/2" shaft.

KEY TYPE		CIRCUIT		ROTARY TYPE	
No.	Each	No.	Each	No.	Each
1034	\$2.20	SPST	570	\$1.45	
1035	2.50	SPDT	571	1.75	
1036	2.55	2 Circ.			
1037	3.15	DPST	572	2.40	
1038	3.45	DPDT	573	2.70	

SWITCH ACCESSORIES

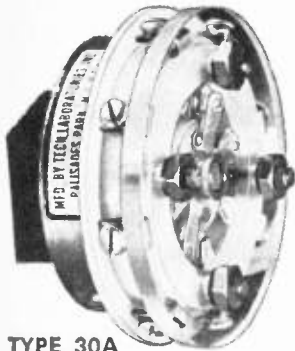


508 509 581 1146 1170 1171 1172 1196 1197 1198

No.	Description	Per C
508	ON-OFF name plate	9.00
509	HI-LO name plate	9.00
581	Snap-On Button (Red or Black)	40.00
1146	Narrow Rim Lockwasher	1.30
1170	Key—Remove off position	35.00
1171	Key—Remove both positions	35.00
1172	Locking Ring	4.00
1196	Hex Nut—Brass N.P.	3.00
1197	Ring Nut—Brass N.P.	5.00
1198	Dress Nut—Brass N.P.	30.00

SWITCH TO TECH LABS for Precision Electrical Resistance Instruments

TAP SWITCHES



TYPE 30A

A rugged multi-pole control switch, 15-25 amp.

TYPE 2A & 2M

Standard control switch with phenolic or Melamine insulation, 3-5 amp, rating.



The following listings are limited to a few standard units only. All switches shown meet government specifications. For further information write or teletype us direct.

Type 30A is a heavy duty control switch with Nylon insulation. Furnished with either one or two poles per deck and there may be as many as 25-30 decks in a stack with several stacks geared together to give as many as 150 poles. The max. number of positions is 8 when single pole. Has screw terminals and will carry 25 amp.

Type 2A switch is our standard control switch for electronic instruments and equipment of better quality. Made in innumerable combinations with as many as four poles per deck and 24 positions. Phenolic insulation. Type 2M is identical except for Melamine insulation. Code No. "S" stands for "shorting" and "N" for "non-shorting."

Type	Code #	Diam.	Rating	No. Pos.	No. Decks	Pold.	Price
30A	30A1N7	2 3/4"	15A.	7	1	1	\$15.00
30A	30A1N7-2	2 3/4"	15A.	7	2	1	\$25.00
30A	30A2N3-6	2 3/4"	15A.	3	6	2	\$71.00
2A	A1S24	1 3/4"	3A.	24	1	1	\$ 4.50
2A	A4S5	1 3/4"	3A.	4	1	4	\$ 5.25
2A	A1N10-2	1 3/4"	3A.	10	2	1	\$ 7.00
2M	M1S24	1 3/4"	3A.	24	1	1	\$ 5.00
2M	M4N3	1 3/4"	3A.	3	1	4	\$ 5.75

Miniature Tap Switches



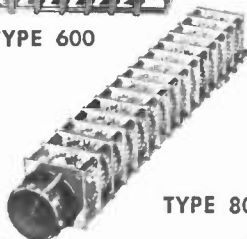
**TYPE 2B
MINIATURE
TAP SWITCH**

This switch is only 1" in dia., carries 3 amp. and is ruggedly built. Can be furnished with two or more decks, price similar to 2A.

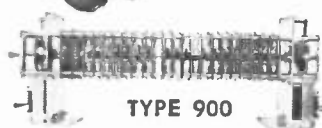
SQUARE SWITCHES



TYPE 600



TYPE 800



TYPE 900

These standard rugged control switches are the stand-by for equipment calling for dependable switches in a hurry. Will meet all standard government specs. All parts carried in stock. An infinite number of combinations possible. Teletype your specs.

The price of the basic frame is the same for all, viz. \$4.00 each. The type 600 and 800 are priced at \$8.00 per deck plus frame price, and the type 900 switches are \$9.50 per deck plus frame \$4.00.

Type	Size	Rating	Max. Pos. Short.	Max. Pos. Non-Short.
600	1 3/4" sq.	5A.	24	12
800	2 1/4" sq.	5A.	32	16
900	2 3/4" sq.	10A.	48	24

CAM SWITCHES



**TYPE 8A
CAM
SWITCH**

A new development of great interest. Small size, long life and great flexibility. Have been made with from one to 30 contact springs. Will carry 3 amp. Standard unit has four contact springs and 10 positions, price \$12.50.

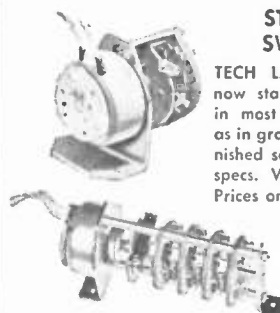


**TYPE 10A
TAP SWITCH**

A multi-deck switch of small dimensions, 1 3/8" sq. This is a precision switch designed to meet high requirements in smallest possible space. Up to 24 positions, shorting. Price approx. \$10 per deck, plus frame \$5.

OTHER TECH LAB SWITCHES

STEPPING SWITCHES



TECH LAB switches are now standard equipment in most missiles as well as in ground controls. Furnished sealed to meet all specs. Write for details. Prices on request.

ATTENUATORS



A complete line of audio and r.f. attenuators with both manual and REMOTE CONTROL. We will design components to meet your specific requirements, if standard units are inadequate. Please write for catalogue and send us your spec for estimate.

WRITE FOR NEW BULLETINS ON SWITCHES • DECADE RESISTORS • POTENTIOMETERS

TECH LABORATORIES INC. • Palisades Park, New Jersey



Available in the 7 lb. bench reel, 1 lb. dispenser carton, 50c Service Pak and 25c Kit Pak.

ONLY SOLDER MADE WITH NON-CORROSIVE, EXTRA-ACTIVE ERSIN FLUX!

Available in the 7 lb. bench reel and 1 lb. Dispenser Carton

STANDARD TIN/LEAD ALLOYS

MULTICORE SOLDER

Five separate cores of flux eliminate possibility of no flux in a portion of the wire, which may occur in single cored solder. Guaranteed continuity of the flux stream prevents "dry" joints, i.e., those having high electrical resistance.

Although there are five cores of flux in Multicore, the total percentage of flux to solder is less than many single cored solders.

Very rapid melting results from the multiple core construction which provides thinner walls of solder than are found in the same gauge single cored solder. Multicore's unique properties make perfect joints possible on difficult metals and alloys, even if oxidized.

Ability to tin rapidly produces perfect joints with less solder. Greater coverage per pound.



ERSIN FLUX

Ersin Flux is exclusive to Multicore and will not be found in any other solder. It is a high grade, water white rosin, homogeneously activated.

Ersin Flux has a vigorous fluxing action and possesses the non-corrosive and protective features of the original rosin. Soldered joints made with Ersin Flux do not corrode even after prolonged exposure to any degree of humidity. Ersin Flux reduces the surface tension of molten solder, causing it to wet metals rapidly, increasing speed of operation with resultant production economies.

Free from objectionable odor. Non-toxic in use. Leaves nothing but pure rosin on the work after soldering, and may be used wherever plain rosin is specified.

NEW! COPPER-LOADED SAVBIT ALLOY

Copper-loaded SAVBIT, one of a number of solder alloys developed for the industry by Multicore, it is entirely different—and, it is patented. SAVBIT alloy contains its own copper, and therefore will not take the copper of the soldering iron tip into the molten solution during soldering. This absorption of copper when any standard alloy is used is a basic reason for the wearing out of expensive copper tips, and the need for constant refinishing of the tip.

Comparative tests with solders having pure tin/lead alloys and the new Ersin Multicore copper-loaded SAVBIT alloy have been made on assembly lines of electronics plants. Results of these tests have proven that startling production efficiencies and economies may be realized when the wear and corrosion of copper soldering iron tips is curbed, using SAVBIT alloy. Equally as important . . . a higher standard of soldering quality is assured for a much longer period of time.

It is hardly necessary to emphasize the great economies that can be effected in soldering iron maintenance and great efficiency on the assembly line, by using this new alloy. SAVBIT alloy is available in Ersin Multicore 5-Core Solder containing non-corrosive extra fast Ersin flux in 14, 16, 18, 20 and 22 gauge. Its melting point is virtually the same as standard tin/lead alloys. There is no appreciable difference between SAVBIT and normal tin lead alloys in electrical conductivity or tensile and shear strength — in fact, the strength of SAVBIT is slightly greater.

Alloys and Melting Points					Approximate lengths per pound in feet								
Alloy	B. S. Grade	Multicore Color Code	Melting Temp. °C	Melting Temp. °F	Recommended Bit Temp. °C	Recommended Bit Temp. °F	S.W.G.	Dia. meter	Dia. M/Ms	60/40	50/50	45/55	40/60
60/40	K	Red	188	370	228	442	14	.080	2.032	65.7	62.6	61	60
50/50	F	Yellow	212	414	252	476	16	.064	1.626	102	98	97	94.5
45/55 (M)		Crimson/ Buff	215	419	255	491	18	.048	1.219	182	174	172	167
40/60	G	Green	234	453	274	525	20			324			
							22			536			

"GENALEX"
Finest Audio Tubes Ever Made

The original KT66 power tetrode — may be used in the output stage of an audio-frequency power amplifier, tetrode or triode-connected; or in transmitting circuits using frequencies up to 30 Mc as an oscillator or radio frequency amplifier.



New! KT88 Audio Output Tube! Up to 100 watts audio from a pair of KT88 tubes with only a plate supply of 560 volts. Low distortion. Small size. Same pin connections as KT66.

Z729 INPUT TUBE
A low hum low microphonic, voltage amplifying Audio Pentode expressly designed for use in high quality, high gain audio pre-amplifier and equalizer stages. Fits standard 9 pin miniature socket.



S. G. BROWN
HI-FI HEADPHONES

Type K-Hi-Fi Headphones of the very highest quality. Available with monaural binaural wiring. Response—From 50 to over 10,000 cycles. Moving coil type motor assemblies. Bakelized conical diaphragm. 6,000 lines flux density. 3 standard impedances — 52 ohms, 600 ohms and 15,000 ohms. 6 1/2 ft. cord. Rugged construction. Complete with rubber ear cushions. Highly polished headband and cases.



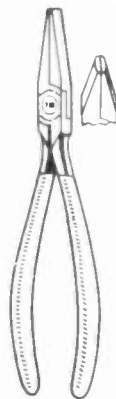
BRITISH INDUSTRIES CORPORATION - PORT WASHINGTON, N. Y.

Pliers by

CHAN NEL LOCK

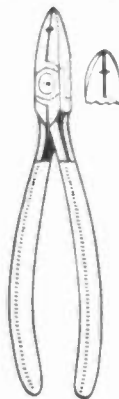
Specially Designed **ELECTRONICS PLIERS**

You'll do hundreds of jobs easier, faster with these Channellock Pliers because they are specially designed for all types of electronics work. You'll like the long reach . . . the precision-matched jaws . . . the hand-honed, specially hardened cutting edges . . . the easy-to-handle "feel" of the blue plastic grips. And you'll appreciate the top quality of Channellock Pliers . . . they're forged from high grade steel, properly heat treated. Best of all, because they are specially designed for fine electronics work, these four pliers will satisfy more than 90% of your Service and Repair needs. Ask your Electronics Equipment Supplier for Channellock Electronics Pliers by name.



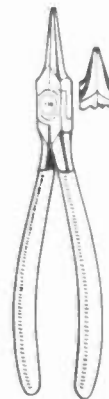
**No. 718
FLAT-NOSE
PLIER**

Watchmaker's precision PLUS a bull-dog grip in hard-to-reach places. LIST \$3.10



**No. 728
DIAGONAL
CUTTER**

A wire-stripping notch Patent Pending that really works! LIST \$3.40



**No. 738
ROUND-NOSE
PLIER**

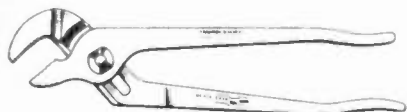
You can pick up a human hair with these precision-machined points. LIST \$3.10



**No. 746
END
CUTTER**

Plus enough to cut a human hair—strong enough to cut 12 gauge copper wire. LIST \$3.40

MULTI-PURPOSE PLIER



The handiest and most popular multi-purpose plier ever designed. Five patented, non-slip undercut channels. Terrific gripping power. Particularly useful on aerial construction jobs. Polished steel finish.

No.	Size	Capacity	List
420	9 1/2"	1 1/2"	\$3.20
426	6 1/2"	7/8"	2.30

HEAVY DUTY PLIER



A heavy duty, self-gripping plier . . . actually a combination plier and wrench. Terrific gripping power in tight places you can't reach with a pipe wrench. Length 9 1/2". Four adjustments. Capacity 1 1/8". Polished steel finish. No. 410. LIST \$3.40.

"MIGHTY MIDGET" PLIER



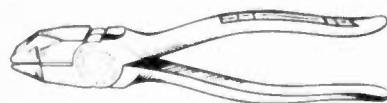
A midget plier that gives you popular Channellock gripping power for a wide number of small, hard-to-get at electronics jobs. Length 4 1/2". Four adjustments. Capacity 1/2". Polished steel finish. No. 424. LIST \$2.20.

BIG CHAMP PLIER



Full 2" jaw opening. Big grip for big jobs . . . compact design for easy handling. Length 10". Five adjustments. Undercut, non-slip channels. Capacity 2". Polished steel finish. No. 430. LIST \$3.30.

LINEMEN'S PLIER—Bevel Nose



Polished steel finish. Knurled grips. Side cutter.

No.	Size	List
3046	6"	\$3.50
3047	7"	\$4.00
3048 1/2	8 1/2"	\$4.80

LINEMEN'S PLIER—Rounded Nose



Polished steel finish. Knurled grips. Side cutter.

No.	Size	List
346	6"	\$3.50
347	7"	\$4.00
348 1/2	8 1/2"	\$4.80

CHANNELLOCK PLIERS Are Made Only By Champion DeArment Tool Co., Meadville, Pa.

Pliers by

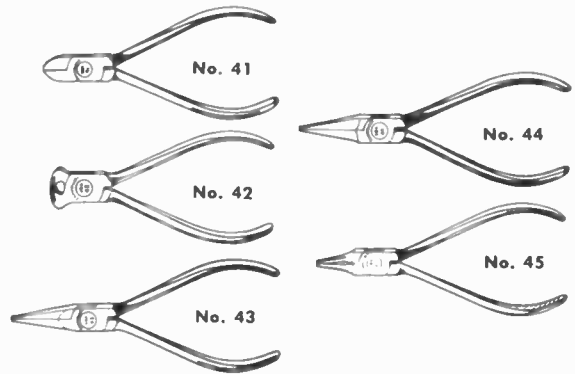
CHANNEL LOCK®

Little Champ PRECISION PLIERS

Highest quality precision pliers for fine bench work in electronics, model making, jewelry and watch repair. Polished steel finish. Also available at no extra cost with blue, dipped plastic, cushion-grip handles.

No.	Style	Size	List
41	Diagonal Cutter	4 1/2"	\$3.14
42	End Cutter	4 1/2"	\$3.60
43	Needle Nose	4 1/2"	\$2.90
44	Flat Nose	4 1/2"	\$3.00
45	Round Nose	4 1/2"	\$3.00

Attractive, velvet-lined case for Little Champ Pliers.....\$1.00



LONG-NOSE PLIER



Point 3/32" round. Polished steel finish. Knurled grips.

No.	Size	Side-Cutter	List
317 1/2	7 1/2"	With	\$4.10
3017 1/2	7 1/2"	Without	\$3.00

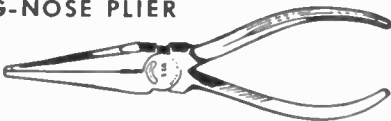
DIAGONAL CUTTING PLIER



Precision-honed cutting edges. Polished steel finish. Knurled grips.

No.	Size	List
435	5"	\$3.00
436	6"	\$3.40
437	7"	\$3.80

LONG-NOSE PLIER



Point 3/32" round. Polished steel finish. Knurled grips.

No.	Size	Side-Cutter	List
326	6"	With	\$3.40
3026	6"	Without	\$2.70

SLIP-JOINT PLIER—With Cutter



Heavy duty. Polished steel finish. Knurled grips.

No.	Size	List
546	6"	\$2.30
548	8"	\$2.84
5410	10"	\$3.46

END CUTTER



Precision-honed cutting edges. Polished steel finish.

No.	Size	List
356	6"	\$3.40
357	7"	\$3.90

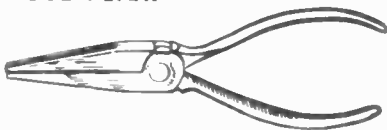
"SUPERIOR" PLASTIC GRIPS



For maximum hand comfort, durable plastic grips. Light blue color for good visibility, reduces plier loss. Easy to install. Order by desired grip size:

Plier Size	Grip Size	List	Plier Size	Grip Size	List
6"	Small	65c pr	8", 9 1/2"	Large	70c pr
7"	Medium	70c pr	10"	Large	70c pr

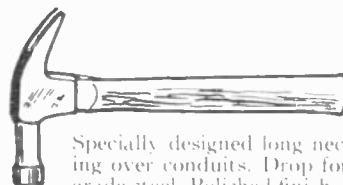
FLAT-NOSE PLIER



Precision-matched jaws. Polished steel finish.

No.	Size	Side-Cutter	List
306	6"	With	\$3.50
3066	6"	Without	\$2.70

ELECTRICIANS' HAMMER



Specially designed long neck for hammering over conduits. Drop forged from high grade steel. Polished finish. NuRed enamel neck and under claw for good visibility. Best quality hickory handle. No. 88, 18 oz. LIST \$3.76

CHANNELLOCK PLIERS Are Made Only By Champion DeArment Tool Co., Meadville, Pa.

Sec. 5400

DRAKE ELECTRIC WORKS, Inc.

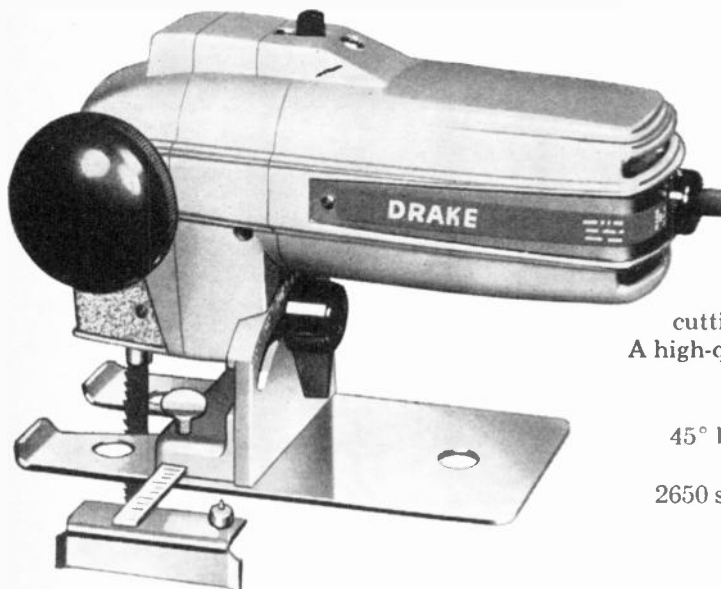
A WHOLLY-OWNED SUBSIDIARY OF PORTABLE ELECTRIC TOOLS, INC.

CHICAGO 13, ILLINOIS

POWER TOOLS

D74 1/4" DRILL

A powerful 3 1/2 lb. electric drill that fits a tool kit easily . . . and every shop needs a good drill. Provides 30% more working torque than any other drill in its price range. "Split half" housing permits easy accessibility for lubrication, inspection. 2000 RPM, 2.6 Amps. Precision geared chuck and key (Model D74). Aluminum housing.



D58 JIG SAW

Perfect for working around Hi-Fi, for cutting speaker mounts, changer templates. A high-quality rugged tool that cuts everything from metal to leather. Will cut 2 x 4's, perfect circles up to 17 inches. Cuts 45° bevel on either side. Balanced armature gives vibration-free performance at 2650 strokes per minute. Aluminum housing.

SOLDER POTS



MODEL 202 . . . 600 WATTS

Heavy duty production type for volume use. Oblong well measures 6" x 2 1/2" x 1 1/2", holds six pounds of solder. Nichrome element wound directly around solder pot for maximum heat transfer. Complete with cord and plug. Shipping weight, 8 lbs.



MODEL 200 . . . 300 WATTS

Heavy duty production type. Nichrome element wound directly around cast iron well for maximum heat transfer. Holds two pounds of solder in 2 1/2" diameter, 2" deep well. Overall dimensions: 4 7/8" x 4 7/8". Complete with detachable cord and plug and bale handle. For 110V. AC-DC use. Shipping weight, 6 lbs.



MODEL 100 . . . 150 WATTS

An ideal solder pot for light tinning. Excellent for stranded wires and small work. Genuine nickel-chromium element precision wound on ceramic core. Holds one pound of solder in 1 1/2" diameter, 1" deep well. Overall dimensions: 3 3/4" x 4". Complete with detachable cord and plug. For 110V. AC-DC use. Shipping weight, 3 lbs.

DRAKE ELECTRIC WORKS, Inc.

A WHOLLY-OWNED SUBSIDIARY OF PORTABLE ELECTRIC TOOLS, INC.

CHICAGO 13, ILLINOIS

GENERAL PURPOSE RADIO IRONS



NO. 315— $\frac{3}{8}$ " TIP, 60 WATTS. Excellent for occasional light soldering. Nichrome-Porcelain element. Complete with stand. Shpg. wt. 1 lb.



NO. 316— $\frac{3}{8}$ " TIP, 100 WATTS. Standard size for most general soldering. Nichrome-Porcelain element. Complete with stand. Shpg. wt. 1 lb.



NO. 225— $\frac{3}{8}$ " ADJUSTABLE PLUG TIP, 80 WATTS. General purpose light radio iron. Element nichrome wound on amber mica. Complete with stand. Shpg. wt. 1½ lbs.



NO. 400— $\frac{1}{4}$ " TIP, 60 WATTS. A small, continuous-duty iron for close work. Baffle plates radiate heat away from handle. Complete with 6 ft. heater cord, rubber plug and stand. Only 9" long. Shpg. wt. 1 lb.



NO. 325— $\frac{3}{8}$ " ADJUSTABLE PLUG TIP, 100 WATTS. The standard radio iron. Recommended for general use. Element nichrome wound on finest amber mica. Complete with stand. Shpg. wt. 1½ lbs.



NO. 326— $\frac{3}{8}$ " ADJUSTABLE PLUG TIP, 125 WATTS. An extra hot iron for service men. Nichrome element wound on finest amber mica. Radiator type cooling fins for working comfort. Complete with stand. Shpg. wt. 2 lbs.



NO. 425— $\frac{3}{8}$ " ADJUSTABLE PLUG TIP, 200 WATTS. Recommended for medium heavy work. Nichrome element wound on finest amber mica. Complete with stand. Shpg. wt. 2 lbs.



NO. 360— $\frac{3}{16}$ " TIP, 35 WATTS. Pee Wee is an ideal miniature iron for all delicate work. Measures only 7½" long, with rugged, featherweight construction. Baffle plates keep handle cool. Complete with 6 ft. cord, rubber plug and stand. Shpg. wt. 1 lb.

HEAVY DUTY AND INDUSTRIAL IRONS

PLUG TIP MODELS



NO. 450— $\frac{3}{4}$ " TIP, 80 WATTS. For light soldering on fine instruments, switchboards, etc. Complete with stand. Shpg. wt. 2 lbs.

NO. 600— $\frac{3}{8}$ " TIP, 100 WATTS. The standard 100 watt iron. For all production line work, radios, TV, etc. Complete with stand. Shpg. wt. 2 lbs.



NO. 600-10— $\frac{3}{8}$ " TIP, 100 WATTS. For general production line work. Radiating fins make possible an iron only 10" long. Complete with stand. Shpg. wt. 2 lbs.

NO. 600-S— $\frac{3}{8}$ " TIP, 140 WATTS. Designed for high speed production work. Fins keep handle cool. Complete with stand. Shpg. wt. 2 lbs.



NO. 800— $\frac{5}{8}$ " TIP, 200 WATTS. For general factory soldering such as Art Glass, etc. Complete with stand. Shpg. wt. 3 lbs.

NO. 1100— $\frac{7}{8}$ " TIP, 300 WATTS. Suggested for tinsmiths, auto radiators and other medium heavy work. Complete with stand. Shpg. wt. 4 lbs.

"VAPOR-PROOF" IRONS WITH SEALED ELEMENTS

Sealed elements are completely protected from injurious vapors or fumes. Greatly increased service life more than offsets additional cost of these irons.



NO. 625— $\frac{3}{4}$ " TIP, 125 WATTS. Popular size for lighter soldering. Only 10" long. Complete with stand. Shpg. wt. 27 oz.



NO. 825— $\frac{5}{8}$ " TIP, 225 WATTS. For heavy-duty soldering. Complete with stand. Shpg. wt. 45 oz.

SCREW TIP MODELS



NO. 201— $1\frac{1}{8}$ " TIP, 225 WATTS. For medium tinware, metal patterns, etc. Complete with stand. Shpg. wt. 3 lbs.

NO. 301— $1\frac{3}{8}$ " TIP, 325 WATTS. For heavy tinware, galvanized sheet iron, other heavy work. Complete with stand. Shpg. wt. 4 lbs.



NO. 1200— $1\frac{1}{4}$ " TIP, 300 WATTS. For tinsmiths, auto radiators, etc. Complete with stand. Shpg. wt. 4 lbs.

NO. 1400— $1\frac{1}{4}$ " TIP, 500 WATTS. For all heavy soldering, auto radiators, fenders, radio chassis, etc. Complete with stand. Shpg. wt. 5 lbs.

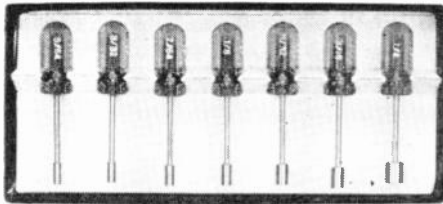
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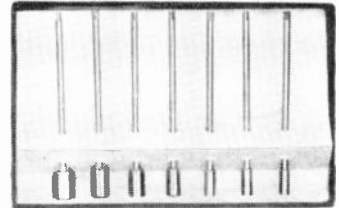
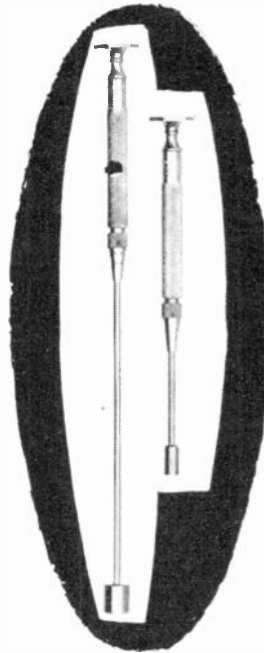
PROPERLY PROPORTIONED MINIATURE TOOLS

For precision instrument and model work use Desco "7" Miniature Nut Drivers. Available with Tenite handles, or for use with jewelers' screw driver handles. Also made with 5½" long shanks for those hard-to-get-to places.

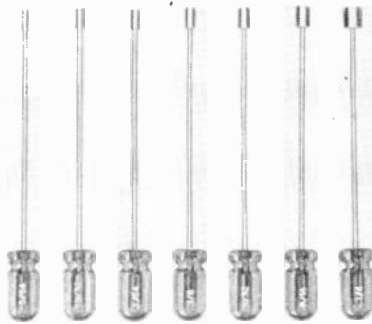
DESCO "7" Sizes across flats
 $\frac{5}{64}$ $\frac{3}{32}$ $\frac{7}{64}$ $\frac{1}{8}$ $\frac{5}{32}$ $\frac{3}{16}$ $\frac{1}{4}$



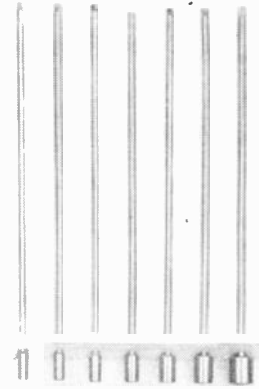
Set HS 7 List \$5.95



Set JS 7 List \$4.95



Set HL 7 List \$5.95



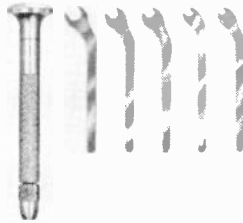
Set JL7 List \$4.95

NON-MAGNETIC NUT DRIVERS available in HL7 and HS 7 series only. Specify "No-Mag" with the code number — same prices.

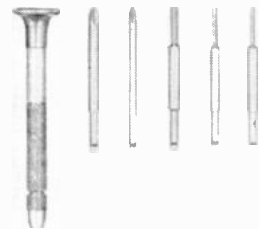
INTRODUCING THE DESCO "5" Series of Miniature Tools



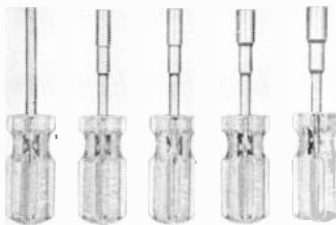
Set JD 5 List \$3.50



Set EW 5 Steel List \$2.50



Set PA 5 List \$2.50

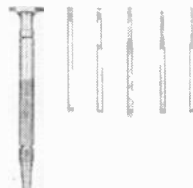


Set HD 5 List \$4.50

Deeper and more rugged than the "7" Series. Made only in $\frac{5}{64}$, $\frac{3}{32}$, $\frac{7}{64}$, $\frac{1}{8}$ and $\frac{5}{32}$.

Set EWN 5 Non-Magnetic List \$2.50

A practical miniature end wrench to fit the smallest nuts made $\frac{5}{64}$ $\frac{3}{32}$ $\frac{7}{64}$ $\frac{1}{8}$ and $\frac{5}{32}$.



Set SS 5 List \$1.98

Contains four screw driver blades and a fine scribe.



Set PAH 5 List \$3.50

Includes the two smallest Phillips drivers and the three smallest Allen wrenches.

* T. M.

All of the DESCO "5" and "7" Series are complete as shown.





Norseman

ELECTRONIC TOOLS

STICKLE-BACK DRILSAWS

Made in Germany, this tool will drill holes in wood, plaster board, etc. and saw in any direction.



#0-5 x 5/32" dia.	\$.98 net
#1-7 x 3/16" dia.	1.85 net
#2-10 x 1/4" dia.	2.45 net
#3-13 x 5/16" dia.	2.95 net
#4-15 x 3/8" dia.	3.25 net
#5-13 x 1/2" dia.	(saw rasp) 2.25 net

REVERSIBLE RATCHETS

A rugged ratcheting box wrench. No buttons, no levers — just turn it over to reverse the ratchet.



1/4" x 5/16" \$2.35 net	3/8" x 11/16" \$3.90 net
3/8" x 7/16" 2.65 net	5/8" x 3/4" 3.90 net
1/2" x 9/16" 3.60 net	3/4" x 7/8" 4.50 net

DRILL ROUTERS

Another "Stickle-back" tool, similar to the Drilsaw, but for use in electric drills.

#318-1 2 3/8" x 1/4" dia.	\$1.40 net
#318-2 4 1/2" x 1/4" dia.	1.60 net



TIPPY STICKS

Flexible alignment tools of tenite II with a non-magnetic stainless steel tip. Permits snaking around obstructions and still turn screws and slugs.



ST-186 6" long .....	.40 net
ST-1810 10" long .....	.45 net
ST-1814 14" long .....	.50 net

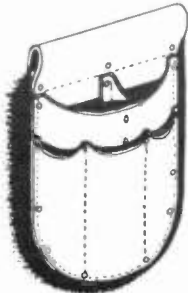
TRI-TAPS

The original 3-in-1 tool with 6 32", 8 32" and 10 32" taps to clean or cut three of the most common threads used in electronic work.

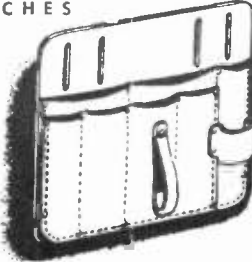


T-3	\$2.25 net	T-4 tap only for HT-24	1.65 net
HT-24 with replaceable tap	\$2.85 net		

TOOL POUCHES

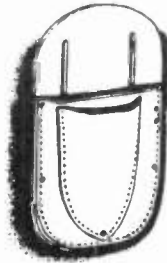


#14 Telephone lineman's pouch of chrome-tanned cowhide. One large separated pocket with three smaller ones in front. Riveted and stitched with linen thread. 6" x 9 1/4" \$4.95 net



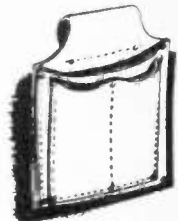
Electrician's Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. 7 pockets, loop for hammer, snap loop for roll of tape.
#17 10" x 9" \$4.95 net

Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 1 smaller one in front.
#16 5" x 8 3/4" \$2.15 net



Radio-TV Pouch. Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 2 smaller ones in front.
#19 8" x 10 1/4" \$3.75 net

Bark-tanned top grain cowhide, riveted and stitched with linen thread. One large pocket, 2 smaller ones in front.
#15 5 1/2" x 7 3/4" \$2.85 net



#18 Box type pouch of chrome-tanned cowhide. Large 2" wide pocket with two smaller ones in front. Riveted and stitched with linen thread. 6 1/4" x 9" \$4.25 net

DIDDLE STICKS

Alignment tools of Lucite 10" long.

LU-1810 1/8" dia. ....	.25 net
LU-53210 5/32" dia. ....	.25 net
LU-31610 3/16" dia. ....	.25 net

14" long

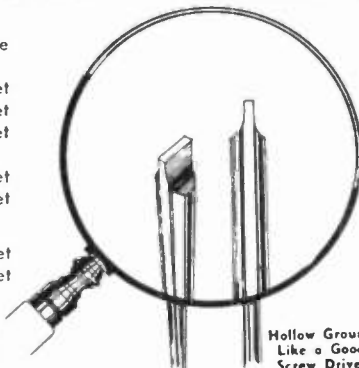
LU-53214 5/32" dia. ....	.35 net
LU-31614 3/16" dia. ....	.35 net

Rigid Vinyl 3/16" dia.

RV-31610 10" long .....	.25 net
RV-31614 14" long .....	.35 net

Fibre Glass 1/8" dia.

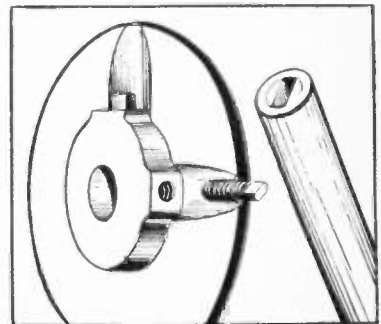
FG-1810 10" long .....	.35 net
FG-1814 14" long .....	.50 net
FG-1818 18" long .....	.65 net



Hollow Ground Like a Good Screw Driver

SLAB-HEAD DRIVERS

Drivers for SLAB-HEAD screws as used in Delco auto radios, Zenith & Arvin TV and 1956 models of Webcor recorders.



246-P — \$1.80 net

Clutch Head Screw and Driver

ERIKSON SPECIALIZED TOOL COMPANY, PICO, CALIF.

Sec. 5400



**Norseman
ELECTRONIC TOOLS**

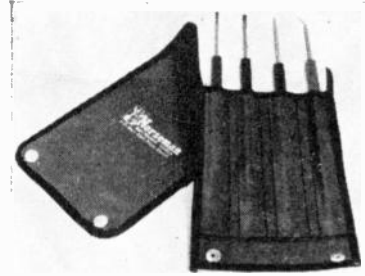
JIGGLE STICKS

Probes of Lucite, 1 end forked for pushing other end pointed for probing, notched on side for pulling wires.

PR 532-6 5/32" dia. .30 net
PR 316-8 3/16" dia. .35 net



SOLDERING AID KIT



Red Vinyl plastic kit, packed with 4 Norseman Soldering Aids (#2, 3, 4 & 5) as illustrated.

SA-4 complete kit \$3.75 net
Kit with 4 Norseman Soldering Aids with unbreakable aluminum handles (AL-22, AL-33, AL-44 & AL-55).
ALSA-4 complete kit \$4.35 net

NORSEMAN SOLDERING AIDS

5 32" Fork	No. 2 Red Handle	Circuit Tracer
No. AL-22 Aluminum Handle		
#2		\$.60 net
AL-22		\$.75 net
1/8" Fork	No. 4 Black Handle	Stainless Steel Wire Brush
No. AL-44 Aluminum Handle		
#4		\$.75 net
AL-44		\$.90 net

5 32" Fork	No. 3 Green Handle	Solder Reamer
No. AL-33 Aluminum Handle		
#3		\$.60 net
AL-33		\$.75 net
Knife & Scraper	No. 5 Blue Handle	Stainless Steel Wire Brush
No. AL-55 Aluminum Handle		
#5		\$.75 net
AL-55		\$.90 net

PLASTIC HANDLES—(#2, #3, #4, #5)—are Hi-Impact Styrene 4" x 3/8" hex—won't roll off the work bench.

METAL HANDLES—(AL-22, AL-33, AL-44, AL-55) are aluminum alloy 4" x 3/8" hex and won't roll off the work bench. Being metal, are NOT SHOCK-PROOF and hence not recommended for ordinary radio-TV service work, especially on a 'live' unit. However, these handles are practically unbreakable and were designed to take rough use on industrial assembly lines and can be used as PRY BARS in lining up components.

METAL ENDS—(separated from each other) non-magnetic stainless steel, to which solder won't adhere. Are firmly seated in handles and are twist-proof.

FORKED END—straddles the wire and with a slight twist, grips it for easy unwinding and removal, or guides it into another lug for soldering. Since plastic handles act as insulation, there is no danger of shock when working on sets in operation. 1/8" forks are made especially for use on printed circuits and transistors.

SPADE END—is a reamer to clean lug holes of solder.

CURVED END—can be used as a scribe for marking chassis. As a circuit tracer when looking for loose connections. As a dial cord stringer. Hook can be bent to a 90 degree angle if desired.

WIRE BRUSH—has approx. 200 bristles of stainless steel wire .0035 in dia. For use in cleaning connections before soldering, brushing out splattered solder and in repairing printed circuits.

KNIFE & SCRAPER—for cutting and repairing printed circuits.



MADE IN ESKILSTUNA, SWEDEN, BY E. A. BERG MFG. CO. LTD. • EST. 1880
Only the best Swedish Charcoal Steel is used in the manufacture of Berg Pliers. Produced under exacting standards of control, they embody the most modern techniques of heat treatment and manufacture. Each plier is carefully engineered and designed to afford the greatest practical utility; lightness and ease of operation; and strength coupled with durability.

Special Electronic Diagonal Cutting Pliers with extra thin cutting edges, pointed nose and BOX JOINT



No. 525 - 5" 4.40

High Leverage Diagonal Cutting Pliers.



1508 - 7" 3.30

Straight Cutting Pliers with extended jaws



No. 1529 - 6 1/2" 3.75

ERIKSON SPECIALIZED TOOL COMPANY, PICO, CALIF.



ALL ITEMS CARRIED IN STOCK
FOR IMMEDIATE SHIPMENT
All pliers packed 1/2 dozen per box

Diagonal Cutting Pliers



BOX JOINT
No. 526 5" 3.25 6" 4.05

SINGLE JOINT
4 1/2" 5" 5 1/2" 6"
No. 1525 2.90 3.00 3.15 3.75

With wire stripping hole
1525-STR 4 1/2" 3.15 5" 3.25

ANGLE NOSE Diagonal Cutting Pliers



No. 2528 6 1/2" 3.70 7 1/2" 4.20

PIANO WIRE Diagonal Cutting Pliers



No. 1528 4 1/2" 2.50 5 1/2" 3.20 6 1/2" 3.70 7 1/2" 4.20

PIANO WIRE Side Cutting Nippers with replaceable blades



No. 1518 9" 5.50 10" 6.50
Extra Blades .. 9" 2.30 10" 2.55

PIANO WIRE End Cutting Nippers with replaceable blades



No. 1519 - 9" 7.50
Extra Blades 2.60

PIANO WIRE End Cutting Nippers



No. 527 6" 3.10 7" 3.65

Slip Joint Pliers with wire cutters



No. 616 5 1/2" 2.80 7 1/2" 3.25

End Cutting Nippers



BOX JOINT
No. 522 - 6" 4.00

SINGLE JOINT
No. 523 - 6" 3.50

Long Nose Pliers with cutters



BOX JOINT
No. 590 6" 4.00 7" 4.50

SINGLE JOINT
No. 1590 5" 3.40 6" 3.70 7" 4.25

Long Nose Pliers



BOX JOINT
No. 533 5" 3.00 6" 3.25 7" 3.75

SINGLE JOINT
No. 2533 6" 2.80 7" 3.25 8" 3.90

Snipe Nose Pliers



No. 1533 - 6" 3.10

Slender Duck Bill Pliers



No. 1532 - 6" 3.10

Special Slender Electronic Duck Bill Pliers with BOX JOINT



No. 530 5" 2.80 6" 3.30

Curved Nose Pliers



No. 1631 - 5 1/2" 3.75

Special Bent Nose Pliers



No. 2533-B - 8" 4.75

Lineman's Pliers



No. 697 - 8" 4.95

**INSTRUMENT MAKERS
and JEWELERS PLIERS
Full Polished**

End Cutting Nippers



No. 523-P 4" 3.05 4 1/2" 3.15

BOX JOINT Duck Bill Pliers



No. 531-4 1/2 P 3.05

Diagonal Cutting Pliers



BOX JOINT
No. 526 - 4 1/2 P 3.75

SINGLE JOINT
No. 1526-4P 3.45
No. 1525-4 1/2 P 3.45

BOX JOINT Snipe Nose Pliers



No. 533-P 4" 3.30 4 1/2" 3.60

Slim Snipe Nose Pliers



No. 1520-P 4" 3.00 4 1/2" 3.25

Slim Round Nose Pliers



No. 5020-P 4" 3.00 4 1/2" 3.25

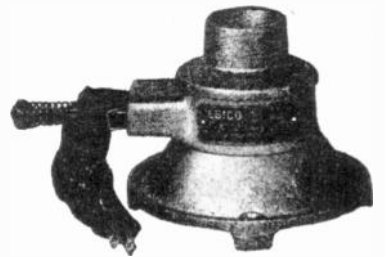
ERIKSON SPECIALIZED TOOL COMPANY, PICO, CALIF.

Electric Solder Pots



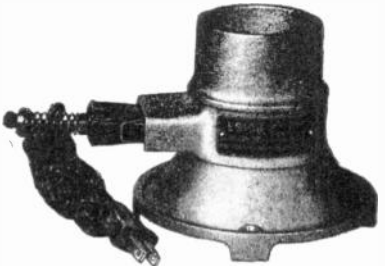
This small pot is used largely for individual dipping of small parts and reaches a temperature of approximately 750°. The #12T, which has a thermostat, is adjusted normally to 400,600°. It can be adjusted to a higher temperature by the user. For higher temperatures use #36 or #60 elements.

No. 12 & 12T



This is a thermostatically controlled pot, maintaining a temperature of 400/600°. Adjustable control permits the pot to be used anywhere between these two temperatures. See table below for details.

No. 70T



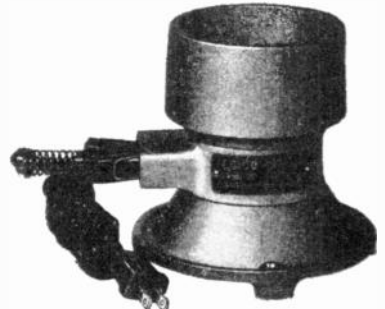
This pot is used for dip soldering of bundles of lead wires. It operates at approximately 750°. The #36T has a thermostat set to 400/600°. The user, however, can adjust it for higher temperatures. The #60 element, for a hotter pot, is usable in the #36.

No. 36 & 36T



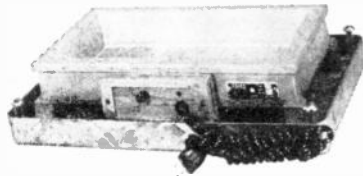
This pot is similar in operation to the #70T, but is intended for the dipping of small panels, which cannot be accommodated in a round pot. Temperature range is 400/600°. The pot is also available without a thermostat but is then catalogued as #75. Without a thermostat, the pot reaches a temperature of 850°. See table below for details.

No. 75T



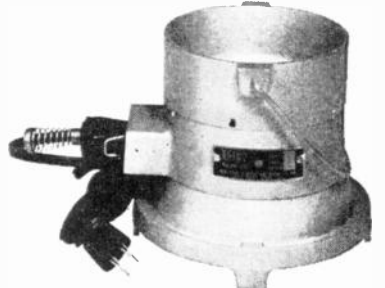
This pot is used for volume tinning and operates at a temperature of 800°. On occasion where production requires greater heat drain capacity, elements of a higher wattage than the standard 325 watt have been supplied. However, we recommend the use of the #70 600W Pot for this greater heat requirement and higher temperature. The #60T has a thermostat set for 400/600°. The user can adjust the thermostat to a higher temperature. See table below for details.

No. 60 & 60T



This pot is intended for printed circuit panels and is thermostatically controlled. Temperature range is 400/-600°. The pot stands on 4 corner posts in a sand tray, which has screws for leveling. See table below for details.

No. 80



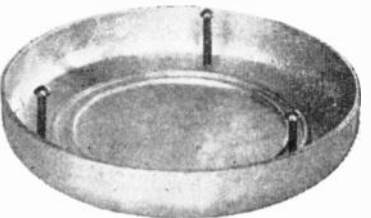
This is a high heat pot reaching a temperature of approximately 900°, and has considerable heat drain capacity. Where pots are required for 220V operation, longer element life will be secured than in the case of the #60. See table below for details.

No. 70



This is a high temperature pot intended for silver soldering, and will maintain a temperature of 1300°-1500°. See table below for details.

No. 90



This sand tray will accommodate all of the round base solder pots shown on this sheet. The tray is fitted with leveling screws. See table below for details.

No. 1270

CAT. NO.	WATTS	DIA.	DEPTH	WIDTH	LENGTH	HEIGHT	THERMO-STAT	SOLDER CAP. LBS.	SHIPPING WEIGHT LBS.
12	200	1 1/2"	1 1/2"	---	---	4 1/2"	No	3/4	3 3/4
12T	200	1 1/2"	1 1/2"	---	---	4 1/2"	Yes	3/4	4 1/2
36	250	2 1/2"	1 3/4"	---	---	4 3/4"	No	2 1/4	4
36T	250	2 1/2"	1 3/4"	---	---	4 3/4"	Yes	2 1/4	4 3/4
60	325	3 1/2"	1 1/8"	---	---	4 3/4"	No	3 3/4	5 1/4
60T	325	3 1/2"	1 1/8"	---	---	4 3/4"	Yes	3 3/4	6
70	600	4 3/4"	1 5/8"	---	---	5 1/2"	No	9	6 3/4
70T	600	4 3/4"	1 5/8"	---	---	5 1/2"	Yes	9	8
75	600	---	1 3/4"	4 3/4"	4 3/4"	5 1/2"	No	11 3/4	8
75T	600	---	1 3/4"	4 3/4"	4 3/4"	5 1/2"	Yes	11 3/4	9 3/4
80	1200	---	2"	6"	12"	3 3/4"	Yes	15	28
90	550	1 1/8"	2 7/8"	---	---	5 1/2"	No	3/4	8
1270	---	9 1/4"	1 1/2"	---	---	---	---	---	2

ESICO

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ELECTRIC SOLDERING IRONS FOR HOME, PROFESSIONAL MECHANIC AND FACTORY

● GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.



No. 415—List \$2.48— $\frac{3}{8}$ " Tip—55 Watts



No. 416—List \$3.75— $\frac{1}{4}$ " Tip—60 Watts



No. 417—List \$5.00— $\frac{3}{8}$ " Tip—100 Watts



No. 418—List \$6.28— $\frac{1}{2}$ " Tip—130 Watts

● ORANGE LABEL LINE

For Professional Mechanics—light or heavy soldering where iron must withstand operation for eight hour periods or more on frequent occasions.



No. 62—List \$6.26— $\frac{1}{4}$ " Tip—60 Watts



No. 63—List \$7.53— $\frac{3}{8}$ " Tip—100 Watts



No. 64—List \$8.81— $\frac{1}{2}$ " Tip—130 Watts



No. 65—List \$10.08— $\frac{5}{8}$ " Tip—200 Watts



No. 67—List \$11.30— $\frac{7}{8}$ " Tip—300 Watts



No. 69—List \$13.83— $\frac{1}{8}$ " Tip—500 Watts

● RED LABEL LINE

For Production Line Continuous Operations. These irons are of most rugged construction.



No. 38—List \$8.81— $\frac{3}{8}$ " Tip—100 Watts



No. 58—List \$11.30— $\frac{5}{8}$ " Tip—200 Watts



No. 78—List \$13.83— $\frac{7}{8}$ " Tip—300 Watts



No. 98—List \$16.36— $\frac{1}{8}$ " Tip—550 Watts

ELECTRIC SOLDERING IRON CO., INC.

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TAKE THE GUESSWORK OUT OF SOLDERING PRINTED CIRCUITS!

ESICO GUNCHOKE®



Automatically CONTROLS TEMPERATURE OF ALL WIDELY USED GUNS

Esico GUNCHOKE has been developed to permit normally high temperature guns to be automatically reduced to 500 and 600 degrees for low temperature soldering requirements such as printed circuits and transistors. GUNCHOKE is available in models adaptable for all widely used guns.

MOST VERSATILE SOLDERING GUN ON THE MARKET!

ESICO

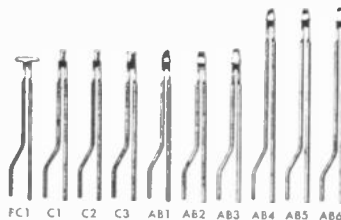
MODEL "C"
LIST PRICE
\$8.95



LUGER® GUN

PERFECT BALANCE permits delicate touch for most intricate work. TRANSFORMER built in handle eliminates possibility of tip heaviness. TIP DESIGNS simplify soldering connections inaccessible with other guns. FULLY EQUIVALENT in solder melting capacity to any 150-watt gun.

TIPS ARE LONG AND THIN FOR GETTING INTO DEEP PLACES



FC1 C1 C2 C3 AB1 AB2 AB3 AB4 AB5 AB6

Tips C4, C5 and C6 (not shown) are identical in shape to C1, C2 and C3, but are the same length (6") as AB4, AB5 and AB6. Diameters: C1 & C4 — $\frac{1}{8}$ "; C2 & C5 — $\frac{3}{16}$ "; C3 & C6 — $\frac{1}{4}$ "; PC1 — $\frac{3}{4}$ ".

For all soldering jobs. Will not anneal, bend or develop residue, even if left on circuit beyond operating cycle. In plastic vials.

KITS OF TIPS

KIT AB: 1 ea. of AB1 through AB6
KIT C: 1 ea. of C1 through C6



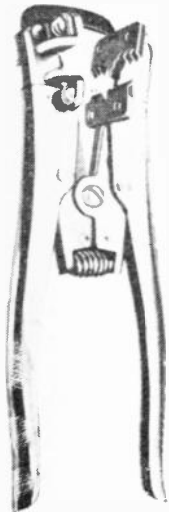
LIST PRICES
KIT AB — \$5.75
KIT C — \$5.75

Deep River, Conn.

The MASTER — 24th Edition
Page 1245



WIRE STRIPPERS AND TOOLS

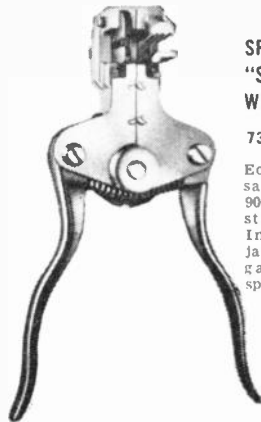


SPEEDEX "SPEEDSTRIP" WIRE STRIPPERS

800 Series

Improved tool for automatically stripping insulation from 8 to 22 ga. wire. "Stay-open" feature prevents crushing fine wire. Built-in cutter.

No	For Wire Sizes	List Price
#01 Speedstrip	10 to 18	\$9.90
#02 Speedstrip	10 to 22	9.90
#03 Speedstrip	8 to 14	9.90
#11 Stripper Blades	10 to 18	2.75
#12 Stripper Blades	10 to 22	2.75
#13 Stripper Blades	8 to 14	2.75



SPEEDEX "STANDARD" WIRE STRIPPERS

733 Series

Economy model satisfactory for 90% of all wire stripping work. Interchangeable jaws. For 8 to 22 ga. wire, and specials.

No.	For Wire Sizes
733	12 to 20
733-A	14 to 30
733-B	10 to 18
733-C	8 to 10
733-D	16 to 22
733-E	14 to 18
733-F	10 to 14
733-G	18 POSJ or parallel
733-H	300 ohm TV and twin lead
733-I	10 to 22

List Price \$7.95



SPEEDEX "SPEED-O-MATIC" WIRE STRIPPERS

766 Series

Fully automatic model with "delay action" feature, will not crush fine or stranded wires. For 8 to 22 ga. wire and specials.

No.	For Wire Sizes
766	12 to 20
766-A	14 to 30
766-B	10 to 18
766-C	8 to 10
766-D	16 to 22
766-E	14 to 18
766-F	10 to 14
766-G	18 POSJ or parallel
766-H	300 ohm TV and twin lead
766-I	10 to 22
766-M	8 to 22
766-N	Straight Cutter Blades

List Price \$9.90



G-C TINNEMAN NUT REMOVER

Removes Tinnerman nuts quick and easy. Won't break studs. Dual purpose for large and small nuts.

No.	List
9335	\$1.55



G-C AMO MINIATURE TUBE PULLERS

Prevent tube breakage and burned fingers. Vacuum principle, easy to use on all small tubes.

No.	List
5093 for 7-pin tubes	\$1.80
8106 for 9-pin tubes	1.80



G-C TUBE PIN STRAIGHTENERS

Precision made steel dies straighten miniature tube pins quickly, easily. Long lasting.

No.	List
9092 Dual style for 7- and 9-pin tubes	\$1.65
5191 For 7-pin miniature tubes	1.25



G-C ILLUMINATED INSPECTION MIRROR

Battery powered hinge mounted 7" mirror with plastic shock proof 12 1/4" shaft. With bulb, less batteries.

No.	List
8725	\$3.35



G-C DUAL SHEET METAL PUNCH

Punches both 7/8" and 1 1/2" holes in chassis, other metal to 3/16" thick. High grade tool steel.

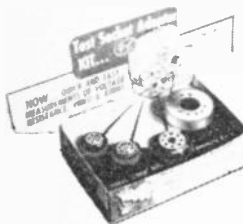
No.	List
9260	\$5.95



G-C NO-JOLT TOOL GRIPS

Shockproof, tough, durable grips to fit small pliers cutters, etc. Grease and oil resistant.

No.	List
5617 pair	\$0.34



G-C TEST SOCKET ADAPTER KIT

Contains 4 G-C Test Socket Adapters for making tests and measurements from the chassis top.

No.	List
9250	\$11.70



G-C NE-O-LITE CIRCUIT TESTER

Test by neon glow both AC and DC circuits 60 Volts AC to 550 Volts AC or DC. Use everywhere; mounted on instruction card.

No.	List
5100	\$0.75

FREE

copy of G-C Catalog. Send postcard to

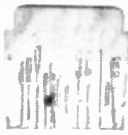
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CEMENT**

Dept. R-M, Rockford, Illinois





GENERAL CEMENT ALIGNMENT TOOLS—KITS



G-C DELUXE ALIGNMENT TOOL KIT

Contains 16 most-used tools for every TV set servicing need. Handy roll type leatherette case.

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8280 ----- \$13.50



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Contains 4 basic tools for most TV sets. Convenient long-lasting plastic hang-up container.

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8157 -- \$3.25



G-C TV ALIGNING WRENCH

New tool with 1/4" square socket wrench, 7/16" shaft, insulated handle.

No. List
5080 ----- \$0.90



G-C ALIGNMENT SCREWDRIVER

Strong, durable, completely insulated — 1/4" diameter x 6" long.

No. List
5000 ----- \$0.55



G-C K-TRAN TOOL

Designed for K-tran and I.F. transform-ers. 6" long, 1/16" fibre tip, 1/4" metal tip.

No. List
5097 ----- \$1.30



G-C TV & FM TUNING TOOL

Short 2 1/4" long, with fine recessed screwdriver tip, 1/16" shaft diameter.

No. List
8196 ----- \$0.65



G-C INSPECTION MIRROR

Handy glass mirror with 7/16" metal shaft and plastic insulated handle.

No. List
5090 ----- \$0.65



G-C TV TUNING WAND

Fits small coil open-ings, brass insert on one end, iron core on other; 6" long.

No. List
8278 ----- \$0.60



G-C TV CHANNEL TUNING TOOL

Completely insulat-ed, non-metallic tool with 1/4" narrow blade; 7 1/4" long.

No. List
8195 ----- \$1.20



G-C "X57 PLASTIC LONG SLIM" SCREWDRIVER

Super-tough, all-insulated, non-break-able; 9 1/2" long, 7" blade, 1/8" dia.

No. List
8987 ----- \$1.05



G-C LONG ARM TV TOOL

Extra - long - reach alignment tool for tight locations; 18" long, 3/16" dia.

No. List
8821 ----- \$1.55



G-C MINI-HOLD SCREWDRIVER

Exclusive wedge ac-tion grips tiny screws in cartridges, etc.; 2 3/4" long in use.

No. List
9316 ----- \$3.30



G-C HEAVY DUTY SOLDERING AID TOOL

Special stainless steel tool with wire brush and holder-probe; 8" long.

No. List
9088 ----- \$1.65



G-C CONTACT ADJUSTER

Adjust contacts on switches, relays, jacks, capacitor plates, etc.

No. List
5095 ----- \$0.40



G-C COLOR TV TOOL

Has two separate adjustments, with one tool for concen-tric potentiometer controls.

No. List
9299 ----- \$2.10



G-C SHORTY ALIGNMENT TOOL

For hard-to-reach spots; recessed driv-er with 1/4" blade, Length 4".

No. List
9298 ----- \$0.70



G-C EASY REACH TOOL

For alignment where magnetic fields are important; 16" long with 1/4" fibre blade.

No. List
9294 ----- \$0.50



G-C TEL-A-TURN ALIGNMENT TOOL

Counts each turn to a quarter of a turn. Has a clear plastic calibrator sleeve.

No. List
8867 I.F. Aligner Metal Tips \$1.65
8868 Standard 1.65
8869 Hex Aligner 1.65



G-C TV & AUTO RADIO WRENCH

Female slotted wrench to remove screws and studs from car radios, etc.

No. List
9211 ----- \$1.80



G-C PRY-UP TUBE LIFTER

Handy tool for re-mov-ing tight fitting tubes. Also lifts tri-mounts, knobs, etc.

No. List
9210 ----- \$0.35



G-C LOW LOSS TV LINE KLIP

New all-plastic clip with metal ends, best for UHF areas. No springs.

No. List
9055 ----- \$0.25



G-C HANDY PICK-UP TOOL

"Mechanical Fin-gers" 15" long for reaching into inac-cessible places

No. List
5089 ----- \$1.65



G-C NEUTRALIZING TOOL

Combination screw-driver and 5/16" hex wrench, made of rugged long-life plastic.

No. List
5027 ----- \$3.20



G-C TRANSISTOR I.F. CORE ALIGNMENT TOOL

Double end nylon tool for Regency, Arvin, Silvertone and others.

No. List
9440 ----- \$1.05



SEND FOR your free G-C Catalog, GENERAL CEMENT, Dept. R-M, Rockford, Illinois.



SOLDERING IRONS

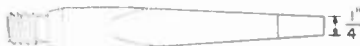
Equipped with Quick, Long-life Heaters

FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

ASK YOUR GENERAL ELECTRIC DISTRIBUTOR FOR A COPY OF BULLETIN GED-3553.



A. 1/4-inch short chisel tip



B. 1/2-inch long chisel tip



C. 3/8-inch chisel tip



D. 3/8-inch chisel tip E. 3/16-inch chisel tip

Fig. 1. Chisel tips

Soldering Iron, Less Tip					Renewal Heater†		Tips				
Cat. No.	Rating*		List Price Each‡	Standard Package	Cat. No.	List Price Each‡	Cat. No.	Tip Width (Fig. 1)	Type	List Price Each‡	Standard Pkg. Qty.
	Volts	Watts									
6A161	115	75	\$14.95	6	6A31	\$4.50	6851732P21	D	Calorized	\$1.05	12
6A162	115	100	14.95	6	6A32	4.50	6851732P22	D	Ironclad	1.85	12
6A162G6	115	110	14.95	6	7C342	4.50	6808345AMP2	A	Calorized	1.05	12
6A162G1	115	125	14.95	6	8A33	4.50	6851775P21	A	Ironclad	1.85	12
6A162G2	115	140	14.95	6	7C474	4.50	6808345AMP2	B	Calorized	1.75	12
							6851775P22	B	Ironclad	3.55	12
							111A4195P1	C	Calorized	1.35	12
							111A4195P2	C	Ironclad	1.75	12
							9817371P22	E	Ironclad	1.85	12

* Also available for 240-volt operation.

† Renewal heaters standard package is 6.

Note: All of the interchangeable tips listed above will fit any iron in the 6A161 and 6A162 series.



1/4-inch chisel tip

3/16-inch chisel tip



3/16-inch pyramid tip

Solders easily in tight places—because the thin, 3/16-inch diameter shank gets the 1/4-inch tip into places a regular iron can't reach.

Reduces operator fatigue—Iron weighs only 8 1/2 ounces, is well balanced and has comfortable handle. **Produces uniformly strong soldered joints** because iron's quick heat recovery produces enough heat for hard, continual use.

Saves on maintenance—Fewer interruptions in production result because iron's sturdy construction and long-life ironclad tip eliminates need for frequent repairs.

Tip renewal is easy and inexpensive—Unscrew shank assembly from handle and replace it with new, low-cost assembly in seconds. New tips can be brazed to heater assembly quickly and easily.

‡ Manufacturer's suggested resale price.

MEDIUM-PRODUCTION SOLDERING IRONS

(Listed by Underwriters' Laboratories)

SOLDERING IRON (Complete)* 120 V, 60 W

Cat. No.	Tip Dia. in Inches (All Ironclad Copper)	List Price Each‡	Standard Package Quantity
6A273	1/4 Chisel	\$14.20	6
6A283	Pyramid	14.20	6
6A283G23	Chisel	14.20	6

* Lightweight industrial irons have Ironclad tips only. Price includes 6-foot Type SJ cord.

RENEWAL TIP AND HEATER

Cat. No.	Tip Dia. in Inches (All Ironclad Copper)	List Price Each‡	Standard Package Quantity
6A300	1/4 Chisel	\$6.95	6
6A301	Pyramid	6.95	6
6A301G1	Chisel	6.95	6

TIP ONLY

Cat. No.	Size in Inches (All Ironclad Copper)	List Price Each‡	Standard Package Quantity
326A964P21	1/4 Chisel	\$1.80	12
326A964P22	Pyramid	1.80	12
116V707P21	3/16 Chisel	1.80	12



SOLDERING IRONS

Equipped with Quick, Long-life Heaters
FOR MANUFACTURING AND SERVICE OF
RADIO AND ELECTRONIC EQUIPMENT

ASK YOUR GENERAL ELECTRIC DISTRIBUTOR FOR A COPY OF BULLETIN GED-3553.

LIGHT TO MEDIUM-PRODUCTION SOLDERING IRONS

Listed by Underwriters' Laboratories)



Improves operator efficiency — Handles like a pencil, weighs only 1 3/4 oz.

Cuts maintenance costs—Ironclad tips last up to ten times longer than conventional tips.

Increases production — Heater is built into tip for quick heat recovery, fast heat transfer.

Provides greater versatility with four tip sizes.

Tip renewal is easy, fast—Complete tip and heater assembly can be changed in five seconds.

TRANSFORMERS

Specially designed transformers are available as optional equipment in two types. Single-tap transformer is for use where only one soldering heat is required. Four-tap transformer gives wide range of heats (from 26 to 35 watts) for close temperature control of tips.

SOLDERING IRON (Complete) 6 V, 25 W

Cat. No.	Tip Dia. Inches	List Price Each†	Std. Pkg. Qty.
6A210	1/16 Chisel	\$7.60	6
6A212	3/16 Pyramid	7.60	6
6A214	1/8 Pyramid	7.60	6
6A216	3/16 Chisel	7.60	6

RENEWAL TIP AND HEATER ASSEMBLY

Cat. No.	Ironclad Tip Dia. Inches	List Price Each†	Std. Pkg. Qty.
6A211	1/16 Chisel	\$3.95	6
6A213	3/16 Pyramid	3.95	6
6A215	1/8 Pyramid	3.95	6
6A217	3/16 Chisel	3.95	6

TRANSFORMERS

Description	115-volt Primary Cat. No.	List Price Each†	230-volt Primary Cat. No.	List Price Each†	Standard Package Quantity
Single tap	6A362G2	\$6.90	6A362G22	\$12.30	6
Four tap	6A364G2	9.20	6A364G22	12.95	6

SUBMINIATURE-PRODUCTION SOLDERING IRONS



The General Electric miniature iron was developed especially for use by electronics component and instrument manufacturers who are required to do production-line soldering of subminiature equipment, printed circuits, and instruments. The Miniature, because it has a tubular heater built into the tip, provides fast, efficient heat to produce uniform joints, with little heat loss to adjacent areas. In addition, the Miniature's 1/8-in. tip and shank will go into congested areas to solder critical points inside the equipment with minimum damage to surrounding insulation, joints, and wiring.

Improves operator efficiency — Weighs less than 1 1/2 oz, reduces operator fatigue, increases production.

Portable — Transformer integral part of cord set, plugs into any standard 115-v outlet.

† Manufacturer's suggested resale price.

SOLDERING IRON 6 V, 12 W

Cat. No.	Description	Tip & Heater Dia. (In.)	Shank Length (In.)	List Price Each†	Std. Pkg. Qty.
6A428G3	Complete iron including tip and heater assembly, 6-ft cord and transformer.	1/8 Chisel	3	\$15	6
6A428G4		3/16 Chisel	6	15	6
6A428G7		1/8 Pyramid	3	15	6
6A428G8	3/16 Pyramid	6	15	6	6
6A428G5	Complete iron, less transformer (includes tip, heater assembly, and 6-ft cord set with terminals).	1/8 Chisel	3	9	6
6A428G6		3/16 Chisel	6	9	6
6A428G9		1/8 Pyramid	3	9	6
6A428G10		3/16 Pyramid	6	9	6

RENEWAL TIP AND HEATER ASSEMBLY

Cat. No.	Tip Diameter (Inches)	Shank Length (Inches)	List Price Each†	Std. Package Quantity
6A429G3	1/8 Chisel	3	\$5.50	6
6A429G4	3/16 Chisel	6	5.50	6
6A429G5	1/8 Pyramid	3	5.50	6
6A429G6	3/16 Pyramid	6	5.50	6

RENEWAL TRANSFORMERS*

Cat. No.	List Price Each†	Std. Pkg. Qty.
6A430	\$7.80	6

* Includes 6-foot integral cord set.



CHASSIS PUNCHES

ROUND, SQUARE, "KEY," AND "D" TYPES

Greenlee Tool Co., Rockford, Illinois



NO. 730 ROUND PUNCH

Swiftly cuts clean, accurate holes in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or filing . . . hole is smooth, perfect. 27 sizes from 1/2" to 3" diameter. New Ball-Bearing Drive available for even easier, speedier operation.



NO. 731 SQUARE PUNCH

Cuts square or oblong openings as desired. Available in five sizes for making 1/2", 5/8", 3/4", 7/8", and 1" square holes. Drive screw fits into 1/2" hole, which can be drilled or made with 1/2" No. 730 GREENLEE Round Punch. Operates with an ordinary wrench for drive power. Individually packed.



NO. 732 "KEY" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other GREENLEE Radio Chassis Punches . . . an ordinary wrench supplies the drive power. In five sizes to make openings of 15/32", 15/16", 1 1/64", 1 1/8", 1 1/4". Drive screw fits into 1/2" hole. Individually packed.



NO. 733 "D" PUNCH

Simplifies and speeds the work of making "D"-shaped openings for high-frequency, miniature tube sockets and other equipment using this type opening. Available in 1/2" and 3/4" sizes. Operates on same principle as other GREENLEE Radio Chassis Punches with an ordinary wrench supplying the drive power. Drive screw fits into 3/8" drilled hole. Individually packed.



NO. 734 DOUBLE "D" PUNCH

Quickly makes standard electrical receptacle openings. Cuts standard hole 1 1/8" dia. across parallel sides, 1 3/8" dia. across rounded ends. Simply insert into a 1/2" hole and turn with an ordinary wrench. Does the work in less than five minutes . . . eliminates all tedious hand filing . . . gives a smooth, perfect opening.



PRICES . . . Nos. 730, 731, 732, 733, 734

No. 730 ROUND PUNCH

Size	Price	Size	Price
1/2"	\$2.60	1 3/4"	\$5.10
9/16"	4.00	1 7/8"	6.35
5/8"	2.60	2"	6.85
1 1/16"	2.60	2 1/8"	12.25
3/4"	2.60	2 1/4"	7.45
13/16"	2.60	2 1/2"	14.75
7/8"	2.60	2 3/4"	18.25
15/16"	4.50	2 25/32"	12.50
1"	2.85	3"	26.00
1 1/16"	3.00	Following sizes also available with larger drive screw for cutting thicker metals (No. 730X)	
1 1/8"	3.00		
1 1/32"	3.00		
1 3/16"	3.00		
1 7/32"	3.25		
1 1/4"	3.00	1 1/8"	\$5.50
1 3/8"	3.40	1 3/16"	5.50
1 1/2"	3.85	1 1/4"	5.50
1 5/8"	4.50	1 3/8"	6.25
		1 1/2"	7.25

No. 731 SQUARE PUNCH

Size	Price	Size	Price
1/2"	\$4.15	7/8"	\$6.00
5/8"	4.25	1"	5.60
3/4"	4.75		

No. 732 "KEY" PUNCH

Size	Price	Size	Price
15/32"	\$4.90	1 1/64"	\$5.30
15/16"	4.65	1 21/64"	5.60
1 11/64"	5.00		

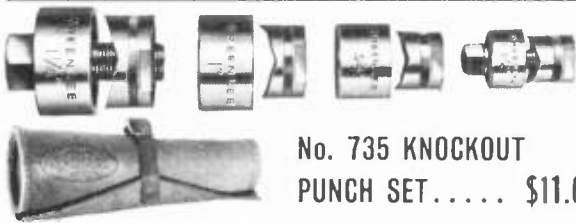
No. 733 "D" PUNCH

Size	Price	Size	Price
1/2"	\$4.35	5/8"	\$4.60

No. 734 DOUBLE "D" PUNCH

Size	Price
1 1/8" x 1 3/8"	\$35.00

TOOLS FOR CRAFTSMEN
GREENLEE KNOCKOUT PUNCHES AND DRIVERS
 Greenlee Tool Co., Rockford, Illinois



No. 735 KNOCKOUT PUNCH SET \$11.60

Designed primarily for the electrical trade to permit fast, easy enlarging of knockouts and cutting of holes for conduit in metal boxes and cabinets. Also excellent for automobile work where holes are needed for heater pipes and other accessories. Simply insert the tool in a knockout or small drilled hole and give the screw a few turns with an ordinary wrench. No. 735 set has four punches for cutting $\frac{7}{8}$, $1\frac{1}{32}$, $1\frac{1}{32}$, $1\frac{1}{16}$ -inch holes for $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$ -inch conduit. Set is neatly packed in leather case illustrated. Weight, $2\frac{1}{2}$ lb.

Heavy-Duty Drive for $\frac{1}{2}$ " punch \$1.35

To increase length of service of the $\frac{1}{2}$ -inch Knockout Punch in cutting $\frac{7}{8}$ -inch holes in heavier gauge sheet metals, the No. KR5 Drive Screw with No. KR4 Drive Nut illustrated is recommended. Weight, $\frac{1}{4}$ lb.



No. 737 KNOCKOUT PUNCH SET \$12.00

Similar to the No. 735 set, but consists of only two punches for cutting holes to accommodate $1\frac{1}{2}$ " and 2" conduit. Packed in leather case. Weight, $3\frac{1}{2}$ lb.



KNOCKOUT PUNCHES
 No. 738 for $2\frac{1}{2}$ " conduit \$16.25
 No. 739 for 3" conduit . . \$22.00

For cutting holes to accommodate $2\frac{1}{2}$ " and 3" conduit. Design is similar to that of smaller GREENLEE Knockout Punches: insert in a knockout or drilled hole and turn drive nut with an ordinary wrench. Packed and sold individually. Weight, No. 738, $4\frac{1}{2}$ lb. No. 739 $6\frac{1}{2}$ lb.

KNOCKOUT PUNCHES

- No. 741 for $3\frac{1}{2}$ " conduit . . \$43.00
- No. 742 for 4" conduit . . . \$53.00
- No. 743 for 5" conduit . . . \$78.30

For quickly making smooth openings for $3\frac{1}{2}$ ", 4" and 5" conduit. Hole is clean, no filing of burrs necessary. Operation is similar to that of other GREENLEE Knockout Punches. Simply insert in hole for 1" conduit and turn drive nut with an ordinary wrench. Weights, No. 741, $10\frac{3}{8}$ lb; No. 742, $12\frac{1}{8}$ lb; No. 743, $17\frac{7}{8}$ lb.



HYDRAULIC PUNCH DRIVER AND SETS

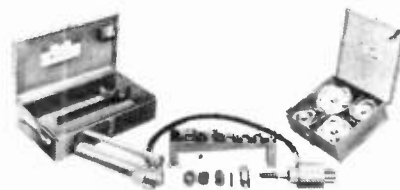


Just a few easy strokes on the handle of the GREENLEE No. 7646A Hydraulic Knockout Punch Driver and the punch slices cleanly through 10-gauge metal. Handy driver develops 11 tons of ram force. Use it with all GREENLEE Knockout Punches for conduit $\frac{1}{2}$ " to 5". Comes complete with hydraulic pump, 3-foot hose, one ram, adapter screws, die sleeves, and metal carrying box.

Hydraulic pump, 3-foot hose, one ram, adapter screws, die sleeves, and metal carrying box.

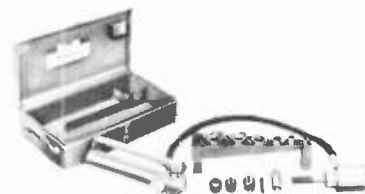


No. 7646 A
HYDRAULIC KNOCKOUT PUNCH DRIVER . . . \$100.00



SET No. 7310 \$232.50

Hydraulic hand pump, hose, complete drive, and ten punches and dies for $\frac{1}{2}$ " through 4" conduit, plus two metal carrying cases.



SET No. 7306 \$122.50

Hydraulic pump, six punches and dies for $\frac{1}{2}$ " to 2" conduit, plus metal carrying case.



SET No. 7304 . . . \$110.00

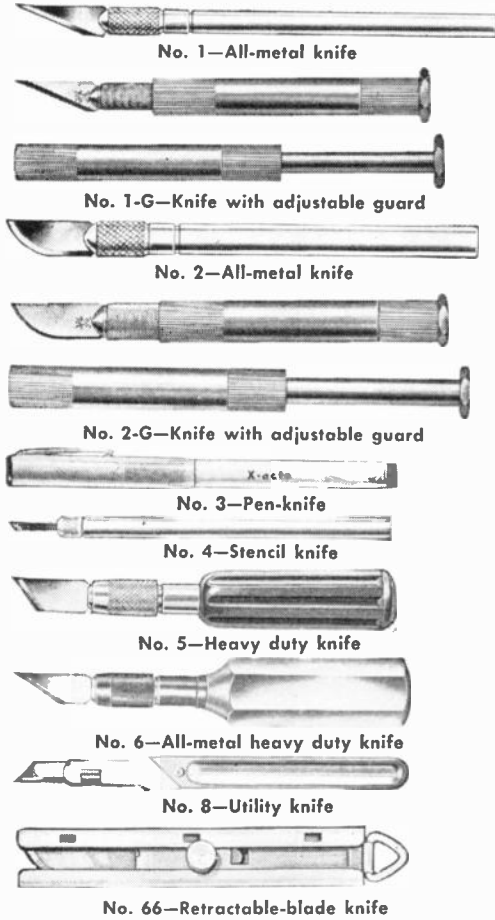
Four knockout punches and dies for $2\frac{1}{2}$ ", 3", $3\frac{1}{2}$ ", and 4" conduit in metal carrying case.



Handicraft Tools INC.

A division of **X-acto**, INC.

KNIVES • with surgically-sharp interchangeable **BLADES, ROUTERS, GOUGES AND PUNCHES** for cutting, carving, etching, piercing, scribing, scraping, sawing, trimming, slicing, hollowing, stripping, slitting, scoring, etc.



No. 1—All-metal knife

No. 1-G—Knife with adjustable guard

No. 2—All-metal knife

No. 2-G—Knife with adjustable guard

No. 3—Pen-knife

No. 4—Stencil knife

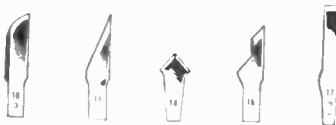
No. 5—Heavy duty knife

No. 6—All-metal heavy duty knife

No. 8—Utility knife

No. 66—Retractable-blade knife

- NO. 1 KNIFE** — For light to medium work. Aluminum handle (5" long — 5/16" handle diameter) complete with No. 11 blade. **Net 60¢**
- NO. 1-G SAFETY KNIFE** — Same as No. 1 knife with adjustable metal guard for safety and for depth cutting. (Pat. Pending). **Net \$1.20**
- NO. 2 KNIFE** — For medium to heavy work. Aluminum handle (5" long — 7/16" handle diameter) complete with No. 22 blade. **Net 75¢**
- NO. 2-G SAFETY KNIFE** — Same as No. 2 knife with adjustable metal guard for safety and for depth cutting. (Pat. Pending). **Net \$1.50**
- NO. 3 PEN-KNIFE** — Handy utility knife (5 3/8" long) — clips to pocket. Plastic barrel, metal blade lock. Complete with No. 10 blade and refill No. 11 blade in handle. **Net \$1.00**
- NO. 4 STENCIL KNIFE** — All-metal handle with detachable blade (5" long with blade — 1/4" handle diameter). **Net 30¢**
(Refill blades: No. 4B — pkg. of 5 — Net 25¢)
- NO. 5 KNIFE** — For heavy work. Plastic handle and metal blade lock (4 3/4" long), complete with No. 19 blade. **Net \$1.20**
- NO. 6 KNIFE** — For heavy work. Solid aluminum handle (4 3/4" long) complete with No. 24 blade. **Net \$1.80**
- NO. 8 UTILITY KNIFE** — Steel handle (5 3/8" long), patented lock, reversible blade. **Net 29¢**
(Refill blades: No. 8 — pkg. of 5 — Net 30¢)
- NO. 66 POCKET KNIFE** — Stainless steel shell, surgical blade, push button operation. **Net 59¢**
(Refill blades: No. 122 — pkg. of 2 — Net 25¢)



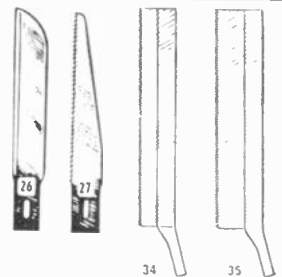
Package of 5 alike Net 60c
(For 5 assorted, specify Asstmt.
No. 1 — Net 60c)

Fit Nos. 1, 1-G, and 3 handles.



Package of 5 alike Net 60c
(For 5 assorted, specify Asstmt. No. 2 — Net 60c)

Fit Nos. 2, 2-G, 5, and 6 handles.



BLADES

Pkg. of 2 alike
Net 30c

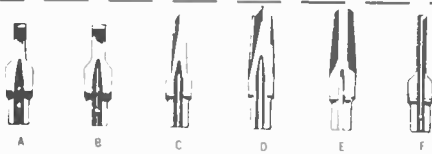
Fit Nos. 2,
5 and 6
handles.

RAZOR SAWS

No. 34—3/4" wide
by 5 1/2" long.
Net 40c

No. 35—1" wide
by 5 1/2" long.
Net 45¢

Fit Nos. 5 and 6
handles.



GOUGES

Each Net 25c

(For 5 assorted, specify Asstmt. No. 4 — Net \$1.25)

Fit Nos. 5 and 6 handles.



PUNCHES

Each Net 30c
(Pkg. of 2 different
Net 60c)

Fit Nos. 5 and 6
handles.

ROUTERS

Each Net 25c

(For 4 assorted, specify Asstmt.
No. 5 — Net \$1.00)

Fit Nos. 5 and 6
handles.

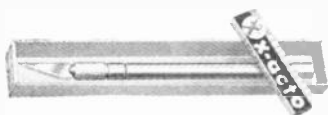
HANDICRAFT TOOLS, INC. A division of X-ACTO, INC. **LONG ISLAND CITY 1, N. Y.**



Handicraft Tools INC.
A division of **x-acto**, INC.

**PRECISION-MADE
ELECTRONIC TOOLS**

KNIFE SETS



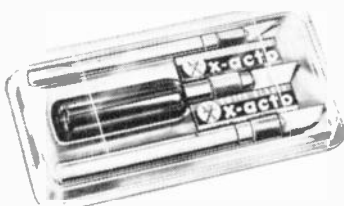
No. 51 KNIFE SET — No. 1 Knife with 5 extra assorted blades. **Net \$1.20**



No. 52 KNIFE SET — No. 2 Knife with 5 extra assorted blades. **Net \$1.35**



No. 62 DOUBLE KRYSTAL-PAK KNIFE SET — Nos. 1 and 2 Knives with 10 extra assorted refill blades. **Net \$2.75**



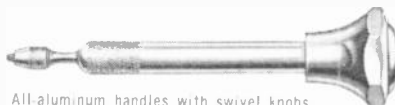
No. 81 TRIPLE KRYSTAL-PAK KNIFE SET — Nos. 1, 2, and 5 knives plus 10 assorted extra blades in handy clear plastic case. **Net \$3.75**



No. 82 KNIFE CHEST — Nos. 1, 2 and 5 Knives plus 9 asstd. extra blades Handy, natural-finish wood chest **Net \$4.50**

No. 83 DELUXE KNIFE CHEST — Nos. 1, 2 and 6 knives plus 18 asstd. extra blades. Handy, natural-finish wood chest. **Net \$6.00**

HAND DRILLS—PIN VISES



All-aluminum handles with swivel knobs. Precision tooled English model chucks. (4" long).
No. 1D Handle dia. 5/16". For No. 80 to No. 60 drill bits. **Net \$1.25**
No. 2D Handle dia. 3/8". For No. 63 to No. 50 drill bits. **Net \$1.25**
No. 3D Handle dia. 7/16". For No. 53 to No. 44 drill bits. **Net \$1.50**

DRILL CHUCK ADAPTERS

Precision tooled English models (1 3/8" long). Fit standard hand drills, power drills and lathes.

No. 22A For No. 80 to No. 60 drill bits **Net 75c**
No. 22B For No. 63 to No. 50 drill bits **Net 75c**
No. 22C For No. 53 to No. 44 drill bits **Net 75c**



No. 53 RAZOR SAW BLADE SET
No. 5 Handle and 1 each of No. 34 and No. 35 Saw Blades. **Net \$1.75**



No. 60S SWISS NEEDLE FILE SET
Complete set of 12 assorted styles. **Net \$3.95**



No. 70 SCREW DRIVER SET
Aluminum handle with sure-locking chuck and 5 assorted steel blades. **Net \$1.75**



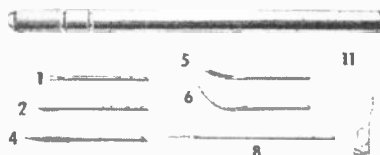
No. 39 FORCEPS
Steel construction. Scissor-action. 5" long. **Net 75c**



No. 256-ST CROSS-ACTION CLAMP
Ideal for use as heat sink. **Net 3 for 30c**

SCRAPERS AND PROBES

• All-metal X-acto handle with specially designed chuck takes 6 styles of precision-made English scraper points and 4 shapes of X-acto knife blades.



No. 63 DOUBLE SCRAPER SET — 2 metal handles; 6 assorted scraper points; 2 pointed, straight-edged knife blades; packaged in plastic container. **Net \$2.75**

No. 68 METAL HANDLE ONLY **Net 60c**

No. 64 METAL HANDLE and 1 scraper point. **Net 75c**

No. 65 METAL HANDLE, 6 assorted scraper points, 1 No. 11 knife blade. **Net \$1.50**

No. 67 SCRAPER POINTS — 6 asstd. (Nos. 1, 2, 4, 5, 6, 8) **Net 90c**
(Individual points — 15c ea.)

TWEEZERS



No. 36E — Plain pointed (4 3/4" long) **Net 50c**

No. 37E — Cross-action, self-locking, Pointed (4 3/4" long) **Net 65c**

No. 38E — Cross-action, self-locking, Blunt (6 1/2" long) **Net 70c**

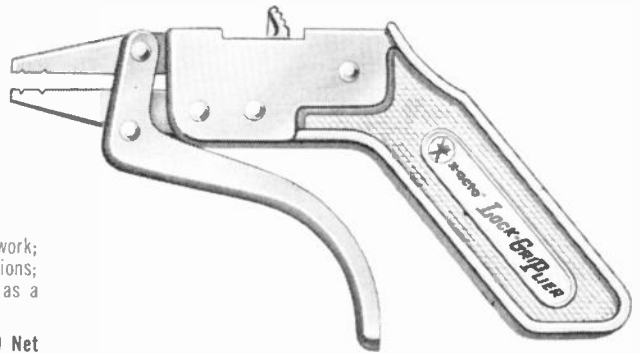
HANDICRAFT TOOLS, INC. A division of X-ACTO, INC. LONG ISLAND CITY 1, N. Y.



Handicraft Tools INC.
A division of **x-acto**, INC.

PRECISION TOOLS
for **SMALL ASSEMBLIES**

LOCK-GRIPLIER®



THE "THIRD HAND" FOR SMALL ASSEMBLIES. Patent No. 2,766,646

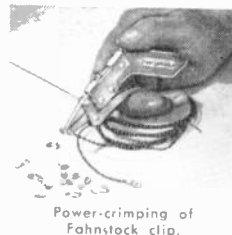
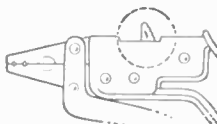
Specifically designed as a multiple-service tool for small assembly work; to pick up and firmly grasp small parts for soldering or other operations; as a vise to free both hands; to secure rivets; to strip insulation; as a brad or staple setter.

No. 800 **\$4.50 Net**

- **RUGGED CONSTRUCTION:** All-metal with case-hardened steels jaws, 5 1/8" overall length. Well balanced and comfortable to hold; can be used for hours without hand fatigue
- **ONE-HAND ACTION:** The tapered jaw tips permit the picking up and holding of the smallest parts without repositioning. Small washers or other parts can be placed into position quickly and accurately. Quick one-hand adjustment for size and lock-up leaves the other hand entirely free.
- **LOCKING KEY FREES BOTH HANDS:** Pushing the locking key forward automatically, locks the jaws. Jaws released instantly by pulling back on the locking key.

LOCK-GRIP PLIER SERVES AS:

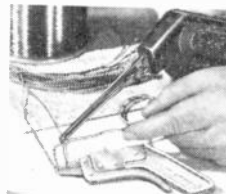
- | | |
|---------------|--------------|
| (1) Heat Sink | (4) Stripper |
| (2) Plier | (5) Crimper |
| (3) Vise | (6) Tweezer |
| (7) Wrench | |



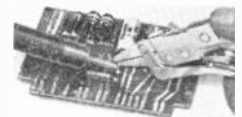
Power-clipping of Fahnestock clip.



Pick up and grip tiny washers, minute parts.



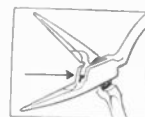
X-Acto Lock-Griplier used as a vise.



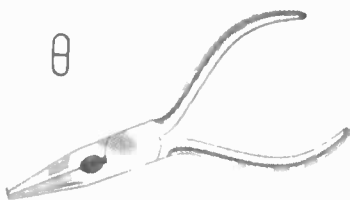
As a heat-sink, protects sensitive parts from soldering heat.

SWEDISH PLIERS

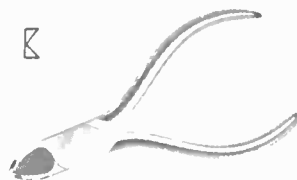
Finest professional quality. Made of tempered Swedish steel, chrome-plated, highly polished.



All models feature box-joint—jaws never go out of alignment.



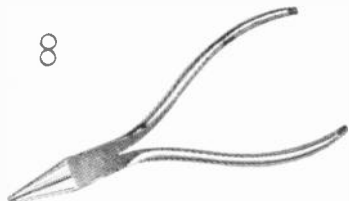
No. 54E PLIER—Long-nose, side cutting. Length 4 3/4".
No. 54E \$4.00 Net
With insulated handles
No. 54EP \$4.25 Net



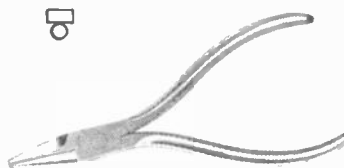
No. 55E PLIER—Diagonal cutting. Length 4 1/4".
No. 55E \$3.50 Net
With insulated handles
No. 55EP \$3.75 Net



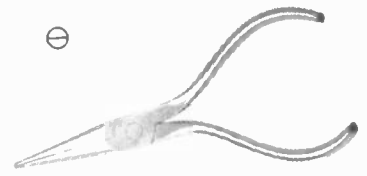
No. 56E PLIER—Flat nose. Length 4 1/4".
No. 56E \$3.25 Net
With insulated handles
No. 56EP \$3.50 Net



No. 57E PLIER—Straight nose. Length 4 1/4".
No. 57E \$3.25 Net
With insulated handles
No. 57EP \$3.50 Net



No. 58E PLIER—Combination nose. Length 4 1/4".
No. 58E \$3.25 Net
With insulated handles
No. 58EP \$3.50 Net



No. 59E PLIER—Long nose. Length 4 1/4".
No. 59E \$3.50 Net
With insulated handles
No. 59EP \$3.75 Net

HANDICRAFT TOOLS, INC. A division of X-ACTO, INC. LONG ISLAND CITY 1, N. Y.



ELECTRIC SOLDERING IRONS



VOLTAGE RANGE: 6 to 250 OPERATES IDENTICALLY ON A.C. OR D.C., ANY CYCLE
STANDARD VOLTAGES 110/120, 121/130, 220/250 SPECIFY VOLTAGE ON ORDER

Equipped with flexible 6-ft. approved Neoprene rubber heater cord, which is water-proof, kink-free, and resistant to oil, abrasion and heat. Nickel-chromium replaceable heating elements, insulated with finest mica, protected by rugged outer housing. Replaceable tips.

PLUG-TIP IRONS



- No. P-25 25 WATTS TIP DIA. 1/8" SHIP WT. 1/2 LB. \$6.50
SMALLEST FULL-FLEDGED INDUSTRIAL IRON. Weight (less cord) only 3 oz. Length only 8". For extremely light soldering on finest wires, delicate instruments, jewelry, etc. Can also be furnished in higher wattages.
- No. P-26 30 WATTS TIP DIA. 3/16" SHIP WT. 1/2 LB. \$6.50
Same size and for same work as P-25, but where larger tip is required. Can be furnished in higher wattages.



- No. P-30 40 WATTS TIP DIA. 1/4" SHIP WT. 7/8 LB. \$7.25
Very light soldering on fine wire and delicate instruments. Extra 1/8" dia. tip furnished with each iron. Also available in 50 or 60 watts. Specify watts when ordering.



- No. P-70 80 WATTS TIP DIA. 3/8" SHIP WT. 1 1/8 LB. \$ 9.75
- No. P-100 100 WATTS TIP DIA. 3/8" SHIP WT. 1 3/8 LB. \$10.75
- No. P-125 130 WATTS TIP DIA. 5/8" SHIP WT. 1 5/8 LB. \$12.75
- No. P-150 150 WATTS TIP DIA. 3/8" SHIP WT. 1 1/2 LB. \$11.75
- No. P-151 175 WATTS TIP DIA. 1/2" SHIP WT. 1 5/8 LB. \$12.75
- No. P-200 200 WATTS TIP DIA. 5/8" SHIP WT. 2 3/8 LB. \$13.25
- No. P-250 250 WATTS TIP DIA. 5/8" SHIP WT. 2 1/8 LB. \$15.25



- No. P-300 300 WATTS TIP DIA. 7/8" SHIP WT. 3 LB. \$18.00
- No. P-550 550 WATTS TIP DIA. 1 1/8" SHIP WT. 4 3/8 LB. \$23.25

SCREW TIP IRONS



- No. 50 50 WATTS TIP DIA. 7/16" SHIP WT. 1 LB. \$ 7.25



- No. 60 60 WATTS TIP DIA. 1/2" SHIP WT. 1 1/8 LB. \$10.00
- No. 85 90 WATTS TIP DIA. 1/2" SHIP WT. 1 1/8 LB. \$10.75
- No. 120 120 WATTS TIP DIA. 5/8" SHIP WT. 1 3/8 LB. \$11.75
- No. 130 130 WATTS TIP DIA. 7/8" SHIP WT. 1 1/2 LB. \$13.50
- No. 170 175 WATTS TIP DIA. 1" SHIP WT. 2 1/4 LB. \$15.00



- No. 225 250 WATTS TIP DIA. 1 1/8" SHIP WT. 2 3/4 LB. \$17.75
- No. 350 350 WATTS TIP DIA. 1 3/8" SHIP WT. 3 1/2 LB. \$20.75
- No. 500 500 WATTS TIP DIA. 1 5/8" SHIP WT. 4 3/8 LB. \$23.75
- No. 700 700 WATTS TIP DIA. 1 3/4" SHIP WT. 5 5/8 LB. \$43.00

GREATLY EXPANDED LINE OF LONG-LIFE HEXCLAD AND XTRADUR TIPS



Last 10 to 20 times or more as long as copper tips with normal use and save maintenance cost. Have a durable coating of Iron Alloy over copper base on all surfaces for long wear. Do not erode or pit and thus deliver uniform heat. XTRADUR tips are multicoated for extra long wear by a new exclusive process. Solder adheres only to the working surface at point of tip—prevents solder dropping on components or creeping into tip hole. Eliminates costly tip maintenance. Available in all plug and screw tip sizes and shapes. 124 standard sizes and shapes, plus over 500 specials. Over 100,000 carried in stock. Can also furnish special HEXCLAD or XTRADUR tips made to your order. Ask for Long-Life Tip Catalog For Prices And Full Details.

HEXA CON ELECTRIC COMPANY • ROSELLE PARK, N. J.

In Canada: Adlam Tool & Supply Co., 1015 St. Alexander St., Montreal. Export Division: 36 Pearl St., New York 4, N. Y.

HOT TIP



- (Weights only 2 oz.)
- Length 7 3/4" Ship Wt. 1/2 lb.
- No. 25S 25 Watts (higher wattages available) 1/8" Tip \$6.50
 - No. 26S 30 Watts (higher wattages available) 3/16" Tip \$6.50
- All the advantages of a Soldering Pencil, but a full-fledged industrial soldering iron with nickel-chromium mica-wound element. Tiny tips
- No. 24S 50 Watts 1/4" Tip \$9.00
- outperform irons with larger tips and higher wattages. Fastest and most durable Pencil Iron. Weighs but 2 oz. Price includes XTRADUR Extra-Long-Life HEXCLAD Tip.

BANTAMWEIGHT HATCHET IRONS

(Weights only 3 oz.)



Smallest Hatchet Soldering Iron. Perfect balance gives effortless soldering at its best. Tiny tips outperform irons with larger tips and higher wattages.

Ship Wt. 1/2 lb. See Bulletin 25H for Further Details.

- No. 25H 25 Watts (higher wattages available) 3/16" Tip \$7.00
- No. 26H 30 Watts (higher wattages available) 3/16" Tip \$7.00

FEATHERWEIGHT HATCHET IRON

(Weights only 5 oz.)



More powerful than wattage rating indicates. Hatchet design makes iron effortless to use. Ship Wt. 7/8 lb. See Bulletin 30H for Further Details.

- No. 30H 40, 50 or 60 Watts 1/2" Tip \$7.75

Extra 1/8" dia. tip furnished with each iron.

SUPER-POWERED IRONS

HIGHER SPEED

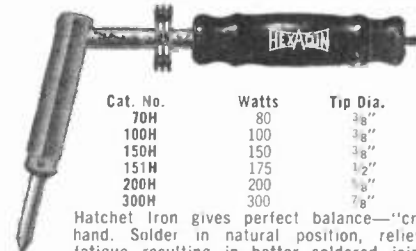
SMALLER TIPS



Cat. No.	Tip Dia.	Watts	Ship Wt.	Price
P-114	1/4"	100	1 3/8 lbs.	\$10.75
P-154	1/4"	150	1 1/2 lbs.	\$11.75
P-214 (shown)	1/4"	200	2 1/8 lbs.	\$13.25
P-238	1/4"	200	2 1/4 lbs.	\$13.25
P-212	1/2"	200	2 1/4 lbs.	\$13.25
P-338	3/8"	300	2 3/4 lbs.	\$18.00

SOLDER FASTER WITH LOWER TIP COST! For example, Cat. No. P-214 has more speed than conventional 200 watt iron, but takes 1/4" tip instead of 3/8" (saves 84% of tip copper). Widely used on production line soldering of TV sets, etc.

HATCHET TYPE IRONS



Cat. No.	Watts	Tip Dia.	Ship Wt.	Price
70H	80	3/8"	1 1/8 lbs.	\$12.00
100H	100	3/8"	1 1/2 lbs.	\$13.00
150H	150	3/8"	1 5/8 lbs.	\$14.00
151H	175	1/2"	1 5/8 lbs.	\$14.75
200H	200	1/2"	2 1/4 lbs.	\$15.25
300H	300	7/8"	3 lbs.	\$19.75

Hatchet Iron gives perfect balance—"cradles" in operator's hand. Solder in natural position, relieving arm and back fatigue resulting in better soldered joints. For inaccessible places.

FEATHERWEIGHT INSTANT SOLDER GUNS

120 Volts, A.C. or D.C.—150 Watts
Listed by Underwriters' Laboratories

For intermittent soldering, electrical maintenance, laboratory use, repairing electronic equipment, etc. For shop or home.

Solders in seconds. Conventional lifetime tip cannot bend or wear. No tip maintenance required.

Cat. No.	Tip Dia.	Ship Wt.	Price
G14	1/4"	1 1/4 lbs.	\$7.95
G18	1/8"	1 1/4 lbs.	\$7.95

Heater-Tip Assembly each \$4.00



NUT-DRIVERS
NEW DESIGN



Actual shape of formed head



EXTRA THIN HEADS **COLOR CODED HANDLES** **HOLLOW OR REGULAR**
SHOCKPROOF HANDLES — **DURABLE STEEL BLADES**

SUPREME REGULARS:

Code	Size	List	Code	Size	List
DS-6	3/16	\$.88	DS-10	5/16	.88
DS-7	7/32	.88	DS-11	11/32	.88
DS-8	1/4	.88	DS-12	3/8	.88
DS-9	9/32	.88	DS-14	7/16	1.20
			DS-16	1/2	1.20

Stubbys

DS-8S	1/4	.88	DS-12S	3/8	.88
DS-10S	5/16	.88			

SUPREME HOLLOW:

NDS-6	3/16	\$1.20	NDS-10	5/16	1.20
NDS-7	7/32	1.20	NDS-11	11/32	1.20
NDS-8	1/4	1.20	NDS-12	3/8	1.20
NDS-9	9/32	1.20			

SCREWDRIVERS

DURA-TIPS SHOCKPROOF UNBREAKABLE HANDLES **DELUXE ALLOY FULL POLISHED ROUND BLADE**



Code	Size Blade	List	Code	Size Blade	List
L-182	1/8x2	.36	L-141	1/4x1	.70
L-183	1/8x3	.42	L-144	1/4x4	.92
L-3164	3/16x4	.70	L-146	1/4x6	1.00
L-3166	3/16x6	.80	L-148	1/4x8	1.10
L-3168	3/16x8	.88			
L-31610	3/16x10	.95			

Recess

R-1	3/16	.86
R-2	1/4	.96
R-3	5/16	1.24

GENERAL PURPOSE

6"



PL-1106
List \$2.40

NUT DRIVER KITS

7 piece hollow set in plastic kit, #6-#12.
KNDS-7 List \$9.65

7 piece regular set in plastic kit, #6-#12.
KDS-7 List \$7.40



POCKET SIZE NUT DRIVERS



Supreme Head..

MND-8—List .65	MND-10—List .65
MND-12—.65	

SUB-MINIATURE NUT DRIVERS

Precision made. Will fit smallest commercial nuts

Code	Size	List	Code	Size	List
A10	5/16	\$1.50	A14	5/32	1.50
A11	3/32	1.50	A15	3/16	1.50
A12	7/64	1.50	A16	1/4	1.50
A13	1/8	1.50			

For kit of all seven sizes A10-7. \$9.95
Above tools are 2 3/4" overall. For 5 in. tool add L to code. Same price.

PLIERS

All Handles Cushion Dipper Drop Forged Alloy Steel
Long Nose
6" Size



PL-606S With Cutter List \$3.30
PL-606 Without Cutter List \$2.70

DIAGONALS

PL-205, 5" — List \$2.80
PL-206, 6" — List 3.36



ELECTRICIAN'S SIDE CUTTING

PL-406, 6" — List \$3.48
PL-408, 8" — List 4.72

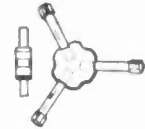
HEAVY DUTY

10"
PL-1010
List \$3.50



ATOM NUT-DRIVER

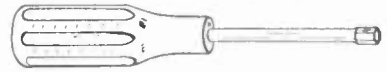
Popular set in one handy tool. Compact strong leverage



#8 (1/4) - #10 (5/16) - #12 (3/8)
AM-1 List \$1.69

LARGE HANDLE NUT-DRIVERS

Supreme Design



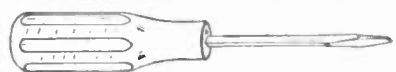
A line with extra large specially designed handles to eliminate hand fatigue and cramps.

Code	Size	List	Code	Size	List
6X	3/16	\$1.50	10X	5/16	1.50
7X	7/32	1.50	11X	11/32	1.50
8X	1/4	1.50	12X	3/8	1.50
9X	9/32	1.50			

Handle size 1 1/8"x4"

LARGE HANDLE SCREWDRIVERS

Square Blades



Same as above only with alloy forged square screwdriver blade.

Code	Size Blade	List
H3164X	3/16x4	\$1.50
H3166X	3/16x6	1.55
H3168X	3/16x8	1.60
H144X	1/4x4	1.60
H146X	1/4x6	1.70
H148X	1/4x8	1.75
H386X	3/8x6	1.90

SMALL NEEDLE NOSE WIRING

PL-805, 5"—List \$1.98



SMALL UTILITY

PL-705, 5"—List \$1.98



SMALL LAP JOINT

PL-905, 5"—List \$2.46



ALIGNMENT TOOLS

ALIGNMENT STICKS



1/8x12—AT-11, 32c 5/32x12—AT-13, 32c
1/8x16—AT-12, 36c 5/32x16—AT-14, 36c

Thin tip for small can openings. Westinghouse and other sets. 6".
AT-17 \$.45

Neutralizing Wrench 1/4"x5/16"
1/4"—AT-1, 32c 5/16"—AT-2, 32c

Combines the low capacitance desirable in alignment tools with metal tip screwdriver strength.

6" overall AT-19 30c

I.F. ALIGNMENT SCREWDRIVERS

8 1/2" long for No.6 studs, AT-4.....\$.80

Slot to fit No. 6 studs, AT-8.....\$.80

One end fits hex studs. Other screws for Zenith, Hoffman, Raytheon, etc.
5 1/2" overall, AT-9.....\$.40

AT-5 Stubby. This screwdriver is only 2" overall. Fits #6 studs.....\$.50
AT-10 I.F. Aligner, 2 1/2" overall.....\$.50

Fits No. 6 and No. 9 Studs, Duo-Size.
AT-6\$.76

TV OSCILLATOR ALIGNMENT TOOLS



Durable fiberglass reinforced Polyester. More durable than fiber or plastic. AT-15....\$1.25



A full 12" slim fully insulated Tuner Alignment Tool with replaceable tips.
AT-7 (Tool) \$1.30 — AT-7R (Tip) \$.22



Handy dual-purpose tool. One end low capacitance metal tip . . . other is special tool for dressing wires, probe, etc. AT-3.....\$.50

TOOLS SHOWN HERE ARE THE MOST POPULAR ELECTRONIC ITEMS OF THE HUNTER LINE . . . YOUR JOBBER DISTRIBUTING HUNTER TOOLS HAS AVAILABLE AMERICA'S MOST COMPLETE LINE.

TENSION-TWEEZIE

Tweezie with permanent tension. Hold small wires while soldering — clamp-hold nuts, etc.

- TT-1—Tweezie Only List \$.50
 TT-2—Tweezie with Handle List .70

HOT TUBE PULLER

New Tube Puller is easy to operate. Just clamp over the desired tube and pull up and out. Plastic coating on tip protects tubes.



- D2 — 90° Angle List \$2.38
 D1 — Straight List 2.20

AWL-PICK

**SUPER TEMPERED STEEL
 TENITE II HANDLE
 RUGGED - TOUGH**



AWL, List \$.70

TV KIT

A 1/4" Nut Driver Regular Screwdriver, Recess-Phillips Screwdriver in one Kit. Fits light and snug into your shirt pocket. Handles are Tenite II shock-proof. Blades are Alloy. OPENS ALL TV SETS.



EK List \$1.98

HEX DRIVERS



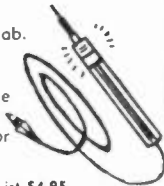
Screwdriver type hex wrenches easily reach these areas normally inaccessible with any other tool. Tenite handle.

Code	Size	List
S050	.050	\$.65
S116	1/16	.65
S564	5/64	.65
S332	3/32	.75
S18	1/8	.75

KS-5 — All of the above in kit — \$3.95

CIRCUITRACER

Three in one testing lab. Test low voltage live circuits. Tests high voltage live circuits. A continuity tracer for dead circuits.



CTR — List \$4.95

PANAVISE



Any compound angle can be achieved with this versatile vise. Ideal for sanding, soldering, filing, buffing, drilling, gluing, etc.

Constructed of die cast zinc and aluminum. Height 6 1/2", Width 5 1/2", Jaw Width 2 1/2", Opening 2".

- PV — List \$14.95
 Positioner only — List \$9.95

SPLINE DRIVER SET

Contains one each #4, #6-4, #6-6, #8, #10 and #1/4.



- Some popular features of the Smitty.
 S-6 — List \$1.95
 Set of 6 spline in plastic kit. HS6S — List \$.65
 Set of 6 spline and 6 hex in kit. HXSP-12 — List \$1.10

Tools Designed For
ELECTRONIC Industry



FOR COMPLETE LINE ASK FOR CATALOG G-58-59

**Tool Originators of The . . . MAGIC-TIP SCREWDRIVERS
 "SLUG RETRIEVERS"**

Width at Point only — .160
 Thickness at Point — .30



Designed especially as a tool to retrieve lost or floating tuning unit slugs, these long slim drivers have many other applications.

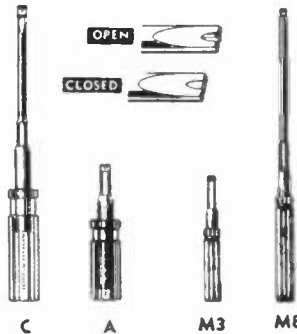
- TV-12 — List \$2.70 11 inch tool
 TV-16 — List \$3.25 15 inch tool
 TV-20 — List \$4.00 20 inch tool

"CARTRIDGE SCREWDRIVER"

Miniature size makes it ideal for removing or starting the small screws used to hold the phonograph cartridges in place. Works on most all models.



- E-3 List \$2.05 Holds screws #00 thru #3. 2 1/2" overall.



Code	Overall Length	Width of Point	Thickness of Point	Slot Fits Screw	Diam. Handle	Price
E-3	2 1/2"	1/8"	.017	#00 to #2	9/16"	\$2.05
E-4	4"	1/8"	.017	#00 to #2	9/16"	2.05
E-7	7"	1/8"	.017	#00 to #2	9/16"	2.30
M-3	3 1/2"	3/16"	.030	#3 to #6	9/16"	1.80
M-5	5 1/4"	3/16"	.030	#3 to #6	9/16"	2.00
M-8	8 1/4"	3/16"	.030	#3 to #6	9/16"	2.30
M-12	11 1/4"	3/16"	.030	#3 to #6	9/16"	2.65
A	4"	1/4"	.038	#6 to #10	7/8"	1.95
B	6 1/4"	1/4"	.040	#7 to #10	7/8"	2.30
C	7 1/2"	1/4"	.040	#7 to #10	7/8"	2.50
D	11 1/4"	1/4"	.040	#7 to #10	7/8"	2.90

One tool starts the screw and drives it. To operate one merely places the tip of the Magic-Tip in the slot of the screw and pushes gently . . . the screw becomes firmly fastened to the blade—easy to start even in places inaccessible to the fingers. No bulky claws to get in the way because the mechanism is internal and fully automatic. Hardened steel locking pin, tough chromoly steel tip, plus sturdy OVER ALL construction assures long trouble-free operation.

"SMITTY" The ORIGINAL



FOLDING SOCKETHEAD WRENCH SETS

Sturdy set of hex keys in one durable handle give you the right size when you need it. Greater leverage — always handy. Replacement blades available.

- P-6 — Small set .050-5/32" 6 Blades, List \$1.55
 P-5 — Medium Set 3/32"-7/32" 5 Blades, List \$1.55

"TRI-TAP"

THREE POPULAR SIZE TAPS IN ONE TOOL

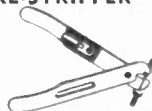
This tool cleans and cuts any of the three most popular threads. Tap is permanently set in plastic handle.

- WK List \$2.50



6/32, 8/32 10/32

"WIRE-STRIPPER"



The Hunter Strip-It Tool strips and cuts both stranded and solid wire. Tool features positive lock adjustment built into handle which enables the user to preset the Strip-It for any size wire from #10 to #20.

- WS-1 List \$.98

HUNTER TOOLS • SANTA FE SPRINGS, CALIFORNIA

Sec. 5400

IDEAL WIRE STRIPPERS

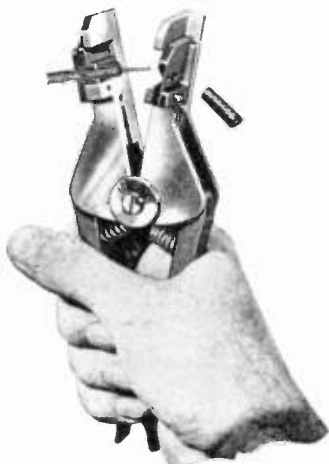
FOR ALL PRODUCTION JOBS ON ALL KINDS OF INSULATION

Formex - Formvar - Nylon - Enamel - Fibre Glass - Teflon*



2 SECOND "ONE SQUEEZE" OPERATION

Unexcelled for fast assembly work, this 10 oz. stripper can be used all day without fatigue. Exclusive "automatic" feature holds jaws open after stripping to permit removal of wire and to prevent crushing. No nicking, fraying, or cutting of wire ends possible. 7 models for all wire gauges from 8 to 30.



MODELS FOR ALL WIRE GAUGES — FROM 8 TO 30

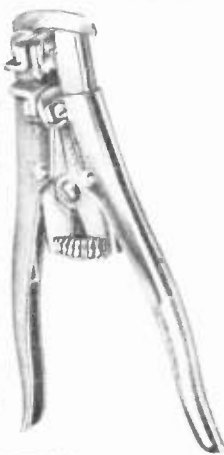
Catalog No.	Wire Gauge	No. of Holes	List Price	Suggested Resale
45-090	8 to 12	3	\$9.60	\$5.75
45-091	10 to 18	4	9.60	5.75
45-092	10 to 22	6	9.60	5.75
45-093	14 to 22	4	9.60	5.75
*45-095	16 or 18, and POSJ	-	9.60	5.75
45-097	16 to 26	6	9.60	5.75
45-098	20 to 30	6	9.60	5.75

*Also strips 2 and 3-conductor low-voltage wire used in G.E. and Touchplate remote control wiring systems.

"E-Z Automatic" • FOR HEAVY DUTY WORK

Especially designed to make difficult jobs easy and fast

The "E-Z Automatic" provides the extra-powerful leverage needed to cut through the toughest insulation and then strip the wire bare. Rugged strength insures long life in heavy-duty service.



Cat. No.	Wire Gauge	List Price	Sugg. Resale
45-200	16 to 26	\$9.60	\$5.75
45-201	10 to 18	9.60	5.75
45-202	10 to 22	9.60	5.75
45-203	8 to 14	9.60	5.75
45-204	for 2-cond. 300-ohm TV down-lead	9.60	5.75
45-205	for 2 and 3 cond. No. 12 and No. 14 UF plastic sheathed cable	9.60	5.75

IDEAL INDUSTRIES Inc.,

IDEAL Wire Strippers, both hand and production models are engineered with unique design features that speed up and simplify the stripping of ALL kinds of insulation.



FOR PRECISION WIRE STRIPPING

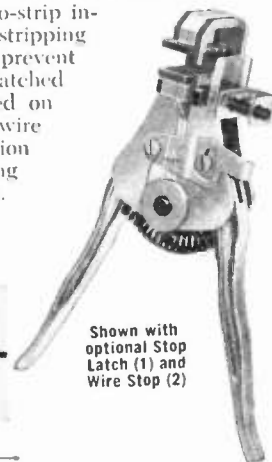
Removes Teflon® and other hard-to-strip insulation. New "concentric hole" stripping blades and special design of jaws prevent damage to insulation and wires. Matched sets of blades are precision drilled on watchmaker's equipment to exact wire sizes. Chucking action on insulation guides conductor through stripping hole, preventing nicks and scrapes. 3 models, wire sizes from 10 to 30.

EXTRA FEATURES (optional)

"SHORT-STOP" LATCH protects wire by limiting stroke to 5/32" — disengages without removal for full 7/8" strip.

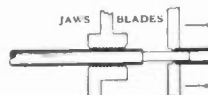


"SEE-THRU" WIRE STOP assures uniform lengths by adjusting to strip length desired.



Shown with optional Stop Latch (1) and Wire Stop (2)

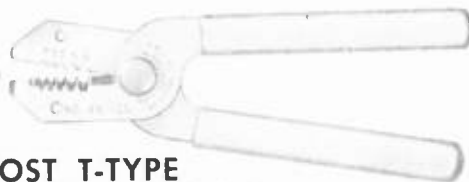
Counterbored stripping hole "chucks" insulation



Catalog No.	Catalog No. w/ stop latch & wire stop	Wire Gauge	No. of Holes
45-170	45-180	10 to 14	3
45-171	45-181	16 to 26	6
45-172	45-182	26 to 30	3

Nos. 170, 171 & 172—List \$28.25. Suggested Resale \$16.95
Nos. 180, 181 & 182—List \$34.60. Suggested Resale \$20.75

*Reg. Trademark of DuPont



LOW COST T-TYPE WIRE STRIPPERS (Patent Pending)

MODEL T-5 . . . FOR TYPE TW AND OTHER FREE-STRIPPING WIRE. Strips, Cuts and Loops Wire

Sturdy, compact, constructed of hardened steel for rugged duty and long service. Comfortable plastic grips for sure handling and safety. Five stripping holes for wire gauges No. 10 to No. 18. Overall size, 6". Flat design fits easily into pocket or tool kit. Shipping weight, 5 oz.

Cat. No. 45-120 — For No. 10 to No. 18 Ga. Wire. List \$3.25 ♦ Suggested Resale \$1.95.

MODEL T-6 . . . FOR STRIPPING OF ELECTRONIC AND APPLIANCE HOOK-UP WIRE

Similar in design to the Model T-5, but especially intended for fast stripping of smaller gauge wires, such as used in electronic instruments and appliance hook-ups. Six stripping holes handle all wire gauges from No. 16 to No. 26. Cat. No. 45-121 — For No. 16 to No. 26 Ga. Wire. List \$3.75 ♦ Suggested Resale \$2.25.

Sycamore, Illinois

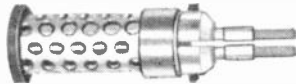
RESISTANCE SOLDERING TOOLS

COMPLETE THERMO-TIP ATTACHMENTS AND POWER UNITS



"Pencil" Type attachment with double metal electrodes. "Feed-thru" electrodes, adjustable for length.

Cat. No. 12-167 with double metal electrodes. List Price \$17.50 ♦ Suggested Resale \$10.50.



DOUBLE CARBON ATTACHMENTS

Carbons provide more heat than metal tips. Available in two sizes — 1/8" for small work, 3/16" for larger work.

Cat. No. 12-166 Pencil Grip with 1/8" carbons. List Price \$17.50 ♦ Suggested Resale \$10.50

Cat. No. 12-165, Pencil Grip with 3/16" carbons. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. 12-176 Pistol Grip with 1/8" carbons. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. 12-175 Pistol Grip with 3/16" carbons. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. L-4866 3/16" dia. replacement carbons for 12-165 and 12-175, six per pkg. Shipping wt., 2 oz. List Price \$2.00 ♦ Suggested Resale \$1.20.

Cat. No. L-4848 1/8" dia. replacement carbons for 12-166 and 12-176, six per pkg. Shipping wt., 2 oz. List Price \$1.10 ♦ Suggested Resale \$.65.



SINGLE CARBON ATTACHMENTS

Collet chuck holds feed-thru carbon. Permits adjustment. Complete with ground-clamp and lead assembly for jig-soldering.

Cat. No. 12-168 Pencil grip. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. 12-178 Pistol grip. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. L-5202 Replacement Carbons 1/8"x3" for 12-168 and 12-178, packaged 6 per tube. Shipping wt., 2 oz. List Price \$3.75 ♦ Suggested Resale \$2.25.



FOOT SWITCH Cat. No. 12-146

List Price \$11.35 ♦ Suggested Resale \$6.80
Used to eliminate arcing at point of electrode contact. Also permits the use of electrodes to position or hold work after heat has been applied. Small and convenient to use (3 5/8" dia. x 1 1/2" high). Wired normally open (with series plug). Rated 5 amps., 115V. Shipping Wt., 12 oz.

CHISEL TIP IRONS



Cat. No. 12-151 Handle and Lead Assembly. List Price \$7.40 ♦ Suggested Resale \$4.45.



Cat. No. 12-144 1/4" Chisel-Tip. List Price \$12.15 ♦ Suggested Resale \$7.30.



Cat. No. 12-143 — 1/8" Chisel-Tip. List Price \$12.15 ♦ Suggested Resale \$7.30.

Rapid heating characteristics and corrosion-resistant special plating provide long life. Irons are locked into handle with set screws. Resistance element in the iron provides continuous, controlled heat.

NOTE: Handle assembly and Irons are sold separately.

Lightweight, Resistance Soldering Tools especially designed for faster, positive production soldering of miniature and subminiature parts. All attachments available with either "Pencil" or "Pistol-Grip" type handles. Complete with 5' cord. Soldering Irons with "Pencil" type handle only.



"Pistol-Grip" attachment. Double metal electrodes are feed-thru type, adjustable for length.

Cat. No. 12-177 with double metal electrodes. List price \$22.60 ♦ Suggested Resale \$13.50.



SINGLE METAL ATTACHMENT

Collet chuck holds feed-thru electrode. For smallest work. Complete with ground clamp and lead assembly for jig-soldering.

Cat. No. 12-169 Pencil grip. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. 12-179 Pistol grip. List Price \$17.50 ♦ Suggested Resale \$10.50.

Cat. No. L-5241 Replacement Electrodes for 12-169 and 12-179, packaged 6 per tube. Shipping wt., 2 oz. List Price \$.85 ♦ Suggested Resale \$.50.

REPLACEMENT CARBON HOLDERS



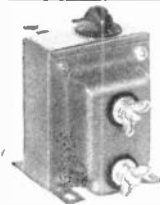
Cat. No. L-5246 — 3/16" Dia. List Price \$1.10 ♦ Suggested Resale \$.65.



Cat. No. L-5247 — 1/8" Dia. List Price \$.60 ♦ Suggested Resale \$.35.

Provides easy replacement of only part attacked by corrosive fluxes. Holders can be used interchangeably with either the 12-165, 12-166, 12-175 or 12-176, depending on diameter of carbons desired.

POWER UNITS



125-Watt Power Unit. Cat. No. 12-124
List Price \$30.35 ♦ Sug. Resale \$18.20

For light production and intermittent work. Selector switch for choice of three heats. Complete with power cord and clip for holding pencil style attachments. 115V — 60 cy.



250-Watt Power Unit. Cat. No. 12-123
List Price \$40.85 ♦ Sug. Resale \$24.50

For heavier production work. Faster. Handles larger components than 12-124. Choice of two heats through "high" and "low" secondary connections. Complete with power cord. 115V — 60 cy.



500-Watt Power Unit

Cat. No. 12-163

List Price \$72.35

Suggested Resale \$43.40

For continuous production work. Widest selection of heats — nine choices through 3-position selector switch plus "high", "medium" and "low" secondary terminals. Complete with power cord and pilot light. 115V — 60 cy.

IDEAL INDUSTRIES, Inc. Sycamore, Illinois

Sec. 5400



RADIO AND TV NOSE CUTTING PLIERS

Reaches into tight spots to cut small wires, and to grip at the tips. Wgt. Pkg. of Five, 1 3/4 lbs.

- 539-6" List Ea. 3.50 Polished Head, Gun Metal Handles
- 939-6" List Ea. 3.50 Cushion-Grip Handles
- 639-6" List Ea. 3.80 Nickel and Chrome Plated
- 739-6" List Ea. 4.00 Plated, Cushion Grips



SIDE TIP NOSE CUTTING PLIERS

Cuts flush at left side of tips. Turn tool over to cut flush at right side. Wgt. Pkg. of Five, 1 3/4 lbs.

- 5539-6" List Ea. 3.80 Polished Head, Gun Metal Handles
- 939-6" List Ea. 3.80 Cushion-Grip Handles
- 639-6" List Ea. 4.10 Nickel and Chrome Plated
- 739-6" List Ea. 4.30 Plated, Cushion-Grips



SHORT JAW, LONG HANDLE NOSE CUTTING PLIERS

Longer, narrow handles provide maximum reach of the slender jaws to cut and grip. Wgt. Pkg. of Five, 2 1/2 lbs.

- 579-8" List Ea. 3.95 Polished Head, Gun Metal Handles
- 979-8" List Ea. 3.95 Cushion-Grip Handles
- 679-8" List Ea. 4.25 Nickel and Chrome Plated
- 779-8" List Ea. 4.45 Plated, Cushion-Grips



TRANSVERSE END CUTTING PLIERS

For clean, flush cutting of small wires where ordinary cutters are too bulky. Wgt. Pkg. of Five, 1 3/4 lbs.

- 532-6" List Ea. 3.50 Polished Head, Gun Metal Handles
- 932-6" List Ea. 3.50 Cushion-Grip Handles
- 632-6" List Ea. 3.80 Nickel and Chrome Plated
- 732-6" List Ea. 4.00 Plated, Cushion-Grips



SHORT CHAIN NEEDLE NOSE PLIERS

Short jaws, 1 3/8" inside length, provide more positive grip at checker milled tips. Wgt. Pkg. of Five, 1 lb.

- POLISHED HEAD, GUN METAL HANDLES
- 53-5" List Ea. 3.00 With Side Cutters
- 530-5" List Ea. 2.50 Without Side Cutters
- POLISHED HEAD, CUSHION-GRIP HANDLES
- 93-5" List Ea. 3.00 With Side Cutters
- 930-5" List Ea. 2.50 Without Side Cutters
- FULLY NICKEL AND CHROME PLATED
- 63-5" List Ea. 3.30 With Side Cutters
- PLATED, CUSHION-GRIP HANDLES
- 73-5" List Ea. 3.50 With Side Cutters
- 730-5" List Ea. 3.00 Without Side Cutters

DESIGN IN-DUS-TRONIC tools are more steam-lined, with slender jaws and fine points, to reach into the tight spots and perform the specific work required of the electronics technician.

TEST AND INSPECTION Individually tested for hardness, each tool must maintain highest standards for handle strength and cutting ability. To assure perfect jaw alignment, pliers must cleanly cut single bond paper strips and snip cotton-covered lamp cord without fraying. Each tool is guaranteed against defects in workmanship and materials.

Individually Boxed



LONG CHAIN NEEDLE NOSE PLIERS

Slender, check-milled jaws, 1 3/4" inside length, taper to 1/2" at tips. Wgt. Pkg. of Five, 1 1/2 lbs.

- POLISHED HEAD, GUN METAL HANDLES
- 53-6" List Ea. 3.25 With Side Cutters
- 530-6" List Ea. 2.65 Without Side Cutters
- POLISHED HEAD, CUSHION-GRIP HANDLES
- 93-6" List Ea. 3.25 With Side Cutters
- 930-6" List Ea. 2.65 Without Side Cutters
- FULLY NICKEL AND CHROME PLATED
- 63-6" List Ea. 3.55 With Side Cutters
- 630-6" List Ea. 2.95 Without Side Cutters
- NICKEL AND CHROME PLATED, CUSHION-GRIP HANDLES
- 73-6" List Ea. 3.75 With Side Cutters
- 730-6" List Ea. 3.15 Without Side Cutters



EXTRA LONG CHAIN NOSE PLIERS

2 3/4" long jaws add extra reach to checker-milled tips. Wgt. Pkg. of Five, 2 1/4 lbs.

- POLISHED HEAD, GUN METAL HANDLES
- 53-7" List Ea. 4.00 With Side Cutters
- 530-7" List Ea. 3.00 Without Side Cutters
- POLISHED HEAD, CUSHION-GRIP HANDLES
- 93-7" List Ea. 4.00 With Side Cutters
- 930-7" List Ea. 3.00 Without Side Cutters
- FULLY NICKEL AND CHROME PLATED
- 63-7" List Ea. 4.30 With Side Cutters
- 630-7" List Ea. 3.30 Without Side Cutters
- NICKEL AND CHROME PLATED, CUSHION GRIP HANDLES
- 73-7" List Ea. 4.50 With Side Cutters
- 730-7" List Ea. 3.50 Without Side Cutters



DIAGONAL CUTTING PLIERS

- POLISHED HEAD, GUN METAL HANDLES
- 51-4 1/2" List Ea. 2.65 Wgt. Pkg. of 5, 1 1/2 lbs.
- 51-5" List Ea. 2.90 Wgt. Pkg. of 5, 2 lbs.
- 51-5 1/2" List Ea. 3.15 Wgt. Pkg. of 5, 2 lbs.
- 51-6" List Ea. 3.30 Wgt. Pkg. of 5, 2 1/2 lbs.
- 51-7 1/2" List Ea. 3.50 Wgt. Pkg. of 5, 3 lbs.
- POLISHED HEAD, CUSHION-GRIP HANDLES
- 91-4 1/2" List Ea. 2.65 Wgt. Pkg. of 5, 1 3/4 lbs.
- 91-5" List Ea. 2.90 Wgt. Pkg. of 5, 2 1/4 lbs.
- 91-5 1/2" List Ea. 3.15 Wgt. Pkg. of 5, 2 1/4 lbs.
- 91-6" List Ea. 3.30 Wgt. Pkg. of 5, 2 3/4 lbs.
- 91-7 1/2" List Ea. 3.50 Wgt. Pkg. of 5, 3 1/4 lbs.
- FULLY NICKEL AND CHROME PLATED
- 61-4 1/2" List Ea. 2.95 Wgt. Pkg. of 5, 1 1/2 lbs.
- 61-5" List Ea. 3.20 Wgt. Pkg. of 5, 2 lbs.
- 61-5 1/2" List Ea. 3.45 Wgt. Pkg. of 5, 2 lbs.
- 61-6" List Ea. 3.60 Wgt. Pkg. of 5, 2 1/2 lbs.
- NICKEL AND CHROME PLATED, CUSHION-GRIP HANDLES
- 71-4 1/2" List Ea. 3.15 Wgt. Pkg. of 5, 1 1/2 lbs.
- 71-5" List Ea. 3.40 Wgt. Pkg. of 5, 2 lbs.
- 71-5 1/2" List Ea. 3.65 Wgt. Pkg. of 5, 2 lbs.
- 71-6" List Ea. 3.80 Wgt. Pkg. of 5, 2 1/2 lbs.
- 71-7 1/2" List Ea. 4.00 Wgt. Pkg. of 5, 3 1/4 lbs.
- DIAGONALS are available with STRIPPING NOTCH, "W" NOTCHES, INSULATION CRUSHERS on request. These features are standard in pliers below:
- 517-5 1/2" List Ea. 3.75 Pol. Head, Gun Metal Hnds.
- 617-5 1/2" List Ea. 3.95 Nickel and Chrome Plated
- 717-5 1/2" List Ea. 4.15 Plated, Cushion-Grips
- PLIERS WITH SPRING IN HANDLES
- Additional Each .30 List



HEAVY DUTY DIAGONAL CUTTING PLIERS

Added leverage for heavy cutting. Wgt. Pkg. of 5, 3 lbs.

- 591-7" List Ea. 3.25 Polished Head, Gun Metal Handles
- 991-7" List Ea. 3.20 Cushion-Grip Handles
- 691-7" List Ea. 3.50 Nickel and Chrome Plated
- 791-7" List Ea. 3.70 Plated, Cushion-Grips



LONG NEEDLE NOSE PLIERS

Unusual gripping ability without distortion for such long, slender jaws, checker-milled. Wgt. Pkg. of Five, 1 3/4 lbs.

- 533-6" List Ea. 3.00 Polished Head, Gun Metal Handles
- 933-6" List Ea. 3.00 Cushion-Grip Handles
- 633-6" List Ea. 3.00 Nickel and Chrome Plated
- 733-6" List Ea. 3.50 Plated, Cushion-Grips



CURVED NEEDLE NOSE PLIERS

Checker milled jaws. Wgt. Pkg. of Five, 1 3/4 lbs.

- 538-6" List Ea. 3.30 Polished Head, Gun Metal Handles
- 938-6" List Ea. 3.30 Cushion-Grip Handles
- 638-6" List Ea. 3.60 Nickel and Chrome Plated



EXTRA FINE NEEDLE NOSE PLIERS

Long, very slim, spring tempered jaws for assembling miniature parts. Wgt. Pkg. of Five, 1 1/2 lbs.

- 503-6" List Ea. 3.05 Polished Head, Gun Metal Handles
- 903-6" List Ea. 3.05 Cushion-Grip Handles
- 603-6" List Ea. 3.35 Nickel and Chrome Plated
- 703-6" List Ea. 3.55 Plated, Cushion-Grips
- CURVED EXTRA FINE NEEDLE NOSE PLIERS**
- 508-6" List Ea. 3.75 Polished Head, Gun Metal Handles
- 908-6" List Ea. 3.75 Cushion-Grip Handles
- 608-6" List Ea. 4.05 Nickel and Chrome Plated
- 708-6" List Ea. 4.25 Plated, Cushion-Grips

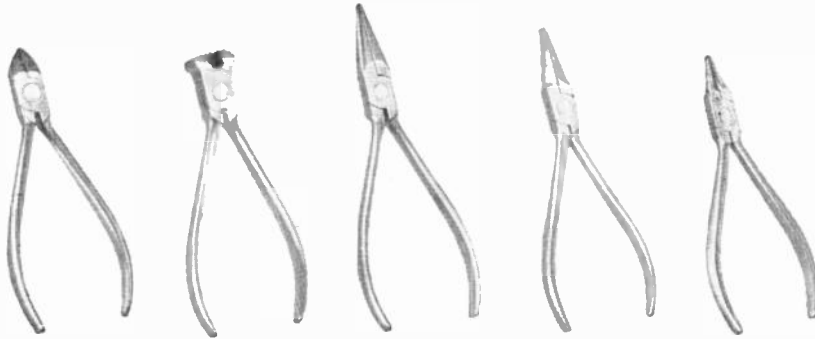


END CUTTERS AND LEAD-IN STRIPPERS

Quickly strips TV transmission cable. Full throat for general purpose end cutting.

- 502-6" List Ea. 3.75 Polished Head, Gun Metal Handles
- 902-6" List Ea. 3.75 Cushion-Grip Handles
- 602-6" List Ea. 4.05 Nickel and Chrome Plated
- 702-6" List Ea. 4.25 Nickel and Chrome Plated, Cushion-Grips Handles

JEWELERS' 4 1/2" PRECISION PLIERS



JEWELERS' PLIERS SETS

Crystal Case, 5" x 7", lined to nest 4 1/2" Pliers.

No.	Contents	List
C63	One ea. 681, 683, 684	10.20
C64	One ea. 681, 683, 684, 6517	12.35
C65	One ea. 681, 682, 683, 684, 685	16.90
C93	One ea. 981, 983, 984	9.90
C95	One ea. 981, 982, 983, 984, 985	16.40

*Inside jaws are smooth. Supplied with milled jaws at no extra cost.

POLISHED HEAD, GUN METAL HANDLES		POLISHED HEAD, CUSHION-GRIP HANDLES		FULL NICKEL AND CHROME PLATED		NICKEL CHROME-PLATED, CUSHION-GRIP HANDLES		
Tool No.	List Ea.	Tool No.	List Ea.	Tool No.	List Ea.	Tool No.	List Ea.	
Diagonal Cutting Pliers	581	2.90	981	3.10	681	3.20	781	3.25
End Cutting Nippers	582	3.25	982	3.60	682	3.70	782	3.85
*Needle Nose Pliers	583	2.50	983	2.90	683	3.00	783	3.25
*Flat Nose Pliers	584	2.50	984	2.90	684	3.00	784	3.25
*Round Nose Pliers	585	2.50	985	2.90	685	3.00	785	3.25



**HOLDING FORCEPS
POLISHED STAINLESS SPRING STEEL**

Slender, long reaching, with ratchet-type lock. Acts as third hand and heat sink.

- HF-6 1/4" List Ea. 4.15 Milled Jaws
- HF-5 3/4" List Ea. 4.00 Milled Jaws
- HFC-6" List Ea. 4.80 Curved Jaws



**ELECTRONIC SNIPS
POLISHED HEAD, CUSHION-GRIP HANDLES**

Pointed, serrated blades cut wire, filament, sheet metal, insulating materials, plastics, fabrics. Spring return keeps blades open, ready-to-work.

- P4-7 1/8" List Ea. 3.35 Long Blades, 1 1/2" Cut
- P4E-6 1/2" List Ea. 4.25 Short Blades, 1/2" Cut



ELECTRICIAN'S SIDE CUTTING PLIERS

POLISHED HEAD, CUSHION-GRIP HANDLES
 92-6" List Ea. 3.00 Wgt. Pkg. of Five, 2 lbs.
 92-7" List Ea. 3.35 Wgt. Pkg. of Five, 3 lbs.
 92-8" List Ea. 3.80 Wgt. Pkg. of Five, 4 lbs.
 FULLY NICKEL AND CHROME PLATED
 62-7" List Ea. 3.65 Wgt. Pkg. of Five, 3 lbs.



**SHORT JAW, LONG HANDLE,
NEEDLE NOSE PLIERS**

Checker-milled jaws. Wgt. Pkg. of Five, 2 1/2 lbs.
 573-8" List Ea. 3.00
 Polished Head, Gun Metal Handles
 973-8" List Ea. 3.00 Cushion-Grip Handles
 673-8" List Ea. 3.30 Nickel and Chrome Plated
 773-8" List Ea. 3.50 Plated, Cushion-Grips
SHORT JAW, LONG HANDLE, DUCKBILL PLIERS
 574-8" List Ea. 3.00
 Polished Head, Gun Metal Handles



COMBINATION SLIP-JOINT PLIERS

FULLY NICKEL AND CHROME PLATED
 6041-6 1/2" List Ea. 1.25 Wgt. Pkg. of 5, 2 1/2 lbs.
 6041-8" List Ea. 1.65 Wgt. Pkg. of 5, 3 1/2 lbs.
 6041-10" List Ea. 2.50 Wgt. Pkg. of 5, 5 lbs.



THIN NOSE COMBINATION PLIERS

FULLY NICKEL AND CHROME PLATED
 6042-6 1/2" List Ea. 1.40 Wgt. Pkg. of 5, 2 1/2 lbs.



BENT THIN NOSE COMBINATION PLIERS

FULLY NICKEL AND CHROME PLATED
 6043-6 1/2" List Ea. 1.65 Wgt. Pkg. of 5, 2 1/2 lbs.

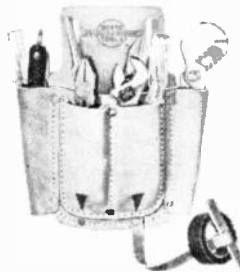


PROFESSIONAL SLIP-JOINT SIDE CUTTERS

Flat, serrated nose for gripping, curved inner section to grip round shapes, keen knives to cut.
 FULLY NICKEL AND CHROME PLATED
 6395-7 1/2" List Ea. 3.55 Wgt. Pkg. of 5, 2 1/2 lbs.

**LEATHER
TOOL
HOLSTER**

Five pockets of pliable form-fitting Russet leather. Stitched with 7-cord linen hot waxed thread, locked to solid leather back with steel rivets.
 Handy tape holder is of leather, not chain, an extra safety insulation feature.
 99 List Ea. 4.65 Size 8" x 9"



**"GROOVE-GRIP" 5-ADJUSTMENT PLIERS
FULLY NICKEL AND CHROME PLATED**

6507-6 1/2" List Ea. 2.40 Wgt. Pkg. of 5, 2 lbs.
 6507-8" List Ea. 2.65 Wgt. Pkg. of 5, 3 lbs.
 6507-10" List Ea. 3.00 Wgt. Pkg. of 5, 4 lbs.



MIDGET "GROOVE-GRIP PLIERS

Slender and wiry, indispensable for gripping small nuts and other objects in tight spots. Wgt. Pkg. of Five, 3/4 lbs.

- 6517-5" List Ea. 2.15 Nickel and Chrome Plated
- P6517-5" List Ea. 2.35 Plated, With Cushion-Grips



ELECTRICIAN'S SNIPS

Scraper, file on back of blade. Nickel plated.
 709-5" List Ea. 2.75 Wgt. per Doz. 1 3/4 lbs.



ELECTRICIAN'S UTILITY KNIFE

One Blade, one self-locking Screwdriver and Insulation Scraper Blade.
 9229 3 3/4" List Ea. 2.50 Wgt. per Doz. 3 lbs.



**THIN, ALLOY STEEL ADJUSTABLE WRENCHES
FULLY NICKEL AND CHROME PLATED**

- 6W-4" List Ea. 2.50 Wgt. Pkg. of 5, 1/2 lb.
- 6W-6" List Ea. 2.50 Wgt. Pkg. of 5, 1 1/2 lbs.
- 6W-8" List Ea. 2.94 Wgt. Pkg. of 5, 2 1/2 lbs.
- 6W-10" List Ea. 3.76 Wgt. Pkg. of 5, 4 1/2 lbs.
- 6W-12" List Ea. 5.50 Wgt. Pkg. of 5, 7 1/2 lbs.
- 6W-15" List Ea. 8.30 Wgt. Pkg. of 5, 16 lbs.



INDUSTRIAL SAFETY BELT

• TOOL HOLSTERS • TOOL BELTS

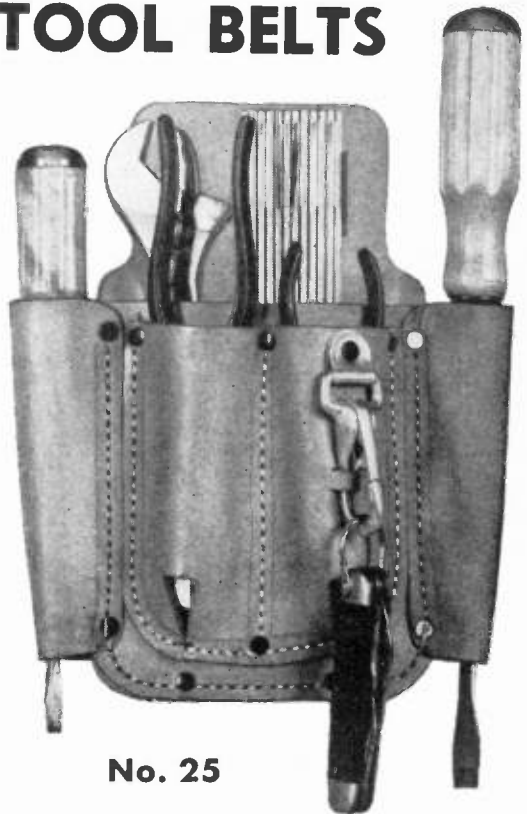


No. 24

No. 24 TOOL HOLSTER

Similar to electrician holster except side pockets not attached, making the overall dimensions 5 x 9 inches.

**No. 24 List
\$4.00 each**



No. 25

ELECTRICIAN HOLSTER 5 POCKETS

Stitched with seven cord top quality linen hot wax thread, locked to solid leather back with steel rivets. Pockets made of pliable form fitting Russet Leather.

Special designed snap allows knife to be removed by use of a one hand upward motion. Overall dimensions are: 8 x 9 inches.

No. 25 List Price \$5.00 each (Without Tools)

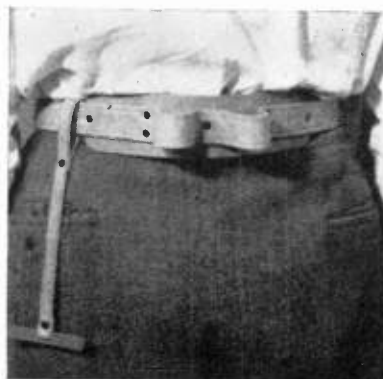


No. 23

No. 23

Similar to overall dimensions of tool holster No. 24. One pocket. Dimensions are small enough to insert in pocket of trousers.

**No. 23 List
\$2.50 each**



No. 175 TOOL BELT

Extra heavy quality leather. Two strong loops formed for heavy tools. Latigo thong tape carrier attached. Steel rivets anchor tested buckle to belt. Three sizes, No. 1, 30 to 38; No. 2, 40, to 46; No. 3, 46 to 52.

List Price \$3.50



KLEIN SIDE-CUTTING PLIER
 NE TYPE (Streamlined)



No. 201-5NE	Size 5 in.
201-6NE	6 in.
201-7NE	7 in.
201-8NE	8 in.
201-9NE	9 in.

KLEIN KUT[®] HIGH LEVERAGE PLIER
 Patented



No. 213-9NE Size 9 in.
 *Trade-Mark

KLEIN LONG NOSE PLIER



No. 301-5	Size 5 in.
301-6	6 in.
*301-7	7 in.

*With extra long nose 2 3/4 in. from center hinge to point. Available with spring.

KLEIN LONG NOSE SIDE-CUTTING PLIER



No. 203-5	Size 5 in.
203-6	6 in.
*203-7	7 in.

*With extra long nose 2 3/4 in. from center hinge to point. Available with spring.

KLEIN LONG NOSE PLIER
 WITH KNIFE AT POINT



No. 301-6P	Size 6 1/2 in.
317-6P	6 in.

Available with spring.

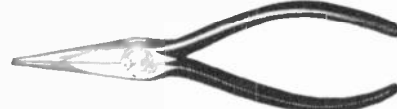
KLEIN SPECIAL NEEDLE NOSE PLIER



No. 301-6-SCP	Size 6 in.
203-6-SCP with cutters	6 in.

Available with spring.

KLEIN SLIM LONG NOSE PLIER



No. 307-5 1/2 Size 5 1/2 in.
 Available with spring.

KLEIN CHAIN NOSE PLIER



No. 317-5 Size 5 in.
 Available with spring.

KLEIN CHAIN NOSE PLIER



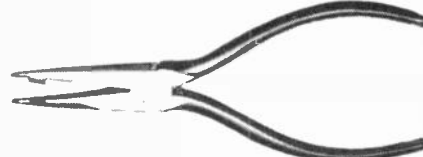
No. 317-6 Size 6 in.
 217-6 with cutters 6 in.

KLEIN TRAVERSE END-CUTTING PLIER



No. 204-6 Size 6 in.
 Available with spring.

LONG NOSE SHEAR CUTTING PLIER
 Patent No. 2,848,724



Jaws hold clipped end of wire. Supplied with spring.
 No. 208-6PC Size 6 1/2 in.

ALL-PURPOSE ELECTRONIC PLIER
 Patent Pending



Jaws hold clipped end of wire. Available with spring.
 No. 260-6 Size 6 1/2 in.

NEEDLE NOSE ELECTRONIC PLIER
 (Patent Pending)



Similar to 260-6 but with needle nose. Available with spring.
 No. 261-6 Size 6 1/2 in.



**KLEIN LIGHTWEIGHT
OBLIQUE CUTTING PLIER**



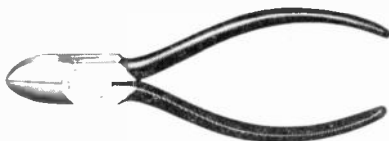
No. 209-5 Size 5 in.
Available with spring

**KLEIN NARROW NOSE
OBLIQUE CUTTING PLIER**



No. 202-5 Size 5 in.
202-6 Size 6 in.
Available with spring

KLEIN OBLIQUE CUTTING PLIER



No. 245-5 Size 5 in.
Available with spring

KLEIN OBLIQUE CUTTING PLIER



No. 252-6 Size 6 in.

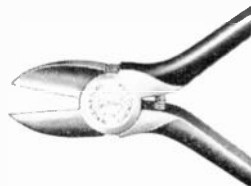
KLEIN LONG CURVED NOSE PLIER



No. 302-6 Size 6 in.

KLEIN COIL SPRING

Pliers listed below may be had with coil spring to keep jaws open. Spring guaranteed for life of plier. Inside of handles is unobstructed and handles may be plastic-coated if desired.



OBLIQUE CUTTERS

- | | |
|-------------|-------------|
| No. 210-5-C | No. 203-6-C |
| 210-6-C | 245-5-C |
| 209-5-C | 257-4-C |
| 202-5-C | 207-6-C |

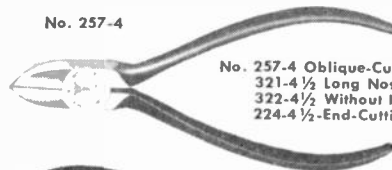
LONG NOSE

- | | |
|-------------|-------------|
| No. 301-5-C | No. 203-5-C |
| 301-6-C | 203-6-C |
| 301-7-C | 203-7-C |
| 301-6-P-C | 321-4 1/2-C |
| 301-6-SCP-C | 224-4 1/2-C |
| 203-6-SCP-C | 208-6-C |
| 307-5 1/2-C | 208-6-NC |
| 317-5-C | 208-6-PC |
| 306-5 1/2-C | 260-C |
| 204-6-C | 261-C |

**NEW KLEIN PLIERS
MIDGET ELECTRONIC PLIERS**

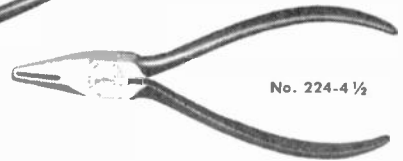
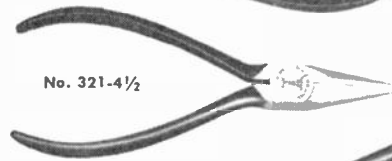
Highest quality pliers in small size for work in confined space.

No. 257-4



No. 257-4 Oblique-Cutting Plier Size 4 in.
321-4 1/2 Long Nose Plier Size 4 1/2 in.
322-4 1/2 Without knurl Size 4 1/2 in.
224-4 1/2-End-Cutting Plier Size 4 1/2 in.
Available with spring

No. 321-4 1/2



No. 224-4 1/2

**HIGH LEVERAGE
DIAGONAL CUTTING PLIER**



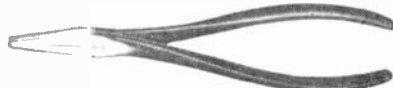
No. 228-8 Size 8 in.

8-INCH LONG NOSE PLIER



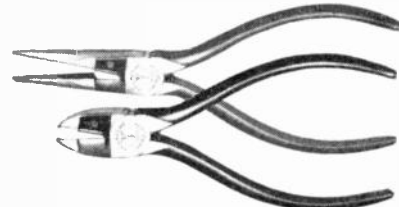
No. 314-8 with knurl Size 8 in.

8-INCH DUCK BILL PLIER



No. 315-8 with knurl Size 8 in.
No. 312-8 without knurl 8 in.

KLEIN SHEAR CUTTING PLIERS
Patented



Available both in long nose and oblique nose patterns. Will cut dead soft or extremely hard wire. Blade is replaceable.

- | | |
|--|------------|
| No. 208-6 C Long Nose | Size 6 in. |
| 208-6 NC Same as above but designed to put a positive 3/8 in. hook on the end of resistor wire | |
| 078-K Replacement Knife | |
| 207-5 C Oblique Nose | 5 in. |
| 077-K Replacement Knife | |



"KLEIN-KORD" NYLON SAFETY STRAP

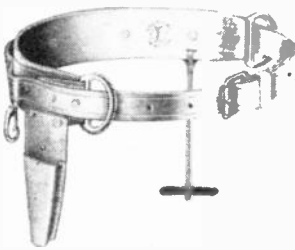
A strong high-quality safety strap made of nylon possessing excellent dielectric characteristics. Klein Red Center for safety.



Cat. No.	Size	Av. Wgt. Per Doz.
5294	1 3/4" x 5 1/8"	34 lb.
5294-7	1 3/4" x 7'	38 lb.
"Klein-Lok" Snaps		
KL5294	1 3/4" x 5 1/8"	34 lb.
KL15294	1 3/4" x 7'	38 lb.

LEATHER TOOL BELTS

Made of first quality harness leather. "D" rings are solid drop steel forgings tested to 1,500 lb. All rivets are solid copper and sewing is with hot waxed linen thread, lock stitched.



Cat. No.	Width	Av. Wgt. Per Doz.
5204-DE	3 1/2"	34 lb.

One of a complete line of Klein tool belts.

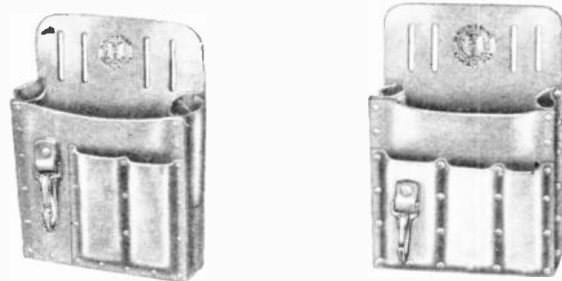
KLEIN ELECTRICIANS' WAIST BELTS

A lightweight belt of genuine harness leather with tool loops and tape thong. May be used with Klein Tool Pockets. Handy for electrician's use. Sizes: 36", 38", 40", 42", 44" and 46".



Cat. No.	Size-Adjustable
5207-M	32 to 40 in.
5207-L	38 to 46 in.

KLEIN COMBINATION TOOL POCKETS



Above are two of the many tool pockets available in the Klein line. Made from high-grade leather to assure maximum service. Both have large utility pocket and knife snap. 5126 has 2 plier pockets and 2 screw driver pockets. 5127 has 3 plier pockets and 2 screw driver pockets.

No. 5126	Size 8 1/2 in. high, 6 1/2 in. wide
5127	10 in. high, 7 in. wide

KLEIN "XELA" ELECTRICIANS' SCISSORS
 Patented

A scissor designed for the electrician and mechanic. Will stand continued hard service. Made of high-grade steel carefully tempered. Has screw hinge to allow for adjustment. Nickel plated.

Cat. No.	Size
2100-5	5 in.
5100 Pocket for scissors, not illustrated	



KLEIN STRIPPING TOOL
 Patented

A newly developed tool designed to strip insulation from all types of cable. Will strip a few inches or as many feet as desired swiftly and simply. Doesn't damage conductors inside weatherproofed sheath. Lightweight cast aluminum with knife of tempered tool steel. May be sharpened. Knife easily replaced.

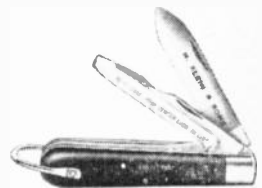
No. 1558 Size across handle, 4 in.



KLEIN "XELA" ELECTRICIANS' KNIFE

Especially designed for electricians. Has sharp utility blade and screw driver blade which locks automatically in open position. Made of finest cutlery steel, carefully tempered. Fitted with wrought shackle riveted in handle.

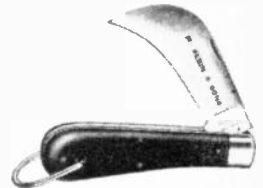
No. 1550-2 Length Closed 4 in.



KLEIN "XELA" LINEMAN'S KNIFE

Sturdily constructed. Single 3-in. blade of finest cutlery steel. Blade locks automatically in open position. Handle of plastic. Won't crack or chip. Fitted with wrought shackle riveted in handle.

No. 1550-4 Length Closed 4 in.



KLEIN "XELA" SKINNING KNIFE

A high-quality knife designed for skinning. Particularly used in the telephone field. Hardwood handle with ring for attaching to snap.

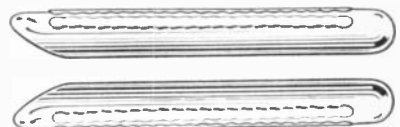
No. 1550-5 Length Closed 3 1/2 in.



KLEIN-KOAT PLASTIC COVER FOR PLIER HANDLES

These covers provide non-skid grip and greater comfort. Made of transparent plastic in bright maroon. Simple to apply. Does away with the necessity of taping handles.

No. to fit
60 6-in. pliers
70 7-in. pliers
89 8 & 9-in. pliers



DIPPED HANDLES

Klein Pliers may be had with dipped-on plastic coating. This provides a heavy comfortable plastic coating that can't come off and yet may be removed if desired. Prices on request.

QUICK-WEDGE *SCREW-HOLDING* SCREWDRIVER

Holds the screw
Starts the screw
Drives the screw



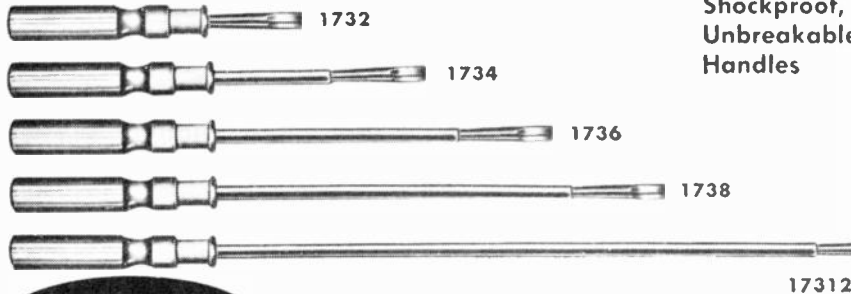
America's Handiest!

A Quick-Wedge
Screw-Holding
Screwdriver
for Every Job

MIDGET SIZES

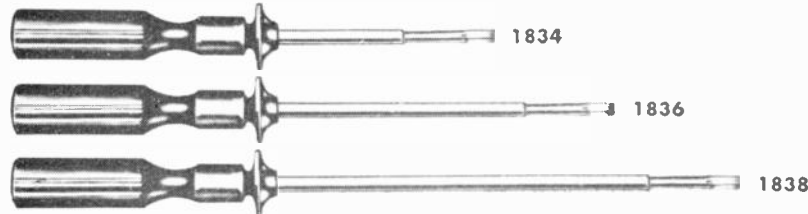


SMALL SIZES

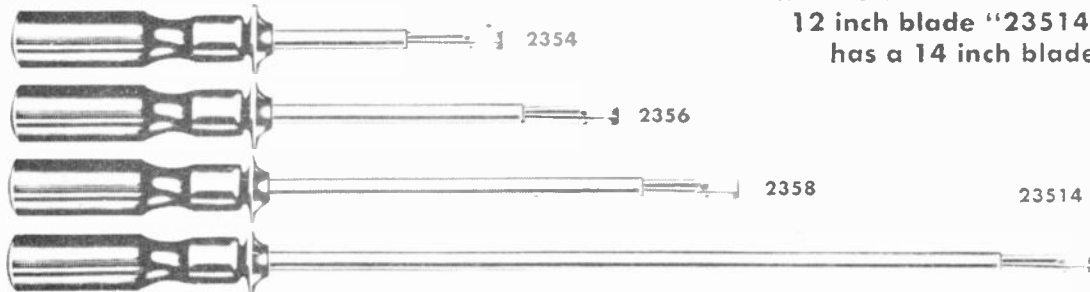


Spring Steel
Blades
Shockproof,
Unbreakable
Handles

MEDIUM SIZES



HEAVY DUTY SIZES



Blade length is indicated
by last digit of model
number. "17312" has a
12 inch blade "23514"
has a 14 inch blade.

ELECTRICAL SIZES

Any of the 14 sizes (except No. 1732) available with shockproof, plastic covered tubing at a cost of 15c additional per screwdriver.



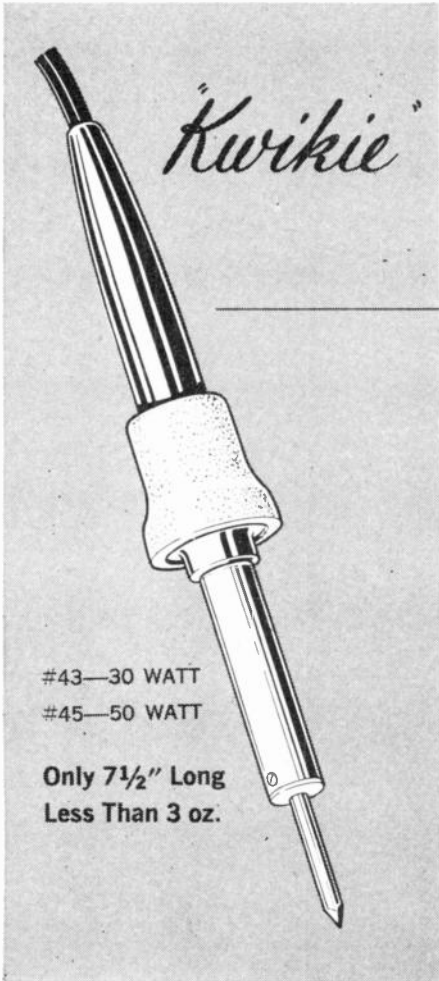
KEDMAN COMPANY • Salt Lake City, Utah Other Kedman Products--The Famous Huntsman Welding Shields and Face Shields

NEW *Kwikie*

PENCIL SOLDERING IRON

KWIKHEAT'S Smaller, Lighter Pencil Iron for Densely Packed Printed Circuit Production.

Only 7½ inches long . . . less than 3 oz. weight! This really small iron is ideal for general precision use in large or small shops. Heat insulated handle. Combination of wattage and tip size gives proper temperature for job.

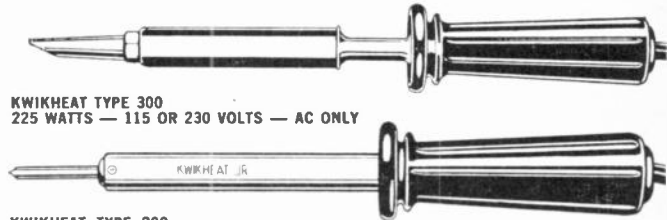


#43—30 WATT
#45—50 WATT

Only 7½" Long
Less Than 3 oz.

KWIKHEAT
SOLDERING IRONS
Built-in Vanatta Automatic Thermostat

THERMOSTATIC MODELS



KWIKHEAT TYPE 300
225 WATTS — 115 OR 230 VOLTS — AC ONLY

KWIKHEAT TYPE 200
150 WATTS — 115 VOLTS AC ONLY

REAL PRODUCTION IRONS

No. 200 lightweight and No. 300 heavy duty irons are both real production tools for high speed soldering. Tips are easily replaced with a screwdriver, or wrench.

HOT IN 90 SECONDS

Very high watt density with less heat radiation, under complete control of built-in thermostat.

TEMPERATURE

No. 200 is factory preset to 700°F for intermittent standby work or 800°F for constant high speed soldering. No. 300 can be preset to any temperature between 275° and 875°F, at additional charge of \$1.00 each for 1 to 49 irons or 50c each for 50 to 99 irons. No extra charge for 100 or more. Alloys used reduce temperature creep.

CORROSION RESISTANT

Tips, core assemblies, and outer shells are made of stainless steel or plated forged tellurium copper alloy.

KWIKHEAT TYPE 200
150 WATTS — 115 VOLTS AC ONLY

Weight with Tip 7½ oz.
Shipping Weight with ⅜" x ¼" dia. Tip and Resting Stand 1 lb. 2 oz.
Length with ⅜" x ¼" dia. Tip 12¾"
Length of Heater Cord 6 ft.

LIST PRICE

Iron complete with Tip \$9.95
Replacement Element 6.95

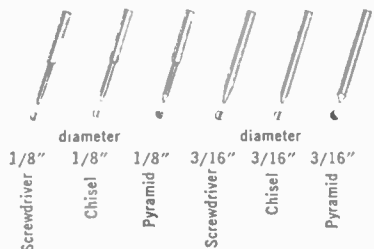
KWIKHEAT TYPE 300
225 WATTS — 115 OR 230 VOLTS — AC ONLY

Weight with Standard No. 1 Tip 14 oz.
Shipping Weight with No. 1 Tip and Resting Stand 1½ lb.
Length with No. 1 Tip 13"
Length of Heater Cord 6 ft.

LIST PRICE

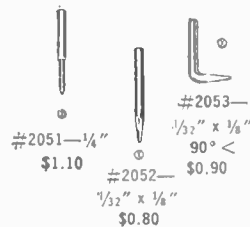
Iron complete with Tip \$14.95
For other AC voltages or with 3-Conductor Cord, add \$2.75
Replacement Element \$10.85
Tips, according to style \$1.80 to \$2.70

Kwikie 6 INTERCHANGEABLE TIPS



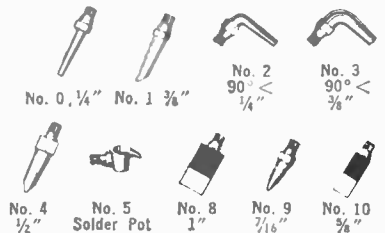
1/8" diameter
Screwdriver
1/8" diameter
Chisel
1/8" diameter
Pyramid
3/16" diameter
Screwdriver
3/16" diameter
Chisel
3/16" diameter
Pyramid

TYPE 200 TIPS



#2051—¼" \$1.10
#2052—½" x ¼" \$0.80
#2053—½" x ¼" 90° < 90° < \$0.90

9 INTERCHANGEABLE TIPS FOR NO. 300



No. 0, ¼" No. 1, ⅜" No. 2, 90° < ¼" No. 3, 90° < ⅜"
No. 4, ½" No. 5, Solder Pot No. 8, 1" No. 9, 7/16" No. 10, ⅝"

#20 ANTIFREEZE COMPOUND

A lubricant for all soldering iron tips. Prevents sticking, increases conductivity between tip and core.

PLEASE CONTACT YOUR JOBBER FOR TRADE DISCOUNTS

KWIKHEAT MANUFACTURING CO.

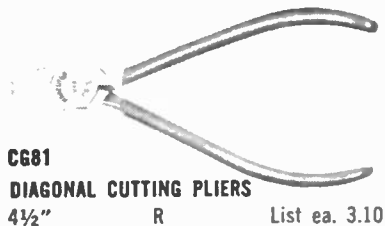
GLENDALE 4, CALIFORNIA



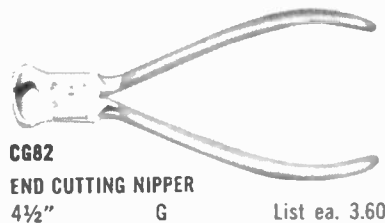
kraeuter

TOOLS FOR TECHNICIANS

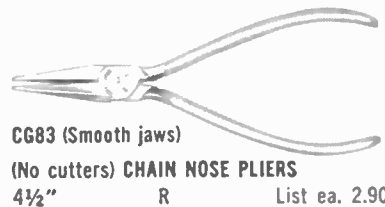
**FOR 100 YEARS
THE FINEST IN
HAND TOOLS—
1860-1960**



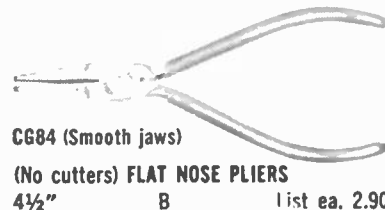
CG81
DIAGONAL CUTTING PLIERS
4½" R List ea. 3.10



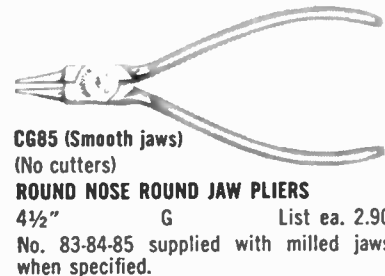
CG82
END CUTTING NIPPER
4½" G List ea. 3.60



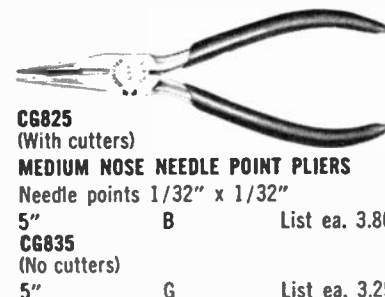
CG83 (Smooth jaws)
(No cutters) CHAIN NOSE PLIERS
4½" R List ea. 2.90



CG84 (Smooth jaws)
(No cutters) FLAT NOSE PLIERS
4½" B List ea. 2.90



CG85 (Smooth jaws)
(No cutters)
ROUND NOSE ROUND JAW PLIERS
4½" G List ea. 2.90
No. 83-84-85 supplied with milled jaws when specified.



CG825
(With cutters)
MEDIUM NOSE NEEDLE POINT PLIERS
Needle points 1/32" x 1/32"
5" B List ea. 3.80
CG835
(No cutters)
5" G List ea. 3.25

**KRAEUTER PRECISION AND PROFESSIONAL PLIERS
FULL POLISHED FINISH**

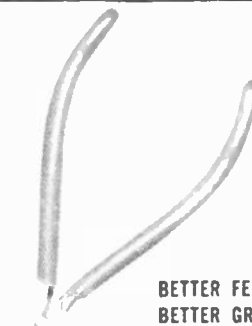
Extra fine pliers designed for exacting work. Drop forged from selected tool steel, accurately machined and carefully heat treated. In the hands of skilled radio and electronics technicians, these tools may be depended upon for exceptional service.

Precision and Professional Pliers illustrated show vinyl cushion grips (prefix "CG" with stock number) which are furnished at NO extra cost (factory bonded). Color: B—Blue; G—Green; O—Orange; R—Red; Y—Yellow.

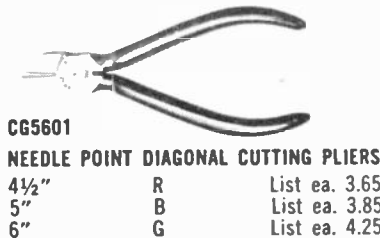
When Precision and Professional Pliers are required without Cushion Grips, OMIT the prefix "CG" when ordering.

**KRAEUTER VINYL
CUSHION GRIP "CG" HANDLES
AT NO EXTRA COST**

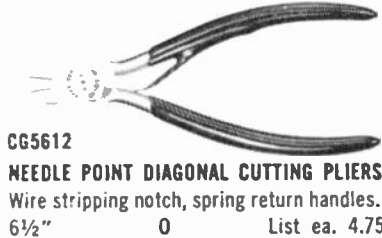
All the "CG" Kraeuter tools listed on these pages have the Cushion Grips bonded on at the factory... actually become part of the tool. Won't crack, peel or chip. They're brightly colored to help you find them when you need them... easier to hold, easier to use... cushion your hand so you do the job with less effort. Cushion Grips give pliers the "feel" of comfortable, more accurate control. And they come to you at no extra cost.



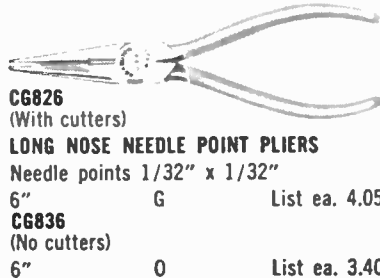
**BETTER FEEL!
BETTER GRIP!**



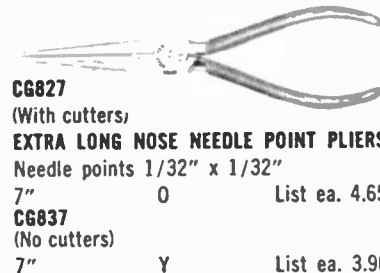
CG5601
NEEDLE POINT DIAGONAL CUTTING PLIERS
4½" R List ea. 3.65
5" B List ea. 3.85
6" G List ea. 4.25



CG5612
NEEDLE POINT DIAGONAL CUTTING PLIERS
Wire stripping notch, spring return handles.
6½" O List ea. 4.75



CG826
(With cutters)
LONG NOSE NEEDLE POINT PLIERS
Needle points 1/32" x 1/32"
6" G List ea. 4.05
CG836
(No cutters)
6" O List ea. 3.40



CG827
(With cutters)
EXTRA LONG NOSE NEEDLE POINT PLIERS
Needle points 1/32" x 1/32"
7" O List ea. 4.65
CG837
(No cutters)
7" Y List ea. 3.90



CG90
PLIER SET
Five pliers in black zipper case. Size 5-3/4" x 9-1/4" when closed. One each Nos. CG81, CG82, CG83, CG84 and CG85. List ea. 18.50

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS... SEND FOR CATALOG



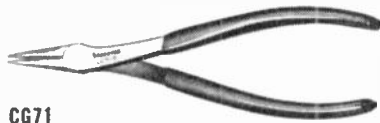
kraeuter

TOOLS FOR TECHNICIANS

**FOR 100 YEARS
THE FINEST IN
HAND TOOLS—
1860-1960**

**KRAEUTER INDUSTRIAL PLIERS
FULL POLISHED HEADS—
VINYL CUSHION GRIP HANDLES**

Designed for use in the Radio and Electronics fields. Hammer forged from high grade tool steel, individually fitted, tempered, adjusted and tested. Furnished with Cushion Grips (factory bonded) at no extra cost. Colors: B—Blue; G—Green; O—Orange; R—Red; Y—Yellow.



CG71
(With cutters)
SHORT JAW NOSE-CUTTING PLIERS
Extra long, narrow handles, cutters at tip of jaws.
8" B List ea. 4.15

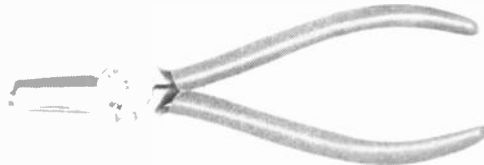


CG1830
ELECTRICIANS' SIDE CUTTING PLIERS
For electric wiring and repair work.

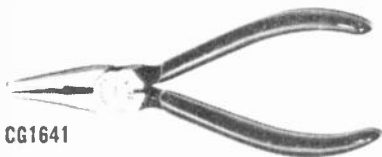
		List ea.
4"	R	2.95
5"	B	3.05
6½"	O	3.14
7"	Y	3.60
8"	B	3.96

CG5627
**END CUTTING
RESISTOR PLIERS**

Resistor terminal cutters for cutting the terminal ends of packaged assembly type resistors. Pliers sever terminal wires which are inaccessible except from over the resistor.
5½" R List ea. 4.50



CG2612
WIRE STRIPPING DIAGONAL CUTTING PLIERS
Strips fine wire. Spring return handles.
6½" Y List ea. 4.20



CG1641
(With cutters)
SHORT CHAIN NEEDLE NOSE PLIERS
Short nose, extra leverage, for open wiring.
5" R List ea. 3.20

CG1643
(No cutters)
5" B List ea. 2.70



CG1781
(With cutters)
EXTRA LONG CHAIN NOSE PLIERS
Jaw length reaches 2-3/4", narrow pointed nose.
7" O List ea. 4.20

C-CG1781
(Cross Coil Spring)
7" O List ea. 4.50

CG1771
(No cutters)
7" Y List ea. 3.08

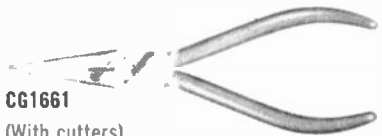


CG4501
DIAGONAL "OBLIQUE" CUTTING PLIERS
For close cutting in radio, TV, telephone work.

		List ea.
4½"	B	2.80
5"	O	3.05
6"	R	3.50

C-CG4501
(Cross coil spring)

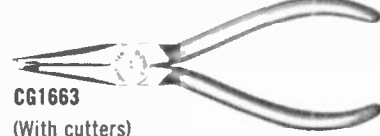
4½"	B	3.10
5"	O	3.35
6"	R	3.80



CG1661
(With cutters)
LONG CHAIN NEEDLE NOSE PLIERS
Radio and TV's most extensively used pliers.
6" B List ea. 3.46

C-CG1661
(Cross Coil Spring)
6" B List ea. 3.76

CG1671
(No cutters)
6" G List ea. 2.70



CG1663
(With cutters)
RADIO AND IGNITION NOSE-CUTTING PLIERS
Grips at tip of nose, cutters 1/4" back.
6" O List ea. 4.40

C-CG1663
(Cross Coil Spring)
6" O List ea. 4.70



CG4502
7-IN. DIAGONAL CUTTING PLIERS WITH FULL-FASHIONED HANDLES
High leverage and comfort for continuous cutting.
7" B List ea. 3.90

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS... SEND FOR CATALOG



kraeuter

TOOLS FOR TECHNICIANS

FOR 100 YEARS
THE FINEST IN
HAND TOOLS—
1860-1960

INDUSTRIAL PLIERS

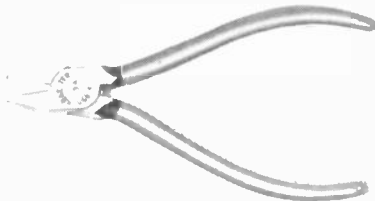


CG4610

HEAVY DUTY DIAGONAL CUTTING PLIERS

Added leverage for easier cutting.

5" Y List ea. 3.10
7" G List ea. 3.40



C-CG4625

NEEDLE POINT DIAGONAL CUTTING PLIERS

Narrow tapered nose for close cutting. Cross Coil Spring in handle.

5" R List ea. 4.30

COMBINATION PLIERS

Drop forged from special analysis steel, KRAEUTER slip joint pliers have sharp, milled teeth and notches for better gripping and wire cutting. Knurled handles are shaped to fit the hand comfortably and provide maximum leverage. Studs and nuts are machined from solid bar steel and carefully hardened for longer wear.



KRAEUTER "BRITE" LINE

Fine quality slip joint pliers in 3 different finishes.

		List ea.
056—6"	Satin Chrome Plated Finish	.78
8"	Satin Chrome Plated Finish	1.02
156—6"	Chrome Plated Finish	1.14
8"	Chrome Plated Finish	1.46
10"	Chrome Plated Finish	1.86
256—6"	Full Polished Chrome Plated Mirror Finish	1.42
8"	Full Polished Chrome Plated Mirror Finish	1.84
10"	Full Polished Chrome Plated Mirror Finish	2.60



GRIPTITE COMBINATION PLIERS

Designed for heavy duty service.

5½" & 6" sizes, 2 position slip joint adjustments.
8" & 10" sizes, 3 position slip joint adjustments.

		List ea.
356—5½"	Nickel Plated	2.30
356—6"	Nickel Plated	2.40
356—8"	Nickel Plated	3.05
356—10"	Nickel Plated	3.70



THIN NOSE COMBINATION PLIERS

Tapered thin jaws for confined areas.

40—6" Nickel Plated List ea. 1.85



TONGUE-N-GROOVE JOINT PLIERS POLISHED FACES—"CG" VINYL CUSHION GRIP HANDLES

Five parallel adjustments from closed to 1-5/8". Furnished with "CG" VINYL Cushion Grips only.

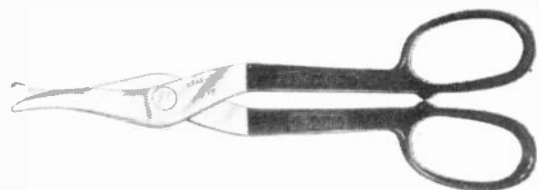
CG710-10" R List ea. 3.25



ALLOY STEEL ADJUSTABLE WRENCH THIN PATTERN—SMOOTH ACTION—CHROME PLATED

Also available with "CG" VINYL Cushion Grip.

		List ea.
31—4"		2.60
CG31—4"	R	2.60
31—6"		2.60
CG31—6"	B	2.60
31—8"		3.10
CG31—8"	O	3.10
31—10"		3.95
CG31—10"	G	3.95
31—12"		5.75
CG31—12"	Y	5.75
31—15"		8.60
CG31—15"	R	8.60



COMBINATION PATTERN SNIP

Cuts straight, curved shapes in metal, etc. Polished Blades, Hard Black Enameted Handles.

K13—7" Pocket Size, Cut 1-5/8" List ea. 2.39

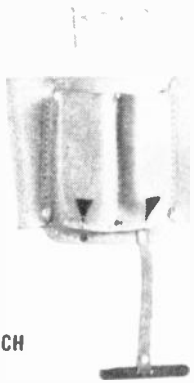
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Kraeuter TOOLS FOR TECHNICIANS

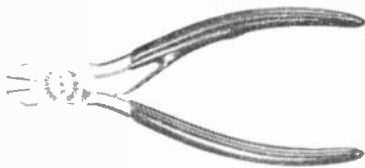
**FOR 100 YEARS
THE FINEST IN
HAND TOOLS—
1860-1960**

**711
LEATHER
TOOL POUCH**



Five pockets, with tape holder. Stitched with 7-cord top quality linen hot wax thread, locked to solid leather back with steel rivets. Pockets made of pliable form-fitting Russet Leather. Designed for the radio and TV serviceman to carry pliers, screw drivers, tape, and other small tools.

711 Tool Holster List ea. 4.65



SPRING IN HANDLE

Available for most pliers, replaceable leaf spring keeps pliers in open position, ready to work. Can be provided separately or in combination with cushion grips. Effectively used to increase efficiency and reduce wrist fatigue on the production line.

Leaf Spring List ea. .30 additional

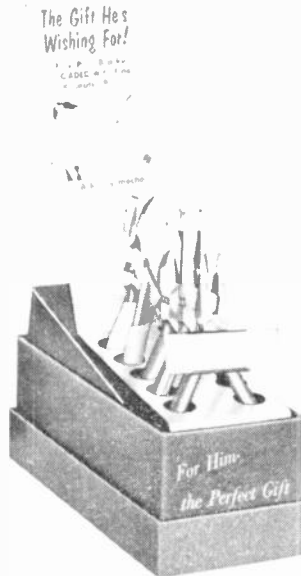


CROSS COIL SPRING

The following pliers are available with cross coil spring. When ordering, specify prefix "C" with tool number.

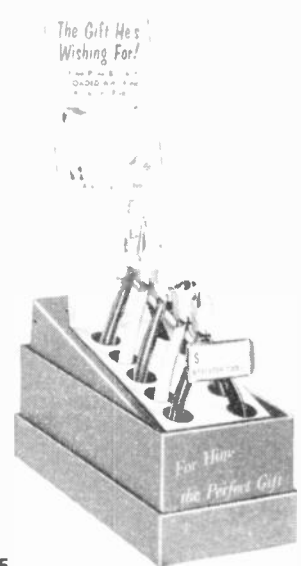
C-CG1661-6", C-CG1663-6", C-CG1781-7", C-CG4501-4½", C-CG4501-5", C-CG4501-6".

Cross Coil Spring List ea. .30 additional



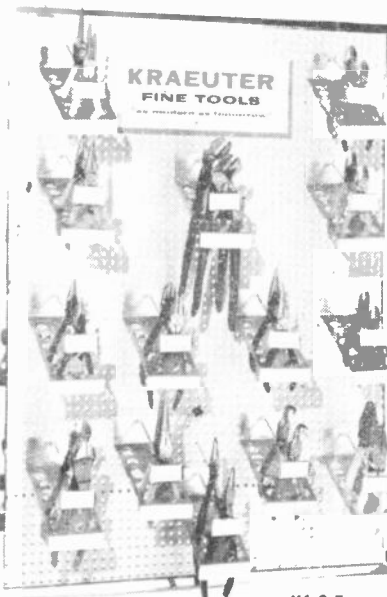
**K-5
5-PLIER ASSORTMENT WITH FREE DISPLAY
BRACKET AND GIFT BOX**

Set includes:
1—CG1830-6½" Electrician's Side Cutter
1—CG4610-7" Heavy Duty Diagonal
1—CG4501-6" All Around Diagonal
1—CG1661-6" Chain Nose with Cutter
1—CG83-4½" Chain Nose "Hobby"
1 to 5-plier bracket (no charge)
Shipping weight—2 lbs. 5 oz. List ea. 16.40

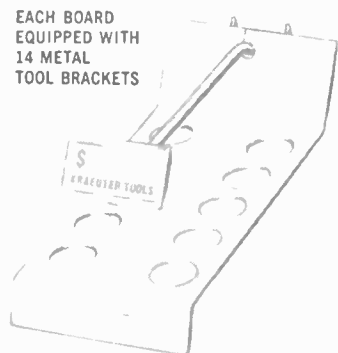


**P-35
5-PLIER ASSORTMENT WITH FREE DISPLAY
BRACKET AND REVERSIBLE POINT-OF-SALE
DISPLAY CARD**

Set includes: 4½" size Jewelers and Electronic Pliers
1—CG81-4½" Diagonal Cutting
1—CG82-4½" End Cutting Nipper
1—CG83-4½" Chain Nose
1—CG84-4½" Flat Nose
1—CG85-4½" Round Nose, Round Jaw
Shipping weight—1 lb. List ea. 15.40



K12-E



**RADIO AND ELECTRONIC BRACKET
ASSORTMENT**

Includes 2 each of 14 popular pliers, permanent peg board display and 14 Kraeuter metal tool brackets. Shipping weight — 25 lbs.

List ea. 99.12

THIS IS ONLY A PARTIAL LISTING OF KRAEUTER TOOLS... SEND FOR CATALOG

Shown Model 6-A

ORYX

PRECISION MINIATURE SOLDERING IRONS

World's finest instruments for close-quarter precision soldering . . . the only complete line of low voltage, low maintenance irons for every production, service, or laboratory application! Ideally suited for transistors, printed circuits, and fine sub-assemblies. From the world-famous Oryx Electrical Laboratories of England.



NO HAND FATIGUE
Weight as low as 1/4 oz. permits fast, efficient production soldering

LONGER LIFE
Low voltage element in handle operates on any AC or DC source (step-down transformers available) Handle does not get hot!

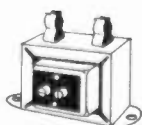
HIGH TEMPERATURES
Operating temperatures from 540 to 1000°F available for every application

REPLACEABLE TIPS
Low maintenance costs with inexpensive push-on tips. Variety of bits available.

COMPLETE LINE OF SOLDERING INSTRUMENTS FOR EVERY APPLICATION

MODEL	DESCRIPTION	Volts AC-DC	Watts	Max. Temp. (in °F)	Length	TIP No.	ALSO TAKES No.	NET PRICE
6	The world's smallest soldering instrument. With fixed tip, it is ideal for hair spring movements, r.f. coils, and fine sub-assemblies. Specially recommended for connections to transistors and diodes.	6	6	542	6"	1/16" Fxd.	—	\$4.95 ea. (12 or more \$4.45 ea.)
6A	Combines the lightweight advantages of Model 6 with the added convenience of renewable bits (or tips). Widely used for hearing aids, f.m. tuners, printed circuits, transistorized amplifiers.	6	6	602	6"	B	A	\$4.95 ea. (12 or more \$4.45 ea.)
9-6	Ideal for use on complex circuitry, radar, missile sub-assemblies, electro-medical devices, television and all applications calling for a precision tool with high heat capacity.	6	8.3	614	6"	A	B	\$4.95 ea.
9-12		12	8.3	614	6"	A	B	(12 or more
9-24		24	8.3	614	6"	A	B	\$4.45 ea.)
11	Special featherweight high temperature model specifically designed for all soldering alloys requiring a hotter than normal iron. Uses a pure nickel bit to reduce oxidization.	6	10	813	6"	D	E	\$6.95 ea. (12 or more \$6.45 ea.)
12-6	Standard model for factory use on radio, television, radar assembly, switchboard and instrument work. Its generous heat capacity also renders it extremely suitable for repair work in aircraft and automotive industries.	6	12	652	6 1/4"	C	—	\$4.95 ea.
12-12		12	12	652	6 1/4"	C	—	(12 or more
12-24		24	12	652	6 1/4"	C	—	\$4.45 ea.)
18	Specially developed for the production line. The equivalent in performance of a standard 80-watt soldering iron at the fantastic weight of only 3/8 oz. By the elimination of hand fatigue, output can be greatly increased.	6	18	674	7 1/4"	F	G	\$7.50 ea. (12 or more \$7.05 ea.)
25-12	The latest addition to the ORYX line. A high performance iron for continuous operation at 1000°F. The world's most powerful miniature iron. Fitted with heavy duty copper alloy bit with solid nickel tip to resist oxidization and greatly speed production.	12	25	1000	7 1/4"	G	H	\$8.00 ea. (12 or more \$7.55 ea.)

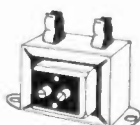
TRANSFORMERS:



MODEL 54203-6V

For 6-volt irons. Output 18 watts, 3 amps. Operates on 110v AC. 4 1/2-ft. cord and clip-holder for iron.

NET 4.95



MODEL 5420-12V

For 12-volt irons. Output 25 watts, 2 amps. Operates on 110v AC. 4 1/2-ft. cord and clip-holder for iron.

NET 5.95

REPLACEMENT TIPS:

Tip	Material	Tip Diam.	Net Price
A	Nickel plated	1/32"	\$.50
B	Nickel plated	1/32"	.50
C	Nickel plated	1/16"	.50
D	Solid Nickel	1/32"	1.80
E	Solid Nickel	1/32"	1.80
F	Nickel plated	1/16"	1.25
G	Solid Nickel end	1/16"	1.85
H	Copper Alloy and plated	1/32"	2.35

PROTECTED BY U. S. PATENTS

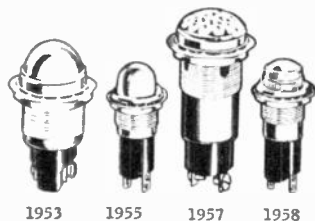
THE ORYX COMPANY National Sales Agency Beverly Hills, California



HERMAN H. SMITH, INC.

Sec. 5400

"It's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"



NEON INDICATORS

UL Approved. Supplies 180 degree light spread. Available in Red, Amber, White, Yellow and Clear caps. Neon removable from front. Candelabra screw base; 105-125 volts, 1" mtg. clearance hole. Std. Pkg. 10

No.	Type	Each
1953		\$2.85
1954	Lens Cap Only	1.17

BUILT-IN 56K OHM. 1/2 WATT RESISTOR
1/4" mtg. clearance hole.

No.	Type	Each
1955		\$2.25
1956	Lens Cap Only	.37

INDICATOR ASSEMBLIES

ENCLOSED TYPE

UL Approved. Available in Red, Green, Amber, Blue, Yellow, Clear and White. Std. Pkg. 10

Candelabra screw base; 1" mtg. clearance hole; 1" indicator. Uses No. 1916 Jewel.

No. 1957 \$2.87 Ea.

Bayonet base; 1/4" mtg. clearance hole; 1/2" indicator. Uses No. 1943 Jewel.

No. 1958 \$2.14 Ea.

NAVY TYPE LAMP SOCKETS



75W-125V

BAYONET BASE

Vibration-proof socket for surface mounting. Made to rigid specifications of black phenolic. Has bayonet sleeve of brass and double contacts of heavy spring phosphor bronze.

Std. Pkg. 10

No. 1950 \$1.00 Ea.

SCREW BASE

Made of black phenolic to strict requirements. Instead of usual screw shell has phosphor bronze wire coiled spring for perfect contact and elimination of vibration. Designed for soldering wire leads.

Std. Pkg. 10

No. 1951 \$1.10 Ea.

SCREW BASE

Easily wired and mounted. A very practical unit made of black phenolic to rigid specifications. Has phosphor bronze spring contact to assure positive contact and elimination of vibration.

Std. Pkg. 10

No. 1952 \$0.95 Ea.

BAKELITE HANDLE

Std. Pkg. 10



No.	Thread	O.D.	Mtg. Center	Color	Per C
2281	8-32	4 1/4"	2 1/2"	Black	\$25.00
2282	8-32	4 1/4"	Center	Red	27.00

INSTRUMENT KNOBS



Molded black bakelite instrument knobs with molded in brass insert for 1/4" shafts. Style B pointer knobs have white vinyl pointer. Style C skirt type have white indicator line. Style D same as Style A except with protruding brass insert for mounting special dials and pointers.

No.	Style	O.D.	Height	Per C
2200	A	1 3/8"	1 1/8"	\$43.00
2201	A	1 3/8"	1 1/8"	45.00
2202	A	1 3/8"	1 1/8"	50.00
2203	A	2 3/8"	1 1/8"	73.00
2204	B	1 1/2"	3/4" Pointer	65.00
2205	B	1 3/8"	1 1/8"	67.00
2206	B	1 3/8"	1 1/8"	71.00
2207	B	2 3/8"	1 1/8"	95.00
2208	C	1 3/8"	1 1/8" Skirt	80.00
2209	C	1 3/8"	1 1/8"	85.00
2210	C	1 3/8"	2 1/8"	100.00
2211	C	2 3/8"	3"	130.00
2212	D	1 1/2"	1 1/8"	52.00
2213	D	1 3/8"	1 1/8"	53.00
2214	D	1 3/8"	1 1/8"	60.00
2215	D	2 3/8"	1 1/8"	85.00
2216		1 1/2"	Skirt Only	13.00
2217		1 3/8"	Skirt only	15.00
2218		2 3/8"	Skirt only	18.00
2219		3"	Skirt only	25.00

POINTER KNOBS



Length	Hgt.
A Length 1 1/4"	Hgt. 9/8"
B Length 2"	Hgt. 5/8"
C Length 1 1/4"	Hgt. 1 1/8"

No.	Style	Type Hole	Color	Per C
2220	A	1/4" Plain	Black	\$17.00
2221	A	1/4" Plain	Walnut	18.00
2222	A	1/4" Plain	Ivory	18.00
2223	A	1/4" Brass Insert	Black	25.00
2224	A	1/4" Brass Insert	Walnut	28.00
2225	A	1/4" Brass Insert	Red	28.00
2226	B	1/4" Plain	Black	34.00
2227	B	1/4" Plain	Walnut	32.00
2228	B	1/4" Brass Insert	Black	44.00
2229	B	1/4" Brass Insert	Walnut	44.00
2230	C	1/4" Plain	Black	20.00
2231	C	1/4" Plain	Walnut	17.00

METER CASES



Molded Black, with four corner brass inserts for corner mounting.

No.	Case Size	Insert	Each
2255	3 3/4" x 6 1/4" x 2"	6-32	\$1.30
2257	5-9/32" x 6 13/16" x 2-5/16"	4-36	2.00
2289	7" x 8" x 2 1/4"	6-32	4.00

No.	Cover for	Each
2256	Cover for 2275	.95
2260	Cover for 2257	1.70

BINDING POST KNOBS



No.	Style	O.D.	Height	Color	Per C
2271	A	3/2"	1 1/2"	Black	\$15.00
2272	A	3/2"	1 1/2"	Red	15.00
2285	B	1 1/2"	7/16"	Red	15.00
2286	B	1 1/2"	7/16"	Black	15.00
2287	C	1 1/2"	1/2"	Red	15.00
2288	C	1 1/2"	1/2"	Black	15.00

PUSH BUTTON KNOBS



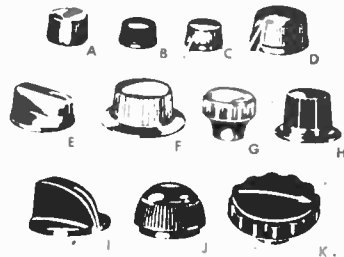
No.	Style	O.D.	Height	Color	Per C
2277	A	1 1/2"	5/8"	Black	\$10.00
2278	A	1 1/2"	5/8"	Red	12.00
2279	B	3/4"	1/4"	Black	12.00
2280	B	3/4"	1/4"	Red	13.00

LEVER KNOBS WITH 1/4" BRASS INSERT



No.	Style	Length	Hgt.	Color	Per C
2232	A	1 3/8"	1 1/8"	Black	\$34.00
2233	A	1 3/8"	1 1/8"	Walnut	36.00
2234	B	1 1/2"	1 1/8"	Black	56.00
2235	B	1 1/2"	1 1/8"	Walnut	53.00
2236	C	2 1/2"	1 1/8"	Black	36.00
2237	C	2 1/2"	1 1/8"	Walnut	37.00
2238	D	2 1/2"	1 1/8"	Black	61.00
2239	D	2 1/2"	1 1/8"	Walnut	58.00

CONTROL KNOBS



Molded bakelite control knobs. Supplied with 1/2" molded hole; complete with set screw. Std. Pkg. 25
*Recessed for locknut.

No.	Style	O.D.	Height	Color	Per C
2240	A	3/4"	1 1/2"	Black	\$18.00
2241	A	3/4"	1 1/2"	Walnut	20.00
2242	B	1 1/8"	1 1/2"	Black	14.00
2243	B	1 1/8"	1 1/2"	Walnut	14.00
2244	B	1 1/8"	1 1/2"	Black	22.00
2245	B	1 1/8"	1 1/2"	Walnut	20.00
2275†	B	1 1/8"	1 1/2"	Black	40.00
2276†	B	1 1/8"	1 1/2"	Red	42.00
2246	C	1 1/8"	1 1/2"	Black	14.00
2247	C	1 1/8"	1 1/2"	Walnut	14.00
2273†	C	1 1/8"	1 1/2"	Black	35.00
2274†	C	1 1/8"	1 1/2"	Red	37.00
2248	D	1 1/8"	1 1/2"	Black	26.00
2249	D	1 1/8"	1 1/2"	Walnut	25.00
2250	E	1 1/8"	1 1/2"	Black	22.00
2251	E	1 1/8"	1 1/2"	Walnut	24.00
2252	F	1 1/2"	1 1/2"	Black	25.00
2253	F	1 1/2"	1 1/2"	Walnut	28.00
2254	F	1 1/2"	1 1/2"	Ivory	28.00
2258	G	3/8"	3/8"	Black	22.00
2259	G	3/8"	3/8"	Walnut	22.00
2265	H	29/32"	1 1/2"	Black	25.00
2266	H	29/32"	1 1/2"	Red	27.00
2267	J	1 3/16"	5/8"	Black	17.00
2268	J	1 3/16"	5/8"	Red	20.00
2269	K	7/8"	5/8"	Black	20.00
2270	K	7/8"	5/8"	Red	22.00
2283	L	5/8"	1/2"	Black	25.00
2284	L	5/8"	1/2"	Red	25.00

†Supplied with Brass Insert.

DIAL PLATES



DIAL: BRASS, chrome silver, 1 1/2" O.D.
KNOB: Molded bakelite black (our 2250).
DESCR.: For matching dials on instruments, receivers, amplifiers. Dial has clear black etched numbers. Knob fits 1/4" shaft. Std. Pkg. 10

No.	Type	Each
2261	10 to 0 180 Degrees	\$1.25
2262	10 to 0 270 Degrees	1.25

DIAL PLATES ONLY 1/2" I.D.

2263	10 to 0 180 Degrees	.75
2264	10 to 0 270 Degrees	.75

KNOB DIAL PLATE

DIAL: Nickel silver, 1 1/2" O.D.
KNOB: Molded bakelite.
DESCR.: Engraved numerals, varnish coated. 10 to 360 degrees. Knob fits 1/4" shaft. Std. Pkg. 10

No. 2290 \$1.25 Ea.

SIDCO®

*industrial soldering tips and tiplets for pencil irons
manufactured by SID UNGAR, the pioneer
with 27 years experience in making electric pencils*



CHISEL TIP NO. 25W33 25 W. 115 V.
1 1/8" long, point 1/4" — Tellurium Copper
Ideal for Labs. — List \$1.25 each.



PYRAMID TIP NO. 25W36 25 W. 115 V.
1 1/8" long x 5/16" dia. — Tellurium Cop-
per. Ideal for Labs, Servicemen and light
soldering — List \$1.25 each.



CHISEL TIP NO. 50W33 50 W. 115 V.
1 1/8" long, point 1/4" "IRON-PLATED"
Tellurium Copper pre-tinned — heavy duty
for production lines. LONGER LIFE — List
\$3.00 each.



PYRAMID TIP NO. 40W36 40W. 115 V.
1 1/8" long x 5/16" dia. — Pure ARMCO
Iron plated with 100% silver — List \$1.50
each.



CHISEL TIP NO. 50W33AR 50 W. 115 V.
1 1/8" long, point 1/4" — ARMCO Iron
plated with 100% silver. Ideal for Labs
and Servicemen — List \$2.00 each.

THREADED UNITS FOR USE WITH TIPPLETS



NO. 25W35 25W. 115 V.
1 1/8" x 5/16" dia. — Threaded unit,
plated with 100% silver. For use with
pre-tinned iron-plated or pre-tinned
standard tiplets. Refer to illustration at
right — List \$1.25 each.



* PL 1
Conical



PL 2
Bent Conical



PL 3
Chisel

Iron Plated Tiplets 1" x 1/8" dia. avail-
able in three types — Threads chemically
treated — prevents binding and freezing.
PRE-TINNED — Save 10¢.

List **50¢** each



NO. 40W35 40W 115 V.
1 1/4" x 3/8" dia. — Threaded unit plated
with 100% silver. For use with Tiplets —
List \$1.50 each.

PRE-TINNED Standard Tiplets. Threads
chemically treated to prevent binding
and freezing.



NO. 50W35 50 W. 115 V.
1 1/4" x 3/8" dia. — Threaded unit plated
with 100% silver. For use with Tiplets —
Save \$1.00! — List \$2.00 each.



* T 1



T 2



T 3

List **20¢** each

CHECK and COMPARE

- ✓ All SIDCO Tiplets are PRE-TINNED to save you costly labor time.
- ✓ Tips guaranteed electrically for 90 days.
- ✓ Heating element wound by new method — even spacing — even tension — stronger wire — for maximum concentration of heat.
- ✓ Large drive screw assures better contact.
- ✓ All Tiplets are chemically treated to prevent binding, freezing or breaking off.
- ✓ Better Ceramics.
- ✓ Higher wattage, thus higher tip temperature.

QUANTITY DISCOUNTS

- \$1.00 to \$9.00 . . . 33 1/3%
- \$10.00 to \$99.00 . . . 40%
- \$100.00 to \$249.00 . . . 40% and 5%
- \$250.00 to \$499.00 . . . 40% and 10%
- \$500.00 to \$999.00 . . . 50%
- \$1000.00 and over 50% and 5%

All Tips and Tiplets packed 1 doz.
to Box — Sorry we are unable to break
Boxes.

SOLDERING IS OUR ONLY BUSINESS!

Handles And Tips  Listed

SIDCO

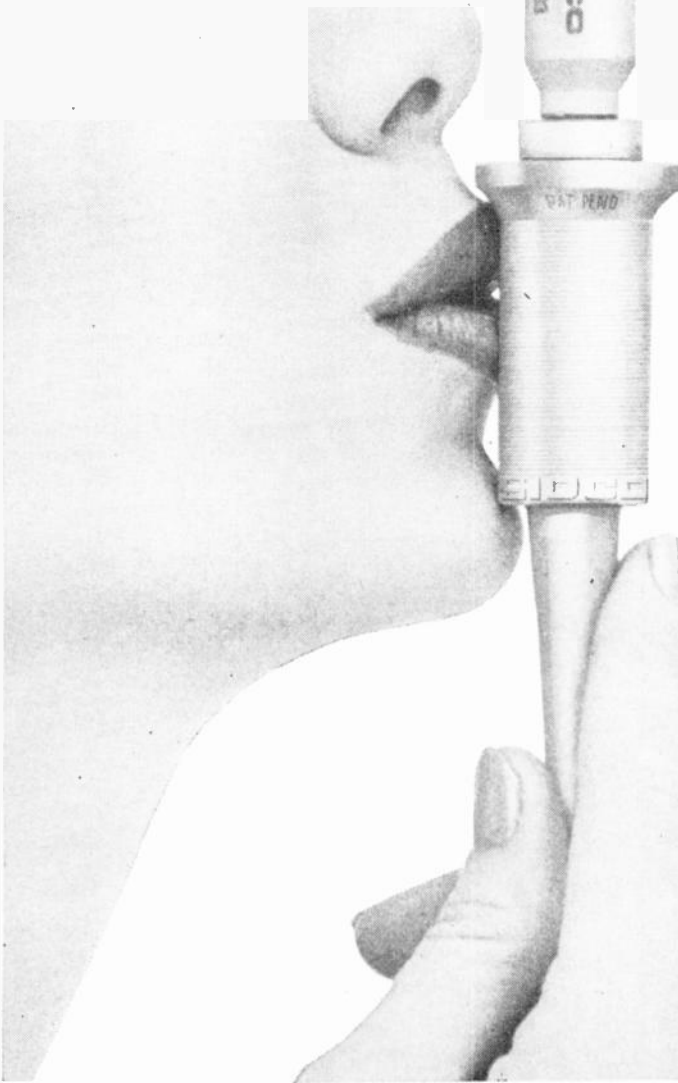
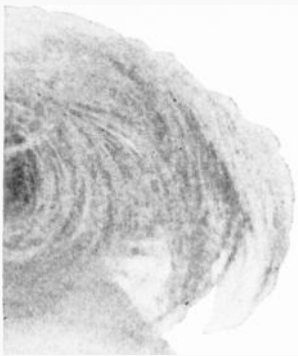
Venice, California

Sec. 5400

SIDCO



No. 1200 KC HANDLE



KISS' N COOL

The all new SIDCO Pencil Handle is actually kissing cool. New design with vertical vents has made this possible. You can press the ribbed portion to your lips after being heated for 100 hours. No cork!!! Tips stay TIGHT because of patentable device inside handle. Internal heat eliminated, so terminals do not loosen or burn out. Molded from NYLON—does not break or crack if dropped in use. Design feature keeps cord tight—eliminates cord protector. Better working visibility. Mechanical and Design patents pending.

Part No. KC 1200 List Price \$2.50 each

Length 5½"; weight with cord 3 oz.

Color: Ivory, cord gray—SPT-1 65/36

50W.-115V.

Packed in individual

boxes, wt. 3 oz.

1 dozen per container,

wt. 3 lbs.

6 dozen per master carton,

wt. 19 lbs.

Standard SIDCO discounts

(Tips purchased may be combined with handle purchases for maximum discount).

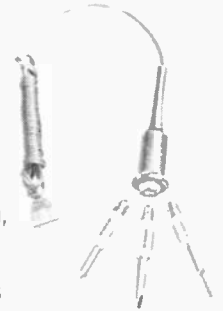
Order from your regular stocking industrial jobber.

If he cannot supply, send order direct to

SOLDERING IS OUR ONLY BUSINESS

SIDCO

Venice, Calif.

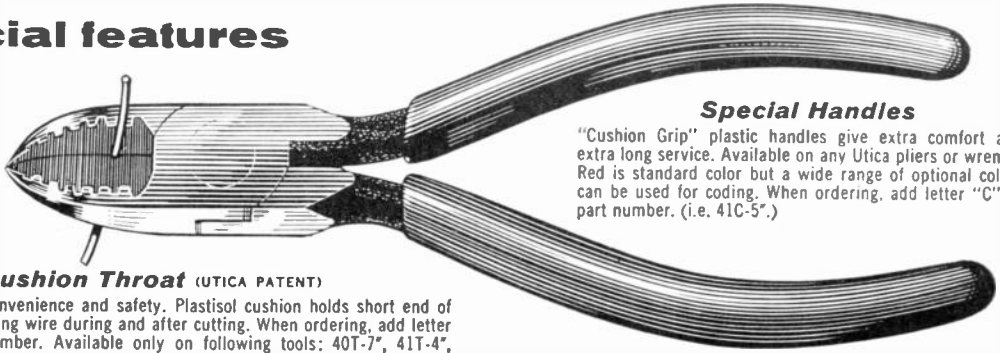




UTICA

DROP-FORGED • INDUCTION-HARDENED • BACKED BY FULL GUARANTEE

special features



Ribbed Cushion Throat (UTICA PATENT)

Designed for convenience and safety. Plastisol cushion holds short end of electrical or spring wire during and after cutting. When ordering, add letter "T" to part number. Available only on following tools: 40T-7", 41T-4", 41T-5", 41T-6", 44T-5", 46T-4".

Special Handles

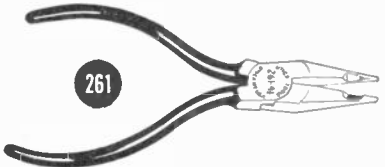
"Cushion Grip" plastic handles give extra comfort and extra long service. Available on any Utica pliers or wrench. Red is standard color but a wide range of optional colors can be used for coding. When ordering, add letter "C" to part number. (i.e. 41C-5".)



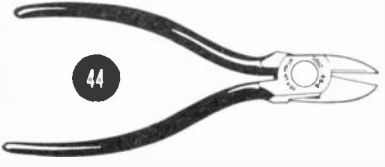
No. 31 DUCK BILL WIRING PLIERS
Long reach duck bill pliers. Serrated jaws. Size: 8".



No. 896 RADIO AND IGNITION CUTTING PLIERS
For cutting and forming wire. Center cutter near tip of jaws. Size: 6".



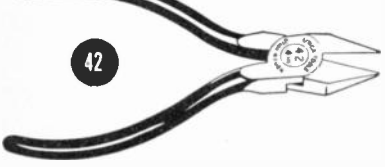
No. 261 SPECIAL SHORT CHAIN NOSE CUTTING PLIERS
Flush cutter near tip of jaws for close cuts. Size: 4½" (formerly custom tool No. B801).



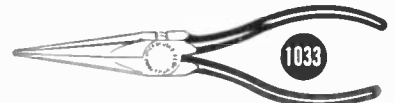
No. 44 SPECIAL DIAGONAL PLIERS
Slim nose diagonal with semi-flush cutting edge. Sizes: 5", 6".



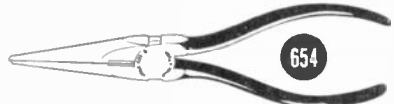
No. 46 MIDGET DIAGONAL PLIERS
Small, light, sturdy diagonal for work on small electronic assemblies. Size: 4".



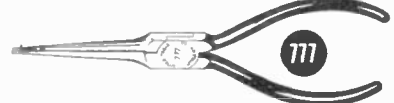
No. 42 DIAGONAL PLIERS
Heavy pattern diagonal. Flush cutting edges, tapered jaws for cutting in confined areas. Size: 4".



No. 1033 LONG CHAIN NOSE PLIERS
For general wiring. ½" nose and deep serrated jaws. Sizes: 6", 7".



No. 654 LONG CHAIN NOSE SIDE CUTTING PLIERS
Same as 1033 but with side cutter. Sizes: 6" 7".



No. 777 LONG NEEDLE NOSE PLIERS
Long, spring tempered jaws for very fine work in assembling small electronic apparatus. Size: 6".



No. 776 CURVED LONG NEEDLE NOSE PLIERS
Fine, spring tempered pliers with bent nose for offset work. Size: 6".



No. 38 SPECIAL DIAGONAL PLIERS
Exceptionally fine construction of nose for precision work. Semi-flush edges. Size: 4" (formerly custom tool No. B644).



No. 47 MIDGET DIAGONAL PLIERS
Fine tapered nose for delicate work in confined areas. Flush jaws for close cutting. Size: 4".

USE UTICA...the tools the experts use!

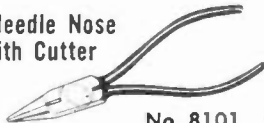
Hallmark of Quality since 1895  UTICA DROP FORGE & TOOL DIVISION • KELSEY-HAYES CO., UTICA 4, NEW YORK

NEW
VACO
Individually Tested
PLIERS

- Milled jaws for sure grip
- Hand honed side cutters
- Fitted grip handles
- Unconditional factory guarantee

24 Popular Styles from Which to Choose

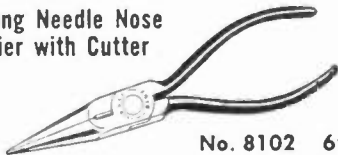
Short Needle Nose Plier with Cutter



No. 8101 5"

This plier is intended for general use where a short nose is desired for getting into difficult places.

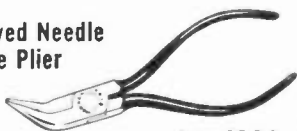
Long Needle Nose Plier with Cutter



No. 8102 6"
No. 8103 7"

An exceptional handy and useful plier, well proportioned with long thin nose, designed for reaching into tight places.

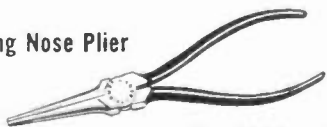
Curved Needle Nose Plier



No. 8104 6"

A long, bent, thin nose plier. The angle is arranged to give full clearance and prevent skinning of knuckles.

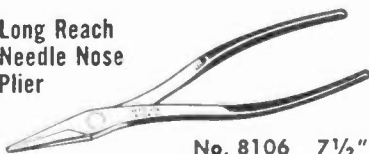
Long Nose Plier



No. 8105 6"

Newly designed long nose plier suitable for working in confined places.

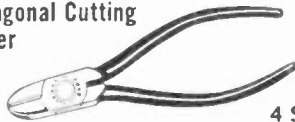
Long Reach Needle Nose Plier



No. 8106 7 1/2"

Has long, thin, sure-grip jaws to reach into places where fingers and ordinary pliers will not go.

Diagonal Cutting Plier

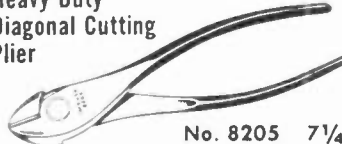


4 Sizes

No. 8201 4 1/2" No. 8203 6"
No. 8202 5" No. 8204 7 1/2"

Specially designed for electricians, radio and TV service men and automotive mechanics. Powerful jaws cut close and quickly.

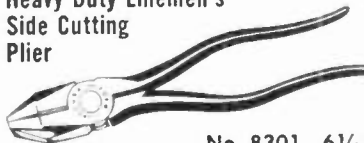
Heavy Duty Diagonal Cutting Plier



No. 8205 7 1/4"

One of the most powerful diagonal pliers made. Long handles give a 20 to 1 ratio of leverage to cut with minimum effort.

Heavy Duty Linemen's Side Cutting Plier

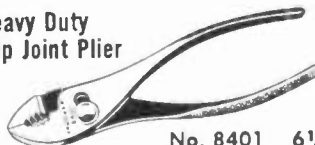


No. 8301 6 1/4"

No. 8302 7 1/2" No. 8303 8 3/4"

One of the most popular pliers in use today. Has extra powerful leverage and reinforced cutting knives.

Heavy Duty Slip Joint Plier

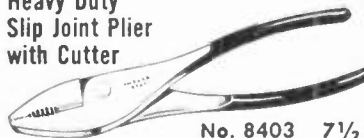


No. 8401 6 1/2"

No. 8402 8"

A top quality slip joint combination plier. Has all the quality features of higher priced cutting pliers at modest cost.

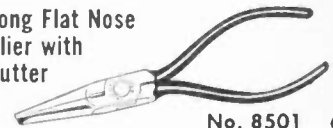
Heavy Duty Slip Joint Plier with Cutter



No. 8403 7 1/2"

This plier incorporates the best features of a regular side cutter with the versatility of a slip joint combination plier.

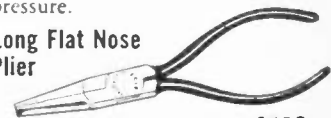
Long Flat Nose Plier with Cutter



No. 8501 6"

Extra long, wide, flat nose makes this an especially useful tool. Plier is tempered so jaw will not spring under pressure.

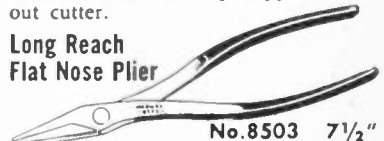
Long Flat Nose Plier



No. 8502 6"

Same as No. 8501 except supplied without cutter.

Long Reach Flat Nose Plier



No. 8503 7 1/2"

Fitted with duckbill type jaws wider and heavier than those of the ordinary flat nose for firmer gripping service.

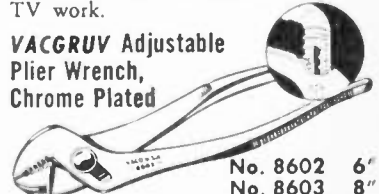
VACGRUV Adjustable Ignition Plier Wrench, Chrome Plated



No. 8601 5"

Especially designed 3-position jaws accommodate small to medium large nuts, bolts, etc. Fine for delicate radio and TV work.

VACGRUV Adjustable Plier Wrench, Chrome Plated



No. 8602 6"

No. 8603 8"

Built to provide an especially secure grip on medium to large bolts, nuts, pipes, etc. 3-position jaws open to 3/8", 1/4", respectively.

VACGRUV Adjustable Plier Wrench, Chrome Plated



No. 8604 10"

A general purpose, heavy duty tool with 5-position jaws that open to 1 1/8". Doubles as pipe wrench, gripping plier and hand vise.

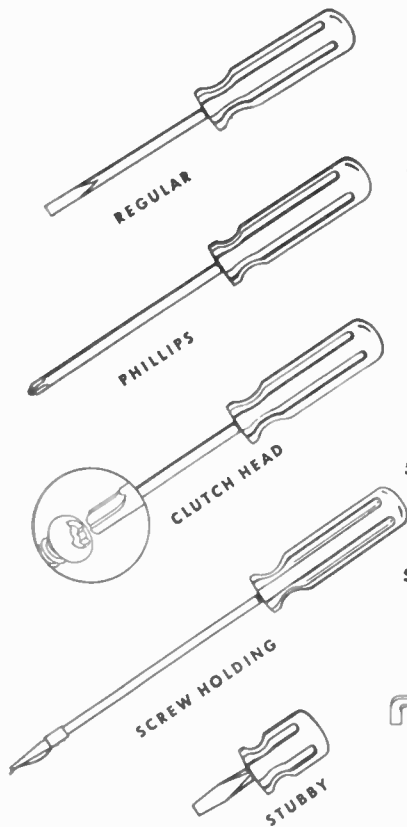
VACO PRODUCTS CO., Chicago 11, Illinois

In Canada: Vaco-Lynn Products (of Canada) Ltd.



Screw Drivers Nut Drivers

The Industry's Finest and Most Complete Line



1/8" Cabinet Style—Round Blades

Stock Number	Blade Diameter and Length
A 216-4	1/8"x4"
A 216-6	1/8"x6"
A 216-8	1/8"x8"
A 216-10	1/8"x10"

3/16" Cabinet Style—Round Blades

Stock Number	Blade Diameter and Length
A 316-4	3/16"x4"
A 316-5	3/16"x5"
A 316-6	3/16"x6"
A 316-8	3/16"x8"
A 316-10	3/16"x10"

1/4" General Service—Round Blades

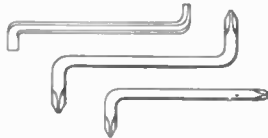
Stock Number	Blade Diameter and Length
A 416-4	1/4"x4"
A 416-5	1/4"x5"
A 416-6	1/4"x6"
A 416-8	1/4"x8"
A 416-10	1/4"x10"

5/16" Heavy Duty—Round Blades

Stock Number	Blade Diameter and Length
A 516-6	5/16"x6"
A 516-8	5/16"x8"
A 516-10	5/16"x10"

Stubbys

A 132	1/4"x1-1/4"
A 135	5/16"x1-3/4"



Offset Screw Drivers

Stock No.	Type	Blade
VO 1	Regular	5/32" x 3
VO 2	Regular	1/4" x 4
P 120	Phillips	#1 point one end, #2 point other end
P 111	Phillips	#1 point both ends
P 222	Phillips	#2 point both ends

Phillips Drivers

Stock Number	Point No.	Blade Diam. and Length
P 01	0	1/8"x2-1/2"
P 1	1	3/16"x3"
P 2	2	1/4"x4"
P 3	3	5/16"x6"
P 5 (Stub)	2	1/4"x1-3/4"
P 6 (Stub)	1	3/16"x1-1/4"
P 12 (Pocket Clip)	1	1/8"x2-1/2"

Clutch Head Drivers

Stock Number	Bit Point Diameter and Blade Length
CH 43	1/8"x3"
CH 54	5/32" x 4-1/4"
CH 64	3/16" x 4-1/4"
CH 86	1/4" x 6"
CH 106	5/16" x 6"

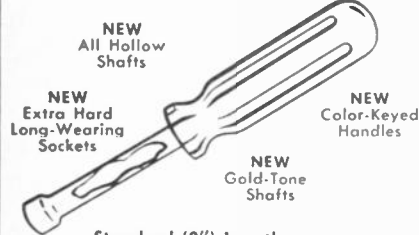
Stub Styles

CH 51	5/32" x 1-1/2"
CH 61	3/16" x 1-1/2"

Screw Holding Drivers

Stock Number	Blade Diam. & Length
OK 23	1/8" x 3"
OK 24	1/8" x 4"
OK 26	1/8" x 6"
OK 28	1/8" x 8"
OK 34	3/16" x 4"
OK 36	3/16" x 6"
OK 38	3/16" x 8"

VACO® NEW DESIGN NUT DRIVERS—Chrome-Tone & Gold-Tone Lines

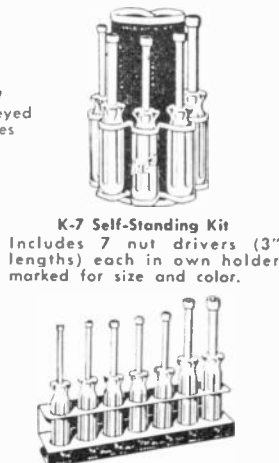


Standard (3") Lengths

Stock No.	Hex Size	Overall Length	Color Key
T 6	3/16"	6 5/8"	Black
T 8	1/4"	6 5/8"	Red
T 10	5/16"	6 5/8"	Yellow
T 11	11/32"	6 5/8"	Green
T 12	3/8"	6 5/8"	Blue
T 14	7/16"	7"	Brown
T 16	1/2"	7"	Orange

ALSO AVAILABLE

Stubby sizes 1/4", 3/16", 3/8"
Odd sizes 7/32", 1/32"
Extra Large sizes 9/16", 5/8"



K-7 Self-Standing Kit
Includes 7 nut drivers (3" lengths) each in own holder marked for size and color.

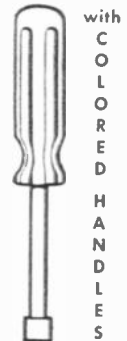
T 900 and S 700 Bench Stands
All metal for permanent attachment to bench or wall. 7 drivers.

Chrome-Tone Solid Shafts

Stock No.	Hex Size	Overall Length
S 5	5/32"	6 3/4"
S 6	3/16"	6 3/4"
S 8	1/4"	6 3/4"
S 10	5/16"	6 3/4"
S 11	11/32"	6 3/4"
S 12	3/8"	6 3/4"
S 14	7/16"	6 7/8"
S 16	1/2"	6 7/8"

Stubby Sizes

SS 8	1/4"	3 1/4"
SS 10	5/16"	3 1/4"
SS 12	3/8"	3 1/4"



VACO Chrome-Tone Nut Drivers feature fully polished chrome shafts drilled 1/2" deep.

VACO Gold-Tone Nut Drivers are all hollow shaft with the exciting, new Gold-Tone finish.

Beryllium Copper Drivers



Round Blade, Non-Spark, Non-Magnetic

Stock Number	Blade Diameter and Length
VB 26	1/8" x 6"
VB 210	1/8" x 10"
VB 38	3/16" x 8"
VB 46	1/4" x 6"
VB 48	1/4" x 8"

Insulated Blade Screw Drivers



VR 241	1/8" x 4"
VR 261	1/8" x 6"
VR 281	1/8" x 8"
VR 361	3/16" x 6"
VR 381	3/16" x 8"

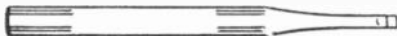
Non-Metallic Radio and TV Aligners



Bone Fiber Blade

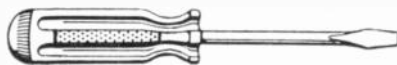
AT 55	5/32" x 5"
AT 510	5/32" x 10"

Non-Magnetic Metal Tip Radio and TV Aligner



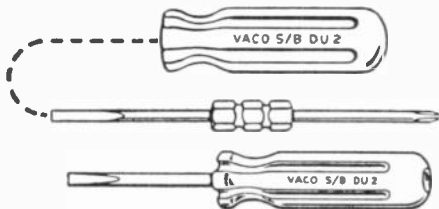
Stock Number	Body Size	Bit Diameter	Capacitance
AT 45	3/8" x 5-1/2"	3/16"	Slight

Neon Light Screw Drivers



Stock Number	Blade Diameter and Length
AN 44	1/4" x 4"
AN 2 (Pocket Clip)	1/8" x 3"

Duplex "Reversible" Drivers



Stock Number	Blade Size and Type
DU 2	No. 1 Phillips, One End 3/16" Regular, Other End
DUH 4	No. 2 Phillips, One End 1/4" Regular, Other End
DUP 12	No. 1 Phillips, One End No. 2 Phillips, Other End

VACO RADIO and TV KITS



ZBX 51

ZBX 51 Screw Driver Kit

A fine, all-purpose kit of interchangeable regular and Phillips blades that fit same handle. 6" extension makes 10 combinations possible. In durable leatherette bag.



ZSX 61

ZSX 61 Nut Driver Kit

A most versatile and complete hexagon wrench kit for radio, television or any other work requiring speedy nut setting. All sockets are super hard for maximum utility and long life. 6" extension makes 10 blade lengths possible. In handy leatherette tool roll.



ZA 70

ZA 70 Allen Driver Kit

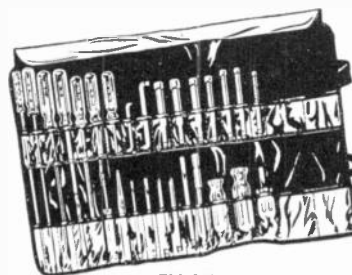
This useful kit consists of 6 hexagon drivers, handle and bag. Will service hexagon recessed opening screws Nos. 4, 5, 6, 8, 10, 1/4", 5/16" and 3/8". Each bit is extra long and may ground back as wear occurs.



ZU 75

ZU 75 Universal Driver Kit

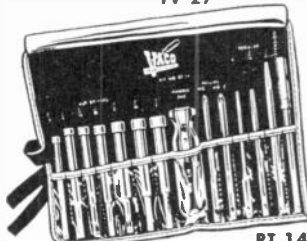
Here is a kit that is universal in its applications since it will serve all three types of the most popular screws in use today—regular slotted, Phillips, and clutch head. All popular size blades are included—3/16" and 1/4" for regular slotted screws; No. 1 and No. 2 Phillips; 5/32" x 3/16" clutch head.



TV 27

27-Piece TV and Radio Kit

NO. TV 27 KIT—Contains practically every hand tool necessary for television and radio work, plus extra pockets for pliers and other personal tools according to individual preferences. Contains one each of the following: ZH 1 medium duty handle; ZH 2 heavy duty handle; ZX 56 extension; A 132 1/4" stub; 1/4", 3/16", 1/8" regular bits; No. 1 Phillips and No. 2 Phillips bits; 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" and 1/2" hex. wrenches; AT 45 metal tip aligner; A 116-2 3/32" pocket clip; P 01 #0 Phillips thin blade; OK 24 1/8" screw holding; VR 261 1/8" insulated blade; OK 38 3/16" screw holding; VR 381 3/16" insulated blade; VB 210 1/8" x 10" non-magnetic adjuster; AT 510 5/32" fiber aligner; VO 2 medium offset; VO 1 small offset.



RT 14

14-Piece TV and Radio Kit

NO. RT 14 KIT—Here's a handy, convenient kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, plus ZH 2 heavy duty handle and famous Vaco 6" extension which doubles the usefulness of each driver. In durable leatherette tool roll.

VACO PRODUCTS CO., Chicago 11, Illinois

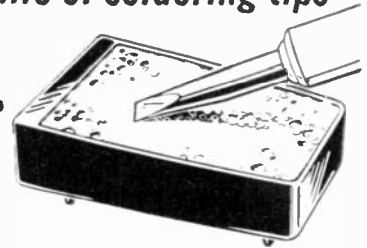
In Canada: Vaco-Lynn Products (of Canada) Ltd.

NEW
Ungar®
Soldering Tools and Accessories



Doubles the life of soldering tips

NEW
KLEEN-TIP
Specially Processed
SPONGE



Removes oxidation, prevents contamination, insures reliability of soldered connections.

≠400 **KLEEN-TIP SPONGE AND TRAY** of durable phenolic with bracket for fastening to bench. List \$1.25

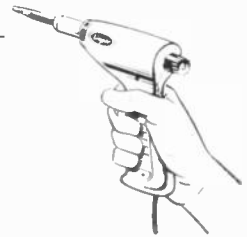
≠455 **REFILL SPONGES** for above, packed two in a protective bag. List 50c

Ungar **SOLDERING PISTOL**

For On Target soldering. Cool, comfortable, lightweight handle, with perfect hand fit grip for fatigue-free soldering. 6' cord.

≠260 **SOLDERING PISTOL** with new UC₄₅ copper Chisel Tip 700-800 F. List \$4.50

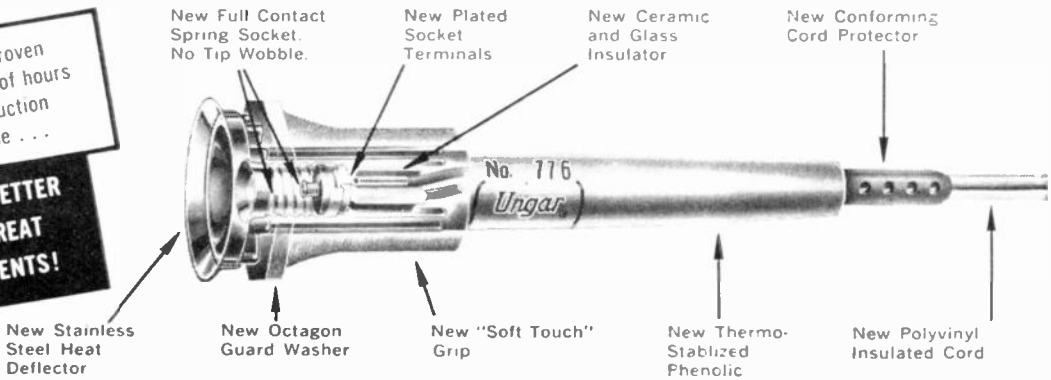
≠660 Handle only. (No-Tip). List \$3.00



NEW IMPROVED Ungar® #776 HANDLE

Quality proven in millions of hours of production line use . . .

NOW EVEN BETTER WITH 9 GREAT IMPROVEMENTS!



(≠880 Handle discontinued)

All these plus features . . . still only \$1.50 list

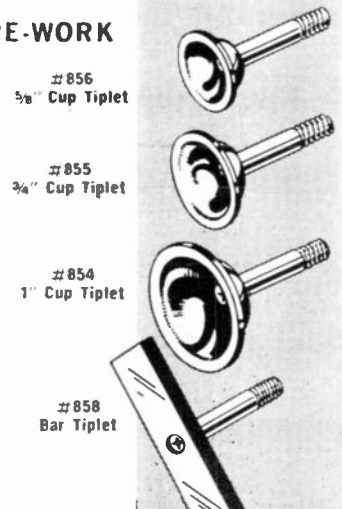
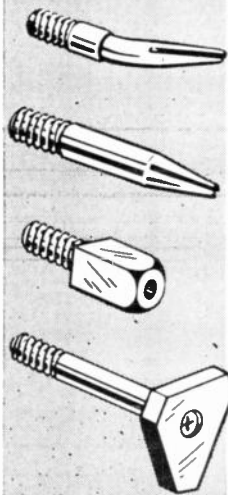
FOR FAST, SAFE, EASY PRINTED CIRCUIT RE-WORK

Ungar **DE-SOLDERING TIPPLETS**

Specially shaped to help you remove components 70% faster. Melts solder on all terminals simultaneously. All De-Soldering Tipples designed for use with #4045 Heating Unit. List 75c each

#270 Ungar DE-SOLDERING KIT.

Complete, 7 pieces including lightweight #776 Handle, Super Hi-Heat Unit #4045, 5 De-Soldering Tipples. Packed in metal case. List \$7.95



NEW Ungar® THREAD-ON

HEATING UNITS AND MINI-TIPS*

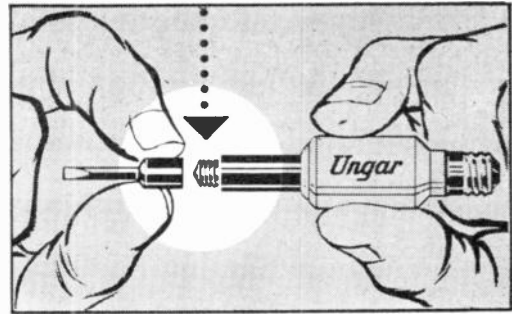
For Hi-Speed Repeat Soldering

Ungar's exclusive new development provides these important advantages . . .

- 100% increase in heat recovery rate
- 4 times greater heat transfer
- No tip seizure from oxidation or solder
- Positive seal between Heating Unit and Mini-Tip
- New passivated plating prevents barrel oxidation and surface flaking
- New UC₄₇ copper Mini-Tips, iron clad nickel plated or unplated, chisel or pencil

Trademark

All electrical components are for use on 115 v. AC-DC.



≅4037 — Hi-Speed Heating Unit — 850° to 900° F.
47½ Watts. List \$3.00

≅1237 — Hi-Speed Heating Unit — 750° to 800° F.
37½ Watts. List \$1.50



PENCIL MINI-TIP. ¾" long,
⅛" O.D. New UC₄₇ copper
body. ≅PL 111 Iron clad,
nickel plated. List 75c
≅111 Unplated List 25c



CHISEL MINI-TIP. ¾" long,
⅛" O.D. New UC₄₇ copper
body. ≅PL 113 Iron clad,
nickel plated. List 75c
≅113 Unplated. List 25c

Ungar Interchangeable Tips . . . the right tip at the right temperature.

TIP TEMPERATURES	CHISEL TIP LONG TAPER	PYRAMID TIP	CHISEL TIP SHORT TAPER	THREAD-IN HEATING UNITS For use with Tiplets shown below.
850° to 1000° F. ≅4000 Super Hi-Heat Series 47½ watt	≅4033 Tip 1½" long, ¼" wide. UC ₄₇ copper, iron clad, silver plated. List \$3.00	≅4036 Tip 1½" long, ⅜" diameter. UC ₄₇ copper, iron clad. List \$3.00	≅4039 Tip 1½" long, ⅜" diameter. UC ₄₇ copper, iron clad, silver plated. List \$3.00	≅4035 Steel body, silver plated. ⅛" tap for use with 300 Series Tiplets. ≅4045 Steel body, silver plated. 3/16" tap for use with 800 Series Tiplets. List \$3.00 ea
750° to 800° F. ≅1200 Hi-Heat Series 37½ watt	NEW ≅1233 Tip 1½" long, ¼" wide. UC ₄₇ copper, unplated. List \$1.50	≅1236 Tip 1½" long, 5/16" diameter. Pure solid Armco Iron, silver plated. List \$1.50	≅1239 Tip 1½" long, ⅜" diameter. Pure solid Armco iron, silver plated. List \$1.50	≅1235 Steel body, silver plated. ⅛" tap. List \$1.50
650° to 750° F. ≅500 Standard Series 23½ watt	NEW ≅533 Tip 1½" long, 3/16" wide. UC ₄₇ copper, unplated. List \$1.25	≅536 Tip 1½" long, 5/16" diameter. UC ₄₇ copper, unplated. List \$1.25	≅539 Tip 1½" long, 5/16" diameter. UC ₄₇ copper, unplated. List \$1.25	≅535 Steel body, silver plated. ⅛" tap. List \$1.25

Ungar® TIPLETS for subminiature work . . . combine with Ungar Heating Units above.



(Shown actual size)

≅PL 340 MICRO-NEEDLE. 3/64" Tip, ¾" long,
for micro-scope soldering. UC₄₇ copper, iron
clad, nickel plated List 60c



≅PL 331 PENCIL. 1" long. UC₄₇ copper, iron
clad, nickel plated List 60c
≅331 unplated. List 20c



≅PL 332 PENCIL OFFSET. 1" long. UC₄₇ copper,
iron clad, nickel plated. List 60c
≅332 unplated List 20c



≅PL 333 CHISEL, LONG TAPER. 1" long. UC₄₇
copper, iron clad, nickel plated. List 60c
≅333 unplated. List 20c



≅PL 338 TAPERED NEEDLE, 1/16" POINT. 1"
long. UC₄₇ copper, iron clad, nickel plated.
List 60c



≅PL 833 CHISEL, LONG TAPER. 1¾" long. UC₄₇
copper, iron clad, nickel plated. List \$1.00

800 SERIES TIPLETS for use with ≅4045 Heating Unit



≅PL 834 CHISEL, LONG TAPER, OFFSET. 1¾"
long. UC₄₇ copper, iron clad, nickel plated.
List \$1.00



≅PL 823 3/16" O.D. PYRAMID. 1" long. UC₄₇
copper, iron clad, nickel plated. List 60c
≅823 unplated. List 20c

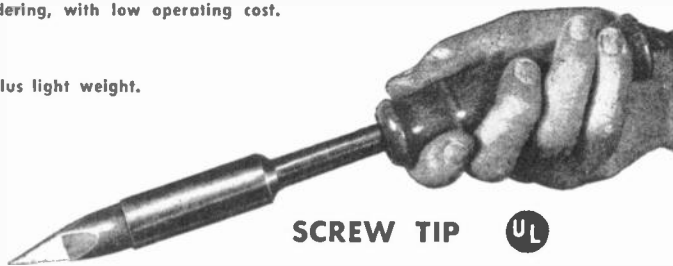


≅PL 824 3/16" O.D. CHISEL, LONG TAPER. 1"
UC₄₇ copper, iron clad, nickel plated. List 60c
≅824 unplated. List 20c

Ungar Electric Tools, Inc. 4101 Redwood Avenue Los Angeles 66, Calif.

VULCAN ELECTRIC SOLDERING TOOLS

- High-powered Soldering Tools, designed for fast soldering, with low operating cost.
- Tips are of finest forged copper.
- The "Hang" or balance good mechanics appreciate, plus light weight.
- Cool handles of selected birch, shaped to fit the hand.
- 6 ft. heater cord, with unbreakable rubber plug.
- Fireproof terminals.
- Heating elements easily replaced.
- Operate equally well on AC or DC.



SCREW TIP 

Pygmy PENCIL TYPE

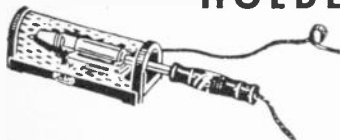


A very efficient tool for fine soldering of instruments, meters, gauges, small radios, etc. or any spots where space is cramped or there is little clearance. The cool,

tapering wood handle permits "writing grip." Flexible coil also assures coolness. Equipped with approved cord and unbreakable rubber plug. Standard tip is 1/4" but 3/16" or 1/8" tips are available, as well as special tips, bent to any angle or in various shapes.

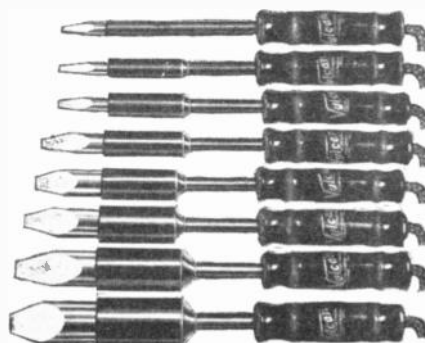
Cat. No.	Watts	Tip	Weight	Length	List
Pygmy	25	1/4"	7 oz.	8 1/4"	\$5.10

SOLDERING TOOL HOLDER



Holds and guards the Soldering Tool and keeps the tip at soldering temperature as long as it remains in the holder. Has a cord and attached plug cap for connection to current and a receptacle for plugging in the Tool. A convenient adjusting screw sets the Holder thermostat to maintain proper temperature. AC only
 No. 2100 without thermostat\$4.50 list
 No. 2100T with thermostat\$7.30 list

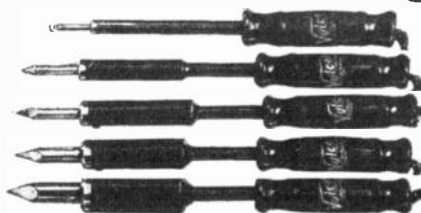
CAT. No.	WATTS	TIP	LIST
20	50	3/16"	\$6.55
30	60	1/2"	8.95
40	90	1/2"	9.80
50	130	7/8"	11.65
60	175	1"	13.35
70	220	1 1/8"	15.50
80	310	1 3/8"	17.70
90	430	1 5/8"	20.15
900	700	1 3/4"	37.30



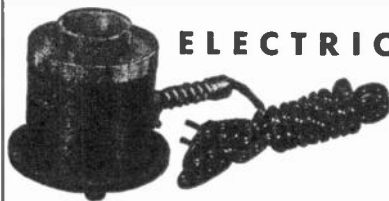
PLUG TIP — All parts replaceable

CAT. No.	WATTS	TIP	LIST
* 25	50	1/4"	\$6.25
35	100	3/8"	9.80
453	150	3/8"	10.65
45	150	1/2"	11.15
55	200	5/8"	11.55
* 75	300	7/8"	15.10

*Heating element replaceable at Factory only.



ELECTRIC SOLDER POTS



Both single and three-temperature Pots in a variety of sizes and wattages, all with cord and plug approved at Underwriters' Laboratories.

CAT. No.	WATTS			CAPACITY SOLDER APPROXIMATE	LIST
	HIGH	MEDIUM	LOW		
1700	200	120	80	1 1/4 lbs.	\$28.60
1702	250	150	100	5 lbs.	32.85
1704	500	250	125	10 lbs.	41.25
1600	150	Single Heat		14 oz.	9.90
1606	350	Single Heat		3 lbs.	11.55
1701	250	Single Heat		4 lbs.	21.10
1703	200	Single Heat		1 1/2 lbs.	16.10

Other sizes up to 6000 watts, single heat.

"DUREVER" Soldering Tips are pure forged copper, shaped to your favorite style, with a special metal coating that will preserve the original shape of the tip by protecting the copper from corrosion and oxidation. Will outlast copper tips, cannot amalgamate with solder, do away with the necessity for dressing or filing. Can be readily tinned without filing and hold their original shape. Circular on request.



ELECTRIC COMPANY

DANVERS 30, MASS.

ELECTRIC SOLDERING TOOLS • SOLDER POTS • GLUE POTS • BRANDING IRONS • HEATING UNITS

VULCAN

ELECTRIC SOLDERING TOOLS

LOW PRICE, LONG DISCOUNT

JACKSON

Jackson "Standard" Electric Soldering Irons are scientifically designed for that "balanced feel" which reduces fatigue. All elements used in Jackson Standard Irons are made of the finest quality nichrome wire, wound on heat conductive cores and insulated with selected high grade amber mica. Equipped with 6 ft. approved heater cords and plugs. Stand included with every iron.



STANDARD — SCREW TIP

CAT. No.	WATTS	TIP	LIST
141	85	3/16"	\$5.65
142	100	3/8"	6.55
0142	125	3/8"	7.75
144	150	3/4"	9.30
143	225	7/8"	10.70
210	350	1 1/8"	12.55



STANDARD — PLUG TIP

CAT. No.	WATTS	TIP	LIST
149	85	5/16"	\$5.65
145	100	3/8"	6.55
0145	125	3/8"	7.75
146	150	1/2"	9.30
147	225	3/4"	10.70
148	350	7/8"	12.55



DE-LUXE ELECTRIC SOLDERING PENCIL

A soldering pencil for all light work such as Radio, Television, Jewelry, Instruments and Electronics. Handle is cork-filled composition, 100% air cooled: 1/2" steel tubing, perforated for air cooling. Element is wound on a heat conductive core, for efficient heating. High grade mica and nichrome wire. Underwriters approved 6 ft. rubber cord and plug.

CAT. No.	WATTS	VOLTS	TIP	LENGTH	WEIGHT	LIST
230D	25	115	1/4"	7"	3 oz.	\$3.45



STANDARD ELECTRIC SOLDERING PENCIL

Wood handle, rich black finish with cork sleeve. 1/2" steel tubing gun metal finish. Element is wound on heat conductive core. High grade mica and nichrome wire. 6 ft. rubber cord and plug.

CAT. No.	WATTS	VOLTS	TIP	LENGTH	WEIGHT	LIST
230	25	115	1/4"	7"	3 oz.	\$2.90
231	40	115	3/8"	8"	4 oz.	5.10



COMET — SCREW TIP*

Comet Irons are equipped with a 6 ft. approved Heater Cord and Plug. Heating element is made of high quality Nichrome Wire, wound with mica on a core. Handles are black finish. All irons are packed one in a box, stand included. 50 to a standard shipping container. All irons are made for 115 volts. If higher voltage is desired, there will be a slight extra charge.

CAT. No.	WATTS	TIP	LIST
65 S	65	1/2"	\$3.10
85 S	85	5/8"	3.60
100 S	100	3/4"	4.10
125 S	125	7/8"	4.90



COMET — PLUG TIP

CAT. No.	WATTS	TIP	LIST
65 P	65	1/4"	\$2.75
85 P	85	5/16"	3.25
100 P	100	3/8"	4.00
125 P	125	7/16"	4.90

*Discontinued manufacture of screw-on type comet line. Limited number of irons still available.



VULCAN "EVEN-DIP" SOLDER POTS

DESIGNED AND DEVELOPED BY SPECIALISTS
FOR PRINTED CIRCUIT SOLDER OPERATIONS

- 16 Crucible Sizes.
- High Fidelity thermostat control—Adjustable 150-600° F.
- Surface Temperature does not vary beyond ± 2° F.
- Localized "hot spots" completely eliminated.
- Replaceable heavy-duty heating elements.

Send for free, detailed specifications.



ELECTRIC COMPANY

DANVERS 30, MASS.

ELECTRIC SOLDERING TOOLS • SOLDER POTS • GLUE POTS • BRANDING IRONS • HEATING UNITS



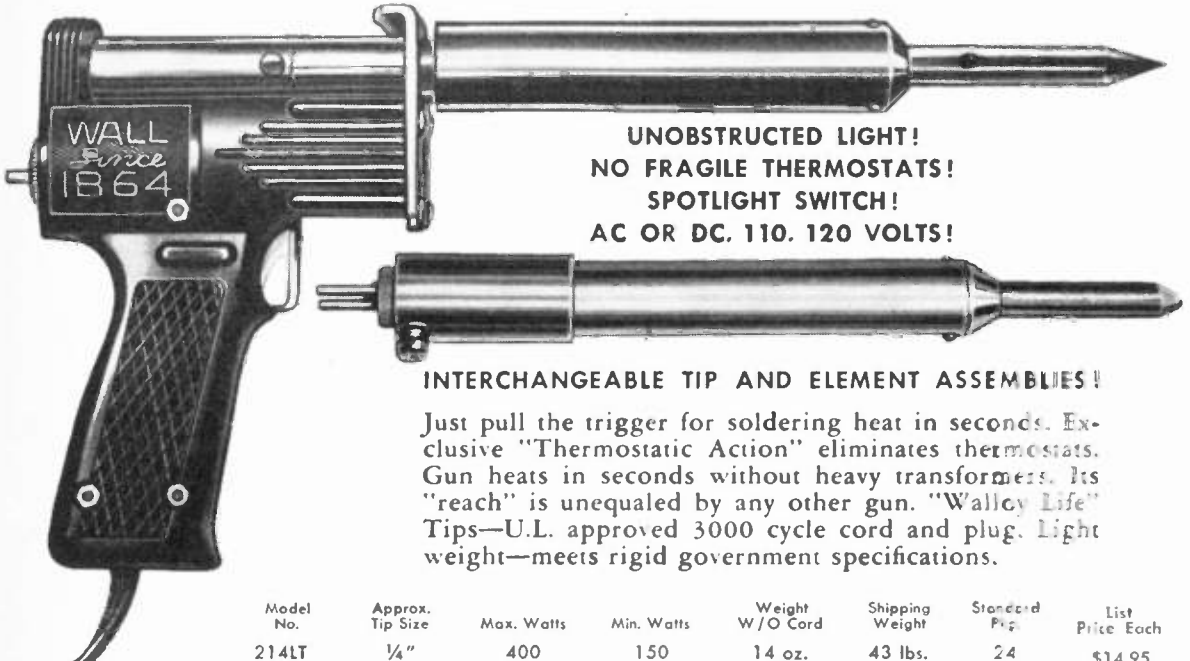
GROVE CITY
Pennsylvania

"TRIG-R-HEAT"

Instant Electric

SOLDERING GUNS

with "Thermostatic Action"



UNOBSTRUCTED LIGHT!
NO FRAGILE THERMOSTATS!
SPOTLIGHT SWITCH!
AC OR DC. 110. 120 VOLTS!

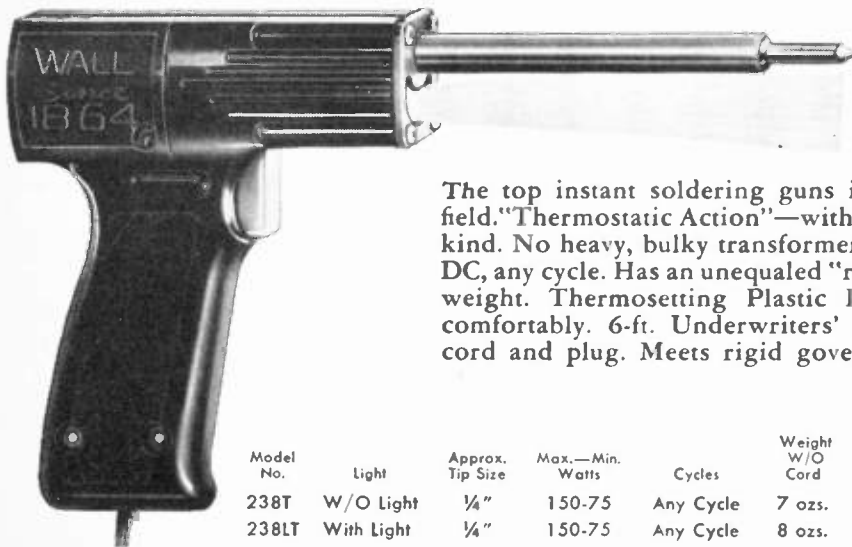
INTERCHANGEABLE TIP AND ELEMENT ASSEMBLIES!

Just pull the trigger for soldering heat in seconds. Exclusive "Thermostatic Action" eliminates thermostats. Gun heats in seconds without heavy transformers. Its "reach" is unequaled by any other gun. "Walley Life" Tips—U.L. approved 3000 cycle cord and plug. Light weight—meets rigid government specifications.

Model No.	Approx. Tip Size	Max. Watts	Min. Watts	Weight W/O Cord	Shipping Weight	Standard Pkg.	List Price Each
214LT	1/4"	400	150	14 oz.	43 lbs.	24	\$14.95
212LT	1/2"	650	300	24 oz.	57 lbs.	24	16.95

MODEL NO. 212LT

Attractively packed 1 to a display carton.



POPULAR PRICED MODEL

The top instant soldering guns in the popular priced field. "Thermostatic Action"—without thermostats of any kind. No heavy, bulky transformers. Operates on AC or DC, any cycle. Has an unequaled "reach." Extremely light weight. Thermosetting Plastic Handle fits the hand comfortably. 6-ft. Underwriters' approved 3000 cycle cord and plug. Meets rigid government specifications.

Model No.	Light	Approx. Tip Size	Max.—Min. Watts	Cycles	Weight W/O Cord	Standard Package	Shipping Weight	List Price Each
238T	W/O Light	1/4"	150-75	Any Cycle	7 ozs.	50	50 lbs.	\$7.50
238LT	With Light	1/4"	150-75	Any Cycle	8 ozs.	50	50 lbs.	7.98

MODEL NO. 238LT

Packed 1 to an attractive display carton.



GROVE CITY
Pennsylvania

Industrial SOLDERING IRONS

with "Thermostatic Brain"

BUILT WITH TRIPLE LIFE, PRECISION-WOUND ELEMENTS



Precision-built to withstand "production-line punishment!" "Thermostatic Action" provides controlled heat without fragile or moving parts to wear out. "Thermostatic Action" is guaranteed for the life of the iron.



1. Built to withstand "Production-Line Punishment"!
2. "Thermostatic Action" prevents tip burning!
3. Heats 4 times faster than most other industrial irons!
4. No radionic interference while iron is in use!
5. Underwriters' Laboratories and Canadian Standards approved!
6. Successfully passed the 65° below zero test!
7. Precision wound on pure mica sheet!
8. More economical in use than others of like wattage!
9. Operates on 110-120 volts, AC or DC!
10. Meets all rigid government specifications!



No. 18 Series—1 ounce*

No. 14 Series—2 ounces*

PENCIL TYPES

Ideal for Printed Circuits

For delicate, precision work on radio, TV, electronics, small metals, jewelry, light or intricate electrical connections. Recovers faster and reduces fatigue on the production line.

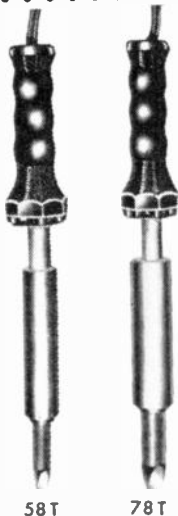
Cat. No.	Max.—Min. Watt Input	Type	Tip Metal	Volts AC-DC	Tip Size	Overall Length	Shipping Case Quantity	Shipping Case Weight	List Price
18HD	25	Heavy Duty	Copper	110-120	1/8"	7 1/2"	50	17 lbs.	8.00
18HDW	25	Heavy Duty	Walloy	110-120	1/8"	7 1/2"	50	17 lbs.	9.50
14T	125-40	Regular	Copper	110-120	1/4"	8"	50	19 lbs.	8.00
14TW	125-40	Regular	Walloy	110-120	1/4"	8"	50	19 lbs.	9.50
14HD	40	Heavy Duty	Copper	110-120	1/4"	8"	50	19 lbs.	8.75
14HDW	40	Heavy Duty	Walloy	110-120	1/4"	8"	50	19 lbs.	10.25

*Wt. without cord

Packed 1 to a box

EXTRA HEAVY DUTY PRODUCTION IRONS

Made to withstand uninterrupted soldering service of medium and medium heavy metals. Heavy metal electrical connections. Heavy duty . . . but light in weight.



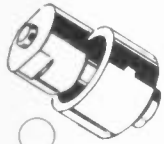
58T

78T

Cat. No.	Max.—Min. Watt Input	Type	Tip Metal	Volts AC-DC	Tip Size	Overall Length	Shipping Quantity	Case Wt.	List Price
38T	225-80	Regular	Copper	110-120	3/8"	12 1/2"	50	61 lbs.	10.00
38TW	225-80	Regular	Walloy	110-120	3/8"	12 1/2"	50	61 lbs.	11.75
38HD	80	Heavy Duty	Copper	110-120	3/8"	12 1/2"	50	61 lbs.	11.50
38HDW	80	Heavy Duty	Walloy	110-120	3/8"	12 1/2"	50	61 lbs.	13.25
12T	300-125	Regular	Copper	110-120	1/2"	13"	50	73 lbs.	13.00
12TW	300-125	Regular	Walloy	110-120	1/2"	13"	50	73 lbs.	15.00
12HD	125	Heavy Duty	Copper	110-120	1/2"	13"	50	73 lbs.	14.00
12HDW	125	Heavy Duty	Walloy	110-120	1/2"	13"	50	73 lbs.	16.00
58T	500-200	Regular	Copper	110-120	5/8"	13 1/2"	25	50 lbs.	15.00
58TW	500-200	Regular	Walloy	110-120	5/8"	13 1/2"	25	50 lbs.	17.50
58HD	200	Heavy Duty	Copper	110-120	5/8"	13 1/2"	25	50 lbs.	16.00
58HDW	200	Heavy Duty	Walloy	110-120	5/8"	13 1/2"	25	50 lbs.	18.50
78T	750-300	Regular	Copper	110-120	7/8"	14"	25	70 lbs.	18.00
78TW	750-300	Regular	Walloy	110-120	7/8"	14"	25	70 lbs.	21.60
78HD	300	Heavy Duty	Copper	110-120	7/8"	14"	25	70 lbs.	20.00
78HDW	300	Heavy Duty	Walloy	110-120	7/8"	14"	25	70 lbs.	23.60

Packed 1 to a box

Walsco ELECTRONIC PRODUCTS...



ROUND



SQUARE



KEYED



"D"

CHASSIS PUNCHES

Exclusive Walsco "Low-Torque" design requires 50% less effort, makes a cleaner hole faster. Complete range of sizes.

PHONO DRIVES

Walsco Idler and Drive Wheels, Belts and Tires for every turntable replacement, made to exact factory specifications.

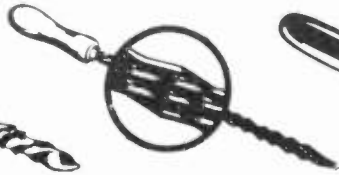


STICKLEBACK TOOLS

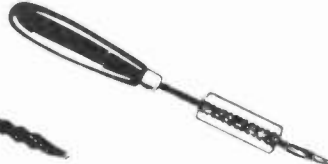
Walsco's precision-made wonder tools drill, saw and rout faster and easier than conventional tools. Made from tough alloy steel for years of service.



DRILL ROUTER



FILE RASP



DRILLSAW



C-RING TOOL

Special service tool designed to remove and insert "C" washers and retaining rings on tuners, controls and other equipment.

No. 585 List \$3.15



WALSCO HI-FI CONNECTING CABLES

Plugs and Jacks provide a wide selection of types, lengths and connections for every component hook-up. Molded Tenite construction improves appearance, assures good electrical continuity.

LONG NECK OILER

Gets to hard-to-reach oil cups and holes. Extension telescopes to over 7" in all plastic container and nozzle. Contains high grade all-purpose oil.

No. 985 List \$1.50



MINI-HOLD

Screwdrivers designed principally to speed phono cartridge replacement. "Wedge-action" grips small #1-#4 screws.

No. 2568 Open length 3 1/4" List \$3.30
No. 2569 Open length 7" List 3.75



HOLT-HEAD TOOL

New tool designed to remove Holt-Head screws from Motorola portable TV sets.

No. 2506 List \$0.50



TEKNI-LABELS

Wide variety of titles and designs for quick labeling of electronic equipment. Choice of 9 different assortments, each with hundreds of decals.

SILICONE RESIN LACQUER

Special formula designed to protect printed circuits after repairs or parts replacement. Covers with tough film. Fast drying.

No. 120-02 2 oz. Bottle w/Brush List \$1.95



TEL-A-TURN

Alignment tool results turn to right or left on most shops, trimmer screws, etc. Accurate to 1/32 inch.

No. 2586 I.F. aligner . . . #4 & #6 studs. List \$1.65
No. 2587 Standard metal tip & thin 7/64" blade. List \$1.65
No. 2588 Hex aligner . . . 100" & .125" hex. List \$1.65

TEST SOCKET ADAPTERS

Test vacuum tube and picture tube circuits in full operation. Four styles for top-of-the-chassis checks on voltage, resistance, audio and video . . . all in new "Full View Package."

No. 1949-07 7-pin List \$2.75
No. 1949-08 8-pin List 2.60
No. 1949-09 9-pin List 3.10
No. 1949-01 CRT List 3.25



HARDWARE ASSORTMENT

Contains over a thousand items . . . nuts, washers, grommets, springs, clamps, eyelets, etc. . . in handy plastic box.

No. 3003 List \$1.80

HEX & SPLINE WRENCH KIT

Contains 11 most popular size hex & spline wrenches in durable plastic snap case.

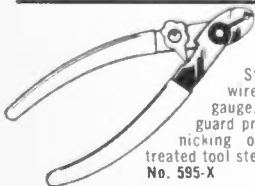
No. 580 List \$2.25



SEND FOR

your free illustrated Walsco 64-Page Catalog . . .

WALSCO,
Dept. R-M,
Rockford, Illinois



NEW STRIP-ER-CLIP

Strips and clips all wire from 14 to 26 gauge. Exclusive safeguard prevents accidental nicking or cutting. Heat-treated tool steel, insulated grip.

No. 595-X List \$2.30

TV-FM ANTENNA COUPLERS

Low loss, weatherproof, neat and easy to install. Couple two TV or two FM sets to one antenna. Two types: Standard for close-in locations; Low Loss for fringe areas.

1600 Standard List 2.50
1602 Low Loss List 3.50

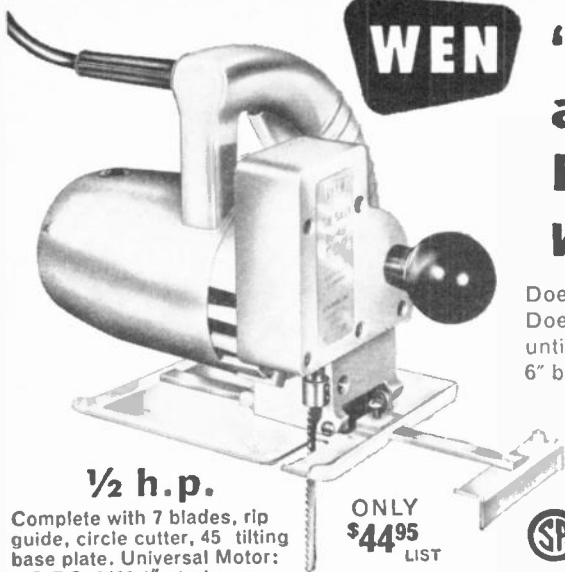


WEN

... Tools you will sell the most

PROMOTED THE YEAR 'ROUND

Reader's Digest—Life, Saturday Evening Post—Esquire, Popular Mechanics, Popular Science, Mechanix Illustrated



WEN

"All-Saw"...Cuts 4 x 4 at 45°...6" Log... Fine Scroll Work... WITH COMPLETE SAFETY!

Does Everything a Pattern Saw Will Do; More Than A Circular Saw Does! Does many things a band saw or nibbler will do—and many things that, until now, only a chain saw could. No other portable electric-saw can cut a 6" board or a 6" log, yet cut any pattern, too!

Cuts 2 x 4, 4 x 4, 6 x 6—all metals, including steel thin gauge to 1/2" —pipe and thin wall up to 2" in diam. Cuts curves, circles, straight cuts, fine pattern work in Masonite, Bakelite, wood, metals, tiles, Formica, wallboard, Plexiglas, plaster board, asbestos. Knife blade cuts all materials cut with knife.

Curved foot plate enables inside cut anywhere; cutting blade in line of sight; air stream clears dust from line of cut; powerful 1/2 H.P. motor; 3 wire 8 cord with adaptor; heavy duty hardened gears; heavy duty roller and oilite bearings.

1/2 h.p.

Complete with 7 blades, rip guide, circle cutter, 45 tilting base plate. Universal Motor: AC-DC, 3400 1" strokes per minute. Length 8", Width 7" Height 7 1/2", Wt. 6 1/2 lbs.

ONLY \$44.95 LIST



UL listed under Industrial Classification

Sand-Polishers and Kits



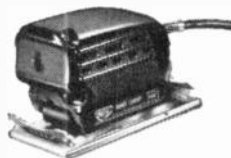
Power Saw Model 505 \$26.95 LIST

Does work of rip, jig, crosscut, band, hack, coping, scroll, keyhole saws. Cuts 2 x 4 in seconds; cuts plastics, etc.; cuts 1/2" steel plate. 1.8 amp. motor. 2650 3/4" strokes per minute under load. Motor fan keeps guideline free from sawdust. Handy, beautifully balanced. 3 blades included. Also available in kit form (505K) with metal carrying case.



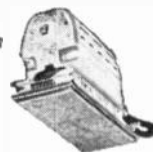
\$29.95 LIST 3/8" 2-Speed Power Drill Model 808

A 2-speed 3/8" Power Drill by Wen—and only Wen. Here in one tool is everything needed in an electric drill. Easy to change speeds. 1000 RPM to 3000 RPM. Husky, powerful, but streamlined design. Genuine 3/8" Gearing Chuck. Universal 2 amp. Motor. Size 12 1/4" x 4 3/4" x 2 1/2". Weight 4 1/2 lbs.



\$13.95 Model 202

Small, light, handy and quiet. Powerful motor delivers 14,400 straight line action strokes per minute. Ideal for fine finishing and polishing. Strong black plastic case. Comes in attractive Display Carton with 6 assorted abrasives, 2 polishing pads.



\$16.95 Model 303

General utility sander 14,400 straight strokes per minute. Case strong red plastic. Comes in "gold" metal Kit Box with 12 abrasives, 2 polishing pads.



\$19.95 LIST Model 404

Has special motor, amazing power. Heavy duty model Drives 3 1/4" x 6 1/4" sanding pad. 14,400 straight strokes per minute. Ebony black plastic shatter and heat resistant case. Comes in metal Kit Box with 15 assorted abrasives. 2 polishing pads, instruction book.

"Quick Hot" Soldering Guns... 8 standard and special tips

Promotionally Priced



\$7.95 LIST Model 199

General purpose gun. Heats 2 1/2 seconds. Weighs 1 1/2 lbs. Has long, durable tips, spotlight, sturdy red plastic case. Kit includes gun, extra tips for hot-cutting, smoothing, rosin core solder, all in strong metal box.



\$9.95 LIST Model 199K



\$9.95 LIST Model 288

Heats in 5 seconds, far beyond 200 watt rating. Light (2 1/4 lbs.) Has long reach, long life tips, spotlight, strong shatterproof handle and case.



\$12.95 LIST Model 250

Famous WEN 250 Watt Heavy Duty Model. 567 hours continuous operation. Heats in 5 seconds. Spotlights work. With special rip cuts plastic tile. Strong black plastic case. Comes in attractive Self-Display Carton. Also available in kit form (250K) with metal carrying case.



\$5.95 LIST Model 100

Feather-light (19 oz.) Slim-line (1 1/4" cross section) 100 Watts power. Heats 2 1/2 seconds. Built-in spotlight focused on work. Long reach, long life tips, replaceable and interchangeable with special purpose tips. Lustrous black plastic housing.

WEN

PRODUCTS, INC.

(Export Sales, Scheel International, Inc., Chicago)

• Chicago 31, Ill.

Copyright by U. C. P., Inc.

Use Index (pg. 2) for Quick, Easy Location of ALL Products

The MASTER—24th Edition

TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

Page 1287

Weller®

DUAL HEAT MODELS

IMPORTANT WELLER GUN FEATURE

DUAL HEAT—saves time and money; tip life greatly increased by using high heat only when necessary. Switch instantly to high or low heat as job requires.

Model D-550

200/275 watts

Instant heat—no wasted time or current.

Twin spotlights—eliminate shadows.

Exclusive tip-grip—wiping action of tip fastening unit eliminates contact resistance and oxidation; assures full constant heat.

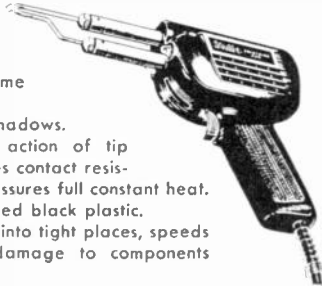
Shatterproof housing—rugged black plastic.

Longer reach—slides easily into tight places, speeds work and prevents damage to components and insulation.

Replaceable tips—chisel shape for faster heat transfer.

Accessory tips—available for cutting and smoothing. Guaranteed—one year.

PRICE.....\$16.25 each, list



Model D-440

100/150 watts

Instant heat—full capacity heat in 5 seconds.

Twin spotlights—locate the work quickly.

Tip-grip—exclusive feature, assures full constant heat.

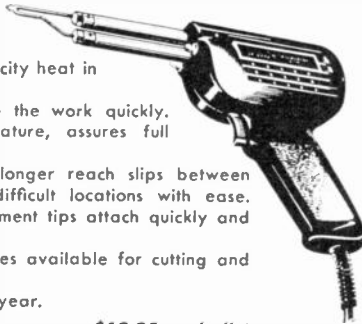
High-impact housing—longer reach slips between wiring; handles difficult locations with ease.

Low-cost tips—replacement tips attach quickly and securely.

Special tips—accessories available for cutting and smoothing jobs.

Guaranteed—for one year.

PRICE.....\$12.95 each, list



SINGLE HEAT MODELS

Model 8250A

250 watts

Heavy-duty general purpose soldering gun.

Instant heat—lights and heat come on together.

Twin spotlights—illuminate the work.

Tip-grip—assures full, constant heat delivered to the tip.

Rugged housing—shatterproof plastic.

Replaceable tips—change tips in a jiffy.

Guaranteed—one year.

PRICE.....\$12.95 each, list



Model 8100

100 watts

Light duty, junior model gun • Instant heat • Compact design • Twin spotlights • Replaceable tips • Guaranteed.

PRICE.....\$5.95 each, list



INSTANT HEAT TYPE SOLDERING GUNS AND KITS

Easton, Penna.

“EXPERT” SOLDERING KIT with new DUAL HEAT GUN

Model 8200K

90/125 watts

Prefocused spotlight

Newest tip design—utilizes

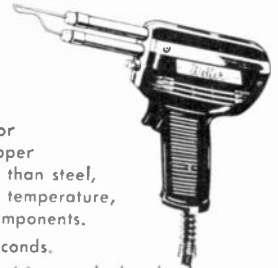
copper for superior heat transfer, plus iron plating for rigidity and longer life. Copper conducts heat 5 times faster than steel, permits operation at lower temperature, and prevents damage to components.

Instant heat—gun heats in 3½ seconds.

New design—streamlined for precision work, handsome modern styling with high gloss finish.

Guaranteed—for one year.

PRICE \$7.95 each, list



HEAVY DUTY SOLDERING KIT

Model 8250AK

250 watts

Kit includes:

250 watt, instant heat soldering gun.

Supply of first-quality solder.

Long-life soldering tip.

Cutting tip for cutting thermoplastics, etc.

Smoothing tip for heat sealing, etc.

Tip interchange wrench.

2 Instructions booklets.

All-metal storage and carrying case a \$17.00 value.

PRICE.....\$14.95 each, list



WELLERTIPS FOR ALL MODELS



For Gun Models 8100 and D-440:

Soldering tip

No. 7135, pkg. of 2...35c list

Smoothing tip

No. 6120, with nuts...50c list

Cutting tip

No. 6110, with nuts...50c list

For Gun Model 8200: Soldering tip No. 8125, pkg. of 2...35c list

For Gun Models 8250A and D-550

Soldering tip

No. 7250, pkg. of 2...50c list

Smoothing tip

No. 6140, with nuts...50c list

Cutting tip

No. 6130, with nuts...50c list

WELLER SOLDERING AID

Special soldering aid widely used for opening old joints, holding down wires, twisting and looping, etc.—always handy.

PRICE.....50c each, list

Weller®

FOR MORE RELIABLE SOLDERING



MODEL TC-40

40 watts, controlled lower temperature for printed circuits, etc.



MODEL TC-60

60 watts, controlled temperature for light to medium electrical soldering



MODEL TC-120

120 watts, controlled temperature for medium to heavy electrical soldering

ONLY NEW WELLER MAGNASTAT SOLDERING TOOLS WITH BUILT-IN TEMPERATURE CONTROL GIVE YOU THESE ADVANTAGES:

PROPER SOLDERING TEMPERATURE is automatically maintained at the tip.

NO OVERHEATING saves current when idling; reduces tip redressing.

LIGHTWEIGHT design is about 1/2 that of uncontrolled iron.

FULL HEAT is reached quickly.

PREMIUM QUALITY construction; all structural parts are stainless steel.

Delicate Balance • Cool Handle • Guaranteed

3 MODELS IN 3 WATTAGES

Full coverage of production line and serviceman needs. 110-120 volts, AC.

ALL MODELS HAVE 3-WIRE GROUNDING CORD

Model	Watts	weight in ounces		List Price
		with cord	without cord	
TC-40	40	8.0	2.9	\$ 9.00
TC-60	60	9.2	4.1	10.00
TC-120	120	13.7	8.6	11.50

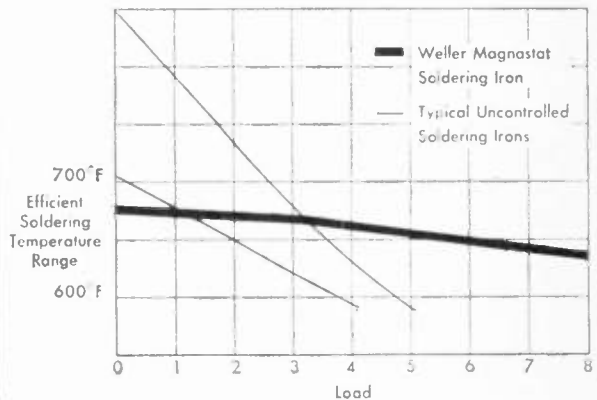
TEMPERATURE CONTROLLED MAGNASTAT SOLDERING IRONS

Easton, Penna.

PRECISE TEMPERATURE CONTROL

A Weller Soldering Iron with built-in Magnastat temperature control gives precise temperature at the tip. Smaller size and design utilizes the energy at the tip, reduces radiation loss and gives greater efficiency. No "peaks" and "lows" to cause faulty soldering.

TYPICAL SOLDERING IRON PERFORMANCE
Temperature vs Load



Unlike uncontrolled irons with varying heat during use, Weller's temperature is maintained within a narrow band at the optimum soldering temperature.



SENSING DEVICE IS IN THE TIP

Magnastat temperature controller located logically in the tip; it is fully sheathed by stainless steel.

CORD PLUGS INTO THE HANDLE

This Weller feature reduces cord maintenance.

MAGNASTAT WELLERTIPS

Premium-plated for long life—tapered for heat efficiency; replacement tips screw on simply and securely.

Tip Number	Size	List Price
WT-40 	1/8"	\$ 0.50 each
WT-60 	3/16"	\$ 0.70 each
WT-120 	3/8"	\$ 1.20 each

XCELITE

QUALITY TOOLS

Preferred by the EXPERTS

ROUND BLADE SCREWDRIVERS

Number	Size Blade	List	Number	Size Blade	List
R-3322	3/32" x 2"	\$0.30	R-5328	5/32" x 8"	\$1.00
R-3323	3/32" x 3"	.45	R-3163	3/16" x 3"	.95
R-3324	3/32" x 4"	.45	R-3164	3/16" x 4"	1.00
R-181	1/8" x 2"	.30	R-3166	3/16" x 6"	1.15
R-183	1/8" x 3"	.45	R-3168	3/16" x 8"	1.30
R-184 1/2	1/8" x 4"	.45	R-31610	3/16" x 10"	1.45
R-182	1/8" x 2"	.55	R-142	1/4" x 2"	1.10
R-184	1/8" x 4"	.65	R-144	1/4" x 4"	1.25
R-186	1/8" x 6"	.70	R-146	1/4" x 6"	1.30
R-188	1/8" x 8"	.90	R-148	1/4" x 8"	1.40
R-1810	1/8" x 10"	1.00	R-1410	1/4" x 10"	1.50
R-5323	5/32" x 3"	.75	R-5164	5/16" x 4"	1.45
R-5324	5/32" x 4"	.75	R-5166	5/16" x 6"	1.65
R-5325	5/32" x 5"	.75	R-5168	5/16" x 8"	1.75

SQUARE BLADE SCREWDRIVERS

Number	Size Blade	List	Number	Size Blade	List
S-183	1/8" x 3"	\$0.65	S-5168	5/16" x 8"	\$1.85
S-184	1/8" x 4"	.65	S-51610	5/16" x 10"	2.10
S-185	1/8" x 5"	.65	S-51612	5/16" x 12"	3.30
S-3163	3/16" x 3"	1.05	S-388	3/8" x 8"	2.30
S-3164	3/16" x 4"	1.10	S-3812	3/8" x 12"	3.30
S-3166	3/16" x 6"	1.30	S-3818	3/8" x 18"	3.55
S-3168	3/16" x 8"	1.40	S-7166	7/16" x 6"	2.70
S-31610	3/16" x 10"	1.65	S-71612	7/16" x 12"	3.30
S-142	1/4" x 2"	1.25	S-71618	7/16" x 18"	3.55
S-144	1/4" x 4"	1.35	S-1424	1/4" x 24"	3.00
S-146	1/4" x 6"	1.45			
S-148	1/4" x 8"	1.60			
S-5162	5/16" x 2"	1.35			
S-5164	5/16" x 4"	1.60			
S-5166	5/16" x 6"	1.70			

Stubbies

S-3161	3/16" x 1"	\$0.75
S-141	1/4" x 1"	.85
S-5161	5/16" x 1"	.85

COMBINATION-DETACHABLE SCREWDRIVERS

COMPLETE (Regular Type)

No.	List Price
No. CR1	\$2.30
No. CR2	2.30
No. CR3	2.30

BLADES ONLY (Regular Type)

No.	Description	List Price
No. RB1	#1 Phillips and 3/16" Reg.	\$1.30
No. RB2	#2 Phillips and 1/4" Reg.	1.30
No. RB3	#3 Phillips and 3/8" Reg.	1.30

HANDLES ONLY - No. 25

1.00

STUBBY SIZE

Complete Blades Only

No. CS1	\$2.05	No. SB1	1.15
No. CS2	2.05	No. SB2	1.15

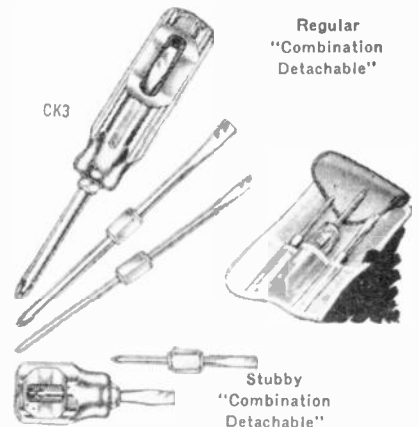
HANDLES ONLY

No. 26—Stubby \$.90

ROLL KIT COMBINATIONS

No. CK-3 with RB-1, RB-2 and RB-3 blades and combination handle (see "Combination-Detachable", above for sizes) List \$5.80

No. CK-2 with RB-1 and RB-2 reversible blades and combination handles List \$4.50



Regular "Combination Detachable"

Stubby "Combination Detachable"

PHILLIPS SCREWDRIVERS

No.	Point Size	Length Blade	Diameter Blade	List Price
X-100	0	2"	1/8"	\$.75
X-108	1	6"	3/16"	1.25
X-101	1	3"	3/16"	1.15
X-102	2	4"	1/4"	1.45
X-103	3	6"	5/16"	1.95
X-104	4	8"	3/8"	2.45
X-1010	1	10"	3/8"	1.75
X-1020	2	10"	1/4"	1.95

SHORT STUBBY TYPE

No.	Point Size	Blade	List Price
SX-101	1	3/16" x 1 3/8"	\$1.05
SX-102	2	1/4" x 1 3/8"	1.15

POCKET CLIP STYLE

No.	Point Size	Blade	List Price
P12S	0	1/8" x 2"	\$.65



Point Size #1

Point Size #4

X102

SX102

BERYLLIUM-COPPER SCREWDRIVERS

- Non-sparking
- Non-magnetic
- Better fatigue resistance than steel

Number	Size Blade	List
BR-186	1/8" x 6"	\$1.25
BR-1810	1/8" x 10"	1.35
BR-3168	3/16" x 8"	2.20
BR-146	1/4" x 6"	2.75
BR-148	1/4" x 8"	2.95
BR-1410	1/4" x 10"	3.25



Type G



Friction-Hold Type A

Note: Both types are the same size and price. Order by number.

CLUTCH HEAD SCREWDRIVERS

Type G No.	Type A No.	Size	Diameter Blade	Length Blade	List Price Each
G-3324	—	3/2"	1/8"	4"	\$1.20
G-183	A-183	1/8"	3/16"	3"	1.20
G-5324	A-5324	3/16"	1/4"	4"	1.35
G-3164	A-3164	3/16"	1/4"	4"	1.35
G-146	A-146	1/4"	3/8"	6"	1.75
G-5166	A-5166	3/8"	3/8"	6"	2.15

YOUR DISTRIBUTOR CARRIES A COMPLETE LINE OF XCELITE TOOLS!



QUALITY TOOLS

Preferred by the EXPERTS

NUTDRIVERS (With Color-Coded Handles)

REGULAR

6" Overall Length



No.	Handle Color	Hex Opening	List
6	Black	3/16"	\$1.20
7	Brown	7/32"	1.20
8	Red	1/4"	1.20
9	Orange	5/16"	1.20
10	Amber	3/8"	1.20
11	Green	7/16"	1.20
12	Blue	1/2"	1.20
14	Brown	5/8"	1.50
16	Red	3/4"	1.50

9" Overall Length

No.	Handle Color	Hex Opening	List
A-6	Black	3/16"	\$1.35
A-7	Brown	7/32"	1.35
A-8	Red	1/4"	1.35
A-9	Orange	5/16"	1.35
A-10	Amber	3/8"	1.35
A-11	Green	7/16"	1.35
A-12	Blue	1/2"	1.35

HOLLOW SHAFT



No.	Handle Color	Hex Opening	List
HS-8	Red	1/4"	\$1.45
HS-10	Amber	3/8"	1.45
HS-11	Green	1/2"	1.50
HS-12	Blue	3/8"	1.50
HS-14	Brown	7/16"	1.70
HS-16	Red	1/2"	1.75
HS-18	Orange	5/8"	1.80
HS-20	Amber	3/4"	2.05

EXTRA LONG HOLLOW SHAFT

No.	Handle Color	Hex Opening	List
AHS-14	Brown	7/16"	\$1.90
AHS-16	Red	1/2"	1.95
AHS-18	Orange	5/8"	2.00
AHS-20	Amber	3/4"	2.30



STUBBY NUTDRIVERS

3 1/4" Overall Length

No.	Handle Color	Hex Opening	List
S-8	Red	1/4"	\$.95
S-10	Amber	3/8"	.95
S-12	Blue	3/8"	.95

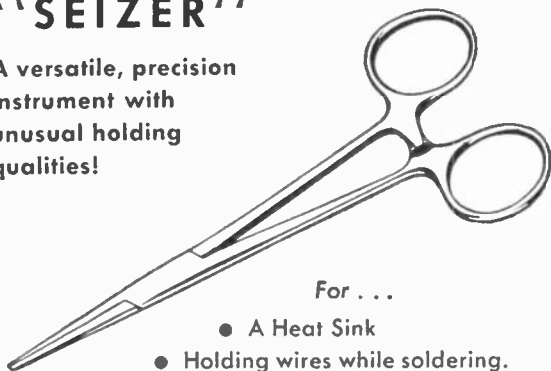
"You Wear 'Em!" Handy, Pocket-Clip NUTDRIVERS

No.	Handle Color	Hex Opening	List
P-3	Amber	3/32"	\$.80
P-4	Red	1/8"	.80
P-5	Amber	3/32"	.80
P-8	Red	1/4"	.80
P-10	Amber	3/8"	.80
P-12	Blue	3/8"	.80

ALSO—ask about Xcelite Regular and Phillips Pocket Screwdrivers!

"SEIZER"

A versatile, precision instrument with unusual holding qualities!



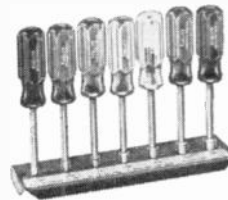
For . . .

- A Heat Sink
- Holding wires while soldering.
- Out-reach and out-hold needle nose pliers. . . . Hold dial cords when stringing.
- Retrieves small items from "far-a-way" places.

ALL STAINLESS STEEL with precise box joints, these tools provide the necessary "third hand" in so many tricky servicing situations.

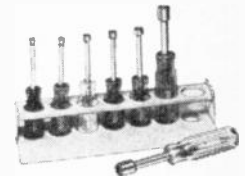
- No. 42H Straight nose \$5.70 list
 No. 43H Curved nose \$5.90 list

NUT DRIVER SETS



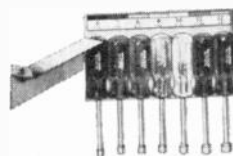
No. 17 SET

NON-TIPPING BENCH RACK OF STURDY STEEL. Contains Nos. 6, 7, 8, 9, 10, 11 and 12 XCELITE Nutdrivers with convenient color-coded handles (size-color table above, left). List
 17 — Polished Finish \$9.05
 17C — Chrome-Plated Blades . \$9.90



No. 137 Set

THEY'RE ALL HANDY—Your most-used Xcelite Nutdrivers! Sturdy metal bench set contains Nos. 6, 8, 10, 11, 12, HS-16 and HS-18. List
 137 — Polished Finish \$10.70
 137C — Chrome-Plated Blades \$11.70



No. 127 SET

YOU CAN LOCK 'EM UP! This steel wall set with red wrinkle finish comes with Nos. 6, 7, 8, 9, 10, 11 and 12 XCELITE Nutdrivers with color-coded handles. List
 127 — Polished Finish \$ 9.60
 127C — Chrome-Plated Blades \$10.35

ADJUSTABLE WRENCHES



Everything about these XCELITE wrenches is designed from the mechanic's point of view! Extra-wide bearing surface of movable jaws gives better grip. The thin pattern helps you get into close quarters. The adjustment knurl turns EASILY. And it's STRONG, because it's drop forged from chrome alloy steel. Ideal for securing antenna mounts and 1001 other jobs. Order your sizes by number. All in gleaming chrome plated finish.

No.	Size	List
44C	4"	\$2.60
46C	6"	2.60
48C	8"	3.04
40-10C	10"	3.86
40-12C	12"	5.60

YOUR DISTRIBUTOR CARRIES A COMPLETE LINE OF XCELITE TOOLS!

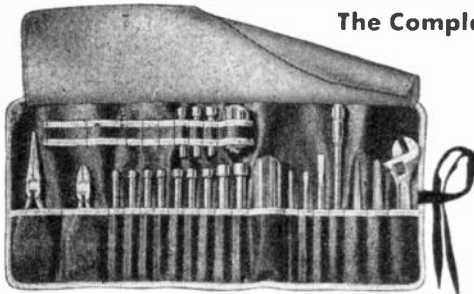
XCELITE

QUALITY TOOLS

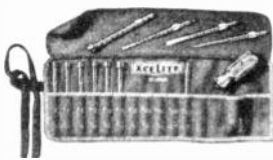
Preferred by the EXPERTS

KITS and "99" PARTS

NEW SERVICE MASTER The Complete Serviceman's Kit!

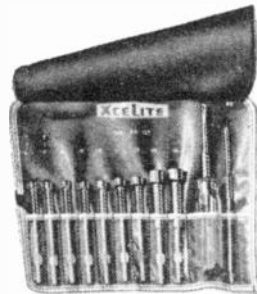


Contains: No. 52CG Long Nose Pliers, No. 55CG Side Cutter, Stubby 99-3 Handle with three Nutdrivers (1/4", 5/16" and 3/8"), No. 46C Chrome-Plated Adjustable Wrench, Regular 99-1 Handle with nine Nutdrivers, one Phillips and two Regular Screwdrivers, 99-X10 Extension Shaft and two Chrome-Plated SUPEREAMERS.
 No. 99 SM \$37.25 list
 Kit only \$ 3.20 list
 (No. 99 SMK) \$ 3.20 list



No. 99 JR ROLL KIT

Contains: No. 99-6, -7, -8, -9, -10, -11, -12 Nutdrivers; No. 99-811, 812 (Slotted) and No. 99-821, -822 (Phillips) Screwdriver Blades; No. 99-2 Handle.
 No. 99 JR \$12.50 list
 Kit only
 (No. 99 KJR) \$ 1.60 list



No. 99 PR ROLL KIT

Contains: No. 99-6, -7, -8, -9, -10, -11, -12, -14, -16 Nutdrivers; No. 99-81 (Slotted) and -82 (Phillips) Reversible Screwdriver Blades; No. 99-1 Handle (Regular).
 No. 99 PR \$14.45 list
 Kit only
 (No. 99 K) \$ 1.60 list



XCELITE Now Offers You the Most Complete selection of quality, quick-change tools available to make the serviceman's job easier. They're yours in any combination you want: the three roll kits shown — or in "custom" kits your distributor can makeup immediately from his replacement stock.









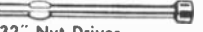










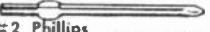


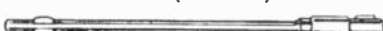



ALL BLADES Fit the No. 99-1 Regular Handle, while all single-end blades fit the No. 99-2 Junior and 99-3 Stubby Handles.

THE NEW No. 99-X10 EXTENSION SHAFT snaps into all "99" Handles — adds a 6" reach to all single-end blades for those "hard-to-reach" jobs. It's one of the most popular additions to the "99" family!

NEW CHROME-PLATED REAMERS . . . Added to the rust-proof, clean-cutting No. 99-38 Detachable Reamer, is the No. 99-39. This 1/4"—1/2" "Reamer with the New Twist" has a .190 shank hole for T-Handle Leverage when you insert a 3/16" round screwdriver blade — either with the Stubby Handle for extra convenience, or the Regular Handle for extra torque on the tough jobs.

ASK YOUR DISTRIBUTOR for Your Choice of the "99" Kits, Handles or Interchangeable Tools Shown on This Page.

SERIES "99" TOOLS

	LIST
No. 99-1 Handle (Regular) 	\$1.15
No. 99-2 Handle (Junior) 	1.00
No. 99-3 Handle (Stubby) 	.90
No. 99-6 3/16" Nut Driver 	.90
No. 99-7 7/32" Nut Driver 	.90
No. 99-8 1/4" Nut Driver 	.90
No. 99-9 9/32" Nut Driver 	.90
No. 99-10 5/16" Nut Driver 	.90
No. 99-11 11/32" Nut Driver 	.90
No. 99-12 3/8" Nut Driver 	.90
No. 99-14 7/16" Nut Driver 	1.20
No. 99-16 1/2" Nut Driver 	1.20
No. 99-81 3/16" & 9/32" Slotted, Reversible 	1.50
No. 99-82 #1 & #2 Phillips, Reversible 	1.50
No. 99-83 3/16" & 9/32" Frearson, Reversible 	1.50
No. 99-84 3/16" Clutch "G," Reversible 	1.50
No. 99-811 3/16" Slotted 	.90
No. 99-812 9/32" Slotted 	.90
No. 99-821 #1 Phillips 	.90
No. 99-822 #2 Phillips 	.90
No. 99-38 Reamer (1/8"-3/8") 	2.20
No. 99-39 Reamer (1/4"-1/2") 	2.75
No. 99X10 Extension 	1.45
No. 99-58 Stubby Nut Drivers 	List \$.80
No. 99-510 Stubby Nut Drivers 	List \$.80
No. 99-512 Stubby Nut Drivers 	List \$.80

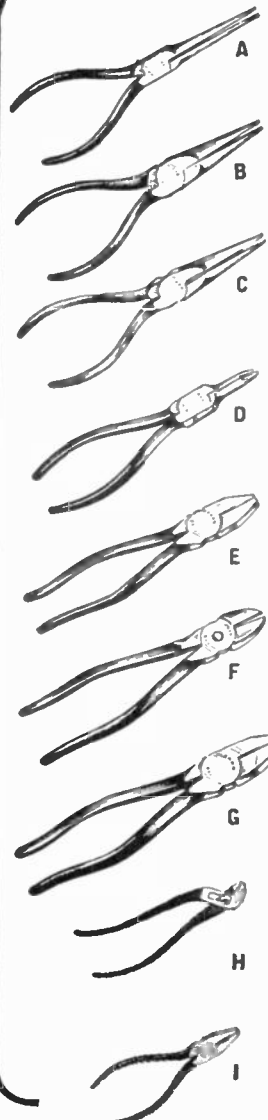
YOUR DISTRIBUTOR CARRIES A COMPLETE LINE OF XCELITE TOOLS!



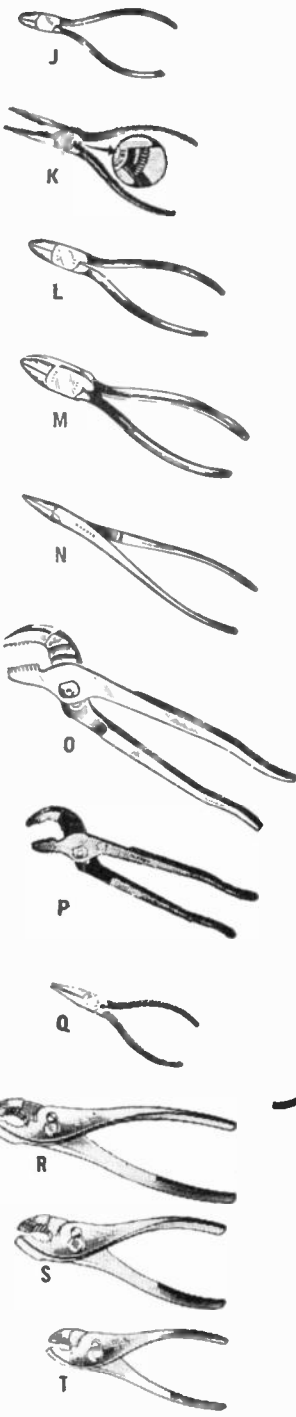
QUALITY TOOLS

Preferred by the EXPERTS

PLIERS FOR EVERY JOB DROP FORGED OF HIGH GRADE TOOL STEEL



(Fig. A)—No. 56 6-in. Needle Nose Plier—Long slim jaws permit entry of this plier where a regular long nose plier won't work. List Price \$3.18
 No. 56C—Chrome plated \$3.78
 No. 56CG—Cushion grip \$3.64
 (Fig. B)—No. 52 Long Nose Plier (Without Side Cutters)—Long perfectly matching tips are ideal for gripping and twisting in awkward places. List Price \$2.78
 No. 52C—Chrome plated \$3.52
 No. 52CG—Cushion grip \$3.22
 (Fig. C)—No. 51 Long Nose Plier (With Side Cutters)—The same rugged strength and long reach as No. 52 Long Nose Plier above plus side cutters. List Price \$3.56
 No. 51C—Chrome plated \$4.34
 No. 51CG—Cushion grip \$4.04
 (Fig. D)—No. 58 Radio and TV Plier—Designed for radio and TV Service-men. Extreme tip for gripping with sharp cutting edges 3/4 in. back from tip. Invaluable in many applications. List Price \$4.20
 No. 58C—Chrome plated \$4.96
 No. 58CG—Cushion grip \$4.62
 (Fig. E)—No. 60 6-in. Side Cutting Plier—This plier has the "just right" size required for most side cutting operations. Serrated upper and lower jaws for gripping and hand honed cutting edges. List Price \$3.26
 No. 60C—Chrome plated \$3.92
 No. 60CG—Cushion grip \$3.72
 (Fig. F)—No. 67 7-in. Diagonal Plier—A rugged plier with all the leverage required for even the heaviest applications. Hand honed cutting edges stand up under tough cutting conditions. List Price \$3.96
 No. 67C—Chrome plated \$4.66
 No. 67CG—Cushion grip \$4.66
 (Fig. G)—No. 68 8-in. Side Cutting Plier—The big brother to No. 60 above. Designed for the man-sized big job where heavy grip and leverage is needed. Ideal for cutting heavy wire. List Price \$4.06
 No. 68C—Chrome plated \$4.80
 No. 68CG—Cushion grip \$4.46
 (Fig. H)—No. 50 5-in. Ignition Plier—Narrow head. Three slip joint adjustments. List Price \$1.96
 No. 50C—Chrome plated \$2.22
 No. 50CG—Cushion grip \$2.30
 (Fig. I)—No. 40 Midget 4" Side Cutting Plier—with serrated jaws and hand honed blades. List Price \$2.96
 No. 40C—Chrome plated \$3.66
 No. 40CG—Cushion grip \$3.30
 (Fig. J)—No. 54 Midget 4-in. Diagonal Plier—the ideal plier for close quarter work. For servicemen, electricians and hobbyists. List Price \$3.24
 No. 54C—Chrome plated \$3.78
 No. 54CG—Cushion grip \$3.60
 (Fig. K)—No. 62 Transverse Cutting Plier—for flush cut-off—Radio and TV Printed Circuits and Miniature Sets. List Price \$4.18
 No. 62C—Chrome plated \$4.90
 No. 62CG—Cushion grip \$4.64
 (Fig. L)—No. 55 5-in. Diagonal Plier—Ideal for most cutting needs. Hand honed cutting edges cut through medium wire with ease. List Price \$3.14
 No. 55C—Chrome plated \$3.78
 No. 55CG—Cushion grip \$3.54
 (Fig. M)—No. 66 6-in. Diagonal Plier—An all purpose plier heavier than No. 55 above. Small enough for most jobs, but it has a grip for the tough ones. List Price \$3.60
 No. 66C—Chrome plated \$4.16
 No. 66CG—Cushion grip \$4.08
 (Fig. N)—No. 59 Chain Nose Electricians Plier—Long reach and high leverage are combined. Slim enough to go into a small space, rugged enough to stand the pressure for tough electrical jobs. List Price \$3.34
 No. 59C—Chrome plated \$4.04
 No. 59CG—Cushion grip \$4.10
 (Fig. O)—No. 63 10-in. Utility Plier—Forged ribbed lock design for strength plus high leverage. Serrated jaws. List Price \$3.26
 No. 63C—Chrome plated \$3.96
 No. 63CG—Cushion grip \$4.22
 (Fig. P)—No. 53 6-in. Utility Plier—A husky, all-purpose plier with forged rib-lock design and serrated jaws. List Price \$2.44
 No. 53C—Chrome plated \$2.62
 No. 53CG—Cushion grip \$2.86
 (Fig. Q)—No. 41—Midget 4" Long-Nose Plier—without side cutter. Perfectly matched tips for gripping and twisting where space is short. List Price \$2.54
 No. 41C—Chrome plated \$3.26
 No. 41CG—Cushion grip \$2.86



NEW COMBINATION PLIERS

(Fig. R)—No. 78C. 8-in. Combination Plier—A high quality slip joint combination plier. Sturdy construction—ideal for general use. Polished Chrome Plate. List Price \$2.16
 (Fig. S)—No. 76S. 6-in. Combination Plier—Satin Finish Plated. List Price \$.94
 No. 76C—Polished Chrome Plate. List Price \$1.62
 (Fig. T)—No. 75S. 5-in. Combination Plier—Satin Finish Plated. List Price \$.94
 No. 75C—Polished Chrome Plate. List Price \$1.62

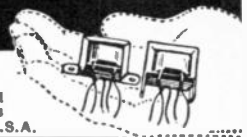
YOUR DISTRIBUTOR CARRIES A COMPLETE LINE OF XCELITE TOOLS!

XCELITE, INC. • ORCHARD PARK, N. Y., U. S. A.



TRANSISTOR TRANSFORMERS

LIST PRICE 5.00 ANY TYPE



CHOOSE FROM 77 TYPES — THE ONLY COMPLETE LINE OF QUALITY TRANSISTOR TRANSFORMERS
 • NICKEL-STEEL LAMINATIONS • WOUND ON NYLON BOBBINS • MYLAR OUTER WRAP • COLOR CODED LEADS
 Efficiently designed to meet the needs of miniaturization and engineered to provide more power handling capacity and improved frequency response with minimum distortion. All are nickel-steel laminations. Applications under "TYPE" column shows typical use. Many units may be used for other applications as well. Average net weight 1 1/4 oz.; average shp. wt., 4 oz. **MADE IN U.S.A.**

ARGONNE NUMBER	TYPE	IMPEDANCE		UNBALANCED CURRENT PRI. D.C. MA	POWER MILLI-WATTS	D.C. RESISTANCE		OVERALL SIZE
		PRIMARY OHMS	SECONDARY OHMS			PRI. OHMS	SEC. OHMS	
AR-141	Input	500,000	1,500 CT	.3	350	3500	60	1" x 3/4" x 3/4"
AR-142	Input	500,000	200 CT	.3	350	3500	20	1" x 3/4" x 3/4"
AR-143	Input	250,000	200 CT	.5	350	3500	20	1" x 3/4" x 3/4"
AR-144	Input	200,000	1,500 CT	.5	350	3000	65	1" x 3/4" x 3/4"
AR-100	Input	200,000	1,000	.5	100	3600	90	1" x 3/4" x 3/4"
AR-126	Input	150,000	1,500 CT	2.	100	3700	55	1" x 3/4" x 3/4"
AR-101	Input	100,000	3,000 CT	.5	100	3600	60	1" x 3/4" x 3/4"
AR-145	Input	100,000	2,000 CT	.5	350	3000	50	1" x 3/4" x 3/4"
AR-102	Input	100,000	1,500 CT	.5	100	3600	40	1" x 3/4" x 3/4"
AR-146	Input	100,000	50	.5	350	3000	1.6	1" x 3/4" x 3/4"
AR-127	Input	50,000	3,000 CT	1.	100	2000	50	1" x 3/4" x 3/4"
AR-128	Input	50,000	1,500 CT	2.	100	3000	50	1" x 3/4" x 3/4"
AR-129	Input	50,000	1,000	2.	100	2500	20	1" x 3/4" x 3/4"
AR-148	Input	50,000	500 CT	1.	175	1300	20	3/4" x 3/8" x 3/8"
AR-149	Input	50,000	200 CT	1.	175	1300	10	3/4" x 3/8" x 3/8"
AR-147	Input	50,000	.30 CT	1.	175	1300	1.5	3/4" x 3/8" x 3/8"
AR-150	Input	40,000	100	1.	175	850	6	3/4" x 3/8" x 3/8"
AR-103	Driver	20,000	2,000 CT	1.	100	400	50	1" x 3/4" x 3/4"
AR-104	Driver	20,000	1,000	1.	100	400	50	3/4" x 3/8" x 3/8"
AR-151	Driver	20,000	800 CT	1.5	175	600	60	3/4" x 3/8" x 3/8"
AR-105	Driver	20,000	400	1.	100	600	30	1" x 3/4" x 3/4"
AR-130	Output	20,000	8	.5	100	400	0.6	3/4" x 3/8" x 3/8"
AR-131	Output	20,000	3.2	.5	100	400	0.3	3/4" x 3/8" x 3/8"
AR-106	Driver	16,000	4,000	1.	100	620	350	3/4" x 3/8" x 3/8"
AR-152	Driver	15,000	200 CT	1.5	175	550	10	3/4" x 3/8" x 3/8"
AR-107	Driver	15,000	200	1.5	250	1000	20	1" x 3/4" x 3/4"
AR-108	Driver	10,000	3,000 CT	1.5	100	200	100	3/4" x 3/8" x 3/8"
AR-109	Driver	10,000	2,000 CT	1.5	100	500	50	3/4" x 3/8" x 3/8"
AR-153	Driver	10,000	200 CT	2.	175	400	10	3/4" x 3/8" x 3/8"
AR-110	Output	10,000	16	2.	150	600	2.5	3/4" x 3/8" x 3/8"
AR-132	Output	10,000	8	1.	100	600	.6	3/4" x 3/8" x 3/8"
AR-133	Output	10,000	3.2	1.	100	600	.3	3/4" x 3/8" x 3/8"
AR-158	Input	5,000 CT	80,000	2.	175	350	1800	3/4" x 3/8" x 3/8"
AR-157	Input	5,000	45,000	2.	175	250	1600	3/4" x 3/8" x 3/8"
AR-156	Input	5,000	30,000	2.	175	150	1300	3/4" x 3/8" x 3/8"
AR-155	Input	5,000	10,000	2.	175	150	450	3/4" x 3/8" x 3/8"
AR-154	Input	5,000 CT	7,500 CT	2.	175	150	150	3/4" x 3/8" x 3/8"
AR-173	Driver	5,000	3,000 CT	2.	350	200	90	1" x 3/4" x 3/4"
AR-111	Output	5,000	100	1.	100	600	10	3/4" x 3/8" x 3/8"
AR-134	Output	4,000 CT	8	4.	250	150	.8	1" x 3/4" x 3/4"
AR-135	Output	4,000 CT	3.2	4.	250	150	.3	1" x 3/4" x 3/4"
AR-112	Output	3,500	200	1.	150	120	25	1" x 3/4" x 3/4"
AR-113	Driver	3,000 CT	1,000	9.	150	100	60	3/4" x 3/8" x 3/8"
AR-114	Output	2,500	11	10.	150	50	1.1	3/4" x 3/8" x 3/8"
AR-115	Input	2,000 CT	8,000 CT	2	150	150	660	1" x 3/4" x 3/4"
AR-116	Output	2,000	200	4.	250	120	20	1" x 3/4" x 3/4"
AR-175	Driver	2,000	1,500 CT	2.	350	150	60	1" x 3/4" x 3/4"
AR-159	Driver	1,500	500 CT	4.	175	100	20	3/4" x 3/8" x 3/8"
AR-136	Output	1,000 CT	100	4.	250	120	10	1" x 3/4" x 3/4"
AR-137	Output	1,000 CT	8	4.	250	120	9	1" x 3/4" x 3/4"
AR-138	Output	1,000 CT	3.2	4.	250	120	.3	1" x 3/4" x 3/4"
AR-160	Output	800 CT	3.2	5.	175	40	.3	3/4" x 3/8" x 3/8"
AR-161	Output	650 CT	16	5.	175	27	1.3	3/4" x 3/8" x 3/8"
AR-162	Output	500 CT	500 CT	5.	350	18	18	1" x 3/4" x 3/4"
AR-163	Output	500 CT	150 CT	5.	175	18	8	3/4" x 3/8" x 3/8"
AR-165	Output	500 CT	50	5.	175	18	4	3/4" x 3/8" x 3/8"
AR-117	Output	500 CT	30	5.	100	20	1.5	3/4" x 3/8" x 3/8"
AR-118	Output	500 CT	16	5.	100	20	1.5	3/4" x 3/8" x 3/8"
AR-164	Output	500 CT	8	5.	175	18	.8	3/4" x 3/8" x 3/8"
AR-119	Output	500 CT	3.2	5.	100	20	.3	3/4" x 3/8" x 3/8"
AR-166	Output	400 CT	16	5.	175	16	1.3	3/4" x 3/8" x 3/8"
AR-120	Output	400 CT	11	1.	150	20	.9	3/4" x 3/8" x 3/8"
AR-167	Output	400 CT	8 or 3.2	5.	175	16	.6/.3	3/4" x 3/8" x 3/8"
AR-168	Output	300 CT	16	6.	175	12	1.4	3/4" x 3/8" x 3/8"
AR-121	Output	300 CT	3.2	6.	150	20	.25	3/4" x 3/8" x 3/8"
AR-139	Output	250 CT	8	2.	250	15	.7	1" x 3/4" x 3/4"
AR-122	Output	250 CT	3.2	2.	150	11	.3	1" x 3/4" x 3/4"
AR-123	Input	200	2,000 CT	2.	150	11	50	1" x 3/4" x 3/4"
AR-124	Output	200 CT	16	2.	250	20	1.3	3/4" x 3/8" x 3/8"
AR-169	Output	200 CT	8 or 3.2	7.	175	9	.6/.3	3/4" x 3/8" x 3/8"
AR-140	Output	200 CT	3.2	2.	100	10	.3	3/4" x 3/8" x 3/8"
AR-170	Output	160 CT	8 or 3.2	8.	350	10	.6/.3	1" x 3/4" x 3/4"
AR-176	Output	125 CT	8	8.	350	4	.7	1" x 3/4" x 3/4"
AR-174	Output	125 CT	3.2	8.	350	6	.3	1" x 3/4" x 3/4"
AR-171	Output	100 CT	10 CT	10.	175	4	.8	3/4" x 3/8" x 3/8"
AR-172	Output	48 CT	8 or 3.2	15.	350	2.3	.6/.3	1" x 3/4" x 3/4"
AR-125	Input	3	4,000	15.	250	14	50	3/4" x 3/8" x 3/8"

HIGH FIDELITY TRANSISTOR TRANSFORMERS

Driver and output transformers, completely encased. Response 20-20,000 cps ± 0.25 db. Output transformer 1.5 watts out 20-20,000 cps ± 2 db. Size 1-5/16" x 1-5/16" x 1 1/4". Shpg. wt., 9 oz.

MODEL AR-500 DRIVER TRANSFORMER: 5000 ohm primary, 3000 ohm CT secondary; dc resistance of primary 50 ohms, secondary 75 ohms; unbalanced primary dc current 20 ma. List Price 9.60

MODEL AR-501 OUTPUT TRANSFORMER: Primary 125 ohms CT, secondary 8 ohms; primary dc resistance 4 ohms, secondary 0.8; unbalanced primary current 50 ma. dc. List Price 9.60



HIGH POWER TRANSISTOR AUDIOS

For the new high-output transistors

MODEL AR-503 OUTPUT TRANSFORMER: 6 watts. 70-20,000 cps ± 2 db. Primary 48 ohms CT, secondary 3.2 ohms; primary dc resistance 1.1 ohms, secondary 0.3; unbalanced primary current 200 ma. dc. Size 1-9/16" x 1 1/4" x 1-9/16". Shpg. wt., 1 lb. List Price 2.95



MODEL AR-504 INPUT TRANSFORMER: 2 watts. 70-20,000 cps ± 2 db. Primary 100 ohms, secondary 200 ohms CT. Primary dc resistance 1.8 ohms, secondary 2.7; unbalanced primary current 200 ma. dc. List Price 2.50



Write to Factory For Complete Catalog Of Audio & Miniaturization Products
ELECTRONICS MFG. CORP. - JAMAICA 33, N. Y.
 MANUFACTURERS & IMPORTERS

CHICAGO STANDARD TRANSFORMER CORPORATION

STANCOR TRANSFORMERS

AND RELATED COMPONENTS - INDEX on Pg. 1296

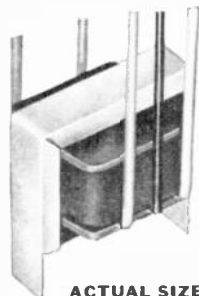


TRANSISTOR AUDIO TRANSFORMERS

Part No.	Application	Imp. in Ohms Pri.	Sec.	Max. Pri. DC Ma.	DC Res. Pri.	Res. in Ohms Sec.	Power in Watts	Ht.	Base Area	Mtg. Ctrs.	Mtg. Type	Shpg. Wt.	List Price
TA-1	Input	600 C.T.	10	20	42	.8	.05	1 ³ / ₁₆	1 ¹ / ₂ x 1 ¹ / ₂	1 ¹ / ₂	A	1 oz.	\$3.22
TA-2	Interstage	100 C.T.	10 C.T.	100	4.3	.8	.25	1 ¹ / ₁₆	2 ¹ / ₂ x 1 ¹ / ₂	1 ¹ / ₂	A	3 oz.	3.22
TA-3	Interstage	100	1000 C.T.	100	5.8	45	.25	1 ³ / ₁₆	2 ¹ / ₂ x 1 ¹ / ₂	2	A	3 oz.	3.22
TA-4	Interstage	500 C.T.	5000 C.T.	12	37	250	.03	1 ³ / ₁₆	2 ¹ / ₂ x 1 ¹ / ₂	2	A	3 oz.	4.22
TA-5	Driver	1000	200 C.T.	10	400	115	.05	3 ¹ / ₁₆	1 ¹ / ₄ x 1 ¹ / ₂	1 ¹ / ₂	A	2 oz.	7.99
TA-6	Driver	2000	200 C.T.	5	720	115	.05	3 ¹ / ₁₆	1 ¹ / ₄ x 1 ¹ / ₂	1 ¹ / ₂	A	2 oz.	9.05
TA-7	Driver	100	100 C.T.	100	12	12	.5	1 ³ / ₁₆	1 ¹ / ₂ x 1 ¹ / ₂	2 ³ / ₁₆	A	5 oz.	3.22
TA-8	Output	9800	15	2	640	2	.05	1 ³ / ₁₆	2 ¹ / ₂ x 1 ¹ / ₂	2	A	2 oz.	7.22
TA-9	Output	1000	4 8 16	10	180	3.5	.2	3 ³ / ₁₆	1 ¹ / ₂ x 3 ³ / ₄	1 ³ / ₁₆	A	1 oz.	8.27
TA-10	Output	2000 C.T.	4 8 16	—	250	4	.2	3 ³ / ₁₆	1 ¹ / ₂ x 3 ³ / ₄	1 ³ / ₁₆	A	1 oz.	9.05
TA-11	Output	48 C.T.	8 16	275	5	1.5	5	2	3 ¹ / ₂ x 1 ³ / ₄	2 ⁷ / ₁₆	A	1 lb.	6.20
TA-12	Output	20 C.T.	8	500	.55	.35	10	1	1 ¹ / ₂ x 1 ¹ / ₂	2	A	4 oz.	3.22
TA-13	Driver	200 C.T.	400 C.T.	10	—	—	.6	3	2 ¹ / ₂ x 2	2 ¹ / ₂ x 1 ¹ / ₂	TD	1 ¹ / ₂ lb.	6.83
TA-14	Output	24 C.T.	16 4 C.T.†	200	—	—	10	1 ¹ / ₄	1 ¹ / ₂ x 3 ¹ / ₂	3 ⁷ / ₁₆ x 2 ³ / ₄	TD	6 ¹ / ₄ lb.	17.12
TA-15	Input 50 to 100	10	10	50	—	—	5MW	1 ¹ / ₁₆	1 ¹ / ₂ x 1 ¹ / ₂	1 ³ / ₁₆	A	5 ¹ / ₂ oz.	2.50
TA-16	Driver	20	36 C.T.	100	—	—	1W	1 ¹ / ₁₆	2 ¹ / ₂ x 1 ¹ / ₂	1 ³ / ₄	A	2 oz.	2.89
TA-17	Modulation	8 C.T.	7500/5000 at 120 Made	—	—	—	35	3 ¹ / ₁₆	3x2 ¹ / ₂	1 ¹ / ₂ x 2	C	3 lbs.	10.81

† 2 secondaries 16 ohm series, 4 ohms parallel.

.150 WATT GROUP



Dimensions:

H x W x D: 2¹/₂" x 1¹/₁₆" x 5⁵/₈"

Mounting Tabs Centers: 2⁵/₁₆" — 3¹/₁₆" W

Weight.....65 oz.

List Price.....\$6.20

ACTUAL SIZE

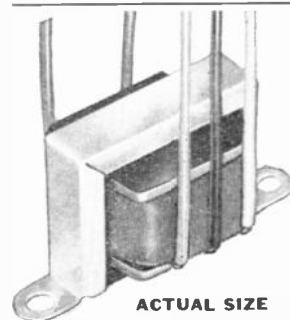
For other transistor transformers see:

Page 1312—Hermetically sealed units

Page 1314—Ultra-miniature units

—Transverter power supply transistor transformers

Part No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms Pri.	Sec.	D.C. Res. in Ohms Pri.	Sec.
TA-18	Input	1.00:15.5	30 C.T.	50,000	14.7	1060
TA-19	Interstage	3.08:1	100 C.T.	10 C.T.	19	1.27
TA-20	Output	5.22:1	350 C.T.	4, 12	38	1.45
TA-21	Output	5.53:1	500 C.T.	4, 8, 16	75.3	3.55
TA-22	Interstage	3.16:1	500 C.T.	50	59.7	7.9
TA-23	Output	5.65:1	600 C.T.	4, 8, 16	73.2	3.2
TA-24	Interstage	10.0:1	500 C.T.	50,000	76.8	5135
TA-25	Output	6.75:1	825 C.T.	4, 8, 16	74	2.7
TA-26	Output	9.80:1	1,250	4, 12	132.5	1.4
TA-27	Interstage	1.08:1	1,200	20,000 C.T.	142	1860
TA-28	Interstage	1.65:1	1,500	500 C.T.	104	46.5
TA-29	Output	11.8:1	2,500	4, 16	370	2.3
TA-30	Interstage	1.00:1.22	5,000 C.T.	7,500 C.T.	650	790
TA-31	Interstage	1.00:1.11	5,000 C.T.	10,000 C.T.	635	1100
TA-32	Interstage	1.00:1	5,000 C.T.	80,000 C.T.	573	5740
TA-33	Output	21.6:1	10,000 C.T.	4, 8, 16	1174	2.6
TA-34	Interstage	14.0:1	10,000	200 C.T.	1200	33.4
TA-35	Interstage	2.24:1	10,000	2,000 C.T.	1200	257
TA-36	Interstage	1.83:1	10,000	3,000 C.T.	1200	385
TA-37	Output	5.55:1	100 C.T.	11	71.5	1.5
TA-38	Interstage	3.11:1	500 C.T.	150 C.T.	62	21.2



.300 WATT GROUP

Dimensions:

H x W x D: 1³/₁₆" x 1⁵/₈" x 3³/₄"

Mounting Centers: 1³/₈"

Weight.....1.2 oz.

List Price \$6.20

ACTUAL SIZE

Part No.	Application	Turns Ratio Pri. to Sec.	Impedance in Ohms Pri.	Sec.	D.C. Res. in Ohms Pri.	Sec.
TA-39	Output	3.08:1	100 C.T.	4, 8, 16	10.9	1.45
TA-40	Output	3.27:1	160	4, 8, 16	18.7	1.4
TA-41	Output	5.00:1	100 C.T.	4, 8, 16	34	1.5
TA-42	Output	5.60:1	500 C.T.	4, 8, 16	47	.85
TA-43	Output	6.63:1	700 C.T.	4, 8, 16	77	1.15
TA-44	Output	12.5:1	2,500	4, 8, 16	172	1.15
TA-45	Output	13.7:1	3,000	4, 8, 16	192	1.2
TA-46	Interstage	8.17:1	100,000	1,500 C.T.	3250	143
TA-47	Input	1.00:11.1	1,000 C.T.	200,000 C.T.	123	1815

TRANSISTOR POWER TRANSFORMERS—Primary 117 volts, 60 cycle operation

Part No.	Plate Supply AC Volts	No. 1 DC Ma	Plate Supply AC Volts	No. 2 DC Ma	Height	Base Area	Mtg. Type	Shpg. Wt.	List Price
*TP-1	13 or 18	900	13 or 18	900	3"	3x2 ¹ / ₂	C	2 ³ / ₄	\$8.27

* For bridge rectifier systems.



HI-FI & TV TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

INDEX TO STANCOR TRANSFORMER LISTINGS IN THE MASTER

AUDIO					
Audio Chokes	1297	Bias Supply	1306		
Crystal Recorder Output	1299	Cathode Ray Tube Power	1307		
Driver Transformers	1297	Combination Plate and Filament	1301		
High Fidelity Output	1296	Condenser Tester	1307		
Input	1298	Filament Transformers, Multiple Secondary	1305		
Intercommunicator and Transceiver	1298	Filament Transformers, Single Secondary	1305		
Interstage	1298	Isolation Testing Transformer	1307		
Line Driver	1297	Isolation Transformers	1307		
Line to VC Output	1300	Line Adjusting Autotransformers	1307		
Microphone or Line Input	1298	Photoflash Transformers	1307		
Microphone, Pickup or Line to Grid Input	1298	Plate Transformers	1306		
Plate Modulation	1304	Power Transformers	1301		
Output	1299, 1300	"8400 series" Power	1301		
Poly-Pedance Driver	1297	Selenium Rectifiers	1304		
Poly-Pedance Line Driver	1297	Speaker Field Supply	1307		
Poly-Pedance Modulation	1304	Step-Down Isolation	1307		
Push-Pull Plates to VC Output	1299	Straight Isolation	1307		
70.7 Volt Line to VC Output	1300	Testing Autotransformer	1307		
140 Volt Line to VC Output	1300	Trigger Coil, Photoflash	1307		
Single Plate to VC Output	1300	Tube Checker Multi-Tapped Filament	1306		
Tube to Line Output	1299	Vibrator	1302		
Universal Output	1300				
POWERS				CHOKES	
Autotransformers	1307	Audio Chokes	1297		
Auto Radio Vibrator	1302	Filter Chokes	1303		
		Smoothing Chokes	1303		
		Swinging Chokes	1303		

TELEVISION COMPONENTS

Almost 300 TV replacement transformers and related components, the most complete line in the industry, are available from Chicago Standard. These include over 140 exact replacement flybacks and almost 60 power transformers, as well as yokes, vertical outputs, width and linearity coils

and many other popular TV replacement units. Ask your distributor for a free copy of the latest edition of the Stancor TV Transformer Catalog and Replacement Guide listing these units and replacement data on thousands of television sets.

STANCOR ULTRA-LINEAR HIGH-FIDELITY AMPLIFIER

Now you can build an Ultra-Linear version of the famous Stancor-Williamson high fidelity amplifier, using Stancor Ultra-Linear Output Transformer A-8072. For complete construction details see Stancor Bulletin 479.

Stancor supplies a set of two completely punched and finished chassis for the Ultra-Linear Amplifier; Chassis Set WM-8, \$5.75 net. In addition to Ultra-Linear Output Transformer A-8072, \$16.60 net, this amplifier uses power transformer PCS412, \$12.55 net and filter choke C-1411, \$5.67 net. The other components used cost about \$30.00. They are all stock parts and can be readily obtained from your Stancor distributor.

The original Stancor-Williamson amplifier can be converted to Ultra-Linear operation by a few simple circuit changes and the installation of the A-8072. Conversion instructions are included in Bulletin 479.

Write for your FREE copy of Bulletin 479.

HIGH FIDELITY OUTPUT TRANSFORMERS

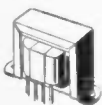
Better than ± 1 db from 20 to 20,000 cps.

These Stancor output transformers combine the most advanced design and manufacturing practices to provide outstanding audio response at low cost. Maximum power level is conservatively rated at 50 watts. They are designed to match the most popular types of output tubes to speaker or line impedances.

Extensively interleaved "trifilar" windings, extremely tight coupling and careful electrical balance result in audio fidelity to please the most critical specialist. Inasmuch as elaborate shielding is not required at the audio output level, an inexpensive, but thoroughly practical, Type C mounting is used. Shipping weight is 6.5 lbs.

Part No.	Pri. Imp. (P-P) In Ohms	Sec. Imp.* In Ohms	Max. Pri. D.C. Per Side	Audio Watts	Height Overall	Base Area	List Price
A-8050	1500	8, 16	200	50	4 1/4"	3 1/4" x 4 1/4"	\$22.74
A-8051	2500	8, 16	150	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8052	3000	8, 16	175	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8053	5000	8, 16	150	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8054	9000	8, 16	100	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8056	6600	8, 16	125	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8060	1500	500	200	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8061	2500	500	150	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8062	3000	500	175	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8063	5000	500	150	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8064	9000	500	100	50	4 1/4"	3 1/4" x 4 1/4"	22.74
A-8072†	7600	4, 8, 16	100	25	4 1/4"	3 1/4" x 4 1/4"	27.80
A-8066	6600	500	125	50	4 1/4"	3 1/4" x 4 1/4"	22.74

*Where more than one secondary impedance is shown, only one value is to be used at any time.
†Primary provided with seven taps for Ultra-Linear application.



A



C



Q



J



KC



FS



FK

DRIVER TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION



SINGLE PLATE TO PUSH-PULL GRIDS

Part No.	Pri. Impedance in Ohms	Pri./ $\frac{1}{2}$ Sec. Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4713	10,000	2:1	3 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	30 ma.	A	1 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	0.7	\$3.53
A-4752	10,000	2 1.5:1:1	1" x 3 $\frac{1}{2}$ "	40 ma.	A	2"	3 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ "	1.2	4.88
A-4722	10,000	2:1	3 $\frac{1}{2}$ " x 1"	30 ma.	TD	2 $\frac{1}{2}$ "	2 $\frac{1}{4}$ " x 2 $\frac{1}{4}$ "	1.7	7.22
A-4292	10,000	2.5:1	3 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	20 ma.	A	1 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	0.7	3.78
A-4723	10,000	3:1	3 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	30 ma.	A	1 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	0.7	3.59
A-4210	1,500 to 5,000	3:1	1" x 1"	40 ma.	C	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	2.4	8.27
A-4702	1,500 to 5,000	5:1	1" x 1"	80 ma.	C	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	2.5	8.16

PUSH-PULL PLATES TO PUSH-PULL GRIDS

Part No.	Pri. Imp. (P.P.) in Ohms	Pri./ $\frac{1}{2}$ Sec. Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4208*	20,000 to 30,000	2.8:1	1" x 1"	15 ma.	C	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	2.5	\$ 9.45
A-4701*	20,000	3:1	1" x 1"	20 ma.	C	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	2.7	10.66
A-4212	1,500 to 5,000	3.2:1	1" x 1"	50 ma.	C	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	2.5	8.66
A-4703*	3,000 to 10,000	5:1	1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	95 ma.	C	3 $\frac{1}{2}$ "	3" x 3 $\frac{1}{2}$ "	3.7	10.73

POLY-PEDANCE DRIVER MULTI-TAPPED UNITS FOR USE IN CIRCUITS WHERE THE OPTIMUM RATIO CANNOT BE PREDETERMINED.

Driver circuit changes often require new transformers. Many times it is impossible to match correctly tubes involved with a specific transformer, with high distortion resulting. Poly-Pedance units solve that problem: three transformers with the maximum number of usable ratios will match the driver tubes to any Class B modulator grid circuit without exceeding the power capabilities of the driver tubes.

Part No.	Application and Ratio Pri./ $\frac{1}{2}$ Sec.	Max. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4761	Driver to Class "B" Grids 1.25:1/ 1.4:1/ 1.6:1/ 1.8:1/ 2:1/ 2.2:1/ 2.4:1	Pri—150 ma. Sec—100 ma.	15	CD	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	3.4	\$18.48
A-4762	Driver to Class "B" Grids 2.6:1/ 3:1/ 3.2:1/ 3.4:1/ 4:1/ 4.5:1/ 5:1	Pri—150 ma. Sec—180 ma.	15	CD	5 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	2.7	17.43
A-4763	Driver to Class "B" Grids 1.25:1/ 1.5:1/ 1.75:1/ 2:1/ 2.25:1/ 3:2:1	Pri—225 ma. Sec—280 ma.	30	CD	3 $\frac{1}{2}$ "	3" x 1"	4.3	21.59

POLY-PEDANCE LINE DRIVER MULTI-TAPPED UNIT TO MATCH ALL COMMON LINE IMPEDANCES TO GRID CIRCUIT OF MODULATOR OR CLASS "B" AMPLIFIER.

Designed with pie wound coils to assure low leakage inductance, low resistance and low capacity, these two units will easily match all common line impedances to any modulator grid circuit. Individually boxed with complete instructions.

Part No.	Application and Ratio Pri./ $\frac{1}{2}$ Sec.	Max. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4765	Line to Grid 1:0.75/ 1:0.85/ 1:1/ 1:1.25/ 1:1.45/ 1:1.75/ 1:2/ 1:2.25/ 1:2.5/ 1:2.75/ 1:3.15	Pri—180 ma. Sec—100 ma.	15	CD	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	3.2	\$19.15

AUDIO CHOKES

Audio reactors are rated at 2 volts, 200 cycles, with maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rated Inductance	Max. D.C.	D.C. Res. in Ohms	Test Volts	Core	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1003	16 hy at 50 ma.	50 ma.	580	1500	3 $\frac{1}{4}$ " x 3 $\frac{1}{4}$ "	A	2"	3 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ "	1.4	\$3.61
C-2301	135 hy at 5 ma.	10 ma.	6500	1500	3 $\frac{1}{4}$ " x 1"	TD	2"	3" x 3"	3.7	7.14

*These units have split secondaries for individual bias adjustment and/or use of inverse feedback.
†To be removed from next catalog.





INPUT-INTERSTAGE

CHICAGO STANDARD TRANSFORMER CORPORATION

MICROPHONE OR LINE TO LINE

Part No.	Impedance In Ohms	Mtg.	Height Overall	Base Area	Shpt. In Lbs.	List Price
A-4350	Pri—500/333/200/125/50 Sec—500/333/200/125/50	Q	2"	3 1/4" x 1 1/4"	1.0	\$ 7.22
A-4407 †	Pri—500/333/200/125/50 Sec—500/333/200/125/50	D	3 1/16"	2 5/8" x 3 1/4"	2.4	14.98

MICROPHONE PICKUP OR LINE TO GRID

Part No.	Application	Impedance in Ohms	Turns Ratio	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4705	S. B. Mic. to S. Grid	Pri—200/70 Sec—80,000	1:20	A	1 3/8"	2 3/8" x 1 3/8"	0.4	\$4.95
A-4706	S. B. Mic. to S. Grid	Pri—100 Sec—60,000	1:24.5	A	1 3/8"	2 3/8" x 1 1/2"	0.5	3.61
A-4708	D. B. Mic. to S. Grid	Pri—200 CT Sec—57,000	1:17	J	2"	2 3/8" x 1 3/8"	0.7	4.88
A-4742	S. B. Mic. to P.P. Grids	Pri—100 Sec—400,000 CT	1:64	S	2 1/16"	2 1/8" x 1 3/4"	1.2	5.22
A-4747	S. B. Mic. or Low Imp. Line to S. Grid	Pri—10 Sec—1,300,000	1:137	VE	1 7/16"	1 1/8" x 1 1/4" 1 1/2"	0.5	5.00
A-4351	Mic. or Line to S. Grid	Pri—500 333/200/125/50 Sec—89,000	1:13.3	TD	2 1/16"	2 3/4" x 2 1/8"	1.4	7.71
A-4352	Mic. or Line to S. Grid	Pri—500/333/200/125/50 Sec—89,000	1:13.3	Q	2"	3 1/4" x 1 3/4"	1.0	8.00
A-4709	Dynamic Mic. or Pickup to S. Grid	Pri—30/15 8/4 Sec—106,000	1:60	TD	2 1/16"	2 3/4" x 2 3/16"	1.7	8.66

INTERCOMMUNICATOR AND TRANSCEIVER

Part No.	Application	Impedance in Ohms	Max. Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-4744	Intercom. input	Pri—4 Sec—25,000		VE	1 3/8"	2 3/8" x 1 1/2"	0.5	\$3.36
A-4748	Intercom. input	Pri—45 or 50 Sec—50,000		A	1 3/8"	2 3/8" x 1 1/4" 1 1/4"	0.4	5.00
A-4749	Telephone Patch Circuit	Pri—10,000 Sec.—500 each (2 secs.)		TD	1 13/16"	1 1/2" x 2 1/4"	1.0	8.09
A-8090	Line to Voice Coil	Pri.—45-50 Sec.—3-4, 6-8	3	QL	1 3/8"	2 3/8" x 1 1/2"	0.5	2.95
A-8091	Line to Voice Coil	Pri—45-50 Sec.—3-4, 6-8	8	QL	1 3/8"	2 1/8" x 1 3/8"	0.7	3.50
A-3833	Transceiver Input Mic. and Plate to Grid	Pri—200 and 5,000 Sec—60,000	5	A	1 3/8"	2 3/8" x 1 1/2"	0.7	4.77
A-3836	Transceiver Output. Plate to Low or High impedance phones	Pri—10,000 Sec—50 and 2,000	5	A	1 3/8"	2 3/8" x 1 1/2"	0.7	4.66
A-3817	Transceiver modulation and output (Autoformer)	Pri—5000 at 50 made Sec—6750 at 40 made/4	10	A	1 15/16"	1 1/2" x 2 3/8"	0.7	5.00

SINGLE PLATE TO SINGLE GRID—FOR 7,000-20,000 OHM PLATE IMPEDANCES

Part No.	Turns Ratio	Core	Max. Pri. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-53	1:3	1 1/2" x 1 1/2"	10 ma.	A	1 3/8"	2 3/8" x 1 1/2"	0.5	\$3.36

SINGLE PLATE TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

A-52-C	1:2	1 1/2" x 1 1/2"	10 ma.	A	1 3/8"	2 3/8" x 1 3/4"	0.4	\$3.75
A-62-C	1:2	5/8" x 5/8"	10 ma.	A	1 5/8"	2 7/8" x 1 1/2"	0.7	3.89
A-4745	1:2	3/4" x 1"	10 ma.	TD	2 1/16"	2 3/4" x 2 1/8"	1.7	9.44
Recommended for use in super-regenerative circuits. Has a static shield between pri. and sec. windings.								
A-53-C	1:3	1 1/2" x 1 1/2"	10 ma.	A	1 3/8"	2 3/8" x 1 3/4"	0.5	4.00
A-63-C	1:3	5/8" x 5/8"	10 ma.	A	1 5/8"	2 7/8" x 1 1/2"	0.7	4.50
A-73-C	1:3	3/4" x 3/4"	10 ma.	A	2"	3 1/4" x 1 3/4"	1.0	5.25
A-4719	1:3	3/4" x 1"	10 ma.	TD	2 1/16"	2 3/4" x 2 3/16"	1.7	8.27
A-64-C	1:4	5/8" x 5/8"	10 ma.	A	2"	2 3/8" x 1 3/4"	0.7	4.05
A-4420	Exact Repl. United Motors (Delco) 6061 18,000 Ω Plate to P-P Grids, Autoformer			S2	1 5/8"	1 7/16" x 1 1/4"	0.5	3.35

MULTI-PURPOSE INTERSTAGE—SPLIT SECONDARIES

May be used as a single plate to single grid, single plate to push-pull grid, or push-pull plate to push-pull grid interstate transformers. Overall ratios are 3:1, however, primaries are center-tapped and secondaries have split windings, thus providing ratios of 1:1, 3:1 and 6:1 in either step-up or step-down applications. † Has split secondary.

A-4774	1:3	3/4" x 3/4"	10 ma.	S	2 1/16"	2 1/8" x 1 3/4"	1.2	\$5.42
A-4773	1:3	3/4" x 1"	10 ma.	TD	2 1/16"	2 3/4" x 2 3/16"	1.7	8.66

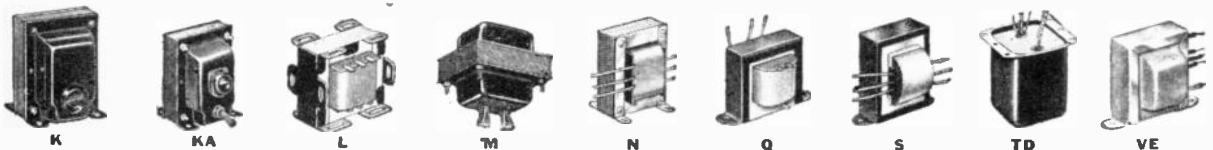
PUSH-PULL PLATES TO PUSH-PULL GRIDS—FOR 7,000-15,000 OHM PLATE IMPEDANCES

A-4711	1:1	5/8" x 5/8"	10 ma.	A	1 5/8"	2 7/8" x 1 1/2"	0.7	\$5.25
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PUSH-PULL PLATES TO PARALLEL OR PUSH-PULL GRIDS—FOR 7,000-20,000 OHM PLATE IMPEDANCES

A-4208	1:1.4	1" x 1"	15 ma.	C	3 1/16"	2 5/8" x 2 5/8"	2.5	\$9.45
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† Has a dual primary—when properly connected the 500 and 200 ohm sections are center tapped. ‡ Has split secondary.
 † Has a static shield between primary and secondary windings. ‡ Designates part numbers to be removed from next catalog.



OUTPUT TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION



SINGLE PLATE TO VOICE COIL

Part No.	Application	Max. Pri. D.C.	Typical Output Tubes	Class	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3332	2,000 ohms to 3.2 ohms	50 ma.	25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	3	A	1 1/16"	2 3/8" x 1"	0.4	\$2.31
A-3876	2,000 ohms to 4 ohms	60 ma.	2A3, 6A3, 6B4, 6W6, 6Y6, 25AC5, 25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.47
A-3328	4,000 ohms to 3.5 ohms	10 ma.	1S4, 3S4	A	3	A	1 1/8"	2 1/8" x 1"	0.4	2.28
A-2203	4,000 ohms to 8 ohms	40 ma.	43, 45, 48, 12A5, 25A6	A	5	A	1 5/8"	2 1/8" x 1 5/8"	0.7	4.11
A-3877	5,000 ohms to 4 ohms	40 ma.	43, 59, 6V6, 7C5, 25A5	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.47
A-3310	5,000 ohms to 500/15/8/4 ohms	55 ma.	45, 6L6, 6V6, 25A6, 25A7	A	20	C	3 3/16"	2 3/8" x 2 5/8"	2.5	9.10
A-3878	7,000 ohms to 4 ohms	30 ma.	20, 31, 33, 42, 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.53
A-2313	7,000 ohms to 8 ohms	40 ma.	33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	10	A	2"	3 1/4" x 1 3/4"	1.0	4.25
A-8114	7,600 ohms to 3.2 ohms	32 ma.	33, 41, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.94
A-3329	8,000 ohms to 3.5 ohms	10 ma.	1C5-GT, 1G5-G, 1Q5-GT/G, 1S4, 3S4	A	3	A	1 3/16"	2 3/8" x 1"	0.4	2.28
A-3879	10,000 ohms to 4 ohms	30 ma.	1J6, 3C5, 6A4, 6G6, 6N7	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.47
A-3881	15,000 ohms to 4 ohms	40 ma.	1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.72
A-3327	25,000 ohms to 4 ohms	5 ma.	1A5, 1D8-GT, 1F4, 1F5-G, 1LA4, 1LB4, 1N6-G	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	3.06
A-4431	Exact Repl. United Motors (Delco) 6062, 6,000 ohms to 3-4 ohms				5	A2	1 5/8"	1 1/16" x 1 1/4"	0.8	3.10

PUSH-PULL PLATES TO VOICE COIL

A-3802	3,800/3,300 to 500/250/8/4 ohms	250 ma.	45, 6L6, Par. 6L6	AB2† AB1	75	C	4 1/4"	4" x 3 7/8"	7.9	\$20.02
A-3851§	4,400 ohms to 500/250/15/8/4 ohms	70 ma.	6L6	AB1	30	C	3 5/8"	3" x 3 3/8"	3.6	12.34
A-3872	5,000 ohms to 15/8/4 ohms	75 ma.	45, 2A3, 6A3, 6L6	AB	18	TD	2 11/16"	2 3/4" x 2 3/8"	1.7	7.77
A-3800	5,000 ohms to 500/250/15/8/4 ohms	80 ma.	45, 2A3, 6A3, 6L6	AB	30	C	3 5/8"	3" x 3 3/8"	3.7	11.45
A-3307	6,000 ohms to 500/15/8/4 ohms	100 ma.	46, 59, 42, 2A5, 6F6, Par. 53, 6A6, 6N7	B, AB2	30	C	3 5/8"	3" x 3 3/8"	3.5	13.20
A-3801	6,600 ohms to 500/250/15/8/4 ohms	150 ma.	6L6	AB1	35	C	4"	3 1/4" x 3 3/8"	5.8	14.60
A-3885	9,000 ohms to 500/250/15/8/4 ohms	150 ma.	6L6	AB1	35	C	4"	3 1/4" x 3 3/8"	4.5	14.46
A-3304	10,000/7,000 ohms to 500/15/8/4 ohms	60 ma.	45, 6V6, 6AC5	AB	25	C	3 3/16"	2 5/8" x 2 5/8"	2.7	10.71
A-3311	10,000 ohms to 500/15/8/4 ohms	70 ma.	6F6, 6V6, 6AC5	AB	25	C	3 5/8"	3" x 3 3/8"	3.5	11.51
A-3831	10,000 ohms to 8/4/2 ohms	40 ma.	30, 49	AB	5	A	1 5/8"	2" x 1 1/2"	0.7	4.50
A-3335	10,000 ohms to 6-8/3.2-4 ohms	40 ma.	10	S	2 3/16"	2 15/16"	1 1/2" x 2 3/8"	1.0	5.25	
A-2312	14,000 ohms to 4 ohms	40 ma.	33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5	AB	10	A	2"	3 3/4" x 1 3/4"	1.0	4.75
A-3496	14,000 ohms to 4 ohms	25 ma.	33, 41, 42, 47, 49, 2A5, 6F6, 6K6, 7B5	AB	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	4.50
A-3303	14,000 ohms to 500/15/8/4 ohms	55 ma.	41, 42, 47, 59, 89, 2A5, 6F6, 6K6, 7B5	AB	20	C	3 3/16"	2 5/8" x 2 5/8"	2.7	10.88
A-3857	25,000 ohms to 4 ohms	10 ma.	1F4, 1F5, 1J5, 1T5, 6G6 12A7, 950	A	5	A	1 3/8"	2 3/8" x 1 3/8"	0.4	4.00
A-4430	Exact Repl. United Motors (Delco) 7269231, 7269116, 7266997 9,000 ohms ("T" to 3.2 ohms)				5	A2	1 1/16"	2 1/4" x 1 5/8"	1.0	3.80
A-4432	Exact Repl. United Motors (Delco) 6063 19,000 ohms ("T" to 4 ohms)				10	S2	2 1/4"	2" x 1 5/8"	1.0	4.10

HUM-REDUCING TRANSFORMERS, Single Plate to Voice Coil

A-3330	±2,000 ohms to 3.5 ohms	60 ma.			5	A	1 3/8"	2 3/8" x 1 3/8"	2 0.4	\$3.30
A-3336	±2,500 ohms to 3.5 ohms	50 ma.			5	A	1 3/8"	2 1/16" x 1 3/8"	2 0.4	3.31

CRYSTAL RECORDER OUTPUT

Part No	Application	Max. Pri. D.C.	Audio Watts	Core Size	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price	
A-3859	Push-pull 10,000 ohm plates to 70,000 ohm crystal cutter OR 4 ohm voice coil	30 ma. ea.	1/2	5	3/4" x 3/4"	A	2"	3 1/4" x 1 3/4"	1.0	\$7.10

§ Has tapped primary for use in hum-reducing circuit.

§ This unit has a tertiary winding to provide 10% inverse feedback.

† Designates part number to be removed from next catalog.

† Has a 4.5% primary tap.



CD



KA



L



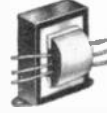
M



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Q



S



TD



WI-2



OUTPUT TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

UNIVERSAL OUTPUT

Part No.	Application	Max. Pri. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3856	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	35 ma.	4	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	\$4.84
A-3822*	Single plate (7,000 to 10,000 ohms) to voice coil	35 ma.	4	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	3.25
A-3848§	Single plate (7,000 to 16,000 ohms) to voice coil	10 ma.	5	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	4.33
A-3823	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma.	8	Q	1 3/8"	2 3/8" x 1 1/2"	0.7	5.62
A-3850	Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma.	8	J	2"	2 3/8" x 1 1/2"	0.7	5.53
A-3825§	Single plate (1,500 to 4,500 ohms) to voice coil	75 ma.	8	Q	2"	3 1/4" x 1 5/8"	0.9	4.38
A-3824§	Single or Push-pull plates (6,000 to 10,000 ohms) to voice coil	75 ma.	8	Q	2"	3 1/4" x 2"	1.4	5.49
A-3849	Single plate (1,500 to 10,000 ohms) to voice coil	55 ma.	10	Q	1 5/8"	2 7/8" x 1 1/2"	0.7	5.62
A-3880	Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma. ea. 1/2	15	Q	2 1/4"	3 3/4" x 2 1/2"	1.7	7.31
A-2855	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. 1/2	15	L	2 1/8"	2 3/8" x 1 3/4"	1.0	6.26
A-3890	Push-pull plates (1,000 to 14,000 ohms) to voice coil	50 ma. ea. 1/2	15	T1	2 1/8"	2 3/4" x 2 1/8"	1.5	9.05
A-3852	Push-pull plates (4,000 to 14,000 ohms) to voice coil	40 ma. ea. 1/2	18	J	2 1/8"	2 7/8" x 2"	1.3	6.78
A-3870	Push-pull plates (4,000 to 14,000 ohms) to voice coil	50 ma. ea. 1/2	18	Q	2"	3 1/4" x 2"	1.3	6.92
A-3830	Push-pull plates (3,000 to 10,000 ohms) to voice coil	60 ma. ea. 1/2	20	J	2 1/8"	3 1/8" x 2 1/4"	1.8	7.50

*Secondary impedance 0.7, 1, 1.4, 2, 2.8, 4 ohms.

§Secondary impedance, 1, 2, 4 ohms.

SINGLE AND / OR PUSH-PULL PLATES TO LINE

Part No.	Application	Impedance in Ohms	Max. Pri. D.C.	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3841	Single plate to line	Pri—7,000/6,000/5,000/4,000/2,500; Sec—500	60 ma.	10	J	2 1/16"	3 1/16" x 2 1/4"	1.5	\$8.33
A-3842	Push-pull plates to line	Pri—14,000/12,000/10,000 8,000 CT; Sec—500	55 ma.	10	J	2 1/16"	3 1/16" x 2 1/4"	1.7	9.50
A-4770	Single plate to line	Pri—7,000/6,000/5,000/4,000/2,500; Sec—500	60 ma.	20	J	3 1/8"	3 5/8" x 2 1/4"	2.4	8.77
A-3250	Single plate or Push-pull plates to line	Pri—20,000/10,000/5,000 Pri—20,000 CT Sec—500/333/200/125/50	15 ma.	—	Q	2"	3 1/4" x 1 3/4"	1.0	6.98
A-3315	Single plate or Push-pull plates to line	Pri—20,000/10,000/5,000 Pri—20,000 CT; Sec—500/333/200/125/50	35 ma.	—	D	3 1/16"	2 5/8" x 2 5/8"	2.7	14.04

LINE TO VOICE COIL

Part No.	Impedance in Ohms	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-8101	Pri—500 Sec—3.2/6-8	5	Q	1 3/8"	2 3/8" x 1 3/8"	0.4	\$2.95
A-3883	Pri—500 Sec—15/8/6/4	25	J	2 1/8"	2 7/8" x 1 3/4"	1.1	5.75
A-3882	Pri—500/333/250 Sec—15/8/4	25	D	3 1/8"	2 3/8" x 2 1/4"	2.4	14.18
A-3838	500/250/175/150/140/125/100/85/45/14/1/0.7 This Unit is designed to operate one or more speakers in series across a 500 ohm line or to match unequal lines.	30	B	3 1/8"	2 1/8" x 2 1/4"	2.3	8.84
A-3818	Pri—1,500/1,000/500 Sec—15 8/4	25	J	3 1/8"	3 5/8" x 2 1/4"	2.2	8.20
A-7947	Pri—2,000/1,500/1,000/500 Sec—6 ohms	8	Q	1 5/8"	2 13/16" x 1 3/8"	0.7	4.89
A-7949	Pri—2,000/1,500/1,000/500 Sec—6-8 ohms	12	J	2 1/8"	2 7/8" x 1 13/16"	1.1	5.73
A-3820	Pri—2,000/1,500/1,000/500 Sec—15/8/4	40	D	4 1/8"	3 5/8" x 4 1/8"	5.0	17.87
A-8104	Pri—3,000/2,000/1,500/1,000/500 Sec—16/8/4	10	J	2 5/16"	2 13/16" x 1 3/4" 2 3/8"	1.5	6.77
A-3837	Line to Line or V. C. (Autoformer) Pri—500 Sec—8/4/2.65/2.35/ 2/1.5/0.7/0.5/0.3/0.2/0.1/0.05 This Unit is designed to operate one or more speakers in parallel across a 500 ohm line.	15	J	2 1/16"	2 7/8" x 2"	1.4	6.69

70.7 VOLT LINE TO VOICE COIL

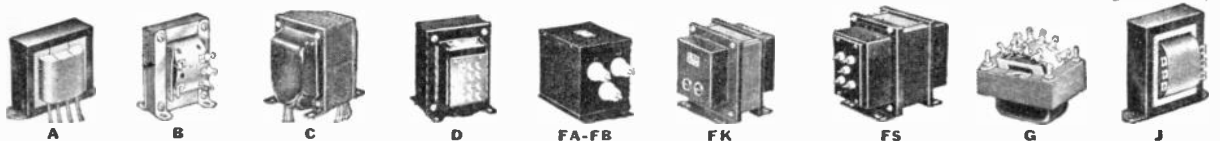
Part No.	Power Steps in Watts	Impedance in Ohms	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. in Lbs.	List Price
A-8102	8/4/2/1/0.5	Pri—625/1,250/2,500/5,000/10,000 Sec—4/8/16	J	2"	1 5/8" x 2 7/8"	2"	0.7	\$5.84
A-8103	16/8/4/2/1/0.5	Pri—312.5/625/1,250/2,500/5,000/10,000 Sec—4/8/16	J	2 1/8"	2 1/4" x 3 1/4"	2 13/16"	1.5	8.25
A-8105	5/2.5/1.25/.62/.31	Pri—1,000/2,000/4,000/8,000/16,000 Sec—4/8	J	1 3/8"	2 3/8" x 1 3/8"	2"	0.4	4.73

140 VOLT LINE TO VOICE COIL

A-8106	1/2/4/8	Pri—2,500/5,000/10,000/20,000 Sec—4/8/16	J	2	1 5/8" x 2 7/8"	2	0.7	\$5.00
A-8107	1/2/4/8/16	Pri—1,250/2,500/5,000/10,000/20,000 Sec—4/8/16	J	2	3 3/8" x 2"	2 13/16"	1.8	7.90
A-8108	0.625/1.25/2.5/5.0	Pri—4,000/8,000/16,000/32,000 Sec—4/8	Q	1 3/8"	2 3/8" x 1 3/8"	2	0.4	4.53

25 VOLT LINE TO VOICE COIL

A-8095	5 2.5 1.25 .62 .31	Pri—125/250/500 1,000 2,000 Sec—4 8	Q	1 1/8"	2 1/8" x 1 3/8"	2"	0.4	\$4.48
A-8096	8 4 2 1 0.5	Pri—78 156/312.5/625 1,250 Sec—4/8 16	J	2"	1 5/8" x 2 7/8"	2"	0.65	6.00
A-8097	16 8 4 2 1 0.5	Pri—39/78/156 312.5 625 1,250 Sec—4 8 16	J	2 1/16"	2 1/4" x 3 1/4"	2 1/16"	1.6	7.20



POWER TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION



COMBINATION PLATE AND FILAMENT SUPPLY POWER TRANSFORMERS TO PROVIDE APPROXIMATELY 260 VOLTS D.C. TO CONDENSER INPUT FILTER

Type and Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Volts	Fil. Amps.	Other Volts	Windings Amps.	Base Area	Overall Height	Mtg. Centers	Shpg. Wt. in Lbs.	List Price
PC8401	235-0-235	40	5.0	2.0	6.3 CT	2.0	2 ⁵ / ₈ " x 2 ⁵ / ₈ "	3 ³ / ₁₆ "	2" x 1 ¹ / ₁₆ "	2.2	\$ 9.21
PM8401							2 ¹ / ₂ " x 3"	2 ⁵ / ₈ "	2" x 2 ¹ / ₂ "		
PC8402	240-0-240	55	5.0	2.0	6.3 CT	2.0	2 ⁵ / ₈ " x 2 ³ / ₄ "	3 ³ / ₁₆ "	2" x 1 ¹ / ₁₆ "	2.4	9.15
PM8402							2 ¹ / ₂ " x 3"	2 ³ / ₄ "	2" x 2 ¹ / ₂ "		
PC8403	250-0-250	70	5.0	2.0	6.3 CT	2.5	2 ⁵ / ₈ " x 3 ¹ / ₈ "	3 ³ / ₁₆ "	2" x 2 ¹ / ₁₆ "	3.2	10.60
PM8403							2 ¹ / ₂ " x 3"	3 ¹ / ₈ "	2" x 2 ¹ / ₂ "		
PC8404	260-0-260	90	5.0	2.0	6.3 CT	3.0	3" x 3 ¹ / ₂ "	3 ⁵ / ₈ "	2 ¹ / ₄ " x 2 ³ / ₄ "	4.0	11.75
PM8404							2 ⁷ / ₈ " x 3 ³ / ₄ "	3 ⁵ / ₈ "	2 ¹ / ₄ " x 2 ³ / ₁₆ "		
PC8405	270-0-270	120	5.0	3.0	6.3 CT	3.5	3 ¹ / ₄ " x 3 ¹ / ₂ "	4"	2 ¹ / ₂ " x 2 ³ / ₁₆ "	4.9	15.32
PM8405							3 ¹ / ₄ " x 3 ³ / ₄ "	3 ¹ / ₂ "	2 ¹ / ₂ " x 3 ¹ / ₈ "		

POWER TRANSFORMERS FOR USE WITH CHOKO INPUT FILTER, VR-TUBE REGULATED SUPPLY, SPEAKER FIELD IN FILTER, OR HIGHER VOLTAGE WITH CONDENSER INPUT FILTER

PC8406	325-0-325	40	5.0	2.0	6.3 CT	2.0	2 ⁵ / ₈ " x 2 ³ / ₄ "	3 ³ / ₁₆ "	2" x 1 ¹ / ₁₆ "	2.4	\$ 9.60
PM8406							2 ¹ / ₂ " x 3"	2 ³ / ₄ "	2" x 2 ¹ / ₂ "		
PC8407	325-0-325	55	5.0	2.0	6.3 CT	2.0	2 ⁵ / ₈ " x 3 ¹ / ₈ "	3 ³ / ₁₆ "	2" x 2 ¹ / ₁₆ "	3.2	10.00
PM8407							2 ¹ / ₂ " x 3"	3 ¹ / ₈ "	2" x 2 ¹ / ₂ "		
PC8422	325-0-325	50	5.0	3.0	6.3 CT	5.0	3 ¹ / ₄ " x 3 ⁷ / ₈ "	4"	2 ¹ / ₂ " x 2 ¹ / ₁₆ "	5.8	15.99
PM8422							3 ¹ / ₈ " x 3 ³ / ₄ "	3 ³ / ₄ "	2 ¹ / ₂ " x 3 ¹ / ₈ "		
PC8408	340-0-340	70	5.0	2.0	6.3 CT	2.5	3" x 3 ⁵ / ₈ "	3 ⁵ / ₈ "	2 ³ / ₄ " x 2 ³ / ₈ "	3.8	12.50
PM8408							2 ⁷ / ₈ " x 3 ³ / ₈ "	3 ¹ / ₂ "	2 ¹ / ₄ " x 2 ¹ / ₁₆ "		
PC8409	350-0-350	90	5.0	2.0	6.3 CT	3.0	3" x 3 ⁵ / ₈ "	3 ⁵ / ₈ "	2 ¹ / ₄ " x 2 ³ / ₈ "	4.5	13.20
PM8409							2 ⁷ / ₈ " x 3 ³ / ₈ "	3 ⁵ / ₈ "	2 ¹ / ₄ " x 2 ³ / ₁₆ "		
PC8410	360-0-360	120	5.0	3.0	6.3 CT	3.5	3 ¹ / ₄ " x 3 ³ / ₄ "	4"	2 ¹ / ₂ " x 2 ¹ / ₁₆ "	5.5	14.98
PM8410							3 ¹ / ₈ " x 3 ³ / ₄ "	3 ³ / ₄ "	2 ¹ / ₂ " x 3 ¹ / ₈ "		
PC8411	375-0-375	150	5.0	3.0	6.3 CT	4.5	3 ⁵ / ₈ " x 4"	4 ⁵ / ₁₆ "	2 ³ / ₄ " x 2 ¹ / ₁₆ "	5.8	20.05
PM8411							3 ¹ / ₂ " x 4 ¹ / ₈ "	3 ⁷ / ₈ "	2 ³ / ₄ " x 3 ¹ / ₁₆ "		
PC8412	400-0-400	200	5.0	3.0	6.3 CT	5.0	4" x 4"	4 ³ / ₈ "	3" x 2 ¹ / ₁₆ "	8.2	20.91
PM8412							3 ³ / ₄ " x 4 ¹ / ₂ "	3 ⁷ / ₈ "	3" x 3 ³ / ₄ "		
PC8413	400-0-400	250	5.0	4.0	6.3 CT	5.0	4" x 4 ¹ / ₂ "	4 ³ / ₈ "	3" x 3 ¹ / ₁₆ "	10.0	23.91
PC8414	600-0-600	200	5.0	3.0	6.3	3.0	4" x 4"	4 ³ / ₄ "	3" x 2 ¹ / ₁₆ "	8.3	24.60

POWER TRANSFORMERS FOR USE WITH 6AX5, 6X4, 6X5, OR SELENIUM RECTIFIERS

PS8415	125 1/2-wave	15	...	...	6.3	0.6	2 ³ / ₈ " x 1 ³ / ₈ "	2"	2"	0.7	\$ 3.95
PS8416	125-0-125	25	...	...	6.3	1.0	2 ⁷ / ₈ " x 1 ³ / ₄ "	2 ¹ / ₁₆ "	2 ³ / ₈ "	1.0	4.75
*PA8421	125 1/2-wave	50	...	...	6.3	2.0	3 ³ / ₄ " x 2 ³ / ₈ "	2 ¹ / ₄ "	3 ¹ / ₈ "	1.5	6.40
PC8417	220-0-220	50	6.3	0.6	25.2	0.5	2 ⁵ / ₈ " x 2 ⁵ / ₈ "	3 ¹ / ₁₆ "	2" x 1"	2.2	10.68
PC8418	230-0-230	50	...	...	6.3	2.5	2 ⁵ / ₈ " x 2 ⁵ / ₈ "	3 ¹ / ₁₆ "	2" x 1 ¹ / ₁₆ "	2.2	8.00
PM8418							2 ¹ / ₂ " x 3"	2 ⁵ / ₈ "	2" x 2 ¹ / ₂ "		
PC8419	240-0-240	70	...	...	6.3	3.0	2 ⁵ / ₈ " x 2 ⁵ / ₈ "	3 ³ / ₁₆ "	2" x 1 ¹ / ₁₆ "	2.6	9.20
PM8419							2 ¹ / ₂ " x 3"	2 ⁷ / ₈ "	2" x 2 ¹ / ₂ "		
PC8420	260-0-260	90	...	...	6.3	4.0	3" x 3 ¹ / ₄ "	3 ¹ / ₂ "	2" x 2 ³ / ₈ "	3.5	10.70
PM8420							2 ⁷ / ₈ " x 3 ³ / ₄ "	3 ¹ / ₂ "	2 ¹ / ₄ " x 2 ¹ / ₁₆ "		

REPLACEMENT POWER TRANSFORMERS (Misc.)

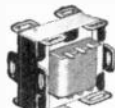
Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-8173	250-0-250	10	—	6.3-0.6 6.3-1.2	C	2 ¹ / ₄ "	2 ⁷ / ₈ " x 2 ¹ / ₄ "	1.0	\$ 7.77
P-8174	250-0-250	20	—	6.3-0.6 6.3-1.2	C	2 ⁵ / ₈ "	3 ¹ / ₁₆ " x 2 ¹ / ₄ "	1.5	8.05
P-6001	325-0-325	40	5.0 CT-2.0	2.5 CT-1.0	M	2 ³ / ₄ "	2 ¹ / ₂ " x 3"	2.5	11.34
P-6348	240-0-240	60	—	6.3 CT-2.75	M	2 ³ / ₄ "	2 ¹ / ₁₆ " x 2 ¹ / ₁₆ "	2.3	9.30
P-4047	350-0-350	70	5.0-3.0	2.5 CT-9.0 6.3-3.0	C	4"	3 ¹ / ₄ " x 3"	3.8	14.10
P-8175	300-0-300	70	5.0-3.0	6.3 CT-3.0	C	3 ¹ / ₂ "	2 ⁷ / ₈ " x 3 ¹ / ₄ "	4.0	13.09
P-6007	400-0-400	110	5.0 CT-3.0	2.5 CT-15.0 2.5 CT-3.5	M	3 ³ / ₄ "	3 ¹ / ₁₆ " x 3 ³ / ₄ "	5.4	18.96
P-8176	350-0-350	110	5.0-2.0	6.3 CT-3.0 6.3 CT-3.0	C	3 ⁷ / ₈ "	3 ³ / ₁₆ " x 3 ⁷ / ₈ "	5.5	17.60
P-8177	300-0-300	120	5.0-3.0	6.3 CT-5.0	C	3 ⁷ / ₈ "	3 ¹ / ₁₆ " x 3 ³ / ₄ "	5.8	15.99



PC



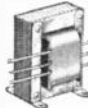
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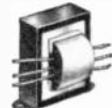
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VE



POWER TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

REPLACEMENT POWER TRANSFORMERS (Misc.)

Part No.	Plate Supply A.C. Volts	D.C. Ma.	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6143	410-0-410	130	5.0-3.0	6.3 CT-3.5	C	4 ¹ / ₁₆ "	3 ⁵ / ₈ " x 3 ⁷ / ₈ "	7.0	\$18.82
P-4004	400-0-400 80 v. Bias	175	5.0 CT-3.0	2.5-1.75 6.3 CT-2.5 6.3 CT-2.5	C	4 ³ / ₄ "	4" x 3 ⁷ / ₈ "	8.3	24.21
P-5059	337.5-0-337.5	200	5.0 CT-3.0	6.3 CT-5.0	C	4 ³ / ₄ "	4" x 4 ¹ / ₄ "	9.6	22.21
P-6315	370-0-370	275	5.0 CT-3.0	6.3 CT-7.0	M	4 ¹ / ₄ "	3 ³ / ₄ " x 4 ¹ / ₂ "	9.3	23.27

#Primary for 117 107 Volts.

SELENIUM RECTIFIER TRANSFORMERS—See Page 1304

VIBRATOR TRANSFORMERS WITH 6 VOLT D.C. PRIMARY

Part No.	Secondary A.C. Volts	Secondary Volts	D.C. to Filter Milliamperes	Recommended Buffer Cap.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6301	210-0-210	150	40	0.008 mfd.	S	2 ¹ / ₂ "	2 ⁷ / ₈ " x 1 ³ / ₄ "	1.2	\$6.25
P-6491	188-0-188	200	40	0.003 mfd.	S	2 ¹ / ₂ "	3 ¹ / ₈ " x 2 ¹³ / ₁₆ "	1.5	6.65
P-4060	240-0-240	225	40	0.008 mfd.	N	3 ¹ / ₈ "	2 ¹ / ₂ " x 2 ⁵ / ₈ "	2.5	8.78
P-4061	290-0-290	250	50	0.006 mfd.	N	3 ¹ / ₈ "	2 ¹ / ₂ " x 2 ⁵ / ₈ "	2.5	8.56
P-4062	300-0-300	260	65	0.006 mfd.	N	3 ¹ / ₈ "	2 ¹ / ₂ " x 2 ⁵ / ₈ "	2.3	9.09
P-4063	320-0-320	285	75	0.006 mfd.	N	3 ¹ / ₈ "	2 ¹ / ₂ " x 2 ⁵ / ₈ "	2.8	11.10
P-6131	370-0-370	330	100	0.007 mfd.	N	3 ¹ / ₂ "	2 ⁷ / ₈ " x 2 ⁷ / ₈ "	3.5	12.25

VIBRATOR TRANSFORMER WITH 6 VOLT D.C. AND 117 VOLT A.C. PRIMARY

P-6166	350-0-350	—	135	—	C	4 ³ / ₄ "	4" x 3 ⁵ / ₈ "	6.9	\$20.18
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Filament—6.3 volts at 2.25 Amps.

AUTO RADIO VIBRATOR TRANSFORMERS—EXACT DUPLICATE

Write for FREE Stancor Auto Radio Transformer Replacement Guide listing detailed replacement information of 540 car radios.

Part No.	Original Part No.	Original Manufacture	D.C. Volts at Filter Input	D.C. Ma.	Recommended Buffer Cap.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-4064	7240519	United Motors (Delco)	280	65	0.015-0.015 mfd.	3 ¹ / ₂ "	2 ¹ / ₂ " x 2 ⁵ / ₈ "	2.5	\$13.93
P-4065	7255881	United Motors (Delco)	265	56	0.006 mfd.	4 ¹ / ₁₆ "	2 ³ / ₈ " x 2 ⁷ / ₈ "	2.6	13.51
P-6470	140-111	Regal (5-tube univ. series)	145	50	0.009 mfd.	2 ¹¹ / ₁₆ "	2 ¹¹ / ₁₆ " x 2 ¹ / ₂ "	1.4	9.00
P-6471	25B472533	Motorola (408, 508, etc.)	235	70	0.006 mfd.	3"	3 ³ / ₄ " x 2 ⁵ / ₈ "	2.0	9.00
P-6472	D 71014 C 217020 C 71014 25B70950	Colonial-Detrola No. 8072 Colonial-Bendix M1 Colonial-Motorola Motorola (405, 505, etc.)	270	56	0.007 mfd.	2 ⁵ / ₈ "	2 ²⁷ / ₃₂ " x 2 ¹ / ₃₂ "	2.0	9.00
P-6473	95-1073	Zenith	272	73	0.008 mfd.	3 ¹ / ₂ "	2 ³ / ₄ " x 2 ¹ / ₂ "	2.4	9.60
P-6474	95-1066	Zenith	240	52.5	0.008 mfd.	3 ¹ / ₂ "	2 ³ / ₄ " x 2 ¹ / ₂ "	2.2	9.00
P-6476	D 70267 C 70267	Colonial-Detrola No. 7070 Col.-Mot.-Det. No. 8030	220	53.5	0.008 mfd.	2 ⁵ / ₈ "	2 ¹ / ₂ " x 2 ¹ / ₂ "	2.0	9.60
P-6477	25C500189	Motorola	150	50	.03 mfd.	2"	1 ⁷ / ₈ " x 2 ¹ / ₄ "	1.0	5.16
P-6478	25C501614	Motorola	225	70	.02 mfd.	2 ¹ / ₄ "	2 ¹ / ₂ " x 2 ⁵ / ₈ "	1.5	5.89
P-6479	65-0358	Philco	260	60	.005 mfd.	2 ¹ / ₂ "	2 ³ / ₈ " x 3"	2.3	7.92
P-6480	65-0347	Philco	225	70	.0033 mfd.	2 ¹ / ₁₆ "	2 ¹ / ₄ " x 2 ⁵ / ₈ "	1.5	6.51
P-6481	32-8313-1	Philco	250	60	.0068 mfd.	2 ¹ / ₄ "	2 ³ / ₁₆ " x 2 ⁵ / ₈ "	1.5	7.50
P-6483	VE-169	Farnsworth	240	50	.006	3 ¹ / ₁₆ "	2 ¹ / ₂ " x 2 ³ / ₈ "	2 ¹ / ₂	9.67
P-6484	25B70950-E	Motorola	265	70	.007	3 ¹ / ₁₆ "	2 ¹ / ₂ " x 2 ³ / ₈ "	2 ¹ / ₂	9.60
P-6485	95-1071	Zenith	240	70	.008	3 ¹ / ₁₆ "	2 ¹ / ₂ " x 2 ³ / ₈ "	2 ¹ / ₂	9.66
P-6486	25C472586-C	Motorola	240	80	.007	3 ¹ / ₄ "	2 ⁷ / ₈ " x 2 ³ / ₄ "	3 ¹ / ₂	10.93
P-6487	25B-231303	Motorola	170	60	.007	2 ¹ / ₁₆ "	2 ¹ / ₂ " x 2 ³ / ₂ "	1 ³ / ₄	9.20
P-6488	25C-521454	Motorola	225	50	.007	2 ⁷ / ₈ "	2 ³ / ₁₆ " x 2 ³ / ₈ "	2	7.45
P 6490	C291787-1	Bendix (Ford Model 58NF)	265	52	.006	2 ¹ / ₂ "	2 ¹ / ₂ " x 2 ³ / ₄ "	1.5	5.55
P-6499	1220167, 7261386, 7262956	United Motors (Delco)	250	60	0.006	3 ¹ / ₂ "	2 ⁵ / ₈ " x 2 ¹ / ₂ "	2.3	12.93

FOR 12 VOLT D.C. PRIMARY

P-6482	6064	United Motors (Delco)	250	60	.004 mfd.	3 ¹ / ₄ "	2 ¹¹ / ₁₆ " x 2 ¹¹ / ₁₆ "	2.5	\$14.18
P-6489	6067	United Motors (Delco)	250	60	.004 mfd.	2 ¹ / ₂ "	2 ³ / ₁₆ " x 2 ¹ / ₂ "	2.0	6.92
P-6493	★25C535794	Motorola	275	75	(See Footnote)	2 ³ / ₄ "	2 ¹ / ₂ " x 2 ¹ / ₂ "	1.7	6.89
P-6494	32-8592-1	Philco	245	70	0.0047 mfd.	2 ¹ / ₂ "	2 ⁵ / ₈ " x 2 ¹ / ₂ "	1.5	6.20
P-6495	★25K535795	Motorola	275	75	(See Footnote)	2 ³ / ₄ "	2 ¹ / ₂ " x 2 ¹ / ₂ "	1.7	7.14
P-6497	7265604, 7269118, 7271233	United Motors (Delco)	250	55	0.007*	2 ⁵ / ₁₆ "	2 ¹ / ₄ " x 2"	1.8	6.10

*2 Buffer capacitors used 0.5 mfd. and 0.04 mfd. as in original circuit. *in series with 15K-1W resistor.

FILTER CHOKES



CHICAGO STANDARD TRANSFORMER CORPORATION

SMOOTHING CHOKES FOR D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. They are rated at 10 volts, 60 cycles, with maximum D.C. in winding. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rating Induc. at Ma.	D.C. D.C.	D.C. Res. in Ohms	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1515	20.0 hy.	at 15 ma.	900	1500	A	1 1/8"	2 7/8" x 1 1/2"	0.7	\$3.59
C-2318	12.0 hy.	at 30 ma.	400	2000	A	1 1/8"	2 3/4" x 1 3/8"	0.5	3.05
C-1706	4.5 hy.	at 50 ma.	300	1500	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.14
C-1707	7.0 hy.	at 50 ma.	550	1500	A	1 3/8"	2 3/8" x 1 3/8"	0.4	2.36
C-1003	16.0 hy.	at 50 ma.	580	1500	A	2"	3 1/2" x 1 3/4"	1.1	3.61
C-1708	13.0 hy.	at 65 ma.	500	1500	A	2"	3 1/2" x 1 3/4"	1.0	4.00
C-1355	8.0 hy.	at 75 ma.	290	1500	L	2 1/16"	2 1/16" x 1 3/4"	1.0	4.42
C-1002	15.0 hy.	at 75 ma.	400	1500	A	2 3/4"	3 3/4" x 2 1/4"	1.7	4.90
C-1420	16.0 hy.	at 80 ma.	360	1500	C	3 1/16"	2 5/8" x 2 5/8"	2.5	7.73
C-1709	8.0 hy.	at 85 ma.	250	1500	A	2"	3 3/4" x 2 5/8"	1.4	4.00
C-2305	5.0 hy.	at 100 ma.	300	1500	TD	2 11/16"	2 3/4" x 2 3/16"	1.5	5.75
C-1001	10.5 hy.	at 110 ma.	225	3000	A	2 3/16"	4" x 2 3/4"	2.3	5.98
C-2303	2.5 hy.	at 130 ma.	100	2000	A	2"	3 1/4" x 1 3/4"	1.0	3.75
C-1421	7.0 hy.	at 140 ma.	165	3000	C	3 1/16"	2 5/8" x 2 5/8"	2.5	7.73
C-2304	2.3 hy.	at 150 ma.	80	1500	A	2"	3 1/4" x 1 3/4"	1.0	3.75
C-2309	3.0 hy.	at 150 ma.	90	2000	A	2 3/4"	3 3/8" x 2 1/4"	1.7	4.27
C-1710	7.0 hy.	at 150 ma.	200	1500	A	2 5/8"	4" x 2 3/4"	2.2	6.00
C-1410	4.0 hy.	at 175 ma.	100	3000	C	3 1/16"	2 5/8" x 2 5/8"	2.4	7.56
C-2327	1.5 hy.	at 200 ma.	85	1500	A	1 9/16"	2 1/2" x 1 1/2"	0.8	3.00
C-1646	5.0 hy.	at 200 ma.	90	5000	C	4"	3 1/2" x 3 3/8"	4.5	11.34
C-1411	4.5 hy.	at 200 ma.	80	3000	C	3 5/8"	3" x 3 1/8"	3.5	9.45
C-1721	8.5 hy.	at 200 ma.	120	3000	N	3 3/8"	3 1/8" x 3"	4.4	12.51
C-1703	4.0 hy.	at 250 ma.	60	3000	B	3 1/8"	2 7/8" x 3 1/8"	4.2	10.34
C-1412	4.0 hy.	at 250 ma.	60	3000	C	3 3/8"	3" x 3 1/2"	4.3	11.60
C-1722	8.0 hy.	at 300 ma.	80	3000	N	4 3/8"	3 3/4" x 3 1/2"	7.3	18.40
C-2308	8.0 hy.	at 300 ma.	80	3000	C	4 3/8"	4" x 3 7/8"	7.8	18.40
C-1413	8.0 hy.	at 300 ma.	80	5000	D	4 3/8"	4" x 4 1/8"	7.8	19.13
C-2328	0.8 hy.	at 375 ma.	25	1500	A	2 1/2"	3 3/4" x 2"	1.5	6.00
C-1414	7.5 hy.	at 400 ma.	60	5000	D	4 3/8"	4" x 5 1/4"	11.8	26.16
C-1415	6.0 hy.	at 500 ma.	75	7500	FS	8 1/8"	5 5/8" x 5 1/2"	23.7	80.68

SWINGING CHOKES FOR INPUT SECTION OF D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Swinging chokes are rated at 10 volts, 60 cycles, from maximum to 10% of maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Min. Swg. Induc.	D.C. Res. in Ohms	Approx. Range of Induc. at D.C. Ma.	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price	
C-1718	10 hy.	130	13.5-3.5 hy. at	15-150	2000	C	3 3/8"	2 5/8" x 2 1/2"	2.3	\$7.39
C-1400	10 hy.	100	12-2 at	17.5-175	3000	C	3 3/8"	2 5/8" x 2 5/8"	2.4	7.90
C-1401	10 hy.	80	12-2 at	20-200	3000	C	3 5/8"	3" x 3 1/8"	3.5	9.92
C-1645	10 hy.	90	12-2 at	20-250	5000	C	4"	3 3/4" x 3 3/8"	4.5	10.98
C-1702	10 hy.	60	12-2 at	25-250	3000	B	3 1/2"	2 7/8" x 3 3/8"	4.3	11.29
C-1402	10 hy.	60	12-2 at	25-250	3000	C	3 5/8"	3" x 3 1/2"	4.3	11.62
C-1720	16 hy.	80	20-4 at	30-300	3000	N	4 5/8"	3 3/8" x 3 1/2"	7.2	18.35
C-2307	16 hy.	80	20-4 at	30-300	3000	C	4 3/4"	4" x 3 7/8"	7.9	19.07
C-1403	16 hy.	80	20-4 at	30-300	5000	D	4 3/4"	4" x 4 1/8"	7.7	19.49
C-1404	14 hy.	60	17-3 at	40-400	5000	D	4 3/4"	4" x 5 1/8"	11.7	25.38
C-1405	12 hy.	75	16-4 at	50-500	7500	FS	7 5/8"	6 1/8" x 7"	24.3	67.97

SMOOTHING CHOKES FOR USE IN A.C.-D.C. POWER SUPPLIES.

Inductance varies with the amount of D.C. flowing through the coil, therefore these units have been tested under uniform conditions. Filter chokes are rated at 10 volts, 60 cycles, with maximum D.C. in windings. Tolerance of plus 15% is maintained on all ratings.

Part No.	Rating Induc. at Ma.	D.C. D.C.	D.C. Res. in Ohms	R.M.S. V. Insul.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
C-1080	3.5 hy.	at 50 ma.	200	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	\$2.75
C-1325	5.0 hy.	at 50 ma.	250	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.75
C-1277	7.0 hy.	at 50 ma.	300	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	3.00
C-1723	4.5 hy.	at 50 ma.	325	1500	A	1 5/8"	2 3/8" x 1 5/8"	0.4	2.36
C-1227	7.0 hy.	at 50 ma.	350	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	3.00
C-1279	8.5 hy.	at 50 ma.	400	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.75
C-1333	8.0 hy.	at 50 ma.	450	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.75
C-1215	9.0 hy.	at 50 ma.	500	1500	A	1 5/8"	2 7/8" x 1 1/2"	0.7	2.67



K



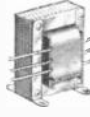
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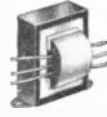
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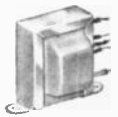
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MODULATION TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

PLATE MODULATION

Part No.	Impedance in Ohms	Max. Ma. D.C./Tube Pri. Sec.	Typical Output Tubes	Class	Audio Watts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3812	Pri—10,000 CT Sec—4,000	32 50	Sgl.—37, 38, 41, 1G5, 6K6 Sgl.—19, 1G6, 1J6, 6E6, 6G6, 6Z7 P.P.—30, 49, 1H4	A B B	5	A	1 7/8" 2 7/8" x 1 1/2"		0.7	\$4.06
A-3871	Pri—4,500 Sec—8,500 #Secondary used as primary.	60 50	Sgl.—6L6, HY69 #Sgl.—6B5, 6F6, 6N6	A A	10	TD	2 1/16" 2 3/4" x 2 3/16"		1.4	7.40
A-3845	Pri—10,000 CT Sec—8,000/6,500/5,000/3,000	100 100	Sgl. 53, 79, 6A6, 6N7, 6Y7 P.P.—42, 2A5, 6F6, 6V6	B AB2	25	C	3 1/16" 2 5/8" x 2 3/4"		2.8	9.73
A-3808	Pri—3,800/3,300 CT Sec—10,000/7,500/5,000/4,000	260 170	P.P.—6L6, 807, HY61, RK41 P.P. Par—6L6	AB2 AB1	60	D	4 3/4" 4" x 2 7/8"		7.7	25.21
A-3829	Pri—9,000/6,900 CT Sec—6,250/5,000/4,000/3,300	250 300	P.P.—RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B	B	175	D	4 3/4" 4" x 6 1/2"		11.4	28.08

POLY-PEDANCE MODULATION MULTI-TAPPED UNITS TO PROPERLY MATCH THE OUTPUT OF THE MODULATOR STAGE TO THE MODULATED LOAD. WILL MATCH ALL COMMON IMPEDANCES OF CLASS "B" MODULATOR (2,000 to 20,000 OHMS) TO CLASS "C" LOAD IMPEDANCES OF 2,000 TO 20,000 OHMS.

The number of excellent transmitting tubes available is constantly increasing. R.F. applications, too, have increased and it is sometimes difficult to obtain the correct modulation transformer suitable for

matching some given modulator tubes or R.F. load. These units give an almost unlimited range in power and impedance ratings to assure a correct impedance match in all cases.

Part No.	Max. Watts	Max. D.C.	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
A-3891	15	Pri—100 ma. Sec—100 ma.	D	3 1/16"	2 5/8" x 2 7/8"	2.5	\$16.01
A-3892	30	Pri—150 ma. Sec—150 ma.	D	4"	3 1/4" x 3 5/8"	4.3	20.29
A-3893	60	Pri—180 ma. Sec—180 ma.	D	4"	3 1/4" x 4 1/8"	6.2	21.96
A-3894	125	Pri—225 ma. Sec—225 ma.	D	4 3/4"	4" x 4 5/8"	9.4	27.63
A-3898	300	Pri—260 ma. Sec—260 ma.	FS	8 1/8"	5 3/4" x 7 5/8"	37.9	163.55
A-3899	600	Pri—500 ma. Sec—500 ma.	FS	9 1/8"	7 1/4" x 10 1/4"	70.0	199.63

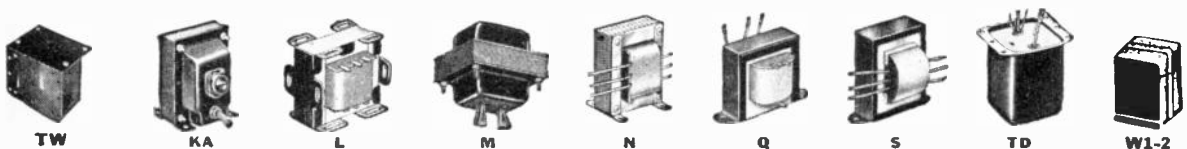
SELENIUM RECTIFIER TRANSFORMERS*

Part No.	Rectifier Circuit	Range of Applied A.C. Volts Under Load (Approx.)	Output Resistive or Inductive Load Max. D.C.		Output Capacitive Load* Max. D.C.		Mtg. Type	Overall Dimensions H W D	Shpg. Wt. (lbs.)	List Price
			Volts	Amps.	Volts	Amps.				
RT-201	C. T.	11.7 to 29.4	11.2	2.0	13.8 ¹	2.0	B	3 1/4" x 2 1/2" x 3 3/4"	2.5	\$ 8.45
	Bridge	11.1 to 28.5	23.0	1.25	30.0 ²	1.25	B	3 1/2" x 2 1/2" x 3 3/4"	2.5	
RT-202	C. T.	12.0 to 29.8	11.1	4.0	14.7 ³	4.0	B	3 1/4" x 2 7/8" x 3 1/2"	3.8	11.48
	Bridge	12.0 to 29.8	24.3	2.0	33.0 ⁴	2.0	B	3 3/4" x 2 7/8" x 3 1/2"	3.8	
RT-204	C. T.	11.7 to 29.2	12.0	8.0	14.5 ⁴	8.0	B	4" x 3 1/4" x 4 1/4"	6.1	14.85
	Bridge	11.6 to 29.2	24.0	4.0	32.4 ³	4.0	B	4" x 3 1/4" x 4 1/4"	6.1	
RT-206	C. T.	12.0 to 29.7	11.5	12.0	14.4 ⁶	12.0	B	4 1/4" x 3 7/8" x 5 1/4"	9.1	20.18
	Bridge	12.0 to 29.7	24.0	6.0	32.0 ⁶	6.0	B	4 1/4" x 3 7/8" x 5 1/4"	9.1	
RT-208	C. T.	12.1 to 29.2	11.4	15.0	14.8 ⁷	15.0	B	4 3/4" x 3 3/4" x 5 1/4"	12.6	25.44
	Bridge	12.1 to 29.2	23.7	8.0	32.5 ⁴	15.0	B	4 3/4" x 3 3/4" x 5 1/4"	12.6	
RT-2012	C. T.	12.1 to 29.0	11.4	22.5	14.3 ⁸	22.5	B	5 1/4" x 4 1/4" x 6 3/4"	20.5	37.50
	Bridge	12.0 to 29.0	23.5	12.0	33.0 ⁶	12.0	B	5 1/4" x 4 1/4" x 6 3/4"	20.5	
RT-408	Bridge	25.0 to 53.5	44.0	8.0	63.0 ⁴	8.0	B	5 1/4" x 4 1/4" x 7 1/2"	26.5	55.46
RT-4012	Bridge	25.0 to 53.0	43.5	12.0	60.0 ⁶	12.0	B	7 1/4" x 5 1/4" x 6 1/4"	33.5	73.03

*Transformers and Rectifiers will have a higher temperature rise when operating with a capacitive load as compared to a resistive or inductive load for a given load current. If this is undesirable extra ventilation should be provided or else the output current from the rectifier should be derated by approximately 20% from the values shown.

†Designates part number to be removed from next catalog. *Designed for a nominal input of 117 volts, 50-60 cycles.

RT Footnotes: MFD. Filter Capacitor: 1. 1,000 2. 500 3. 2,000 4. 4,000 5. 6,000 6. 3,000 7. 7,500 8. 12,000.



FILAMENT TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION



FILAMENT TRANSFORMERS WITH SINGLE SECONDARY

Part No.	Secondary Volts	Amperes	R.M.S. V. Insul.	Primary Volts*	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-4026	2.5	1.5	2,500	117	A	1 5/8"	2 3/8" x 1 1/2"	0.7	\$4.60
P-4082	2.5 CT	2.5	2,500	117/107	TD	2 1/16"	2 3/4" x 2 3/16"	1.5	8.05
P-6133	2.5 CT	5.0	7,500	117	S	2 1/16"	3 1/8" x 2 1/4"	1.5	6.33
P-4383	2.5 CT	6.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 3/8"	2.2	8.44
P-3024	2.5 CT	10.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 3/8"	2.5	8.33
P-6454	2.5 CT	10.0	7,500	107 117	S	3 1/2"	3 5/8" x 2 3/8"	2.5	6.67
P-3060	2.5 CT	10.0	10,000	117	B	3 1/2"	2 3/8" x 2 1/2"	2.5	11.20
P-3026	5.0 CT	3.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 3/8"	2.4	8.33
P-4088	5.0 CT	3.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	1.8	7.09
P-6467	5.0 CT	3.0	2,500	117	A	2"	3 1/16" x 2"	1.4	5.33
P-6455	5.0 CT	6.0	2,000	107 117	S	2 1/2"	3 1/8" x 2 1/4"	2.0	7.22
P-3062	5.0 CT	6.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.3	8.56
P-5000	5.0 CT	6.0	2,500	117 107	C	3 3/16"	2 5/8" x 2 3/8"	3.1	9.66
P-6135	5.0 CT	10.0	2,500	117	N	3 1/8"	2 1/2" x 2 1/2"	3.0	9.34
P-4086	5.0 CT	14.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	12.3	38.14
P-6302	5.0 CT	22.0	10,000	117/107	FA	5 1/8"	4 1/4" x 8 1/2"	13.5	53.54
P-6492	5.0 CT	30.0	2,500	117	C	4 3/4"	3 3/4" x 3 3/8"	7.5	19.24
P-6468	5.0 CT	30.0	2,500	117/107	D	4 5/16"	3 5/8" x 3 5/8"	4.3	21.32
P-6305	5.0 CT	30.0	10,000	117/107	FB	5 1/8"	4 1/4" x 10"	18.3	51.60
P-6137	5.25 CT	13.0	2,500	117	N	3 1/2"	3 1/8" x 3 1/4"	5.2	13.65
P-6463	†6.0 CT, 6.5 CT, or 7.0 CT	13.0	2,000	117	B	3 1/2"	2 1/2" x 3 1/4"	4.5	13.09
P-6465	6.3 CT	0.6	1,500	117	A	1 1/2"	2 1/8" x 1 3/8"	0.5	3.30
P-6134	6.3 CT	1.2	3,000	117	A	1 5/8"	2 7/8" x 1 5/8"	0.8	3.50
P-8190	6.3	1.2	5,000	117	A	2"	3 1/4" x 1 3/4"	1.0	4.60
P-8191	6.3	1.2	5,000	6.3	A	2"	3 1/4" x 1 3/4"	1.0	4.95
P-5014	6.3 CT	3.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.0	7.78
P-6466	6.3 CT	3.0	2,500	117	A	2"	3 1/16" x 2"	1.4	5.65
P-6462	6.3	3.0	7,000	107 117	A	2 1/2"	4 1/2" x 2 1/2"	2.0	9.32
P-4019	6.3 CT	4.0	2,500	117/107	C	3 3/16"	2 5/8" x 2 3/8"	2.7	8.40
P-6456	6.3 CT	6.0	2,000	107 117	A	2 1/4"	3 1/8" x 2 1/2"	2.0	6.37
P-3064	6.3 CT	6.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/2"	2.4	9.04
P-4089	6.3 CT	6.0	2,500	117/107	C	3 3/8"	3" x 3 3/8"	3.5	11.04
P-6308	6.3 CT	10.0	2,500	117/107	N	3 1/2"	2 7/8" x 2 3/4"	3.4	10.98
P-6309	6.3 CT	20.0	2,500	117/107	N	4 5/8"	3 3/4" x 3"	6.7	17.01
P-5015	7.5 CT	4.0	2,500	117	B	3 1/8"	2 1/2" x 2 1/8"	2.7	7.92
P-6457	7.5 CT	5.0	2,000	107 117	C	4 1/2"	3 3/4" x 4"	6.0	21.15
P-4091	7.5 CT	5.0	2,500	117/107	C	3 3/8"	3" x 3"	3.4	11.16
P-6138	7.5 CT	8.0	2,500	117	N	3 1/8"	3 1/8" x 2 7/8"	4.7	12.15
P-5016	10.0 CT	4.0	2,500	117	B	3 1/2"	2 7/8" x 2 3/8"	3.3	10.09
P-6458	10.0 CT	5.0	2,000	107 117	N	3 1/16"	2 1/2" x 2 1/2"	3.0	7.84
P-4096	10.0 CT	5.0	2,500	117/107	C	4"	3 1/4" x 3 3/8"	4.0	12.04
P-6139	10.0 CT	8.0	2,500	117	N	3 1/8"	3 1/8" x 3 3/8"	4.9	12.50
P-4097	10.0 CT	8.0	2,500	117/107	C	4"	3 3/8" x 3 3/8"	5.2	13.04
P-6461	10.0 CT	10.0	2,000	117*	C	3 7/8"	3 1/4" x 3 5/8"	5.0	14.65
P-5002	10.0 CT	12.0	7,500	117/107	FA	5 1/8"	4 1/8" x 8 1/2"	14.7	41.42
P-3020	11.0 CT	10.0	2,500	117/107	C	4 3/8"	4" x 3 3/8"	7.7	16.59
P-8130	12.6 CT	2.0	1,500	117	A	2"	3 1/4" x 2"	1.4	5.72
P-6469	25.2	1.0	1,500	117	A	2"	3 3/8" x 2"	1.4	5.44

FILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY

P-6144	2.5 VCT at 3.5 A; 5.0 VCT at 3.0 A; 6.3 VCT at 3.0 A	2,500	117	C	3 3/8"	3" x 3 1/8"	3.7	\$12.99
P-6338	2.5 V at 3.0 A; 5.0 V at 3.0 A; 5.0 VCT at 2.0 A; 6.3 VCT at 3.0 A	2,500	117	N	3 1/2"	2 7/8" x 2 3/4"	3.4	12.65
P-5009	5.0 VCT at 3.0 A; 6.3 VCT at 6.0 A	2,500	117 107	C	4"	3 1/4" x 3 1/4"	4.5	14.82
P-5008	5.0 VCT at 4.0 A; 6.3 VCT at 3.6 A	2,500	117 107	C	3 5/8"	3" x 3 1/4"	3.8	13.04
P-4022	5.0 VCT at 6.0 A; 6.3 VCT at 6.0 A	2,500	117 107	C	4"	3 1/4" x 3 3/8"	4.8	13.93
P-6333	5.0 V at 3.0 A; 5.0 V at 3.0 A; 6.3 VCT at 4.0 A; 7.5 V/6.3 VCT at 3.0 A	2,500	117	B	3 1/2"	2 5/8" x 3 3/8"	4.7	15.71
P-6428	6.3 V at 1.75 A; 6.3 V at 1.75 A; 6.3 V at 1.75 A; 6.3 VCT at 1.75 A	2,500	117	C	3 1/8"	2 1/2" x 3"	3.0	10.35
P-6429	6.3 V at 3.5 A; 6.3 V at 3.5 A; 6.3 V at 3.5 A; 6.3 VCT at 3.5 A	2,500	117	C	3 5/8"	3 1/8" x 3 1/2"	4.8	14.05
P-6430	6.3 VCT at 3.0 A; 6.3 VCT at 3.0 A	2,500	117	C	3 1/8"	2 1/2" x 3 3/8"	2.8	9.17
P-6431	6.3 VCT at 6.0 A; 6.3 VCT at 6.0 A	2,500	117	C	3 7/8"	3 1/8" x 3 1/2"	4.8	13.90

*All primary windings for 60 cycle operation. *Primary 50/60 cycles. †By means of primary tap: For Eimac 4CX1000A tube.





PLATE TRANSFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION

PLATE TRANSFORMERS

Part No.	D.C. Volts	Sec. A.C. Volts at Plate	D.C. CCS	Ma. ICAS	Pri. Volts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-8040	400 40	500/40-0-500	300	375	115	C	4 3/4"	4" x 4 1/2"	9.8	\$22.52
P-8041	500 400 40	615/520/40-0-520/615	250	310	115	C	4 3/4"	4" x 5 3/8"	13.6	26.63
P-8042	600 400 40	770/510/40-0-510/770	300	375	115	C	4 3/4"	4" x 6 3/8"	18.0	35.86
P-8043	750 600 40	950/750/40-0-750/950	300	375	115	FS	7 3/8"	6 1/8" x 8 1/2"	29.0	132.61
P-8025	1000 750	1230/940-0-940/1230	400	500	115	FS	7 3/8"	6 1/8" x 9 1/2"	35.0	149.49
P-8026	1250 1000	1475/1175-0-1175/1475	300	375	115	FS	7 3/4"	7 3/8" x 8 1/4"	36.5	123.15
P-8027	1250 1000	1510/1210-0-1210/1510	500	625	115	FS	8"	5 3/8" x 8 1/4"	45.2	126.49
P-8028	1500 1250	1740/1460-0-1460/1740	300	375	115	FS	8 1/8"	5 5/8" x 7 7/8"	38.7	119.12
P-8029	1500 1250	1775/1500-0-1500/1775	500	625	115-230	FS	9 1/5"	7 1/4" x 8 3/8"	65.0	179.87
P-8030	1750 1500	2100/1800-0-1800/2100	300	375	115	FS	7 3/4"	7 3/8" x 9"	45.8	141.39
P-8031	1750 1500	2075/1775-0-1775/2075	500	625	115-230	FS	10 1/2"	7 1/4" x 8 1/8"	65.5	172.03
P-8032	2000 1750	2400/2100-0-2100/2400	300	375	115	FS	7 3/4"	7 3/8" x 9 1/4"	46.0	158.04
P-8033	2000 1750	2375/2065-0-2065/2375	500	625	115-230	FS	11 1/4"	7 3/8" x 9 1/2"	77.0	206.22
P-8034	2500 2000	2900/2385-0-2385/2900	300	375	115-230	FS	11 1/4"	7 3/8" x 8 3/4"	62.8	202.88
P-8035	2500 2000	2950/2375-0-2375/2950	500	575	115-230	FS	11 1/4"	7 3/8" x 10 1/4"	80.0	238.47

PLATE TRANSFORMERS—NEW FUNCTIONAL UNITS

No exposed terminals. Insulated leads provide protected routing to circuits. Simplified design offers ease of mounting and neat, convenient circuit wiring. No difficult cutouts needed. Each of these units is "all transformer," taking a minimum of chassis space. No bulky casing or protruding, "hot" terminals to increase mounting area.

D.C. output rated CCS at load terminals of single-section reactor-input filter, ICAS with single-section capacitor-input filter. Primaries for 117 volts, 60 cycles.

Type Part No.	Secondary A.C. Volts	D.C. Output		Type Filter	Rectifier	List Price
		Volts	Ma.			
PC8301	415-0-415	300	200	Reactor Input	5U4G	\$13.40
		425	160	Capacitor Input	5U4G	
PC8302	515-0-515	385	235	Reactor Input	5U4G	17.54
		500	200	Capacitor Input	5R4GY	
PC8303	665-0-665	500	250	Reactor Input	5R4GY	22.27
		750	200	Capacitor Input	5R4GY	
PC8304	750-0-750	600	265	Reactor Input	2-5R4GY	25.08
		850	200	Capacitor Input	5R4GY	
PC8305	920-0-920	750	250	Reactor Input	2-5R4GY	26.10
		1000	200	Capacitor Input	5R4GY	
PC8306*	920-0-920	750	150	Reactor Input	5R4GY	25.80
		1100	125	Capacitor Input	5R4GY	
PC8306*	500-0-500	380	150	Reactor Input	5U4G	25.80
		550	125	Capacitor Input	5U4G	

D.C. output rated at load terminals of single-section, reactor-input filter with full-wave mercury-vapor rectification. Primaries for 117 volts, 60 cycles.

Type and Part No.	Secondary A.C. Volts	D.C. Volts	CCS	D.C. Ma.	ICAS	List Price
PT8311	1200-0-1200	1000	225	280		\$28.41
PT8312	1200-0-1200	1000	325	405		49.71
PT8313	1475-0-1475	1250	250	310		44.34
PT8314	1790-0-1790	1500	225	280		51.17
PT8315	2065-0-2065	1750	200	250		51.62

*Tapped for use with dual rectifier-filter systems to deliver two rated outputs simultaneously.

BIAS SUPPLY TRANSFORMERS

Part No.	High Voltage Supply A.C. Volts at D.C. Milliamps.	Rectifier Fil. Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6317	200/170/130/90/0/90/130/170/200 @ 200 ma.	5.0 3.0	CD	4"	3 1/4" x 3 5/8"	4.9	\$19.09
P-6318	450/400/350/250/0/250/350/400/450 @ 200 ma.	5.0 3.0	CD	4 5/8"	3 5/8" x 4 1/4"	7.0	22.74

TUBE CHECKER MULTI-TAPPED FILAMENT TRANSFORMER

Part No.	Secondary Volts	Primary Volts	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-1834-3	1.1/ 1.4/ 1.5/ 2.0/ 2.5/ 3.0/ 3.3/ 5.0/ 6.3/ 7.0/ 7.5/ 12/ 25/ 30/ 35/ 50/ 70/ 85/ 110/ 117	125/115/105	A	2 3/8"	4" x 2"	2.4	\$16.87

All Primary Windings for 60 cycle operation. †Designates part number to be removed from next catalog. ‡Output changed by means of tap on primary winding. Rating is for a single section choke input filter using a 6 mfd. condenser.

ISOLATION AND AUTOFORMERS

CHICAGO STANDARD TRANSFORMER CORPORATION



STRAIGHT ISOLATION—125/115/105 VOLTS TO 115 VOLTS.†

Part No.	Wattage	Primary#	Secondary	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6160	100	125/115/105	115	KA	4 3/4"	4" x 3 5/8"	7.0	\$27.52
P-6371	175	117	117	TE	5 1/16"	4 1/16" x 5 1/4"	9.0	32.24
P-6161	250	125/115/105	115	KA	4 3/4"	4 1/16" x 5 3/8"	14.2	50.04
P-6298	500	125/115/105	115	FK	7 5/8"	6 1/2" x 7 7/8"	28.0	71.89
P-6125	1000	125/115/105	115	FK	7 3/4"	5 3/4" x 7 3/4"	34.8	86.30
P-6123	1500	125/115/105	115	FK	7 3/4"	5 5/8" x 9"	49.8	107.61

STEP-DOWN ISOLATION—250/230/210 VOLTS TO 115 VOLTS.†

Part No.	Wattage	Primary#	Secondary	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6383	100	250/230/210	115	KA	4 3/4"	4" x 3 5/8"	7.3	\$24.36
P-6385	250	250/230/210	115	KA	4 3/4"	4" x 5 3/8"	14.2	39.68
P-6387	500	250/230/210	115	FK	7 5/8"	6 1/2" x 7 7/8"	29.5	90.13
P-6389	1000	250/230/210	115	FK	7 3/4"	5 5/8" x 8"	33.8	106.87
P-6390	1500	250/230/210	115	FK	7 3/4"	5 5/8" x 9 3/8"	50.3	130.55

†Built-in electrostatic shields are grounded to core internally.

ISOLATION TESTING TRANSFORMER

Part No.	Wattage	Primary#	Secondary	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6415	350	117	105/115/125	KC	5 3/8"	4 1/2" x 5 3/4"	17.0	\$32.90

Large enough to handle almost any television or radio receiver on test. Has three standard receptacles, providing output voltages of 105, 115 and 125, with 117 volts, A.C., from the line for testing purposes or for correction of high or low line voltage. Has electrostatic shield.

AUTOFORMERS*

Part No.	Wattage	Primary#	Secondary	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6287	40	230	115	—	4 1/2"	3" Diam. can	2.7	\$10.81
P-5062	80	230	115	K	3 5/8"	3" x 3 1/2"	3.8	13.23
P-5063	100	230	115	K	4"	3 1/2" x 3 1/2"	4.5	14.04
P-5064	150	230	115	K	4 1/16"	3 5/8" x 3 5/8"	5.2	16.60
P-5065	300	230	115	K	4 3/8"	4" x 4 1/8"	8.8	22.96
P-6141	500	230	115	K	4 3/4"	4" x 5 1/4"	13.7	30.05
P-6124	1000	230	115	FK	7 1/8"	5 5/8" x 6 3/4"	24.5	70.20
P-6299	150	115 150 140 130 120 110 100 90		KA	4"	3 1/4" x 4 3/4"	6.0	21.15

Testing Autoformer—Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. Primary equipped with 6 ft. approved cord and plug. Secondary connected to female receptacle.

LINE ADJUSTING AUTOFORMERS

Type and Part No.	Va.*	Input Voltage 50-60 Cycle	Output Voltage	Height	Base Area	Shpg. Wt. in Lbs.	List Price
PV-6441	150	65 75 90 100 115 130 145	115	5 1/2"	3 7/8" x 5 1/2"	6.4	\$33.00
PV-6442	350	65 75 90 100 115/130/145	115	5 1/2"	3 7/8" x 6 1/8"	10.5	38.00
PV-6443	500	65 75 90 100 115 130 145	115	5 1/2"	3 7/8" x 6 7/8"	15.0	42.00
PV-6444	750	65 75 90 100/115/130/145	115	6 1/16"	4 1/2" x 8 1/8"	19.0	64.41

*Watts to pure resistive load. To other types of loads, multiply rating of line adjuster by power factor of load for actual wattage.

AIR CONDITIONER AUTO-TRANSFORMERS—230 VOLTS TO 208 VOLTS

Part No.	Rating KVA	Motor Size	Input Voltage	Output Voltage	Mtg.	Height	Base Area	Shpg. Wt. in Lbs.	List Price
PSU-2000	2.3	1/2-1 hp.	208/230	230/208	PSU	3 1/2"	3 3/4" x 6 1/2"	9	\$27.86
PSU-3000	3.0	1-2 hp.	208/230	230/208	PSU	4"	4 1/2" x 6"	10	33.47

CATHODE RAY TUBE POWER TRANSFORMERS

For use with type 2X2 rectifier tubes in a conventional half-wave voltage supply.

Part No.	Plate Supply A.C. Volts	Plate Supply D.C. Milliamperes	Rectifier Filament Volts—Amperes	Other Windings Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-8150	1,550 half-wave	1.5	2.5 1.75		TD	3 1/16"	3" x 2 1/2"	1.8	\$15.00
P-8151	2,100 half-wave	5.0	2.5 2.0	2.5 2.0	C	4 1/16"	3 5/8" x 3 7/8"	6.1	19.77

PHOTOFLASH POWER TRANSFORMER

Part No.	Application	Pri.	Sec.	Mtg. Type	Height Overall	Base Area	Mtg. Ctrs.	Shpg. Wt. in Lbs.	List Price
P-6425	For use in Sprague electronic flash circuits See Sprague Electronic Flash Handbook C-703	105/115/125V. 60 cy.	Charges up to 1050 mfd. to 450 Volts D.C.	S	2 3/8"	2 1/8" x 2"	2 3/8"	1.4	\$5.83
P-6426	Trigger coil for use with 450V. flashtube. Replaces G.E. 86G41				3/4"	3/8" diam.		0.2	\$2.78

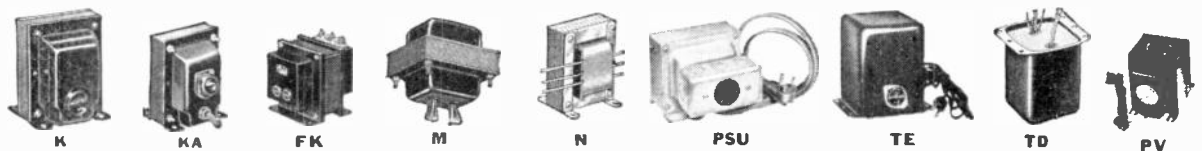
SPEAKER FIELD SUPPLY TRANSFORMER

Part No.	Plate Supply A.C. Volts	Plate Supply D.C. Milliamperes	Rectifier Filament Volts—Amperes	Mtg.	Height Overall	Base Area	Shpg. Wt. in Lbs.	List Price
P-6146	120-0-120	250	5.0 3.0	C	4"	3 1/4" x 3 1/4"	1.2	\$13.04

CONDENSER TESTER POWER TRANSFORMER

Part No.	Plate Supply A.C. Volts	Plate Supply D.C.-M.A.	Fil. Wdgs. Volts	Amps.	Overall Dimensions L	W	D	Mtg. Type	Shpg. Wt. in Lbs.	List Price
P-6459	550	30	6.3	0.9	2 5/8"	2 3/8"	2 1/4"	Coil and Iron	1.4	\$9.10
	55	60	6.3	0.6						

*All Primary Windings for 117 V-60 cycle operation unless otherwise indicated.

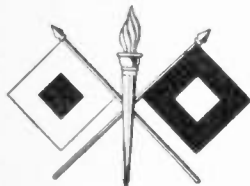


CHICAGO

MILITARY and NEW EQUIPMENT TRANSISTOR TRANSFORMERS PULSE TRANSFORMERS



CHICAGO STANDARD TRANSFORMER CORPORATION



RIQAP

Reduced Inspection Quality Assurance Plan

Since 1955, Chicago Standard Transformer Corporation has been operating continuously under RIQAP, the U. S. Army Signal Corps' Reduced Inspection Quality Assurance Plan. When you specify Chicago Standard transformers, delivery time is reduced and incoming inspection is at a minimum. You are assured of the highest quality units for military applications.

ULTRA MINIATURE ENCAPSULATED TRANSISTOR TRANSFORMERS

The 27 transformers in the UME series are characterized by high power ratings, low distortion, high efficiency and excellent frequency response. Designed and built in accordance with MIL-T-27A specifications, their ratings match those of most popular transistors. They are ideally suited for printed circuit applications. Dimensions: .312" x .400" x .426". Weight is approximately 1/8 ounce.

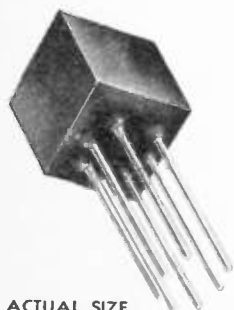


ACTUAL SIZE

CHICAGO Part No.	Application	Pri. Res.	Pri. Impedance in Ohms	D.C. M.A. in Pri.	Sec. Impedance in Ohms	Sec. Res.	Net Price
UME-12	output	120	500	3	50	13	55.40
UME-13	output	250	600 1000	3	60 50	17	5.40
UME-14	output	70	600	3	60	.7	5.40
UME-15	output	170	1200	2	3.2 3.2	.75	5.40
UME-16	output	1200	10,000	1	3.2	.7	5.50
UME-18	reactor	1000	3 hy at 2 Made	2	—	—	4.80
UME-19	output or driver	1100	10,000 CT	1	500 CT	45	5.50
UME-20	driver	1000	12,500 CT 10,000 12,500	1	600 CT 1200 CT 1500 CT	100	6.10
UME-21	driver	1100	10,000 12,500	1	2000 CT 2500 CT	160	6.10
UME-22	single or PP output	25	150 CT	10	12	3	5.45
UME-23	single or PP output	35	200 CT 300 CT 400 CT	7	16 12 16	2.5	5.45
UME-24	single or PP output	75	600 CT/ 800 CT	5	12 16	2	5.50
UME-25	single or PP output	85	800 CT 1070 CT	4	12 16	2	5.50
UME-26	single or PP output	120	1000 CT 1330 CT	3.5	12 16	2	5.50
UME-27	single or PP output	225	1500 CT 2000 CT	3	12 16	2.5	5.50
UME-28	single or PP output	750	7500 CT	1	12 16	2.5	6.00
UME-29	output	35	10,000 CT 300 CT	7	16 600	110	5.50
UME-30	output	60	500 CT	5.5	600	110	5.50
UME-31	output	105	900 CT	4	600	110	5.50
UME-32	output	200	1500 CT	3	600	120	5.50
UME-33	interstage	1500	20,000 CT 30,000 CT	.5	800 CT 1200 CT	175	6.50
UME-34	input	6500	200,000 CT	0	1000 CT	250	7.00
UME-35	interstage	1000	10,000 CT 12,000 CT	1	1500 CT 1800 CT	115	6.50
UME-36	reactor	2600	6 hy at 2 Made	2	—	—	5.45
UME-37	reactor	190	1 hy at 2 Made	2	—	—	4.80
UME-38	reactor	1800	12 hy at 0 de	0	—	—	4.80
UME-39	reactor	2700	20 hy at 0 de	0	—	—	5.50

PULSE TRANSFORMERS

These ultra-miniature wound core pulse transformers are hermetically encapsulated 3-winding units designed and built in accordance with MIL-T-27A. They feature extremely fast rise time, minimum droop and high temperature stability. The leads are arranged so that they can be soldered directly into the circuit or clipped and plugged into a standard 7-pin miniature tube socket. Oscillograph pictures of pulses for all units and other technical data obtained through use of N.B.S. Preferred circuit No. 46, as found in Navy Aeronautical Preferred Circuits Handbook are listed in Chicago Bulletin CT-45.



ACTUAL SIZE

CHICAGO Part No.	Nominal Pulse Width Microseconds	Rise Time Microseconds	Height	Width	Depth	Weight oz.	Net Price
PE-50	0.5	.07	9 "	9 "	9 "	.16	55.86
PE-75	0.75	.07	9 "	9 "	9 "	.16	5.90
PE-100	1	.06	9 "	9 "	9 "	.16	6.03
PE-200	2	.05	11 "	11 "	11 "	.16	6.57
PE-500	2	.07	11 "	11 "	11 "	.16	6.45
PE-700	7	.1	11 "	11 "	11 "	.16	7.05

CHICAGO

MILITARY and NEW EQUIPMENT POWER TRANSFORMERS FILTER REACTORS



CHICAGO STANDARD TRANSFORMER CORPORATION

POWER TRANSFORMERS—PLATE AND FILAMENT SUPPLY—TF4RX03YY For CAPACITOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary Volts A-C-	Ma. Output D-C V.D-C	Filaments				Wt. Lbs.	YY Case Mounting			S-Type Mounting			C-Type Mounting		
		Rectifier Volts	Amps.	Others Volts	Amps.		Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price
250-0-250	10 320	6.3	1.2	6.3	0.6	1 1/4	PHG-10	14	811.25						
250-0-250	20 300	6.3	1.2	6.3	0.6	1 1/4	PHG-20	15	11.40						
225-0-225	40 210	5	2	6.3CT	2	3 1/4	PHG-40	17	12.90	PSC-40	17	88.85	PCC-40	16	85.10
270-0-270	55 260	5	2	6.3CT	2	3 1/2	PHG-55	17	13.14	PSC-55	17	9.30	PCC-55	16	5.19
300-0-300	60 285	5	2	6.3CT	3	4 1/2	PHG-60	19	14.28	PSC-60	19	9.90	PCC-60	18	6.30
335-0-335	70 320	5	2	6.3CT	3	4 1/2	PHG-70	19	14.55	PSC-70	19	10.50	PCC-70	18	6.75
330-0-330	85 320	5	2	6.3CT	3	6	PHG-85	20	15.60	PSC-85	20	11.19	PCC-85	20	7.80
345-0-345	105 320	5	2	6.3CT	3.5	6 1/2	PHG-105	21	16.62	PSC-105	21	11.85	PCC-105	20	8.46
375-0-375	120 380	5	3	6.3CT	4	9 1/2	PHG-120	21	17.58	PSC-120	22	12.18	PCC-120	22	9.51
370-0-370	150 390	5	3	6.3CT	4	11 1/2	PHG-150	22	23.34	PSC-150	22	16.50	PCC-150	22	10.89
385-0-385	200 390	5	3	6.3CT	4.5	12 1/4	PHG-200	22	24.99	PSC-200	22	17.55	PCC-200	22	12.69
400-80-0-80-400	250 410	5	6	6.3CT	7	15	PHG-250	24	27.36	PSC-250	24	21.90	PCC-250	24	15.63
625-0-625	300 685	5	4	6.3	3	21				PSC-300	24	31.08	PCC-300	24	18.90

For REACTOR INPUT SYSTEMS—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary Volts A-C-	Ma. Output D-C V.D-C	Filaments				Wt. Lbs.	YY Case Mounting			S-Type Mounting			C-Type Mounting		
		Rectifier Volts	Amps.	Others Volts	Amps.		Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price
350-0-350	55 260	5	2	6.3CT	2	3 1/4	PHR-55	17	12.99	PSR-55	17	8.15	PCR-55	16	5.70
425-0-425	70 320	5	2	6.3CT	3	4 1/2	PHR-70	19	14.07	PSR-70	19	10.35	PCR-70	18	6.45
440-0-440	85 325	5	2	6.3CT	3	6	PHR-85	20	15.09	PSR-85	20	11.10	PCR-85	20	7.50
450-0-450	105 320	5	2	6.3CT	3.5	6 1/2	PHR-105	21	16.62	PSR-105	21	12.00	PCR-105	20	8.01
500-0-500	120 390	5	3	6.3CT	4	9 1/2	PHR-120	21	17.58	PSR-120	22	12.75	PCR-120	22	8.97
510-0-510	150 395	5	3	6.3CT	4	11 1/2	PHR-150	22	21.78	PSR-150	22	17.70	PCR-150	22	10.50
520-0-520	200 390	5	3	6.3CT	4.5	12 1/4	PHR-200	22	22.92	PSR-200	22	18.90	PCR-200	22	11.70
550-370-75-300-0-75-370-550	420	5	6	6.3CT	1	17 1/4	PHR-300	24	31.29	PSR-300	24	26.70	PCR-300	24	18.30

For REGULATED POWER SUPPLIES, CAPACITOR INPUT—Primary 117 Volts, 50-60 Cycles

High Voltage Secondary Volts A-C-	Ma. Output D-C V.D-C	Filaments				Wt. Lbs.	H-Type Mounting			S-Type Mounting		
		Rectifier Volts	Amps.	Others Volts	Amps.		Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price
440-0-440	165 430	5	3	6.3	7.5	12	PHC-165	22	828.59	PSC-165	22	828.85
450-0-450	200 442	5	2	6.3	4	12	PHC-200A	22	25.77	PSC-205	22	22.50

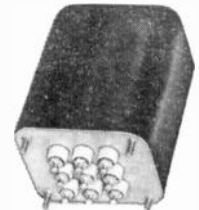
FILTER REACTORS—TF4RX01YY

Inductance in Henries	Max. Current Ma. D-C	D-C Resistance in Ohms	Insulation Test Volts	Wt. Lbs.	YY Case Mounting			S-Type Mounting			C-Type Mounting		
					Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price
15	10	680	1,000	1	RH-1510	8	8.585						
15	20	680	1,000	1	RH-1520	8	9.18						
15	40	475	2,500	1 1/2	RH-1540	12	9.21	RS-1540	12	3.60	RC-1540	12	3.55
15	55	420	2,500	2	RH-1555	13	6.45	RS-1555	13	1.20	RC-1555	12	3.12
15	85	285	2,500	2 1/4	RH-1585	14	6.81	RS-1585	13	5.07	RC-1585	14	3.78
12	105	170	2,500	3	RH-12105	17	8.01	RS-12105	17	5.70	RC-12105	16	4.41
12	150	150	2,500	5 1/2	RH-12150	19	9.18	RS-12150	19	6.81	RC-12150	18	5.85
12	200	140	2,500	7	RH-12200	20	10.80	RS-12200	21	8.25	RC-12200	20	6.90
10	55	230	2,500	1 1/4	RH-1055	13	6.15	RS-1055	13	3.99	RC-1055	12	2.97
10	85	175	2,500	2 1/2	RH-1085	14	6.81	RS-1085	15	4.20	RC-1085	14	3.51
8	145	100	2,500	3 1/4	RH-8105	17	8.01	RS-8105	17	5.70	RC-8105	16	4.20
8	150	100	2,500	5 1/4	RH-8150	18	9.18	RS-8150	19	6.60	RC-8150	18	5.79
8	200	85	2,500	7	RH-8200	20	10.80	RS-8200	21	7.80	RC-8200	20	6.81
8	250	90	2,500	10 1/2	RH-8250	22	14.10	RS-8250	22	9.15	RC-8250	22	7.74
8	300	55	3,500	12 1/2	RH-8300	22	16.50	RS-8300	22	11.85	RC-8300	22	9.54

FILAMENT TRANSFORMERS—Primary 115-230 Volts, 50-60 Cycles—TF4RX01YY

Secondary Volts	Amps.	Insulation Test Volts	Wt. Lbs.	YY Case Mounting			S-Type Mounting		
				Cat. No.	Case No.	Net Price	Cat. No.	Case No.	Net Price
2.5CT	5.25	3,500	2	FH-25	15	8.927	F-25	14	8.972
2.5CT	10.0	5,000	3	FH-210	15	13.29	F-210	17	9.75
2.5CT	10.0	9,000	4	FH-210H	19	15.15	F-210H	19	11.85
2.5CT	15.0	9,000	6	FH-215H	21	18.57	F-215H	20	12.75
5CT	4.0	2,500	2 1/4	FH-54	15	9.66	F-54	15	6.51
5CT	10.0	2,500	3 1/2	FH-58	17	13.29	F-58	17	11.10
5CT	10	8,000	6	FH-510H	21	19.80	F-510H	21	24.00
5CT	20.0	2,500	6 1/2				F-516	21	14.70
5CT	20	10,000	13				F-520HB	22	16.95
5CT	30	2,500	10 1/2	FH-520HB	22	21.75	F-530	22	16.95
5CT	30	2,500	10 1/2				F-530BX*	22	37.41
6.3CT	1.5	2,500	1	FH-615	12	8.10	F-615	12	5.25
6.3CT	3	2,500	2	FH-63	14	9.57	F-63	14	6.30
6.3CT	5.5	2,500	3	FH-65	16	11.13	F-65	17	7.65
6.3CT	10.0	2,500	5	FH-610	19	15.75	F-610	19	10.50
7.5CT	12	2,500	6 1/2				F-712	21	14.70
7.5CT	25.0	2,500	12				F-725	22	16.95
7.5CT	51	2,500	20				F-751	26	35.70
10CT	4.0	2,500	3 1/4	FH-104	17	11.13	F-104	17	8.40
10CT	6.5	2,500	5				F-106	19	11.70
10CT	10.0	2,500	6 1/2				F-1010	21	14.70

*BX mounting, see page N-879 for illustration and dimensions.



MEETS MIL-T-27A SPECS

YY Case. Steel base cover deep-seal soldered into case. Terminals hermetically sealed. Ceramic bushings. Stud-mounted unit.



S-Type. Steel base cover fitted with phenolic terminal board. Convenient numbered solder lug terminals. Flange-mounted unit.



C-Type. With 10' color-coded stripped and tinned leads brought out through fibre board base cover. Flange-mounted unit.

S-TYPE & C-TYPE CASE DIMENSIONS

YY Case Dimensions on Page 1311

Case No.	Depth	Width	Height
12	2 1/4	2 1/4	2 1/16
13	2 1/4	2 1/8	2 1/16
14	2 1/2	2 1/8	3 1/16
15	2 1/2	2 3/8	3 5/16
16	2 5/8	2 1/16	3 1/8
17	2 5/8	2 1/16	3 3/8
18	3 1/4	3	3 7/8
19	3 1/4	3	4 1/8
20	3 1/16	3 3/8	4 3/8
21	3 1/16	3 3/8	4 1/2
22	4 9/16	4 1/8	5 5/8
24	5 1/8	4 1/8	6 1/8

CHICAGO

MILITARY STANDARD POWER AND FILAMENT TRANSFORMERS MOLDED TOROIDAL INDUCTORS

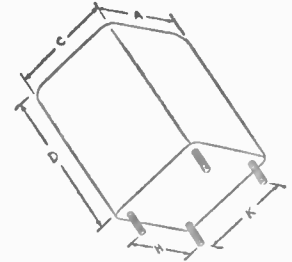


CHICAGO STANDARD TRANSFORMER CORPORATION

MS (MILITARY STANDARD) POWER AND FILAMENT TRANSFORMERS



Case Type	Dimensions in Inches					Stud Size
	A	C	D	H	K	
EB	1 ¹⁵ / ₁₆	1 ¹⁵ / ₁₆	2 ⁷ / ₁₆	1 ³ / ₄	1 ¹ / ₄	6-32
FB	2 ⁵ / ₁₆	2 ¹ / ₁₆	2 ⁷ / ₁₆	1 ¹¹ / ₁₆	1 ⁵ / ₁₆	6-32
GA	2 ³ / ₄	2 ⁹ / ₁₆	3 ¹⁵ / ₁₆	2 ¹ / ₄	1 ³ / ₄	6-32
GB	2 ³ / ₄	2 ⁴ / ₁₆	2 ¹⁵ / ₁₆	2 ¹ / ₄	1 ³ / ₄	6-32
HB	3 ¹ / ₁₆	2 ⁵ / ₈	3 ³ / ₁₆	2 ¹ / ₄	1 ⁵ / ₁₆	8-32
HA	3 ¹ / ₁₆	2 ⁵ / ₈	4 ¹ / ₄	2 ¹ / ₄	1 ⁵ / ₁₆	8-32
JB	3 ¹ / ₁₆	3 ³ / ₁₆	3 ⁷ / ₁₆	3 ⁷ / ₁₆	2 ¹ / ₄	8-32
KA	3 ¹ / ₁₆	3 ³ / ₈	5 ¹ / ₄	3	2 ¹ / ₄	10-32
KB	3 ¹ / ₁₆	3 ³ / ₈	4 ¹ / ₁₆	3	2 ¹ / ₄	10-32
LB	4 ⁵ / ₁₆	3 ¹¹ / ₁₆	4 ³ / ₂	3 ⁵ / ₁₆	2 ¹¹ / ₁₆	10-32
MB	4 ¹¹ / ₁₆	4	4 ¹ / ₂	3 ¹¹ / ₁₆	3	1 ⁴ / ₁₆ -20
NB	5 ¹ / ₁₆	4 ³ / ₁₆	5 ³ / ₂	4 ¹ / ₁₆	3 ³ / ₁₆	1 ⁴ / ₁₆ -20



POWER TRANSFORMERS—Primary, 105/115/125 V.—Frequency, 54-66 Cycles

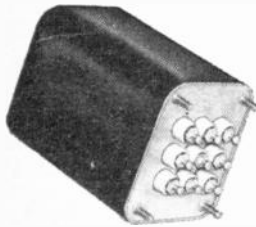
MIL-T-27 Classification	MIL-T-27 Part No.	High Voltage Secondary		D-C V Output	Rect. Fil.		Fil. No. 2		Wt. Lbs.	Case Size	Catalog Number	Net Price
		A-C Volts	D-C Ma.		Volts	Amps	Volts	Amps				
TF4RX03HA001	MS-90026	200-100-0-100-200	70	385	6.3/5	2	6.3	3	4	HA	PMS-70	\$20.70
TF4RX03JB002	MS-90027	325-0-325	70	260	6.3/5	2	6.3	4	5	JB	PMS-70A	17.70
TF4RX03KB006	MS-90028	325-0-325	150	245	6.3	5	5	3	7 ¹ / ₄	KB	PMS-150	21.90
TF4RX03LB003	MS-90029	400-0-400	175	318	5	3	6.3	8	10	LB	PMS-175	25.50
TF4RX03MB004	MS-90030	450-0-450	250	345	5	3	6.3	8	13	MB	PMS-250	28.50
TF4RX02KB001	MS-90031	350-0-350	250	255					7 ¹ / ₂	KB	PMS-350	18.90
TF4RX02LB002	MS-90032	550-0-550	250	419					11	LB	PMS-550	21.90
TF4RX02NB003	MS-90036	800-0-800	250	640					16 ¹ / ₂	NB	PMS-800	29.70

FILAMENT TRANSFORMERS—Primary, 105/115/125 V.—Frequency, 54-66 Cycles

MIL-T-27 Classification No.	MIL-T-27 Part No.	Secondary		Insulation Volts RMS	Wt. Lbs.	Case Size	Catalog Number	Net Price
		Volts	Amps					
TF4RX01EB002	MS-90016	2.5	3.0	2500	1 ¹ / ₂	EB	FMS-23	\$10.17
TF4RX01GB003	MS-90017	2.5	10	2500	2 ³ / ₂	GB	FMS-210	14.10
TF4RX01FB004	MS-90018	5.0	3.0	2500	1 ³ / ₄	FB	FMS-53	11.10
TF4RX01HB005	MS-90019	5.0	10	2500	4	HB	FMS-510	15.30
TF4RX01FB006	MS-90020	6.3	2.0	2500	1 ³ / ₄	FB	FMS-62	11.10
TF4RX01GB007	MS-90021	6.3	5.0	2500	2 ³ / ₄	HB	FMS-65	12.90
TF4RX01JB008	MS-90022	6.3	10	2500	5	JB	FMS-610	17.70
TF4RX01KB009	MS-90023	6.3	20	2500	8	KB	FMS-620	21.90
TF4RX01JB012	MS-90024	2.5	10	10000	4 ³ / ₄	JB	FMS-210H	16.50
TF4RX01KB013	MS-90025	5.0	10	10000	7	KB	FMS-510H	21.90

MULTIPLE FILAMENT TRANSFORMERS (TR4RX01—) Primary, 105/115/125 V., Frequency, 50/60 cycles

Designed and built in accordance with MIL-T-27A, Grade A, Class R operating temperature; life expectancy X (10,000 hours minimum). Maximum operating altitude 10,000 feet. Also available in type S, Sealed-in-Steel cases (catalog Numbers F-1 through F-8, listed below). Dimensions on page 1308.



Sec. No. 1	Sec. No. 2	Sec. No. 3	Insul. Test	Case Size†	Wt. Lbs.	Catalog No.	Net Price	Catalog No.	Case Size	Net Price
5 V. 2A	6.3 V. CT 2.5 A	—	2500 V.	GA	2 ¹ / ₂	FMS-1	\$15.90	F-1	15	\$ 9.90
5 V. 2A	16.6 V. CT 1.25A	—	2500 V.	GA	3 ¹ / ₂	FMS-2	15.90	F-2	15	9.90
5 V. 3A	6.3 V. CT 5A	—	2500 V.	HA	4	FMS-3	17.55	F-3	17	10.35
5 V. 3A	6.3 V. CT 3A	6.3 V. CT 3A	2500 V.	JB	4 ³ / ₄	FMS-4	20.70	F-4	18	11.85
5 V. 3A	12.6 V. CT 3A	—	2500 V.	JB	4 ³ / ₄	FMS-5	20.70	F-5	18	12.00
6.3 V. CT 3A	6.3 V. CT 3A	6.3 V. CT 5A	2500 V.	HA	4	FMS-6	17.25	F-6	17	10.35
6.3 V. CT 6A	6.3 V. CT 6A	—	2500 V.	KA	6 ¹ / ₂	FMS-7	20.10	F-7	21	12.30
5 V. CT 3A	5 V. CT 3A	5 V. CT 6A	5000 V.	KA	7	FMS-8	26.25	F-8	21	12.90

†Refer to case size. All secondary A.C. voltages ± 3%.

MOLDED TOROIDAL INDUCTORS

CHICAGO toroids, plastic encapsulated in molded cases, are stocked for immediate delivery. Units may be stacked and mounted with a single screw. CHICAGO toroids are wound on high density, high permeability cores of powdered molybdenum permalloy, with utmost attention given to stability, low temperature co-efficients, insulation and ruggedness. All units are 1¹/₂" diameter, 1²/₂" high, with 90° spacing of terminals and mounting hole for 4-40 screw.

- Features:
- High Q over wide frequency ranges
 - Minimum pickup from external magnetic fields
 - Close tolerance of plus, minus 1%
 - High stability over temperature range of -55° to plus 85° centigrade
 - Not affected by high humidity
 - Resist shock and vibration
 - Small sized, uniform, easily stacked



Catalog No.	Inductance (m.h.)	D.C. Res. (ohms)	Net Price	Catalog No.	Inductance (m.h.)	D.C. Res. (ohms)	Net Price
TM-1A	1	.32	\$4.50	TM-80 A	80	29.5	\$4.50
TM-2 A	2	.72	4.50	TM-100 A	100	32.5	4.50
TM-5 A	5	1.85	4.50	TM-200 A	200	71.5	5.10
TM-8 A	8	2.25	4.50	TM-500 A	500	185	5.70
TM-10 A	10	3.25	4.50	TM-800 A	800	300	5.70
TM-20 A	20	7.0	4.50	TM-1000 A	1000	340	5.70
TM-50 A	50	18.5	4.50				

CHICAGO

MILITARY and NEW EQUIPMENT AUDIO TRANSFORMERS



CHICAGO STANDARD TRANSFORMER CORPORATION

FULL FREQUENCY RANGE AUDIO TRANSFORMERS Frequency Response within $\pm 1/2$ db, 30 to 15,000 Cycles

INPUT TRANSFORMERS—TF4RX—YY††

YY Case (Cat. No. BIH) and B-Type (Cat. No. BI) Mountings

Application	Impedance Primary—Secondary	Max. Power Level	Hum Shielding, dbm	Case Size	Family Wt. Lbs.	Cat. No.	Net Price
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70	13	10 1 1/2	BIH-1 BI-1	\$23.70 21.52
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-90	13	1 1/2	BI-2	22.05
Line bridging to P-P Grids	*Pri: 8,000/6,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70	13	1 1/2	BI-3	23.74
Line to Line	*Pri: 600/150 ohms CT *Sec: 600 150 ohms CT	+15 dbm.	-70	13	16 1 1/2	BIH-4 BI-4	23.70 17.70
Line to Line	*Pri: 600/150 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	-90	18	16 3 1/4	BIH-5 BI-5	37.17 48.28
Interstage: P-P Plates to Sgl. or P-P Grids	*Pri: 20,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	-70	13	15 1 1/2	BIH-6 BI-6	21.30 17.25
Low Imped. Mike, Pickup, or Multiple Line to Grid	*Pri: 50 150 250 600 *Sec: 50,000 ohms CT	+15 dbm.	-70	13	10 1 1/2	BIH-7 BI-7	23.70 22.51
Single Plate to Push-Pull Grids	*Pri: 10,000 ohms *Sec: 50,000 ohms CT	+15 dbm.	-70	13	10 1 1/2	BIH-8	22.50

††Refer to family.

OUTPUT TRANSFORMERS—TR4RX13YY

YY Case (Cat. No. BOH) and B-Type (Cat. No. BO) Mountings

Application	Impedance Primary—Secondary	Max. Power Level	Case Size	Wt. Lbs.	Cat. No.	Net Price
Single Plate to Line	*Pri: 15,000 ohms *Sec: 600/150 ohms CT	+15 dbm. (22 mw)	14	2 1/4	BOH-1 BO-1	\$16.08 10.17
P-P Plates to Line	*Pri: 20,000 ohms CT *Sec: 600 150 ohms CT	+30 dbm. (1 watt)	16	3	BOH-2 BO-2	23.52 13.50
P-P Plates to Line	*Pri: 5,000 ohms CT *Sec: 600/150 ohms CT	+10 dbm. (10 watts)	20	5 3/4	BO-3	13.29
P-P Plates to Line	*Pri: 7,500 ohms CT *Sec: 600/150 ohms CT†	+13 dbm. (20 watts)	20	6	BOH-4	22.26
P-P Plates to Line or Voice Coil	*Pri: 10,000 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+37 dbm. (5 watts)	18	4	BOH-5 BO-5	29.70 16.32
P-P Plates to Voice Coil	*Pri: 7,500 ohms CT *Sec: 8/20 ohms†	+13 dbm. (20 watts)	20	6	BO-6	17.55
P-P Parallel Pl. to Line or Voice Coil	*Pri: 1500 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+15 dbm. (30 watts)	21	6 1/2	BO-8	18.48
P-P Plates to Line or Voice Coil	*Pri: 5000 3000 ohms CT *Sec: 600/16/8 ohms CT and 150/4 ohms	+42 dbm. (15 watts)	20	6	BOH-9 BO-9	27.24 17.25
P-P Low Level Plates to Line	*Pri: 20,000 ohms CT *Sec: 600 150 ohms CT	+15 dbm. (22 mw)	13	1 1/2	BO-10	16.50
P-P Plates to Line or Voice Coil	*Pri: 3000 2500 ohms CT *Sec: 600 16 8 ohms CT and 150/4 ohms	+46 dbm. (40 watts)	22	9 1/2	BO-11	24.87
P-P Plates to Line or Voice Coil	*Pri: 10,000 ohms CT *Sec: 600 16/8 ohms	+40 dbm. (10 watts)	22	9	BO-12	17.85
P-P Plates to Voice Coil	*Pri: 10,000 ohms *Sec: 16 8 4 ohms	+43 dbm. (20 watts)	21	7	BO-13	17.85
P-P Plates to VC, pentode, triode or Ult.-Lin. Circuits	*Pri: 5000 ohms CT *Sec: 16 8 ohms; 70.7 volts (100 volts)	+50 dbm. (100 watts)	21	21	BO-14	39.75

*Split and balanced windings. †10 to 10 ma. D.C. ††Has tertiary winding to provide 15% inverse feedback. **Has D.C. in primary; frequency response ± 2 db, 30-15,000 cycles.

LOW PASS FILTER LPF-2—Hermetically sealed unit for attenuating frequencies above 3,000 cycles in low level speech amplifiers, 50,000 ohm plate to 50,000 ohm grid. Insertion loss 0.8 db. Height 2 1/2", width 1 1/2", depth 1 1/2", mtg. etrs. 1 1/2". Shpg. wt. 1/2 lb. Net Price \$21.65.

DETAILS OF NEW EQUIPMENT LINE MOUNTINGS

YY CASE MOUNTING—Hermetic sealing meets all MIL-T-27A specifications. Steel base cover is bonded into the case by deep-seal soldering. Terminals are hermetically sealed by unique rubber gasket—ceramic bushing construction. Units are stud mounted.

C-TYPE MOUNTING—Moisture-resistant compound surrounds coil and core. Ten-inch E.I.A. color-coded leads, ends stripped and tinned for easy soldering. Flange-mounted drawn steel cases.

S-TYPE MOUNTING—Precision-fitted steel base-covers and terminal boards, plus compound filling, keep moisture out. Solder-lug terminals are clearly identified, easy to use. Drawn steel cases are flange-mounted.

B-TYPE MOUNTING—Steel bases are bonded into the drawn steel cases by deep-seal soldering to make units completely moisture proof. Stud-mounted cases take minimum chassis space. Convenient, compact, pin-type terminals.

BIAS TRANSFORMERS—Combination Plate and Filament—Primary 50-60 Cycles

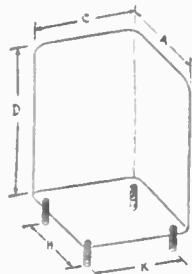
Primary Volts	High Voltage Secondary		Rect. Volts	Fila. Amps.	YY Case Mounting* Cat. No.	S-Type Mounting Case List No. Price	C-Type Mounting Case No. Price
	AC Volts	CT DC Ma.					
115	180-160-140-120	150	5.0	3.0		1BS-150 19 \$14.70	1BC-150 18 \$6.45
230	180-160-140-120	150	5.0	3.0	1BH-150 19 \$18.00	2BS-150 19 15.30	2BC-150 18 6.30

*TF4RX3YY

B-TYPE
MOUNTING



YY CASE



YY Case & H Type Mtg. Dimensions

Case Size	Dimensions in Inches				
	A	C	D	H	K
8	1 1/2	1 1/2	1 1/2	1	1
9	1 1/2	1 1/2	2 1/2	1	1
12	2 1/4	2 1/4	2 1/4	1 1/8	1 1/8
13	2 1/4	2 1/4	2 1/4	1 1/8	1 3/8
14	2 1/4	2 1/4	3 1/8	1 1/8	1 1/8
15	2 1/2	2 1/2	3 1/8	2	1 1/8
16	2 1/2	2 1/2	3 1/8	2	1 1/8
17	2 1/2	2 1/2	3 1/8	2	1 1/8
18	3 1/4	3 1/4	3 1/4	2 1/4	2 1/8
19	3 1/4	3 1/4	4 1/4	2 1/4	2 1/8
20	3 1/4	3 1/4	4 1/4	2 1/4	2 1/8
21	3 1/4	3 1/4	4 1/4	2 1/4	2 1/8
22	4 1/4	4 1/4	5 1/4	3 1/4	3
24	5 1/4	4 1/4	6 1/4	3 1/4	3

HIGH
Q
CHOKES

For Dynamic
Noise Suppression
Circuits
(S-Type Mounting)



Two efficient reactors, inductance values .8 and 2.4 henrys respectively, are designed for noise suppression circuits, but can be used in any tuned circuit requiring the given inductances. Inductance values accurate within $\pm 5\%$ with up to 15 ma. d.c. Minimum Q of 20. Mounted in drawn steel cases, 1 1/2" x 1 1/2" x 1 1/2" high.

Cat. No.	Inductance	Net Price
NSI-1	.8 hy.	\$7.50
NSI-2	2.4 hy.	7.50

(S-Type and C-Type Case Dimensions on Page 1309.)

CHICAGO

MILITARY STANDARD AUDIOS MS TRANSISTOR AUDIOS MIL-T-27A SATURABLE TRANSFORMERS

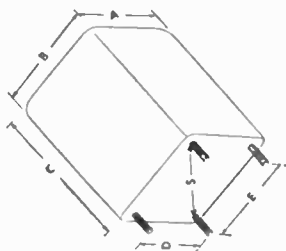
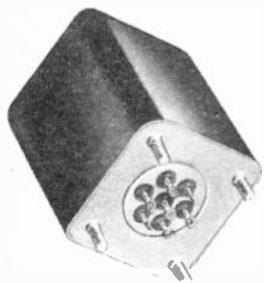


CHICAGO STANDARD TRANSFORMER CORPORATION

MILITARY STANDARD AUDIO TRANSFORMERS

Designed and built in accordance with MIL T 27A, Grade A, Class R operating temperature; Life Expectancy X (10,000 hrs. min.).

Maximum Operating Altitude 50,000 ft.
Frequency Response ± 2 db 300 - 10,000 cps, AJ Case Size—Max. Wt., 6 lbs.



MIL-T-27A Classification	MIL-T-27A Part No.	Application	Impedance	Operating Level	Pri. DCMA	Catalog No.	Net Price
TF 1RX 15AJ001	MS-90000	P-P Plates to P-P Grds	Pri: 10,000 ohms CT Sec: 90,000 ohms CT 22,500 ohms CT	15 dbm.	10	AMS-1	\$15.90
TF 1RX 16AJ002	MS-90001	Line to Voice Coil	Pri: 600 ohms CT Sec: 4 S 16 ohms 150 ohms	2W	—	AMS-2	14.70
TF 1RX 10AJ001	MS-90002	Line to P-P Grds	Pri: 600 ohms CT Sec: 135,000 ohms CT 150 ohms	15 dbm.	—	AMS-3	14.10
TF 1RX 16AJ001	MS-90003	Line to Line	Pri: 600 ohms CT Sec: 600 ohms CT 150 ohms	15 dbm.	—	AMS-4	14.10
TF 1RX 13AJ001	MS-90004	Single Plate to Line	Pri: 7600 1800 ohms Sec: 600 ohms CT 150 ohms	2W	40	AMS-5	12.75
TF 1RX 13AJ002	MS-90005	Single Plate to Voice Coil	Pri: 7600 1800 ohms Sec: 4 S 16 ohms	2W	40	AMS-6	12.90
TF 1RX 13AJ003	MS-90006	P-P Plates to Line	Pri: 15,000 ohms CT Sec: 600 ohms CT/150 ohms	2W	10	AMS-7	12.48
TF 1RX 13AJ004	MS-90007	P-P Plates to Line	Pri: 24,000 ohms CT Sec: 600 ohms CT 150 ohms	1W	20	AMS-8	12.90
TF 1RX 13AJ005	MS-90008	P-P Plates to Line	Pri: 60,000 ohms CT Sec: 600 ohms CT 150 ohms	5W	20	AMS-9	12.48

TRANSISTOR AUDIO TRANSFORMERS—TF4RX— — — — †

Designed and built in accordance with MIL T 27A, Grade 4, Class R operating temperature; Life Expectancy X (10,000 hrs. min.).

Maximum Operating Altitude 50,000 ft.

Application	Impedance in Ohms		Max. Pri. D.C. Ma.	DC Res. in Ohms		Power in Watts	Case Size	Family†	Wt. Lbs.	Catalog No.	Net Price
	Pri.	Sec.		Pri.	Sec.						
Input	600 CT	10	20	12	.8	.05	AG	17	2 1/2 oz.	TAMS-1	\$10.20
Interstage	100 CT	10 CT	100	1.3	.8	.25	AJ	17	5 oz.	TAMS-2	10.20
Interstage	100	1000 CT	100	5.8	.45	.25	AJ	17	11 oz.	TAMS-3	10.20
Interstage	500 CT	5000 CT	12	.37	250	.03	AJ	17	11 oz.	TAMS-4	10.80
Driver	1000	200 CT	10	400	115	.05	AG	17	2 oz.	TAMS-5	13.29
Driver	2000	200 CT	5	720	115	.05	AG	17	1 lb.	TAMS-6	10.20
Driver	100	100 CT	100	12	12	.5	EB	17	2 oz.	TAMS-7	12.90
Output	9800	15	2	610	2	.05	AG	17	2 1/2 oz.	TAMS-8	12.90
Output	1000	4 S 16	10	180	3.5	.2	AG	17	2 1/2 oz.	TAMS-9	13.50
Output	2000 CT	4 S 16	—	250	4	.2	AG	17	2 1/2 oz.	TAMS-10	13.98
Output	48 CT	8 16	275	5	1.5	.5	FA	17	1 1/2 lb.	TAMS-11	12.48
Output	20 CT	8	500	.55	.35	10	AJ	17	12 oz.	TAMS-12	10.20

†Refer to Family and Case Size.

MIL-T-27A SATURABLE TRANSFORMERS (Magnetic Amplifiers)

Application: For use with 2 phase 115v., 400 cycle Servo-Motors.

Saturable Transformer Ratings Maximum Altitude 50,000 ft.

All Primaries 115v., 400 cycles: TF4RX40YY

Catalog No.	STH-3		STH-5	STH-10	STH-18
Power Output in watts	2.7	3.5	5	10	18
Voltage Output, volts	26	115	115	115	115
Load Resistance in ohms	250	3800	2610	1320	775
Tuning Capacitor, MFD	.28	.19	.4	.6	1.0
Primary Current in amps	.085	.1	.13	.24	.35
Control Current, MA	8	8	8	8	8
Control Coil	2900	2900	3100	4200	5600
Res. (Per Coil) in ohms					
Control Coil By pass	.1	.1	.1	.1	.1
Capacitors, MFD					
Base Area, Dimensions, in.	1 1/2 x 1 13/16		1 1/2 x 2 1/8	1 1/2 x 2 1/2	2 1/2 x 1 1/2
Height, in.	2 1/2		2 3/4	2 1/2	3 1/2
Mtg. Ctrs., in.	3/4 x 1 1/16		1 x 1 1/8	1 1/2 x 1 1/8	1 1/2 x 2 1/2
Actual Wt., Lbs.	3/4		1	1 1/2	2 1/2
Typical Servo-Motor Load:					
Kearfoot	R-118	R-119-2	R-110-2	R-111-2	R-112-2
G. M. Labs.	—	665-51-19	665-51-47	665-53-10	665-53-11
			665-52-48	665-53-11	665-53-15
Net Price	\$27.00		\$28.50	\$32.25	\$37.50

400 CYCLE STEP-DOWN TRANSFORMER—TF1RX01YY

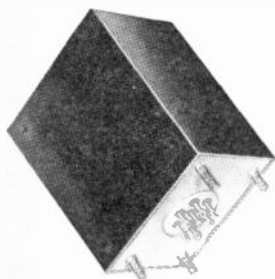
Y-Y connected, HP3 140 is identical to CHICAGO Specification No. 9926A in size and construction, but is rated at 110 va. instead of 88 va. Primary is 115 volts per phase, 3-phase, 400 cycles. Designed primarily for air raid applications.

Catalog No.	Volts	Secondary Va. Cap.	Case Size	Terminal Type	Weight Lbs.	Net Price
HP3-140	28.5	140	17	R	3	\$26.10

All secondary A.C. voltages $\pm 3\%$

SATURABLE TRANSFORMERS

are designed and built in accordance with MIL-T 27A, Grade 4, Class R operating temperature and life expectancy X (10,000 hrs. min.).



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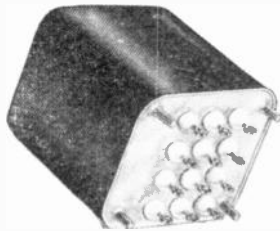
MILITARY STANDARD AND MIL-T-27A 400 CYCLE TRANSFORMERS AND REACTORS



CHICAGO STANDARD TRANSFORMER CORPORATION

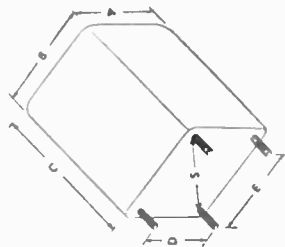
MILITARY STANDARD CASES

Designed and built in accordance with MIL-T-27A, Grade 4, Class S* operating temperature and life expectancy X (10,000 hours minimum). Maximum operating altitude 70,000 feet. The complete line is housed in Chicago's one-piece drawn-steel cases. Outside case dimensions and mounting dimensions are within the tolerance of the Military Standard Specifications. *High Temperature Operation 85° C. ambient, 45° C. rise.



MS CASE DIMENSIONS

Case Size	Dimensions in Inches					
	A	B	C	D	E	S
AH	1 1/4	1 1/8	1 3/4	—	—	1 1/4
AJ	1 1/4	1 1/8	2 1/8	1 1/8	1 1/8	—
EA	1 1/4	1 1/8	2 3/4	1 1/8	1 1/8	—
EB	1 1/4	1 1/8	2 1/8	1 1/8	1 1/8	—
FA	2 1/4	2 1/8	3 1/8	1 1/8	1 1/8	—
GA	2 1/4	2 1/8	3 1/8	2 1/8	1 1/8	—
GB	2 1/4	2 1/8	2 1/8	2 1/8	1 1/8	—
HA	3 1/8	3 1/8	4 1/4	2 1/8	1 1/8	—
JB	3 1/8	3 1/8	3 1/8	2 1/8	2 1/8	—
KA	3 1/8	3 1/8	5 1/4	3	2 1/8	—
KB	3 1/8	3 1/8	4 1/8	3	2 1/8	—



POWER TRANSFORMERS—TF4SX03— † (Cap. Input. All pri. 105 115 125 V., 380-1000 c.

A.C. Volts	D.C. Ma.	Rectifier Filament		Other Filaments		Case † Size	Wt. Lbs.	Catalog Number	Net Price
		Volts	Amps.	Volts	Amps.				
255-0-255	40	5 0	2 0	6 3 CT	2 0	GB	1 1/2	4PMS-40	\$22.92
270-0-270	55	5 0	2	6 3 CT	2	GB	1 3/4	4PMS-55	23.34
335-0-335	70	5 0	2	6 3 CT	3	GB	1 3/4	4PMS-70	25.50
330-0-330	45	5 0	2 0	6 3 CT	3 0	GA	2 1/2	4PMS-85	25.77
315-0-315	105	5 0	2 0	6 3 CT	3 5	GA	2 1/4	4PMS-105	28.59
375-0-375	120	5 0	3	6 3 CT	4	GA	3	4PMS-120	29.70
370-0-370	150	5 0	3 0	6 3 CT	4 0	JB	4 1/4	4PMS-150	38.70
440-0-440	165	5 0	3	6 3 CT	7 5	KB	6 1/2	4PMS-165	49.05
				6 3	3				
				6 3	3				
				6 3	0 6				
450-0-150	200	5 0	2	6 3	4	KB	6 1/4	4PMS-200A	44.70
				6 3	4				
				6 3	0 6				
550-370-75-0	300	5 0	6	6 3 CT	5	KA	7 1/2	4PMS-300 †	49.05
6 3 CT				1					

FILTER REACTORS—TF4SX04— †

Inductance (henries)	Maximum D.C. Ma.	D.C. Resistance (ohms)	Insulation Volts RMS	Case † Size	Wt. Lbs.	Catalog Number	Net Price
2 0	40	190	2,500	AH	1 1/4	4RMS-240	\$ 8.82
2 0	55	160	2,500	AH	1 1/4	4RMS-255	8.10
2 0	70	165	2,500	AJ	1 1/4	4RMS-270	7.80
2 0	45	125	2,500	AH	1 1/4	4RMS-285	8.70
2 0	105	110	2,500	EB	1 1/2	4RMS-2105	8.10
2 0	120	100	2,500	EB	1	4RMS-2120	8.70
2 0	150	95	2,500	EB	1	4RMS-2150	8.40
2 0	165	90	2,500	EB	1	4RMS-2165	8.70
2 0	200	73	2,500	FA	2	4RMS-2200	9.75
2 0	300	47	2,500	HA	4	4RMS-2300 †	12.75

FILAMENT TRANSFORMERS—TF4SX01— † (All Prim. 105 115 125 V., 380-1000 cys.

Sec. Volts	Sec. Amps.	Insulation Volts RMS	Case Size	Wt. Lbs.	Catalog No.	Net Price
6 3 CT	3	2,500	EB	1	4FMS-63	\$16.65
6 3 CT	5.5	2,500	EA	1 1/4	4FMS-65	17.25
6 3 CT	10	2,500	FA	2	4FMS-610	19.80
6 3 CT	20	2,500	GA	2 1/2	4FMS-620	24.30

† Reactor Input. † Refer to Case Size. All secondary A.C. voltages ±3%. \$Max. operating Alt. 50,000 ft

400 CYCLE TRANSFORMERS AND REACTORS (YY ALTERNATE CASES) (Max. Alt. 10,000 ft.)

POWER TRANSFORMERS (All Primaries 105 115 125 V., 380-1000 Cycles)—TF4SX03YY

A. C. Volts	D.C. Ma.	Rect. Fil.		Other Fil.		Case Size	Wt. Lbs.	Catalog Number	Net Price
		Volts	Amps.	Volts	Amps.				
270-0-270	55	5 0	2	6 3 CT	2	13	1 1/2	4PHC-55	\$20.10
335-0-335	70	5 0	2	6 3 CT	3	13	1 3/4	4PHC-70	20.40
375-0-375	120	5 0	3	6 3 CT	4	17	2 1/2	4PHC-120	23.70
440-0-440	165	5 0	3	6 3	7 5	20	6	4PHC-165	38.70
				6 3	3				
				6 3	3				
				6 3	0 6				
450-0-450	200	5 0	2	6 3	4	20	5 3/4	4PHC-200A	35.70
				6 3	4				
				6 3	0 6				
550-370-75-0	300	5 0	6	6 3 CT	5	21	6 1/2	4-PHR-300	40.50
6 3 CT				1					

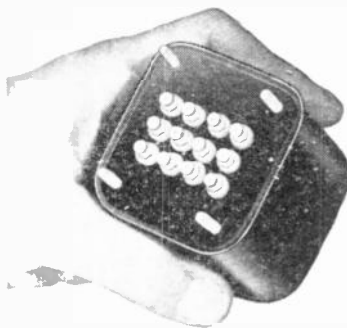
FILTER REACTORS—TF4SX04YY

Inductance (henries)	Maximum D.C. Ma.	D.C. Resistance (Ohms)	Insulation Volts RMS	Case Size	Wt. Lbs.	Catalog Number	Net Price
2 0	55	160	2,500	3	3/4	4RH-255	\$6.60
2 0	70	165	2,500	7	3/2	4RH-270	6.90
2 0	120	100	2,500	11	1	4RH-2120	8.10
2 0	165	90	2,500	11	1 1/2	4RH-2165	7.80
2 0	200	73	2,500	13	1 3/4	4RH-2200	8.70
2 0	300	47	2,500	16	3 1/4	4RH-2300	10.50

FILAMENT TRANSFORMERS All Prim. 105 115 125 V., 380-1000 cycles—TF4SX04YY)

Sec. Volts	Sec. Amps.	Insulation Volts RMS	Case Size	Wt. Lbs.	Catalog Number	Net Price
6 3 CT	3	2,500	10	3/4	4FH-63	\$14.70
6 3 CT	5.5	2,500	11	1	4FH-65	15.90
6 3 CT	10	2,500	13	1 1/4	4FH-610	17.70
6 3 CT	20	2,500	15	2 1/2	4FH-620	19.50

400 CYCLE STEP-DOWN TRANSFORMER (See Page 1312)



CASE DIMENSIONS

Case Size	Dimensions in Inches				
	A	C	D	H	K
3	1 1/8	1 1/4	2	1 1/2	2 Studs
7	1 1/4	1 1/2	2	1 1/2	2 Studs
10	1 1/4	1 3/4	2 1/8	1 1/8	1 1/8
11	1 1/4	1 3/4	2 1/8	1 1/8	1 1/8
12	2 1/4	2 1/8	2 1/8	1 1/8	1 1/8
13	2 1/4	2 1/8	2 1/8	1 1/8	1 1/8
15	2 1/4	2 1/8	3 1/8	1 1/8	1 1/8
16	2 1/4	2 1/8	3 1/8	2	1 1/8
17	2 1/4	2 1/8	3 1/8	2	1 1/8
20	3 1/8	3 1/8	4 1/8	2 1/8	2 1/8
21	3 1/8	3 1/8	4 1/8	2 1/8	2 1/8

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NEW EQUIPMENT AUDIO TRANSFORMERS



CHICAGO STANDARD TRANSFORMER CORPORATION

TRANSISTOR AUDIO TRANSFORMERS

Here are the smallest iron core audio transformers ever built. They weigh less than 1/10 ounce and are no larger than the transistors they power. Write for Bulletin 462 showing typical circuit application.

Part No.	Application	Pri. Imp.	Sec. Imp.	Pri. DC Res.	Sec. DC Res.	Dimensions (±.015")	Weight in ounces	Net Price
UM-110	Interstage	20,000	1,000	1675	285	1 1/4" x 3/8" x 3/8"	0.07	\$5.70
UM-111	Output or matching	1,000	50.60	120	9.0	3/8" x 3/8" x 3/8"	0.10	3.90
UM-112	High imp. mic. input	200,000	1,000	4000	195	3/8" x 3/8" x 3/8"	0.10	6.30
UM-113	Interstage	20,000	1,000	1350	205	3/8" x 3/8" x 3/8"	0.10	4.35
UM-114	Output or matching	500	50.60	70	9.0	3/8" x 3/8" x 3/8"	0.10	3.90

TRANSISTOR TRANSVERTER TRANSFORMERS

For converting 12 V. battery voltage to plate supply voltage. See Chicago Bulletin CT-43 for schematics and parts lists.

Part No.	Application	Mtg. Type	Dimensions	Weight	List Price
DCT-1	Converts 12 VDC to 275 VDC at 125 DCMA	C	1 7/8" x 2 1/8" x 2 1/8"	14 oz.	\$22.04
DCT-2	Converts 12 VDC to 250 VDC at 275 DCMA or 500 VDC at 165 DCMA	C	2 1/4" x 2 1/8" x 2 1/8"	1.5 lbs.	24.93

MINIATURE HIGH FIDELITY AUDIO TRANSFORMERS

Chicago-Stancor Tinytrans are miniature transformers made with nickel steel laminations. They have an exceptional frequency response for units of this size; ±1 db. 30-15,000 cps, Maximum level 0 db. Write for Bulletin 463 showing frequency response curves on these transformers.

These units are sealed and potted in 7/8" square, anodized aluminum cases with phenolic terminal boards. Total height, including terminals, is 1 1/4". The case has two 2-56 threaded inserts, 11/16" centers, for easy chassis mounting. The entire transformer weighs only 1.3 ounces.



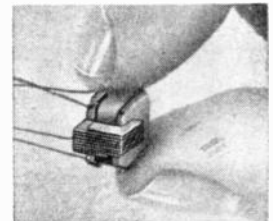
Part No.	Application	Primary Impedance	Secondary Impedance	Net Price
TT-11	Mic., pickup or line to single grid	50, 200 250, 500 600	50,000	\$8.49
TT-12	Mic., pickup or line to push-pull grids	50, 200 250, 500 600	50,000	8.85
TT-13	Dynamic mic. to single grid	7.5 30	50,000	8.07
TT-14	Single plate to single grid	15,000* (No DC in primary)	60,000	6.96

PUBLIC ADDRESS RANGE TRANSFORMERS

Frequency Response within ±1 db, 50 to 10,000 Cycles

Driver and output transformers in this CHICAGO series are designed for three general power levels to fit a wide range of application. Up-to-date secondary impedances match 600 or 150-ohm lines, 16, 8, and 4-ohm speakers.

(16/8/4-ohm taps also suitable for 20/6/3.2-ohm speakers.) Output transformers have tertiary windings for 10% inverse feedback that minimizes distortion and provides extra audio watts without loss of fidelity.

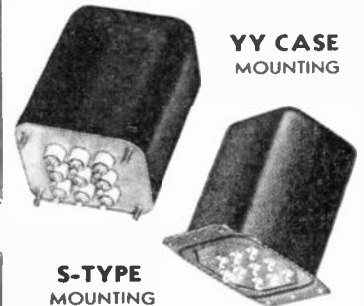


DRIVERS H-Type—TF4RX12YY (Cat. No. PHD), S-Type (Cat. No. PSD) and C-Type (Cat. No. PCO) Mountings

Application	Primary Impedance	Max. D.C. Pri.	Ratio, Pri. to 1/2 Sec.	Case Size	Wt. Lbs.	Cat. No.	Net Price
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	10 ma.	3:1	14	2 1/4	PHD-10	\$ 9.00
						PSD-10	6.90
						PCD-10	5.01
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	25 ma.	3:1	15	2 1/4	PHD-25	10.90
						PSD-25	7.50
						PCD-25	10.90
P-P Plates to P-P Grids	5,000/10,000 ohms (Pri. CT)	100 ma.	5:1	18	4 1/2	PHD-100	14.85

TYPE UM

YY CASE MOUNTING



S-TYPE MOUNTING

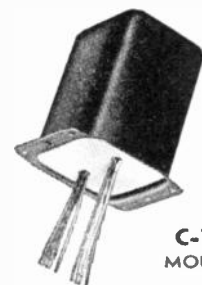
OUTPUTS H-Type—TF4RX13YY (Cat. No. PHO), S-Type (Cat. No. PSO) and C-Type (Cat. No. PCO) Mountings

Application	Impedances	Typical Output Tubes	Class	Max. Audio Watts	Max. D.C. Pri. CT	Case Size Wt.	Cat. No.	Net Price
P-P Plates to Line or Voice Coil	Primary: 5,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6B4G, 6L6, 6V6, etc.	A ₁ AB	20	120 ma.	20: 6 1/2 lbs.	PHO-80	\$18.57
							PSO-80	20.78
P-P Plates to Line or Voice Coil	Primary: 10,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6V6, 6F6, 6K6, etc.	AB ₁ AB ₂	15	200 ma.	19: 5 lbs.	PSO-150	11.49
							PCO-150	7.50
P-P Plates to Line or Voice Coil	Primary: 6,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	Two 6L6's, Four 6V6's, or similar	B, AB ₁ †	30	250 ma.	22: 9 lbs.	PSO-200	13.95
							PCO-200	8.70

*Has tertiary winding to provide 10% inverse feedback.
†For low distortion, use fixed bias.

See Pages 1311 & 1316 For Mounting Dimensions

C-TYPE MOUNTING



CHICAGO

NEW EQUIPMENT

AUDIO TRANSFORMERS

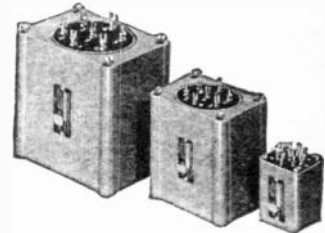


CHICAGO STANDARD TRANSFORMER CORPORATION

HF AND WF SERIES HIGH FIDELITY AUDIO TRANSFORMERS

HF Series

These units have a wide frequency response of 20 to 20,000 cps with ± 1 db. Correct design reduces harmonic and intermodulation distortion to a negligible amount. Balanced construction minimizes hum pickup. Chicago-Stancor impregnation insures long life. Cases are finished in gray enamel and have four threaded holes at each end for flush mounting. Stud-type terminals are plainly marked for easy identification.



LOW IMPEDANCE TO GRID

Part No.	Application	Primary Imp Ohms	Secondary Imp Ohms	Max. Level	Hum-Pickup Reduction*	Mtg. \$	Net Price
HF-20	Low Imp. Mic., Pickup, or Line to Grid	50, 125 150, 200, 250, 333, 500/600	60,000 overall, in two sections	15 db	-74 db	HF-1	\$35.03
HF-20X	Low Imp. Mic., Pickup, or Line to Grid	50, 125, 150, 200, 250, 333, 500 600	50,000	14 db	-92 db†	HF-1	42.43
HF-22	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500 600	120,000 overall, in two sections	15 db	-74 db	HF-1	23.70
HF-22X	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125/150, 200, 250, 333, 500 600	80,000 overall, in two sections	14 db	-92 db†	HF-1	43.27

INTERSTAGE

HF-29	Sgl. Pl. to P.P. Grids - Split secondary	15,000	95,000 (Turn ratio 2.5:1 overall)	17 db	-50 db	HF-1	\$18.72
HF-31	Single Plate to P.P. Grids. Split pri. and sec.	15,000	135,000 (Turn ratio 3:1 overall)	14 db	-74 db	HF-1	23.70
HF-32	P.P. Plates to P.P. Grid. Split pri. and sec.	30,000 Plate to Plate	80,000 (Turn ratio 1.6:1 overall)	26 db	-50 db	HF-2	34.50

MIXING

HF-40	Low Imp. Mixer, Mic., Pickup, or Line to Line	50, 125 150, 200, 250, 333, 500 600	50 125/150, 200, 250 333, 500/600	17 db	-74 db	HF-1	\$39.48
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OUTPUT

HF-65†	P.P. 2A3's, 6L6's, etc. to Line or Voice Coil	3,000 or 5,000 Plate to Plate	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 20 watts 125, 200, 250, 333 or 500			HF-2	\$25.50
HF-67†	P.P. 2A3's, 6L6's, etc. to Voice Coil	3,000 or 5,000 Plate to Plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20 watts		HF-2	20.70
HF-68†	P.P. Par. 2A3's, 6A5G's, 300A's, 6A3's to Line or Voice Coil	1,500 or 2,500 Plate to Plate	500, 333, 250, 200 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	40 watts		HF-3	39.00

§HF-1 Case: *Shpp. wt., 3.0 lbs. Height overall, 3 1/4". Base area, 2 1/8" x 3 1/8". Mtg. ctrs., 1 1/8" x 1/8".* HF-2 Case: *Shpp. wt., 7.5 lbs. Height overall, 4 1/2". Base area, 3 1/8" x 1 1/8". Mtg. ctrs., 2 1/8" x 3 1/8".* HF-3 Case: *Shpp. wt., 15.0 lbs. Height overall, 4 1/8". Base area, 4 1/8" x 5 1/8". Mtg. ctrs.,*

4 3/8" x 5 1/8".
 †Response ± 1 db from 25 to 20,000 cps.
 *As compared to standard uncased units.
 †Quadruple alloy magnetic shield.

WF Series

These units are of the same outstanding quality as the HF Series above, and, with the exception of two units, have a frequency response of 30-20,000 cps within ± 2 db. The WF-21 and WF-35 have a response within ± 2 db from 50-20,000 cps and have multiple alloy shields for

extremely low hum pickup. All WF units are cased in the WF-b type cast case with phenolic terminal board and four tapped holes for flush mounting. Overall dimensions are 2" high with 1 1/2" x 1 1/2" base area. Mounting centers are 1 3/8" x 1 1/8". Shipping weight is 0.6 lbs.

Part No.	Application	Primary Imp Ohms	Secondary Imp Ohms	Net Price
WF-20	Low Imp. Mic., Pickup, or Line to Grid	50, 125 150, 200, 250, 333, 500 600	50,000	\$11.70
WF-21	Low Imp. Mic., Pickup, or L. to Sgl. or P.P. Grids	50, 200, 500	50,000	12.48
WF-22	Low Imp. Mic., Pickup, or Line to P.P. Grids	50, 125 150, 200, 250, 333, 500 600	80,000 overall, in two sections	11.70
WF-24	Dynamic Microphone to 1 or 2 Grids	30	50,000 overall, in two sections	10.62

INTERSTAGE

WF-26	Single Plate to Single Grid	15,000	60,000 (Turn ratio 2:1)	\$ 9.87
WF-28	Sgl. Pl. to 2 Grids. Can use split pri. for P.P. Pl.	15,000	80,000 overall (Turn ratio 2.3:1 overall)	10.92

LOW LEVEL OUTPUT

WF-34	Single Plate to Line	15,000	50, 125 150, 200, 250, 333, 500, 600	\$11.70
WF-36	P.P. Low Level Plates to Line	30,000 Plate to Plate	50, 125/150, 200, 250, 333, 500, 600	11.70
WF-35	Single Plate to Multiple Line Primary D.C. 8.0 ma. Response from 50-20,000 cps within ± 2 db	15,000	50, 125, 150, 200, 250, 333, 500, 600	10.92

MIXING

WF-30	Low Imp. Mixer, Mic., Pickup, or Line to Line	50, 125, 150, 200, 250, 333, 500 600	50, 125, 150, 200, 250, 333, 500, 600	11.70
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Use Index (Pg. 2) for Quick, Easy Location of ALL Products

The MASTER—24th Edition

Net

Page 1315

CHICAGO

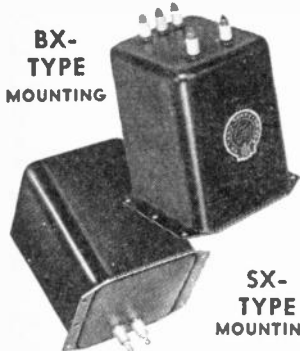
NEW EQUIPMENT

TRANSFORMERS and REACTORS

for Broadcast, Amateur and Industrial Application



CHICAGO STANDARD TRANSFORMER CORPORATION



LARGE CAPACITY TRANSFORMERS AND REACTORS For Broadcast, Communications and Industrial Use

DRIVER TRANSFORMERS

In:	Recommended Application: Tubes:	Ratio Pri./1/2 Sec.	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	Net Price
250-Watt Transmitter	From two 2A3's, 6B4's, or similar P-P Plates to Class B 838's, 805's, 203-A's, etc.	3.5:1	B*	20	6 1/2	BD-1	\$20.70
1-KW Transmitter	From four 2A3's, 6B4's, or similar P-P Plates to two 833-A's or similar P-P Grids	3:1	†	24	12 1/4	BD-2	25.50
5-KW Transmitter	From four 845's, two 152-TL's or similar P-P Plates to 891-R's or similar P-P Grids	3.5:1	BX	26	24	BD-3	58.50

†Similar to SX-Type mounting, but with screw terminals on a terminal board.
*B-Type mounting, but with screw terminals.

MODULATION TRANSFORMERS

Recommended Application In:	With:	Impedances (Pri. Plate to Plate)	Modulator Tubes	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	Net Price
250-Watt Transmitter	Driver Transformer *BD-1	Pri: 7500 ohms CT Sec: 5000 ohms	203-A, 838 805, etc.	BX	26	25	BM-1	\$37.50
1-KW Transmitter	Driver Transformer *BD-2	Pri: 9000 ohms CT Sec: 7500 ohms	833-A, etc.	FS	84	175	BM-2	325.47
500-Watt Transmitter	Driver Transformer *BD-2 Class C Amplifier	Pri: 11000 ohms CT Sec: 5500 ohms	833-A, etc.	FS-1		105	BM-1	114.00

MODULATION REACTORS

Recommended Application In:	With:	Inductance	D.C. Ma.	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	Net Price
250-Watt Transmitter	Mod. Transformer #BM-1	65 hy.	250	BX	28	41	BR-1	\$ 57.30
1-KW Transmitter	Mod. Transformer #BM-2	100 hy.	500	FS	81	165	BR-2	300.00
5-KW Transmitter	Mod. Transformer #BM-3	120 hy.	900	WC		1100	BR-1	

PLATE TRANSFORMERS

Primary: Volts	Max. VA.	Secondary: A.C. Load Volts	D.C. Volts after Filter	D.C. Ma.	Mtg. Size	Mtg. Type	Wt. Lbs.	Cat. No.	Net Price
115-230	185	675-0-675 575-0-575	500 400	250	22	S	12	P-45	\$15.30
115-230	250	900-0-900 735-0-735	750 600	250	22	S	13 1/2	P-67	16.80
115-230	310	1150-0-1150 870-0-870	1000 750	250	60	FS	37	P-107	53.70
115-230	360	1425-0-1425* 600-0-600	1250 400	150 200	24	S	26	P-1240	25.50
115-230	550	1710-0-1710 1430-0-1430	1500 1250	300	63	FS	43	P-1512	57.30
115-230	915	2820-0-2820 2260-0-2260	2500 2000	300	71	FS	71	P-2520	76.50
115-230	1600	2900-0-2900 2320-0-2320	2600 2100	500	64	FS	95	P-2126	135.60
115-230	1850	3450-0-3450 2850-0-2850	3000 2500	500	81	FS	137	P-3025	236.66
115-230	3050	4660-0-4600 4050-0-4050 3400-0-3400	4000 3500 3000	600	90	FS	150	P-4353	225.00

*Both secondaries may be rectified simultaneously.

FILTER REACTORS

Inductance in Henrys	Max. D.C. Ma.	D.C. Resistance, Ohms	Insulation Test Volts	Mtg. Type	Mtg. Size	Wt. Lbs.	Cat. No.	Net Price
10	500	40	9,000	FS	62	35	R-105	\$39.90
10	300	40	7,500	SX	26	22	R-103	19.50
6	700	35	10,000	FS	61	35	R-67	51.74
6	500	35	9,000	FS*	60	35	R-65	44.65
6	300	35	7,500	SX	24	16 1/2	R-63	23.31

Splatter Chokes for High Level "Clipper" Filters

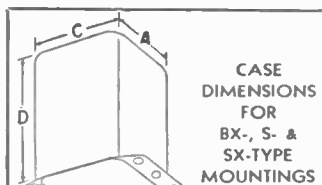
Can withstand high peak voltages. Has tapped windings to cover an inductance from .02 to 1.5 henries at relatively constant Q. Eliminates splatter, caused by heavy modulation; limits band width to 3,000 cycles, effectively increases "get through" ability of phone signals, and prevents negative peak clipping.

Type	D.C. Ma.	Insulation Volts	Inductance in Henrys	Mounting		Net Price
				Type	Size	
SR-300	300	7,500	.02 to 1.5 H _v	BX	22	\$26.59
SR-500	500	10,000	.02 to 1.5 H _v	BX	24	30.26

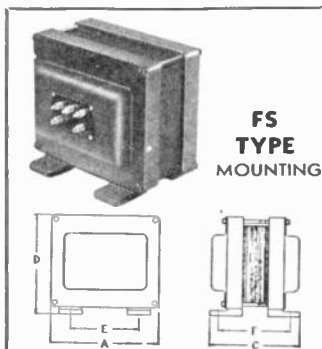
Low Pass Filter No. LPF-1

For attenuating frequencies above 3,000 cycles in low level speech amplifiers. Operates out of a 15,000 ohm source, e.g., the plate of 6C5, 6J5, etc. when its 60,000 ohm secondary is connected to an equal impedance output. Operates at signal levels up to -8 db. Complete with operating instructions. S type mtg. Case size 13. See pg. 1500.

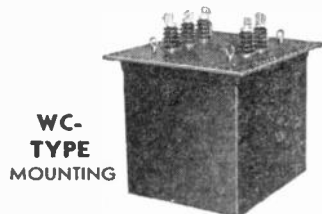
Net Price..... \$22.72



Case Size	A	C	D	E	F
22	4 1/8	5 1/8	2 1/2	4 3/4	
24	5 1/8	6 1/8	3 1/2	5 3/4	
26	6 1/8	7 1/8	4 1/2	6	
28	7 1/8	8 1/8	5	7	



Size	A	D	E	F	C
60	7 1/2	7	4 3/8	5 1/2	6 1/8
61	7 1/2	7	4 3/8	5 1/2	6 7/8
62	7 1/2	7	4 3/8	6 1/4	7 1/8
63	7 1/2	7	4 3/8	6 1/4	7 1/2
64	7 1/2	10	8 5/8	6	7 3/4
65	7 1/2	7	4 3/8	6 7/8	7 1/8
71	8 1/2	8 1/2	5 1/2	6 1/2	8 1/8
81	11 1/2	10 1/2	7 1/2	8 1/2	10 3/4
84	11 1/2	10 1/2	7 1/2	11 1/2	13 1/8
90	13 1/8	12 3/4	9	8 7/8	10 3/4



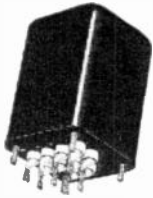
Overall Case Dimensions:
H—31 1/2" W—26 1/2" D—23 1/2"

CHICAGO

NEW EQUIPMENT AUDIO TRANSFORMERS

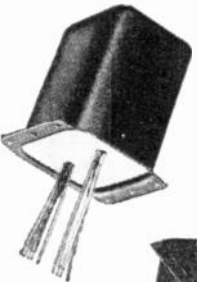


CHICAGO STANDARD TRANSFORMER CORPORATION



YY CASE

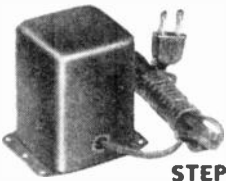
S-TYPE MOUNTING



C-TYPE MOUNTING



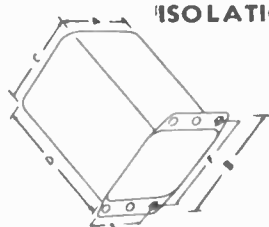
BX MOUNTING



STEP-DOWN



ISOLATION



DIMENSIONS for S, SX, STEP-DOWN and ISOLATION TRANSFORMERS

Case Size	Dimensions in Inches					
	A	B	C	D	E	F
16	2 7/8	3 1/2	2 1/4	3 1/2	2	3 1/8
20	3 1/8	4 7/8	3 5/8	4 1/8	2 3/4	3 7/8
21	3 1/8	4 7/8	3 5/8	4 1/8	2 3/4	3 7/8
22	3 1/8	4 7/8	3 5/8	4 1/8	2 3/4	3 7/8
24	3 1/8	4 7/8	3 5/8	4 1/8	2 3/4	3 7/8
24	3 1/8	4 7/8	3 5/8	4 1/8	2 3/4	3 7/8
26	3 1/8	4 7/8	3 5/8	4 1/8	2 3/4	3 7/8

COMMUNICATIONS RANGE AUDIO TRANSFORMERS

Frequency Response within ± 1 db, 200 to 3,500 Cycles

These transformers are specifically designed for use in receiving and transmitting equipment such as amateur, police, railroad, and aircraft types, where clear voice reproduction is desired.

INPUTS H-Type-TF4RX--YY† (Cat. No. CIH), S-Type (Cat. No. CIS) and C-Type, (Cat. No. CIC) Mountings*

Application	Impedances: Primary—Secondary	Case Size	Wt. Lbs.	Cat. No.	Family	Net Price
Low Level Line to Single or Push-Pull Grids	Pri: 600/150 ohms CT *Sec: 100,000 ohms CT	9	3/4	CIH-1 CIS-1 CIC-1	10	\$14.70 15.01 7.50
Low Level S. B. or D. B. Mike to Sgl. or P-P Grids	Pri: 125/50 ohms @ 80 ma. Sec. 125,000 ohms CT	9	3/4	CIH-2 CIS-2 CIC-2	11	10.50 6.30 3.90

*Split and balanced windings; may be used singly or push-pull.

†Refer to family.

OUTPUTS H-Type-TF4RX13YY (Cat. No. COH), S-Type (Cat. No. COS) and C-Type (Cat. No. COC) Mountings*

Application	Impedances: Pri.—Sec.	Typical Audio Tubes Class	Max. Case Watts	Max. Pri. D.C.	Case Size	Wt. Lbs.	Cat. No.	Net Price
Sgl. P. to Line or Speaker	Pri.: 5000 ohms Sec. ohms: 600/150/16/8/4	6L6, 6V6, 25A6 A	5	55 ma.	14	2 1/4	COH-1 COS-1 COC-1	\$10.50 7.50 4.20
Sgl. Pl. to Line or Speaker	Pri: 8000 ohms Sec. ohms: 600 150 16 8 4	6F6, 6V6, 6K6 A	5	55 ma.	14	2 1/4	COH-2 COS-2 COC-2	11.58 7.50 4.20

DRIVER H-Type (Cat. No. CDH), S-Type (Cat. No. CDS) and C-Type (Cat. No. CDC) Mountings*

Application	Primary Impedance	Max. D.C. Pri. CT	Ratio, Pri. to 1/2 Sec.	Case Size	Wt. Lbs.	Cat. No.	Net Price
P-P Plates (2A3's, etc.) to P-P Grids	5,000 ohms (Pri. CT)	100 ma.	3:1	17	3 1/2	CDS-1 CDC-1	\$9.30 5.01

*Mounting Dimensions on Page 1316.

MODULATION TRANSFORMERS—Class B Plates to Class C Load

Catalog No.	Typical Mod. Tubes	Impedances Primary-Secondary	D.C. Pri.	Ma. Sec.	Power Level	Mounting Type	Size	Wt. Lbs.	Net Price
CMS-1	203A's, 805's, 75TL's, 203Z's	Pri: 9000 6700 ohms CT Sec: 8000 6000 4000 ohms	350	350	250-350 watts	SX	26	22	\$39.00
CMS-3	810's, 822's, 4-250A's, etc.	Pri: 18,000 12,000 ohms CT Sec: 6250 ohms	500	500	500,750 watts	FS†	64†	43	105.00

†Mounting Dimensions and Illustration on Page 1316.

STEP-DOWN TRANSFORMERS—Primary, 50/60 cycles

CHICAGO step-down autotransformers solve the problem of operating standard 117-volt radios, amplifiers, and various electrical appliances from 220-volt power sources. They are particularly well adapted to use in Central and South American countries, where 220-volt lines are frequently found, and where the Sealed-in-Steel construction protects them against corrosion caused by excessive humidity. Input side is equipped with 8-foot, rubber-covered cord and plug. Output side has standard female receptacle.

Catalog No.	Input Voltage	Output Voltage	Rating, Continuous Duty	Case Size	Wt., Lbs.	Net Price
SD-50	220-250	110-125	50 watts	16	2 3/4	\$ 5.34
SD-100	220-250	110-125	100 watts	20	4 1/4	6.66
SD-150	220-250	110-125	150 watts	22	7	7.80
SD-250	220-250	110-125	250 watts	22	8 3/4	9.45
SD-500	220-250	110-125	500 watts	24	14 1/2	12.00
SD-1000	220-250	110-125	1000 watts	26	22 1/2	19.50

ISOLATION TRANSFORMERS—Primary, 50/60 cycles

A rotary switch on each CHICAGO isolation transformer adjusts to either of three primary voltages, 125 115 105 volts. With the unit operating on a 115-volt line, the three-switch positions also provide varying secondary voltages, 105 115 125 volts isolated from line.

Eight-foot, rubber-covered cord and plug on primary, standard female receptacle on secondary.

Catalog No.	Input Voltage	Output Voltage	Rating, Continuous Duty	Case Size	Wt., Lbs.	Net Price
IS-50	105 115 125	125 115 105*	50 watts	21	5	\$ 8.25
IS-100	105 115 125	125 115 105*	100 watts	22	8 1/2	11.85
IS-150	105 115 125	125 115 105*	150 watts	24	12 1/2	14.10
IS-250	105 115 125	125 115 105*	250 watts	24	18 1/4	16.65

*With 115-volt primary.

Sec. 5600



TRANSFORMERS



This group of transformers and filter reactors are designed to meet the full requirements of MIL-T-27A specifications, and are hermetically sealed in standard MIL-T-27A case sizes. They provide the highest standard of quality necessary for military and professional requirements.

The range includes the specific types standardized by the Armed Services Standards Agency as well as a group of standard types for 400 cycle power supplies.

Transformers and reactors meeting MIL-T-27A specifications Grade 1 through 6, Class Q, S, T, or U can be supplied on special order.

A wide range of transformers and reactors of all varieties are regularly manufactured, including the more economical types for commercial use.

If the ratings you require are not listed, we can offer prompt competitive quotations on designs to your specifications.

All manufacturing, testing and inspection in accordance with applicable requirements of Military Specifications.

MILITARY STANDARD FILAMENT TRANSFORMERS Input 105/115/125 Volts 60 Cycles ± 10%

Cat. No.	MIL Types	Military Standards No.	Sec. Volts	Sec. Amps	Test Volts	Case	Wt. Lbs.	List Price
FMF 20	TF1RX01EB002 or TF4RX01EB002	MS90016-1 or 2	2.5	3	2500	EB	1	\$16.80
FMF 21	TF1RX01GB003 or TF4RX01GB003	MS90017-1 or 2	2.5	10	2500	GB	2.125	22.60
FMF 22	TF1RX01FB004 or TF4RX01FB004	MS90018-1 or 2	5.0	3	2500	FB	1.5	18.50
FMF 23	TF1RX01HB005 or TF4RX01HB005	MS90019-1 or 2	5.0	10	2500	HB	3.125	24.60
FMF 24	TF1RX01FB006 or TF4RX01FB006	MS90020-1 or 2	6.3	2	2500	FB	1.25	18.50
FMF 25	TF1RX01GB007 or TF4RX01GB007	MS90021-1 or 2	6.3	5	2500	GB	2.125	21.00
FMF 26	TF1RX01JB008 or TF4RX01JB008	MS90022-1 or 2	6.3	10	2500	JB	5	29.00
FMF 27	TF1RX01KB009 or TF4RX01KB009	MS90023-1 or 2	6.3	20	2500	KB	7.75	35.00
FMF 28	TF1RX01JB012 or TF4RX01JB012	MS90024-1 or 2	2.5	10	10,000	JB	4.25	27.00
FMF 29	TF1RX01KB013 or TF4RX01KB013	MS90025-1 or 2	5.0	10	10,000	KB	6	34.00

MILITARY STANDARD PLATE AND FILAMENT TRANSFORMERS

Input 105/115/125 Volts 60 Cycles ± 10%. Choke Input Filter

Cat. No.	MIL Types	Military Standards No.	FIL 1	FIL 2	Plate (RMS)	Current	Case	Wt. Lbs.	List Price
FMP 30	TF1RX03HA001 or TF4RX03HA001	MS90026-1 or 2	6.3/5v 2a	6.3v 3a	200-100-0-100-200	.07A.DC	HA	3.75	\$33.00
FMP 31	TF1RX03JB002 or TF4RX03JB002	MS90027-1 or 2	6.3/5v 2a	6.3v 4a	325-0-325	.07A.DC	JB	5.125	29.00
FMP 32	TF1RX03KB006 or TF4RX03KB006	MS90028-1 or 2	5v 3a	6.3v 5a	325-0-325	.150A.DC	KB	7.25	34.00
FMP 33	TF1RX03LB003 or TF4RX03LB003	MS90029-1 or 2	5v 3a	6.3v 8a	400-0-400	.175A.DC	LB	9.5	40.00
FMP 34	TF1RX03MB004 or TF4RX03MB004	MS90030-1 or 2	5v 3a	6.3v 8a	450-0-450	.250A.DC	MB	12.125	46.00
FMP 35	TF1RX02KB001 or TF4RX02KB001	MS90031-1 or 2			350-0-350	.250A.DC	KB	7.125	31.00
FMP 36	TF1RX02LB002 or TF4RX02LB002	MS90032-1 or 2			550-0-550	.250A.DC	LB	9.5	36.00
FMP 37	TF1RX02NB003 or TF4RX02NB003	MS90036-1 or 2			800-0-800	.250A.DC	NB	14.75	48.00

400 Cycle Transformers

FILAMENT TRANSFORMERS

Input 115 Volts 380-1200 Cycles

Cat. No.	Sec. Volts	Sec. Amps	Test Volts	Case	Wt. Lbs.	List Price
FF 440	6.3 ct	2	1500	AJ	.625	\$16.20
FF 41	6.3 ct	5	1500	EA	1	19.60
FF 42	6.3 ct	5	2500	FA	2	22.00
	6.3	5	2500			
FF 43	5/6.3	3	2500	EB	.95	19.00
FF 44	5 ct	6	2500	EA	1	19.60
FF 45	2.5 ct	10	5000	HB	2.75	25.60

PLATE AND FILAMENT TRANSFORMERS

Input 115 Volts 380-1200 Cycles. Choke Input Filter

Cat. No.	Plate RMS	DC Amps	Filaments	Case	Wt. Lbs.	List Price
FP 40	250-0-250	.070	5 6.3V 2A 5V 3A	GB	1.875	\$27.50
FP 41	325-0-325	.120	6.3Vct 3A 5V 3A	JB	4.625	33.00
FP 42	400-0-400	.200	6.3 ct 5A 5V 3A	KB	6.625	37.50
			6.3Vct 6A			
FP 43	350-0-350	.250	—	JB	4.625	27.50
FP 44	500-0-500	.250	—	KB	6.25	30.00

FERRANTI ELECTRIC, INC.

TRANSFORMER DIVISION
BROOKLYN, N. Y.



TRANSFORMERS



MILITARY STANDARD AUDIO TRANSFORMERS

Frequency Response 300-10,000 c.p.s. \pm 2DB

Weight — 0.72 Lbs. Max.

Altitude — 50,000 Ft. Max.

All units are hermetically sealed in MIL-T-27A case size AJ and are designed to meet the full requirements of the MIL-T-27A specification. All manufacturing, testing and inspection in accordance with applicable requirements of Military Specifications.

Cat. No.	Function	Type Designation	Military Standards No.	IMPEDANCE LEVEL (in ohms)		Max. Power Level	Pri. D.C. Per Side in MA	Max. D.C. Unbalance	List Price
				Primary	Secondary				
FMA 550	Interstage, Single or P.P. plates to single or P.P. grids	TF1RX15AJ001	MS 90000	10,000 CT	90,000 split and CT	+15 DBM	10	10	\$20.80
FMA 551	Matching, 600 ohm line to voice coil	TF1RX16AJ002	MS 90001	600 split	4, 8, 16	2 watt	0	0	20.30
FMA 552	Input, 600 ohm line to single or P.P. grids	TF1RX10AJ001	MS 90002	600 split	135,000 CT	+15 DBM	0	0	20.80
FMA 553	Matching, 600 ohm line to 600 ohm line	TF1RX15AJ001	MS 90003	600 split	600 split	+15 DBM	0	0	20.30
FMA 554	Output, single plate 7600 ohm or 4800 ohm to 600 ohm line	TF1RX13AJ001	MS 90004	7600 tap @ 4800	600 split	2 watt	40	40	19.80
FMA 555	Output, single plate 7600 ohm or 4800 ohm to voice coil	TF1RX13AJ002	MS 90005	7600 tap @ 4800	4, 8, 16	2 watt	40	40	19.80
FMA 556	Output, single or P.P. plates to 600 ohm line	TF1RX13AJ003	MS 90006	15,000 CT	600 split	2 watt	10	10	19.80
FMA 557	Output, P.P. plates to 600 ohm line	TF1RX13AJ004	MS 90007	24,000 CT	600 split	1 watt	10	1	20.30
FMA 558	Output, P.P. plates to 600 ohm line	TF1RX13AJ005	MS 90008	60,000 CT	600 split	0.5 watt	10	1	20.30

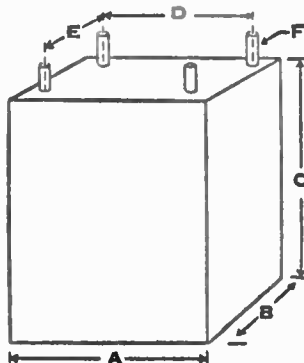
FILTER REACTORS

FOR 60 CYCLE POWER SUPPLIES

Cat. No.	DC Amps	Induct. Henrys	Resist. Ohms	Test Volts	Case	Wt. Lbs.	List Price
FC 410	.020	30	930	1500	AJ	.625	\$14.50
FC 11	.070	15	260	2500	GB	2.25	14.00
FC 12	.150	10	110	2500	JB	4.75	20.00
FC 13	.200	8	90	2500	KB	6.25	21.00
FC 14	.300	10	95	2500	LB	9.625	28.50

FOR 400 CYCLE POWER SUPPLIES

Cat. No.	DC Amps	Induct. Henrys	Resist. Ohms	Test Volts	Case	Wt. Lbs.	List Price
FC 440	.070	3	225	1500	AJ	.625	\$14.00
FC 41	.120	3	145	2000	EB	1	15.00
FC 42	.200	3	115	2000	FB	1.5	15.50
FC 43	.250	3	65	2000	GB	2.25	17.50



MIL-T-27A CASE AND MOUNTING DIMENSIONS

Case	A	B	C	D	E	
AJ	1 $\frac{3}{8}$	1 $\frac{3}{8}$	2 $\frac{3}{8}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	6-32
EA	1 $\frac{13}{16}$	1 $\frac{13}{16}$	2 $\frac{3}{4}$	1 $\frac{3}{8}$	1 $\frac{3}{8}$	6-32
EB	1 $\frac{13}{16}$	1 $\frac{13}{16}$	2 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{4}$	6-32
FA	2 $\frac{1}{16}$	2 $\frac{1}{16}$	3 $\frac{1}{4}$	1 $\frac{11}{16}$	1 $\frac{1}{8}$	6-32
FB	2 $\frac{3}{16}$	2 $\frac{1}{16}$	2 $\frac{1}{2}$	1 $\frac{11}{16}$	1 $\frac{1}{8}$	6-32
GB	2 $\frac{3}{4}$	2 $\frac{3}{8}$	2 $\frac{13}{16}$	2 $\frac{1}{2}$	1 $\frac{3}{4}$	6-32
HA	3 $\frac{1}{16}$	2 $\frac{5}{8}$	4 $\frac{1}{4}$	2 $\frac{15}{16}$	1 $\frac{55}{64}$	8-32
HB	3 $\frac{1}{16}$	2 $\frac{5}{8}$	3 $\frac{1}{4}$	2 $\frac{15}{16}$	1 $\frac{55}{64}$	8-32
JB	3 $\frac{1}{8}$	3 $\frac{1}{16}$	3 $\frac{3}{4}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	8-32
KB	3 $\frac{13}{16}$	3 $\frac{3}{8}$	4 $\frac{3}{4}$	3	2 $\frac{1}{8}$	10-32
LB	4 $\frac{3}{16}$	3 $\frac{11}{16}$	4 $\frac{1}{2}$	3 $\frac{3}{8}$	2 $\frac{11}{16}$	10-32
MB	4 $\frac{11}{16}$	4	4 $\frac{13}{16}$	3 $\frac{11}{16}$	3	1 $\frac{1}{4}$ -20
NB	5 $\frac{1}{16}$	4 $\frac{3}{16}$	5 $\frac{1}{2}$	4 $\frac{1}{8}$	3 $\frac{3}{8}$	1 $\frac{1}{4}$ -20

FERRANTI ELECTRIC, INC.

TRANSFORMER DIVISION
BROOKLYN, N. Y.

BROADCAST QUALITY COMPONENTS

Modern high fidelity broadcasting and transcription equipment requires the use of "Audio" — transformers of utmost quality and reliability in performance. Freed broadcast quality components have been designed to meet these requirements. They are wide band, high fidelity components with low distortion throughout the audio range and beyond. Frequency response for most units is in the order of ± 1 DB from 20 to 20,000 cps and for high level output transformers in the order of ± 0.5 DB from 20 to 30,000 cps.

These units feature astatic construction, longitudinal balance, high efficiency, uniform response, and constant impedance match throughout the audio frequency spectrum. Maximum neutralization of stray fields is accomplished through the use of hum balanced coil structures and multiple alloy shielding. Equal high fidelity response is assured on every tap of any universal impedance winding without line reflection of transverse coupling.

All broadcast quality components are thoroughly impregnated in a special non-hygroscopic varnish and fully encapsulated with a moisture proof, high melting compound.

All broadcast quality components are **hermetically sealed**.

All units are tested in accordance with and meet "EIA" standards.

Almost all units are designed with universal impedance windings to insure greatest versatility.

A full line of high Q reactors complements this series of audio transformers.

FREED TRANSFORMER COMPANY, INC.

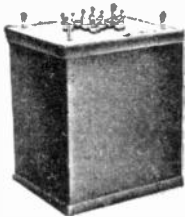
BROADCAST QUALITY COMPONENTS

INPUT TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

CASE DIMENSIONS

DC-2B CASE



Height: 3 1/2"
 Width: 2 5/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2"x1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/2" dia

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 1	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	70	0	0	DC-2B
QGA 2	Universal 500 ohm line to push-pull grids	U-500	100,000 split	+10	1:14.1	90	0	0	DC-2B
QGA 3	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	70	0	0	DC-2B
QGA 4	Universal 500 ohm line to single or push-pull grids	U-500	60,000 split	+10	1:11	90	0	0	DC-2B
QGA 5	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	70	0	0	DC-2B
QGA 6	Universal low impedance microphone, pickup or line to single or push-pull grids	U-60	60,000 split	+10	1:31.6	90	0	0	DC-2B

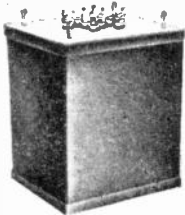
U-60 IMPEDANCES IN OHMS:
 2.5, 5, 10, 15, 20, 30, 40, 60

U-500 IMPEDANCES IN OHMS:
 50, 125, 200 CT, 250, 330, 500 CT.
 125 and 500 ohms can be used for 150 end 600 ohms.

HYBRID AND REPEAT COILS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

DC-4A CASE



Height: 3 3/4"
 Width: 3 1/8"
 Depth: 3"
 Mtg. Cen.: 2 1/2"x2 1/2"
 Studs: 4 8-32
 Knockout: 2" dia.

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level D.B.M.	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 7	Hybrid. Unbalanced 500/600 ohm lines to 600 ohms.	Total Pri 1200/1000 split 300/250 300/250	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 8	Hybrid. Balanced 500/600 ohm lines to 600 ohms. Longitudinal balance 70 DB	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	600/150 or 500/125 split	+10	1.41:1	70	0	0	DC-2B
QGA 9	Hybrid. Unbalanced 500/600 ohm lines to triode plate. No. D.C. in secondary.	Total Pri 1200/1000 split 300/250 300/250	15,000 or 12,500	+10	1:3.54	70	0	0	DC-2B
QGA 10	Hybrid. Balanced 500/600 ohm lines to triode plate. No. D.C. in secondary. Longitudinal balance 70 DB.	Total Pri 1200/1000 split 300/250 C.T. 300/250 C.T.	15,000 or 12,500	+10	1:3.54	70	0	0	DC-2B
QGA 11	Repeat coil for low frequency ringing. Longitudinal balance 70 DB.	600/500 split	600/500 split Balanced		1:1	90	0	0	DC-4A

INTERSTAGE TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 D.B.
 *50-20,000 C.P.S. ±1.0 D.B.

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level D.B.M.	Ratio	Equivalent Shielding D.B.	Maximum Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
QGA 12	Bridging line to single or push-pull grids.	10,000	60,000 split	+10	1:2.45	70	0	0	DC-2B
QGA 13	Single 6C4, 6J5 1/2 6SN7 triode to push-pull grids. Shunt feed.	15,000	60,000 split	+18	1:2	45	0	0	DC-2B
QGA 14*	Single 6C4, 6J5, 1/2 6SN7 triode to push-pull grids.	15,000	60,000 split	+18	1:2	45	8	8	DC-2B
QGA 15	Push-pull triode plates to push-pull class A grids.	20,000 split	45,000 split	+25	1:1.5	30	8	0.5	DC-4A

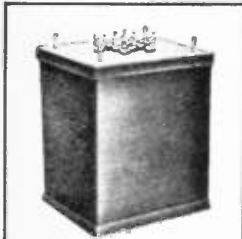
FREED TRANSFORMER COMPANY, INC.

BROADCAST QUALITY COMPONENTS

LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB
*50-20,000 C.P.S. ±1.0 DB

CASE DIMENSIONS



DC-2B CASE

Height: 3 1/2"
Width: 2 3/8"
Depth: 2 1/4"
Mtg. Cen.: 2" x 1 3/4"
Studs: 4 8-32
Knockout: 1 1/2" dia.

DC-4A CASE

Height: 3 3/4"
Width: 3 3/8"
Depth: 3"
Mtg. Cen.: 2 1/2" x 2 1/2"
Studs: 4 8-32
Knockout: 2" dia.

DC-5B CASE

Height: 4 1/2"
Width: 4 3/8"
Depth: 3 1/2"
Mtg. Cen.: 3 3/8" x 2 5/8"
Studs: 4 10-32
Knockout: 2 1/2" dia.

DC-6A CASE

Height: 4 7/8"
Width: 5"
Depth: 4 1/8"
Mtg. Cen.: 3 3/4" x 3"
Studs: 4 10-32
Knockout: 3" dia.

DC-6B CASE

Height: 6"
Width: 5"
Depth: 4 1/8"
Mtg. Cen.: 3 3/4" x 3"
Studs: 4 10-32
Knockout: 3" dia.

DC-7A CASE

Height: 5 3/8"
Width: 5 1/2"
Depth: 5"
Mtg. Cen.: 4 3/8" x 3 3/4"
Studs: 4 1 1/4"-20
Knockout: 3" dia.

Catalog No.	Application	Impedance Level		Maximum Power Level D.B.M.	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary Ohms	Secondary						
QGA 16	Single plate or bridging line to Universal 500 ohm line. Shunt feed.	15,000	U-500	+18	5.5:1	70	0	0	DC-2B
QGA 17*	Single plate to Universal 500 ohm line.	15,000	U-500	+18	5.5:1	70	8	8	DC-2B
QGA 18	Push-pull triode plates to Universal 500 ohm line.	20,000 C.T.	U-500	+25	6.3:1	70	8	0.5	DC-2B
QGA 19	Mixing, low impedance microphone or line to Universal 500 ohm line.	U-500	U-500	+12	1:1	70	0	0	DC-2B
QGA 20	Line level mixing and matching.	U-500	U-500	+30	1:1	70	0	0	DC-2B
QGA 21	High mu triode photo-cell to Universal 500 ohm line.	100,000	U-500	+12	14.1:1	70	0	0	DC-2B

DRIVER TRANSFORMERS

Frequency Response 20-20,000 C.P.S. ±1.0 DB

Catalog No.	Application	Primary Impedance Ohms	Maximum Power Level D.B.M.	Turn Ratio Pri.: Sec.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
QGA 22	Universal 500 ohm line to Class B grids.	U-500	+40	1:1	0	0	DC-4A
QGA 23	Push-pull 6J5, etc. to push-pull 2A3's, 6L6's, etc.	20,000 C.T.	+30	3.2:1	8	0.5	DC-2B
QGA 24	Push-pull 2A3, 6B4 to push-pull 809, T2-40, 4-125A.	5,000 C.T.	+40	3.1:1	50	5	DC-4A

HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 20-30,000 C.P.S. ±0.5 DB

Catalog No.	Application	Impedance Level		Maximum Power Level		Ratio	Max. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary Ohms	Secondary	DBM	Watts				
QGA 25	PP 5881, 6B4, 6L6, 300A, 275A to Universal 500 ohm line.	5,000 split	U-500	+42	15	3.16:1	70	7	DC-5B
QGA 26	As above to Universal voice coil.	5,000 split	U-16	+42	15	17.7:1	70	7	DC-5B
QGA 27	Push-pull 6V6, 6AQ5, 7C5, 6N7 to Universal 500 ohm line.	8,000 split	U-500	+42	15	4:1	50	5	DC-5B
QGA 28	As above to Universal voice coil.	8,000 split	U-16	+42	15	22.4:1	50	5	DC-5B
QGA 29	P.P. 6F6, 6V6, 6AQ5, 7C5, 7B5, 6AR5, 6K6, 6L6 to Universal 500 ohm line.	10,000 split	U-500	+42	15	4.47:1	40	4	DC-5B
QGA 30	As above to Universal voice coil.	10,000 split	U-16	+42	15	25:1	40	4	DC-5B
QGA 31*	PP. 807, 1614, KT-66, (Williamson Amplifier) to Universal 500 ohm line.	10,000 split	U-500	+45.5	36	4.47:1	60	6	DC-6A
QGA 32*	As above to Universal voice coil.	10,000 split	U-16	+45.5	36	25:1	60	6	DC-6A
QGA 33	P.P. Parallel, 6ASG, 300A to Universal 500 ohm line.	2,500 split	U-500	+45.5	36	2.24:1	100	10	DC-6A
QGA 34	As above to Universal voice coil.	2,500 split	U-16	+45.5	36	12.5:1	100	10	DC-6A
QGA 35	P.P. 6L6 or P.P. Parallel 6L6 to Universal 500 ohm line.	3,800 split	U-500	+47	50	2.75:1	140	14	DC-6B
QGA 36	As above to Universal voice coil.	3,800 split	U-16	+47	50	15.4:1	140	14	DC-6B
QGA 37	High level multiple line to Universal voice coil.	U-500	U-16	+42	15	5.6:1	0	0	DC-5B
QGA 38	High level multiple line to Universal voice coil.	U-500	U-16	+47	50	5.6:1	0	0	DC-6B
QGA 39*	5881 or 6146 Class AB1 to Universal 500 ohm line.	6,600 split	U-500	+45.5	36	3.64:1	70	7	DC-6A
QGA 40*	5881 or 6146 Class AB1 to Universal voice coil.	6,600 split	U-16	+45.5	36	20:1	70	7	DC-6A
QGA 41	6550 AB1 or 6146 AB2. to Universal 500 ohm line.	5,000 split	U-500	+50	100	3.16:1	140	14	DC-7A
QGA 42	6550 AB1 or 6146 AB2 to Universal voice coil.	5,000 split	U-16	+50	100	17.7:1	140	14	DC-7A

*These units supplied with taps for applying screen feedback. U-500 IMPEDANCES IN OHMS. 50, 125, 200 C.T., 250, 330, 500 C.T. U-16 IMPEDANCES IN OHMS: 2, 4, 8, 12, 16. 125 and 500 ohms can be used for 150 and 600 ohms.

FREED TRANSFORMER COMPANY, INC.

MINIATURE AUDIO TRANSFORMERS

These high quality, miniature transformers feature hermetically sealing for maximum protection from moisture penetration with subsequent electrolysis and corrosion of fine wires. While primarily intended for non-military equipment, these units are constructed in accordance with MIL-T-27A Specifications.

Frequency response: ± 2 DB 30-20,000 CPS.
 ± 2 DB 200-10,000 CPS.

CASE DIMENSIONS

DM-20 CASE



Height: 1 7/16"
 Dia.: 1 1/8"
 Mtg. Cen.: 1 1/8" to 1 1/2"
 Mtg. 2 holes: .166 x .120
 Flange Lgth.: 1 1/32"
 Flange D.: .975"

CASE DIMENSIONS

DM-01 CASE

Height: 2"
 Width: 1 1/2"
 Depth: 1 1/2"
 Mtg. Cen.: 1 1/16" x 1 1/8"
 Studs: 4 6-32
 Knockout: 1 3/4" x 1"

UNCASED DIMENSIONS

TMO 1 TO 14



Height: 1 13/16"
 Width: 1 1/16"
 Depth: 2 1/32"
 Mtg. Cen.: 1 3/8"
 2 Mtg. Holes: .190 d.s.
 Flange Lght: 1 5/8"

TMO 15 TO 18

Height: 2 1/8"
 Width: 9/16"
 Depth: 1 1/8"

TMO-19

Height: 1 13/16"
 Width: 1 1/16"
 Depth: 1 1/4"
 Mtg. Cen.: 1 3/8"
 2 Mtg. Holes: 3/16" d.s.
 Flange Lgth.: 2 1/4"

Catalog No.	Application	MIL Type	Impedance Level Ohms		Max. Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. Un-bal. Side Ma.	D.C. Un-bal. Ma.	Case Number	
			Primary	Secondary							
PMA 1	Line or microphone to single or push-pull grids.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11		0	0	DM-20	
PMA 2	Dynamic microphone or speaker voice coil to single or P.P. grid.	TF4RX10YY	4/8	60,000 C.T.	+8	1:86.6		0	0	DM-20	
PMA 3	Line or microphone to single or push-pull grids. Magnetically shielded.	TF4RX10YY	50/200/500	60,000 C.T.	+8	1:11	30	0	0	DM-20	
PMA 4	Single triode plate to single or push-pull grids.	TF4RX15YY	15,000	60,000 C.T.	+8	1:2		0	0	DM-20	
PMA 5*	Single triode plate to push-pull grids.	TF4RX12YY	15,000	60,000 C.T.	+8	1:2		2	2	DM-20	
PMA 6	Single triode plate to multiple line.	TF4RX13YY	15,000	50/200/500	+8	5.48:1		0	0	DM-20	
PMA 7*	Single triode plate to multiple line.	TF4RX12YY	15,000	50/200/500	+8	5.48:1		2	2	DM-20	
PMA 8	Push-pull triode plates to multiple line.	TF4RX12YY	30,000 C.T.	50/200/500	+8	7.75:1		2	0.25	DM-20	
PMA 9	Crystal mike or pickup to multiple line.	TF4RX16YY	60,000 C.T.	50/200/500	+8	11:1		0	0	DM-20	
PMA 10	Mixing or matching.	TF4RX16YY	50/200	50/200/500	+8	1:1.50		0	0	DM-20	
PMA 11	Parallel Feed Reactor.	TF4RX20YY	40 hy, 3 ma dc, 3500 ohms d. c. resistance.								DM-20

MINIATURE TRANSISTOR TRANSFORMERS

These high quality miniature transformers are high efficiency audio components featuring hermetically sealing for maximum protection against electrolysis and subsequent corrosion of fine wires caused by moisture penetration. The units are constructed in accordance with MIL-T-27A Specifications. Transistor Transformers can also be supplied in an open or encapsulated type of construction.

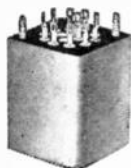
Catalog No.	MIL Type	Impedance Ohms				Frequency Response		Unbalanced Primary Current M.A./D.C.	D.C. Resistance Ohms		Max. Power Output M.W.	Case No.
		Pri.	Ct.	Sec.	Ct.	\pm D.B.	C.P.S.		Pri.	Sec.		
TMA 1*	TF4RX16YY	500		500		1	200 to 15,000	0	18	24	250	DM-20
TMA 2*	TF4RX12YY	50K		500		2	300 to 15,000	3	2,200	49	250	DM-20
TMA 3*	TF4RX13YY	50K		6		2	300 to 15,000	3	2,200	.55	250	DM-20
TMA 4*	TF4RX12YY	100K		1.2K	✓	3	300 to 15,000	1	2,790	95	100	DM-20
TMA 5*	TF4RX12YY	25K		1.2K	✓	2	200 to 15,000	3	1,740	110	250	DM-20
TMA 6*	TF4RX12YY	50K		1.2K	✓	2	300 to 15,000	3	2,200	106	250	DM-20
TMA 7*	TF4RX17YY	600/150		1.2K	✓	1	200 to 15,000	4	30	95	250	DM-20
TMA 8*	TF4RX12YY	25K		600		2	200 to 15,000	3	1,740	61	250	DM-20
TMA 9*	TF4RX12YY	4K	✓	600/150	✓	1	200 to 15,000	1	274	43	250	DM-20
TMA 10*	TF4RX13YY	2K		3.2		2	200 to 15,000	10	160	.28	250	DM-20
TMA 11*	TF4RX13YY	4K	✓	3.2		1	200 to 15,000	1	274	.26	250	DM-20
TMA 12*	TF4RX13YY	20K		50		2	300 to 15,000	4	1,340	2.9	250	DM-20
TMA 13*	TF4RX17YY	1K		50		2	300 to 15,000	8	42.6	2.5	250	DM-20
TMA 14*	TF4RX16YY	100K		1K		2	300 to 15,000	0	1,550	16.8	100	DM-20
TMO 15		20K		50		2	300 to 15,000	1	2,215	7.25	40	open
TMO 16		20K		600		2	300 to 15,000	1	2,215	102	40	open
TMO 17		1K		50		2	300 to 15,000	3	93	5.6	60	open
TMO 18		100K		1K		2	300 to 15,000	0	3,000	57.5	100	open
TMA 19*	TF4RX13YY	1K		3.2		2	200 to 15,000	20	38	.19	1000	DM-01

*When ordering open units specify TMO — when ordering encapsulated units specify TMC.

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS

DM-01A CASE



Height: 2 1/2"
 Width: 1 1/2"
 Depth: 1 1/2"
 Mtg. Cen.: 1 1/16" x 1 1/16"
 Studs: 4 6-32
 Knockout: 1 3/8" dia.

DM-01B CASE

Height: 2 1/4"
 Width: 1 1/2"
 Depth: 1 1/2"
 Mtg. Cen.: 1 1/16" x 1 1/16"
 Studs: 2 6-32
 Knockout: 1 3/8" dia.

DM-01C CASE

Height: 2"
 Width: 1 1/2"
 Depth: 1 1/2"
 Mtg. Cen.: 1 1/16" x 1 1/16"
 Studs: 2 6-32
 Knockout: 1 3/8" dia.

PROFESSIONAL GRADE COMPONENTS

This group of components has been designed for use in high fidelity and professional equipment and for public address service. Freed has developed this series of units employing the latest design techniques and the best commercially available materials. Except for units carrying unbalanced direct current the frequency response is ± 1 DB from 30 to 15,000 cps. All units feature excellent performance characteristics combined with minimum size and weight.

All units are vacuum varnished and then potted in compound to insure long life and trouble free performance.

Professional Grade components are supplied cased. Upon request these units can be supplied open or in shell type construction.

All cased Professional Grade Components supplied with terminals meet "EIA" standards
 Transformers PGA 1 through PGA 10 are supplied in hermetically sealed cases.

INPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Equivalent Shielding D.B.	Max. Pri. D.C. per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary						
PGA 1	Universal 500 ohm line to single grid.	U-500	50,000	+12	1:10	50	0	0	DM-01A
PGA 2	Universal 500 ohm line to push-pull grids.	U-500	60,000 split	+12	1:11	50	0	0	DM-01B
PGA 3	Universal 500 ohm line to push-pull grids.	U-500	100,000 split	+12	1:14.1	50	0	0	DM-01C
PGA 4	Bridging line to single grid.	10,000	60,000	+12	1:2.45	50	0	0	DM-01C
PGA 5	Bridging line to push-pull grids.	10,000	60,000 center tap	+12	1:2.45	50	0	0	DM-01C
PGA 6	Low level line matching.	U-500	U-500	+18	1:1	50	0	0	DM-01C

LOW LEVEL OUTPUT AND MIXING TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM	Ratio	Max. Pri. D.C. Per Side Ma.	D.C. Unbalance Ma.	Case Number
		Primary	Secondary					
PGA 7	Single triode plate to Universal 500 ohm line. Shunt feed.	15,000	U500	+18	5.48:1	0	0	DM-01A
PGA 8	Single triode plate to Universal 500 ohm line.	15,000	U500	+18	5.48:1	8	8	DM-01A
PGA 9	Push-pull triode plates to Universal 500 ohm	20,000 CT	U500	+30	6.32:1	8	0.5	DM-01A
PGA 10	Low level line matching.	U500	U500	+18	1:1	0	0	DM-01A

U-500 IMPEDANCES IN OHMS: 50, 125, 200 CT, 250, 330, 500 CT. 125 and 500 ohms can be used for 150 and 600 ohms.

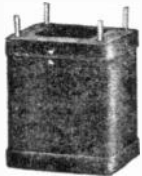
FREED TRANSFORMER COMPANY, INC.

PROFESSIONAL GRADE COMPONENTS

DRIVER TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

CASE DIMENSIONS



DC-1A CASE

Height: 2 1/2"
 Width: 2 1/8"
 Depth: 1 1/8"
 Mtg. Cen.: 1 1/2" x 1 1/4"
 Studs: 4 8-32
 Knockout: 1 1/4" dia.

DC-2A CASE

Height: 3"
 Width: 2 3/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/2" x 1 3/8"

DC-2B CASE

Height: 3 1/2"
 Width: 2 3/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/2" x 1 3/8"

DC-4A CASE

Height: 3 1/2"
 Width: 3 1/8"
 Depth: 3"
 Mtg. Cen.: 2 1/2" x 2 1/2"
 Studs: 4 8-32
 Knockout: 2" x 1 1/4"

DC-5A CASE

Height: 3 7/8"
 Width: 4 1/8"
 Depth: 3 1/8"
 Mtg. Cen.: 3 1/2" x 2 1/2"
 Studs: 4 10-32
 Knockout: 2 1/2" x 2"

DC-6A CASE

Height: 4 7/8"
 Width: 5"
 Depth: 4 1/8"
 Mtg. Cen.: 3 3/4" x 3"
 Studs: 4 10-32
 Knockout: 3" x 2 1/2"

Catalog No.	Application	Primary Impedance Ohms	Turn Ratio Pri: Sec.	Max. Level DBM	Max. Pri. D.C. Per Side Ma.	Max. D.C. Unbalance Ma.	Case Number
PGA 11	Universal 500 ohm line to push-pull grids.	U500	1:1	+40	0	0	DC-2A
PGA 12	Push-pull 6C4, 6SN7 triodes to push-pull 2A3, 6L6 grids.	20,000 C.T.	3.0:1	+30	10	1	DC-1A
PGA 13	Push-pull 2A3, 6B4, 6A5G to push-pull 809, TZ-40, 4/125A	5,000 C.T.	3.2:1	+40	50	5	DC-2A

All units supplied with leads.

HIGH LEVEL OUTPUT TRANSFORMERS

Frequency Response 30-15,000 C.P.S. ±1.0 DB

Catalog No.	Application	Impedance Level Ohms		Maximum Power Level DBM Watts		Ratio	Max. Pri. D.C. Per Side Ma	DC Unbalance Ma	Case Number
		Primary	Secondary	DBM	Watts				
PGA 14	P.P. 6K6, 6AR5, 785 Class A to Universal voice coil.	12,000 C.T.	U16	+40	10	27.4:1	40	4	DC-2B
PGA 15	P.P. 6F6 Cl. AB ₂ , P.P. 6V6, 6AQ5, 7C5, Cl. AB ₁ , 6L6 or 5881 Triode to Universal voice coil.	10,000 C.T.	U16	+43	20	25:1	50	5	DC-4A
PGA 16	P.P. 6L6 Cl. AB ₂ , self bias to Universal 500 ohm line.	9,000	U500	+44.8	30	4.23:1	50	5	DC-4A
PGA 17	As above to Universal voice coil.	9,000	U16	+44.8	30	23.7:1	50	5	DC-4A
PGA 18	P.P. 6N7 Cl. B, P.P. 6V6, 6AQ5, 7C5, Cl. AB ₁ to Universal voice coil.	8,000 C.T.	U16	+41.8	15	22.3:1	45	5	DC-4A
PGA 19†	P.P. 6L6, fixed bias, Cl. AB ₁ , to Universal 500 ohm line.	6,600 C.T.	U500	+44.8	30	3.63:1	70	7	DC-4A
PGA 20	As above to Universal voice coil.	6,600 C.T.	U16	+44.8	30	20.3:1	70	7	DC-4A
PGA 21	P.P. 6L6 Cl. A, P.P. 2A3, 6A5G, 6B4 self bias P.P. Par. 6V6 Cl. AB ₁ to Universal voice coil.	5,000 C.T.	U16	+43	20	17.7:1	80	8	DC-4A
PGA 22	P.P. Par 6L6 Cl. AB ₁ , self bias P. P. 6L6 Cl. AB ₂ fixed bias PP807 Cl. AB ₂ to Universal 500 ohm line.	4000 C.T.	U500	+47	50	2.83:1	100	10	DC-5A
PGA 23	As above to Universal voice coil.	4000 C.T.	U16	+47	50	15.8:1	100	10	DC-5A
PGA 24	P.P. 6A5G, 6B4, 2A3, fixed bias Universal voice coil.	3000 C.T.	U16	+41.8	15	13.7:1	75	7.5	DC-4A
PGA 25	P.P. Par. 807 Cl. AB ₂ to Universal 500 ohm line.	2100 C.T.	U500	+51.8	150	2.05:1	240	12	DC-6A
PGA 26	P.P. Par 2A3, 6A5G, fixed bias 6B4, 300A Cl. AB ₁ , P.P. Par 6L6 Cl. A to Universal 500 ohm line.	1500 C.T.	U500	+44.8	30	1.73:1	160	15	DC-4A
PGA 27	As above to Universal voice coil.	1500 C.T.	U16	+44.8	30	9.7:1	150	15	DC-4A
PGA 28	Matching line to Universal voice coil.	U500	U16	+44.8	30	5.6:1	0	0	DC-4A
PGA 29	Matching line to Universal voice coil.	U500	U16	+47	50	5.6:1	0	0	DC-5A
PGA 30	Matching line to Universal voice coil.	U500	U16	+50	100	5.6:1	0	0	DC-6A

† Available with taps to apply screen feedback.

U-16 IMPEDANCES IN OHMS:
 2, 4, 8, 12, 16

U-500 IMPEDANCES IN OHMS:
 50, 125, 200 C.T., 250, 330, 500 C.T., 125 and 500 ohms can be used for 150 and 600 ohms.

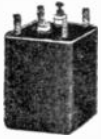
A 70 volts level can be obtained for the following impedances:

- 500 ohms — 10 watts + 40 DBM
- 330 ohms — 15 watts + 42 DBM
- 250 ohms — 20 watts + 43 DBM
- 200 ohms — 25 watts + 44 DBM
- 125 ohms — 40 watts + 46 DBM
- 50 ohms — 100 watts + 50 DBM

*PGA 28, 29 & 30 supplied with terminals, all other units with leads.

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS



DM-01 CASE
 Height: 2"
 Width: 1 1/2"
 Depth: 1 1/2"
 Mtg. Cen.: 1 1/16" x 1 1/16"
 Studs: 4 6-32
 Knockout: 1 3/4" dia.



DC-1A
 Height: 2 1/2"
 Width: 2 1/16"
 Depth: 1 1/4"
 Mtg. Cen.: 1 1/2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/4" dia.

DC-2A
 Height: 3"
 Width: 2 5/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/2" x 1 3/4"

DC-2B
 Height: 3 1/2"
 Width: 2 5/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/2" x 1 3/4"

DC-4A
 Height: 3 3/4"
 Width: 3 1/8"
 Depth: 3"
 Mtg. Cen.: 2 1/2" x 2 1/2"
 Studs: 4 8-32
 Knockout: 2" x 1 3/4"

DC-5A CASE
 Height: 3 7/8"
 Width: 4 1/4"
 Depth: 3 1/2"
 Mtg. Cen.: 3 1/8" x 2 5/8"
 Studs: 4 10-32
 Knockout: 2 1/2" x 2"

DC-5B
 Height: 4 1/2"
 Width: 4 1/8"
 Depth: 3 1/2"
 Mtg. Cen.: 3 1/8" x 2 5/8"
 Studs: 4 10-32
 Knockout: 2 1/2" dia.

DC-6A CASE
 Height: 4 7/8"
 Width: 5"
 Depth: 4 1/8"
 Mtg. Cen.: 3 3/4" x 3"
 Studs: 4 10-32
 Knockout: 3" dia

7B CASE
 Height: 6 3/4"
 Width: 5 1/2"
 Depth: 5"
 Mtg. Cen.: 4 3/8" x 3 3/4"
 Studs: 4 1/4-20
 Knockout: 3" x 2 1/2"

PROFESSIONAL GRADE COMPONENTS
 FILTER REACTORS

Inductance measured at 50V, 60 cycles with rated direct current in the winding.

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 1	40	15	2000	1000	DM-01
PGC 2	12	40	400	1000	DC-1A
PGC 3	8	50	300	1000	DC-1A
PGC 4	20	50	425	2500	DC-2A
PGC 5	10	70	250	2500	DC-2A
PGC 6	6	100	160	2500	DC-2A
PGC 7	6	150	115	2500	DC-2B
PGC 8	10	150	160	2500	DC-4A
PGC 9	5.5	200	95	2500	DC-4A
PGC 10	10	200	150	2500	DC-4A
PGC 11	10	250	135	2500	DC-4A
PGC 12	8	300	95	2500	DC-5B
PGC 13	7	400	60	2500	DC-5B
PARALLEL FEED			AUDIO CHOKES		
PGC 14	100	10	3500	1000	DM-01
PGC 15	30	50	650	1500	DC-2A
PGC 16	400	1	6000	1000	DM-01

SWINGING INPUT REACTORS

Catalog No.	Inductance in Henries *	Rated Current D.C. Ma.	D.C. Resistance Ohms	Dielectric Test Voltage VRMS	Case Number
PGC 17	5-20	150	160	1500	DC-4A
PGC 18	5-20	250	135	1500	DC-5B
PGC 19	3-15	300	95	1500	DC-5B
PGC 20	3-15	400	60	1500	DC-5B

* Inductance values for 100% and 10% of rated Direct Current

POWER TRANSFORMERS

ALL PRIMARIES ARE FOR 115V., 50/60 c.p.s.

Temperature rises range from 45° to 50°C.

Catalog No.	Py Va	Hi Volt	Choke Input D.C.V. D.C. Ma	Cond. Input D.C.V. D.C. Ma.	Bias Tap.	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
PGP 1	15	440V C.T.	Low flux density, hum-bucking. For Pre-amplifier service.	270 15		6X4	6.3VCT@0.6A	6.3V @ 0.3A		DC-2B
PGP 2	30	550V C.T.	Low flux density, hum-bucking. For Pre-amplifier service.	310 35		6X4	6.3VCT@0.6A	6.3VCT@0.9A		DC-4A
PGP 3	45	500V C.T.		270 40		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2A		DC-4A
PGP 4	57	600V C.T.		330 50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2.5A		DC-4A
PGP 5	64	650V C.T.		370 50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 6	73	600V C.T.		320 70		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		DC-4A
PGP 7	110	650V C.T.	225 140	330 100		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 8	76	700V C.T.	260 100	385 70		5Y3	5V @ 2A	6.3V @ 2.5A		DC-5A
PGP 9	108	700V C.T.	250 125	370 90		5Y3, 5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 10	127	700V C.T.	260 170	350 120		5U4	5V @ 3A	6.3V @ 5A		DC-5B
PGP 11	146	700V C.T.	260 210	350 150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	DC-6A
PGP 12	207	800V C.T.	295 280	400 200		5U4, 2-5Y3	5V @ 4A	6.3V @ 6A		DC-6A
PGP 13	225	800V C.T.	295 280	400 200	80	5U4, 2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	DC-6A
PGP 14	268	840V C.T.	330 350	450 250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	DC-6A
PGP 15	320	900V C.T.	340 420	490 300	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	DC-7B
PGP 16	127	900V C.T.	360 150			5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 17	150	900V C.T.	350 200			5U4	5V @ 3A	6.3V @ 5A		DC-6A
PGP 18	203	1100V C.T.	400 250			5R4GY	5V @ 3A	6.3V @ 5A		DC-6A
PGP 19	248	1100V C.T.	420 300			2-5R4GY	5V @ 4A	6.3V @ 7A		DC-6A
PGP 20	310	1280V C.T.	480 350			2-5R4GY	5V @ 4A	6.3V @ 7A		DC-7B


All units supplied with leads.

FREED TRANSFORMER COMPANY, INC.

PQC HIGH Q REACTORS

PQC-Reactors are low-priced High Q components designed for use in selective circuits such as wave filters, wave traps, and noise suppressors.

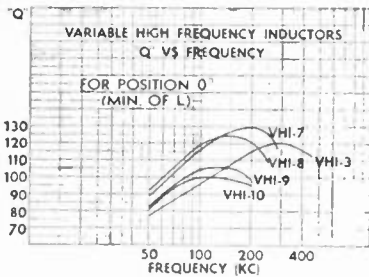
CASE DIMENSIONS
DM-02 CASE



Height: 1 1/2"
Width: 1 1/2"
Depth: 1 1/2"
Flange L: 2 3/8"
Mtg. Cen.: 2"

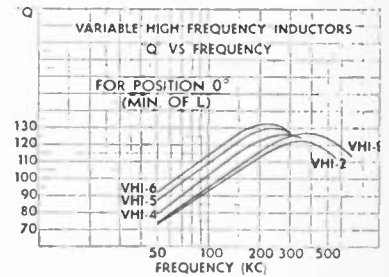
Catalog No.	Application	Rated Ind. in Henries	Q	Tuning Capacitor (Mf)	Case Size
PQC 1	60 cps resonant trap	14.00	10	.5	DM-02
PQC 2	400 cps resonant trap	1.58	15	.1	DM-02
PQC 3	1000 cps resonant trap	1.00	20	.025	DM-02
PQC 4	Dynamic noise suppression inductor	2.40	20 @ 4 KC		DM-02
PQC 5	Dynamic noise suppression inductor	2.00	15 @ 4 KC		DM-02
PQC 6	Dynamic noise suppression inductor	1.30	15 @ 4 KC		DM-02
PQC 7	Dynamic noise suppression inductor	.80	15 @ 4 KC		DM-02
PQC 8	Dynamic noise suppression inductor	.60	15 @ 4 KC		DM-02
PQC 9	Dynamic noise suppression inductor	.40	15 @ 4 KC		DM-02

MINIATURE VARIABLE HIGH FREQUENCY INDUCTORS

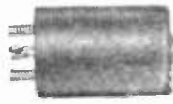


- VARIABLE for ± 20% of its nominal inductance.
- FREQUENCY RANGE: 20 to 500 Kilocycles.
- Q practically constant over whole range of inductance variation.
- Miniature size.
- Hermetically sealed.

Variable high frequency inductors with any inductance from 1 to 50 mhy with a variation of appr. ± 20% can be made on special order.



CASE DIMENSIONS
VI-1



Height: 1"
Diameter: 3/4"
2 Studs: 4-40
Mtg. Cen.: 1/2"

Catalog No.	Nominal Inductance MHY @ 100 KC		Variation of Q @ 100 KC		RDC ohms ± 15%	Max. Non-destructive Current MA	Self-resonant Freq. MC	Case Des.
	Min.	Max.	Min.	Max.				
VHI-1	1.1	1.75	93.5	100.5	.75	250	2.2	VI-1
VHI-2	1.7	2.5	94.5	96.2	1.1	200	1.9	VI-1
VHI-3	2.3	3.7	94.5	97.2	1.4	200	1.6	VI-1
VHI-4	3.	4.5	100.75	101.75	1.9	160	1.4	VI-1
VHI-5	4.	5.7	107.	108.	2.2	160	1.3	VI-1
VHI-6	5.5	7.5	112.	119.	3.1	130	1.	VI-1
VHI-7	7.	10.5	116.	120.5	4.5	100	.9	VI-1
VHI-8	10.	15.	106.	109.	6.6	80	.85	VI-1
VHI-9	14.5	20.5	101.	101.5	9.2	60	.6	VI-1
VHI-10	20.	30.	105.	115.	13.7	50	.55	VI-1

QGC HIGH Q REACTORS

QGC-Reactors are designed for low audio frequency application requiring very high Q and inductance stability. These units are impregnated with a special compound and mounted in hermetically sealed cases. A hum reducing lamination structure used in these reactors results in an extremely low pickup of extraneous stray fields. A very low temperature coefficient is achieved by a specially developed impregnation and assembly process. All QGC High Q Reactors have an extremely low voltage coefficient.

All Resistance values are nominal and can vary by ± 20%.

Inductance values are given within ± 2%.

Closer Tolerances and Inductances other than the standard Catalog items can be supplied on special orders.

Inductance Values up to 400 Henries can be supplied.

The graphs showing the coil characteristics make use of the following formulas:

1. "Q" versus frequency was measured with voltages given by the expression:

$$V = K \frac{\sqrt{LH}}{1H} \times \frac{FKC}{1KC}$$

K—a constant listed in every chart
 LH—inductance in Henries
 FKC—frequency in kilocycles at which the measurements were made.
2. Variation of inductance versus normalized Direct Current.
 The normalized DC is given by

$$I_n = I_{dc} \sqrt{LH}$$

where I_{dc} is the dc current in MA and LH the inductance in Henries.
3. Variation of Inductance versus normalized AC voltage.
 The normalized AC voltage given by

$$V_n = \frac{V}{\sqrt{LH}} \times \frac{60 \text{ cps}}{F \text{ cps}}$$

V_n —normalized AC voltage
 V—voltage across the coil
 LH—inductance in Henries
 F—frequency of measurement in cps

* ± 5%

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS

DC-2A CASE



Height: 3"
 Width: 2 5/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1"

AJ CASE



Height: 2 3/8"
 Width: 1 5/8"
 Depth: 1 5/8"
 Mtg. Cen.: 1 1/16" x 1 1/16"
 Studs: 4 6-32

AH CASE



Height: 1 3/8"
 Width: 1 5/16"
 Depth: 1 5/16"
 Mtg. Cen.: 1 1/8" dia.
 Studs: 2 6-32

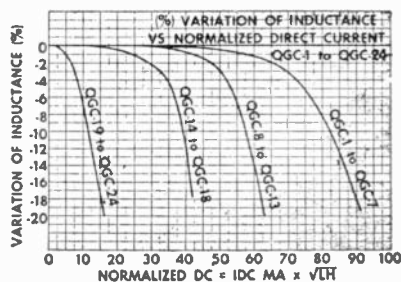
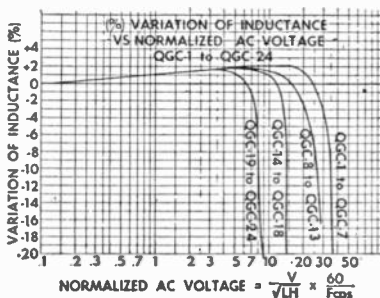
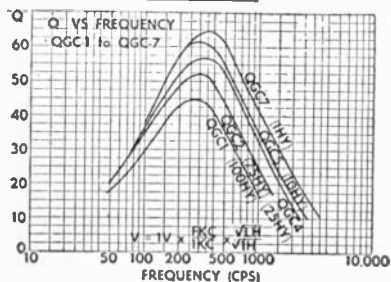
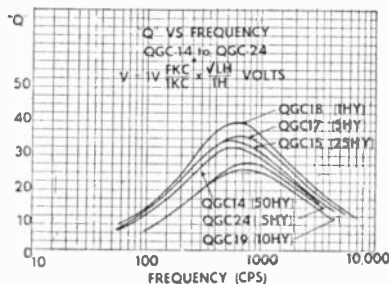
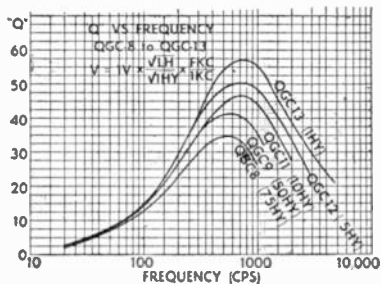
DM-20 CASE



Height: 1 9/16"
 Dia.: 1 5/8"
 Flange L.: 1 13/16"
 Flange D.: 0.975"
 Mtg. Cen.: 1 1/8" to 1 1/32"
 2 Holes: .147 wide
 Knockout: .875

QUALITY GRADE HIGH Q REACTORS

Catalog No.	Inductance Hy.	RDC Ohms Tolerance ± 20%	Self-resonant Frequency KC	Current Capacity MA	Case No.
QGC-1	100	1,611	2.2	40	DC-2A
QGC-2	75	1,054	2.6	50	DC-2A
QGC-3	50	878	3.2	50	DC-2A
QGC-4	25	378	4.5	80	DC-2A
QGC-5	10	117	7.2	160	DC-2A
QGC-6	5	78	10.2	160	DC-2A
QGC-7	1	15	22.6	400	DC-2A
QGC-8	75	3,400	.82	16	AJ
QGC-9	50	2,050	1.00	20	AJ
QGC-10	25	1,250	1.41	25	AJ
QGC-11	10	460	2.25	40	AJ
QGC-12	5	210	3.20	65	AJ
QGC-13	1	40	7.20	160	AJ
QGC-14	50	2,900	4.60	13	AH
QGC-15	25	1,300	6.60	20	AH
QGC-16	10	570	10.70	25	AH
QGC-17	5	280	15.20	40	AH
QGC-18	1	50	35.00	100	AH
QGC-19	10	760	10.70	20	DM-20
QGC-20	7.5	700	12.20	20	DM-20
QGC-21	5	450	15.20	25	DM-20
QGC-22	2.5	235	22.00	32	DM-20
QGC-23	1	90	35.00	63	DM-20
QGC-24	0.5	45	51.00	80	DM-20



FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS



AJ CASE

Height: 2³/₁₆"
 Width: 1⁵/₁₆"
 Depth: 1⁵/₁₆"
 Mtg. Cen.: 1³/₁₆" x 1³/₁₆"
 Studs: 4 6-32
 Cut Out: 1¹/₄" D



EB CASE

Height: 2¹/₁₆"
 Width: 1¹/₁₆"
 Depth: 1¹/₁₆"
 Mtg. Cen.: 1³/₁₆" x 1¹/₄"
 Studs: 4 6-32

FB CASE

Height: 2¹/₁₆"
 Width: 2³/₁₆"
 Depth: 2¹/₁₆"
 Mtg. Cen.: 1¹/₁₆" x 1¹/₁₆"
 Studs: 4 6-32

GB CASE

Height: 2¹/₁₆"
 Width: 2³/₁₆"
 Depth: 2³/₁₆"
 Mtg. Cen.: 2¹/₁₆" x 1³/₄"
 Studs: 4 6-32

HA CASE

Height: 4¹/₄"
 Width: 3¹/₁₆"
 Depth: 2³/₁₆"
 Mtg. Cen.: 2¹/₁₆" x 1⁵/₁₆"
 Studs: 4 8-32

HB CASE

Height: 3³/₁₆"
 Width: 3¹/₁₆"
 Depth: 2³/₁₆"
 Mtg. Cen.: 2¹/₁₆" x 1⁵/₁₆"
 Studs: 4 8-32

JB CASE

Height: 3⁷/₁₆"
 Width: 3³/₁₆"
 Depth: 3¹/₁₆"
 Mtg. Cen.: 2³/₁₆" x 2¹/₄"
 Studs: 4 8-32

KB CASE

Height: 4¹/₁₆"
 Width: 3¹/₁₆"
 Depth: 3³/₁₆"
 Mtg. Cen.: 3³/₁₆" x 2¹/₁₆"
 Studs: 4 10-32

LB CASE

Height: 4¹/₁₆"
 Width: 4¹/₁₆"
 Depth: 3¹/₁₆"
 Mtg. Cen.: 3¹/₁₆" x 2¹/₁₆"
 Studs: 4 10-32

MB CASE

Height: 4¹/₁₆"
 Width: 4¹/₁₆"
 Depth: 4"
 Mtg. Cen.: 3¹/₁₆" x 3"
 Studs: 4 1⁴/₂₀

NB CASE

Height: 5¹/₁₆"
 Width: 5¹/₁₆"
 Depth: 4⁵/₁₆"
 Mtg. Cen.: 4¹/₁₆" x 3⁵/₁₆"
 Studs: 4 1⁴/₂₀

STANDARD MILITARY TRANSFORMERS

This group comprises audio and power units designed to meet MIL-T-27 A specifications. The functional characteristics of these transformers were established by the Armed Service Standardization Program. These units are supplied in standard MIL cases.

Transformers meeting MIL-T-27A specifications Grade 1 through 6 with temperature characteristics of Class S, T, or U can be supplied on special order.

Encapsulated units using either Epoxy-Resins or Fosterite can be supplied for Grade 2 and 5. Class U components can be supplied molded in special high temperature Freed resin.

STANDARD MILITARY AUDIO TRANSFORMERS

Frequency Response 300-10,000 C.P.S. ±2 DB

Catalog No.	Application	Type Designation	Impedance Level in Ohms		Ratio	Max. Power Level DBM	Pri. D.C. Per Side in Ma	Max. D.C. unbalance	Case
			Primary	Secondary					
MGA 1	Transformer; interstage, single or P.P. plates to single or P.P. grids.	TF4RX15AJ	10,000 C.T.	90,000 split and C.T.	1:3 overall	+15	10	10	AJ
MGA 2	Transformer; matching 600 ohm line to voice coil.	TF4RX16AJ	600 split	4, 8, 16	6.12:1 overall	+33	0	0	AJ
MGA 3	Transformer; input, 600 ohm line to single or P.P. grids.	TF4RX10AJ	600 split	135,000 C.T.	1:15	+15	0	0	AJ
MGA 4	Transformer; matching, 600 ohm line to 600 ohm line.	TF4RX16AJ	600 split	600 split	1:1	+15	0	0	AJ
MGA 5	Transformer; output, single plate 7,600 ohm, 4,800 ohm to 600 ohm line.	TF4RX13AJ	7,600 tap @ 4,800	600 split	3.56:1	+33	40	40	AJ
MGA 6	Transformer; output, single plate 7,600 ohm, 4,800 ohm to voice coil.	TF4RX13AJ	7,600 tap @ 4,800	4, 8, 16	21.8:1	+33	40	40	AJ
MGA 7	Transformer; output, single or P.P. plates to 600 ohm line.	TF4RX13AJ	15,000 C.T.	600 split	5:1	+33	10	10	AJ
MGA 8	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	24,000 C.T.	600 split	6.32:1	+30	10	1	AJ
MGA 9	Transformer; output, P.P. plates to 600 ohm line.	TF4RX13AJ	60,000 C.T.	600 split	10:1	+27	10	1	AJ

STANDARD MILITARY POWER TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER.

Catalog No.	MIL-T-27 Type Designation	Hi Volt.	D.C. Volts	D.C. Amps.	Fil. No. 1	Fil. No. 2	Case
MGP 1	TF4RX03HA001	200 '100 0' 100 200	185	.070	5 6.3V @ 2A	6.3V @ 3A	HA
MGP 2	TF4RX03JB002	650 C.T.	260	.070	5 6.3V @ 2A	6.3V @ 4A	JB
MGP 3	TF4RX03KB006	650 C.T.	245	.150	6.3V @ 5A	5V @ 3A	KB
MGP 4	TF4RX03LB003	800 C.T.	318	.175	5V @ 3A	6.3V @ 8A	LB
MGP 5	TF4RX03MB004	900 C.T.	345	.250	5V @ 3A	6.3V @ 8A	MB
MGP 6	TF4RX02KB001	700 C.T.	255	.250			KB
MGP 7	TF4RX02LB002	1100 C.T.	419	.250			LB
MGP 8	TF4RX02NB003	1600 C.T.	640	.250			NB

STANDARD MILITARY FILAMENT TRANSFORMERS

Primary 105/115/125V 60~

SINGLE PHASE 400 CPS, AND THREE PHASE 60 AND 400 CPS TRANSFORMERS CAN BE SUPPLIED ON SPECIAL ORDER

Catalog No.	MIL-T-27 Type Designation	Secondary Volts	Secondary Current Amps	Secondary Test Volts RMS	Case
MGF 1	TF4RX01EB002	2.5	3.0	2,500	EB
MGF 2	TF4RX01GB003	2.5	10.0	2,500	GB
MGF 3	TF4RX01FB004	5.0	3.0	2,500	FB
MGF 4	TF4RX01HB005	5.0	10.0	2,500	HB
MGF 5	TF4RX01FB006	6.3	2.0	2,500	FB
MGF 6	TF4RX01GB007	6.3	5.0	2,500	GB
MGF 7	TF4RX01JB008	6.3	10.0	2,500	JB
MGF 8	TF4RX01KB009	6.3	20.0	2,500	KB
MGF 9	TF4RX01JB012	2.5	10.0	10,000	JB
MGF 10	TF4RX01KB013	5.0	10.0	10,000	KB

*Standard Military Filament and Power Transformers are also available in Grade 4.

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS



DM-8 CASE

Height: 1 1/2"
Width: 1 3/32"
Flange D.: 1 1/4"



DM-01 CASE

Height: 2"
Width: 1 1/2"
Depth: 1 1/2"
Mtg. Cen.: 1 1/16" x 1 1/16"
Studs: 4 6-32
Knockout: 1 3/8" dia.



DM-20 CASE

Height: 1 9/16"
Diameter: 1 5/16"
Flange L.: 1 13/32"
Flange D.: 0.975"
Mtg. Cen.: 1 1/8" to 1 7/8"
2 Holes: .147 wide
Knockout: .875



DM-18 CASE

Height: 1"
Width: 2 1/4"
Depth: 1 1/8"
Mtg. Cen.: 9/16"
Studs: 2 6-32

MM-1
Length: 3/4"
Diameter: 1/2"
MM-2
Length: 2 1/2"
Width: 2 1/2"
Height: 1 1/2"
MM-3
Length: 1 1/4"
Width: 1 1/4"
Height: 1 1/2"
Mtg. Cen.: 1 1/2"
Mtg. Flange: 1 1/16"
MM-4
Length: 1 13/16"
Depth: 1 1/4"
Height: 1 1/2"
Mtg. Cen.: 2 1/8"
Mtg. Flange: 2 1/2"

MOLDED DIMENSIONS
MMO-1
Diameter: 1 1/16"
Thickness: 2 3/64"
MMO-2
Diameter: 1 3/16"
Thickness: 1 3/32"

HERMETICALLY SEALED PULSE TRANSFORMERS

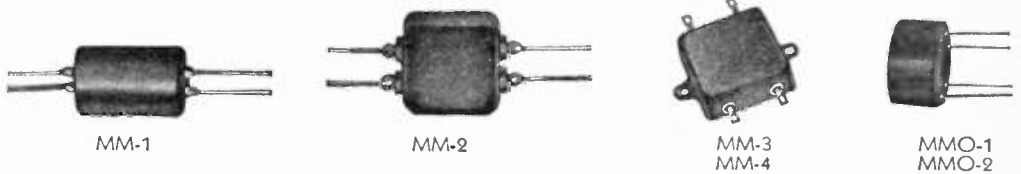
Hermetically sealed Pulse Transformers for use in blocking oscillator, low level interstage coupling, and modulator output circuits. These components meet MIL-T-27 A specifications. The pulse transformers are designed for maximum power, efficiency, and optimum pulse performance. Balanced coil structures permit series or parallel connection of windings for turn ratios other than unity. Pulse characteristics, voltages and impedance levels will depend upon the interconnections made.

PULSE TRANSFORMERS

Catalog No.	MIL Type	Blocking Osc.	Inter-stage Coupling	Low Power Output	Pulse Voltage Kilovolts	Pulse Duration Micro-seconds	Duty Rate	No. of Windings	Test Voltage KV., RMS	Characteristic Impedance Ohms	Case No.
MPT-1	TF4RX35YY	✓	✓		0.25 0.25 0.25	0.2-1.0	.004	3	0.7	250	DM-20
MPT-2	TFR4X35YY	✓	✓		0.25 0.25	0.2-1.0	.004	2	0.7	250	DM-20
MPT-3	TF4RX35YY	✓	✓		0.5 0.5 0.5	0.2-1.5	.002	3	1.0	250	DM-18
MPT-4	TF4RX35YY	✓	✓		0.5 0.5	0.2-1.5	.002	2	1.0	250	DM-18
MPT-5	TF4RX35YY	✓	✓		0.5 0.5 0.5	0.5-2.0	.002	3	1.0	500	DM-20
MPT-6	TF4RX35YY	✓	✓		0.5 0.5	0.5-2.0	.002	2	1.0	500	DM-20
MPT-7	TF4RX35YY	✓	✓	✓	0.7 0.7 0.7	0.5-1.5	.002	3	1.5	200	DM-18
MPT-8	TF4RX35YY	✓	✓	✓	0.7 0.7	0.5-1.5	.002	2	1.5	200	DM-18
MPT-9	TF4RX35YY	✓	✓	✓	1.0 1.0 1.0	0.7-3.5	.002	3	2.0	200	DM-18
MPT-10	TF4RX35YY	✓	✓	✓	1.0 1.0	0.7-3.5	.002	2	2.0	200	DM-18
MPT-11	TF4RX35YY	✓	✓	✓	1.0 1.0 1.0	1.0-5.0	.002	3	2.0	500	DM-01
MPT-12	TF4RX35YY	✓	✓	✓	0.15 0.15 0.3 0.3	0.2-1.0	.004	4	0.7	700	DM-8

ULTRA MINIATURE PULSE TRANSFORMERS

- Meet all requirements of MIL-T-27 A.
- Exceedingly small size.
- Negligible weight.
- Encapsulated or hermetically sealed.



Catalog No.	MIL Type	Application	Pulse Volts	Pulse Width usec	Rise time usec	Inductance		PPS, Mcs	Turns Ratio	Zo ohms	Case Des.
						Prim. uhy	Leakage uhy				
EPT-1	TF4RX31YY	Impedance matching & Interstage coupling	20	.07	.03	125	12	2	1:1	200	MM-1
EPT-2	TF4RX31YY		20	.07	.03	150	15	2	2:1	200	MM-1
EPT-3	TF4RX31YY		20	.07	.03	160	15	2	3:1	100	MM-1
EPT-4	TF4RX31YY		20	.07	.03	200	20	2	4:1	100	MM-1
EPT-5	TF4RX31YY		17	.10	.04	200	6	2	4:1	100	MM-1
EPT-6	TF4RX31YY		15	.10	.04	200	5	2	5:1	100	MM-1
EPT-7	TF4RX31YY		25	.50	.05	1,200	20	1	7:1:1		MM-1
EPT-8	TF4RX31YY		10	10	.04	12,000	70	.01	5:1		MM-2
EPT-9	TF4RX31YY		10	5	.04	7,500	22	.01	3:1	100	MM-2
EPT-11	TF4RX35YY		100	.25	.02	200	2	.012	1:1		MM-1
EPT-12	TF4RX35YY		50	.33	.07	240	2	.002	1:1		MM-1
EPT-13	TF4RX35YY		40	.5	.07	6,000	15		2:1		MM-2
EPT-14	TF4RX35YY	15	6	.1	16,000	15	.0004	1:1.4		MM-2	
EPT-15	TF4RX36YY	Memory core &	5	1.5	.25	4,000	300		5.5:1PP	10	MM-4
EPT-16	TF4RX36YY	Current driver	2.5	2.4	.2	2,800	200		3.3:3.3:1PP	6	MM-4
EPT-17	TF4RX36YY	Current driver	21	1-4	.22	18,000	800	.250	6:1	200	MM-3
EPT-18	TF4RX36YY	Current transformer	10	6	.2	90,000	200	.05	11:1	75	MM-3
EPT-19	TF4RX36YY	Pulse inversion	22	1-7	.25	55,000	300	.05	6:1:1	400	MM-3

When ordering encapsulated units add "M" to the catalog number.

FREED TRANSFORMER COMPANY, INC.

HERMETICALLY SEALED FILTER REACTORS

MEET MIL-T-27A SPECIFICATIONS



Case	Height	Depth	Width	Mtg. Centers	Studs
AJ	2 3/8	1 5/8	1 5/8	1 3/8 x 1 3/8	4 6-32
EB	2 3/8	1 5/8	1 1/2	1 3/8 x 1 3/8	4 6-32
FA	3 1/8	2 1/8	2 1/8	1 3/8 x 1 7/8	4 6-32
GA	3 3/8	2 3/8	2 3/8	2 3/8 x 1 3/8	4 6-32
HB	3 1/2	3 1/8	2 5/8	2 1/8 x 1 3/8	4 8-32
JA	3 3/8	3 1/8	4 1/8	2 3/8 x 2 3/8	4 8-32
JB	3 3/8	3 1/8	3 3/8	2 3/8 x 2 3/8	4 8-32
KB	4 1/8	3 3/8	3 1/2	3 x 2 7/8	4 10-32
LA	5 1/8	3 1/8	4 1/8	3 3/8 x 2 1/8	4 10-32
LB	4 3/8	3 1/8	4 1/8	3 1/8 x 2 1/8	4 10-32
MB	4 1/2	4	4 1/8	3 1/8 x 3	4 14-20

Catalog No.	MIL Type	Inductance Henry	Rat. Current DC Ma.	DC Res. Ohms	Test Volt Kilovolts	Case No.
MGC 1	TF4RX04AJ	100	10	3,500	1.	AJ
MGC 2	TF4RX04AJ	4	50	230	1.	AJ
MGC 3	TF4RX04EB	10	50	325	1.	EB
MGC 4	TF4RX04FA	20	50	475	1.5	FA
MGC 5	TF4RX04FA	30	50	650	1.5	FA
MGC 6	TF4RX04AJ	3	75	175	1.	AJ
MGC 7	TF4RX04EB	6	75	235	1.5	EB
MGC 8	TF4RX04FA	12	75	265	1.5	FA
MGC 9	TF4RX04EB	3.5	100	145	1.	EB
MGC 10	TF4RX04FA	8	100	180	1.5	FA
MGC 11	TF4RX04GA	12	100	190	2.	GA
MGC 12	TF4RX04EB	2	150	92	1.5	EB
MGC 13	TF4RX04FA	4	150	115	1.5	FA
MGC 14	TF4RX04GA	8	150	125	2.	GA
MGC 15	TF4RX04JB	11	150	120	2.5	JB
MGC 16	TF4RX04FA	2.5	200	70	1.5	FA
MGC 17	TF4RX04GA	4	200	80	2.	GA
MGC 18	TF4RX04HB	7	200	135	2.	HB
MGC 19	TF4RX04JA	10	200	125	2.5	JA
MGC 20	TF4RX04GA	2.5	300	50	2.	GA
MGC 21*	TF4RX04HB	4	300	62	2.5	HB
MGC 22	TF4RX04JB	6	300	85	2.5	JB
MGC 23*	TF4RX04KB	8	300	65	2.5	KB
MGC 24	TF4RX04LA	10	300	100	2.5	LA
MGC 25*	TF4RX04HB	2	400	37	2.5	HB
MGC 26	TF4RX04KB	6	400	60	2.5	KB
MGC 27*	TF4RX04JA	2	500	35	2.5	JA
MGC 28	TF4RX04KB	4	500	45	2.5	KB
MGC 29*	TF4RX04MB	7	500	50	2.5	MB
MGC 30*	TF4RX04LB	2	700	20	2.5	LB
MGC 31*	TF4RX04MB	1.75	1,000	12.5	2.5	MB

*Not stocked, available on short delivery. Above units available in Grade 4.

SERIES 1950 NULL "T" FILTERS

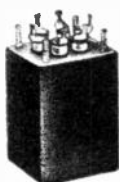
The Freed Series 1950 Null T networks consist of two resistance capacitance networks, whose outputs completely cancel each other at the balance frequency. They may be used as rejection networks particularly at low frequencies where LC filters become excessively large and unstable.

Standard models are available for 30, 60 and 120 cycles in a wide range of impedances. Each network will give a minimum of 50 db attenuation at the null frequency.

The null frequency is adjusted to a tolerance of $\pm 2\%$.

All Null T Filters are hermetically sealed.

Prices on request.



FREED TRANSFORMER COMPANY, INC.

TOROIDAL INDUCTORS

Using the latest developments in the field of magnetic materials and new impregnation and molding techniques the Freed Transformer Co. makes available to the industry the most extensive line of toroidal inductors.

Freed toroids are available in three types of constructions. Open units coated with a special high temperature extremely low loss compound, hermetically sealed in metal cases or molded in special **Freed Epoxy Resin**. Both hermetically sealed and molded units meet the latest military specification MIL-T-27A (graded 1 or 4 and 2 or 5 respectively). Freed toroidal inductors are supplied with either molypermalloy or carbonyl iron powder cores.

1. Temperature Stabilization:

The molypermalloy and carbonyl iron powder cores have a temperature coefficient of inductance. Depending upon the degree of temperature stabilization the cores have different temperature coefficients. The degree of stabilization is denoted by a two-letter code.

- SN Non-stabilized cores, maximum inductance variations $\pm 2\%$ from -55°C to $+85^{\circ}\text{C}$
- SE Temperature-stabilized cores, maximum inductance variations $\pm .1\%$ from -15°C to $+54^{\circ}\text{C}$
- SB Temperature-stabilized cores, maximum inductance variations $\pm .1\%$ from $+13^{\circ}\text{C}$ to $+35^{\circ}\text{C}$
- SD Temperature-stabilized cores, maximum inductance variations $\pm .1\%$ from -15°C to -54°C
- SW Temperature-stabilized cores, maximum inductance variations $\pm .25\%$ from -54°C to $+85^{\circ}\text{C}$
- SP Temperature stable carbonyl iron cores, maximum inductance variations $\pm .3\%$ from -55°C to $+85^{\circ}\text{C}$

The temperature (stabilization) coefficient of an inductor will depend upon the nominal inductance value, operating frequency and A.C. voltage across the coil. Therefore some coils may have a lower temperature coefficient than the one corresponding to the core stability characteristic. Under some unfavorable working conditions the temperature coefficient of inductance corresponding to a given stability characteristic may be exceeded.

2. Self Resonant Frequency F_0 :

This frequency is defined as the resonant frequency of L — Inductance and C_d — distributed capacity of the winding.

3. Adjustment Accuracy $\pm 1\%$ or 1 Turn Whichever Is Greater:

All toroidal inductors are adjusted at a frequency well below the self resonant frequency " F_0 ." Since all toroids have a voltage coefficient of inductance they are adjusted with a low A.C. voltage in the region of the initial permeability of the core material.

The apparent inductance at any frequency F is given by the expression

$$L_{app} = \frac{L}{1 - \left(\frac{f}{f_0}\right)^2}$$

Where L is the nominal inductance. For frequencies " F " well below the self resonant frequency " F_0 " the fractional increase of inductance due to the self resonant frequency is

$$\frac{\Delta L}{L} = \left(\frac{f}{f_0}\right)^2 = \omega^2 LC_d$$

4. "Q":

The "Q" or quality factor of the coil is shown for every toroid type. Since the "Q" depends both upon the frequency and the A.C. voltage across the coil, the "Q" vs. frequency graphs show the "Q" variations for a given voltage applied across the coil. This voltage is defined by the expression,

$$V = K_q \sqrt{LH} \times \frac{F_{KC}}{1_{KC}}$$

FREED TRANSFORMER COMPANY, INC.

5. Variations of Inductance vs Normalized A.C. Voltage:

All toroidal inductors have an A.C. voltage coefficient. The variations of inductance vs applied A.C. voltage can be computed from the expression of normalized voltage.

$$V_{\text{norm.}} = \frac{V}{\sqrt{L_H}} \times \frac{60 \text{ cps.}}{F \text{ cps.}} \times K_v$$

V — A.C. voltage across the coil

L_H — Inductance in henries.

F — Measurement frequency in cycles.

K_v — is the voltage coefficient (a variable parameter for different coils) listed in the graph. For high frequency toroids the expression for normalized voltage is changed to,

$$V_{\text{norm.}} = \frac{V}{\sqrt{L_H}} \times \frac{1K_C}{F_{K_C}} \times K_v$$

6. Variations of Inductance vs Normalized D.C. Current:

The incremental permeability of the coil and consequently the inductance depends upon the magnetizing D.C. ampere turns. The variations of inductance vs D.C. current can be computed from the expression for the normalized D.C. current

$$I_{\text{norm.}} = I_{dc} \sqrt{L_H} \times K_i$$

Where I_{dc} — current in M.A. thru the coil

L_H — inductance in henries.

K_i — current coefficient (a variable parameter for different coils) listed in the graph

7. Maximum Current:









This is the maximum non-destructive current that a coil can tolerate without overheating and consequent failure. It is defined as

$$I_{\text{mas}} = \sqrt{I_{\text{RMS}}^2 + I_{\text{dc}}^2}$$

The maximum current is listed for each type of toroidal inductors and is computed by dividing the parameter of the numerator by the square root of the inductance in millihenries. This current will affect the inductance value and may partially or completely saturate the inductor. The inductance variations due to I_{dc} and V_{ac} must be computed from the expressions of paragraphs 5 and 6.

Toroids with special requirements such as tapped toroids, toroidal transformers, molded and cased units with dimensions other than standard sizes and high temperature toroids can be supplied upon request. Our engineering and laboratory facilities are available for consultation, research and development.

CASE DIMENSIONS

DT-1 CASE	DT-2 CASE	DT-3 CASE	DT-4 CASE
			
Height: 1 7/32" Width: 1 1/2" Length: 1 1/16" Mounting: 2 4-40 inserts Mtg. Centers: 3/4" Cutout: 5/16" x 1 1/2"	Height: 1 3/4" Width: 1 3/16" Length: 1 7/16" Mounting: 2 6-32 studs Mtg. Centers: 7/8" x 3/16" Cutout: 3/4" x 1 1/16"	Height: 2" Width: 7/8" Length: 1 21/32" Mounting: 2 6-32 studs Mtg. Centers: 1 1/4" x 3/8" Cutout: 3/4" x 3/4"	Height: 3 1/8" Width: 1 1/16" Length: 2 3/4" Mounting: 4 8-32 studs Mtg. Centers: 2 1/16" x 1 1/16" Cutout: 3/4" x 3/4"
DST-1 CASE	DT-5 CASE	DM-2 CASE	DM-11 CASE
			
Height: 2 5/32" Width: 1 11/32" Length: 3 3/8" Pins: 1 1/4" long To fit: 1 1/2" crystal socket	Height: 1 3/8" Diameter: 1 13/16" Mounting: 2 6-32 inserts Mtg. Centers: 1 1/8" Cutout: 3/8" x 1"	Height: 1" Diameter: 1 1/8" Mounting: 2 4-40 inserts Mtg. Centers: 5/8" Cutout: 3/4" x 3/8"	Height: 1 1/2" Diameter: 1 3/8" Mounting: 2 6-32 inserts Mtg. Centers: 7/8" x 7/8" Cutout: 3/8" x 7/8"

FREED TRANSFORMER COMPANY, INC.

TOROIDAL INDUCTORS
FREQUENCY RANGE: UP TO 15 Kc

TYPE	TI-16		TI-5		TI-4		TI-1		TI-1A		TI-12		TI-11	
Temperature Stabilization	SN		SN, SE, SD		SN, SD, SW		SN, SD		SN, SD, SW		SN, SD, SW		SN, SD, SW	
± 1H (± 20%)	650		260		110		70		68		45		29	
I Max. (Amp)	.32 √ LMH		.85 √ LMH		2 √ LMH		4.5 √ LMH		4 √ LMH		8 √ LMH		13 √ LMH	
Nominal Inductance	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc
1 MH	F2050	650							F1500	350	F1655	500	F1747	1100
2 MH									F1501	250	F1656	380	F1748	740
3 MH	F2051	410							F1502	200	F1657	300	F1749	560
4 MH									F1503	180	F1658	250	F1750	470
5 MH	F2052	330	F1700	420	F850	170	F800	270	F1504	150	F1659	220	F1751	410
7.5MH									F1505	120	F1660	180		
10 MH	F2053	240	F1701	270	F851	130	F801	192	F1506	100	F1661	150	F1752	260
15 MH	F2054	200	F1702	215	F852	110	F802	155	F1507	90	F1662	120	F1753	200
30 MH	F2055	150	F1703	140	F853	83	F803	109	F1508	60	F1663	80	F1754	130
50 MH	F2056	122	F1704	105	F854	67	F804	82	F1509	50	F1664	60	F1755	95
75 MH	F2057	105	F1705	81	F855	57	F805	66	F1510	40	F1665	47	F1756	75
100 MH	F2058	90	F1706	68	F856	51	F806	56	F1511	33	F1666	40	F1757	64
150 MH	F2059	80	F1707	54	F857	43	F807	45	F1512	29	F1667	31	F1758	48
200 MH	F2060	70	F1708	40	F858	38	F808	39	F1513	23	F1668	27	F1759	40
300 MH	F2061	60	F1709	35	F859	32			F1514	20	F1669	21	F1760	31
400 MH	F2062	52	F1710	29	F860	28			F1515	18	F1670	18	F1761	26
500 MH	F2063	48	F1711	26	F861	26.5	F809	24	F1516	15	F1671	16	F1762	22
600 MH			F1712	22	F862	24			F1517	14	F1672	14		
700 MH			F1713	21	F863	23								
750 MH	F2064	40					F810	19	F1518	12	F1673	12.5	F1763	17.5
800 MH			F1714	19	F864	22								
900 MH			F1715	17.5	F865	21								
1 Hy	F2065	36	F1716	16.5	F866	20	F811	16.5	F1519	10	F1674	10.6	F1764	14.5
1.25 Hy	F2066	33	F1717	15	F867	18.5	F812	15						
1.5 Hy	F2067	30	F1718	13.5	F868	17	F813	13	F1520	9	F1675	8.5	F1765	11.5
1.75 Hy	F2068	28	F1719	12.2	F869	16	F814	12.2						
2 Hy	F2069	27	F1720	11	F870	15.5	F815	11	F1521	8	F1676	8.2	F1766	9.6
2.25 Hy					F871	14.5	F816	10.5						
2.5 Hy					F872	14	F817	10.3	F1522	7	F1677	6.3	F1767	8.2
2.75 Hy					F873	13.5	F818	9.8						
3 Hy					F874	12.5	F819	9.2	F1523	6.2	F1678	5.7	F1768	7.4
3.5 Hy					F875	12	F820	8.5	F1524	5.8	F1679	5.2	F1769	6.6
4 Hy					F876	11.5	F821	8	F1525	5.5	F1680	4.8	F1770	6.1
4.5 Hy					F877	11	F822	7.5	F1526	5.1	F1681	4.5	F1771	5.7
5 Hy					F878	10.5	F823	7	F1527	4.9	F1682	4.2	F1772	5.3
6 Hy							F824	6.4	F1528	4.5	F1683	3.8		
7 Hy							F825	5.9	F1529	4.1	F1684	3.5		
7.5 Hy													F1773	4.1
8 Hy							F826	5.5	F1530	3.9	F1685	3.25		
9 Hy							F827	5	F1531	3.7	F1686	3		
10 Hy							F828	4.8	F1532	3.4	F1687	2.9	F1774	3.4
12 Hy									F1533	3.1	F1688	2.6		
15 Hy									F1534	2.8	F1689	2.3	F1775	2.6
17 Hy							F829	3.9	F1535	2.6	F1690	2.1		
20 Hy									F1536	2.4	F1691	1.95	F1776	2.2
25 Hy									F1537	2.2	F1692	1.75	F1777	1.9
30 Hy									F1538	2	F1693	1.5	F1778	1.7
40 Hy													F1779	1.4
50 Hy													F1780	1.25

FREED TRANSFORMER COMPANY, INC.

FREQUENCY RANGE: 10 Kc TO 50 Kc

|| 10 Kc TO 100 Kc

TYPE	TI-17		TI-7		TI-6		TI-2		TI-13		TI-15		TI-14	
Temperature Stabilization	SN		SN		SN, SD, SW		SD		SN		SN		SN	
Ω/1 MH (±20%)	1.2		.48		.23		.16		.055		1.0		.3	
I Max. (Amp.)	.25 √ LMH		.7 √ LMH		2 √ LMH		2.5 √ LMH		5.8 √ LMH		.5 √ LMH		1.3 √ LMH	
Nominal Inductance (MH)	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc
.100	F2100	4300									F1870	1800		
.200	F2101	2800									F1871	1300		
.300	F2102	2200									F1872	1100		
.400	F2103	1800									F1873	940		
.500	F2104	1600	F1781	1300							F1874	850		
1	F2105	1000	F1782	880	F1726	820	F1800	550	F1629	400	F1875	620	F1920	560
2	F2106	670	F1783	600	F1727	550	F1801	400	F1630	280	F1876	450	F1921	390
3	F2107	520	F1784	470	F1728	450	F1802	320	F1631	230	F1877	370	F1922	310
4	F2108	440			F1729	380	F1803	280	F1632	200	F1878	320	F1923	270
5	F2109	380	F1785	350	F1730	330	F1804	250	F1633	180	F1879	290	F1924	240
7.5	F2110	290	F1786	280	F1731	260			F1634	145	F1880	240	F1925	200
10	F2111	250	F1787	240	F1732	220	F1805	170	F1635	130	F1881	210	F1926	170
15	F2112	190	F1788	190	F1733	180	F1806	140	F1636	105	F1882	175	F1927	140
20	F2113	160	F1789	165	F1734	150					F1883	150	F1928	120
25			F1790	145							F1884	140		
30	F2114	120	F1791	135	F1735	115	F1807	100	F1637	73	F1885	125	F1929	96
40			F1792	110							F1886	110		
50	F2115	90	F1793	100	F1736	86	F1808	76	F1638	57	F1887	100	F1930	74
75	F2116	70	F1794	80	F1737	68	F1809	62	F1639	47	F1888	.082	F1931	60
100	F2117	58	F1795	68	F1738	58	F1810	53	F1640	40	F1889	.072	F1932	52
150			F1796	55	F1739	46	F1811	43	F1641	33			F1933	42
200			F1797	47	F1740	40	F1812	37	F1642	28			F1934	36
250					F1741	35							F1935	32
300					F1742	31	F1813	30	F1643	23			F1936	30
400					F1743	23.5	F1814	26	F1644	20				
500							F1815	23	F1645	18				

30 Kc TO 75 Kc

|| 50 Kc TO 200 Kc

TYPE	TI-18		TI-8		TI-10		TI-9		TI-19		TI-3		TI-3A	
Temperature Stabilization	SN		SN, SD		SB		SB		SN		SD		SB	
Ω/1 MH (±20%)	2.6		1.5		.43		.15		4.5		.6		.31	
I Max. (Amp.)	.15 √ LMH		.4 √ LMH		2 √ LMH		5 √ LMH		.12 √ LMH		1.3 √ LMH		2.5 √ LMH	
Nominal Inductance (MH)	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc	Catalog No.	Fo Kc
.1	F2140	2500	F1821	5600					F2180	4000	F1846	2150		
.2	F2141	1700	F1822	3600					F2181	2500	F1847	1500		
.3	F2142	1400	F1823	2800					F2182	1900	F1848	1250		
.4	F2143	1200	F1824	2300					F2183	1550	F1849	1070		
.5	F2144	1050	F1825	2000					F2184	1350	F1850	960		
.6									F2185	1200				
.7									F2186	1070				
.8									F2187	1000				
.9									F2188	900				
1	F2145	700	F1826	1250	F1579	500	F1554	500	F2189	850	F1851	680		
2	F2146	500	F1827	800	F1580	350	F1555	350	F2190	540	F1852	480		
3	F2147	400	F1828	600	F1581	300	F1556	290	F2191	400	F1853	390		
4	F2148	340	F1829	500	F1582	260	F1557	250	F2192	340	F1854	330		
5	F2149	300	F1830	440	F1583	240	F1558	220	F2193	290	F1855	300		
7.5	F2150	240	F1831	330	F1584	200	F1559	175			F1845	210		
10	F2151	200	F1832	280	F1585	170	F1560	150			F1844	250	F1856	190
15	F2152	160	F1833	210	F1586	140	F1561	120					F1857	150
20	F2153	140	F1834	175									F1858	125
25			F1835	150										
30	F2154	110	F1836	135	F1587	105	F1562	82					F1859	96
40			F1837	110									F1860	80
50	F2155	85	F1838	95	F1588	82	F1563	62					F1861	70
75	F2156	65	F1839	75	F1589	68	F1564	50					F1862	54
100	F2157	58	F1840	60	F1590	60	F1565	42					F1863	45
150					F1591	50	F1566	34						
200					F1592	43	F1567	29						
250														
300							F1568	23.5						
400							F1569	20						
500							F1570	18						

FREED TRANSFORMER COMPANY, INC.

FREQUENCY RANGE:

100Kc TO 10Mc	50Kc TO 5 Mc	50Kc TO 5 Mc	20Kc TO 2 Mc
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TYPE	TI-21		TI-22		TI-23		TI-20	
Temperature Stabilization	SP		SP		SP		SP	
$\Omega/1$ MH ($\pm 20\%$)	12		5.6		7		2.75	
I Max. (Amp.)	.05 LMH		.11 LMH		.11 LMH		.2 LMH	
Nominal Inductance (MH)	Catalog No.	Fo Mc	Catalog No.	Fo Mc	Catalog No.	Fo Mc	Catalog No.	Fo Mc
.010	F2240	17.0	F2270	13.5	F2301	11.5		
.015	F2241	13.5	F2271	10.5	F2302	9.2		
.020	F2242	11.5	F2272	9.0	F2303	8.0		
.030	F2243	8.8	F2273	7.0	F2304	6.3		
.040	F2244	7.4	F2274	6.0	F2305	5.4		
.050	F2245	6.5	F2275	5.3	F2306	4.8	F2201	4.3
.075	F2246	5.0	F2276	4.1	F2307	3.8		
.100	F2247	4.2	F2277	3.5	F2308	3.2	F2202	3.0
.125	F2248	3.6						
.150	F2249	3.2	F2278	2.8	F2309	2.7		
.200			F2279	2.4	F2310	2.3	F2203	2.1
.300			F2280	1.9	F2311	1.8	F2204	1.7
.400			F2281	1.6	F2312	1.5		
.500			F2282	1.4	F2313	1.4	F2205	1.3
.600			F2283	1.3				
.700			F2284	1.1				
.750							F2206	1.1
1							F2207	.9
1.5							F2208	.75
2							F2209	.65
2.5							F2210	.55
3							F2211	.52
3.5							F2212	.48
4							F2213	.45
4.5							F2214	.42
5							F2215	.4

TOROIDAL INDUCTORS

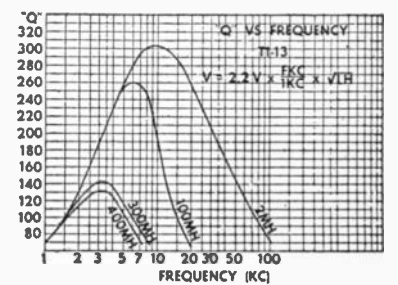
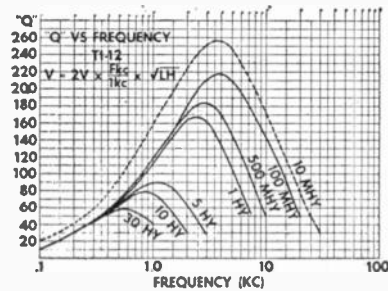
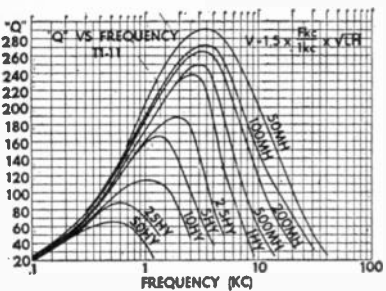
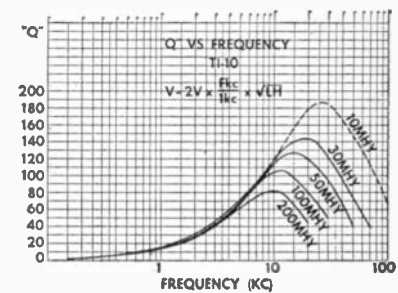
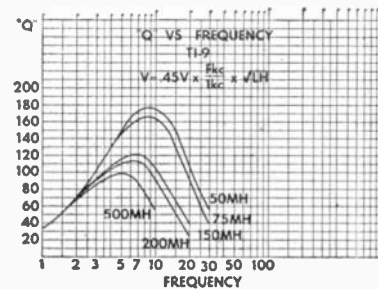
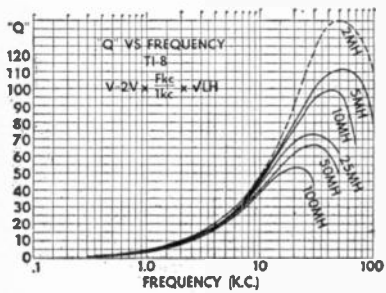
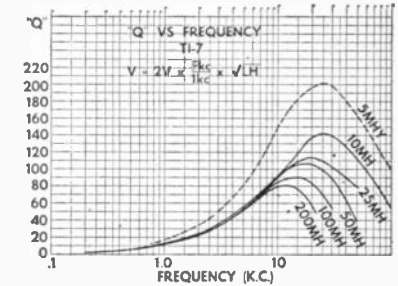
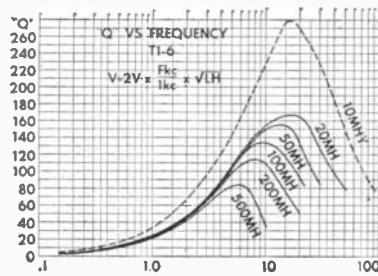
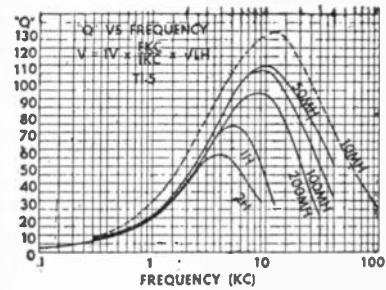
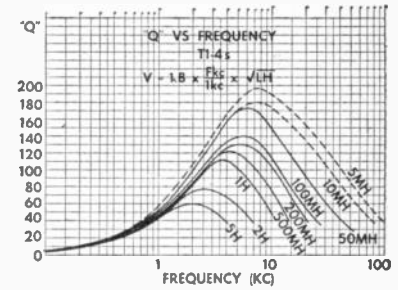
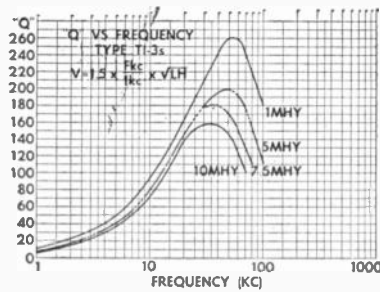
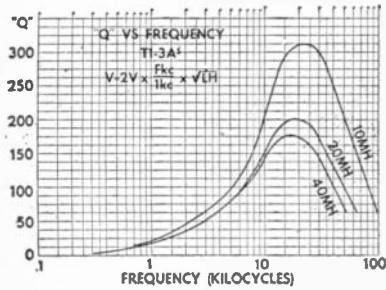
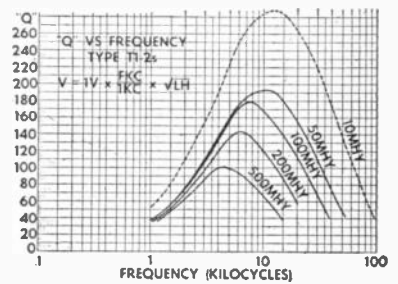
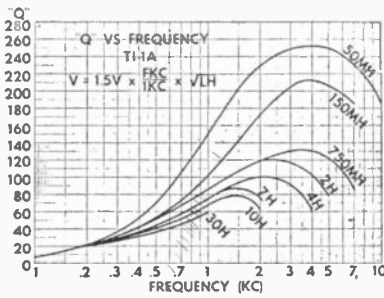
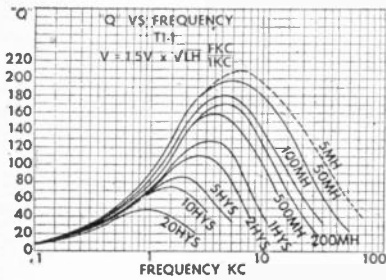
MOLDED DIMENSIONS			
Molded Coil Code No.	OD"	H"	Clearance Hole H-Mounting
MR-1	7/8	1 3/32	Pig tails
MR-2	1 1/16	1/2	4-40
MR-3	1 3/16	1 1/16	6-32
MR-4	1 1/2	3/4	8-32
MR-5	1 7/8	1	8-32
MR-6	2 1/8	7/8	8-32
MR-7	2 3/8	1 5/16	10-32
MR-8	2 1/2	1 3/8	10-32
MR-9	2 3/8	1 7/16	10-32
MR-10	2 7/8	1 3/8	10-32
MS-1	2 3/32 x 2 3/32 x 1 3/32		Pig tails

OPEN DIMENSIONS			
Open Coil Code No.	OD"	H"	All OS Units supplied with 4" long leads
OS-1	5/8	5/16	
OS-2	7/8	3/8	
OS-3	1	3/8	
OS-4	1	9/16	
OS-5	1 3/16	5/8	
OS-6	1 3/8	7/8	
OS-7	1 1/16	5/8	
OS-8	1 7/8	1 1/16	
OS-9	2 1/4	1 1/8	
OS-10	2 3/8	1 1/4	
OS-11	2 3/8	1 1/8	

CASE AND DIMENSION CODE							
Toroid Type	Case	Mold	Uncased Dimensions	Toroid Type	Case	Mold	Uncased Dimensions
TI-1	DT-3, DT-5	MR-6	OS-8	TI-12	DT-4	MR-8	OS-9
TI-1A	DT-4	MR-7	OS-9	TI-13	DT-4	MR-7	OS-9
TI-2	DT-3, DT-5	MR-5	OS-6	TI-14	DT-2, DM-11	MR-4	OS-5
TI-3	DT-3, DT-5	MR-5	OS-6	TI-15	DT-1, DM-2	MR-3	OS-3
TI-3A	DT-4	MR-8	OS-10	TI-16	DST-1	MR-1, MS-1	OS-1
TI-4	DT-2, DM-11	MR-4	OS-5	TI-17	DST-1	MR-1, MS-1	OS-1
TI-5	DT-1, DM-2	MR-3	OS-3	TI-18	DST-1	MR-1, MS-1	OS-1
TI-6	DT-2, DM-11	MR-4	OS-5	TI-19	DST-1	MR-1, MS-1	OS-1
TI-7	DT-1, DM-2	MR-3	OS-3	TI-20	DT-2	MR-4	OS-4
TI-8	DT-1, DM-2	MR-3	OS-3	TI-21	DT-1	MR-1, MS-1	OS-1
TI-9	DT-4	MR-9	OS-10	TI-22	DT-1	MR-2	OS-2
TI-10	DT-3, DT-5	MR-5	OS-7	TI-23	DT-1	MR-2	OS-2
TI-11	DT-4	MR-10	OS-11				

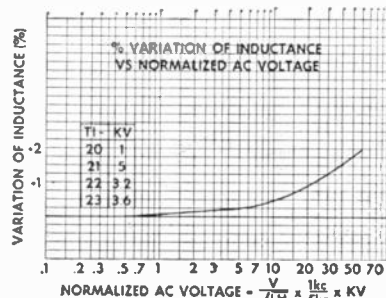
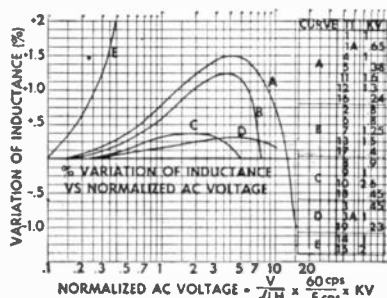
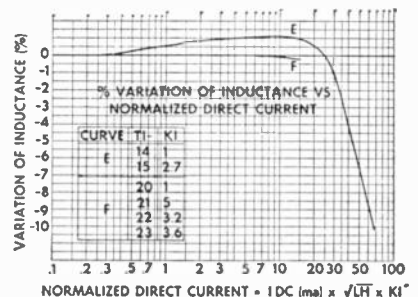
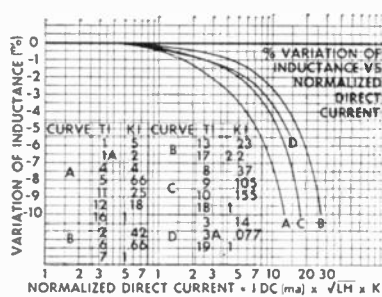
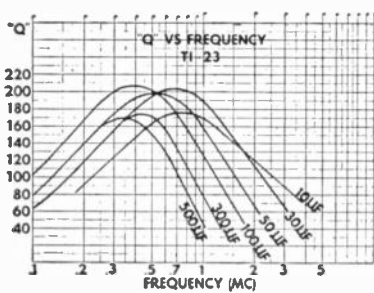
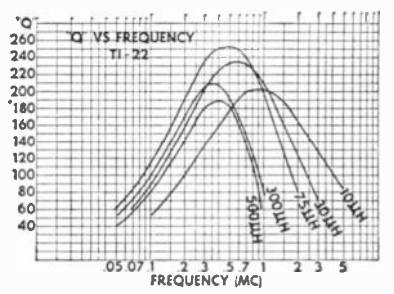
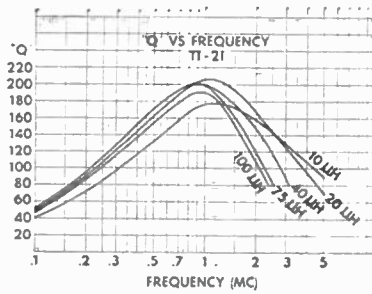
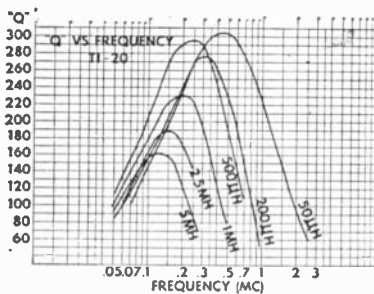
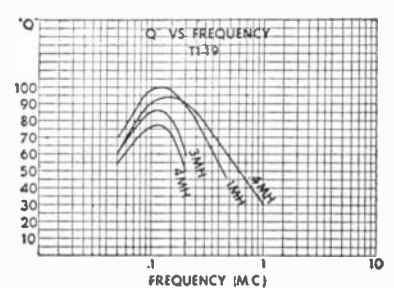
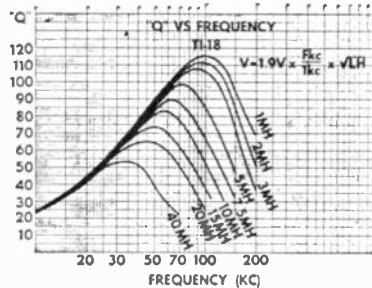
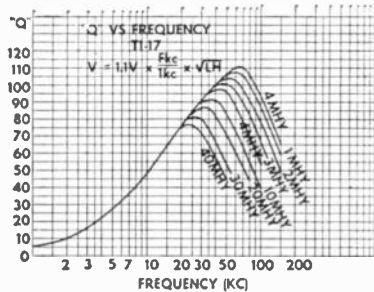
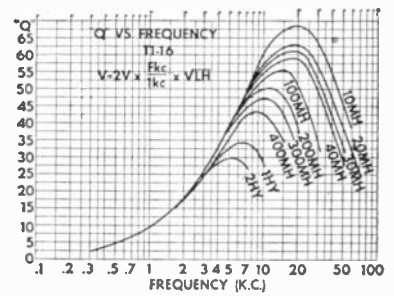
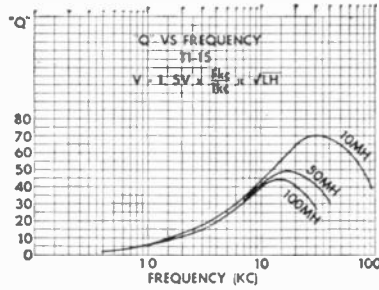
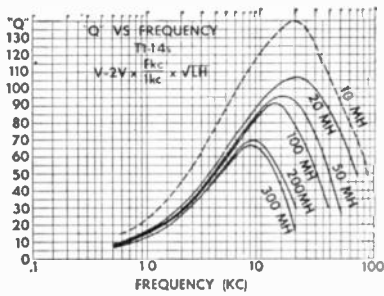
FREED TRANSFORMER COMPANY, INC.

TOROIDAL INDUCTORS



FREED TRANSFORMER COMPANY, INC.

TOROIDAL INDUCTORS



FREED TRANSFORMER COMPANY, INC.

CROSS REFERENCE GUIDE TO CASED, UNCASSED AND MOLDED UNITS, SEE CHARTS A, B AND C.

Toroid Type	Case	Mold	Uncased Dimensions	Toroid Type	Case	Mold	Uncased Dimensions
TI-1	DT-3, DT-5	MR-6	OS-8	TI-12	DT-4	MR-8	OS-9
TI-1A	DT-4	MR-7	OS-9	TI-13	DT-4	MR-8	OS-9
TI-2	DT-3, DT-5	MR-5	OS-6	TI-14	DT-2, DM-11	MR-4	OS-5
TI-3	DT-3, DT-5	MR-5	OS-6	TI-15	DT-1, DM-2	MR-3	OS-3
TI-3A	DT-4	MR-8	OS-10	TI-16	DST-1	MR-1, MS-1	OS-1
TI-4	DT-2, DM-11	MR-4	OS-5	TI-17	DST-1	MR-1, MS-1	OS-1
TI-5	DT-1, DM-2	MR-3	OS-3	TI-18	DST-1	MR-1, MS-1	OS-1
TI-6	DT-2, DM-11	MR-4	OS-5	TI-19	DST-1	MR-1, MS-1	OS-1
TI-7	DT-1, DM-2	MR-3	OS-3	TI-20	DT-2	MR-3A	OS-4
TI-8	DT-1, DM-2	MR-3	OS-3	TI-21	DT-1	MR-1, MS-1	OS-1
TI-9	DT-4	MR-9	OS-10	TI-22	DT-1	MR-2	OS-2
TI-10	DT-3, DT-5	MR-5	OS-7	TI-23	DT-1	MR-2	OS-2
TI-11	DT-4	MR-10	OS-11				

A. DIMENSIONS OF MOLDED UNITS

Molded Coil Code No.	OD"	H"	Clearance Hole H-Mounting
MR-1	7/8	1 1/32	Pig tails
MR-2	1 1/16	1/2	4-40
MR-3	1 3/16	1 1/16	6-32
MR-3A	1 3/16	1 1/16	6-32
MR-4	1 1/2	3/4	8-32
MR-5	1 7/8	1	8-32
MR-6	2 1/8	7/8	8-32
MR-7	2 3/8	1 3/16	10-32
MR-8	2 1/2	1 3/8	10-32
MR-9	2 5/8	1 7/16	10-32
MR-10	2 7/8	1 3/8	10-32
MS-1	2 5/32 x 2 5/32	1 3/32	Pig tails

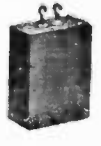









B. DIMENSIONS OF UNCASSED UNITS

Open Coil Code No.	OD"	H"	
OS-1	5/8	5/16	All OS Units supplied with 4" long leads
OS-2	7/8	3/8	
OS-3	1	3/8	
OS-4	1	9/16	
OS-5	1 1/16	5/8	
OS-6	1 3/8	7/8	
OS-7	1 11/16	5/8	
OS-8	1 7/8	1 1/16	
OS-9	2 1/4	1 1/8	
OS-10	2 3/8	1 1/4	
OS-11	2 5/8	1 1/8	



C. CASE DIMENSIONS

<p>DT-1 CASE</p>  <p>Height: 1 1/16" Width: 1 1/2" Length: 1 1/16" Mounting: 2 4-40 inserts Mtg. Centers: 3/4" x 3/8" Cutout: 1/16" x 1/2"</p>	<p>DT-2 CASE</p>  <p>Height: 1 3/4" Width: 1 3/8" Length: 1 7/16" Mounting: 2 6-32 studs Mtg. Centers: 7/8" x 3/8" Cutout: 3/8" x 1 1/16"</p>	<p>DT-3 CASE</p>  <p>Height: 2" Width: 7/8" Length: 1 5/16" Mounting: 2 6-32 studs Mtg. Centers: 1 1/4" x 3/4" Cutout: 3/8" x 3/4"</p>	<p>DT-4 CASE</p>  <p>Height: 3 1/8" Width: 1 1/16" Length: 2 3/4" Mounting: 4 8-32 studs Mtg. Centers: 2 1/16" x 1 1/16" Cutout: 3/4" x 3/8"</p>
<p>DST-1 CASE</p>  <p>Height: 2 1/8" Width: 1 1/16" Length: 3/4" Pins: 1 1/4" long To fit: 1 1/2" crystal socket</p>	<p>DT-5 CASE</p>  <p>Height: 1 1/16" Diameter: 1 1/8" Mounting: 2 6-32 inserts Mtg. Centers: 1 1/8" Cutout: 3/8" x 1"</p>	<p>DM-2 CASE</p>  <p>Height: 1" Diameter: 1 1/8" Mounting: 2 4-40 inserts Mtg. Centers: 7/8" Cutout: 3/8" x 7/8"</p>	<p>DM-11 CASE</p>  <p>Height: 1 1/2" Diameter: 1 3/8" Mounting: 2 6-32 inserts Mtg. Centers: 7/8" Cutout: 3/8" x 7/8"</p>

FREED MAGNETIC AMPLIFIERS & SATURABLE TRANSFORMERS

The ever increasing demand for reliability, ruggedness, miniaturization and high performance has made the magnetic amplifier an indispensable component of many military and industrial automatic control and servo systems. Recent advances in materials and techniques permit an even greater utilization of the well-known inherent advantages of magnetic amplifiers such as direct operation from line voltage, no warm-up time, long-life components, ease of signal mixing, and hermetic sealing.

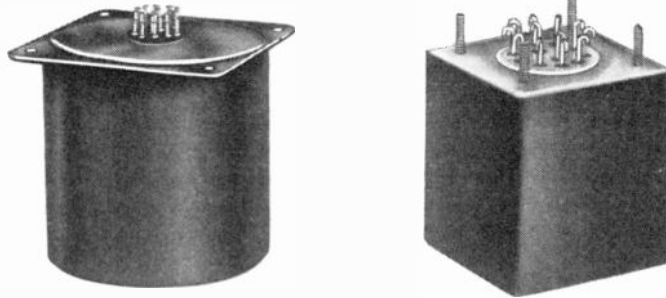
Freed Transformer Co. manufactures an extensive line of magnetic amplifiers, ranging from saturable transformers to half-wave type, fast-response servo amplifiers. Choice of catalog amplifiers assures standardization, lowest possible cost and rapid delivery.

All standard units are designed for continuous operation and will operate in an ambient temperature range of -55°C to $+75^{\circ}\text{C}$.

Vacuum tube and transistor preamplifiers can be supplied if very high impedance inputs are required.

In addition to standard items, Freed Transformer Co. has extensive facilities for the design and production of special amplifiers, saturable reactors and magnetic components.

ALL ITEMS LISTED ARE AVAILABLE FROM STOCK.



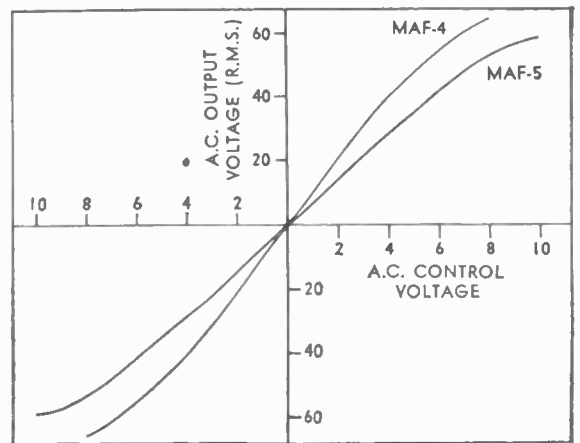
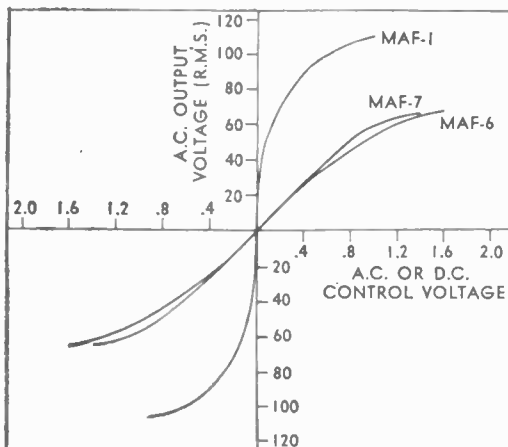
FAST RESPONSE FREED MAGNETIC AMPLIFIERS

THE MAF TYPE OF FAST RESPONSE MAGNETIC AMPLIFIERS COMBINES HIGH POWER GAIN, RUGGEDNESS, AND RELIABILITY WITH A MAXIMUM 2 CYCLE RESPONSE. ALL MAF UNITS ARE PHASE-REVERSIBLE.

FREED NO.	MAF-1	MAF-4*	MAF-5*	MAF-6	MAF-7
POWER SUPPLY	115V 60~	115V 400~	115V 400~	115V 400~	115V 400~
MAXIMUM OUTPUT WATTAGE	15	10	15	10	15
OUTPUT VOLTAGE	110V RMS	57.5V RMS	57.5V RMS	57.5V RMS	57.5V RMS
TYPICAL LOAD	Diehl FPE 25-11	Kearfott R110-2 Kearfott R111-2	Kearfott R112-2	Kearfott R110-2 Kearfott R111-2	Kearfott R111-2 Kearfott R112-2
INPUT SIGNAL REQUIRED FOR FULL OUTPUT	1V AC or DC	8V AC	8V AC	R110-2 10K 1K 1.2V .4V R111-2 10K 1K 1.6V .6V	R111-2 10K 1K 2.0V .6V R112-2 10K 1K 2.5V 1.0V
CONTROL WINDING RESISTANCE	10,000 OHMS	60 OHMS CT 150 OHMS CT	60 OHMS CT 150 OHMS CT	AC or DC 10,000 OHMS Min. 1,000 OHMS Min.	AC or DC 10,000 OHMS Min. 1,000 OHMS Min.
PHYSICAL DIMENSIONS	Mag. Amp. 5 1/4" x 7" x 7 1/2" H X Former 3 1/2" x 4 1/8" x 3 1/2" H	2 3/8" O.D. x 2 3/8" H	2 1/2" O.D. x 2 1/2" H	4 3/8" x 4 1/4" x 2 7/8" H	4 3/8" x 4 1/4" x 2 7/8" H
WEIGHT	Mag. Amp. 21 lbs. X Former 6 1/4 lbs.	13 oz.	18 oz.	4 1/2 lbs.	4 1/2 lbs.

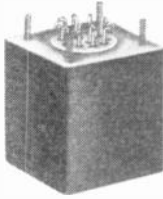
*When used with MAT-1 Transistor Preamplifier

Transfer characteristic curves

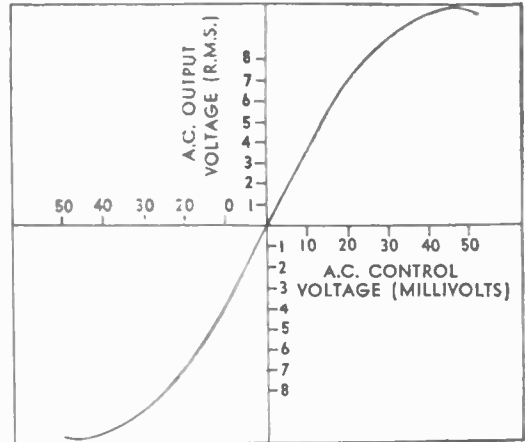


FREED MINIATURIZED SILICON TRANSISTOR PREAMPLIFIER

THE MAT TYPE OF TRANSISTOR PREAMPLIFIER COMBINES LOW POWER CONSUMPTION, HIGH POWER GAIN AND SMALL SIZE AND WEIGHT.



Transfer characteristic curves

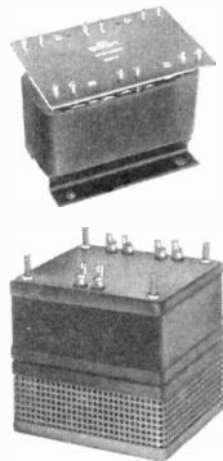


FREED NO.	MAT-1
POWER SUPPLY	115V 400~
VOLTAGE GAIN	400
MAXIMUM OUTPUT VOLTAGE	10V (RL = 1.5K)
TYPICAL LOAD	Freed MAF-4 and MAF-5 Magnetic Amplifiers
INPUT SIGNAL REQUIRED FOR FULL OUTPUT	30MV
INPUT IMPEDANCE	>10,000 OHMS
PHYSICAL DIMENSIONS	1 3/4" x 1 7/8" x 2 5/8" H
WEIGHT	10 oz.

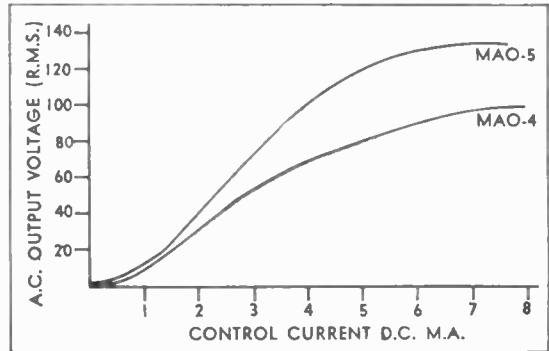
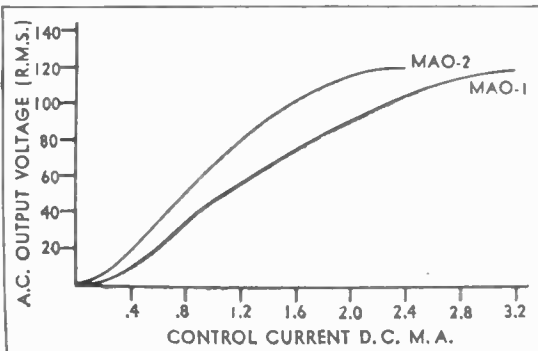
SINGLE ENDED MAGNETIC AMPLIFIERS

THE MAO LINE OF SINGLE-ENDED MAGNETIC AMPLIFIERS PROVIDES A SINGLE STAGE OF DC CONTROLLED AMPLIFICATION, UTILIZING POSITIVE FEEDBACK TO OBTAIN MUCH HIGHER GAIN THAN THAT OF A SATURABLE REACTOR.

FREED NO.	MAO-1	MAO-2	MAO-4	MAO-5
POWER SUPPLY	115 V.A.C. 60 Cycles	115 V.A.C. 60 Cycles	115 V.A.C. 60 Cycles	115 V.A.C. to the MAO-T-5 Transformer 60 Cycles
MAXIMUM OUTPUT WATTAGE	4 watts	20 watts	400 watts	575 watts
VOLTAGE	120V	120V	100V	135V
TYPICAL LOAD	4000 ohms	700 ohms	25 ohms	25 ohms
INPUT SIGNAL REQ. FOR FULL OUTPUT	3 ma.	1.8 ma.	9 ma.	6 ma.
CONTROL WINDING RESISTANCE	300 ohms each	700 ohms each	4,500 ohms each	4,500 ohms
PHYSICAL DIMENSIONS	3 3/4" x 4" x 3 1/2" H	4 1/4" x 3 1/2" x 6 3/8" H	5" x 7 1/2" x 6" H	5" x 7 1/2" x 6" H Transf. 3 7/8" x 3 7/8" x 3 3/4" H
WEIGHT	4 lbs.	7 lbs.	21 lbs.	21 lbs. Transf. 7 1/4 lbs.



Transfer characteristic curves



FREED PUSH-PULL MAGNETIC AMPLIFIERS

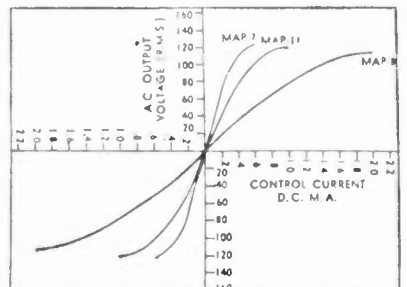
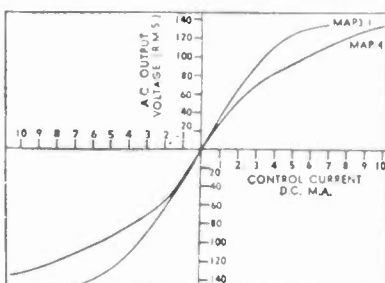
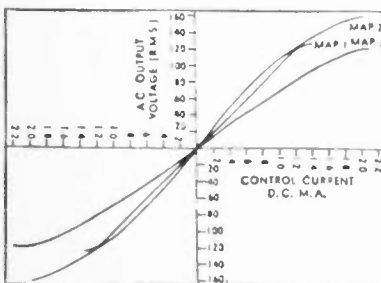
THE MAP LINE OF PUSH-PULL MAGNETIC AMPLIFIERS FEATURES HIGH GAIN, POLARITY-SENSITIVE AMPLIFICATION, AND A PHASE-REVERSIBLE OUTPUT.



FREED NO.	MAP-1	MAP-2	MAP-3	MAP-3-1
POWER SUPPLY	115 V.A.C. 60 Cycles (To MAPT-1)	115 V.A.C. 60 Cycles (To MAPT-2)	115 V.A.C. 60 Cycles (To MAPT-3)	115 V.A.C. 60 Cycles (To MAPT-3-1)
MAXIMUM OUTPUT WATTAGE	2.8 watts	15 watts	50 watts	50 watts
VOLTAGE	140V	150V	120V	140V
TYPICAL LOAD	Kollman 951-0160	Diehl FPE 25-11	Diehl FPF 49-9	Diehl FPF 49-9
INPUT SIGNAL REQ. FOR FULL OUTPUT	1.2 ma.	1 ma.	2 ma.	4.5 ma.
RESP. TIME	ON 15 cycles OFF 60	ON 5 cycles OFF 38	ON 3 cycles OFF 15	ON 5 cycles OFF 20
CONTROL WINDING RESISTANCE	620 ohms each	1230 ohms each	250 ohms each	1700 ohms each
PHYSICAL DIMENSIONS	3 7/8" x 3 1/4" x 5 7/8" H M.A. 2 5/8" x 2 1/4" x 3" H T.	3 7/8" x 4 5/8" x 7" H M.A. 2 5/8" x 2 3/4" x 3 3/4" H T.	5 1/8" x 6 7/8" x 8" H M.A. 3 3/4" x 3 3/8" x 4 1/4" H T.	5 1/2" x 5" x 8" H M.A. 3 3/8" x 4 1/4" x 3 3/8" H T.
WEIGHT	6 lbs. M.A. 3 lbs. T.	11 lbs. M.A. 3 1/2 lbs. T.	26 1/2 lbs. M.A. 6 lbs. T.	20 lbs. M.A. 7 lbs. T.

FREED NO.	MAP-4	MAP-7	MAP-8	MAP-11
POWER SUPPLY	115 V.A.C. 60 Cycles (To MAPT-4)	115 V.A.C. 400 Cycles	115 V.A.C. 400 Cycles (To MAPT-8)	115 V.A.C. 400 Cycles
MAXIMUM OUTPUT WATTAGE	175 watts	15 watts	50 watts	10 watts
VOLTAGE	130V	125V	115V	115V
TYPICAL LOAD	Diehl FPF 85-18-1	Kearfott R112-2A	Bendix CK-3000-1-A	Kearfott R111-2A
INPUT SIGNAL REQ. FOR FULL OUTPUT	8 ma.	.5 ma.	1.8 ma.	.9 ma.
RESP. TIME	ON 17 cycles OFF 66	ON 5 cycles OFF 15	ON 45 cycles OFF 60	ON 4 cycles OFF 75
CONTROL WINDING RESISTANCE	3000 ohms each	4,400 ohms each	320 ohms each	3300 ohms each
PHYSICAL DIMENSIONS	7 1/4" x 5" x 7 7/8" H M.A. 4" x 4 3/4" x 5 5/8" H T.	3 1/4" x 3 5/8" x 7" H	3 7/8" x 3 3/4" x 7 7/8" H M.A. 2 5/8" x 2 3/4" x 3 3/4" H T.	4 1/8" x 3 1/2" x 5 1/4" H
WEIGHT	35 lbs. M.A. 12 lbs. T.	7 lbs.	7 1/2 lbs. M.A. 4 lbs. T.	5 lbs.

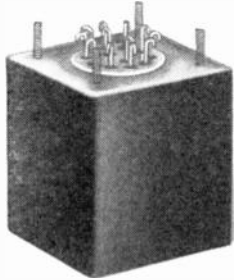
Transfer characteristic curves



FREED TRANSFORMER COMPANY, INC.

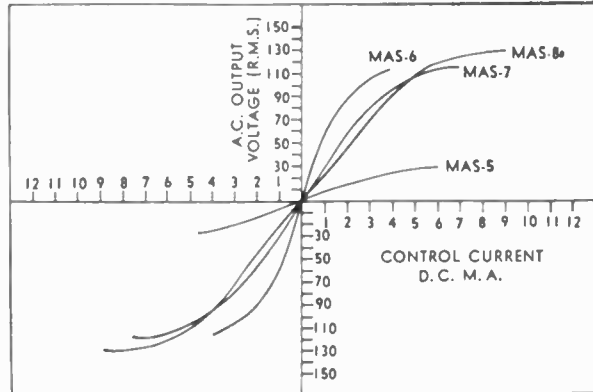
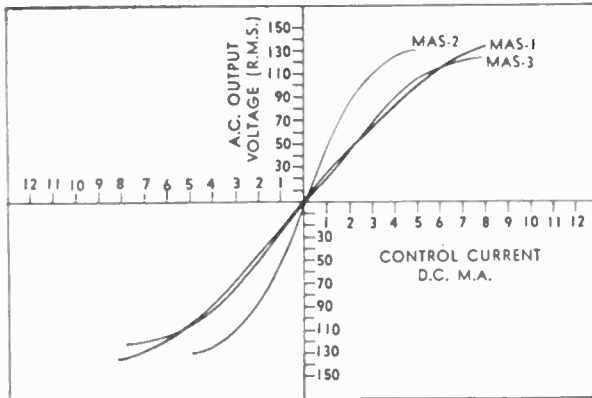
FREED SATURABLE TRANSFORMERS

THE MAS LINE OF SATURABLE TRANSFORMERS, COMMONLY CONTROLLED BY DUAL-TRIODES OR TRANSISTORS, EMPHASIZES LOW COST, SMALL SIZE, EXTREME RELIABILITY (NO RECTIFIERS), AND PHASE-REVERSIBLE OUTPUT.



FREED NO.	MAS-1	MAS-2	MAS-3	MAS-5	MAS-6	MAS-7	MAS-8
POWER SUPPLY	115 V.A.C. 60 Cycles	115 V.A.C. 400 Cycles	115 V.A.C. 60 Cycles	115 V.A.C. 400 Cycles	115 V.A.C. 400 Cycles	115 V.A.C. 400 Cycles	115 V.A.C. 400 Cycles
MAXIMUM OUTPUT WATTAGE	15 watts	6 watts	30 watts	2.7 watts	30 watts	40 watts	10 watts
VOLTAGE	130V	120V	120V	26V	120V	115V	125V
TYPICAL LOAD	Diehl FPE 25-11	Kearfott R-110	Diehl FPE 49-7	Kearfott R-118	Diehl FPE 49-13-1	Bendix CK-3000-1A	Kearfott R-110 R-111
INPUT SIGNAL REQ. FOR FULL OUTPUT	6 ma.	3 ma.	8 ma.	4 ma.	4 ma.	6 ma.	11 ma.
RESP. TIME	ON 2 cycles OFF 5	ON 3 cycles OFF 6	ON 3 cycles OFF 30	ON 10 cycles OFF 35	ON 12 cycles OFF 9	ON 12 cycles OFF 9	ON 6 cycles OFF 3
CONTROL WINDING RESISTANCE	14 K ohms each	2000 ohms each	6800 ohms each	1500 ohms each	4000 ohms each	4000 ohms each	7000 ohms
PHYSICAL DIMENSIONS	3 1/2" x 4 1/8" x 5 1/2" H	1 3/4" x 2 3/8" x 2 1/4" H	4 3/4" x 5 7/8" x 5 1/2" H	2 1/4" x 2 1/8" x 2 1/4" H	3 3/4" x 3 1/4" x 4" H	3 1/8" x 3 1/4" x 4" H	1 5/8" x 2 3/8" x 3 1/8" H
WEIGHT	9 lbs.	2 lbs.	18.5 lbs.	1.25 lbs.	6 lbs.	6 lbs.	21 oz.

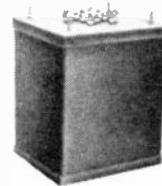
Transfer characteristic curves



HERMETICALLY SEALED CONSTANT VOLTAGE TRANSFORMER

THE MCV LINE OF HERMETICALLY SEALED CONSTANT VOLTAGE TRANSFORMERS PROVIDES ACCURATE REGULATION AGAINST LINE AND/OR LOAD VARIATIONS, WITHOUT THE USE OF TUBES OR MOVING PARTS.

- MEETS MILITARY SPECIFICATIONS
- NO TUBES
- NO MOVING PARTS
- ACCURATE REGULATIONS
- FAST RESPONSE
- FULLY AUTOMATIC



Here at last is a hermetically sealed magnetic voltage regulator that will provide constant output voltage regardless of line and or load changes.

SUPPLIED EITHER MIL. OR COMMERCIAL

FREED NO.	INPUT VOLT.	LINE FREQ.	OUTPUT VOLT.	OUTPUT VA.	DIMENSIONS
MCV620L*	95-130V	60 cps.	115	20	2 3/4" x 3 3/4" x 5" H
MCV670L	95-130V	60 cps.	115	70	3 1/8" x 4 5/8" x 4 7/8" H
MCV6130L	95-130V	60 cps.	115	130	5 1/4" x 6" x 6 1/4" H
MCV670F	95-130V	60 cps.	6.4	70	3 1/8" x 4 5/8" x 4 7/8" H
MCV6130F	95-130V	60 cps.	6.4	130	5 1/4" x 7" x 7" H
MCV420F*	95-130V	400 cps.	6.4	20	1 3/4" x 3 1/2" x 3 1/8" H

*Supplied with External Capacitor.

When ordering commercial type construction add C to part #.

FREED TRANSISTOR CONVERTERS

THE MAC LINE OF HERMETICALLY SEALED DC TO AC AND DC TO DC TRANSISTOR CONVERTERS PROVIDE A HIGH EFFICIENCY VOLTAGE CONVERSION FROM BATTERY SOURCES TO AN AC LINE VOLTAGE OR HIGH DC VOLTAGE WITHOUT THE USE OF MOVING PARTS.

Freed Transformer Co. maintains a stock line of reliable, highly efficient static DC to DC and DC to AC converters.

DC to DC converters in hermetically sealed cans. RF filters included inside case.


The MAC Line of Static DC to DC and DC to AC Converters provide a highly efficient voltage conversion from battery sources to AC or DC voltage without the use of moving parts.

The output voltage and/or frequency is directly proportional to source voltage variation.


Special regulators can be supplied to compensate for this variation.

- RUGGED, QUIET, MAINTENANCE FREE, LONG LIFE OPERATION.
- HIGH POWER TO WEIGHT RATIO, ARC-FREE OPERATION.

DC TO DC CONVERTERS



DC-2B CASE
 Height: 3 1/2"
 Width: 2 5/8"
 Depth: 2 1/4"
 Mtg. Cen.: 2" x 1 3/4"
 Studs: 4 8-32
 Knockout: 1 1/2" dia.




JB CASE
 Height: 3 7/8"
 Width: 3 3/8"
 Depth: 3 3/8"
 Mtg. Cen.: 2 5/8" x 2 1/8"
 Studs: 4 8-32

FREED NO.	INPUT VDC	OUTPUT		SIZE
		VDC	IDC	
MAC- 6.2.1	6.3	150	.049	DC2B
MAC- 6.3.1	6.3	195	.080	JB
MAC-12.2.1	12.6	300	.043	DC2B
MAC-12.2.2	12.6	180	.072	DC2B
MAC-12.4.1	12.6	390	.100	JB
MAC-12.4.2	12.6	245	.170	JB
MAC-12.4.3	12.6	350	.120	JB
MAC-12.4.4	12.6	225	.218	JB
MAC-26.2.1	26	250	.100	DC2B
MAC-26.2.2	26	600	.043	DC2B
MAC-26.2.3	26	360	.072	DC2B
MAC-26.4.1	26	600	.140	JB
MAC-26.4.2	26	450	.190	JB
MAC-26.4.3	26	450‡	.190	JB


‡Tap at 225 Volts.

ALSO AVAILABLE FOR AC SQUARE WAVE OUTPUT AT SLIGHTLY HIGHER RATINGS.

DC TO AC CONVERTERS



MAC-6-30-1 CASE
 Height: 7"
 Width: 4 3/4"
 Depth: 5 7/8"



MAC-12-20-1 CASE
 Height: 6"
 Width: 4 1/8"
 Depth: 6"

MAC-12-30-2 CASE
 Height: 7"
 Width: 4 3/4"
 Depth: 5 7/8"

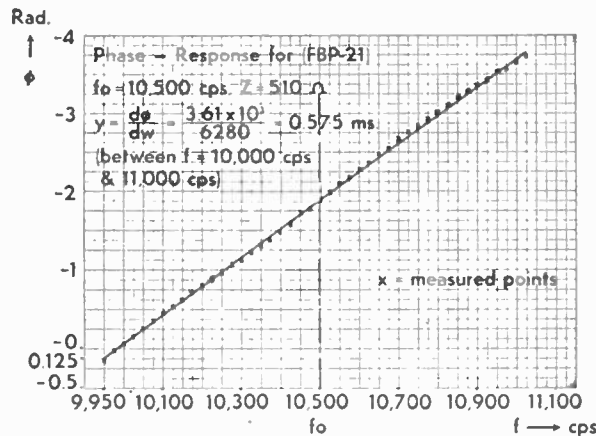
FREED NO.	INPUT VOLTAGE	OUTPUT VA	OUTPUT VOLTAGE AND FREQUENCY	OUTPUT REGULATION	WEIGHT
MAC-6-30-1**	6 VOLT BATTERY	120 WATTS MAXIMUM	115 VOLTS* 60 CYCLES	±10%	5 LBS.
MAC-12-20-1**	12 VOLT BATTERY	170 WATTS MAXIMUM	115 VOLTS* 60 CYCLES	±10%	12 LBS.
MAC-12-30-2**	12 VOLT BATTERY	250 WATTS MAXIMUM	115 VOLTS* 60 CYCLES	±5%	16 LBS.

*Output voltage varies directly with input voltage. **Hermetically sealed

FREED TRANSFORMER COMPANY, INC.

TELEMETERING COMPONENTS

A complete line of Band Pass Filters, Low Pass Filters and Discriminators is available for multi-channel telemetering applications. These components cover the frequency range from 400 cps to 70,000 cps. The filters feature linear phase response, excellent selectivity characteristics and plug-in construction. The Discriminators, either fixed or slug tuned, have exceptional linearity, high amplification, and utmost stability.



TELEMETERING BAND PASS FILTERS

These filters cover the frequencies from 400 c.p.s. to 70KC. Narrow frequency B.P.F. have a band width of $\pm 9\frac{1}{4}\%$ of center frequency and 45 DB (minimum) points at $\pm 7\frac{1}{2}\%$ of center frequency of higher or lower adjacent channels. Wide frequency B.P.F. have a band width of $\pm 19\frac{1}{2}\%$ of center frequency and 50 DB. points at $\pm 15\%$ of center frequencies of higher or lower second adjacent channels.

CASE DIMENSIONS

FA-5 CASE



Height: 4 1/2"
 Width: 3 1/2"
 Depth: 2 1/4"
 Mtg. Cen.: 2 7/16" x 1 9/16"
 Studs: 5-8-32 x 1/2"
 Octal Header

FA-10 CASE



Height: 4 1/2"
 Width: 3 1/2"
 Depth: 2 1/4"
 Mtg. Cen.: 1 11/16" x 1 9/16"
 Studs: 4-8-32 x 1/2"
 Knockout: 1 1/2" dia.

FA-15 CASE

Height: 4 1/2"
 Width: 2 7/8"
 Depth: 2 1/8"
 Mtg. Cen.: 1 11/16" x 1 9/16"
 Studs: 4-8-32 x 1/2"
 Knockout: 1 1/2" dia.

Characteristic Impedance 500 Ω			
Catalog No.	Center Frequency c.p.s.	3 DB Band Width % of C.F.	Case No.
FBP-10	400	$\pm 9\frac{3}{4}\%$	FA-10
FBP-11	560	$\pm 9\frac{3}{4}\%$	FA-10
FBP-12	730	$\pm 9\frac{3}{4}\%$	FA-10
FBP-13	960	$\pm 9\frac{3}{4}\%$	FA-10
FBP-14	1,300	$\pm 9\frac{3}{4}\%$	FA-10
FBP-15	1,700	$\pm 9\frac{3}{4}\%$	FA-10
FBP-16	2,300	$\pm 9\frac{3}{4}\%$	FA-10
FBP-17	3,000	$\pm 9\frac{3}{4}\%$	FA-15
FBP-18	3,900	$\pm 9\frac{3}{4}\%$	FA-15
FBP-19	5,400	$\pm 9\frac{3}{4}\%$	FA-15
FBP-20	7,350	$\pm 9\frac{3}{4}\%$	FA-15
FBP-21	10,500	$\pm 9\frac{3}{4}\%$	FA-15
FBP-22	12,300	$\pm 9\frac{3}{4}\%$	FA-15
FBP-23	14,500	$\pm 9\frac{3}{4}\%$	FA-15
FBP-24	22,000	$\pm 9\frac{3}{4}\%$	FA-15
FBP-25	22,000	$\pm 19\frac{1}{2}\%$	FA-15
FBP-26	30,000	$\pm 9\frac{3}{4}\%$	FA-15
FBP-27	30,000	$\pm 19\frac{1}{2}\%$	FA-15
FBP-28	40,000	$\pm 9\frac{3}{4}\%$	FA-15
FBP-29	40,000	$\pm 19\frac{1}{2}\%$	FA-15
FBP-30	52,500	$\pm 9\frac{3}{4}\%$	FA-15
FBP-31	52,500	$\pm 19\frac{1}{2}\%$	FA-15
FBP-32	70,000	$\pm 9\frac{3}{4}\%$	FA-15
FBP-33	70,000	$\pm 19\frac{1}{2}\%$	FA-15

Characteristic Impedance 2,500 Ω			
Catalog No.	Center Frequency c.p.s.	3 DB Band Width % of C.F.	Case No.
FBP-34	400	$\pm 9\frac{3}{4}\%$	FA-5
FBP-35	560	$\pm 9\frac{3}{4}\%$	FA-5
FBP-36	730	$\pm 9\frac{3}{4}\%$	FA-5
FBP-37	960	$\pm 9\frac{3}{4}\%$	FA-5
FBP-38	1,300	$\pm 9\frac{3}{4}\%$	FA-5
FBP-39	1,700	$\pm 9\frac{3}{4}\%$	FA-5
FBP-40	2,300	$\pm 9\frac{3}{4}\%$	FA-5
FBP-41	3,000	$\pm 9\frac{3}{4}\%$	FA-5
FBP-42	3,900	$\pm 9\frac{3}{4}\%$	FA-5
FBP-43	5,400	$\pm 9\frac{3}{4}\%$	FA-5
FBP-44	7,350	$\pm 9\frac{3}{4}\%$	FA-5
FBP-45	10,500	$\pm 9\frac{3}{4}\%$	FA-5
FBP-46	12,300	$\pm 9\frac{3}{4}\%$	FA-5
FBP-47	14,500	$\pm 9\frac{3}{4}\%$	FA-5
FBP-48	22,000	$\pm 9\frac{3}{4}\%$	FA-5
FBP-49	22,000	$\pm 19\frac{1}{2}\%$	FA-5
FBP-50	30,000	$\pm 9\frac{3}{4}\%$	FA-5
FBP-51	30,000	$\pm 19\frac{1}{2}\%$	FA-5
FBP-52	40,000	$\pm 9\frac{3}{4}\%$	FA-5
FBP-53	40,000	$\pm 19\frac{1}{2}\%$	FA-5
FBP-54	52,500	$\pm 9\frac{3}{4}\%$	FA-5
FBP-55	52,500	$\pm 19\frac{1}{2}\%$	FA-5
FBP-56	70,000	$\pm 9\frac{3}{4}\%$	FA-5
FBP-57	70,000	$\pm 19\frac{1}{2}\%$	FA-5

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS

FA-1 CASE



Height: 4 1/2"
Width: 1 1/2"
Depth: 1 1/2"
Mtg. Cen.: 3 1/2" x 3 1/2"
4 Inserts: 6-32
Knockout: 1"

FA-185 CASE



Height: 4 1/2"
Width: 1 1/2"
Depth: 1 1/2"
Mtg. Cen.: 1 1/2" x 1 1/2"
4 Inserts: 6-32
Knockout: 1 1/2"

FA-190 CASE



Height: 4 1/2"
Width: 2 1/4"
Depth: 1 1/2"
Mtg. Cen.: 1 1/2" x 1 1/2"
4 Inserts: 6-32
Knockout: 1 1/2"

FA-410 CASE



Height: 4 1/2"
Width: 6"
Depth: 4"
Mtg. Cen.: 5 1/2" x 3 1/2"
5 Studs: 10-32
Octal Header

DISCRIMINATOR INPUT LOW PASS FILTER

Catalog No.	Fo Center Freq. in c.p.s.	Characteristic Impedance Ohms	Case No.
LPI-10	400	30,000	FA-1
LPI-11	560	30,000	FA-1
LPI-12	730	30,000	FA-1
LPI-13	960	30,000	FA-1
LPI-14	1,300	30,000	FA-1
LPI-15	1,700	30,000	FA-1
LPI-16	2,300	30,000	FA-1
LPI-17	3,000	30,000	FA-1
LPI-18	3,900	30,000	FA-1

Band Pass Attenuation: 0.05 DB = 9% of Center Frequency
30 DB at second harmonic of Pass Band Frequencies
50 DB at third harmonic of Pass Band Frequencies
40 DB above third harmonic of Pass Band Frequencies

Catalog No.	Fo Center Freq. in c.p.s.	Characteristic Impedance Ohms	Case No.
LPI-19	5,400	30,000	FA-1
LPI-20	7,350	30,000	FA-1
LPI-21	10,500	30,000	FA-1
LPI-22	12,300	30,000	FA-1
LPI-23	14,500	30,000	FA-1
LPI-24	22,000	5,100	FA-1
LPI-25	30,000	5,100	FA-1
LPI-26	40,000	5,100	FA-1
LPI-27	52,500	5,100	FA-1
LPI-28	70,000	5,100	FA-1

Band Pass Attenuation: 0.05 DB = 15% of Center Frequency
30 DB at second harmonic of Pass Band Frequencies
50 DB at third harmonic of Pass Band Frequencies
40 DB above third harmonic of Pass Band Frequencies

DISCRIMINATOR OUTPUT LOW PASS FILTER

Catalog No.	Fo c. p. s.	Characteristic Impedance Ohms	Case No.
LPO-10	6	330	FA-410
LPO-11	8	330	FA-410
LPO-12	11	330	FA-410
LPO-13	14	330	FA-410
LPO-14	20	330	FA-410
LPO-15	25	330	FA-410
LPO-16	35	330	FA-410
LPO-17	45	330	FA-410
LPO-18	60	330	FA-410
LPO-19	81	330	FA-410
LPO-20	110	330	FA-410
LPO-21	160	330	FA-410
LPO-22	185	330	FA-410

Catalog No.	Fo c. p. s.	Characteristic Impedance Ohms	Case No.
LPO-23	220	330	FA-410
LPO-24	330	330	FA-410
LPO-25	450	330	FA-410
LPO-26	600	330	FA-410
LPO-27	660	330	FA-410
LPO-28	790	330	FA-410
LPO-29	900	330	FA-410
LPO-30	1,050	330	FA-410
LPO-31	1,200	330	FA-410
LPO-32	1,600	330	FA-410
LPO-33	2,100	330	FA-410
LPO-34	2,200	330	FA-410
LPO-35	10,000	330	FA-410

Attenuation: < 0.2 DB up to 0.5 times Fo
< 0.7 DB from 0.5 to 1. times Fo
> 20 DB at 2 Fo to 2.5 Fo
> 30 DB from 2.5 times Fo to 100 Kc.

SLUG TUNED DISCRIMINATORS

Catalog No.	Center Frequency (Kc.)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-17	3.0	± 8 1/2%	± 0.5%	32.5	FA-190
DST-18	3.9	± 8 1/2%	± 0.5%	32.5	FA-190
DST-19	5.4	± 8 1/2%	± 0.5%	32.5	FA-190
DST-20	7.35	± 8 1/2%	± 0.5%	32.5	FA-190
DST-21	10.5	± 8 1/2%	± 0.5%	32.5	FA-190
DST-22	12.3	± 8 1/2%	± 0.5%	32.5	FA-190
DST-23	14.5	± 8 1/2%	± 0.5%	32.5	FA-190
DST-24	22.0	± 8 1/2%	± 0.5%	32.5	FA-190
DST-25	30.0	± 8 1/2%	± 0.5%	32.5	FA-190

Catalog No.	Center Frequency (Kc.)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-26	40.0	± 8 1/2%	± 0.5%	32.5	FA-190
DST-27	52.5	± 8 1/2%	± 0.5%	32.5	FA-190
DST-28	70.0	± 8 1/2%	± 0.5%	32.5	FA-190
DST-29	22.0	± 15%	± 1.0%	26.0	FA-190
DST-30	30.0	± 15%	± 1.0%	26.0	FA-190
DST-31	40.0	± 15%	± 1.0%	26.0	FA-190
DST-32	52.5	± 15%	± 1.0%	26.0	FA-190
DST-33	70.0	± 15%	± 1.0%	26.0	FA-190

FIXED DISCRIMINATORS

Catalog No.	Center Frequency (cps)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-10	400	± 8 1/2%	± 0.5%	32.5	FA-185
DST-11	560	± 8 1/2%	± 0.5%	32.5	FA-185
DST-12	730	± 8 1/2%	± 0.5%	32.5	FA-185
DST-13	960	± 8 1/2%	± 0.5%	32.5	FA-185

Catalog No.	Center Frequency (cps)	% Deviation of Fo	Linearity	D.C. Output Volts	Case No.
DST-14	1,300	± 8 1/2%	± 0.5%	32.5	FA-185
DST-15	1,700	± 8 1/2%	± 0.5%	32.5	FA-185
DST-16	2,300	± 8 1/2%	± 0.5%	32.5	FA-185

FREED TRANSFORMER COMPANY, INC.

FREED FILTERS

Freed Standard Filters are **Hermetically Sealed Miniature** high performance components designed for both production and laboratory applications in the Communications and Electronic industry. In order to achieve attenuation requirements not obtainable with one single filter, one can combine several standard filters of different transmission characteristics. Wide Band Pass characteristics are obtainable by combining low and high Pass Units. The astatic construction of inductive components together with special shielding reduces the hum pick-up of the standard filters.

The standard filters are available in Low Pass, High Pass and Band Pass Filters.

Low Pass Filters: The attenuation characteristics of Low Pass Filters are 6db or less at cut-off frequency, 35db or more at 1.5 cut-off frequency and 40 db or more at 2 cut-off frequency.

ILP Interstage Low Pass Filter. Characteristic impedance 10,000 ohms, in and out.

LLP Line Low Pass Filter. Characteristic Impedance 500 to 600 Ω , in and out.

High Pass Filters: The attenuation characteristics of High Pass Filters are 6db or less at cut-off frequency, 35db and 40db or more at 0.67 and 0.5 cut-off frequency.

IHP Interstage High Pass Filter. Characteristic Impedance 10,000 ohms, in and out.

LHP Line High Pass Filter. Characteristic Impedance 500 to 600 Ω , in and out.

Band Pass Filters: The attenuation characteristics of Band Pass Filters are 2db or less at plus or minus 3% of center frequency 40db or more at 0.5 and 2 center frequency.

IBP Interstage Band Pass Filter. Nominal input impedance — 10,000 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 2:1. (Output voltage to source voltage.)

LBP Line Band Pass Filter. Nominal input impedance 500 to 600 ohms. Nominal output impedance 5 megohms or grid of vacuum tube. Effective voltage step-up 9:1. (Output voltage to source voltage.)

Special filters in all six types are available for any frequency from 200 to 20,000 cycles.

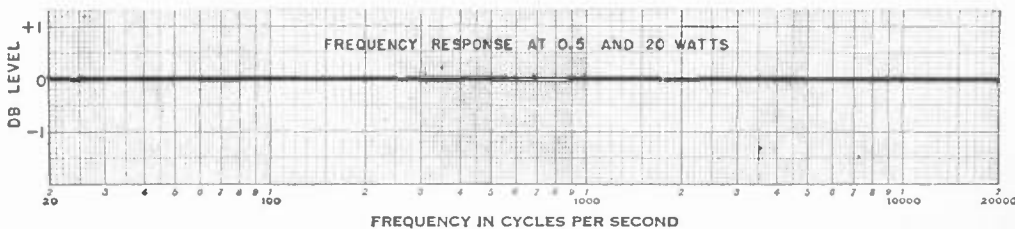
CASE DIMENSIONS



Catalog No.	Cut-off Frequency c.p.s.
ILP- 500	500
ILP- 750	750
ILP- 1,500	1,500
ILP- 1,600	1,600
ILP- 2,000	2,000
ILP- 2,500	2,500
ILP- 3,000	3,000
ILP- 7,000	7,000
ILP- 15,000	15,000
ILP- 20,000	20,000
LLP- 1,500	1,500
LLP- 1,600	1,600
LLP- 2,000	2,000
LLP- 2,500	2,500
LLP- 3,000	3,000
IHP- 300	300
IHP- 400	400
IHP- 1,000	1,000
IHP- 2,000	2,000
LHP- 300	300
LHP- 400	400
LHP- 1,000	1,000

Catalog No.	Center Frequency
IBP - 200	200
IBP - 250	250
IBP - 400	400
IBP - 800	800
IBP - 1,000	1,000
IBP - 1,500	1,500
IBP - 2,000	2,000
IBP - 3,000	3,000
IBP - 5,600	5,600
IBP -10,000	10,000
IBP -15,000	15,000
LBP- 300	300
LBP- 400	400
LBP- 600	600
LBP- 1,000	1,000
LBP- 1,500	1,500
LBP- 2,000	2,000
LBP- 3,000	3,000
LBP-10,000	10,000
LBP-20,000	20,000

NEW CIRCUIT REVISES WILLIAMSON HI-FIDELITY AMPLIFIER FOR IMPROVED PERFORMANCE.



- Frequency response: .1DB from 20 to 30,000 cps. at 20W.
- Harmonic distortion: 0.4% from 20 to 30,000 cps. at 20W.
- Two section L-C filter for improved stable performance.
- 20 Watt output connected as Williamson amplifier.
- 10 Watt output connected as ultra linear amplifier.

FREED supplies the following parts from stock.

Catalog No.	Application	Rating	Case No.
KA-10	output transf.	Prim: 10,000 Ω ct. Sec. 16/8 Ω	VS-506
KC-10	filter reactor	12Hy at 165MA, RDC 180 Ω	VS-304
KC-11	filter reactor	20Hy at 30MA, RDC 1,250 Ω	CH-40
KP-10	power transf.	Pri: 115V 60cps; Sec. 1: 1100 Vct at 150MA; Sec. 2: 6.3Vct at 4A; Sec. 3: 5V at 3A.	VS-606

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS

DC-4 CASE



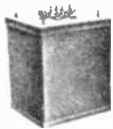
Height: 4 1/4"
 Width: 3 1/4"
 Length: 3"
 Mounting: 4 8-32 Stud.
 Mtg. Cen.: 2 1/2" x 2 1/2"
 Cutout: (2) 1 3/4" x 5/8"

DC-6B CASE



Height: 6"
 Width: 5"
 Length: 4 1/2"
 Mounting: 4 10 32 Sds
 Mtg. Cen.: 3 1/4" x 3"
 Cutout: 3" Dia.

OL-MA-2 CASE



Height: 4"
 Width: 4 7/8"
 Length: 3 1/16"
 Mounting: 4 10 32 Sds
 Mtg. Cen.: 2 1/2" x 3 3/4"
 Cutout: (2) 2 1/4" x 1 1/4"

OL-112-1 CASE

Height: 6"
 Width: 5 7/8"
 Length: 4 1/2"
 Mounting: 4 10 20 Sds
 Mtg. Cen.: 4 1/4" x 3 1/2"
 Cutout: 3" dia.

FH-EA CASE



Height: 2 11/16"
 Width: 1 7/8"
 Length: 1 1/4"
 Mounting: 4 6-32 Studs
 Mtg. Cen.: 1 3/8" x 1 1/4"
 Cutout: 1 1/16"

DM-03 CASE



Height: 2 1/2"
 Width: 1 1/2"
 Length: 1 1/2"
 Mounting: 4 6-32 Studs
 Mtg. Cen.: 1 1/16" x 1 1/16"
 Cutout: 1 1/4" Dia.

ULTRASONICS

New developments and applications of ultrasonics for industrial cleaning, roasting, welding, and mixing have created a demand for generators and components specifically designed for ultrasonic applications.

Using the latest developments in the field of special magnetic materials the FREED ultrasonic transformers are designed for greatest efficiency and maximum reliability. They feature small size, excellent performance and long life under continuous duty operation.

Transformers with an extended frequency range (frequencies up to 2 MC) can be supplied upon request.

ULTRASONIC DRIVER AND INPUT TRANSFORMERS

Frequency response: ± 1 DB 10 KC to 60 KC.

Catalog No.	Application	Primary Impedance Ohms	Ratio	Maximum Power Watts	Maximum Primary D.C. per Side Ma.	Case Size
ULI-20	Transducer to PP 811A	1, 2, 4	1:17.3	5		DM-03
ULD-20	PP 6CM6 to PP 811A	10,000	4.4:1	5	50	DM-03
ULD-50	PP 5881 to PP 8000	7,200	1.7:1	25	90	FH-EA

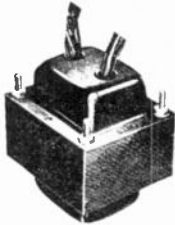
ULTRASONIC OUTPUT TRANSFORMERS

Frequency response: ± 1 DB 20 KC to 60 KC.

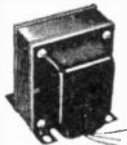
Catalog No.	Application	Impedance in Ohms Primary	Secondary	Maximum Power Watts	Maximum Primary D.C. per Side Ma.	Case Size
ULO-10	PP 6083 to transducer	7,600	1/4	100	120	DC-4B
ULO-11	Same	7,600	2/8	100	120	DC-4B
ULO-12	Same	7,600	4/16	100	120	DC-4B
ULO-13	Same	7,600	7.5/30	100	120	DC-4B
ULO-30	PP 811A to transducer	12,400	1/4	300	170	DC-4B
ULO-31	Same	12,400	2/8	300	170	DC-4B
ULO-32	Same	12,400	4/16	300	170	DC-4B
ULO-33	Same	12,400	7.5/30	300	170	DC-4B
ULO-34	Same	12,400	25	300	170	DC-4B
ULO-35	Same	12,400	125/500	300	170	DC-4B
ULO-36	Same	12,400	250/1000	300	170	DC-4B
ULO-37	Same	12,400	75/300	300	170	DC-4B
ULO-52	PP 8000 to transducer	10,800	4/16	500	230	OL-MA-2
ULO-53	Same	10,800	7.5/30	500	230	OL-MA-2
ULO-54	Same	10,800	25/100	500	230	OL-MA-2
ULO-55	Same	10,800	125/500	500	230	OL-MA-2
ULO-56	Same	10,800	250/1000	500	230	OL-MA-2
ULO-101	PP. Par. 8000 to transducer	5,400	25/100	1000	430	DC-6B
ULO-104	Same	5,400	75/300	1000	430	DC-6B
ULO-110	Same	5,400	18.8/75/300	1000	430	OL-112-1

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS



Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Studs
HS300	2 1/8	3	2 1/8	2 1/2 x 2	(4) 1/8 x 3/16
HS303	2 3/8	3	2 1/8	2 1/2 x 2	(4) "
HS306	3 1/4	3	2 1/8	2 1/2 x 2	(4) "
HS307	3 3/8	3	2 1/8	2 1/2 x 2	(4) "
HS503	3 1/8	3 3/4	3 1/8	3 1/4 x 2 1/2	(4) "
HS505	3 3/8	3 3/4	3 1/8	3 1/4 x 2 1/2	(4) "
HS603	3 3/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS605	4	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS606	4 3/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS610	4 3/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS612	4 7/8	4 1/2	3 3/4	3 3/4 x 3	(4) "
HS708	5 3/8	5 1/4	4 3/8	4 1/2 x 3 1/2	(4) 1/8 x 2 1/2
HS709	6	5 1/4	4 3/8	4 1/2 x 3 1/2	(4) "



Case No.	Height	Width	Depth	Mtg. Centers	Mtg. Holes
VS300	3 1/8	2 3/8	2 3/4	2 x 1 1/2	(4) 1/8 x 3/8
VS303	3 3/8	2 3/8	3	2 x 1 1/2	(4) "
VS304	3 7/16	4 1/8	3 1/4	2 1/2 x 3	(4) "
VS306	3 3/8	2 3/8	3 3/8	2 x 2 1/8	(4) "
VS307	3 3/8	2 3/8	3 3/8	2 x 2 1/8	(4) "
VS503	3 7/16	3 1/4	3 3/8	2 1/2 x 2 3/8	(4) "
VS505	3 7/16	3 1/4	3 3/8	2 1/2 x 2 3/8	(4) "
VS506	3 7/16	3 1/4	4 1/4	2 1/4 x 3	1/8 x 3/8
VS508	3 1/2	2 1/4	3 1/4	2 x 2 1/8	(4) "
VS603	4 1/8	3 3/8	3 3/8	3 x 2 1/8	(4) "
VS605	4 1/8	3 3/8	4 3/8	3 x 2 3/8	(4) "
VS606	4 1/8	3 3/8	4 3/8	3 x 3 1/8	(4) "
VS610	4 1/8	3 3/8	4 3/8	3 x 3 1/8	(4) "
VS612	4 1/8	3 3/8	5	3 x 3 3/8	(4) "
VS708	5 3/8	4 3/8	5 3/8	3 1/2 x 4	(4) 1/2 x 2 1/2
VS709	5 3/8	4 3/8	5 3/8	3 1/2 x 4 1/8	(4) "

REPLACEMENT GRADE COMPONENTS

These components are designed to meet the demand for low-cost replacement parts for commercial electronic equipment.

The best commercially available materials have been utilized in the design of these units, to insure reliability and excellent performance characteristics. Vacuum impregnation with a non-hygroscopic varnish to prevent penetration of humidity are employed to give these units long life and trouble-free performance.

230-115 V, 50-60 C. P. S. Stepdown Transformers rated from 25 V A up to 5,000 V A Rating and line booster transformers are included in this series.

All units, with only a few exceptions, are uncased or of shell-type construction.

Isolation transformers and Stepdown transformers are equipped with line cord and receptacle

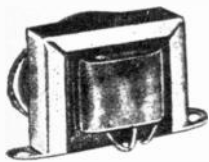
POWER TRANSFORMERS

All primaries designed for 115-volt, 50-60 cycle operation.

Catalog No.	Py Va	Choke Input		Cond. Input		Bias Tap	Rectifier	Fil. No. 1	Fil. No. 2	Fil. No. 3	Case No.
		Hi Volt	D.C.V. D.C.Ma.	D.C.V.	D.C.Ma.						
RGP 1	45	500V CT		270	40		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2A		VS300
RGP 2	"	"		"	"		"	"	"		HS300
RGP 3	57	600V CT		330	50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 2.5A		VS303
RGP 4	"	"		"	"		"	"	"		HS303
RGP 5	64	650V CT		370	50		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		VS303
RGP 6	"	"		"	"		"	"	"		HS303
RGP 7	73	600V CT		320	70		6X4, 5Y3	5/6.3V @ 2A	6.3V @ 3A		VS306
RGP 8	"	"		"	"		"	"	"		HS306
RGP 9	110	650V CT	225 140	330	100		5Y3, 5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 10	"	"	"	"	"		"	"	"		HS503
RGP 11	76	700V CT	260 100	385	70		5Y3	5V @ 2A	6.3V @ 2.5A		VS307
RGP 12	"	"	"	"	"		"	"	"		HS307
RGP 13	108	700V CT	250 125	370	90		5Y3, 5U4	5V @ 3A	6.3V @ 5A		VS503
RGP 14	"	"	"	"	"		"	"	"		HS503
RGP 15	127	700V CT	260 170	350	120		5U4	5V @ 3A	6.3V @ 5A		VS505
RGP 16	"	"	"	"	"		"	"	"		HS505
RGP 17	146	700V CT	260 210	350	150		5U4	5V @ 3A	6.3V @ 5A	6.3V @ 1A	VS603
RGP 18	"	"	"	"	"		"	"	"	"	HS603
RGP 19	207	800V CT	295 280	400	200		5U4, 2-5Y3	5V @ 4A	6.3V @ 6A		VS606
RGP 20	"	"	"	"	"		"	"	"		HS606
RGP 21	225	800V CT	295 280	400	200	80	5U4, 2-5Y3	5V @ 4A	6.3V @ 6A	5/6.3V @ 2A	VS606
RGP 22	"	"	"	"	"	"	"	"	"	"	HS606
RGP 23	268	840V CT	330 350	450	250	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	VS612
RGP 24	"	"	"	"	"	"	"	"	"	"	HS612
RGP 25	320	900V CT	340 420	490	300	80	2-5U4	5V @ 6A	6.3V @ 6A	5/6.3V @ 2A	VS708
RGP 26	"	"	"	"	"	"	"	"	"	"	HS708
RGP 27	127	900V CT	360 150				5U4	5V @ 3A	6.3V @ 5A		VS603
RGP 28	"	"	"				"	"	"		HS603
RGP 29	150	900V CT	350 200				5U4	5V @ 3A	6.3V @ 5A		VS605
RGP 30	"	"	"				"	"	"		HS605
RGP 31	203	1100V CT	400 250				5R4GY	5V @ 3A	6.3V @ 5A		VS610
RGP 32	"	"	"				"	"	"		HS610
RGP 33	248	1100V CT	420 300				2-5R4GY	5V @ 4A	6.3V @ 7A		VS612
RGP 34	"	"	"				"	"	"		HS612
RGP 35	310	1280V CT	480 350				2-5R4GY	5V @ 4A	6.3V @ 7A		VS709
RGP 36	"	"	"				"	"	"		HS709

FREED TRANSFORMER COMPANY, INC.

CASE DIMENSIONS



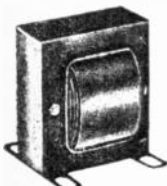
CH



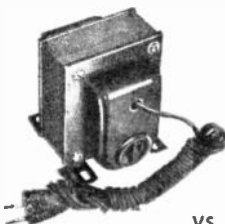
DC



HB



FV



VS

REPLACEMENT GRADE COMPONENTS

FILAMENT TRANSFORMERS

All primaries are for 115V, 50/60 c.p.s.

Catalog No.	Secondary Voltage	Secondary Current Amps.	Secondary Test Voltage RMS	Case Size
TF 1	2.5 (C.T.)	7.5	1500	CH60
TF 2	2.5 (C.T.)	10	1500	CH70
TF 3	2.5 (C.T.)	5	7500	DC2B
TF 4	2.5 (C.T.)	10	7500	DC4A
TF 5	5.0 (C.T.)	4	1500	CH60
TF 6	5.0 (C.T.)	6	1500	CH70
TF 7	5.0 (C.T.)	10	1500	CH80
TF 8	5.0 (C.T.)	10	1500	FV10
TF 9	5.0 (C.T.)	20	2500	FV30
TF 10	5.0 (C.T.)	20	10,000	DC6A
TF 11	6.3 (C.T.)	1.35	1500	CH50
TF 12	6.3 (C.T.)	3	1500	CH60
TF 13	6.3 (C.T.)	5	1500	CH70
TF 14	6.3 (C.T.)	7	1500	FV12
TF 15	6.3 (C.T.)	10	1500	FV22
TF 16	10 (C.T.)	5	2500	CH80
TF 17	10 (C.T.)	5	2500	FV10
TF 18	10 (C.T.) or 11 (C.T.) (tapped primary)	12 or 11	7500	DC-5C
TF 19	12.6 (C.T.)	2	1500	CH62

TF 3, 4 & 10 supplied with terminals. All others with leads.

AUTO TRANSFORMERS

To be used as step-down transformer. Equipped with standard receptacle and line cord.

Catalog No.	Transformation	VA Rating	Weight (lbs.)	Case Size
SDT 1*	230/115 V. 50/60 c.p.s.	25	1	CH-60
SDT 2*	230/115 V. 50/60 c.p.s.	50	1 1/4	CH-62
SDT 3	230/115 V. 50/60 c.p.s.	50	2 1/2	VS-300
SDT 4	230/115 V. 50/60 c.p.s.	100	3	VS-401
SDT 5	230/115 V. 50/60 c.p.s.	200	5	VS-501
SDT 6	230/115 V. 50/60 c.p.s.	300	6 1/2	VS-601
SDT 7	230/115 V. 50/60 c.p.s.	400	8	VS-604
SDT 8	230/115 V. 50/60 c.p.s.	500	11	VS-611
SDT 9	230/115 V. 50/60 c.p.s.	750	15	VS-706
SDT 10	230/115 V. 50/60 c.p.s.	1000	23	VS-712
SDT 11	230/115 V. 50/60 c.p.s.	1500	29 1/2	VS-722
SDT 12*	230/115 V. 50/60 c.p.s.	2000	37	HB-712
SDT 13*	230/115 V. 50/60 c.p.s.	2500	47	HB-722
SDT 14*	230/115 V. 50/60 c.p.s.	3000	58	HB-822
SDT 15*	230/115 V. 50/60 c.p.s.	5000	72	HB-920

*Supplied with leads without line cord and receptacle.

ISOLATION TRANSFORMERS

Electrostatic shield between primary and secondary. Equipped with standard receptacle and line cord.

Catalog Number	Primary Voltage 50/60 c.p.s.	Secondary Voltage	VA Rating	Case Size
IT 1	115	115	50	VS-401
IT 2	115	115	100	VS-503
IT 3	115	115	300	VS-700
IT 4	115	115	500	VS-714
IT 5*	220/440	110/220	250	VS-612
IT 6*	220/440	110/220	500	VS-714

*Supplied with leads without line cords and receptacle.

LINE BOOSTER TRANSFORMERS

Operates from 90 to 110 volts input to provide 10% step-up.

Catalog Number	Primary Voltage	Secondary Voltage	VA Rating	Case Size
LB-1	90-110	1.1 x input	350	VS-300
LB-2	90-110	1.1 x input	2000	VS-611

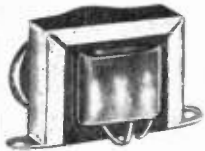
Case No.	Height	Width	Depth	Mis. Centers	Mis. Studs
DC2B	3 1/2	2 3/4	2 1/4	2 x 1 1/4	(4) 8-32
DC4A	3 3/4	3 1/2	3	2 1/2 x 2 1/2	(4) 8-32
DC5C	4 3/8	4 1/2	3 1/2	3 1/4 x 2 3/8	(4) 10-32
DC6A	4 3/8	5	4 1/4	3 3/8 x 3	(4) 10-32
CH50	1 3/4	2 3/8	1 1/4	2 3/8	(2) 7/8
CH60	2	3 1/4	1 1/4	2 3/8	(2) 7/8
CH62	2	3 1/4	2 1/4	2 3/8	(2) 7/8
CH70	2 3/8	3 11/16	2 1/4	3 1/8	(2) 7/8
CH80	2 3/4	4	2 3/4	3 1/8	(2) 7/8
FV10	3 1/8	2 1/2	2 1/8	2 x 2	(4) 1 1/4 x 2 1/8
FV12	3 1/8	2 3/4	2 1/8	2 x 2 1/8	(4) 1 1/4 x 2 1/8
FV22	3 3/8	2 3/4	2 3/8	2 1/2 x 2 1/4	(4) 1 1/4 x 3/8
FV30	4 1/8	3 3/8	3	2 1/2 x 2 1/4	(4) 1 1/4 x 3/8
HB712	6 1/4	6 1/2	8 1/2	4 3/4 x 4 1/2	(4) 1 1/4 x 1/2
HB722	6 1/4	6 1/2	9 3/4	4 3/4 x 5 1/4	(4) 1 1/4 x 1/2
HB822	6 3/8	7 1/8	9 7/8	5 1/8 x 5 1/4	(4) 1 1/4 x 1/2
HB920	6 3/8	7 3/8	10 1/4	6 1/2 x 7 3/8	(4) 1 1/4 x 1/2
VS300	3 5/8	2 3/8	3	2 x 2	(4) 1 1/4 x 3/8
VS401	3 3/8	2 3/8	3 1/4	2 1/4 x 1 3/8	(4) 1 1/4 x 3/8
VS501	3 3/8	3 1/4	3 3/8	2 1/2 x 2 1/8	(4) 1 1/4 x 3/8
VS503	3 3/8	3 1/4	3 3/8	2 1/2 x 2 1/8	(4) 1 1/4 x 3/8
VS601	4 1/8	3 3/8	3 3/8	3 x 2 3/8	(4) 1 1/4 x 3/8
VS604	4 1/8	3 3/8	4	3 x 2 3/8	(4) 1 1/4 x 3/8
VS611	4 1/8	3 3/8	4 1/4	3 x 3 3/8	(4) 1 1/4 x 3/8
VS612	4 1/8	3 3/8	5	3 x 3 3/8	(4) 1 1/4 x 3/8
VS700	5 7/8	3 3/8	5	3 1/2 x 3 1/4	(4) 1 1/4 x 3/8
VS706	5 7/8	4 3/8	5 1/4	3 1/2 x 3 3/4	(4) 1 1/4 x 3/8
VS714	5 7/8	4 3/8	6 1/4	3 3/4 x 4 3/4	(4) 1 1/4 x 3/8
VS718	5 7/8	4 3/8	7	3 3/4 x 5 1/4	(4) 1 1/4 x 3/8
VS722	5 7/8	4 3/8	8 1/4	3 1/2 x 6 1/4	(4) 1 1/4 x 3/8

FREED TRANSFORMER COMPANY, INC.

REPLACEMENT GRADE COMPONENTS

AUDIO TRANSFORMERS

CASE DIMENSIONS



CH-40 CASE
 Height: 1 1/16"
 Width: 2 3/8"
 Depth: 1 3/16"
 Mtg. Cen.: 2"

CH-50 CASE
 Height: 1 1/16"
 Width: 2 1/8"
 Depth: 1 3/8"
 Mtg. Cen.: 2 3/8"

CH-60 CASE
 Height: 2"
 Width: 3 1/4"
 Depth: 1 3/8"
 Mtg. Cen.: 2 1/16"

CH-80 CASE
 Height: 2 5/8"
 Width: 4"
 Depth: 2 5/8"
 Mtg. Cen.: 3 9/16"



VS-100 CASE
 Height: 2 11/16"
 Width: 1 7/8"
 Depth: 2 1/4"
 Mtg. Cen.: 1 1/8" x 1 1/16"

VS-300 CASE
 Height: 3 3/16"
 Width: 2 5/8"
 Depth: 2 3/4"
 Mtg. Cen.: 2" x 1 1/16"

VS-303 CASE
 Height: 3 3/16"
 Width: 2 5/8"
 Depth: 3"
 Mtg. Cen.: 2 x 1 1/16"
 Mtg. Hole: (4) 3/16 x 3/16"

VS-306 CASE
 Height: 3 3/16"
 Width: 2 5/8"
 Depth: 3 3/8"
 Mtg. Cen.: 2 x 2 1/16"
 Mtg. Hole: (4) 3/16 x 3/16"

VS-308 CASE
 Height: 3 3/16"
 Width: 2 7/8"
 Depth: 3 3/8"
 Mtg. Cen.: 2" x 2 1/16"

Catalog No.	Application	Impedance Level		Max. Power Level DBM or Power in Watts	Ratio	Max. Pri. D.C. per Side Ma.	D.C. Un-balance Ma.	Freq. Response C.P.S.	Case No.
		Primary	Secondary						
RGA 1	Input; multiple line or double button mike to single or push-pull grids.	500 CT 200 CT	100,000 CT	+20	1:1.4:1	50	5	±2DB 200-5000	CH-40
RGA 2	Input; single button mike to single or push-pull grids.	100	100,000 CT	+20	1:31.6	50		±2DB 200-5000	CH-40
RGA 3	Input; voice coil to grid. Intercom	3.2	100,000	+20	1:1.79			±2DB 200-5000	CH-40
RGA 4	Mixing and matching line to line.	600 CT 500 CT 200 CT 150/125/50	600 CT 500 CT 200 CT 150/125/50	+20	1:1			±2DB 100-5000	CH-40
RGA 5	Interstage; single triode plate to single or P.P. grids.	10,000	90,000 CT	+30	1:3	10		±2DB 200-5000	CH-40
RGA 6	Output; single plate to line or mixer.	10,000	600 CT 500 CT 200 CT 150/125/50	+30	4.8:1	10		±2DB 200-5000	CH-40
RGA 7	Output; Push-pull plate to line or mixer.	20,000 CT	600 CT 500 CT 200 CT 150/125/50	+30	6.32:1	10	1	±2DB 200-5000	CH-40
RGA 8	Output; plate to V.C. 6AL6, 6L6, 6Y6, 25B6, 25C6, 35A5, 35B5, 35C5, 50B5, 50C5, 50C6, 50L6, 117N7.	2500	3.2	5W		70		±3DB 200-10000	CH-40
RGA 9	Output; plate to V.C. 6V6, 6AQ5, 6AS5, 7C5.	5000	3.2	5W		50		±3DB 200-10000	CH-40
RGA 10	Output; plate to V.C. 6AR5, 6K6, 6V6, 7B5, 14A5, 35A, 3U4, 3Q4, 3Q5, 3C5, 3A4.	10,000 or 7500	3.2	5W		30		±3DB 200-10000	CH-40
RGA 11	Output; P.P. plates to V.C. P.P. 6V6, PP6K6.	12,000 CT or 8000 CT	3.2	15W		50	5	±2DB 200-8000	CH-60
RGA 12	Output; TP to V.C. 6V6, 6AQ5, 7C5, C1A8.	10,000 CT	3.2	10W	5.6:1	40	4	±3DB 200-10000	CH-60

REPLACEMENT GRADE CHOKES

Catalog No.	Inductance in Henries	Rated Current D.C. Ma.	D.C. Resistance	Dielectric Test Voltage	Case Number
RGC 17	40	15	2000	1000	CH-40
RGC 1	4	40	200	1000	CH-40
RGC 2	9	40	400	1000	CH-40
RGC 3	6	50	400	1000	CH-40
RGC 18	20	50	425	1500	CH-60
RGC 4	10	55	400	1500	CH-50
RGC 19	3	75	200	1500	CH-40
RGC 5	10	75	250	1500	CH-60
RGC 6	10	75	250	1500	VS-100
RGC 7	6	100	150	1500	CH-60
RGC 8	6	100	150	1500	VS-100
RGC 9	3.5	150	100	1500	CH-60
RGC 10	3.5	150	100	1500	VS-100
RGC 20	12	160	180	2500	VS-306
RGC 11	2	200	60	1500	CH-60
RGC 12	2	200	60	1500	VS-100
RGC 13	3.7	200	65	1500	CH-80
RGC 21	7	200	100	2500	VS-303
RGC 14	3.7	200	65	1500	VS-300
RGC 15	2.8	300	65	1500	CH-80
RGC 16	2.8	300	65	1500	VS-300
RGC 22	5	300	65	2500	VS-308

FREED TRANSFORMER COMPANY, INC.

PRICE LIST

Table with columns: Catalog No., Net Price. Lists items from EPT-1 to MGA-9.

Table with columns: Catalog No., Net Price. Lists items from MGC-8 to MGP-12.

Table with columns: Catalog No., List Price. Lists items from PGC-12 to PGC-20.

Table with columns: Catalog No., Net Price. Lists items from QCC-7 to QCC-24.

Table with columns: Catalog No., List Price. Lists items from TF-1 to TF-19.

Table with columns: Catalog No., Net Price. Lists items from DST-15 to DST-14.

FREED TRANSFORMER COMPANY, INC.

PRICE LIST

PRICE LIST (CONT.)

Toroidal Inductors

Prices shown are Net for Hermetically Sealed. Deduct \$1.50 from Net for Uncased units. Add \$1.00 to Net for Encapsulated units.

Table for Type TI-1 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-800 to F-830.

Table for Type TI-4 and 4s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-850 to F-878.

Table for Type TI-1A and As Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1500 to F-1523.

Table for Type TI-9s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1524 to F-1538.

Table for Type TI-10s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1539 to F-1578.

Table for Type TI-11 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1620 to F-1644.

Table for Type TI-12 and 12s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1645 to F-1677.

Table for Type TI-5 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1700 to F-1730.

Table for Type TI-5s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1701 to F-1720.

Table for Type TI-6 and 6s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1721 to F-1745.

Table for Type TI-11s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1746 to F-1775.

Table for Type TI-7 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1776 to F-1795.

Table for Type TI-7s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1796 to F-1815.

Table for Type TI-8 and 8s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1816 to F-1845.

Table for Type TI-3s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1846 to F-1875.

Table for Type TI-3As Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1876 to F-1895.

Table for Type TI-15 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1896 to F-1925.

Table for Type TI-14 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1926 to F-1955.

Table for Type TI-16 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-1956 to F-2000.

Table for Type TI-17 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-2001 to F-2117.

Table for Type TI-18 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-2118 to F-2157.

Table for Type TI-19 Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-2158 to F-2197.

Table for Type TI-20s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-2198 to F-2237.

Table for Type TI-21s Toroidal Inductors with columns for Catalog No., Pgs. in Cat., and Net Price, listing models from F-2238 to F-2277.

Table for Type TI-22s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-2278 to F-2317.

Table for Type TI-23s Toroidal Inductors with columns for Catalog No. and Net Price, listing models from F-2318 to F-2357.



Haldorson

CHICAGO 39, ILL.

**TRANSFORMER
CORPORATION**

MIL-T-27A Steel Jacket Line

MILITARY STANDARD TRANSFORMERS

The U. S. Army Signal Corps, U. S. Bureau of Ships, and the U. S. Air Force, working jointly through the Armed Services Electronic Standards Agency, and in cooperation with leading producers of military transformers, have established certain military standard transformers. These transformers bear government classification and part numbers, as shown below. Dimensions, mounting centers, terminal arrangements, and markings are all in accordance with government specifications. All these units will meet the requirements of Grade 1 and Grade 4 MIL-T-27A specifications for Class R operation. The components listed in this series have application in military communication and control equipment, whether air-borne, ship-borne, mobile or ground installed.

Input		300 TO 10,000 CPS MAXIMUM ALTITUDE 30,000 FT.					
Part No.	MIL-T-27A Classification	MIL-T-27A Part No.	Primary Impedances (Ohms)	Max. D.C. Amps. in Primary	Secondary Impedance (Ohms)	Max. Power Level	Case Size Wt. Lbs.
27A02	TF1RX10AJ001	MS-90002	*600 ohms CT		135,000 ohms CT	15 dbm.	AJ .75

Interstage		300 TO 10,000 CPS MAXIMUM ALTITUDE 30,000 FT.					
Part No.	MIL-T-27A Classification	MIL-T-27A Part No.	Primary Impedances (Ohms)	Max. D.C. Amps. in Primary	Secondary Impedance (Ohms)	Max. Power Level	Case Size Wt. Lbs.
27A03	TF1RX16AJ001	MS-90003	*600 ohms CT		*600 ohms CT	15 dbm.	AJ .75
27A01	TF1RX15AJ001	MS-90000	10000 ohms CT	.010 amp.	22,500 ohms CT 22,500 ohms CT	15 dbm.	AJ .75

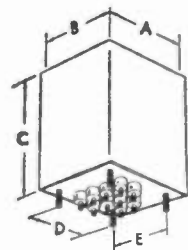
Output		300 TO 10,000 CPS MAXIMUM ALTITUDE 30,000 FT.					
Part No.	MIL-T-27A Classification	MIL-T-27A Part No.	Primary Impedances (Ohms)	Max. D.C. Amps. in Primary	Secondary Impedance (Ohms)	Max. Power Level	Case Size Wt. Lbs.
27501	TF1RX16AJ002	MS-90001	*600 ohms CT		4 8/16 ohms	2 watts	AJ 1
27502	TF1RX13AJ001	MS-90004	4800/7600	.040 amp.	*600 ohms CT	2 watts	AJ 1
27503	TF1RX13AJ002	MS-90005	4800/7600	.040 amp.	4 8/16 ohms	2 watts	AJ 1
27504	TF1RX13AJ003	MS-90006	15000 ohms CT	.010 amp.	*600 ohms CT	2 watts	AJ 1
27505	TF1RX13AJ004	MS-90007	24000 ohms CT	.020 amp.	*600 ohms CT	1 watt	AJ 1
27506	TF1RX13AJ005	MS-90008	60000 ohms CT	.020 amp.	*600 ohms CT	.5 watt	AJ 1

Part No.	MIL-T-27A Classification	MIL-T-27A Part No.	Inductance (Henrys)		Current (MADC)		Case Size
			Series	Parallel	Series	Parallel	
27C01	TF1RX04FA001	MS-90009	16	4	80	160	FA
27C02	TF1RX04GA002	MS-90010	25	6.25	80	160	GA
27C03	TF1RX04HA003	MS-90011	40	10	80	160	HA
27C04	TF1RX04HA005	MS-90013	16	4	125	250	HA
27C05	TF1RX04JB006	MS-90014	25	6.25	125	250	JB
27C06	TF1RX04KA007	MS-90037	40	10	125	250	KA
27C07	TF1RX04LA009	MS-75000	16	4	200	400	LA
27C08	TF1RX04MA010	MS-75001	25	6.25	200	400	MA
27C09	TF1RX04NA012	MS-75002	16	4	315	630	NA
27C10	TF1RX04YY013	MS-75003	25	6.25	315	630	YY

Part No.	MIL-T-27A Classification	MIL-T-27A Part No.	Secondary		Insulation Volts RMS	Case Size	Wt. Lbs.
			Volts	Amps			
27F36	TF1RX01EB002	MS-90016	2.5	3.0	2500	EB	1 1/2
27F37	TF1RX01GB003	MS-90017	2.5	10	2500	GB	2 1/2
27F38	TF1RX01FB004	MS-90018	5.0	3.0	2500	FB	1 3/4
27F39	TF1RX01HB005	MS-90019	5.0	10	2500	HB	4
27F40	TF1RX01FB006	MS-90020	6.3	2.0	2500	FB	1 3/4
27F41	TF1RX01GB007	MS-90021	6.3	5.0	2500	GB	2 3/4
27F42	TF1RX01JB008	MS-90022	6.3	10	2500	JB	5
27F43	TF1RX01KB009	MS-90023	6.3	20	2500	KB	8
27F44	TF1RX01JB012	MS-90024	2.5	10	10000	JB	4 3/4
27F45	TF1RX01KB013	MS-90025	5.0	10	10000	KB	7

FREE REGISTERED CATALOG

Your free "personalized" registered loose-leaf catalog containing information on more than 2500 highest quality transformers and coils may be obtained by sending your name and address to Gramer-Haldorson, Dept. M, 2734 N. Pulaski Rd., Chicago 39, Illinois.



MIL-T-27A CASE TYPE

CASE DIMENSIONS

	AJ	EB	FA	FB	GA
A	1 5/8	1 15/16	2 5/16	2 5/16	2 3/4
B	1 5/8	1 13/16	2 1/16	2 1/16	2 3/8
C	2 3/8	2 7/16	3 1/8	2 1/2	3 13/16
D	1 3/16	1 3/8	1 11/16	1 11/16	2 1/8
E	1 3/16	1 1/4	1 7/16	1 7/16	1 3/4

	GB	HA	HB	JB
A	2 3/4	3 1/16	3 1/16	3 9/16
B	2 3/8	2 5/8	2 5/8	3 1/16
C	2 13/16	4 1/4	3 3/16	3 7/8
D	2 1/8	2 19/64	2 19/64	2 5/8
E	1 3/4	1 55/64	1 55/64	2 1/8

	KA	KB	LA	LB
A	3 15/16	3 15/16	4 5/16	4 5/16
B	3 3/8	3 3/8	3 11/16	3 11/16
C	5 1/4	4 5/16	5 9/16	4 1/2
D	3	3	3 5/16	3 5/16
E	2 7/16	2 7/16	2 11/16	2 11/16

	MA	MB	NA	NB
A	4 11/16	4 11/16	5 1/16	5 1/16
B	4	4	4 5/16	4 5/16
C	6	4 15/16	6 13/16	5 1/2
D	3 11/16	3 11/16	4 1/16	4 1/16
E	3	3	3 5/16	3 5/16



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MIL-T-27A Steel Jacket Line

Power Transformers — Reactor Input Systems PRIMARY—105/115/125 V. FREQUENCY—54.66 CYCLES

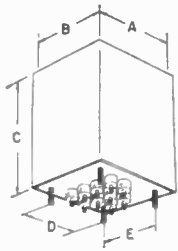
Part No.	MIL-T-27A Classification	MIL-T-27A Part No.	Secondary		D-C V Output	Rectifier Filament		Filament No. 2		Case Size	Wt. Lbs.
			A-C Volts	D-C MA.		Volts	Amps	Volts	Amps		
27R86	TF1RX03HA001	MS-90026	200-100-0-100-200	70	385	6.3/5	2	6.3	3	HA	4
27R87	TF1RX03JB002	MS-90027	325-0-325	70	260	6.3/5	2	6.3	4	JB	5
27R88	TF1RX03KB006	MS-90028	325-0-325	150	245	6.3	5	6.3	3	KB	7 1/4
27R89	TF1RX03LB003	MS-90029	400-0-400	175	318	5	3	6.3	8	LB	10
27R90	TF1RX03MB004	MS-90030	450-0-450	250	345	5	3	6.3	8	MB	13
27R91	TF1RX02KB001	MS-90031	350-0-350	250	255					KB	7 1/2
27R92	TF1RX02LB002	MS-90032	550-0-550	250	419					LB	11
27R93	TF1RX02NB003	MS-90036	800-0-800	250	640					NB	16 1/2

* Split center tap—balanced windings.

FOR 400 CYCLE OPERATION

These transformers are designed to meet all of the specifications of MIL-T-27A Class S. They are "steel jacketed," in case sizes and dimensions, exactly as specified by MIL-T-27A standards.

These units have been developed for aircraft and mobile communication control equipment, for use in the guided missile program, and should have application in future developments in the fields of aeronautics and rocketry.



MIL-T-27A CASE TYPE

CASE DIMENSIONS

	AH	AJ	AJ-1	EA
A	1 5/16	1 5/8	1 5/8	1 15/16
B	1 5/16	1 5/8	1 5/8	1 13/16
C	1 3/4	2 3/8	2 3/8	2 3/4
D	Diag. 1 1/4	1 3/16	1 5/8	1 3/8
E		1 3/16		1 1/4

	EB	FA	FB	GA
A	1 15/16	2 5/16	2 5/16	2 3/4
B	1 13/16	2 1/16	2 1/16	2 3/8
C	2 7/16	3 1/8	2 1/2	3 13/16
D	1 3/8	1 11/16	1 11/16	2 1/8
E	1 1/4	1 7/16	1 7/16	1 3/4

	HA	HB	JA	KA
A	3 1/16	3 1/16	3 9/16	3 15/16
B	2 5/8	2 5/8	3 1/16	3 3/8
C	4 1/4	3 3/16	4 7/8	5 1/4
D	2 15/64	2 19/64	2 5/8	3
E	1 55/64	1 55/64	2 1/8	2 7/16

Power PRIMARY 105/115/125 V. 380-1000 CYCLES

Part No.	Plate Supply		Rectifier Filament		Other Filaments		Case Type	Terminal Type	Wt. Lbs.
	Volts	M.A.D.C.	Volts	Amps.	Volts	Amps.			
27R62*	250-0-250	40	6.3 CT	1	6.3	1	EB	B	1 1/2
27R94	270-0-270	55	5.0	2	6.3 CT	2	FA	A	1 1/2
27R95	335-0-335	70	5.0	2	6.3 CT	3	FA	A	1 3/4
27R96	375-0-375	120	5.0	3	6.3 CT	4	HA	B	2 1/2
27R97	440-0-440	165	5.0	3	6.3 6.3 6.3 6.3	7.5 3 3 0.6	JA	B	6
27R98	450-0-450	200	5.0	2	6.3 6.3 6.3	4 4 0.6	JA	B	5 1/2
27R99	550-370-75-0 75-370-550	300	5.0	6	6.3 CT 6.3 CT	5 1	KA	B	6 1/2

* Primary 115 Volts 380-1000 CPS.

Filament Transformers PRIMARY 105/115/125 V. 380-1000 CYCLES

Part No.	Secondary		Insulation Volts Rms.	Case Type	Terminal Type	Wt. Lbs.
	Volts	Amps.				
27F35	6.3 CT	2	2000	AJ-1	7 Pin	3/4
27F59	6.3 CT	3	2500	AJ	B	3/4
27F60	6.3 CT	5.5	2500	EA	B	1
27F61	6.3 CT	10	2500	FA	B	1 3/4
27F62	6.3 CT	20	2500	GA	B & C	2 1/2

Chokes

Part No.	Inductance Ratings		D.C. Resistance (Ohms)	Insulation Volts Rms.	Case Type	Terminal Type	Wt. Lbs.
	Henrys	M.A.D.C.					
27C26	2.0	55	160	2500	AH	B	3/4
27C27	2.0	70	165	2500	AH	B	3/4
27C28	2.0	120	100	2500	EB	B	1
27C29	2.0	165	90	2500	EB	B	1 1/2
27C30	2.0	200	73	2500	FB	B	1 3/4
27C31	2.0	300	47	2500	HB	B	3 1/4

Step-Down Transformer THREE-PHASE 400 CYCLES

400 cycle 3 phase. 27V17 is a Y-Y connected 400 cycle 3 phase Step-Down Transformer—Primary is 115 volts per phase. Designed for use primarily in airborne communication and control equipment. This transformer is rated at 140 VA.

Part No.	Secondary		Case Type	Terminal Type	Wt. lbs.
	Volts	VA. Cap.			
27V17	28.5	140	HA	B	3

Merit POWER TRANSFORMERS



Merit No.	Plate Supply		Rectifier		Filament Wdgts.		Mfg. Type	Dimensions—Inches				Sngl. Wt. Lbs. Oz.
	Volts	DCMA	Volts	Amps	Volts	Amps		Mfg. Centers	H	W	D	
P-3044	95	145			6.3	6.45	C	2 3/16	2 1/2	3	3 3/4	3.0
*P-2880	117	240			6.3	7.0	C	3 1/16 x 4 1/16	3 3/4	4 3/4	4 1/2	8.0
*P-2871	119.5	380			6.3	6.5	D	2 1/4	3 1/2	2 9/16	3 3/4	5.0
*P-3045	120	50			6.3	2.0	A	3 1/16	2 3/16	3 11/16	2 1/2	1.7
*P-3144	123**	200			6.3	10.3	D	x 2 11/16	3 3/8	2 1/2	3 3/4	4.0
P-3079	140 117 tap	300			6.3	1	C	x 3 3/4	3 3/4	4 1/2	4 1/2	8.0
P-3046	150	25			6.3	1	B	2	2	2 1/2	2 1/2	0.12
P-2892	210-210	240			6.3	8.8	C	3 3/16 x 4 1/16	3 3/4	4 1/2	4 1/2	8.6
P-3052	230-230	240			6.3	8.8	C	2 11/16 x 3 7/16	3 1/2	3 11/16	4 1/2	10.0
P-2949	240-240	40			6.3	2.0	C	x 1 1/2	2 1/2	3	2 1/2	2.6
P-3149	240-240	50			6.3	2.5	D	x 2 1/2	2 1/2	3 3/8	2 1/2	2.7
P-3147	240-240	50			6.3	2.5	D	x 1 9/16	2 1/2	3 1/2	2 1/2	2.0
P-2958	240-240	50			6.3	6.0	D	x 2 1/2	2 1/2	3	3	2.10
P-2830	253-253	300			6.3	6.0	C	x 3 3/4	3 3/4	4 1/2	4 1/2	11.0
P-3051	260-260	70			6.3	3.0	C	x 2 1/2	2 1/2	3	3 1/2	3.0
P-3148	260-260	90			6.3	4.7	C	x 2 3/4	2 1/2	3 1/2	3 1/2	3.2
P-3148	260-260	90			6.3	4.7	C	x 2 3/4	2 1/2	3 1/2	3 1/2	3.2
P-2870	265-262	250			6.3	10.0	C	2 11/16 x 3 3/16	3 1/2	3 3/4	3 3/4	5.8
P-3050	265-265	260			6.3	10.0	C	2 11/16 x 3 3/16	3 1/2	3 3/4	3 3/4	5.8
P-2873	265-265	265			12.6 ct.	5.1	CSS	x 3 3/8	3 1/2	3 3/4	3 3/4	11.1
P-3115	265-265	300			12.6 ct.	4.7	C	x 3 3/4	3 1/2	4 1/2	4 1/2	6.8
P-3081	265-265	300			12.6 ct.	4.9	C	x 3 3/4	3 1/2	4 1/2	4 1/2	11.0
P-2881	265-265	320			12.6 ct.	6.4	CSS	x 4 1/8	5 3/4	3 3/4	4 1/2	12.6
P-2882	265-265	380			12.6 ct.	6.4	CSS	x 4 1/8	5 3/4	3 3/4	4 1/2	12.6
P-2872	265-268	260			6.3	10.6	C	x 3 1/8	3 1/2	3 3/4	3 3/4	7.0
P-2883	265-268	200			6.3	8.0	C	x 2 1/2	2 1/2	3 1/2	3 1/2	7.6
P-3076	270-270 180-180	200 1300			12.6 ct. 6.3	4.4 6.5	C	x 3 3/4	3 3/4	4 1/2	4 1/2	13.8
P-3136	270-270	270			12.6 ct.	4.4	D	x 4 1/4	4 3/4	3 3/4	4 1/2	8.0
P-3134	275-275	220			6.3	8.5	C	x 3 3/16	3 3/4	4 1/2	4 1/2	3.5
P-2882	275-275	220			6.3	9.2	C	x 3 3/16	3 3/4	4 1/2	4 1/2	11.0
*P-2879	117	280			6.3	12.6	C	x 4 1/16	3 3/4	4 1/2	4 1/2	9.0
P-3049	275-275	310			6.3	12.6	CS	x 3 3/4	3 3/4	4 1/2	4 1/2	13.8
P-2839	276-276	290			6.3	11.5	CSS	x 3 3/4	3 3/4	4 1/2	4 1/2	14.8
P-2874	277-277	210			6.3	7.0	C	x 3 3/8	3 3/4	3 3/4	3 3/4	6.8
P-3084	278-278	220			6.3	8.0	C	x 3 7/16	3 3/4	4 1/2	4 1/2	12.0
P-2878	279-279	265			6.3	7.1	C	x 3 7/16	3 3/4	3 3/4	4 1/2	9.8
P-3052	280-280	90			6.3	5.0	C	x 4 1/16	3 3/4	4 1/2	4 1/2	12.0
P-2844	280-280	205			6.3	11.5	C	x 3 11/16	2 13/16	3 3/4	3 3/4	4.2
P-3058	280-280	315			6.3	9.7	C	x 4 1/16	3 3/4	4 1/2	4 1/2	9.0
P-2882	281-281	250			6.3	8.7	C	x 2 1/16	3 3/4	4 1/2	4 1/2	12.0
P-3056	282-282	240			6.3	9.7	C	x 4 1/16	3 3/4	4 1/2	4 1/2	10.0
P-2837	282-282	250			6.3	9.25	CS	x 3 3/4	3 3/4	4 1/2	4 1/2	12.0
P-2881	280-280	250			6.3	8.0	D	x 3 1/2	3 3/4	3 3/4	3 3/4	8.0
P-2882	286-286	210			6.3	8.0	D	x 3 1/2	3 3/4	3 3/4	3 3/4	8.0
P-2867	290-290	230			6.3	12.4	D	x 2 3/4	4 3/8	3 11/16	3 11/16	7.0
P-3134	290-290	270			12.6 ct.	12.8	D	x 3 7/8	4 3/8	3 3/4	3 3/4	8.4
P-3084	295-292	340			12.6 ct.	6.1	C	x 3 3/4	3 3/4	4 1/2	4 1/2	13.0
P-2884	292-292	310			6.3	8.5	C	x 3 1/2	4 1/4	3 1/2	4 1/2	8.14
P-2886	300-300	250			6.3	11.2	C	x 3 7/16	3 7/16	4 1/2	4 1/2	10.0
P-3077	300-300	250			6.3	10.0	C	x 3 3/4	3 3/4	4 1/2	4 1/2	10.2
P-3055	300-300	400			6.3	10.0	C	x 3 3/4	3 3/4	4 1/2	4 1/2	14.4
P-2833	305-305	300			6.3	9.75	C	x 3 3/4	3 3/4	4 1/2	4 1/2	13.5
P-2847	306-306	460			6.3	11.4	C	x 4 3/8	4 3/8	5 1/4	5 1/4	14.0
P-2840	312-312	340			6.3	5.1	CSS	x 3 3/4	6 1/4	4 1/2	3 3/4	14.0
P-2884	320-320	270			6.3	1.5	D	x 3 1/2	4 3/4	3 3/4	3 3/4	9.0
P-3073	322-322	1180			6.3	5.2	CS	x 3 3/4	4 3/4	3 3/4	4 1/2	12.5
P-2950	325-325	70			6.3	10.0	C	x 3 3/4	3 3/4	4 1/2	4 1/2	12.5

* Can be used as isolation transformer by ignoring filament windings

Quality In Production—Speed In Delivery

Merit Power TRANSFORMERS

Plate and Filament



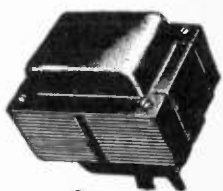
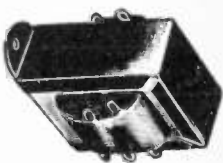
Merit No.	Plate Supply Volts	DCMA	Rectifier		Filament Wdgs.		Mfg. Type	Dimensions—inches				Shpd. Wt. Lbs.-Oz.
			Volts	Amps	Volts	Amps		Mir. Centers	H	W	D	
P-3150	325-325	40	5	2.0	6.3 c.t.	2.0	D	2	x 1 1/8	3 1/8	2 1/8	2-13
P-2951	325-325	70	5	3.0	6.3 c.t.	3.5	D	2 1/2	x 1 1/2	3 1/8	3 1/8	3-6
P-3151	325-325	1250	5	3.0	6.3 c.t.	13.0	D	3	x 3 3/4	3 1/8	3 1/8	4-2
P-2831	325-325 {211-211	90	5	2.0	6.3	13.0	C	3	x 3 3/4	3 1/8	4 1/2	5 1/8
P-2838	333-333	250	5	3.0	6.3*	5.8 3.3 3.3	CS	3	x 3 3/4	3 1/8	4 1/2	5 1/2
P-2877	338-338	300	5	6.0	6.3	10.1 2.4	C	3 3/16	x 4 1/16	3 1/8	4 3/8	5 3/8
P-2887	342-342	180	5	3.0	12.6 c.t.	6.0	D	4	x 3	4 1/8	3 3/8	5
P-2957	350-350	148	5	2.0	6.3 c.t.	2.6	C	2 1/4	x 2 1/16	3 1/8	2 1/8	3-0
P-3160	350-350	50	5	2.0	6.3 c.t.	2.6	C	2 1/4	x 2	3 1/8	2 1/8	3-2
P-2966	350-350	70	5	3.0	2.5 c.t.	9.0	C	2 1/4	x 2 1/16	2 1/8	3 3/8	4-10
P-3050	350-350	90	5	3.0	2.5 c.t.	12.5	C	2 1/2	x 3 1/8	3 1/8	3 1/8	4-10
P-2952	350-350	90	5	3.0	6.3 c.t.	3.5	D	2 1/4	x 2 1/16	3 1/8	3 1/8	4-12
P-3152	350-350	90	5	3.0	6.3 c.t.	3.5	D	2 1/4	x 2 1/16	3 1/8	3 1/8	5-10
P-3153	350-350	110	5	3.0	6.3 c.t.	4.5	D	3	x 3 1/8	3 1/8	3 1/8	5-12
P-2951	350-350	120	5	3.0	6.3 c.t.	4.7	D	3	x 3 1/8	3 1/8	3 1/8	6-12
P-3171	350-350	150	5	3.0	6.3 c.t.	6.5	D	2 1/2	x 2 1/8	3 1/8	3 1/8	6-14
P-3054	350-350	1180	5	6.0	6.3	10.2	C	3	x 3 3/4	3 1/8	4 1/2	13-4
P-3165	350-350	200	5	2.0	6.3	7.6	D	3	x 3 3/8	4 1/8	3 3/8	11-10
P-3069	350-350	225	5	3.0	6.3	10.0	CS	3	x 3 3/4	3 1/8	4 1/2	9-8
P-3070	350-350	225	5	3.0	6.3	10.0	C	3	x 3 3/4	3 1/8	4 1/2	9-0
P-3057	350-350	290	5	6.0	6.3	9.5	C	3 3/16	x 4 1/16	3 1/8	4 1/2	15-0
P-3071	360-360	180	5	3.0	6.3	2.4	C	2 3/16	x 3 1/16	3 1/8	4 1/2	9-10
P-3072	360-360	180	5	3.0	6.3	9.0	CS	2 3/4	x 3 1/16	3 1/8	4 1/2	9-6
P-2834	360-360	225	5	6.0	6.3	1.2	C	3	x 3 3/4	3 1/8	4 1/2	11-14
P-3059	360-360	250	5	2.0	6.3	2.7	C	3	x 3 3/4	3 1/8	4 1/2	11-5
P-3063	360-360	250	5	2.0	6.3	9.0	C	3 1/16	x 4 1/16	3 1/8	4 1/2	11-10
P-3078	360-360	275	5	3.0	6.3 or 5	1.2 9.0	C	3	x 3 3/4	3 1/8	4 1/2	11-8
P-3179	362-362	210	5	3.0	12.6 c.t.	6.0	D	3	x 3 1/16	4 1/8	3 1/8	11-2
P-3061	362-362	295	5	6.0	12.6 c.t.	5.0	C	3 1/16	x 4 1/16	3 1/8	4 1/2	15-0
P-2875	373-373	190	5	3.0	6.3	7.8	C	3	x 3 3/4	3 1/8	4 1/2	7-6
P-2954	375-375	150	5	3.0	6.3 c.t.	1.2	C	2 1/2	x 3 1/8	3 1/8	4 1/2	7-6
P-2886	375-375 {220-220	100	5	2.0	12.6 c.t.	6.0	D	3	x 3 3/16	4 1/8	3 3/8	11-6
P-3053	375-375	1170	5	3.0	6.3*	7.0	C	3	x 3 3/4	3 1/8	4 1/2	14-8
P-3066	375-375	1170	5	3.0	6.3 or 5	2.7	C	3	x 3 3/4	3 1/8	4 1/2	14-8
P-3169	390-390	150	5	2.0	12.6 c.t.	5.0	D	3	x 3 3/4	4 1/8	5 1/8	13-2
P-2968	400-400	110	5	3.0	2.5 c.t.	8.4	D	3	x 3 3/4	4 1/8	5 1/8	10-10
P-2955	400-400	200	5	3.0	6.3 c.t.	15.0	C	3	x 3 3/4	3 1/8	4 1/2	7-12
P-3155	400-400	200	5	3.0	6.3 c.t.	5.0	D	3	x 3 3/4	4 1/8	5 1/8	9-0
P-3067	400-400	1220	5	3.0	6.3 c.t.	5.0	D	3	x 3 3/4	4 1/8	5 1/8	9-6
P-3166	400-400	300	5	2.0	6.3	10.0	C	3	x 3 3/4	3 1/8	4 1/2	13-9
P-3174	405-405	240	5	3.0	12.6 c.t.	2.6	D	3 1/2	x 4 1/4	5 1/8	4 1/2	18-3
P-2835	420-420	250	5	3.0	6.3	6.0	D	3 3/8	x 3 3/8	5 1/8	4 1/2	17-4
P-2956	435-435 {80 volt Bias Tap	250	5	3.0	6.3 or 5	6.0	C	3	x 3 3/4	5 1/8	4 1/2	17-4
P-3156	435-435	250	5	3.0	6.3 c.t.	3.0	D	3	x 3 3/4	5 1/8	4 1/2	17-4
P-3170	1750	2	2.5	2.0	6.3 or 5	9	D	2	x 2 1/16	3 1/8	2 3/8	2-12
P-3171	2500	5	2.5	2.0	6.3 or 5	3.0	D	2 1/2	x 2 1/16	3 1/8	2 3/8	4-4

▲ Tapped
● Can be used in Series for 12.6 v. ct.
* For use with half wave rectifier.

** Tapped primary
Primary taps

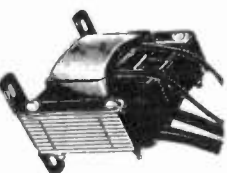
Max. MA High Tap Only.
Man. MA Low Tap Only.

P-3053 P-2881 P-3054
P-3066 P-3067 P-3073
P-3066 P-300 P-300
P-300 P-300 P-300
P-300 P-300 P-300



FILAMENT

POWER



TRANSFORMERS

Mentl No.	Sec. Volts	Sec. Amp.	Insulation Volts RMS	Mfg. Centers	Dimensions—Inches				Mfg. Type	Shpp. Wt. Lbs.-Oz.
					H	W	D			
P-2939	2.5 c.t.	5	2500	2 1/16	2	3 1/4	1 3/8	A	1.4	
P-2940	2.5 c.t.	10	7500	3 1/8	3	3 3/8	2 1/4	B	2.2	
P-3042	2.5 c.t.	10	10000	2 1/16 x 2	2 7/8	3 3/8	2 3/4	EH	2.8	
P-3041	5.0 c.t.	3	2500	2 13/16	2	3 1/4	2 1/8	A	1.4	
P-2941	5.0 c.t.	6	2500	3 1/8	2 1/4	3 11/16	1 7/8	A	1.12	
P-2942	5.0 c.t.	15	10000	3 x 2 1/2	4 1/2	3 3/4	3 1/2	EV	6.12	
P-2943	5.0 c.t.	30	2500	2 1/2 x 3 1/8	3 7/8	3 9/16	4 7/8	DL	6.4	
P-2964	6.3	0.5	1500	2	1 3/8	2 7/8	1 1/4	A	0.6	
P-2888	6.3	.85	1500	2%	1 3/8	2 13/16	1 7/8	A	1.0	
P-2944	6.3 c.t.	1	2500	2%	1 3/8	2 13/16	1 1/2	A	0.12	
P-3074	6.3	1.2	5000	2 13/16	2	3 1/4	2	A	1.4	
P-2945	6.3 c.t.	3	2500	2 13/16	2	3 1/4	1 7/8	A	1.0	
P-2946	6.3 c.t.	3	2500	2 13/16	2	3 1/4	1 7/8	A	1.6	
P-3050	6.3	8.8	1500	2 x 2 1/16	3 1/8	2 1/2	3	A	3.0	
P-2947	6.3 c.t.	6	1500	3 1/8	3	3 3/8	2 1/4	B	3.4	
P-2846	6.3	7	2500	2	1 3/8	2 3/8	2 1/4	B	1.0	
P-2948	6.3 c.t.	10	2500	2 13/16 x 2 3/8	3 7/16	2 13/16	2 7/8	EV	3.10	
P-3141	6.3	10.3	1500	2 x 2 3/16	3 1/8	2 13/16	3 1/8	D	3.5	
P-2845	6.3	1.3	1500	2 1/4 x 2%	3 1/2	2 15/16	3 3/8	D	5.0	
P-2890*	6.3	7.2	1500	2 x 2 1/4	3	2 1/2	3 3/8	D	4.0	
P-3041	5.0 c.t.	3	2500	3 9/16	2 1/2	4	2 1/8	A	2.2	
P-3043	5.0	3	3000	2 1/2 x 3 1/8	3 1/8	3 3/4	4 1/8	C	6.12	
P-2961	6.3	3.5	2500	3 1/8	3	3 3/8	2 1/4	B	2.6	
P-3082	6.3	3	5000	3%	3 1/16	3 9/16	2 1/2	D	2.8	
P-2868	6.3	5.1	1500	2 1/4 x 1 1/8	3 1/8	2 7/8	2 7/8	D	4.0	
P-2864	6.3	3.6	2500	2 1/4 x 2 1/8	3 1/16	2 1/2	3 3/16	D	3.10	
P-2863	6.7	9.6	1500	2 1/4 x 2%	3 1/2	2 15/16	3 1/8	D	5.6	
P-2866	6.7	4.1	2500	2 1/2 x 2 3/16	3 7/8	3 1/4	3 9/16	D	4.8	
P-2960	6.7	6.6	2500	2 1/2 x 2%	2%	3 1/8	1 7/8	B	1.12	
P-3143	7.5 c.t.	8	2500	2 13/16	2 3/8	3 1/8	1 7/8	B	1.12	
P-3145	10.0 c.t.	5	2500	2 1/4 x 2	3 1/2	2 15/16	3 3/8	D	3.8	
P-3146	10.0 c.t.	10	3000	2 1/4 x 2 1/16	3 1/2	2 15/16	3 3/8	D	5.1	
P-2959	12.6 c.t.	2	2500	2 3/16	2	3 1/4	1 1/2	A	1.4	
P-2889	12.6 c.t.	5.7	2500	2 3/8 x 2%	3 1/2	2 15/16	3 3/8	D	5.0	
P-3142	12.6	.6	2500	2 3/8 x 2%	3 1/2	2 15/16	3%	D	4.0	
P-2865	6.3	7.8	1500	2 1/2 x 2 1/16	3 3/8	3 1/4	3 1/2	D	4.4	
P-2848	25.8	1.9	1500	2 x 1 15/16	3 3/8	2 1/2	3	D	2.15	
P-2962	6.3	.9	2500	2 13/16	2	3 1/4	1 3/8	A	1.6	
P-2963	25.2	1	2500	2 1/4 x 2 1/2	3 1/2	3 1/4	1 3/8	D	4.10	

For 12.6V @ 3.5A, 12.6V @ 3.5A or 25.2V C.T. @ 3.5A.

Primary 117V, 60 cycles

* Primary taps.

Merit power

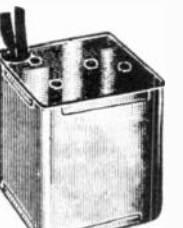
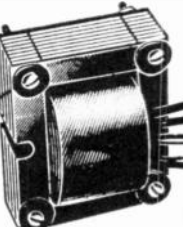
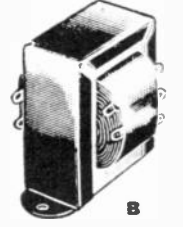
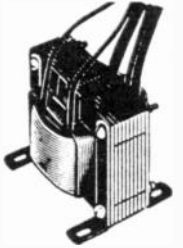
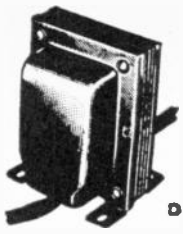
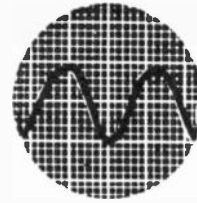


Plate Transformers

Merit No.	Sec. Rms. Volts	Sec. DC Volts	Sec. DC MA	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
				Mtg. Centers	H	W	D		
P-3178	415-415	300	200	2½ x 2¼	3⅞	3⅜	3⅞	D	4-15
P-3175	550-550	400	150	2¼ x 2¾	3⅞	3	3⅞	D	5-4
P-3157	660-660† 550-550	500 400	250	3 x 3⅞	4⅞	3⅞	4⅞	D	9-2
P-3158	1080-1080 500-500	1000† 400	125 1150	3 x 3⅞	4⅞	3⅞	5	D	11-12
P-3159	900-900 800-800	750 600	225	3 x 4⅞	4⅞	3⅞	5⅞	D	12-6
P-3167	1450-1450 1175-1175	1200 1000	300	5¼ x 3	5¼	6⅞	5	EH	24-10
P-3168	2100-2100 1800-1800	1750 1500	300	5¼ x 3¾	5¼	6⅞	6	EH	29-0
P-4062	2900-2900† 2385-2385	2500 2000	300	5¼ x 5¾	8¼	6⅞	6⅞	H	43-13

†Has 40V. Bias Tap. †For dual operation with simultaneous use of both sec. ratings. Max. one winding only 275 M.A.

Rectifier Transformers

Merit No.	Secondary Volts	Secondary Amps.	Insulation Volts RMS	Mtg. Centers	Dimensions—Inches			Mtg. Type	Shpg. Wt. Lbs.-Oz.
					H	W	D		
P-3088	13	12	2000	3½ x 2⅞	3⅞	4⅞	3¼	EH	6-3
P-3085	#26 c.t.	3	2000	2⅞ x 2⅞	2⅞	3⅞	2¾	EH	3-4
*P-3093	36 c.t.	10	2000	4⅞ x 3⅞	4⅞	5¼	4¾	EH	18-10
*P-3094	72 c.t.	10	2000	5⅞ x 3¼	6⅞	7⅞	5¾	EH	30-2
P-3087	78 tapped @ 26 and 52	6	2000	5¼ x 3¼	5⅞	6⅞	5⅞	EH	26-6
P-3086	104 c.t.	3	2000	4⅞ x 3	4⅞	5¼	4¼	EH	15-0
P-3089	104 c.t.	6	2000	5¼ x 4	5⅞	6⅞	6⅞	EH	32-5
P-3091	130 tapped @ 104	12	2000	8⅞ x 4¼	7⅞	9⅞	7½	EH	71-8
P-3092	156	6	2000	5⅞ x 4¼	6⅞	7⅞	7	EH	40-11
P-3090	156 tapped @ 130	3	2000	5¼ x 3¼	5⅞	6⅞	5⅞	EH	25-6

Vibrator Transformers

Merit No.	Sec. Rms. Volts	Sec. DC Volts to Filter	Sec DC MA	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
				Mtg. Centers	H	W	D		
<i>For operation from 6V battery & vibrator.</i>									
P-2969	160-160	150	40	2⅞	2¼	2⅞	1¾	B	1-1
P-2970	235-235	225	40	2⅞	2⅞	3⅞	2⅞	B	1-7
P-2971	260-260	250	50	2⅞	2⅞	3⅞	2¼	B	1-12
P-4071	260-260	250	50	3	3	2⅞	2⅞	JT	2-0
P-2972	265-265	260	60	3⅞	3	3⅞	2⅞	B	2-4
P-3068	275-275	260	60	1¾ x 2⅞	2⅞	2⅞	1⅞	CO	1-6
P-4076*	280-280	265	55		3¼	2⅞	2⅞	JG	2-8
P-4078	285-285	270	60		2⅞	2⅞	2¾	JT	1-15
P-4079	275-275	270	75		3⅞	2⅞	2½	JT	2-4
P-4077*	290-290	280	65		3⅞	2¼	2⅞	JT	2-7
<i>For operation from 12V battery & vibrator.</i>									
P-2860	235-235	225	50	2⅞	2⅞	3⅞	1⅞	B	2-0
P-2861	260-260	250	60	1¾ x 2⅞	2⅞	2⅞	2⅞	CO	2-0
P-2978	275-275	260	60	1¾ x 2⅞	2⅞	2⅞	1⅞	CO	1-8
P-4051*	280-280	265	65		3¼	2⅞	2⅞	JG	2-9
P-4052*	290-290	280	65		3⅞	2¼	2⅞	JT	2-6

* Built-in hash filter.

Quality in Production—Speed in Delivery

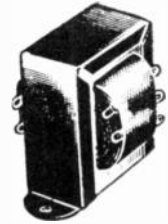


Merit power

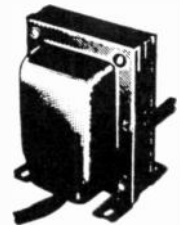
STEP-UP, STEP-DOWN TRANSFORMERS

Merit No.	Input Voltage	Output Voltage*	Watts	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
				Mtg. Centers	H	W	D		
★P-3138	Dependent on Line Voltage	Dependent on Line Voltage and Position of Switch	350	3 x 5 ¹ / ₁₆	4 ⁷ / ₈	3 ¹ / ₁₆	7 ¹ / ₂	DEM	10-10
★P-3139			750	3 ¹ / ₂ x 6 ⁷ / ₈	5 ⁷ / ₈	4 ¹ / ₂	9 ¹ / ₂	DEM	19- 8

Equipped with voltmeter, line cord, and plug, variable primary switch, indicator light and output receptacle. *See detailed instruction sheet packed with unit.



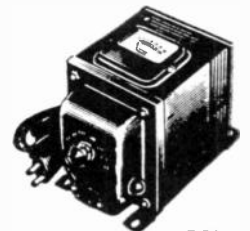
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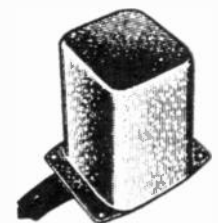
DE



DEM



H



Step-Down Auto-Transformers

Merit No.	Primary Volts	Secondary Volts	Output Watts	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
				Mtg. Centers	H	W	D		
P-3161	220-250	110-125	80	2 ¹ / ₄ x 1 ⁷ / ₈	3 ¹ / ₂	2 ¹ / ₁₆	3	DE	3- 6
P-3162	220-250	110-125	150	2 ¹ / ₂ x 2 ⁷ / ₁₆	3 ⁷ / ₈	3 ³ / ₁₆	3 ⁷ / ₈	DE	5- 3
P-3163	220-250	110-125	250	3 x 2 ¹ / ₁₆	4 ⁷ / ₈	3 ¹ / ₁₆	4	DE	8- 7
P-3164	220-250	110-125	500	3 x 3 ³ / ₁₆	4 ⁷ / ₈	3 ¹ / ₁₆	4 ⁷ / ₈	DE	10- 2
P-4065	220-250	110-125	1000	4 ⁷ / ₈ x 5 ³ / ₄	7 ¹ / ₄	6 ⁷ / ₈	5 ⁷ / ₈	H	35- 8

Statically shielded, conservatively rated, equipped with cord plug and receptacle.

Photo-Flash Transformer

Merit No.	Secondary		Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
	AC Volts	DCMA	Mtg. Centers	H	W	D		
P-3065	1100	1.5	2 ¹ / ₁₆	2 ⁷ / ₈	3 ⁷ / ₈	2	B	1-12

ISOLATION TRANSFORMERS

Merit No.	Shpg. Wt. Lbs.-Oz.	Primary Volts	Secondary Volts	Output Watts	Mtg. Centers Inches	Mtg. Type	Dimensions—Inches		
							H	W	D
P-3096	2- 4	117	117	40	3 ⁷ / ₈	B	3 ⁷ / ₈	2 ⁷ / ₈	2 ⁷ / ₈
P-3197	5- 0	117	117	80	2 ¹ / ₂ x2 ⁷ / ₁₆	D	3 ⁷ / ₈	3 ³ / ₁₆	3 ¹ / ₂
P-3177	15-10	117	105-115-125	350	3 ¹ / ₂ x3 ³ / ₄	DE	5 ⁵ / ₁₆	4 ¹ / ₂	5 ¹ / ₄
P-3198	6- 6	117	117	100	3 ³ / ₄ x2 ¹ / ₁₆	DE	4 ¹ / ₄	3 ⁹ / ₁₆	3 ³ / ₄
P-3202	7- 0	117	117	175	2 ³ / ₄ x3 ⁷ / ₈	J	4 ¹ / ₄	4 ⁷ / ₁₆	3 ⁷ / ₈
P-3199	12- 2	117	117	250	3 x3 ¹ / ₁₆	DE	4 ⁷ / ₈	3 ¹ / ₁₆	4 ⁷ / ₈
P-3172	21- 4	117	117	500	3 ¹ / ₂ x4 ⁷ / ₈	DE	5 ³ / ₈	4 ⁷ / ₈	6 ¹ / ₂

Step Down Type

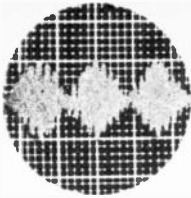
P-3116	5- 0	230	115	100	2 ³ / ₄ x2 ⁵ / ₁₆	DE	4 ¹ / ₄	3 ⁹ / ₁₆	3 ⁷ / ₈
P-3117	9-10	230	115	250	3 x3 ⁵ / ₁₆	DE	4 ⁷ / ₈	3 ¹ / ₁₆	4 ⁷ / ₈
P-3118	21- 7	230	115	500	3 ¹ / ₂ x4 ⁷ / ₈	DE	5 ⁷ / ₁₆	4 ⁷ / ₁₆	6 ⁷ / ₈

"COMPARE IT WITH MERITI"

Quality in Production—Speed in Delivery

Merit COIL AND TRANSFORMER CORPORATION

HOLLYWOOD, FLORIDA

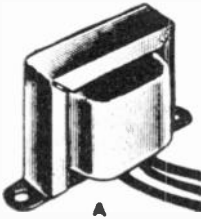


AUDIO

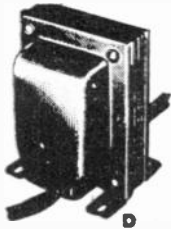
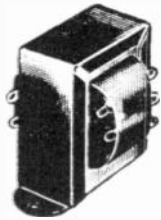
DRIVER AND MODULATION TRANSFORMERS

"COMPARE IT WITH MERIT!"

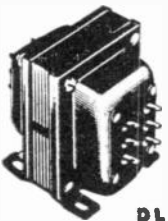
Driver Transformers



A



D



DL

Merit No.	Driver	Typical Outputs	Turn Ratio Pri. to 1/2 Sec.	Pri. MA	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
					Mtg. Centers	H	W	D		
A-3009	30, 1H4, etc.	PP19, 30's, 1J6, etc.	2.5:1	15	1 3/4	1 1/16	2 1/16	7/8	A	0-4
A-2920	6C5, 1H4, 30, 49, etc.	1J6, 19 PP30, 49, etc.	2.5:1	10	2 3/8	1 3/8	2 13/16	1 1/2	A	0-10
A-2921	6F6, 2A5, 42, etc.	PP6F6, 2A5, 6L6, etc.	1.7:1, 1.5:1, 1.3:1	35	2 13/16	2	3 1/4	1 3/8	A	1-0
A-2922	6A6, 6C5, 6N7, 46, etc.	6A6, 6N7, PP46, etc.	5:1, 4:1, 3:1, 2.5:1	20	2 11/16	2	3 1/4	1 3/8	A	1-0
A-3120	500 ohm line	Class B Grids 15 Watt Capacity	1:1.75, 1:1.85, 1:1:1, 1:1.25, 1:1.45		2 3/16 x 2	3 3/16	2 3/8	3 3/8	DL	3-1
A-3121	500 ohm line	Class B Grids 30 Watt Capacity	1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3		2 1/4 x 2 1/4	3 3/16	3	3 3/4	DL	4-2
A-3123	PP6A6, 6C5, 53, etc.	PP6A6, 6N7, 6L6, T21	5:1†	15	2 x 1 11/16	3 3/8	2 3/8	2 3/8	D	2-7
A-3124	6F6, 46, 59, 42, etc.	PP46, 59, 6L6, 807	2.2:1	30	2 x 1 11/16	3 3/8	2 3/8	2 3/8	D	2-7
A-3125	6F6, 2A5, 47, 42, etc.	PP6L, 800, 812, 203A	1.4:1†	40	2 1/4 x 2	3 3/8	2 13/16	3 3/8	D	3-4
A-3126	PP6L6, 6F6, 6V6, etc.	RK18, RK58, T20, 807	2:1	40	2 x 1 11/16	3 3/8	2 3/8	2 3/8	D	2-7

Modulation Transformers

Merit No.	Class B Outputs	Ohms Impedance		Max. MA		Watts	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
		Pri.	Sec.	Pri.	Sec.		Mtg. Centers	H	W	D		
A-3007	19, 1J6, 6A6, 6N7, PP1H4	10000 c.t.	5000 8000 10000	70	50	5	1 3/4	1 3/16	2 1/16	7/8	A	0-4
A-3008	PP6AV5, 6V6, 6F6 Sgl, 6A6, 6N7, 53	10000 c.t.	4000- 5000- 7500- 10000- 12000	70	60	10	2 3/8	2 1/4	2 3/8	2 1/8	B	1-5
A-3109	PP2A3, 6A3, 6B4, 6L6, 45, 46, 59	6000 c.t. 3800 c.t. 3000 c.t.	5000 8000 10000	80	100	25	2 x 1 3/16	3 3/8	2 3/8	2 3/4	D	2-8
A-3110	PP6L6, 807 PPRK41, HY56 PP HY61, HK24	6600- 3800 c.t.	4000- 5000 7500- 10000 12000	175	150	60	2 3/4 x 2 11/16	4 1/4	3 1/2	3 3/4	D	6-3
A-3113	PP800, 809, T240, T55, HK54, RK31, HY40, 811A, 807, 812A	15000- 6900 c.t.	3000- 4000 5000- 6000	250	300	175	3 x 4 7/16	4 3/8	3 13/16	5 3/8	D	14-10

Universal Modulation

Type No.	Pri. Impedance	Pri. MA Per Side	Sec. Impedance	Max. Sec. MA†	Watts	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
						Mtg. Centers	H	W	D		
A-3104	2000-20000	50	2000-20000	50/100	15	2 x 1 11/16	3 3/16	2 1/2	2 3/8	DL	2-4
A-3105	2000-20000	150	2000-20000	150/300	60	2 1/2 x 2 15/16	3 3/8	3 3/8	4 3/8	DL	6-12
A-3106	2000-20000	220	2000-20000	220/440	125	3 x 3 3/16	4 3/8	3 3/8	4 3/8	DL	10-1

†Series/Parallel.

Transistor Transformers

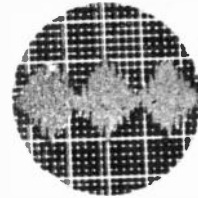


Actual size

Merit No.	Function	Impedance in Ohms		DC Resistance		DC Pri. MA	Power MW
		Pri.	Sec.	Pri.	Sec.		
A-2705	Output	250 c.t.	11	20	.80	0	175
A-2702	Output	450 c.t.	3.2	40	.40	2	100
A-2706	Output	500	12	50	2.7	15	175
A-2701	Output	725 c.t.	3.2	57	.34	0	175
A-2760	Output	1000	50/60	116	7	3	50
A-2704	Driver or Interstage	5000	2500c.t.	230	39	1.5	350
A-2700	Driver or Output	10,000	16	640	2.7	2	150
A-2703	Driver or Interstage	10,000	2000	370	198	2	100
A-2740	Input or Interstage	20,000	1000	1400	210	.5	150
A-2741	Input or Interstage	20,000	1000	1100	109	.5	150
A-2720	Input	200,000	1000	2800	145	0	150

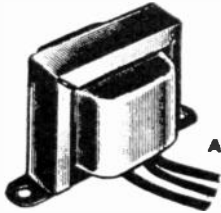
AUDIO

OUTPUT TRANSFORMERS



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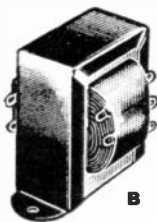


Standard Type

*Type "B" mounting.

Mounting Type "A"

Merit No.	Tube	Ohms Impedance		Pri. Ma.	Max. Watts	Dimensions—Inches				Shpg. Wt. Lbs.-Oz.
		Primary	Sec.			Mfg. Centers	H	W	D	
A-2928	Single	2000	3-4	60	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3025	Single	2500	3-4	50	3	1 3/4	1 3/16	2 1/16	7/8	0-4
A-3018	Single	3500	3-4	60	8	2 3/8	1 3/8	2 13/16	1 1/2	0-10
A-3026	Single	5000	3-4	40	3	1 3/4	1 3/16	2 1/16	7/8	0-4
A-2930	Single	5000	3-4	40	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3019	Single	5000	3-4	50	8	2 3/8	1 3/8	2 13/16	1 1/2	0-10
A-2935	Single or Push-Pull	5000 c.t.	3-4	150	18	2 13/16	2	3 1/4	1 3/8	1-0
A-2931	Single	7000	3-4	30	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3020	Single	7000	3-4	40	8	2 3/8	1 3/8	2 13/16	1 1/2	0-10
A-2927*	Single	8000	3-4	20	3	1 1/2	1 3/8	1 7/8	1	0-4
A-2932	Single	10000	3-4	30	5	2	1 3/8	2 3/8	1 1/4	0-6
A-2938	Single or Push-Pull	10000 c.t.	3-4	40	5	2	1 3/8	2 3/8	1 1/4	0-6
A-2936	Single or Push-Pull	10000 c.t.	3-4	75	10	2 3/8	1 3/8	2 13/16	1 1/2	0-10
A-2933	Single	12000	3-4	10	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3021	Single or Push-Pull	14000 c.t.	3-4	35	12	2 13/16	2	3 1/4	1 3/8	1-0
A-2934	Single	15000	3-4	10	5	2	1 3/8	2 3/8	1 1/4	0-6
A-2937	Single or Push-Pull	25000 c.t.	3-4	10	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3012	Single or Push-Pull	10000 c.t.	3-4	25	10	1 23/32	1 11/16	2	1 1/2	0-10
A-3017	Single or Push-Pull	50000 c.t.	3-4	10	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3010		Exact for Delco 6061					1 3/8	1 3/8	1 1/4	0-6

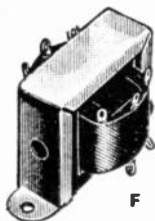


Universal Type

Mounting Type "F" except

*Type "G" mounting.

A-2900	Single or Push-Pull	4000-7000-8000-10000-14000 c.t.	.17 to .32	35	4	2	1 3/8	2 3/8	1 1/4	0-6
A-2901	Single or Push-Pull	4000-7000-8000-10000-14000 c.t.	.17 to .32	40	8	2 3/8	1 3/8	2 13/16	1 1/2	0-10
A-2902	Single	1500-2000-4000-5000-7000-10000	.1 to .40	55	10	2 3/8	1 3/8	2 13/16	1 1/2	0-10
A-2903	Single	2000-4500-7000-10000	3.2	30	4	2	1 3/8	2 3/8	1 1/4	0-6
A-2904*	Single or Push-Pull	4000-7000-8000-10000-14000 c.t.	.17 to .32	40	18	2 3/8	2 1/4	2 3/8	1 3/8	1-1
A-2905	Single or Push-Pull	3000-5000-7000-8000-10000 c.t.	.17 to .32	70	24	3 1/8	2 1/4	3 11/16	2 3/8	1-10
A-2998	Single	3500-5000-7000-10000	3.2	35	3	1 3/4	1 3/8	2 3/8	1 3/8	0-4
A-2999	Single	12000-15000-18000-25000	3.2	10	3	1 3/8	1 3/8	2 3/8	1 3/8	0-4



Filter Tapped

Mounting Type "A"

A-3031	Single	3000	3-4	50	5	2	1 3/8	2 3/8	1 1/4	0-6
A-3032	Single	6000	3-4	40	5	2	1 3/8	2 3/8	1 1/4	0-6

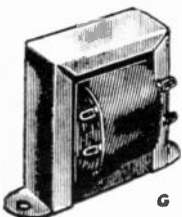
*Primary has 30% and 6% humbucking taps. Secondary to match 3-4 ohm speaker

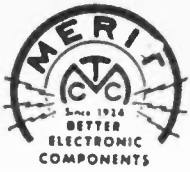
Special Type

Mounting Type "F"

A-3027	PP6F6, 6V6, etc.	10000 c.t.	‡	45°	15	2 13/16	2	3 1/4	1 3/8	1-0
A-3028	PP6L6, etc.	5000 c.t.	‡	70°	20	3 3/8	2 1/8	3 11/16	2	1-8

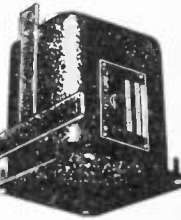
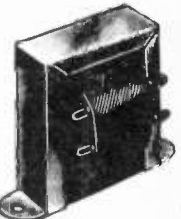
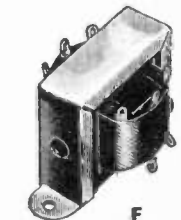
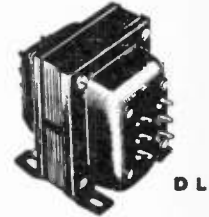
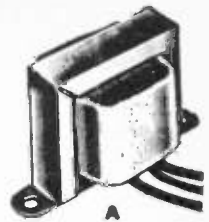
‡ Sec. Impedance 2-4-8-15-250-500 Ohms. † Pri. M.A. Per Side.





AUDIO

LINE TRANSFORMERS



Constant Voltage Line Transformers

Merit No.	Ohms Impedance		Watts	Dimensions—Inches				Mtg. Type	Shpg. Wt. Lbs.-Oz.
	Pri.	Sec.		Mtg. Ctrs.	H	W	D		
A-2800	1000-1250-1667-2500-5000	3.2, 8	1- 5	2	1 1/8	2 3/8	1 3/8	F	0- 7
A-2801	500-555-625-715-833	3.2, 8	6-10	2 3/8	1 1/8	2 13/16	1 1/2	F	0-10
A-2802	333-357-384-417-455	8, 16	11-15	2 13/16	2	3 1/4	1 3/8	F	1- 0
A-2803	250-263-278-294-312	8, 16	16-20	2 3/8	2 1/4	2 13/16	2 3/8	G	1- 4
A-2804	200-208-217-227-238	8, 16	21-25	2 3/8	2 3/8	3 1/16	1 3/8	G	1- 6
A-3013	1000-2000-4000-8000-16000	3.5, 7	5	2	1 1/8	2 3/8	1 1/2	F	0- 7
A-3014	500-1000-2000-4000-8000	4.8-16	10	2 3/8	1 7/8	2 13/16	1 1/2	F	0- 7
A-3015	275-550-1100-2200-4400-8800	4.8-16	18	2 3/8	2 1/4	2 7/8	1 7/8	G	1- 0
A-3016	210-420-840-1680-3360-6720	4.8-16	24	3 3/8	2 1/4	3 11/16	2 3/8	F	1-10
A-2805	125-250-500-1000-2000	3.5-7	5	2	1 1/8	2 3/8	1 1/2	F	0- 7
A-2806	62.5-125-250-500-1000	4.8-16	10	2 3/8	1 3/8	2 13/16	1 1/2	F	0- 7
A-2807	34.5-68.75-137.5-275-550-1100	4.8-16	18	2 3/8	2 1/4	2 7/8	1 7/8	G	1- 0
A-2808	26-52-104-208-416-832	4.8-16	24	2 3/8	2 1/4	2 7/8	1 7/8	F	1-10

*Used to match speaker to 25V constant voltage line.

Universal Line Transformers

A-2810	500-1000-1500-2000	3.2, 4.8, 6.8	10	2 1/8	1 1/8	2 13/16	1 1/2	F	0-10
A-2811	500-1000-1500-2000	3.2, 4.8, 6.8	18	2 3/8	2 1/4	2 13/16	1 3/8	G	1- 0
A-2812	500-1000-1500-2000	3.2, 4.8, 6.8	25	2 13/16	2 3/8	3 1/16	1 3/8	G	1- 6
A-2813	2500-5000-7000-10000	4.8, 6, 8	5	2	1 3/8	2 3/8	1 3/8	F	1- 7
A-2814	31-62-125-250	4.8, 6, 8	20	2 3/8	2 1/4	2 13/16	1 3/8	G	1- 4
A-2906	500-1000-1500-2000	3.2, 6-8	10	2 3/8	1 3/8	2 13/16	1 1/2	F	0-10
A-2907	500-1000-1500-2000	3.2, 6-8	18	2 3/8	2 1/4	2 7/8	1 3/8	G	1- 0
A-2908	500-1000-1500-2000	6-8, 16	24	3 3/8	2 1/4	3 11/16	2 3/8	F	1- 8
A-2909	45-50	3.2, 6-8	8	2	1 3/8	2 13/16	1 1/2	G	0-10
A-3005	500	3.2, 6-8	5	2	1 3/8	2 3/8	1 1/4	A	0- 6
A-4040	250-500-1000-1500-2000	4-8-16	8	2 3/4 x 3 3/8	4 1/4	4 7/16	3 9/16	JO	4- 0
A-4041	250-500-1000-1500-2000	4-8-16	12	2 3/4 x 3 3/8	4 1/4	4 7/16	3 9/16	JO	4- 4
A-4042	250-500-1000-1500-2000	4-8-16	25	2 3/4 x 3 3/8	4 1/4	4 7/16	3 9/16	JO	5- 6

Tube to Line Transformers

A-2925	20000 c.t.	500-125	10	2 13/16	2	3 1/4	1 3/8	A	1- 0
A-2926	20000 c.t.	200-50	10	2 13/16	2	3 3/4	1 3/8	A	1- 0
†A-3023	5000-10000-20000 c.t.	500-333-200-125-50	15	2 13/16	2	3 1/4	1 3/4	F	1- 0
†A-3024	5000-10000-20000 c.t.	500-333-200-125-50	50	2 x 1 11/16	3 3/16	2 3/8	2 3/4	DL	2- 8

†20000 Ohm Center Tapped.

ATTENTION!

THE MERIT LINE INCLUDES FLYBACKS, YOKES, WIDTH AND LINEARITY COILS, VERTICAL OUTPUTS, VERTICAL BLOCKING OSCILLATORS, PEAKING COILS AND MANY OTHER TV AND RADIO COMPONENTS NOT LISTED IN THIS EDITION OF THE RADIO-ELECTRONIC MASTER.

THE MERIT LINE IS AVAILABLE AT LEADING DISTRIBUTORS. CONTACT YOUR FAVORITE DISTRIBUTOR FOR ANY INFORMATION ABOUT MERIT PRODUCTS NOT LISTED HEREIN.

Merit COIL AND TRANSFORMER CORPORATION

HOLLYWOOD, FLORIDA

Quality in
Production—

—Speed in
Delivery

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WITH MERIT!"**

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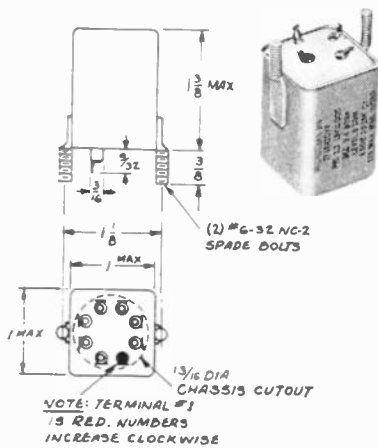
HERMETICALLY SEALED MINIATURE TRANSFORMERS

The ruggedized military type units shown on this and the accompanying page were developed to meet the demands of a growing miniaturization program. The various types shown are available from stock for immediate delivery. For use in miniaturized vacuum tube and Transistor circuitry.

MIL CASE M-AG

Grey Enamel Finish. Weight 2 3/8 oz. Supplied with compression sealed ceramic terminals in MIL-T-27 AG case.

To order add .AG to Part Number. i.e. M2-AG, M13-AG



MINIATURE AUDIO TRANSFORMERS ("M" SERIES)

Part No.*	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Frequency Response ± 2 db
M1-(*)	Mike or line to 1 grid	50/250 600 C.T.	50,000	0	5	20-20,000
M2-(*)	Mike or line to 2 grids	50/250 600 C.T.	50,000 C.T.	0	5	20-20,000
M3-(*)	Dynamic mike to 1 grid	7.5 30	50,000	0	5	20-20,000
M4-(*)	Single plate to 1 grid	15,000	60,000	0	6	20-15,000
M5-(*)	Single plate to 1 grid	15,000	60,000	4	14	200-20,000
M6-(*)	Single plate to 2 grids	15,000	65,000 C.T.	0	5	20-15,000
M7-(*)	Single plate to 2 grids	15,000	55,000 C.T.	4	11	200-20,000
M8-(*)	Single plate to line	15,000	50 250 600 C.T.	0	8	20-20,000
M9-(*)	Single plate to line	15,000	50 250 600 C.T.	4	21	150-20,000
M10-(*)	Push pull plates to line	30,000 P.-P.	50 250 600 C.T.	0	8	30-50,000
M11-(*)	Crystal mike to line	50,000	50 250 600 C.T.	0	5	20-20,000
M12-(*)	Mixing and matching	50 250 C.T.	50 250 600 C.T.	0	8	20-20,000
M13-(*)	Reactor	300 hy. 0 d.c.	50 hy. ≈ 3 ma.			6000 Ω D.C.R.
M14-(*)	50: 1 mike to grid	200	1/2 Megohm	0	9	80-3,000
M15-(*)	10: 1 plate to grid	10,000	1 Megohm	0	11	100-2,500

MINIATURE TRANSISTOR TRANSFORMERS ("MT" SERIES)

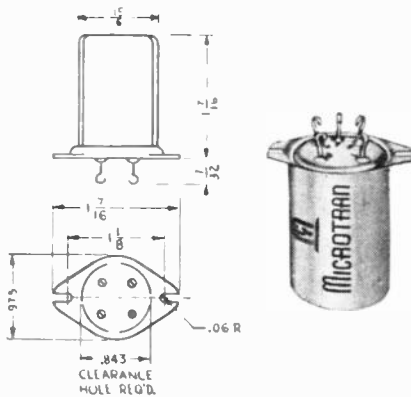
Part No.*	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Frequency Response ± 2 db
MT1-(*)	Line to Base	600	600	10	23	200-15,000
MT2-(*)	Coll. to P.P. Base 2N57	100	100 C.T. 40 C.T.	100	2/	200-20,000
MT3-(*)	Collector to Base or line	50,000	600	3	20	300-15,000
MT5-(*)	Collector to speaker	50,000	6	3	20	300-15,000
MT6-(*)	Collector to P.P. Base	100,000	1200 C.T.	1.4	17	200-15,000
MT7-(*)	Collector to P.P. Base	25,000	1200 C.T.	3	22	200-15,000
MT8-(*)	P.P. Collector to P.P. Base	50,000 C.T.	200 C.T.	3	20	300-15,000
MT9-(*)	Line to P.P. Base	600 C.T.	1200 C.T.	4	23	200-15,000
MT10-(*)	Collector to Base	25,000	600	3	22	200-15,000
MT11-(*)	P.P. Coll. to P.P. Base	4,000 C.T.	600 C.T.	3	32	200-15,000
MT12-(*)	Output collector to speaker	2,000	3 4	10	32	200-15,000
MT13-(*)	P.P. Coll. to speaker	4,000 C.T.	3 4	3	32	200-15,000
MT14-(*)	Coll. to Spkr. 2N179	400	10	50	25	200-20,000
MT15-(*)	P.P. Servo Output 2N57	500 C.T.	210	30	27	300-20,000
MT18-(*)	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	6	22	200-15,000
MT20-(*)	P.P. Coll. to P.P. Base	50,000 C.T.	1,200 300 Split	3	20	300-15,000
MT21-(*)	P.P. Coll. to P.P. Base	4,000 C.T.	600 150 Split	3	32	200-15,000
MT22-(*)	Line to P.P. Base	600 150 Split	1,200 C.T.	4	23	200-15,000
MT23-(*)	P.P. coll. to Servo	250 C.T.	1000	10	30	300-15,000

*Add either -AG, or -H, or -M to part No. to designate construction. See Photos

HERMETIC M-H

Grey Enamel Finish. Weight 1 1/4 oz. High Compression Glass Terminals. .120 holes instead of slots, available on special order.

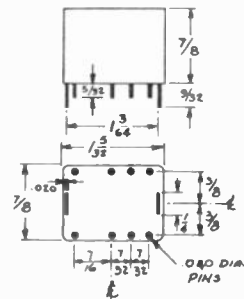
To order add .H to Part Number. i.e. M2-H, M13-H



MOLDED M-M

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1 3/4 oz.

To order add .M to Part Number. i.e. M2-M, M13-M



MICROTRAN company, inc., VALLEY STREAM, N. Y.

The units shown on this page are suitable for rigid sub-miniaturization applications where the highest resistance to extremes of ambients must still be maintained. Available from stock for immediate delivery.

HERMETICALLY SEALED SUB - MINIATURE TRANSFORMERS

SUB-MINIATURE AUDIO TRANSFORMERS ("SM" SERIES)

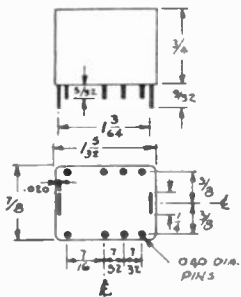
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Freq. Response -2 db.
SM1-(*)	Input	200 50	250,000 62,500	0	6	80-10,000
SM2-(*)	Interstage 3:1	10,000	90,000	0	8	100-10,000
SM3-(*)	Plate to line	10,000	200	3	21	150-10,000
SM4-(*)	Output	30,000	50	1	21	150-10,000
SM5-(*)	Reactor 50 HY at 1 MIL. D.C.	3,000 ohms D.C. Res.				
SM6-(*)	Output	100,000	60	0.5	21	150-10,000

SUB-MINIATURE TRANSISTOR TRANSFORMERS ("SMT" SERIES)

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Freq. Response -2 db.
SMT1-(*)	Line to Base	600	600	9	23	200-15,000
SMT3-(*)	Collector to Base or line	50,000	600	1	20	300-15,000
SMT4-()	P.P. Coll. to P.P. Base	50,000 C.T.	600 C.T.	2	20	200-15,000
SMT5-(*)	Collector to speaker	50,000	6	1	20	300-15,000
SMT7-(*)	Collector to P.P. Base	25,000	1200 C.T.	1.5	20	200-15,000
SMT8-()	P.P. Coll. to P.P. Base	50,000 C.T.	1,200 C.T.	2	20	200-15,000
SMT9-()	Line to P.P. Base	600 C.T.	1,200 C.T.	18	23	200-15,000
SMT10-(*)	Collector to Base	25,000	600	2	20	200-15,000
SMT12-(*)	Output collector to speaker	2,000	3.4	5	30	200-15,000
SMT13-(*)	Output P.P. collector to spkr.	4,000 C.T.	3.4	5	30	200-15,000
SMT16-(*)	Collector to P.P. Base	10,000	1,500 C.T.	1	23	200-15,000
SMT17-()	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200-15,000
SMT18-()	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	3	20	200-15,000
SMT19-(*)	Collector to P.P. Base	2,500	2,500 C.T.	2.5	26	200-15,000

*Add either -AF, or -H, or -M to Part No. to designate construction. See Photos.

*These items not available in -AF case.



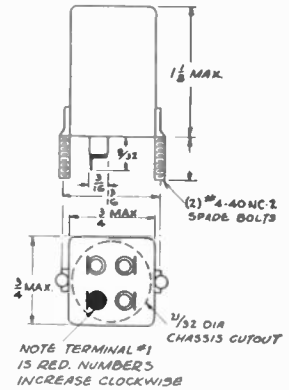
MOLDED SM-M

Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1 1/2 oz.
To order add -M to Part Number. i.e. SM5-M, SMT5-M

MIL CASE SM-AF

Grey Enamel Finish. Weight 1 1/8 oz. Supplied with compression sealed ceramic terminals in MIL-T-27 AF case.

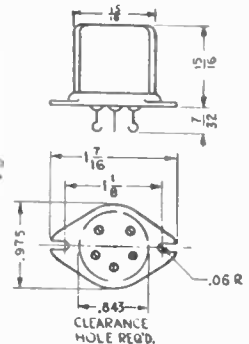
To order add -AF to Part Number. i.e. SM2-AF, SMT3-AF



HERMETIC SM-H

Grey Enamel Finish. Weight 1 oz. High Compression Glass Terminals.

To order add -H to Part Number. i.e. SM2-H, SMT3-H





MICROTRAN

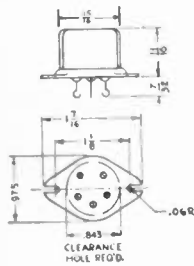
company, inc., VALLEY STREAM, N. Y.

**HERMETICALLY SEALED
MICRO-MINIATURE
TRANSFORMERS**

The units shown on this page are suitable for rigid sub-miniaturization applications where the highest resistance to extremes of ambients must still be maintained. Available from stock for immediate delivery.

**HERMETIC
MM-H**

Grey Enamel Finish.
High Compression Glass
Terminals. Weight 3/4 oz.
To order add -H to Part Number. i.e. MM2-H, MMT3-H



MICRO-MINIATURE AUDIO TRANSFORMERS ("MM" SERIES)

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. DC. Unbalance Ma	Operating Level DBM	Freq. Response -2 db
MM1 (*)	Input	200 50	250,000 62,500	0	4	200 10,000
MM2 (*)	Interstage 3:1	10,000	90,000	0	4	150 10,000
MM3 (*)	Plate to line	10,000	200	3	20	150 10,000
MM4 (*)	Output	30,000	50	1	20	150 10,000
MM5 (*)	Reactor 50 HY at 1 MIL D.C.	4,700 ohms	D.C. Res			
MM6 (*)	Output	100,000	60	0.5	20	250 10,000
MM7 (*)	Output	30,000	1,200	0.5	20	200 10,000

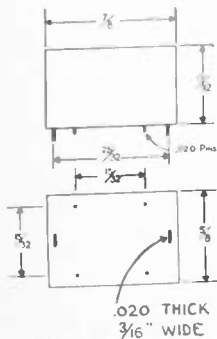
MICRO-MINIATURE TRANSISTOR SERIES ("MMT" SERIES)

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. DC. Unbalance Ma	Operating Level DBM	Freq. Response -2 db
MMT1 (*)	Line to Base	600	600	6	12	200 15,000
MMT3 (*)	Collector to Base or line	50,000	600	0.7	20	200 15,000
MMT4 (*)	P.P. collector to P.P. Base	50,000 C.T.	600 C.T.	1.4	20	200 15,000
MMT5 (*)	Collector to speaker	50,000	6	1	20	200 15,000
MMT7 (*)	Coll. to P.P. Base	25,000	1,200 C.T.	1	20	200 15,000
MMT8 (*)	P.P. collector to P.P. Base	50,000 C.T.	1,200 C.T.	1.4	20	200 15,000
MMT9 (*)	Line to P.P. Base	600 C.T.	1,200 C.T.	1.6	22	200 15,000
MMT10 (*)	Collector to Base	25,000	600	1	20	200 15,000
MMT11 (*)	P.P. col. to P.P. Base or line	4,000 C.T.	600 C.T.	5	28	200 15,000
MMT12 (*)	Coll. to Spkr.	2,000	3.4	5	28	200 15,000
MMT13 (*)	Output P.P. collector to spkr.	4,000 C.T.	3.4	5	28	200 15,000
MMT16 (*)	Collector to P.P. Base	10,000	1,500 C.T.	1	20	200 15,000
MMT17 (*)	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200 15,000
MMT18 (*)	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	2	20	200 15,000
MMT19 (*)	Collector to P.P. Base	2,500	2,500 C.T.	2	23	200 15,000

*Add either -F, or -FB, or -FPB to Part No. to designate construction. See Photos.

**MOLDED
MM-M**

Micro-Miniature Size
Designed for plug-in printed circuit applications. Cast Epoxy resin provides highest resistance to extremes of ambient. Weight 1/2 oz.
To order add -M to Part Number. i.e. MM2-M, MMT2-M.



SPECIAL STOCK UNITS

On special order, Catalog items on pages 1365 through 1374 are available with modified electrical characteristics such as extra taps, impedance changes, or High Temperature construction. Shown below are the typical special mechanical constructions that are available on special order.



Epoxy Encapsulation with solder lug terminals (on special order only)



Hermetic Construction with terminals opposite from mounting surface (on special order only)



Designed specifically for Transistor, Servo and Audio applications. All units shown are of MIL-T-27A construction and are available from stock. On special order may be obtained in alternate constructions such as Epoxy molded, or open frame. Also available with modified electrical specifications.

**HERMETICALLY SEALED
TRANSISTOR DRIVER
OUTPUT AND POWER SUPPLY
TRANSFORMERS**

TRANSISTOR DRIVER TRANSFORMERS

Part Number	Application	Pri. Imp.	Sec. Imp.	Pri. D.C. Unbal. Ma.	Level Watts	Frequency Response ± 2 Db.	D	Size W	H	Mounting Centers Md	Mw	Mil Case
M8002*	Collector to P.P. Base	560	400 C.T.	18	.15	200-20,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8003*	Collector to P.P. Base	625 C.T.	100 C.T.	20	1.5	200-20,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8004	Collector to P.P. Base	5,400	600 C.T.	15	.075	200-15,000	1 3/8	1 3/8	1 3/8	1 1/4 Diag.		AH
M8005	Collector to P.P. Base	7,000	320 C.T.	7	.040	70-15,000	1 3/8	1 3/8	1 3/8	1 1/4 Diag.		AH
M8006	Collector to P.P. Base	10,000	6,500 C.T.	.75	.005	200-15,000	3/4	3/4	1 1/8	1 3/8 Diag.		AF Mod.

*Bi-Filar wound to minimize switching transients.

TRANSISTOR OUTPUT TRANSFORMERS

Part Number	Application	Pri. Imp.	Sec. Imp.	Pri. D.C. Unbal. Ma.	Level Watts	Frequency Response ± 2 Db.	D	Size W	H	Mounting Centers Md	Mw	Mil Case
M8008	P.P. Output to Spkr.	25	3-4	600	3	200-20,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8007*	P.P. Auto Transformer	30 C.T.	3-4	200	2	100-20,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8009	P.P. Output to Spkr.	48 C.T.	3-2-8	50	5	200-20,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8010	P.P. Col. to Servo	120 C.T.	1,000	40	6	300-15,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8011	P.P. Output to Spkr.	125 C.T.	3-4	20	1.5	200-15,000	1 3/8	1 3/8	1 3/8	1 1/4 Diag.		AH
M8012*	P.P. Col. to Servo	140 C.T.	500	50	6	300-15,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8013*	P.P. Output to Spkr.	250 C.T.	3-4	20	.4	70-15,000	1 3/8	1 3/8	1 3/8	1 1/4 Diag.		AH
M8014	P.P. Output to Spkr.	400 C.T.	11	2	.25	300-15,000	3/4	3/4	1 1/8	1 3/8		AF Mod.
M8015	P.P. Col. to Servo	1,600 C.T.	800	5	2.5	150-20,000	1 3/8	1 3/8	2 3/8	1 3/16	1 3/16	AJ
M8016	P.P. Output to Spkr.	2,550 C.T.	12	4	.10	300-15,000	3/4	3/4	1 1/8	1 3/8		AF Mod.

*Bi-Filar wound to minimize switching transients.

POWER SUPPLY TRANSFORMERS

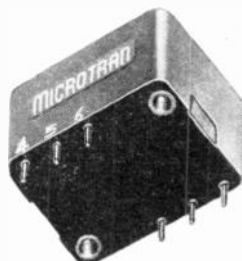
Designed for Silicon Rectifier Circuitry Primary 105/115/125 Volts

Part Number	Frequency Cycles	AC Volts	Secondary RMS Amperes	Rectifier Circuit		D	Size W	H	Mounting Centers Md	Mw	Mil Case
				C.T. Full Wave D.C. Volts**	FW Bridge D.C. Volts**						
M8018	380-1600	18.5 C.T.	1	7	14	1 5/16	1 1/16	2 3/4	1 3/8	1 1/4	EA
M8019	380-1600	18.5 C.T.	3	7	14	2 3/16	2 1/16	3 3/8	1 11/16	1 7/16	FA
M8020	380-1600	35 C.T.	3	14.5	29	2 3/4	2 3/8	3 13/16	2 7/8	1 3/4	GA
M8021	380-1600	70 C.T.	1	30	60	2 3/8	2 1/16	3 3/8	1 11/16	1 7/16	FA
M8022	50/60	18.5 C.T.	3	7	14	3 1/16	3 1/16	3 7/8	2 3/8	2 7/8	JB
M8023	50/60	35 C.T.	3	14.5	29	3 15/16	3 3/8	5 1/4	3	2 7/16	KA
M8024	50/60	70 C.T.	1	30	60	3 1/16	3 1/16	4 7/8	2 3/8	2 7/8	JA

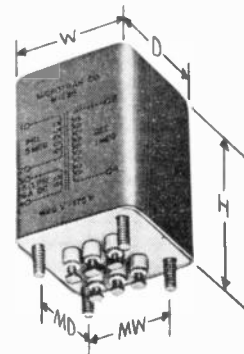
**D.C. Output voltages stated for resistive or inductive rectifier loads.

**EPOXY MOLDED
(On Special Order Only)**

Inserts or studs or tabs for mounting, leads terminated with .040 pins for printed circuit applications.



**HERMETICALLY SEALED
PER MIL-T-27A**





MICROTRAN

company, inc., VALLEY STREAM, N. Y.

**INDUSTRIAL GRADE
MINIATURE
CASED and OPEN FRAME
TRANSFORMERS**

These miniature units are suitable for use in high fidelity amplifiers, broadcast equipment, and portable applications. Thorough baking and resin impregnation assure reliable life. Open frame units supplied with 4 inch \pm 27 color coded vinyl leads. Available from stock for immediate delivery.

MINIATURE AUDIO TRANSFORMERS ("M" SERIES)

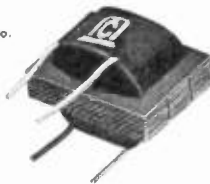
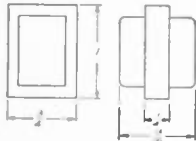
Part No.	Application	Primary Impedance	Secondary Impedance	Ph. D.C. Impedance W.C.	Operating Level DBM	Freq. Response 2 db
M1-*	Mike or line to 1 grid	50 250/600 C.T.	50 000	0	5	20 20,000
M2-*	Mike or line to 2 grids	50 250/600 C.T.	50 000 C.T.	0	5	20 20,000
M3-*	Dynamic mike to 1 grid	7.5 30	50 000	0	5	20 20,000
M4-*	Single plate to 1 grid	15,000	60 000	0	6	20 15,000
M5-*	Single plate to 1 grid	15,000	60 000	4	14	200 20,000
M6-*	Single plate to 2 grids	15,000	95 000 C.T.	0	5	20 15,000
M7-*	Single plate to 2 grids	15,000	95 000 C.T.	4	11	200 20,000
M8-*	Single plate to line	15,000	50/250/600 C.T.	0	8	20 20,000
M9-*	Single plate to line	15,000	50/250 600 C.T.	4	11	150 20,000
M10-*	Push pull plates to line	30 000 P.P.	50/250/600 C.T.	0	8	30 50,000
M11-*	Crystal mike to line	50,000	50/250/600 C.T.	0	5	20 20,000
M12-*	Mixing and matching	50/250 C.T.	50/250/600 C.T.	0	8	20 20,000
M13-*	Reactor	300 hy 0 d.c.	50 hy 0.5 me			6000 Ω D.C.R.
M14-*	50 1 mike to grid	200	1/2 Megohm	0	5	80 3,000
M15-*	10 1 plate to grid	10,000	1 Megohm	0	11	100 2,500

OPEN FRAME

M-F

Weight 1 oz.

To order add -F to Part No. i.e. MT3-F, M1-F

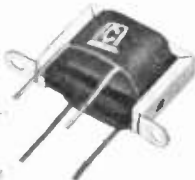
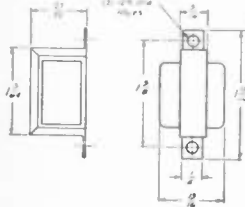


OPEN FRAME WITH CHANNEL

M-FB

Weight 1.13 oz.

To order add -FB to Part No. i.e. MT3-FB, M1-FB



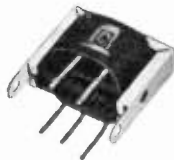
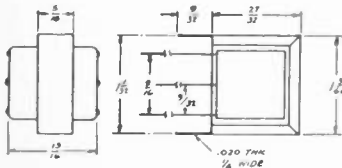
PLUG-IN TAB MOUNTED CHANNEL

M-FPB

Designed for Printed Circuit Applications

Weight 1.13 oz.

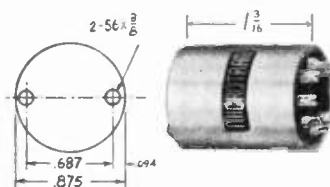
To order add -FPB to Part No. i.e. MT3-FPB, M1-FPB



MINIATURE TRANSISTOR TRANSFORMERS ("MT" SERIES)

MT1-*	Line to Base	600	600	10	23	200 15,000
MT2-*	Coll. to P.P. Base 2N57	100	10 C.T. 40 C.T.	100	27	200 20,000
MT3-*	Collector to Base or line	50,000	600	3	20	300 15,000
MT5-*	Collector to speaker	50,000	6	3	20	300 15,000
MT6-*	Collector to P.P. Base	100,000	1200 C.T.	1.4	17	200 15,000
MT7-*	Collector to P.P. Base	25,000	1200 C.T.	3	22	200 15,000
MT8-*	P.P. Collector to P.P. Base	50,000 C.T.	1200 C.T.	3	20	300 15,000
MT9-*	Line to P.P. Base	600 C.T.	1200 C.T.	4	23	200 15,000
MT10-*	Collector to Base	25,000	600	3	22	200 15,000
MT11-*	P.P. Coll. to P.P. Base	4,000 C.T.	600 C.T.	3	22	200 15,000
MT12-*	Output collector to speaker	2,000	3.4	10	32	200 15,000
MT13-*	P.P. Coll. to speaker	4,000 C.T.	3.4	3	32	200 15,000
MT14-*	Coll. to Spkr. 2N179	400	10	50	25	200 20,000
MT15-*	P.P. Servo Output 2N57	300 C.T.	210	30	27	300 20,000
MT18-*	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	6	22	200 15,000
MT20-*	P.P. Coll. to P.P. Base	50,000 C.T.	1200/300 Split	3	20	300 15,000
MT21-*	P.P. Coll. to P.P. Base	4,000 C.T.	600/150 Split	3	32	200 15,000
MT22-*	Line to P.P. Base	600/150 Split	1,200 C.T.	4	23	200 15,000
MT23-*	P.P. coll. to Servo	250 C.T.	1000	10	30	300 15,000

*Add either -F, or -FB, or -FPB, or -A, or -P to part No. to designate construction. See Photos



ALUMINUM CASED M-A

Supplied with 2-56 Screws
Weight 1.25 oz.

To order add -A to Part No. i.e. MT3A, M1-A

OCTAL PLUG-IN M-P

Sealed Plastic Housing
Weight 2 oz.

To order add -P to Part No. i.e. MT3 P, M1 P



MICROTRAN company, inc., VALLEY STREAM, N. Y.

These units are designed for use in Airborne Equipment, Missile Devices and Miniature Amplifiers. Thorough baking and resin impregnation assure reliable life. Insulating materials used are compatible for later epoxy potting of complete assemblies. Supplied with 4 inch #27 color coded vinyl leads. Available from stock.

OPEN FRAME SUB-MINIATURE TRANSFORMERS

SUB-MINIATURE AUDIO TRANSFORMERS ("SM" SERIES)

Part No.*	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Frequency Response ± 2 db.
SM1-(*)	Input	200 / 50	250,000 62,500	0	6	80-10,000
SM2-(*)	Interstage 3:1	10,000	90,000	0	8	100-10,000
SM3-(*)	Plate to line	10,000	200	3	21	150-10,000
SM4-(*)	Output	30,000	50	1	21	150-10,000
SM5-(*)	Reactor 50 HY at 1 MIL. D.C.	3,000 ohms D.C. Res.				
SM6-(*)	Output	100,000	60	0.5	21	150-10,000

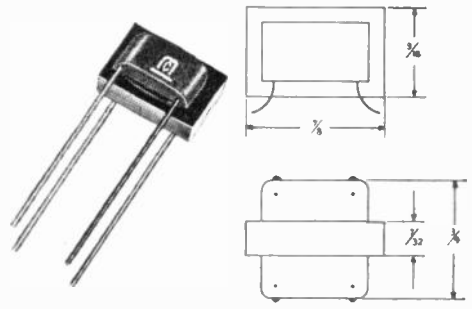
SUB-MINIATURE TRANSISTOR TRANSFORMERS ("SMT" SERIES)

Part No.*	Application	Primary Impedance	Secondary Impedance	Pri. D.C. Unbalance Ma.	Operating Level DBM	Frequency Response ± 2 db.
SMT1-(*)	Line to Base	600	600	9	23	200-15,000
SMT3-(*)	Collector to Base or line	50,000	600	1	20	300-15,000
SMT4-(*)	P.P. Coll. to P.P. Base	50,000 C.T.	600 C.T.	2	20	200-15,000
SMT5-(*)	Collector to speaker	50,000	6	1	20	300-15,000
SMT7-(*)	Collector to P.P. Base	25,000	1200 C.T.	1.5	20	200-15,000
SMT8-(*)	P.P. Coll. to P.P. Base	50,000 C.T.	1,200 C.T.	2	20	200-15,000
SMT9-(*)	Line to P.P. Base	600 C.T.	1,200 C.T.	18	23	200-15,000
SMT10-(*)	Collector to Base	25,000	600	2	20	200-15,000
SMT12-(*)	Output collector to speaker	2,000	3.4	5	30	200-15,000
SMT13-(*)	Output P.P. collector to spkr.	4,000 C.T.	3.4	5	30	200-15,000
SMT16(*)	Collector to P.P. Base	10,000	1,500 C.T.	1	23	200-15,000
SMT17(*)	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200-15,000
SMT18(*)	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	3	20	200-15,000
SMT19-(*)	Collector to P.P. Base	2,500	2,500 C.T.	2.5	25	200-15,000

*Add either -F, or -FB, or -FPB to part No. to designate construction. See Photos

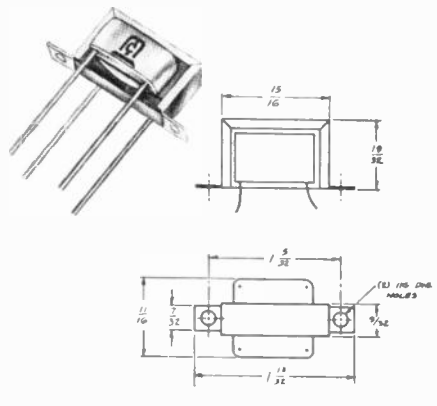
OPEN FRAME SM-F

SUB-MINIATURE SIZE
Weight .665 oz.
To order add -F to Part No.
i.e. SMT3-F, SM1-F



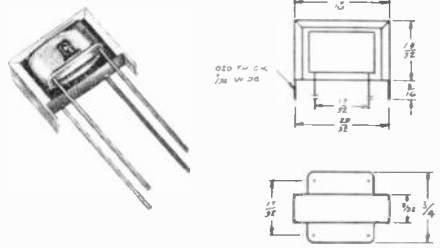
OPEN FRAME WITH CHANNEL SM-FB

SUB-MINIATURE SIZE
Weight .710 oz.
To order add -FB to Part No.
i.e. SMT3-FB, SM1-FB



PLUG-IN TAB MOUNTED CHANNEL SM-FPB

SUB-MINIATURE SIZE
Weight .710 oz.
To order add -FPB to Part No.
i.e. SMT3-FPB, SM1-FPB





MICROTRAN

company, inc., VALLEY STREAM, N. Y.

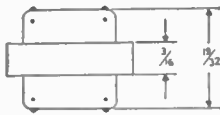
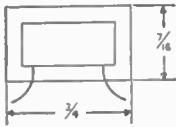
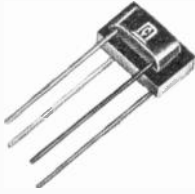
**OPEN FRAME
MICRO-MINIATURE
TRANSFORMERS**

These units are designed for use in Airborne Equipment, Missile Devices and Miniature Amplifiers. Thorough baking and resin impregnation assure reliable life. Insulating materials used are compatible for later epoxy potting of complete assemblies. Supplied with 4 inch #27 color coded vinyl leads. Available from stock.

**OPEN FRAME
MM-F**

MICRO-MINIATURE SIZE
Weight .375 oz.

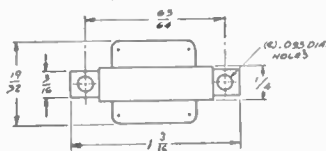
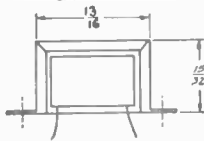
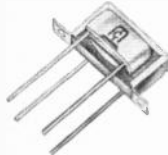
To order add -F to Part No.
i.e. MMT3-F, MM1-F



**OPEN FRAME
WITH CHANNEL
MM-FB**

MICRO-MINIATURE SIZE
Weight .415 oz.

To order add -FB to Part No.
i.e. MMT3-FB, MM1-FB



MICRO-MINIATURE AUDIO TRANSFORMERS ("MM" SERIES)

Part No.	Application	Primary Impedance	Secondary Impedance	Pri. DC. Unbalance Mc.	Operating Level DBM	Freq. Response ±2 db.
MM1-(-)	Input	200/50	250,000/62,500	0	4	200-10,000
MM2-(-)	Interstage 3:1	10,000	90,000	0	4	150-10,000
MM3-(-)	Plate to line	10,000	200	3	20	150-10,000
MM4-(-)	Output	30,000	50	1	20	150-10,000
MM5-(-)	Reactor 50 HY at 1 MIL. D.C.	4,700 ohms D.C. Res.				
MM6-(-)	Output	100,000	60	0.5	20	250-10,000
MM7-(-)	Output	30,000	1200	0.5	20	200-10,000

MICRO-MINIATURE TRANSISTOR SERIES ("MMT" SERIES)

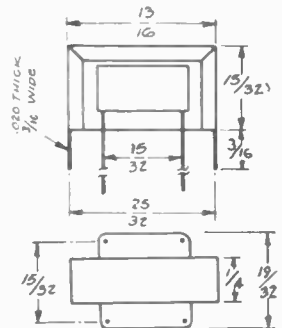
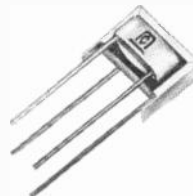
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. DC. Unbalance Mc.	Operating Level DBM	Freq. Response ±2 db.
MMT1-(-)	Line to Base	600	600	6	22	200-15,000
MMT3-(-)	Collector to Base or line	50,000	600	0.7	20	200-15,000
MMT4-(-)	P.P. collector to P.P. Base	50,000 C.T.	600 C.T.	1.4	20	200-15,000
MMT5-(-)	Collector to speaker	50,000	6	1	20	200-15,000
MMT7-(-)	Coll. to P.P. Base	25,000	1200 C.T.	1	20	200-15,000
MMT8-(-)	P.P. collector to P.P. Base	50,000 C.T.	1200 C.T.	1.4	20	200-15,000
MMT9-(-)	Line to P.P. Base	600 C.T.	1200 C.T.	1.6	22	200-15,000
MMT10-(-)	Collector to Base	25,000	600	1	20	200-15,000
MMT11-(-)	P.P. col. to P.P. Base or line	4,000 C.T.	600 C.T.	5	28	200-15,000
MMT12-(-)	Coll. to Spkr.	2,000	3.4	5	28	200-15,000
MMT13-(-)	Output P.P. collector to spkr.	4,000 C.T.	3.4	5	28	200-15,000
MMT16-(-)	Collector to P.P. Base	10,000	1,500 C.T.	1	20	200-15,000
MMT17-(-)	P.P. Coll. to P.P. Base	10,000 C.T.	200 C.T.	6	20	200-15,000
MMT18-(-)	P.P. Coll. to P.P. Base	25,000 C.T.	1,200 C.T.	2	20	200-15,000
MMT19-(-)	Collector to P.P. Base	2,500	2,500 C.T.	2	23	200-15,000

*Add either -F, or -FB, or -FPB to Part No. to designate construction. See Photos.

**PLUG-IN TAB
MOUNTED
CHANNEL
MM-FPB**

MICRO-MINIATURE SIZE
Weight .415 oz.

To order add -FPB to Part No.
i.e. MMT3-FPB, MM1-FPB



MICROTRAN company, inc., VALLEY STREAM, N. Y.

On this page are listed units designed for the extremes in miniaturization. The 4 inch #27 color coded leads supplied are suitable for dip soldering in printed circuits. Thorough baking and resin impregnation assure reliable life. Insulating materials used are compatible for later epoxy potting of complete assemblies. Highest efficiency—space factor obtained by use of high permeability Nickel-Alloy Cores, Nylon Bobbins, Formvar Wire. Available from stock.

OPEN FRAME ULTRA and VERI-MINIATURE TRANSFORMERS

ULTRA-MINIATURE TRANSISTOR TRANSFORMERS ("UM" SERIES) Frequency Response ± 2 db. 300 to 10,000 Cycles

Part No.	Application	Primary Impedance	Secondary Impedance	Unbal. Pri. D.C. Ma.	Pri. D.C.R.	Sec. D.C.R.	Level MW.
UM21-(*)	Input	100,000	1,000	0	1,700	135	8
UM22-(*)	Driver	20,000	1,000	.5	1,000	90	2.5
UM23-(*)	Driver	20,000	1,200 C.T.	.5	1,000	100	2.5
UM24-(*)	Output	1,000	50	3	60	8.5	3
UM25-(*)	Output	400	50	3	30	4.5	4
UM26-(*)	Output	400	11	3	30	1.5	4
UM27-(*)	Output	400 C.T.	11	6	30	1.5	4
UM28-(*)	Choke	10 hy. (0 dc)		8 hy (.5ma)	650		

*Add either -F, or -M to Part No. to designate construction. See Photos.

VERI-MINIATURE TRANSISTOR TRANSFORMERS ("VM" SERIES) Frequency Response ± 2 db. 200 to 10,000 Cycles

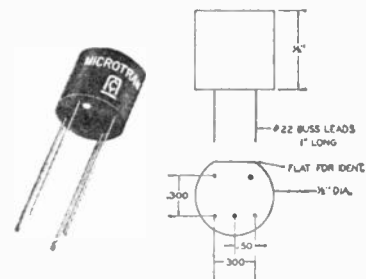
Part No.	Application	Primary Impedance	Secondary Impedance	Pri. D.C.R.	Sec. D.C.R.	Level MW.
VM1-(*)	Input	50	600 (1.5ma)	6	70	15
VM2-(*)	Input or Interstage	200,000	600 (1.0ma)	2650	80	5
VM3-(*)	Interstage	25,000	600 (1 ma)	675	45	5
VM4-(*)	Input or Interstage	200,000	1200 (.72ma)	2650	160	5
VM5-(*)	Interstage	50,000	600 (1.0ma)	1500	60	5
VM6-(*)	Interstage	100,000	1,200 C.T. (.72 ma)	2K	140	5
VM7-(*)	Output	500 (3.5ma)	3.4	60	.5	15
VM8-(*)	Output	1250 (2.0ma)	3.4	115	.5	15
VM9-(*)	Output	1250 (2.0ma)	50	115	.6	15
VM10-(*)	Interstage	2,500 (1.5 ma)	2,500 C.T.	225	225	3
VM11-(*)	Choke	20 hy. (0ma)	12 hy. (.5ma)	1000	—	—
VM12-(*)	Interstage	20,000	1,000 (.75 ma)	650	100	5
VM13-(*)	Interstage	20,000	1,000 C.T. (.75 ma)	650	100	5

*Add either -F, or -M, or -FPB to Part No. to designate construction. See Photos.

MOLDED UM-M

ULTRA MINIATURE SIZE
Weight .14 oz.

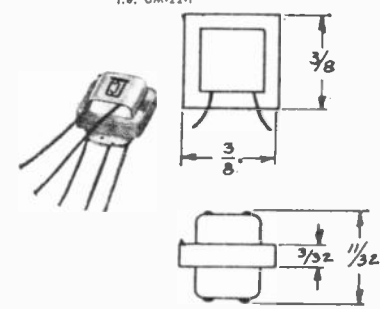
To order add -M to Part Number i.e. UM-22-M



OPEN FRAME UM-F

ULTRA MINIATURE SIZE
Weight .08 oz.

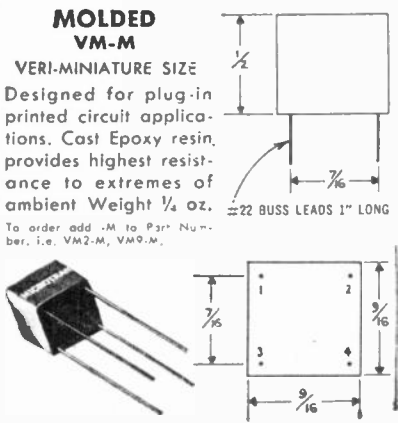
To order add -F to Part Number i.e. UM-22-F



MOLDED VM-M

VERI-MINIATURE SIZE
Designed for plug-in printed circuit applications. Cast Epoxy resin, provides highest resistance to extremes of ambient Weight 1/4 oz.

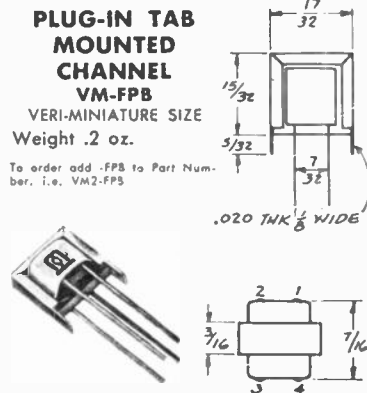
To order add -M to Part Number, i.e. VM2-M, VM9-M.



PLUG-IN TAB MOUNTED CHANNEL VM-FPB

VERI-MINIATURE SIZE
Weight .2 oz.

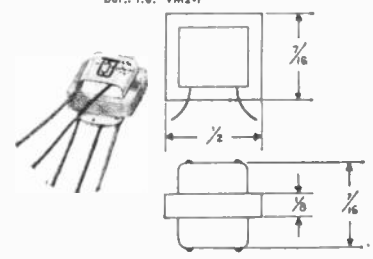
To order add -FPB to Part Number, i.e. VM2-FPB



OPEN FRAME VM-F

VERI-MINIATURE SIZE
Weight .16 oz.

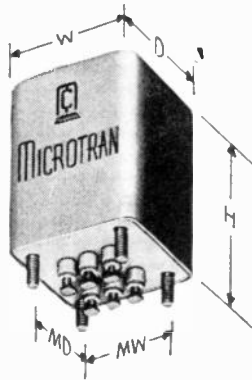
To order add -F to Part Number, i.e. VM2-F



MICROTRAN company, inc., VALLEY STREAM, N. Y.

D. C. TO D. C. CONVERTER TRANSFORMERS

Permits conversion of low voltage direct current to high voltage for operating mobile and military electronic equipment. These miniaturized high efficiency transformers used in transistor switching circuits provide greatly improved reliability, efficiency, ruggedness, over vibrator and rotary power converters.



All transformers shown are hermetically sealed and constructed in accordance with MIL-T-27A Grade 4, Class R, 10,000 hour minimum life. Unique construction eliminates the difficulties usually experienced with high voltage random wound toroidal transformers and mechanical fragility of ferrite cores. On special order obtainable with modified electrical or mechanical specifications. Available from franchised stocking distributors.

D. C. TO D. C. CONVERTER TRANSFORMERS

Part Number	Nominal D.C. Input Volts	Total V.A. Output*	Typical** Transistors	D.C. Output*				D	Size			Mounting Centers		MIL Case
				F.W. Bridge Volts	Ma.	C.T. Full wave Volts	Ma.		W	H	MD	MW		
M8034	28	125	Delco 2N174	500	250	250	420	2 3/4	2 3/8	3 13/16	2 1/8	1 3/4	GA	
M8035	13.6	125	Delco 2N442	500	250	250	420	2 3/4	2 3/8	3 13/16	2 1/8	1 3/4	GA	
M8036	13.6	40	Delco 2N442	450	90	225	155	2 5/16	2 1/16	3 1/8	1 11/16	1 7/16	FA	

*Full wave and C.T. loads may be simultaneously drawn. However, for continuous duty operation, Total V.A. output shown should not be exceeded.
 **Typical transistors suggested are for reference only, as user must verify that maximum transistor ratings will not be exceeded for the particular application.

TYPICAL DC-DC CONVERTER CIRCUIT

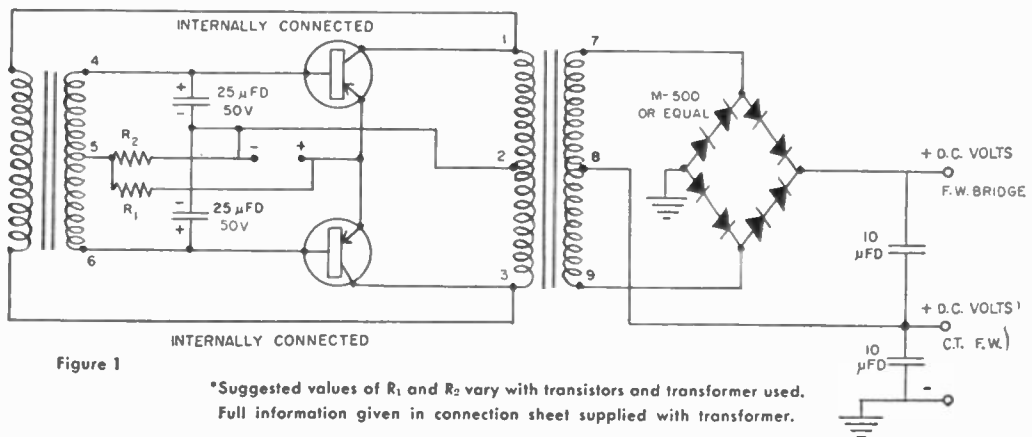


Figure 1

*Suggested values of R₁ and R₂ vary with transistors and transformer used. Full information given in connection sheet supplied with transformer.

Overall DC to DC full load efficiencies 80% when used in circuit similar to Fig. 1. Output voltage to input of rectifier is a nominal 800 cycle square wave permitting ease of filtering.

MICROTRAN company, inc., VALLEY STREAM, N. Y.

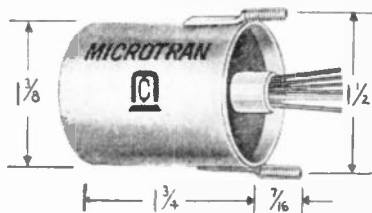
CHOPPER AND INPUT TRANSFORMERS

Professional quality cased input Transformers for connection to low level chopper, microphone, pick up, tape heads, or lines. All units are magnetically shielded to improve signal to noise ratio.

CHOPPER TRANSFORMERS

Efficiently transfers 30 to 500 cps. Transducer or Thermocouple signals to instrument amplifiers. Signal level range from .5μV. to .5 volts. Resin impregnated to minimize mechanical vibration noise signal. Low hum pick up assured by 3 mu-metal and 2 copper shields. Accurate center taps and external electrostatic shield connection improve low-level operation.

Part Number	Turns Ratio Full Pri. To Full Sec.	1/2 Pri. To Full Sec.	Ind. of Full Pri. @ .5V. 60~	Imped. of Full Pri. @ .5V. 60~	D.C. Resistance Full Pri.	Sec.	Magnetic Shielding	Hght.	Dia.	Wght. Oz.	Fig.
M8025	1:7.7	1:15.4	17.5	6,600	365	4140	90 DB.	1 ² / ₃₂	1 ¹ / ₈ D.	4.5	A
M8026	1:3.2	1:6.4	60 HY.	22,500	455	3500	90 DB.	1 ² / ₃₂	1 ¹ / ₈ D.	4.5	A



LOW LEVEL CHOPPER INPUT
6-32 x 7/16" Mounting studs on 1/2" centers. Available on special order with Plug-in header and hermetically sealed.

FIGURE A

PLUG-IN INPUT TRANSFORMERS

These Broadcast fidelity input transformers are double mu-metal shielded. Plug-in feature permits simple installation.

Part Number	Pr. Sec.	Sec. Imp.	Magnetic Shielding	Level DBM	Frequency Resp. ±2 db.	Height	Width or Diameter	Weight Oz.	Figure
M8027	250 50 C.T.	50,000	65 DB.	+5	20-20,000	2 ¹ / ₂	1 ¹ / ₈ D.	11	B
M8028	170	50,000	65	+5	20-20,000	1 ³ / ₄	1 D.	4	C
M8029	600	50,000	65	+5	20-20,000	2 ¹ / ₁₆	2	16	D
M8030*	200/50 C.T.	50,000	65	+5	20-20,000	2 ¹ / ₂	1 ¹ / ₈ D.	6	E
M8031	600 C.T. / 150	50,000	65	+5	30-20,000	2 ¹ / ₂	1 ¹ / ₈ D.	6	E
M8032†	250 C.T.	50,000	65	+5	20-20,000	2 ¹ / ₂	1 ¹ / ₈ D.	6	E
M8033†	50 C.T.	50,000	65	+5	20-20,000	2 ¹ / ₂	1 ¹ / ₈ D.	6	E

*M8030 is designed as a replacement for Ampex No. 1733-1.

†M8032 and M8033 mates with sockets on many RCA amplifiers.



FIGURE C

PHONO INPUT Auto Transformer

Designed to step up voltage of low level high fidelity phono pickups. Case may be rotated for minimum hum pickup. Supplied with 28" shielded cable terminated with standard phono plug. Standard phono receptacle mounted on can.



FIGURE E

MIKE INPUT Plug-in Base

M8030 and M8031 has an 8 pin Octal plug. M8032 and M8033 has a 9 pin Octal Type plug. Matches the sockets on many commercial Public Address and Tape Recorder amplifiers. Available on special order with alternate plug-in headers or hermetically sealed.



FIGURE D

PHONO INPUT Auto Transformer Drawn Steel Case

Designed to step-up voltage of low level high fidelity phono pickups. Supplied with phono receptacle on case and with 28" shielded cable terminated with standard phono plug.

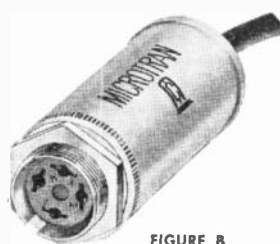


FIGURE B

MIKE INPUT In-line

Designed for insertion in mike cable circuit. Supplied with 6" microphone cable. Input receptacle mates with Amphenol 91-PC4F Plug, (not supplied).

MICROTRAN company, inc., VALLEY STREAM, N. Y.

LINE VOLTAGE ACCESSORIES

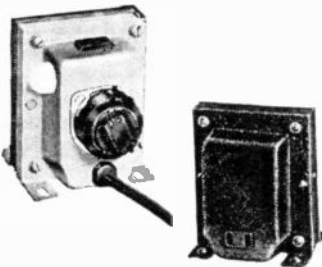


LVS-153 line voltage stabilizer

A popularly priced quality automatic voltage regulator. Stabilizes line for TV, radio or industrial use where load is constant. Input may vary between 95-130 volts, 60 cycles, nominal output voltage regulated $\pm 3\%$. One model covers 125 to 300 watt range. Built-in automatic relay turns stabilizer on with equipment. Waveshape is free from distortions and frequency sensitivity of resonant type regulators. 50 cycle units available on special order.

Size: 10" x 5" x 9 1/2" Weight: 10 lbs. Finish: Mahogany Wrinkle

PRICE: \$34.95



LVB-117 line voltage booster

Multi-tap selector switch restores line voltages of 90 thru 135 volts to 117 volts output. Calibrated neon indicator permits exact voltage adjustment. Automatic — turns on and off with set. Overload fuse protects against unsafe line increases.

Watts: 350 Weight: 4 lbs. Mtg. Centers: 2 3/8" x 2 1/2"
Size: 4 3/8" x 3 1/4" x 3 3/8" Finish: Mahogany Wrinkle

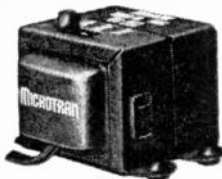
PRICE: \$17.95

LVB "Jr" up-down voltage booster

Reliable, budget-priced unit. Single switch provides 10 volt boost or drop, or straight-through line.

Watts: 350 Weight: 3 lbs. Mtg. Centers: 1 1/2" x 2 1/2"
Size: 2 7/8" x 3 1/4" x 3 3/8" Finish: Mahogany Wrinkle

PRICE: \$7.50

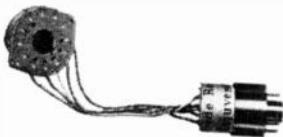


LVB-10 voltage booster

Miniaturized plug-in unit with 4 position switch that provides an "off" position not previously obtainable. Insures maximum performance of TV set when low or high line voltages distort picture or cause synch or oscillator drift.

Input: 100 to 130 volts Size: 2 1/4" x 3 1/4" x 3 1/4"
Output: 10 v. boost, 10 v. drop, line, off. Finish: Baked Enamel
Watts: 250 w. 50/60 cycles Weight: 2 lbs.

PRICE: \$7.50



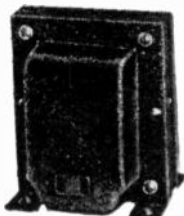
cathode ray tube rejuvenator

Boosts CRT brightness. Units are resin treated; new design insures cool and buzz-free operation; 5 lead units for magnetic focus tubes only; 6 lead for both magnetic and electrostatic. Weight 8 oz.

#48B: Parallel sets, 6 leads	\$1.75	#51E: Parallel, isolation, 6 leads	\$2.25
#49C: Parallel sets, 5 leads	1.50	#52: Parallel, 2-step boost, 6 leads	3.75
#50D: Series sets, 6 leads	2.00	#53: Universal, isolation & boost	4.25

step down auto transformers

240/220V. to 120/110V. 50/60 cycle. Equipped with secondary standard receptacle and primary 6' U.L. approved line cord. Baked wrinkle finish.



Part No.	Application	DIMENSIONS			Mtg. Ctrs.	Weight	Price
		L	W	H			
M1552	65 Watt capacity	3 23/32	2 1/2	2 9/32	3 1/8	3.5 lbs.	\$ 9.75
M1556	100 Watt capacity	3 1/8	2 7/8	3 1/2	1 3/4 x 2 1/4	4 lbs.	10.50
M1553	150 Watt capacity	3 1/4	2 7/8	3 1/2	2 1/4 x 2 3/8	5 lbs.	12.50
M1555	250 Watt capacity	3 7/8	3 1/4	3 7/8	2 11/16 x 2 1/2	6 lbs.	13.25
M1559	300 Watt capacity	3 3/4	3 7/8	4 5/8	2 7/16 x 3	7 lbs.	14.25
M1558	500 Watt capacity	4 7/8	3 7/8	4 5/8	3 9/16 x 3	12 lbs.	21.00
M1551	750 Watt capacity	5 1/2	4 1/2	5 3/8	3 1/4 x 3 1/2	16 lbs.	26.75
M1557	1000 Watt capacity	7	4 1/2	5 3/8	5 1/4 x 3 1/2	25 lbs.	40.00
M1554	1500 Watt capacity	8	4 1/2	5 3/8	6 1/4 x 3 1/2	29 lbs.	55.00
M1550	2000 Watt capacity	8 1/2	4 3/8	6	6 5/16 x 3 7/16	37 lbs.	60.00



MICROTRAN

company, inc., VALLEY STREAM, N. Y.

Prices, Mechanical Construction, or Electrical Characteristics Subject to Modification without notice.

PRICE LIST

Effective Date 1/1/60

Table with 12 columns: Part No., List Price, Part No., List Price, Part No., List Price, Part No., List Price, Part No., List Price, Part No., List Price. Categories include MINIATURE TRANSFORMERS, TRANSISTOR DRIVER, TRANSISTOR OUTPUT, TRANSISTOR POWER, CHOPPER TRANSFORMERS, INPUT TRANSFORMERS, DC to DC CONVERTER, MICRO-MINIATURE TRANSFORMERS, MICRO-MINIATURE TRANSISTOR TRANSFORMERS, MINIATURE TRANSISTOR TRANSFORMERS, TRANSISTOR TRANSFORMERS, SUB-MINIATURE TRANSFORMERS, ULTRA-MINIATURE TRANSFORMERS, VERI-MINIATURE TRANSFORMERS, and HI-FI ACCESSORIES.

NOTE: To determine pricing of Part Nos. with -F Suffix (i.e. MT1-F) deduct \$.50 from list price of equivalent -FB item (i.e. MT1-FB). List price of Part No. with -FPB is same as equivalent -FB item.

TERMS: 1% 10, Net 30 F.O.B. Valley Stream, New York Minimum Billing \$7.50

INDUSTRIAL DISCOUNT 1-9 - 10%; 10-49 - 40 10%; 50-99 - 50%; 100-200 - 60% May not be intermixed *Discount shown does not apply.



PEERLESS

ELECTRICAL PRODUCTS



** All primaries are 117 V. 60 cycle.

† All transformers in this group are supplied with electro-static shield.

▼ Maximum operating level, 1 mw reference.
• Impedance is total of two separate windings.

° These units may also be used as bridging transformers. Complete application data in each jacking box.

COMBINATION PLATE AND FILAMENT TRANSFORMERS ** †

Type Number	High Voltage AC Volts	Secondary DC MA.	Filament Current, Amperes		Dimensions, Inches			Weight Lbs.	Consumer Net Price
			5 V.	6.3 V.C.T.	Height	Depth	Width		
R-340-F	325-0-325	100	3.	5.	4 $\frac{3}{8}$	3 $\frac{1}{8}$	2 $\frac{3}{8}$	4	\$20.25
R-490-F	350-0-350	200	3.	6.	5 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{3}{8}$	8	24.00
R-562-F	400-0-400	220	3.	6.	5 $\frac{1}{8}$	3 $\frac{1}{8}$	3 $\frac{3}{8}$	9	27.00
R-631-F	500-435-0-185-500 (Has 100 V tap for C bias)	225	3.	6.	6	4 $\frac{3}{8}$	4 $\frac{1}{8}$	11 $\frac{1}{2}$	37.50
R-800-A	400-0-400	300	4.	4-5.	4 $\frac{3}{8}$	5 $\frac{1}{8}$	3 $\frac{1}{8}$	12	24.00
R-815-S	550-275-0-275-550	280 from 550-0-550 40 from 275-0-275	6.	4-4.2-9	6 $\frac{3}{8}$	5 $\frac{1}{8}$	5 $\frac{1}{8}$	18	60.00

FILAMENT TRANSFORMERS

Type Number	Secondary Current, Amperes 6.3V. C.T.	Test Volts R.M.S.	Primary Volts 60 Cycle	Dimensions, Inches			Weight Lbs.	Consumer Net Price
				Height	Depth	Width		
F-012-X	1.	2000	117	1 $\frac{5}{8}$	2 $\frac{7}{8}$	1 $\frac{5}{8}$	$\frac{1}{2}$	\$ 4.50
F-139-E	8	2000	117	3 $\frac{1}{2}$	3 $\frac{1}{8}$	2 $\frac{7}{8}$	3 $\frac{1}{4}$	12.30

SMOOTHING CHOKES

Type Number	Current D.C. MA.	Inductance Henrys	Resistance Ohms	Test Volts R.M.S.	Dimensions, Inches			Weight Lbs.	Consumer Net Price
					Height	Depth	Width		
C-325-F	120	10	240	1500	3 $\frac{7}{8}$	2 $\frac{1}{8}$	2 $\frac{7}{8}$	3	\$11.25
C-390-F	200	10	150	1500	4 $\frac{1}{2}$	3 $\frac{3}{8}$	3 $\frac{3}{8}$	6	15.00

STANDARD INPUT TRANSFORMERS

Type Number	Descriptive Data	Impedance, Ohms		Freq. Range ± 1 db	Dimensions, Inches			Weight Lbs.	Consumer Net Price
		Primary	Secondary		Height	Depth	Width		
K-308-D	Line, Mixer or Microphone to Sgle. Grid. Max. Level: 0 dbm▼. 60 db magnetic shielding.	250 C.T.	50,000	30-20,000 when terminated	1 $\frac{1}{2}$	1 $\frac{1}{8}$	round	$\frac{3}{4}$	\$12.30

STANDARD IMPEDANCE MATCHING TRANSFORMERS

Type Number	Descriptive Data	Audio Watts Max.	70 V Line	Impedance, Ohms		Freq. Range ± 1 db	Dimensions, Inches			Weight Lbs.	Consumer Net Price
				Primary	Secondary		Height	Depth	Width		
E-372-Q Repeat Coil	Electro-static Shield. 60 db Magnetic Shield.	+18 dbm▼	—	500 C.T.-333	500 C.T.-333	20-20,000	3 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	\$22.50
				250-200 C.T.	250-200 C.T.						
				125-50	125-50						

STANDARD OUTPUT TRANSFORMERS

Type Number	Descriptive Data	Freq. Range ± 1 db	Impedance, Ohms		Pri. DC MA. Max. Unbal.	Audio Watts	Dimensions, Inches			Weight Lbs.	Consumer Net Price	
			Primary	Secondary			Height	Depth	Width			
S-448-Q	Single or P-P plates to line. 30 db hum bucking.	20-20,000	20,000 C.T.	500 C.T.	15	2	3 $\frac{1}{2}$	2 $\frac{3}{8}$	2 $\frac{1}{2}$	1 $\frac{1}{2}$	\$19.20	
			12,500 C.T.	200 C.T.-333								
			5000-3125	250-125-50								
S-510-F	P-P plates to speaker.	20-30,000	10,000 C.T.	16-8	40	4	10	2 $\frac{7}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2	16.50
			8000 C.T.									
S-526-F	P-P plates to speaker.	20-30,000	6600 C.T.	16-8-4	60	6	20	4 $\frac{3}{8}$	3 $\frac{1}{8}$	2 $\frac{3}{8}$	3 $\frac{3}{8}$	21.00
			5000 C.T.									
S-542-F	P-P plates to speaker.	20-30,000	5000 C.T.	16-8-4	140	14	40	5 $\frac{1}{8}$	3 $\frac{1}{8}$	3 $\frac{1}{8}$	6	26.25
			4000 C.T.									



PEERLESS

ELECTRICAL PRODUCTS



Frequency response is guaranteed on all 20-20 plus transformers

INPUT TRANSFORMERS (20-20 PLUS)

Type Number	Descriptive Data	Max. Level ▼	Impedance, Ohms Primary Secondary	Primary DC MA Max. Unbal.	Dimensions, Inches Height Depth Width	Weight Lbs.	Consumer Net Price
K-241-D°	Frequency response, ±1 db: 10-25,000 cps. Primary balanced to attenuate longitudinal currents in excess of 50 db. Sec. may be used single ended or in P-P. Has 2 sec. windings with bal. cap. to grd. Electrostatic shielding. Insertion loss 1¼ db. Transformer will operate into resistive load shunted with 120 MMFD. cap. High power rating makes transf. suitable for use as output transf.	+8 dbm	500-280- 125-31 70,000 • or 600-340- 84,000 • 150-37.5	0	—	2¾ 1½ 2	1 \$30.00

OUTPUT TRANSFORMERS (20-20 PLUS)

S-217-D° Line Level	Frequency response: ±1 db: 5-65,000 cps. Pri. may be used single ended or P-P. Sec. windings have bal. cap. to grd. Has C.T. tertiary of 21.5 ohms which may be used for feedback or grounded. for electrostatic shield. Parallel feed is required. Astatic balance and electromagnetic shield provide approx. 50 db of shielding. Insertion loss 0.5 db. Transf. may be used as excellent input. transf. to either single or P-P grids. When used this way balanced low impedance winding provides excellent line termination	+20 dbm	12,500 600-300 3125 150-75 Tert—See Data	25	0	3¾ 1½ 2	1¼ \$38.40
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MATCHING TRANSFORMERS (20-20 PLUS)

E-204-D Repeat Coil	Frequency response: ±1 db: 5-80,000 cps. Electrostatic shield. Astatic balance and electromagnetic shield provide approx. 50 db magnetic shielding. Attenuates longitudinal currents 80 db in bal. circuit in freq. range up to 70,000 cps. Insertion loss 0.4 db.	+23 dbm	500 C.T. 500 C.T. 125 C.T. 125 C.T. or 600 C.T. 600 C.T. 150 C.T. 150 C.T.	100	0	3¾ 1½ 2	1¼ \$40.20
As a Hybrid Transformer	This precise matching transf. is an excellent hybrid unit for operation from two 250 300 ohm sources. Balancing resistor of approx. 125/150 ohms required in pri. circuit. For max. attenuation from sources the exact value of resistor should be determined from measurements made in circuit where transf. is used. Correct value will yield average attenuation of 27 to 30 db with a max. attenuation of approx. 50 db at some point between 500 cps and 1,000 cps.			Total Pri.		Impedances, Ohms Pri. 1 Pri. 2	Sec. Max. Level ▼
				500 or 600		250 or 300	250 or 300 500-125 or 600-150 +23 dbm

HIGH LEVEL OUTPUT TRANSFORMERS (20-20 PLUS)

Type Number	Descriptive Data	Impedance, Ohms Primary Secondary	Pri. DC MA Per Winding Max. Unbal.	Max. Level ▼	Dimensions, Inches Height Depth Width	Weight Lbs.	Consumer Net Price
S-232-Q	Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.6 db. (See descriptive data below)	6600 C.T. 16. 8. 1650 C.T. 4. 1.	70 7 140 14	+43 dbm (20 watts) See Data	4¾ 3 ⅜ 3 ⅜	3¾	\$31.50
S-238-Q	Frequency response, ±1 db: 10-75,000 cps. Insertion loss 0.6 db. (See descriptive data below)	10,000 C.T. 16. 8. 2500 C.T. 4. 1.	50 5 100 10	-43 dbm (20 watts) See Data	4¾ 3 ⅜ 3 ⅜	3¾	\$31.50
S-258-Q	Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.4 db. (See descriptive data below)	5000 C.T. 16. 8. 1250 C.T. 4. 1.	120 12 240 24	+46 dbm (40 watts) See Data	4¾ 3¾ 3¾	6½	\$42.00
S-271-S	Frequency response, ±1 db: 10-100,000 cps. Insertion loss 0.3 db. (See descriptive data below)	5000 C.T. 16. 8. 1250 C.T. 4. 1.	200 20 400 40	+49 dbm (80 watts) See Data	6¾ 5½ 5½	18	\$54.00
S-273-S	Frequency response, ±1 db: 10-80,000 cps. Insertion loss 0.3 db. (See descriptive data below)	8000 C.T. 16. 8. 2000 C.T. 4. 1.	125 12 250 25	+49 dbm (80 watts) See Data	6¾ 5½ 5½	18	\$54.00

DESCRIPTIVE DATA GENERAL

Maximum rated operating level ▼ applies to frequency range 20-20,000 cps. Power rating is ½ at 15 cps. ¼ at 10 cps. Full power (60 cps) primary open circuit inductance is approximately 100 Henrys for each 1000 ohms of primary impedance. Leakage inductance, secondary referred to total primary, is approximately 1 mh per 1000 ohms of primary impedance. Leakage inductance, half primary to half primary is approximately 1 mh per 1000 ohms of primary impedance. Can be used between half and double of rated impedances. For halved impedances, power ratings are doubled. For doubled impedances, power ratings are halved. Secondary may be operated with either end, or C.T. grounded.

IMPEDANCE MATCHING AUTO TRANSFORMER (20-20 PLUS)

Type Number	Descriptive Data	Impedance, Ohms	Insertion Loss	Max. Level ▼	Dimensions, Inches Height Depth Width	Weight Lbs.	Consumer Net Price
A-262-E	Frequency response, ±1 db: 10-100,000 cps. May be used in any combination of rated impedances, step-up or step-down.	16. 8, 4 or 8, 4, 2	.5 db. or 1.0 db.	48.7 dbm (75 watts) or 44.7 dbm (30 watts)	4 ⅞ 3 ⅞ 3 ⅞	5¾	\$18.60

Sec. 5600



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Style CL Mtg.


Style EL Mtg.


Style DL Mtg.


Style ET Mtg.


Style FL Mtg.

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AUDIO TRANSFORMERS — THE "ONE" SERIES

AUDIO INPUT

Type Number	Application	Impedance		Pri. Turns (D.C.)	Max. Ratio	Frequency Characteristics—c. p. s.				Mtg. Style	Dimensions				Net Wt.	List Price	
		Primary	Secondary			50	200	1M	5M		10M	A	B	C			C
1P121	P.M. Speaker to Grid	4	100,000	0	1.58	-4.0	-1.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	5	3.85
1P124	S.B. Mic. to Sgl. or P.P. Grids	100	400,000 C.T.	50	1.63	-6.0	-6.0	0	-2.0	-6.0	BL	1-7/8	1-9/16	1-1/2	2	5	4.05
1P125	Low Z to Sgl. or P.P. Grids	50	100,000 C.T.	0	1.45	-3.0	0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	5	3.75
1P128	Sgl. or D.B. Mic. or Line to Sgl. or P.P. Grids	200* 50	100,000 C.T.	50	1.45	2.0	-0.3	0	-0.7	-2.0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.3	5.95
1P136	Line to Sgl. or P.P. Grids	500*/125	100,000 C.T.	0	1.28	3.0	-0.4	0	-0.4	-1.5	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.4	5.95
1P145	Sgl. or P.P. Plates to Line	20,000 C.T.	500*/125	8	12.6-1	-3.5	-1.0	0	0	0	DL	2-1/4	1-7/8	1-13/16	2-3/8	9	4.90
1P152	Sgl. or P.P. Plates to Line	20,000 C.T.	200* 50	8	20:1	4.0	-1.0	0	0	0	DL	2-1/4	1-7/8	1-13/16	2-3/8	9	4.90
1P161	Line to Line	500	500*/125	0	2-1	0.4	-0.1	0	-0.4	-1.0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	5.30

*Indicates Balanced Center Tap

AUDIO INTERSTAGE

1P323	Sgl. Plate to Sgl. Grid	10,000	90,000	8	1.3	-5.0	1.5	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.60
1P331	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1.3	-6.0	-2.0	0	0	-1.0	BL	1-7/8	1-1/16	1-1/2	2	.5	3.85
1P339	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1.3	-3.0	-0.5	0	±0.1	-0.5	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.30
1P342	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1.3	-2.5	-0.5	0	0	0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.55
1P346	P.P. Plates to P.P. Grids	20,000 C.T.	45,000 C.T.	10	1.15	-1.0	-0.2	0	0	0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	5.70
1P351	Universal			8	1.3	-2.0	0.4	0	0	0	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.55
3P363	Sgl. Type 30 to 19, 1J5 or P.P. 30 Class B	10,000	7,000 C.T.	8	2.41	-0.5	0	0	-0.2	-1.0	BL	1-7/8	1-9/16	1-1/2	2	5	3.10

TELEVISION REPLACEMENT (VERTICAL BLOCKING OSCILLATOR)

Type Number	Primary Inductance	Leakage Inductance	Turns Ratio	Mounting Style	Mounting	Dimensions				Net Wt.	List Price
						H	W	D	Cts.		
1P412	1.15 Hy ±20%	.008 Hy ±25-15%	1-42	Comp. Filled Case	Flange Studs	1-7/8	2-5/16	1-1/2	1-15/16	5	4.00
1P416	1.15 Hy ±20%	.008 Hy ±25-15%	1-42	Comp. Filled Case	Flange Studs	1-5/8	1-3/16	1-3/16	1-13/16	4	3.70

CHOKES AND REACTORS — THE "TWO" SERIES

AUDIO REACTORS


Type Number	D.C. Mils		Inductance			Insul. Test Voltage	D.C. Res.	Mtg. Style	Dimensions					Net Weight	List Price	
	Nom.	Max.	0-D.C.	50% Nom. D.C.	Nom. D.C.				Max. D.C.	A	B	C	D			E
2P123	5-0.5	15	550	—	300-500	80	2000	5500	AL	1-7/8	2-1/4	1-5/8	2-13/16		9	3.85
2P124	5-0.5	15	550	—	300-500	80	2000	5500	CL	1-7/8	2-1/4	1-3/4	2-13/16		9	4.30
2P126	35-15	45	65	—	25-35	20	2000	800	AL	1-7/8	2-1/4	1-5/8	2-13/16		9	3.05
2P127	35-15	45	65	—	25-35	20	2000	800	CL	1-7/8	2-1/4	1-3/4	2-13/16		9	3.60

FILTER AND SWINGING CHOKES




2P132	40	50	22	13	8	6	2000	450	AL	1-5/16	1-5/8	1-1/8	2		3	2.00
2P135	65	80	18	11	8	7	2000	300	AL	1-9/16	1-7/8	1-3/8	2-3/8		5	2.35
2P138	85	100	30	16	8	7	2000	350	AL	1-7/8	2-1/4	1-7/8	2-13/16		2	3.00
2P141	110	135	20	10.5	8	7	2000	200	BL	2-5/8	2-3/16	1-7/8	2-13/16		1.5	4.05
2P142	110	135	20	10.5	8	7	2000	200	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	4.30
2P144	150	180	26	13	8	5.5	2000	190	BL	3	2-1/2	2-1/8	3-1/8		2.1	4.05
2P145	150	180	26	13	8	5.5	2000	190	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.2	5.55
2P147	200	250	16	10	8	6.5	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	7.15
2P148	200-20	—	—	—	3-15	—	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	7.15
2P151	300	350	18	11	8	7	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-15/16	7.5	12.20
2P152	300-30	—	—	—	3-15	—	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	12.20
2P155	500	600	16	10	8	5.5	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	34.30
2P156	500-50	—	—	—	3-15	—	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	34.30

DRIVER TRANSFORMERS — THE "THREE" SERIES




Type Number	Primary Impedance	Watts	Ratio Pri. to 1/2 Sec. or Sec. Z	Pri. D.C. Mils	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions					Net Wt.	List Price
					50	200	1M	5M	10M		A	B	C	D	E		
3P323	6,000 C.T. to 10,000 C.T.	25	6.5, 5, 5.1	60	0.5	0	0	0	-0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.45
3P328	3,000 C.T. to 5,000 C.T.	25	6.5, 5, 5.1	60	-0.4	0	0	0	-0.1	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.45
3P334	6,000 C.T. to 10,000 C.T.	25	4.5, 4, 3.5-1	60	-1.0	-0.3	0	-0.1	-0.6	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.25
3P338	3,000 C.T. to 5,000 C.T.	25	4.5, 4, 3.5-1	60	-1.7	-0.5	0	0	0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.95
3P342	6,000 C.T. to 10,000 C.T.	25	3, 2, 1:1	60	0.7	-0.1	0	-0.1	-0.4	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.75
3P347	3,000 C.T. to 5,000 C.T.	25	3, 2, 1:1	60	0.8	0	0	0	-0.8	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.55
3P353	6,000 C.T. to 10,000 C.T.	25	500 Ohms	60	-1.1	-0.3	0	0	-0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.55
3P358	3,000 C.T. to 5,000 C.T.	25	500 Ohms	60	-0.9	0.1	0	-0.4	-1.0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	12.55
3P363	10,000	5	2.4:1	10	0.5	0	0	-0.2	-1.0	BL	1-7/8	1-9/16	1-1/2	2	5	3.10	



QUALITY
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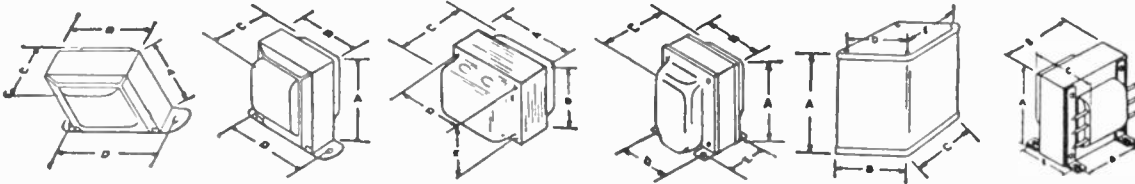




Style AL Mtg.
Style CL Mtg.
Style BL Mtg.

Style DL Mtg.
Style ET Mtg.
Style FL Mtg.

DIMENSIONAL ILLUSTRATIONS



OUTPUT TRANSFORMERS — THE "SIX" SERIES

SPECIFIC DUTY REPLACEMENT TYPES—TUBE TO VOICE COIL

Type Number	Primary Imp.—Ohms		Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions				Net Wt.	List Price
							A	B	C	D		
6P300	Single	2,000 Plate	50	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	.3	2.00
6P306	Single	4,000 Plate	35	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	.3	2.00
6P312	Single or P.P.	7,500 Plates	35	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	.3	2.65
6P316	Single or P.P.	10,000 Plates	35	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	.3	2.65
6P319	Push Pull	15,000 Plates	35	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	3	2.70
6P321	Push Pull	20,000 Plates	30	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	3	2.70
6P323	Push Pull	25,000 Plates	20	3-6	6	AL	1-5 16	1-5 8	1-1/2	2	3	2.70

UNIVERSAL REPLACEMENT TYPES—TUBE TO VOICE COIL—TUBE TO LINE—LINE TO VOICE COIL

Type Number	Primary Imp.—Ohms		Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions				Net Wt.	List Price
							A	B	C	D		
6P165	Spl. or P.P.	4M to 14M Plates	40	1 1/2 to 14	4	ATL	1-5 16	1-5 8	1-3 8	2	3	3.10
6P166	Spl. or P.P.	4M to 14M Plates	50	1 1/2 to 13	8	ATL	1-9 16	1-7 8	1-5 8	2-3 8	.5	3.10
6P167	Spl. or P.P.	3M to 10M Plates	50	1 2/3 to 13	15	BTL	1-7 8	1-9 16	1-3 4	2	.5	3.85
6P169	Spl.	1500 to 7M Plate	55	8 to 19	10	ATL	1-9 16	1-7 8	1-5 8	2-3 8	.5	3.10
6P172	P.P.	3500 to 12M Plates	60	1 3/4 to 14	20	BTL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	5.60
6P701	Single	2500 to 7500 Plate	45	165 to 1500	10	BTL	2-1 4	1-7 8	1-7 8	2-3 8	9	4.90
6P710	P.P.	7500 to 15M Plates	45	250 to 1000	10	BTL	2-1 4	1-7 8	1-7 8	2-3 8	9	5.55
6P714	Spl. or P.P.	2500 to 12M Plates	45	150 to 2400	10	BTL	2-1 4	1-7 8	1-7 8	2-3 8	9	5.85
6P717	125 to 500 Line		0	1 to 32	35	BTL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	5.95
6P722	500 to 3M Line in 500 Ohm Steps		0	1 to 48	10	BTL	2-1 4	1-7 8	1-7 8	2-3 8	9	5.60

AMPLIFIER AND EQUIPMENT TYPES—TUBE TO LINE AND VOICE COIL

Type Number	Primary Imp. Ohms		Pri. D.C. Mils	Secondary Imp. Ohms	Watts	Frequency Characteristics—c. p. s.					Mtg Style	Dimensions					Net Wt.	List Price
						50	200	1M	5M	10M		A	B	C	D	E		
						6P726	P.P.	3300 or 3800 Plates	90	4-8-16 250 500		60	-0.3	0	0	-0.1			-0.5	GL	3-3 4	3-1 16	3-3 8	2-1 2	2-3 16	4.4	11.75
6P731	P.P.	4500 or 6800 Plates	90	4-8-16 250-500	60	-0.3	0	0	-0.2	0	GL	3-3 4	3-1 16	3-3 8	2-1 2	2-3 16	4.4	11.75
6P736	P.P.	5000 Plates	70	4-8-16-250-500	25	-0.4	-0.2	0	-0.2	-0.5	DL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	7.90	
6P740	P.P.	4300 Plates	70	4-8-16-250 500	25	-0.9	0.3	0	-0.3	-0.5	DL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	7.90	
6P743	P.P.	6600 Plates	70	4-8-16 250 500	25	-0.7	0.1	0	-0.2	-0.5	DL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	7.90	
6P746	P.P.	8000 Plates	70	4-8-16 250 500	25	0.7	0.1	0	-0.1	-0.3	DL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	7.90	
6P749	P.P.	19,000 Plates	60	4-8-16 250 500	25	-0.4	-0.1	0	-0.2	-0.3	DL	2-5 8	2-3 16	2-1 8	2-13 16	1 5/8	8.30	
6P752	Spl.	2500 Plate	60	4-8-16-250 500	10	-3.0	-0.4	0	-0.3	-0.5	DL	2-1 4	1-7 8	2-1 8	2-3 8	1.0	6.25	

TELEVISION REPLACEMENT (VERTICAL DEFLECTION)

Type Number	Ratio Pri. to Sec.	Primary Imp.—Ohms	Leakage Inductance	Mounting Style	Dimensions					Net Wt.	List Price
					A	B	C	D	E		
6P860	10:1	19,000 Min.	0.33 Hy. Max.	B x L	3-3 16	2-3 4	2-9 16	1-19/32	2	2.2	7.35

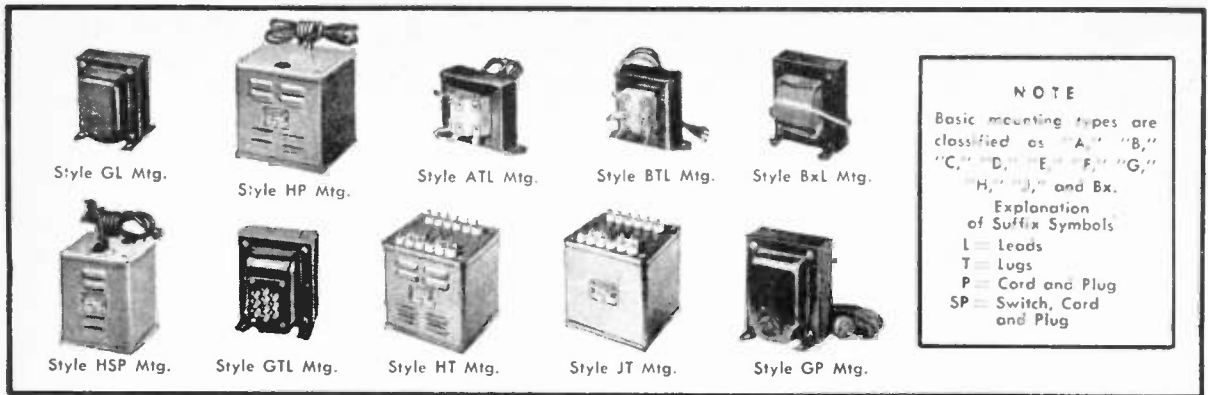
MODULATION TRANSFORMERS — THE "FIVE" SERIES

SNC universal modulation transformers are specifically designed to provide maximum application possibilities per type. All units are provided with two identical secondary windings, permitting series or parallel operation. Changes in the ratio can be readily accomplished, when desired, without removing the unit from the chassis. Most units available in either air cooled or compound filled cases.

UNIVERSAL TYPES

Type Number	Watts	Primary Current Mils	Secondary Characteristics				Primary Impedance Ohms	Mtg. Style	Dimensions					Net Weight	List Price
			Series Sec.		Parallel Sec.				A	B	C	D	E		
			Impedance	Mils.	Impedance	Mils.									
5P341	15	60					DL	2-5/8	2-3/16	2-3/8	2-13/16		1 5/8	9.90	
5P346	50	80	2M to 18M	75	500 to 4500	150	CTL	3-7/8	3-1/8	3-3/8	2-1/2		4	15.50	
5P352	100	120	2M to 18M	100	500 to 4500	200	GTL	4-5/8	3-3/4	3-7/8	3		9 7/8	24.75	
5P354							HT						24	56.75	
5P355	200	200	2M to 18M	150	500 to 4500	300	JT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	32	62.05	
5P357							HT						33	68.65	
5P358	300	250	2M to 18M	250	500 to 4500	500	JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	41	73.90	
5P363							HT						51	138.60	
5P364	500	300	2M to 18M	300	500 to 4500	600	JT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	64	151.80	

Sec. 5600



POWER TRANSFORMERS — THE "EIGHT" SERIES

All units conservatively rated for operation on either 50 or 60 cycles and contain an electrostatic shield between primary and all other windings.

REPLACEMENT TYPES (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S. High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg Style	Dimensions					Net Wt.	List Price
							A	B	C	D	E		
8P040	117	265-0-265	40	5V @ 2A	6.3V @ 2A	FL	3	2-1/2	2-3/4	2-1/2	2	2.3	5.95
8P055	117	300-0-300	55	5V @ 2A	6.3A @ 2.5A	FL	3	2-1/2	3-1/8	2-1/2	2	2.8	6.00
8P070	117	325-0-325	70	5V @ 2A	6.3V @ 3A	FL	3	2-1/2	3-1/2	2-1/2	2	3.2	7.60

HEAVY DUTY REPLACEMENT AND NEW EQUIPMENT TYPES (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S. High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg Style	Dimensions					Net Wt.	List Price
							A	B	C	D	E		
8P180	117	265-0-265	40	5V @ 2A	6.3V @ 2A	FL	3	2-1/2	3-1/4	2-1/2	2	3.2	8.15
8P180G						GL	3-1/16	2-7/32	3-1/8	2	2-3/16		
8P183	117	300-0-300	50	5V @ 2A	6.3V @ 2A	FL	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.5	8.60
8P183G						GL	3-7/16	2-27/32	3-1/4	2-1/4	2-1/8		
8P186	117	325-0-325	60	5V @ 2A	6.3V @ 3A	FL	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4	4.0	9.00
8P186G						GL	3-7/16	2-27/32	3-1/2	2-1/4	2-3/8		
8P189	117	350-0-350	70	5V @ 3A	6.3V @ 3.5A	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.0	9.90
8P189G						GL	3-13/16	3-5/32	3-5/8	2-1/2	2-7/16		
8P192	117	350-0-350	90	5V @ 3A	6.3A @ 4A	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.7	10.90
8P192G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P194	117	375-0-375	110	5V @ 3A	6.3A @ 4A	FL	3-3/4	3-1/8	4-1/8	3-1/8	2-1/2	6.0	12.20
8P194G						GL	3-13/16	3-5/32	4	2-1/2	2-13/16		
8P196	117	350-0-350	150	5V @ 3A	6.3V @ 4.8A	FL	4-1/8	3-7/16	4-3/8	3-7/16	2-3/4	7.7	12.85
8P196G						GL	4-3/16	3-15/32	4-3/8	2-3/4	3-5/16		
8P199	117	400-0-400	70	5V @ 3A	6.3V @ 3.5A	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.8	11.55
8P199G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P202	117	450-0-450	200	5V @ 3A	6.3V @ 5A	FL	4-1/2	3-3/4	4-3/4	3-3/4	3	10.7	16.50
8P202G						GL	4-9/16	3-25/32	4-3/8	3	3-11/16		
8P205	117	450-0-450	325	5V @ 6A	6.3V @ 8A	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.3	44.90
8P208	117	550-0-550	275	5V @ 6A	6.3V @ 6A	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	44.50

REPLACEMENT TYPES (2.5 Volt Heater Winding)

8P287	117	350-0-350	70	5V @ 3A	2.5V @ 6A	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.6	9.90
8P293	117	350-0-350	90	5V @ 3A	2.5V @ 8A	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.6	10.80
8P295	117	350-0-350	150	5V @ 3A	2.5V @ 12A	FL	4-1/8	3-7/16	4-3/8	3-7/16	2-3/4	7.3	12.85

REPLACEMENT TYPES (Two 2.5 Volt Heater Windings)

8P487	117	350-0-350	70	5V @ 3A	No. 1=2.5V @ 3.5A	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.8	11.80
8P487G					No. 2=2.5V @ 8A	GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P494	117	375-0-375	110	5V @ 3A	No. 1=2.5V @ 3.5A	FL	3-3/4	3-1/8	4-1/4	3-1/8	2-1/2	6.2	13.00
8P494G					No. 2=2.5V @ 10A	GL	3-13/16	3-5/32	4-1/8	2-1/2	2-15/16		

GENERAL PURPOSE TYPES WITH CONVENIENT LUG TERMINALS (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S. High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg Style	Dimensions					Net Wt.	List Price
							A	B	C	D	E		
8P382	117	300-0-300	50	5V @ 2A	6.3V @ 2A	ET	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.2	7.80
8P385	117	325-0-325	60	5V @ 2A	6.3V @ 3A	ET	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4	4.0	8.35
8P388	117	350-0-350	70	5V @ 3A	6.3V @ 3.5A	ET	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	4.7	9.15

BIAS TYPES

8P510	117	40-0-40	25	5V @ 2A		CL	1-7/8	2-1/4	1-3/4	2-13/16		1.0	4.95
8P511	117	0-90-150-200-250	50	5V @ 2A		GL	3-1/16	2-7/32	2-5/8	2	1-11/16	2.0	7.20

VIBRATOR TYPES

8P610	6	225-0-225	40			AL	2-3/16	2-5/8	2	3-1/8		1.3	5.60
8P611	6	320-0-320	40			GL	3-1/16	2-7/32	2-1/2	2	1-9/16	2.1	6.70
8P612	6	390-0-390	60			GL	3-7/16	2-27/32	3-5/16	2-1/4	2-3/16	3.7	7.60

TELEVISION REPLACEMENT TYPES

8P803	117	375-0-375	210	5V @ 3A	No. 1=5V @ 2A No. 2=6.3V @ 5.6A	FL	4-1/2	3-3/4	4-3/4	3-3/4	3	10.7	19.55
8P805	117	235-0-235	90	5V @ 2A	6.3V @ 5.5A	FL	3-3/8	2-13/16	4	2-13/16	2-1/4	5.1	11.20
8P807	117	365-0-365	300	5V @ 6A	No. 1=12.6V @ 5A No. 2=5V @ 2A	FL	4-23/32	3-27/32	6-3/4	4-1/16	3-3/16	16.0	33.65

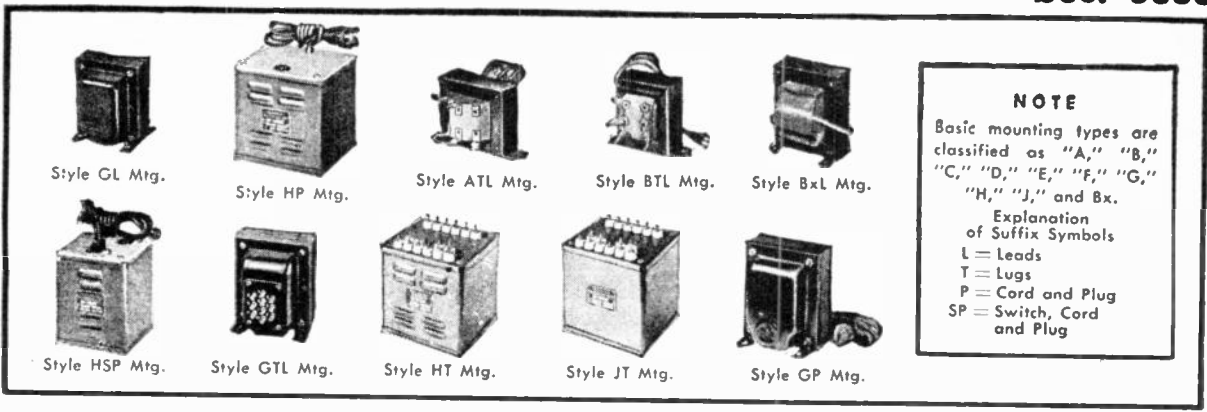


PLATE TRANSFORMERS — THE "SEVEN" SERIES

All SNC plate transformers have dual secondary ratings. Most units available in either air cooled or compound filled cases. All units electrostatic shields between primary and high voltage windings. 50/60 Cycle Operation

Type Number	Primary Voltage	Pri. V.A.	Secondary R.M.S. Voltage	D.C. Voltage From Filter*	D.C. Current	Mtg. Style	Dimensions					Net Wt.	List Price
							A	B	C	D	E		
7P530	115-230	220	920-0-920 or 740-0-740	750 or 600	200MA	GL	4-3 4	3-3 4	5-1 8	3	4-1/16	12	19.80
7P535	115-230	320	930-0-930 or 750-0-750	750 or 600	300MA	HT JT	7-1 8	5-1 2	5-15/16	4-3/8	4-13/16	22 30	46.20 52.80
7P542	115-230	530	1470-0-1470 or 1220-0-1220	1250 or 1000	300MA	HT JT	7-1 8	6-1/2	7-1/4	5-3/8	6-1/8	33 41	55.45 60.70
7P551	115-230	750	2050-0-2050 or 1740-0-1740	1750 or 1500	300MA	HT JT	7-1,8	6-1/2	7-1/4	5-3/8	6-1/8	43 51	59.40 72.60
7P557	115-230	1060	2880-0-2880 or 2350-0-2350	2500 or 2000	300MA	HT JT	10-3 4	6-1 2	7-1/4	5-3/8	6-1/8	53 69	81.85 88.45
7P563	115-230	1760	2900-0-2900 or 2370-0-2370	2500 or 2000	500MA	HT JT	10-3 4	9	7-1/4	7	5-13/16	96 126	118.80 165.00

*All units may be operated with simultaneous loads—provided the total D.C. Current of the two loads does not exceed the rating listed.

FILAMENT TRANSFORMERS — THE "FOUR" SERIES

Most SNC Filament Transformers are constructed to provide two identical center tapped secondary windings and offer a minimum of three applications. They provide three-fold the number of possible applications of ordinary filament types. A few are single secondary units and are so designed. All have 117 V. 50/60 cycle primary.

Type Number	Parallel Secondaries	Applications		Test Voltages	Mtg. Style	Dimensions					Net Wt.	List Price
		Series Secondaries	Independent Identical Secondaries			A	B	C	D	E		
4P222	2.5V. C.T. @ 5 A.	5 V. C.T. @ 2.5 A.	Two of 2.5V. C.T. @ 2.5 A.	2000	BL	2-1 4	1-7 8	1-3 4	2-3 8		1.0	3.90
4P226*	2.5V. C.T. @ 10 A.*			7500	BL	3	2-1/2	2-3 8	3-1/8		2.0	6.05
4P227	2.5V. C.T. @ 10 A.	5 V. C.T. @ 5 A.	Two of 2.5V. C.T. @ 5 A.	2000	BL	2-5 8	2-3 16	2	2-13/16		1.5	5.30
4P234	2.5V. C.T. @ 15 A.	5 V. C.T. @ 7.5 A.	Two of 2.5V. C.T. @ 7.5 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	6.25
4P239	5 V. C.T. @ 6.5A.	10 V. C.T. @ 3.25A.	Two of 5 V. C.T. @ 3.25A.	2000	BL	3	2-1 2	2-1 4	3-1 8		2.2	5.60
4P242*	5 V. C.T. @ 20 A.*			10000	BxL	4-1 8	3-7/16	2-3 4	2-3 4	2-1 8	4.6	11.20
4P243	5 V. C.T. @ 20 A.	10 V. C.T. @ 10 A.	Two of 5 V. C.T. @ 10 A.	2000	BxL	3-3 4	3-1 8	2-3 4	2-1 2	2-1/4	4.3	9.90
4P244*	6.3V. C.T. @ 0.6A.*			2000	BL	1-7 8	1-9/16	1-1/2 2			.6	3.85
4P245*	6.3V. C.T. @ 1.2A.*			2000	BL	1-7 8	1-9/16	1-5/8 2			.7	4.20
4P246	6.3A. C.T. @ 2 A.	12.6V. C.T. @ 1 A.	Two of 6.3V. C.T. @ 1 A.	2000	BL	2-1 4	1-7/8	1-3/4	2-3/8		1.0	4.60
4P251	6.3V. C.T. @ 6 A.	12.6V. C.T. @ 3 A.	Two of 6.3V. C.T. @ 3 A.	2000	BL	3	2-1 2	2-1 4	3-1 8		2.0	5.35
4P256	6.3V. C.T. @ 10 A.	12.6V. C.T. @ 5 A.	Two of 6.3V. C.T. @ 5 A.	2000	BxL	3-3 8	2-13/16	2-1 2	2-1 4	2-1/8	2.9	6.95
4P260	7.5V. C.T. @ 3 A.	15 V. C.T. @ 1.5 A.	Two of 7.5V. C.T. @ 1.5 A.	2000	BL	2-5 8	2-3 16	2	2-13 16		1.5	5.60
4P267	7.5V. C.T. @ 4.5A.	15 V. C.T. @ 2.3 A.	Two of 7.5V. C.T. @ 2.3 A.	2000	BL	3	2-1 2	2-1/4	3-1 8		2.0	6.95
4P272	11 V. C.T. @ 10 A.	22 V. C.T. @ 5 A.	Two of 11 V. C.T. @ 5 A.	2000	BxL	3-3 4	3-1 8	2-3 4	2-1 2	2-1/4	4.1	9.90

*Single Secondary Units

VOLTAGE CHANGER AND ISOLATION — THE "NINE" SERIES

All Units Have Primary Cord and Secondary Plug and Are For 50/60 Cycle Operation.

VOLTAGE CHANGER (ISOLATION)

Type Number	Primary Voltage	Secondary Voltage	Capacity in V. A.	Mtg. Style	Dimensions					Net Wt.	List Price
					A	B	C	D	E		
9P707	220-250	110-125	75	GP	3-13/16	3-5 32	3-1 8	2-1 2	1-15/16	3.9	10.25
9P713	220-250	110-125	150	GP	4-9 16	3-25 32	3-7 8	3	2-13 16	8.0	15.20
9P718	220-250	110-125	360	HP	7-1 8	5-1/2	5-15 16	4-3 8	4-13/16	23.3	39.60

ISOLATION TYPES

9P721	110-250	110-250	150	GP	4-9/16	3-25/32	4-5 8	3	3-9 16	12.1	19.80
9P725	110-250	110-250	250	HP	7-1 8	5-1/2	5-15/16	4-3 8	4-13/16	23.3	32.35
9P728	110-250	110-250	500	HP	7-1/8	6-1/2	7-1 4	5-3 8	6-1/8	34.8	45.55

VOLTAGE ADJUSTMENT TYPES WITH TAP CHANGE SWITCH

9P732	95-130 in 5V Steps	115	150	HSP	4-7 8	3-7/8	3-7 8	3-1 8	3-1/8	4.7	28.40
9P737	95-130 in 5V Steps	115	250	HSP	5-3 8	4-3 8	4-1 4	3-5 8	3-1/2	8.0	36.30
9P739	80-130 in 5V Steps	115	500	HSP	7-1/8	5-1/2	5-15 16	4-3/8	4-13/16	23.3	54.10

All list prices given are subject to regular trade discounts and may be changed without notice.

S N C MANUFACTURING CO., INC., OSHKOSH, WISCONSIN

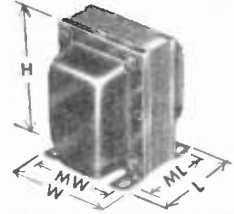
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STERLING—THE MARK OF QUALITY



TRANSFORMERS

FOR ELECTRONICALLY REGULATED POWER SUPPLIES



Brooklyn 11, N. Y.

- ONE UNIT PROVIDES PLATE AND FILAMENT POWER FOR ENTIRE SUPPLY.
- RATINGS BASED ON D.C. OUTPUT OF SUPPLY.
- APPLICATION BULLETIN WITH EACH UNIT.

2K SERIES

Cat. No.	Supply Rating	High Voltage Secondary AC Volts	DC MA	Rectifier Fil.		Pass Tube Fil.		Regulator Fil.		Auxiliary Fil.		Overall			Mtg. Dim. ML MW	Rec. Mtg. Screw	Weight Lbs.	List Price			
				V	A	V	A	V	A	V	A	L	W	H							
PLATE AND FILAMENT TRANSFORMERS	2K6	300 250VDC 400MADC	550-480 0 480-550V	440		Use with 2K20			Use with 2K20			6	4 1/4	5 1/2	4 1/4	3 1/4	#10	19	\$28.00		
	2K8	300 250VDC 300MADC	540-475 0 475-540V	340	5	6	6.3	6	6.3	1.2	6.3CT	6	6 1/4	4 1/4	5 1/2	4 1/4	3 1/4	#10	20	32.75	
	2K10	300 250VDC 200MADC	500-440 0 440-500V	240	5	3	6.3	3	6.3	1.2	6.3CT	6	5	4 1/4	5 1/2	3 1/2	3 1/4	#10	14	26.75	
	2K12	300 250VDC 100MADC	540-465 0 465-540V	140	5	3	6.3	3	6.3	1.2	6.3CT	3	4 1/4	4 1/4	5 1/2	3 1/4	3 1/4	#10	12	23.00	
	2K13	150 100VDC 400MADC	370-310 0 310-370V	440		Use with 2K20			Use with 2K20			4 1/4	4 1/4	5 1/2	3 1/4	2 1/4	#8	12	23.00		
	2K14	150 100VDC 300MADC	375-320 0 320-375V	340	5	6	6.3	6	6.3	1.2	6.3CT	6	5 1/4	4 1/4	5 1/2	4	3 1/4	#10	16	27.00	
	2K15	150 100VDC 200MADC	355-300 0 300-355V	240	5	3	6.3	3	6.3	1.2	6.3CT	6	4 1/4	4 1/4	5 1/2	3 1/4	3 1/4	#8	12	23.00	
	2K16	150 100VDC 100MADC	350-310 0 310-350V	140	5	3	6.3	3	6.3	1.2	6.3CT	3	4 1/4	3 1/4	4 1/4	2 1/4	3	#8	10	20.00	
	2K17	300 250VDC 600MADC	565-500 0 500-565V	640		Use with 2K20			Use with 2K20			6 1/4	4 1/2	6	4 1/4	5 1/4	#10	22	41.20		
	2K18	300 250VDC 800MADC	580-520 0 520-580V	840		Use with 2K21			Use with 2K21			6	6 1/4	7 1/4	4	4 1/4	#8	33	54.00		
	2K19	300 250VDC 1.0 Amp	590-525 0 525-590V	1040		Use with 2K21			Use with 2K21			7 1/2	6 1/4	7 1/4	5 1/4	4 1/4	#8	48	76.00		
	2K20	(Filament Transformer for 400MA and 600MA Supplies)				5	6	6.3	6	6.3	1.2	6.3CT	6	3 1/4	3 1/4	4 1/4	2 1/4	3	#8	7.5	17.00
	2K21	(Filament Transformer for 800MA and 1 Amp. Supplies)				5	10	6.3	10	6.3	2	6.3CT	10	4 1/4	3 1/4	4 1/4	3 1/4	3	#8	12	23.50

Standard Color Code

Primary: Black
High Voltage: Center Tap: Red-Yellow
High Voltage: High Tap: Red
High Voltage: Low Tap: Blue

Rectifier Filaments: Yellow
Pass Tube Filaments: Brown
Regulator Filaments: Green
Auxiliary Filaments: Slate

NOTES

- All Primaries 115 Volts 50 60 Cps.
- Ratings Based On Capacitor Input Filters
- Dielectric Test Voltages: Primaries: 1500 V RMS All Secondaries: 2500 V RMS

Cat. No.	Inductance	Rated Current MADC	DC Resist.	Dielectric Test Volt.	L	Overall W	H	Mtg. Dim. ML	MW	Rec. Mtg. Screw	Weight Lbs.	List Price
2K5	4 hys. min.	440	50	2500V RMS	3 1/4	3 1/4	4 1/4	2 1/4	2 1/4	#8	6	\$11.60
2K7	4 hys. min.	340	60	2500V RMS	3 1/4	2 1/4	3 1/2	2	2 1/4	#8	3.3	7.80
2K9	4 hys. min.	240	90	2500V RMS	2 1/4	2 1/4	3 1/4	1 1/4	2	#8	2.3	5.90
2K11	4 hys. min.	140	185	2500V RMS	3 1/4	2 1/4	2 1/4	3 1/4	Chan.	#8	1.5	4.00
2K22	4 hys. min.	64A	52	2500V RMS	4 1/4	4 1/4	5 1/2	3 1/4	3 1/2	#10	12	20.00
2K23	4 hys. min.	84A	25	2500V RMS	5 1/2	4 1/4	5 1/2	4	3 1/2	#10	17	25.70
2K24	4 hys. min.	1.04A	20	2500V RMS	7	4 1/4	5 1/2	5 1/2	3 1/2	#10	25	35.70

Cat. No.	Secondary Volts	Secondary Amperes	RMS Volts Insulation	Primary Volts	Overall Dim.			Mtg. Dim.		Rec. Mtg. Screw	Weight Lbs.	List Price
					L	W	H	ML	MW			
6K1	6.3	4	1000	115 230	3 1/4	2 1/2	2 1/4	3 1/8	Chan.	8	1 1/4	8.50
6K2	6.3	12	1500	115 230	3 1/4	3 1/4	4	2 1/4	2 1/2	8	6	15.60
6K3	6.3 CT	16	3000	115	3 7/8	3 1/4	4	2 1/4	2 1/2	8	6 1/2	16.60
6K4	5 6.3 CT 6.3 CT	3 4 4	2000 2000 2000	115 230	3 1/2	3 1/4	4	2 1/4	2 1/2	8	5	16.50
6K5	6.3 6.3	1.5 1.5	1000 1000	115 230	4	2 1/2	2 1/4	3 1/4	Chan.	8	2 1/4	9.30
6K6	800 CT	.036 DC	4000	115 230	3 1/2	2 1/4	3 1/4	2 1/4	2	8	4	10.50
6K7	28 CT	7 DC	1000	115	4 1/4	3 1/4	4	2 1/4	2 1/2	8	8	15.80
6K8	660 CT 5	.25 DC 4.5	1500 1500	115 230	3 7/8	3 7/8	4 1/4	2 1/4	3	8	8	19.20
6K9	1130 CT 5	.062 DC 2	3300 3300	115 230	3 7/8	3 7/8	4 1/4	2 1/4	3	8	8	19.20

Prices subject to change without notice

STERLING—THE MARK OF QUALITY



Brooklyn 11, N. Y.

ENCAPSULATED 400 CPS TRANSFORMERS CLIPPER SERIES

FOR MINIMUM SIZE AND MINIMUM WEIGHT

• Contour Molded • Hipsil Cores



FILAMENT

Cat. No.	Secondary Volts	Secondary Amps.	Rms. V Insulation	Primary Volts	Mold Size	Maximum Operating Ambient	List Price
4C1	6.3 CT	8	1500	115	SM3	100 C	16.50
4C2	6.3 CT	1.2	1500	115	SM2	100 C	16.50
4C3	6.3 CT	6.75	1500	110 115 120	2	100 C	26.50
4C4	6.3 6.3	4.9 2.7	1500 1500	115	3	90 C	23.70
4C5	6.3 CT	7.2	1500	115	35	120 C	27.50
4C6	6.3 6.3 6.3	7 7 1.5	1500 1500 1500	120	35	80 C	26.80
4C7	6.3 CT 6.3 CT	7 7	1500 1500	120	4	100 C	31.90
4C8	6.3 6.3 6.3	13.7 2.93 0.3	1500 1500 1500	115	4	90 C	31.90
4C9	6.3 CT	12.3	1500	115	5	100 C	29.50
4C10	20 CT	0.6	1500	115	SM1	100 C	21.00
4C11	6.3 6.3 6.3	2.4 2.5 2.7	1500 1500 1500	115	3	100 C	29.50
4C26	6.3 CT	2	1500	115	SM1	100 C	21.00
4C27	6.3 CT	3	1500	115	1A	100 C	21.80
4C28	6.3 CT	5	1500	115	2	100 C	22.60
4C29	5.0 CT	3	2500	115	SM1	100 C	21.00
4C30	5.0 CT	6	2500	115	2	100 C	22.60

POWER

4C12	14 1	3	1500	115	3	100 C	22.50
4C13	21	9	1500	115	4	65 C	25.00
4C14	26	0.5	1500	115	SM1	55 C	20.50
4C15	26 CT	1.5	1500	115	3	65 C	21.20
4C16	28 CT 6.3 CT	0.75 7A	1500 1500	115	2	65 C	31.80
4C17	52 CT	.192	1500	115	SM1	100 C	22.75
4C18	90 CT	4.5	1500	115	9	100 C	43.00
4C19	115	.05	1500	115	SM2	100 C	16.80
4C20	105 115 125	0.4	1500	105 115 125	2	90 C	24.30
4C21	115	2.83	1500	115	8	100 C	35.00
4C22	334	0.25	1500	115	SM1	120 C	19.30
4C23	26 CT	3	1500	115	4	100 C	25.50
4C24	26 CT	5	1500	115	6	100 C	29.40
4C25	52 CT	2	1500	115	5	100 C	28.10

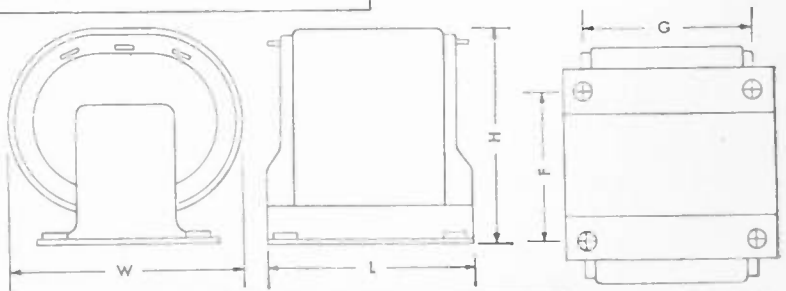
MOLD NO.	OVERALL DIMENSIONS			MTG. DIMENSIONS		APP. WT. (LBS.)	MTG. METH.
	L	W	H	F	G		
SM3	1	1 1/4	1 3/16	1	Note 1	0.06	Note 1
SM2	1 1/2	1 1/4	1 11/16	1	Note 1	0.10	Note 1
SM1	1 1/2	1 1/2	1 11/16	1 1/4	Note 1	0.16	Note 1
1	1 13/16	1 1/4	1 13/16	1 1/4	1-7/16	0.25	Note 2
1A	1 11/16	1 17/32	1 13/16	1 5/32	1 1/4	0.25	Note 2
2	2	1 15/16	2 1/4	1 9/32	1 1/4	0.40	Note 2
3	2 5/16	1 13/16	2 1/4	1 9/32	1-7/16	0.45	Note 2
35	2 1/16	2 1/4	2-3/16	1 17/32	1 11/16	0.70	Note 2
4	2 5/16	2 1/4	2-9/16	1 17/32	1 11/16	0.90	Note 2
5	2 1/4	2 1/4	2 1/4	1 17/32	2-3/16	1.20	Note 2
6	2 1/4	2 1/4	3 1/4	1 17/32	2-3/16	1.50	Note 2
7	3	2 1/4	3 1/4	1 25/32	2 1/2	2.00	Note 2
8	3 1/4	2 1/4	3 1/4	1 25/32	2 1/2	2.50	Note 2
83	3 1/4	3 1/4	3 1/4	2 1/4	3	3.25	Note 3
86	3 1/4	3 1/4	3 1/4	2 1/4	3 1/4	4.25	Note 3
9	4 1/16	3 1/4	3 1/4	2-3/16	3 1/2	5.00	Note 3
10	4 1/2	3-15/16	3-15/16	2 1/4	3 1/4	6.00	Note 3

Note 1—SM series are two hole mounting with holes on center line. \approx 4-40 Pem nuts are fastened to the bracket.

Note 2— \approx 6-32 Pem nuts on bracket are standard.

Note 3— \approx 8-32 Pem nuts on bracket are standard.

- All primaries 380-1000 cps
- Dielectric test voltages: PRIMARIES 1000 Volts RMS
SECONDARIES 1500 Volts RMS
- Epoxy resin used as encapsulant
- Prices subject to change without notice

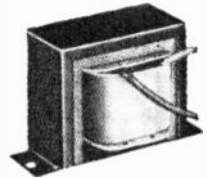


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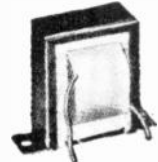
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Transistor Transformers

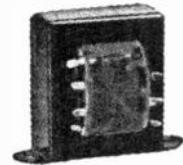
Free "Personalized" Catalog
See Note On Next Page.



BAH



BAV



BHV



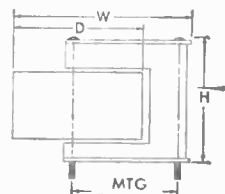
XAV



GGV



TAV



DAH

Power Transistor Outputs

These transistor output transformers have been designed to cover almost all of the power transistor applications, such as used in automobile radios, audio power amplifiers and many circuits. The TR-57 and TR-59 has been designed to cover parallel 3.2 and 8 ohm voice coil applications. These transformers may be used with such transistors as Sylvania's 2N68, 2N95, 2N141 and CBS's 2N255 and 2N256.

Part No.	Impedance		Primary MADC	Power In Watts	Mtg. Type	Mtg. Centers	Dimensions		Wt. Lbs.
	Primary	Secondary					H.	W. x D.	
TR-57	32CT	1.6/4	575	10	BAH	2 13/16	2	3 5/16 x 1 7/8	1.0
TR-58	32CT	3.2/8/16	575	10	BAH	2 13/16	2	3 5/16 x 1 7/8	1.0
TR-59	48CT	1.6/4	550	10	BAV	2 3/8	2 5/16	2 7/8 x 2	1.0
TR-60	48CT	3.2/8/16	550	10	BHV	2 3/8	2 5/16	2 7/8 x 2	1.0
TR-61	48CT	3.2/8/16	550	5	BHV	1 3/4	1 3/4	2 x 1 1/4	0.5
TR-62	100	3.2/8/16	150	3	BAV	1 1/2	1 1/2	1 7/8 x 1 1/4	0.4
TR-63	100CT	3.2/8/16	500	10	BAV	2 3/8	2 5/16	2 7/8 x 2	1.0

Hi-Fi Transistor Transformers

Completely encased for use in wide range transistor high fidelity audio amplifiers. Each has a frequency response of $\pm 1/2$ db from 20-20,000 CPS in properly designed circuits.

TR-67	125CT	8	50*	1.5	XAV	1 1/4	1 3/4	1 1/4 x 1 1/4	.75
TR-68	5000	3000CT	20*	.20	XAV	1 1/4	1 3/4	1 1/4 x 1 1/4	.75

* Unbalanced primary current

Drivers

When used in conjunction with the output transformers listed above these driver transformers give the best in performance and at a very low cost.

Designed especially for driving power transistors such as Sylvania's 2N68, 2N95, 2N141 and CBS's 2N255 and 2N256.

TR-64	100	100CT	200	.5	BAH	1 3/4	1 1/4	2 1/8 x 1	.4
TR-65	100	200CT	200	.5	BAH	1 3/4	1 1/4	2 1/8 x 1	.4
TR-66	500CT	200CT	50	.5	BAH	1 3/4	1 1/4	2 1/8 x 1	.4

Transistor Power Supply Transformers

Recent developments in the power transistor field have made possible the design of circuits which are efficient and rugged converters of low voltage DC to high voltage AC or DC power. These transistorized power supplies are ideally suited for powering all kinds of battery operated equipment such as mobile communication systems, aircraft and marine navigational systems, photo-flash, ultrasonic applications and even 117 Volts 60 CPS from an automobile battery so as to operate 117V radio, television, electric shavers, etc.

These transistor power supply transformers give a wide range of voltage and power to choose from. Complete instructions supplied with each transformer. * 60 CPS

Part No.	DC Supply Voltage	Output # Voltage	Power Output	Mtg. Type	Mtg. Centers	Dimensions	
						H.	W. x D.
TR-69	6	*117VAC	50	GGV	1 5/8 x 2	3 1/8	2 5/8 x 2 5/8
TR-70	12	*117VAC	50	GGV	1 5/8 x 2	3 1/8	2 5/8 x 2 5/8
TR-71	12	*117VAC	110	GGV	2 3/16 x 2 1/2	3 7/8	3 3/16 x 3 1/2
TR-72	12	*117VAC	250	GGV	3 1/16 x 3	4 5/8	3 13/16 x 4 9/16
TR-73	24	*117VAC	400	GGV	3 5/8 x 3 7/8	5 7/8	4 3/8 x 6
TR-74	12	150VDC	15	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16
TR-75	12	200VDC	20	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16
TR-76	6	225VDC	15	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16
TR-77	12	225VDC	20	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16
TR-78	12	250VDC	16.5	DAH	1 1/2	1 3/4	1 3/4 x 1 3/8
TR-79	6	250VDC	50	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-80	12	250VDC	50	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-81	12	250VDC	100	TAV	1 3/4 x 2 11/16	3 5/16	2 1/2 x 3
TR-82	12	275VDC	48	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16
TR-83	12	300VDC	30	DAH	1 1/2	1 7/8	2 3/8 x 1 7/8
TR-84	12	300 & 150VDC	120	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-85	12	325VDC	50	DAH	1 1/2	2	2 3/8 x 2 7/16
TR-86	12	350VDC	30	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16
TR-87	12	375VDC	70	DAH	1 1/2	2	2 3/8 x 2 7/16
TR-88	4.5	390VDC	12	DAH	1 1/2	1 3/4	1 3/4 x 1 11/32
TR-89	12	400VDC	50	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-90	12	450 & 225VDC	40	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-91	12	450VDC	120	TAV	1 3/4 x 2 11/16	3 5/16	2 1/2 x 3
TR-92	12	500 & 250VDC	50	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-93	12	500 & 250VDC	100	TAV	1 3/4 x 2 11/16	3 5/16	2 1/2 x 3
TR-94	12	500VDC	150	TAV	1 3/4 x 2 11/16	3 5/16	2 1/2 x 3
TR-95	12	600VDC	120	DAH	3 11/16	2	4 1/8 x 3
TR-96	12	800VDC	120	TAV	1 3/4 x 2 11/16	3 5/16	2 1/2 x 3
TR-97	12	1000VDC	100	TAV	1 3/4 x 2 11/16	3 5/16	2 1/2 x 3
TR-98	12	1500VDC	20	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-99	6 & 12	200-225-250 or 275VDC	20	TAV	1 1/2 x 2 3/8	2 7/8	2 1/4 x 2 11/16
TR-100	25	20KC 2 ohms output	200	TAV	1 1/4 x 2 1/8	2 1/4	1 7/8 x 2 7/16

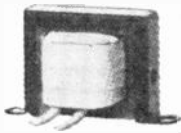
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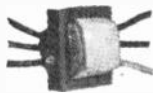
Transistor Transformers

300 Milliwatt Transistor Transformer

MTG. TYPE: BAH H. W. x D.
MTG. CENTERS 1 3/8 DIMENSIONS: 3/4 1 5/8 x 13/16



BAH



MAH

Listed In Order Of The Turns Ratio

Part No.	Turns Ratio	Impedance		Resistance		Appl-ication
		Wdg. #1	Wdg. #2	Wdg. #1	Wdg. #2	
TR-1	1.00:1	500CT	500CT	40	55	D - J
TR-110	1.70:1	48CT	4/8/16	4.1	.78	S
TR-8	2.45:1	48CT	4/8	4	1.2	S
TR-111	2.50:1	100CT	4/8/16	11	1.5	S
TR-112	3.27:1	160	4/8/16	19	1.5	S
TR-21	4.47:1	160CT	4/8	12	1	S
TR-113	5.00:1	400CT	4/8/16	34	1.5	S
TR-114	5.60:1	500CT	4/8/16	47	.85	S
TR-115	6.63:1	700CT	4/8/16	77	1.15	S
TR-22	7.07:1	400CT	4/8	26	1.1	S
TR-116	7.9:1	1,000	4/8/16	120	1.6	S
TR-24	8.17:1	100,000	1,500CT	3,000	45	A - J
TR-117	12.5:1	2,500	4/8/16	172	1.15	S
TR-118	13.7:1	3,000	4/8/16	192	1.2	S
TR-28	14.1:1	200,000	1,000	3,000	30	A
TR-119	14.1:1	200,000CT	1,000CT	1,815	23	A
TR-33	35.4:1	250,000	200CT	4,400	8.5	A
TR-35	44.7:1	100,000	50	3,100	5	A
TR-36	50.0:1	500,000	200CT	7,000	8.5	A

50 Milliwatt-Transistor Transformers

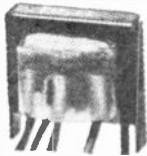
MOUNTING—MAH H. W. x D.
DIMENSIONS: 7/16 1/2 x 7/16

Listed In Order Of The Turns Ratio

Part No.	Turns Ratio	Impedance		Resistance		Appl-ication
		Wdg. #1	Wdg. #2	Wdg. #1	Wdg. #2	
TR-37	1:1	500CT	500CT	34	42	D - J
TR-38	1.09:1	6,000	5,000CT	330	250	D - J
TR-39	1.24:1	4,000	2,600CT	330	220	D - J
TR-40	2.24:1	10,000	2,000CT	295	147	D - J
TR-41	3.16:1	500	50	35	4.6	D - S
TR-42	3.16:1	20,000	2,000CT	560	140	A - J
TR-43	3.53:1	125CT	10	11	1	S
TR-44	4.08:1	20,000	1,200	560	72	A - J
TR-45	4.46:1	1,000	1,000	73	4.6	D - S
TR-46	4.47:1	200CT	10	18	1	S
TR-47	5.46:1	300CT	10	27	1	S
TR-48	5.75:1	20,000	600	560	43	A - J
TR-49	7.06:1	500CT	10	40	1	S
TR-50	7.9:1	200CT	3.2	18	.36	S
TR-51	9.65:1	300CT	3.2	27	.36	S
TR-52	11.8:1	7,000	50	440	4.6	S
TR-53	12.5:1	500CT	3.2	40	.36	S
TR-54	14.1:1	200,000	1,000	1,300	20	A - J
TR-55	44.7:1	100,000	50	1,170	4.7	A
TR-56	30 HY @ 1 MADC	4,000 Ohms				A

150 Milliwatt Transistor Transformers

MOUNTING TYPE—BCH H. W. x D.
MOUNTING CENTERS 13/16 DIMENSIONS: 11/16 13/16 x 5/8



BCH

Listed In Order Of The Turns Ratio

Part No.	Turns Ratio	Impedance		Resistance		Appl-ication
		Wdg. #1	Wdg. #2	Wdg. #1	Wdg. #2	
TR-2	1.23:1	5,000CT	7,500CT	550	980	D - J
TR-3	1.41:1	5,000CT	10,000CT	550	1,100	D - J
TR-4	1.73:1	1,500	500CT	100	45	D-J-S
TR-5	1.81:1	490CT	150CT	30	16	D - S
TR-6	1.83:1	10,000	3,000CT	620	6660	D - J
TR-7	2.24:1	10,000	2,000CT	740	300	D - J
TR-9	2.45:1	5,000	20,000CT	370	1,300	A - J
TR-10	3.00:1	5,000CT	45,000	310	1,400	A - J
TR-11	3.16:1	500CT	50	30	5	D - S
TR-12	3.16:1	100CT	10CT	13	1.5	S
TR-13	4.00:1	5,000CT	80,000	260	1,520	A - J
TR-108	4.00:1	5,000CT	80,000CT	573	5,740	A - J
TR-14	4.08:1	20,000	1,200	1,250	94	A - J
TR-106	4.08:1	20,000CT	1,200	1,860	142	A - J
TR-15	4.47:1	300CT	15	21	2.5	S
TR-16	5.00:1	400CT	16	28	2	S
TR-17	5.00:1	20,000	800CT	1,350	95	A-D-J
TR-101	5.22:1	350CT	4/12	38	1.45	S
TR-18	5.52:1	500CT	16.4	30	1.7	S
TR-102	5.53:1	500CT	4/8/16	75	3.5	S
TR-103	5.65:1	600CT	4/8/16	73	3.2	S
TR-19	6.04:1	400CT	11	27	1.3	S
TR-20	6.22:1	650CT	16.8	38	1.4	S
TR-104	6.75:1	825CT	4/8/16	14	2.7	S
TR-23	7.07:1	10,000	200CT	900	11	D - S
TR-25	8.66:1	15,000	200CT	1,100	11	J - S
TR-105	9.80:1	1,250	4/12	132	1.4	S
TR-26	10:1	50,000	500CT	1,300	30	A-D-S
TR-107	11.8:1	2,500	4/16	370	2.3	S
TR-27	12.5:1	500CT	3.2	30	.3	S
TR-29	15.6:1	825CT	3.4	40	.25	S
TR-30	15.8:1	50,000	200CT	1,400	9	A - S
TR-31	20:1	40,000	100	1,150	5	A - S
TR-109	24.6:1	10,000CT	4/8/16	1,174	2.6	S
TR-32	25.5:1	9,800	15	1,070	2.5	A - S
TR-34	40.8:1	50,000	30CT	1,400	2.5	A

Applications (A) Input, (D) Driver, (J) Interstage, (S) Output.

20 Milliwatt Transistor Transformers

MOUNTING TYPE MAH H. W. x D.
DIMENSIONS: 1/4 3/8 x 5/16

Listed In Order Of The Turns Ratio

Part No.	Turns Ratio	Impedance		Resistance		Appl-ication
		Wdg. #1	Wdg. #2	Wdg. #1	Wdg. #2	
TR-121	1:1	500CT*	600	58	105	D - S
TR-122	1:1.41	300CT*	600	35	110	D - S
TR-123	1.25:1	900CT*	600	105	110	D - S
TR-124	1.58:1	1,500CT*	600	210	120	D - S
TR-125	2.24:1	10,000	2,000CT*	1,160	160	D
TR-130	2.58:1	10,000CT*	1,500CT*	1,150	105	J
TR-126	2.83:1	400	50	70	10	S
TR-127	2.89:1	10,000	1,200CT*	1,160	105	D
TR-128	3.16:1	500	50	105	10	S
TR-129	3.54:1	200CT	16	25	2.9	S
TR-131	4.46:1	1,000	50	240	15	S
TR-132	4.47:1	20,000	1,000	1,700	275	J
TR-133	4.47:1	10,000CT*	500CT*	1,160	44	D
TR-134	5:1	30,000	1,200	1,600	170	J
TR-135	5:1	30,000CT*	1,200CT*	1,500	160	J
TR-136	5:1	400CT*	16	35	2.4	S
TR-137	7.07:1	800CT*	16	86	2.4	S
TR-138	8.15:1	1,070CT*	16	100	2.4	S
TR-139	9.14:1	1,330CT*	16	150	2.4	S
TR-140	11.2:1	2,000CT*	16	240	2.3	S
TR-141	13.7:1	600	3.2	90	.8	S
TR-142	14.1:1	200,000	1,000	6,500	250	A
TR-143	14.1:1	200,000CT	1,000CT	6,500	250	A
TR-144	19.3:1	1,200	3.2	190	.8	S
TR-145	25:1	10,000CT*	16	750	2.3	S
TR-146	56:1	10,000	3.2	1,500	.8	S
TR-147	1 HY @ 2 MADC	130 Ohms	DC Resistance			
TR-148	3 HY @ 2 MADC	330 Ohms	DC Resistance			
TR-149	6 HY @ 2 MADC	1180 Ohms	DC Resistance			
TR-150	12 HY @ 2 MADC	1880 Ohms	DC Resistance			
TR-151	20 HY @ 2 MADC	2850 Ohms	DC Resistance			

* Balanced windings.

Applications (A) Input, (D) Driver, (J) Interstage, (S) Output

FREE
"PERSONAL"
CATALOG

More than 2500 additional top quality transformers and coils are listed in THORDARSON-MEISSNER'S loose-leaf, always current catalog which will be registered in your name. Just send your name and address to THORDARSON-MEISSNER, Dept. R., Mt. Carmel, Ill.

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES



MINIATURES

†† JAF SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	MTG.
JAF-1	600/250 50	50000	0	60-15000	AF
JAF-2	600/250 50	25,000	0	150-7000	AF
JAF-3	600/250/50	60000 CT.	0	60-15000	AF
JAF-5	30 12 4	50000	0	60-12000	AF
JAF-11	15000	50000	10	60-15000	AF
JAF-12	15000	60000 CT.	10	60-15000	AF
JAF-13	15000	95000 CT.	10	350-7000	AF
JAF-14	200	1/2 megohm	0	350-5000	AF
JAF-15	15000	1 megohm	10	350-5000	AF
JAF-21	15000	600/250/50	10	60-15,000	AF
JAF-22	15000	600/250 50	10	350-7000	AF
JAF-23	20000 CT.	600/250/50	10	60-15000	AF
JAF-31	600/250 50	600/250/50	10	60-15000	AF
JAF-33	5000 CT.	5000 CT.	10	60-15000	AF
JAF-101	50 h.-.75 Ma.				AF



JZ



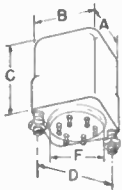
TZ

SUB-MINIATURE AUDIO — Hermetically Sealed

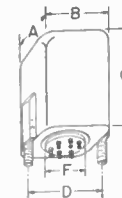
Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.)		Case
			Pri.	Sec.	
JZ-1	30/12 4	50000	11.5	3800	JZ
JZ-5	600 250/50	60000	350	4100	JZ
JZ-7	30/12/4	1000	5	480	JZ
JZ-13	15000 (1 Ma.)	135000 CT.	985	4400	JZ
JZ-15	20000 (.5 Ma.)	1200/600/100	2700	350	JZ
JZ-25	10000 (1 Ma.)	200	1500	120	JZ
JZ-26	1000 (5 Ma.)	50	355	20	JZ

SUB-MINIATURE AUDIO — Open Frame

Type No.	Primary Impedance	Secondary Impedance	DC Res. Ohms (Approx.)		Case
			Pri.	Sec.	
TZ-1	600/250/50	60000	350	4100	JZ
TZ-5	30/12/14	50000	11.5	3800	JZ
TZ-7	30/12/4	1000	5	480	JZ
TZ-13	15000 (1 Ma.)	135000 CT.	985	4400	JZ
TZ-15	20000 (.5 Ma.)	1200/600/100	2700	350	JZ
TZ-25	10000 (1 Ma.)	200	1500	120	JZ
TZ-26	1000 (5 Ma.)	50	355	20	JZ
TZ-28	600	50	95	11	JZ
T-41X	1000 (10 Ma.)	200 CT.	430	130	JZ
T-42X	9800 (2 Ma.)	16	855	1.7	JZ
TY-44X	1000 (10 Ma.)	16/8/4	180	3.8	JZ
TY-47X	2000 CT	16/8/4	260	4	JZ



AF
AJ



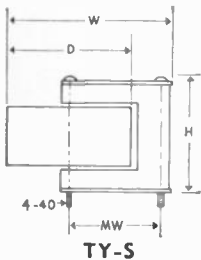
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TRANSFORMERS FOR TRANSISTOR POWER SUPPLIES

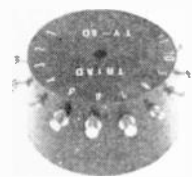
Type No.	D.C. Volts Out of Rect.	D.C. Ma. Max.	Dimensions—Inches			MW
			H	W	D	
TY-68S	250	65	1-3/4	1-3/4	1-11/32	1-1/2
TY-69S	300	100	1-7/8	2-3/8	1-7/8	1-1/2
TY-70S	325	150	2	2-3/8	2-7/16	1-1/2
TY-71S	375	200	2	2-3/8	2-7/16	1-1/2
TY-74S	600	200	2	4-1/8	3	3-3/4

EPOXY MOLDED TOROIDAL TYPE

Type No.	DC source volts	DC volts out of rect.	DC MA max.	Dimensions H	Inches Dia.	Wt.
• TY-78	12.6	250	100	11/16	1-3/4	.35
• TY-79	12.6	300	200	1	1-3/4	.35
• TY-80	12.6	325	150	1	1-3/4	.35
• TY-81	12.6	375	200	1	2	.50
• TY-82	12.6	450	150	1	2	.50
• TY-84	12.6	600	200	1-3/8	2-3/4	1.00
• TY-88	28	250	80	9/16	1-5/16	.25
• TY-89	28	300	100	11/16	1-3/4	.35
• TY-90	28	325	200	1	1-3/4	.35
• TY-91	28	375	200	1	2	.50
• TY-92	28	450	200	1	2	.50
• TY-94	28	600	200	1-3/8	2-3/4	1.00
• TY-99	6	300	100	1	1-3/4	.35
• TY-100	6	325	150	1	2	.50
• TY-101	6	375	200	1-3/8	2-3/4	1.00
• TY-102	6	450	150	1-3/8	2-3/4	1.00



TY-S



TY-MOLDED

MINIATURES

TRANSISTOR Transformers

Type No.	Primary Impedance	Secondary Impedance	Maximum Level
TY-66A	6 CT. (5A.)	6000/4000/3000	40W
TY-67A	6 CT. (5A.)	16/8/4	40W
TY-64X	32 CT. (575 Ma.)	16/8/4	10W
TY-65Z	32 CT. (575 Ma.)	6000/4000/3000	10W
TY-63X	48 CT. (550 Ma. bal.)	16/8	5W
TY-48X	100 CT. (40 Ma.)	16/8/4	500MW
TY-61X	100 (100 Ma.)	100 CT.	500MW
TY-46X	100 (100 Ma.)	1000 CT.	250MW
TY-58X	125 CT. (15 Ma.)	8/4	200MW
TY-53X	200 CT. (10 Ma.)	400 CT.	600MW
TY-57X	250 CT. (10 Ma.)	16/8/4	200MW
TY-27XT	500 CT. (2 Ma.)	500 CT.	10DBM
TY-28XT	500 CT. (2 Ma.)	200 CT.	10DBM
TY-45X	500 CT. (5 Ma.)	16/8/4	200MW
TY-49X	500 CT. (12 Ma.)	5000 CT.	30MW
T-41X	1000 (10 Ma.)	200 CT.	0DBM
TY-44X	1000 (10 Ma.)	16/8/4	200MW
TY-47X	2000 CT. (10 Ma.)	16/8/4	200MW
TY-55X	2000 CT. (2 Ma.)	500 CT.	200MW
TY-51X	2000 CT. (10 Ma.)	200 CT.	50MW
JAF-33	5000 CT.	5000 CT.	10DBM
T-33X	5000 CT.	5000 CT.	10DBM
TY-59X	5000 CT. (1 Ma.)	50000 CT.	200MW
T-42X	9800 (2 Ma.)	16	20DBM
TY-62X	10000 (2 Ma.)	4	20DBM
TY-56X	10000 (1 Ma.)	2000 CT.	50MW
TY-54X	15000 (1.5 Ma.)	200 CT.	100MW
TY-52X	20000 CT. (1 Ma.)	2000 CT.	100MW
TY-50X	125000	2000 CT.	40MW
TY-60X	200000	1000	-10DBM

†† MINIATURE AUDIO — "Trijets"

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.
T-1X	600/250/50	50000	0	60-15000
T-2X	600/250/50	250000	0	100-5000
T-3X	600/250/50	60000 CT.	0	60-15000
T-5X	30/12/4	50000	0	60-15000
T-11X	15000	50000	10	60-15000
T-12X	15000	60000 CT.	10	60-15000
T-13X	15000	95000 CT.	10	350-7000
T-20X	15000	600/250/50	10	60-15000
T-21X	30000	50	10	60-15000
T-22X	15000	600/250/50	10	350-7000
T-23X	20000 CT.	600/250/50	10	60-15000
T-31X	600/250/50	600/250/50	10	60-15000
T-33X	5000 CT.	5000 CT.	10	60-15000
T-101X	50 henries or .75 Ma.			

†† JO SERIES — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-DBM	Freq. Resp.	Case
JO-1	600/250/50	50000	0	50-15000	JOA
JO-2	600/250/50	250000	0	150-7000	JOA
JO-3	600/250/50	60000 CT.	0	50-15000	JOA
JO-5	30/12/4	50000	0	50-12000	JOA
JO-11	15000	60000	10	50-15000	JOB
JO-12	15000	60000 CT.	10	50-15000	JOB
JO-13	15000	95000 CT.	10	300-7000	JOB
JO-21	15000	600/250/50	10	50-15000	JOB
JO-22	15000	600/250/50	10	300-7000	JOB
JO-23	20000 CT.	600/250/50	10	50-15000	JOB
JO-31	600/250/50	600/250/50	10	50-15000	JOB
JO-101	50 h.-2 Ma.				JOB

††Low frequency loss will result from DC in windings other than where specified.

DC TO AC TRANSISTOR TRANSFORMERS

Type	Primary	Secondary		
• TY-75A	12v	115v	60cps	120 watts
• TY-76A	12v	115v	60cps	60 watts
• TY-468	28v	115v	400cps	60 watts

•New Item

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

POWER COMPONENTS HERMETICALLY SEALED

Combined PLATE and FILAMENT Transformers
Primary 115V — 50 60 cycle

Type No.	Plate Supply		Filaments	F Dim. (Min.) Inches	Case
	AC Volts	DC Ma.			
HSM-201	500 CT.	20	6.3 CT.-2A.	1 3/8	GA
HSM-203	600 CT.	50	6.3 CT.-2.5A. 5 -2A.	1 3/8	JB
HSM-205	700 CT.	70	6.3 CT.-3A. 5 -3A.	1 3/8	JA
HSM-207	700 CT.	120	6.3 CT.-5A. 5 -3A.	1 3/8	KA
HSM-241	700 CT.- 70V. bias tap.	150	6.3 CT.-6A. 6.3-V.-2A. 5 -3A.	1 3/8	LA
HSM-212	1000 800 CT.	150 (ch. in.) 117 (cd. in.)	6.3 5-4A. 6.3 CT.-4A. 6.3-V-4A.	1 3/8	LA
HSM-245	800 700 CT. 70 V. bias tap	200	6.3 CT.-6A. 6.3-V.-4A. 5 -6A.	1 3/8	MA
HSM-216	1000 800 CT.	200 (ch. in.) 157 (cd. in.)	6.3 5-4A. 6.3 CT.-5A. 6.3-5A.	1 3/8	MA
HS-247	800 700 CT. 70 V. bias tap	300	6.3 CT.-8A. 6.3-V.-4A. 5 -6A.	1 3/8	GP-15
HSM-218	1000 800 CT.	300 (ch. in.) 235 (cd. in.)	6.3 5-6A. 6.3 CT.-6A.	1 3/8	GP-15
HSM-219	115 230 pri. 760 1600 CT.	40 230 (ch. input)			Spcl. GP-15

† Low flux density—for pre-amplifier service. All types electrostatically shielded.
GP-15 dimens. 4 3/4" x 5 7/8" x 6 5/8" high. Wt. approx. 22 lbs. Mtg. centers 3 3/4" x 4 7/8".

Combined PLATE and FILAMENT Transformers Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Plate Supply		Filaments	Insul. Test Volts	F Dim. (Min.) Inches	Case
	AC Volts	DC Ma.				
HS-402	475 CT.	20	6.3 CT.-1.5A. 1500	232		AJ
HS-401	500 CT.	40	6.3 CT.-1A. 1500	78		EB
HS-405	600 CT.	70	6.3 CT.-2A. 1500	138		GA
HS-407	600 CT.	120	6.3 CT.-2A. 6.3-2A. 6.3-2A.	1500	1 3/8	JA
HS-409	600 CT.	120	6.3 CT.-3.5A. 1500	1 3/8		JB
HS-409	700 CT.	150	6.3 CT.-3.5A. 6.3-3A.	1500	1 3/8	JB
HS-409	700 CT.	150	6.3 CT.-4A. 1500	1 3/8		HA
HS-413	450 CT.	200	6.3 CT.-4A. 6.3-3A.	1500	1 3/8	JA
HS-415	800 600 CT.	200	6.3 CT.-6A. 2500	1 3/8		KB
HS-417	800 600 CT.	300	6.3 CT.-6A. 2500	1 3/8		LA

* Tapped for 5 volt rectifier use. All types electrostatically shielded.

	AF	AG	AH	AJ	JZ*
A	3 4	1	1-5 16	1-5 8	9 16 dia.
B	3 4	1	1-5 16	1-5 8	Round
Bw	1-3 64	1-3 32	1-11 32		
C	1-1 8	1-3 8	1-3 4	2-3 8	25/32
D	27 32	1-1 32	1-11 32	1-5 8	
F	5 8	3 4	7 8	7 8	
I	4 40	6 32	6 32	6 32	
Unit	1-1/4	2-1/2	5-1/4	11	.5
Wt.	oz.	oz.	oz.	oz.	oz.

	AH	AJ	EA	EB	FA	FB	GA	GB	HA	HB	JA	JB	KA	KB
A	1 1/8	1 5/8	1 3/16	1 1/16	2 1/16	2 1/16	2 3/8	A 2 3/8	2 5/8	2 5/8	3 1/16	3 1/8	3 3/8	3 3/8
B	1 3/16	1 9/8	1 1/16	1 1/16	2 1/16	2 1/16	2 3/8	B 2 3/8	3 1/16	3 1/16	3 1/16	3 1/8	3 1/16	3 1/16
C	1 3/4	2 3/8	2 3/4	2 7/16	3 1/8	2 1/2	3 1/16	C 2 1/16	4 1/4	3 3/16	4 7/8	3 7/8	5 1/4	4 1/16
D	1 1/4	1 3/16	1 3/8	1 3/8	1 11/16	1 11/16	2 1/8	D 2 1/8	2 1/8	2 1/8	2 5/8	2 5/8	3	3
E	1 3/16	1 1/4	1 1/4	1 1/4	1 7/16	1 7/16	1 3/4	E 1 3/4	1 5/8	1 5/8	2 1/8	2 1/8	2 7/16	2 7/16
G	3/8	3/8	3/8	3/8	3/8	3/8	3/8	G 3/8	3/8	3/8	3/8	3/8	1/2	1/2
I	6-32	6-32	6-32	6-32	6-32	6-32	6-32	I 6-32	8-32	8-32	8-32	8-32	10-32	10-32

Wt. lbs. 4 oz. 9 oz. 1 15 oz. 1 3/4 1 1/2 2 lbs 1 3/4 2 1/2 2 1/4 4 1/2 4 7 3/4 7 lbs. 9 1/4 8 1/2 13 1/2 12 1/2 18 16

* New Item * Not in conformance with MIL-T-27A.

POWER OUTPUT to Line and VC. Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Max. Level-Watts	Freq. Resp.	Case
HS-71	10000 10 Ma.	600 150	2	150-15000	AH
HS-73	5000 (40 Ma.)	500 250 16 8 4	5	150-15000	AJ
HS-75	10000 CT. (50 Ma. bal.)	500 250 16 8 4	10	150-15000	EB
HS-77	9000 CT. (120 Ma. bal.)	500 250 16 8 4	25	150-15000	GA

LOW LEVEL AUDIO

HERMETICALLY SEALED
AUDIO INPUT Transformers

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Max. Level DBM	Shield	Case
HS-1	600* 250*	1:11.3	20-20000	10	P-5	GP-4
HS-11	150 62.5	Same as above			P-1	GP-2
HS-3	600* 250*	1:14 overall	20-20000	10	P-5	GP-5
HS-4	150 62.5	Same as above			P-3	GP-4
HS-14	150 62.5	Same as above			P-1	GP-3
HS-15	600* 250* (10 Ma.)	1:8 overall	30-20000	20	P-3	GP-5
HS-5	30-50	1:65.7	50-10000	0	P-5	GP-4
HS-8	600* 250* 150 62.5	1:14 overall	20-20000	20	P-1	GP-4

* Balanced center tap.

Low frequency loss will result from use of unbalanced DC in windings other than where specified.

AUDIO INTERSTAGE Transformers

Type No.	Primary Imped.	Turn Ratio	Freq. Resp.	Max. Level Pri. Volts	Shield	Case
HS-23	15000	1:2.7	20-20000	15	P-3	GP-4
HS-25	15000	1:2.72 overall	20-20000	25	P-1	GP-4
HS-35	15000	1:2.72 overall	20-20000	20	P-1	GP-2
HS-27	20000/5000	1:1.72 overall	20-20000	50	P-1	GP-4
HS-29	20000/5000	1:2 overall	20-20000	20	P-5	GP-4
HSM-31	20000/5000	1:1 or 2:1	20-20000	240		FA
HS-32	15000 (6 Ma.)	1:2 overall	15000	20	P-1	GP-5

Low frequency loss will result from use of unbalanced DC in windings other than where specified.

See table below for shielding data.

SHIELDING

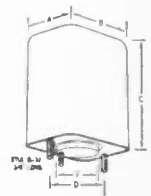
- P-1—One nickel alloy high permeability shield — 45db. reduction in pickup.
- P-3—Two nickel alloy shields interleaved with one heavy copper shading ring — 70db. reduction in pickup.
- P-5—Three nickel alloy shields interleaved with two heavy copper shading rings— 95 db. reduction in pickup.

	GP-1	GP-2	GP-3	GP-4	GP-5
A	7/8	1 1/16	1 1/4	1 7/16	1 5/8
B	1 1/16	1 1/4	1 1/2	1 3/4	2
Bw	1 1/8	1 1/32	1 1/16		
C	1 1/16	2 1/4	2 3/8	2 1/2	2 3/4
D	1 3/32	1 1/16	1 1/32	1 1/2	1 1/2
F	3/4	3/4	1 5/16	1 5/16	1 5/16
Wt.	3 oz.	5 1/2 oz.	8 oz.	12 oz.	17 oz.

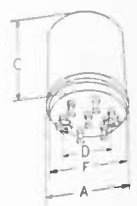
	JOA	JOB
A	1 5/16 dia.	1 5/16 dia.
B	Round	Round
C	1 1/32	1 1/32
D	5/16	5/16
F	7/8	7/8
Unit Wt.	2 oz.	2 1/2 oz.



HS Series



JO Series





TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

AUDIO LOW LEVEL OUTPUT, MIXING, MATCHING, BRIDGING

Type No.	Primary Imped.	Secondary Impedance	Freq. Resp.	Max. Level DBM	Shield	Case
HS-50	15000	600*/250*/150/62.5	20-20000	26	P-3	GP-4
HS-60	15000	600*/250*/150/62.5	20-20000	10	P-1	GP-2
HS-61	15000 (5 Ma.)	600*/250*/150/62.5	50-15000	20	P-1	GP-5
HS-52	20000/5000	600*/250*/150/62.5	20-20000	26	P-1	GP-4
HS-54	20000/5000	600*/250*/150/62.5	20-20000	10	P-5	GP-4
HS-56	600*/250*/150/62.5	600*/250*/150/62.5	10-30000	20	P-3	GP-4
HS-66	600*/250*/150/62.5	600*/250*/150/62.5	10-30000	20	P-1	GP-3
HS-58	600*/250*/150/62.5	600*/250*/150/62.5	20-30000	15	P-3H	GP-5

* Balanced center tap.

Low frequency loss will result from use of unbalanced DC in windings other than where specified.

See table on Page N-771 for shielding data.

POWER COMPONENTS

HERMETICALLY SEALED

FILAMENT Transformers, 50/60 cycle

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HSM-223	115	6.3	0.6	1500	AJ
HSM-225	105-115-125	6.3 CT.	2	1500	EA
HSM-226	105-115-125	6.3 CT.	3.6	1500	FA
HSM-234	105-115-125	6.3 CT. 6.3	10	2500	KA
HSM-227	105-115-125	±6.3 CT. 6.3	3	2500	GA
HSM-229	105-115-125	6.3 CT.	8	2500	JB
HSM-230	105-115-125	24 CT.	0.8	1500	FA
HSM-236	105-115-125	±12.6 CT. 12.6	2	2500	JB
HSM-228	105-115-125	±6.3 CT. 6.3	6	2500	JA
HSM-231	105-115-125	6.3 CT. 5 CT.	5	2500	JB
HSM-232	105-115-125	2.5 CT.	10	7500	HA
HSM-235	105-115-125	2.5 CT. 10 CT.	10	7500	MA

† Series or parallel connections.

** See case chart page N-771.

FILAMENT Transformers, 380/1500 cycle

Type No.	Primary Volts	Secondary Volts	Secondary Amperes	Insulation Test Voltage	** Case
HS-436	115	6.3 CT.	1	1500	AH
HS-425	105-115-125	6.3 CT.	2	1500	AJ
HS-427	105-115-125	6.3 CT.	5	1500	EA
HS-438	105-115-125	24 CT.	1.5	1500	EA
HS-433	105-115-125	*6.3 CT. 6.3	5	2500	FA
HS-435	105-115-125	*6.3 CT. 6.3	3.5	2000	FA
HS-441	105-115-125	*5 CT. 5	10	2000	HA
HS-443	105-115-125	*12.6 CT. 12.6	0.8	1500	AJ
HS-442	57.5-99.7-115-120	12.6 CT. 12.6	2	1500	EA

Two HS-442's can be used, 115 volt 3 phase to 26 volt 2 phase, Scott-connected.

* Series or parallel connection.

† 5 volt tap for filament type rectifiers.

** See case chart page N-771.

HIGH FIDELITY OUTPUT

HIGH LEVEL OUTPUT — Hermetically Sealed

Type No.	Primary Impedance	Secondary Impedance	Freq. Resp.	Max. Level Watts	F Di. Min. In.	Case
HSM-79	20000 CT. (20 Ma.) or 5000 (40 Ma.)	16/8/4	50-25000	5	1 3/8	FA
HSM-80	20000 CT. (20 Ma.) or 5000 (40 Ma.)	500/250 CT. or 125/62.5	50-25000	5	1 3/8	FA
HSM-81	8000 CT. Split primary.	16/8/4	7-50000	15	1 3/8	JB
HSM-82	8000 CT.	500/250/125	7-50000	15	1 3/8	JB
†HSM-181	8000/2000 CT. Split primary.	16/8/4	7-50000	15	1 3/8	JB
†HSM-182	8000/2000 CT. Split primary.	500/250/125	7-50000	15	1 3/8	JB
HSM-84	5000 CT.	16/8/4	7-50000	20	1 3/8	JB
HSM-85	5000 CT.	500/250/125	7-50000	20	1 3/8	JB
†HSM-189	10000/2500 CT. Split primary.	16/8/4	7-50000	25	1 3/8	KB
†HSM-190	10000/2500 CT. Split primary.	500/250/125	7-50000	25	1 3/8	KB
†HSM-186	6600 CT. Split primary.	16/8/4	7-50000	25	1 3/8	KB
†HSM-187	6600 CT. Split primary.	500/250/125	7-50000	25	1 3/8	KB
HSM-91	2500 CT.	16/8/4	7-50000	50	1 3/8	LA
HSM-94	4500 CT.	16/8/4	7-50000	55	1 3/8	LA
HSM-95	4500 CT.	500/250/125	7-50000	55	1 3/8	LA
†HSM-192	4000 CT. Split primary.	16/8/4	7-50000	65	1 3/8	LA
†HSM-193	4000 CT. Split primary.	500/250/125	7-50000	65	1 3/8	LA
HS-97	6600 CT.	500/250/125	10-30000	125	Spcl.	Spcl.

† Williamson type circuit.

Proper taps on primary for screen operation.

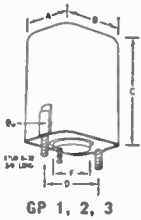
HIGH LEVEL OUTPUT

Type No.	Primary Impedance	Secondary Impedance	Output Watts
S-34X	4000 CT.	32/16/8	7.5
S-31A	8000 CT.	16/8/4	15
S-32A	8000 CT.	500/250/125	15
†S-142A	8000 CT.	16/8/4	15
S-35A	5000 CT.	16/8/4	20
S-36A	5000 CT.	500/250/125	20
†S-146A	6600 CT.	16/8/4	25
†S-148A	10000 CT.	16/8/4	25
S-42A	4500 CT.	16/8/4	50
†S-152A	4000 CT.	16/8/4	65
SR-45Z*	4000/2000/1000/500	16/8/4	10
S-46A	2000/1000/500/250	16/8/4	20

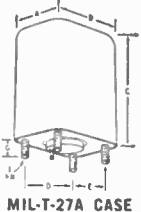
† Williamson type circuit. Proper taps on primary for screen operation, leads out both end bells.

* Replaces S-45Z.

Note: Last letter of Type No. denotes case style



GP 1, 2, 3



MIL-T-27A CASE



Case A

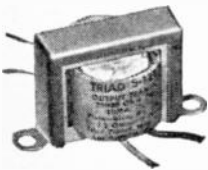


PL-4

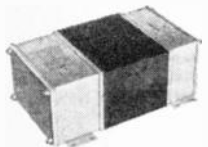
PL-5



PL-6



Case X



Case SC

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

LINE POWER

ISOLATION Transformers, 50/60 cycles

(See page N-776 for 3E0/1500 cycle isolation transformers)

Type No.	V. A. Output	Input Volts	Output Volts
N-51X	35	115	115
N-60X	50	230/115	115
N-53M	85	115	115
N-54M	150	115	115
N-67A	150	230/115	115
N-55M	250	115	115
N-66A	250	230/115	115
N-57M	500	115	115
N-59M	1000	115	115
N-52M	350	95 to 130 (in 5V steps)	115
N-56M	150	95 to 130 (in 5V. steps)	115

† With switch and meter for primary voltage control. Detachable cord.

N-69A	50	230/115	115
N-70A	150	230 115	115
N71-A	300	230 115	115

STEPDOWN Autoformers, 50 60 cycles

Type No.	V. A. Output	Input Volts	Output Volts
N-1X	50	230	115
N-3M	85	230	115
N-4M	150	230	115
N-5M	250	230	115
N-7M	600	230	115
N-9M	1250	230	115
N-11M	2000	230	115
N-34X	150	95 105 115 125 135	115
N-35M	350	95 to 130 (in 5V. steps)	115
N-50M	500	95 to 130 (in 5V. steps)	115

† With switch and meter.
‡ M case with switch for primary voltage control and detachable cord.

FILTER REACTORS

Type No.	Current DC Ma.	Inductance *Henries	Resistance Ohms	Insulation Test Voltage
HSM-301	20	30	1000	1500
HSM-302	20	14	550	1500
HS-331	40	4	375	1500
HS-303	50	12	385	1500
HS-333	70	3	225	1500
HSM-305	70	15	300	2500
HS-335	120	3	150	1500
HSM-307	120	15	185	2500
HSM-309	150	9	115	2500
HS-339	260	3	105	2000
HSM-315	200	10	100	2500
HS-341	300	2	48	2000
HSM-319	300	10	85	2500

* New Item

* Minimum Inductance 20%

PULSE

Type No.	Pulse Voltage per Winding	Pulse Duration—us	Load Impedance—Ohms
PL-4	100-100	.54 to .66	500*
PL-5	100-100-100	.36 to .54	2000*
PL-6	100-100-100	.36 to .54	2000*

* As blocking oscillator in Triad circuit. Can be used with lower impedances and higher peak power at lower duty cycle.

INSTRUMENT POWER

Instrument POWER SUPPLY Transformers

Intelligent design and construction of measuring instruments involves consideration of many factors normally neglected in electronic circuits. Regulation of power supply voltages, limitation of external magnetic fields by minimum flux density, multiple static shields to limit capacitive coupling, multiple filaments where tubes must operate at different potentials, all become necessary to obtain peak performance. The transformers on this page are a series of special designs which have been developed for instrument design.

For PREAMPLIFIERS, VTVM, etc.

Primary 115 volts — 60 cycles

Type No.	Plate Supply		Filament Windings Volts and Amperes
	AC Volts	DC Ma.	
R-68A	800 CT.	30	5V.-2A, 6.3V.-1.2A, 6.3V.-1.2A.
R-2C	135	15	6.3V.-9A.
R-23B	250 CT.	22	6.3-8A. 15.5/12.6V.-6A.
R-3A	500 CT.	20	6.3V CT.-2A.
R-29A	230 CT.	40	6.3V-1.5A.
R-30X	135	50	6.3V-1.5A
R-54X	11F	15	6.3V-6A
R-56A	130	20	0 15 22.5 30V-6A.
R-73B	135	200	6.3V CT-5.5A.

CATHODE RAY Tubes

Primary 115 volts — 60 cycles

Type No.	Plate Supply		Filament Windings Volts and Amperes	
	AC Volts	DC Ma.		
R-41C	440-0-440-1250.	125/5	*6.3V.-.6A. *2.5V.-1.75A	2.5V.-1.75A. 5V.-3A.
R-45C	400-0-400-800.	30 5	*6.3V.-.6A. 6.3 CT.-3A. *5V.-2A	6.3V.-1A. 5V.-2A.
R-43C	1600	3	*6.3 5 2.5V.-1A. *6.3 5 2.5V.-3A.	

* Statically shielded and insulated for full plate voltage.
† Insulated for full plate voltage.

For REGULATED POWER SUPPLIES

Primary 115 volts — 60 cycles

Type No.	Plate Supply		Filament Windings Volts and Amperes	
	AC Volts	DC Ma.		
R-70A	880 CT.	75	6.3V.-.6A. 6.3V.-.3A.	6.3V.-.9A. 6.3V.-3A.
R-26A	880-720 CT.	200	6.3 CT.-8A. 6.3V.-1A.	6.3V.-3A. 5V.-3A.
R-28A	1250 CT.	300	6.3 CT.-.8A. 6.3V.-3A.	6.3V.-3A 5V.-6A.
R-46A	1250 CT. 130 (Bias winding)	350 50	5V.-4A.	6.3V.-4A. 6.3V.-1A. 6.3V.-1A.
R-46A will supply 550 V. D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V. for bias using Selenium rectifier. Sufficient filament windings to regulate screen voltages.				
R-27A	1500 CT.	400	5V.-6A.	6.3V.-3A. 6.3V.-8A.

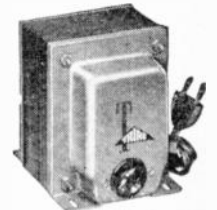
UNIVERSAL

Isolation, Autoformer, Voltage Control 50/60CPS

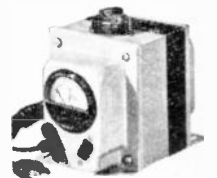
Type No.	V.A. (Isolation)	V.A. (Autoformer)
N-64AC	500	1000
N-62AC	1000	2000
N-60SC	2000	4000



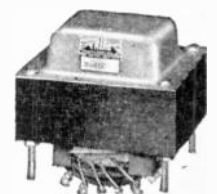
Case B



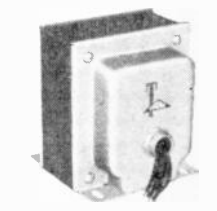
Case M



Case M with Meter

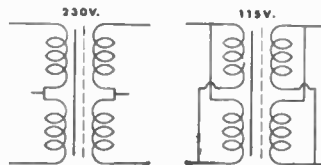
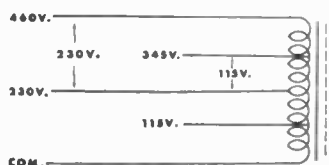


Case C



Case AC

Connection as Autoformer



Connection as Isolation Transformer

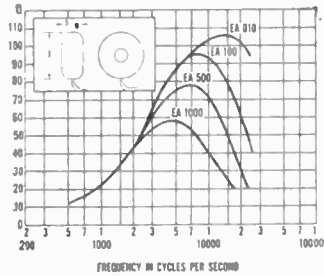


TRIAD TRANSFORMER CORP.

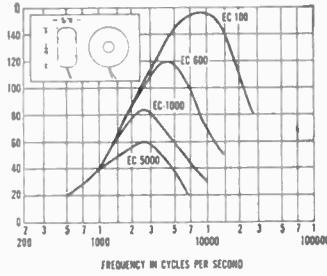
DIVISION OF LITTON INDUSTRIES

TOROIDS

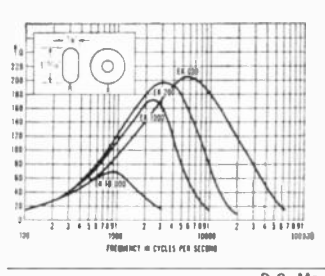
EA SERIES TOROIDS



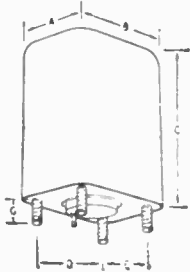
EC SERIES TOROIDS



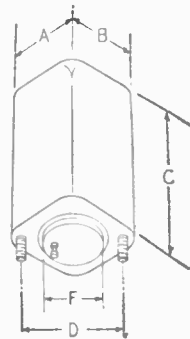
EK SERIES TOROIDS



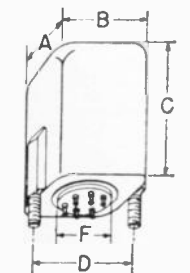
TOROIDS



EK



EA-EM



EC-ET

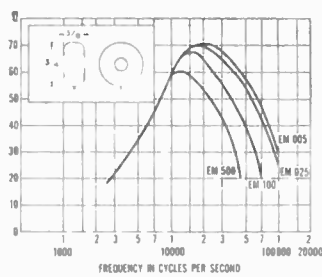
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EA-001	1 mh	.40	270
EA-002	2 mh	.58	192
EA-003	3 mh	.73	157
EA-004	4 mh	.85	135
EA-005	5 mh	1.20	121
EA-007	7 mh	1.42	102
EA-010	10 mh	2.20	86
EA-015	15 mh	3.40	70
EA-020	20 mh	5.05	60
EA-025	25 mh	5.80	54
EA-030	30 mh	7.90	50
EA-040	40 mh	11.40	43
EA-050	50 mh	12.80	38
EA-070	70 mh	19.00	32
EA-100	100 mh	30.00	27
EA-150	150 mh	46.00	22
EA-200	200 mh	52.00	19
EA-250	250 mh	73.00	17
EA-300	300 mh	80.00	16
EA-400	400 mh	115.00	14
EA-500	500 mh	126.00	12
EA-600	600 mh	178.00	11
EA-700	700 mh	193.00	10
EA-1000	1000 mh	297.00	8.6

Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EC-001	1 mh	.40	520
EC-002	2 mh	.56	368
EC-003	3 mh	.70	300
EC-004	4 mh	.82	260
EC-005	5 mh	.92	233
EC-007	7 mh	1.05	195
EC-010	10 mh	1.30	165
EC-015	15 mh	1.60	134
EC-020	20 mh	1.85	116
EC-030	30 mh	2.85	95
EC-040	40 mh	4.20	82
EC-050	50 mh	4.60	74
EC-070	70 mh	7.00	62
EC-100	100 mh	8.00	52
EC-200	200 mh	25.00	37
EC-250	250 mh	28.00	33
EC-300	300 mh	38.20	30
EC-400	400 mh	44.00	26
EC-500	500 mh	63.50	23
EC-600	600 mh	71.00	21
EC-700	700 mh	80.00	19.5
EC-1000	1000 mh	113.00	16.5
EC-1500	1500 mh	175.00	13.5
EC-2000	2000 mh	243.00	11.6
EC-3000	3000 mh	370.00	9.5
EC-4000	4000 mh	435.00	8.2
EC-5000	5000 mh	645.00	7.4
EC-7000	7000 mh	780.00	6.2
EC-10000	10000 mh	1190.00	5.2

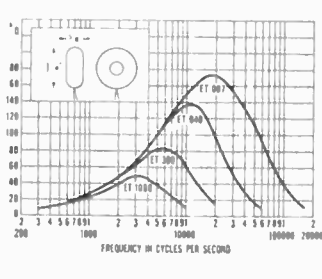
Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EK-010	10 mh	.92	262
EK-020	20 mh	1.30	184
EK-030	30 mh	1.65	150
EK-040	40 mh	1.90	130
EK-050	50 mh	3.50	116
EK-060	60 mh	4.00	106
EK-080	80 mh	4.60	92
EK-100	100 mh	5.20	82
EK-120	120 mh	5.50	75
EK-150	150 mh	6.20	67
EK-200	200 mh	7.50	58
EK-250	250 mh	10.30	52
EK-300	300 mh	12.00	47
EK-400	400 mh	16.50	41
EK-500	500 mh	23.60	37
EK-700	700 mh	30.00	31
EK-1000	1000 mh	45.00	26
EK-2000	2000 mh	100.00	18.4
EK-3000	3000 mh	151	15
EK-4000	4000 mh	175	13
EK-5000	5000 mh	250	11.6
EK-7000	7000 mh	380	9.8
EK-10000	10000 mh	500	8.2
EK-20000	20000 mh	1000	5.8
EK-30000	30000 mh	1500	4.7
EK-40000	40000 mh	1850	4.1

Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
EM-001	1 mh	2.8	150
EM-002	2 mh	4.1	108
EM-003	3 mh	5.1	87
EM-004	4 mh	6.0	76
EM-005	5 mh	6.8	68
EM-007	7 mh	8.2	57
EM-010	10 mh	10	48
EM-015	15 mh	12.5	39
EM-020	20 mh	14.5	34
EM-025	25 mh	16.5	30
EM-030	30 mh	18	27.6
EM-040	40 mh	27	24
EM-050	50 mh	30	22
EM-060	60 mh	40	19.5
EM-070	70 mh	43	18
EM-100	100 mh	66	15
EM-150	150 mh	100	12.5
EM-200	200 mh	115	11
EM-250	250 mh	167	9.6
EM-300	300 mh	180	8.8
EM-400	400 mh	265	7.6
EM-500	500 mh	295	7
EM-700	700 mh	440	5.8
EM-1000	1000 mh	650	4.8

EM SERIES TOROIDS



ET SERIES TOROIDS



Type No.	Ind.	Res-Ohms Average	D.C.-Ma. for 5% Ind. drop
ET-001	1 mh	.57	680
ET-002	2 mh	.82	480
ET-003	3 mh	.98	396
ET-004	4 mh	1.10	342
ET-005	5 mh	1.35	306
ET-007	7 mh	1.50	260
ET-010	10 mh	2	217
ET-015	15 mh	3	177
ET-020	20 mh	4.3	153
ET-025	25 mh	4.8	137
ET-030	30 mh	6.9	125
ET-040	40 mh	7.2	108

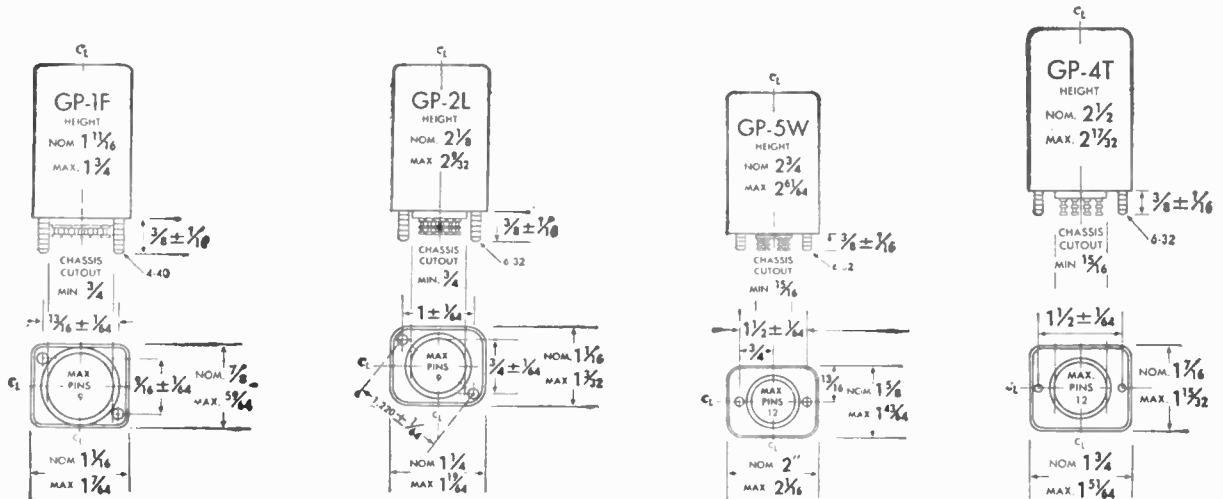
Type No.	Ind.	D.C.-Ma. Max.	D.C.-Ma. for 5% Ind. drop
ET-050	50 mh	8	97
ET-060	60 mh	15.5	88
ET-070	70 mh	16.8	82
ET-100	100 mh	26.0	68
ET-150	150 mh	38.5	56
ET-200	200 mh	44.5	48
ET-250	250 mh	64	43
ET-300	300 mh	72	40
ET-400	400 mh	103	34
ET-500	500 mh	118	31
ET-700	700 mh	173	26
ET-1000	1000 mh	245	22

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

GEOFORMERS

For Geophysical and Low Frequency Instrumentation.



LOW FREQUENCY TRANSISTOR TRANSFORMERS

Type No.	Impedance Ohms		Turns Ratio	Min. pri. Ind. @ 100MV-60 cy. With No Unbalanced D.C. Current	D. C. Resistance (Ohms)		Frequency Response in Cycles Primary Signal of 1 Volt Unbalanced D.C. Secondary Current of												Shielding	Case Mtg.	Wt.
	Pri.	Sec.			Pri.	Sec.	1 Ma.		2 Ma.		3 Ma.		5 Ma.								
							-3DB	-1DB	-3DB	-1DB	-3DB	-1DB	-3DB	-1DB							
G-18	1000 or 250	125 or 31	2:83:1	60.	500	44	5 to 20000	8 to 7000	5 to 20000	8 to 7000	6 to 20000	9 to 7000	7 to 20000	10 to 7000	P1-H	GP-1F	3.2 oz.				
G-19	1000 or 250	1000 or 250	1:1	65.	540	230	12 to 7000	15 to 3800	12 to 7000	15 to 3800	12 to 7000	15 to 3800	20 to 7000	40 to 3800	P1-H	GP-2L	5 1/4 oz.				
G-30	1000 CT.	2500 CT.	1:1.58	20.	350	1800	20 to 8000	40 to 4200	22 to 8000	45 to 4200	40 to 8000	75 to 4200	70 to 8000	160 to 4200	P1	GP-1F	3.2 oz.				

CHOPPER INPUT TRANSFORMERS - 30 to 500 cycle

Triad's new Chopper Input Transformers are manufactured under the same rigid high quality control standards as the Triad Input Transformers, plus the addition of an extremely close balance between the two halves of the primary winding. One half of the primary is balanced to the other half in both inductance and "Q". Cores are specially treated to eliminate noise in the microvolt range of input signals. Adjustment is at 60 cycles and, since input impedances are kept extremely high and the windings are not tuned, the chopper frequency may be 30 to 500 cycles. Magnetic and electrostatic shielding can be varied to meet customer's requirements.

Types for tube or transistor input are available. In addition to the standard types listed below, many types are currently being supplied to customer's specifications. We invite your inquiry on your special requirements.

Type No.	Primary Impedance in Ohms	Secondary Impedance in Ohms	Turns Ratio		Minimum Pri. Ind. (of Full Pri.) @ 1.V-60-	Maximum Pri. Volts (Full Pri.) @ 60-	D.C. Resistance		Magnetic Shielding	Case	Weight
			Full Pri. to Full Sec.	1/2 Pri. to Full Sec.			Full Primary	Secondary			
G-20	10000 CT. or 2500	640000 CT.	1:8	1:16	120	25.	370	21000	P5-H	GP-4T	11 1/2 oz.
G-21	200000 CT.	12500 CT.	4:1	2:1	1200	84.	4000	1300	P1-H	GP-2L	5 1/4 oz.
G-22	50000 CT.	800000 CT.	1:4	1:8	1000	90.	2200	19000	P5-H	GP-5W	1 lb.
G-23	40000 CT.	1000 CT.	6.32:1	3.16:1	1000	75.	4400	160	P1-H	GP-2L	5 1/4 oz.
G-24	40000 CT. or 10000 CT.	40000 CT.	1:1	.5:1	400	1.95	1625	1625	P5	GP-5W	1 lb.
G-25	40000 CT. or 10000 CT.	10000 CT.	2:1	1:1	800	70.	3200	2200	P1-H	GP-2L	5 1/4 oz.



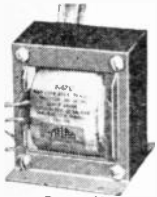
TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

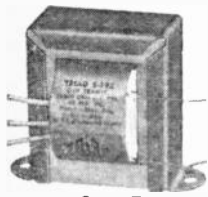
SELENIUM RECTIFIER Transformers Primary 60 cycles

These transformers are for use with Selenium rectifiers.
Rectifiers not included.

Type No.	Primary Volts	Secondary		Half Wave Volts DC	Full Wave Volts DC
		AC Volts	Amperes RMS		
F-47U	115	17-18	3	6-7	13-14
F-48U	115	17-18	6	6-7	13-14
F-49U	115	36 36	3 3	13	26
F-60U	115	6.5-13- 19.5-26	3 (int.)	9	18
F-61U	115	24-27-30 33-36	3	13	26
F-67U	110-120	24-27-30- 33-36	8	13	26
F-63U	115	8-9 8-9	2 2		6-7
F-64U	115	7-8-9	7		6-7
F-62U	105-115- 125	9-9-9-9	10 ea wdg.		6-7 ea. wdg.
F-68U	115	9 CT. 9 9 9	3.5 3.5 3.5 3.5		6-7 ea. wdg.
F-65U	110-120	140-150-160	.75	60	115
F-66U	110-120	140-150-160	2.5	60	115
F-79U	115	24-26-28-30	15	-	22.8
•F-80U	tapped for mult. sec.	12 to 18 or 24 to 36CT	40		
•F-84AC	230-115	24CT or 12CT	10 20		
•F-90X	115 tapped	40CT-20CT-10	100ma		
•F-91X	115 tapped	40CT-20CT-10	300ma		
•F-92A	115 tapped	40CT-20CT-10	1 amp		
•R-93A	115 (voltage doubler circuit)	6.3CT	6	150-160-170	(500ma)



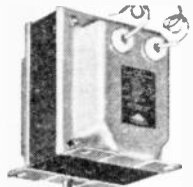
Case U



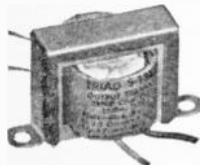
Case Z

FILAMENT Transformers, Single Secondary Primary 115 volts — 60 cycles

Type No.	Secondary Volts	Secondary Amperes	Test Volts
F-1X	2.5 CT.	3	1500
F-72Z	2.5 CT.	5	7500
F-6X	2.5 CT.	6	2500
F-3X	2.5 CT.	10	3000
F-5U	2.5 CT.	10	7500
F-71U	2.5 CT.	10	10000
F-7X	5 CT.	3	1500
F-8X	5 CT.	6	1500
F-9A	5.2 CT.	13	1500
F-10U	5 CT.	14	10000
F-9U	5.2 CT.	13	1500
F-11U	5.2 CT.	24	1500
F-13X	6.3	6	1500
F-14X	6.3 CT.	1.2	1500
+F-52X	6.3	1.2	5000
+F-51X	6.3/5	2	5000
+F-53X	6.3	4	5000
F-16X	6.3 CT.	3	1500
F-18X	6.3 CT.	6	1500
F-18A	6.3 CT.	6	1500
F-21A	6.3 CT.	10	1500
F-22A	6.3 CT.	20	2000
F-23U	10 CT.	7	1500
F-25X	12.6 CT.	1.5	1500
F-44X	12.6 CT.	2	1500
F-26X	12.6 CT.	2.5	1500
•F-45X	24 CT	1	1500
F-41X	25.2 CT.	2.2	1500
F-40X	26.8 CT	1	1500
F-50X	Filament line transformer Pri. 6.3V/5V Sec. 6.3/5V 2A		5000
•F-83A	12.6 CT.	5	1500
	12.6 CT.	5	



Case AL



Case X

• Low capacity—High voltage for damper tube operation.
• New Item

CHOKES SWINGING Filter REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-31A	25.5	20/200	150	2500
C-33A	25.5	30/300	105	3000
C-32AL	20.4	35/350	105	5000
C-35A	20.4	40/400	60	3000
C-39A	25.5	50/500	65	3000
C-38AL	25.5	50/500	65	5000

SMOOTHING Filter REACTORS

Type No.	Inductance Henries	Current Ma.	Resistance Ohms	Test Volts RMS
C-30X	50	15	3500	1500
C-2X	2	15	70	1500
C-1X	15	20	1000	1500
C-3X	10	50	500	1500
C-4X	4	50	360	1500
C-6X	5	65	330	1500
C-5X	12	75	390	1500
C-8X	7	75	240	1500
C-7X	10	90	270	1500
C-9X	4	90	100	1500
C-11X	6	110	160	1500
C-10X	9	125	250	1500
C-12X	6	160	165	1500
C-12A	6	160	165	1500
C-13X	3	160	75	1500
C-14X	5	200	150	1500
C-14A	6	200	150	1500
C-16A	10	200	150	2500
C-21X	1.5	225	65	1500
C-15X	4	250	100	1500
C-15A	4	250	100	1500
C-23X	1.2	260	45	1500
C-24X	1	200	50	1500
C-27X	.7	290	25	1500
C-17X	1.5	300	40	1500
C-18A	8	300	90	2500
C-19A	10	300	105	3000
C-25A	2.6	310	60	1500
C-42AL	8	350	105	5000
C-20A	6	400	60	3000
C-22A	10	500	65	3000
C-45AL	10	500	65	5000
C-40X	.32	600	10	1500
C-47U	.3-.075	1A-2A	3-.75	1500
C-48U	.08-.02	2.5A-5A	.57-.143	1500
C-49U	5A-10A	.19.05	.032-.008	1500
•C-80U	.024-.006	20A-40A	.096-.024	1500

FILAMENT Transformers, Multiple Secondary Primary 115 volts — 60 cycles

Type No.	Secondary Volts and Amperes	Test Volts RMS
F-27U	10 CT.-10A. 2.5 CT.-10A.	1500 7500
F-30A	5 CT.-3A. 6.3 CT.-8A.	1500
F-32A	6.3 CT.-3A. 6.3 CT.-3A.	1500
F-34A	6.3 CT.-1.75A. 6.3V.-1.75A. 6.3V.-1.75A. 6.3V.-1.75A.	1500
F-36A	6.3 CT.-3.5A. 6.3V.-3.5A. 6.3V.-3.5A. 6.3V.-3.5A.	1500
F-38A	6.3 CT.-5A. 6.3V.-5A. 6.3V.-1A. 5 CT.-2A. 5V.-4A	1500
F-42A	12.6 CT.-2.5A. 12.6-2.5A.	1500

ISOLATION Transformers

Primary 115V—400 cycle to operate 380 to 1500 cycles

Type No.	Secondary Volts amp.	V. A.	F Dim. (Min.)	Inches	Case
HS-470	115 .35	40	7/8		EA
HS-472	115 1.4	160	7/8		GA
HS-474	115 2.6	300	7/8		JA

60 cycle — hermetically sealed

Type No.	secondary volts amp.	V.A. (Min.)	F dim. inches	Case
•HSM-270	105-115-125 .4	50	7/8	JB
•HSM-271	105-115-125 1	125	7/8	KA
•HSM-272	105-115-125 2	250	1 3/8	NB

All isolation transformers electrostatically shielded.
• New Item

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES



AUDIO Low Level Input

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
*A-7J	voice coil to grid	300-3000	3.2	124
A-9J	line or mike to grid	30-15000	600 250 50	12
A-10J	line to grid	30-15000	600/150 split wdgs.	10.1
*A-11J	line or mike to grid 60-80DB shielding	30-15000	600 250/50	10
*A-12J	same as A-11J	30-15000	600 150 split windings	10
*A-13J	line to transistor or line to line (70 db Shldg)	30-15000	600-200CT 50	
A-40J	par. fed 6J5 or 6SN7 plate to P.P. grids	30-15000	15000	2.76
*A-41J	same as A-40J 8ma DC in primary			
A-55J	par. fed 6J5 or 6SN7 to line	30-15000	15000	2.5
A-57J	line to line	30-15000	600 250 50	1
A-65J	par. fed 6J5 or 6SN7 to line	30-15000	15000	5
*A-66J	same as A-65J—8 ma DC in primary	30-15000	15000	5
A-67J	line to line	30-15000	600/150 split windings	1
*A-68J	pp plate to line 8ma DC in primary	30-15000	30000CT	5
A-75J	Audio choke — 15 Henries			
*A-77J	Audio choke — 200 henries - 5 ma DC dual winding 100 henries - 10 ma DC			
*A-78J	output pp transistors to line	30-15000	2000CT	
*A-79J	Transistor inter-stage 10ma in primary	40-15000	1000	

*A-7J has 2 stud mounting, all others have single hole $\frac{3}{8}$ " mounting.
 • new item

Triad "J" series transformers closely approach the electrical performance of the "HS" series while eliminating or modifying mechanical features which increase the cost. Careful design, taking advantage of the flexibility of the "J" series units, will result in low level amplifiers which will in every way meet broadcast quality specifications.

Combined PLATE and FILAMENT Transformers New "100" Series

Primary 115 volts 60 cycles

Triad power components are liberally designed to best meet average design specifications and to ensure maximum utility for each design. All units are beautifully finished in baked grey enamel and have all connection data permanently marked on the case.

All types are "Climatite" treated, both coil and core, for protection against moisture and for elimination of lamination chatter. Although they are small in size, the high quality materials used keep losses to a minimum. The temperature rise design is 55°C. Only copper foil static shields, grounded to the case and core, are used. Leads are of a type approved by UL for high temperature operation.

Type No.	Plate Supply		Rect. Fil.	Other Fil.		Case Dim.-Inches			Mtg. Dim.-Inches		Wt. Lbs.	
	AC Volts	DC Ma	Volts	Amp.	Volts	Amp.	H	W	D	MW		MD
R-104A	500 CT.	40			6.3 CT.	2	2 $\frac{3}{4}$	2 $\frac{3}{8}$	2 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1.55
R-105A	600 CT.	65			6.3 CT.	2.7	3 $\frac{1}{8}$	2 $\frac{5}{8}$	2 $\frac{3}{8}$	2	1 $\frac{5}{8}$	2.
R-106A	480 CT.	50	5	2	6.3 CT.	2	3 $\frac{1}{8}$	2 $\frac{5}{8}$	2 $\frac{3}{8}$	2	1 $\frac{5}{8}$	2.05
R-107A	600 CT.	50	5	2	6.3 CT.	2	3 $\frac{1}{8}$	2 $\frac{5}{8}$	2 $\frac{5}{8}$	2	1 $\frac{7}{8}$	2.35
R-108A	500 CT.	75	5	2	6.3 CT.	2.5	3 $\frac{1}{8}$	2 $\frac{5}{8}$	2 $\frac{3}{4}$	2	2	2.4
R-109A	600 CT.	75	5	2	6.3 CT.	3	3 $\frac{1}{2}$	3	2 $\frac{7}{8}$	2 $\frac{1}{4}$	1 $\frac{3}{4}$	2.9
R-110A	525 CT.	90	5	2	6.3 CT.	5	3 $\frac{1}{2}$	3	3 $\frac{1}{8}$	2 $\frac{1}{4}$	2	3.25
R-111A	700 CT.	90	5	3	6.3 CT.	3.5	3 $\frac{1}{2}$	3	3 $\frac{1}{2}$	2 $\frac{1}{4}$	2 $\frac{1}{8}$	3.55
R-112A	550 CT.	110	5	2	6.3 CT.	5	3 $\frac{1}{2}$	3	3 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	3.7
R-114A	700 CT.	125	5	3	6.3 CT.	4.5	3 $\frac{7}{8}$	3 $\frac{1}{4}$	3 $\frac{1}{4}$	2 $\frac{1}{2}$	2 $\frac{3}{8}$	4.7
R-116A	700 CT.	160	5	3	6.3 CT.	5	3 $\frac{7}{8}$	3 $\frac{1}{4}$	3 $\frac{5}{8}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	5.65
R-118A	750 CT.	175	5	3	6.3 CT.	8	4 $\frac{1}{4}$	3 $\frac{5}{8}$	4	2 $\frac{3}{4}$	2 $\frac{7}{8}$	7.45
R-121A	800 CT.	200	5	3	6.3 CT.	6	4 $\frac{1}{4}$	3 $\frac{5}{8}$	4 $\frac{3}{8}$	2 $\frac{3}{4}$	3 $\frac{1}{4}$	8.25

AUDIO INPUT Transformers Line or Microphone to Grid

Type No.	Application	Frequency Response	Primary Impedance	Turn Ratio
A-1X	Line or single button mike to grid.	300-3000	100	31.4
A-3X	Line or D.B. mike to grid.	300-3000	400 CT.	15.8
A-4X	Line to grid.	300-3000	500/200/67.5 CT.	12
A-5X	Single button mike to p.p. grids—Hi-gain.	300-3000	100	84
A-6X	Speaker V.C. to grid.	300-3000	8/3.2	79

AUDIO OUTPUT Transformers Line to Voice Coil

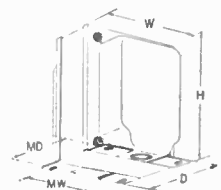
Type No.	Primary Impedance	Output Imped.	Output Watts	Freq. Resp.
S-23X	50 (autoformer).	3.2	3	300-3000
S-26X	500 (autoformer).	3.2	3	300-3000
S-66X	500 (autoformer).	16 8/4	3	100-5000
S-76Z	250 125 62.5 31	16/8/4	10	40-15000
S-77U	500 CT./125	32 16 8/4 2	30	40-15000

VIBRATOR POWER

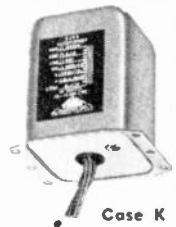
VIBRATOR POWER SUPPLY TRANSFORMERS

Automobile Radio REPLACEMENT Transformers
K Cases have 7 Holes for Mtg. Purposes

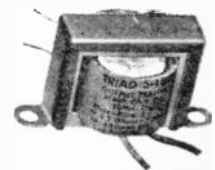
Type No.	Primary Volts	DC Filter Input	Secondary AC Volts CT.	Rec. Buffer	Max. DC Ma.
V-21	6-8	140 or 170	365 430	.005	62
V-21B	6-8	140 or 170	365 430	.005	62
V-21K	6-8	140 or 170	365 430	.005	62
V-21Z	6-8	140 or 170	365/430	.005	62
V-23	6-8	215 or 250	530/605	.003	79
V-23B	6-8	215 or 250	530 605	.003	79
V-23K	6-8	215 or 250	530 605	.003	79
V-23Z	6-8	215 or 250	530 605	.003	79
V-31	12-16	240	575	.003	79
V-31K	12-16	240	575	.003	79



Case K



Case K



Case X



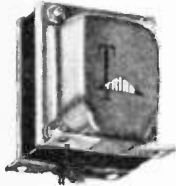
TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

POWER

Combined PLATE and FILAMENT Transformers
Primary 115 volts — 60 cycles

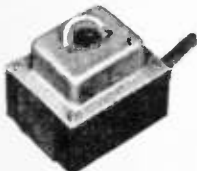
Type No.	Plate Supply		Rect. Fil.		Other Fil.	
	AC Volts	DC Ma.	Volts	Amp.	Volts	Amp.
R-22A	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-22B	380/320 CT.	70	6.3	.6	6.3 CT.	3
R-4A	500 CT.	40			6.3 CT.	2
R-4B	500 CT.	40			6.3 CT.	2
R-5A	600 CT.	65			6.3 CT.	2.7
R-5B	600 CT.	65			6.3 CT.	2.7
R-6A	480 CT.	50	5	2	6.3 CT.	2
R-6B	480 CT.	50	5	2	6.3 CT.	2
R-7A	600 CT.	50	5	2	6.3 CT.	2
R-7B	600 CT.	50	5	2	6.3 CT.	2
R-8A	500 CT.	75	5	2	6.3 CT.	2.5
R-8B	500 CT.	75	5	2	6.3 CT.	2.5
R-9A	600 CT.	75	5	2	6.3 CT.	3
R-9B	600 CT.	75	5	2	6.3 CT.	3
R-10A	525 CT.	90	5	2	6.3 CT.	5
R-10B	525 CT.	90	5	2	6.3 CT.	5
R-11A	700 CT.	90	5	3	6.3 CT.	3.5
R-11B	700 CT.	90	5	3	6.3 CT.	3.5
R-12A	550 CT.	110	5	2	6.3 CT.	5
R-12B	550 CT.	110	5	2	6.3 CT.	5
R-14A	700 CT.	125	5	3	6.3 CT.	4.5
R-14B	700 CT.	125	5	3	6.3 CT.	4.5
R-16A	700 CT.	160	5	3	6.3 CT.	5
R-16B	700 CT.	160	5	3	6.3 CT.	5
R-17A	750 CT. 80 Tap	160	5	3	6.3 CT. 2.5 CT.	5 5
R-18A	750 CT.	175	5	3	6.3 CT.	8
R-18B	750 CT.	175	5	3	6.3 CT.	8
R-19A	750 CT. 80 Tap	200	5	3	6.3 CT. 2.5 CT.	6 10
R-20A	700 CT.	200	5	3	6.3 CT.	8
R-20B	700 CT.	200	5	3	6.3 CT.	8
R-72A	800 CT.	140	5	3	6.3	4
R-21A	800 CT.	200	5	3	6.3 CT.	6
R-21B	800 CT.	200	5	3	6.3 CT.	6
R-24A	800 CT.	300	5	6	6.3 CT.	6
R-24B	800 CT.	300	5	6	6.3 CT.	6
R-25A	800 CT.	500	5	6	6.3 CT. 6.3	3 7
R-58A	875 CT.	185	5	3	6.3 6.3	4 3
R-71A	900 CT.	250	5 CT.	4	6.3 CT. 6.3	2 4
R-93A	150-160-170	500	Silicon Rectifier Voltage doubler		6.3 CT.	6



Case A



Case B



Case BS

PLATE POWER Transformers

Primary 115 volts — 60 cycles

Type No.	Secondary Volts		Sec. D.C. Ma.		Rect. Fil.
	AC	DC	CCS	ICAS	
P-1A	440/220 CT.	180/90	160	190	5V-3A
P-3A	600/300 CT.	250/125	300	360	5V-4A
P-5A	1100 CT.	400	250	310	5V-4A
P-7A	1235 CT.	500	250	310	5V-4A
P-9A	1235 CT.	500	500	600	5V-6A
P-11A	1455 CT.	600	250	310	
P-14A	1780 CT.	750/600	250	310	
P-15A	2340 CT.	1000	250	310	
P-16A	2430 CT.	1000	500	600	
P-17A	2880 CT.	1250	250	310	
P-18A	2900 CT.	1250	500	600	
P-20A	3300 CT.	1500	350	425	

† Plate leads out side of case for 866 rectifiers.

‡ Tapped Pri. to produce the lower D.C. voltage.

• New Item

Note: Last letter of Type No. denotes case style.

TELEVISION COMPONENTS

Replacement POWER Transformers,
Combined Plate and Filament

Electrostatically shielded. Primary 115 volts 60 cycles.

Type No.	Plate Supply		Filaments —	
	AC Volts	DC Ma.	Volts	Amperes
R-31A	760 V.C.T.	320	5V.—6A. 5V.—2A.	12.6 C.T.—5A. 6.3V.—1.2A.
R-31BC				
R-32A	760 V.C.T.	320	5V.—6A.	12.6 V.C.T.—5A 6.3V.—1.2A.
R-33A	775 V.C.T.	230	5V.—3A.	6.3V.—9A. 6.3V. 5V.—2A.*
R-33BC				
R-34A	750 V.C.T.	230	5V.—3A.	6.3V.—8.5A. 6.3V.—1.2A.*
R-35A	725 340 V.C.T.	250	5V.—3A. 5V.—2A.	6.3V.—8A. 6.3V.—2.5A.
R-35BC				
R-36A	775 V.C.T.	275	5V.—6A.	6.3V.—8.5A. 6.3V.—1.2A.*
R-36BC				
R-37BC	735 V.C.T.	275	5V.—6A.	6.3V.—8.5A. 6.3V./5V.—2A.*
R-38A	750 V.C.T.	225	5V.—3A.	6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-38BC				
R-39A	640 V.C.T.	225	5V.—3A.	6.3V.—10A. 6.3V.—1.2A.*
R-39BC				
R-40A	780 440 V.C.T.	300	5V.—3A. 5V.—3A. 5V.—2A.	6.3V.—8.5A. 6.3V.—3.5A.
R-40BC				
R-42A	675 V.C.T.	185	5V.—3A.	6.3V.—7A. 6.3V.—2A.*
R-42BC				
R-44BS	525 V.C.T.	240	5V.—3A.	6.3V.—8A. 6.3V.—1.2A.*
R-47BS	725 V.C.T.	225	5V.—3A.	6.3V.—10A. 6.3V.—2.7A.*
R-48BS	750 V.C.T.	180	5V.—3A.	6.3V.—9A. 6.3V.—2.7A.*
R-49BS	650 V.C.T.	240	5V.—3A.	6.3V.—9A. 6.3V.—9A. 6.3V.—1.2A.*
R-49BC				
R-50A	790 650 V.C.T.	310	5V.—3A. 5V.—3A. 5V.—2A.	6.3V.—5A. 6.3V.—5A. 6.3V.—2.6A.
R-50BC				
R-51BC	505 V.C.T.	320	5V.—6A.	6.3V.—5A. 6.3V.—5A. 6.3V.—1.2A.*
R-52BC	600 V.C.T.	270	5V.—3A.	6.3V.—5A. 6.3V.—5A. 6.3V.—1.2A.*
R-60BC	460 V.C.T.	300	5V.—6A.	6.3V.—10A. 6.3V.—1.2A.* 6.3V.—2.5A.
R-61BC	560 V.C.T.	275	5V.—6A.	6.3V.—6A. 6.3V.—6A. 6.3V.—1.2A.*
R-62BC	680 V.C.T.	290	5V.—6A.	6.3V.—10A. 6.3V.—1.5A. 6.3V.—1.2A.*
R-63BC	131 V.	980		6.3V.—9A. 6.3V.—6A. 6.3V.—1.2A.*
R-64BC	520 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-65BC	550 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-66BC	580 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-67BC	600 V.C.T.	250	5V.—3A.	6.3V.—9A.
R-69BC	550 V.C.T.	270	5V.—3A.	6.3V.—10A.
R-74BC	655 V.C.T.	190	6.3V.—7.8A. 6.3V.—1.2A. (damper wdg)	5V.—3A.
R-75BA	560 V.C.T.	250	5V.—3A.	6.3V.—9.5A.

* Less than 100 m.m.f.d. capacity to ground and insulated for high voltage damper tube.

Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.

• New item.

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES



TELEVISION COMPONENTS VERTICAL OUTPUT Transformers

Type No.	Application	Turns Ratio
A-99X	Transformer type, 4 leads.	10:1
A-101U	Same as above, except upright universal mtg.	10:1
A-102X	Autoformer type, 3 leads.	11.4:1
A-103X	Transformer type, 4 leads. For low inductance yokes.	49:1
A-104X	Autoformer type, 3 leads.	18:1
A-105X	Transformer type, 4 leads.	25:1
A-107X	Transformer type, 4 leads. Heavy duty.	10:1
A-108X	Transformer type, 4 leads.	8:1
A-109X	Transformer type, 4 leads.	15:1
A-110X	Autoformer type, 3 leads.	44:1
A-111X	Transformer type, 4 leads. Small size.	10:1
A-112X	Autoformer and Blank Winding	15:1
A-113X	Transformer type, 4 leads.	12:1
A-113Z	Transformer type, 4 leads.	12:1
A-114X	Transformer type, 4 leads.	25:1
A-115X	Autoformer type, 3 leads.	15:1
A-115Z	Autoformer type, 3 leads.	15:1
A-116X	Autoformer type, 3 leads.	6:1
A-117X	Transformer type, 7 leads (Muntz replacement)	25:1 and 2.5:1
A-118X	Autoformer type, 4 leads.	8:1 5.5:1
A-119X	Autoformer type, 3 leads.	15:1

†Crosley 728256-2 and others.

HORIZONTAL BLOCKING OSCILLATOR

Type No.	Application
A-98X	Generates 15750 pulse.
A-98K	Generates 15750 pulse.

VERTICAL BLOCKING OSCILLATOR

Type No.	Application	Ratio
A-96X	Dumont type. 3 windings.	1:0.5 1:1
A-97X	Std. Mtg.	1:4.14
A-97Z	Same—Small Mtg. Dim.	1:4.14
A-122X	Std. Mtg.	1:3.5
A-122Z	Same—Small Mtg. Dim.	1:3.5
A-97K	Same—Case K.	1:4.14
A-97Y	Same—Case Y.	1:4.14
A-95X	Blocking oscillator transformer for vertical sweep.	1:4.14
A-120Z	Philco replacement	1:1.5

Width and Linearity COILS

All WLC units feature dual mounting, for $\frac{3}{16}$ " and $\frac{7}{16}$ " mounting holes. Units are assembled with the $\frac{3}{16}$ " mounting clip in place. To use the $\frac{7}{16}$ " mounting remove the $\frac{3}{16}$ " clip, cut off the tubing, thread the $\frac{7}{16}$ " clip to the core and install.

Type No.	Inductance MH Min.	Max.	Resist.	Application
WLC-3	4.00	28.00	17.	wid or lin
WLC-4	.05	.5	.5	width D11 211T3 Color conv cont
WLC-5	1.00	8.00	8.00	wid or lin
WLC-6	2.00	18.00	14.00	wid or lin
WLC-7	40% Tap .60	4.30	3.90	Tapped wid or lin
WLC-8	.30	2.80	5.00	Series Coil Par. Coil
WLC-8A	4.00	28.00	26.00	Series Coil Par. Coil
WLC-9	.10	.90	.90	pri width Sec AFC AGC
WLC-11	4.00	28.00	27.00	pri or sec Tapped pri or sec
WLC-12	.60	8.30	24.00	wid or lin tapped
WLC-21	.9	16.00	9.00	wid or lin
WLC-23	.10	1.00	1.00	wid or lin
WLC-23	.40	3.00	3.00	wid or lin

OUTPUT Transformers Tube to Voice Coil and Line

Type No.	Tubes	Pri. Imped.	Sec. Imped.	DC Pri.	Audio Watts
S-27A	2A3, 6A3, 6B4, 6L6, 6U6, 6Y6, 12A5, 25B6, 35B5, 50A5.	2500	500/16/8 4	80	8
S-28X	2A5, 6AC5, 6B5, 6F6, 6K6, 7B5, 14A5, 25AC5	7500	500/16/8 4	40	5
S-29X	6AQ5, 6AS5, 6V6, 7C5, 25A6, 25B5, 25L6, 25N6, 35A5, 35L6	5000	500/16/8 4	45	5
S-22A	P.p. 2A3, 6B4, 6A5, 6L6, etc.	5000 CT	500/16/8 4	100 (bal.)	15
S-24A	P.p. 6V6, 7C5, 6K6, 6F6, etc.	8000 CT.	500/16/8 4	80 (bal.)	15
S-60A	P.p. 6L6, 5881, 807, etc.	6600 CT.	500/250/16 8 4	120 (bal.)	30

OUTPUT Transformers 70.7 volt Line to Voice Coil

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
S-70Z	Autoformer 16000/8000/4000/2000 1000.	8 4	5	100-5000
S-71Z	Autoformer 4000 2000 1000 500.	16 8 4	10	100-5000
S-25Z	Autoformer 4000 2000 1000 500.	8 4	10	70-7000
*SR-45Z	Autoformer 4000 2000 1000 500.	16 8 4	10	20-20000
*SR-74K	Weatherproof autoformer 4000 2000 1000 500.	16 8 4	10	20-20000
S-72Z	Autoformer 2000 1000 500 250.	16 8 4	20	100-5000
S-46A	Autoformer 2000 1000 500 250.	16 8 4	20	20-20000
S-75K	Weatherproof autoformer 2000 1000 500 250.	16 8 4	20	20-20000
S-78Z	Isolation 4000 2000 1000 500.	16 8 4	10	100-5000
S-79Z	Isolation 2000 1000 500 250.	16 8 4	20	100-5000
*S-47Z	10K 5K 2.5K 1250 625	16 8 4	8	20-20000

*Replaces S-45Z and S-74K

25 VOLT LINE TRANSFORMERS

Type No.	Primary Impedance	Sec. Imped.	Output Watts	Freq. Resp.
*S-125X	325CT	16 8 4	2	70-7000
*S-126X	78CT	16 8 4	8	70-7000
*S-127X	35CT	16 8 4	18	70 15000

MATCHING TRANSFORMERS FOR 25 OR 70.7 VOLT LINE

*S-128Z	70.7V line to 25V line or, 25V line to 70.7V line	40	20-15000
*S-129Z	70.7V line to 25V line or, 25V line to 70.7V line	30	20-15000
*S-130Z	70.7V line to 25V line or, 25V line to 70.7V line	10	20-15000

Ask for the Triad publication "Sound distribution using the 70 volt line." Free from your distributor.

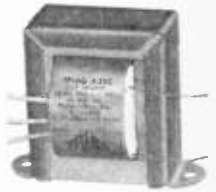
Special TRANSCIEVER Transformers (Voice Frequencies)

Type No.	Application	Primary Impedance	Secondary Impedance
A-21X	\$ B. mike or plate to grid (2 primaries)	100 10000	100000
A-23X	Tube to line and hi-impedance phones.	10000	50 and 2000

• New Item



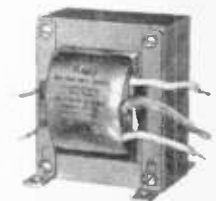
Case K



Case Z



WC



Case U



TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

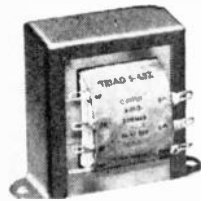
AUDIO

STANDARD OUTPUT Transformers Tube to Standard Voice Coil (3-4 ohms)

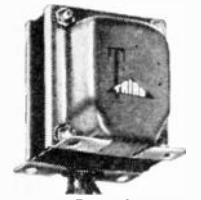
Type No.	Primary		DC-Ma.	Audio Watts
	Tubes Used	Impedance		
S-12X	25L6, 50L6, 35A5, 50B5, etc.	2500	50	2
S-1X	25L6, 50L6, 35A5, 50B5, 2A3, 6B4, etc.	2500	60	3
S-2X	2A3, 6A3, 6B4, 6Y6, 7A5, 25B6, 50L6.	2000	55	4
S-3X	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	40	3
S-16X	25L6, 50L6, 35A5, 50B5, etc.	3000 (5% tap)	60	3
S-4X	2A3, 6B4, 6L6, 6U6, 12A5, 25L6, 50A5, 117N7.	3000	70	5
S-5Z	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	50	5
S-5X	6V6, 7C5, 6AQ5, 25A6, 71, etc.	5000	50	5
S-6X	3B5, 6AQ5, 6A55, 25A6, 25A7, 35L6, 43, 117L7.	5000	35	2
S-7X	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	40	3
S-8X	1C5, 1H4, 1Q5, 1S4, 3Q5, 3S4, 14A5, 25AC5.	8000	30	2
S-9Z	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	50	5
S-9X	6K6, 7B5, 6F6, 1Q5, 31, 33, 41, 42, etc.	7500	50	5
S-11X	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	2
S-11Z	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	2
S-17X	1J6, 3Q4, 3V4, 6AK6, 6AG7, etc.	10000	30	3
S-13X	1A5, 1N6, 11A4.	25000	10	2
S-15X	P.p.—6V6, 7C5, 6K6, 6F6, etc.	10000 CT.	40	7
S-19Z	P.p.—6V6, 7C5, 6K6, 6F6, etc.	10000 CT.	50	10
S-21A	P.p.—6V6, 7C5, 45, 6L6, etc.	8000 CT.	50	15



Case X



Case Z



Case A

LOW LEVEL OUTPUT Transformers

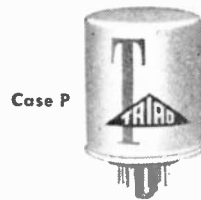
Type No.	Application	Freq. Resp.	Pri. Imped.	Second. Imped.	Aud. Wits.
A-51X	Tube to line.	300-3000	7000	50	
A-53X	Single or p.p. tubes to line.	70-7000	18000 CT.	600/250/50	
A-54X	P.P. Tubes to V.C.	300-15000	7700 CT.	8/4	
A-55J	Parallel-fed 6J5 or 6SN7 to line. 45 db. shielding	30-15000	15000	600/250/50	
A-65J	Parallel-fed 6J5 or 6SN7 to line. 45 db. shielding.	30-15000	15000	600/150 Split winding	
S-58X	Line to line.	300-3000	600/150	600/150	
—Split windings—					
A-57J	Line to line. 45 db. shielding.	30-15000	600/250/50	600/250/50	
A-67J	Line to line. 45 db. shielding.	30-15000	600/150	600/150	
—Split windings—					

"SPLATTER" Chokes

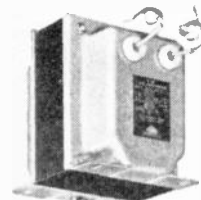
Type No.	Inductance Henries	Current Ma.	Res. Ohms	Wt. Lbs.
C-26X	Tapped .2 to 1.5	100	95	1 1/4
C-43X	Tapped .05 to 1	300	40	2



Case J



Case P



Case AL

UNIVERSAL OUTPUT Transformers Any Tube to Any Voice Coil

Type No.	Application	Pri. DC Ma.	Audio Watts
S-51X	Single or p.p. plates (4,000 to 14,000 ohms) to V.C.	35	5
S-53X	Single or p.p. plates (4,000 to 14,000 ohms) to V.C.	40	8
S-55Z	Push-pull plates (4,000 to 14,000 ohms) to V.C.	40 ea. side	10
S-55X	Push-pull plates (4,000 to 14,000 ohms) to V.C.	40 ea. side	10
S-57Z	Push-pull plates (4,000 to 14,000 ohms) to V.C.	50 ea. side	15

PLUG-IN INPUT Transformers

Type No.	Application	Pri. Imped.	Second Imped.	Freq. Resp.	Shld'g
A-200P	Line or mike to grid.	200/50 CT.	36,000	30-20000	70 db.
A-202P	Same as above.	200/50 CT.	36,000	20-20000	90 db.
HS-273P	Same as above.	200/50 CT.	80,000	30-30000	70 db.
A-210P	Stereo Isolation	1:1 ratio	ODBM	20-20000	45 db.

INTERSTAGE Transformers Plate to Grid

Type No.	Application	Freq. Resp.	Pri. Imped.	Second Imped.	Ratio
A-31X	Plate to single or p.p. grids	300-3000	10000	90000CT	1 : 3
A-33X	Plate to single or p.p. grids	70-7000	10000	90000CT	1 : 3
A-42Z	Multi-ratio single or p.p. plates to single or p.p. grids.	70-7000	15000 CT.	135000CT. or 33750	1 : 1.5 1 : 3 1 : 6
A-35A	Plate to single or p.p. grids	50-10000	10000	90000CT	1 : 3
A-39A	P.p. plates to p.p. grids	50-10000 CT.	20000	45000CT	1 : 1.5
A-40J	Parallel-fed 6J5 or 6SN7. Plate to p.p. grid 45 db. shielding.	30-15000	15000	86000CT	1 : 2.76

MODULATION Transformers — Tube to RF Load

Type No.	Primary	Freq. Resp.	Secondary Impedance	Pri. Ma.	Second. Wits.
TY-65Z	32 CT. (575 Ma.) (Transistor use)	70-15000	3000-4000-6000	100	10
M-4Z	5000 (Auto-former).	300-3000	6750/4	100 (total)	10
M-5Z	5000 (Auto-former).	300-3000	6750/4	165 (total)	20
M-1X	10000 CT. for 19, 1J6, 6N7, 6A6, etc.	300-3000	5000-8000-10000	50	5
M-3X	10000 CT. for 6N7, 6A6, 6F6's, etc.	300-3000	3000-5000-8000	100	20
TY-66A	6 CT. (5A) (Transistor use)	300-3000	3000-4000-6000	200	40
†M-7AL	4250 CT. for 807's	300-3000	3000-5000-8000	200	60
M-15A	Multi-match	300-3000	4000 to 20000	150	30
M-16AL	Multi-match	300-3000	4000 to 20000	180	60
†M-8AL	Multi-match	300-3000	4000 to 20000	200	80
†M-12AL	Multi-match	300-3000	4000 to 20000	300	125

DRIVER Transformers

Type	Driver Tubes	Output Tubes	Frequency Response	Ratio Primary 1/2 Sec.	Primary D.C. Ma.
A-81X	30, 1H4, etc.	19, 30's, 1J6, etc.	300-3000	2.66:1	15
A-83X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	70-7000	1.33:1	40
A-85X	6F6, 42, 45, etc.	6L6, 6F6, 6V6, 807, etc.	50-10000	2.66:1	40
A-89A	P.p. plates to class B or AB grids— Universal 15 watt.	Any class B or AB tubes. 100-500 watts output	50-10000	3.1 or 1.8:1	100 per side
A-91A	P.p. plates to Class B or AB grids— Universal 30 watt.	Any class B or AB tubes. 400-1500 watts output	50-10000	3.1 or 1.88:1	160 per side
TY-61X	Transistor use		70-10000	1:0.5	100

*New Item

†Plate leads out side

TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

PRICE LIST BY TYPE NUMBER

PRICES SUBJECT TO CHANGE WITHOUT NOTICE



RIQAP (REDUCED INSPECTION QUALITY ASSURANCE PLAN)

All TRIAD transformers are manufactured under a Signal Corps approved plan intended to assure quality in the product. The system includes approved procedures for incoming inspection of material, process controls in the plant, and final inspection. Transformers passed are approved for shipment for military use.

RIQAP applies to all Triad transformers, military or otherwise. Why not take advantage of the exhaustive quality control at Triad and eliminate or reduce the costs of your incoming inspection.

All of the transformers listed on the preceding pages are currently available from stock at the four plants of Triad and from better distributors in all the purchasing centers of the United States.

Triad transformers are continually being revised and improved to use the best available materials. For this reason, the Triad Transformer Corporation reserves the right to modify existing mechanical construction or electrical characteristics of any catalog item without notice.

TRIAD transformer numbers are so arranged as to indicate the type of transformer and type of mounting. The prefix letter indicates the type of transformer as follows: A—Audio C—Choke D—High voltage horizontal output transformer E—High "O" Toroidal coils F—Filament G—Geformer M—Modulation N—Isolation or Stepdown autoformer NW—Yoke Networks P—Plate power transformer PL—Pulse transformer R—Power transformer, combined plate and filament S—Speaker coupling or output transformer T, TZ—Miniatures TY—Transistor transformer V—Vibrator power WC, WLC—Width and Linearity coils Y—Yokes. Hermetically sealed units bear the prefix HS and HSM; hermetically sealed "Trijets" JZ, JO and AF. Type of mounting is indicated by the suffix letter which refers to the illustrations in the catalog.

Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
A-1X	3.30	A-105X	6.55	C-22A	34.00	For Molded Cup	EK-060	11.42	EM-300	8.62	F-8X	6.70	
A-3X	3.60	A-107X	7.90	C-23X	4.45	add 3.20	EK-080	11.65	EM-400	8.77	F-9U	11.95	
A-4X	3.80	A-108X	6.10	C-24X	3.55	(EA-001A etc.)	EK-100	11.80	EM-500	9.04	F-9A	13.45	
A-5X	4.95	A-109X	6.65	C-25A	10.00	For Hermetic	EK-120	11.80	EM-700	9.59	F-10U	15.00	
A-6X	3.70	A-110X	6.10	C-26X	6.95	Sealing add 5.55	EK-150	11.80	EM-1000	10.70	F-11U	15.00	
A-7J	8.80	A-111X	5.25	C-27X	3.40	(EA-001HS etc.)	EK-200	11.89	For Molded Cup		F-13X	3.50	
A-9J	16.20	A-112X	6.40	C-28X	4.55	EC-007	7.37	EK-250	12.05	add 3.05	F-14X	3.70	
A-10J	16.40	A-113X	6.15	C-29X	5.00	EC-002	7.37	EK-300	12.20	(EM-001A etc.)	F-16X	5.55	
A-11J	19.20	A-113Z	6.15	C-30X	3.35	EC-003	7.37	EK-400	12.50	For Hermetic	F-18A	10.00	
A-12J	19.40	A-114X	6.25	C-31A	11.20	EC-004	7.37	EK-500	12.79	Sealing add 5.45	F-18X	7.80	
A-13J	19.20	A-115X	6.15	C-32AL	20.50	EC-005	7.37	EK-700	13.05	(EM-001HS etc.)	F-21A	11.60	
A-21X	3.85	A-115Z	6.15	C-33A	17.25	EC-007	7.52	EK-1000	13.32	ET-001	F-22A	17.00	
A-23X	4.35	A-116X	6.65	C-35A	21.40	EC-010	7.65	EK-2000	13.75	ET-002	F-23U	11.75	
A-31X	3.75	A-117X	4.90	C-38AL	35.00	EC-015	7.65	EK-3000	14.15	ET-003	F-25X	5.95	
A-33X	5.10	A-118X	6.25	C-39A	34.50	EC-020	7.78	EK-4000	14.55	ET-004	F-26X	6.95	
A-35A	9.50	A-119X	6.15	C-40X	4.20	EC-030	7.78	EK-5000	14.70	ET-005	F-30A	13.60	
A-39A	9.90	A-120X	4.00	C-42AL	20.40	EC-040	7.92	EK-7000	15.40	ET-007	F-32A	10.75	
A-40J	16.40	A-120Z	4.00	C-43X	10.00	EC-050	7.92	EK-10000	16.10	ET-010	F-34A	14.45	
A-41J	16.40	A-122X	3.60	C-45AL	35.00	EC-070	8.07	EK-20000	16.65	ET-015	F-36A	17.25	
A-42Z	5.75	A-120X	3.60	C-47U	13.55	EC-100	8.07	EK-30000	17.90	ET-020	F-38A	18.00	
A-51X	3.20	A-200P	24.40	C-48U	15.80	EC-200	8.20	EK-40000	18.85	ET-025	F-40X	5.65	
A-53X	4.60	A-202P	33.80	C-49U	18.55	EC-250	8.30	For Molded Cup	8.20	ET-030	F-41X	8.40	
A-54X	4.15	A-210P	16.50	C-80U	65.00	EC-300	8.34	add 3.47	8.30	ET-040	F-42A	12.50	
A-55J	16.10	C-1X	2.50	EA-001	6.82	EC-400	8.34	(EK-010A etc.)	8.34	ET-050	F-44X	5.90	
A-57J	16.35	C-2X	2.40	EA-002	6.82	EC-500	8.49	For Hermit	8.49	ET-060	F-45X	5.65	
A-65J	16.80	C-3X	3.35	EA-003	6.82	EC-600	8.49	Sealing add 5.85	8.49	ET-070	F-47U	10.25	
A-66J	16.25	C-4X	2.90	EA-004	6.67	EC-700	8.62	(EK-010HS etc.)	8.62	ET-100	F-48U	15.15	
A-67J	17.20	C-5X	3.75	EA-005	6.67	EC-1000	8.77	EM-001	7.23	ET-150	F-49U	23.30	
A-68J	16.50	C-6X	3.30	EA-007	6.67	EC-1500	9.04	EM-002	7.23	ET-200	F-50X	5.25	
A-75J	17.20	C-7X	4.30	EA-010	6.67	EC-2000	9.17	EM-003	7.23	ET-250	F-51X	5.70	
A-77J	15.00	C-8X	3.90	EA-015	6.82	EC-3000	9.30	EM-004	7.23	ET-300	F-52X	5.00	
A-78J	16.10	C-9X	3.90	EA-020	6.82	EC-4000	9.45	EM-005	7.23	ET-400	F-53X	7.00	
A-79J	16.25	C-10X	5.10	EA-025	6.82	EC-5000	9.74	EM-007	7.37	ET-500	F-60U	11.65	
A-81X	3.55	C-11X	5.10	EA-030	6.95	EC-7000	10.70	EM-010	7.50	ET-700	F-61U	16.90	
A-83X	4.30	C-12A	7.65	EA-040	6.95	EC-10000	11.90	EM-015	7.70	ET-1000	F-62U	32.00	
A-85X	5.00	C-12X	5.65	EA-050	6.95	For Molded Cup	7.08	EM-020	7.78	For Molded Cup	F-63U	10.00	
A-89A	11.35	C-13X	5.40	EA-070	7.08	add 3.33	7.08	EM-025	7.78	add 3.33	F-64U	12.00	
A-91A	15.50	C-14X	8.65	EA-100	7.08	(EC-005A etc.)	7.08	EM-030	7.85	(ET-001A etc.)	F-65U	18.65	
A-95X	3.80	C-15A	6.25	EA-150	7.28	For Hermetic	7.28	EM-040	7.92	For Hermetic	F-66U	45.00	
A-96X	5.00	C-15X	6.25	EA-200	7.37	Sealing add 5.55	7.37	EM-050	7.92	Sealing add 5.55	F-67U	25.50	
A-97K	5.15	C-16A	11.10	EA-250	7.37	(EC-005HS etc.)	7.37	EM-060	8.07	(ET-001HS etc.)	F-68U	16.50	
A-97X	3.60	C-17X	5.15	EA-300	7.52	EC-010	10.82	EM-070	8.07	F-1X	F-71U	10.40	
A-97Y	5.30	C-18A	15.40	EA-400	7.92	EC-020	11.00	EM-100	8.20	F-3X	F-72Z	6.75	
A-97Z	3.60	C-19A	17.35	EA-500	8.07	EC-030	11.10	EM-150	8.20	F-5U	F-79U	37.50	
A-98K	5.55	C-20A	20.10	EA-600	8.34	EK-040	11.10	EM-200	8.34	F-6X	F-80U	74.50	
A-98X	3.60	C-21X	4.45	EA-700	8.62	EK-050	11.32	EM-250	8.34	F-7X	F-83A	18.60	
A-99X	5.75			EA-1000	8.62				8.34		F-84AC	31.50	



TRIAD TRANSFORMER CORP.

DIVISION OF LITTON INDUSTRIES

PRICE LIST BY TYPE NUMBER

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
F-90X	6.25	G-475	33.82	HSM-307	28.35	N-11M	86.50	R-30X	7.25	S-11Z	2.75	TY-48X	6.60
F-91X	8.10	G-493	29.40	HSM-309	26.60	N-34X	9.70	R-31A	34.70	S-12X	2.65	TY-49X	4.65
F-92A	12.70	HS-1	47.60	HSM-315	30.60	N-35M	22.00	R-31BC	36.10	S-13X	2.90	TY-50X	7.60
G-2	40.85	HS-3	51.80	HSM-319	42.75	N-50M	37.50	R-32A	32.80	S-15X	4.30	TY-51X	6.60
G-4	40.85	HS-4	47.30	HS-331	15.90	N-51X	7.65	R-33A	29.80	S-16X	3.05	TY-52X	7.15
G-5	35.30	HS-5	45.90	HS-333	16.75	N-52M	50.00	R-33BC	31.00	S-17X	3.20	TY-53X	5.55
G-7	35.30	HS-8	47.60	HS-335	21.15	N-53M	16.40	R-34A	28.60	S-19Z	5.80	TY-54X	6.80
G-8	46.75	HS-11	36.10	HS-339	21.00	N-54M	19.45	R-35A	28.00	S-21A	8.80	TY-55X	6.95
G-9	35.30	HS-14	37.50	HS-341	22.00	N-55M	31.90	R-35BC	30.55	S-22A	11.35	TY-56X	6.95
G-10	46.75	HS-15	44.40	HS-401	27.15	N-56M	38.90	R-36A	29.80	S-23X	3.20	TY-57X	5.85
G-12	33.30	HS-23	36.20	HS-402	25.55	N-57M	58.50	R-36BC	31.40	S-24A	11.35	TY-58X	5.85
G-14	32.65	HS-25	36.20	HS-405	34.20	N-59M	86.50	R-37BC	30.55	S-25Z	6.65	TY-59X	7.65
G-15	53.55	HS-27	32.80	HS-407	40.45	N-60SC	185.00	R-38A	28.00	S-26X	3.35	TY-60X	7.20
G-16	34.45	HS-29	45.80	HS-409	36.00	N-62SC	86.00	R-38BC	30.40	S-27A	10.00	TY-61X	4.85
G-17	36.25	HSM-3	35.10	HS-413	50.00	N-64SC	48.40	R-39A	28.90	S-28X	5.90	TY-62X	5.80
G-18	33.30	HS-32	45.80	HS-415	52.80	N-66A	28.35	R-39BC	30.40	S-29X	5.60	TY-63X	6.65
G-19	33.30	HS-35	32.50	HS-417	59.70	N-67A	19.15	R-40A	33.70	S-31A	14.30	TY-64X	6.10
G-20	48.15	HS-50	38.70	HS-425	20.00	N-68X	9.30	R-40BC	36.65	S-32A	15.00	TY-65Z	6.10
G-21	39.40	HS-52	40.00	HS-427	26.10	N-69A	12.50	R-41C	27.70	S-33A	14.30	TY-66A	15.15
G-22	52.00	HS-54	47.60	HS-433	28.90	N-70A	16.65	R-42A	25.40	S-34X	8.25	TY-67A	15.55
G-23	39.40	HS-56	43.00	HS-435	31.30	N-71A	23.45	R-42BC	27.10	S-35A	15.50	TY-68S	10.30
G-24	63.00	HS-58	50.50	HS-436	16.65	P-1A	13.60	R-43C	16.45	S-36A	16.10	TY-69S	13.35
G-25	39.40	HS-60	32.50	HS-438	26.40	P-3A	16.50	R-44BC	26.40	S-38A	20.00	TY-70S	13.45
G-30	29.95	HS-61	34.40	HS-441	45.15	P-5A	22.20	R-45C	22.20	S-39A	20.80	TY-71S	15.30
G-31	32.65	HS-66	38.60	HS-442	31.80	P-7A	23.00	R-46A	44.50	S-40A	20.00	TY-74S	16.65
G-32	40.85	HS-71	24.00	HS-443	21.90	P-9A	40.20	R-47BS	32.00	S-42A	27.00	TY-75A	19.40
G-33	35.30	HS-73	25.70	HS-470	25.00	P-11A	25.60	R-47BS	29.40	S-45Z	8.90	TY-76A	12.75
G-34	46.75	HS-75	30.30	HS-472	31.00	P-14A	32.50	R-48BS	30.50	S-46A	15.25	TY-77	17.35
G-36	28.00	HS-77	35.30	HS-474	38.10	P-15AL	37.50	R-49BC	32.20	S-47Z	6.25	TY-79	18.50
G-40	35.30	HSM-79	32.50	JAF-1	22.00	P-16AL	74.50	R-49BC	34.50	S-51X	4.25	TY-80	19.35
G-48	27.30	HSM-80	35.50	JAF-2	22.90	P-17AL	46.70	R-50BC	36.00	S-53X	4.85	TY-81	20.85
G-51	32.65	HSM-81	39.30	JAF-3	22.90	P-18AL	85.00	R-51BC	28.60	S-55X	6.10	TY-82	21.50
G-51A	32.65	HSM-82	39.30	JAF-5	22.90	P-20AL	82.80	R-52BC	27.85	S-55Z	6.10	TY-84	25.00
G-52	34.65	HSM-84	39.30	JAF-11	21.40	PL-4	17.20	R-54X	5.95	S-57Z	7.35	TY-88	17.35
G-53	34.65	HSM-85	39.30	JAF-12	22.00	PL-5	20.80	R-56A	10.65	S-58X	4.75	TY-89	18.00
G-53A	34.65	HSM-91	65.50	JAF-13	22.90	PL-6	20.80	R-58A	25.00	S-60A	14.15	TY-90	19.40
G-54	34.65	HSM-94	72.70	JAF-14	22.90	PL-10	1.95	R-60BC	29.70	S-65X	3.95	TY-91	21.85
G-57	28.00	HSM-95	72.70	JAF-15	22.90	R-2C	6.65	R-61BC	32.50	S-66X	3.40	TY-92	20.85
G-58	43.05	HS-97	137.00	JAF-21	22.00	R-3A	9.30	R-62BC	34.60	S-70Z	5.15	TY-94	25.50
G-64	27.30	HSM-181	39.30	JAF-22	22.00	R-4A	9.05	R-63BC	27.50	S-71Z	5.55	TY-99	18.50
G-65	27.30	HSM-182	39.30	JAF-23	22.00	R-5A	10.00	R-64BC	22.50	S-72Z	7.00	TY-100	19.35
G-72	35.30	HSM-186	50.00	JAF-31	23.60	R-5B	10.00	R-65BC	24.00	S-74K	15.55	TY-101	20.85
G-80	40.95	HSM-187	50.00	JAF-33	23.60	R-6A	10.25	R-66BC	25.00	S-75K	22.00	TY-92	21.85
G-84	35.30	HSM-189	50.00	JAF-101	21.00	R-6B	10.25	R-67BC	22.80	S-76Z	8.40	TY-91	21.85
G-85	35.30	HSM-190	50.00	JO-1	21.90	R-7A	10.80	R-68A	14.70	S-77U	14.70	TY-94	25.50
G-92	36.75	HSM-192	75.00	JO-2	23.20	R-7B	10.80	R-69BC	23.30	S-78Z	6.10	TY-99	18.50
G-101	32.65	HSM-193	75.00	JO-3	23.20	R-8A	11.45	R-70A	18.90	S-79Z	6.90	TY-100	19.35
G-135	32.65	HSM-201	36.10	JO-5	23.20	R-8B	11.45	R-71A	27.90	S-125X	4.95	TY-101	20.85
G-150	32.65	HSM-203	35.70	JO-11	22.50	R-9A	12.50	R-72A	19.05	S-126X	5.75	TY-468	14.50
G-155	32.65	HSM-205	40.25	JO-12	22.90	R-9B	12.50	R-73B	12.90	S-127X	7.75	TZ-1	6.15
G-183	41.50	HSM-207	44.00	JO-13	22.90	R-10A	13.75	R-74BC	35.00	S-128Z	9.50	TZ-5	6.15
G-201	32.65	HSM-212	54.00	JO-21	22.90	R-10B	13.75	R-75BA	20.50	S-129Z	8.80	TZ-7	5.45
G-202	33.30	HSM-216	63.25	JO-22	22.90	R-11A	14.15	R-93A	23.50	S-142A	21.40	TZ-13	6.40
G-235	32.65	HSM-218	87.25	JO-23	23.20	R-11B	14.15	R-104A	8.00	S-146A	30.60	TZ-15	6.40
G-250	32.65	HSM-219	83.25	JO-31	22.90	R-12A	14.55	R-105A	9.15	S-148A	30.60	TZ-25	5.20
G-255	32.65	HSM-223	18.75	JO-101	21.00	R-12B	14.55	R-106A	9.15	S-152A	44.60	TZ-26	5.20
G-266	34.15	HSM-225	23.80	JZ-1	19.65	R-14A	16.35	R-107A	10.00	T-1X	7.20	TZ-28	5.20
G-274	34.00	HSM-226	25.85	JZ-5	20.20	R-14B	16.35	R-108A	10.55	T-2X	7.20	V-1K	10.95
G-275	34.15	HSM-227	31.70	JZ-7	19.65	R-16A	18.60	R-109A	11.50	T-3X	7.20	V-3K	11.50
G-276	34.15	HSM-228	38.50	JZ-13	19.65	R-16B	18.60	R-110A	11.95	T-5X	7.20	V-5A	13.95
G-283	41.50	HSM-229	30.30	JZ-15	19.65	R-17A	20.00	R-111A	12.50	T-11X	6.70	V-7A	7.00
G-284	33.30	HSM-230	26.15	JZ-25	19.10	R-18A	20.50	R-112A	12.90	T-12X	7.20	V-21	8.00
G-285	33.30	HSM-231	34.10	JZ-26	19.10	R-18B	20.50	R-114A	14.45	T-13X	6.60	V-21B	10.55
G-301	32.15	HSM-232	39.30	M-1X	4.70	R-19A	24.40	R-116A	14.60	T-20X	6.75	V-21Z	7.15
G-306	32.15	HSM-234	40.50	M-3X	7.65	R-20A	22.00	R-118A	17.05	T-21X	6.45	V-23	8.20
G-313	32.15	HSM-235	53.75	M-4Z	5.00	R-20B	22.00	R-121A	19.05	T-22X	6.45	V-23B	10.00
G-315	32.15	HSM-236	35.90	M-5Z	6.65	R-21A	22.80	S-1X	2.75	T-23X	6.70	V-23K	12.10
G-335	31.50	HSM-241	54.50	M-7AL	21.60	R-21B	22.80	S-2X	2.90	T-31X	6.70	V-23Z	8.30
G-336	31.50	HSM-245	62.75	M-8AL	27.00	R-22A	11.85	S-3X	2.90	T-33X	6.70	VR-30Z	7.85
G-350	31.50	HS-247	76.40	M-12AL	32.20	R-22B	11.85	S-4X	3.90	T-41X	6.50	V-31	7.45
G-388	32.15	HSM-270	29.40	M-15A	18.80	R-23B	10.00	S-5X	3.95	T-42X	6.50	V-31K	11.60
G-389	32.15	HSM-271	40.00	M-16AL	20.90	R-24A	26.80	S-5Z	3.95	T-101X	5.55		
G-391	31.50	HSM-272	55.50	N-1X	6.45	R-24B	26.80	S-6X	2.60	TY-27XT	6.25		
G-394	31.50	HS-273P	28.00	N-3M	13.10	R-25A	42.40	S-7X	2.75	TY-28XT	6.25		
G-401	32.65	HSM-301	19.70	N-4M	16.10	R-26A	29.50	S-8X	2.65	TY-44X	6.25		
G-435	32.65	HSM-302	18.05	N-5M	19.15	R-27A	54.20	S-9X	4.05	TY-45X	6.25		
G-437	32.65	HS-303	19.65	N-7M	27.10	R-28A	41.20	S-9Z	4.05	TY-46X	4.25		
G-455	32.65	HSM-305	25.53	N-9M	58.36	R-29A	8.90	S-11X	2.75	TY-47X	6.60		

UNITED TRANSFORMER CORP.



NET PRICE LIST

EQUALIZERS and SOUND EFFECTS FILTERS	3000, 4000, 5000, 10000 \$27.00	BML-400, 1000	BPM-400, 750, 2000, 1500, 2000, 10000 \$27.00	TGR-1105, 1275, 1445, 1615 \$63.00	TGT-425, 595, 765, 935 \$28.00	TELEMETERING FILTERS
JA \$18.00	BTI-60, 100, 120 \$27.00	HML-200, 300, 500, 1000 \$33.00	HPM-500, 1000 \$30.00	TGR-1785, 1955, 2125, 2295 \$60.00	TGT-1105, 1275, 1445, 1615 \$36.00	Special Freq. \$80.00
3AX \$76.00	HML-200, 400, 500, 800, 1000, 2000, 3000 \$30.00	LML-1000, 1900, 2000, 2500, 4000, 8000, 10000 \$30.00	LPM-200, 500, 1000, 2000, 3000, 5000 \$30.00	TGR-2465, 2635, 2805, 2975 \$57.00	TGT-1785, 1955, 2125, 2295 \$53.00	TMN-4, 56, 72, 88, 123, 177, 221, 265, 309, 353, 397 \$39.00
4C \$40.00	LMI-200, 400, 500, 800, 1000, 1500, 2000, 2500, 3000, 4000, 5000, 10000 \$10.00	MINIATURE FILTERS	TELEGRAPH RECEIVING FILTERS	TGT-2465, 2635, 2805, 2975 \$57.00	TGT-2465, 2635, 2805, 2975 \$36.00	TMN-10, 5, 14, 52, 30, 40, 52, 9, 30, 40, 52, 9 \$36.00
INTERSTAGE and LINE FILTERS		Special Freq. \$48.00	TGR-425, 595, 765, 935 \$26.00	TELEGRAPH TRANSMITTING FILTERS		TMW-32, 30, 40, 52, 9, 70 \$38.00
Special Freq. \$48.00						
BMI-60, 100, 120, 400, 500, 750, 1000, 1500, 2000,						

Type	Net	Type	Net	Type	Net	Type	Net	Type	Net	Type	Net	Type	Net	Type	Net	Type	Net
ULTRA COMPACT		CGU-5	\$ 26.20	FT FILAMENT		H-93	\$ 49.50	HQA-12	\$10.80	MAGAMPS		MQL-1	\$ 24.00	R-104	\$ 9.00	SUB-SUB UNICOR	
A-10	\$13.20	CGU-6	39.60	FT-1	\$ 2.58	H-94	18.00	HQA-13	11.40	MAT-1	\$ 77.00	MQL-2	24.00	R-105	11.40	SSD-1	\$ 4.80
A-11	12.00	CGU-7	35.90	FT-2	2.70	H-95	28.80	HQA-14	22.80	MAT-2	30.00	MQL-3	25.50	R-106	6.60	SSO-2	4.80
A-12	17.00	CGU-8	22.60	FT-3	2.00	H-96	48.00	HQA-15	13.80	MAT-3	30.00	MQL-4	27.00	R-107	7.20	SSO-3	3.90
A-13	10.80	CGU-9	135.00	FT-4	3.00	H-97	15.00	HQA-16	15.00	MAT-4	30.00	MQL-5	28.50	R-110	6.60	SSO-4	3.90
A-14	9.90	CVA-1	14.16	FT-5	3.60	H-98	80.00	HQA-17	16.80	MAT-5	16.80			R-111	7.20	SSO-5	3.90
A-15	9.90	CVA-2	15.00	FT-6	3.60	H-99	30.00	HQA-18	24.80	MAT-6	9.00	OUNCER		R-112	9.00	SSO-6	3.90
A-16	9.90	CVA-3	18.00	FT-7	3.60	H-100	39.00	HQB-1	15.00			O-1	7.80	R-113	13.20	SSO-7	3.90
A-17	12.00	CVA-4	21.00	FT-8	4.20	H-101	14.10	HQB-2	15.30			O-2	7.80	SPECIAL SERIES		SSO-8	3.90
A-18	12.00	CVA-5	36.00	FT-9	3.60	H-102	15.00	HQB-3	15.90	CABLE UNITS		O-3	7.80	S1	4.20	SSO-9	3.00
A-19	12.00	CVL-1	9.00	FT-10	4.50	H-103	17.40	HQB-4	16.80	MC 1	10.20	O-4	6.60	S2	6.00	SSO-10	3.00
A-20	14.40	CVL-2	10.80			H-104	19.50	HQB-5	17.40	MC 2	12.00	O-5	7.50	S3	4.20	SSO-11	3.00
A-21	13.00	CVL-3	15.00	HERMETIC		H-105	5.10	HQB-6	18.00			O-6	6.90	S4	4.80	SSO-12	4.50
A-22	9.90	CVM-0	10.90	H-1	9.00	H-106	6.00	HQB-7	18.90	MINIDUCTORS		O-7	6.90	S5	4.80	SSO-13	4.50
A-23	9.90	CVM-1	13.80	H-2	9.00	H-107	7.50	HQB-8	19.80	MM-1	6.00	O-8	7.80	S6	4.50	SSO-14	6.00
A-24	12.00	CVM-2	18.00	H-3	9.00	H-108	9.00	HQB-9	21.00	MM-2	6.30	O-9	7.80	S7	5.90	SSO-15	4.80
A-25	12.00	CVM-3	21.00	H-4	9.00	H-109	10.20	HQB-10	21.90	MM-3	6.30	O-10	8.60	S8	5.90	SSO-16	3.00
A-26	13.20	CVM-5	165.00	H-5	9.00	H-110	27.00	HQB-11	22.80	MM-4	6.60	O-11	8.60	S9	5.90	SSO-17	3.00
A-27	12.00	CVP-1	13.20	H-6	8.40	H-111	33.00	HQB-12	24.90	ML 1	7.20	O-12	7.80	S10	6.60	SSO-18	3.00
A-28	10.20	CVP-2	14.40	H-7	9.60	H-112	36.00	HQC-1	15.40	ML 2	7.20	O-13	7.80	S11	5.40	SSO-19	4.20
A-29	10.20	CVP-3	21.00	H-8	9.60	H-113	54.00	HQC-2	16.80	ML 3	7.20	O-14	7.50	S12	7.80	SSO-20	4.20
A-30	6.60	CVP-4	24.00	H-9	9.60	H-114	81.00	HQC-3	18.00	ML 4	7.50	O-15	7.50	S13	6.60	SSO-21	4.20
A-31	2.70	CVP-5	29.00	H-10	9.60	H-115	81.00	HQC-4	19.80	ML 5	7.50	O-16	7.80	S14	6.60	SSO-22	4.80
				H-11	9.00	H-116	180.00	HQC-5	24.00	ML 6	7.50	O-17	7.80	S15	6.60	SSO-23	3.00
				H-12	9.00	H-117	291.00	HQC-6	15.90	ML 7	7.50	O-18	8.40	S16	6.40	SSO-24	3.60
				H-13	9.00	H-118	13.80	HQC-7	16.80	ML 8	7.50	O-19	8.40	S17	6.40		
				H-14	9.00	H-119	21.00	HQC-8	18.00	ML 9	7.80	O-20	8.40	S18	7.80	TAPPED TOROIDS	
				H-15	9.00	H-120	13.80	HQC-9	19.80	MM-10	6.00	O-21	7.80	S19	9.40	TQA-1	9.00
				H-16	9.00	H-121	18.00	HQC-10	21.00	MM-2	6.00	O-22	7.80	S20	15.00	TQA-2	9.00
				H-17A	16.50	H-122	16.00	HQC-11	7.80	MM-3	6.30	O-23	6.00	S21	21.00	TQA-3	8.40
				H-18	15.00	H-123	16.00	HQC-12	8.10	MM-4	6.60	O-24	6.00	S22	3.00	TQA-4	9.90
				H-19A	16.50	H-124	12.00	HQE-1	8.70	ML 10	8.10			S23	4.50	TQA-5	10.00
				H-20	15.00	H-125	21.00	HQE-2	7.80	MM-11	6.00	PLUG-IN		S24	5.10	TQA-6	10.00
				H-21	18.00	H-126	27.00	HQE-3	8.10	MM-12	6.00	P-1	9.00	S25	3.90	TQA-7	10.80
				H-22	15.00	H-127	45.00	HQE-4	8.40	MM-13	6.30	P-2	9.00	S26	3.90	TQA-8	11.10
				H-23	16.20	H-128	81.00	HQE-5	8.70	MM-14	6.60	P-3	8.40	S27	5.10	TQA-9	11.10
				H-24	10.80	H-129	9.00			MM-15	6.00	P-4	8.40	S28	6.40	TQA-10	11.70
				H-25	15.00	H-130	9.00	HVC		MM-16	6.30	P-5	8.40	S29	6.40	TQA-11	12.00
				H-26	15.00	H-131	12.00	HVC-1	9.00	MM-17	6.30	P-6	8.40	S30	6.40	TQA-12	12.00
				H-27	15.00	H-132	19.20	HVC-2	9.00	MM-18	6.60	P-7	8.40	S31	6.90	TQA-13	12.00
				H-28	15.00	H-133	15.00	HVC-3	9.00	MM-19	6.60	P-8	9.00	S32	6.90	TQA-14	12.00
				H-29	15.00	H-134	16.80	HVC-4	9.00	MM-20	6.60	P-9	9.00	S33	9.30	TQA-15	13.50
				H-30	9.00	H-135	21.00	HVC-5	9.00	MM-21	6.60	P-10	9.00	S34	9.60	TQA-16	14.70
				H-31	9.00	H-136	27.00	HVC-6	9.00	MM-22	6.60	P-11	9.00	S35	12.00	TQA-17	15.90
				H-32	9.00	H-137	17.10	HVC-7	9.60	MM-23	6.30	P-12	9.00	S36	12.00	TQA-18	17.40
				H-33	9.00	H-138	20.10	HVC-8	9.60	MM-24	6.60	P-13	9.00	S37	15.00	TQA-19	21.00
				H-34	9.00	H-139	25.50	HVC-9	9.60	MM-25	6.60	P-14	9.00	S38	15.00		
				H-35	7.80	H-140	30.00	HVC-10	9.60	MM-26	6.60	P-15	9.00	S39	16.50	VIC VARIODUCTORS	
				H-36	9.00	H-141	36.00	HVC-11	10.80	MM-27	6.60	P-16	11.40	S40	18.00	TVC-1	11.00
				H-37A	9.00	H-142	36.00	HVC-12	12.00	MM-28	6.60			S41	18.00	TVC-2	11.00
				H-38	9.60	H-143	36.00	HVC-13	9.00	MM-29	6.60	PHOTO-FLASH		S42	19.50	TVC-3	11.00
				H-39	9.60	H-144	36.00			MM-30	6.60	PF-1	8.40	S43	30.00	TVC-4	11.00
				H-40A	9.60	H-145	36.00	HIPERMALLOY		MM-31	6.60	PF-2	8.40	S44	45.00	TVC-5	11.00

Sec. 5600

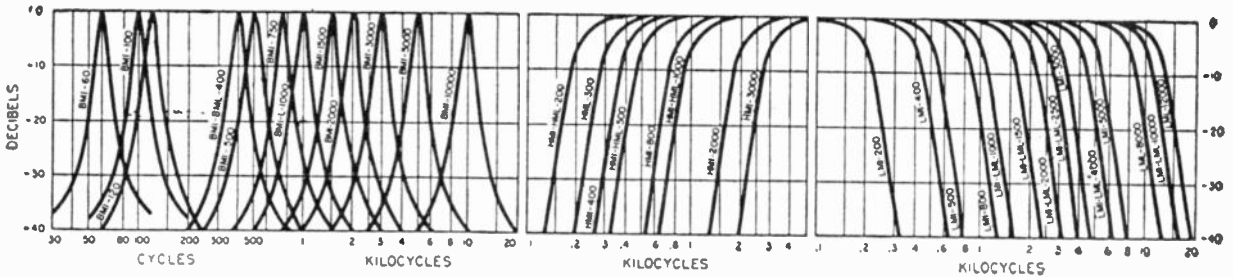


INTERSTAGE and LINE FILTERS

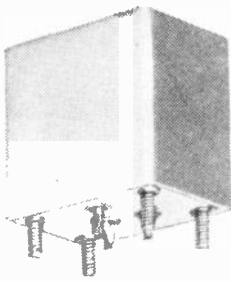
Hermetically sealed to MIL-T-27A and MIL-F-18327 Specs.

UTC makes a wide range of specialized filters covering bands ranging from .1 cycle to 400 megacycles. A group of standardized filters have been developed covering the more common mid-range frequencies, which take

care of many filter requirements with stock units. All of these standard filters are in drawn hermetically sealed cases shielded to reduce hum pick-up. Special frequencies to order,



TYPICAL RESPONSE CURVES OF STANDARD FILTERS



FILTER CASE M

- Base 1 1/4" x 1 1/4"
- Mtg. 3/4" x 1 1/4"
- Mtg. Studs (stainless) 6-32
- Cutout 7/8" dia.
- Height, BMI, LMI, BML 1 5/8"
- Height, HMI, HML, LML 2 1/2"
- Weight 6 oz. and 9 oz.

BMI units (Band Pass) have 2:1 gain. They are sharply peaked, having approximately 2 db attenuation at plus or minus 3% from center frequency and attenuation of 40 db per octave as shown. Input 10,000 ohms, output to grid.

BTI are same as BMI but with 10,000 ohms output for transistor applications.

HMI units (High Pass) has a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at .67 cutoff frequency. Input and output 10,000 ohms.

LMI units (Low Pass) have a loss of less than 6 db at cutoff frequency, and an attenuation of 35 db at 1.5 cutoff frequency. Input and output 10,000 ohms.

HML (High Pass) and LML (Low Pass) filters are similar to the interstage filters, in all characteristics, except that they are intended for an input and output impedance of 500/600 ohms.

BML (Band Pass) have input of 500/600 ohms, output to grid.

STANDARD FILTERS . . . STOCK FREQUENCIES

- | | |
|-----------|-----------|
| BMI-60 | LMI-400 |
| BMI-100 | LMI-500 |
| BMI-120 | LMI-800 |
| BMI-400 | LMI-1000 |
| BMI-500 | LMI-1500 |
| BMI-750 | LMI-2000 |
| BMI-1000 | LMI-2500 |
| BMI-1500 | LMI-3000 |
| BMI-2000 | LMI-4000 |
| BMI-3000 | LMI-5000 |
| BMI-4000 | LMI-10000 |
| BMI-5000 | BML-400 |
| BMI-10000 | BML-1000 |
| BTI-60 | HML-200 |
| BTI-100 | HML-300 |
| BTI-120 | HML-500 |
| HMI-200 | HML-1000 |
| HMI-400 | LML-1000 |
| HMI-500 | LML-1500 |
| HMI-800 | LML-2000 |
| HMI-1000 | LML-2500 |
| HMI-2000 | LML-4000 |
| HMI-3000 | LML-8000 |
| HMI-4000 | LML-10000 |
| LMI-200 | LML-12000 |



TELEMETERING BAND PASS FILTERS

Hermetically sealed to MIL-T-27A and MIL-F-18327 Specs.

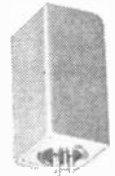
The standard group of UTC telemetering filters described below incorporates extreme miniaturization with maximum stability, a complete set of 18 filters taking a volume of approximately 19 cubic inches. Both TMN and TMW types are designed for 100K input and output impedance and have an insertion loss of less than 6 db. Four pin hermetic header matches small Winchester socket.

TMN filters are down less than 3 db at ± 7.5% of center frequency. They are down more than 18 db at ± 25% of center frequency. Attenuation is greater than 40 db beyond 1.75 F_c and .58 F_c.

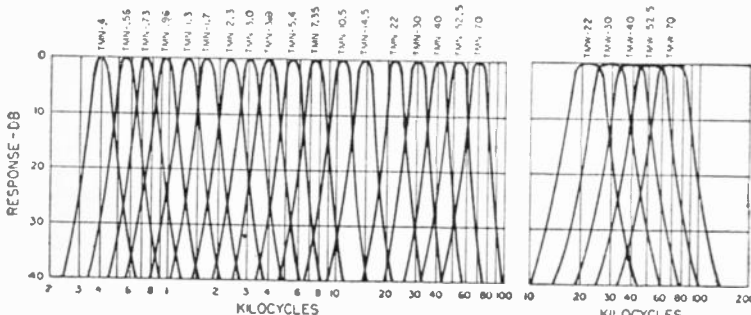
TMW filters are down less than 3 db at ± 15% of center frequency. They are down more than 20 db at ± 50% of center frequency. Attenuation is greater than 40 db beyond 2.5 F_c and .4 F_c.



TMN-4 thru TMN-1.7
1 3/4" x 1 1/2" x 2 inches
Weight 3.5 oz.



TMN-2.3 thru TMW-70
2 3/8" x 2 1/2" x 1 3/8 inches
Weight 1.2 oz.



TYPICAL RESPONSE CURVES OF STANDARD TM FILTERS

Type No.	Center Frequency KC	Band Width ±	Type No.	Center Frequency KC	Band Width ±
TMN-4	.4	7 1/2%	TMN-14.5	14.5	7 1/2%
TMN-56	.56	7 1/2%	TMN-22	22	7 1/2%
TMN-73	.73	7 1/2%	TMN-30	30	7 1/2%
TMN-96	.96	7 1/2%	TMN-40	40	7 1/2%
TMN-1.3	1.3	7 1/2%	TMN-52.5	52.5	7 1/2%
TMN-1.7	1.7	7 1/2%	TMN-70	70	7 1/2%
TMN-2.3	2.3	7 1/2%	TMW-22	22	15%
TMN-3.0	3.0	7 1/2%	TMW-30	30	15%
TMN-3.9	3.9	7 1/2%	TMW-40	40	15%
TMN-5.4	5.4	7 1/2%	TMW-52.5	52.5	15%
TMN-7.35	7.35	7 1/2%	TMW-70	70	15%
TMN-10.5	10.5	7 1/2%			



MINIFILTERS / Hermetically sealed to MIL-T-27A and MIL-F-18327 Specs.

The UTC stock interstage filters on the opposite page have been an industry standard for over a decade. The new UTC miniature filters provide almost the same characteristics in an extremely miniaturized package. Attenuation of these miniature filters is only slightly less than their larger counterparts, as is operating level. Special filters can be supplied for any frequency above the minimum shown for each group, at \$48.00 net. Straight pin terminals are provided for printed or standard circuits.

BPM units (band pass) have 2:1 gain. Attenuation is approximately 2 db \pm 3% from center frequency, and 35 db per octave as shown. Input 10,000 ohms, output to grid, tapped for 10,000 ohms output to provide flexibility in transistor circuits. For tube circuits continuity is on grid side, for transistor use continuity is on input side.

HPM units (high pass) have a loss of less than 6 db at cutoff frequency, and an attenuation of 30 db at .67 cutoff frequency, 40 db at 1/6 cutoff frequency. Input and output 10,000 ohms.

LPM units (low pass) have a loss of less than 6 db at cutoff frequency, and an attenuation of 30 db at 1.5 cutoff frequency, 40 db at 1.65 cutoff frequency. Input and output 10,000 ohms.

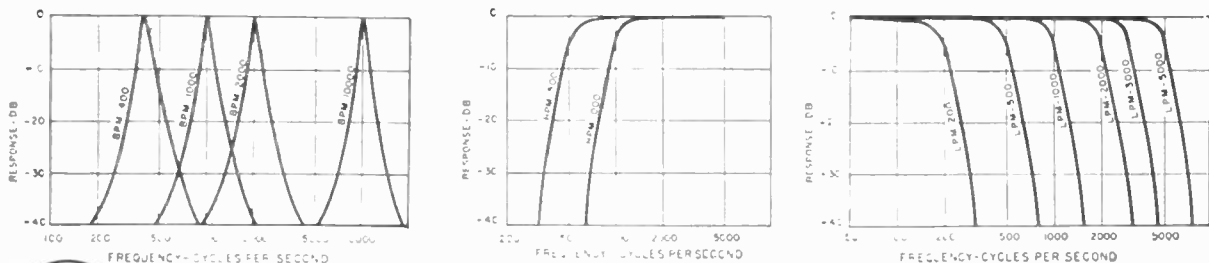
BPM case (MIL AF)
1 1/2 x 1 1/2 x 1 1/8"
Weight.....1 oz.

HPM and LPM case (MIL AG)
1 x 1 x 1 1/8"
Weight.....2 1/4 oz.

STANDARD FILTERS STOCK FREQUENCIES

BPM—400	BPM—10000	LPM—1000
BPM—765	HPM—500	LPM—2000
BPM—1000	HPM—1000	LPM—3000
BPM—1615	LPM—200	LPM—5000
BPM—2000	LPM—500	

TYPICAL RESPONSE CURVES OF MINIATURE FILTERS



TELEGRAPH TONE CHANNEL FILTERS

Hermetically sealed to MIL-T-27A and MIL-F-18327 Specs.

UTC band pass filters for multiplex transmitting and receiving provide maximum stability in miniature sizes. Stock filters cover all standard transmit and receive bands. All units employ 7 terminal header matching subminiature 7 pin socket.

TGR (receiving) filters are 600 ohms in and out. They are down less than 3 db at \pm 42.5 cycles from center frequency and down more than

30 db at \pm 170 cycles. Attenuation is greater than 15 db at adjacent channel crossover.

TGT (transmitting) filters are 600 ohms in and out. They are down less than 3 db at \pm 42.5 cycles from center frequency and down more than 16 db at \pm 170 cycles. Attenuation is greater than 7.5 db at adjacent channel crossover.

TYPICAL RESPONSE CURVES OF STANDARD TG FILTERS

RECEIVING FILTERS

Type No.	Center Frequency (Cyc.)	Type No.	Center Frequency (Cyc.)
TGR-425	425	TGR-1785	1785
TGR-595	595	TGR-1955	1955
TGR-765	765	TGR-2125	2125
TGR-935	935	TGR-2295	2295
TGR-1105	1105	TGR-2465	2465
TGR-1275	1275	TGR-2635	2635
TGR-1445	1445	TGR-2805	2805
TGR-1615	1615	TGR-2975	2975

TRANSMITTING FILTERS

Type No.	Center Frequency (Cyc.)	Type No.	Center Frequency (Cyc.)
TGT-425	425	TGT-1785	1785
TGT-595	595	TGT-1955	1955
TGT-765	765	TGT-2125	2125
TGT-935	935	TGT-2295	2295
TGT-1105	1105	TGT-2465	2465
TGT-1275	1275	TGT-2635	2635
TGT-1445	1445	TGT-2805	2805
TGT-1615	1615	TGT-2975	2975

TGR CASE
1 1/2 x 1 1/2 x 4 1/4"
Mtg.....1 1/8 x 1 1/8"
Screws.....6-32
Weight.....15 oz.

TGT CASE
1 1/2 x 1 1/2 x 2 1/2"
Mtg.....1 1/8 x 1 1/8"
Screws.....6-32
Weight.....8 oz.



NEW "M" TYPE TOROIDS

Hermetically sealed to MIL-T-27A Specs., . . . all units MIL type TF4RX20YY

UTC Permalloy Dust Toroids have been the standard of the industry for 20 years. The MQ series of coils provide the highest Q factor in their class (see curves below) with miniaturized dimensions. All units are hermetically sealed to MIL-T-27A Specifications . . . laboratory adjusted to 1% tolerance—0 DC. Uncased and molded toroids available on production orders.

The stability is excellent. For the MQE-7 the inductance change is less than 1% for voltages from .1 to 3 volts. The MQA-13 change is less than 1% for applied voltages from .1 to 20 volts. The MQB-5 change is less than 1% for applied voltages from .1 to 50 volts. DC is permissible

through the coil (values listed below). Inductance is virtually independent of frequency, temperature and vibration.

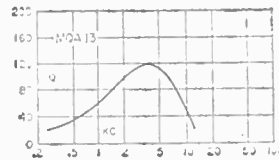
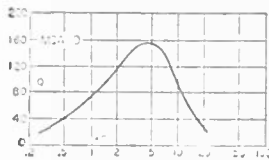
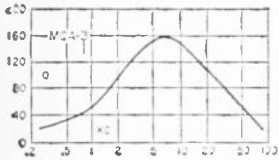
Hum pickup is extremely low due to the toroidal winding structure, with windings uniformly spread over the core. The case is of high permeability, affording additional shielding such that close spacing of units can be effected, the coupling attenuation being approximately 80 db.

TQA units are similar to MQA but centertapped for oscillator applications, etc. They employ an extremely stabilized structure for wide temperature range. Q is slightly lower than MQA.

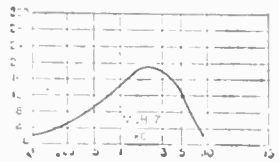
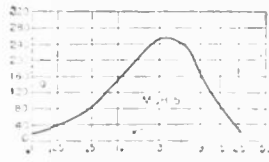
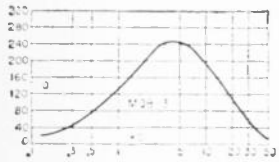
MQA and TQA TYPES

Type No.	Inductance (0 DC)	DC MA Max.	Center Tapped Type No.
MQA-1	7 mhy.	250	TQA-1
MQA-2	12 mhy.	200	TQA-2
MQA-3	20 mhy.	150	TQA-3
MQA-4	30 mhy.	125	TQA-4
MQA-5	50 mhy.	100	TQA-5
MQA-6	70 mhy.	80	TQA-6
MQA-7	120 mhy.	60	TQA-7
MQA-8	.2 hy.	50	TQA-8
MQA-9	.3 hy.	40	TQA-9
MQA-10	.5 hy.	30	TQA-10
MQA-11	.7 hy.	25	TQA-11
MQA-12	1 hy.	20	TQA-12
MQA-13	1.5 hy.	17	TQA-13
MQA-14	2.5 hy.	13	TQA-14
MQA-15	4 hy.	10	TQA-15
MQA-16	6 hy.	9	TQA-16
MQA-17	10 hy.	7	TQA-17
MQA-18	15 hy.	5	TQA-18
MQA-19	22 hy.	4	TQA-19

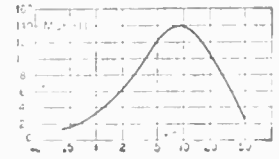
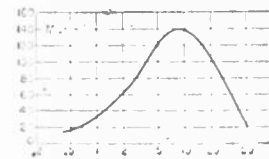
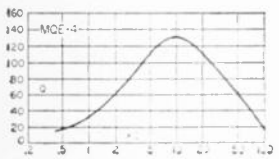
TYPICAL Q CURVES



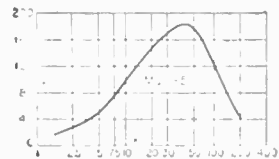
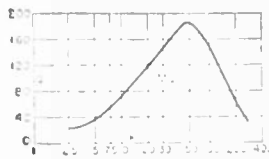
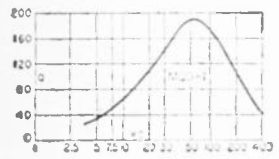
MQA



MQB



MQE



MQD

MQB TYPES

Type No.	Inductance (0 DC)	DC MA Max.
MQB-1	10 mhy.	400
MQB-2	30 mhy.	250
MQB-3	70 mhy.	170
MQB-4	120 mhy.	120
MQB-5	.5 hy.	60
MQB-6	1 hy.	40
MQB-7	2 hy.	30
MQB-8	3.5 hy.	22
MQB-9	7.5 hy.	16
MQB-10	12 hy.	11
MQB-11	18 hy.	9
MQB-12	25 hy.	8

MQE TYPES

Type No.	Inductance (0 DC)	DC MA Max.
MQE-1	7 mhy.	135
MQE-2	12 mhy.	100
MQE-3	20 mhy.	80
MQE-4	30 mhy.	65
MQE-5	50 mhy.	50
MQE-6	70 mhy.	40
MQE-7	100 mhy.	35
MQE-8	150 mhy.	30
MQE-9	.25 hy.	22
MQE-10	.4 hy.	17
MQE-11	.6 hy.	14
MQE-12	.9 hy.	12
MQE-13	1.5 hy.	9
MQE-14	2 hy.	8
MQE-15	2.8 hy.	7.2

MQD TYPES

These high frequency coils are extremely stabilized type for temperature range from -40° C to +85° C.

Inductance (0 DC)

MQD-1	2 mhy.
MQD-2	3 mhy.
MQD-3	5 mhy.
MQD-4	7 mhy.
MQD-5	12 mhy.
MQD-6	20 mhy.

The DC MA Max. shown will drop the coil inductance slightly.



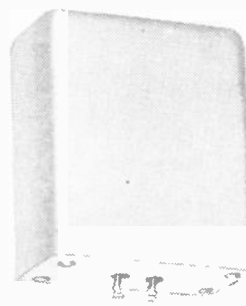
MQE CASE

Length	1 1/16"
Width	1/2"
Height	1 1/32"
Mounting	3/32"
Screws	4-40
Cutout	3/16 x 1/2"
Unit Weight	1.5 oz.



MQA, MQD, TQA CASE

Length	1 1/32"
Width	1 1/16"
Height	1 1/32"
Mounting	7/32 x 3/32"
Screws	4-40
Cutout	3/8 x 1/2"
	(TQA, 3/16 x 3/4")
Unit Weight	4 oz.



MQB CASE

Length	2 5/16"
Width	1 3/16"
Height	2 1/16"
Mounting	2 1/16 x 1 1/16"
Screws	6-32
Cutout	3/8 x 1/2"
Unit Weight	14 oz.



VARIDUCTORS

HVC AND TVC HERMETIC VARIDUCTORS

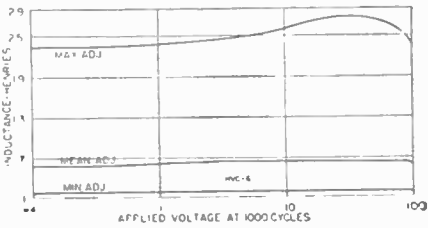
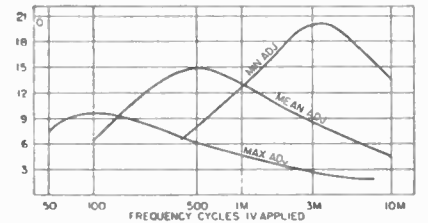
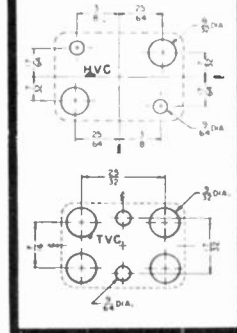
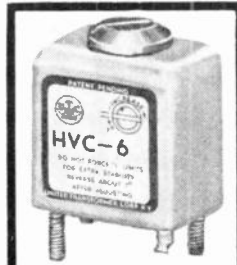
Variable inductors hermetically sealed to MIL-T-27A Specs., all units MIL type TF4RX20YY.

UTC Variductors have served as a simple solution to tuned circuit problems for over 15 years . . . for oscillators, equalizers, filters, etc.

HVC Inductors are hermetically sealed to MIL-T-27A and provide exceptionally wide inductance range with high Q in an extremely compact unit. HVC units are usable over a wide frequency range and have high stability with temperature and voltage change.

TVC Inductors are identical to the HVC units but provide taps at 30% and 50% of total turns. They are ideal for oscillator circuits, impedance matching, and phase inversion where high Q and adjustable inductance are required.

Inductance range is +200%, -70% of nominal value through adjusting screw on top of case. Range is covered in 90° rotation. Setting is positive. Effective Q over a wide frequency range and variation of inductance with applied AC voltage are illustrated for a typical HVC unit. Case dimensions are 1 1/8" long, 2 3/32" wide, 1 7/32" high . . . weight 2 ounces. Chassis cutout dimensions for HVC and TVC units are illustrated, 1/4" dia. holes are to clear the 4-40 stainless mounting studs.



Type No.	Min. Hys.	Mean Hys.	Max. Hys.	DC Ma.	Tapped Type No.
HVC-1	.002	.006	.02	100	TVC-1
HVC-2	.005	.015	.05	60	TVC-2
HVC-3	.011	.040	.11	40	TVC-3
HVC-4	.03	.1	.3	30	TVC-4
HVC-5	.07	.25	.7	20	TVC-5
HVC-6	.2	.6	2	15	TVC-6
HVC-7	.5	1.5	5	10	TVC-7
HVC-8	1.1	4	11	7	TVC-8
HVC-9	3	10	30	5	TVC-9
HVC-10	7	25	70	3.5	TVC-10
HVC-11	20	60	200	2	TVC-11
HVC-12	50	150	500	1.5	TVC-12

Choosing Type No.: If frequency is above 100 cycles, use type providing required inductance between mean and min. values.

VIC STANDARD VARIDUCTORS

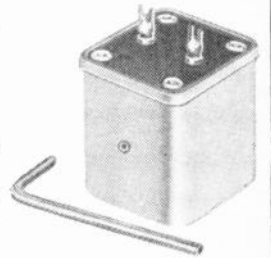
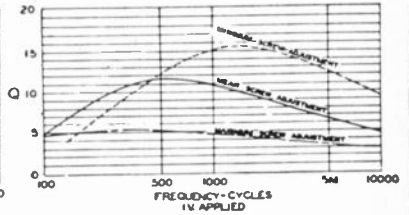
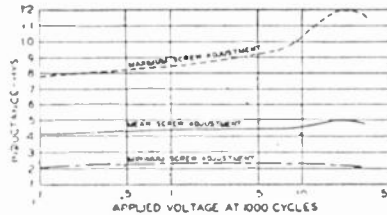
UTC type VIC variable inductors offer a convenient approach to the problem of tuned audio circuits. By adjusting a set screw in the side of the case, an inductance value of +85%, -45% from mean value is obtainable. Range is covered in 600° rotation. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical VIC unit.

The VIC inductor is housed in a rugged die cast case 1 1/2" long, 1 1/4" wide and 1 1/8" high with mounting centers on terminal board side 1 3/16" by 7/32", tapped for 4-40 screw. Weight is 5 1/2 oz.

Type	Mean Hys.	DC Ma*
VIC-1	.0085	75
VIC-2	.013	60
VIC-3	.021	50
VIC-4	.034	40
VIC-5	.053	35
VIC-6	.084	30
VIC-7	.13	25
VIC-8	.21	21
VIC-9	.34	18
VIC-10	.54	15
VIC-11	.85	12

Type	Mean Hys.	DC Ma*
VIC-12	1.3	10
VIC-13	2.2	8
VIC-14	3.4	7
VIC-15	5.4	6
VIC-16	8.5	5
VIC-17	13	4
VIC-18	21	3.5
VIC-19	33	3
VIC-20	52	2
VIC-21	83	1.5
VIC-22	130	1

*DC MA shown is maximum recommended . . . will effect some reduction in inductance and Q.



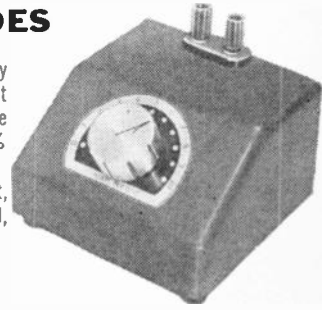
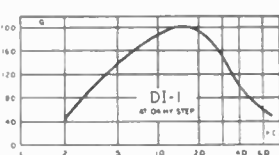
HIGH Q PRECISION INDUCTANCE DECADES

UTC DI inductance decades are invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. They set new standards of Q, stability, frequency range, and convenience. The low hum pickup toroid coils employ a new permalloy dust core which, combined with special winding methods, provides very high Q, excellent voltage and temperature stability, and high self resonance fre-

quency. The switch employed is a new low capacity type which lab tests have proven for low contact resistance after 100,000 operations. The inductance values are laboratory adjusted to better than 1% precision, with calibration noted on base.

DI inductance decades are housed in a compact, rugged, die cast case with control on a sloping panel, ideally suiting these units to laboratory use.

Type No.	Induct. Henries	Optimum Range	Max. Q	Max. ACMA	Ins. Test Volts RMS
DI-1	10 x .01	2-60 KC	200	500	500
DI-2	10 x .1	25-20 KC	200	150	500
DI-3	10 x 1	.25-10 KC	200	50	500
DI-4	10 x 10	.2-1.5 KC	100	15	500



DI CASE

Length	.....	4 1/2"
Width	.....	4 1/8"
Height	.....	2 3/8"
Weight	.....	2 lbs.

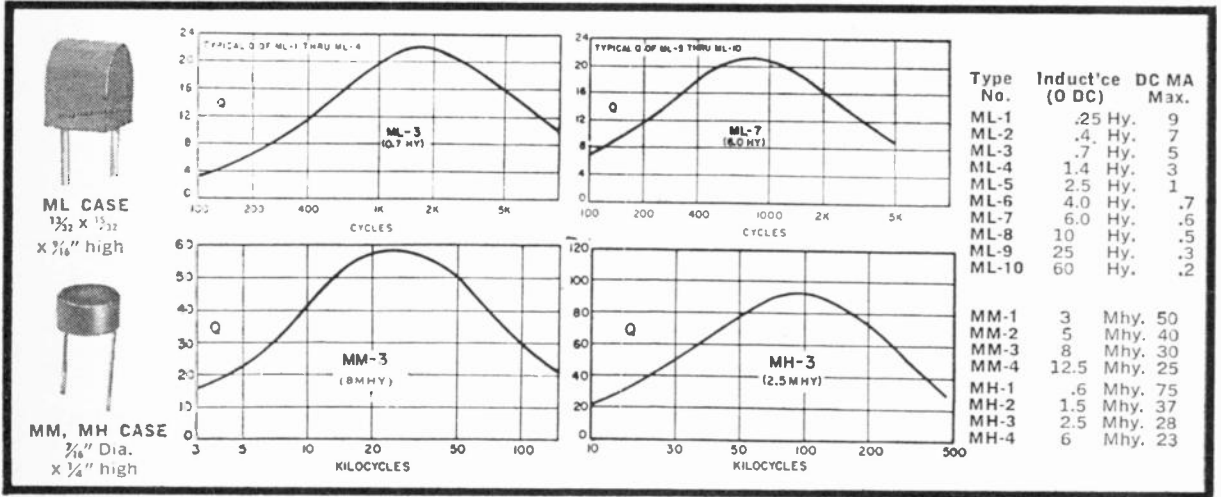
Sec. 5600



MINIDUCTORS *Hermetically sealed to MIL-T-27A Specs., ... all units MIL type TF5RX20ZZ*

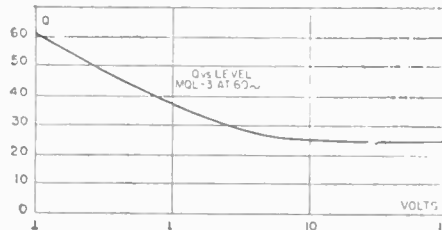
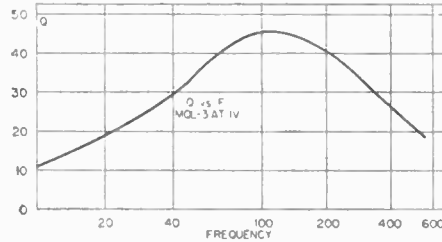
UTC Miniductors are ideal for transistor and printed circuit applications, providing high Q in miniature form. The ML-1 to 4 units are for medium low frequencies, adjusted to $\pm 3\%$ at 1 V, 1 KC. The ML-5 thru 10 series are for lower frequencies, adjusted to $\pm 3\%$ at 1 V, 400 cycles. The MM and MH units are for medium and high frequencies, adjusted to a tolerance of $\pm 2\%$.

Temperature stability is excellent on all Miniductors, from -55°C . to $+100^{\circ}\text{C}$. The ML units are in a Hipermalloy shield case ... the MM and MH coils are symmetrical toroids ... for high coupling attenuation and low hum pickup. The DCMA MAX. shown is for approximately 5% drop in inductance.



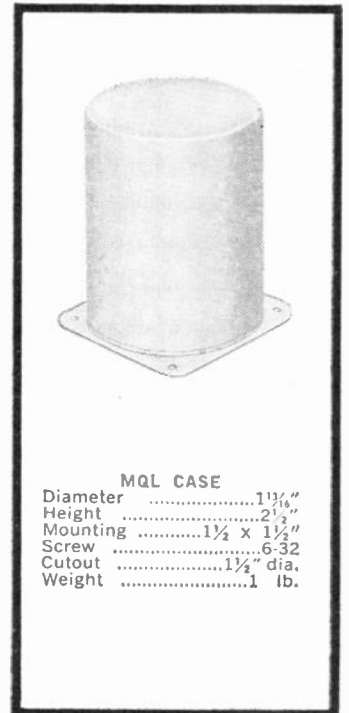
LOW FREQUENCY HIGH Q COILS *Hermetically sealed to MIL-T-27A Specs., ... all units MIL type TF4RX20YY*

Permalloy dust toroids are not suited to providing high Q at low frequencies. The MQL series of laminated Hipermalloy coils were specifically designed for this class of service. The unique structure employed provides exceptional Q and stability. Inductance values are laboratory adjusted to 2% tolerance at 1 volt, 60 cycles. Stability with voltage is excellent, for MQL-3 inductance variation is less than 1% from .1 V. to 1 V, 60 cycles. Temperature stability is exceptional, total inductance swing being less than 3.5% for the wide range of -55°C to $+85^{\circ}\text{C}$. A hum reducing lamination structure plus heavy Hipermalloy shielding provide very low hum pickup ... 240 microvolts/gauss for MQL-3 series connected. Two identical windings brought out to four terminals permit series, parallel, center tapped, or transformer type connections.



Type No.	Series Henries (0 DC)	Parallel Henries (0 DC)
MQL-0	1	.25
MQL-1	10	2.5
MQL-2	20	5
MQL-3	200	50
MQL-4	400	100
MQL-5	2500	625

(For 60 cycles and lower)



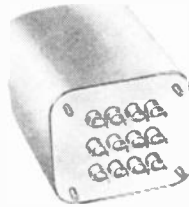


SILICON RECTIFIER TRANSFORMERS

TRANSISTOR SUPPLY . . . TELEPHONE SUPPLY . . .
BATTERY CHARGERS . . . PLATING RECTIFIERS

Hermetically sealed to MIL-T-27A
specs: Type TF4RX02.

UTC silicon rectifier transformers are high reliability units in drawn MIL cases. The chart below shows the secondary voltages available and the approximate DC voltages which result in typical silicon rectifier circuits (at MIL currents shown). Primary taps can modify nom. AC voltages by -6%, +6%, and +12%. Since the capacitor following the rectifier affects the DC voltage, values used (in 1000 mfd) are shown, in parenthesis (), after each current rating. Case dimensions on page 1406.



PRIMARY 115 VOLTS, 50/60 CYCLES
NOMINAL SEC. VOLTS, 8.25 to 40.5

Type No.	MIL DC Range	Indust. DC Range	MIL CASE
H-94	6V-3A to 53V-1A	6V-4A to 50V-1.2A	HA
H-95	6V-7.5A to 53V-2.5A	6V-9A to 50V-3A	KA
H-96	6V-18A to 53V-6A	6V-23A to 50V-7.5A	OA

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE

Nom. AC Volts*	FULL WAVE BRIDGE SILICON RECTIFIER							FULL WAVE C.T.			
	40.5	32.25	28.5	24	20.25	16.5	12	8.25	40.5 CT	24 CT	16.5 CT
Approx. DC Volts*	53	41	34	25	24	18	12	6	24	12	6.6
H-94 DC Amp.	1. (5)	1.1(5)	1.2(5)	1.3(5)	2 (1)	1.5(1)	2.5(2)	3 (2)	1.5(1)	1.8(1)	2.3(2)
H-94 DC Amp.	1.2(5)	1.5(5)	1.5(5)	1.6(5)	2.5(1)	2 (1)	3 (2)	3.8(2)	2 (1)	2.2(1)	2.8(2)
H-95 DC Amp.	2.5(1)	3 (1)	3 (1)	3.5(1)	5 (2)	3.7(2)	6 (4)	7.5(4)	3.7(2)	4.5(2)	5.5(4)
H-95 DC Amp.	3 (1)	3.5(1)	3.8(1)	4 (1)	6 (2)	4.5(2)	7.5(4)	9 (4)	4.5(2)	5.5(2)	6.7(4)
H-96 DC Amp.	6 (4)	7 (4)	7.5(4)	8 (4)	12 (6)	9 (6)	15 (12)	18 (12)	9 (6)	11 (6)	13.5(12)
H-96 DC Amp.	7.5(4)	8.5(4)	9.5(4)	10 (4)	15 (6)	11 (6)	19 (12)	23 (12)	11 (6)	13.5(6)	17 (12)

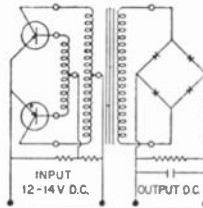
*Nom. AC and DC volts are at 115 volt input . . . primary taps can modify -6%, -6%, and +12%.



TRANSISTOR INVERTER TRANSFORMERS

Hermetically sealed to MIL-T-27A specs. Type TF4SX40.

High switching current transistors have made it possible to eliminate vibrators for plate supplies operating from batteries. UTC inverter transformers for this application are high reliability (layer insulated) types providing high efficiency in small size. Units are in drawn MIL cases. Circuit details supplied with transformer. With 6 V. input instead of 12 V., output voltage is halved, current rating remains the same. Case dimensions on page 1406.



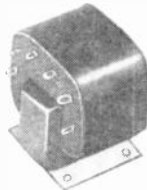
FOR 12/14 OR 24/28 VOLT BATTERY

Type No.	DC output, when used in circuit shown	MIL Case
H-97	250V.- 60MA	AH
H-98	375V.-100MA	AJ
H-99	425V.-175MA	FA
H-100	550V.-200MA	GB



400 CYCLE FILAMENT TRANSFORMERS

UTC molded 400 cycle filament transformers and reactors are designed to provide maximum reliability with small size and weight. They are suited to ground or airborne applications.



PRIMARY 105/115 VOLTS 380-1000 CYCLES. TYPE TF5SX01ZZ.

Type No.	Sec. Volts	Sec. Amp.	Test Volts RMS	L In.	W In.	H In.	Mtg. In.	Wt. Lbs.
H-101	6.3 CT	3.5	2500	1 ³ / ₃₂	1 ¹ / ₃₂	2	1 ¹ / ₈ x1 ¹ / ₃₂	.3
H-102	6.3 CT	5.5	2500	1 ³ / ₄	2	2 ¹ / ₄	1 ¹ / ₈ x1 ¹ / ₃₂	.44
H-103	6.3 CT	10	2500	2 ¹ / ₈	2 ¹ / ₈	2 ¹ / ₂	1 ¹ / ₁₆ x1 ¹ / ₃₂	.8
H-104	6.3 CT	25	2500	2 ⁷ / ₈	2 ¹ / ₂	3 ¹ / ₃₂	2 ¹ / ₁₆ x1 ¹ / ₃₂	1.5

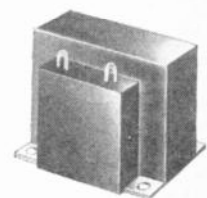


MOLDED FILTER REACTORS

Hermetically sealed to MIL-T-27A specs. Type TF5SX04ZZ.

Type No.	*Inductance Henries @ DC MA.	DCR, Ohms	Test Volts	L	W	H	Wgt. Lbs.
H-105	2.5 @ 25 MA, 2 @ 35 MA, 1.5 @ 45 MA.	225	1000	1 ³ / ₁₆	1 ³ / ₁₆	1 ³ / ₁₆	.1
H-106	2.25 @ 60 MA, 1.75 @ 80 MA, 1.25 @ 100 MA.	110	1000	1 ³ / ₈	1 ³ / ₈	1 ³ / ₈	.28
H-107	2 @ 120 MA, 1.5 @ 160 MA, 1 @ 200 MA.	55	2500	2 ³ / ₈	1 ³ / ₄	1 ¹ / ₁₆	.9
H-108	2 @ 220 MA, 1.5 @ 270 MA, 1 @ 325 MA.	35	2500	2 ¹ / ₈	2 ¹ / ₄	2 ¹ / ₈	2
H-109	Series: 40 Mhy @ 1.25A, 30 Mhy @ 1.75A, 20 Mhy @ 2.5A. Parallel: 10 Mhy @ 2.5A, 7.5 Mhy @ 3.5A, 5 Mhy @ 5A.	.6	750	2 ¹ / ₈	2 ¹ / ₄	2 ¹ / ₈	2
		.15					

*Inductance test is performed at maximum current rating.





HERMETIC SEALED POWER TRANSFORMERS

Primary 115 volts, 60 cycles . . . suited to 50°, 1000 cycles service

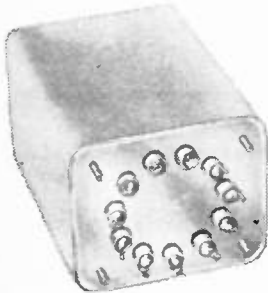
Hermetically sealed to MIL-T-27A Specs.

MIL-T-27A RATINGS IN REGULAR TYPE,
INDUSTRIAL RATINGS IN BOLD TYPE

"L" ratings are for choke input filter, "C" for condenser input

The "H" series of hermetic power transformers are suited to a wide variety of electronic applications in both military and industrial service. Conservative design provides maximum reliability through low temperature rise and high insulation safety factors. All units are in MIL cases with rugged internal construction.

The tapped high voltage winding provides either of two secondary voltages for greatest versatility. The listings indicate DC voltages and permissible currents for both choke and condenser input filters, as well as for military and industrial applications.



MIL CASES, INCHES

Mil Case	W	H	L
AH	1 3/8	1 3/8	1 3/4
AJ	1 3/8	1 3/8	2 1/4
FA	2 1/8	2 1/8	3 1/4
FB	2 1/8	2 1/8	2 1/2
GB	2 1/8	2 1/8	2 1/8
HA	3 1/8	2 3/8	4 1/4
HB	3 1/8	2 3/8	3 3/4
JA	3 1/8	3 1/8	4 1/4
JB	3 1/8	3 1/8	3 3/4
KA	3 1/8	3 3/8	5 1/4
KB	3 1/8	3 3/8	4 3/4
LA	4 1/8	3 1/8	5 1/8
LB	4 1/8	3 1/8	4 1/2
MB	4 1/8	4	4 1/8
NA	5 1/8	4 3/8	6 1/8
NB	5 1/8	4 3/8	5 1/2
OA	5 1/2	4 1/2	6 3/4

UTC CASES, INCHES

Type No.	W	H	L
H-79	7	7	8
H-113	6	5 1/2	6 3/4
H-114	6 3/4	6 3/4	8
H-115	6 3/4	6 3/4	8
H-116	9 3/4	8 1/2	10 1/4
H-117	11	11	14 3/4
H-128	6 1/2	5 3/8	7 3/4
H-129	6 1/2	5 3/8	7 3/4

Type No.	MIL Type	HV Sec. C.T.	Approx.** DC Volts	DC MA	Fil. Wdg.	Approx.** DC Volts	MA DC	Fil. Wdg.	MIL Case
H-80	TF4RX03FA	450	C 240	30	6.3VCT-2A	C 215	38	6.3VCT-2.5A	FA
H-81	TF4RX03HA	500	L 170 C 270	95 55	6.3VCT-3A 5V 2A	L 160 C 245	110 75	6.3VCT-3A 5V-2A	HA
		550	L 200 C 310	85 50		L 180 C 280	105 65		
H-82	TF4RX03JB	550	L 180 C 290	145 90	6.3VCT-4A 5V 2A	L 160 C 270	190 115	6.3VCT-4.5A 5V-2A	JB
		600	L 215 C 330	135 85		L 190 C 315	180 100		
H-83	TF4RX03JA	600	L 215 C 315	165 100	6.3V-5A 5V 2A	L 200 C 320	210 120	6.3V-6A 5V-2A	JA
		670	L 250 C 400	150 90		L 230 C 380	200 110		
H-84	TF4RX03KA	700	L 215 C 39J	225 145	6.3V 5A 6.3V 1A 5V 3A	L 240 C 375	255 160	6.3V-6A 6.3V-1.5A 5V-4A	KA
		750	L 275 C 430	205 125		L 270 C 410	230 150		
H-85	TF4RX03LA	700	L 245 C 390	300 190	6.3V 6A 6.3V 1.5A 5V 3A	L 230 C 355	370 230	6.3V-6A 6.3V-2A 5V-4A	LA
		750	L 270 C 425	280 170		L 250 C 395	350 210		
H-86	TF4RX03MB	720	L 270 C 425	310 180	6.3V 6A 6.3V 2A 5V 3A	L 250 C 385	360 225	6.3V-7.5A 6.3V-2A 5V-4A	MB
		790	L 295 C 475	300 160		L 280 C 440	350 210		
H-87	TF4RX03NB	730	L 245 C 390	420 275	6.3V 6A 6.3V 2A 5V 4A	L 230 C 390	515 300	6.3V-6A 6.3V-2A 5V-6A	NB
		800	L 275 C 440	400 250		L 275 C 430	480 290		
H-88	TF4RX03NA	800	L 270 C 430	410 260	6.3V 6A 6.3V 2A 5V 4A	L 250 C 440	500 290	6.3V-8A 6.3V-4A 5V-6A	NA
		1000	L 370 C 570	350 210		L 360 C 550	410 240		
H-89	TF4RX03OA	850	L 305 C 460	430 280	6.3V-8A 6.3V-4A 5V 6A	L 275 C 445	550 340	6.3V-10A 6.3V-5A 5V-6A	OA
		1050	L 400 C 600	400 260		L 370 C 575	500 320		
H-90	TF4RX03JA	700	L 260 C 325	150 140	6.3V 5A 5V 2A	L 250 C 315	180 165	6.3V-5A 5V-2A	JA
		850	L 325 C 400	140 100		L 315 C 390	165 100		
H-91	TF4RX03KA	900	L 340 C 390	200 190	6.3V 5A 6.3V 1A 5V 3A	L 330 C 385	220 195	6.3V-6A 6.3V-1.5A 5V-4A	KA
		1000	L 390 C 470	190 130		L 385 C 460	195 130		
H-92	TF4RX03MB	900	L 340 C 400	265 240	6.3V-6A 6.3V 2A 5V 4A	L 330 C 395	310 290	6.3V-8A 6.3V-2A 5V-4A	MB
		1050	L 400 C 480	240 160		L 395 C 470	290 160		
H-93	TF4RX03OA	1000	L 370 C 465	300 265	6.3V 8A 6.3V-4A 5V 6A	L 340 C 455	390 350	6.3V-10A 6.3V-5A 5V-6A	OA
		1200	L 465 C 570	265 160		L 455 C 550	350 210		
H-194***	TF4RX03HA	200	L 170 C 275	140 85	6.3V-3.5A	L 160 C 260	155 95	6.3V-4A	HA
		235	L 200 C 325	125 75		L 190 C 310	135 85		
H-195***	TF4RX03JA	215	L 185 C 300	285 180	6.3V-5A	L 175 C 285	300 195	6.3V-6A	JA
		265	L 230 C 375	240 150		L 220 C 360	255 165		
H-196***	TF4RX03KA	230	L 200 C 320	445 280	6.3V-5A 6.3V-1.5A	L 190 C 300	480 300	6.3V-6A 6.3V-2A	KA
		285	L 250 C 400	380 235		L 240 C 380	420 260		
H-197***	TF4RX03MB	260	L 230 C 360	500 320	6.3V-6A 6.3V-2A	L 220 C 340	550 350	6.3V-7A 6.3V-2A	MB
		320	L 280 C 450	420 260		L 270 C 430	470 290		

*For 50 cycles, secondary current ratings are reduced by 20%.
**After appropriate H series choke.
***DC ratings are for bridge rectifier circuits.



HERMETIC SEALED FILTER CHOKES

Hermetically sealed to MIL-T-27A Specs.

MIL-T-27A RATINGS IN REGULAR TYPE INDUSTRIAL RATINGS IN BOLD TYPE

Type No.	MIL Type	Sec. V.	MA DC	Ind. Hys.	Ind. Hys.	MA DC	Ind. Hys.	MA DC	Ind. Hys.	MA DC	Res. Ohms	Max. DCV Ch.	Test V. RMS	MIL Case
H-70	TF4RX04AH	20	20	18	25	14.5	30	10	35	925	350	1000	AH	
H-71	TF4RX04FB	20	40	18.5	50	15.5	60	10	70	350	500	2500	FB	
H-72	TF4RX04GB	33	70	11.5	85	9.5	105	7	125	215	500	2500	GB	
H-73	TF4RX04HB	11	100	9.5	125	7.5	150	5.5	175	150	700	2500	HB	
H-74	TF4RX04JB	11	150	10	170	8.5	195	6.5	215	135	700	2500	JB	
H-75	TF4RX04KB	11	200	10	230	8.5	250	6.5	300	90	700	2500	KB	
H-76	TF4RX04LB	11	200	10	230	8.5	250	6.5	300	85	1500	4500	LB	
H-77	TF4RX04MB	10	300	9	350	8	390	6.5	435	60	2000	5500	MB	
H-78	TF4RX04OA	7	400	6.5	430	6	465	5.5	500	48	2500	7000	OA	
H-79	TF4RX04YY	7	800	6.5	900	6	1000	5.5	1250	20	3000	9000	7x7x8	

Inductance test is performed at maximum military current rating.
 * Based on maximum ripple voltage across choke in choke input filter circuit, in terms of DC output voltage. Does not apply to condenser input circuits.

The multiple ratings for the "H" series of filter chokes suit these units for the complete gamut of military and industrial applications. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. MIL case dimensions on page 1406.



HERMETIC SEALED FILAMENT TRANSFORMERS

Hermetically sealed to MIL-T-27A Specs.

Primary: 105/115/210/220 volts . . . 50/60 cycles, except H-130 (115v.) and H-131 (115/220 v.) . . . Suited to 400/1000 cycle service.

The wide variety of "H" series filament transformers listed cover virtually every military and industrial need. Conservative design provides maximum reliability through low temperature rise and high insulation safety factor. MIL case dimensions on page 1406.



HERMETIC SEALED PLATE TRANSFORMERS

Hermetically sealed to MIL-T-27A Specs.

Primary: 105/115/210/220 Volts . . . 50/60 cycles.

The tapped high voltage winding on the "H" series hermetic plate transformers provide either of two secondary voltages for greatest versatility. The listing shows the DC voltage and permissible currents for a wide variety of applications in both military and industrial service. High insulation safety factor and low temperature rise provide a maximum in reliability. The first three types are in MIL cases. H-114 and above have terminals opposite mounting. MIL case dimensions on page 1406.



MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

Type No.	MIL Type	Sec. Volts	Amps. (MIL)	Amps. (Indust.)	Test Volts RMS	MIL Case
H-120	TF4RX01GB	2.5	10	12	4000	GB
H-121	TF4RX01JB	2.5	10	12	10000	JB
H-122	TF4RX01KB	2.5	20	26	13000	KB
H-123	TF4RX01NB	2.5	5	7.5	10000	NB
		2.5	5	7.5		
		2.5	10	15		
H-124	TF4RX01FB	5	3	3	2000	FB
H-125	TF4RX01KB	5	10	12	10000	KB
H-126	TF4RX01LA	5	20	25	10000	LA
H-127	TF4RX01NA	5	20	30	21000	NA
H-128	TF4RX01YY	5	60	75	21000	See Page 18
H-129	TF4RX01YY	5	10	12	21000	See Page 18
		5	10	12		
		5	20	24		
H-130	TF4RX01AJ	6.3CT	6	7.5	1500	AJ
H-131	TF4RX01FB	6.3CT	2	2.5	2500	FB
H-132	TF4RX01JA	6.3CT	6	7	2500	JA
		6.3CT	6	7		
H-133	TF4RX01HB	6.3CT	7	8	2500	HB
H-134	TF4RX01HA	6.3CT	10	12	2500	HA
H-135	TF4RX01JB	10CT	10	13	2500	JB
H-136	TF4RX01LA	14, 12, 11CT	10	14	2500	LA

MIL-T-27A RATINGS IN REGULAR TYPE, INDUSTRIAL RATINGS IN BOLD TYPE.

All ratings are for choke input filter.

Type No.	Type MIL	C.T. Sec. V.	DC Volts Approx.*	DC MA Choke	No. MA Choke	DC MA Choke	No. MA Choke	Case
H-110	TF4RX02MB	1050	365	275	H-75	385	H-77	MB
		1200	430	250	H-75	350	H-77	
H-111	TF4RX02NA	1050	415	440	H-77	550	H-77	NA
		1200	480	400	H-77	500	H-77	
H-112	TF4RX02NA	1500	615	290	H-77	350	H-77	NA
		1900	790	250	H-76	300	H-76	
H-113	TF4RX02YY	2500	1050	280	H-77	340	H-77	6 x 5 1/2 x 6 1/2
		3000	1275	250	H-76	300	H-76	
H-114	TF4RX02YY	2500	1050	450	H-79	500	H-78	6 1/2 x 6 1/2 x 3
		3000	1265	400	H-78	450	H-78	
H-115	TF4RX02YY	3500	1500	265	H-77	350	H-77	6 1/2 x 6 1/2 x 8
		4400	1900	225	H-77	300	H-77	
H-116	TF4RX02YY	5000	2125	450	H-79	560	H-79	8 1/2 x 9 1/2 x 10 1/2
		6000	2550	400	H-78	500	H-78	
H-117	TF4RX02YY	5000	2125	900	H-79	1100	H-79	11 x 11 x 14 1/2
		6000	2550	800	H-79	1000	H-79	

*After filter choke.




For twenty-five years UTC has been the largest supplier of transformer components for military applications, to customer specifications. Listed below are a number of types, to MIL-T-27A specifications, which are now catalogued as UTC stock items. All units employ glass bead headers or terminals. For printed circuit use, wire terminals on glass header units can be straightened out without injury. Straight wire terminals available on production orders as well as flat (7/8 x 23/32 x 9/16) case for SM units . . . also MIL cases.

The frequency response ratings are based on military requirements. Actually, most of the units that do not carry DC are appreciably better in response than the range shown. For example:

H-1, H-3, H-5, H-8 are within 2db from 30 to 20,000 cycles.


The level ratings are maximum level for reasonable distortion at the lowest frequency specified. For higher frequencies considerably higher levels are permissible. For example, the H-3 will handle +21dbm at 400 cycles.

The Impedance ratings are listed in standard manner. Transformers can be used for applications differing considerably from those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source impedance reduces them. Units may also be used reversed, input to secondary.




RC-25 CASE

Length 1 1/2" ³⁸/₆₄"
 Width 1 1/8" ³⁴/₆₄"
 Height 1 1/8" ³⁴/₆₄"
 Mtg. (slot center) 1 1/8" to 1 3/8"
 Screws 4-40 Fil.
 Cutout 7/8" Dia.
 Unit Weight 1.5 oz.



RC-50 CASE

Length 1 5/8" ⁴¹/₆₄"
 Width 1 3/8" ³³/₆₄"
 Height 2 1/8" ⁵¹/₆₄"
 Mounting 1 1/8"
 Screws 6-32
 Cutout 1 1/2" Dia.
 Unit Weight8 oz.



SM CASE

Length 1 1/8" ³⁴/₆₄"
 Width 1 1/8" ³⁴/₆₄"
 Height 1 1/8" ³⁴/₆₄"
 Screw 4-40 Fil.
 Unit Weight8 oz.

MINIATURE AUDIO UNITS . . . RC-25 CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	Pri. Unbal. DC MA	Response - 2 db (Cyc.)	Level max. dbm
H-1	Mike, Unit, line to grid	TF4RX10YY	50, 200 CT, 500 CT*	50,000	0	50-10,000	- 5
H-2	Mike to grid	TF4RX11YY	82	135,000	50	250-8,000	- 18
H-3	Plate to single grid	TF4RX15YY	15,000	60,000	0	50-10,000	- 6
H-4	Plate to single grid DC in Pri.	TF4RX15YY	15,000	60,000	4	200-10,000	- 14
H-5	Plate to PP grids	TF4RX15YY	15,000	95,000 CT	0	50-10,000	- 5
H-6	Plate to PP grids DC in Pri.	TF4RX15YY	15,000	95,000 split	4	200-10,000	11
H-7	Plate or PP to line	TF4RX13YY	20,000 CT	150 600	4	200-10,000	- 21
H-8	Mixing and matching	TF4RX16YY	150 600	600 CT	0	50-10,000	- 8
H-9	82 41:1 input to grid	TF4RX10YY	150/600	1 meg.	0	200-3,000 (4 db.)	- 10
H-10	10:1 plate to grid	TF4RX15YY	10,000	1 meg.	0	200-3,000 (4 db.)	- 10
H-11	Reactor	TF4RX20YY	300 Hys.-0 DC, 50 Hys.-3 Ma. DC.	6,000 Ohms.			
H-12	Mike, line to PP grids	TF4RX10YY	50,200 CT, 500 CT*	50,000 CT	0	50-10,000	- 5
H-13	Transistor Interstage	TF4RX13YY	10K 2.5K, Split	2K .5K split	4	100-10,000	- 20
H-14	Transistor Interstage	TF4RX13YY	10K 2.5K, Split	4K 1K split	4	100-10,000	- 20
H-15	Transistor to line	TF4RX13YY	1,500 CT	500 125 split	8	100-10,000	- 20
H-16	Transistor to V.C.	TF4RX13YY	2,000 CT 4,000 CT	8 16	4	100-10,000	- 20

COMPACT AUDIO UNITS . . . RC-50 CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	Pri. Unbal. DC MA	Response - 2 db (Cyc.)	Level max. dbm
H-19A	Balanced line to grid 1:14, multiple (75 db) shielding	TF4RX10YY	250 CT 500 CT	50,000 100,000 CT	0	30-20,000	- 6
H-20	Plate or PP to PP grids	TF4RX15YY	15,000 split	80,000 split	0	30-20,000	- 12
H-21	Plate to PP grids DC in Pri.	TF4RX15YY	15,000	80,000 split	8	100-20,000	- 23
H-22	Plate to line	TF4RX13YY	15,000	50 200, 125 500**	8	50-20,000	- 23
H-23	PP plates to line	TF4RX13YY	30,000 split	50 200, 125 500**	8	30-20,000	- 19
H-24	Reactor	TF4RX20YY	450 Hys.-0 DC, 250 Hys.-5 Ma. DC.	6,000 ohms			
H-25	Mixing or trans. to line	TF4RX17YY	500 CT	500/125 split	20	40-20,000	- 30
H-26	Transistor Interstage	TF4RX13YY	10,000 2,500 (split)	2,000/500 split	8	40-20,000	- 30
H-27	Transistor to V.C.	TF4RX17YY	500 CT	16/4 split	20	40-20,000	- 30
H-280	Transistor driver	TF4RX17YY	200 CT	400 split	20	40-20,000	- 30
H-281	Transistor to V.C.	TF4RX17YY	48 CT	16, 8, 4	750 Bal	40-20,000	5 watts
H-282	Transistor to V.C. RC-62 case, Pg. 37.	TF4RX17YY	20 CT	16, 8, 4	1000 Bal	40-20,000	10 watts
H-290	Chopper transformer Electrostatic & triple magnetic shld.	TF4RX10YY	2,500 e.s. (1/2 Pri.)	100K ratio 1:6.4	0	60-400	- 5
H-291	Chopper transformer higher gain & 20 db better shielding	TF4RX10YY	2,000 500 e.s. (1/2 Pri.)	312K ratio 1:25/12.5	0	60-400	- 10

SUBMINIATURE AUDIO UNITS . . . SM CASE

Type No.	Application	MIL Type	Pri. Imp. Ohms	Sec. Imp. Ohms	Pri. Unbal. DC MA	Response - 2 db (Cyc.)	Level max. dbm
H-30	Input to grid	TF4RX10YY	50	62,500	0	150-10,000	- 13
H-31	Plate to single grid	TF4RX15YY	10,000	90,000	0	300-10,000	- 13
H-32	Single plate to line	TF4RX13YY	10,000***	200	3	300-10,000	- 13
H-33	Single plate to low imp.	TF4RX13YY	30,000	50	1	300-10,000	- 15
H-35	Reactor	TF4RX-20YY	100 Henries-0 DC, 50 Henries-1 Ma. DC.	4,400 ohms.			
H-36	Transistor Interstage	TF4RX15YY	25,000 (DCR800)	1,000 (DCR110)	.5	300-10,000	- 10
H-37A	Transistor output	TF4RX15YY	500CT (DCR50)	50 (DCR5)	3.5	300-10,000	- 15
H-38	Transistor Interstage	TF4RX13YY	10,000 CT (DCR600)	1,200 CT	2	300-10,000	- 15
H-39	Transistor Interstage	TF4RX13YY	10,000 CT (DCR600)	2,000 CT	2	300-10,000	- 15
H-40A	Transistor output	TF4RX17YY	500 CT (DCR26)	600 CT	10	300-10,000	- 15
H-41A	Transistor output	TF4RX13YY	1,500 CT (DCR71)	600 CT	7	300-10,000	- 15

* 200 ohm termination can be used for 150 ohms or 250 ohms, 500 ohm termination for 600 ohms.
 ** 200 ohm termination can be used for 150 ohms or 250 ohms, 125,500 ohm termination for 150 600 ohms.
 *** Can be used for 500 ohm load . . . 25,000 ohm primary impedance . . . 1.5 Ma. DC.



NEW EXPANDED DO-T AND DI-T SERIES

Revolutionary transistor transformers hermetically sealed to MIL-T-27A Specifications.

UTC DO-T and DI-T transistor transformers provide unprecedented power handling capacity and reliability coupled with extremely small size. Comparative performance with other available products of similar size are shown in the curves (based on setting output power at 1 KC, then maintaining same input level over frequency range). The new expanded series of units cover virtually every transistor application.

DO-T

High Power Rating . . . up to 100 times greater.

ACTUAL SIZE



5/16 Dia. x 13/32, 1/10 Oz.

DI-T

Excellent Response . . . twice as good at low end.

ACTUAL SIZE



5/16 Dia. x 1/4, 1/20 Oz

Low Distortion . . . reduced 80%.

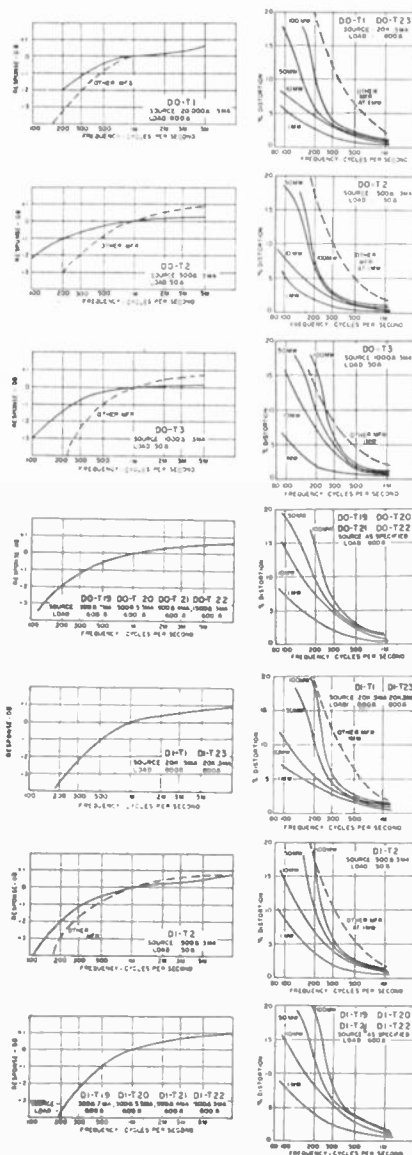
High Efficiency . . . up to 30% better.

Moisture Proof . . . hermetically sealed to MIL-T-27A.

Rugged . . . completely cased.

Anchored Leads . . . withstand 10 pound pull test.

Printed Circuit Use...plastic insulated leads.



DO-T No.	MIL Type	Application	Pri. Imp.	D.C. Ma.†	Sec. Imp.	Pri. Res. DO-T	Pri. Res. DI-T	Level Mw.	DI-T No.
DO-T1	TF4RX13YY	Interstage	20,000 30,000	.5 .5	800 1200	850	815	50	DI-T1
DO-T2	TF4RX17YY	Output	500 600	3 3	50 60	60	65	100	DI-T2
DO-T3	TF4RX13YY	Output	1000 1200	3 3	50 60	115	110	100	DI-T3
DO-T4	TF4RX17YY	Output	600	3	3.2	60		100	
DO-T5	TF4RX13YY	Output	1200	2	3.2	115	110	100	DI-T5
DO-T6	TF4RX13YY	Output	10,000	1	3.2	790		100	
DO-T7	TF4RX16YY	Input	200,000	0	1000	8500		25	
DO-T8	TF4RX20YY	Reactor 3.5 Hys. @ 2 Ma. DC, 1 Hy. @ 5 Ma. DC				630			
DO-T8	TF4RX20YY	Reactor 2.5 Hys. @ 2 Ma. DC, 9 Hy. @ 4 Ma. DC							DI-T8
DO-T9	TF4RX13YY	Output or driver	10,000 12,000	1 1	500 CT 600 CT	800	870	100	DI-T9
DO-T10	TF4RX13YY	Driver	10,000 12,000	1 1	1200 CT 1500 CT	800	870	100	DI-T10
DO-T11	TF4RX13YY	Driver	10,000 12,000	1 1	2000 CT 2500 CT	800	870	100	DI-T11
DO-T12	TF4RX17YY	Single or PP output	150 CT 200 CT	10 10	12 16	11		500	
DO-T13	TF4RX17YY	Single or PP output	300 CT 400 CT	7 7	12 16	20		500	
DO-T14	TF4RX17YY	Single or PP output	600 CT 800 CT	5 5	12 16	43		500	
DO-T15	TF4RX17YY	Single or PP output	800 CT 1070 CT	4 4	12 16	51		500	
DO-T16	TF4RX13YY	Single or PP output	1000 CT 1330 CT	3.5 3.5	12 16	71		500	
DO-T17	TF4RX13YY	Single or PP output	1500 CT 2000 CT	3 3	12 16	108		500	
DO-T18	TF4RX13YY	Single or PP output	7500 CT 10,000 CT	1 1	12 16	505		500	
DO-T19	TF4RX17YY	Output to line	300 CT	7	600	19	20	500	DI-T19
DO-T20	TF4RX17YY	Output or line to line	500 CT	5.5	600	31	32	500	DI-T20
DO-T21	TF4RX17YY	Output to line	900 CT	4	600	53	53	500	DI-T21
DO-T22	TF4RX13YY	Output to line	1500 CT	3	600	86	87	500	DI-T22
DO-T23	TF4RX13YY	Interstage	20,000 CT 30,000 CT	.5 .5	800 CT 1200 CT	850	815	100	DI-T23
DO-T24	TF4RX16YY	Input (usable for chopper service)	200,000 CT	0	1000 CT	8500		25	
DO-T25	TF4RX13YY	Interstage	10,000 CT 12,000 CT	1 1	1500 CT 1800 CT	800	870	100	DI-T25
DO-T26	TF4RX20YY	Reactor 6 Hy. @ 2 Ma. DC, 1.5 Hy. @ 5 Ma. DC				2100			
DO-T26	TF4RX20YY	Reactor 4.5 Hy. @ 2 Ma. DC, 1.2 Hy. @ 4 Ma. DC					2300		DI-T26
DO-T27	TF4RX20YY	Reactor 1.25 Hy. @ 2 Ma. DC, .5 Hy. @ 11 Ma. DC				100			
DO-T28	TF4RX20YY	Reactor .9 Hy. @ 2 Ma. DC, .5 Hy. @ 6 Ma. DC					105		DI-T27
DO-T28	TF4RX20YY	Reactor .3 Hy. @ 4 Ma. DC, .15 Hy. @ 20 Ma. DC				25			
DO-T28	TF4RX20YY	Reactor 1 Hy. @ 4 Ma. DC, .08 Hy. @ 10 Ma. DC					25		DI-T28
DO-T29	TF4RX17YY	Single or PP output	120 CT 150 CT	10 10	3.2 4	10		500	
DO-T30	TF4RX17YY	Single or PP output	320 CT 400 CT	7 7	3.2 4	20		500	
DO-T31	TF4RX17YY	Single or PP output	640 CT 800 CT	5 5	3.2 4	43		500	
DO-T32	TF4RX17YY	Single or PP output	800 CT 1,000 CT	4 4	3.2 4	51		500	
DO-T33	TF4RX13YY	Single or PP output	1,060 CT 1,330 CT	3.5 3.5	3.2 4	71		500	
DO-T34	TF4RX13YY	Single or PP output	1,600 CT 2,000 CT	3 3	3.2 4	109		500	
DO-T35	TF4RX13YY	Single or PP output	8,000 CT 10,000 CT	1 1	3.2 4	505		500	
DO-T36	TF4RX13YY	Isol. or Interstage	10,000 CT	1	10000 CT	950	970	500	DI-T36

*DO-T units have been designed for transistor application only . . . not for vacuum tube service. Pats. Pend.

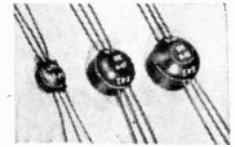
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MINIATURE WIDE APPLICATION PULSE TRANSFORMERS

Hermetically sealed to MIL-T-27A Specs., . . . all units MIL type TF55X36ZZ

UTC miniature, wound core, pulse transformers are precision, high reliability units, hermetically sealed by vacuum molding and suited for service from -70° C. to + 130° C. Wound core structure provides excellent temperature stability (unlike ferrite). Designs are high inductance type to provide minimum of droop and assure true pulse width, as indicated on chart below. If used for coupling circuit where minimum rise time is important, use next lowest type number. Rise time will be that listed for this lower type number . . . droop will be that listed multiplied by ratio of actual pulse width to value listed for this type number. block oscillator data listed is obtained in standard test circuit shown. Coupling data was obtained with H. P. 212A generator (correlated for H-55, 56, 57) and source/load impedances shown. Three windings, 1; 1; 1.



Type No.	APPROX. DCR, OHMS			BLOCKING OSCILLATOR PULSE					COUPLING CIRCUIT CHARACTERISTICS					DIMENSIONS				
	1-2	3-4	4-5	Width μ Sec.	Rise Time	% Over Shoot	Droop %	% Back Swing	P. Width μ Sec.	Volts Out	Rise Time	% Over Shoot	Droop %	% Back Swing	Imp. in, out, ohms	L In.	W In.	Wt. Grams
H-45	3	3.5	4	.05	.022	0	20	10	.05	17	.01	20	0	35	250	$\frac{3}{8}$	$\frac{3}{8}$	1
H-46	5.5	6.5	7	.10	.024	0	25	10	.10	19	.01	30	10	50	250	$\frac{3}{8}$	$\frac{3}{8}$	1
H-47	3.7	4.0	4	.20	.026	0	25	8	.20	18	.01	30	15	65	500	$\frac{5}{16}$	$\frac{5}{8}$	4
H-48	5.5	5.8	6	.50	.03	0	20	5	.50	20	.01	30	20	65	500	$\frac{5}{16}$	$\frac{5}{8}$	4
H-49	8	8.5	9	1	.04	0	20	10	1	24	.02	15	15	65	500	$\frac{5}{16}$	$\frac{5}{8}$	4
H-50	20	21	22	2	.05	0	20	10	2	27	.05	10	15	35	500	$\frac{5}{16}$	$\frac{5}{8}$	4
H-51	28	31	33	3	.10	1	20	8	3	26	.07	10	10	35	500	$\frac{5}{16}$	$\frac{5}{8}$	4
H-52	36	41	44	5	.13	1	25	8	5	23	.15	10	10	45	1000	$\frac{5}{16}$	$\frac{5}{8}$	4
H-53	37	44	49	7	.28	0	25	8	7	24	.20	10	10	50	1000	$\frac{5}{8}$	$\frac{5}{8}$	6
H-54	50	58	67	10	.30	0	20	8	10	24	.25	10	10	50	1000	$\frac{5}{8}$	$\frac{5}{8}$	6
H-55	78	96	112	16	.75	0	20	10	16	23	.40	5	15	20	1000	$\frac{5}{8}$	$\frac{5}{8}$	6
H-56	93	116	138	20	1.25	0	25	10	20	23	.6	5	10	10	1000	$\frac{5}{8}$	$\frac{5}{8}$	6
H-57	104	135	165	25	2.0	0	30	10	25	24	1.5	5	10	10	1000	$\frac{5}{8}$	$\frac{5}{8}$	6
H-58	Pulse transformer kit. Consists of one of each of the above units in a partitioned plastic case. Ideal for the laboratory.																	

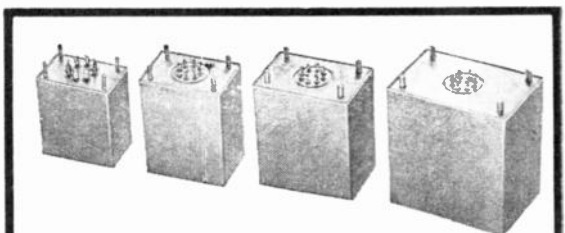
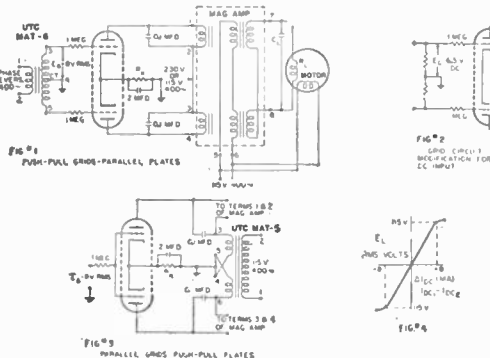


MAGNETIC AMPLIFIERS FOR SERVO MOTOR APPLICATIONS

Hermetically sealed to MIL-T-27A Specs., . . . all units MIL type TF45Y40YY

The MAT 1-4 Magnetic Amplifiers are exceptionally stable units designed for the control of 2 phase, 115V., 400 cycle servo motors. They are compact . . . hermetically sealed . . . magnetically shielded . . . and meet MIL-T-27A and MIL-E-5400 Specifications. The output is sinusoidal, amplitude variable, and phase reversible. Control is provided by a dual triode such as 12AU7 operating with a plate voltage of 115 volts, 400 cycles, or higher. The signal to the triode grids can be polarity reversible DC or phase reversible 400 cycles with or without suppressed carrier modulation. These units eliminate DC power requirements as well as temperature sensitive dry disc rectifiers. The high input impedance provides minimum loading on sensing elements and high power gain. Ringing at low load level has been reduced to a minimum through high internal damping factors. The power output figures are conservative . . . power gain of the MAGNETIC STRUCTURE is approximately 40 . . . response time approximately 7.5 milliseconds. The maximum null voltage is 3 volts RMS. For single phase supply voltage the load capacitor should effect 90° phase shift with motor load . . . for 3 phase, 30° phase shift. (The chart values shown are approximate.)

For AC signal control the circuit of Figure 1 is employed. For DC signal control Figure 2 applies. Figure 3 shows the use of a power transformer (MAT-5) which provides higher plate voltages (230 volt supply data of chart) and eliminates the input transformer (MAT-6). The typical response curve of Figure 4 applies to all units, the larger units feeding heavier loads.



Type No.	MAT-1	MAT-2	MAT-3	MAT-4
230 Volt Supply				
Power output	4 W.	8 W.	11 W.	13 W.
RL, ohms	3300	1600	1200	720
CL, mfd.	.2	.3	.5	.7
115 Volt Supply				
Power output	2 W.	4 W.	6 W.	9 W.
RL, ohms	6500	3300	2200	1450
CL, mfd.	.13	.2	.3	.45
Reson. Freq.	40 cyc.	35 cyc.	35 cyc.	20 cvc.
Log-Decr.	.18	.23	.03	.65
Cont. Wdg. Res.	6200 Ω	8450 Ω	4750 Ω	5650 Ω
Case				
Length, In.	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2 $\frac{1}{4}$
Width, In.	1 $\frac{1}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{2}$	3 $\frac{1}{8}$
Height, In.	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	3 $\frac{1}{8}$
Mtg. Dim., In.	1 $\frac{3}{8}$ x 1 $\frac{1}{2}$	1 x 1 $\frac{1}{2}$	1 $\frac{1}{2}$ x 1 $\frac{1}{2}$	1 $\frac{1}{2}$ x 2 $\frac{1}{2}$
Studs, stainless	4-40	6-32	8-32	8-32
Cutout, In.	1	1	1	1
Unit Weight, lbs.	.67	1.1	1.7	2.75

MAT-5 115V.-400 cyc. to 460 VCT; provides 230V. 48 MA DC or 460V. 24 MA DC. RC-37 Case . . . 1 $\frac{3}{8}$ x 1 $\frac{1}{2}$ x 1 $\frac{1}{2}$. . . $\frac{1}{4}$ mtg. holes 1 $\frac{1}{2}$ x 1 $\frac{1}{2}$. . . 6 oz. MIL type TF45Y02YY.

MAT-6 Input . . . 10,000 ohms pri. . . 1:15 C.T. ratio. . . phase shift under 1° . . . RC-25 case. MIL type TF4RX10YY.



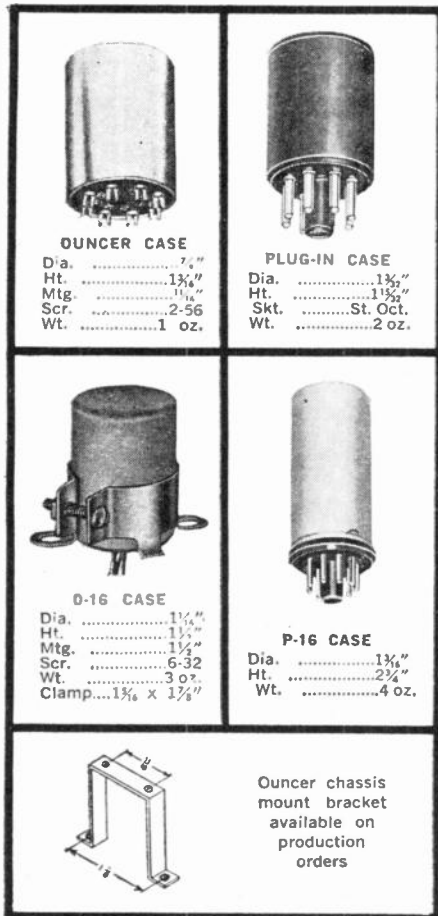
OUNCER AUDIO UNITS / STANDARD AND PLUG-IN TYPES

UTC OUNCER components represent the acme in compact quality transformers. These units, which weigh one ounce, are fully impregnated and sealed in a drawn aluminum housing $\frac{3}{8}$ " diameter . . . mounting opposite terminal board. Hermetic Ouncer (RC-25 case) listed on page 1408.

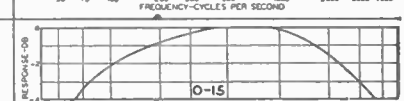
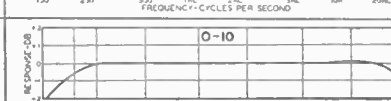
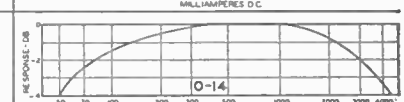
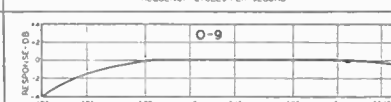
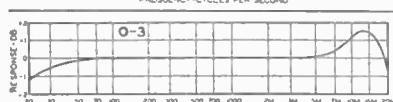
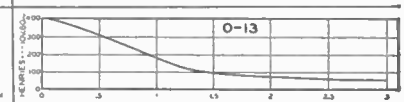
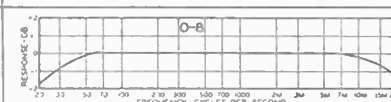
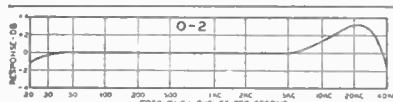
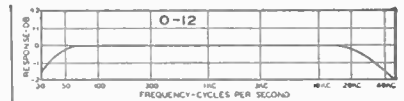
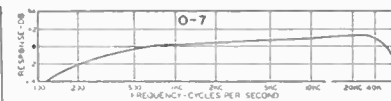
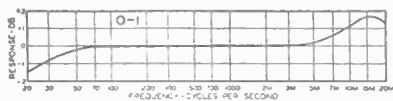
Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform within approximately 1 db

from 30 to 20,000 cycles, except for O-14, O-15, and units carrying DC which are intended for voice frequencies. Transistor transformers are good to 80 cycles at low end. Maximum level +8 dbm.

"P" series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug-in base to fit standard octal socket. While of submerison proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets.



OUNCER Type No.	Application	Pri. Imp.	Sec. Imp.	PLUG-IN Type No.
O-1	Mike, pickup or line to 1 grid	50, 200/250, 500/600	50,000	P-1
O-2	Mike, pickup or line to 2 grids	50, 200/250, 500/600	50,000 CT	P-2
O-3	Dynamic mike to 1 grid	7.5/30	50,000	P-3
O-4	Single plate to 1 grid	15,000	60,000	
O-5	Single plate to 1 grid, D.C. in Pri.	15,000	60,000	
O-6	Single plate to 2 grids	15,000	95,000 CT	P-6
O-7	Single plate to 2 grids, D.C. in Pri.	15,000	95,000 CT	P-7
O-8	Single plate to line	15,000	50, 200/250, 500/600	P-8
O-9	Single plate to line, D.C. in Pri.	15,000	50, 200/250, 500/600	P-9
O-10	Push pull plates to line	30,000 ohms plate to plate	50, 200/250, 500/600	P-10
O-11	Crystal mike or pick-up to line	50,000	50, 200/250, 500/600	P-11
O-12	Mixing and matching	50, 200/250	50, 200/250, 500/600	P-12
O-13	Reactor, 300 Hys.—no D.C.; 50 Hys.—3 Ma. D.C., 6000 ohms			
O-14	50:1 mike or line to 1 grid	200	$\frac{1}{2}$ megohm	
O-15	10:1 single plate to 1 grid	15,000	1 megohm	P-15
O-16	Mike or line to grid	250 C.T.	50,000	
This transformer provides very low hum pickup . . . employs two heavy gauge hyperalloy shields plus orientable mounting. Primary centertap is balanced to 1%. Can be used for 150, 200, 250, 500, or 600 ohm sources . . . 200:1 impedance ratio.				
O-17	Hyperalloy shield, slip fit over ouncer, 1" O.D., provides 25 db shielding.			P-16
O-18	Transistor Interstage	10,000/2,500 (split)	2,000/ 500 (split)	
O-19	Transistor Interstage	10,000/2,500 (split)	4,000/ 1,000 (split)	
O-20	Transistor to line	1,500 CT	500/125 (split)	
O-21	Transistor to voice coil	2,000 CT	8	
	Imp. ratio 250:1	4,000 CT	16	
O-22	Transistor to Voice Coil	500 CT	4	
	1W. @ 200 cyc.;			
	$\frac{1}{4}$ W. @ 100 cyc.	400 CT	3.2	
O-23	Reactor, 7 Hys. @ 3 Ma. DC; 3.5 Hys. @ 10 Ma. DC, 230 ohms			
O-24	Reactor, 1.6 Hys. @ 3 Ma. DC; 8 Hys. @ 10 Ma. DC, 25 ohms			

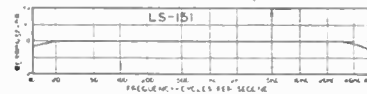
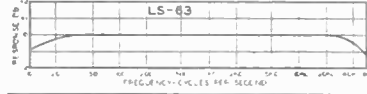
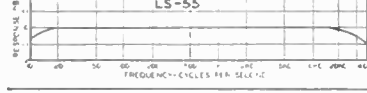
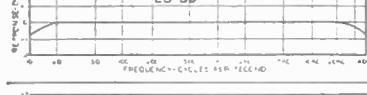
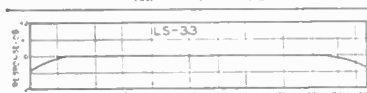
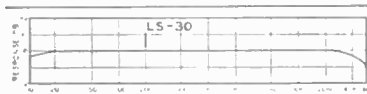
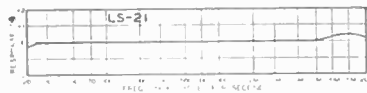
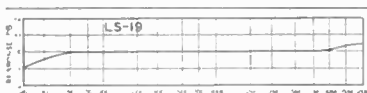
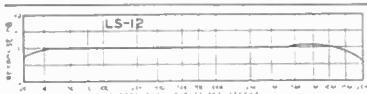
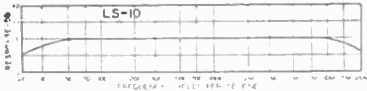




LINEAR STANDARD AUDIO TRANSFORMERS

The ever increasing use of wide range equipment has reached the point where the major limiting factor is the frequency range of the transformers employed. UTC Linear Standard components represent the closest approach to the ideal transformer from the standpoint of uniform frequency response, low wave form distortion, high efficiency, thorough shielding, and dependability.

LS case dimensions on page 1413.



LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	-1 db from	Max. Level dbm	Relative hum	Unbal. DC in primary	Case No.
LS-10	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	60,000 ohms in two sections	20-20,000	+19	-74 DB	.5 MA	LS-1
LS-10X	As above	As above	50,000 ohms	20-20,000	+17	-92 DB-Q	.5 MA	LS-1
LS-12	Low impedance mike, pickup or multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	120,000 ohms overall, in two sections	20-20,000	+19	-74 DB	.5 MA	LS-1
LS-12X	As above	As above	80,000 ohms overall, split	20-20,000	+17	-92 DB-Q	.5 MA	LS-1
LS-14X	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5, 5, 10, 15, 22, 30, 38, 60 ohms	50,000 ohms	20-20,000	+17	-92 DB-Q	.5 MA	LS-1
LS-15X	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	20-20,000	+17	-92 DB-Q	.5 MA	LS-1
LS-18	High level multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	50,000 ohms overall, in two sections	20-20,000	+28	-50 DB	.5 MA	LS-2
LS-26	Bridging line to single or push pull grids	5,000 ohms	60,000 ohms in two sections	15-20,000	+23	-74 DB	0 MA	LS-1
LS-30**	Mixing, low impedance mike, pickup or multiple line to multiple line	50, 125/150, 200, 250, 333, 500/600 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	7-50,000	+23	-74 DB	.5 MA	LS-1
LS-30X**	As above	As above	As above	20-20,000	+20	-92 DB-Q	.3 MA	LS-1
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+23	-74 DB	.5 MA	LS-1
LS-32	Mixing, low impedance mike, pickup or parallel mixer to multiple line	2.5, 5, 5, 10, 15, 22, 30, 38, 60 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+23	-74 DB	.5 MA	LS-1

INTERSTAGE AND DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	-1 db from	Max. Level dbm	Relative hum	Unbal. DC in primary	Case No.
LS-19	Plate to PP grids like 2A3, 6L6, 5881 Split secondary	15,000 ohms	95,000 ohms 1/25:1 each side	20-20,000	+20	-50 DB	0 MA	LS-1
LS-21	Plate to PP grids Split pri. and sec.	15,000 ohms	135,000 ohms; 3:1 overall	20-20,000	+20	-74 DB	0 MA	LS-1
LS-40	Plate to PP grids Split secondary	15,000 ohms	135,000 ohms; 3:1 overall	20-20,000	+20	-74 DB	.3 MA	LS-1
LS-25	PP plates to PP grids * Mtd. level split pri. and sec.	30,000 ohms plate to plate	50,000 ohms, turns ratio 1/3:1 overall	20-20,000	+23	-74 DB	1 MA	LS-1
LS-6	Driver, push pull 2A3's, etc., to push pull 845 or 211D grids	5,000 ohms plate to plate	2:25 primary impedance; turns ratio 1/5:1 overall	20-20,000	+15	5 MA	5 MA	LS-2
LS-47	Driver from push pull 2A3's, or sim. to class B828's, 805's, or 2B120's	5,000 ohms plate to plate	1 pri impedance turns ratio, Pri./1/2 Sec. 3:2:1	20-20,000	20 Watts	5 MA	5 MA	LS-2
LS-48	Driver trans. push pull 845's to 805 grids in class B	12,000 ohms plate to plate	.038 pri. impedance turns ratio, Pri./1/2 Sec. 5:1:1	20-20,000	40 Watts	15 MA	15 MA	LS-3

HYBRID AND REPEAT COILS

Type No.	Application	Pri and Sec. Impedances	-1 db from	Max. Level dbm	Relative hum	Unbal. DC in primary	Case No.
LS-140	Line to line for isol. balanced and unbal. cir.; bal. for max. cross talk 70 DB	500/600 ohms split 500/600 ohms split	30-20,000	+18	-92 DB-Q	0 MA	LS-1
LS-141	Three sets of bal. wind. for hybrid service, centertapped	500/600 ohms 500/600 ohms	30-20,000	+18	-74 DB	0 MA	LS-1

The values of unbalanced DC shown will effect approximately 1/2 DB loss at 30 cycles.
 * Comparison of hum balanced unit with shielding to normal unshielded type. Q = Multiple alloy magnetic shields.
 ** High electrostatic shielding.



LINEAR STANDARD AUDIO TRANSFORMERS

PLATE, CRYSTAL, PHOTOCELL, AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	+ 1 db from	Max. Level dbm	Relative hum	Unbal. DC in primary	Case No.
LS-27	Single pl. to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	30-15,000	-23	-74 DB	8 MA	LS-1
LS-50	Single pl. to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600	10-40,000	-23	-74 DB	0 MA	LS-1
LS-51	Push pull low level pl. to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600	10-40,000	+24	-74 DB	1 MA	LS-1
LS-150	Bridging from 50 to 500 ohm line to line	4,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600	7-50,000	-23	-74 DB	1 MA	LS-1
LS-151	Bridging from 50 to 500 ohm line to line	16,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600	7-50,000	+26	-74 DB	1 MA	LS-1

HIGH LEVEL MATCHING TRANSFORMERS

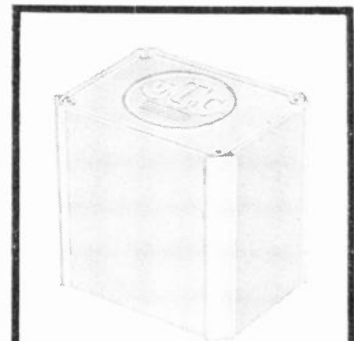
Type No.	Application	Primary Impedance	Secondary Impedance	+ 1 db from	Max. Level	Case No.
LS-33	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1, 2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	10-40,000	20 watts	LS-2
LS-34	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1, 2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	10-40,000	40 watts	LS-3

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match typical tubes	Primary Impedance	Secondary Impedance	+ 1 db from	Max. Level	Case No.
LS-52	Push pull 6AQ5, 6V6, 6L6, 5881	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-55	Push pull 2A3's, 300B, 6L6's, 6AS7G, 6080, 350B	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-58	Push pull parallel as above	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	10-50,000	40 watts	LS-3
LS-61	Push pull triode, 6AS7G, 6080, 6L6, 5881, KT-66, 807, 1614	10,000 ohms pl. to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-63	Same as above	10,000 ohms pl. to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	20 watts	LS-2
LS-6L1	Self bias push pull 6L6's, 5881, KT-66, 6146 triode, 6159 triode	9,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	7-50,000	30 watts	LS-3
LS-6L4	Push pull 6146, 6159, 6L6's fixed bias or push pull parallel 6L6's self bias	4,500 ohms plate to plate and 3,800 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	12-50,000	55 watts	LS-3
LS-35	EL-34 in AB-feedback (see circuit pg. 25)	5,000 ohms CT 43% screen taps	4, 8, 16	7-50,000	35 watts	LS-3
LS-65	6550's in AB; feedback (see circuit pg. 25)	3,300 ohms CT 40% screen taps	4, 8, 16	7-50,000	60 watts	LS-3

MODULATION TRANSFORMERS

Type No.	Primary will match typical tubes	Primary Impedance	Secondary Impedance	+ 1 db from	Max. Level	Case No.
LS-56	Push pull 2A3's, 6AS7G's, 300B's, 6AS7G, 6L6, 6080	5,000 ohms plate to plate and 3,000 ohms plate to plate	6000, 5000, 4000, 1800, 1500, 1000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	10-50,000	20 watts	LS-2
LS-691	Class B, 833A, 250TH	10,400 ohms plate to plate	4500, 4000, 3500, 2750, 2000	20-40,000	1000 watts	LS-6
LS-692	Class B push pull parallel 833A's	4,750 ohms plate to plate	2500, 2000, 1750, 1500, 1250	20-40,000	2500 watts	LS-6



LS-1 CASE

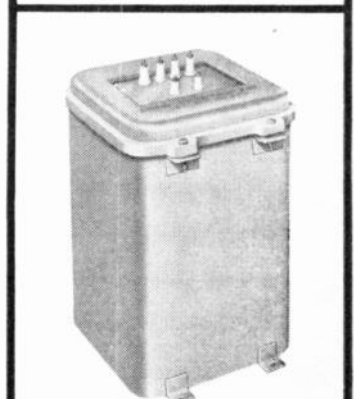
Length	3 1/2"
Width	2 3/4"
Height	3 1/4"
Mounting	1 1/8" x 2 1/8"
Screws	6-32
Cutout	1 7/8" dia.
Unit Weight	3 lbs.

LS-2 CASE

Length	4 7/8"
Width	3 1/2"
Height	4 1/8"
Mounting	2 1/8" x 3 1/8"
Screws	8-32
Cutout	2 3/4" dia.
Unit Weight	7.5 lbs.

LS-3 CASE

Length	5 1/2"
Width	5"
Height	4 1/8"
Mounting	4 1/8" x 5 1/8"
Screws	10-24
Cutout	3 3/4" dia.
Unit Weight	15 lbs.



LS-6 CASE

Length	15 1/4"
Width	13"
Height-LS-691	24"
Height-LS-692	28"
Mounting Dimen.	7 3/8" x 14 1/8"
Mounting Hole	3 7/8" dia.
Unit Weight	350 lbs.
Unit Weight-LS-691	370 lbs.
Unit Weight-LS-692	520 lbs.



HIPERMALLOY TRANSFORMERS

The UTC Hipermalloy audio and power transformers are specifically designed for portable and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hipermalloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hipermalloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Primary shown is maximum unbalanced.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Imp. (ohms)	Secondary Impedance	± 1 db from	Max. Level dbm	Unbal. DC in primary	Case No.
HA-100	Low impedance, mike, pickup, or multiple line to grid	50, 125, 150, 200, 250, 333, 500, 600	60,000 ohms overall, split	30-20,000	+18	5 MA	H-1
HA-100X	Same as above but with multiple alloy shields to effect very low hum pickup				+16		H-1
HA-101	Low impedance mike, pickup, or multiple line to P.P. grids	50, 125, 150, 200, 250, 333, 500, 600	120,000 ohms overall, split	30-20,000	+18	5 MA	H-1
HA-101X	As above but with multiple alloy shield to effect very low hum pickup		80,000 ohms overall, split	30-20,000	+16	5 MA	H-1
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5, 5, 10, 15, 22, 30, 38, 60	60,000 ohms overall, split	30-20,000	+18	5 MA	H-1
HA-106*	Mixing, low impedance mike, pickup, or multiple line	50, 125, 150, 200, 250, 333, 500, 600	50, 125, 150, 200, 250, 333, 500, 600	20-50,000	+20	5 MA	H-1
HA-108X*	Same as above but with multiple alloy shield to effect very low hum pickup				+16		H-1
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shields	30, 50, 200, 250 each primary	60,000 ohms overall, split	30-20,000	+18	5 MA	H-1

* High electrostatic shielding.

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Impedance	± 1 db from	Max. Level dbm	Unbal. DC in primary	Case No.
HA-104	Single plate to P.P. grids like 2A3, 6L6 (split secondary)	15,000 ohms (split)	95,000 ohms 2.5:1	30-20,000	+20	0 MA	H-1
HA-105	Single plate to single grid	15,000 ohms	60,000 ohms	30-20,000	+20	0	H-1
HA-106	Single plate to push pull grids (split secondary)	15,000 ohms (split)	135,000 ohms 3:1 ratio overall	30-20,000	+20	0	H-1
HA-107	Push pull plates to push pull grids (split primary and secondary)	30,000 ohms plate to plate	80,000 ohms 1.6:1 turn ratio overall	30-20,000	+18	25 MA	H-2
HA-137	Push pull plates to push pull grids (split Pri. and Sec.)	30,000 ohms plate to plate	68,000 ohms 1.5:1 turn ratio	30-20,000	+20	0	H-1

PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type No.	Application	Primary Imp.	Secondary Imp. ohms	± 1 db from	Max. Level dbm	Unbal. DC in primary	Case No.
HA-111	Crystal microphone or pickup, to multiple line (split)	100,000 ohms	50, 125, 150, 200, 250, 333, 500/600	30-20,000 measured with resistive source	+18	0	H-1
HA-113	Single plate to multiple line (split)	15,000 ohms (split)	50, 125, 150, 200, 250, 333, 500, 600	30-40,000	+21	0 MA	H-1
HA-133	Single plate to multiple line (DC in Pri.) (split)	15,000 ohms (split)	50, 125, 150, 200, 250, 333, 500/600	30-40,000	+22	8 MA	H-1
HA-114	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125, 150, 200, 250, 333, 500/600	30-40,000	+23	1 MA	H-1

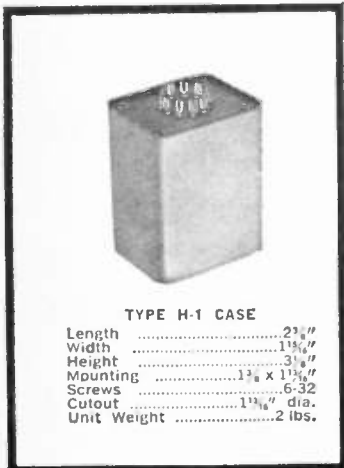
OUTPUT TRANSFORMERS

HA-134	Push pull, 6L6, or 2A3's to line	5000/9400 ohms plate to plate	50, 125, 150, 200, 250, 333, 500/600	10-50,000	15 watts		H-2
HA-135	Push pull 2A3's, etc. to voice coil	3000/5000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	10-50,000	18 watts		H-2
HA-136	5881's (KT-66's) in AB-feed back (see pg. 25 circuit)	6,600 ohms CT	4, 8, 16 43% screen taps	10-50,000	20 watts		H-2

POWER TRANSFORMERS AND CHOKES

Type No.	Application	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No.
MP-122	Pre-amp. power supply using 6x4, 6X5GT rectifier	115	220-0-220 15 MA	6.3 V.C.T.-6A 6.3 V.C.T.-1.2A	H-1
MP-123	Pre-amp. or tuner power supply using 6X4, 6X5GT rectifier	115	275-0-275 35 MA	6.3 V.C.T.-6A 6.3 V.C.T.-2A	H-2

Type No.	Application	Inductance	DC Current	DC Resistance	Test Voltage	Case No.
HC-115	Parallel feed and filter choke	Series-400 Hys. Parallel-100 Hys.	2.5 MA 5 MA	6000 ohms 1500 ohms	1500	H-1
HC-116	Parallel feed and filter choke	Series-600 Hys. Parallel-150 Hys.	8 MA 16 MA	3400 ohms 850 ohms	1500	H-2
HC-117	Parallel feed and filter choke	Series-200 Hys. Parallel-40 Hys.	15 MA 35 MA	3200 ohms 800 ohms	1500	H-1



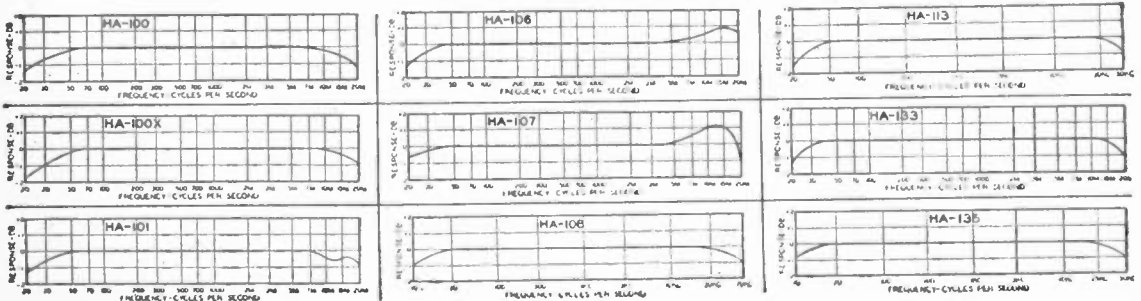
TYPE H-1 CASE

Length 2 3/8"
 Width 1 1/8"
 Height 3 1/8"
 Mounting 1 3/8" x 1 3/8"
 Screws 6-32
 Cutout 1 3/8" dia.
 Unit Weight 2 lbs.



TYPE H-2 CASE

Length 3 1/8"
 Width 2 1/8"
 Height 3 1/2"
 Mounting 2 x 2 3/8"
 Screws 6-32
 Cutout 2 3/8" dia.
 Unit Weight 5 lbs.





ULTRA COMPACT AUDIO UNITS

The UTC Ultra compact audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 db from 20 to 20,000 cycles, except where noted. Hermetic equivalents of this series (RC-50 case) are listed on page 1408.

All units except those carrying DC in Primary employ a true hum balancing coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast case provides for top or bottom mounting. Maximum operating level ± 15 dbm, except where noted.

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-10	Low impedance mike, pick-up, or multiple line to grid	50, 125 150, 200 250, 333, 500 600 ohms	50,000 ohms (split)	20-20,000
A-11	Low impedance mike, pick-up, or line to 1 or 2 grids ± 5 dbm	50, 200, 500	50,000 ohms CT	20-20,000
Multiple alloy shield for extremely low hum pickup				
A-12	Low impedance mike, pick-up, or multiple line to push pull grids	50, 125 150, 200 250, 333, 500 600 ohms	80,000 ohms overall, in two sections	20-20,000
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	20-20,000
A-20*	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125 150, 200 250, 333, 500 600 ohms	50, 125 150, 200 250, 333, 500 600 ohms	10-50,000
A-21*	Mixing, low impedance mike, pickup, or line to line	50, 200 250, 500 600	50, 200 250, 500 600	30-30,000
Multiple alloy shield for extremely low hum pickup				

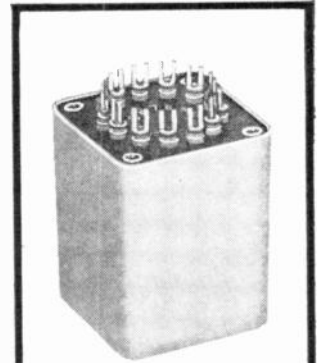
* High electrostatic shielding.

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-15	Transistor interstage Max. level ± 30 dbm	10,000/2,500 (split) 8 MA D.C. unbal.	2,000 500 (split)	40-20,000
A-16	Single plate to single grid	15,000 ohms	60,000 ohms, 2:1 turn ratio	20-20,000
A-17	Single plate to single grid 8 MA unbalanced D.C.	As above	As above	40-20,000
A-18	Single plate to two grids. Split primary, can also be used for P.P. plates	15,000 ohms (split)	80,000 ohms overall, 2.3:1 turn ratio overall	20-20,000
A-19	Single plate to two grids 8 MA unbalanced D.C.	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	40-20,000

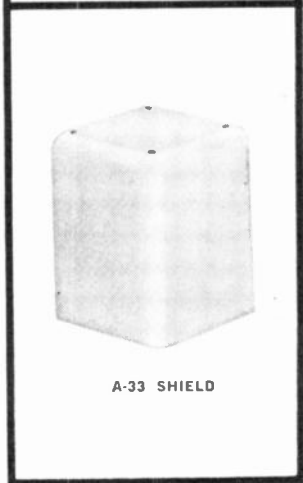
PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-22	Transistor to line Max. level ± 30 dbm	500 CT 20 MA D.C. unbal.	500 125 (split)	40-20,000
A-23	Transistor to voice coil Max. level ± 30 dbm	500 CT 20 MA D.C. unbal.	16 4 (split)	40-20,000
A-24	Single plate to multiple line	15,000 ohms (split)	50, 125 150, 200 250, 333, 500, 600 ohms	20 40,000
A-25	Single plate to multiple line 8 MA unbalanced D.C.	15,000 ohms	50, 125 150, 200 250, 333, 500 600 ohms	40-20,000
A-26	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200 250, 333, 500 600 ohms	20-40,000
A-27	Crystal microphone to multiple line	100,000 ohms (split)	50, 125/150, 200 250, 333, 500 600 ohms	30-20,000 measured with noninductive source
A-28	Transistor to voice coil 5 watts level	48 CT	16, 8, 4	40-20,000
A-30	Audio choke, 250 Hys. @ 5 Ma, 6000 ohms D.C.; 65 Hys. @ 10 Ma, 1500 ohms D.C.; 450 Hys. @ 0 Ma.			
A-32	Filter choke 60 Hys. @ 15 Ma, 2000 ohms D.C.; 15 Hys. @ 30 Ma, 500 ohms D.C.			
A-33	Hypermalloy shield, slip fit over A case, provides approximately 20 db shielding. . . 1 1/2" x 1 1/2" x 2 1/2"			

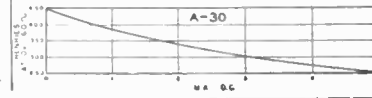
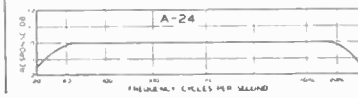
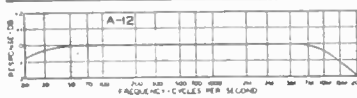
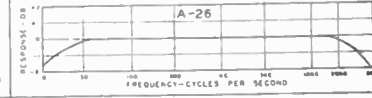
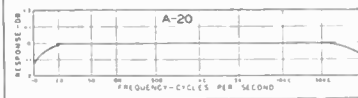
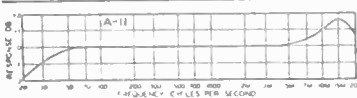
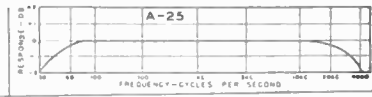
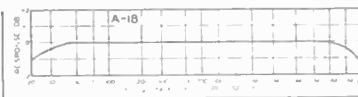
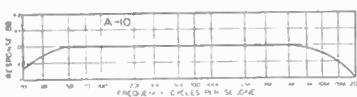


TYPE A CASE

Length	1 1/2"
Width	1 1/2"
Height	1 1/2"
Mounting	1 1/2" sq.
Screws	4-40
Cutout	1 3/8" dia.
Unit Weight	1/2 lb.



A-33 SHIELD





COMMERCIAL GRADE COMPONENTS

The Commercial Grade series of transformers incorporate conservative design and rugged construction to assure dependability under continuous service operation in commercial grade equipment. These units are mounted in uniform drawn cases finished in light grey enamel, and intended for chassis mounting. All items are poured with special sealing compound in addition to vacuum impregnation of coil structures.

All audio components are linear $\pm 1\frac{1}{2}$ db from 40 to 10,000 cycles (no unbalanced D.C.), except CVL and CVM units . . . 40 to 6000 cycles. CG-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. Parallel feed low level interstage units with 50,000 ohms and .25 mfd.; 200 ohm windings on input transformers are balanced and may be used for 150 to 250 ohm circuits.

INPUT, INTERSTAGE, MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

Type No.	Application	Primary Impedance Ohms	Max. Level dbm	Secondary Impedance Ohms	Case No.
CG-131	1 plate to 1 grid	15,000	28	135,000 1:3 ratio	RC-50
CG-132	1 plate to 2 grids	15,000	30	135,000 split 1:3 ratio overall	RC-62
CG-133	2 plate to 2 grids	30,000 P to P	32	80,000 overall 1:1.6 ratio overall	RC-75
CG-134	Line to 1 grid hum-bucking	50, 200, 500	30	80,000	RC-50
CG-135	Line to 2 grids hum-bucking	50, 200, 500	30	120,000 overall	RC-50
CG-235	Line to 1 or 2 grids, hum-bucking, multiple alloy shielded for low hum pickup	50, 200, 500	28	80,000 overall	RC-75
CG-136	Single plate and low impedance mike or line to 1 or 2 grids hum-bucking	15,000, 50, 200	30	80,000 overall	RC-62
CG-137	Mixing	50, 200, 500	28	50, 200, 500	RC-50
CG-140	Triode plate to line	15,000	30	50, 200, 500	RC-50
CG-141	PP triode plates to line	30,000 P to P	32	50, 200, 500	RC-50
CG-233	PP 6C5, 12AU7, similar triodes to AB 45's, 2A3's, 6L6's, etc.	30,000 P to P	35	25,000 overall 1:9 ratio overall	RC-87
CG-333	PP 6C5, 12AU7, similar triodes to fixed bias 6L6's	30,000 P to P	35	3,300 overall 1:33 ratio overall	RC-87
CG-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000 P to P	10W.	800 overall 1:4 ratio overall	RC-100

ULTRASONIC TRANSFORMERS

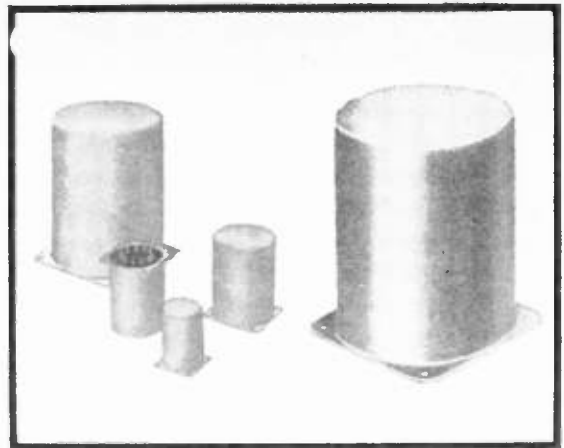
Frequency Range 10 KC to 50 KC

Type No.	Application	Pri. Imp. PP Ohms	Max. Watts	Sec. Imp. Ohms	Case No.
CGU-1	Driver, PP 5881's to PP 6156's	7000	25	4150 G-G	RC-62
CGU-2	Driver, PP 6550's to PP 5868's	5000	100	2400 G-G	RC-62
CGU-3	Output, PP 6550's	5000	100	300 170 75 18.75	RC-62
CGU-4	Output, PP 6155's 4-125's	7200	300	300 170 75 18.75	RC-87
CGU-5	Output, PP 6155's 4-125's	7200	300	30 17 7.5 1.88	RC-87
CGU-6	Output, PP 6156's 250TH's	4500	600	300 170 75 18.75	RC-125
CGU-7	Output, PP 6155's 250TH's	4500	600	30 17 7.5 1.88	RC-125
CGU-8	Output, PP 6156's	9200	1000	300 170 75 18.75	RC-175
CGU-9	Output, PP 5868's	10200	2000	300 170 75 18.75	5 1/4 x 5 1/4 x 8

OUTPUT TRANSFORMERS

Secondary Impedances: 500, 200, 16, 8, 5, 3, 1.5 ohms

Type No.	Imped. P. P. Ohms, Overall	Typical Tubes	Max. Watts	Case No.
CG-15	8,000	6F6 triode, 6V6, 6AQ5	20	RC-100
CG-16	3,000 5,000	2A3, 6AS7G, 6L6, 6080	20	RC-100
CG-19	6,000/10,000	6V6 Triode: 6L6, 5881	20	RC-100
CG-710	14,000 20,000	7B5, 6AK6, 6K6GT	20	RC-100
CG-2L6	9,000	6L6's, AB1, 5881	30	RC-125



COMMERCIAL GRADE CASE

Case No.	Base Dim. (Sq.)	Mounting Dim. (Sq.)	Mounting Screw	Height	Output Dia.	Unit Weight Lbs.
RC-37	1 1/8	1 1/8	4-40	1 1/2	1 1/2	35
RC-50	1 1/8	1 1/8	6-32	2 1/2	2 1/2	32
RC-62	1 1/8	1 1/8	6-32	2 1/2	2 1/2	1
RC-75	2 1/8	1 1/8	8-32	3 1/2	2 1/2	1 1/2
RC-87	2 1/8	2 1/8	8-32	3 1/2	2 1/2	2 1/2
RC-100	3	2 1/8	8-32	3 1/2	2 1/2	3 1/2
RC-112	3 1/8	2 1/8	10-32	4 1/2	2 1/2	5
RC-125	3 1/8	3	10-32	4 1/2	3	6 1/2
RC-150	4 1/2	3 1/8	12-28	5 1/2	3 1/2	11
RC-152	5 1/8	4 1/8	12-28	5 1/2	4	15 1/2
RC-175	5 1/4	4 1/8	1/4 20	7 1/8	4	22

FEEDBACK OUTPUT TRANSFORMERS

(See page 25 for typical circuit)

Secondary Impedances: 4, 8, 16 ohms and 70 Volt line.

Type No.	Primary Impedance	Typical Tubes	Audio Watts	Case No.
CG-20	5,000 CT, 43% screen taps	EL-34 in AB	2 1/2	RC-125
CG-21	3,300 CT, 40% screen taps	6550's in AB	50	RC-150

CG VARIMATCH OUTPUTS FOR P. A.

Universal units designed to match any tubes within the rated output power, to line or voice coil. Output impedance 500, 200, 50, 16, 8, 5, 3, 1.5 ohms. Primary impedance 3000, 5000, 6000, 8,000, 10,000, 14,000 ohms, center tapped.

Type No.	Audio Watts	Typical Tubes	Case No.
CVP-1	12	2A3, 25L6, 6V6, 6AQ5	RC-100
CVP-2	30	2A3, 6L6, 6V6, 807, 5881	RC-125
CVP-3	60	300B's, 6L6's, 807, 1614, 5881, 1625	RC-150
CVP-4	125	807's, 4-6L6's, 845's, 4-1614's, 6146, 6159	RC-152
CVP-5	300	242A's, 838's, 4-845's, ZB-120's	RC-175

CG VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained, as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5, 5, 5.5, 6, 6.25, 6.6, 1, 7.5, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75 ohms.

Where speakers are to be connected in groups to one transformer, it is preferable that parallel connections be used to eliminate the possibility of multiple resonance. If two speakers of different impedances are connected in parallel, the lower impedance speaker will develop greater power. If connected in series, the higher impedance speaker will develop greater power.

Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.
CVL-1	15	500 ohms	.2 to 75 ohms	RC-87
CVL-2	40	500 ohms	.2 to 75 ohms	RC-125
CVL-3	75	500 ohms	.2 to 75 ohms	RC-150



COMMERCIAL GRADE COMPONENTS

UTC CG power transformers, Varimatch units and chokes are designed to A.I.E.E. commercial standards. Ratings are conservative for continuous duty. Units are tested for breakdown at twice maximum working voltage plus 1000 volts and surge tested at 250% normal voltage. All items are vacuum impregnated and sealed with special insulating compound. The conservative design and manufacturing procedure of these units make them suitable for virtually all types of commercial equipment as well as ideally suited for quality amateur and public address service. RC case dimensions on page 1416.

CG VARIMATCH MODULATION UNITS

Will match any modulator tubes to any RF load.

The UTC Varimatch transformer eliminates the power loss and high distortion caused by imprecise matching of RF load to a class B modulation through the use of a combination of tapped windings affording an extremely wide range in impedance matching. Designs provide that for any load impedance employed, full class C plate current can be carried by secondary winding.

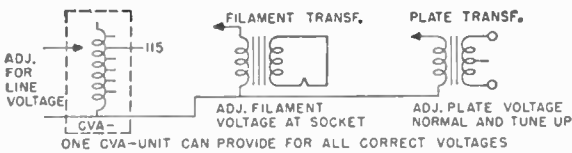
Primary impedances from 500 to 20,000 ohms
Secondary impedances from 30,000 to 300 ohms

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case No.
CVM-0	12	25	2A3	RC-100
CVM-1	30	60	6V6, 2A3, 6L6, 807, 5881	RC-125
CVM-2	60	125	801A, 6L6, 809, T-20, 1608, 6159	RC-150
CVM-3	125	250	800, 807, 845, T2-20, RK-30, 35-T	RC-152
CVM-4	300	600	50-T, 805, 838, T-55, ZB-120, 4-65A	RC-175
CVM-5	600	1200	805, HF-300, HK-354, 250TH, 810, 4-125A	7x12x9H 60 lbs.

CG VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Max. Level Watts	Case No.
CG-51AX	All single tubes like: 6C5, 6C4, 12AU7, 2A3, 5814A Ratios 2.8:1, 3:1, Pri. to 1/2 sec.	2A3, 6L6	5	RC-87
CG-53AX	P. P. tube like: 2A3, 6L6, Ratios 2:1, 3:1, Pri. to 1/2 sec.	841, 801A, 800, 838, 805, 50T	20	RC-112
CG-59AX	50, 200, 500 ohm line Ratios 1:1, 1.4:1, Pri. to 1/2 sec.	805, 838, ZB-120, 100TH, 800, 55T	20	RC-112

VARIPOWER AUTO-FORMERS

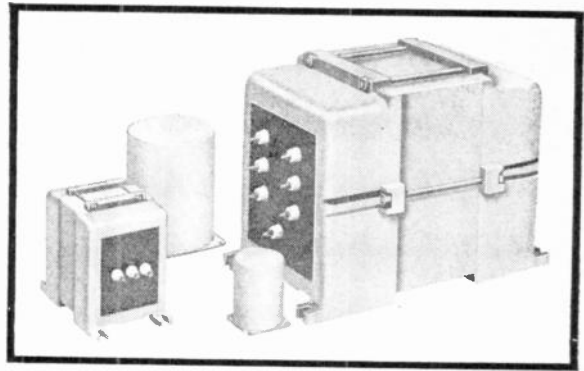


Designed for line voltage control, filament control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the tube socket to within 2 1/2% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

POWER AND BIAS TRANSFORMERS

Primary 115 volts 50 60 cycles
(DC MA is for choke input. Reduce to 70% for condenser input.)

Type No.	High Voltage	DC MA.	Fil. 1	Fil. 2	Fil. 3	Fil. 4	Case No.
CG-422	435-365-0 365-435 125-0-125	125	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	RC-150
CG-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152
CG-429	600-525-0- 525-600	250	5V-3A	6.3VCT-3A	7.5 VCT-3A, tapped 6.3 VCT-4A		RC-152
CG-431	500-400-0- 400-500 80-0-80	500 100	5V-6A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	RC-175
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6%—250 MA						RC-125
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6%—250 MA						RC-152



CG PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50 60 cycles. For reduced power, secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V. Pri. is used on 110 volts; secondary voltage is simultaneously halved.

Type No.	High Voltage	DC Voltage	DC MA	Case No.
CG-300	625-515-0-515-625	500 400	200	RC-150
CG-301	580-530-300-0-300-530-580	475 425 250	420	RC-152
CG-302	950-750-0-750-950	760 610	360	RC-175
CG-303	1500-1235-400-0-400-1235-1500	1250 1000 300	260* 175	RC-175

* 300*MA, if used without load on low voltage winding.

END CASTING UNITS

Type No.	High Voltage	DC Voltage	DC MA	L	W	H	Mtg. Dim.	Wt. Lbs.
CG-304	1500-1235-0-1235-1500	1250 1000	800 15	8"	10"	7 1/2"	13 1/2"	100
CG-305	2400-1750-0-1750-2400	2000 1500	300 10 1/2	4 1/2"	6"	3 1/2"	9 1/2"	50
CG-306	2400-1750-0-1750-2400	2000 1500	500 15	8"	10"	7 1/2"	13 1/2"	100
CG-307	3500-3000-2400-0-2400-3000-3500	3000 2500	300 14 1/2	8"	10"	7 1/2"	12 1/2"	90
CG-308	3500-3000-2400-0-2400-3000-3500	3000 2500	500 16 1/2	8"	10"	7 1/2"	14 1/2"	125
CG-309	3500-3000-2400-0-2400-3000-3500	3000 2500	1000 21	10"	13 1/2"	8 1/2"	19"	185
CG-310	4600-4050-3500-0-3500-4050-4600	4000 3500	600 19	10"	12 1/2"	8 1/2"	16 1/2"	150
CG-311	1500-1235-0-1235-1500	1250 1000	500 10 1/2	4 1/2"	6"	3 1/2"	9 1/2"	50
CG-312	1800-1500-0-1500-1800	1500 1250	400 10 1/2	4 1/2"	6 1/2"	3 1/2"	9 1/2"	50

FILTER CHOKES

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts RMS	Case No.
CG-40	10	200	110	1750	RC-112
CG-44	30	100	400	1750	RC-100
CG-45	250	15	5000	1750	RC-87
CG-48C	75	50	2200	1750	RC-87
CG-100	12	150	110	2500	RC-125
CG-102	12	250	100	3000	RC-150
CG-104	10	350	90	5000	RC-152
CG-108	10	500	52	7000	RC-175
CG-1S	10	1000	40	9000	11 1/2" x 4 1/2" x 6", H. 40 lb.

SWINGING INPUT CHOKES

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts RMS	Case No.
CG-101	25 5	150	110	2500	RC-125
CG-103	25 5	250	100	3000	RC-150
CG-105	25 5	350	90	5000	RC-152
CG-109	25 5	500	52	7000	RC-175
CG-1C	25/5	1000	40	9000	11 1/2" x 4 1/2" x 6", H. 40 lb.

FILAMENT TRANSFORMERS

Primary 105 115, 210, 220, 230 volts, 50/60 cycles, except CG-34 . . . 105, 115, 220, 230. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is simultaneously reduced to half.

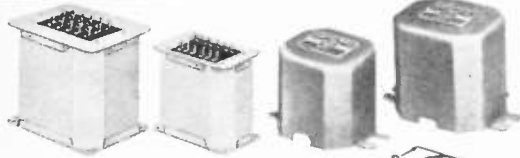
Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Volts RMS	Case No.
CG-33	6.3	4	500	2000	RC-75
CG-34	2.5	10	2500	6000	RC-112
CG-120	2.5	10	5000	11000	RC-125
CG-121	5	25	5000	11000	RC-150
CG-122	7.5 6.3	10	1500	4000	RC-125
CG-124	10	10	1500	4000	RC-150
CG-125	14/12/11	10	1500	4000	RC-150
CG-126	14/11/10 14 11/10	10 10	1500	4000	RC-152

Two Windings.



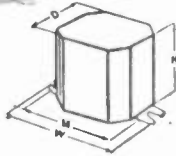
SPECIAL SERIES AUDIO & POWER COMPONENTS

UTC Special Series units are specifically designed for amateur and popular-priced PA service. They are finished in a rich, commercial type medium gray enamel. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Large components are housed in formed cases with top or bottom mounting. All units are vacuum impregnated—compound filled, recommended for ICAS use.



CASE SIZES

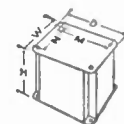
Type No.	H	W	D	M	Wt. Lbs.
G-1	1 7/8	2 1/8	1 3/8	2 3/8	1
G-2	2 1/8	3 3/8	1 1/2	2 7/8	1 1/2
G-3	2 1/2	3 3/4	2 1/2	3 1/4	2
G-4	2 1/2	4 1/8	2 1/8	3 3/8	3



CASE SIZES

(Will take 12-28 Mtg. Screw)

Type No.	H	W	D	M	N	Wt. Lbs.
G-5	3 1/4	3 1/4	4 1/2	3 3/4	2 1/8	4 1/2
G-7	4 1/4	4 3/8	5 1/2	4 1/2	3 1/2	8
G-8	4 3/8	5 3/8	5 3/8	4 1/2	4 3/8	12
G-9	5 1/8	5 3/8	6 3/8	5 1/2	4 1/2	21
G-10	5 3/8	6 3/8	6 3/8	5 1/2	5 1/2	24
G-11	5 3/8	6 3/8	7 3/8	6 1/2	5 1/2	31
G-12	10 1/4	7 3/8	9 3/4	8 1/2	6 3/8	52



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case
S-1	1 plate* to 1 grid	3 1/2:1	G-2
S-2	1 plate* to 2 grids	2:1	G-2
S-3	1 plate* to 1 or 2 grids compact type	4:1	G-1
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1

* Will match tubes like 6J5, 6C4, 12AU7, etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

(See Modulator chart for tube types, ratios are Pri. to 1/2 sec.)

Type No.	Application	Max. Watts	Case
S-8	Single driver plate to pushpull grids, 2.66:1, 5:1 ratios	5	G-3
S-9	Pushpull driver plates to grids of class B tubes up to 400 watts output, 2.25:1, 3.6:1, 5:1 ratios	20	G-4
S-10	12AU7 or similar plates to 5881 or 6L6's, self or fixed bias, 2.25:1 ratio	5	G-3

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case
S-11	Single 6J5, 6C4, 12AU7 or similar tube to line	15,000	200/500	G-2
S-12	Line to speaker 15 watts	500, 2000, 4000	2, 4, 8, 15	G-2
S-13	Line to speaker 30 watts	500, 2000, 4000	2, 4, 8, 15	G-4

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

(Secondary Impedances: 500, 15, 8, 2 ohms)

Type No.	Primary Impedance	Typical Tubes	Class	Case
S-14 10 W.	2500 ohms	2A3, 6B4, 6L6, 6Y6, 25L6GT, 35L6GT	A	G-2
	4000 ohms	6V6, 12A6	A	
	7000 ohms	6AC5, 6F6, 7B5, 6K6GT	A	
	10,000 ohms	1G5, 3C5, 6A4, 6N7	A	
	P. P. Tubes			
S-15 12 W.	4000 ohms	6Y6, 25L6GT	AB	G-2
	5000 ohms	2A3, 6AS7G	AB	
	10,000 ohms	6080	B	
S-16 30 W.	3000 ohms	2A3, 25L6GT	AB	G-4
	6000 ohms	6F6 triodes, 6AS7G	AB	
S-17 55 W.	3800 ohms	6L6's	AB2	G-5
	4500/5000 ohms	4-6L6's 809, 6146	AB1 B	

UNIVERSAL MODULATION TRANSFORMERS

Secondary carries class C current
Any modulator tubes to any RF load. (See chart)

Type No.	Audio Power	Case
S-18	12 watts	G-3
S-19	30 watts	G-4
S-20	55 watts	G-5
S-21	110 watts	G-7
S-22	250 watts	G-9

FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Test Volts Rms	Case No.
S-23	Audio	300 Hy.	5 Ma.	5000 ohms	1500 V.	G-2
S-24	P. P. Choke	500 Hy.	3 Ma.	6000 ohms	1500 V.	G-2
S-25	Filter	30 Hy.	30 Ma.	600 ohms	1500 V.	G-2
S-26	Filter	12 Hy.	60 Ma.	250 ohms	1500 V.	G-2
S-27	Filter	25 Hy.	75 Ma.	350 ohms	1500 V.	G-4
S-28	Filter	20 Hy.	100 Ma.	500 ohms	1500 V.	G-4
S-29	Filter	6 Hy.	175 Ma.	50 ohms	1500 V.	G-4
S-30	Swinging	4/20 Hy.	175 Ma.	90 ohms	1500 V.	G-4
S-31	Filter	6 Hy.	225 Ma.	100 ohms	2000 V.	G-5
S-32	Swinging	4/20 Hy.	225 Ma.	100 ohms	2000 V.	G-5
S-33	Filter	8 Hy.	300 Ma.	100 ohms	4000 V.	G-7
S-34	Swinging	4/20 Hy.	300 Ma.	100 ohms	4000 V.	G-7
S-35	Filter	8 Hy.	400 Ma.	60 ohms	4000 V.	G-8
S-36	Swinging	4/20 Hy.	400 Ma.	60 ohms	4000 V.	G-8
S-37	Filter	8 Hy.	550 Ma.	60 ohms	6000 V.	G-8
S-38	Swinging	4/20 Hy.	550 Ma.	60 ohms	6000 V.	G-8

COMBINED PLATE AND FILAMENT UNITS

Primary 115 V.—50/60 Cycles

Type No.	Voltage	D. C. Voltages*	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No.
S-39	490-400-0-400-490 175 Ma.	400/310	5 V.-3A	2.5 V.C.T.-6A	6.3 V.C.T. 4A	G-7
S-40	525-425-0-425-525 250 Ma.	400/310	5 V.-3A	6.3 V.C.T.-3A	6.3 V.C.T. 3A	G-7
S-41	600-0-600 200 Ma.	475	5 V.-3A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 2A	G-7
S-42	600-525-0-525-600 300 Ma.	480/400	5 V.-6A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 3A	G-8
S-43	525-0-525 450 Ma. 40-0-40 200 Ma.	400	5 V.-3A 5 V.-6A	6.3 V.-2A	6.3 V.C.T. 5A	G-9

* Based on two section filter, choke input.

PLATE TRANSFORMERS—BIAS TRANSFORMERS

Primary 115 V.—50/60 Cycles

Type No.	High Voltage	DC Voltages*	DC Current	Case No.
S-44	575-525-0-525-575	470 430	500 Ma.	G-9
S-45	900-750-0-750-900	750 620	100 Ma.	G-8
S-46	1000 750-0-750-1000	825 600	100 Ma.	G-9
S-47	1500-1250-1000-0-1000-1250-1500	1275 1050 825	300 Ma.	G-10
S-48	1500 1250-1000-0-1000-1250-1500	1300 1075 850	500 Ma.	G-11
S-49	2100-1800-1500-0-1500-1800-2100	1815 1540 1275	300 Ma.	G-11
S-50	3000-2500-0-2500-3000	2625 2175	300 Ma.	G-12
S-51	Will supply any bias voltage from 15 to 100 volts DC within approximately 6% of desired value.			
S-52	will supply any bias voltage from 75 to 400 volts DC within approximately 6% of desired value.			

* Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.
† 200 Ma. if used alone. ‡ 300 Ma. if used alone.

FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts—50/60 Cycle

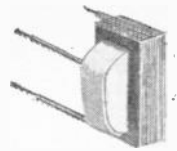
Type No.	Secondary Volts	Secondary Current	Test Volts Rms	Case No.
S-53	2.5 VCT	10 A	1500 V.	G-3
S-54	5 VCT	4 A	1500 V.	G-3
S-55	6.3 VCT	3 A	1500 V.	G-3
S-57	2.5 VCT	10 A	10,000 V.	G-5
S-58	2.5 VCT	20 A	10,000 V.	G-5
S-59	5 to 5.25 VCT	13 A	5000 V.	G-5
S-60	5 to 5.25 VCT	22 A	10,000 V.	G-7
S-61	7.5 VCT tapped 6.3 VCT	10 A	3000 V.	G-5
S-62	10 VCT	10 A	3000 V.	G-5
S-63	14 VCT tapped 12 VCT and 11 VCT	10 A.	5000 V.	G-7

Type No.	Fil. 1	Fil. 2	Fil. 3	Test Volts	Case No.
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3000 V.	G-5
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3000 V.	G-5
S-67	5 VCT-6A	6.3 VCT-5A		3000 V.	G-5
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3000 V.	G-5
S-70	6.3 VCT-5A	6.3 VCT-5A		3000 V.	G-5
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10000 V.	G-7
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5000 V.	G-5



SUB-SUBOUNCER UNITS

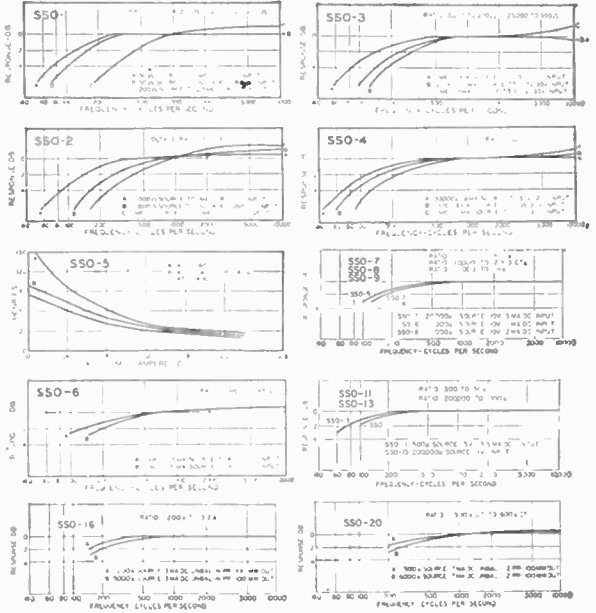
UTC Sub-subouncer units are ideal for ultra-miniaturized components having high efficiency and wide frequency response. Through the use of special nickel iron core materials and winding methods, these miniature units have superior performance and dependability characteristics. The coils employ automatic layer windings of double Formex wire . . . in a molded Nylon bobbin. All insulation is of cellulose acetate. Four inch color coded flexible leads are employed, securely anchored mechanically. No mounting facilities are provided, since this would preclude maximum flexibility in location, (but channel with mounting centers is available on production orders). Units are vacuum processed and double (water proof) sealed. The curves below indicate the excellent frequency response. Hermetic SSO units (SM case) listed on page 1408.



SUB-SUBOUNCER UNIT
Dimensions 1/2" x 3/8" x 1 1/4"
Weight02 lb.

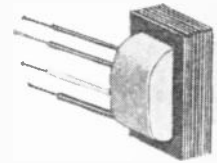
Type	Application	Max. Level dbm	Pri. Imp. ohms	Unbal. MA D.C. in Pri.	Sec. Imp. ohms	Pri. Res. ohms	Sec. Res. ohms
*SSO-1	Input	+7	200 50	0	250 K 62.5 K	13.5	3600
SSO-2	Interstage 3:1	-15	10K	0-.25	90 K	710	3150
*SSO-3	Plate to Line	+20	10K 25K 30K	3 1.5 1.0	200 500 50	2500	34
SSO-4	Output	+20	30K	1.0	50	2875	4.6
SSO-5	Reactor 50 HY at 1 mil.		D.C. 4400 ohms		D.C. Res.		
SSO-6	Output	+20	100K	.5	60	3500	3.3
*SSO-7	Transistor Interstage	+20	20K 30K	.5 .5	800 1200	800	110
SSO-8	Transistor to PP Sec.	+20	10K	1	2000 CT	1200	45
SSO-9	Transistor to V.C.	-20	10K	2	16	800	2.7
SSO-10	Transistor to V.C.	+20	10K	2	3.2	800	.65
*SSO-11	Transistor Output	+20	500 600	3.5 3.5	50 60	50	5
*SSO-12	Transistor Output	+20	1000 1200	3 3	50 60	90	5
SSO-13	Crystal to Transistor	+7	200K	0	1000	4000	190
*SSO-14	Transistor Interstage	+20	10K CT 25K CT	2 1	200 CT 500 CT	650	22
*SSO-15	Transistor Interstage	+20	20K CT 30K CT	1 1	800 CT 1200 CT	800	110
SSO-16	Output	+20	1200 1500	3 3	3.2 4	70	.45
SSO-17	Output or driver	+20	10K 12.5K	2 2	500 CT 600 CT	800	95
SSO-18	Single or P.P. Output	+20	7.5K CT 9.4K CT	4 4	3.2 4	770	.73
SSO-19	Output matching	+20	500 CT	10	600 CT	25	70
SSO-20	Output	+20	1.5K CT	7	600 CT	70	65
SSO-21	Crystal Chopper	+7	200K CT	0	1000 CT	4000	200
SSO-22	Interstage	+20	10K CT 12K CT	4 4	1500 CT 1800 CT	800	300

SSO-23 Reactor 8 Hys. @ 2 MA D.C., 4 Hys. @ 5 MA D.C. 550 ohms
SSO-24 Reactor 3.5 Hys. @ 2 MA D.C., 1.5 Hys @ 5 MA D.C. 160 ohms
*Impedance ratio is fixed, 1250:1 for SSO-1, etc. Any impedance between the values shown may be employed.

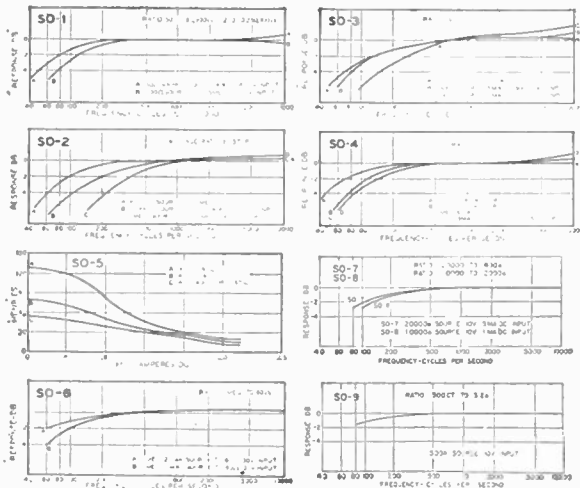


SOUNCER UNITS

UTC Souncer units have high efficiency and frequency range in miniature size, handle higher level than SSO units above. The constructional details are identical to those of the Sub-Sub-ouncer units (channel available on production orders). Available hermetically sealed on production orders (SOM case 1/4" x 1/8" x 1 1/8").



SOUNCER UNIT
Dimensions 1/2" x 3/8" x 1 1/4"
Weight03 lb.



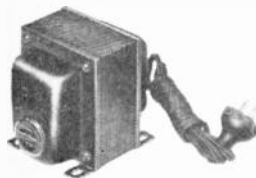
Type	Application	Max. Level dbm	Pri. Imp. ohms	Unbal. MA D.C. in Pri.	Sec. Imp. ohms	Pri. Res. ohms	Sec. Res. ohms
*SO-1	Input	+10 50	200 62.5 K	0	250 K	16	2500
SO-2	Interstage/3:1	+20	10K	0-.25	90 K	215	1850
*SO-3	Plate to Line	+23	10K 25K 30K	3 1.5 1.0	200 500 50	1225	30
SO-4	Output	+23	30K	1.0	50	1850	3.8
SO-5	Reactor 50 HY at 1 mil.		D.C. 2675 ohms		D.C. Res.		
SO-6	Output	+23	100K	.5	60	3400	3.7
*SO-7	Transistor Interstage	+23	20K 30K	.5 .5	800 1200	450	32
SO-8	Transistor to PP Sec.	+23	10K	1	2000 CT	1000	40
SO-9	PP Transistor to V.C.	+24	500 CT	0	3.2	15	.35
*SO-10	Transistor output to voice coil	+24	2000 CT 4000 CT	2 4	8 16	290	2

*Impedance ratio is fixed, 1250:1 for SO-1, etc. Any impedance between the values shown may be employed.

STEP DOWN AUTO-TRANSFORMERS

220, 240 Volt to 110/120 Volts, 50/60 Cycles.

All units have 6 foot cord and female receptacle, except R-64.



Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-41	85	3 ¹ / ₈	2 ³ / ₈	3 ¹ / ₈	2x1 ¹ / ₂	4
R-42	125	3 ¹ / ₂	3	3 ¹ / ₂	2 ¹ / ₂ x2 ¹ / ₈	5
R-43	175	3 ³ / ₈	3 ¹ / ₄	3 ⁷ / ₈	2 ¹ / ₂ x2 ¹ / ₈	5 ¹ / ₂
R-44	250	4 ³ / ₈	3 ¹ / ₄	3 ⁷ / ₈	2 ¹ / ₂ x2 ¹ / ₈	6 ¹ / ₂
R-45	500	4 ⁵ / ₈	3 ⁷ / ₈	4 ⁵ / ₈	3x3 ¹ / ₂	12
R-46	1200	6 ⁷ / ₈	3 ⁷ / ₈	4 ⁵ / ₈	3x5 ¹ / ₂	18
R-64	2500	10 ¹ / ₂	4 ¹ / ₂	6 ¹ / ₂	3 ¹ / ₂ x9 ³ / ₈	30

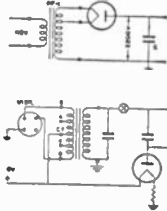
PHOTO FLASH TRANSFORMERS

Can be used for either standard (Amglo type) or trigger (Sylvania type) multiple flash bulbs. Circuit details included with transformer.

PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. Compound sealed in G-3° case 2¹/₈ x 2³/₄ (3³/₈ including flanges) x 2¹/₂ inches high. Weight 2 lbs.

PF-2 For portable service. Primary tapped for 4 volt or 6 volt battery (full wave vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 Mfd. Compound sealed in G-3° case. Weight 2 lbs.

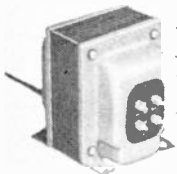
PF-3 Trigger Transformer 15 KV peak. 7/8 O.D. x 3 long. Weight 2 oz. *See page 1418.



SIGNALLING AND CONTROL TRANSFORMERS

Primary 110-120 volts, 50/60 cycles—Secondary 4/8/12/16/20/24 volts

High power transformers suitable for operating relays, sirens, horns, gongs, etc. from 115 V. 50/60 cycle line. These units have four secondary terminals providing 4, 8, 12, 16, 20 and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.

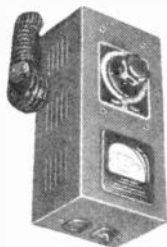


Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
SC-3	50	3	3 ¹ / ₂	3 ³ / ₄	1 ⁷ / ₈ x 2 ¹ / ₂	3
SC-4	100	3 ³ / ₄	4	4	2 ¹ / ₈ x 2 ¹ / ₂	5
SC-5	250	4	5	4 ³ / ₄	3 ¹ / ₂ x 3	10

VARITRAN VOLTAGE ADJUSTERS

Input 115 volts 50/60 cycles. Output continually adjustable from 0-130 Volts through roller contact on exposed auto-transformer winding. Regulation and efficiency are excellent, no wave form distortion. Output voltage is independent of load. Complete with line cord, switch, and receptacle . . . for loads up to 570 Watts . . . 5 A.

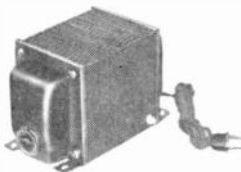
Type No.		L	W	H	Wt. Lbs.
V-1-M	with meter	4 ⁷ / ₈	9 ⁷ / ₈	3 ³ / ₈	14
V-1	without meter	4 ⁷ / ₈	8	3 ³ / ₈	12



ISOLATION TRANSFORMERS

Ideal for isolating line noise. AC-DC sets, etc. Excellent electrostatic shielding 1500 volt breakdown test. Six foot cord and female receptacle, except R-77.

Primary 110-120 volts 50/60 cycles—Secondary 110-120 volts
Except R-97 220 volt Primary—120 volt Sec.



Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-72	40	3 ¹ / ₈	2 ³ / ₈	3 ¹ / ₈	2x1 ¹ / ₂	4
R-73	100	3 ¹ / ₂	3 ¹ / ₂	3 ⁷ / ₈	2 ¹ / ₂ x2 ¹ / ₈	6
R-74	250	4 ⁷ / ₈	3 ¹ / ₂	4 ⁵ / ₈	3x3 ¹ / ₂	12
R-75	600	7 ³ / ₈	3 ³ / ₈	4 ⁵ / ₈	3x6	20
R-76	1200	8 ¹ / ₂	4 ¹ / ₂	5 ⁷ / ₈	3 ¹ / ₂ x6 ¹ / ₂	30
R-77	2500	12	7	9	6x11	70
R-97	250	4 ⁷ / ₈	3 ³ / ₈	4 ³ / ₈	3x3 ¹ / ₂	12

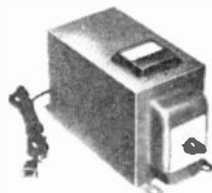
LINE VOLTAGE ADJUSTERS WITH METER

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.

These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly.

The nine tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output model.

All units are designed for 50/60 cycle service and come complete with 6 foot input cord and plug and outlet receptacle.

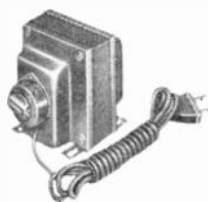


Type No.	Primary Voltage	Volts Sec.	Watts Rating	L	W	H	Wgt. Lbs.
R-78	60, 70, 80, 90, 100, 110, 120, 130, 140	115	150	7	4	4 ³ / ₄	6
R-79	60, 70, 80, 90, 100, 110, 120, 130, 140	115	300	7	4	4 ³ / ₄	9
R-80	60, 70, 80, 90, 100, 110, 120, 130, 140	115	600	10 ¹ / ₂	4	4 ³ / ₄	13
R-81	60, 70, 80, 90, 100, 110, 120, 130, 140	115	1200	10 ¹ / ₂	4	4 ³ / ₄	21
R-86	160, 170, 180, 190, 200, 210, 220, 230, 240	230	1200	10 ¹ / ₂	4	4 ³ / ₄	21

EXPORT VOLTAGE ADAPTER

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-47	85	4 ³ / ₈	3	3 ¹ / ₂	2 ¹ / ₂ x2 ¹ / ₄	4 ¹ / ₂
R-48	150	4 ⁵ / ₈	3 ¹ / ₄	4	2 ¹ / ₂ x2 ¹ / ₄	5 ¹ / ₂



TV VOLTAGE REGULATOR

Complete with cord, plug, and special locking switch. Permits operation of 115 volt 50/60 cycle TV sets on line voltages of 85, 90, 95, 100, 105, 110, 120, 125V.

Type No.	Rating Watts	L	W	H	Mtg. Dim.	Wgt. Lbs.
R-49	350	5	3 ¹ / ₄	4	2 ¹ / ₂ x2 ¹ / ₄	5

MICROPHONE CABLE TRANSFORMERS

UTC Cable transformers are designed to be inserted in the cable circuit, and are ruggedly constructed to withstand mechanical abuse. The cable connections (supplied less cable) are made through spring strain relief to terminal boards inside the end caps. 1¹/₂" diameter . . . 2¹/₂" long . . . 1/2 lb.

Type MC-1—primary tapped 30/50 and 200/250 ohms, secondary to grid, standard fidelity.

Type MC-2—primary tapped 30/50 and 200/250 ohms, secondary to grid, high fidelity.

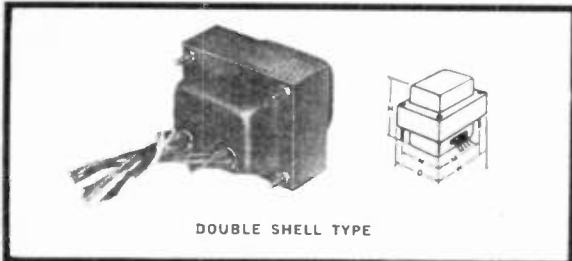




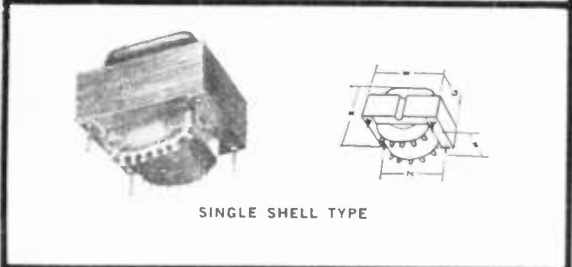
REPLACEMENT TYPE COMPONENTS

UTC replacement type transformers (Pri. 117 V. 50/60 cycles) provide the highest reliability in this field. All units are low temperature rise, vacuum sealed against humidity with special

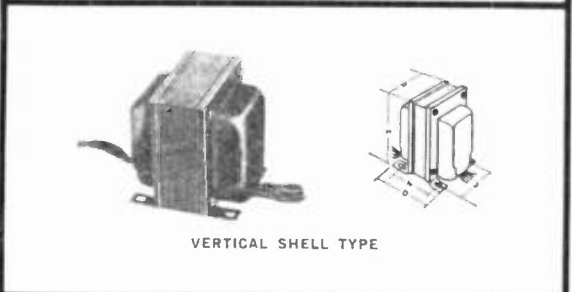
impregnating materials to prevent corrosion and electrolysis. Shells are finished in attractive high lustre black enamel.



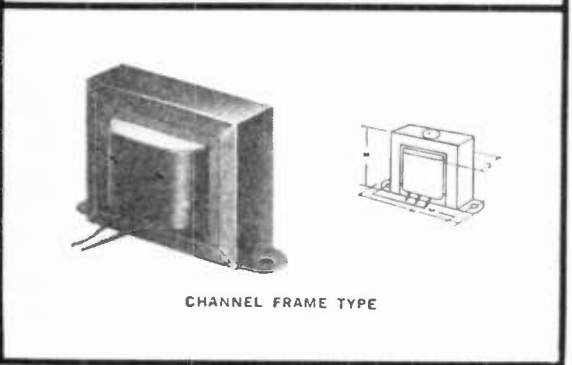
DOUBLE SHELL TYPE



SINGLE SHELL TYPE



VERTICAL SHELL TYPE



CHANNEL FRAME TYPE

DOUBLE SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rec. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lbs.
R-101	275-0-275	50	5V-2A.	6.3 VCT-2.7A	3	2 1/2	3	2 1/2	2 1/8	2 1/2
R-102	350-0-350	70	5V-3A.	6.3 VCT-3A	3	2 1/2	3 1/8	2 1/2	2 1/8	3 1/2
R-103	350-0-350	90	5V-3A.	6.3 VCT-3.5A	3 1/4	2 7/8	3 1/8	2 3/8	2 1/8	4 1/2
R-104	350-0-350	120	5V-3A.	6.3 VCT-5A	3 1/4	3 1/8	3 7/8	3 1/8	2 1/2	5 1/2
R-105	385-0-385	160	5V-3A.	6.3 VCT-5A	3 3/4	3 1/8	4 1/8	3 1/8	2 1/2	7

SINGLE SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rec. Fil.	Amp. Fil.	W	G	H	M	N	Wt. Lbs.
R-106	300-0-300	50	5V-2A.	6.3 VCT-2.7A	3	2 1/2	3 1/4	2 1/2	2 1/8	2 1/2
R-107	350-0-350	70	5V-3A.	6.3 VCT-3A	3	2 1/2	3 3/8	2 1/2	2 1/8	3 1/2

VERTICAL SHELL POWER TRANSFORMERS

Type No.	High V.	DC MA.	Rec. Fil.	Amp. Fil.	W	D	H	M	N	Wt. Lbs.
R-110	300-0-300	50	5V-2A.	6.3 VCT-2.7A	2 1/2	2 1/8	3 1/4	2	1 3/8	2 1/2
R-111	350-0-350	70	5V-3A.	6.3 VCT-3A	2 1/2	3 1/8	3 1/4	2	2 1/8	3 1/2
R-112	350-0-350	120	5V-3A.	6.3 VCT-5A	3 1/4	3 1/8	4	2 1/2	2 1/8	5 1/2
R-113	400-0-400	200	5V-3A.	6.3 VCT-6A	3 3/4	4 1/8	4 3/8	3	3 1/8	8

CHANNEL FRAME FILTER CHOKES

Inductance Shown is at Rated D.C.M.A.—Test Volts RMS: 1500

Type No.	Induct. Hys.	Current	Resistance Ohms	W	D	H	M	Wt. Lbs.
R-55	6	40MA	300	2 3/8	1 3/8	1 3/8	2	1/2
R-14	8	40MA	250	2 7/8	1 1/2	1 11/16	2 1/8	3/4
R-15	12	30MA	450	2 7/8	1 1/2	1 11/16	2 3/8	3/4
R-16	15	30MA	630	2 7/8	1 1/2	1 11/16	2 3/8	3/4
R-17	20	40MA	850	3 3/8	1 3/8	2	2 11/16	1
R-18	8	80MA	250	3 3/8	1 3/8	2	2 11/16	1
R-19	14	100MA	450	3 3/8	1 7/8	2 1/8	3 1/8	1 1/2
R-20	5	200MA	90	4 1/8	2 1/4	2 5/8	3 3/8	2 1/2
R-21	3 1/5	200MA	90	4 1/8	2 1/4	2 5/8	3 3/8	2 1/2

FILAMENT TRANSFORMERS

CHANNEL FRAME TYPE

Pri. 115 V. 50 60 Cycles—Test Volts RMS: 1500

Type No.	Secondary	W	D	H	M	Wt. Lbs.
FT-1	2.5 VCT-3A	2 3/8	1 1/2	1 11/16	2 3/8	3/4
FT-2	6.3 VCT-1.2A	2 3/8	1 1/2	1 11/16	2 3/8	3/4
FT-3	2.5 VCT-6A	3 3/8	1 7/8	2	2 11/16	1
FT-4	6.3 VCT-3A	3 3/8	1 7/8	2	2 11/16	1
FT-5	2.5 VCT-10A	3 3/8	2 1/8	2 1/8	3 1/8	1 1/4
FT-6	5 VCT-3A	3 3/8	2 1/8	2 1/8	3 1/8	1 1/4
FT-7	7.5 VCT-3A	3 3/8	2 1/8	2 1/8	3 1/8	1 1/4
FT-8	6.3 VCT-8A	4 1/8	2 1/2	2 3/8	3 3/8	2 1/4
FT-10	24 VCT-2A or 12V-4A	4 1/8	2 1/2	2 3/8	3 3/8	2 1/4

CHANNEL FRAME AUDIO TRANSFORMERS

Type No.	Application	Description	W	D	Dim., Ins. H	M	Wt. Lbs.
R-34	1 plate 8 Ma to 2 grids	4:1 ratio	2 7/8	1 3/8	1 11/16	2 3/8	3/4
R-35	Mike to 1 grid	17:1 ratio to Pri. C.T.	2 7/8	1 3/8	1 11/16	2 3/8	3/4
R-58	5 watt Universal output	Any single tube to any voice coil, .1 to 30 ohms	2 1/2	1 3/8	1 3/8	2 1/8	1 1/2
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil, .1 to 30 ohms	2 1/2	1 3/8	1 3/8	2 1/8	1 1/2
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil, .1 to 30 ohms	2 7/8	1 3/8	1 11/16	2 3/8	1 1/2
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil, .1 to 30 ohms	3 3/8	1 3/8	2	2 3/8	1
R-39	17 watt line Matching Transformer	250, 500, 1500 ohms to 2, 8, 15 ohms	2 7/8	1 3/8	1 11/16	2 3/8	3/4

electron tubes

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

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A FULL RANGE OF TRANSISTORS AND SEMICONDUCTOR DIODES AVAILABLE

Detailed Data Sheets on any of these tubes, and applications engineering service are yours for the asking.

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

†Includes sensing plate. For thermostatic control, ordered separately either:

(a) "Water Saver" Thermostat Assembly, Cat. No. S-17024, Price \$5.25.

(b) "Overload Protection" Thermostat Assembly, Cat. No. S-17025, \$5.25.

*Price on request.

-Price for this tube includes 10% Federal Excise Tax.

Prices subject to change without notice.

RADIATOR CREDIT FOR FORCED AIR-COOLED TUBES

Tube Type	Users Allowance
889RA	\$20.00
891R, 892R	30.00
5604	75.00
5667	20.00
6445	30.00
6447	30.00
6757	75.00
6801	75.00

Amperex®

ELECTRONIC CORP.
HICKSVILLE, L. I., N. Y.
IN CANADA: ROGERS ELECTRONIC
TUBES & COMPONENTS, 116 VAN-
DERHOOF AVE., TORONTO 17, ONT.

Type No.	Price
BEAM POWER TUBES	
807	\$2.90
6146	5.00
6159	5.00
PE06 40N	5.95

DIODE, CLIPPER	
6339	\$44.50

COUNTERS, GEIGER	
75N	\$16.50
75NB3	16.50
80N	45.00
85NB3	22.70
90CB	27.00
90NB	27.00
90NB4	27.00
100C	54.00
100CB	58.00
100HB	54.00
100N	43.50
100NB	45.50
120C	90.00
120CB	95.00
120N	90.00
120NB	95.00
150N	61.00
150NB	66.00
153C	91.00
160G	66.00
170G	110.00
180G	50.00
200C	67.00
200CB	71.00
200HB	67.00
200N	56.00
200NB	58.50
230C	43.00
230N	41.00
240C	43.00
240N	41.00
912NB	53.00
18503	28.00
18508	127.00
18509-01	22.40
18510	127.00
18515	186.50
18516	206.25
18517	373.00
18518	412.50

CONDENSERS, VACUUM	
VC25/20	\$22.00
VC25/32	25.25
VC50/20	26.25
VC50/32	29.50
VC100/20	32.00
VC100/32	35.00
VC250/32	75.00

COUNTER, DECADE	
6370/EIT	\$16.50

DIODE, DAMPER	
=6R3 EY81	\$2.80

TWIN DIODE, "PREMIUM QUALITY"	
=5726/E91AA	\$2.10

DIODE, VTVM	
6923/EA52	\$13.00

IGNITRONS	
15551A/652	\$65.00
15552A/651	99.00
15553B/655	245.00
5555/653B	316.00
15822A	116.00

TUNING INDICATORS	
=1M3/DM70	\$1.95
=6BR5/EM80	2.45
=6CD7/EM34	3.65
=6DA5/EM81	2.45
=6FG6/EM84	2.95
=DM71	2.00

KLYSTRONS	
DX122	**
DX123	**
DX124	**
DX151	**

KLYSTRON, REFLEX	
2K25	\$39.50

Type No.	Price
MAGNETRONS	
2J42	\$160.00
2J48	250.00
4J47	500.00
4J57	270.00
4J58	270.00
4J59	270.00
5586	417.00
5657	417.00
5780A	**
6589	**
6972	325.00

PENTODES	
=6AU6	\$ 2.10
82B	27.50
6083/AX9909	14.25
EFP60	8.75

PENTODE, DUO-DIODE	
=6DCB, EBF89	\$3.25

PENTODE, FRAME GRID	
5847	\$18.21

PENTODES, HI-FI	
=6BQ5/EL84	\$2.35
=6CA7/EL34	6.20
=6CWS/EL86	3.50
=8BQ5/XL84	2.60
=6267/EF86	2.75
=7189	3.60

TRIODE-PENTODES, HI-FI	
=6BM8/ECL82	\$3.00
=50BM8/UCL82	3.00

PENTODES, "PREMIUM QUALITY"	
5654/E95F	\$3.20
6084/E80F	3.75
6227/E80L	3.75
6686/E81L	5.00
6688/E180F	8.00
6689/E83F	4.50
E90F	**
E99F	**

TRIODE-PENTODES	
=6B8	\$3.30
=6BL8 ECF80	3.80

TRIODE-PENTODE "PREMIUM QUALITY"	
E80CF	**

PENTODES, SUBMINIATURE	
6007/5913	\$1.50
6008/5911	1.50

RECTIFIERS	
=1S2A/DY87	\$2.75
=5AR4/GZ34	4.20
=5R4G-Y	1.90
=6CA4/EZ81	2.10
=6V4/EZ80	1.50
575A	22.15
673	22.15
8020AX	15.00

RECTIFIERS, MERCURY	
857B	\$235.00
866AX	2.65
869B	150.00
869BL	150.00
872AX	9.90
6508	80.00
6693	25.00
7136	25.00
8008AX	9.90

RECTIFIERS, XENON	
3B28	\$ 7.60
4B32	13.50

VOLTAGE REFERENCE TUBES	
OE3/85A1	\$2.50
OG3/85A2	2.50

VOLTAGE REFERENCE TUBE "PREMIUM QUALITY"	
5651	\$2.50

Type No.	Price
VOLTAGE REGULATORS	
0A2	\$1.75
0B2	1.90
90C1	2.50
6354, 150B2	3.00

TETRODES	
4-125A	\$ 36.00
4-250A	46.50
4-400A	55.00
4CX250B	45.00
4X150A	38.95
4X150D	38.95
4X250B	42.50
4X250F	42.50
4X500A	121.00
6075-AX9907	250.00
6076/AX9907R	305.00
6079, AX9908	60.00
6155	36.00
6156	46.50
6979	42.50
7527	55.00

TETRODES, BEAM	
813	\$22.65
7378	**

TWIN TETRODES	
829B	\$18.90
832A	15.85
5894/AX9903	25.00
6252 AX9910	25.00
6907	25.00
6939	14.00
7377	**

THRATRONS	
2D21	\$ 2.05
3C23	11.98
5560/FG95	33.00
5632/C3J	15.50
5684/C3JA	19.80
5685/C6JA	29.30
5727/E91N	2.70
5949/1907	**
AX260	150.00

THRATRONS, HYDROGEN	
=6268/AX9911	\$32.50
=6279/AX9912	45.00

THRATRONS, MERCURY	
5557/FG17/967/1701	\$ 9.50
5559	22.00
5869/AGR9950	25.00
5870/AGR9951	100.00
6786	200.00
AX105/FG105	53.33

THRATRONS, XENON	
2050	\$ 1.85
5544	38.41
5545	29.30

TRIODES	
=6Q4/EC80	\$ 6.00
=6R4/EC81	2.50
450TH	77.00
450TL	77.00
501R/5759	225.00
502/5760	210.00
502R/5761	235.00
504R	245.00
805	20.00
810	25.55
811A	6.50
812A	6.50
833A	47.90
834	71.36
838	20.00
845	20.85
849	185.00
849A	185.00
880	565.00
889A	221.00
889RA	347.00
891	275.00
891R	430.00
892	270.00
892R	425.00
5604	570.00
5619	423.00
5658	565.00
5666	280.00
5667	370.00

Type No.	Price
TRIODES (Con't)	

5771/356	\$600.00
5866/AX9900	20.00
5867/AX9901	30.00
5868/AX9902	55.00
5923/AX9904	165.00
5924/AX9904R	231.00
5924A	275.00
6077/AX9906	1675.00
6078/AX9906R	1900.00
6333	**
6445	420.00
6446	305.00
6447	465.00
6756	388.00
6757	535.00
6758	173.00
6759	206.00
6800	350.00
6801	505.00
6960	150.00
6961	210.00
7092	125.00
7459	230.00
DX144/EC56	**
DX145/EC57	**
HF200	49.50
HF201A/468	34.50
HF300	40.50
ZB3200	390.00

TRIODES, FRAME GRID	
=2ER5	\$ 2.90
=3ER5	2.90
=4ER5	2.90
=6ER5/EC95	2.90
5842	18.21

TRIODE, INDICATOR "PREMIUM QUALITY"	
6977/DM160	\$3.50

TWIN TRIODES	
=4ES8, XCC189	\$4.55
=6AQ8/ECC85	2.60
=6DJ8/ECC88	4.55
=6ES8 ECC189	4.55
=6J6, ECC91	2.80
=9AQ8/PCC85	3.10
=12A7/ECC81	3.05
=12AU7/ECC82	2.45
=12AX7/ECC83	2.50
=17EW8/HCC85	2.60
5920/E90CC PQ	2.40
6085/E80CC PQ	3.75
6201 PQ	3.25
6211 PQ	2.40
6360	**
6463 PQ	2.95
6922/E88CC PQ	4.75
7062/E180CC PQ	2.40
7119/E182CC PQ	4.15
7316	2.00
E92CC	2.40

TRIODE, GLOW DISCHARGE	
5823/Z900T	\$2.50

TRIGGER TUBES, COLD CATHODE	
Z50T	\$2.20
Z70U	1.95
Z300T	4.95
Z804U	4.30

HEPTODE, DUAL CONTROL, "PREMIUM QUALITY"	
6687/E91H	\$1.45

BEAM DEFLECTION TUBE "PREMIUM QUALITY"	
6218/E80T	\$15.00



AUTOMATIC

AMPERITE

REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE



STANDARD

AUTOMATIC REGULATION

What It Is!

The **AMPERITE** Ballast-Regulating Tube is an automatic "rheostat" designed to keep the current in a circuit at a definite value, for example, 0.5 amps.

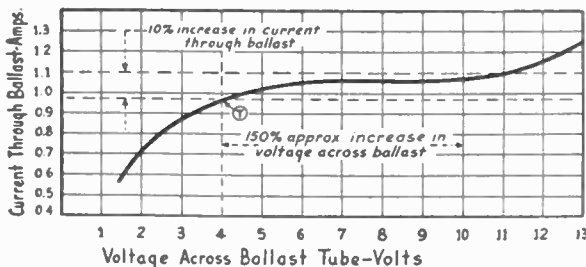
Should the supply voltage increase, this Ballast-Regulating Tube will automatically increase in resistance to take up the increase in supply voltage.



MINIATURE

Being a constant current device, the **AMPERITE** Ballast-Regulating Tube can be used only to regulate a constant load—fixed wattage. Thermostatic relays can sometimes be included in these regulators to reduce initial surge.

We strongly recommend that you send us your specifications on special problems, and let us recommend the **BALLAST TUBE** you need.



(T) = Threshold Current & Voltage

Characteristic curve of a typical Amperite. Approximate curve of any other Amperite can be obtained by multiplying or dividing the current or voltage scale by any number.

Standard Types of Amperite Ballast Tubes List \$3.00 Amperite NE70V Neon Lamp List \$3.00

D6-1E	1H20	*3T4	4A10	6-3	7-4	9-4A	12-4
*D6T4	1H22	*3T4A	4-12	6-4	**7TF4	9-7	12-7
**D6FK7	**2TK7	**2TF4A	4H3	6-4A	7A10	9-8	12A10
**D6TF10	2A10	**3TF4	4H4	6-4B	7-11	9A10	12-11
**D6TF30	2A12	**3TFV4	**1H10	*6T4	**7HTF2	10T1	13-4
D7-20	2A20	3V4	**4HTF4	*6TF4	**7HTF3	**10TF2	15-2
D7H4	*2HT2	3-7	**4HTF7	**6TF4	**7HTF4	10-3	15-4
*D7HT11	2H4	**3TF7	4H10	6-7	7H4	10-4A	16-4
1A10	*2HT4	3A10	4H11	**6TF7	7H4B	10-4B	17-3
**1TF10	*2HTF4	3-11	5E1	6-8B	7H7	10-4C	20-3
1-15	2H10	3H11	**5TF2	6A10	7H11	10-4D	20-4
*1HT2	3-2	*3T11	5-4	6-11	*8TF2	10-4E	22-4
*1HT4	**3TF2	*3TF11	**5TF4	6-12	8-3B	10A10	24-3
1H10	*3TK2	**3TF12	5A10	6-13	8-4	10A12	34-2
**1HTF10	3-4	3-14	5-11	6A15	8A10	10-25	35-4
*1HT11	3H-1-7	3-16	5-16	6-36	*9TF2	11-3	40-6E
**1HTF11	3H4	3A20	5H3	6H4	9-3	11-4	41-7E
	*3HTF4	3H-25	5H4	*8HTF4	9-4	11A10	55-1
		3-38A	5H10	6H6		11-11	55-4
		3-50A	5H11				

*T denotes 15/16 bulb-7 pin miniature, e.g., 3T4.
**TF denotes 16/32 bulb-9 pin miniature, e.g., 3TF4.
Base Wiring: Octal, 7 and 9 pin miniature—prongs 2-7.

AMPERITE NEON LAMP
TYPE NE70V List \$3.00

ADVANTAGES

Light . . . Compact . . . No Moving Parts (Will withstand vibrations of 15G min.) (Not affected by altitude or humidity changes) . . . Can Be Changed as Easily as a Radio Tube . . . Operates Equally Well on AC or DC . . . Inexpensive.

CAPACITIES AVAILABLE

Current values of 60 ma. to 5 amps; threshold voltage 0.4 to 40 V. Maximum dissipation per **AMPERITE** 60w per tube (ST19 bulb). Any number of **AMPERITES** with the same voltage range can be operated in parallel. **AMPERITES** should not be used in series.

AGEING

AMPERITE Ballast Tubes may change approximately up to 3% in current if aged for 4 to 8 hours, at maximum voltage. They will change very little thereafter.

LIFE EXPECTANCY

Average life if operated as recommended	2000 Hours
If operated continuously at maximum voltage	1000 Hours
If operated continuously at 80% maximum voltage	5000 Hours
If filament is operated below glow point	5000 Hours up

In operation, the **Amperite** filament starts to glow at one point; as the voltage is increased, the glow spreads over the entire filament. Like incandescent lamps, turning **Amperite** on and off reduces its life, especially if operating near its maximum voltage.

TIME LAG CHARACTERISTICS

Time lag encountered in an **Amperite** Ballast Tube depends upon the wattage consumed by the ballast and the size of the bulb. Where the wattage is small for the size of the bulb, the action can be made practically instantaneous — less than 1 second. In such cases the bulb will remain at practically ambient temperature. When the wattage is high enough to heat the bulb to a temperature uncomfortable to the hand (160°F) the lag might be as much as several minutes for final readings—but normally reaches within 10% of final readings within a few seconds.

AMPERITE NUMBERING SYSTEM

In general, the **AMPERITE** number approximately denotes the current—voltage threshold value. For example:

AMPERITE NUMBER	3-4	3H4	10-7	12-11	12H11
THRESHOLD CURRENT	0.3	0.35	1.0	1.2	1.25
THRESHOLD VOLTAGE	4.0	4.0	7.0	11.0	11.0

We strongly recommend that you send us your specifications on special problems, and let us recommend the **BALLAST TUBE** you need.

AUTOMATIC

AMPERITE

REGULATOR

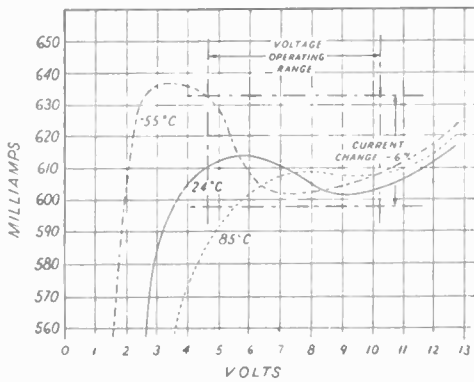
BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE



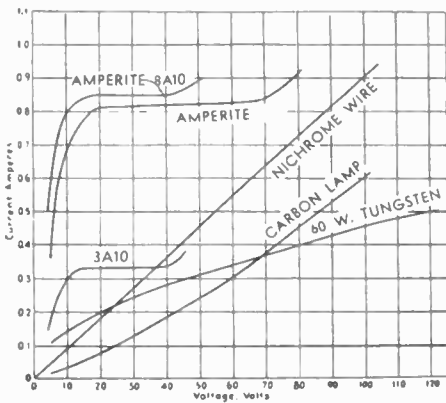
AMBIENT EFFECTS

Ambient temperature variation of -50° to $+100^{\circ}\text{C}$ will change the current value of an Amperite approximately 2% on regulating portion of curve as shown directly below. Being hermetically sealed the Amperite is not affected by altitude or humidity changes.

We strongly recommend that you send us your specifications on special problems, and let us recommend the BALLAST TUBE you need.

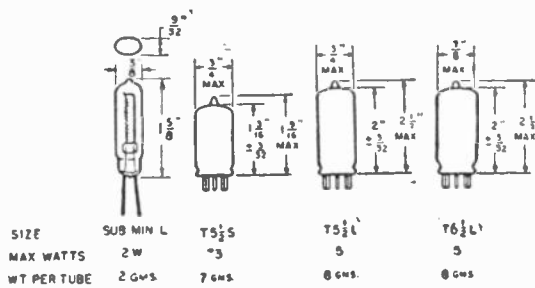


Amperite Ballast-Type 6-4 current voltage characteristic under ambient conditions of -55° , 24° , and 85°C . The percentage change with ambient is approximately the same with all type Amperite ballasts.



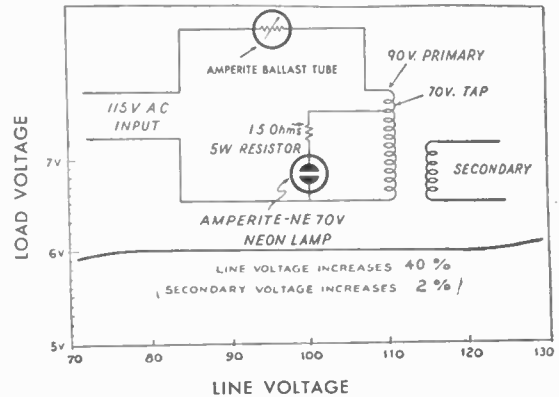
This diagram illustrates far superior regulating characteristics of the Amperite Ballast-Regulating Tube.

STANDARD SIZES available for various wattage consumption . . . For good regulation, a bulb should not be required to dissipate more than 50% of maximum wattage.



BATTERY CHARGING AND DISCHARGING

Amperite Ballast Tubes are very successfully used for keeping the current constant in charging and discharging batteries. Any number of Amperites of the same voltage range can be placed in parallel to obtain proper current. The current can be kept to $\pm 1\%$. Advise voltage variation and currents desired.



A light, compact, and inexpensive method of obtaining close regulation is to use an Amperite Ballast Tube with an Amperite Neon Lamp—type NE70V. Base octal-base wiring-prongs 2-5. One NE70V is used for all loads up to 100W.

POWER SUPPLIES

We strongly recommend, for any particular application, to fill in and return one of our special problem sheets (ASP 343) and permit us to recommend the most suitable AMPERITE.

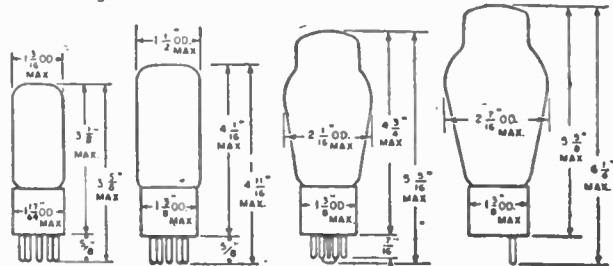
Power Supply	Dry Cells	6 Volts	12 Volts	26 Volts	115 Volts
Supply Variation	2.2-3.0V	5.5-7.5V	10.0-14.0V	22.0-30.0V	105-125V
Desired on Load	1.8-2.0V	3.9-4.1V	6.1- 6.4V	17.5-18.5V	90- 95V
Required on AMPERITE	0.4-1.0V	1.6-3.4V	3.9- 7.6V	4.5-11.5V	15- 30V
Current Variation	.29-.32a	.29-.31a	.29-.31a	.29-.32a	.29-.32a

The above chart shows the maximum load voltage for the given supply to obtain $\pm 2\%$ regulation on load. Better regulation is obtainable by increasing the voltage across the AMPERITE. Up to a point, the higher the percent of the supply voltage taken up by the AMPERITE, the better the regulation.

Radio tube filament loads—have low cold resistance which causes a high initial surge. For such loads we recommend a bleeder of 20 to 50% prox. of load and the corresponding Amperite. e.g.

FILAMENT LOAD	USE AMPERITE	TOTAL CURRENT
0.3a	4HTF4	0.45a
0.6a	8-4	0.8a
0.7a	9-4	0.9a

On Radio tube filament loads the bleeder will also improve the regulation.



Reliable products
through Advanced-Engineering



tubes • semiconductors

CBS-HYTRON

Main Office: Danvers, Massachusetts

A Division of Columbia Broadcasting System, Inc.

RECEIVING TUBES

TYPE	LIST PRICE	TYPE	LIST PRICE	TYPE	LIST PRICE	TYPE	LIST PRICE	TYPE	LIST PRICE	TYPE	LIST PRICE
OZ4	\$ 2.15	3Q5GT	3.55	6AG7	5.10	6BS8	3.75	6EA8	3.15	6X4	1.65
OZ4G	2.35	3S4	2.45	6AH4GT	3.30	6BU8	2.80	6EB8	3.70	6X5GT	2.10
1A5GT	3.20	3V4	2.35	6AH6	4.70	6BV8	3.15	6EH8	3.15	6X8	3.15
1A7GT	3.70	4A01	3.05	6AK5**	4.20	6BW8	3.25	6EW6	2.30	6Y6G	3.45
1AH4	3.05	4AU6	2.15	6AK6	2.90	6BX7GT	4.00	6F5; 6F5GT	ea. 3.10	6Y6GA	3.45
1AJ5	3.20	4BC5	2.35	6AL5	1.85	6BY5GA	4.20	6F6; 6F6G	ea. 3.65	7A4	3.25
1AX2	3.05	4BC8	4.05	6AL7GT**	5.75	6BY6	2.35	6F6GT	3.65	7A6*	3.15
1B3GT	2.90	4BN6	3.00	6AM4	5.90	6BY8	2.65	6F8G*	4.95	7A7	3.50
1DN5	2.20	4BQ7A	4.00	6AM8; 6AM8A	ea. 3.25	6BZ6	2.25	6H6	3.05	7A8	4.45
1C5GT*	3.65	4BS8	3.85	6AN4	4.95	6BZ7	4.00	6J5	2.70	7AF7*	3.85
1G3GT 1B3GT	2.90	4BU8	2.85	6AN8	3.50	6BZ8	4.25	6J5GT	2.55	7AG7; 7AH7	ea. 3.85
1H5GT	3.05	4BZ6	2.25	6AQ5	2.15	6C4	1.85	6J6	2.80	7AU7	2.60
1J3	2.90	4BZ7	4.05	6AQ5A	2.15	6C5	2.70	6J7; 6J7G*	ea. 4.00	7B5	4.75
1K3	2.90	4CB6	2.30	6AQ6	2.20	6C5GT*	2.90	6K7	3.80	7B6	3.25
1L4	2.65	4CE5/4BC5	2.35	6AQ7GT	4.00	6C6*	4.35	6K8	4.45	7B7	3.30
1L6	3.35	4CS6	2.35	6AR5	2.65	6C8G	5.10	6L6	6.10	7B8	3.55
1LA4*	4.45	4DE6	2.50	6AS5	2.40	6CB5A	7.50	6L6GB	4.20	7C5	3.35
1LA6	4.10	4DT6	2.20	6AS8	3.35	6CB6; 6CB6A	ea. 2.25	6L7	4.35	7C6	3.30
1LB4	4.45	5AM8	3.30	6AT6	1.90	6CD6G; 6CD6GA	ea. 5.80	6N7	4.35	7C7	3.05
1LC5	4.05	5AN8	3.55	6AT8A	3.20	6CE5	2.30	6N7GT*	4.35	7E7	4.45
1LC6	4.10	5AQ5	2.20	6AU4GT	3.40	6CF6	2.55	6Q7	3.30	7F7	3.65
1LD5	4.25	5AS4A	2.15	6AU4GTA	3.40	6CG7	2.45	6Q7GT*	3.20	7F8	4.60
1LE3	4.25	5AS8	3.40	6AU5GT	4.30	6CG8A	3.15	6R7*	3.60	7H7	3.95
1LH4	3.95	5AT8	3.25	6AU6; 6AU6A	ea. 2.10	6CH8	3.60	6R7GT*	3.60	7N7	3.40
1LN5	3.95	5AV8	4.05	6A8	3.50	6CK4	2.80	6S4A	2.05	7Q7	4.10
1N5GT	3.65	5AW4	2.80	6AV5GA	3.80	6CL6	3.75	6S7G*	4.10	7V7*	4.65
1Q5GT*	4.05	5AZ4	2.65	6AV6	1.65	6CL8A	3.15	6S8GT	2.90	7W7	4.75
1R5	2.55	5B8	3.95	6AW8A	3.55	6CM6	2.55	6SA7	3.40	7X7	5.85
1S4	3.65	5BE8	3.30	6AX4GT	2.65	6CM7	2.75	6SA1GT	3.25	7Y4; 7Z4	ea. 2.75
1S5	2.55	5BK7A	3.40	6AX5GT	2.95	6CN7	2.60	6SB7Y	4.40	8A8	3.50
1T4	2.40	5BQ7A	4.00	6AZ8	4.20	6CQ8	3.30	6SC7	3.30	8AW8A; 8BA8A	3.65
1U4	2.35	5BR8	3.30	6B7	3.70	6CR6	2.40	6SD7GT	4.05	8BQ5	2.40
1U5	2.10	5BT8	3.30	6BA6	2.00	6CS6	2.35	6SF5	2.70	8CG7	2.50
1V*	3.65	5CG8	3.20	6BA7	3.70	6CS7	2.80	6SF7	3.95	8CM7	2.85
1V2	2.00	5CL8	3.15	6BABA	3.55	6CU5	2.35	6SG7	3.70	8CN7	2.60
1V6	3.90	5CM8	3.55	6BC5	2.30	6CU6	4.35	6SH7	3.45	8CS7	2.95
1X2B	3.05	5CQ8	3.35	6BC7	3.80	6CU6/6BQ6GA	4.35	6SJ7	3.25	8CX8	3.70
2A3	6.30	5CZ5	2.85	6BC8	4.00	6CU6/6BQ6GTA	4.35	6SK7	3.10	9CL8	3.15
2A6*	3.65	5DH8	4.05	6BD4A	22.35	6CY5	2.75	6SK7GT	3.05	9U8A	3.30
2AF4A	4.05	5J6	2.85	6BD6	2.30	6CY7	2.95	6SL7GT	3.30	10C8	4.25
2BN4	2.55	5T8	3.40	6BE6	2.20	6CZ5	2.85	6SN7GTA	2.60	10DE7	2.95
2CY5	2.85	5U4GB	2.10	6BF5	3.55	6D6	4.35	6SN7GTB	2.60	11CY7	3.00
3A2	3.50	5U8	3.30	6BF6	1.80	6DA4	2.70	6SP7GT	2.70	12A4	2.55
3A3	3.05	5V3	3.65	6BG6G	6.50	6DB5	2.70	6SR7	2.65	12ABGT	4.75
3AF4A	4.05	5V4GA	3.30	6BG6GA	6.50	6DC6	2.75	6SS7	3.50	12AB5	2.45
3AL5	1.85	5V6GT	2.20	6BH6	2.70	6DE6	2.45	6T4	4.35	12AC6	2.20
3AU6	2.15	5X8	3.25	6BH8	3.50	6DE7	2.95	6TB	3.40	12AD6	2.30
3AV6	1.75	5Y3GT	1.75	6BJ6	2.60	6DG6GT	2.50	6T8A	ea. 3.40	12AE6	1.85
3B2	6.25	5Y4GA	2.65	6BJ7	2.95	6DK6	2.35	6U8A	3.15	12AE6A	1.90
3BA6	2.15	5Y4GT	2.65	6BJ8	2.85	6DN6	6.25	6V3A	4.35	12AE7	3.10
3BC5	2.35	5Z3	3.00	6BK4	7.10	6DQ5	7.70	6V6	4.25	12AF3	2.90
3BE6	2.25	5Z4	4.55	6BK5	3.50	6DQ6A	4.15	6W6GT	2.85	12AF6	2.30
3BN6	3.05	6A7	4.65	6BK7A	3.40	6DS5	2.65			12AJ6	1.75
3BU8	2.85	6A8	4.80	6BK7B	3.40	6DT5	2.90			12AL5	1.90
3BY6	2.35	6AB4	2.15	6BL7GTA	3.95	6DT6	2.15			12AL8	4.05
3BZ6	2.30	6AB7*	5.00	6BN4/6BN4A	2.50	6E5**	3.00			12AQ5	2.40
3C86	2.30	6AC5GT	4.35	6BN6	2.95					12AT6	1.70
3CF6	2.55	6AC7	4.25	6BN8	2.70					12AT7	3.05
3C56	2.40	6AD7G*	5.90	6BQ5	2.35					12AU6	2.15
3CY5	2.85	6AF3	2.90	6BQ6GT	4.35						
3DK6	2.40	6AF4; 6AF4A	ea. 4.00	6BQ7A	3.95						
3DT6	2.20	6AG5	2.60	6BR8	3.30						
3LF4	4.20										
3Q4	2.75										

*Discontinued when stock is exhausted.

**Non taxable.

Reliable products
through Advanced-Engineering



tubes • semiconductors (cont.)

RECEIVING TUBES (Cont'd)

TYPE	LIST PRICE	TYPE	LIST PRICE	TYPE	LIST PRICE	TYPE	PRICE	TYPE	LIST PRICE	TV PICTURE TUBES . . .	LIST
12AU7A	2.45	12CT8	4.05	12J7GT*	4.20	12W6GT	3.00	25C5	2.15	42	3.50
12AV5GA	3.85	12CU6/12BQ6GA		12J8	3.30	12X4	1.80	25CA5	2.50	43*	4.75
12AV6	1.65		4.45	12K5	2.70	13DE7	2.95	25CD6GB	5.85	47*	8.70
12AV7	3.20	12CU6	4.45	12K7GT	4.05	14A7	3.50	25CU6	4.60	50A5	3.95
12AX4GTA	2.70	12CU6 12BQ6GTA		12K8	4.80	14AF7	3.80	25CU6/25BQ6GA		50B5	2.65
12AX7	2.55		4.45	12L6GT	2.45	14B6	3.30		4.60	50C5	2.15
12AZ7	2.75	12CU6 12BQ6GTB		12Q7GT*	3.35	14F7*	3.85	25CU6/25BQ6GTB		50DC4	1.55
12B4A	2.70		4.45	12R5	2.60	14F8*	4.60		4.60	50EH5	2.30
12BA6	2.00	12CX6	2.25	12SA7	3.40	14Q7	4.10	25DN6	5.55	50L6GT	2.40
12BA7	3.95	12D4	2.75	12SA7GT	3.25	17AX4GT	2.70	25EC6	5.50	50X6	3.20
12BD6	2.25	12DB5	2.75	12SC7*	3.35	17DQ6A	4.20	25EH5	2.30	50Y6GT	2.95
12BE6	2.15	12DL8	3.95	12SF5*	2.75	17H3	2.15	25F5	2.35	50Y7GT	3.05
12BF6	1.80	12DQ6	4.20	12SF7	3.95	18A5	4.15	25L6GT	2.25	58	4.35
12BH7A	3.05	12DQ6A	4.20	12SG7	3.70	19AU4; 4GTA		25W4GT	2.70	70L7GT	10.15
12BK5	3.80	12DQ7	3.30	12SH7	3.65	ea. 3.45		25Z5	2.90	75	5.10
12BL6	2.15	12DV8	3.40	12SG7	3.70	19BG6G; 6GA		25Z6GT	2.90	78	5.10
12BQ6GA	4.45	12DZ6	2.25	12SJ7	3.25	ea. 6.50		27	4.35	80	2.90
12BQ6GTA/B		12EA6	2.25	12SJ7GT	3.20	19J6	3.15	35A5	3.50	84	2.65
(See 12CU6)	4.45	12EG6	2.20	12SK7	3.10	19T8	3.40	35B5	2.65	117L7/M7GT	10.15
12BR7	2.60	12EK6	2.25	12SK7GT	3.05	24A	4.15	35C5	2.15	117N7GT	9.30
12BV7; BY7A	ea. 3.05	12EL6	1.75	12SL7GT	3.75	25AV5GA	4.15	35L6GT	2.40	117Z3	2.50
		12EM6	2.90	12SN7GT;GTA	ea. 2.70	25AX4GT	2.90	35W4	1.40	117Z6GT	4.40
12BZ7	3.05	12EN6	2.85			25BK5	3.65	35Y4	2.75	70Z5	2.95
12C5 12CU5	2.35	12F8	2.55	12SQ7	2.90	25BQ6GA	4.60	35Z3	2.75	71B9	4.35
12CA5	2.50	12FM6	1.95	12SQ7GT	2.65	25BQ6GT		35Z4GT	2.35	7247	2.85
12CN5	2.25	12H6	2.70	12U7	2.50	(See 25CU6)	4.60	35Z5GT	1.85		
12CR6	2.40	12J5GT	2.70	12V6GT	2.15	25BQ6GTB	4.60	41*	3.50		

*Discontinued when stock is exhausted.

TV PICTURE TUBES

NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE
8DP4	\$32.00	16KP4A/16RP4A		17CLP4; 17CNP4		20CP4B/20DP4B		21/AUP4B/A-		21FP4C	51.50
8JP4	.....	40.50	ea. 42.50	48.00		21AVP4B/A		21MP4	62.50	21MP4	62.50
8XP4	.....	16LP4A/16ZP4		17CP4	47.50	20CP4D/20DP4C		49.75	21WP4	40.25	
10ABP4B	23.25	44.50		17GP4	50.00	20HP4	42.00	21AWP4	48.00	21WP4A	48.00
10BP4A	22.50	16TP4	33.25	17HP4/17RP4		20HP4A/20LP4/		21AXP22A	160.00	21XP4/21AYP4	
12KP4A	31.75	16WP4A	44.50	35.25		20MP4	42.00	205 Conversion		42.00	
12LP4A	27.25	17ATP4/17AVP4		17HP4B/17RP4C		20HP4C; 20HP4D		Kit	41.50	21XP4A	49.75
14BP4/14CP4		35.25		17LP4/17VP4		ea. 49.75		Conversion Kit		21YP4	42.00
14EP4	29.25	17ATP4A/		35.25		21ALP4B/A	49.75	& Tube	201.50	21YP4A	49.75
14QP4	31.25	17AVP4A	42.50	17LP4A/17VP4B		21AMP4/21ACP4		21BTP4	49.75	21ZP4A	40.25
14QP4A	38.00	17BJP4	42.50	42.50		40.25		21CBP4/		21ZP4B	48.00
14RP4	29.25	17BP4A/17JP4		17QP4/17UP4/		21AMP4A/		21CBP4A	49.75	24AEP4	71.25
14RP4A	38.00	33.25		17YP4	33.25	21ACP4A/		21CEP4; 21CQP4	ea. 55.00	24AHP4	76.50
14WP4	36.00	17BP4B	40.50	17QP4A	40.50	21BSP4	48.00	21CZP4; 21DAP4	ea. 55.00	24ALP4	76.50
14XP4A	38.00	17BRP4	47.75	17TP4	51.50	21AP4	60.00	21CZP4; 21DAP4	ea. 55.00	24CP4A/24VP4A/	
16AEP4	35.25	17BSP4	42.50	19AP4B	52.50	21ATP4A/21ATP4		21DEP4	55.00	24TP4/24ADP4	
16AP4A	48.50	17BVP4; 17BWP4		20CP4/20DP4		49.75		21EP4A	42.00	69.00	
16DP4A	45.75	ea. 47.75		40.25		21AUP4/21AVP4		21EP4B	42.00	71.25	
16GP4B	48.25	17BZP4/17CAP4		20CP4A/20DP4A		42.00		21EP4B	49.75	27EP4	118.75
16JP4A	44.50	47.75		40.25				21FP4; 21FP4A		27RP4	118.75
16KP4/16RP4		17CEP4; 17CFP4		ea. 42.50				ea. 43.75			
33.25		ea. 42.50									

* (Check with your CBS distributor on new CBS Palomar economy line.)

INDUSTRIAL RECEIVING, POWER AND SPECIAL PURPOSE TUBES

NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE
OA2(MIL-E-1)	1.26	OB2WA(MIL-E-1)	4.10	1AG4(T)	3.25	1P30	7.08	1P37	3.45	CE-1V-D	4.27
OA2WA (MIL-E-1)	3.80	OB3	1.65	CE-1-C	3.32	1P31	5.26	1P39	2.15	2A4G	2.40
OA3	1.27	OC3;OD3(MIL-E-1)	1.27	CE-1-D	2.68	1P32	2.68	1P40	3.00	CE-2-A/B	9.98
OA4G	1.68	CE-1-A/B	5.96	1C21	3.85	1P33	5.34	1P41	3.45	CE-2-C	7.08
OB2(MIL-E-1)	1.34			C1K/6014	12.90	1P35	18.24	CE-1V-A/B	10.08	2C39B	32.15
				1P23	2.68	1P36	9.04	CE-1V-C	4.91	2C40	27.50

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

Reliable products
through Advanced-Engineering



tubes • semiconductors (cont.)

INDUSTRIAL RECEIVING, POWER AND SPECIAL PURPOSE TUBES

NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE	NUMBER	USER PRICE
2C40A	30.85	C6J / F;C6J / K		SK60	14.40	805	20.00	5581	2.70	6073	3.00
2C43	24.55		29.40	T60	15.00	807	3.00	5583	4.30	6074	3.45
2C51(T)	5.50	C6L	38.88	SK63	14.40	809	5.65	5636	9.05	6080	6.00
CE-2-D	5.47	C6M	37.08	CE-64-Q	8.90	810	25.55	5642(T)	1.35	6080WA	10.50
2D21	1.62	6SL7WGT(T)	3.25	CE-64-R	4.45	811A	5.65	5651	1.78	6099(MIL-E-1)	14.50
2E24	4.65	6SN7WGT(T)	2.70	HY69	7.95	812A	5.65	5653	1.60		
2E25A	7.15	6V6GY(T)	1.45	CE-75V	18.60	813	22.65	5654(T)	3.60		
2E26(MIL-E-1)	3.85	UX-CV11	16.72	CE-77	49.20	814	23.55	5654/6AK5W(T)		6100/6C4WA(T)	
2E30(MIL-E-1)	2.95	CE-11V-C	6.13	83	1.32	815	23.55		3.60	MIL-E-1)	2.90
CE-2V-A, B	9.98	CE-12	7.08	CE-84-Q	12.42	816	2.15	5654 6AK5W /		6101-6J6WA	7.25
CE-2V-C	7.66	12A6(T)	2.09	CE-84-R	5.78	822	21.35	6096(T)	5.85	6111	6.55
CE-2V-D	5.26	12AT7WA	4.75	CE-86-A B	14.24	826	23.55	5670(MIL-E-1)(T)		6112	6.55
2X2A	2.55	12AY7	2.42	CE-86-C	4.96	828	27.50		4.80	6135 T)	2.60
3A4	1.20	KY-21-A	25.00	CE-86-D	3.56	829B	16.25	5675	13.20	6136(T)	3.60
3A5	1.25	RX-21-A	24.64	CE-91-Q	15.12	832A	14.20	5684 C3J A	19.80	6146	5.45
CE-3-A/B	12.25	CE-21-C	6.23	CE-91-R	6.72	833A	55.00	5685 C6J A	34.92	6161	115.00
3B	9.90	CE-21-D	5.34	FG97	56.50	837	7.85	5686(T)	3.75	6189	
3B4(MIL-E-1)	2.75	CE-22	5.16	FG105	53.33	838	20.00	5687	4.25	12AU7WA(T)	4.85
3B22 222	8.40	CE-B22-A B	8.57	172	82.35	845	20.85	5690	9.65	6197	2.55
3B25	6.30	CE-B22-C	5.16	T200	32.45	857B	235.00	5691	8.45	6201 (T)	4.75
3B28	6.45	CE-B22-D	3.83	200A	17.90	866A	2.65	5692(MIL-E-1)	8.15	6202 T)	3.60
CE-3-C	9.04	CE-B22V-A B	7.13	201A	18.50	866JR	2.15	5693	6.40	6211	2.40
3C23	11.98	CE-B22V-C	3.83	202B	44.52	868	3.75	5696	1.90	6216 MIL-E-1)	3.50
CE-3-D	5.26	CE-B22V-D	3.02	203/623	13.44	869B	155.00	5718	4.25	6278	49.08
3D21A(MIL-E-1)		CE-23-A B	5.80	205	14.24	872A	9.35	5719	3.85	6463	2.15
	11.90	CE-23-C	4.42	206	9.43	873	18.30	5720 FG33	34.75	6478	15.80
3D21B(MIL-E-1)		CE-23-D	2.23	210A	9.94	875A	22.26	5725(T)	3.65	6484	12.20
	11.90	CE-25-A B	14.62	211D	13.50	884	1.85	5725/6AS6W(T)		6485	2.05
3E29	20.25	CE-25-C	4.90	213A	8.90	917	4.95		3.65	6524	15.75
C3J/5632	14.40	CE-25-D	3.56	T218	17.00	918	3.80	5726(T)	1.70	6550	4.95
C3P14	39.60	CE-25V-A B	16.03	220/72	9.08	919	4.95	5726		6591	22.35
C3R14	40.44	CE-25V-C	4.80	226	3.53	920	5.70	5726 6AL5W		6624	67.00
CE-4-A/B	9.98	CE-25V-D	3.29	235	6.22	921	3.30	(MIL-E-1)(T)	1.70	6626	4.40
4B26	5.34	CE-B25-A B	15.12	235A	6.22	922	2.85	5726/6AL5W/6097		6626/OA2WA	
4B28/225	5.34	CE-B25-C	4.90	249C	10.68	923	2.85	(MIL-E-1)(T)	3.25	MIL-E-1)	4.40
4B31	35.25	CE-B25-D	3.56	258B	13.88	927	3.75	5727 2D21W	2.80	6627	4.20
CE-4-C	9.04	26A7GT	7.25	T300	39.00	929	2.00	5749(T)	2.70	6627 OB2WA	
CE-4-D	7.04	CE-A26	7.30	302	21.80	930	2.85	5749/6BA6W(T)		(MIL-E-1)	4.20
CE-4-V-A/B	13.36	CE-26-A B	11.76	304	81.00	931A	10.45	5750(T)	3.80	666C/6BA6(T)	1.11
CE-4V-C	9.44	CE-26-C	9.04	311	11.98	934	3.65	5750/6BE6W(T)		6661/6BH6(T)	
4X150A	38.95	CE-26-D	5.34	320A	14.65	955(T)	4.00		3.80		1.44
4X150D	38.95	FG27A	40.25	323B	13.00	HY-1269	7.95	5751(T)	3.70	6662/6BJ6(T)	1.39
CE-5	18.24	CE-29-Q	5.80	393A	13.00	1612	3.20	575/WA	5.45	6663/6AL5(T)	1.02
CR-5	14.76	CE-29-R	2.23	460	29.50	1614	2.85	5763	2.37	6669/6AQ5(T)	
5B21	6.50	CE-30-A B	6.23	468	29.50	1616	11.35	5812	3.10		1.16
C5F14	43.20	CE-30-C	2.93	575A	22.15	1620	6.25	5814(T)	3.85	6677/6CL6(T)	1.95
5R4GY	1.90	CE-30D	1.80	627	27.00	1621	1.95	5814A(T)	3.85	6678/6UB(T)	1.72
5Y3WGTA(MIL-E-1)		CE-30V-A B	9.88	673	22.15	1622	2.70	5814WA(T)	3.65	6679/12AT7(T)	
	5.45	CE-30V-C	3.54	CE-A701C2	10.00	1624	4.00	5823	1.57		1.60
5Y3WGTB(MIL-E-1)		CE-30V-D	3.20	CE-A701C3	10.00	1625	2.95	5855	70.00	6680/12AU7(T)	
	6.30	CE-A30	3.77	CE-A701D2	7.50	1635	2.00	5876	13.55		1.32
C6A	38.58	CE-31V-A B	33.00	CE-A701D3	7.50	2050	1.85	5879	1.75	6681/12AX7(T)	
6AJ5(T)	4.35	CE-31V-C	16.08	CE-E701C2	10.00	5514	7.85	5881	3.50		1.34
6AS6(T)	3.46	CE-31V-D	8.90	CE-E701C3	10.00	5516	7.95	5894	32.40	6792	7.55
6AS7G	4.45	CE-34-Q	14.24	CE-E701D2	7.50	5528 C6L	40.68	5902	6.48	6807	29.30
6AS7GA	4.45	CE-34R	5.34	CE-E701D3	7.50	5544	38.41	5915	1.45	6830	1.72
6AU6WA(T)	3.60	CE-36-A B	26.88	CE-A702C2	10.00	5550/FG415	49.00	5963	1.40	6831	1.82
6B	13.00	CE-36-C	6.72	CE-A702C3	10.00	5551A	65.00	5964	1.40	6893	3.85
6BQ5	...	CE-36-D	3.19	CE-A702D2	7.50	5552A	99.00	5965	2.40	7025	...
6C	19.58	CE-36-VC	6.12	CE-A702D3	7.50	5553B	245.00	6004	5.05	8000	21.00
6CA7	3.60	CE-B36	6.72	CE-E702C2	10.00	5555/		6005(T)	4.50	8005	16.20
6CF	19.50	T-40	10.20	CE-E702C3	10.00	FG238B	316.00	6005/6AQ5W(T)		8008	10.31
6D4	2.85	TZ-40	10.20	CE-E702D2	7.50	5556 PJ8	21.00		4.60	8013A	14.45
C6J	26.40	SR-50	14.40	CE-E702D3	7.50	5557/FG17	9.50	6011/710	14.00	8020	24.00
6J4(T)	4.33	CE-52V	18.00	CE-A704C2	15.00	5558 FG32	17.50	6012	6.25	9001	4.60
6J6WA(MIL-E-1)		SR-53	14.40	CE-A704C3	15.00	5559/FG57	23.00	6021	5.60	9002	3.10
	7.25	T-55	11.50	CE-705C3	10.00	5560/FG95	33.00	6044	36.00	9003(T)	4.60
C6J/A	29.30	CE-59-R	2.98	801A	9.85	5561/		6072(T)	4.80	9006(T)	2.15
		HF-60	13.75	802	9.85	FG104	45.75				

*Discontinued when stock is exhausted.

(T)—Taxable (MIL-E-1)

—Available to military specifications—Prices upon request

Tube Selection Guide

EL THYRATRON AND EL RECTIFIER TUBES

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

TUBE TYPE	OTHER DESIGNATION	MAX. CONT. AVERAGE OUTPUT CURRENT (Amps. D. C.)	MAX. INST. PEAK ANODE CURRENT (Amps. Inst.)	MAX. INST. PEAK FORWARD VOLTAGE	MAX. INST. PEAK INVERSE VOLTAGE	MAX. OVERALL LENGTH (Inches)	HEATER OR FILAMENT VOLTAGE	NOMINAL HEATER OR FILAMENT CURRENT (Amps.)	REMARKS
RECTIFIERS									
EL 1C	3B22	1.0	4.0	.....	725	6	2.5	6.0	Full-wave (2 anodes)
EL 3B	6013	2.5	20.0	.....	920	5½	2.5	9.0	Half-wave
EL 3C	4B24	2.5	10.0	.....	725	7	2.5	11.5	Full-wave (2 anodes)
EL 3C/L	6982	2.5	10.0	.....	725	7¾	2.5	11.5	Full-wave (2 an'd's) lug base
EL 6B	5892	6.4	40.0	.....	920	8¾	2.5	21.0	Half-wave
EL 6B/L	6983	6.4	40.0	.....	920	9¼	2.5	21.0	Half-wave; lug base
EL 6C	.....	6.4	25.6	.....	725	8	2.5	17.0	Full-wave (2 anodes)
EL 6F	6015	6.4	40.0	.....	920	8	2.5	21.0	Half-wave; bracket mount
EL 16F	.....	16.0	96.0	.....	620	15¾	2.5	36.0	Half-wave; bracket mount
THYRATRONS									
EL C1B	3C31	1.0	8.0	525	700	4¾	2.5	6.3	
EL C1B/A	5664	1.0	8.0	750	1250	4¾	2.5	6.3	
EL C1K	6014	1.0	8.0	1000	1250	4¾	2.5	6.3	Replaces EL C1J or EL C1J/A
EL C1K/B	7319	1.0	8.0	2000	2000	4¾	2.5	6.3	
EL C3J	5632	2.5	30.0	900	1250	6	2.5	9.0	
EL C3J/A	5684	2.5	30.0	1000	1250	6	2.5	9.0	
EL C3J/L	7216	2.5	30.0	900	1250	6¾	2.5	9.0	Lug base
EL C4J	6984	4.0	40.0	900	900	9½	2.5	21.0	
EL C4J/F	6985	4.0	40.0	900	900	8¾	2.5	21.0	Bracket mount
EL C4J/L	6986	4.0	40.0	900	900	10	2.5	21.0	Lug base
EL C5F14	6231	5.0	30.0	500	500	5½ ¹¹ / ₁₆	14.0	2.55	Flexible lead connections
EL C6J	5C21	6.4	77.0	750	1250	9½	2.5	21.0	
EL C6J/A	5685	6.4	77.0	1000	1250	9½	2.5	21.0	
EL C6J/F	6860	6.4	77.0	1000	1250	8¾	2.5	21.0	Bracket mount
EL C6J/K	6864	6.4	77.0	1000	1250	8¾	2.5	21.0	High commutation factor
EL C6J/KF	6871	6.4	77.0	1000	1250	8	2.5	21.0	High commutation factor; bracket mount
EL C6J/KL	6989	6.4	77.0	1000	1250	9¼	2.5	21.0	High commutation factor; lug base
EL C6J/L	6988	6.4	77.0	750	1250	10	2.5	21.0	Lug base
EL C6C	6987	6.4	77.0	2000	4000	11½	2.5	24.0	
EL C16J	5665	{ 16.0 18.0	{ 160.0 100.0	1000	1250	10½	2.5	31.0	Bracket mount
EL C16J/A	.....	{ 16.0 18.0	{ 160.0 100.0	1250	1250	10½	2.5	31.0	Bracket mount

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

ELECTRONS, INCORPORATED
NEWARK 3, N. J.

Reliable Thyratrons

Eimac First for Reliability in Power Electron Tubes

	U.S.A. Price	Filament Voltage Volts	Filament Current Amps	Peak Inverse Voltage Volts	Peak Plate Current Amps	Average Plate Current ma	Plate Dissipation Watts	PREFORMED CONTACT FINGER STOCK			
								Single Edge	Width		
HIGH VACUUM RECTIFIERS	2-01C	\$ 15.25	5.0	0.35	1,000	0.010	1	0.1	A prepared strip of silver-plated spring material, slotted and formed into a series of fingers designed to make sliding contact.		
	2-25A	12.50	6.3	3.0	25,000	1.0	50	15			
	2-50A	15.00	5.0	4.0	30,000	1.0	75	30			
	2-150D	25.00	5.0	13.0	30,000	3.0	250	90			
	2-240A	40.00	7.5	12.0	25,000	4.0	500	150			
	2-450A	94.00	7.5	26.5	25,000	8.0	1000	450			
	2-2000A	214.50	10.0	25.0	75,000	12.0	750	1200			
	250R	28.00	5.0	10.5	60,000	2.5	250	150			
	253	20.50	5.0	10.0	15,000	2.5	350	100			
	8020(100R)	15.00	5.0	6.5	40,000	1.5	100	60			
MERCURY-VAPOR RECTIFIERS	2C140A	32.00	6.0	2.7	16,000	10.0 ⁶	120 ⁴	40 ⁴			
	2X1000A	120.00	26.5	2.2	25,000	25.0 ⁶	1250 ⁶	1000			
	2X3000F	140.00	7.5	51.0	25,000	20.0	3000	3000			
	KY21A	25.00	2.5	10.0	11,000	3.0	750	.....		
	RX21A	24.00	2.5	10.0	11,000	3.0	750	.....		
PULSE MODULATORS		U.S.A. Price	Plate Dissipation Watts	Plate Voltage Volts	Plate Current ma	Grid Dissipation Watts	Screen Voltage Volts	Screen Dissipation Watts	Filament Voltage Volts	Filament Current Amps	Amplification Factor
	4PR60A	\$90.00	60	20,000	18,000 ³	.....	1500	8	26.0	1.25	.....
	6C21	77.00	300	30,000	15,000 ³	50	.....	.....	8.2	17.00	30
HEAT-DISSIPATING CONNECTORS	Type	Hole Diameter	SK-604 TUBE EXTRACTOR		A spring-steel extractor for use with the 4X150 series, 4X250 series and 2C39 series tubes.						
	HR-1	.052	VACUUM SWITCHES		Single-pole double-throw switch within a high vacuum adaptable for high-voltage switching. Contact spacing .015". Switch will handle R-F potentials as high as 20 Kv-in D-C switching will handle approximately 1.5 Amps. at 5 Kv.		Type	Coils			
	HR-2	.062					VS-2	12V			
	HR-3	.072					VS-4	24V			
	HR-4	.102					VS-5				
	HR-5	.127					VS-6				
	HR-6	.367									
	HR-7	.127									
	HR-8	.575									
	HR-9	.569									
	HR-10	.510									
100IG IONIZATION GAUGE	For measuring pressures from 10 ⁻³ to less than 10 ⁻⁸ mm of mercury.				HV-1 DIFFUSION PUMP	Triple-jet, air cooled vacuum pump of the oil-diffusion type. Capable of reaching an ultimate vacuum of 4 x 10 ⁻⁷ mm of mercury when used with suitable forepump.					
AIR SYSTEM SOCKETS		U.S.A. Price	Tube	Screen By-Pass Capacitor uuf	Special Characteristics						
	SK-100	\$123.00	4KM3000LQ; 3KM3000LA; 3K3000LQ	.....	Cathode socket.						
	SK-110	123.00	3K50,000LA,F,Q; 3KM50,000PA; 4K50,000LQ; 4KM50,000SG; 6K50,000LQ, 4KM50,000LA; 4KM50,000LF; 4KM50,000LQ	.....	Cathode socket.						
	SK-200	60.00	3K2500SG; 3K2500LX; 3KM4000LT	.....	Cathode socket.						
	SK-300	41.00	4CX5000A	none							
	SK-400	12.00	4-400A; 4-250A; 4-125A; 4X500F	none							
	SK-500	17.00	4-1000A	none							
	SK-600	15.25	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	2700	No terminals grounded.						
	SK-602	15.25	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	2700	No terminals grounded. (Special SK-600)						
	SK-610	17.10	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	2700	Cathode terminals grounded.						
	SK-620	15.75	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	1100	No terminals grounded. Screen by-pass capacitor plastic sealed.						
	SK-630	17.60	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	1100	Cathode terminals grounded. Screen by-pass capacitor plastic sealed.						
	SK-640	5.00	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	none	No terminals grounded.						
	SK-650	7.50	4X150A; 4X150D; 4X250B; 4X250F; 4CX250B; 4W300B	none	Cathode terminals grounded.						
	SK-655	6.65	(Screen by-pass capacitor for use with SK-650)	1100	Plastic sealed.						
SK-700	20.00	4CX300A	1100	No terminals grounded.							
SK-710	20.00	4CX300A	1100	Cathode terminals grounded.							
SK-740	On Request	4CX300A	none	No terminals grounded.							
SK-760	On Request	4CX300A	none	Integral chimney. No terminals grounded.							
SK-770	On Request	4CX300A	none	Integral chimney, screen terminals grounded.							
SK-800	40.00	4CX1000A	1450	Cathode terminals grounded.							
SK-900	48.00	4X500A	650								
SK-1000	On Request	4KM170,000LA	.....	Cathode socket.							
CHIMNEYS									U.S.A. Price		
									SK-306	\$11.48	
									SK-406	6.00	
									SK-506	9.00	
									SK-606	.60	
									SK-626	.70	
									SK-636	6.00	
									SK-806	8.00	
									SK-906	10.00	

1 Waveguide Output Fitting 4 Convection liquid cooled 7 TV Peak-Synchronizing Level
 2 Coaxial Output Fitting 5 Cathode Current 9 Plus 2250 watts bombarder power
 3 Pulse 6 Pulse-clipper service only

All prices subject to change without notice

EITEL-McCULLOUGH, INC.
 SAN CARLOS • CALIFORNIA



	U.S.A. Price	TYPICAL OPERATION			Frequency Range Mc	MAXIMUM RATINGS					
		Output Power, Watts CW	Watts Pulse	Power Gain db		Beam Voltage Volts	Beam Current Amps				
AMPLIFIER KLYSTRONS	3K2500LX	\$ 2,360.00	1000	.....	25	980-1200	7000	0.6			
	3K2500SG	2,950.00	1000	.....	25	1700-2400	7000	0.6			
	3K3000LQ	2,360.00	2000	.....	30	{ 720- 985 620- 900	9000	0.75			
	3K50,000LA	4,200.00	10,000	12,000 7	25	470- 580	20,000	2.5			
	3K50,000LF	4,200.00	10,000	12,000 7	25	580- 720	20,000	2.5			
	3K50,000LQ	4,200.00	10,000	12,000 7	25	720- 985	20,000	2.5			
	3KM3000LA	2,470.00	2000	.....	30	375- 570	9000	0.75			
	3KM4000LT	1,880.00	.....	30,000	30	955-1220	24,000	3.3			
	3KM50,000PA	11,000.00	20,000	50,000	30	225- 400	30,000	2.5			
	4K50,000LQ	3,650.00	10,000	.....	50	720- 985	20,000	2.5			
	4KM3000LQ	3,750.00	2000	.....	40	720- 985	10,000	0.75			
	4KM50,000LA	4,230.00	10,000	.....	50	400- 585	20,000	2.5			
	4KM50,000LF	Price on Request	10,000	.....	50	580- 720	20,000	2.5			
	4KM50,000LQ	3,760.00	10,000	.....	50	610- 985	20,000	2.5			
	4KM50,000SG	10,000.00	10,000	.....	40	1700-2400	18,000	2.0			
4KM170,000LA	23,500.00	{ 75,000	200,000	50	300- 500	33,000	5.5				
6K50,000LQ	8,250.00	10,000	.....	55	300- 500	50,000	11.0				
						720- 985	20,000	2.5			
	U.S.A. Price	MAXIMUM RATINGS			Reflector Voltage Volts (Typical)	ELECTRICAL CHARACTERISTICS					
		Resonator Voltage Volts	Resonator Dissipation Watts	Cathode Current ma		Heater Voltage Volts	Heater Current Amps	Frequency Range Mc			
REFLEX KLYSTRONS	1KC15CA 2	\$295.00	350	15	50	— 250	6.3	0.8	5400-6000		
	1KC15CG 1	295.00	350	15	50	— 250	6.3	0.8	5400-6000		
	1K125CA 1	235.00	1000	125	110	— 285	6.3	1.5	3700-4400		
	1K125CB 1	235.00	1000	125	110	— 335	6.3	1.5	4400-5000		
	1K20KA 1	475.00	350	20	50	— 190	6.3	0.8	10,700-11,700		
	1K20XD 1	475.00	350	20	50	— 175	6.3	0.8	10,000-10,800		
	1K20XK 1	475.00	350	20	50	— 160	6.3	0.8	9200-10,000		
	1K20XS 1	475.00	350	20	50	— 140	6.3	0.8	8500-9300		
	U.S.A. Price	MAXIMUM RATINGS					ELECTRICAL CHARACTERISTICS				
		Plate Dissipation Watts	Plate Voltage Volts	Plate Current ma	Grid Dissipation Watts	Screen Voltage Volts	Screen Dissipation Watts	Filament Voltage Volts	Filament Current Amps	Amplification Factor	
TETRODES	4-65A	\$ 20.00	65	3000	150	5	400	10	6.0	3.5	.....
	4-125A	30.25	125	3000	225	5	400	20	5.0	6.5	.....
	4-250A	41.25	250	4000	350	10	600	35	5.0	14.5	.....
	4-400A	48.00	400	4000	350	10	600	35	5.0	14.5	.....
	4-1000A	132.00	1000	6000	700	25	1000	75	7.5	21.0	.....
	4CN15A	57.65	15	2500	.....	2	400	12	6.0	3.0	.....
	4CW10,000A	Price on Request	10,000	7500	3000	75	1500	250	7.5	75.0	.....
	4CX250B	45.00	250	2000	250	2	300	12	6.0	2.6	.....
	4CX250K	54.00	250	2000	250	2	300	12	6.0	2.6	.....
	4CX250M	54.00	250	2000	250	2	300	12	26.5	0.57	.....
	4CX300A	48.00	300	2500	250	2	400	12	6.0	3.0	.....
	4CX1000A	156.00	1000	3000	1000	0	350	12	6.0	12.5	.....
	4CX5000A	450.00	5000	7500	3000	75	1500	250	7.5	75.0	.....
	4W300B	42.50	300	2000	250	2	300	12	6.0	2.6	.....
	4W20,000A	1,850.00	20,000	8000	15,000	60	1500	200	10.0	30.0 9	.....
	4X150A	38.95	150	1250	250	2	300	12	6.0	2.6	.....
	4X150D	38.95	150	1250	250	2	300	12	26.5	0.57	.....
	4X150G	54.00	150	1250	250	2	300	15	2.5	7.0	.....
4X250B	42.50	250	2000	250	2	300	12	6.0	2.6	.....
4X250F	42.50	250	2000	250	2	300	12	26.5	0.57	.....
4X500A	121.00	500	4000	350	10	500	30	5.0	13.5	.....
4X500F	121.00	500	4000	350	10	500	30	5.0	13.5	.....
PENTODE	4E27A 5-125B	\$ 40.00	125	4000	200	5	750	20	5.0	7.50	.....
TRIODES	2C39A	\$ 22.50	100	1000	125 5	2	.....	.....	6.3	1.0	100
	2C39B	32.15	100	1000	125 5	2	.....	.....	6.3	1.0	100
	2C39WA	30.00	100	1000	125 5	2	.....	.....	6.3	1.0	100
	3C24	15.00	25	2000	75	7	.....	.....	6.3	3.0	24
	3CPN10A5	36.65	10	.....	.....	2	.....	.....	6.0	1.0	100
	3CX100A5	32.15	100	1000	125 5	2	.....	.....	6.0	1.0	100
	3W5000A1	210.00	5000	6000	2500	50	.....	.....	7.5	51.0	5
	3W5000A3	198.00	5000	6000	2500	150	.....	.....	7.5	51.0	20
	3W5000F1	210.00	5000	6000	2500	50	.....	.....	7.5	51.0	5
	3W5000F3	198.00	5000	6000	2500	150	.....	.....	7.5	51.0	20
	3X100A5	25.00	100	1000	125 5	2	.....	.....	6.3	1.0	100
	3X2500A3	198.00	2500	6000	2500	150	.....	.....	7.5	51.0	20
	3X2500F3	198.00	2500	6000	2500	150	.....	.....	7.5	51.0	20
	3X3000A1	198.00	3000	6000	2500	50	.....	.....	7.5	51.0	5
	3X3000F1	198.00	3000	6000	2500	50	.....	.....	7.5	51.0	5
	25T	15.00	25	2000	75	7	.....	.....	6.3	3.0	24
	35T	20.00	50	2000	150	15	.....	.....	5.0	4.0	39
	35TG	24.00	50	2000	150	15	.....	.....	5.0	4.0	39
	75TH	28.00	75	3000	225	16	.....	.....	5.0	6.25	20
	75TL	28.00	75	3000	225	13	.....	.....	5.0	6.25	12
	100TH	20.50	100	3000	225	20	.....	.....	5.0	6.3	38
	100TL	20.50	100	3000	225	15	.....	.....	5.0	6.3	14
	152TH	50.00	150	3000	450	30	.....	.....	5 or 10	12.5 or 6.25	20
	152TL	50.00	150	3000	450	25	.....	.....	5 or 10	12.5 or 6.25	12
	250TH	33.00	250	4000	350	40	.....	.....	5.0	10.5	37
	250TL	33.00	250	4000	350	35	.....	.....	5.0	10.5	14
	304TH	60.50	300	3000	900	60	.....	.....	5 or 10	25 or 12.5	20
	304TL	60.50	300	3000	900	50	.....	.....	5 or 10	25 or 12.5	12
	450TH	77.00	450	6000	600	80	.....	.....	7.5	12.0	38
	450TL	77.00	450	6000	600	65	.....	.....	7.5	12.0	18
	5B2/3-200A3	37.50	200	3500	250	25	.....	.....	10.0	5.0	25
	750TL	137.50	750	10,000	1000	100	.....	.....	7.5	21.0	15
	1000T	137.50	1000	7500	750	80	.....	.....	7.5	15.5	35
1500T	245.00	1500	8000	1250	125	.....	.....	7.5	24.0	24	
2000T	340.00	2000	8000	1750	150	.....	.....	10.0	23.5	23	

Thank You!

When ordering products shown in this book or writing for additional information, please be sure to specify:

1. **Manufacturer's Catalog Numbers and Page Numbers.**
2. **The Year and Edition of This MASTER.**

This will avoid confusion and expedite delivery.

The
Radio - Electronic
MASTER



General Instrument Semiconductors

RADIO RECEPTOR SUBMINIATURE, GLASS silicon diodes

ALL PURPOSE TYPE

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

FAST RECOVERY TYPES (Operating temperature range -80° C. to +150° C.)

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

HIGH CONDUCTANCE TYPES (Operating temperature range -80° C. to +200° C.)

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

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

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

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

SUBMINIATURE, GLASS / germanium diodes GOLD BONDED

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

COMPUTER TYPES

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

CONTROLLED LOW FORWARD VOLTAGE DROP TYPES FOR TRANSISTORIZED CIRCUITS

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

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

THESE STANDARD EIA TYPES ARE ALSO AVAILABLE:

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



GENERAL INSTRUMENT DISTRIBUTOR DIVISION
 General Instrument Corporation

General Instrument
Semiconductors



AUTOMATIC

**SILICON POWER
RECTIFIERS**

Type No.	Peak Rev. Volt. (V)	DC Output Cur. Avg. Amp. @ °C	Max. Rev. Cur. @ Rated PIV (See †) mA @ °C	OUTLINE	USAGE
AM73	500	.2 @ 100°	.3 @ 100°	B	PS
AM54	500	1.0 @ 150°	.5 @ 150°	B	GP
AM55	500	.4 @ 150°	.5 @ 150°	B	GP
AM56	500	.2 @ 150°	.5 @ 150°	B	GP
AM57	500	3.0 @ 150°	.5 @ 150°	B	PS
AM61	600	1.0 @ 100°	.3 @ 100°	B	PS
AM62	600	.4 @ 100°	.3 @ 100°	B	PS
AM63	600	.2 @ 100°	.3 @ 100°	B	PS
AM64	600	1.0 @ 150°	.5 @ 150°	B	GP
AM65	600	.4 @ 150°	.5 @ 150°	B	GP
AM66	600	.2 @ 150°	.5 @ 150°	B	GP
AM67	600	3.0 @ 150°	.5 @ 150°	B	PS
AM6505	50	5 @ 150°	5 @ 150°	C	PS
AM0510	50	10 @ 150°	5 @ 150°	C	PS
AM0520	50	20 @ 150°	5 @ 150°	C	PS
AM1005	100	5 @ 150°	5 @ 150°	C	PS
AM1010	100	10 @ 150°	5 @ 150°	C	PS
AM1020	100	20 @ 150°	5 @ 150°	C	PS
AM1505	150	5 @ 150°	5 @ 150°	C	PS
AM1510	150	10 @ 150°	5 @ 150°	C	PS
AM1520	150	20 @ 150°	5 @ 150°	C	PS
AM2005	200	5 @ 150°	5 @ 150°	C	PS
AM2010	200	10 @ 150°	5 @ 150°	C	PS
AM2020	200	20 @ 150°	5 @ 150°	C	PS
AM2505	250	5 @ 150°	5 @ 150°	C	PS
AM2510	250	10 @ 150°	5 @ 150°	C	PS
AM2520	250	20 @ 150°	5 @ 150°	C	PS
AM3005	300	5 @ 150°	5 @ 150°	C	PS
AM3010	300	10 @ 150°	5 @ 150°	C	PS
AM3020	300	20 @ 150°	5 @ 150°	C	PS
AM3505	350	5 @ 150°	5 @ 150°	C	PS
AM3510	350	10 @ 150°	5 @ 150°	C	PS
AM3520	350	20 @ 150°	5 @ 150°	C	PS
AM4005	400	5 @ 150°	5 @ 150°	C	PS
AM4010	400	10 @ 150°	5 @ 150°	C	PS

Type No.	Peak Rev. Volt. (V)	DC Output Cur. Avg. Amp. @ °C	Max. Rev. Cur. @ Rated PIV (See †) mA @ °C	OUTLINE	USAGE
AM4020	400	20 @ 150°	5 @ 150°	C	PS
AG0512	50*		1 @ 150°	B	PS
AG1012	100*		1 @ 150°	B	PS
AG1512	150*		1 @ 150°	B	PS
AG2012	200*		1 @ 150°	B	PS
AG2512	250*	12 @ 150°	1 @ 150°	B	PS
AG3012	300*		1 @ 150°	B	PS
AG3512	350*		1 @ 150°	B	PS
AG4012	400*		1 @ 150°	B	PS
AG5012	500*		1 @ 150°	B	PS
AG6012	600*		1 @ 150°	B	PS
PA305	50		.3 @ 100°	C	
PA310	100		.3 @ 100°	C	
PA315	150		.3 @ 100°	C	
PA320	200	.45 @ 25°	.3 @ 100°	D	C
PA325	250	.3 @ 100°	.3 @ 100° or C		
PA330	300		.3 @ 100°	E	C
PA340	400		.3 @ 100°	C	
PA350	500		.3 @ 100°	C	
PA360	600		.3 @ 100°	C	
On PA Series, Specify A or B Case (D or E Outline)					
PT505	50		.5 @ 100°	A	C
PT510	100		.5 @ 100°	A	C
PT515	150		.5 @ 100°	A	C
PT520	200	.5 @ 100°	.5 @ 100°	A	C
PT525	250		.5 @ 100°	A	C
PT530	300		.5 @ 100°	A	C
PT540	400		.5 @ 100°	A	C
PT550	500		.5 @ 100°	A	C
S91	100	.2 @ 85°	1.0 @ 85°	A	GE
S91H	100	.25 @ 85°	0.5 @ 85°	A	GE
S92	200	.2 @ 85°	1.0 @ 85°	A	GE
S92H	200	.25 @ 85°	0.5 @ 85°	A	GE
S93	300	.2 @ 85°	1.0 @ 85°	A	GE
S93H	300	.25 @ 85°	0.5 @ 85°	A	GE

Temperature ratings:

Ambient — Pigtail Units — A, D, E & F
Case — Stud Units — B & C

*Must include switching transients.

Maximum reverse currents indicated in milliamperes (mA) are averaged over one full cycle, inductive or resistive load with rectifier operating at rated current. Where maximum reverse currents are expressed in microamperes (uA), these are

measured by the direct current voltampere method.

A. Pigtail type; diameter .375"; length 3¼" min.; lead diameter .029".

B. Stud type; length 1.25" max.; diameter .435" max.; ¼" across flats; No. 10-32 thread NF.

C. Stud type; length 1.438" max.; diameter ½"; ¼" across flats (¾" also available); No. ¼-28 thread NF.

D. Pigtail type; diameter .250"; length 3¼"; lead length 1½"; lead diameter .030".

E. Pigtail type; diameter .250"; length 3.375"; lead length 1½"; lead diameter .030".

F. Pigtail type; diameter .115"; length 2.250"; lead length 1"; lead diameter .020" copper wire.

USAGE: GP = General Purpose; J = JAN Type; MA = Mag. Amp.; PS = Power Supply; C = Commercial; GE = Ge Replacement.

AUTOMATIC

PT5 SILICON RECTIFIER—the universal replacement

First choice of leading TV manufacturers

as original parts in new sets



- Hermetically sealed
- No pressure contacts used
- No heat sinks required

MECHANICAL DATA

Case: Metal and glass hermetic seal.
Terminals: Pigtail construction.
Mounting Position: Any.

MAXIMUM RATINGS, CAPACITIVE LOAD (100° C. Ambient)

RMS Input Voltage	130 volts
Peak Inverse Voltage	400 volts
Peak Recurrent Forward Current	5 amps
Average D.C. Output Current	0.5 amps
Full Load Forward Drop @ 25° C.	1.5 volts
Reverse Current @ PIV	0.5 mA
Surge Current (½ cycle)	30 amps

GENERAL INSTRUMENT DISTRIBUTOR DIVISION, General Instrument Corporation

See Additional Radio Receptor—General Instrument Diodes, Semiconductors and Rectifiers on Pages 1020, 1021

General Instrument
Semiconductors



AUTOMATIC

SILICON POWER RECTIFIERS

Type No.	Peak Rev. Voltage (V)	DC Output Cur. Avg. Amp. @ °C	Max. Rev. Cur. @ Rated PIV (See f) mA @ °C	OUTLINE	USAGE
IN248	50	10 @ 150°	5.0 @ 150°	C	GP
IN248A	50	20 @ 150°	5.0 @ 150°	C	GP
IN249	100	10 @ 150°	5.0 @ 150°	C	GP
IN249A	100	20 @ 150°	5.0 @ 150°	C	GP
IN250	200	10 @ 150°	5.0 @ 150°	C	GP
IN250A	200	20 @ 150°	5.0 @ 150°	C	GP
IN253	100	1.0 @ 135°	.1 @ 135°	B	J
IN254	200	.4 @ 135°	.1 @ 135°	B	J
IN255	400	.4 @ 135°	.15 @ 135°	B	J
IN256	600	.2 @ 135°	.25 @ 135°	B	J
IN332	400	.4 @ 150°	.2 @ 150°	B	MA
IN333	400	.2 @ 150°	.2 @ 150°	B	MA
IN334	300	.4 @ 150°	.2 @ 150°	B	MA
IN335	300	.2 @ 150°	.2 @ 150°	B	MA
IN336	200	.4 @ 150°	.1 @ 150°	B	MA
IN337	200	.2 @ 150°	.1 @ 150°	B	MA
IN338	100	1.0 @ 150°	.2 @ 150°	B	MA
IN339	100	.4 @ 150°	1 @ 150°	B	MA
IN340	100	.2 @ 150°	1 @ 150°	B	MA
IN341	400	.4 @ 150°	.5 @ 150°	B	PS
IN342	400	.2 @ 150°	.5 @ 150°	B	PS
IN343	300	.4 @ 150°	.5 @ 150°	B	PS
IN344	300	.2 @ 150°	.5 @ 150°	B	PS
IN345	200	.4 @ 150°	.5 @ 150°	B	PS
IN346	200	.2 @ 150°	.5 @ 150°	B	PS
IN347	100	1.0 @ 150°	.5 @ 150°	B	PS
IN348	100	.4 @ 150°	.5 @ 150°	B	PS
IN349	100	.2 @ 150°	.5 @ 150°	B	PS
IN440	100		.30 uA @ 25°	A	MA
IN441	200		.75 uA @ 25°	A	MA
IN442	300	.75 @ 50°	1.0 uA @ 25°	A	MA
IN443	400	.30 @ 100°	1.5 uA @ 25°	A	MA
IN444	500	.15 @ 125°	1.75 uA @ 25°	A	MA
IN445	600		2.0 uA @ 25°	A	MA
IN440B	100		.3 uA @ 55°	A	MA
IN441B	200		.75 uA @ 55°	A	MA
IN442B	300		1.0 uA @ 55°	A	MA
IN443B	400	.50 @ 100°	1.5 uA @ 55°	A	MA
IN444B	500	.25 @ 150°	1.75 uA @ 55°	A	MA
IN445B	600		2.0 uA @ 55°	A	MA
IN530	100		3.0 uA @ 25°	A	PS
IN531	200		7.5 uA @ 25°	A	PS
IN532	300	.30 @ 100°	10 uA @ 25°	A	PS
IN533	400	.15 @ 125°	15 uA @ 25°	A	PS
IN534	500		17.5 uA @ 25°	A	PS
IN535	600		20 uA @ 25°	A	PS
IN536	50		.4 @ 150°	A	GP
IN537	100	.75 @ 50°	.4 @ 150°	A	GP
IN538	200	.25 @ 150°	.3 @ 150°	A	J
IN539	300		.3 @ 150°	A	GP
IN540	400		.3 @ 150°	A	J
IN547	600	.25 @ 150°	.35 @ 150°	A	J
IN550	100		.5 uA @ 25°	B	GP
IN551	200		1.0 uA @ 25°	B	GP
IN552	300	.5 @ 100°	1.5 uA @ 25°	B	GP
IN553	400	.4 @ 125°	2.5 uA @ 25°	B	GP
IN554	500		3.5 uA @ 25°	B	GP
IN555	600		5.0 uA @ 25°	B	GP
IN560	800	.25 @ 100°	15 uA @ 25°	A	PS
IN561	1000		20 uA @ 25°	A	PS
IN562	800		15 uA @ 25°	B	PS
IN563	1000	.4 @ 100°	20 uA @ 25°	B	PS
IN599	50		25 uA @ 25°	A	PS
IN599A	50		1 uA @ 25°	A	GP
IN600	100		25 uA @ 25°	A	PS
IN600A	100	.30 @ 100°	1 uA @ 25°	A	GP
IN601	150	.15 @ 125°	25 uA @ 25°	A	PS
IN601A	150		1 uA @ 25°	A	GP
IN602	200		25 uA @ 25°	A	PS
IN602A	200		1 uA @ 25°	A	GP
IN603	300		25 uA @ 25°	A	PS
IN603A	300	.30 @ 100°	1 uA @ 25°	A	GP
IN604	400	.15 @ 125°	25 uA @ 25°	A	PS
IN604A	400		1.5 uA @ 25°	A	GP
IN605	500		25 uA @ 25°	A	PS

Type No.	Peak Rev. Voltage (V)	DC Output Cur. Avg. Amp. @ °C	Max. Rev. Cur. @ Rated PIV (See f) mA @ °C	OUTLINE	USAGE
IN605A	500	.30 @ 100°	.2 uA @ 25°	A	GP
IN606	600	.15 @ 125°	25 uA @ 25°	A	PS
IN606A	600		2.5 uA @ 25°	A	GP
IN607	50		25 uA @ 25°	B	PS
IN607A	50		1 uA @ 25°	B	GP
IN608	100		25 uA @ 25°	B	PS
IN608A	100		1 uA @ 25°	B	GP
IN609	150		25 uA @ 25°	B	PS
IN609A	150		1 uA @ 25°	B	GP
IN610	200		25 uA @ 25°	B	PS
IN610A	200	.8 @ 100°	1 uA @ 25°	B	GP
IN611	300	.4 @ 125°	25 uA @ 25°	B	PS
IN611A	300		1 uA @ 25°	B	GP
IN612	400		25 uA @ 25°	B	PS
IN612A	400		1.5 uA @ 25°	B	GP
IN613	500		25 uA @ 25°	B	PS
IN613A	500		2 uA @ 25°	B	GP
IN614	600		25 uA @ 25°	B	PS
IN614A	600		2.5 uA @ 25°	B	GP
IN615	225		15 uA @ 100°	F	GP
IN616	300		15 uA @ 100°	F	GP
IN617	400	.4 @ 25°	20 uA @ 100°	F	GP
IN648	500	.15 @ 100°	20 uA @ 100°	F	GP
IN649	600		25 uA @ 100°	F	GP
IN1095	500	.25 @ 135°	.3 @ 150°	A	GP
IN1096	600		.3 @ 150°	A	GP
IN1100	100		.2 @ 150°	A	GP
IN1101	200		.2 @ 150°	A	GP
IN1102	300	.25 @ 150°	.2 @ 150°	A	GP
IN1103	400		.2 @ 150°	A	GP
IN1104	500		.2 @ 150°	A	GP
IN1105	600		.2 @ 150°	A	GP
IN1115	100		.3 @ 150°	B	PS
IN1116	200	.6 @ 150°	.3 @ 150°	B	PS
IN1117	300		.3 @ 150°	B	PS
IN1118	400		.3 @ 150°	B	PS
IN1119	500		.3 @ 150°	B	PS
IN1120	600	.6 @ 135°	.3 @ 150°	B	PS
IN1487	100		.4 @ 125°	A	GP
IN1488	200	.75 @ 25°	.3 @ 125°	A	GP
IN1489	300	.25 @ 125°	.3 @ 125°	A	GP
IN1490	400		.3 @ 125°	A	GP
IN1491	500	.25 @ 110°	.3 @ 125°	A	GP
IN1492	600	.25 @ 95°	.3 @ 125°	A	GP
IN1692	100		.5 @ 100°	A	GP
IN1693	200	.6 @ 50°	.5 @ 100°	A	GP
IN1694	300	.25 @ 100°	.5 @ 100°	A	GP
IN1695	400		.5 @ 100°	A	GP
AM1	50	1.0 @ 100°	.3 @ 100°	B	PS
AM2	50	.4 @ 100°	.3 @ 100°	B	PS
AM3	50	.2 @ 100°	.3 @ 100°	B	PS
AM4	50	1.0 @ 150°	.5 @ 150°	B	GP
AM5	50	.4 @ 150°	.5 @ 150°	B	PS
AM7	50	3.0 @ 150°	.5 @ 150°	B	PS
AM11	100	1.0 @ 100°	.3 @ 100°	B	PS
AM12	100	.4 @ 100°	.3 @ 100°	B	PS
AM13	100	.2 @ 100°	.3 @ 100°	B	PS
AM17	100	3.0 @ 150°	.5 @ 150°	B	PS
AM21	200	1.0 @ 100°	.3 @ 100°	B	PS
AM22	200	.4 @ 100°	.3 @ 100°	B	PS
AM23	200	.2 @ 100°	.3 @ 100°	B	PS
AM24	200	1.0 @ 150°	.5 @ 150°	B	GP
AM27	200	3.0 @ 150°	.5 @ 150°	B	PS
AM31	300	1.0 @ 100°	.3 @ 100°	B	PS
AM32	300	.4 @ 100°	.3 @ 100°	B	PS
AM33	300	.2 @ 100°	.3 @ 100°	B	PS
AM34	300	1.0 @ 150°	.5 @ 150°	B	GP
AM37	300	3.0 @ 150°	.5 @ 150°	B	PS
AM41	400	1.0 @ 100°	.3 @ 100°	B	PS
AM42	400	.4 @ 100°	.3 @ 100°	B	PS
AM43	400	.2 @ 100°	.3 @ 100°	B	PS
AM44	400	1.0 @ 150°	.5 @ 150°	B	GP
AM47	400	3.0 @ 150°	.5 @ 150°	B	PS
AM51	500	1.0 @ 100°	.3 @ 100°	B	PS
AM52	500	.4 @ 100°	.3 @ 100°	B	PS

GENERAL INSTRUMENT DISTRIBUTOR DIVISION, General Instrument Corporation

See Additional Radio Receptor—General Instrument Rectifiers on Pages 1020, 1021



RECEIVING TUBES

Effective July 15, 1959

Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
OZ4	\$2.15	5AM8	3.30	6BE6	2.20	6E28	3.80	7W7	4.75
OZ4A	2.00	5AN8	3.55	6BF5	3.55	6F5	3.20	7X7/XXFM	5.85
OZ4G	2.10	5AQ5	2.20	6BF6	1.80	6F6	3.75	7Y4	2.75
1A5GT	3.20	5AS4A	2.15	6BG6GA	6.50	6F6GT	3.65	7Z4	2.75
1A7GT	3.70	5AS8	3.40	6BH6	2.70	6FM8	3.00	8AUBA	3.55
1AX2	3.05	5AT8	3.25	6BH8	3.50	6G6G	3.75	8AW8A	3.65
1B3GT	2.90	5AU4	3.40	6BJ6	2.60	6GH8	3.20	8BABA	3.55
1C5GT	3.65	5AV8	4.05	6BJ7	2.95	6H6	3.10	8BH8	3.45
1DN5	2.20	5AW4	2.80	6BJ8	2.80	6J5	2.80	8BQ5	2.45
1G3GT	2.90	5AZ4	2.65	6BK4	7.10	6J5GT	2.55	8CG7	2.50
1H2	3.05	5B8	3.90	6BK5	3.50	6J6	2.80	8CM7	2.80
1H5GT	3.05	5BE8	3.30	6BK7A	3.35	6J7	3.75	8GN7	2.60
1J3	2.90	5BK7A	3.40	6BK7B	3.35	6K6GT	2.35	8CS7	2.95
1K3	2.90	5BQ7A	4.00	6BL7GT	3.95	6K7	3.75	8CX8	3.70
1L4	2.65	5BR8	3.30	6BL7GTA	3.95	6K7GT	3.80	8EB8	3.80
1L6	3.35	5BT8	3.30	6BN4	2.50	6L6	4.45	8EM5	3.10
1LA4	4.45	5BW8	3.40	6BN6	3.00	6K8GT	4.45	9AUB	2.60
1LA6	4.10	5BZ7	3.80	6BN8	2.70	6L6	6.30	9B7	2.65
1LB4	4.45	5CG8	3.20	6BQ5	2.40	6L6CB	4.20	9CL8	3.15
1LC6	4.10	5CL8A	3.15	6BQ5GA	4.35	6L6GC	4.20	9UBA	3.30
1LH4	3.95	5CQ8	3.35	6BQ6GTB	4.35	6N7	4.25	10C8	4.25
1LN5	3.95	5CZ5	2.85	6BQ7A	3.95	6Q6	2.90	10DE7	2.95
1N5GT	3.65	5DH8	4.05	6BR8A	3.30	6Q7	3.50	11CY7	3.00
1Q5GT	4.05	5EA8	3.15	6BS8	3.75	6Q7GT	3.70	12A4	3.45
1R5	2.55	5EU8	3.20	6BU5	5.50	6S4A	2.05	12A6	4.35
1S2A	3.00	5J6	2.80	6BU8	2.80	6S7	4.10	12A8GT	4.75
1S4	3.65	5T4	7.25	6BV8	3.20	6S7G	3.65	12AB5	2.45
1S5	2.55	5T8	3.40	6BW4	1.85	6S8GT	2.75	12AC6	2.20
1T4	2.40	5U4GA/B	2.10	6BW8	3.30	6SA7	3.55	12AD6	2.30
1U4	2.35	5U4GB	2.10	6BX7GT	4.00	6SA7GT	3.40	12AE6	2.05
1U5	2.05	5U8	3.30	6BY5GA	4.20	6SB7Y	4.65	12AF3	2.80
1W2	2.00	5V3	3.65	6BY8	2.35	6SC7	3.40	12AF6	2.35
1V6	3.80	5V4G	3.30	6BY8	2.65	6SD7GT	3.95	12AG6	1.90
1X2A	3.85	5V4GA	3.30	6BZ6	2.25	6SF5	2.80	12AJ6	2.05
1X2B	3.05	5V6GT	2.20	6BZ7	4.00	6SF7	4.05	12AL5	1.90
2A3	6.30	5X8	3.25	6BZ8	4.25	6SG7	3.80	12AL8	4.00
2A6	3.65	5Y3GT	1.75	6C4	1.85	6SH7	3.75	12AQ5	2.40
2AF4A	4.05	5Y4GT	2.35	6C5	2.85	6SJ7	3.35	12AT6	1.65
2AF4B	4.05	5Z3	3.05	6C5GT	2.90	6SK7	3.20	12AT7	3.05
2B3	2.80	6A7	4.65	6C6	4.35	6SL7GT	3.30	12AU6	2.15
2BN4	2.55	6A8	4.90	6C7	3.55	6SN7GTB	2.60	12AU7A	2.45
2CY5	2.80	6A8GT	4.80	6C8G	5.10	6SQ7	2.95	12AV5GA	3.85
2EN5	1.85	6AB4	2.15	6CA5	2.50	6SR7	2.80	12AV6	1.65
2ER5	2.90	6AC5GT	4.35	6CB5A	7.50	6SS7	3.50	12AV7	3.20
2V2	4.65	6AC7	4.35	6CB6	2.25	6ST7	2.95	12AW6	2.95
3A2	3.50	6AD7G	5.90	6CB6A	2.25	6SV7	3.65	12AX4GTA	2.70
3A3	3.40	6AF3	2.80	6CD6GA	5.80	6S27	3.00	12AX7	2.55
3ABGT	5.90	6AF4	4.00	6CE5/6BC5	2.35	6T4	4.35	12AZ7A	2.70
3AF4A	4.05	6AF4A	4.00	6CF6	2.55	6T8	3.35	12B4A	2.70
3AL5	1.85	6AF6G(N)	3.65	6CG7	2.45	6T8A	3.35	12BA6	2.00
3AU6	2.15	6AG5	2.60	6CG8A	3.15	6U5	3.15	12BA7	3.95
3AV6	1.75	6AG7	5.25	6CH8	3.60	6U6GT	2.45	12BD6	2.25
3B2	6.25	6AG7Y	5.05	6CK4	2.80	6U7G	2.40	12BE6	2.15
3BA6	2.15	6AH4GT	3.30	6CL6	3.75	6U8	3.30	12BF6	2.10
3BC5	2.35	6AH6	4.65	6CL8	3.15	6U8A	3.30	12BH6	2.00
3BE6	2.25	6AH7GT	2.45	6CM6	2.55	6V3A	4.35	12BH7A	3.05
3BN4	2.55	6AJ4	9.80	6CM7	2.75	6V6	4.50	12BK5	3.80
3BN6	3.00	6AK5	4.20	6CN7	2.60	6V6GT	2.15	12BL6	2.30
3BU8	2.80	6AK6	2.90	6CQ8	3.30	6W4GT	2.40	12BN6	3.05
3BY6	2.35	6AL5	1.85	6CR6	2.40	6W6GT	2.80	12BQ6GA	4.45
3BZ6	2.25	6AL7GT(N)	5.75	6CS6	2.35	6X4	1.65	12BQ6GTB	4.45
3C2	4.50	6AM4	5.90	6CS7	2.80	6X5GT	2.05	12BR7	2.60
3C6/XXB	3.80	6AM8A	3.25	6CU5	2.35	6X5GT	2.05	12BV7	3.05
3CB6	2.25	6AN4	4.95	6CU6	4.35	6X8	3.15	12BY7A	3.05
3CE5/3CB5	2.35	6AN8	3.50	6CU8	3.65	6X8A	3.15	12BZ7	3.05
3CF6	2.55	6AQ5A	2.15	6CX8	3.65	6Y6G	4.50	12C5	2.35
3CS6	2.40	6AQ6	2.20	6CY5	2.80	6Y6GT	3.45	12C8	5.65
3CY5	2.85	6AQ7GT	4.00	6CY7	2.95	7A4	3.25	12CA5	2.50
3DK6	2.40	6AR5	2.60	6CZ5	2.80	7A6	3.15	12CN5	2.25
3DT6	2.20	6AR8	4.35	6D6	4.35	7A7	3.50	12CR6	2.40
3Q4	2.75	6AS5	2.40	6DA4	2.70	7A8	4.45	12CT8	4.05
3Q5GT	3.60	6AS8	3.45	6DB5	2.60	7AF7	3.85	12CQ6	4.45
3S4	2.45	6AT6	1.90	6DE4	2.80	7AG7	3.85	12CX6	2.50
3V4	2.35	6AT8	3.20	6DE6	2.45	7AU7	2.60	12D4	2.75
4AU6	2.20	6AU4GTA	3.35	6DE7	2.95	7B4	3.05	12D5	2.75
4BC8	4.05	6AU5GT	4.30	6DG6GT	2.50	7B5	4.75	12D8	3.35
4BN6	3.00	6AU6	2.10	6DK6	2.35	7B6	3.25	12DK7	2.85
4BQ7A	4.00	6AU6A	2.10	6DN7	3.50	7B7	3.30	12DL8	3.55
4BS8	3.85	6AUBA	3.50	6DQ5	7.65	7B8	3.55	12DQ6	4.20
4BU8	2.80	6AV5GA	3.80	6DQ6A	4.10	7C4	5.00	12DQ7	3.30
4BZ6	2.25	6AV6	1.65	6DS5	2.65	7C5	3.35	12DS7	3.40
4BZ7	4.05	6AW8A	3.55	6DT6	2.15	7C6	3.30	12DT8	3.20
4CB6	2.25	6AX4GTA	2.65	6DT8	3.75	7C7	3.05	12DV8	3.55
4CE5	2.35	6AX4GTB	2.65	6E5	3.00	7EY6	3.00	12DZ6	2.50
4CS6	2.35	6AX5GT	2.95	6EA7	3.50	7F7	3.65	12EA6	2.65
4CY5	2.85	6AZ8	4.20	6EA8	3.20	7F8	4.60	12ED5	2.50
4DE6	2.50	6B7	3.50	6EB8	3.70	7H7	3.90	12EG6	2.30
4DT6	2.20	6B8	4.85	6EH8	3.20	7J7	5.15	12EK6	2.50
4ES8	4.65	6BA6	2.00	6EM5	3.05	7K7	4.45	12EY6	2.70
4EW6	2.35	6BA7	3.70	6ER5	3.20	7L7	4.25		
		6BA8A	3.55	6ES5	2.80	7N7	3.40		
		6BC5	2.35	6E88	3.70	7Q7	4.10		
		6BC7	3.80	6EH8	3.20	7R7	5.15		
		6BC8	4.00	6EM5	3.05	7S7	4.75		
		6BD6	2.30	6ER5	3.20	7V7	4.65		
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
				6EH8	3.20				
				6EM5	3.05				
				6ER5	3.20				
				6ES5	2.80				
				6E88	3.70				
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G-E RECEIVING TUBES — *continued*



Type	List Price	Type	List Price	Type	List Price	Type	List Price	Type	List Price
12F8	2.55	12SK7Y	3.15	1457	4.60	25CA5	2.50	42	3.50
12FM6	2.05	12SL7GT	3.75	14W7	4.75	25CD6GB	5.85	50A5	3.95
12G8	2.40	12SN7GTA	2.70	17AV5GA	4.75	25DN6	5.55	50B5	2.65
12H6	2.85	12SQ7	2.95	17AX4GT	2.70	25DQ6	4.20	50C5	2.15
12J5	2.80	12SR7	2.65	17D4	2.75	25EC6	5.70	50DC4	1.50
12J5GT	2.70	12V6GT	2.15	17DO6A	4.20	25L6GT	2.10	50L6GT	2.40
12J8	3.30	12W6GT	3.00	17H3	2.15	25W4GT	2.70	50X6	3.20
12K5	2.70	12X4	1.95	18A5	4.10	25W6GT	3.10	50Y6GT	2.95
12K7GT	4.05	13DE7	3.00	19AU4GTA	3.45	25Y5	3.20	50Y7GT	3.05
12K8	4.80	13DR7	3.00	19BG6G	6.50	25Z5	2.90	75	5.10
12L6GT	2.45	14A4	3.95	19BG6GA	6.50	25Z6GT	2.90	80	2.90
12Q7GT	3.35	14A7/12B7	3.50	19J6	3.15	EL-34/6CA7	6.70	EM-81/DA5	2.45
12R5	2.60	14AF/XXD	3.80	19T8	3.35	GZ-34/SAR4	4.50	EZ-81/6CA4	2.20
12SA7	3.55	14B6	3.30	19X8	3.80	35/51	4.35	83(N)	3.25
12SA7Y	3.55	14B8	3.60	21EX6	5.55	35A5	3.50	84/6Z4	2.60
12SC7	3.45	14C5	4.05	24A	4.15	35B5	2.65	117L7	10.15
12SF5	2.65	14C7	3.35	25AV5GA	4.10	35C5	2.15	117N7GT	9.30
12SF7	4.10	14F7	3.05	25AV5GT	4.10	35DZ8	3.10	117Z3	2.50
12SG7	3.80	14F8	4.60	25AX4GT	2.85	35L6GT	2.40	117Z6GT	4.40
12SH7	3.65	14N7	3.80	25BK5	3.65	35W4	1.40	5642	5.00
12SJ7	3.35	14Q7	4.10	25BQ6GT	4.60	35Y4	2.75	6973	4.50
12SK7	3.20	14R7	5.15	25C5	2.15	35Z3	2.75	7025	2.90
12SK7GT	3.05					35Z5GT	1.85	7027	5.90



SEMICONDUCTOR PRODUCTS

GERMANIUM • SILICONE

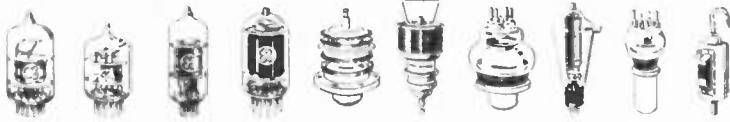
DIODES • TRANSISTORS • RECTIFIERS



Type	Suggested User Price	Type	Suggested User Price	Type	Suggested User Price	Type	Suggested User Price	Type	Suggested User Price
RECTIFIER CELLS		IN540	3.00	TRANSISTORS		2N241	2.00	2N636	11.60
G7A	.85	USAF-IN540	8.90	2N43	4.90	2N241A	2.00	3N36	8.35
IN91	.80	IN573	1.55	2N43A	4.90	2N265	2.06	3N37	9.50
IN92	1.90	IN575	1.95	USAF-2N43A	4.90	2N292	1.75	4JD1A17	6.05
IN93	2.65	IN576A	1.50	2N44	3.25	2N293	1.96	4JD3B1	10.75
USN-IN93	3.50	IN584	3.00	2N45	3.05	2N313	Order 2N292	4JA60A,	} Series
IN94	Order 1N158	IN1008	1.50	2N76	Order 2N190	2N319	1.85	B, C, F, G, H	
IN151	2.15	IN1016	3.00	2N78	3.75	2N320	1.90	4JA61A,	
IN152	2.70	IN1024	1.50	2N81	Order 2N43	2N321	2.00	B, C, F, G, H	
IN153	3.60	IN1095	5.25	2N107	1.00	2N322	1.75	4JA62A, B, C, D,	
IN158	5.50	IN1096	7.50	2N123	5.40	2N323	1.85	F, G, H, J	
IN253	2.20	IN1115	2.20	2N135	2.15	2N324	1.96	4JA63A, B, C, D,	
IN254	2.55	IN1116	2.55	2N136	2.55	2N333	16.20	F, G, H, J	
IN255	5.10	IN1117	3.15	2N137	6.20	2N335	21.60	Prices for these series of Rectifiers available on request.	
JAN-IN255	8.15	IN1118	5.10	2N164A	Order 2N168A	2N394	2.35	VAC-U-SEL	
IN256	10.35	IN1119	7.35	2N165	Order 2N169	2N395	3.40	DOUBLE DIODES	
IN315	3.00	IN1120	10.35	2N166	Order 2N170	2N396	5.40	6GC1	.84
USAF-IN315	3.90	IN1487	.75	2N167	6.45	2N397	8.05	6GDI	.84
IN368	2.55	IN1488	1.30	2N168	Order 2N293	2N450	2.75	RECTIFIER STACKS	
IN440/B	2.20	IN1489	1.30	2N168A	2.06	2N489	12.00	4JA211A, B, C, F	} Series
IN441/B	2.55	IN1490	1.65	2N169	1.96	2N490	12.75	4JA211D	
IN442/B	3.15	IN1491	2.20	2N169A	2.50	2N491	12.40	4JA411A, B, C, F	
IN443/B	4.45	IN1492	2.75	2N170	1.30	2N492	13.10	4JA411E, M	
IN444/B	6.30	IN1492	2.75	2N186	1.80	2N493	13.50	4JA3011	
IN445/B	8.90	IN1692	.70	2N186A	1.95	2N494	13.90	4JA6011	
IN536	1.05	IN1693	.90	2N187	1.85	2N508	2.06	4JA6211	
IN537	1.20	IN1694	1.10	2N187A	1.85	2N518	6.65	Prices for the above series of Rectifier stacks available on request.	
IN538	1.60	IN1695	1.30	2N188	1.90	2N524	3.05	Transistor Manual 1.00	
USAF-IN538	4.30	IN2154	5.20	2N188A	1.90	2N525	3.25		
IN539	2.00	IN2155	6.80	2N189	1.75	2N526	3.56		
		IN2156	9.60	2N190	1.75	2N527	4.15		
		IN2157	13.60	2N191	1.85	2N634	9.35		
				2N192	1.96	2N635	9.95		



INDUSTRIAL tubes



for Communications and Industry

Suggested User Price	Type	Suggested User Price	Type	Suggested User Price
OA2		GL-868	PJ-23	GL-923
OA3/VR-75	1.26		FG-27A	GL-927
OA4G	1.27		FG-32	GL-929
OB2	1.68		GL-5558	GL-930
OB3/VR-90	1.32		GL-5830	GL-931A
OC3/VR-105	1.65		GL-5623	1612
OD3/VR-150	1.27		GL-5623/8-47	1614
KC-1	1.27		GL-5559	GL-1616
KC-1	850.00		GL-5728	1619
1AD4	2.80		FG-67	1620
1AG4	3.05		FG-81A	GL-1672/441
1AH4	1.35		FG-83	2050
1AJ5	1.55		FG-95	GL-5513
GL-1L21	25.00		FG-97	GL-5516
GL-1L31	26.50		FG-98A	GL-5518
GL-1L33	46.00		GL-100T+	GL-5544
GL-1L36	18.50		FG-104	GL-5549
GL-1L38	33.25		FG-105	GL-5550
GL-1P21	54.50		FG-154	GL-415
GL-1P39	2.15		FG-172	GL-5551A
GL-1P40	3.60		GL-207	GL-5551A/P
1V6	1.90		FG-238B	GL-5552A
2AP1-A	15.75		GL-242C	GL-5552A/P
GL-2B22	23.80		FG-259B	GL-5553B
GL-2B23	48.55		FG-280	GL-5553B/P
2BP1	19.05		GL-393A	GL-5554
GL-2C39B	32.15		FP-400	GL-5554
GL-2C40	27.50		GL-411	GL-259B
GL-2C40A	30.85		GL-414	GL-5555
GL-2C42	23.45		GL-415	GL-5556
GL-2C43	24.55		GL-441	GL-5557
GL-2C46	23.90		502A	GL-5558
2D21	1.25		GL-506	GL-5559
2E24	5.25		GL-575A	GL-5560
2E26	3.85		GL-592	GL-5561
2E30	2.95		GL-627	GL-5563A
GL-2H21	270.00		GL-672A	GL-5564
2X2A	2.90		GL-673	GL-5564
KC-3	627.00		GL-678	GL-5575
3AP1A	27.40		GL-801A	GL-5581
GL-3B24W	10.55		GL-802	GL-5588
3BP1A	18.60		GL-803	GL-5593
GL-3C23	11.98		GL-805	GL-5610
3KP1	19.50		807	GL-5620
3MP1	26.30		GL-809	GL-5621
GL-3X2500A3	193.00		GL-810	GL-5623
KC-4			GL-811A	GL-5625
GL-4-65A	26.50		GL-812A	GL-5626
GL-4-400A	55.00		GL-813	GL-5627
GL-4-1000A	135.00		GL-814	GL-5628
GL-4D21/4-125A	36.00		GL-815	GL-5629
GL-4X150A	33.15		GL-816	GL-5630
GL-4-250A/5D22	46.50		GL-828	GL-5632
5AUP24	130.00		GL-828B	5636
GL-5C24	45.00		GL-829B	5642
5CP1-A	21.45		GL-832A	5651
5QP4A	67.70		GL-833A	5654
5R4GYA	1.90		GL-836	5654/6AK5W
5UPI	14.75		GL-837	5654/6AK5W/6096
5Y3WGT8	5.75		GL-838	5662
FA-6			GL-845	5663
6AC7WA	5.70		GL-851	GL-5665
6AN5	3.75		GL-857B	5670*
6AS6	3.15		GL-852A	5670WA
6AS7GA	4.65		GL-866A	GL-5674
6AU6WB	2.80		GL-868	GL-5675
6D4	2.85		GL-868	GL-5681
6J4	3.95		GL-869B	5686*
6SK7WA	2.85		GL-870A	5687
6X4WA	2.85		GL-872A/872	5687WA
GL-7C29	189.50		GL-880	5691
GL-7D21	511.00		884	5692
PJ8			GL-889A	5693
12AT7WB	2.80		GL-889RA	5696
12AY7	2.42		GL-892	5718*
FA-13			GL-892R	5719*
14UP4	70.10		GL-891R	GL-5720
FA-14			GL-898A	FG-33
FA-15			GL-917	5725*
FG-17			GL-918	5725/6AS6W
			GL-919	5726*
			GL-920	5726/6ALS5W
			GL-921	5726/6ALS5W/6097
			GL-922	5727*

(continued)



INDUSTRIAL tubes

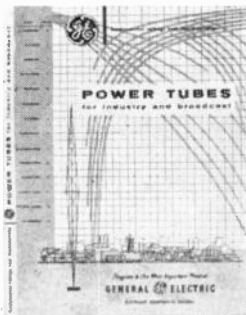
- FIVE STAR
- THYRATRON
- CATHODE RAY
- PHOTOTUBE
- IGNITRON
- RECTIFIER
- KLYSTRON
- COMMUNICATION
- INDUSTRIAL RECEIVING

Type	Suggested User Price	Type	Suggested User Price	Type	Suggested User Price
5727/2D21W	2.70	GL-6039	1117.50	6660/6BA6Δ	1.05
GL-5728/FG-67	53.50	6046	1.55	6661/6BH6Δ	1.35
GL-5736	170.00	6072*	3.90	6662/6BJ6Δ	1.30
GL-5740/FP-54	209.00	6080	5.25	6663/6AL5Δ	.95
5749*	2.05	6087*	5.75	6669Δ	1.05
5749/6BA6W	2.05	6100/6C4WA	2.50	6677Δ	1.85
5750/6BE6W	3.45	6111*	5.40	6778Δ	1.60
5750*	3.45	6112*	5.40	6679/12A7Δ	1.50
5751*	2.85	6134	5.70	6680/12AU7Δ	1.20
5751WA	2.85	6135	2.40	6681/12AX7Δ	1.25
GL-5762/7C24	230.00	6136*	2.80	GL-6807	29.30
5763	2.37	6137	2.85	GL-6808	29.40
GL-5779	135.25	6146	5.00	GL-6809	29.80
GL-5788	476.25	GL-6161	115.00	6829	6.10
5814A	3.20	GL-6166	1020.00	GL-6856/740	19.40
5814WA	3.20	GL-6181	925.00	GL-6857/740P	20.10
GL-5819	56.50	GL-6182	2100.00	GL-6858/760	28.90
GL-5820	1200.00	GL-6189	3.70	GL-6859/760P	29.40
GL-5822A	116.00	6201*	2.80	GL-6860/C&J/F	29.40
GL-5823	2.20	6202*	2.85	6883	5.45
5824	3.60	6203*	4.10	GL-6897	32.15
GL-5830/FG-41	320.00	6205	6.40	GL-6907	27.00
5840*	6.25	6211	2.35	GL-6919	1.35
5844	2.30	GL-6228 GL-506	3696.25	GL-6930/635P	14.40
GL-5855	70.00	GL-6251	2300.00	GL-6942	855.00
5879	1.75	6265*	4.10	7025/12AX7	2.90
5881	3.50	GL-6299	52.50	7036	1.50
GL-5894	25.00	GL-6346	70.00	7077	28.35
5896*	4.45	GL-6347	104.50	GL-7085/356	600.00
5899*	6.55	GL-6348	250.00	GL-8000	26.45
5902*	5.75	6360	4.00	GL-8002	394.00
5963	1.40	6386*	7.40	GL-8002R	588.00
5964	1.40	6397	8.30	GL-8005	16.25
5965	2.20	6414	6.70	GL-8008	10.65
GL-5973	478.80	GL-6442	47.02	GL-8013A	15.55
6005*	3.70	6463	2.05	GL-8020	24.00
6005/6AQ5W	3.70	6485	2.05	GL-8025A	21.95
6005/6AQ5W/6095	3.70	GL-6511	156.90	9001	5.10
GL-6012	7.10	GL-6512	259.80	9002	3.60
GL-6011	13.00	GL-6513	347.00	9003	5.10
GL-6014 CIK	12.90	GL-6514	509.00		
GL-6019	751.75	GL-6515	806.50		
6021*	4.80	6525	2.15		

*Five-Star Types
Δ Communication Types

THERMOSTAT KITS FOR IGNITRONS

KIT NUMBER	SUGG. USER PRICE	KIT NUMBER	SUGG. USER PRICE	KIT NUMBER	SUGG. USER PRICE	KIT NUMBER	SUGG. USER PRICE
NI5272AA	\$7.30	NI5273AA	\$5.15	NI5286AA	\$9.30	NI5287AA	\$8.00



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

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

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

Prices and other data subject to change without notice.



TELEVISION PICTURE TUBES

Effective September 1, 1959



ALL PRICES LISTED ARE SUBJECT TO CHANGE WITHOUT NOTICE

Type	List Price	Description	
		Envelope	Faceplate
5TP4	\$78.25	Round, Glass	Clear
†7JP4	29.50	Round, Glass	Clear
8AP4-A	27.75	Round, Metal	Filter, Spherical
9QP4-A	32.50	Rectangular, Glass	Filter, Spherical
10BP4-A	21.10	Round, Glass	Filter, Spherical
*10FP4-A	27.60	Round, Glass	Filter, Spherical, Aluminized
*12KP4-A	29.60	Round, Glass	Filter, Spherical, Aluminized
12LP4-A	25.40	Round, Glass	Filter, Spherical
12UP4-B	30.25	Rectangular, Glass	Filter, Etched, Spherical
*14AJP4	40.50	Rectangular, Glass	Aluminized
†14CP4 EP4	27.60	Rectangular, Glass	Filter, Spherical
*14QP4A	29.10	Rectangular, Glass	Filter, Spherical
†14RP4A	33.00	Round, Glass	Filter, Spherical, Aluminized
†14RP4A	35.40	Rectangular, Glass	Filter, Aluminized
15GP22	265.00	Round, Metal	Clear, Spherical, Color
16AP4-A	52.50	Round, Glass	Filter, Spherical
16DP4-A	32.40	Round, Metal	Filter, Spherical
16GP4	48.00	Round, Metal	Filter, Spherical
16GP4-B	48.00	Rectangular, Glass	Filter, Etched, Spherical
*16KP4A 15221A	28.60	Rectangular, Glass	Filter, Spherical
*16KP4-A 16R2P4A	32.00	Round, Glass	Filter, Spherical, Aluminized
16LP4-A 2P4	33.50	Rectangular, Glass	Filter, Spherical
16RP4	33.25	Rectangular, Glass	Filter, Spherical
16TP4	28.20	Round, Glass	Filter, Spherical
16WP4-A	34.60	Rectangular, Glass	Filter, Spherical
*†17AVP4A ATP4A	39.60	Rectangular, Glass	Filter, Spherical, Aluminized
17BP4-A 1P4	31.30	Rectangular, Glass	Filter, Spherical
*17BP4-B	36.00	Rectangular, Glass	Filter, Spherical, Aluminized
*17BRP4	47.75	Rectangular, Glass	Filter, Spherical, Aluminized
17CP4	51.25	Rectangular, Glass	Filter, Etched, Spherical
†17CFP4	39.60	Rectangular, Glass	Filter, Aluminized
†17FP4-A FP4	17.80	Rectangular, Metal	Filter, Spherical
†17GP4	50.00	Rectangular, Glass	Filter, Etched, Spherical
*†17HP4B RP4C	38.10	Rectangular, Glass	Filter, Spherical, Aluminized
*17LP4A VP43	36.80	Rectangular, Glass	Filter, Spherical, Aluminized
17QP4 UP4 YP4	31.20	Rectangular, Glass	Filter, Cylindrical Face
*†17QP4A	35.80	Rectangular, Glass	Filter, Aluminized
†17RP4 17H21	34.00	Rectangular, Metal	Filter, Spherical
†17TP4	51.50	Rectangular, Glass	Filter, Etched, Spherical
†17VP4 17L23	33.40	Rectangular, Glass	Filter, Cylindrical Face
19AP4-A	52.50	Round, Metal	Filter, Spherical
19AP4-B	52.50	Round, Metal	Filter, Etched, Spherical
20CP4 DP4	37.80	Rectangular, Glass	Filter, Spherical
20CP4-A DP4A	37.80	Rectangular, Glass	Filter, Spherical
*20CP4B DP43	45.00	Rectangular, Glass	Filter, Spherical, Aluminized
*20CP4D DP4C	45.00	Rectangular, Glass	Filter, Spherical, Aluminized
20DP4-A	40.25	Rectangular, Glass	Filter, Spherical
*20DP4B	48.00	Rectangular, Glass	Filter, Spherical, Aluminized
*20DP4C	48.00	Rectangular, Glass	Filter, Spherical, Aluminized
†20HP4-A LP4 MP4	39.40	Rectangular, Glass	Filter, Spherical
*†20HP4C	42.00	Rectangular, Glass	Filter, Spherical
*†20HP4D	42.00	Rectangular, Glass	Filter, Spherical, Aluminized
21ACP4 21AMP4	37.80	Rectangular, Glass	Filter, Spherical, Aluminized
21ACP4 21AMP4-A/BSP4	45.00	Rectangular, Glass	Filter, Spherical
†21ALP4	39.40	Rectangular, Glass	Filter, Spherical, Aluminized
*†21ALP4B A	46.50	Rectangular, Glass	Filter, Spherical
21AP4	60.00	Rectangular, Metal	Filter, Spherical, Aluminized
*†21ATP4 21ATP4A	46.50	Rectangular, Glass	Filter, Etched, Spherical
*†21AUP4B A	46.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†21AVP4B A	46.50	Rectangular, Glass	Filter, Spherical, Aluminized
*21AWP4	45.00	Rectangular, Glass	Filter, Spherical, Aluminized
*21AXP22A	160.00	Round, Metal	Filter, Spherical, Aluminized
*21BTP4	46.50	Rectangular, Glass	Aluminized
*†21CBP4 C3P4A	47.50	Rectangular, Glass	Filter, Aluminized
*†21CMP4	46.50	Rectangular, Glass	Filter, Aluminized
*†21CQP4	51.50	Rectangular, Glass	Filter, Aluminized
*†21CXP4	46.50	Rectangular, Glass	Filter, Aluminized
*21CZP4	46.50	Rectangular, Glass	Filter, Spherical, Aluminized
21EP4-A	40.00	Rectangular, Glass	Filter, Cylindrical Face
*21EP4-B	44.00	Rectangular, Glass	Filter, Cyl. Face, Aluminized
†21FP4-A	36.00	Rectangular, Glass	Filter, Cylindrical Face
*†21FP4-C	40.00	Rectangular, Glass	Filter, Cyl. Face, Aluminized
†21MP4	62.50	Rectangular, Metal	Filter, Etched, Spherical
*21WP4A	45.00	Rectangular, Glass	Filter, Spherical, Aluminized
21XP4 AYP4	39.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†21XP4-A	46.50	Rectangular, Glass	Filter, Spherical
*†21YP4	42.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†21YP4-A	46.00	Rectangular, Glass	Filter, Spherical
21ZP4-A	41.40	Rectangular, Glass	Filter, Spherical
*21ZP4-B	45.00	Rectangular, Glass	Filter, Spherical, Aluminized
*24ALP4	72.00	Rectangular, Glass	Filter, Aluminized
24AP4	132.40	Round, Metal	Filter, Spherical
†24AEP4	71.25	Rectangular, Glass	Filter, Aluminized
*24CP4-A TP4 VP4A/ADP4	64.50	Rectangular, Glass	Filter, Spherical, Aluminized
*†24DP4A 24YP4	67.00	Rectangular, Glass	Filter, Spherical, Aluminized
*27EP4	111.00	Rectangular, Glass	Filter, Spherical, Aluminized
*27RP4	111.00	Rectangular, Glass	Filter, Spherical, Aluminized

†Electrostatic Focus

‡Electrostatic Focus and Deflection

*Aluminized

All unmarked types Electromagnetic Focus

NATIONAL ELECTRONICS, INC. GENEVA • ILLINOIS • U.S.A.

ELECTRONIC TUBES FOR INDUSTRY



NL-1051 IGNITRON



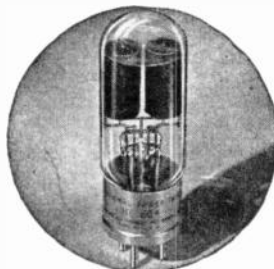
NL-1052 IGNITION



NL-3C23 THYRATRON



NL-740 THYRATRON



NL-604 RECTIFIER

WRITE FOR INDIVIDUAL TUBE DATA SHEETS FOR FULL DETAILS.

IGNITRONS

TYPE NUMBER	VOLTS	MAXIMUM RATINGS				TYPE OF COOLING
		Maximum Demand	Corresponding Current DC-Amps	Maximum Current DC-Amps	Corresponding Demand	
NL-1001	250 - 600	150 Kva	4.9	9.0	50 Kva	Convection
NL-1005	250 - 600	600 Kva	30.2	56	200 Kva	Forced air
NL-1011	250 - 600	600 Kva	30.2	56	200 Kva	Water
NL-1012	250 - 600	1200 Kva	75.6	140	400 Kva	Water
NL-1013	250 - 600	2400 Kva	192.	355	800 Kva	Water
NL-1014	250 - 600	4800 Kva	486.	900	1600 Kva	Water
NL-1022	1500 peak	1200 peak	16	56	336 peak	Water
NL-1051	250 - 600	600 Kva	30.2	56	200 Kva	Water
NL-1052	250 - 600	1200 Kva	75.6	140	400 Kva	Water
NL-1053	250 - 600	2400 Kva	192	355	800 Kva	Water
NL-1054	250 - 600	4800 Kva	486	900	1600 Kva	Water
NL-5550	250 - 600	300 Kva	12.1	22.4	100 Kva	Water clamp

THYRATRONS

TYPE NUMBER	GAS FILLING	DC OUTPUT AMPS.	PEAK RATING AMPS	PEAK INVERSE VOLTS	FILA-MENT VOLTS	FILA-MENT AMPS	TYPE OF COOLING
NL-3C23	Arg & Merc.	1.5	6	1250	2.5	7	Convection
NL-393A	Arg & Merc.	1.5	6	1250	2.5	7	Convection
NL-632B	Mercury	2.5	30	1500	5.0	5	Convection
NL-710L	Arg & Merc.	2.5	30	1500	2.5	9	Convection
NL-710L 6011	Arg & Merc.	2.5	30	1500	2.5	9	Convection
NL-714	Arg & Merc.	1	3	1250	2.5	5	Convection
NL-715/5557	Mercury	1	3	5000	2.5	5	Convection
NL-716	Arg & Merc.	1	8	1250	2.5	6.3	Convection
NL-720,L	Arg. & Merc.	2.5	30	1500	2.5	9	Convection
NL-732	Arg & Merc.	30	225	1500	2.5	55	Convection
NL-740,L,P	Arg & Merc.	4	50	1500	2.5	16	Convection
NL-760,L,P	Arg & Merc.	6.4	77	1500	2.5	21	Convection
NL-5559/FG57	Mercury	2.5	15	1000	5.0	4.6	Convection
NL-5560/FG95	Mercury	2.5	15	1000	5.0	4.6	Convection
NL-5632 C3J	Xenon	2.5	30	1250	2.5	9	Convection
NL-5665 C16J	Xenon	18.0	160	1250	2.5	31	Convection
NL-5684 C3J #	Xenon	2.5	30	1250	2.5	9	Convection
NL-6014/C1K	Xenon	1	8	1250	2.5	6.3	Convection

HALF WAVE RECTIFIERS

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

FULL WAVE RECTIFIERS

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



Mullard ELECTRON TUBES

Mullard electron tubes, universally recognized for their advanced designs and reliability, offer a comprehensive range of tubes for High-Fidelity, AM-FM, Television, and Industrial Applications. The vast manufacturing resources of the Mullard organization, including the world's most modern research laboratories, is your assurance of guaranteed tube design advantages for maximum performance in electronic equipment.



EL34 / 6CA7



GZ34 / 5AR4



EL84 / 6BQ5



ECC83 / 12AX7



ECL82 / 6BM8



Trade Mark
MULLARD, LTD.,
ENGLAND

Mullard Type	EIA Type	Description	Sugg. User Price
DM70	1M3	Indicator Tube	\$1.95
EABC80	6AK8	Triple Diode Triode	3.55
EB91	6AL5	Double Diode	1.75
EBF89	6DC8	Duo Diode Pentode	3.25
†ECC95	6ER5	Frame Grid Triode	3.50
ECC81	12AT7	Double Triode	2.85
ECC82	12AU7	Double Triode	2.35
ECC83	12AX7	AF Double Triode	2.35
†ECC85	6AQ8	RF Double Triode	2.60
ECC88	6DJ8	Frame Grid Double Triode	4.40
†ECC189	6ES8	Frame Grid Double Triode	4.45
ECF80	6BL8	Triode Pentode	3.80
ECF82	6U8	Triode Pentode	3.15
ECH81	6AJ8	Triode Heptode	3.40
†ECL82	6BM8	Triode Pentode	3.00
EF86	6Z6	AF Pentode	2.50
EF94	6AU6	Pentode	2.00
EF95	6AK5	RF Pentode	4.50
*EL34	6CA7	Output Pentode	6.20
*EL37		Output Pentode	5.75
EL38	6CN6	Output Pentode	6.80
*EL84	6BQ5	Output Pentode	2.30
EL86	6CW5	Output Pentode	2.85
EL90	6AQ5	Output Pentode	2.15
EM81	6DA5	Tuning Indicator	2.60
EM84	6FG6	Tuning Indicator	2.60
EZ80	6V4	Full Wave Rectifier	1.50
EZ81	6CA4	Full Wave Rectifier	2.10
EZ90	6X4	Full Wave Rectifier	1.60
GZ34	5AR4	Full Wave Rectifier	4.20
7025	7025	AF Double Triode	2.60
7189	7189	Output Pentode	2.90

† Available in Series String versions.

* Available in matched pairs.

INTERNATIONAL ELECTRONICS CORP.

New York 12, N. Y.

ELECTRON TUBES

for High Fidelity, AM-FM, Television, Replacement and Industrial Applications



Mullard Type	EIA Type	Mullard Type	EIA Type	Mullard Type	EIA Type	Mullard Type	EIA Type	Mullard Type	EIA Type	Mullard Type	EIA Type	Mullard Type	EIA Type
AF22-10		E1B1CC	7118	EN92	5696	M8196	5725/6AS6W	OC200		UABC90			
AF31-10		E1B2CC	7119	EN93	604	M8206	5727/20Q1W	OC201		UBA2			
AL13-36		EA50		FQ80	68E7	M8206		OC202		UB41	1257		
AL22-10		EA52	6923	EY51	6X2	M8207		OC271	2N577	UBC41	14L7		
AL31-10		EA76	6A85	EY70		M8208		ORP10		UBR90			
AN1		EABCB0	6AK8	EY81	6R3	M8212		ORP11		UBR95	17C0		
AW13-36		EAC91		EY84	6J74		5726/6ALSW/6097	ORP90		UBR99			
AW17-20		EAF41		EY86	6S2	M8214		PABCO0		UBL21			
AW21-80		EAF42	6CT7	EY88		M8223	0A2WA	PCC84	9AK8	UCH42			
AW22-10		EB34		EY88		M8224	0B2WA	PCC85	8AQ8	UCG4			
AW36-48		EB41		EZ35		M8225		PCC88	7D18	UCCH5			
AW36-80		EB91	6AL5	EZ40		M8232	614WA	PCC89		UCF80			
AW43-80		EBC33		EZ41		M8234		PCF90	9A8	UCH21			
AW53-80	7BTP4	EBC41	6CV7	EZ80	6V4	M8237		PCF82		UCB20	14K7		
AZ31		EBC90	6AT6	EZ81	6C44	M8245	6005/6A05W	PCL82	16A0	UCB81	1900		
BA3-30		EBC91	6AV6	EZ90	6X4	M813-1	5FP11	PCL83		UCB82	608M0		
BA9-20		EBS40	68B	FC4		M822-75		PCL84	15DQ8	UCB83			
BA16-10		EBS93	6DR8	FW4-500		MC6-16		PEN36C		UCF41	12AC5		
CB131		EBS99	6DC8	FW4-800		MC13-16		PEN44					
CC135		EBL21		G230	524G7	ME1200		PL13		UF80			
CC136		EBL31		G232		ME1200AA		PL16	25E5	UF85			
CX11		EC56		G233		ME1201		PL38		UF86			
CX12		EC57		G234	5AR4	ME1201AA		PL39M		UF89			
CY31		EC70	6778	G237		ME1400		PL81	21A6	UL41	45A9		
DA90		ECT11		HB90		ME1401	5802	PL82	16A5	UL44			
DC32		ECB1	6R4	HR80	12AV6	ME1402		PL83	15A6	UL46			
DAF91	1A3	ECB0	6C4	HF93	12B8A	ME1403	5889	PL84		UL4	45B9		
DAF96	1H5	ECB1	6AQ4	HK90	12B6E	ME1404		FP20		UM80			
DB4-1		ECB2		HL92	50C5	MF13-1	5FP7A	PY31		UR1C			
DB4-2		ECB3		HY90		MF22-75		PY32		UY1N			
DB7-5		ECB3A		IG-1		MF31-22		PY80	19X3	UY41	31A3		
DB7-6		ECB5	6SL7GT	IG-2		MF31-55		PY81	17Z3	UY85	38A3		
DB7-30	3WP11	ECB40		JM2-2.5A	7091	MF31-85		PY82	19A3	YR1-3200			
DB13-2	SCP11	ECB70		JM2-2.5W	7292	MF41-10		PY88	26A6E	XC1-2500	6559		
DB13-34	SADP11	ECB81	12A77	JP2-0.2	7090	ML31-22		PZ30		XC2-12			
DB16-22	7AHP11	ECB82		JP8-02		MM13-10		QV002-6		XC2-25			
BC70	6J75	ECB83	12A77	JP9-01		MS1005		QV03-20A	6360	XC2-500			
BC90		ECB84	6CW7	JP9-02		MW-2	3NP4	QV07-40A	6252	XC2-6400			
DCC90	3A5	ECB85	6A08	JP9-2.5	7028	MW36-44		QV09-15	832A	XC5-10	6780		
DF33	1H5G7	ECB86		JP9-7	2142	MW43-67	5FP4A	QV09-40A	5894	XC5-500	5557		
DF60	5678	ECB88	6DJ8	JP9-7A		MW43-80		QV09-40	8298	XC5-12			
DF81	5611	ECB91	6J6	JP9-7B		MW43-80		QV09-40	3E28	XC62-6400			
DF82	1A04	ECB90	6B18	JP9-7D		MW36-44		QV10-P8	5895	XMG-045	3C45		
DF83		ECB92		JP9-15	2142A	MW43-67	178DP4	QV09-12	5763	XMR-100	4C25		
DF84		ECM35		JP9-25		MW43-80		QV09-12		XMR-3200	5644		
DF86		ECM41		JP9-75	6972	MW43-80		QV09-40		XM25-500	5949/1907		
DF91	1T4	ECM42	6CU7	JP9-80	4152A	MW51-80		QV09-25	807	XR1-12	5855		
DF92		ECM43		JP9-80A		MW51-275	212E	QV09-20	6146	XR1-1600	5798		
DF96	1A1A	ECM83	6D5B	JP9-250	4150	MZ1-75		QV09-100		XR1-3200	5544		
DF97	1A5	ECL80	6A8B	JP9-250A	4J78	MZ1-100		QV1-150A	4X150A	XR1-6400	5543		
DG4-1		ECL82	6B8B	JP16-40		MZ2-200		QV10-P8		XR1-6400A	6807		
DG4-2		ECL83		JP35-30		OA5		QV12-P10		Z200T	0A46		
DG7-5	3ALP1	EF37A		JP48-01		OA10		QV12-P18	4PRE0A	Z200C			
DG7-6		EF39		JP48-01		OA10		QV12-P18	813	Z203C			
DG7-31		EF40		JP48-01		OA10		QV12-P18		Z203C			
DG7-32		EF40		JP48-01		OA10		QV12-P18		Z203C			
DG7-36	3AMP1	EF42	6CJ5	JP48-02		OA10		QV12-P18		Z203C			
DG13-2	SCP11	EF50		JP48-02	2151A	OA10		QV12-P18		Z203C			
DG13-34	SADP11	EF54		JP48-02		OA10		QV12-P18		Z203C			
DG15-22	7AHP11	EF55		JP48-02		OA10		QV12-P18		Z203C			
DH3-91	1CP1	EF70	6487	JP48-02		OA10		QV12-P18		Z203C			
DH7-91	3AFP1	EF71		JP48-02		OA10		QV12-P18		Z203C			
DH10-78		EF72		JP48-02		OA10		QV12-P18		Z203C			
DH10-94	4EP1	EF74	6488	JP48-02		OA10		QV12-P18		Z203C			
DH13-97	5BKP1	EF74	6391	JP48-02		OA10		QV12-P18		Z203C			
DHM10-93		EF80	6RUX	JP48-02		OA10		QV12-P18		Z203C			
DK32	1A7G7	EF85	6B77	JP48-02		OA10		QV12-P18		Z203C			
DK31	1R5	EF85	6E27	JP48-02		OA10		QV12-P18		Z203C			
DK52	1AC6	EF89	60A6	JP48-02		OA10		QV12-P18		Z203C			
DK96	1AB6	EF91	6AM6	JP48-02		OA10		QV12-P18		Z203C			
DL33	305G1	EF92	6C06	JP48-02		OA10		QV12-P18		Z203C			
DL35		EF93	6BA6	JP48-02		OA10		QV12-P18		Z203C			
DL64		EF94	6A06	JP48-02		OA10		QV12-P18		Z203C			
DL66		EF95	6AK5	JP48-02		OA10		QV12-P18		Z203C			
DL68		EF97	6E56	JP48-02		OA10		QV12-P18		Z203C			
DL69		EF98	6L76	JP48-02		OA10		QV12-P18		Z203C			
DL70	6J73	EF730		JP48-02		OA10		QV12-P18		Z203C			
DL73		EF731		JP48-02		OA10		QV12-P18		Z203C			
DL92	354	EF732		JP48-02		OA10		QV12-P18		Z203C			
DL93	3A4	EF734		JP48-02		OA10		QV12-P18		Z203C			
DL94	3V4	EP60		JP48-02		OA10		QV12-P18		Z203C			
DL96	3C4	EK90	6BE6	JP48-02		OA10		QV12-P18		Z203C			
DL98	3B4	L31	M8083	JP48-02		OA10		QV12-P18		Z203C			
DL920	5672	L32	M8091	JP48-02		OA10		QV12-P18		Z203C			
DM70	1M3	L33	M8096	JP48-02		OA10		QV12-P18		Z203C			
DM160	6977	L34	M8097	JP48-02		OA10		QV12-P18		Z203C			
DP4-1		L36	M8098	JP48-02		OA10		QV12-P18		Z203C			
DP4-2		L37	M8099	JP48-02		OA10		QV12-P18		Z203C			
DP7-5		L38	6CN6	JP48-02		OA10		QV12-P18		Z203C			
DP7-6		L41	6CK5	JP48-02		OA10		QV12-P18		Z203C			
DP7-91		L42		JP48-02		OA10		QV12-P18		Z203C			
DP10-78	3AFP7	L471		JP48-02		OA10		QV12-P18		Z203C			
DP10-94		L481		JP48-02		OA10		QV12-P18		Z203C			
DP13-2	5CP7A	L483	6C16	JP48-02		OA10		QV12-P18		Z203C			
DP13-34	SADP7	L484	6B05	JP48-02		OA10		QV12-P18		Z203C			
DP13-97		L485	6B85	JP48-02		OA10		QV12-P18		Z203C			
DP15-22	7AHP7	L486	6CW5	JP48-02		OA10		QV12-P18		Z203C			
E17	6370	L490	6A05	JP48-02		OA10		QV12-P18		Z203C			
E80CC	60B5	L491	6AM5	JP48-02		OA10		QV12-P18		Z203C			
E80F	6084	L495	6D15	JP48-02		OA10		QV12-P18		Z203C			
E906	6227	L496	6C16	JP48-02		OA10		QV12-P18		Z203C			
E911	6686	L497	6C16	JP48-02		OA10		QV12-P18		Z203C			
E93F	6689	L498	6C07	JP48-02		OA10		QV12-P18		Z203C			
E88CC	6922	EM81	60A5	JP48-02		OA10		QV12-P18		Z203C			
E90CC	5920	EM84		JP48-02		OA10		QV12-P18		Z203C			
E91H	6687	EM81		JP48-02		OA10		QV12-P18		Z203C			
E92CC		EM82	2050	JP48-02		OA10		QV12-P18		Z203C			
E180CC	7062	EN70	5643	JP48-02		OA10		QV12-P18		Z203C			
E180P	6888	EN91	2921	JP48-02		OA10		QV12-P18		Z203C			
				M8132		M8132							
				M8133		M8133							
				M8136	6189/12AU7WA	M8136							
				M8137	6057	M8137							
				M8140		M8140							
				M8141		M8141							
				M8142		M8142							
				M8144		M8144							
				M8149		M8149							
				M8157		M8157							
				M8161	6065	M8161							

PENTA POWER TUBES

HIGH-EFFICIENCY



PL-172 Beam Pentode



PL-5C22/HT-415 Hydrogen Thyatron



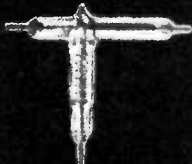
PL-4-400A Tetrode



PL-165A Hydrogen Thyatron



PL-6549 Beam Pentode



PL-169A Vacuum Switch

Type	Fil. Volts	Fil. Current Amps.	Plate Diss. Max. W.	Plate Volt Max.	Plate Current Ma., Max.	Screen Voltage Max.	Price
BEAM PENTODES							
PL-172*†	6.0	8.2	1000	3,000	1000	600	\$135.00
PL-175*	5.0	14.5	400	4,000	350	800	55.00
PL-177A*	6.0	3.3	75	2,000	175	600	25.00
PL-6549	6.0	3.3	75	2,000	175	600	25.00
PL-4E27A	5.0	7.5	125	4,000	200	750	40.00
TETRODES							
PL-4D21 (4-125A)	5.0	6.5	125	3,000	225	600	36.00
PL-4D21A	5.0	6.5	175	3,000	225	600	37.50
PL-5D22 (4-250A)	5.0	14.5	250	4,000	350	800	46.50
PL-4-400A	5.0	14.5	400	4,000	350	800	55.00
TRIODES (Grounded-Grid Types)							
PL-6569	5.0	14.5	250	4,000	300	μ=45	37.50
PL-6580	5.0	14.5	400	4,000	350	μ=45	45.00
HIGH-VOLTAGE RECTIFIER							
PL-250R	5.0	10.5	...	60,000**	250	...	30.50
HYDROGEN THYATRONS (Low-Jitter Types)							
PL-5C22, HT415	6.3	10.5	...	16,000	325 amp	...	36.00
PL-161	6.3	10.5	...	16,000	325 amp	...	48.00
PL-165A	6.3	7.8	...	12,000	225 amp	...	48.00
PL-174/6587	6.3	10.5	...	16,000	325 amp	...	48.00

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

VACUUM SWITCHES, Single-pole, Double-throw

Type	Voltage, Maximum	Current Max. Amperes		Coil	Price
		AC or DC	Pulse		
PL-R1	21,000	6	150	Not supplied; requires 1100 Amp.—Turns	\$33.00
PL-169A	21,000	30	500	Not supplied; requires 1900 Amp.—Turns	40.00
PL-186	21,000	6	...	Not supplied; requires 1000 Amp.—Turns	36.00
PL-187	21,000	30	500	Integral, 28 V, 500 Ma. D-C	58.00
PL-190	21,000	6	150	Integral, 28 V, 250 Ma. D-C	58.00
PL-191	21,000	6	...	Not supplied; requires 1000 Amp.—Turns	18.00

ACCESSORIES

Type	Description	Price
PL-C1	Glass Chimney for PL-4-400A and PL-175	\$ 6.00
PL-184	Socket for PL-172, including chimney, built-in screen-grid and suppressor-grid by-pass capacitors	38.75
PL-184A	Socket for PL-172, including chimney and built-in screen-grid by-pass capacitors. Suppressor-grid grounded.	38.75
PL-C184	Plastic chimney, only, for PL-172	3.00



PENTA LABORATORIES, INC.

SANTA BARBARA, CALIFORNIA

Sales Representatives in Principal Cities



RCA ELECTRON TUBES

ENTERTAINMENT RECEIVING TYPES

LIST PRICE SCHEDULE • JULY 1, 1959

RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*
EM84/6FG6	2.95	5CG8	3.25	6BQ7A	3.95	6R7	3.95	12AE6	2.05	1486	3.30	OD3	1.80
OZ4	2.15	5CL8A	3.15	6BR8	3.30	6S4A	2.05	12AF3	2.90	14C7	3.35	1L4	2.65
OZ4G	2.35	5CM8	3.55	6BR8A	3.30	6S7	4.60	12AF6	2.25	14F7	3.85	1P40	3.75
1A3	3.05	5CQ8	3.35	6BS8	3.75	6S8GT	2.75	12AH7GT	3.80	14F8	4.60	2AP1-A	21.15
1A5GT	3.20	5CZ5	2.85	6BU8	2.80	6SA7	3.70	12AJ6	2.05	14Q7	4.10	2BP1	23.35
1A7GT	3.70	5J6	2.80	6BW4	1.85	6SA7GT	3.25	12AL5	1.90	14R7	5.15	2D21	2.05
1AX2	3.05	5T4	7.95	6BX7GT	4.00	6SB7Y	4.95	12AL8	4.25	17AX4GT	2.70	2E24	6.15
1B3GT	2.90	5T8	3.40	6BY5GA	4.20	6SC7	3.65	12AQ5	2.60	17BQ6GTB	4.60	2E26	4.55
1C5GT	3.60	5U4G	2.00	6BY6	2.30	6SF5	2.95	12AT6	1.85	17D4	2.75	2X2A	3.00
1DN5	2.20	5U4GB	2.10	6BY8	2.65	6SF5GT	3.20	12AT7	3.05	17DE4	2.85	3A5	2.30
1G3GT/1B3GT	2.90	5U8	3.30	6BZ6	2.25	6SF7	4.30	12AU6	2.15	17DQ6A	4.25	3B28	7.60
1H5GT	3.05	5V3	3.65	6BZ7	4.00	6SG7	4.05	12AU7A	2.45	17H3	2.15	3BP1-A	27.35
1K3	2.90	5V4GA	3.30	6BZ8	4.25	6SH7	3.85	12AV5GA	3.85	18A5	4.15	3KP1	29.15
1L6	3.35	5V6GT	2.20	6C4	1.85	6SJ7	2.55	12AV6	1.65	18FW6	2.00	3KP4	32.25
1L6A	4.10	5X4G	2.95	6C5	3.00	6SJ7GT	3.20	12AV7	3.20	18FX6	2.15	3RP1-A	30.85
1L8A	4.45	5X8	3.30	6C5GT	2.90	6SK7	3.40	12AW6	3.00	18FY6	1.65	5BP1-A	38.55
1L84	4.45	5Y3GT	1.75	6C6	4.35	6SK7GT	3.05	12AX4GTA	2.70	19AU4	3.50	5R4-GY	2.70
1L84	4.10	5Y4GT	2.35	6C8G	5.10	6SL7GT	3.30	12AX7	2.55	19BQ6GA	6.50	5R4-GYB	2.70
1LD5	4.25	5Z3	3.00	6CB5A	2.25	6SN7GTB	2.60	12AY7	5.00	19J6	3.15	SUP1	26.65
1LE3	4.25	5Z4	4.95	6CB6	2.25	6SQ7	3.15	12AZ7	2.75	19T8	3.35	6AK6	2.90
1LG5	4.05	6A7	4.60	6CB8A	2.25	6SQ7GT	2.70	12B4A	2.70	19X8	3.70	6AS6	4.45
1LH4	3.95	6A8	5.25	6CD6GA	5.80	6SR7	2.95	12BA6	2.00	24A	4.15	6AS7-G	6.25
1LN5	3.95	6ABG	4.75	6CF6	2.55	6S7	3.85	12BA7	3.95	25AV5	4.25	6J4	5.55
1N5GT	3.65	6ABGT	4.75	6CG7	2.45	6T4	4.35	12BD5	2.75	25AX4GT	2.90	12A6	2.95
1R5	2.55	6AB4	2.15	6CG8A	3.15	6T8A	3.35	12BD6	2.25	25BK5	3.65	12AY7	—
1S4	3.65	6AB5 6N5	3.70	6CH8	3.60	6U5	3.20	12BE6	2.15	25BQ6GTB/25CU6	4.60	12SW7	2.00
1S5	2.55	6AB7	5.50	6CK4	2.80	6UBA	3.30	12BF6	3.10	25C5	2.15	12SX7-GT	2.20
1T4	2.40	6AC5GT	4.35	6CL6	3.75	6V3A	4.35	12BH7A	2.05	25CA5	2.50	12SY7	2.50
1U4	2.35	6AC7	4.65	6CL8A	3.15	6V6	4.80	12BK5	3.80	25CA5	2.50	83	2.20
1U5	2.05	6AD7G	5.90	6CM6	2.55	6V6GT	2.15	12BL6	2.15	25CD6GB	5.85	502-A	2.85
1V	3.65	6AF3	2.90	6CM7	2.75	6W4GT	2.40	12BQ6GTB/12CU6	4.45	25DN6	5.55	807	3.35
1V2	2.00	6AF4	4.00	6CM8	3.55	6W6GT	2.85	12CUB6	4.45	25EH5	2.30	809	7.55
1X2A	3.05	6AF4A	4.00	6CN7	2.60	6X4	1.65	12BR7	2.60	25L6	6.40	811-A	7.65
1X2B	3.05	6AF6G	3.60	6CQ8	3.30	6X5GT	2.05	12BV7	3.05	25L6GT	2.25	812-A	7.65
2A3	6.30	6AG5	2.60	6CR6	2.40	6X8	3.15	12BY7A	3.05	25W4GT	2.70	816	3.10
2AF4A	4.05	6AG7	5.60	6CS6	2.35	6Y6G	4.50	12BZ7	3.05	25Z5	2.90	866-A	3.10
2B2A	2.55	6AH4GT	3.30	6CS7	2.80	6Y6GA	3.45	12C8	6.20	25Z6GT	2.90	868	4.45
2CY5	2.80	6AH6	4.60	6CU5	2.30	7A4	3.25	12CA5	2.50	27	4.35	872A	11.65
2EN5	1.85	6AK5	4.20	6CU8	3.65	7A5	3.85	12CN5	2.25	32ET5	2.20	884	2.55
2NI09	1.51	6AL5	1.85	6CX8	3.65	7A6	3.15	12CR6	2.40	35A5	3.50	885	2.75
2N217	1.58	6AL7GT	5.75	6CY5	2.75	7A7	3.50	12CUS/12CS	2.35	35B5	2.65	918	4.55
2N270	1.51	6AM4	5.90	6CY7	2.95	7A8	4.45	12CX6	2.25	35C5	2.15	920	6.70
3A2	3.60	6AM8A	3.25	6CZ5	2.80	7AD7	6.45	12D4	2.75	35L6GT	2.40	921	3.90
3A3	3.40	6AN4	4.95	6D6	4.35	7AF7	3.85	12CT8	4.05	35W4	1.40	922	3.35
3AF4A	4.05	6AN8	3.50	6DA4	2.70	7AG7	3.85	12DL8	4.05	35Y4	2.75	923	3.35
3AL5	1.85	6AQ5A	2.15	6DC6	2.75	7AH7	3.85	12DQ6A	4.20	35Z3	2.75	927	4.40
3AU6	2.15	6AQ6	2.20	6DE4	2.80	7AU7	2.60	12DQ7	3.30	35Z4GT	2.35	930	3.35
3AV6	1.75	6AQ7GT	4.00	6DE6	2.45	7B4	3.05	12DT5	3.05	35Z5GT	1.85	934	4.30
3B2	6.20	6AR5	2.60	6DE7	2.95	7B5	4.75	12DS7	3.40	36AM3	1.50	991	1.20
3BC5	2.30	6AS5	2.40	6DG6GT	2.55	7B6	3.25	12DT8	3.75	41	3.50	1614	4.80
3BN4	2.55	6AS8	3.30	6DK6	2.35	7B7	3.30	12DV8	3.40	42	3.45	1620	8.95
3BN6	3.05	6AT6	1.90	6DN6	6.25	7B8	3.55	12DZ6	2.55	43	4.70	1623	4.75
3BU8	2.80	6AT8A	3.20	6DN7	3.50	7C5	3.35	12EA6	2.25	47	8.70	1624	6.00
3BY6	2.35	6AU4GTA	3.35	6DQ5	7.65	7C6	3.30	12E26	2.50	50A5	3.95	1625	4.50
3BZ6	2.35	6AU5GT	4.30	6DQ6A	4.15	7C7	3.05	12E56	2.30	50B5	2.65	1635	3.35
3CB6	2.25	6AU6	2.10	6DR7	2.95	7E7	4.45	12EH5	2.35	50C5	2.15	1650	2.55
3CF6	2.55	6AU8	3.50	6DS5	2.65	7F7	3.65	12EK6	2.55	50DC4	1.55	5581	3.75
3CS6	2.45	6AV5GA	3.80	6DT5	2.95	7F8	4.60	12EL6	1.75	50EH5	2.30	5582	5.85
3CY5	2.85	6AV6	1.65	6DT6	2.15	7G7	4.00	12EM6	2.90	50L6GT	2.40	5583	5.05
3DK6	2.40	6AW8A	3.55	6DT8	3.75	7H7	3.90	12EN6	3.05	50X6	3.20	5618	6.95
3DT6	2.20	6AX4GT	2.65	6E5	3.00	7J7	5.15	12F8	2.85	50Y6GT	2.95	5642	5.00
3FL4	4.20	6AX5GT	2.90	6E8A	3.15	7K7	4.45	12FK6	2.10	50Y7GT	3.05	5651	2.50
3Q4	2.75	6AX8	3.50	6EB8	3.70	7N7	4.30	12FM6	1.85	70L7GT	10.15	5653	1.85
3Q5GT	3.60	6AZ8	4.20	6EH5	2.35	7Q7	4.10	12H6	3.05	75	5.10	5686	4.75
3S4	2.45	6B8	5.15	6EH8	3.15	7R7	5.15	12J5GT	2.70	78	5.10	5696	2.60
3V4	2.35	6BA6	2.00	6EM5	3.05	7V7	4.65	12J7GT	4.20	80	2.90	5763	3.35
4AU6	2.15	6BA7	3.65	6ER5	3.00	7W7	4.75	12J8	3.30	84 6Z4	2.70	5823	2.20
4BC5	2.35	6BA8A	3.70	6EW6	2.30	7X7	5.85	12K5	2.75	117L7GT/117M7GT	10.15	5879	—
4BC8	4.05	6BC4	4.80	6F5	3.40	7Y4	4.05	12K7GT	4.05	117N7GT	9.30	5881	—
4BN6	3.05	6BC5	2.30	6F6	4.00	7Z4	2.75	12K8	5.25	117P7GT	9.30	5963	2.00
4BQ7A	4.00	6BC7	3.80	6F6G	3.60	8AU8	3.55	12L6GT	2.50	117Q7GT	9.30	5964	3.35
4BS8	3.85	6BC8	3.95	6F6GT	3.65	8AW8A	3.70	12Q7GT	3.30	117Z3	2.50	5965	3.35
4BU8	2.80	6BD6	2.30	6F7	6.65	8BH8	3.55	12R5	2.60	117Z6GT	4.35	6005	5.15
4BZ6	2.25	6BE6	2.20	6F8G	5.10	8BN8	2.95	12SA7	3.70	5879	3.85	6080	7.35
4BZ7	4.05	6BF5	3.55	6FV6	2.75	8BQ5	2.45	12SA7GT	3.25	5879	3.85	6146	5.90
4CB6	2.30	6BG6G	6.50	6G6G	4.05	8CG7	2.50	12SC7	3.65	5881	6.25	6159	5.90
4CS6	2.55	6BG6GA	6.50	6H6	3.30	8CM7	2.85	12SF5	3.05	6973	4.50	6293	7.30
4DE6	2.50	6BF6	1.80	6J5	2.95	8CN7	2.60	12SF7	4.35	7025	2.95	6328	14.30
4DT6	2.25	6BH6	2.70	6J5GT	2.55	8CX8	3.70	12SG7	4.05	7027	5.25	6417	3.35
5AM8	3.30	6BH8	3.45	6J6	2.80	8EB8	3.75	12SH7	4.00	7027A	5.25	6472	14.50
5AN8	3.55	6BJ6	2.60	6J7	4.35	8EM5	3.10	12SJ7	3.55	7189	3.60	6660/6BA6	1.45
5AQ5	2.20	6BJ7	2.95	6J7GT	3.65	9AU7	2.60	12SK7	3.40	7199	3.30	6661/6BH6	1.85
5AS4A	2.10	6BJ8	2.90	6K6GT	2.35	9R7	2.65	12SK7GT	3.05			6662/6BJ6	1.80
5AS8	3.45	6BK4	7.50	6K7	4.15	9CL8	3.15	12SL7GT	3.75			6663/6AL5	1.30
5AT8	3.25	6BK5	3.50	6K7GT	3.75	9UBA	3.30	12SN7GT	2.70			6669/6AQ-5A	1.50
5AV8	4.05	6BK7B	3.40	6K8	4.45	10C8	4.25	12SQ7	3.15			6677/6CL6	2.50
5AZ4	2.65	6BL7GTA	3.95	6L6	6.70	10DE7	2.95	12SQ7GT	2.65			6678/6UB-A	2.20
5B8	3.90	6BN4	2.50	6L6GB	4.20	11CY7	3.00	12SR7	3.05			6679/12A7	2.05
5B8E	3.30	6BN6	3.05	6L7	4.80	12ABGT	4.75	12T7	2.50			6680/12AU7-A	1.70
5BK7A	3.40	6BN8	2.70	6N7	4.35	12AB5	2.45	12W6GT	2.15			6681/12AX7	1.75
5BQ7A	4.00	6BQ5	2.35	6N7GT	4.35	12AC6	2.20	12X4	1.80	OA2	1.75	6683	5.90
5BR8	3.30	6BQ6GTB/6CU6	4.35	6Q7	3.70	12AD6	2.40	12X4	1.80	OA3	1.80	6893	5.00
5BT8	3.30	6CUB6	4.35	6Q7GT	3.20	12AE6	1.85	13DE7	2.95	OA4G	2.40	7117	14.30
								14A7	3.50	OB2	1.90	7117	14.30
								14AF7	3.80	OC3	1.80	7212	9.85



RCA PICTURE TUBES

RCA MONOGRAM PICTURE TUBES (Black & White)

LIST PRICE* SCHEDULE—JANUARY 1, 1959

RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*
10BP4A	\$19.00	17BVP4	45.00	21AVP4B/21AUP4B/ 21AVP4A/21AUP4A	39.50
10FP4A	25.00	17CP4	35.50	21AWP4	36.50
12KP4A	25.00	17GP4	37.50	21BTP4	40.00
12LP4A	21.00	17HP4/17RP4	29.00	21CBP4A	41.00
14EP4/14CP4/14BP4	23.00	17HP4B/17RP4C	32.00	21CEP4	41.50
14HP4	24.50	17LP4/17VP4	28.75	21EP4A	31.50
14QP4A	27.50	17LP4A/17VP4B	31.75	21EP4B	34.50
14RP4	27.50	17QP4	26.75	21FP4A	33.00
14RP4A	30.00	17QP4A	30.25	21FP4C	36.00
16AP4A	30.50	17TP4	37.50	21MP4	46.50
16DP4A	27.00	19AP4B	\$37.00	21WP4	34.00
16GP4B	31.00	20DP4A/20CP4A	30.50	21WP4A	37.00
16LP4A	28.00	20DP4C/20CP4D	33.50	21XP4A	39.00
16RP4/16KP4	24.50	20HP4A/20MP4	32.50	21YP4	35.00
16RP4A/16KP4A	27.00	20HP4D	35.50	21YP4A	38.00
16TP4	24.00	21ACP4A/21BSP4/ 21AMP4A	36.50	21ZP4A	33.50
16WP4A	29.00	21ALP4B/21ALP4A	38.50	21ZP4B	36.00
17AVP4/17ATP4	30.00	21AP4	44.50	24ADP4/24VP4A/ 24CP4A/24TP4	55.25
17AVP4A/17ATP4A	33.00	21ATP4A/21ATP4	38.50	24DP4A/24YP4	57.25
17BP4A	27.00	21AVP4/21AUP4	36.50	27MP4	147.00
17BP4B	29.50				

RCA MONOGRAM (Color)

LIST PRICE* SCHEDULE—JANUARY 1, 1959

RCA TYPE	LIST PRICE† (Exch. Basis)	BULB CHARGE†
21AXP22A/21AXP22	\$107.00	\$20.00
21CYP22	107.00	20.00

* Optional. Where purchaser provides an acceptable old picture tube bulb similar to type being purchased a bulb allowance may be deducted.

† Optional. Prices shown are based on purchaser providing an acceptable old picture tube bulb similar to type being purchased. Where purchaser fails to provide an acceptable picture tube bulb an additional bulb charge may be made as designated in the column above.

BOLD type indicates Aluminized type. All prices subject to change or withdrawal without notice.

This schedule intended for use in all areas except Far Western United States, Alaska and Hawaii. Prices include Federal Excise tax where applicable.



RCA PICTURE TUBES

RCA offers two lines of black and white picture tubes:

1. RCA Silverama—A premium picture tube made of all-new glass and all-new parts.
2. RCA Monogram—RCA's economy-priced picture tube.

RCA manufactures two lines of color picture tubes:

1. RCA Colorama—A premium picture tube made of all-new glass and all-new parts.
2. RCA Monogram—RCA's full-color economy-priced picture tube.

RCA SILVERAMA (Black & White—All-New, Premium)

LIST PRICE* SCHEDULE—FEBRUARY 1, 1959

RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*	RCA TYPE	LIST PRICE*
5TP4	\$78.00	17BP4B	\$41.00	21AWP4	\$49.50
7JP4	29.50	17BZP4	48.50	21BTP4	52.00
8DP4	32.00	17CDP4	48.50	21CBP4A	52.50
10BP4A	26.50	17CFP4	44.00	21CEP4	56.00
10FP4A	34.00	17CP4	47.50	21CXP4	51.00
12KP4A	34.50	17GP4	50.00	21DAP4	56.00
12LP4A	30.00	17HP4/17RP4	39.00	21DFP4	56.00
14ATP4	37.00	17HP4B/17RP4C	43.00	21DLP4	51.00
14EP4/14CP4/14BP4	31.50	17LP4/17VP4	39.50	21EP4A	46.50
14HP4	33.50	17LP4A/17VP4B	44.00	21EP4B	50.50
14QP4A	38.50	17QP4	36.50	21FP4A	48.00
14RP4	37.50	17QP4A	41.00	21FP4C	52.00
14RP4A	41.00	17TP4	51.50	21MP4	62.50
14WP4/14ZP4	37.50	19AP4B	52.50	21WP4	46.50
16AP4A	48.50	20DP4A/20CP4A	44.00	21WP4A	50.00
16DP4A	45.50	20DP4C/20CP4D	48.00	21XP4A	52.50
16GP4B	48.00	20HP4A/20MP4	45.50	21YP4	47.50
16LP4A	45.00	20HP4D	50.00	21YP4A	51.00
16RP4/16KP4	36.50	21ACP4A/21BSP4/		21ZP4A	45.50
16RP4A/16KP4A	40.00	21AMP4A	49.50	21ZP4B	49.00
16TP4	36.50	21ALP4B/21ALP4A	51.50	24ADP4/24VP4A/	
16WP4A	45.00	21AP4	60.00	24CP4A/24TP4	74.50
17AVP4/17ATP4	40.00	21ATP4A/21ATP4	52.00	24AEP4	76.00
17AVP4A/17ATP4A	44.00	21AVP4/21AUP4	49.00	24AHP4	81.50
17BJP4	44.00	21AVP4B/21AUP4B/		24DP4A/24YP4	77.00
17BP4A	37.00	21AVP4A/21AUP4A	53.50		

RCA COLORAMA PICTURE TUBES (Color—All-New, Premium)

LIST PRICE* SCHEDULE—FEBRUARY 1, 1959

RCA TYPE	LIST PRICE*
15GP22	\$160.00
21AXP22A	160.00
21CYP22	160.00

* Optional. Prices higher in Alaska & Hawaii.

Bold type indicates Aluminized type. Prices include Federal Excise tax where applicable. All prices subject to change or withdrawal without notice.



RCA ELECTRON TUBES

FOR INDUSTRY AND COMMUNICATIONS

DIRECT REPLACEMENT TYPES

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced. Tube types covered include: Vacuum Power Tubes, Rectifier Tubes, Thyratrons, Igni-

trans, Voltage Regulators, Phototubes, Cathode-Ray Tubes, and Special Types.

Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type	Type to be Replaced	Replace by RCA Type
OA3 VR75	OA3	WT-210-0019	83	WL-632A	632-B	AX-5557 FG-17/1701	5557
OC3 VR105	OC3	WT-210-0021	6X5	WL-632B	632-B	5557 715	5557
OD3 VR150	OD3	WT-210-0021	6X5-GT	KU-634	677	GL-5558 FG-32	5558
1P29 FJ-401	1P29	WT-210-0025	117Z6-GT	WL-651 656	5552-A	GL-5559 FG-57	5559
1P32	927	WT-210-0027	872-A	WL-652 657	5551-A	WL-5558 32	5558
2AP1	2AP1-A	WT-210-0028	3Q5-GT	WL-653B	5555	WL-5559 57	5559
2B4	885	WT-210-0029	6C5	WL-655 658	5553-B	5560 FG-95	5560
2C38	2C39-A	WT-210-0031	902-A	672	672-A	GL-5561 FG-104	5561
2C39	2C39-A	WT-210-0037	117L7 M7-GT	WL-681 686	5550	WL-5561 104	5561
2X2 879	2X2-A	WT-210-0038	172	WT-699	5550	WL-5563	5563-A
3-50G2	834	WT-210-0040	6X4	NL-715	5557	5604	5604-A
3AP1	3AP1-A	WT-210-0042	5Y3-GT	ML-728	5557	GL-5632 C3J	C3J 5632
3BP1	3BP1-A	WT-210-0044	575-A	WL-735	868	GL-5632 C3J	C3J 5632
3C45	6130 3C45	WT-210-0045	892	WL-741	923	5636-A	5636
3D22	3D22A	WT-210-0048	5U4-G	801	801-A	WL-5665	C16J 5665
3X100A11	2C39-A	WT-210-0052	2AP1-A	811	811-A	GL-5665 C16J	C16J 5665
4-250A	4-250A 5D22	WT-210-0053	3AP1-A	812	812-A	WL-5685	C6J-A 5685
4-250A 6156	6156 4-250A	WT-210-0056	5559	829	829-B	5685 C6J	5685
4D21	4-125A 4D21	WT-210-0057	5560	829-A	829-B	5719-A	5719
4X250F	7204 4X250F	WT-210-0058	676	UE-830	830-B	5762	5762 7C24
5BP1	5BP1-A	WT-210-0060	024	832	832-A	5814	5814-A
5C21 C6J	C6J 5C21	WT-210-0062	5557	833	833-A	5822	5822-A
5CP1	5CP1-A	WT-210-0069	5557	857	857-B	5897	5897
5CP7	5CP7-A	WT-210-0070	5550	866	866-A	5898	5898
5D22	4-250A 5D22	WT-210-0071	5551	866-A 866	866-A	5899-A	5899
5FP7	5FP7-A	WT-210-0073	5553	869-A	869-B	6014	6014
5HP1-A	5HP1-A	WT-210-0074	105	872	872-A	GL-6096	5654 6AK5-W/6096
WT-6	6L6	WT-210-0078	172	872-A 872	872-A	GL-6097	5726 6AL5-W/6097
6Q5-G	884	WT-210-0079	105	T-875-A	575-A		
7BP7	7BP7-A	WT-210-0081	65J7	879	889-A	6130	6130 3C45
7C24	5762 7C24	WT-210-0082	6V6	889	889-A	6155	6155 4-125A
7JP1	7VP1	WT-210-0083	7K7	889-R	889R-A	6156	6156 4-250A
PJ-B	5556	WT-210-0084	6N7	893	893-A	6474	6474
G-9	868	WT-210-0084	6N7-GT	902	902-A	6626	6626 OA2-WA
10Y	801-A	WT-210-0085	5085	UE-905	805	6626	6626 6BA6
BW-11	834	WT-210-0086	833-A	906-P1	3AP1-A	6660	6660 6BH6
RK-11	1623	WT-210-0087	6K8	908	908-A	6661	6661 6BH6
12DP7	12DP7-A	WT-210-0088	6J5	UE-930	830-B	6662	6662 6B16
FG-17	5557	WT-210-0088	6J5-GT	UE-930B	830-B	6663	6663 6AL5
WL-17	5557	WT-210-0089	6G6-G	931	931-A	6669	6669 6AQ5-A
RK-20A	804	WT-210-0090	6C6	938	938	6677	6677 6CL6
PJ-23	868	WT-210-0091	OA4-G	UE-945	845	6678	6678 6U8-A
RK-25	802	FG-235A	5552-A	UE-966	866-A	6679	6679 12A17
RK-25B	802	FG-238B	5555	UE-966-A	866-A	6680	6680 12A07-A
RK-28	803	WT-245	884	UE-967	5557	6681	6681 12AX7
RK-28A	803	WT-246	2050	UE-972	872-A	6810	6810-A
CE-30V(C-D)	925	HK-257(B)	4E27 8001	UE-972-A	872-A	8001	4E27 8001
RK-30	800	FG-258-A	5553-B	NU-975-A	575-A	8012	8012-A
CE-31V(C-D)	919	WT-261	6H6	NL-1051	5551-A	8016	1B3-GT 8016
FG-32	5558	WT-262	866-A	NL-1052	5551-A	8020	8020
WL-32	5558	WT-263	64 6Z4	NL-1053	5553-B	EL-C1K	C1K 6014
RK-33	2C21/1642	WT-269	OC3	1640	6405 1640	EL-C3J	C3J 5632
CE-34	934	WT-270	80	1701	5557	EL-C3J A	C3J-A 5684
CE-34R	934	WT-270X	523	1802-P1	5811-P1	EL-C6J	C6J 5C21
RK-39	807	FG-271	5551-A	1811-P1	1811-P1	EL-C6J A	C6J-A 5685
CE-41	921	WT-272	5557	1849	1850-A	EL-C16J	C16J 5665
CE-42	922	WT-274B	5557	1850	1850-A	WT-T-100	6X4
KU-42	6130 3C45	WT-294	5R4-GY	1852	6AC7	WT-T-102	5Y3-GT
RK-44	837	WT-301	83	1853	6AB7	WT-T-103	6H6
RK-47	814	UE-303A	203A	1854	6474	WT-T-104	575-A
UH-50	834	WE-304B	834	1855	6896 1855	WT-T-105	892
FG-57	5559	F-307A	207	2051	2050	WT-T-111	5559
RK-57	805	WT-308	6X5-GT	2525A5	58P1-A	WT-T-112	5560
WL-57	5559	CE-309	5557	GL-5550/GL-415	5550	WT-T-113	676
RK-58	838	CE-311	3C33	WL-5550 681/686	5550	WT-T-114	OZ4
CE-59	5581	UE-317C	217-C	5550 681	5550	WT-T-115	117N6-GT
HY-61 807	807	322A	803	5551	5551-A	WT-T-117	5557
CE-91R	1P37	331A	805	AX-5551/652	5551-A	WT-T-118	105
FG-95	5560	350A	807	GL-5551 FG-271	5551-A	WT-T-119	172
CE-98	5582	366-A	866-A	WL-5551-A/652	5551-A	WT-T-122	65J7
FG-104	5561	WT-377	117Z6-GT	5552	5552-A	WT-T-123	6V6
WL-104	5561	ML-381	2C39-A	GL-5552 FG-235-A	5552-A	WT-T-124	7K7
WT-210-0001	2D21	WT-389	3Q5-GT	5552/651	5552-A	WT-T-125	6N7-GT
WT-210-0003	884	WT-390	6C5	5553	5553-B	WT-T-126	5085
WT-210-0004	2050	FJ-401	1P29	GL-5553/FG-258A	5553-B	WT-T-127	833-A
WT-210-0006	6H6	403-A	5654	5553/655	5553-B	WT-T-128	6K8
WT-210-0008	866-A	GL-415	5550	5553-A	5553-B	WT-T-129	6J5-GT
WT-210-0009	84 6Z4	GL-451	8020	5553-B 655	5553-B	WT-T-130	6C6-G
WT-210-0011	OC3	ZP-572	2C39-A	GL-5555/FG-238B	5555	WT-T-131	6C6
WT-210-0012	80	WT-606	2D21	AX-5555/653-B	5555	WT-T-132	OA4-G
WT-210-0013	523	WL-630	2050	GL-5556/PJ-B	5556	WT-T-135	5U4-G
WT-210-0015	5557	WL-630A	2050	GL-5557/FG-17	5557	WT-T-136	2AP1-A
WT-210-0018	OD3	WL-631	5559	WL-5557/17	5557	WT-T-137	3AP1-A
						WT-T-149	172

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

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



RCA ELECTRON TUBES

FOR INDUSTRY AND COMMUNICATIONS

LIST PRICE SCHEDULE • AUGUST 15, 1959

INDUSTRIAL RECEIVING/POWER/CATHODE RAY/PHOTO

Table with columns: RCA Type, Dist Price, Resale Sched., RCA Type, Dist Price, Resale Sched., RCA Type, Dist Price, Resale Sched., RCA Type, Dist Price, Resale Sched., RCA Type, Dist Price, Resale Sched., RCA Type, Dist Price, Resale Sched., RCA Type, Dist Price, Resale Sched. Rows list various tube types like OA2, OA2WA, OA2WA, etc.

SPECIAL MARKET PRICES

FOOTNOTES

* Prices higher in Alaska and Hawaii. Prices shown do not include any State or local sales and similar taxes. (G) Sales limited to government end use. All prices subject to change or withdrawal without notice.

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For Finest Quality RECEIVING TUBES
PICTURE TUBES • SEMICONDUCTOR DIODES
& TRANSISTORS • INDUSTRIAL TUBES

TV AND RADIO RECEIVING TUBES
SUGGESTED LIST PRICES—Effective June 30, 1959

Table with columns: Type, Price, Type, Price, Type, Price, Type, Price, Type, Price, Type, Price, Type, Price. Lists various vacuum tube models and their prices.

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

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& TRANSISTORS · INDUSTRIAL TUBES

TV AND RADIO RECEIVING TUBES *Continued*

Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price	Type	Price
43	4.75	50A5	3.95	50X6	3.20	57	4.35	76	1.80	83	3.50	117P7GT	9.30
43Z3	1.95	50B5	2.65	50Y6GT	2.95	58	4.35	77	2.35	84 6Z4	2.70	117Z3	2.50
46	4.65	50C5	2.15	50Y7GT	3.05	70L7GT	10.15	78	5.10	85	4.35	117Z6GT	4.40
47	8.70	50CD6G	7.35	55	4.35	71A	5.10	80	2.90	117L M7GT	10.15	5642	5.00
49	3.00	50L6GT	2.40	56	2.70	75	5.10	81	5.10	117N7GT	9.30	X155	See 6BZ8

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

RAYTHEON TELEVISION PICTURE TUBES

SUGGESTED LIST PRICES—Effective April 30, 1959

Black and White Tube type	Suggested List Price	Black and White Tube type	Suggested List Price
8DP4	\$32.00	17TP4	\$51.50
10ABP4B	23.25	19AP4B	52.50
10BP4A	22.50	20CP4/20DP4	40.25
12KP4A	31.75	20DP4A/20CP4A	40.25
12LP4A	27.25	20CP4B/20DP4B	48.00
14ASP4	41.25	20DP4C/20CP4D	48.00
14AUP4	38.00	20HP4	42.00
14EP4/14CP4/14BP4	29.25	20HP4A/20MP4	42.00
14HP4	31.25	20HP4C	49.75
14HP4A	38.00	20HP4D	49.75
14NP4A/14SP4	38.00	21ACP4A/21BSP4/21AMP4A	48.00
14QP4	31.25	21ALP4	42.00
14QP4A	38.00	21ALP4B/21ALP4A	49.75
14RP4	31.25	21AMP4/21ACP4	40.25
14RP4A	38.00	21AP4	60.00
14WP4	38.00	21ATP4B	42.00
14XP4A	38.00	21ATP4A	49.75
16AEP4	35.25	21AVP4/21AVP4	42.00
16AP4A	48.50	21AUP4A/21AVP4B/21AVP4A	49.75
16DP4A	45.75	21AWP4	49.75
16GP4A	48.00	21BTP4	49.75
16RP4/16KP4	33.25	21CBP4A	49.75
16RP4A/16KP4A	40.50	21CEP4	55.00
16JP4A	44.50	21CEP4A	55.00
16LP4A/16ZP4	44.50	21CMP4	49.75
16TP4	33.25	21CQP4	55.00
16WP4A	44.50	21CUP4	48.00
17AVP4/17ATP4	35.25	21CWP4	49.75
17AVP4A/17ATP4A	42.50	21CX4	49.75
17BRP4	47.75	21CZP4	55.00
17BP4A	33.25	21DAP4	55.00
17BP4B	40.50	21DEP4	55.00
17BJP4	42.50	21DEP4A	55.00
17BSP4	42.50	21DLP4	49.75
17BVP4	47.75	21DQP4	49.75
17BW4	47.75	21EP4A	42.00
17B2P4/17CAP4	47.75	21EP4B	49.75
17B2P4A/17CAP4A	47.75	21FP4A	43.75
17CEP4	42.50	21FP4C	51.50
17CFP4	42.50	21FP4	43.75
17CP4	47.50	21MP4	62.50
17CGP4	42.50	21WP4	40.25
17CKP4	47.75	21WP4A	48.00
17CLP4	42.50	21XP4A	49.75
17CNP4	42.50	21YP4	42.00
17CRP4	42.50	21YP4A	49.75
17DKP4	51.25	21ZP4	40.25
17GP4	50.00	21ZP4A	40.25
17HP4/17RP4	35.25	21ZP4B	48.00
17HP4B/17HP4C	42.50	24AEP4	71.25
17LP4/17VP4	35.25	24AHP4	76.50
17LP4A/17VP4B	42.50	24AJP4	71.25
17QP4/17YP4/17VP4	33.25	24ALP4	76.50
17QP4A	40.50	24AUP4	71.25
17JP4	43.75	24CP4	64.50

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RAYTHEON TELEVISION PICTURE TUBES *Continued*

Black and White Tube type	Suggested List Price
24CP4A/24AVP4A	\$69.00
24CP4A	69.00
24DP4	66.50
24DP4A/24YP4	71.25
24TP4/24ADP4	69.00

Black and White Tube type	Suggested List Price
27EP4	\$118.75
27RP4	118.75
27SP4	121.50

SEMICONDUCTOR DIODES AND TRANSISTORS
SUGGESTED RESALE AND LIST PRICES—Effective July 1, 1959

TYPE		SUGG. RESALE PRICE	SUGG. LIST PRICE	TYPE		SUGG. RESALE PRICE	SUGG. LIST PRICE	TYPE		SUGG. RESALE PRICE	SUGG. LIST PRICE
IN34	DIODE	.52	.75	IN536	DIODE	1.16	—	2N464	TRANSISTOR	1.82	—
IN34A	DIODE	.53	.75	IN537	DIODE	1.32	—	2N464(Sig.C)	TRANSISTOR	4.00	—
IN60	DIODE	.36	—	IN538	DIODE	1.73	—	2N465	TRANSISTOR	1.90	—
IN63	DIODE	—	—	IN538(JAN)	DIODE	4.28	—	2N465(Sig.C)	TRANSISTOR	4.19	—
IN63A	DIODE	1.40	—	IN539	DIODE	2.22	—	2N466	TRANSISTOR	1.99	—
IN66	DIODE	.52	.75	IN540	DIODE	3.30	—	2N466(Sig.C)	TRANSISTOR	4.37	—
IN66A	DIODE	.66	—	IN540(JAN)	DIODE	8.25	—	2N467	TRANSISTOR	2.48	—
IN67	DIODE	1.04	—	IN547	DIODE	8.25	—	2N467(Sig.C)	TRANSISTOR	5.45	—
IN67A	DIODE	1.16	—	IN547(JAN)	DIODE	20.65	—	2N481	TRANSISTOR	1.48	2.10
IN68	DIODE	.99	—	IN645	DIODE	3.28	—	2N482	TRANSISTOR	1.57	2.20
IN68A	DIODE	1.32	—	IN646	DIODE	4.44	—	2N483	TRANSISTOR	1.65	2.35
IN82A	DIODE	1.05	1.50	IN647	DIODE	5.77	—	2N484	TRANSISTOR	1.74	2.45
IN89	DIODE	1.04	—	IN648	DIODE	7.10	—	2N485	TRANSISTOR	1.65	2.35
IN90	DIODE	.49	—	IN1095	DIODE	5.77	—	2N486	TRANSISTOR	1.74	2.45
IN95	DIODE	.66	—	IN1096	DIODE	8.25	—	2N619	TRANSISTOR	14.87	—
IN97	DIODE	1.12	—	IN1763	DIODE	1.25	—	2N620	TRANSISTOR	26.43	—
IN99	DIODE	1.48	—	IN1764	DIODE	1.63	—	2N621	TRANSISTOR	39.65	—
IN116	DIODE	.83	—	2N63	TRANSISTOR	3.72	—	2N622	TRANSISTOR	29.74	—
IN117	DIODE	.83	—	2N64	TRANSISTOR	4.13	—	2N631	TRANSISTOR	1.74	2.45
IN126	DIODE	.57	—	2N65	TRANSISTOR	4.55	—	2N632	TRANSISTOR	1.40	2.00
IN126A	DIODE	.57	—	2N111	TRANSISTOR	Use 2N413	—	2N633	TRANSISTOR	1.32	1.85
IN127	DIODE	1.06	—	2N111A/	—	—	—	2N658	TRANSISTOR	6.20	—
IN127A	DIODE	1.06	—	CK759A	TRANSISTOR	Use 2N482	—	2N659	TRANSISTOR	9.09	—
IN128	DIODE	.83	—	2N112	TRANSISTOR	Use 2N414	—	2N660	TRANSISTOR	12.39	—
IN191	DIODE	1.18	—	2N112A/	—	—	—	2N661	TRANSISTOR	16.11	—
IN192	DIODE	.88	—	CK760A	TRANSISTOR	Use 2N483	—	2N662	TRANSISTOR	5.12	—
IN198	DIODE	1.22	—	2N113	TRANSISTOR	Use 2N416	—	2N1017	TRANSISTOR	9.25	—
IN253	DIODE	2.39	—	2N114	TRANSISTOR	Use 2N417	—	2N1034	TRANSISTOR	12.78	—
IN253(JAN)	DIODE	5.29	—	2N130	TRANSISTOR	Use 2N130A	—	2N1035	TRANSISTOR	23.25	—
IN254	DIODE	2.83	—	2N130A	TRANSISTOR	2.83	—	2N1036	TRANSISTOR	35.69	—
IN254(JAN)	DIODE	5.95	—	2N131	TRANSISTOR	Use 2N131A	—	2N1037	TRANSISTOR	26.77	—
IN255	DIODE	5.60	—	2N131A	TRANSISTOR	2.83	—	2N1074	TRANSISTOR	14.87	—
IN255(JAN)	DIODE	9.00	—	2N132	TRANSISTOR	Use 2N132A	—	2N1075	TRANSISTOR	26.43	—
IN256	DIODE	11.40	—	2N132A	TRANSISTOR	2.83	—	2N1076	TRANSISTOR	39.65	—
IN256(JAN)	DIODE	20.65	—	2N133	TRANSISTOR	Use 2N133A	—	2N1077	TRANSISTOR	29.74	—
IN294	DIODE	.66	.95	2N133A	TRANSISTOR	2.97	—	CK113	TRANSISTOR	4.13	—
IN294A	DIODE	.90	—	2N138	TRANSISTOR	Use 2N138B	—	CK14	TRANSISTOR	5.38	—
IN295	DIODE	.36	.50	2N138A	TRANSISTOR	Use 2N138B	—	CK16	TRANSISTOR	7.27	—
IN297	DIODE	.91	—	2N138AA	TRANSISTOR	Use 2N138B	—	CK17	TRANSISTOR	9.09	—
IN297A	DIODE	1.34	—	2N138B	TRANSISTOR	2.90	—	CK22	TRANSISTOR	3.72	—
IN298	DIODE	.91	—	2N155	TRANSISTOR	2.83	4.00	CK25	TRANSISTOR	5.29	—
IN298A	DIODE	1.37	—	2N271/CK766	TRANSISTOR	Use 2N486	—	CK26	TRANSISTOR	5.45	—
IN300	DIODE	5.78	—	2N271A/	—	—	—	CK27	TRANSISTOR	8.01	—
IN300A	DIODE	6.61	—	CK766A	TRANSISTOR	Use 2N484	—	CK28	TRANSISTOR	11.16	—
IN300B	DIODE	6.94	—	2N327A	TRANSISTOR	14.87	—	CK64	TRANSISTOR	3.05	—
IN301	DIODE	5.78	—	2N328A	TRANSISTOR	26.43	—	CK65	TRANSISTOR	3.22	—
IN301A	DIODE	6.61	—	2N329A	TRANSISTOR	39.65	—	CK66	TRANSISTOR	3.39	—
IN301B	DIODE	6.94	—	2N359	TRANSISTOR	2.04	—	CK67	TRANSISTOR	\$3.72	—
IN302	DIODE	6.61	—	2N360	TRANSISTOR	1.93	—	CK709	DIODE	16.52	—
IN302A	DIODE	8.25	—	2N361	TRANSISTOR	1.89	—	CK711	DIODE	16.52	—
IN302B	DIODE	8.60	—	2N362	TRANSISTOR	1.25	1.75	CK715	DIODE	.66	.95
IN303	DIODE	5.78	—	2N363	TRANSISTOR	1.08	1.55	CK717	DIODE	16.52	—
IN303A	DIODE	6.61	—	2N404	TRANSISTOR	2.70	—	CK719	DIODE	16.52	—
IN303B	DIODE	6.94	—	2N404(USAF)	TRANSISTOR	3.30	—	CK721	TRANSISTOR	2.40	3.40
IN305	DIODE	3.30	—	2N413	TRANSISTOR	2.07	—	CK722	TRANSISTOR	.90	1.30
IN306	DIODE	3.30	—	2N414	TRANSISTOR	2.28	—	CK768	TRANSISTOR	1.50	2.10
IN307	DIODE	3.30	—	2N416	TRANSISTOR	5.78	—	CK772	DIODE	.71	—
IN432	DIODE	5.78	—	2N416(Sig.C)	TRANSISTOR	9.09	—	CK844	DIODE	Use IN1095	—
IN432A	DIODE	6.61	—	2N417	TRANSISTOR	7.43	—	—	—	Use IN547	—
IN432B	DIODE	6.94	—	2N417(Sig.C)	TRANSISTOR	11.73	—	CK845	DIODE	or IN1096	—
IN433	DIODE	5.78	—	2N422	TRANSISTOR	2.14	—	CK846	DIODE	4.55	—
IN433A	DIODE	7.43	—	2N425	TRANSISTOR	4.30	—	CK847	DIODE	6.61	—
IN433B	DIODE	7.77	—	2N425(Sig.C)	TRANSISTOR	6.78	—	CK848	DIODE	10.74	—
IN434	DIODE	5.78	—	2N426	TRANSISTOR	4.47	—	CK849	DIODE	13.22	—
IN434A	DIODE	7.43	—	2N426(Sig.C)	TRANSISTOR	7.04	—	CK850	DIODE	16.52	—
IN434B	DIODE	7.77	—	2N427	TRANSISTOR	6.70	—	CK851	DIODE	39.65	—
IN460	DIODE	5.78	—	2N427(Sig.C)	TRANSISTOR	10.57	—	CK863	DIODE	9.91	—
IN460A	DIODE	6.61	—	2N428	TRANSISTOR	8.25	—	CK863A	DIODE	11.56	—
IN460B	DIODE	6.94	—	2N428(Sig.C)	TRANSISTOR	13.05	—				

All Prices Subject to Change or Withdrawal Without Notice

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PICTURE TUBES · SEMICONDUCTOR DIODES
& TRANSISTORS · INDUSTRIAL TUBES

INDUSTRIAL TUBES
SUGGESTED USER AND LIST PRICES—Effective July 14, 1959

Type	Sugg. Retail Price	Sugg. List Price
0A2	\$ 1.26	.....
0A2WA	3.65	.....
0A3	1.27	\$ 1.80
0A4G	1.68	2.40
0B2	1.32	1.85
0B2WA	2.85	.....
0B3 VR90	1.65	2.45
0C3 VR105	1.27	1.80
0D3 VR150	1.27	1.80
10Z4A CK1003	1.04	.....
11AD4	2.80	3.92
11AE4	4.50	.....
11AG4	3.32	.....
11AG5	2.05	2.85
11AK4	5.82	8.15
11R5WA	5.60	.....
11T4WA	4.67	.....
11U4WA	5.00	.....
11U5WA	5.00	.....
2D21	1.46	2.05
2E24	5.25	6.15
2E26	3.85	4.55
2E30	2.95	.....
12E31	3.35	4.69
12E32	3.35	4.69
12E35	5.81	8.13
12E36	5.81	8.13
2E41 (Use 1AG5)	.....	.....
2E42 (Use 1AG5)	.....	.....
12G21	7.39	10.35
12G22	7.39	10.35
RK2J42	130.00	143.00
RK2J42H	170.00	187.00
RK2J49	153.00	169.00
RK2J50	153.00	169.00
RK2J51	272.00	300.00
RK2J51A	441.00	486.00
RK2J55	143.00	158.00
RK2J56 (Use RK2J56A)	.....	.....
RK2J56A	143.00	158.00
RK2J66	645.00	710.00
RK2J67	645.00	710.00
RK2J70	162.00	178.00
RK2J71	407.00	448.00
RK2K22	53.00	59.00
RK2K25	27.25	30.00
RK2K26	53.00	59.00
RK2K28	53.00	59.00
RK2K28A	53.00	59.00
RK2K29	53.00	59.00
RK2K33	407.00	448.00
RK2K45	63.50	70.00
RK2K48	92.00	102.00
RK2K56	103.00	113.00
2X2A	2.55	3.00
3A4	1.20	.....
3A5	1.62	2.30
3ACP2	38.50	.....
3ACP7	38.50	.....
3ADP1	60.00	.....
3B4	2.75	.....
RK3B24W	11.20	.....
RK3B26	16.94	23.72
RK3B29	15.64	21.85
3C23	11.93	.....
3UP1	46.25	.....
3UP7	46.25	.....
3WP1	34.25	.....
3WP7	33.00	.....
RK4B31	32.83	45.96
4C35	29.90	41.90
4CP7	171.00	.....
RK4D22	32.76	45.86
RK4D32	32.76	45.86
RK4J30	272.00	300.00
RK4J31	272.00	300.00
RK4J32	272.00	.....
RK4J33	272.00	.....
RK4J34	272.00	.....
RK4J35	272.00	.....
RK4J36	415.00	457.00
RK4J37	415.00	457.00
RK4J38	415.00	457.00
RK4J39	415.00	457.00
RK4J40	415.00	457.00
RK4J41	415.00	457.00

Type	Sugg. Retail Price	Sugg. List Price
5ABP1	\$ 35.60	.....
5ABP7	43.75	.....
5ABP11	44.25	.....
5ADP7	37.70	.....
5AHP7	38.15	.....
5AHP7A	46.30	.....
5AHP14	38.15	.....
5AHP14A	46.75	.....
5AKP19A	49.00	.....
5AKP19	137.00	.....
5AMP1	85.70	.....
5AX51	8.30	.....
5FPZ A	31.70	.....
5FP14A	31.00	.....
RK5J26	570.00	\$627.00
5R4GY	1.90	2.70
5WP15	103.00	.....
5ZP16	128.00	.....
6AH6WA	12.42	.....
6AJ5	3.95	.....
6AK5W (Use 5654, 6AK5W)	.....	.....
6AN5	3.75	.....
6AN5WA	10.80	.....
6AR6	5.75	.....
6AS6	3.15	4.85
6AS7G	4.45	6.25
6BL6	43.75	48.20
6BM6	61.50	68.00
6BM6-A	75.00	83.00
6C4W	8.30	.....
6J4	3.94	5.55
6J5WGT	4.98	.....
6SN7WGT	2.34	.....
6X4W	1.60	.....
6X5WGT	1.51	.....
74BP7	42.45	.....
74BP7A	60.00	.....
74BP14	51.00	.....
74BP19A	51.00	.....
7AK7	7.45	.....
7AX51	10.80	.....
7BP7A	43.35	.....
7MP7	41.15	.....
7NP14	43.63	.....
7SP7	146.00	.....
7UP7	39.43	.....
8CV50	10.80	.....
10KP7	51.45	.....
10KP7A	51.45	.....
10NP11	154.00	.....
10QP7	137.00	.....
10SP4	85.70	.....
10UP7A	51.45	.....
10UP14A (Use 10UP14B)	.....	.....
10UP14B	51.45	.....
10WP7	42.85	.....
10WP14	51.45	.....
10WP19A	51.45	.....
12ABP7	60.00	.....
12ABP7A	68.50	.....
12ABP14	60.00	.....
12ABP14A	68.50	.....
12ABP19A	77.00	.....
12AT7WA	2.76	.....
12AY7	2.42	3.45
12DP7A	68.50	.....
12SP7	42.85	.....
16ADP7	68.50	.....
16ADP7A	120.00	.....
17AVP7	137.00	.....
21FP7A	146.00	.....
RK61	4.20	.....
QK140 (Use QK290)	.....	.....
QK226 (Use QK293)	.....	.....
QK227 (Use QK294)	.....	.....
QK253 (Use RK6695)	.....	.....
QK288	543.00	598.00
QK289	407.00	448.00
QK290	407.00	448.00
QK291	407.00	448.00
QK292	407.00	448.00
QK293	407.00	448.00
QK294	407.00	448.00
QK295	543.00	598.00
QK306	407.00	448.00
QK324	2,458.00	2,705.00

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

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PICTURE TUBES • SEMICONDUCTOR DIODES
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INDUSTRIAL TUBES Cont'd SUGGESTED USER AND LIST PRICES—Effective July 14, 1959

Type	Sugg. Resale Price	Sugg. List Price
QK 327	\$7,303.00	\$8,035.00
QK 329	367.00	404.00
QK 367	170.00	187.00
QK 366 (Use RK6967)	119.00	131.00
QK 381	68.00	75.00
QK 404 7158	114.00	125.00
BM 411	1,475.00	1,625.00
QK 411A	272.00	300.00
QK 412	106.00	117.00
QK 414	306.00	337.00
QK 422	611.00	673.00
QK 436 (Use RK6316)	611.00	673.00
QK 448	92.00	102.00
QK 456	407.00	448.00
QK 461	959.00	1,055.00
QK 463	1,106.00	1,217.00
QK 464 (Use QK464A or QK464B)	4,845.00	5,330.00
QK 464A	8.30	31.65
QK 464B	2.30	.....
QK 470	3.20	.....
CK 501AX	.....	.....
CK 502AX (Use 2E35)	.....	.....
CK 506AX	.....	.....
CK 510AX	.....	.....
QK 510 (Use QK 448)	.....	.....
CK 512AX	2.27	.....
QK 518	958.00	1,055.00
CK 522AX (Use CK6088)	.....	.....
CK 526AX	4.59	6.43
CK 527AX	2.69	3.80
QK 528	2,352.00	2,590.00
QK 531	68.00	75.00
QK 532	68.00	75.00
CK 533AX	2.94	4.12
CK 534AX	3.01	4.21
QK 539	3,349.00	3,685.00
QK 542	2,423.00	2,665.00
QK 545	265.00	291.00
CK 546DX (Use CK6519)	.....	.....
CK 547DX	5.82	8.15
CK 548DX (Use CK6418)	.....	.....
CK 549DX (Use CK6419)	.....	.....
QK 549	68.00	75.00
CK 556AX (Use CK5676)	.....	.....
CK 569AX (Use CK5678)	.....	.....
CK 571AX (Use CK5896)	.....	.....
CK 573AX (Use CK6029)	.....	.....
CK 574AX (Use CK10261)	.....	.....
804L	13.20	.....
806L	21.90	.....
QK 610	2,352.00	2,590.00
615	9.75	.....
QK 623	68.00	75.00
623	13.35	.....
CK 628 (Use CK6247)	.....	.....
QK 629	10,686.00	11,755.00
QK 630	10,686.00	11,755.00
QK 632	2,779.00	3,060.00
635	13.00	.....
635L	14.50	.....
QK 646	265.00	291.00
QK 685	1,892.00	2,085.00
QK 691	1,173.00	1,290.00
QK 703	2,565.00	2,825.00
QK 708	1,817.00	2,000.00
QK 709	2,815.00	3,100.00
QK 710	2,815.00	3,100.00
710 6011	14.00	.....
QK H713	642.00	706.00
RK 715C	73.50	.....
715	9.50	.....
RK 725A	130.00	143.00
RK 726A	81.50	90.00
RK 726B	61.50	68.00
RK 726C	53.00	59.00
RK 730A	159.00	175.00
QK B734	2,352.00	2,590.00
740	19.40	.....
740L	21.40	.....
QK B747	2,352.00	2,590.00
QK 752	94.50	104.00
QK 753	110.00	121.00
760	28.80	.....
760L	31.70	.....
QK 767	295.00	324.00

Type	Sugg. Resale Price	Sugg. List Price
QK 787	\$2,565.00	\$2,825.00
RK 807	2.85	3.35
RK 811A	6.50	7.65
RK 812A	6.50	7.65
RK 813	22.65	.....
RK 814	23.55	.....
RK 816	2.65	3.10
RK 829B	18.90	.....
RK 832A	15.85	.....
RK 837	7.85	.....
RK 866A	2.65	3.10
RK 872A	9.90	11.65
884	1.85	2.55
885	2.00	2.75
f 954	7.35	.....
f 955	4.36	.....
f 956	7.91	.....
f 957	5.20	.....
f CK 1005	.99	1.39
f CK 1006	6.03	.....
f CK 1007	1.09	.....
CK 1019	27.30	.....
CK 1020	11.86	.....
CK 1021	11.86	.....
CK 1022	13.25	.....
CK 1024	4.00	.....
CK 1026	3.50	.....
CK 1027 (Use CK6174)	.....	.....
CK 1030	33.10	.....
CK 1031	33.10	.....
CK 1032 (Use CK1026)	.....	.....
CK 1033	33.10	.....
CK 1036 (Use CK6436)	.....	.....
CK 1037 (Use CK6437)	.....	.....
CK 1038	8.30	.....
CK 1039 (Use CK6438)	.....	.....
CK 1042 (Use CK6659)	.....	.....
CK 1045 (Use CK6542)	.....	.....
CK 1047	4.45	.....
CK 1049	5.85	.....
CK 1050	4.83	.....
1051	65.00	.....
1052	99.00	.....
CK 1053	4.20	.....
CK 1054	4.20	.....
CK 1350P1	103.00	.....
CK 1351P7A	128.00	.....
CK 1352P7A	146.00	.....
CK 1353P7	109.25	.....
CK 1353P7A	205.75	.....
CK 1354P11A	515.00	.....
CK 1355P11A	343.00	.....
CK 1356P7	103.00	.....
CK 1357P7A	600.00	.....
CK 1358P7A	223.00	.....
CK 1359P7A	103.00	.....
CK 1360P7A	85.00	.....
1614	3.43	4.80
1625	3.85	4.50
2050	1.85	2.55
CK 5517	3.80	.....
RK 5515A	65.00	.....
RK 5525A	99.00	.....
RK 5586	407.00	448.00
RK 5609	136.00	150.00
CK 5639	6.58	.....
CK 5639A	6.58	.....
CK 5643	9.00	.....
CK 5651	1.78	2.50
CK 5651 WA	4.20	.....
f CK 5654	2.85	.....
f CK 5654 6AK5W	2.85	.....
CK 5654 6AK5W (Mil-E-I 4)	2.85	.....
f CK 5654 6AK5W (Mil-E-I 4A)	2.85	.....
f CK 5654 6AK5W 6096	4.35	.....
f CK 5656	20.90	.....
RK 5657	407.00	423.00
f CK 5670	3.36	.....
f CK 5670 (Mil-E-I 5A)	3.36	.....
f CK 5670 WA	4.35
f CK 5672	2.27
CK 5675	13.20
CK 5676	3.05
f CK 5679	2.27
f CK 5686	3.41

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 PICTURE TUBES · SEMICONDUCTOR DIODES
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INDUSTRIAL TUBES Cont'd. SUGGESTED USER AND LIST PRICES—Effective July 14, 1959

Type	Sugg. Resale Price	Sugg. List Price
CK5687	\$ 4.25	.....
CK5687WA	7.75	.....
CK5691	8.45	.....
CK5692	8.15	.....
CK5693	6.40	.....
CK5702	4.20	.....
CK5702WA	8.25	.....
CK5702WB (Mil-E-I 1069A)	12.55	.....
CK5703	2.35	.....
CK5703WA	7.50	.....
CK5703WB (Mil-E-I 1070A)	11.70	.....
CK5704	3.51	.....
CK5704WA	5.85	.....
RK5721	170.00	5187.00
†CK5725	3.35	4.65
†CK5726	1.55	.....
CK5726 6AL3W	1.55	.....
CK5726 6AL3W Mil-E I 7B	1.55	.....
CK5726 6AL3W 6047	1.55	.....
CK5726 6AL3W, 6097 Mil-E I, 235A (#)	1.55	.....
CK5727	2.70	3.75
CK5744	2.65	.....
CK5744WA	7.05	.....
CK5744WB	11.70	.....
CK5744WB (Mil-E-I 1073A)	11.70	.....
†CK5749	2.45	3.45
†CK5750	3.45	4.80
†CK5751	3.15	4.35
CK5755	10.40	.....
CK5763	2.37	3.35
RK5777	221.00	244.00
RK5778	221.00	244.00
CK5783	4.20	.....
CK5783WA	8.30	.....
CK5784	5.00	.....
CK5784WA	9.95	.....
CK5784WB	16.60	.....
CK5785	5.85	.....
CK5787	5.00	.....
CK5787WA	10.80	.....
CK5814 (Use CK5814A)	.....	.....
†CK5814A	3.20	.....
CK5814A (Mil-E-I 12)	3.20	.....
†CK5814A (Mil-E-I 12A)	3.20	.....
†CK5814WA	3.20	.....
CK5829	4.20	.....
CK5829WA	7.77	.....
RK5836	78.50	87.00
RK5837	78.50	87.00
CK5851 (Use CK6397)	.....	.....
CK5875	3.05	.....
CK5876	13.55	.....
CK5879	1.75	2.50
CK5881	3.50	.....
CK5886	5.00	.....
CK5889	12.45	.....
CK5893	19.40	.....
CK5902	5.75	.....
CK5902WA	12.45	.....
CK5962	12.45	.....
CK5963	1.40	2.00
CK5965	2.20	.....
CK5971	5.85	.....
CK5975	4.20	.....
RK5976	68.00	75.00
RK5981	143.00	158.00
RK6002	747.00	822.00
†CK6005	4.09	.....
CK6021	4.80	.....
CK6021WA	12.45	.....
CK6029	5.00	.....
RK6037	360.00	396.00
RK6043	68.00	75.00
CK6050	3.05	.....
CK6072	4.70	6.60
CK6080	5.25	7.35
†CK6087	5.75	.....
CK6088	2.75	.....
†CK6096	5.32	.....
CK6110	9.15	.....
CK6111	5.40	.....
CK6111WA	12.45	.....
CK6112	5.40	.....
CK6112WA	12.45	.....
RK6115A	92.00	102.00

Type	Sugg. Resale Price	Sugg. List Price
RK6116	\$ 153.00	\$ 169.00
RK6133 (Use 2K28A)	.....	.....
†CK6135	2.40	.....
†CK6136	3.20	.....
CK6146	5.00	5.75
CK6148 (Use CK5702WA)	.....	.....
CK6149 (Use CK5703WA)	.....	.....
CK6150 (Use CK5784WA)	.....	.....
CK6151 (Use CK5744WA)	.....	.....
CK6152	9.15	.....
CK6174	3.80	.....
RK6177	221.00	244.00
RK6178	441.00	486.00
†CK6201	3.25	.....
CK6202	3.30	4.60
CK6213	5.00	.....
RK6229	441.00	486.00
RK6236	221.00	244.00
CK6245	11.20	.....
CK6247	11.20	.....
CK6247WA	21.55	.....
RK6248	1,017.00	1,119.00
RK6249A	581.00	640.00
RK6253	407.00	448.00
RK6254	407.00	448.00
†CK6265	4.10	.....
CK6281	5.82	.....
†CK6286	3.77	.....
RK6310	198.00	218.00
RK6312	198.00	218.00
RK6316	198.00	218.00
RK6344	1,253.00	1,380.00
RK6390	221.00	244.00
CK6397	8.30	.....
RK6406 (Use 6406A)	.....	.....
RK6406A	1,217.00	1,340.00
RK6410 (Use 6410A)	1,400.00	1,500.00
CK6414	6.65	.....
CK6418	3.05	.....
CK6419	4.20	.....
CK6436	8.30	.....
CK6437	8.30	.....
CK6438	8.30	.....
†CK6485	2.05	.....
RK6517	1,888.00	2,080.00
RK6518	1,710.00	1,885.00
CK6519	3.43	.....
CK6526	6.60	.....
CK6533	13.25	.....
CK6533WA	21.55	.....
CK6540	10.80	.....
CK6542	12.45	.....
CK6550	4.95	.....
RK6573	543.00	598.00
CK6611	9.95	.....
CK6612	12.45	.....
CK6626 DA2WA	4.40	.....
CK6627 DB2WA	4.20	.....
CK6659	9.95	.....
RK6695	868.00	955.00
CK6763	4.45	.....
CK6814	5.95	.....
CK6829	6.10	.....
CK6832	20.69	.....
RK6835 (Use QK464A or QK464B)	.....	.....
RK6841	2,209.00	2,430.00
RK6845	221.00	244.00
CK6872	9.55	.....
CK6932	12.45	.....
RK6940	170.00	187.00
RK6967	596.00	656.00
CK6999	9.95	.....
CK7044	2.95	.....
CK7079	24.35	.....
CK7083	18.65	.....
RK7156	2,280.00	2,510.00
RK7158 404	68.00	75.00
CK7246	7.64	.....
† 9001	4.45	.....
† 9002	2.95	.....
† 9003	4.45	.....
† 9005	4.20	.....
† 9006	2.15	.....
Subminiature Tube Test Adapters		

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

Thank You!

When ordering products shown in this book or writing for additional information, please be sure to specify:

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2. **The Year and Edition of This MASTER.**

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The
Radio-Electronic
MASTER

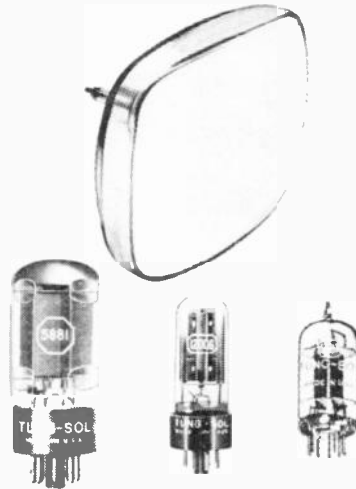
TUNG-SOL

FOR QUALITY ELECTRONIC COMPONENTS

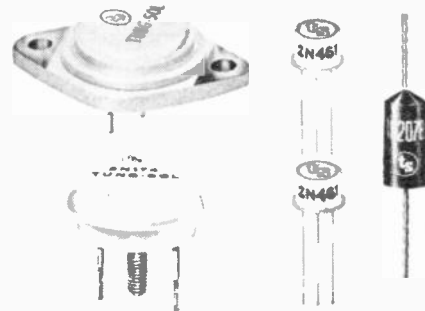
Special Purpose Tubes



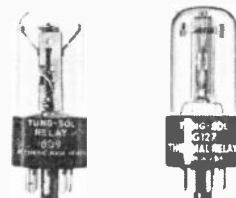
Entertainment Tubes



Semiconductors



Relays



Lamps



TUNG-SOL®

Check the following pages for complete listings ▶

TUNG-SOL

Special purpose tubes • Entertainment tubes • Cathode Ray tubes
Semiconductors • Lamps • Relays

Special Purpose Tubes

OA2	5A6	338A	884	5676	5814WA	6098/6AR6WA	6679
OA3	5AT4	393A	885	5678	5822A	6136	6680
OA4G	5R4GYA	394A	892	5685/C6JA	5823	6146	6681
OB2	5R4WGA	395A	CH1068 (7241)	5687	5829WA	6188/	6901
OB2WA	5R4WGB	407A	CH1116 (7400)	5687WA	5840	6SU7WGT	6907
OC3	6AJ5	408A	VC1257	5691	5841	6189/	7025
OC3W	6AK5WB	426A	1258	5692	5842/417A	12AU7WA	7105
OD3	6AR6	481B	1620	5693	5844	6201	7190
OD3W	6AS6	502A	2050	5696	5847/404A	6202	7191
1AD4	6AS7G	576A	2050W	5725	5875	6211	7192
1AH4	6AU6WA	579B	5517	5725/6AS6W	5879	6293	7240 (1046)
1AJ5	6D4	583	5551A			6336	7241 (1068)
1S22	6H6WGT	610	5552A	5725/6AS6W/	5881	6336A	7242 (1122)
1V6	6J4	624	5553B	6187	5881 (Matched	6345	7323
1Z2	6L6WGB	627	5555	5726	Pairs)	6350	7400 (CH1116)
2C51	6SC7GT	629	5594	5726/6AL5W	5948/1754	6388/443A	7401 (CH1125)
2D21	6SN7WGT	632B	5636	5726/6AL5W/	5949/1907	6394A	9001
2D21W	6SN7WGT	672A	5636A	6097	5949A	6520	9002
2E22	6SU7GT	676	5639	5727/2D21W	5963	6528	9003
2E24	6X4W	677	5642	5736	5964	6542	
2E26	12A6	678	5643	5749	5965	6550	
2X2A	12AT7WA	807	5651	5749/6BA6W	5966	6550 (Matched	
3A4	12AY7	811A	5651WA	5751	5998	Pairs)	
3A5	25Z6WGT	812A	5654	5751WA	6005	6627/0B2WA	
3B25	26E6WG	813	5654/6AK5W	5763	6012	6660	
3B28	26Z5W	839B	5654/6AK5W/	5783	6028/408A	6661	
3B29	53	857B	6096	5783WA	6074	6662	
3C23	83	866A	5670	5783WB	6080	6663	
4B32	313C	869B	5670WA	5796	6080WA	6669	
4X150A	323B	872A	5672	5814A	6082	6678	

Entertainment Tubes

0Z4	1E7GT	1S5	3BC5	4BQ7A	5BE8	5Y3GT	6AL7GT
0Z4G	1F4	1T4	3BE6	4BS8	5BK7A	5Y4GT	6AM4
1A4P	1F5G	1U4	3BN4	4BU8	5BQ7A	5Z3	6AM8A
1A6	1G3GT	1U5	3BN6	4BZ6	5BR8	6A7	6AN8
1A7GT	1H4G	1V2	3BU8	4BZ7	5BT8	6A8	6AQ5A
1AB5	1H5GT	1X2B	3BY6	4CB6	5CG8	6A8G	6AQ6
1AF4	1H6G	2A3	3BZ6	4CS6	5CL8A	6AB4	6AQ7GT
1AX2	1J3GT	2AF4	3CB6	4CY5	5CQ8	6AC5GT	6AR5
1B3GT	1J6G	2AF4A	3CF6	4DE6	5CZ5	6AC7	6AS5
1B4P	1L4	2BN4	3CS6	4DT6	5DH8	6AF3	6AS8
1B5	1L6	2CY5	3DK6	5AM8	5EA8	6AF4	6AT6
1B7GT	1LA4	3A2	3DT6	5AN8	5J6	6AF4A	6AT8A
1C5GT	1LA6	3A3	3Q4	5AQ5	5T8	6AG5	6AU4GTA
1C6	1LC5	3ASGT	3Q5GT	5AS4A	5U4GB	6AG7	6AU5GT
1C7G	1LH4	3AF4A	3S4	5AS8	5U8	6AH4GT	6AU6
1D5GP	1LN5	3AL5	3V4	5AT8	5V3	6AH6	6AU6A
1D7G	1N5GT	3AU6	4AU6	5AU4	5V4GA	6AH6V	6AU7
1E5GP	1P5GT	3AV6	4BC5	5AV8	5V6GT	6AK5	6AU8
1DN5	1R5	3B2	4BC8	5AW4	5X4G	6AK6	6AV5GA
1E7G	1S4	3BA6	4BN6	5B8	5X8	6AL5	6AV6

TUNG-SOL

Special purpose tubes • Entertainment tubes • Cathode Ray tubes
Semiconductors • Lamps • Relays

Entertainment Tubes (cont.)

6AW8A	6C4	6F5	6U6GT	10C8	12CR6	12SR7GT	25W4GT
6AX4GT	6C5	6F5GT	6U8	10DE7	12CT8	12U7	25Z5
6AX5GT	6CB5A	6F6	6U8A	11CY7	12CU6/ 12BQ6GA	12V6GT	25Z6GT
6AX7	6CB6	6F6GT	6V3A	12AB5		12W6GT	26
6AX8	6CB6A	6H6	6V6	12AC6		12X4	31
6AZ8	6CD6GA	6J5	6V6GTA	12AD6	12CU6/ 12BQ6GTB	12Z3	32L7GT
6B8	6CE5	6J5GT	6W4GT	12AE6		14A5	33
6BA6	6CF6	6J6A	6W6GT	12AE6A	12CX6	14A7	34
6BA7	6CG7	6J7	6X4	12AF3	12D4	14AF7	35
6BA8A	6CG8 or A	6K6GT	6X5GT	12AF6	12DB5	14B6	35A5
6BC5	6CH8	6K7	6X8	12AJ6	12DE8	14E6	35B5
6BC8	6CL6	6K8	6Y6G	12AL5	12DL8	14F7	35C5
6BD6	6CL8	6L6	6Y6GA	12AL8	12DQ6A	14Q7	35L6GT
6BE6	6CL8A	6L6GB	7A4	12AQ5	12DV8	14R7	35W4
6BF5	6CM6	6L7	7A6	12AT6	12DZ6	14S7	35Y4
6BF6	6CM7	6L7G	7A7	12AT7	12EG6	14W7	35Z3
6BG6G	6CM8	6N7	7A8	12AU6	12EK6	14Y4	35Z5GT
6BH6	6CN7	6P5GT	7AD7	12AU7A	12EL6	17AX4GT	38
6BH8	6CQ8	6Q7	7AF7	12AV5GA	12EZ6	17BQ6GTB	39 44
6BJ6	6CR6	6Q7GT	7AG7	12AV6	12F8	17C5	41
6BJ7	6CS6	6S4A	7AU7	12AV7	12FM6	17D4	42
6BJ8	6CS7	6S7G	7B5	12AX4GTA	12FR8	17DQ6A	43
6BK4	6CU5	6S8GT	7B7	12AX7	12FX8	17H3	45Z
6BK5	6CU8	6SA7	7B8	12AX7A	12H6	17L6GT	46
6BK7B	6CX8	6SA7GT	7C5	12AY7	12J5GT	17W6GT	47
6BL7GTA	6CY5	6SB7Y	7C6	12AZ7A	12J7GT	18A5	50
6BN4	6CY7	6SC7	7C7	12B4A	12J8	19	50A5
6BN6	6CZ5	6SD7GT	7F7	12BA6	12K5	19AU4	50B5
6BN8	6D8G	6SF5	7F3	12BA7	12K7GT	19AU4GTA	50C5
6BQ5 EL84	6DA4	6SF5GT	7H7	12BD6	12L6GT	19BG6G	50L6GT
6BQ6GTB/ 6CU6	6DB5	6SF7	7L7	12BE6	12R5	19J6	50X6
6BQ7A	6DC6	6SG7	7N7	12BF6	12S8GT	19T8	50Y6GT
6BR8	6DE6	6SH7	7Q7	12BH7A	12SA7	19X8	50Y7GT
6BS8	6DG6GT	6SJ7	7V7	12BK5	12SA7GT	25AU4GT	55
	6DK6	6SK7	7W7	12BL6	12SF5GT	25AV5GA	70L7GT
6BU8	6DN6	6SK7GT	7Y4	12BQ6GA/ 12CU6	12SF7	25AX4GT	75
6BV8	6DN7	6SL7GT	7Z4		12SG7	25BK5	80
6BW4	6DQ5	6SN7GTB	8AU8	12BQ6GTB/ 12CU6	12SJ7	25BQ6GTB/ 25CU6	81
6BW8	6DQ6A	6SQ7	8AW8A		12SJ7GT		117L/M7GT
6BX7GT	6DS5	6SQ7GT	8CG7	12BR7	12SK7	25C5	117P7GT
6BY5GA	6DT6	6SR7	8CM7	12BV7	12SK7GT	25CA5	117Z3
6BY6	6E5	6SS7	8CN7	12BY7A	12SL7GT	25CD6GB	117Z6GT
6BY8	6EAB	6T4	8CX8	12BZ7	12SN7GT	25CU6/ 25BQ6GTB	5881
6BZ6	6EB8	6T7G	8EB8	12C5/12CU5	12SN7GTB		6550
6BZ7	6EM5	6T8A	9CL8	12CA5	12SQ7	25DN6	7025
6BZ8	6EU8	6U5	9U8A	12CN5	12SQ7GT	25L6GT	

TUNG-SOL

Special purpose tubes • Entertainment tubes • Cathode Ray tubes
Semiconductors • Lamps • Relays

Cathode Ray Tubes

7JP4	16EP4A	17BZP4/	17QP4/17UP4/	21ALP4	21CEP4	21FF4	24CP4A/
10ABP4B	16GP4B	17CAP4/	17YP4	21ALP4A/B/	21CMP4	21FP4A	24TP4/
10BP4A	16JP4A	17CKP4	17QP4A	BTP/ATP4A	21CQP4	21FP4C	24VP4A/
10HP4	16KP4, 16RP4	17CFP4	17TP4	21AP4	21CUP4	21MP4	24ADP4
10MP4A	16KP4A/	17CLP4	10AP4B	21ATP4/	21CVP4	21WB4	5FP7A
12KP4A	16RP4A	17CNP4	20CP4/20DP4	21ATP4A	21CWP4	21WP4A	5UP1
12LP4A	16LP4A/	17CP4	20CP4A/	(See	21CXP4	21XP4/21AYP4	7JP1, VP1
12UP4A	16ZP4	17CRP4	20DP4A	21ALP4A/B/	21DAP4	21XP4A	8CP1
12UP4B	16TP4	17CSP4	20CP4B/	BTP/ATP4A)	21DEP4	21YP4	8XP4
12VP4A	16WP4A	17DAP4	20DP4B	21AUP4/	21DHP4	21YP4A	8YP4
14AUP4	17ATP4/	17DKP4	20CP4D/	21AUP4	21DLP4	21ZP4	24DP4A/
14BP4, 14CP4/	17AVP4	17FP4/	20DP4C	21AUP4A/	21DQP4	21ZP4A	24YP4
14EP4	17ATP4A/	17FP4A	20HP4	21AUP4B/	21EAP4	21ZP4B	27EP4
14NP4A/	17AVP4A	17GP4	20HP4A/	21AVP4A/	21EP4	24AEP4	27LP4
14SP4	17BJP4	17HP4/17RP4	20LP4/	21AVP4B	21EP4A	24AHP4	27RP4
14QP4	17BP4A 17JP4	17HP4B/	20MP4	21BTP4 (See	21EP4B	24ALP4	
14QP4A	17BP4B	17RP4C	20HP4C	21ALP4A/B/		24ANP4	
14RP4A	17BRP4	17LP4/17VP4	20HP4D	BTP/ATP4A		24AVP4	
14WP4	17BVP4	17LP4A/	21ACP4A/	21CBP4/			
14XP4A	17BWP4	17VP4B	21AMP4A/	21CWP4A			
16AP4A			21BSP4	21AWP4			

INDUSTRIAL CR TUBES

COLOR	2AP1A	3MP1	5ABP7	5AQP1	5BP1A
21AXP22	3BP1A	3RP1	5ADP1	5AQP7	5CP1A
21AXP22A	3JP1	5ABP1	5ADP7	5AXP4	5FF4A

Semiconductors

GERMANIUM TRANSISTORS

2N63	2N383	2N426	2N580	2N416	2N380	2N174A	2N443
2N64	2N460	2N427	2N581	2N417	2N459	2N277	
2N65	2N461	2N428	2N582	2N242	TS 748	2N278	
2N381	2N404	2N578	2N413	2N378	2N173	2N441	
2N382	2N425	2N579	2N414	2N379	2N174	2N442	

SILICON RECTIFIERS

IN2072	IN2073	IN2074	IN2075	IN2076	IN2077	IN2078	IN2079
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Lamps

PR2	19	55	94	308	1130	1327	GLOW LAMPS
PR3	20	57	94 1F	313	1133	1445	
PR4	31	57)	112	313R	1141	1458	NE-2
PR6	40	63	114	502	1142	1815	NE-2A
PR7	41	64	123	1003	1143	1816	NE-2B
PR8	43	67	131	1004	1144	1847	NE-2AR6
10	44	68	209	1016	1154	1891	NE-2AR10
12	45	81	210	1022	1158	1892	NE-2AR20
PR12	46	82	222	1026	1176	2330	NE-2BR6
13	47	87	224	1034	1183	2331	NE-2BR10
PR13	48	88	301	1044	1184	2336	NE-2R6
14	49	89	302	1068	1195	2530	NE-51
15	50	90	303	1073	1247	2536	
PR15	51	93	304	1074	1321		
PR16	53	93 1F	307	1129	1323		

Relays

601B	608	G-123	G-127
606	G-104	G-124	G-128

For further information contact:
TUNG-SOL ELECTRIC Inc., Newark 4, New Jersey



TUNG-SOL®

SEE

Waterman

**FIRST
FOR YOUR
CATHODE
RAY TUBE NEEDS**



TYPICAL CHARACTERISTICS OF RAYONIC® CATHODE RAY TUBES

TUBE TYPE	PHYSICAL DATA				TYPICAL OPERATING DATA				PRICE* P1	
	TUBE*	JAN	FACE	LEN.	BASE†	ANODE # 3 VOLTS	ANODE # 2 VOLTS	DEFL. FACTOR V/IN.		
							H	V	PHOSPHOR	
3AHP1	—	—	1½" x 3"	9⅞"	12 Pin SD	—	1000	86	30	\$29.00
3AQP1	—	—	3" Round	9⅞"	12 Pin SD	—	1000	86	30	23.10
3JP1	—	3JP1, 2, 7	3" Round	10"	12 Pin MD	3000	1500	150	111	25.50
3KP1	—	—	3" Round	11½"	11 Pin MM	—	1500	89	67	23.50
3MP1	—	—	3" Round	8"	12 Pin SD	—	1000	130	125	25.50
3RP1	—	3RP1	3" Round	9⅞"	12 Pin SD	—	1000	86	61	17.65
3RP1A	—	3RP1A	3" Round-Flat	9⅞"	12 Pin SD	—	1000	86	61	24.25
3SP1	—	3SP1	1½" x 3"	9⅞"	12 Pin SD	—	1000	86	61	26.70
3XP1	—	3XP1	1½" x 3"	8⅞"	Loctal	—	2000	80	33	34.50
3YP1	—	—	1½" x 3"	7"	Loctal	—	1000	80	52	30.00
5ABP1/5ADP1	—	5ADP1	5" Round-Flat	16¾"	12 Pin MD	3000	1500	46	33	35.00
5BTP1	—	—	5" Round-Flat	12"	12 Pin SD	1600	800	51	27	39.25

†SD—Small Duodecal; MD—Medium Diheptal; MM—Medium Magnal.

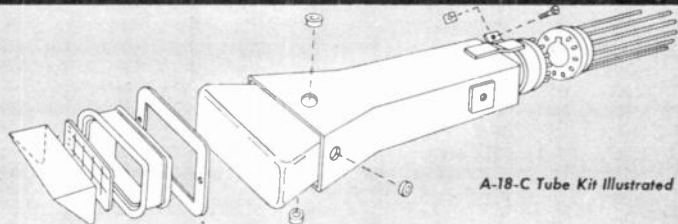
*P2, P7 and P11 phosphors also available (except for 3KP1) at an additional cost of \$5.00.

Prices and specifications subject to change without notice.

**CATHODE RAY TUBE
SHIELDING & MOUNTING KITS**
Ideal for prototypes and
small production runs

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

**Shield only



A-18-C Tube Kit Illustrated

Engineering data sheets
available with complete descriptions

See page 910
for Waterman
Oscilloscopes

WATERMAN PRODUCTS CO., INC.

Philadelphia 25, Pa.
Cable Address: Poketscope, Phila. 25, Pa.



Sec. 5700



SYLVANIA INDUSTRIAL TUBES



Table listing various industrial tubes with columns for Type, Sugg. User Price, and multiple columns of tube models and prices. Includes sections for KLYSTRONS, INDUSTRIAL and MILITARY CATHODE RAY TUBES, and a note about other screen phosphors.



SYLVANIA TRANSISTORS & CRYSTAL DIODES



CRYSTAL DIODES			CRYSTAL DIODES (Cont'd)			CRYSTAL DIODES (Cont'd)			TRANSISTORS (Cont'd)		
Type	Sugg. User Price		Type	Sugg. User Price		Type	Sugg. User Price		Type	Sugg. User Price	
†N21A	1.25		†N71	5.00		†N419	1.50		2N255	1.35	
†N21B	1.25		†N72	.88		†N435	9.50		2N256	1.64	
†N21BA	3.05		†N76	3.22		†N446	64.50		2N257	3.05	
†N21BR	1.85		†N76R	4.84		†N446R	97.00		2N270	1.77	
†N21BMR	3.65		†N76A	3.88		†N448	1.25		2N285A	4.04	
†N21C	2.05		†N77A	7.50		†N449	1.40		2N292	1.86	
†N21CM	5.20		†N77B	7.50		†N450	1.05		2N296	6.19	
†N21CR	3.15		†N78	12.40		†N451	1.50		2N301	2.93	
†N21CMR	6.25		†N78M	31.00		†N452	2.05		2N301A	4.83	
†N21D	5.35		†N78R	18.50		†N453	2.50		2N306	.99	
†N21DM	13.35		†N78MR	36.00		†N454	2.90		2N307	1.35	
†N21DR	8.10		†N78A	19.75		†N455	3.30		2N307A	2.15	
†N21DMR	16.20		†N78AM	49.50		†N456	3.10		2N312	8.25	
†N21E	7.00		†N78AR	29.75		†N457	3.58		2N321	2.08	
†N21EM	17.50		†N78AMR	59.50		†N458	3.93		2N323	1.85	
†N21ER	10.50		†N78B	25.50		†N459	4.19		2N324	1.90	
†N21EMR	21.10		†N78BM	64.00		†N461	1.24		2N326	19.40	
†N21WE	42.90		†N78BR	38.50		†N462	1.82		2N333	16.20	
†N21WEM	107.00		†N78BMR	77.00		†N463	2.21		2N334	16.20	
†N23A	1.25		†N79	2.88		†N464	2.08		2N335	21.60	
†N23B	1.25		†N81A	.85		†N482	1.70		2N336	25.60	
†N23BA	3.15		†N81A	.90		†N482A	2.63		2N337	19.15	
†N23BR	1.85		†N82	.95		†N483B	4.16		2N338	25.80	
†N23BMR	3.70		†N82A	1.15		†N486A	4.84		2N350	3.30	
†N23C	2.05		†N90	.50		SR-500	1.35		2N351	3.47	
†N23CM	5.80		†N91	.80		†N571	1.15		2N356	5.20	
†N23CR	3.15		†N92	1.90		†N584	3.00		2N357	6.53	
†N23CMR	6.25		†N93	2.65		†N630	65.50		2N358	8.92	
†N23D	5.35		†N98	.96		†N630R	98.00		2N370	3.06	
†N23DM	13.35		†N100	1.35		†N634	1.05		2N371	3.06	
†N23DR	8.10		†N115	.80		†N636	.50		2N372	3.06	
†N23DMR	16.20		†N117	.67		†N805	.34		2N373	3.06	
†N23E	7.40		†N118	.80		†N1093	1.20		2N374	2.02	
†N23EM	18.60		†N119	1.00		†N1132	64.50		2N377	3.30	
†N23ER	11.15		†N120	.60		†N1132R	97.00		2N381	1.73	
†N23EMR	22.30		†N126A	.45		†N1610	74.00		2N382	1.80	
†N23WE	48.00		†N126A	.50		†N1611	12.40		2N383	1.88	
†N23WEM	120.00		†N127A	.90		D-660	1.07		2N384	6.60	
†N25	4.10		†N127A	.95					2N385	4.13	
†N25R	6.20		†N128	.68					2N388	5.78	
†N25A	9.90		†N128	.73					2N399	3.55	
†N25AR	14.85		†N140	.75					2N401	3.22	
†N26	11.55		†N149	6.60		2N34	3.30		2N404	3.22	
†N26M	29.00		†N191	1.00		2N35	1.16		2N405	1.12	
†N26R	17.25		†N192	.60		2N68	5.36		2N406	1.16	
†N26MR	34.50		†N193	6.60		2N94	1.57		2N407	1.29	
†N26A	14.03		†N194	9.90		2N94A	5.78		2N408	1.29	
†N26AM	35.00		†N195	7.85		2N95	5.36		2N409	1.55	
†N26AR	21.00		†N196	11.55		2N101	4.95		2N410	1.55	
†N26AMR	42.00		†N198	1.20		2N102	4.95		2N411	1.58	
†N31	8.25		†N198	1.25		2N104	2.25		2N412	1.58	
†N32	15.70		†N198A	1.20		2N109	1.61		2N419	3.63	
†N34A	.50		SR-200	.86		2N123	4.95		2N420	4.52	
†N35	1.55		†N253	2.40		2N139	1.86		2N425	4.80	
†N38B	.85		†N254	2.80		2N140	1.93		2N426	4.95	
†N38B	.90		†N255	5.60		2N141	10.31		2N427	7.26	
†N39B	2.50		†N256	11.40		2N142	10.31		2N428	9.90	
†N40	5.00		†N270	1.69		2N143	9.90		2N439	5.78	
†N41	12.00		†N276	1.65		2N144	9.90		2N515	1.65	
†N42	8.25		†N279	.90		2N155	2.93		2N516	1.73	
†N48	.68		†N281	.87		2N168A	2.06		2N517	1.98	
†N52A	.80		†N283	1.63		2N169A	2.00		2N519	1.65	
†N53	36.50		†N286	61.50		2N176	2.93		2N524	3.05	
†N53M	91.00		†N294	.52		2N193	1.49		2N525	3.25	
†N53R	54.50		†N295	.35		2N194	1.57		2N544	2.11	
†N53MR	109.00		†N297	1.15		2N194A	1.65		2N554	1.35	
†N53A	48.00		†N298	.88		2N211	1.98		2N556	5.78	
†N53AM	120.00		†N358	29.50		2N212	1.65		2N557	2.98	
†N53B	49.00		†N358R	44.50		2N213	1.29		2N558	5.78	
†N53BM	125.00		†N358A	36.00		2N213A	1.29		2N585	2.90	
†N53BR	73.50		†N358AR	54.50		2N214	1.49		2N587	5.36	
†N53BMR	147.00		†N369	41.00		2N214MP	2.98		2N591	1.16	
†N54A	.79		†N369A	47.50		2N216	1.73		2N624	13.20	
†N55A	1.70		†N369AR	71.50		2N217	2.06		2N677	3.71	
†N56A	.90		†N415B	7.00		2N219	2.06		2N677A	4.28	
†N58A	.85		†N415C	7.85		2N228	1.82		2N677B	8.59	
†N60	.50		†N415D	11.15		2N229	.75		2N677C	13.07	
†N63	1.10		†N415E	13.20		2N233	.75		2N678	4.95	
†N64	.50		†N415EMR	39.50		2N233A	1.24		2N678A	6.07	
†N65	.53		†N415S	25.00		2N235A	3.05		2N679	2.48	
†N67A	.95		†N416B	7.00		2N235B	3.38		2N1058	1.65	
†N68A	1.04		†N416C	7.85		2N236B	4.13		2N1059	1.07	
†N69A	.50		†N416D	11.15		2N241A	2.08		2N1101	.91	
†N69A	.55		†N416E	12.80		2N242	2.93		2N1102	1.24	
†N70A	.75		†N417	1.15		2N247	3.06		2N1114	5.78	
†N70A	.80		†N418	.70		2N250	3.71		Sylv. 832	2.97	

†Jan Type Approval

‡This type also available in attractive skin-pack.



SYLVANIA ELECTRIC PRODUCTS INC.
New York 19, N. Y.

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

ALPHA WIRE CORPORATION

DESCRIPTION:

Single conductor stranded or solid tinned copper, thermoplastic insulation.

- * STOCK COLORS
- 1—WHITE
 - 2—BLACK
 - 3—RED
 - 4—GREEN
 - 5—YELLOW
 - 6—LIGHT BLUE
 - 7—BROWN
 - 8—ORANGE
 - 9—GRAY (slate)
 - 10—VIOLET (purple)
 - 11—TAN
 - 12—PINK
 - 13—DARK BLUE
 - 14—WHITE BLACK
 - 15—WHITE RED
 - 16—WHITE/GREEN
 - 17—WHITE/YELLOW
 - 18—WHITE BLUE
 - 19—WHITE BROWN
 - 20—WHITE ORANGE
 - 21—WHITE GRAY
 - 22—WHITE/VIOLET
 - 23—WHITE BLACK RED
 - 24—WHITE BLACK GREEN
 - 25—WHITE BLACK YELLOW
 - 26—WHITE BLACK BLUE
 - 27—WHITE BLACK BROWN
 - 28—WHITE BLACK ORANGE
 - 29—WHITE BLACK GRAY
 - 30—WHITE BLACK VIOLET

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.

MIL-W-76A—Plastic Wire

TYPE MW—UNCOVERED PLASTIC

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

SOLID OR STRANDED CONDUCTOR PLASTIC INSULATION

STRANDED

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1550	MW-C 24(7)U	24	7/32	.016"	.059"	1 thru 30
1551	MW-C 22(7)U	22	7/30	.016"	.064"	1 thru 30
1553	MW-C 20(10)U	20	10/30	.016"	.073"	1 thru 30
1555	MW-C 18(16)U	18	16/30	.016"	.084"	1 thru 30
1557	MW-C 16(26)U	16	26/30	.016"	.095"	1 thru 30
1559	MW-C 14(41)U	14	41/30	.016"	.110"	1 thru 30
1560	MW-C 12(65)U	12	65/30	.016"	.125"	1 thru 30

SOLID

1561	MW-C 22(1)U	22	1	.016"	.060"	1 thru 30
1563	MW-C 20(1)U	20	1	.016"	.066"	1 thru 30
1565	MW-C 18(1)U	18	1	.016"	.074"	1 thru 30
1567	MW-C 16(1)U	16	1	.016"	.083"	1 thru 30

MIL-W-76A—Plastic Wire

TYPE MW—SHIELDED

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

STRANDED CONDUCTOR PLASTIC INSULATION TINNED SHIELD

DESCRIPTION:

Single conductor stranded tinned copper, thermoplastic insulation, tinned copper shield overall.

- * STOCK COLORS
- 1—WHITE
 - 2—BLACK
 - 3—RED
 - 4—GREEN
 - 5—YELLOW
 - 6—BLUE
 - 7—BROWN
 - 8—ORANGE
 - 9—GRAY
 - 10—VIOLET

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1350	MW-C 24(7)S	24	7/32	.016"	.075"	1 thru 10
1351	MW-C 22(7)S	22	7/30	.016"	.085"	1 thru 10
1352	MW-C 20(10)S	20	10/30	.016"	.095"	1 thru 10
1353	MW-C 18(16)S	18	16/30	.016"	.105"	1 thru 10
1354	MW-C 16(26)S	16	26/30	.016"	.120"	1 thru 10
1355	MW-C 14(41)S	14	41/30	.016"	.135"	1 thru 3
1356	MW-C 12(65)S	12	65/30	.016"	.155"	1 thru 3

MIL-W-76A—Plastic Wire

TYPE MW—SHIELDED—NYLON JACKET

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

NYLON JACKET TINNED SHIELD PLASTIC INSULATION STRANDED CONDUCTOR

DESCRIPTION:

Single conductor stranded tinned copper, white thermoplastic insulation, braided tinned copper shield, clear nylon jacket overall.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL JACKET	NOMINAL O.D.
1371	MW-C 22(7)SJ	22	7/30	.016"	.007"	.100"
1372	MW-C 20(10)SJ	20	10/30	.016"	.007"	.110"
1373	MW-C 18(16)SJ	18	16/30	.016"	.007"	.120"
1374	MW-C 16(26)SJ	16	26/30	.016"	.008"	.135"

ALPHA WIRE CORPORATION

MIL-W-76A—Plastic Wire

TYPE MW—NYLON JACKET

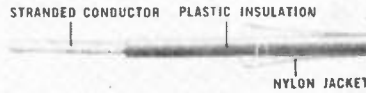
MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:

Single conductor stranded tinned copper, medium wall thermoplastic insulation, clear nylon jacket overall.

*** STOCK COLORS**

- 1—WHITE 11—WHITE BLACK
- 2—BLACK 12—WHITE RED
- 3—RED 13—WHITE GREEN
- 4—GREEN 14—WHITE YELLOW
- 5—YELLOW 15—WHITE BLUE
- 6—BLUE 16—WHITE BROWN
- 7—BROWN 17—WHITE ORANGE
- 8—ORANGE 18—WHITE GRAY
- 9—GRAY 19—WHITE VIOLET
- 10—VIOLET



ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1504	MW-C 22(7)J	22	7/30	.016"	.075"	1 thru 19
1505	MW-C 20(10)J	20	10/30	.016"	.090"	1 thru 19
1506	MW-C 18(16)J	18	16/30	.016"	.103"	1 thru 19
1507	MW-C 16(26)J	16	26/30	.016"	.115"	1 thru 19
1508	MW-C 14(41)J	14	41/30	.016"	.125"	1 thru 6
1509	MW-C 12(65)J	12	65/30	.016"	.140"	1 thru 3

MIL-W-76A—Plastic Wire

TYPE MW—GLASS BRAID

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:

Single conductor stranded tinned copper, thermoplastic insulation, lacquered glass braid overall.

*** STOCK COLORS**

- 1—WHITE 11—BLACK
- 2—WHITE/BLACK 12—RED
- 3—WHITE RED 13—GREEN
- 4—WHITE/GREEN 14—YELLOW
- 5—WHITE/YELLOW 15—BLUE
- 6—WHITE/BLUE 16—BROWN
- 7—WHITE/BROWN 17—ORANGE
- 8—WHITE/ORANGE 18—GRAY
- 9—WHITE/GRAY 19—VIOLET
- 10—WHITE/VIOLET



ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1590	MW-C 22(7)B	22	7/30	.016"	.080"	1 thru 19
1591	MW-C 20(10)B	20	10/30	.016"	.090"	1 thru 19
1592	MW-C 18(16)B	18	16/30	.016"	.100"	1 thru 19
1593	MW-C 16(26)B	16	26/30	.016"	.115"	1 thru 19
1594	MW-C 14(41)B	14	41/30	.016"	.125"	1 thru 10
1595	MW-C 12(65)B	12	65/30	.016"	.140"	1 thru 10

MIL-W-76A—Plastic Wire

TYPE MW—GLASS BRAID—SHIELDED

MEDIUM WALL 1000 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:

Single conductor stranded tinned copper, white thermoplastic insulation, lacquered glass braid, tinned copper shield overall.



ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.
1361	MW-C 22(7)BS	22	7/30	.016"	.095"
1362	MW-C 20(10)BS	20	10/30	.016"	.108"
1363	MW-C 18(16)BS	18	16/30	.016"	.124"
1364	MW-C 16(26)BS	16	26/30	.016"	.133"
1365	MW-C 14(41)BS	14	41/30	.016"	.144"
1366	MW-C 12(65)BS	12	65/30	.016"	.168"

MIL-W-76A—Plastic Wire

DESCRIPTION:

Single conductor stranded tinned copper, light wall thermoplastic insulation.

- * STOCK COLORS
- | | |
|----------------|--------------------|
| 1—WHITE | 10—VIOLET (Purple) |
| 2—BLACK | 11—WHITE/BLACK |
| 3—RED | 12—WHITE/RED |
| 4—GREEN | 13—WHITE/GREEN |
| 5—YELLOW | 14—WHITE/YELLOW |
| 6—LIGHT BLUE | 15—WHITE/BLUE |
| 7—BROWN | 16—WHITE/BROWN |
| 8—ORANGE | 17—WHITE/ORANGE |
| 9—GRAY (Slate) | 18—WHITE/GRAY |
| | 19—WHITE/VIOLET |

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.

TYPE LW—UNCOVERED PLASTIC
LIGHT WALL 300 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1685	LW-C 30/7 U	30	7/38	.010"	.033"	1 thru 19
1686	LW-C 28/7 U	28	7/36	.010"	.025"	1 thru 19
1687	LW-C 26/7 U	26	7/34	.010"	.029"	1 thru 19
1688	LW-C 24/7 U	24	7/32	.010"	.024"	1 thru 19
1689	LW-C 22/7 U	22	7/30	.010"	.045"	1 thru 19
1690	LW-C 20/7 U	20	7/28	.010"	.060"	1 thru 19

MIL-W-76A—Plastic Wire

DESCRIPTION:

Single conductor stranded tinned copper, light wall thermoplastic insulation, clear nylon jacket overall.

- * STOCK COLORS
- | | |
|----------------|--------------------|
| 1—WHITE | 10—VIOLET (Purple) |
| 2—BLACK | 11—WHITE/BLACK |
| 3—RED | 12—WHITE/RED |
| 4—GREEN | 13—WHITE/GREEN |
| 5—YELLOW | 14—WHITE/YELLOW |
| 6—LIGHT BLUE | 15—WHITE/BLUE |
| 7—BROWN | 16—WHITE/BROWN |
| 8—ORANGE | 17—WHITE/ORANGE |
| 9—GRAY (Slate) | 18—WHITE/GRAY |
| | 19—WHITE/VIOLET |

TYPE LW—NYLON JACKET
LIGHT WALL 300 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1675	LW-C 30/7J	30	7/38	.010"	.036"	1 thru 19
1676	LW-C 28/7J	28	7/36	.010"	.039"	1 thru 19
1677	LW-C 26/7J	26	7/34	.010"	.042"	1 thru 19
1678	LW-C 24/7J	24	7/32	.010"	.047"	1 thru 19
1679	LW-C 22/7J	22	7/30	.010"	.053"	1 thru 19
1680	LW-C 20/7J	20	7/28	.010"	.065"	1 thru 19

MIL-W-76A—Plastic Wire

DESCRIPTION:

Single conductor stranded tinned copper, heavy wall thermoplastic insulation.

- * STOCK COLORS
- | | |
|----------|--------------------|
| 1—WHITE | 6—LIGHT BLUE |
| 2—BLACK | 7—BROWN |
| 3—RED | 8—ORANGE |
| 4—GREEN | 9—GRAY (Slate) |
| 5—YELLOW | 10—VIOLET (Purple) |

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.

TYPE HW—UNCOVERED PLASTIC
HEAVY WALL ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	TYPE DESIGNATION	COND. SIZE	COND. STRAND	WALL THICKNESS	VOLTAGE RATING	NOMINAL O.D.	* STOCK COLORS
1571	HW-C 22(7)U	22	7/30	.032"	2500	.103"	1 thru 10
1573	HW-C 20(10)U	20	10/30	.032"	2500	.108"	1 thru 10
1575	HW-C 18(16)U	18	16/30	.032"	2500	.120"	1 thru 10
1577	HW-C 16(26)U	16	26/30	.032"	2500	.134"	1 thru 3
1579	HW-C 14(41)U	14	41/30	.045"	600	.170"	1 thru 3
1651	HW-C 12(65)U	12	65/30	.045"	600	.196"	1 thru 3
1653	HW-C 10(105)U	10	105/30	.045"	600	.215"	1 thru 3
1655	HW-C 8(133)U	8	133/29	.045"	600	.265"	1 thru 3
1657	HW-C 6(133)U	6	133/27	.045"	600	.310"	1 thru 3

MIL-W-76A—Plastic Wire

DESCRIPTION:

Single conductor stranded tinned copper, heavy wall thermoplastic insulation, lacquered glass braid overall.

- * STOCK COLORS
- | | |
|-------------|---------------|
| 1—WHITE | 2—WHITE/BLACK |
| 3—WHITE/RED | |

TYPE HW—GLASS BRAID
HEAVY WALL 600 Volt Rating ■ STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1598	HW-C 10(105)B	10	105/30	.045"	.235"	1 thru 3
1599	HW-C 8(133)B	8	133/29	.045"	.290"	1 thru 3
1599 6	HW-C 6(133)B	6	133/27	.045"	.340"	1 thru 3

ALPHA WIRE CORPORATION

MIL-W-16878C—Plastic Wire

TYPE B—UNCOVERED PLASTIC

600 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:

Type B—Single conductor stranded tinned copper, .010" vinyl thermoplastic insulation, 105°C.

* STOCK COLORS

- 1—WHITE
- 2—BLACK
- 3—RED
- 4—GREEN
- 5—YELLOW
- 6—BLUE
- 7—BROWN
- 8—ORANGE
- 9—GRAY
- 10—VIOLET
- 11—WHITE/BLACK
- 12—WHITE/RED
- 13—WHITE/GREEN
- 14—WHITE/YELLOW
- 15—WHITE/BLUE
- 16—WHITE/BROWN
- 17—WHITE/ORANGE
- 18—WHITE/GRAY
- 19—WHITE/VIOLET

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1850	B-32	32	7/40	.010"	.028"	1 thru 19
1851	B-30	30	7/38	.010"	.032"	1 thru 19
1852	B-28	28	7/36	.010"	.035"	1 thru 19
1853	B-26	26	7/34	.010"	.038"	1 thru 19
1854	B-24	24	7/32	.010"	.043"	1 thru 19
1855	B-22	22	7/30	.010"	.049"	1 thru 19
1856	B-20	20	7/28	.010"	.060"	1 thru 19
1857	B-18	18	7/26	.010"	.071"	1 thru 19
1858	B-16	16	19/29	.010"	.081"	1 thru 19

TYPE B—NYLON JACKET

600 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

STRANDED CONDUCTOR PLASTIC INSULATION

NYLON JACKET

DESCRIPTION:

Type B—Nylon—Same as above except clear nylon jacket overall, 115°C.

* STOCK COLORS

- 1—WHITE
- 2—BLACK
- 3—RED
- 4—GREEN
- 5—YELLOW
- 6—BLUE
- 7—BROWN
- 8—ORANGE
- 9—GRAY
- 10—VIOLET
- 11—WHITE/BLACK
- 12—WHITE/RED
- 13—WHITE/GREEN
- 14—WHITE/YELLOW
- 15—WHITE/BLUE
- 16—WHITE/BROWN
- 17—WHITE/ORANGE
- 18—WHITE/GRAY
- 19—WHITE/VIOLET

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1860	B-32	32	7/40	.010"	.032"	1 thru 19
1861	B-30	30	7/38	.010"	.036"	1 thru 19
1862	B-28	28	7/36	.010"	.039"	1 thru 19
1863	B-26	26	7/34	.010"	.042"	1 thru 19
1864	B-24	24	7/32	.010"	.047"	1 thru 19
1865	B-22	22	7/30	.010"	.053"	1 thru 19
1866	B-20	20	7/28	.010"	.065"	1 thru 19
1867	B-18	18	7/26	.010"	.075"	1 thru 19
1868	B-16	16	19/29	.010"	.085"	1 thru 19

DESCRIPTION:

Type C—Single conductor stranded tinned copper, .016" vinyl thermoplastic insulation, 105°C.

* STOCK COLORS

- 1—WHITE
- 2—WHITE/BLACK
- 3—WHITE/RED
- 4—WHITE/GREEN
- 5—WHITE/YELLOW
- 6—WHITE/BLUE
- 7—WHITE/BROWN
- 8—WHITE/ORANGE
- 9—WHITE/GRAY
- 10—WHITE/VIOLET
- 11—BLACK
- 12—RED
- 13—GREEN
- 14—YELLOW
- 15—BLUE
- 16—BROWN
- 17—ORANGE
- 18—GRAY
- 19—VIOLET

TYPE C—UNCOVERED PLASTIC

1000 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1830	C-24	24	7/32	.016"	.058"	1 thru 10
1831	C-22	22	7/30	.016"	.064"	1 thru 19
1832	C-20	20	7/28	.016"	.072"	1 thru 19
1833	C-18	18	7/26	.016"	.082"	1 thru 19
1834	C-16	16	19/29	.016"	.091"	1 thru 10
1835	C-14	14	19/27	.016"	.105"	1 thru 10

TYPE C—NYLON JACKET

1000 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

NYLON JACKET STRANDED CONDUCTOR

PLASTIC INSULATION

DESCRIPTION:

Type C—Nylon—Same as above except clear nylon jacket overall, 115°C.

* STOCK COLORS

- 1—WHITE
- 2—WHITE/BLACK
- 3—WHITE/RED
- 4—WHITE/GREEN
- 5—WHITE/YELLOW
- 6—WHITE/BLUE
- 7—WHITE/BROWN
- 8—WHITE/ORANGE
- 9—WHITE/GRAY
- 10—WHITE/VIOLET
- 11—BLACK
- 12—RED
- 13—GREEN
- 14—YELLOW
- 15—BLUE
- 16—BROWN
- 17—ORANGE
- 18—GRAY
- 19—VIOLET

ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1840	C-24	24	7/32	.016"	.065"	1 thru 10
1841	C-22	22	7/30	.016"	.072"	1 thru 19
1842	C-20	20	7/28	.016"	.079"	1 thru 19
1843	C-18	18	7/26	.016"	.090"	1 thru 19
1844	C-16	16	19/29	.016"	.099"	1 thru 10
1845	C-14	14	19/27	.016"	.114"	1 thru 10

MIL-W-16878C—Plastic Wire

TYPE D—UNCOVERED PLASTIC

3000 Volt Rating ■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

DESCRIPTION:

Type D—Single conductor stranded tinned copper, .032" vinyl thermoplastic insulation, 105°C.

* STOCK COLORS:

- 1—WHITE
- 2—WHITE BLACK
- 3—WHITE RED
- 4—WHITE GREEN
- 5—WHITE YELLOW
- 6—WHITE BLUE
- 7—WHITE BROWN
- 8—WHITE ORANGE
- 9—WHITE GRAY
- 10—WHITE VIOLET
- 11—BLACK
- 12—RED
- 13—GREEN
- 14—YELLOW
- 15—BLUE
- 16—BROWN
- 17—ORANGE
- 18—GRAY
- 19—VIOLET

NOTE: Available with heavy (double) tinning for use with high frequency induction soldering equipment.

STRANDED CONDUCTOR PLASTIC INSULATION



ALPHA NO.	TYPE DESIGNATION	CONDUCTOR SIZE	CONDUCTOR STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
1870	D-24	24	7/32	.032"	.085"	1 thru 10
1871	D-22	22	7/30	.032"	.092"	1 thru 19
1872	D-20	20	7/28	.032"	.095"	1 thru 19
1873	D-18	18	7/26	.032"	.110"	1 thru 19
1874	D-16	16	19/29	.032"	.116"	1 thru 10
1875	D-14	14	19/27	.032"	.130"	1 thru 10
1876	D-12	12	19/25	.032"	.163"	1 thru 10
1877	D-10	10	37/25	.032"	.182"	1 thru 10
1878	D-8	8	133/29	.032"	.245"	1 thru 10
1879	D-6	6	133/27	.032"	.290"	1 thru 10

APPLICATIONS:

Guided missiles. Telemetering equipment. Leads to hermetically sealed and potted components. Slipring assemblies. U.H.F. apparatus. Computers. Sub-miniaturized equipment.

DESCRIPTION:

Single conductor stranded silver plated copper, extruded or spiral wrapped Teflon insulation.

CHARACTERISTICS:

Excellent dielectric properties. Heat resistance—capable of continuous service at 260°C. Tough and flexible at temperatures to —90°C. Chemical inertness. Outdoor durability.

* STOCK COLORS

- 1—WHITE
- 2—BLACK
- 3—RED
- 4—GREEN
- 5—YELLOW
- 6—BLUE
- 7—BROWN
- 8—ORANGE
- 9—GRAY
- 10—VIOLET

MIL-W-16878C—Teflon* Wire 200°C

TYPE E—EXTRUDED & SPIRAL WRAPPED

600 Volt Rating ■ STANDARD PUT-UP: 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

EXTRUDED OR SPIRAL WRAPPED INSULATION SILVER PLATED STRANDED CONDUCTOR

ALPHA EXTRUDED	NUMBERS WRAPPED	TYPE DESIGNATION	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL O.D.	* STOCK COLORS
2851	2881	E-30	30	7/38	.010"	.032"	1 thru 10
2852	2882	E-28	28	7/36	.010"	.036"	1 thru 10
2853	2883	E-26	26	7/34	.010"	.040"	1 thru 10
2854	2884	E-24	24	19/36	.010"	.045"	1 thru 10
2855	2885	E-22	22	19/34	.010"	.051"	1 thru 10
2856	2886	E-20	20	19/32	.010"	.059"	1 thru 10
2857	2887	E-18	18	19/30	.010"	.070"	1 thru 10
2858	2888	E-16	16	19/29	.010"	.083"	1 thru 10
2859	2889	E-14	14	19/27	.010"	.097"	1 thru 6

DESCRIPTION:

Each conductor stranded silver plated copper, Type E .010" extruded Teflon insulation* per MIL-W-16878C. 600 volt rating. When shielded, a closely woven silver-plated copper shield is braided over the conductor(s). When braided, a Teflon* impregnated Fiberglass yarn is woven over the conductor(s) or shield.

STOCK COLORS OF SINGLE CONDUCTOR ITEMS

- 1—WHITE
- 2—BLACK
- 3—RED
- 4—GREEN
- 5—YELLOW
- 6—BLUE
- 7—BROWN
- 8—ORANGE
- 9—GRAY
- 10—VIOLET

COLORS OF CONDUCTORS OF MULTI-CONDUCTOR ITEMS

- 1—WHITE
- 2—BLACK
- 3—RED
- 4—GREEN

*DuPont's Tetrafluoroethylene Resin

MIL-W-16878C—Teflon* Wire 200°C

TEFLON CABLES—SHIELDED & UNSHIELDED

STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

SILVER PLATED STRANDED CONDUCTOR SILVER PLATED COPPER SHIELD TEFLON INSULATION

SIZE AND STRANDING	OUTER COVERING	ALPHA NUMBERS			
		1 COND.	2 COND.	3 COND.	4 COND.
≅24—19/36	Shield	2809	2809 2	2809 3	2809 4
≅24—19/36	Braid	2810	2810 2	2810 3	2810 4
≅24—19/36	Shield & Braid	2811	2811 2	2811 3	2811 4
≅22—19/34	Shield	2812	2812 2	2812 3	2812 4
≅22—19/34	Braid	2813	2813 2	2813 3	2813 4
≅22—19/34	Shield & Braid	2814	2814 2	2814 3	2814 4
≅20—19/32	Shield	2815	2815 2	2815 3	2815 4
≅20—19/32	Braid	2816	2816 2	2816 3	2816 4
≅20—19/32	Shield & Braid	2817	2817 2	2817/3	2817/4

ALPHA WIRE CORPORATION

MIL-W-5086A & MIL-C-7078A

AIRCRAFT HOOK-UP WIRE

■ STANDARD PUT-UP: 100 FT., 500 FT., 1000 FT.

APPLICATIONS:

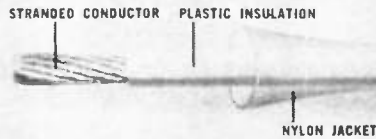
Use wherever a single conductor, 600 volt insulated, aircraft electrical wire is needed. Resistant to: abrasion, moisture, cold, heat, flame, fungus, oil, salt water.

DESCRIPTION:

MIL-W-5086A — Type 1 — Single conductor stranded tinned copper, white plastic insulation, nylon jacket overall.

MIL-W-5086A — Type 2 — Single conductor stranded tinned copper, white plastic insulation, nylon lacquered glass braid overall.

MIL-C-7078A — Single conductor stranded tinned copper, white plastic insulation, nylon jacket, braided tinned copper shield overall.



UNSHIELDED (MIL-W-5086A)

ALPHA NO.	MIL TYPE DESIGNATION	SPECIFICATION TYPE	CONDUCTOR SIZE	CONDUCTOR STRAND	VOLTAGE RATING	NOM. O.D.
1381	AN-22	NO. 1	22	19/34	600	.068"
1382	AN-20	NO. 1	20	19/32	600	.078"
1383	AN-18	NO. 1	18	19/30	600	.088"
1384	AN-16	NO. 1	16	19/29	600	.098"
1385	AN-14	NO. 1	14	19/27	600	.117"
1386	AN-12	NO. 1	12	19/25	600	.137"

2381	AN-22	NO. 2	22	19/34	600	.068"
2382	AN-20	NO. 2	20	19/32	600	.078"
2383	AN-18	NO. 2	18	19/30	600	.088"
2384	AN-16	NO. 2	16	19/29	600	.098"
2385	AN-14	NO. 2	14	19/27	600	.117"
2386	AN-12	NO. 2	12	19/25	600	.137"
1387	AN-10	NO. 2	10	49/27	600	.189"
1388	AN-8	NO. 2	8	133/29	600	.240"
1389	AN-6	NO. 2	6	133/27	600	.293"
1389/4	AN-4	NO. 2	4	133/25	600	.355"
1389/2	AN-2	NO. 2	2	665/30	600	.425"
1389/0	AN-0	NO. 2	0	1045/30	600	.525"
1389/00	AN-00	NO. 2	00	1330/30	600	.590"

Available to order.

Type No. 2 with overall braided tinned copper shield per MIL-C-7078A.

SHIELDED (MIL-C-7078A)

1391	AN-22	NO. 1	22	19/34	600	.100"
1392	AN-20	NO. 1	20	19/32	600	.110"
1393	AN-18	NO. 1	18	19/30	600	.125"
1394	AN-16	NO. 1	16	19/29	600	.140"
1395	AN-14	NO. 1	14	19/27	600	.155"
1396	AN-12	NO. 1	12	19/25	600	.165"

"ALMAG" Magnet Wire

SPECIFICATION MIL-W-583A

■ STANDARD PUT-UP: ¼ LB., ½ LB., 1 LB., 5 LB., 10 LB.

PLAIN ENAMEL (PE)

HEAVY FORMVAR (HF)

ALPHA NO.	NOM. O.D.	SIZE	ALPHA NO.	NOM. O.D.	SIZE	ALPHA NO.	NOM. O.D.	SIZE	ALPHA NO.	NOM. O.D.	SIZE
PE-44	.0023"	44 *	PE-26	.0169"	26	HF-44	.0026"	44 *	HF-26	.0180"	26
PE-42	.0028"	42 *	PE-24	.0212"	24	HF-42	.0032"	42 *	HF-24	.0224"	24
PE-40	.0034"	40 *	PE-22	.0266"	22	HF-40	.0038"	40 *	HF-22	.0277"	22
PE-38	.0044"	38 †	PE-20	.0332"	20	HF-38	.0049"	38 †	HF-20	.0346"	20
PE-36	.0055"	36 †	PE-18	.0416"	18	HF-36	.0060"	36 †	HF-18	.0432"	18
PE-34	.0069"	34 †	PE-16	.0522"	16	HF-34	.0075"	34 †	HF-16	.0539"	16
PE-32	.0087"	32	PE-14	.0657"	14	HF-32	.0095"	32	HF-14	.0673"	14
PE-30	.0108"	30	PE-12	.0825"	12	HF-30	.0116"	30	HF-12	.0842"	12
PE-28	.0135"	28	PE-10	.1037"	10	HF-28	.0144"	28	HF-10	.1056"	10

APPLICATIONS:

Radio and audio frequency coils; transformers; chokes; speaker field coils; tuners; armatures; short wave coils; etc.

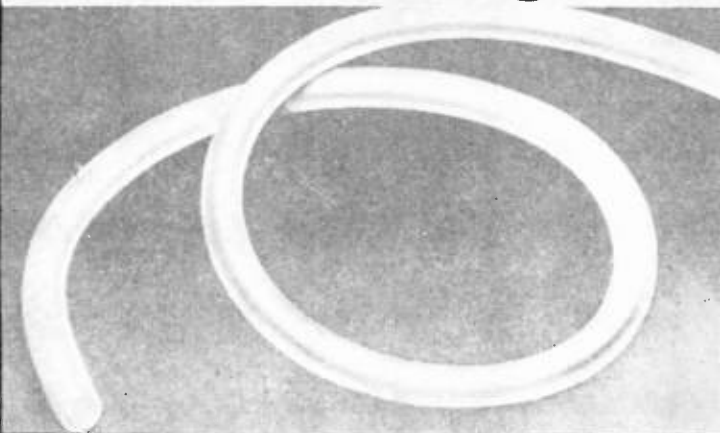
DESCRIPTION:

Plain Enamel—Single conductor round bare copper covered with a continuous insulating film of enamel. Type T per Specification MIL-W-583A. 105°C.

Heavy Formvar—Single conductor round bare copper, baked film insulation from a varnish based on a vinyl acetate resin. Type T2 per Specification MIL-W-583A. 105°C.

* Largest available put-up: 1 lb.
† Largest available put-up: 5 lb.

ALPHLEX® Tubing & Sleeving



ALPHLEX TUBING

STANDARD PACKAGING

≅ 24 thru ≅ 15	1,000 ft. spools
≅ 14 thru ≅ 5	500 ft. spools
≅ 4 thru 3/8"	250 ft. coils
3/16" thru 5/8"	100 ft. coils
3/4" and larger	50 ft. coils

Small lengths cut to order

ELECTRICAL & PHYSICAL CHARACTERISTICS

Dielectric Strength800V Mil
 Temperature Rating105 C.
 Low Temperature Flexibility —
 —30 C.
 Flammability Non-Flammable
 Tensile Strength 2500 PSI
 Ultimate Elongation 300%
 Insulation Resistance —
 over 1,000,000 megohms
 Corrosion Resistance...Excellent
 Oil Resistance —
 Flexibility indefinite

* STOCK COLORS

- 1—CLEAR
- 2—BLACK
- 3—RED
- 4—YELLOW
- 5—GREEN
- 6—WHITE
- 7—BROWN
- 8—ORANGE

105°C EXTRUDED PLASTIC TUBING (PVC)

■ ALPHLEX PVC-105 Plastic Tubing is designed and manufactured specifically for electronic, aircraft and electrical applications involving temperatures as high as 105° C. It conforms to Specifications MIL-I-631C, ASTM-D876, ASTM-D922 and is approved by Underwriters' Laboratories.

■ PVC-105's exceptional integration of desirable qualities endows it with excellent versatility and durability. Its dielectric strength is high and remains unaffected by increasing temperature throughout its range. It displays high resistance to the agents of heat, oil, chemicals, corrosion, fungi and even abrasion with no loss in tensile strength, non-flammability—or flexibility.

■ Under all the above adverse conditions, PVC-105 will retain its ability to hug and protect irregular-shaped objects, will "snake" beautifully, and will always be easy to handle.

■ To achieve this combination of advantages, special care is taken in the making of PVC-105. It is compounded with only first-grade quality non-migratory resinous type plasticizers. From laboratory to production line, from raw material to finished product, strict quality control prevails. Behind it are the same engineering and production know-how that have made the name Alpha famous in the electronic industry for over thirty-five years.

ALPHLEX NO.	SIZE	WALL THICKNESS	NOM. I.D.	* STOCK COLORS	ALPHLEX NO.	SIZE	WALL THICKNESS	NOM. I.D.	* STOCK COLORS
PVC-105-24	24	.012"	.022"	1 thru 8	PVC-105-2	2	.020"	.263"	1 thru 6
PVC-105-22	22	.012"	.027"	1 thru 8	PVC-105-1	1	.020"	.294"	1, 2
PVC-105-20	20	.016"	.034"	1 thru 8	PVC-105-5 16"	5 16"	.025"	.312"	1, 2
PVC-105-19	19	.016"	.038"	1 thru 8	PVC-105-0	0	.020"	.330"	1, 2
PVC-105-18	18	.016"	.042"	1 thru 8	PVC-105-3 8"	3 8"	.025"	.375"	1, 2
PVC-105-17	17	.016"	.047"	1 thru 8	PVC-105-7 16"	7 16"	.025"	.438"	1, 2
PVC-105-16	16	.016"	.053"	1 thru 8	PVC-105-1 2"	1 2"	.025"	.500"	1, 2
PVC-105-15	15	.016"	.059"	1 thru 8	PVC-105-9 16"	9 16"	.030"	.562"	1, 2
PVC-105-14	14	.016"	.066"	1 thru 8	PVC-105-5 8"	5 8"	.030"	.625"	1, 2
PVC-105-13	13	.016"	.076"	1 thru 8	PVC-105-3 4"	3 4"	.035"	.750"	1, 2
PVC-105-12	12	.016"	.085"	1 thru 8	PVC-105-7 8"	7 8"	.035"	.875"	1, 2
PVC-105-11	11	.016"	.095"	1 thru 6	PVC-105-1"	1"	.035"	1.000"	1, 2
PVC-105-10	10	.016"	.106"	1 thru 6	PVC-105-1-1 8"	1-1 8"	.035"	1.125"	1, 2
PVC-105-9	9	.016"	.118"	1 thru 6	PVC-105-1-1 4"	1-1 4"	.040"	1.250"	1, 2
PVC-105-8	8	.020"	.133"	1 thru 6	PVC-105-1-3 8"	1-3 8"	.040"	1.375"	1, 2
PVC-105-7	7	.020"	.148"	1 thru 6	PVC-105-1-1 2"	1-1 2"	.045"	1.500"	1, 2
PVC-105-6	6	.020"	.166"	1 thru 6	PVC-105-1-3 4"	1-3 4"	.055"	1.750"	1, 2
PVC-105-5	5	.020"	.186"	1 thru 6	PVC-105-2"	2"	.060"	2.000"	1, 2
PVC-105-4	4	.020"	.208"	1 thru 6	PVC-105-2-1 4"	2-1 4"	.065"	2.250"	1, 2
PVC-105-3	3	.020"	.234"	1 thru 6	PVC-105-2-1 2"	2-1 2"	.070"	2.500"	1, 2

PLASTIC IMPREGNATED FIBERGLASS (PIF)

■ ALPHLEX PIF-130 is a Class B insulation combining the advantages of an inorganic fiberglass base sleeving with the most desirable characteristics of a heat-resistant, very flexible plastic insulation. The plastic compound is formulated to

provide the maximum in electrical characteristics, heat stability (130°C), flexibility and toughness. This tubing and sleeving conforms to the performance requirements of Specifications MIL-I-3190, NEMA VS1, ASTM D372.

ALPHLEX NO.	SIZE	NOM. I.D.	* STOCK COLORS	ALPHLEX NO.	SIZE	NOM. I.D.	* STOCK COLORS
PIF-130-24	24	.022"	1 thru 4	PIF-130-7	7	.148"	1 thru 4
PIF-130-22	22	.027"	1 thru 4	PIF-130-6	6	.166"	1 thru 4
PIF-130-20	20	.034"	1 thru 4	PIF-130-5	5	.186"	1 thru 4
PIF-130-19	19	.038"	1 thru 4	PIF-130-4	4	.208"	1 thru 4
PIF-130-18	18	.042"	1 thru 4	PIF-130-3	3	.234"	1 thru 4
PIF-130-17	17	.047"	1 thru 4	PIF-130-2	2	.263"	1 thru 4
PIF-130-16	16	.053"	1 thru 4	PIF-130-1	1	.294"	1 thru 3
PIF-130-15	15	.059"	1 thru 4	PIF-130-0	0	.330"	1 thru 3
PIF-130-14	14	.066"	1 thru 4	PIF-130-3 6"	3 6"	.375"	1 thru 3
PIF-130-13	13	.076"	1 thru 4	PIF-130-7 16"	7 16"	.438"	1 thru 3
PIF-130-12	12	.085"	1 thru 4	PIF-130-1 2"	1 2"	.500"	1 thru 3
PIF-130-11	11	.095"	1 thru 4	PIF-130-5 8"	5 8"	.625"	1 thru 3
PIF-130-10	10	.106"	1 thru 4	PIF-130-3 4"	3 4"	.750"	1 thru 3
PIF-130-9	9	.118"	1 thru 4	PIF-130-7 6"	7 6"	.875"	1 thru 3
PIF-130-8	8	.133"	1 thru 4	PIF-130-1"	1"	1.000"	1 thru 3

ELECTRICAL & PHYSICAL CHARACTERISTICS

Class B
 Grade B-1
 Dielectric Strength 4000V
 Temperature Rating 130 C.
 Low Temperature Flexibility —
 —30°C.
 Flammability Non-Flammable
 Insulation Resistance
 over 1,000,000 megohms.
 Oil Resistance Good
 Corrosion Resistance... Excellent

- * STOCK COLORS 1—BLACK 2—RED
- 3—YELLOW 4—GREEN

STANDARD PACKAGING

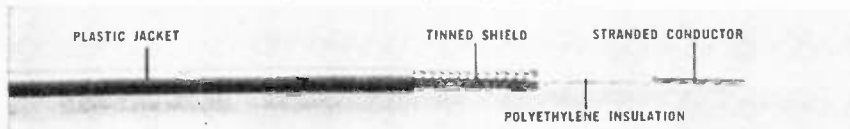
≅ 24 thru ≅ 15	(1) 1000 Ft. Spools (2) 36" lengths (1000 Ft Pkg)
≅ 14 thru ≅ 8	(1) 500 Ft Spools (2) 36" lengths (500 Ft Pkg)
≅ 7 thru ≅ 2	(1) 250 Ft Spools (2) 36" lengths (250 Ft Pkg)
≅ 1 and larger	(1) 100 Ft Coils (2) 36" lengths (125 Ft Pkg)

ALPHA WIRE CORPORATION

Shielded Microphone Cable

PLASTIC TYPE

■ STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	* CAPACITY NOM. FT.	TYPE OF SHIELD	NOMINAL JACKET	NOM. O.D.
1702	1	26	3/34 tinned copper 4/34 steel	.016"	38 mmf.	Spiral Wrapped	.020"	.110"
1703	1	24		10/34	.020"	35 mmf.	Braided	.030"	.145"
1704	1	24	10/34	.040"	23 mmf.	Braided	.030"	.200"
1706	1	20	26/34	.030"	35 mmf.	Braided	.030"	.175"
1710	2	22	16/34	.025"	31 mmf.	Braided	.030"	.235"
1713	3	20	26/34	.014"	45 mmf.	Braided	.035"	.250"
1715	4	20	26/34	.014"	45 mmf.	Braided	.035"	.255"
1716	5	20	26/34	.014"	45 mmf.	Braided	.035"	.275"
1717	6	20	26/34	.014"	45 mmf.	Braided	.035"	.300"

* Between one conductor and remaining conductors connected to shield.

APPLICATIONS: 1702-1706

All high impedance microphones—Lapel, Ribbon, Velocity, Crystal, Contact, Hi-Fi interconnecting cables.

APPLICATIONS: 1710-1717

All low impedance microphones—Carbon, Condenser, Dynamic.

DESCRIPTION:

Each conductor stranded tinned copper, polyethylene insulation, color coded, braided or spiral wrapped tinned copper shield, chrome colored vinyl plastic jacket overall. Where multi-conductors, conductors are twisted, cushioned with jute fillers, cotton wrap under tinned copper shield.

CHARACTERISTICS:

Oil and moisture resistant. Flexible. Will not stain or mark. Will resist aging and rough usage. Capacitance—Low
Insulation Resistance—High
Attenuation—Low

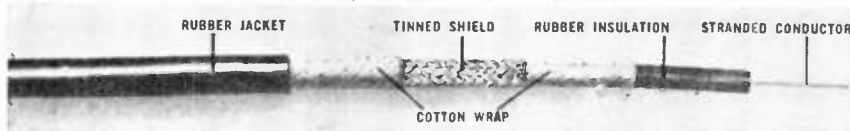
COLOR CODE OF CONDUCTORS

1—WHITE 4—GREEN
2—BLACK 5—YELLOW
3—RED 6—BLUE

Shielded Microphone Cable

RUBBER TYPE

■ STANDARD PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	* CAPACITY NOM. FT.	NOMINAL JACKET	NOM. O.D.
1248	1	20	26/34	.025"	40 mmf.	.030"	.175"
1249	1	20	26/34	.040"	30 mmf.	.030"	.245"
1249 18	1	18	41/34	.040"	45 mmf.	.030"	.250"
1250	2	20	26/34	.020"	70 mmf.	.035"	.275"
1250 18	2	18	41/34	.020"	75 mmf.	.035"	.305"
1251	3	20	26/34	.020"	80 mmf.	.035"	.285"
1251 18	3	18	41/34	.020"	85 mmf.	.035"	.325"
1252	4	20	26/34	.020"	90 mmf.	.035"	.305"
1252 18	4	18	41/34	.020"	84 mmf.	.035"	.335"

* Between one conductor and remaining conductors connected to shield.

APPLICATIONS: 1248-1249/18

All high impedance microphones, Broadcast and heavy duty studio use.

APPLICATIONS: 1250-1252/18

All low impedance microphones, Broadcast and heavy duty studio use.

DESCRIPTION:

Each conductor stranded tinned copper, rubber insulation, color coded, braided tinned copper shield, cotton wrap, tough black rubber jacket overall. It is extremely flexible and specially designed for heavy studio use.

1248-1249/18

COLOR CODE OF CONDUCTOR
BLACK


1250-1252/18

COLOR CODE OF CONDUCTORS
1—BLACK
2—WHITE
3—RED
4—GREEN

Shielded Plastic Jacketed Cable

SPIRAL WRAPPED

■ STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.



ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O.D.
2254	2	22	7/30	.016"	.020"	.175"
2255	2	22	1	.016"	.020"	.170"
2156	1	20	10/30	.016"	.020"	.130"
2256	2	20	10/30	.016"	.020"	.195"
3256	3	20	10/30	.015"	.020"	.210"
4256	4	20	10/30	.016"	.020"	.225"
2258	2	18	16/30	.016"	.020"	.230"
2260	2	16	26/30	.016"	.020"	.250"

APPLICATIONS:

For public address and sound systems Recording Studios Amateur radio transmitters. Paging and call systems.

DESCRIPTION:

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, spiral wrapped copper shield, gray vinyl plastic jacket overall.

COLOR CODE OF CONDUCTORS

1—BLACK
2—RED
3—WHITE
4—GREEN

Sec. 6000

ALPHA WIRE CORPORATION

APPLICATIONS:

Inter-rack connecting cable. Recording studio and broadcast. Remote control circuits. Rough usage electronic power cable. P.A. systems. Multiple speaker cable.

DESCRIPTION:

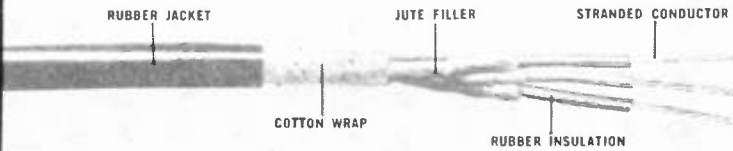
Each conductor 20 AWG stranded tinned copper, rubber insulation, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall. It is extremely flexible and especially designed for heavy studio use.

COLOR CODE OF CONDUCTORS

- 1—BLACK
- 2—WHITE
- 3—RED
- 4—GREEN
- 5—YELLOW
- 6—BLUE
- 7—BROWN
- 8—ORANGE
- 9—PURPLE
- 10—SLATE

**Unshielded Rubber Cable
MULTI-CONDUCTOR**

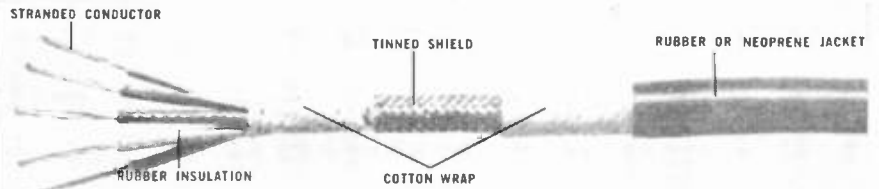
■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



ALPHA NO.	NO OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O. D.
1244	2	20	26 34	.020"	.035"	.280"
1245	3	20	26 34	.020"	.035"	.285"
1246	4	20	26 34	.020"	.035"	.300"
1247	5	20	26 34	.020"	.035"	.340"
1247 6	6	20	26 34	.020"	.035"	.360"
1247 7	7	20	26 34	.020"	.035"	.380"
1247 8	8	20	26 34	.020"	.035"	.400"
1247 10	10	20	26 34	.020"	.035"	.440"

Shielded Multi-Conductor Cable

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



RUBBER JACKET

ALPHA NO.	NO OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O. D.
1253	5	20	26 34	.020"	.035"	.440"
1254	5	20	26 34	.020"	.035"	.365"
1254 18	6	18	41 34	.020"	.035"	.430"
1255	7	20	26 34	.020"	.035"	.405"
1255 8	8	20	26 34	.020"	.035"	.415"
1255 10	10	20	26 34	.020"	.035"	.440"

NEOPRENE JACKET

ALPHA NO.	NO OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O. D.
1449	1	18	41 34	.020"	.030"	.250"
1450	2	18	41 34	.020"	.035"	.305"
1451	3	18	41 34	.020"	.035"	.325"
1452	4	18	41 34	.020"	.035"	.335"
1454	5	18	41 34	.020"	.035"	.410"

APPLICATIONS

Shielded electronic power cable. Control circuits. Video and audio interconnecting cable. Broadcast and heavy duty studio use.

DESCRIPTION:

Each conductor stranded tinned copper, rubber insulation, color coded, conductors twisted, cotton wrap, braided tinned copper shield, cotton wrap, tough black rubber or neoprene jacket overall.

COLOR CODE OF CONDUCTORS

- 1—BLACK
- 2—WHITE
- 3—RED
- 4—GREEN
- 5—YELLOW
- 6—BLUE
- 7—BROWN
- 8—ORANGE
- 9—PURPLE
- 10—SLATE

CHARACTERISTICS OF NEOPRENE TYPE

Oil and acid resistant. Suitable for outdoor use and direct burial. Will resist aging and rough usage.

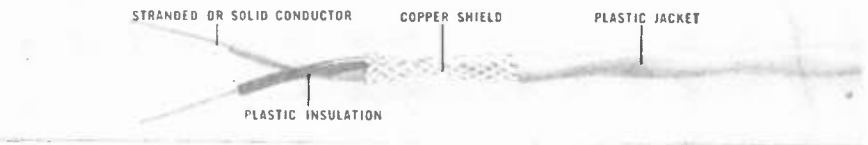
Shielded Audio Cable

2 CONDUCTOR — PLASTIC JACKET

■ STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

DESCRIPTION:

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, braided copper shield, gray vinyl plastic jacket overall. Suitable for outdoor installations.



STRANDED CONDUCTORS

ALPHA NO.	NO OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O. D.
1736	2	22	7 30	.016"	.020"	.185"
1741	2	20	10 30	.016"	.020"	.200"
1746	2	18	16 30	.016"	.020"	.240"

SOLID CONDUCTORS

1775*	2	22 Solid	1	.016"	.020"	.175"
1779	2	20 Solid	1	.016"	.020"	.210"
1783	2	18 Solid	1	.016"	.020"	.220"

* Supersedes 9775. New with 22 AWG solid tinned copper ground wire under braided copper shield.

ALPHA WIRE CORPORATION

Unshielded Audio Cable

2 AND 3 CONDUCTOR

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

PLASTIC INSULATION

STRANDED OR SOLID CONDUCTOR



NO OUTER JACKET

APPLICATIONS

Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

DESCRIPTION:

Each conductor tinned copper, plastic insulation, color coded, conductors twisted.

COLOR CODE OF CONDUCTORS

- 1—BROWN
- 2—TAN
- 3—GRAY

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOM. O.D.
9269	2	22 Solid	1	.016"	.100"
9270	3	22 Solid	1	.016"	.115"
9271	2	20 Solid	1	.016"	.120"
9272	3	20 Solid	1	.016"	.135"
9273	2	18 Solid	1	.016"	.145"
9274	3	18 Solid	1	.016"	.155"
9275	2	16 Solid	1	.016"	.175"
9276	3	16 Solid	1	.016"	.190"
9169	2	22 Stranded	7 30	.016"	.125"
9170	3	22 Stranded	7 30	.016"	.140"
9171	2	20 Stranded	10 30	.016"	.145"
9172	3	20 Stranded	10 30	.016"	.160"
9173	2	18 Stranded	16 30	.016"	.165"
9174	3	18 Stranded	16 30	.016"	.180"
9175	2	16 Stranded	26 30	.016"	.190"
9176	3	16 Stranded	26 30	.016"	.210"
9177	2	14 Stranded	41 30	.016"	.220"
9178	3	14 Stranded	41 30	.016"	.240"
9179	2	12 Stranded	65 30	.016"	.250"
9180	3	12 Stranded	65 30	.016"	.275"

PLASTIC JACKET

DESCRIPTION:

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF CONDUCTORS

- 1—BLACK
- 2—RED
- 3—WHITE

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O.D.
1793	2	22 Solid	1	.016"	.020"	.130"
1794	3	22 Solid	1	.016"	.020"	.140"
1795	2	20 Solid	1	.016"	.020"	.160"
1796	3	20 Solid	1	.016"	.020"	.175"
1797	2	18 Solid	1	.016"	.020"	.190"
1798	3	18 Solid	1	.016"	.020"	.210"
1893	2	22 Stranded	7 30	.016"	.020"	.135"
1894	3	22 Stranded	7 30	.016"	.020"	.145"
1895	2	20 Stranded	10 30	.016"	.020"	.180"
1896	3	20 Stranded	10 30	.016"	.020"	.190"
1897	2	18 Stranded	16 30	.016"	.020"	.200"
1898	3	18 Stranded	16 30	.016"	.020"	.210"

Shielded Audio Cable

2 CONDUCTOR

STRANDED CONDUCTORS

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOM. O.D.
1261 30	2	30	7 38	.010"	.085"
1261 28	2	28	7 36	.010"	.090"
1261 26	2	26	7 34	.010"	.095"
1261	2	24	16 36	.016"	.125"
1256 22V	2	22	7 30	.016"	.140"
1256V	2	20	10 30	.016"	.155"
1259V*	2	18	16 30	.016"	.170"
1260V	2	16	26 30	.020"	.210"
1260 14	2	14	41 30	.020"	.225"
1260/J2	2	12	65 30	.025"	.295"

SOLID CONDUCTORS

1267/22V	2	22 Solid	1	.016"	.135"
1267V	2	20 Solid	1	.016"	.145"
1267/18V	2	18 Solid	1	.016"	.170"

* 22 AWG solid tinned copper ground wire under braided copper shield

NO OUTER JACKET

■ STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

APPLICATIONS:

For public address and sound systems. Transmission line. Industrial paging and call systems. Recording equipment. Hospital and school sound installations. Broadcast and audio cable. Rack and panel wiring.

DESCRIPTION:

Each conductor tinned copper, plastic insulation, color coded, conductors twisted, braided tinned copper shield overall.

COLOR CODE OF CONDUCTORS

- 1—BLACK, 2—RED.

APPLICATIONS:

Balanced intercom systems. Annunciators. Telephones. "Nurses call" systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. "Alarm" systems. Guided missiles.

DESCRIPTION:

Each conductor 22 AWG tinned copper, plastic insulation, conductors color coded, twisted into pairs, gray vinyl plastic jacket overall. Suitable for outdoor installations.

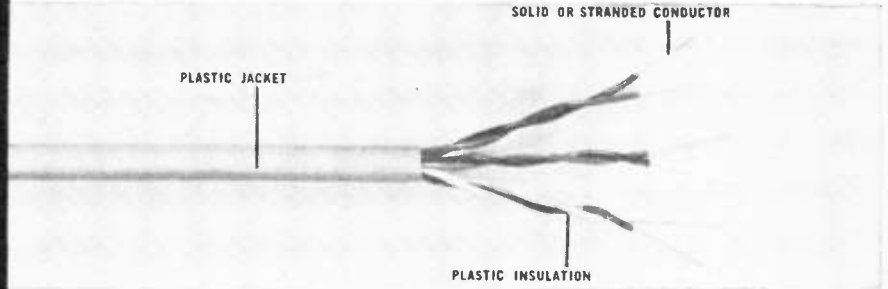
PAIR NO. COLOR COMBINATION

- 1--BLACK PAIRED WITH RED
- 2--BLACK PAIRED WITH WHITE
- 3--BLACK PAIRED WITH GREEN
- 4--BLACK PAIRED WITH BLUE
- 5--BLACK PAIRED WITH BROWN
- 6--BLACK PAIRED WITH YELLOW
- 7--BLACK PAIRED WITH ORANGE
- 8--RED PAIRED WITH GREEN
- 9--RED PAIRED WITH WHITE
- 10--RED PAIRED WITH BLUE
- 11--RED PAIRED WITH YELLOW
- 12--RED PAIRED WITH BROWN
- 13--RED PAIRED WITH ORANGE
- 14--GREEN PAIRED WITH BLUE
- 15--GREEN PAIRED WITH WHITE
- 16--GREEN PAIRED WITH BROWN
- 17--GREEN PAIRED WITH ORANGE
- 18--GREEN PAIRED WITH YELLOW
- 19--WHITE PAIRED WITH BLUE
- 20--WHITE PAIRED WITH BROWN
- 21--WHITE PAIRED WITH ORANGE
- 22--WHITE PAIRED WITH YELLOW
- 23--BLUE PAIRED WITH BROWN
- 24--BLUE PAIRED WITH ORANGE
- 25--BLUE PAIRED WITH YELLOW
- 26--BROWN PAIRED WITH ORANGE
- 27--BROWN PAIRED WITH YELLOW
- 28--PURPLE PAIRED WITH RED
- 29--PURPLE PAIRED WITH WHITE
- 30--PURPLE PAIRED WITH GREEN
- 31--PURPLE PAIRED WITH BLUE
- 32--PURPLE PAIRED WITH BROWN
- 33--PURPLE PAIRED WITH YELLOW
- 34--PURPLE PAIRED WITH ORANGE
- 35--PURPLE PAIRED WITH SLATE
- 36--PURPLE PAIRED WITH BLACK
- 37--SLATE PAIRED WITH RED
- 38--SLATE PAIRED WITH WHITE
- 39--SLATE PAIRED WITH GREEN
- 40--SLATE PAIRED WITH BLUE
- 41--SLATE PAIRED WITH BROWN
- 42--SLATE PAIRED WITH YELLOW
- 43--SLATE PAIRED WITH ORANGE
- 44--SLATE PAIRED WITH BLACK
- 45--WHITE BLACK PAIRED W. RED
- 46--WHITE BLACK PAIRED W. BLUE
- 47--WHITE BLACK PAIRED W. BLUE
- 48--WHITE BLACK PAIRED W. BROWN
- 49--WHITE BLACK PAIRED W. YELLOW
- 50--WHITE BLACK PAIRED W. ORANGE
- 51--WHITE BLACK PAIRED W. PURPLE

* Bare copper conductors. Write for color code of individual conductors.

Plastic Intercom Cable

■ STANDARD PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



SOLID CONDUCTORS

ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O.D.
1300	1	2	22 Solid	1	.010"	.020"	.115"
1302	2	4	22 Solid	1	.010"	.020"	.185"
1304	3	6	22 Solid	1	.010"	.020"	.210"
1307	6	12	22 Solid	1	.010"	.020"	.315"
1307 7	7	14	22 Solid	1	.010"	.020"	.325"
1307 9	9	18	22 Solid	1	.010"	.020"	.350"
1308 /11	11	22	22 Solid	1	.010"	.020"	.360"
1309	13	26	22 Solid	1	.010"	.025"	.385"
1309, 15	15	30	22 Solid	1	.010"	.025"	.400"
1310	16	32	22 Solid	1	.010"	.025"	.420"
1313	27	54	22 Solid	1	.010"	.035"	.530"
1313 31	31	62	22 Solid	1	.010"	.035"	.555"
1313 41	41	82	22 Solid	1	.010"	.035"	.630"
1314	51	102	22 Solid	1	.010"	.045"	.770"
1315*	76	152	22 Solid	1	.010"	.070"	.970"
1315 101*	101	202	22 Solid	1	.010"	.080"	1.140"

STRANDED CONDUCTORS

ALPHA NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O.D.
1316	1	2	22	7/30	.010"	.020"	.145"
1317	2	4	22	7/30	.010"	.020"	.210"
1318	3	6	22	7/30	.010"	.020"	.225"
1319	4	8	22	7/30	.010"	.020"	.260"
1320	5	10	22	7/30	.010"	.020"	.300"
1322	6	12	22	7/30	.010"	.020"	.320"
1323	9	18	22	7/30	.010"	.020"	.355"
1327	15	30	22	7/30	.010"	.025"	.460"
1329	27	54	22	7/30	.010"	.035"	.590"

Multi-Conductor Audio Cable

OUTER PLASTIC JACKET

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.



APPLICATIONS:

Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Signal systems. Electronic computer cable.

DESCRIPTION:

Each conductor 22 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations.

COLOR CODE OF CONDUCTORS

- 1--BLACK
- 2--RED
- 3--WHITE
- 4--GREEN
- 5--ORANGE
- 6--BLUE
- 7--BROWN
- 8--YELLOW
- 9--PURPLE
- 10--SLATE
- 11--PINK
- 12--TAN
- 13--RED GREEN
- 14--RED YELLOW
- 15--RED, BLACK

ALPHA NO.	NO. OF COND.	COND. SIZE	COND. STRAND	WALL THICKNESS	NOMINAL JACKET	NOM. O.D.
1172	2	22	7/30	.010"	.020"	.140"
1173	3	22	7/30	.010"	.020"	.145"
1174	4	22	7/30	.010"	.020"	.170"
1175	5	22	7/30	.010"	.020"	.175"
1176	6	22	7/30	.010"	.020"	.185"
1177	7	22	7/30	.010"	.020"	.190"
1178	8	22	7/30	.010"	.020"	.200"
1179	9	22	7/30	.010"	.020"	.225"
1180	10	22	7/30	.010"	.020"	.235"
1181	12	22	7/30	.010"	.020"	.255"
1181 /15	15	22	7/30	.010"	.020"	.280"

ALPHA WIRE CORPORATION

Braided Tinned Copper

■ STANDARD PUT-UP: 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.
SHIELDING

APPLICATIONS:

Shielding insulated wire and cable. Bonding and ground straps. For applications requiring extreme flexibility such as pigtailed, component leads, connecting moving parts, etc.

DESCRIPTION:

Very fine soft annealed tinned copper wires braided and rolled flat.

Tubular shielding per Spec. QQ-B-575 available to order.

ALPHA NO.	APPROX. I.D.	NO. OF CARRIERS	NO. OF ENDS	SIZE OF STRANDS	TOTAL STRANDS	AWG EQUIVALENT
1221	.025"	8	1	36	8	26
1222	1/32"	16	1	36	16	24
1223	3/64"	24	1	36	24	23
1224	3/32"	16	3	36	48	19
2229	7/64"	24	3	36	72	18
1229	1/8"	24	3	36	72	18
1230	3/16"	24	5	36	120	15
1231	1/4"	24	7	36	168	14
1232	3/8"	48	6	36	288	11
1233/2	1/2"	48	8	36	384	10

BONDING STRAP

ALPHA NO.	APPROX. I.D.	SIZE OF STRANDS
1233	5/8"	36
1234	3/4"	36
2234	25/32"	36
1235	1"	36
1239	1-3/8"	36

Uninsulated Tinned Copper

SPECIFICATION MIL-W-3861 SHIELDING TYPE S & ASTM-B-33

■ STANDARD PUT-UP:

100 FT., 500 FT., 1000 FT.

APPLICATIONS:

Winding of coils. Antennas. Point to point wiring.

DESCRIPTION:

Pure electrolytic solid copper properly annealed and tinned for quick soldering.

ALPHA NO.	CONDUCTOR SIZE	CIRCULAR MIL AREA	NOMINAL O.D.
299.7	38 AWG	15.72	.004"
299.6	36 AWG	25.00	.005"
299.5	34 AWG	39.75	.006"
299.4	32 AWG	63.21	.008"
299.3	30 AWG	100.5	.010"
299.2	28 AWG	159.8	.013"
299.1	26 AWG	254.1	.016"
299	24 AWG	404.0	.020"
298	22 AWG	642.4	.025"
297	20 AWG	1022	.033"
296	18 AWG	1642	.040"
295	16 AWG	2583	.051"
286	14 AWG	4107	.065"
289	12 AWG	6530	.082"
292	10 AWG	10380	.103"
292.8	8 AWG	16510	.129"
292.6	6 AWG	26250	.162"

Test Lead Wire

■ STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

RUBBER INSULATION WRAP STRANDED CONDUCTOR

APPLICATIONS:

As test leads in analyzers, oscillators, multi meters, and all other types of testing apparatus or wherever an Extra Flexible insulated wire is required. Heavy Duty type designed for television, therapeutic equipment, analyzers, oscillators, etc.

DESCRIPTION:

Single conductor extra flexible tinned soft annealed copper, concentric strand, wrap rubber insulation, satin finish.

• STOCK COLORS

- 1—BLACK
- 2—RED
- 3—GREEN
- 4—YELLOW

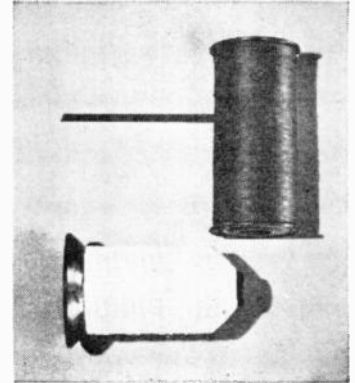
ALPHA NO.	COND. SIZE	COND. STRAND	WALL THICKNESS	VOLTAGE BREAKDOWN	NOM. O.D.	* STOCK COLORS
1632	20	41/36	.040"	5,000 ‡	.125"	1 and 2
1634 *	20	41/36	.044"	8,500 ‡	.135"	1 and 2
1635	20	41/36	.047"	10,000 ‡	.140"	1 thru 4
1636	18	65/36	.047"	12,000 ‡	.145"	1 thru 3

* Supersedes 9635 ‡ 60 CYCLES

HEAVY DUTY TYPE

1638	18	65/36	.109"	22,000 ‡	.230"	1 and 2
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ELECTRONIC LACING CORDS AND TAPES



Types of Lacing Cord

flat braided tape This construction was developed to prevent the "cold flow" that often is encountered in wire having plastic or rubber insulations. It has been specifically designed to create a wider contact area with the insulation, so that it does not flow away from the contact point. It is considerably more flexible and easier on the user's hands and is recommended for all types of harness work. Flat tapes do not appreciatively increase the diameter of the cable.

round twisted cord Available in various strands and thicknesses to produce different tensile strengths. This type, while it may be used for plastic and rubber insulated wire, is particularly suited for wires having a secondary insulation or those utilizing a textile as an insulating material. Round cords are available with diameters from .017" for miniature and sub-miniature work to .050".

Materials

nylon Synthetic fiber resistant to: fungus, flame, acids, abrasion. Excellent tensile strength, light weight, small size.

dacron A synthetic fiber which retains all the above characteristics of Nylon plus: less elongation, better resistance to acids, no appreciable discoloration.

fiberglass Fiberglass is particularly suited for high temperature applications up to 500°F. Alpha Fiberglass lacing tape has a Teflon finish to increase the tensile strength of the fiberglass and provide an abrasion resistant surface.

Finishes

- ge synthetic rubber-like resin
- mw micro-crystalline wax
- am thermoplastic synthetic resin
- tf Teflon resin
- sr fungistatic synthetic rubber

Round Lacing Cord

nylon							
Tensile Strength	Finish	Nominal Diameter	Stock Colors	Yards per Pound	Standard Put-Up	ALPHA No.	
10 lbs.	GE	.017"	White & Black	6,100	8 oz. tubes	LC-103	
13 lbs.	GE	.017"	White & Black	4,250	8 oz. tubes	LC-104	
25 lbs.	GE	.025"	White & Black	1,780	8 oz. tubes	LC-101	
32 lbs.	MW	.030"	White & Black	1,180	8 oz. spls.	LC-115*	
32 lbs.	GE	.030"	White & Black	1,180	8 oz. tubes	LC-112	
32 lbs.	AM	.030"	White & Black	1,180	8 oz. spls.	LC-118	
48 lbs.	MW	.035"	White & Black	750	8 oz. spls.	LC-114*	
48 lbs.	GE	.035"	White & Black	750	8 oz. tubes	LC-111	
48 lbs.	AM	.035"	White & Black	750	8 oz. spls.	LC-117	
52 lbs.	GE	.040"	White & Black	750	8 oz. tubes	LC-102	
70 lbs.	MW	.050"	White & Black	560	8 oz. spls.	LC-113*	
70 lbs.	GE	.050"	White & Black	560	8 oz. tubes	LC110	
70 lbs.	AM	.050"	White & Black	560	8 oz. spls.	LC-116	

*Meets Government Spec. MIL-T-713A, Type P

Flat Braided Lacing Tape

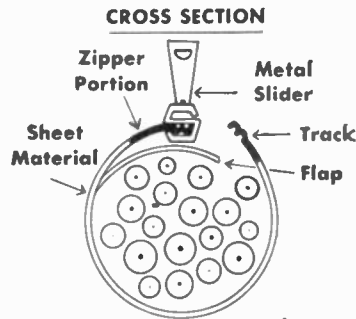
nylon							
Width	Thickness	Tensile Strength	Finish	Stock Colors	Standard Put-Up	ALPHA No.	
1/16"	.010"	30 lbs.	MW	White & Black	500 yd. spls.	LC-134	
1/16"	.010"	30 lbs.	GE	White & Black	500 yd. tubes	LC-130	
1/16"	.010"	30 lbs.	SR	White & Black	500 yd. spls.	LC-138	
1/16"	.010"	30 lbs.	AM	White & Black	500 yd. spls.	LC-142	
3/32"	.014"	50 lbs.	MW	White & Black	500 yd. spls.	LC-136*	
3/32"	.014"	50 lbs.	GE	White & Black	500 yd. tubes	LC-132	
3/32"	.014"	50 lbs.	SR	White & Black	500 yd. spls.	LC-140	
3/32"	.014"	50 lbs.	AM	White & Black	500 yd. spls.	LC-143	
1/4"	.014"	145 lbs.	MW	White & Black	200 yd. spls.	LC-137	
1/4"	.014"	145 lbs.	GE	White & Black	200 yd. tubes	LC-133	
1/4"	.014"	145 lbs.	SR	White & Black	200 yd. spls.	LC-141	
1/4"	.014"	145 lbs.	AM	White & Black	200 yd. spls.	LC-144	

*Meets Government Spec. MIL-T-713A, Type P

dacron							
Width	Thickness	Tensile Strength	Finish	Stock Colors	Standard Put-Up	ALPHA No.	
1/16"	.010"	30 lbs.	MW	White & Black	500 yd. spls.	LC-161	
1/16"	.010"	30 lbs.	GE	White & Black	500 yd. tubes	LC-157	
1/16"	.010"	30 lbs.	SR	White & Black	500 yd. spls.	LC-164	
1/16"	.010"	30 lbs.	AM	White & Black	500 yd. spls.	LC-167	
3/32"	.014"	50 lbs.	MW	White & Black	500 yd. spls.	LC-162	
3/32"	.014"	50 lbs.	GE	White & Black	500 yd. tubes	LC-158	
3/32"	.014"	50 lbs.	SR	White & Black	500 yd. spls.	LC-165	
3/32"	.014"	50 lbs.	AM	White & Black	500 yd. spls.	LC-168	
1/4"	.014"	130 lbs.	MW	White & Black	200 yd. spls.	LC-163	
1/4"	.014"	130 lbs.	GE	White & Black	200 yd. tubes	LC-159	
1/4"	.014"	130 lbs.	SR	White & Black	200 yd. spls.	LC-166	
1/4"	.014"	130 lbs.	AM	White & Black	200 yd. spls.	LC-169	

teflon — fiberglass							
Width	Thickness	Tensile Strength	Finish	Stock Colors	Standard Put-Up	ALPHA No.	
3/32"	.020"	140 lbs.	TF	White	250 yd. spls.	LC-171	
1/4"	.028"	250 lbs.	TF	White	250 yd. spls.	LC-172	

alphlex[®] line of ZIPPER TUBING



Alphlex Zipper Tubing is the modern way to harness, cable and protect. Just zip to close — and zip to reopen. If you wish, it may be permanently sealed with PB-200 Special Compound Liquid Sealer. Alphlex Zipper Tubing is strong, flexible, durable, and offers new freedom in design, production and repair.

Applications:

to shield, to harness wire, to custom-cable to any length, to enclose, to encase, to identify (such as cable markers), to protect, to replace worn jackets.

Specifications:

Type ZIP-31 — fabricated from .020" polyvinyl sheet made from MIL-I-631C materials. All purpose type, for general applications to 105°C. Standard colors: Clear, Black, Yellow.

Type ZIP-31M — heavy duty construction. Similar to ZIP-31 type except nominal wall thickness of .040". Standard colors: Black, Clear.

Type ZIP-50 — "sandwich" of aluminum foil laminated between two sheets of polyvinyl. For 100% RF shielding applications to 105°C. Standard color: Silver Grey.

The zipper portion of Alphlex Zipper Tubing is common to all types. It is manufactured from a polyvinyl chloride compound and the track measures 95 mils in thickness when closed. Zipped shut, but unsealed, Alphlex Zipper Tubing has a lateral pull strength of approximately 42.7 pounds per inch at normal room temperature. Sealed, the lateral pull strength is approximately 59.8 pounds.

Type ZIP-90 — polyvinyl bonded to woven fiberglass sheet per MIL-I-3190A. For rough usage, abrasion resistance, and high temperature uses to 130°C. Standard color: Black.

Type ZIP-44 — polyvinyl sheet made from MIL-I-7444B materials. Extremely flexible; for aircraft and low-temperature uses to -67°C. Standard colors: Clear (amber), Black.

Type ZIP-44M — heavy duty construction. Similar to ZIP-44 type except nominal wall thickness of .040". Standard colors: Clear (amber), Black.

SIZES:

All types available in I.D.'s of ¼" thru 4" in ⅛" increments.

STANDARD PUT-UP:

25 foot, 50 foot, 100 foot spools. Longer lengths available to order.

ORDERING INFORMATION:

When ordering, include type, size and color. For example . . . ZIP-31, ¾", Yellow.

When closing Alphlex Zipper Tubing with metal slider AB-295, (rather than by manual pressure) specify a Zipper Tubing I.D. ¼" larger than the O.D. of the inner wires to be covered.

ACCESSORIES:

AB-295 Metal Sliders—1 supplied free with every 25 feet. Additional quantities may be ordered separately.

PB-200 Special Compound Liquid Sealer — available as follows: 1 oz., 2 oz., 4 oz., 1 pt., 1 qt., 1 gal.

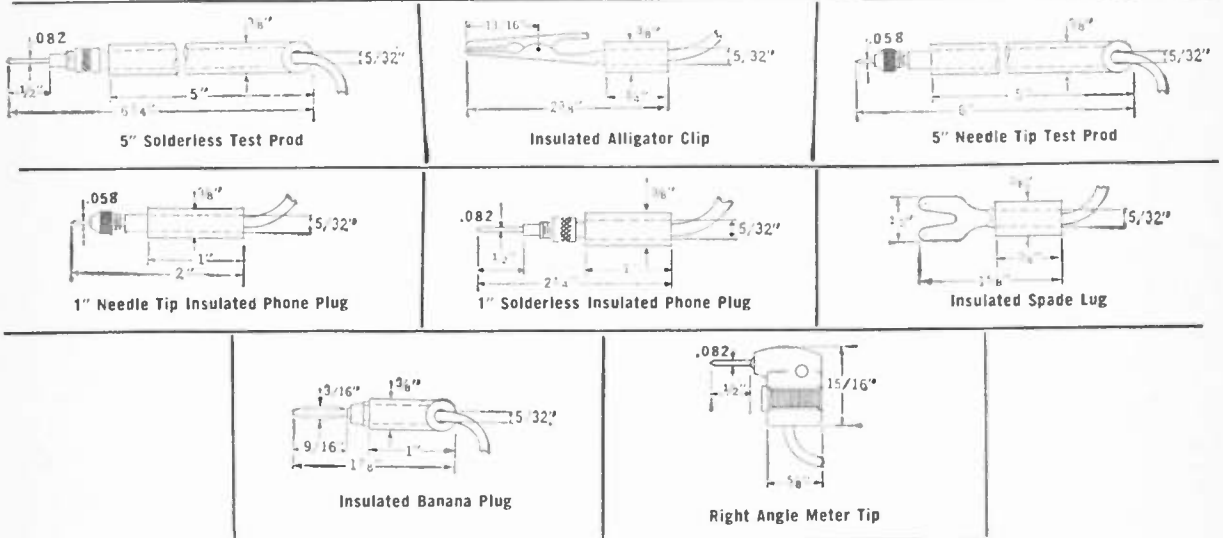
SPECIAL FACILITIES

The increased demands of the Electronics Industry were instrumental in creating the over 4,000 IN-STOCK items listed in this catalog. While these constructions cover the great majority of requirements, special constructions also are essential in the research, development and production of new electronic equipment. Recognizing the industry's needs, ALPHA has created a unique Wire Processing Department which has the ability to produce an infinite number of special constructions from the stock items listed in this catalog. This department has wire processing equipment designed specifically to create these special constructions of standard items regardless of minimum quantity. Our huge In-Stock inventory provides a widely diversified line as well as a bona fide solution for custom-designed cables.

The Facilities offered by Alpha are:

- Special Packaging
- Custom Lengths
- Textile Braiding & Metal Shielding
- Cutting, Stripping & Tinning
- Cabling
- Marking & Numbering
- Color Stripping
- Jacket Coloring
- Jacketing—Zipper Tubing
PVC Tubing
Rubber or Neoprene
- Harnessing
- Terminated Harnessing
- Wire & Cable Assemblies

THE QUALITY TEST LEAD LINE



All ALPHA test lead wire used is the same as supplied to leading test equipment manufacturers for over 20 years having the following high quality features:

- LENGTH**
full 50 inches for added convenience
- VOLTAGE BREAKDOWN**
better than 12,000 volts at 60 cycles
- NOMINAL OUTSIDE DIAMETER**
.150" for safety, rugged use and longer life

CONDUCTOR SIZE
#18 gauge for extra strength and higher current carrying capacity

FLEXIBILITY
extremely flexible fine soft copper standing (65/#36 AWG)

INSULATION
heavy duty, high dielectric rubber, .047" wall thickness

HANDLES
Tenite #2 used for greater strength and durability

<p>TL-1B—5" Solderless Test Prods with Right Angle Meter Tips LIST PRICE \$2.30 ea.</p>	<p>TL-5B—5" Solderless Test Prods with 1" Solderless Insulated Phone Plugs LIST PRICE \$2.18 ea.</p>	<p>TL-9B—5" Solderless Test Prods with Insulated Banana Plugs LIST PRICE \$2.55 ea.</p>
<p>TL-2B—5" Needle Tip Test Prods with Right Angle Meter Tips LIST PRICE \$2.30 ea.</p>	<p>TL-6B—Right Angle Meter Tips with Insulated Alligator Clips LIST PRICE \$2.05 ea.</p>	<p>TL-10B—1" Needle Tip Insulated Phone Plugs with Insulated Spade Lugs LIST PRICE \$1.70 ea</p>
<p>TL-3B—5" Solderless Test Prods with Insulated Spade Lugs LIST PRICE \$1.80 ea.</p>	<p>TL-7B—5" Solderless Test Prods with Insulated Alligator Clips LIST PRICE \$2.10 ea.</p>	<p>TL-11B—Insulated Alligator Clips on Both Ends—Color Coded LIST PRICE \$1.78 ea.</p>
<p>TL-4B—1" Needle Tip Insulated Phone Plugs with Right Angle Meter Tips LIST PRICE \$2.20 ea.</p>	<p>TL-8B—Insulated Alligator Clips with Insulated Banana Plugs LIST PRICE \$1.93 ea.</p>	<p>TL12B—5" Needle Tip Test Prods with Insulated Banana Plugs LIST PRICE \$2.55 ea.</p>

ALPHA WIRE CORPORATION

ALPHA WIRE • PRICE LIST

ALPHA No.	List Price Per 1000 Ft.		
286	26.13	1267V	65.00
289	39.38	1267/18V	74.50
292	72.50	1267/22V	51.00
292/6	180.00	1300	24.75
292/8	112.50	1302	45.80
295	17.50	1304	64.93
296	13.00	1307	94.38
297	8.25	*1307/7	133.75
298	6.25	1307/9	138.75
299	6.00	1308/11	205.38
299/1	5.75	1309	252.50
299/2	5.50	1309/15	258.13
299/3	5.25	1310	312.50
299/4	5.13	1313	471.75
299/5	5.00	*1313/31	730.00
*299/6	4.88	*1313/41	965.00
*299/7	4.75	1314	1587.50
1172	34.63	*1315	2650.00
1173	36.00	*1315/101	3360.00
1174	47.13	1316	35.00
1175	58.75	1317	67.50
1176	90.13	1318	95.00
1177	101.25	1319	120.00
1178	109.88	1320	129.50
1179	119.25	1322	133.25
1180	137.50	1323	197.13
1181	182.50	1327	349.88
*1181/15	230.00	1329	638.25
1182	54.13	1332	57.50
1183	76.13	1334	59.50
1184	95.25	1336	62.50
1185	119.00	1337	65.25
1186	145.63	1350	46.50
1187	167.25	1351	47.50
1188	196.13	1352	52.50
1189	217.63	1353	65.00
1190	252.38	1354	75.00
1192	297.13	1355	108.75
*1192/15	375.00	1356	155.00
*1192/20	495.00	1361	62.50
1221	45.00	1362	67.50
1222	46.25	1363	77.00
1223	47.50	1364	95.00
1224	50.00	1365	126.50
1229	55.00	1366	207.50
1230	64.00	*1371	62.50
1231	87.88	*1372	65.00
1232	149.00	*1373	80.00
1233	200.00	*1374	92.50
1233/2	190.00	1381	25.50
1234	450.00	1382	28.25
1235	477.50	1383	35.00
1239	525.00	1384	50.00
1244	120.00	1385	63.00
1245	139.00	1386	98.75
1246	167.50	1387	157.50
1247	200.00	1388	257.50
*1247/6	247.50	1389	400.00
*1247/7	312.75	1389/4	577.50
*1247/8	333.75	1389/2	895.00
*1247/10	400.00	1389/00	1890.00
1248	102.50	1391	72.50
1249	127.63	1392	80.00
1249/18	154.50	1393	87.50
1250	139.00	1394	115.50
1250/18	185.88	1395	142.00
1251	161.00	1396	166.50
1251/18	300.00	*1449	165.00
1252	188.75	*1450	230.00
*1252/18	332.50	*1451	337.50
1253	233.13	*1452	375.00
1254	288.63	*1454	650.00
1254/18	615.00	1504	20.75
1255	308.00	1505	27.38
1255/8	375.00	1506	36.75
*1255/10	497.50	1507	49.13
1256V	70.00	1508	71.00
1256/22V	55.25	1509	116.75
1259V	85.00	1550	11.50
1260V	135.00	1551	13.25
1260/12	315.00	1553	17.25
1260/14	175.00	1555	24.38
1261	70.00	1557	35.75
*1261/26	75.00	1559	53.75
*1261/28	78.25	1560	90.00
*1261/30	81.25	1561	10.50
		1563	14.13
		1565	20.00
		*1567	28.50

*New Item



1571	22.50	*1870	20.50	*2813/3	990.00
1573	27.75	*1871	24.50	*2813/4	1265.00
1575	37.25	*1872	29.75	*2814	467.50
1577	53.75	*1873	37.38	*2814/2	800.00
1579	87.50	*1874	44.00	*2814/3	1210.00
1590	26.50	*1875	65.25	*2814/4	1512.50
1591	32.25	*1876	97.75	*2815	357.50
1592	40.75	*1877	135.88	*2815/2	770.00
1593	55.50	*1878	266.00	*2815/3	1100.00
1594	47.00	*1879	358.50	*2815/4	1430.00
1595	133.13	*1880	27.88	*2816	440.00
1598	202.50	*1881	34.00	*2816/2	825.00
1599	357.50	*1882	38.88	*2816/3	1212.50
1599/6	490.00	*1883	48.00	*2816/4	1525.00
*1605	14.00	*1884	58.00	*2817	550.00
1606	10.88	*1885	81.13	*2817/2	907.50
1607	10.50	*1886	122.88	*2817/3	1402.50
1609	11.00	*1887	167.25	*2817/4	1760.00
1610	13.00	*1888	316.50	2851	127.50
*1632	29.18	*1889	420.00	2852	130.63
*1634	27.05	1893	34.63	2853	133.13
1635	30.25	1894	49.25	2854	148.13
1636	33.88	1895	46.75	2855	172.50
1638	51.38	1896	69.38	2856	221.25
*1639	57.50	1897	58.25	2857	266.25
1641	31.88	1898	82.25	2858	348.75
1642	56.88	*1931	103.00	*2859	423.75
1645	112.50	*1932	119.00	2881	144.38
1649	177.50	*1932/3	149.52	2882	149.63
1651	117.50	*1932/4	280.52	2883	168.75
1653	182.50	*1933	140.52	2884	186.38
1655	320.00	*1933/3	206.00	2885	228.38
1657	495.00	*1933/4	327.52	2886	267.75
*1675	15.25	*1934	198.52	2887	320.25
*1676	14.75	*1934/3	248.00	2888	393.75
*1677	15.13	*1934/4	382.52	*2889	497.00
*1678	15.75	*1935	225.52	3256	100.50
*1679	18.50	*1935/3	304.00	3334	95.00
*1680	22.50	*1935/4	463.00	3337	87.50
1685	11.25	*1936	341.52	3606	48.00
1686	10.88	*1936/3	488.52	3607	62.50
1687	11.50	*1936/4	701.52	4256	152.00
1688	12.00	*1937	488.00	4334	116.25
1689	13.50	*1937/3	608.00	4337	106.25
1690	17.38	*1937/4	888.52	4606	67.50
*1702	45.00	*1938	654.52	4607	78.75
1703	49.38	*1938/3	911.52	*9169	25.50
1704	70.75	*1938/4	1098.52	*9170	38.25
1706	85.63	1951	77.72	*9171	34.00
1710	98.25	1952	93.20	*9172	51.00
1713	138.75	1952/3	136.00	*9173	46.75
1715	166.50	*1952/4	255.00	*9174	72.50
*1716	205.00	1953	119.32	*9175	70.13
*1717	300.00	*1953/3	183.00	*9176	105.25
1736	65.88	*1953/4	297.52	*9177	104.13
1741	87.13	1954	178.52	*9178	156.25
1746	97.50	*1954/3	251.00	*9179	148.75
1747	69.13	*1954/4	355.00	*9180	223.13
1775	59.88	1955	200.00	9269	20.00
1783	85.00	*1955/3	314.52	9270	30.00
1793	30.13	*1955/4	442.00	9271	31.50
1794	46.13	1956	319.00	9272	46.75
1795	40.50	*1956/3	480.52	9273	41.00
1796	61.50	*1956/4	688.52	9274	60.75
1797	50.75	1957	459.00	*9275	65.00
1798	70.50	*1957/3	646.00	*9276	87.50
*1810	14.50	*1957/4	807.52	9635	Superseded by 1634
*1811	13.25	1958	637.52	9775	Superseded by 1775
*1812	12.00	*1958/3	850.00		
*1813	12.50	*1958/4	999.00		
*1814	14.00	2078	72.00		
*1815	17.25	2080	50.00		
*1816	24.25	2082	36.25		
*1830	12.88	*2156	46.75		
*1831	15.25	2229	52.50		
*1832	19.63	2234	462.50		
*1833	26.00	2254	60.00		
*1834	33.25	2255	53.25		
*1835	52.50	2256	69.25		
*1840	18.38	2258	85.00		
*1841	20.88	*2260	138.50		
*1842	25.88	2334	75.00		
*1843	32.75	2337	70.00		
*1844	41.75	2606	25.50		
*1845	63.00	2607	40.00		
*1850	14.13	*2809	275.00		
1851	11.50	*2809/2	577.50		
1852	11.25	*2809/3	825.00		
1853	11.88	*2809/4	1072.50		
1854	12.50	*2810	330.00		
1855	14.13	*2810/2	605.00		
1856	18.25	*2810/3	907.50		
1857	22.50	*2810/4	1182.50		
1858	28.63	*2811	440.00		
*1860	17.50	*2811/2	715.00		
*1861	15.50	*2811/3	1100.00		
*1862	15.00	*2811/4	1265.00		
*1863	15.63	*2812	302.50		
*1864	16.25	*2812/2	632.50		
*1865	18.75	*2812/3	880.00		
*1866	22.75	*2812/4	1210.00		
*1867	28.38	*2813	357.50		
*1868	35.25	*2813/2	660.00		

"ALMAG" Magnet Wire No.

	List Price Per Lb.
PE-44	21.50
PE-42	15.03
PE-40	6.75
PE-38	4.93
PE-36	4.05
PE-34	3.60
PE-32	3.30
PE-30	3.08
PE-28	3.00
PE-26	2.85
PE-24	2.68
PE-22	2.63
PE-20	2.53
PE-18	2.38
PE-16	2.38
PE-14	2.38
PE-12	2.38
PE-10	2.38
HF-44	25.45
HF-42	14.65
HF-40	11.35
HF-38	8.50
HF-36	7.43

Alphex Plastic Tubing No.	List Price Per 1000 Ft.
PVC-105-24	24.00
PVC-105-22	24.00
PVC-105-20	24.50
PVC-105-19	25.00
PVC-105-18	25.25
PVC-105-17	25.50
PVC-105-16	26.75
PVC-105-15	27.76
PVC-105-14	28.76
PVC-105-13	29.50
PVC-105-12	31.50
PVC-105-11	32.50
PVC-105-10	34.50
PVC-105-9	42.76
PVC-105-8	44.26
PVC-105-7	46.76
PVC-105-6	52.26
PVC-105-5	57.00
PVC-105-4	62.52
PVC-105-3	68.00
PVC-105-2	74.00
PVC-105-1	80.52
PVC-105-3/8"	104.52
PVC-105-1/2"	87.52
PVC-105-5/8"	123.00
PVC-105-3/4"	139.00
PVC-105-1/2"	158.80
PVC-105-5/8"	207.00
PVC-105-3/4"	222.60
PVC-105-7/8"	302.60
PVC-105-1"	342.60
PVC-105-1 1/8"	390.00
PVC-105-1 1/4"	462.60
PVC-105-1 1/2"	542.60
PVC-105-1 3/8"	575

Birnbach

INSULATING TUBING & SLEEVING

BIRACO, BIRFLEX, VINYL COATED FIBERGLASS



BIRACO PLASTIC TUBING

UL APPROVED FOR 105° C. OPERATION — MEETS MIL-I-631C SPECS.



A quality plastic vinyl tubing designed for electronic and electrical insulation work. Has high dielectric strength, extreme flexibility, non-flammability, abrasion resistance, impervious to oil, water, alkalis, alcohol, solvents, etc., high heat stability and resistance to aging. Meets all A.S.T.M. specifications, Mil. Spec. (Type F, Form U, Grades A and C, Class 2, Category 1).

BIRACO TUBING

Put up on convenient 100' Spools or Coils.

LONGER LENGTHS AVAILABLE

Cat. No.	B & S		Lgth. Spool
	Gauge	Approx. I.D.	
308BC	21	.022	100'
311BC	22	.027	100'
313BC	20	.034	100'
314BC	18	.042	100'
315BC	16	.053	100'
316BC	14	.066	100'
317BC	12	.085	100'
325BC	10	.106	100'
328BC	8	.135	100'
326BC	6	.166	100'
319BC	4	.208	100'
320BC	2	.263	100'
321BC	5/16"	.3125	100'
322BC	3/8"	.375	100'
323BC	1/2"	.500	100'
324BC	5/8"	.625	100'
*327BC	3/4"	.750	100'
*360BC	7/8"	.875	100'
*361BC	1"	1.000	100'
*362BC	1 1/8"	1.250	50'
*363BC	1 1/4"	1.500	50'
*328BC	1 3/8"	1.750	100'
*329BC	2"	2.000	50'
*364BC	2 1/4"	2.500	100'
*365BC	2 1/2"	2.500	100'

SPECIAL SPOOLS BIRACO TUBING

36" Lgths.	B & S		Approx. I.D.	Lgth. Spool
	Spec. Spools	Gauge No.		
308B	21	.022	.25	25'
311B	22	.027	.25	25'
313B	20	.034	.25	25'
314B	18	.042	.25	25'
315B	16	.053	.25	25'
316B	14	.066	.25	25'
317B	12	.085	.25	25'
325B	10	.106	.25	15'
318B	8	.135	.25	15'
326B	6	.166	.25	15'
319B	4	.208	.25	10'
320B	2	.263	.25	10'
321B	5/16"	.3125	.25	10'
322B	3/8"	.375	.25	10'
323B	1/2"	.500	.25	10'
324B	5/8"	.625	.25	10'

Standard package 36" lengths 25 each color.

COLORS AVAILABLE FROM STOCK:
Black, Red, Green, White, Yellow, Blue, Brown, Orange, Clear.

*Cat. Nos. 360BC, 361BC, 362BC, 363BC, 364BC, 328BC, 329BC, 365BC available in Black, White and Clear from stock.

DIMENSIONAL TOLERANCES OF BIRACO

Size	Approx. I.D.		Wall Thickness, Inches
	Inches	ASTM Tolerances, Ins.	
21	.022	.020 — .027	.012 ± .002
22	.027	.025 — .032	.012 ± .002
20	.034	.032 — .039	.016 ± .004
18	.042	.040 — .049	.016 ± .003
16	.053	.051 — .061	.016 ± .003
14	.066	.064 — .072	.016 ± .003
12	.085	.081 — .089	.016 ± .003
10	.106	.102 — .112	.016 ± .003
8	.133	.129 — .141	.020 ± .003
6	.166	.162 — .178	.020 ± .003
4	.208	.204 — .224	.020 ± .003
2	.263	.258 — .278	.020 ± .003
5/16"	.315	.3125 — .341	.025 ± .003
3/8"	.375	.375 — .399	.025 ± .004
1/2"	.500	.500 — .524	.025 ± .003
5/8"	.625	.625 — .655	.030 ± .005
3/4"	.750	.750 — .786	.035 ± .005
7/8"	.875	.875 — .914	.045 ± .005
1"	1.000	1.000 — 1.051	.055 ± .005
1 1/8"	1.250	1.250 — 1.286	.060 ± .005
1 1/4"	1.500	1.500 — 1.556	.075 ± .005
1 3/8"	1.750	1.812 — 1.750	.075 ± .008
2"	2.000	2.000 — 2.070	.060 ± .010
2 1/4"	2.250	2.250 — 2.340	.065 ± .010
2 1/2"	2.500	2.500 — 2.590	.070 ± .010

TABLE OF PHYSICAL & ELECTRICAL PROPERTIES



BIRACO TUBING

Tensile Strength—2500 Psi (Minimum Average)

Flammability—Non Flammable

Ultimate Elongation—340%

Recommended for Temperatures to—105° C.

Cold Bend— -10° C.

Dielectric Strength .020" Wall—800 V/Mil

Varnish Baking—Good

Water Absorption

Weight Increase (1 Week)—0.1%

Oil Resistance—Indefinitely flexible when immersed in oil

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

YOUR PRIME SOURCE IN VINYL SLEEVING & TUBING FOR THE AIRCRAFT, ELECTRICAL AND ELECTRONIC FIELD

BIRFLEX VINYL COATED FIBERGLASS TUBING

(ASTM, NEMA Grade B-B-1) MEETS MIL-I-3190 SPECS.

Quality Electronic and Electrical Tubing. It is Class B Insulation that combines the best features of the inorganic fiberglass base sleeving with heat resistant, flexible plastic insulation. The plastic compound provides the highest electrical properties, heat stability (130° C.), flexibility and toughness. Meets performance requirements of specs. MIL-I-3190 A, NEMA VSI, ASTM D 372.



*VINYL COATED FIBERGLASS

30" Lengths

Cat. No.	B & S Gauge	Approx. I.D.
291V	20	.031
293	18	.042
294	16	.053
295	14	.066
300	12	.085
307	10	.106
301	8	.135
302	6	.166
297	3/16"	.208
298	1/4"	.263

36" Lengths

*303	5/16"	.3125
*304	3/8"	.375
*299	1/2"	.500
*296	5/8"	.625



*VINYL COATED FIBERGLASS

Put up on convenient 100' Spools or Coils.

Cat. No.	B & S Gauge	Approx. I.D.	Lgth. Spool
289VC	21	.022	100'
290VC	22	.027	100'
291VC	20	.034	100'
293VC	18	.042	100'
294VC	16	.053	100'
295VC	14	.066	100'
300VC	12	.085	100'
307VC	10	.106	100'
301VC	8	.135	100'
302VC	6	.166	100'
305VC	4	.208	100'
306VC	2	.263	100'
*303VC	5/16"	.3125	100'
*304VC	3/8"	.375	100'
*299VC	1/2"	.500	100'
*296VC	5/8"	.625	100'

DIMENSIONAL TOLERANCES OF VINYL COATED FIBERGLASS

Size	N.E.M.A. Tolerances	
	Approx. I.D.	Inches
21	.022	.020-.027
22	.027	.025-.032
20	.034	.032-.039
18	.042	.040-.049
16	.053	.051-.061
14	.066	.064-.072
12	.085	.081-.089
10	.106	.102-.112
8	.133	.129-.141
6	.166	.162-.178
5/8	.208	.204-.224
1/2	.263	.258-.278
5/16	.3125	.3125-.328
3/8	.375	.375-.399
1/4	.500	.500-.524
3/8	.625	.625-.655

PHYSICAL & ELECTRICAL PROPERTIES BIRFLEX VINYL COATED FIBERGLASS

Class B

Grade B 1

Dielectric Strength.....4000 V.

Temperature Rating.....130° C.

Low Temp. Flexibility.....-30° C.

Non Flammable

Ins. Resistance.....Over 1,000,000 MEGS.

Corrosion Resistance.....Excellent

Oil Resistance.....Good

COLORS:

Black, Red, White, Yellow, Brown, Orange, Green, Blue, Gray, Purple

Additional Sizes Available

Other types of Biraco, Birflex, Birflex Tubing and sleeving available. Write for new Comprehensive Catalog on Tubing and Sleeving.

ALL THE ABOVE TUBING CAN BE ORDERED CUT AND MARKED TO YOUR SPECIFICATIONS

Birnbach

NEW THIN WALL BIRFLON T-500 TEFLON* SPAGHETTI TUBING



Birflon T-500 Tubing is extruded from DuPont Tetrafluoroethylene Resin. Used in electronic and electrical equipment for connection of components. Its flexibility, ease of handling has established it as the best and most popular insulation sheathing. This high temperature Class C insulation does not melt and flow as the conventional thermoplastic materials. Birflon T-500 Teflon has unique electrical, chemical and mechanical properties unmatched by any other type tubing for use in applications requiring high frequencies and high temperatures. Because of Teflon's continuous service temperature of 250° C., which is more than 100° C. above other materials, the soldering technique is simplified since "Teflon" is not harmed by the hot barrel of the soldering iron - therefore, the assembly of aircraft, missile and electronic communication equipment is greatly speeded up. Thin Wall flexible Teflon Tubing can be processed easily into flexible and rigid printed circuits. As a thin, flexible insulation, it permits miniaturization and compactness of design never before possible.

TABLE OF PROPERTIES

Test	ASTM Method	Result
Tensile Strength, 73° F.	D638-52T	1500-3000 Lb./Sq. In.
Elongation, 73° F.	D638-52T	100-200%
Deformation Under Load—122° F.		
1200 Lb./Sq. In., 24 Hrs.	D621-51	4-8%
2000 Lb./Sq. In., 24 Hrs.	D621-51	25%
Hardness Durometer	D676-49T	D50-D65
Heat Distortion Temp., 66 Lb./Sq. In.	D648B-45T	250° F.
Dielectric Strength, .080"	D149-44	400-500 V/MIL
Surface Arc-Resistance	D495-48T	Sec.
Volume Resistivity	D257-52T	10 ¹⁰ Ohm-CM
Surface Resistivity, 100% R.H.	D257-52T	3.6x10 ¹⁰ Megohms
Dielectric Constant, 60 to 10 ⁶ Cycles	D150-54T	2.00
Power Factor, 60 to 10 ⁶ Cycles	D150-54T	0.0003
Specific Gravity	D792-50	2.1-2.2

ADDITIONAL ADVANTAGES OF BIRFLON T-500 TEFLON*

- **ELECTRICAL:** Low power factor, low dielectric constant, high volume and surface resistivity, good dielectric strength (500 to 1000 volts/MIL) constant over wide ranges of temperatures and frequencies. Dielectric constant of 2.0 and dissipation factor of 0.0002 are lowest of any solid dielectric.
- **THERMAL:** No change of electrical properties with temperature (25° C. to 250° C.) or frequency (60 CPS to 100 MC). Class C insulation - capable of continuous service at temperatures to 250° C. Has color stability.
- **TOUGHNESS AND FLEXIBILITY:** Has high impact strength. Is tough and flexible over the broad temperature range of -90° C. to 250° C. Service range -320° F. to 500° F.
- **CHEMICAL INERTNESS:** Completely inert to all chemicals and solvents except molten alkali metals and fluorine at elevated temperatures and pressures. Non-corrosive to all metals.
- **MOISTURE ABSORPTION:** Zero moisture absorption. Completely sun and weather resistant.
- **NON-FLAMMABLE**
- **FUNGI RESISTANCE:** Inert to all fungi growths.
- **SIZES:** Birflon T-500 Teflon Tubing available in sizes to fit B & S gauge wires. Thin wall available from stock, in sizes No. 32 thru 1/4" I.D. Additional sizes and wall thicknesses made to order.

Birflon T-500 is made from high molecular weight virgin "Teflon" and meets AMS 3651B, 3653 and MIL-C-17B specifications.

NOTE: When cutting Teflon Tubing, use single edge razor blade for clean unpinched cut.
*Teflon™ DuPont Trade Name for Tetrafluoroethylene Resin

Thin Wall Birflon T-500 Teflon* Tubing Dimensional Specifications

AWG Size	Nom. O.D.	Nom. I.D.	Nom. Wall Thickness	AWG Size	Nom. O.D.	Nom. I.D.	Nom. Wall Thickness
32	.028"	.011"	.0085"	6	.196"	.166"	.015"
30	.030"	.012"	.009"	4	.238"	.208"	.015"
28	.033"	.015"	.009"	2	.293"	.263"	.015"
26	.038"	.018"	.010"	0	.360"	.330"	.015"
24	.042"	.022"	.010"	3/8"	.430"	.390"	.020"
22	.047"	.027"	.012"	7/16"	.493"	.453"	.020"
20	.058"	.034"	.012"	1/2"	.565"	.515"	.025"
18	.066"	.042"	.012"	9/16"	.633"	.583"	.025"
16	.077"	.053"	.012"	5/8"	.700"	.640"	.030"
14	.090"	.066"	.012"	3/4"	.825"	.765"	.030"
12	.109"	.085"	.012"	7/8"	.950"	.895"	.030"
10	.130"	.106"	.012"	1"	1.085"	1.025"	.030"
8	.163"	.133"	.015"	1 1/8"	1.210"	1.150"	.030"
				1 1/4"	1.335"	1.275"	.030"

Tolerance - Nos. 32 thru 0 - ± .003" on Wall
Tolerance - Nos. 3/8" thru 1 1/4" - .020" on I.D., .006" on Wall

NO EXTRA CHARGE FOR SOLID COLORS
SMALL PIECE CUTTING AVAILABLE TO ORDER

STOCK COLORS: Natural, Red, Black, Blue, Brown, Green, Orange, Yellow, Gray, Violet, White.

Nos. 8020 thru 8029 available in Natural. Additional Colors, Sizes Made To Order

Tracer Colors Available
We Invite Your Inquiries For Your Special Requirements

WIRE - CABLE - TUBING DIVISION

NEW THIN WALL BIRFLON T-500 TEFLON* SPAGHETTI TUBING

Cat. No.	Spool B & S or Coil Size Put-Up No.	Cat. No.	Spool B & S or Coil Size Put-Up No.	Cat. No.	Spool B & S or Coil Size Put-Up No.	Cat. No.	Spool B & S or Coil Size Put-Up No.	Nom. I.D.
8013	*1000' 32	8003	*1000' 18	8009	1000' 6	8023	1000' 9/16"	
8013	500' 32	8003	500' 18	8009	* 500' 6	8023	500' 9/16"	
8013	100' 32	8003	100' 18	8009	100' 6	8023	* 100' 9/16"	
8014	*1000' 30	8003	50' 18	8009	50' 6	8023	50' 9/16"	
8014	500' 30	8003	25' 18	8009	25' 6	8023	25' 9/16"	
8014	100' 30	8004	*1000' 16	8010	1000' 4	8024	1000' 5/8"	
8015	*1000' 28	8004	500' 16	8010	500' 4	8024	500' 5/8"	
8015	500' 28	8004	100' 16	8010	* 100' 4	8024	* 100' 5/8"	
8015	100' 28	8004	50' 16	8010	50' 4	8024	50' 5/8"	
8016	*1000' 26	8004	25' 16	8010	25' 4	8024	25' 5/8"	
8016	500' 26	8005	1000' 14	8011	1000' 2	8025	1000' 3/4"	
8016	100' 26	8005	* 500' 14	8011	500' 2	8025	500' 3/4"	
8000	*1000' 24	8005	100' 14	8011	* 100' 2	8025	* 100' 3/4"	
8000	500' 24	8005	50' 14	8011	50' 2	8025	50' 3/4"	
8000	100' 24	8005	25' 14	8011	25' 2	8025	25' 3/4"	
8000	50' 24	8006	1000' 12	8012	1000' 0	8026	* 1000' 7/8"	
8000	25' 24	8006	* 500' 12	8012	500' 0	8026	500' 7/8"	
8001	*1000' 22	8006	100' 12	8012	* 100' 0	8026	* 100' 7/8"	
8001	500' 22	8006	50' 12	8012	50' 0	8026	50' 7/8"	
8001	100' 22	8006	25' 12	8012	* 100' 0	8026	25' 7/8"	
8001	50' 22	8007	1000' 10	8020	1000' 3/8"	8027	1000' 1"	
8001	25' 22	8007	* 500' 10	8020	500' 3/8"	8027	500' 1"	
8002	*1000' 20	8007	100' 10	8020	* 100' 3/8"	8027	* 100' 1"	
8002	500' 20	8007	50' 10	8020	50' 3/8"	8027	50' 1"	
8002	100' 20	8007	25' 10	8020	* 100' 3/8"	8027	25' 1"	
8002	50' 20	8008	1000' 8	8021	1000' 7/16"	8028	1000' 1 1/8"	
8002	25' 20	8008	* 500' 8	8021	500' 7/16"	8028	500' 1 1/8"	
		8008	100' 8	8021	* 100' 7/16"	8028	* 100' 1 1/8"	
		8008	50' 8	8021	50' 7/16"	8028	50' 1 1/8"	
		8008	25' 8	8021	* 100' 7/16"	8028	25' 1 1/8"	
				8022	1000' 1/2"	8029	1000' 1 1/4"	
				8022	500' 1/2"	8029	500' 1 1/4"	
				8022	* 100' 1/2"	8029	* 100' 1 1/4"	
				8022	50' 1/2"	8029	50' 1 1/4"	
				8022	* 100' 1/2"	8029	25' 1 1/4"	
				8022	25' 1/2"	8029	25' 1 1/4"	

*PREFERRED PUT-UP

Extruded virgin Teflon rod sizes 1/8" thru 3/8" diam. available. Also "0" rings, washers, balls, etc.

Birnbach

GOV'T SPEC. HOOK-UP WIRE

MIL-W-16878 B MIL-W-5086A, MIL-C-7078A



BIRFLON EXTRUDED & SPIRAL WRAPPED TEFLON* HOOK-UP WIRE

SPECIFICATION MIL-W-16878C

TYPE E—600 VOLT

HIGH TEMPERATURE RATING—90° TO +250°C (TYPE EE-1000V AVAILABLE)

Chemically inert, non-flammable, excellent flexibility, easy stripping, high dielectric strength, unaffected by fungus. Exceeds Class H insulation requirements. Unaffected by high or low temperature. Outstanding for its dependability and long life under all operating conditions indoors or outdoors. Teflon permits miniaturization and compactness in electronic designs of sub-miniature components, computers, UHF equip., slip ring assemblies, leads to hermetically sealed and potted components, telemetering equip. and guided missiles.

Description: single conductor silver plated copper wire concentrically stranded and insulated with extruded or spiral wrapped Teflon insulation.

Cat. Nos.		Spool	Size AWG	Mil Type Designation	Strand	Nom. Insul.	Volt Rating	Diameter Over Insulation Max.
Extruded	Wrapped							
8532	8552	1000'	.32	E-32	7/40	.010"	600	.033"
8532-1	8552-1	100'	.32	E-32	7/40	.010"	600	.033"
8530	8550	1000'	.30	E-30	7/38	.010"	600	.036"
8530-1	8550-1	100'	.30	E-30	7/38	.010"	600	.036"
8528	8548	1000'	.28	E-28	7/36	.010"	600	.039"
8528-1	8548-1	100'	.28	E-28	7/36	.010"	600	.039"
8526	8546	1000'	.26	E-26	7/34	.010"	600	.043"
8526-1	8546-1	100'	.26	E-26	7/34	.010"	600	.043"
8524	8544	1000'	.24	E-24	19/36	.010"	600	.048"
8524-1	8544-1	100'	.24	E-24	19/36	.010"	600	.048"
8522	8542	1000'	.22	E-22	19/34	.010"	600	.054"
8522-1	8542-1	100'	.22	E-22	19/34	.010"	600	.054"
8520	8540	1000'	.20	E-20	19/32	.010"	600	.062"
8520-1	8540-1	100'	.20	E-20	19/32	.010"	600	.062"
8518	8538	1000'	.18	E-18	19/30	.010"	600	.074"
8518-1	8538-1	100'	.18	E-18	19/30	.010"	600	.074"
8516	8536	1000'	.16	E-16	19/29	.010"	600	.087"
8516-1	8536-1	100'	.16	E-16	19/29	.010"	600	.087"
8514	8534	1000'	.14	E-14	19/27	.010"	600	.097"
8514-1	8534-1	100'	.14	E-14	19/27	.010"	600	.097"

*Duponts Tetrafluoroethylene Resin. Cat. No's 8534 thru 8552 available Per MIL-W-7139A TEFLON AIRCRAFT SPEC.

Colors: Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray, White. Additional special custom constructions available to order. Wrapped extruded with or without shielding, glass braid, nylon braid, silicone and in miniature multi-conductors. Price and delivery on request.

TEFLON* CABLES—Shielded and Unshielded

DESCRIPTION: One or more conductors, each conductor stranded silver plated concentrically stranded copper, type E extruded or spiral wrapped insulation. When shielded, a closely woven silver plated copper shield is braided over conductor(s). When braided, a Teflon* impregnated fiberglass or nylon yarn is woven over the conductor(s) or shield.



1 Cond.	Size and Stranding	Outer Covering	BIRNBACH CAT NUMBERS				
			2 Cond.	3 Cond.	4 Cond.	5 Cond.	
8704	#24	19/36 Shield	8704/2	8704/3	8704/4	8704/5	
8705	#24	19/36 Braid	8705/2	8705/3	8705/4	8705/5	
8706	#24	19/36 Shield & Braid	8706/2	8706/3	8706/4	8706/5	
8707	#24	19/34 Shield	8707/2	8707/3	8707/4	8707/5	
8708	#22	19/34 Braid	8708/2	8708/3	8708/4	8708/5	
8709	#22	19/34 Shield & Braid	8709/2	8709/3	8709/4	8709/5	
8710	#20	19/32 Shield	8710/2	8710/3	8710/4	8710/5	
8711	#20	19/32 Braid	8711/2	8711/3	8711/4	8711/5	
8712	#20	19/32 Shield & Braid	8712/2	8712/3	8712/4	8712/5	

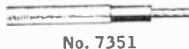
ADDITIONAL VARIATIONS AND GAUGES OF THE ABOVE ARE AVAILABLE TO ORDER. MULTI-CONDUCTOR COLOR CODE: 1-WHITE, 2-BLACK, 3-RED, 4-GREEN, 5-YELLOW.

AIRCRAFT PLASTIC HOOK-UP WIRE

SPECIFICATIONS MIL-W-5086A and MIL-C-7078A (105°C Rating)

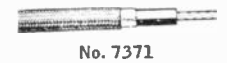
NYLON JACKET

Used where a single conductor, 600 volt insulated wire, is required. This aircraft electrical wire is resistant to effects of salt water, oils, aircraft engine fuels, alcohol, fungus, heat, cold, salt water, abrasion, meets -65°F temperature test.



No. 7351

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket overall. Color: White.



No. 7371

MIL-W-5086A UNSHIELDED (Supersedes AN-J-C-48A)

Cat. No.	Spool	Size AWG	Mil Type Designation	Specif. Type	Conductor Stranded	Volt Rating	Nom. O. D.
7351	1000'	.22	AN-22	No. 1	19/34	600	.070"
7353	1000'	.20	AN-20	No. 1	19/32	600	.080"
7355	1000'	.18	AN-18	No. 1	19/30	600	.090"
7357	1000'	.16	AN-16	No. 1	19/29	600	.100"
7359	1000'	.14	AN-14	No. 1	19/27	600	.125"
7361	1000'	.12	AN-12	No. 1	19/25	600	.140"
7362	1000'	.10	AN-10	No. 1	49/27	600	.180"
7363	1000'	.8	AN-8	No. 2	133/29	600	.240"
7364	1000'	.6	AN-6	No. 2	133/27	600	.297"
7365	1000'	.4	AN-4	No. 2	133/25	600	.353"
7365/2	1000'	.2	AN-2	No. 2	665/30	600	.412"
7365/0	1000'	.0	AN-0	No. 2	1045/30	600	.518"
7365/00	1000'	.00	AN-00	No. 2	1320/30	600	.588"

†Nylon lacquered glass braid over plastic insulation.

MIL-C-7078A SHIELDED (Supersedes An-C-168)

7371	1000'	.22	AN-22	No. 1	19/34	600	.100"
7372	1000'	.20	AN-20	No. 1	19/32	600	.110"
7373	1000'	.18	AN-18	No. 1	19/30	600	.124"
7374	1000'	.16	AN-16	No. 1	19/29	600	.139"
7375	1000'	.14	AN-14	No. 1	19/27	600	.158"
7376	1000'	.12	AN-12	No. 1	19/25	600	.177"

DESCRIPTION: One conductor stranded tinned copper with plastic insulation, nylon jacket with tinned copper shielded braid overall. Color: White under shield.

ALL WIRE ON THIS PAGE CAN BE CUT AND STRIPPED TO YOUR SPECIFICATION



GOV'T SPEC. HOOK-UP WIRE
 SPECIFICATION MIL-W-16878 B
 TYPES GLASS BRAID
 NYLON JACKET SHIELDED



PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-16878C TYPE B — HIGH TEMPERATURE

Suitable for general purpose wiring for miniature high temperature hook-ups in aircraft, electronic instruments, devices, etc., where excellent resistance to moisture and solvents may be required.

DESCRIPTION: One conductor stranded tinned copper with rated -55°C to +105°C high temperature thermoplastic light wall insulation.

Cat. No.	Spool	Size AWG	Mil-W-16878B Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7190	1000'	32	B-32	7/40	.010"	600	.028"
7191	1000'	30	B-30	7/38	.010"	600	.030"
7192	1000'	28	B-28	7/36	.010"	600	.033"
7193	1000'	26	B-26	7/34	.010"	600	.037"
7194	1000'	24	B-24	7/32	.010"	600	.043"
7195	1000'	22	B-22	7/30	.010"	600	.048"
7196	1000'	20	B-20	7/28	.010"	600	.057"
7197	1000'	18	B-18	7/26	.010"	600	.067"
7198	1000'	16	B-16	19/29	.010"	600	.077"

STOCK COLORS:		Black	Red	Brown	Blue	Orange
White	Black	White	Yellow	Green	Gray	Purple
White	Red	White	Blue	White	White	White
		White	Brown	Gray	Orange	Violet
		White	Yellow	White	Gray	

Mil-W-16878B Type B also available with nylon jacket.

SPECIFICATION MIL-W-16878C TYPE C — HIGH TEMPERATURE

DESCRIPTION: One Conductor Similar To Type B—Heavier Wall Hi-Temp Thermoplastic Insulation

Cat. No.	Spool	Size AWG	Mil-W-16878B Type Designation	Minimum Strand	Nom. Wall	Volt Rating	Nom. O.D.
7170	1000'	24	C-24	7/32	.016"	1000	.058"
7171	1000'	22	C-22	7/30	.016"	1000	.064"
7172	1000'	20	C-20	7/28	.016"	1000	.085"
7173	1000'	18	C-18	7/26	.016"	1000	.095"
7174	1000'	16	C-16	19/29	.016"	1000	.109"
7175	1000'	14	C-14	19/27	.016"	1000	.073"

STOCK COLORS: BLACK, RED, BROWN, BLUE, ORANGE, WHITE, YELLOW, GREEN, GRAY, PURPLE.
 ALSO AVAILABLE IN TRACER COLORS, NYLON JACKET. ADDITIONAL TYPES AVAILABLE TO ORDER.

SPECIFICATION MIL-W-16878C TYPE D — HIGH TEMPERATURE

DESCRIPTION: One Conductor Stranded Similar To Type C—Heavier Wall Hi-Temp Thermoplastic Insulation.

Cat. No.	Spool	Size AWG	Mil-W-16878B Type Designation	Cond. Strand	Nom. Wall	Volt Rating	Nom. O.D.
7180	1000'	24	D-24	7/32	.032"	3000	.084"
7181	1000'	22	D-22	7/30	.032"	3000	.089"
7182	1000'	20	D-20	10/30	.032"	3000	.097"
7183	1000'	18	D-18	16/30	.032"	3000	.107"
7184	1000'	16	D-16	26/30	.032"	3000	.116"
7185	1000'	14	D-14	41/30	.032"	3000	.130"
7186	1000'	12	D-12	65/30	.040"	3000	.163"
7187	1000'	10	D-10	105/30	.040"	3000	.182"
7188	1000'	8	D-8	133/29	.040"	3000	.247"
7189	1000'	6	D-6	133/27	.040"	3000	.291"

MIL-W-16878B Type D Available with Nylon Jacket.

SHIELDED PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-76A TYPE MW (Medium Wall) — SHIELDED

(Supersedes Jan-C-76 Type SRIR Shielded)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and tinned copper shielded braid overall.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Minimum Strand	Nom. Wall	Volt Rating	Nom. O.D.
7074	1000'	24	MW-C 24 (16)S	16/36	.015"	1000	.074"
7074-1	100'	24	MW-C 24 (16)S	16/36	.015"	1000	.074"
7072	1000'	22	MW-C 22 (7)S	7/30	.017"	1000	.084"
7072-1	100'	22	MW-C 22 (7)S	7/30	.017"	1000	.084"
7070	1000'	20	MW-C 20 (10)S	10/30	.017"	1000	.094"
7070-1	100'	20	MW-C 20 (10)S	10/30	.017"	1000	.094"
7068	1000'	18	MW-C 18 (16)S	16/30	.017"	1000	.106"
7068-1	100'	18	MW-C 18 (16)S	16/30	.017"	1000	.106"
7067	1000'	16	MW-C 16 (26)S	26/30	.017"	1000	.121"
7067-1	100'	16	MW-C 16 (26)S	26/30	.017"	1000	.121"
*7066	1000'	14	MW-C 14 (41)S	41/30	.017"	1000	.137"
*7065	1000'	12	MW-C 12 (65)S	65/30	.017"	1000	.155"

STOCK COLORS: (Underneath Shield) Black, White, Red, Yellow, Brown, Green, Blue, Gray
 *Nos. 7066, 7065, available from stock in Black, White or Red.

ALL WIRES ON THIS PAGE CAN BE ORDERED CUT AND STRIPPED TO YOUR SPECIFICATIONS.

Also, multi-conductor can be formed to order twisted, shielded, with or without plastic jacket overall.

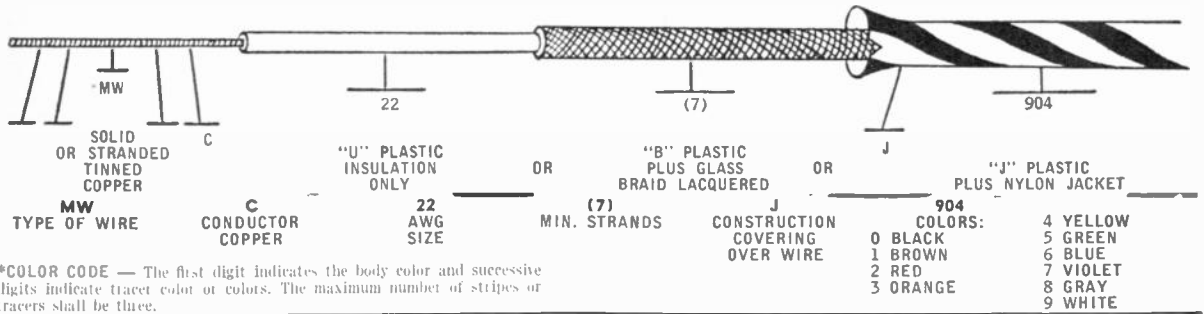
*TEFLON — DuPont Reg. TM for Tetrafluorethylene

Birnbach

GOV'T SPEC. HOOK-UP WIRE
SPECIFICATION MIL-W-76A TYPES MW, LW, HW, GLASS BRAID



EXAMPLE SPEC. MIL-W-76A TYPE CODE DESIGNATION



*COLOR CODE — The first digit indicates the body color and successive digits indicate tracer color or colors. The maximum number of stripes of tracers shall be three.

PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-76A TYPE MW (MEDIUM WALL) PLASTIC HOOK-UP WIRE TYPE MW 1000 VOLTS (FUNGUS PROOF) SUPERSEDES JAN-C-76 TYPE SRIR STRANDED

Cat. No.	Spool	Size AWG	MIL-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7024	1000'	21	MW-C 21(16)U	16/36	.015"	1000	.055"
7024-1	100'	21	MW-C 21(16)U	16/36	.015"	1000	.055"
7024-S	1000'	21	MW-C 21(16)U	16/36	.015"	1000	.055"
7024-IS	100'	21	MW-C 21(16)U	16/36	.015"	1000	.055"
7001	1000'	22	MW-C 22(7)U	7/30	.017"	1000	.066"
7001-1	100'	22	MW-C 22(7)U	7/30	.017"	1000	.066"
*† 7001-S	1000'	22	MW-C 22(7)U	7/30	.017"	1000	.066"
*† 7001-IS	100'	22	MW-C 22(7)U	7/30	.017"	1000	.066"
7003	1000'	20	MW-C 20(10)U	10/30	.017"	1000	.071"
7003-1	100'	20	MW-C 20(10)U	10/30	.017"	1000	.071"
*† 7003-S	1000'	20	MW-C 20(10)U	10/30	.017"	1000	.071"
*† 7003-IS	100'	20	MW-C 20(10)U	10/30	.017"	1000	.071"
7005	1000'	18	MW-C 18(16)U	16/30	.017"	1000	.085"
7005-1	100'	18	MW-C 18(16)U	16/30	.017"	1000	.085"
*7005-S	1000'	18	MW-C 18(16)U	16/30	.017"	1000	.085"
*7005-IS	100'	18	MW-C 18(16)U	16/30	.017"	1000	.085"
7007	1000'	16	MW-C 16(26)U	26/30	.017"	1000	.098"
7007-1	100'	16	MW-C 16(26)U	26/30	.017"	1000	.098"
7009	1000'	14	MW-C 14(41)U	41/30	.017"	1000	.114"
7009-1	100'	14	MW-C 14(41)U	41/30	.017"	1000	.114"
7011	1000'	12	MW-C 12(65)U	65/30	.017"	1000	.132"
7011-1	100'	12	MW-C 12(65)U	65/30	.017"	1000	.132"
SOLID							
7000	1000'	22	MW-C 22(1)U	1	.017"	1000	.061"
7000-1	100'	22	MW-C 22(1)U	1	.017"	1000	.061"
7002	1000'	20	MW-C 20(1)U	1	.017"	1000	.068"
7002-1	100'	20	MW-C 20(1)U	1	.017"	1000	.068"
7004	1000'	18	MW-C 18(1)U	1	.017"	1000	.075"
7004-1	100'	18	MW-C 18(1)U	1	.017"	1000	.075"

STOCK COLORS: White, Yellow, Lt. Blue, Black, Violet (purple), Blue, Brown, Lt. Green, Pink, Red, Green, Tan, Orange, Gray (slate).

*SINGLE SPIRAL TRACER COLORS AVAILABLE:
White/Black White Orange White Blue
White/Brown White Yellow White Purple
White Red White Green White Gray

*DOUBLE SPIRAL TRACER COLORS AVAILABLE:

White Black Red White Black Blue White Black Gray
White Black Green White Black Brown White Black/Purple
White/Black Yellow White Black Orange

Additional spiral tracer combination available, to order, for all numbers.

SPECIFICATION MIL-W-76A TYPE MW (Medium Wall)—NYLON JACKET 1000 VOLT (Fungus Proof) (Supersedes Jan-C-76 Types SRIR and WL Nylon Jacket)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and extruded nylon jacket overall.



Cat. No.	Spool	Size AWG	MIL-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7224	1000'	24	MW-C 24(16)J	16/36	.015"	1000	.068"
7224-1	100'	24	MW-C 24(16)J	16/36	.015"	1000	.068"
*7222	1000'	22	MW-C 22(7)J	7/30	.017"	1000	.075"
*7222-1	100'	22	MW-C 22(7)J	7/30	.017"	1000	.075"
*7220	1000'	20	MW-C 20(10)J	10/30	.017"	1000	.087"
*7220-1	100'	20	MW-C 20(10)J	10/30	.017"	1000	.087"
*7218	1000'	18	MW-C 18(16)J	16/30	.017"	1000	.100"
*7218-1	100'	18	MW-C 18(16)J	16/30	.017"	1000	.100"
7216	1000'	16	MW-C 16(26)J	26/30	.017"	1000	.112"
7216-1	100'	16	MW-C 16(26)J	26/30	.017"	1000	.112"
7214	1000'	14	MW-C 14(41)J	41/30	.017"	1000	.122"
7214-1	100'	14	MW-C 14(41)J	41/30	.017"	1000	.122"
7212	1000'	12	MW-C 12(65)J	65/30	.017"	1000	.140"
7212-1	100'	12	MW-C 12(65)J	65/30	.017"	1000	.140"
7210	1000'	10	HW-C 10(105)J	105/30	.045"	600	.240"
7210-1	100'	10	HW-C 10(105)J	105/30	.045"	600	.240"

STOCK COLORS: White, Orange, Purple, Black, Yellow, Gray, Brown, Green, Red, Blue

White/Black White Red White Yellow White Blue White Gray White Black Yellow White/Black/Green White/Black/Brown
White/Brown White Orange White Green White/Purple White Black/Red White/Black/Blue White/Black/Orange White/Black/Gray

*In addition Nos. 7218, 7220, 7222, available in Red/Black and Black White. Nos. 7212, 7210 available solid colors only.

ALL WIRES ON THIS PAGE CAN BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

Birnbach

GOV'T SPEC. HOOK-UP WIRE
SPECIFICATION MIL-W-76A TYPES MW, LW, HW, GLASS BRAID



PLASTIC HOOK-UP WIRE

SPECIFICATION MIL-W-76A

TYPE LW (Light Wall)

TYPE LW — 300 VOLTS

DESCRIPTION: One conductor stranded tinned copper with light wall of primary thermoplastic insulation.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7330	1000'	30	LW-C 30(7)U	7/28	.010"	300	.033"
7330-1	100'	30	LW-C 30(7)U	7/28	.010"	300	.033"
7328	1000'	28	LW-C 28(7)U	7/36	.010"	300	.035"
7328-1	100'	28	LW-C 28(7)U	7/36	.010"	300	.035"
7326	1000'	26	LW-C 26(10)U	10/36	.010"	300	.040"
7326-1	100'	26	LW-C 26(10)U	10/36	.010"	300	.040"

STOCK COLORS: Black, Brown, Red, White, Green, Orange, Yellow, Gray, Blue, Purple
Additional sizes, colors available to order.

SPECIFICATION MIL-W-76A TYPE HW (Heavy Wall) — 2500 VOLTS (Fungus Proof)
(SUPERSEDES Jan-C-76 Type SRHV)

DESCRIPTION: Similar to type MW. One conductor stranded tinned copper with larger wall of primary thermoplastic insulation to take 2500 V RMS.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7322	1000'	22	HW-C 22(7)U	7/30	.033"	2500	.105"
7322-1	100'	22	HW-C 22(7)U	7/30	.033"	2500	.105"
7320	1000'	20	HW-C 20(10)U	10/30	.033"	2500	.112"
7320-1	100'	20	HW-C 20(10)U	10/30	.033"	2500	.112"
7318	1000'	18	HW-C 18(16)U	16/30	.033"	2500	.122"
7318-1	100'	18	HW-C 18(16)U	16/30	.033"	2500	.122"
7316	1000'	16	HW-C 16(26)U	26/30	.033"	2500	.135"
7316-1	100'	16	HW-C 16(26)U	26/30	.033"	2500	.135"
7314	1000'	14	HW-C 14(41)U	41/30	.045"	600	.175"
7314-1	100'	14	HW-C 14(41)U	41/30	.045"	600	.175"
7312	1000'	12	HW-C 12(65)U	65/30	.045"	600	.195"
7312-1	100'	12	HW-C 12(65)U	65/30	.045"	600	.195"
*7013	1000'	10	HW-C 10(105)U	105/30	.045"	600	.217"
*7013-1	100'	10	HW-C 10(105)U	105/30	.045"	600	.217"
*7015	1000'	8	HW-C 8(133)U	133/29	.045"	600	.268"
*7015-1	100'	8	HW-C 8(133)U	133/29	.045"	600	.268"
*7017	1000'	6	HW-C 6(133)U	133/27	.045"	600	.315"
*7017-1	100'	6	HW-C 6(133)U	133/27	.045"	600	.315"

STOCK COLORS: White, Black, Brown, Red, Orange, Yellow, Green, Blue, Purple, Gray
Additional sizes, colors available to order.

SPECIFICATION MIL-W-76A TYPE MW (Medium Wall) — GLASS BRAID 1000 VOLTS
(Supersedes Jan-C-76 Types SRIR and WL Glass Braid)

DESCRIPTION: One conductor stranded tinned copper with thermoplastic insulation and lacquered glass braid overall.

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7022	1000'	22	MW-C 22(7)B	7/30	.017"	1000	.079"
7022-1	100'	22	MW-C 22(7)B	7/30	.017"	1000	.079"
7020	1000'	20	MW-C 20(10)B	10/30	.017"	1000	.084"
7020-1	100'	20	MW-C 20(10)B	10/30	.017"	1000	.084"
7018	1000'	18	MW-C 18(16)B	16/30	.017"	1000	.100"
7018-1	100'	18	MW-C 18(16)B	16/30	.017"	1000	.100"
7016	1000'	16	MW-C 16(26)B	26/30	.017"	1000	.116"
7016-1	100'	16	MW-C 16(26)B	26/30	.017"	1000	.116"
*7014	1000'	14	MW-C 14(41)B	41/30	.017"	1000	.129"
*7014-1	100'	14	MW-C 14(41)B	41/30	.017"	1000	.129"
*7012	1000'	12	MW-C 12(65)B	65/30	.017"	1000	.149"
*7012-1	100'	12	MW-C 12(65)B	65/30	.017"	1000	.149"

STOCK COLORS:

White	Yellow	White/Brown	White/Red	White/Black/Green
Black	Green	White/Black	White/Gray	White/Black/Orange
Brown	Blue	White/Orange	White/Purple	White/Black/Brown
Red	Purple	White/Yellow	White/Black/Red	White/Black/Gray
Orange	Gray	White/Green	White/Black/Yellow	
		White/Blue	White/Black/Blue	

*Nos. 7014, 7012, available stock in solid colors.

TYPE HW (Heavy Wall) — GLASS BRAID
(Supersedes Jan-C-76 Type SRHV — Glass Braid)

Cat. No.	Spool	Size AWG	Mil-W-76A Type Designation	Conductor Strand	Nom. Wall	Volt Rating	Nom. O.D.
7010	1000'	10	HW-C 10(105)B	105/30	.045"	600	.237"
7010-1	100'	10	HW-C 10(105)B	105/30	.045"	600	.237"
7008	1000'	8	HW-C 8(133)B	133/29	.045"	600	.293"
7008-1	100'	8	HW-C 8(133)B	133/29	.045"	600	.293"
7006	1000'	6	HW-C 6(133)B	133/27	.045"	600	.340"
7006-1	100'	6	HW-C 6(133)B	133/27	.045"	600	.340"

STOCK COLORS: White, Black

ALL WIRES ON THIS PAGE CAN BE ORDERED CUT AND STRIPPED TO YOUR SPECIFICATIONS.

Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.

Birnbach

HIGH VOLTAGE, SILICONE HOOK-UP WIRE

KEL-F HOOK-UP, CATHODE RAY, 105° UL

200° C. BIRSIL SILICONE RUBBER HOOK-UP LEAD WIRE 600 VOLT

This Birsil Silicone Rubber Hook up lead wire withstands extreme temperature range and flexibility from -104° C. to +400° F. with retention of physical properties and is highly resistant to flex cracking at temperature extremes; fungus resistant; corona resistant; engineered for high-heat and hi-frequency applications; low power factor; acid-alkali-oil resistant; low dielectric constant; insulation approaching mica. Approved by U. L. but consumer must apply for Underwriter's Laboratories approval for individual product.

Cat. No.	Spool	Size AWG	Strand	Nom. Ins. Wall	Volt Rating	Breakdown Voltage AC	Nom. O.D.
7622	1000'	22	7/30	.132"	600	11,500	.105"
7622-1	100'	22	7/30	.132"	600	11,500	.105"
7620	1000'	20	10/30	.132"	600	18,000	.121"
7620-1	100'	20	10/30	.132"	600	18,000	.121"
7618	1000'	18	16/30	.132"	600	21,000	.128"
7618-1	100'	18	16/30	.132"	600	21,000	.128"
7616	1000'	16	26/30	.132"	600	20,000	.141"
7616-1	100'	16	26/30	.132"	600	20,000	.141"
7614	1000'	14	41/30	.132"	600	15,500	.165"
7614-1	100'	14	41/30	.132"	600	15,500	.165"
7612	1000'	12	65/30	.132"	600	14,500	.185"
7612-1	100'	12	65/30	.132"	600	14,500	.185"
7610	1000'	10	65/28	.3/61"	600	20,000	.240"
7610-1	100'	10	65/28	.3/61"	600	20,000	.240"

DESCRIPTION:
One conductor, tinned copper strands, silicone rubber insulation, glass braid, lacquered. Color: White.



Additional sizes and colors available to order. Types F and FF per MIL-W-16878C available to order.

BIRFLENE* KEL-F HOOK-UP WIRE

-125° C. to +175° C. MEETS MIL-W-12349-SPEC

PERFORMANCE SPECIFICATIONS:
Continous: -50° to +175° C. **Operating Voltage:** 1000 volts RMS. **Spark Test:** 7500 volts. **Dielectric Strength:** 5000 volts at 60° C. for 1 minute. **Insulation Resistance:** Greater than 5000 Meg Ohms 1000 Ft. at 60° C. **Moisture Absorption:** Nil. **Flammability:** Non-flammable. **Resistance to Chemicals:** All solvents and acids. **Aging:** Outdoor, 1 year; no detectable change.

Cat. No.	Spool	Size AWG	Strand	Nom. Ins. Wall	Nom. O.D.
7130	1000'	30	7/38	.006"	.029"
7130-1	100'	30	7/38	.006"	.029"
7128	1000'	28	7/36	.006"	.032"
7128-1	100'	28	7/36	.006"	.032"
7126	1000'	26	7/34	.008"	.037"
7126-1	100'	26	7/34	.008"	.037"
7124	1000'	24	7/32	.008"	.043"
7124-1	100'	24	7/32	.008"	.043"
7122	1000'	22	7/30	.008"	.050"
7122-1	100'	22	7/30	.008"	.050"
7120	1000'	20	7/28	.010"	.060"
7120-1	100'	20	7/28	.010"	.060"
7118	1000'	18	16/30	.010"	.070"
7118-1	100'	18	16/30	.010"	.070"
7116	1000'	16	19/29	.010"	.079"
7116-1	100'	16	19/29	.010"	.079"



DESCRIPTION:
One conductor silver plated copper stranded, insulation — Monochlorotrifluoroethylene (Birfene Kel-F).

COLORS: White, Red, Green, Gray, Black, Orange, Dk. Blue, Lt. Blue, Brown, Yellow, Purple

Available in Spiral Tracers.
*Made with Kellogg Co. Kel-F or Bakelite Co. Fluorothene.

HI-VOLTAGE and CATHODE RAY CABLE

Used for 10,000, 20,000, 40,000, 60,000 volt applications as for cathode ray tubes in TV receivers, oscilloscopes and other electronic devices. Has dielectric constant of 2.7 and power factor of .002. Shielded Hi-Voltage type used to shield RF radiation in X-Ray, diathermy, medical equipment, and in transmitters.

UNSHIELDED

Cat. No.	Spool	Size AWG	Strand	Nom. Ins. Wall	Suggested Working Voltage	Nom. O.D.
7402	1000'	20	10/30	.047"	10,000	.125"
7402-1	100'	20	10/30	.047"	10,000	.125"
7412	1000'	20	10/30	.068"	20,000	.169"
7412-1	100'	20	10/30	.068"	20,000	.169"
7418	1000'	18	16/30	.047"	10,000	.135"
7418-1	100'	18	16/30	.047"	10,000	.135"
7428	1000'	18	16/30	.069"	20,000	.179"
7428-1	100'	18	16/30	.069"	20,000	.179"
7448	1000'	18	16/30	.095"	40,000	.231"
7448-1	100'	18	16/30	.095"	40,000	.231"
7449	1000'	18	16/30	.123"	60,000	.285"
7449-1	100'	18	16/30	.123"	60,000	.285"



DESCRIPTION:
One conductor stranded copper tinned rulan (flame retarding type) polyethylene insulation. Available in White. Temp. Rating: 105°C

Shielded: Same as above with tinned copper braided shield overall.

Special constructions available to order.

SHIELDED

7458	1000'	18	16/30	.095"	40,000	.256"
7458-1	100'	18	16/30	.095"	40,000	.256"

PLASTIC INSULATED HOOK-UP WIRE

Designed for the chassis, sub-chassis wiring of radio and television receivers and transmitters inside or outside the chassis. UL approved for 105° C. (221° F.) operating temperature.

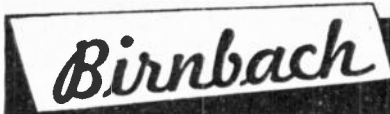
105° C. — 600 VOLT RATING UL APPROVED (CSA 600V-90°C)

Cat. No.	Spool	AWG	Stranding	Nom. Wall	Volt. Breakdown	DC Ins. Res. Megs./Ft.	Max. O.D.
7201	1000'	22	7/30	.032"	18000	5000	.100"
7201-1	100'	22	7/30	.032"	18000	5000	.100"
7203	1000'	20	10/30	.032"	18000	5000	.104"
7203-1	100'	20	10/30	.032"	18000	5000	.104"
7205	1000'	18	16/30	.032"	18000	5000	.112"
7205-1	100'	18	16/30	.032"	18000	5000	.112"
7207	1000'	16	26/30	.032"	18000	5000	.129"
7207-1	100'	16	26/30	.032"	18000	5000	.129"
7202	1000'	22	Solid	.032"	18000	5000	.095"
7202-1	100'	22	Solid	.032"	18000	5000	.095"
7204	1000'	20	Solid	.032"	18000	5000	.102"
7204-1	100'	20	Solid	.032"	18000	5000	.102"



DESCRIPTION:
One Conductor stranded annealed copper tinned, plastic insulation.

COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple
ALL WIRES ON THIS PAGE CAN BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.
 Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.



MINIATURE, SUBMINIATURE, HIGH TEMP.
SHIELDED & MULTICONDUCTOR



MINIATURIZATION HOOK-UP WIRE and CABLE

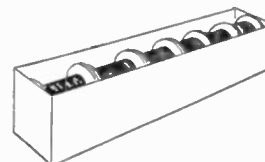
HIGH TEMPERATURE 105°C.

UNSHIELDED — ONE CONDUCTOR

Used in miniaturized equipment Phono-pickup lead computers transistor circuits, electro-medical and electro therapeutic apparatus, instrumentation projects, miniaturization programs, where fine sizes are required with high operating temperature.

For "Lab" requirements Miniaturization Hook-Up Wire and Cable assortments—WRITE for information.

Cat. No.	Spool	No. of Cond.	Size AWG	Conductor Strand	Nom. Wall	Nom. O.D.
7534	1000'	1	34	4/40	.010"	.027"
7534-500	500'	1	34	4/40	.010"	.027"
7532	1000'	1	32	7/40	.010"	.029"
7532-500	500'	1	32	7/40	.010"	.029"
7530	1000'	1	30	7/38	.010"	.030"
7530-500	500'	1	30	7/38	.010"	.030"
7529	1000'	1	29	5/36	.010"	.030"
7529-500	500'	1	29	5/36	.010"	.030"
7528	1000'	1	28	7/36	.010"	.035"
7528-500	500'	1	28	7/36	.010"	.035"
7527	1000'	1	27	7/35	.010"	.037"
7527-500	500'	1	27	7/35	.010"	.037"
7526	1000'	1	26	10/36	.010"	.038"
7526-500	500'	1	26	10/36	.010"	.038"
7524	1000'	1	24	16/36	.015"	.055"
7524-500	500'	1	24	16/36	.015"	.055"



DESCRIPTION:
One conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation overall.

STOCK COLORS: Black, Red, Green, Yellow, Blue, Brown, White, Orange, Gray, Purple

SUB-MINIATURE

MULTI-CONDUCTOR CABLE

(Super Flexible)



DESCRIPTION: Multi-Cond. tinned copper stranded 105° C high temperature P.V.C. thermoplastic insulation. When jacketed clear P.V.C. thermoplastic used over cabled wire.



NO OUTER JACKET

CLEAR VINYL JACKET OVERALL

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall	Nom. O.D.
7652	1000'	2	30	7/38	.010"	.059"
7652	500'	2	30	7/38	.010"	.059"
7653	1000'	3	30	7/38	.010"	.065"
7653	500'	3	30	7/38	.010"	.065"
7654	1000'	4	30	7/38	.010"	.072"
7654	500'	4	30	7/38	.010"	.072"

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall Jacket	Nom. O.D.
7668	1000'	2	28	7/36	.010"	.079"
7668	500'	2	28	7/36	.010"	.079"
7669	1000'	3	28	7/36	.010"	.086"
7669	500'	3	28	7/36	.010"	.086"
7670	1000'	4	28	7/36	.010"	.095"
7670	500'	4	28	7/36	.010"	.095"

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

SUB-MINIATURE

SHIELDED HOOK-UP WIRE

(Super Flexible)

Cat. No.	Spool	No. of Cond.	Size AWG	Conductor Strand	Nom. Wall	Nom. O.D.
7538	1000'	1	30	7/38	.010"	.053"
7538	500'	1	30	7/38	.010"	.053"
7535	1000'	1	28	7/36	.010"	.058"
7535	500'	1	28	7/36	.010"	.058"
7537	1000'	1	26	10/36	.010"	.061"
7537	500'	1	26	10/36	.010"	.061"
7536	1000'	1	24	16/36	.015"	.075"
7536	500'	1	24	16/36	.015"	.075"

STOCK COLOR: White (under shield)



DESCRIPTION:
One or multi-conductor stranded tinned copper with 105°C. high temperature thermoplastic insulation and tinned copper shielded braid overall.

SUB-MINIATURE

MULTI-CONDUCTOR CABLE SHIELDED

(Super Flexible)



DESCRIPTION: Multi-conductor, tinned copper stranded 105° C high temperature P.V.C. thermoplastic insulation, tinned copper shield. When jacketed clear P.V.C. Thermoplastic jacket used over tinned copper shield.



NO OUTER JACKET

CLEAR VINYL JACKET OVERALL

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall	Nom. O.D.
7542	1000'	2	24	16/36	.015"	.114"
7542/3	1000'	3	24	16/36	.015"	.123"
7542/4	1000'	4	24	16/36	.015"	.144"

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

Cat. No.	Spool	No. of Cond.	Size AWG	Cond. Strand	Nom. Wall Jacket	Nom. O.D.
7552	1000'	2	28	7/36	.010"	.137"
7552/3	1000'	3	28	7/36	.010"	.145"
7552/4	1000'	4	28	7/36	.010"	.163"

COLOR CODE CHART: 1 Black, 2 White, 3 Red, 4 Green

ALL WIRES ON THIS PAGE CAN BE ORDERED CUT & STRIPPED TO YOUR SPECIFICATIONS.

Also multi-conductors can be formed to order twisted, shielded with or without plastic jacket overall.



PLASTIC and RUBBER MICROPHONE CABLE
MULTI-CONDUCTOR — ARMORED CABLE



PLASTIC MICROPHONE CABLE

Designed to stand up under physical abuse and is resistant to oil, moisture and aging for long life. These cables have low capacitance, high insulation resistance and low attenuation at audio frequencies. Will not stain or mark.

#1839 is used for high impedance microphone, lapel, contact, crystal, ribbon, velocity and Hi-Fi interconnecting cable.

#1840 is used for high impedance lapel microphones.

#1841 is used for crystal, ribbon and other impedance microphones.

Above recommended for Hi-Fi installations because of low loss and low capacitance.

PLASTIC — ONE-CONDUCTOR MICROPHONE CABLE

DESCRIPTION:

Single Conductor Stranded
 3 strands #33 copper tinned, and 4 strands #33 (steel-tinned 1840 and 1811) cellulose yarn braid. Polyethylene insulation, tinned copper shielded braid, with chrome vinyl plastic jacket overall.



Nos. 1839, 1840, 1841

Cat. No.	Spool	Cond.	Size No. Avg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
1839	500'	1	20	26/34	39MMF	.175"
1840	500'	1	25	7/33*	34MMF	.144"
1841	500'	1	25	7/33*	25MMF	.200"

*3X33 Copper, 4X33 Steel (All tinned)

SPIRAL SHIELDED MICROPHONE CABLE

Constructed with tinned copper spiral wrapped concentric shield. Extremely flexible, smaller size.

Cat. No.	Spool	Cond.	Size No. Avg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
1835	500'	1	25	7/33	25MMF	.159"
1836	500'	1	25	7/33	33MMF	.125"

PLASTIC — MULTI-CONDUCTOR MICROPHONE CABLE

Used with carbon and all low impedance microphones.

DESCRIPTION:

Each conductor tinned copper. Polyethylene insulation—color coded. Multi conductors are cushioned with jute fillers, cotton wrapped under tinned copper shield, chrome vinyl jacket overall.



No. 1842

Cat. No.	Spool	Cond.	Size No. Avg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
1842	500'	2	22	16/34	31MMF	.231"
1843	500'	3	20	26/34	39MMF	.295"
1844	500'	4	20	26/34	43MMF	.320"
1845	500'	5	20	26/34	48MMF	.345"
1846	500'	6	20	26/34	54MMF	.370"

COLOR CODE: 1—White, 2—Black, 3—Red, 4—Green, 5—Yellow, 6—Blue

SHIELDED MULTI-CONDUCTOR CABLE

Used indoors for permanent or portable work to prevent interference pickup on P.A. systems, recording equipment, photo electric circuits, etc.

TINNED COPPER SHIELD OVERALL

DESCRIPTION:

Each Conductor #20 10/30 Stranded Tinned Copper, 1/64" rubber wall, waxed cotton braid color coded, twisted conductors, tinned copper shield overall. No. 1972 with cotton braid overall.



Nos. 972 to 978

Cat. No.	Spool	Conds.	Size AWG	Strand	Insul.	Cap./Ft. Bet. Cond. & Shield	Cap./Ft. Bet. Conds.	Nom. O.D.
972	100'	2	20	10/30	1/64	.65 Mmf.	.43 Mmf.	.215"
973	100'	3	20	10/30	1/64	.68 Mmf.	.55 Mmf.	.220"
974	100'	4	20	10/30	1/64	.69 Mmf.	.57 Mmf.	.250"
975	100'	5	20	10/30	1/64	.70 Mmf.	.58 Mmf.	.280"
976	100'	6	20	10/30	1/64	.71 Mmf.	.60 Mmf.	.290"
977	100'	7	20	10/30	1/64	.72 Mmf.	.62 Mmf.	.315"
978	100'	8	20	10/30	1/64	.74 Mmf.	.65 Mmf.	.350"
1972	100'	2	20	10/30	1/64	.65 Mmf.	.43 Mmf.	.225"

COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green, 5—Brown, 6—Yellow, 7—Blue, 8—Orange

ARMORED INDUSTRIAL CABLE

Used for P.A. systems on speaker extensions, oil burner installations, auto wiring, etc.

Two Conductors Parallel #18 16/30 Stranded

Tinned Copper, rubber insulation, lacquered cotton braid color coded, spiral galvanized steel armor overall.



Cat. No.	Spool	Size AWG	Strand	O.D.
1111	250'	18	16/30	.155" x .240"
1112	500'	18	16/30	.155" x .240"
1113	1000'	18	16/30	.155" x .240"

RUBBER MICROPHONE CABLE

Especially Designed for Heavy Studio Use

RUBBER CRYSTAL MICROPHONE CABLE

Designed for long service life and low loss. Use with crystal, ribbon, dynamic and velocity microphones and photoelectric cells. Birnbach #1870 is used widely for lapel microphones and phono pick ups.

DESCRIPTION:

Single Conductor, 26 Strands

#34 extra flexible tinned copper, special low loss rubber compound, tinned copper braid shield, cotton wrap, tough black rubber jacket overall.



No. 870



No. 872

Cat. No.	Spool	Cond.	Size No. Avg.	Stranding	Nom. Cap./Ft.	Nom. O.D.
870	100'	1	20	26/34	40 Mmf.	.175"
1870	250'	1	20	26/34	40 Mmf.	.175"
872	100'	1	20	26/34	30 Mmf.	.245"
1872	250'	1	20	26/34	80 Mmf.	.245"

RUBBER MICROPHONE CABLE

DESCRIPTION:

Each Conductor, extra flexible stranded tinned copper, insulated with a .022" wall special low capacity rubber, color coded, conductors twisted, jute filler, cotton wrap, tinned copper braided shield, cotton wrap with tough weatherproof black rubber jacket overall.



Nos. 772 to 778

Used for indoor and outdoor crystal, carbon and condenser microphones and for public address systems.

Cat. No.	Spool	Cond.	Size No. Avg.	Strand.	Nom. Cap. 1-Cond. & Shield	Nom. Cap. 1-Cond. Connected to Shield	Nom. Cap. 1-Cond. & Others	Nom. O.D.
772	100'	2	20	26/34	.65 Mmf.	.68 Mmf.	.46 Mmf.	.280"
1772	250'	2	20	26/34	.65 Mmf.	.68 Mmf.	.43 Mmf.	.280"
772/18	100'	2	18	41/34	.70 Mmf.	.73 Mmf.	.48 Mmf.	.300"
773	100'	3	20	26/34	.68 Mmf.	.72 Mmf.	.55 Mmf.	.290"
1773	250'	3	20	26/34	.68 Mmf.	.72 Mmf.	.55 Mmf.	.290"
773/18	100'	3	18	41/34	.68 Mmf.	.72 Mmf.	.55 Mmf.	.350"
774	100'	4	20	26/34	.68 Mmf.	.74 Mmf.	.57 Mmf.	.300"
1774	250'	4	20	26/34	.68 Mmf.	.74 Mmf.	.57 Mmf.	.300"
774/18	250'	4	18	41/34	.68 Mmf.	.74 Mmf.	.57 Mmf.	.335"
775	100'	5	20	26/34	.70 Mmf.	.76 Mmf.	.58 Mmf.	.330"
1775	250'	5	20	26/34	.70 Mmf.	.76 Mmf.	.58 Mmf.	.330"
776	100'	6	20	26/34	.71 Mmf.	.80 Mmf.	.60 Mmf.	.350"
1776	250'	6	20	26/34	.71 Mmf.	.80 Mmf.	.60 Mmf.	.350"
777	100'	7	20	26/34	.72 Mmf.	.85 Mmf.	.62 Mmf.	.365"
1777	250'	7	20	26/34	.72 Mmf.	.85 Mmf.	.62 Mmf.	.365"
778	100'	8	20	26/34	.74 Mmf.	.90 Mmf.	.65 Mmf.	.390"

For longer lengths and alternate put-ups—Specify.

MICROPHONE CABLE COLOR CODE CHART

- 1—Black 3—Red 5—Yellow 7—Brown
- 2—White 4—Green 6—Blue 8—Orange

2 CONDUCTOR SHIELDED

(Twisted Pair)



Used for transmission line, P. A. and sound systems, school, hospital sound installations, industrial paging systems, broadcast and audio cable, paging and rack panel wiring.

DESCRIPTION:

Each conductor copper tinned, plastic insulation, color coded twisted, tinned copper shield overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Insul.	NOM O.D.
826/30	500'	2	30	7/38	.010"	.085"
826/28	500'	2	28	7/38	.010"	.090"
826/26	500'	2	26	7/34	.010"	.100"
825	500'	2	24	10/30	.015"	.120"
825	500'	2	22	10/30	.017"	.110"
972S	500'	2	20	16/30	.017"	.155"
827	500'	2	18	16/30	.017"	.180"
828	500'	2	16	26/30	.020"	.210"
829	500'	2	14	41/30	.020"	.235"
830	500'	2	12	67/30	.025"	.295"

3 CONDUCTOR SHIELDED

973S	500'	3	20	10/30	.017"	.192"
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2 CONDUCTOR SHIELDED WAXED COTTON BRAID OVER SHIELD

972B	500'	2	20	16/30	.017"	.180"
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COLOR CODE: 1—Black, 2—Red, 3—White

FOR LONGER LENGTHS AND ALTERNATE PUT-UPS—SPECIFY.

Birnbach

BROADCAST AUDIO — FLEXIBLE TWISTED PAIR
INTER-COM—MULTI-COND.



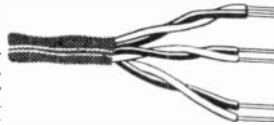
PLASTIC INTERCOMMUNICATING CABLES

TWISTED PAIRS—SOLID CONDUCTORS

Used in connecting Intercommunicating and Sound Systems, Telephones, Annunciators, Nurses Hospital Call Systems, Electronic Computers, Guided Missiles.

DESCRIPTION:

Each Conductor #22 Solid Copper Tinned, .010" Wall Vinyl Plastic Insulation, conductors color coded, twisted pairs cabled, tubed gray Vinyl plastic jacket overall. Suitable for outdoor installations.



No. 4701 to 4729

Cat. No.	Spool	Pairs	Cond.	Size No. AWG	Nom. Jkt.	Nom. O.D.
4701	500'	1	2	22 Solid	.020"	.145"
4702	500'	2	4	22 Solid	.020"	.205"
4703	500'	3	6	22 Solid	.020"	.215"
4706	500'	6	12	22 Solid	.020"	.250"
4709	500'	9	18	22 Solid	.020"	.310"
4711	500'	11	22	22 Solid	.020"	.350"
4711/13	500'	13	26	22 Solid	.025"	.385"
4715	500'	15	30	22 Solid	.025"	.390"
4716	500'	16	32	22 Solid	.025"	.405"
4727	500'	27	54	22 Solid	.035"	.495"
4727/31	500'	31	62	22 Solid	.035"	.555"
4727/41	500'	41	82	22 Solid	.035"	.630"
4729	500'	51	102	22 Solid	.045"	.750"
4729/76	500'	76	152	22 Solid	.070"	.950"
4729/101	500'	101	202	22 Solid	.080"	1.140"

For longer lengths and alternate put-ups—Specify.

TWISTED PAIRS—STRANDED CONDUCTORS

DESCRIPTION:

Each Conductor #22 7/30 Stranded Tinned Copper, .010" Vinyl plastic insulation, twisted pairs cabled, conductors color coded, tubed gray Vinyl plastic jacket overall.



No. 4731 to 4747

Cat. No.	Spool	Pairs	Cond.	Size No. AWG	Strand	Nom. O.D.
4731	500'	1	2	22	7/30	.145"
4732	500'	2	4	22	7/30	.210"
4733	500'	3	6	22	7/30	.225"
4734	500'	4	8	22	7/30	.235"
4735	500'	5	10	22	7/30	.245"
4736	500'	6	12	22	7/30	.270"
4739	500'	9	18	22	7/30	.325"
4745	500'	15	30	22	7/30	.455"
4747	500'	27	54	22	7/30	.570"

For longer lengths and alternate put-ups—Specify.

COLOR CODE CHART FOR PAIRED INTERCOMMUNICATING CABLES

Pair No.	Color	Pair No.	Color
1	Black with Red	27	Brown with Yellow
2	Black with White	28	Purple with Red
3	Black with Green	29	Purple with White
4	Black with Blue	30	Purple with Green
5	Black with Brown	31	Purple with Blue
6	Black with Yellow	32	Purple with Brown
7	Black with Orange	33	Purple with Yellow
8	Red with Green	34	Purple with Orange
9	Red with White	35	Purple with Slate
10	Red with Blue	36	Purple with Black
11	Red with Yellow	37	Slate with Red
12	Red with Brown	38	Slate with White
13	Red with Orange	39	Slate with Green
14	Green with Blue	40	Slate with Blue
15	Green with White	41	Slate with Brown
16	Green with Brown	42	Slate with Yellow
17	Green with Orange	43	Slate with Orange
18	Green with Yellow	44	Slate with Black
19	White with Blue	45	White/Black with Red
20	White with Brown	46	White/Black with Green
21	White with Orange	47	White/Black with Blue
22	White with Yellow	48	White/Black with Brown
23	Blue with Brown	49	White/Black with Yellow
24	Blue with Orange	50	White/Black w. Orange
25	Blue with Yellow	51	White/Black with Purple
26	Brown with Orange		

SPIRAL WRAPPED SHIELDED AUDIO and MULTI-CONDUCTOR CABLE

Plastic Jacketed—with Spiral wrapped copper shield

Designed for P. A. and sound systems, installations in schools, hospitals, and institutions, recording studios, transmitters, paging and call systems.



DESCRIPTION:

Each conductor copper tinned, 1/64 plastic insulation, color coded, twisted, spiral wrapped tinned copper shield, gray plastic jacket overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	O.D.
941	500'	2	22	7/30	.017"	.020"	.171"
941/1	500'	1	22	7/30	.017"	.020"	.120"
942	500'	2	20	10/30	.017"	.020"	.190"
943	500'	3	20	10/30	.017"	.020"	.208"
944	500'	4	20	10/30	.017"	.020"	.222"
947	500'	2	18	16/30	.017"	.020"	.230"
948	500'	2	16	26/30	.017"	.020"	.250"

COLOR CODE: 1—Black, 2—Red, 3—White, 4—Green

PLASTIC INTER-COM CABLE 4 CONDUCTORS (2 Shielded — 2 Unshielded)

Widely used for wiring from station to station where a shielded twisted pair is indicated in order to eliminate cross talk.

DESCRIPTION:

No. 925 — 4 conductors #22 7/30 stranded tinned copper, vinyl plastic insulation color coded, tinned copper shield over one pair (2 cond.) One pair (2 cond.) unshielded. Tubed gray vinyl jacket overall.



Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	O.D.
925	500'	4	22	7/30	.016"	.020"	.310"

3 CONDUCTORS (1 Shielded — 2 Unshielded)

Widely used for wiring from station to station where a single shielded conductor is indicated in order to eliminate cross talk.

DESCRIPTION:

No. 924 — 3 conductors #22 7/30 stranded tinned copper, vinyl plastic insulation color coded, tinned copper shield over one conductor, tubed gray vinyl jacket overall.



Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	O.D.
924	500'	3	22	7/30	.016"	.020"	.205"

SHIELDED BROADCAST AUDIO CABLE

Designed to provide maximum performance on all equipment. Conductors twisted correctly assures quiet, clear operation which eliminates interference and cross talk. Used by Broadcast studios, for P. A. and sound systems, rack wiring, etc.

DESCRIPTION:

#938—#22 Solid Tinned Copper Conductor, enameled, heavy cellulose acetate yarn wrap, cotton braid waxed; cabled with #22 AWG solid tinned copper wire laid parallel to twisted pair under tinned copper braid shield; tubed-on Vinyl plastic jacket overall.



No. 938 CBS, ABC TYPE

#939—#22-7/30 Stranded Tinned Copper, plastic insulation, color coded, twisted, copper braid shield, tubed-on Vinyl plastic jacket overall.



No. 939

#940—2 Conductors #22 solid plastic insulation, color coded, twisted with #22 AWG solid tinned copper ground wire under tinned copper shield with vinyl plastic jacket overall.



No. 940

#940/1 same construction as #940 however with tinned copper spiral shielded. #822 and #824 have solid enameled copper wire, cotton wrap, cotton braid waxed twisted pair, bare copper braid overall.



Nos. 822 and 824

Cat. No.	Spool	Conds.	AWG Size No.	Strand	O.D. Nom.
938	500'	2	22	Solid	.210"
939	500'	2	22	7/30	.170"
940	500'	2	22	Solid	.160"
940/1	500'	2	22	Solid	.160"
822	500'	2	22	Solid	.125"
824	500'	2	19	Solid	.145"

COLOR CODE: Black and Red
For longer lengths and alternate put-ups—Specify.

Birnbach

RUBBER JACKETED CABLE — JUKE BOX CABLE, SERVICE CORDS ANTENNA, COAXIAL, TV, DIATHERMY.

RUBBER JACKETED MULTI-CONDUCTOR CABLE (NOT SHIELDED)

Used for permanent or portable P.A. systems, sound recording, indoor or outdoor speakers, interconnecting cable for all electronic uses.

DESCRIPTION:
Each conductor, extra flexible stranded tinned copper, insulated with a .022" wall special low capacity rubber, color coded, conductors twisted, jute filler, cotton wrap with tough weatherproof black rubber jacket overall.



COLOR CODE CHART

Cat. No.	Spool	Cond.	Size No.		Cap. Bet. 1 Cond. & Others	Nom. O.D.
			AWG	Strand		
788	100'	2	20	26/34	40 Mmf	.275"
789	250'	2	20	26/34	40 Mmf	.275"
790	100'	3	20	26/34	50 Mmf	.285"
791	250'	3	20	26/34	50 Mmf	.285"
792	100'	4	20	26/34	53 Mmf	.305"
793	250'	4	20	26/34	53 Mmf	.305"
794	100'	5	20	26/34	56 Mmf	.335"
795	250'	5	20	26/34	56 Mmf	.335"
796	100'	6	20	26/34	58 Mmf	.355"
797	250'	6	20	26/34	58 Mmf	.355"
798	100'	7	20	26/34	60 Mmf	.370"
749	100'	8	20	26/34	63 Mmf	.395"

For longer lengths and alternate put-ups—Specify.

RIP-STRIP LAMP CORD TYPE SP-1 (POSJ-64) — UL APPROVED TYPE SPT-1 (POT) — UL APPROVED

All purpose approved cords SP-1 (rubber) SPT-1 (Plastic) for line cord on lamps, radios, clocks, small electronic instruments and appliances.

DESCRIPTION:
Two Conductors Parallel, #18—41/34 Extra Flexible Copper, rubber or plastic jacket slit for easy separation.



Cat. No.	Spool	Cond.	Size AWG	Strand	Insul. Type	UL Type	Nom. O.D.
570	100'	2	18	41/34	Rubber	SP-1 (POSJ)	.130" x .235"
572	250'	2	18	41/34	Rubber	SP-1 (POSJ)	.130" x .235"
573	500'	2	18	41/34	Rubber	SP-1 (POSJ)	.130" x .235"
569	500'	2	18	41/34	Plastic	SPT-1 (POT)	.130" x .235"

Colors: (Rubber) Brown, Black, White. (Plastic) Brown, Black, Ivory, Gray, Pink, Light Blue, Yellow, Green.

HEAVY DUTY SERVICE CORD—UL APPROVED

Used for heavy duty replacement on refrigerators, washing machines, machinery, tools and electronic devices.

DESCRIPTION:
Two Conductors, Stranded Bare Copper, cotton serve, rubber insulation, jute filler, cotton wrap, tough rubber jacket overall, molded rubber plug one end, free end stripped and tinned for easy attachment—Hanked.



No. 346 Same as above with 3 prong plug.

Cat. No.	Length Ft.	Conds.	Size AWG	Type	Strand	O.D.	Std. Pkg.
348	8	2	16	S.J.	65/34	.325"	25
346	8	2	16	S.J.	65/34	.355"	25
347	8	2	18	S.J.	41/34	.330"	25
309	9	2	18	S.V.	41/34	.250"	25
312	12	2	18	S.V.	41/34	.250"	25

TV POWER SUPPLY CORD—UL APPROVED

Used extensively as replacement of damaged or worn out TV cords.

DESCRIPTION:
Six Foot Rip Strip TV U.L. Approved Safety Cord, 2-cond. No. 18 SP-1 (POSJ) brown rubber cord with molded male plug and TV molded-on connector on other end.



Cat. No.	Length	Conds.	Size AWG	Type	Strand	O.D.	Std. Pkg.
815	6 Feet	2	18	SP-1	41/34	.130" x .235"	100

SERVICE LINE CORDS—UL APPROVED

An all purpose approved power supply cord for radios, record players, lamps, and small appliances.

DESCRIPTION:
Two Conductors Rubber Parallel SP-1 (POSJ) with Molded-on Male Plug, double brass blades, conductor end stripped and tinned. Available in Black and Brown.



Cat. No.	Lgth. Ft.	Conds.	Size AWG	Strand	Nom. O.D.	Std. Pkg.
816	6	2	18	41/34	.130" x .235"	100
817	7 1/2	2	18	41/34	.130" x .235"	100
819	10	2	18	41/34	.130" x .235"	50

RUBBER & NEOPRENE SERVICE CORD (HEAVY DUTY) — UL APPROVED

For power line requirement where rough usage is indicated as for amplifiers, sound systems, speakers, vacuum cleaners, washing machines, trouble lights, refrigerators, etc. Color coded. Underwriters approved. Neoprene construction recommended for equipment exposed to oil, acids, outdoor use, direct burial, etc.

DESCRIPTION:
Each Conductor Stranded Bare Copper, cotton serve, rubber insulation, color coded, conductors twisted, jute fillers, cotton wrap, tough rubber jacket overall.



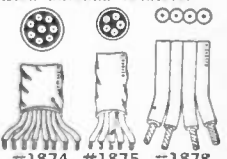
Cat. No.	U/L Type	Cat. No.	U/L Type	Std. Put-ups	Size No. Conds.	Size No. AWG	Amp Rating	Volt Rating	Nom. O.D.
701	.SV	690	.SV0	250'	2	18	41/34	7	.300" .250"
574	.S.J.	691	.S.J0	250'	2	18	41/34	7	.300" .300"
575	.S.J.	692	.S.J0	250'	3	18	41/34	7	.300" .330"
975/4	.S.J.	692/4	.S.J0	250'	4	18	41/34	7	.300" .360"
578	.S.J.	693	.S.J0	250'	2	16	65/34	10	.300" .325"
578/3	.S.J.	693/3	.S.J0	250'	3	16	65/34	10	.300" .365"
578/4	.S.J.	693/4	.S.J0	250'	4	16	65/34	10	.300" .395"
702	.S.	694	.S0	250'	2	18	41/34	7	.600" .390"
702/3	.S.	694/3	.S0	250'	3	18	41/34	7	.600" .405"
702/4	.S.	694/4	.S0	250'	4	18	41/34	7	.600" .435"
703	.S.	695	.S0	250'	2	16	65/34	10	.600" .410"
703/3	.S.	695/3	.S0	250'	3	16	65/34	10	.600" .430"
703/4	.S.	695/4	.S0	250'	4	16	65/34	10	.600" .485"
704	.S.	696	.S0	250'	2	14	41/30	15	.600" .540"
704/3	.S.	696/3	.S0	250'	3	14	41/30	15	.600" .560"
704/4	.S.	696/4	.S0	250'	4	14	41/30	15	.600" .605"
705	.S.	697	.S0	250'	2	12	65/30	20	.600" .605"
705/3	.S.	697/3	.S0	250'	3	12	65/30	20	.600" .635"
705/4	.S.	697/4	.S0	250'	4	12	65/30	20	.600" .665"
706	.S.	698	.S0	250'	2	10	103/30	25	.600" .640"
706/3	.S.	698/3	.S0	250'	3	10	103/30	25	.600" .690"
706/4	.S.	698/4	.S0	250'	4	10	103/30	25	.600" .745"

Additional Conductors Available
COLOR CODE: 1—White, 2—Black, 3—Green, 4—Red.

ANTENNA CONTROL ROTOR CABLE

Developed for remote control of television antenna rotators.

DESCRIPTION:
#1874—4 Conductors flat parallel polyethylene plastic insulation — One outer conductor tinned, balance bare copper.
#1875 — 5 Conductors twisted, color coded. Vinyl plastic jacket overall.
#1878 — 8 Conductors twisted, color coded. Vinyl plastic jacket overall.



Cat. No.	Spool	Cond.	Size AWG	Strand	Nom. O.D.
1874	1000'	4	20	7/28	.072" x .390"
1874A	500'	4	20	7/28	.072" x .390"
1875	1000'	5	20	7/28	.180"
1875A	500'	5	20	7/28	.180"
1878	1000'	8	22	7/30	.205"
1878A	500'	8	22	7/30	.205"

COLOR CODE CHART FOR #1875, #1878

1—Black 3—Red 5—Yellow 7—Brown
2—White 4—Green 6—Blue 8—Orange

RG/U COAXIAL TRANSMISSION CABLE

DESCRIPTION: One and Two Conductor, Polyethylene plastic insulation, copper braid shield, plastic jacket overall.

Cat. No.	Spool	Type	Nom. Imped.	Nom. Mmfd./ Ft.	Size AWG	Strand	Nom. O.D.
901	500'	RG-8/U	52	29.5	13	7/21 Bare	.405"
902	500'	RG-9/U	51	30	13	7/218	.420"
903	500'	RG-11/U	75	20.5	18	7/26 Tinned	.405"
904F	500'	RG-11/U	75	16.5	15	Solid	.405"
904DS	500'	RG-11/U	75	20.5	18	7/26 T	.470"
904DSF	500'	RG-11/U	75	16.5	15	Solid	.470"
912	500'	RG-22/U	95.0	16.0	18	2 Cond. 7/152	.405"
907	1000'	RG-29/U	53.5	28.5	20	Solid	.174"
909	1000'	RG-54/U	58	26.5	18	7/0152	.250"
905	1000'	RG-58A/U	50	29.0	20	19/0068 Tinned	.195"
906	1000'	RG-58/U	53.5	28.5	20	Solid	.195"
910	1000'	RG-59/U	78	21.0	22	Solid Copperweld	.242"
914	1000'	RG-62/U	93	13.5	22	Solid	.242"
916	1000'	RG-108A/U	78	23.5	20	2 Cond. 7/28T	.285"

Additional RG numbers available including double shields, non-contaminating jackets—all conforming to MIL-C-17B specifications. Also, "TEFLON" dielectrics available for hi. temp. miniaturization. No. 904F is RG-11/U with Poly-cell foam; No. 904DSF has double shield Poly-cell dielectric constant of 1.50 solid Polyethylene 2.25.

DIATHERMY CABLE

Cat. No.	Spool	Size AWG	Strand	Ins.	Nom. O.D.
756	100'	14	104/34	3/64"	.300"
757	1000'	14	104/34	3/64"	.300"



**SHIELDED — MULTI — TWO WIRE SPEAKER CABLE
TWISTED PAIR CABLES**

SHIELDED TWO WIRE SPEAKER CABLE

Used extensively for master control sound systems, photo electric circuits, P.A. systems, etc.

DESCRIPTION:

#972A—2 Cond. #18-16/30 Tinned Copper, 1/32" wall special low capacity rubber, color coded, twisted, paper wrap, closely woven tinned copper shield overall.
#1972A—Similar to #972A with a waxed cotton braid over shield.



No. 972A

TINNED SHIELD OVERALL

Cat. No.	Spool	Conds.	Size AWG	Strand	Insul.	Cap/Ft. Bet. Cond. & Shield	Cap/Ft. Bet. Conds.	O.D.
972A	500'	2	18	16/30	1 32	65	43	.250"

WAXED COTTON BRAID OVER SHIELD

1972A	500'	2	18	16/30	1 32	65	43	.275"
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COLOR CODE: Black and Red

For longer lengths and alternate put-ups—Specify.

**Multi-Conductor Industrial Cable
PLASTIC JACKET OVERALL**

DESCRIPTION:

#18 solid tinned copper plastic insulation, color coded, twisted conductors. Gray vinyl jacket overall. Used for inter-com systems, speaker cable, alarm, signal, P. A. systems, thermostats, remote control circuits. Suitable for outdoor installations.



Cat. No.	Spool	Conds.	Size AWG	Nom. Insul.	Nom. Jacket	Nom. O.D.
4752	500'	2	18 solid	.017"	.020"	.185"
4753	500'	3	18 solid	.017"	.020"	.190"
4754	500'	4	18 solid	.017"	.020"	.235"
4755	500'	5	18 solid	.017"	.020"	.240"
4756	500'	6	18 solid	.017"	.020"	.275"

COLOR CODE:

1—Black, 2—Red, 3—White, 4—Green, 5—Orange, 6—Blue

UNSHIELDED AUDIO CABLE

Stranded and Solid Cond. (2 & 3)

Widely used for connecting sound and inter-com systems, audio hookups, indoor and outdoors. Telephones, telemetering connections. For Baby Sitter Intercoms.

FOR INDOOR USE Without Outer Jacket

DESCRIPTION:

Stranded & Solid Tinned Copper Conductors, vinyl plastic insulation, color coded, conductors twisted.



Cat. No.	Spool	Conds.	Size AWG	Nom. Insul.	Nom. O.D.	
931	1000'	2	22 Solid	.016"	.100"	
933	1000'	3	22 Solid	.016"	.115"	
981	1000'	2	20 Solid	.016"	.120"	
983	1000'	3	20 Solid	.016"	.140"	
985	1000'	2	18 Solid	.016"	.115"	
987	1000'	3	18 Solid	.016"	.155"	
989	1000'	2	16 Solid	.016"	.175"	
989/3	1000'	3	16 Solid	.016"	.190"	
990	1000'	2	22 Stranded	7/30	.016"	.125"
990/3	1000'	3	22 Stranded	7/30	.016"	.140"
991	1000'	2	20 Stranded	10/30	.016"	.115"
991/3	1000'	3	20 Stranded	10/30	.016"	.160"
992	1000'	2	18 Stranded	16/30	.016"	.165"
992/3	1000'	3	18 Stranded	16/30	.016"	.180"
993	1000'	2	16 Stranded	26/30	.016"	.190"
993/3	1000'	3	16 Stranded	26/30	.016"	.210"
994	1000'	2	14 Stranded	41/30	.016"	.220"
994/3	1000'	3	14 Stranded	41/30	.016"	.240"
995	1000'	2	12 Stranded	65/30	.016"	.250"
995/3	1000'	3	12 Stranded	65/30	.016"	.275"

FOR OUTDOOR USE With Plastic Jacket Overall

DESCRIPTION:

Solid Tinned Copper Conductors, vinyl plastic insulation, color coded, conductors twisted with weatherproof plastic jacket overall.



Cat. No.	Spool	Conds.	Size AWG	Nom. Insul.	Nom. Jacket	Nom. O.D.
932	1000'	2	22 solid	.010"	.020"	.125"
934	1000'	3	22 solid	.010"	.020"	.130"
982	1000'	2	20 solid	.016"	.020"	.170"
984	1000'	3	20 solid	.016"	.020"	.180"
986	1000'	2	18 solid	.016"	.020"	.185"
988	1000'	3	18 solid	.016"	.020"	.190"

For longer lengths and alternate put-ups—Specify.
COLOR CODE: 1—Brown 2—Tan 3—Gray

**MULTI-CONDUCTOR FLEXIBLE CABLE
RUBBER INSULATED — Cotton Braid Overall**

DESCRIPTION:

Each Conductor, #20 — 10/30 Tinned Copper Stranded, 1/64" low capacity rubber, cotton braid color coded, conductors twisted, closely woven brown cotton braid overall. Used for multiple circuit hookups, connecting speakers, remote control units, analyzers, etc.



Cat. No.	Spool	Conds.	Size AWG	Strand	Ins.	Nom. O.D.
172	100'	2	20	10/30	1/64"	.205"
173	100'	3	20	10/30	1/64"	.245"
174	100'	4	20	10/30	1/64"	.265"
175	100'	5	20	10/30	1/64"	.290"
176	100'	6	20	10/30	1/64"	.310"
177	100'	7	20	10/30	1/64"	.325"
178	100'	8	20	10/30	1/64"	.360"
179	100'	9	20	10/30	1/64"	.395"
180	100'	10	20	10/30	1/64"	.425"
182	100'	12	20	10/30	1/64"	.440"

COLOR CODE:

- 1—Black
- 2—White
- 3—Red
- 4—Green
- 5—Orange
- 6—Blue
- 7—Brown
- 8—Yellow
- 9—White/Black Tracer
- 10—Red/Black Tracer
- 11—Green/Black Tracer
- 12—Orange/Black Tracer

**MULTI-CONDUCTOR FLEXIBLE CABLE
Plastic Jacket Overall**

DESCRIPTION:

Each conductor #22 7/30 tinned copper stranded 1/64" thermoplastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Used for signal, P.A. systems, Electronic computer cable, suitable for outdoor use.



Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
156	500'	2	22	7/30	.010"	.020"	.140"
157	500'	3	22	7/30	.010"	.020"	.145"
158	500'	4	22	7/30	.010"	.020"	.170"
159	500'	5	22	7/30	.010"	.020"	.175"
160	500'	6	22	7/30	.010"	.020"	.185"
161	500'	7	22	7/30	.010"	.020"	.190"
162	250'	8	22	7/30	.010"	.020"	.200"
163	250'	9	22	7/30	.010"	.020"	.225"
164	250'	10	22	7/30	.010"	.020"	.235"
165	250'	12	22	7/30	.010"	.020"	.255"
165/15	250'	15	22	7/30	.010"	.020"	.280"

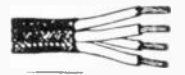
For longer lengths and alternate put-ups—Specify.

COLOR CODE:

- 1—Black 2—Red 3—White 4—Green 5—Orange 6—Blue 7—Brown
- 8—Yellow 9—Violet 10—Slate 11—Pink 12—Tan 13—Red/Green
- 14—Red/Yellow 15—Red/Black

THERMO-PLASTIC INSULATED — Cotton Braid Overall

Each Conductor #22 — 7/30 Tinned Copper Stranded, 1/64" Thermoplastic insulation, color coded, conductors twisted, closely woven brown cotton braid overall.



Cat. No.	Spool	Conds.	Size AWG	Strand	Ins.	Nom. O.D.
263	100'	3	22	7/30	1/64"	.160"
264	100'	4	22	7/30	1/64"	.170"
265	100'	5	22	7/30	1/64"	.195"
266	100'	6	22	7/30	1/64"	.210"
267	100'	7	22	7/30	1/64"	.230"
268	100'	8	22	7/30	1/64"	.245"
269	100'	9	22	7/30	1/64"	.260"
270	100'	10	22	7/30	1/64"	.295"
272	100'	12	22	7/30	1/64"	.325"

For longer lengths and alternate put-ups—Specify.

COLOR CODE: 1—Black, 2—White, 3—Red, 4—Green, 5—Orange, 6—Blue, 7—Brown, 8—Yellow, 9—Purple, 10—Pink, 11—Gray, 12—Dk. Blue

**TWISTED PAIR TRANSMISSION CABLE
WEATHERPROOF BRAID**

DESCRIPTION:

No. 952—Two Conductors, #22-7/30 Tinned Copper Stranded, special low loss rubber insulation, color coded, twisted conductors, cotton braid overall with rugged weatherproof finish.

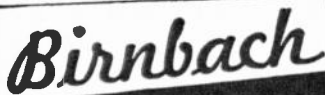


No. 919, 920—Two Conductors, #18-16/30 Tinned Copper Stranded, same construction as above.

Used for low loss transmission coupling between antenna and receiver as doublet twisted lead-in wire for inter-com. setup.

Cat. No.	Spool	Size AWG	Strand	Insul.	Nom. O.D.
952	500'	22	7/32	1/32"	.180"
919	500'	18	16/30	1/32"	.195"
920	1000'	18	16/30	1/32"	.195"

For longer lengths and alternate put-ups—Specify.



KINKLESS TEST LEAD WIRE — SHIELDED CABLE
PHONO PICKUP WIRE — SERVICE and POWER CORDS



KINKLESS TEST LEAD WIRE

Used with portable test equipment; as tested, leads in analyzers, oscillators, instruments; wherever extreme flexibility and limpness is required. Has excellent dielectric properties.

DESCRIPTION:

Nos. 61, 62—#20—41/36 extra flexible annealed tinned copper, stranded; paper serve; 3/64" special low capacity rubber, wax finish.

Nos. 66, 67—#18—65/36 extra flexible annealed tinned copper stranded; paper serve; 3/64" special low capacity rubber, wax finish.

Cat. No.	Spool	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
61	100'	20	41/36	3/64"	20,000 Volts	.137"
62	500'	20	41/36	3/64"	20,000 Volts	.137"
66	100'	18	65/36	3/64"	22,000 Volts	.145"
67	500'	18	65/36	3/64"	22,000 Volts	.145"

Types WS-16/U Black, WS-17/U Red, per MIL-W-13169 Specification available same construction as Birnback #67 except compound per specification.



COLORS: Red, Black

HEAVY DUTY HI-VOLTAGE TYPE

DESCRIPTION:

Nos. 68, 69—#18—65/36 extra flexible annealed tinned copper; stranded; paper serve; 5/64" special low capacity rubber, wax finish.

Used for oscillators, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

Cat. No.	Spool	Size AWG	Strand	Ins.	Puncture Voltage	Nom. O.D.
68	100'	18	65/36	5/64"	29,000 Volts	.210"
69	500'	18	65/36	5/64"	29,000 Volts	.210"

For longer lengths and alternate put-ups—Specify.



SHIELDED PHONO WIRE

Used where small diameter, limpness and extreme flexibility is necessary as for phono pickup arms and grid wire.

DESCRIPTION:

#1822—Single Conductor #22-7/30 Tinned Copper Strands, Vinyl plastic insulation, close tinned copper shield braided overall.

#1824—Single Conductor #24-16/36 Extremely Flexible Tinned Copper Strands, special plastic insulation, close tinned copper shield braided overall.

#1825—Same construction as #1824 except with fine cotton braid overall.

See Page 11 for miniature and subminiature shielded wires suitable for wiring phono arm from cartridge to amplifier.

TINNED COPPER SHIELD OVERALL

Cat. No.	Spool	Strand	Cond.	Size AWG	Insul.	Nom. O.D.
1824	500'	1	24	16/36	.010"	.080"
1824M	1000'	1	24	16/36	.010"	.080"
1822	100'	1	22	7/30	.010"	.080"
1822B	500'	1	22	7/30	.015"	.090"
1822C	1000'	1	22	7/30	.015"	.090"

COTTON BRAID OVER SHIELD

1825	500'	1	24	16/36	.010"	.095"
1825M	1000'	1	24	16/36	.010"	.095"

For longer lengths and alternate put-ups—Specify.

SHIELDED GRID LEAD WIRE

Used to reduce loss in grid lead use, also to reduce interference caused by motors, high tension wires, X-ray machines, etc.

DESCRIPTION:

#820—Single Conductor #20—10/30, #818—16/30 Stranded Tinned Copper, low loss rubber insulation, cotton braid lacquered, closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Ins. Under Shield	Cap./Ft. Mmf.	Nom. O.D.
820	100'	20	10/30	.085"	.70	.140"
818	100'	18	16/30	.085"	.75	.150"

For longer lengths and alternate put-ups—Specify.

7MM HIGH TENSION CABLE

Used as hi voltage leads in electronic equipment and instruments, photo electric cell leads, automotive, etc.

DESCRIPTION:

#1600—Unshielded One Conductor #16-19/29 stranded tinned copper wire, rubber insulation, cotton braid highly lacquered.

#781—Shielded Same construction as #1600 plus a closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Insul.	Nom. O.D.
1600	100'	16	19/29	3/32"	.275"
781	100'	16	19/29	3/32"	.295"

Used for auto and aircraft ignition systems where grounding is required for elimination of interference.

For longer lengths and alternate put-ups—Specify.



No. 1600



No. 781

HI VOLTAGE LACQUERED WIRE

Used as primary wiring as for automobiles, tail, dashboard, horn, etc. Instrument leads, high voltage and primary voltage requirements.

DESCRIPTION:

One Conductor tinned copper annealed stranded, rubber insulation, highly lacquered braid, oil, heat, and moisture resistant.

Cat. No.	Spool	Size AWG	Strand	Ins.	Puncture V.	Nom. O.D.
2818	100'	18	16/30	.022"	9500	.117"
2816	100'	16	19/29	.022"	9500	.127"
2814	100'	14	19/27	.022"	9500	.148"
2812	100'	12	19/25	.027"	9500	.171"
2810	100'	10	19/23	.031"	9500	.202"

For longer lengths and alternate put-ups—Specify.



LACQUERED HOOK-UP WIRE

Used in transformers, amplifiers, hook-ups, leads, etc. Strips easily for soldering.

DESCRIPTION:

No. 3462—#20-10/30 Single Conductor stranded tinned copper, low loss free stripping rubber insulation, cotton braid highly lacquered.

No. 3600—#18-16/30 Single Conductor stranded tinned copper, 1/32" low loss free stripping rubber insulation, rayon braid highly lacquered.

Cat. No.	Spool	Size AWG	Strand	Insul.	Punct. Volt.	DC Ins. Res./Ft. Meg.	Nom. O.D.
3461	100'	20	10/30	1/64"	7000	390	.090"
3462	500'	20	10/30	1/64"	7000	390	.090"
3460	100'	18	16/30	1/32"	9000	460	.125"
3600	500'	18	16/30	1/32"	9000	460	.125"

COLORS: Black, Red, Green, Yellow, Brown, Blue, White

For longer lengths and alternate put-ups—Specify.



SHIELDED HOOK-UP & LEAD-IN WIRE

Used to prevent and reduce interference caused by motors, hi-tension cables, X-ray machines and various units radiating electrical impulses. Useful in grid circuits.

TINNED COPPER SHIELD OVER RUBBER INSULATION

DESCRIPTION:

Single Conductor, Tinned Copper Stranded, low loss rubber insulation, closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Ins.	Cap./Ft. Mmf.	Nom. O.D.
810	500'	20	10/30	.015"	105	.095"
803	250'	18	16/30	.015"	125	.125"
802	250'	16	26/30	.031"	90	.145"

TINNED COPPER SHIELD OVER LACQUERED BRAID

DESCRIPTION:

Single Conductor, Tinned Copper Stranded, low loss Vinyl insulation, highly lacquered braid, closely woven tinned copper shield overall.

Cat. No.	Spool	Size AWG	Strand	Nom. O.D.
831	1000'	22	7/30	.105"
832	1000'	20	10/30	.110"
833	1000'	18	16/30	.145"
834	1000'	16	26/30	.160"
835	1000'	14	41/30	.180"

For longer lengths and alternate put-ups—Specify.



JUKE BOX SPEAKER CABLE

Small, compact diameter. Useful. Practical. Ideal for rear auto speaker extension cable.

DESCRIPTION:

Composed of 7 strand #32-1 Bare—copper conductor, 1 tinned copper conductor, 2 conductors parallel chrome vinyl plastic insulation.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. O.D.
4500	1000'	2	24	7/32	.015"	.058" x .115"



JUKE BOX CONTROL CABLE

Used as replacement cable in Juke Boxes.

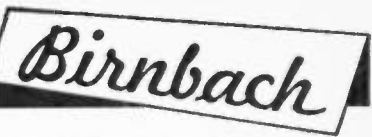
DESCRIPTION:

Two Conductors #16 stranded vinyl insulation tinned copper, color coded green-orange. One conductor #20 stranded tinned copper, vinyl insulation. Color coded Blue; 3 conductors cable with .020" chrome vinyl plastic jacket overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
4510	500'	3	2	#16	26/30	.020"	.240"
			1	#20	10/30	.020"	



**PUSHBACK — HEAVY FORMVAR — MAGNET WIRE
PLAIN ENAMEL — DCC — DNC — SOLID TINNED**



BIRNBACH DOUBLE BRAID SLIPBACK HOOK-UP WIRE

Has a double cotton braid over the conductor, brightly color coded, saturated with paraffin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. Has high dielectric strength and will withstand all climatic changes without breakdown.

COLORS: Black, Red, Blue, Yellow, Green, White, Brown, Orange.

SOLID					
Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
380	100' Spool	20	Solid	2000	.090"
382	100' Spool	18	Solid	2100	.098"
384	100' Spool	16	Solid	2100	.108"
386	100' Spool	14	Solid	2100	.122"
388	100' Spool	12	Solid	2200	.135"
580	1000' Spool	20	Solid	2000	.090"
582	1000' Spool	18	Solid	2100	.098"
584	1000' Spool	16	Solid	2100	.108"
586	1000' Spool	14	Solid	2100	.122"
588	1000' Spool	12	Solid	2200	.135"

STRANDED					
Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
381	100' Spool	20	10/30	2100	.093"
383	100' Spool	18	16/30	2200	.103"
385	100' Spool	16	26/30	2200	.118"
387	100' Spool	14	41/30	2200	.135"
389	100' Spool	12	65/30	2300	.155"
581	1000' Spool	20	10/30	2100	.093"
583	1000' Spool	18	16/30	2200	.103"
585	1000' Spool	16	26/30	2200	.118"
587	1000' Spool	14	41/30	2200	.135"
589	1000' Spool	12	65/30	2300	.155"

BIRNBACH BIRNTEX SLIPBACK WIRE

This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with paraffin. Pushes back easily.

SOLID					
Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
72	100' Spool	22	Solid	1500	.060"
76	1000' Spool	22	Solid	1500	.060"
84	100' Spool	20	Solid	1500	.065"
86	100' Spool	18	Solid	1500	.075"
92	1000' Spool	20	Solid	1500	.065"
94	1000' Spool	18	Solid	1500	.075"

STRANDED					
Cat. No.	Put-Up	Size	Strands	Puncture V. 60-cy. AC	O.D.
73	100' Spool	22	7/30	1500	.065"
77	1000' Spool	22	7/30	1500	.065"
85	100' Spool	20	10/30	1500	.070"
87	100' Spool	18	16/30	1500	.080"
93	1000' Spool	20	10/30	1500	.070"
95	1000' Spool	18	16/30	1500	.080"

ALL BIRNBACH
MAGNET WIRES
PER M.L.W.
583A SPECIFI-
CATIONS

**HEAVY FORMVAR, PLAIN ENAMEL, DOUBLE
COTTON, DOUBLE NYLON, SOLID TINNED MAGNET WIRE**

Has new tough abrasion resisting film. Replaces enamel and fabric insulations for certain applications requiring exceptional abrasion resistance. Stable under heat. High dielectric strength. Infinite resistance to water and moisture. Does not fail after two hours at 105°C. Takes up less winding space.

ALL MAGNET WIRE AVAILABLE IN LARGER PUT-UPS

1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	32
12	12	12	25	12	50
14	20	14	39	14	78
16	31	16	62	16	124
18	49	18	99	18	198
20	78	20	156	20	313
22	125	22	250	22	501
24	200	24	399	24	798
26	300	26	600	26	1200
28	500	28	1000	28	1999
30	800	30	1600	30	3200
32	1225	32	2450	32	4900
34	1988	34	3975	34	7950
36	3200	36	6400	36	12800
38	5050	38	10100	38	20200
40	7975	40	15950	40	31700
42	12375	42	24750	42	49500
44	14500	44	29000	44	58000

PLAIN ENAMEL

1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	32
12	12	12	25	12	50
14	20	14	40	14	80
16	32	16	63	16	126
18	50	18	100	18	201
20	80	20	160	20	320
22	127	22	254	22	508
24	201	24	403	24	806
26	320	26	640	26	1280
28	507	28	1015	28	2030
30	805	30	1610	30	3220
32	1282	32	2564	32	5128
34	2037	34	4075	34	8150
36	3221	36	6443	36	12887
38	5132	38	10246	38	20492
40	8143	40	16286	40	32573
42	12803	42	25606	42	51213
44	20455	44	40910	44	81819

1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
12	12	12	24	12	49
14	19	14	39	14	78
16	31	16	62	16	125
18	49	18	99	18	198
20	78	20	157	20	314
22	123	22	247	22	495
24	195	24	390	24	781
26	303	26	606	26	1212
28	478	28	956	28	1912
30	739	30	1479	30	2958
32	1136	32	2272	32	4545
34	1712	34	3424	34	6849
36	2551	36	5102	36	10204
38	3770	38	7541	38	15082
40	5040	40	10080	40	20161

DOUBLE COTTON

1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	31
12	12	12	24	12	49
14	19	14	39	14	78
16	31	16	62	16	123
18	48	18	97	18	194
20	78	20	157	20	304
22	119	22	238	22	477
24	134	24	269	24	538
26	284	26	568	26	1136
28	435	28	871	28	1742
30	641	30	1284	30	2569
32	976	32	1953	32	3906
34	1365	34	2735	34	5470
36	1827	36	3654	36	7309
38	2738	38	5476	38	10952
40	3405	40	6811	40	13623

SOLID TINNED (Soft Drawn)

1/4 lb. SPOOL		1/2 lb. SPOOL		1 lb. SPOOL	
Size B&S	Ft.	Size B&S	Ft.	Size B&S	Ft.
10	8	10	16	10	32
12	12	12	25	12	50
14	20	14	40	14	80
16	32	16	63	16	126
18	50	18	100	18	201
20	80	20	160	20	320
22	127	22	254	22	508
24	201	24	403	24	806
26	320	26	640	26	1280
28	507	28	1015	28	2030
30	805	30	1610	30	3220
32	1282	32	2564	32	5128
34	2037	34	4075	34	8150
36	3221	36	6443	36	12887
38	5132	38	10246	38	20492
40	8143	40	16286	40	32573

ALL SOLID TINNED COPPER AVAILABLE IN 1000 FT. SPOOLS
BARE COPPER — SOFT DRAWN AVAILABLE FROM STOCK

Birnbach COPPERWELD ENAMEL, TINNED AND BARE COPPER BUS BAR, BRAIDED TINNED COPPER SHIELDING

TINNED COPPER WIRE — BUS BAR

Pure Electrolytic, Copper, annealed, tinned for quick soldering

MIL—W—3861 type S. ASTM—B—33 specifications

Cat. No.	Put-Up	Size AWG	Area Circular Mills	O.D.
1433/4	100' Coil	4	11,710	.201"
1433/6	100' Coil	6	26,250	.162"
1432	100' Coil	8	16,510	.129"
1402	100' Coil	10	10,380	.103"
1403	1000' Spool	10	10,380	.103"
1406	100' Coil	12	6,530	.082"
1407	1000' Spool	12	6,530	.082"
1410	100' Coil	14	4,107	.061"
1411	1000' Spool	14	4,107	.061"
1414	100' Coil	16	2,583	.051"
1415	1000' Spool	16	2,583	.051"
1418	100' Coil	18	1,624	.041"
1419	1000' Spool	18	1,624	.041"
1422	100' Coil	20	1,022	.033"
1423	1000' Spool	20	1,022	.033"
1434	1000' Spool	22	621.1	.025"
1424	1000' Spool	24	401.0	.020"
1425	1000' Spool	26	251.1	.016"
1428	1000' Spool	28	159.8	.013"
1430	1000' Spool	30	100.5	.010"

See Magnet Wire Section For Additional Sizes

BUS BAR WIRE (Hard Drawn)

MIL—W—3861 type S. ASTM—B—33 specifications



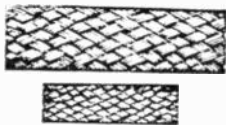
Cat. No.	No.	Shape	Tinned
2010	10	Round	Tinned
2012	12	Square	Tinned
2013	12	Round	Tinned
2014	14	Square	Tinned
2015	14	Round	Tinned
2016	16	Round	Tinned
2018	18	Round	Tinned

For hooking up all types of transmitters, especially ultra short wave equipment. All bus wire is made of hard drawn copper, tinned, straightened, and cut in 2 ft. lengths.

(100 to Std. Package)

TINNED COPPER SHIELDING

Used for shielding and bonding on aircraft, marine and auto radio wires and cables. Shields speaker leads, lead-ins, amplifier wires. Extremely flexible, slides over wires and cables.



SHIELDING PER
ΦΦ—B—575
AVAILABLE TO
ORDER

DESCRIPTION:

No. 853 thru 856/2 Composed of extremely flexible fine soft annealed copper tinned wires closely woven, braided and Rolled Flat.
No. 860—Composed of extremely flexible fine soft annealed copper wires closely woven, braided and Rolled Flat.

TINNED

Cat. No.	Size & No. of Wires	Inside Diam. Flattened	Spool
853	12 x 2/36	1/32"	1000'
854	12 x 2/36	3/64"	1000'
855	16 x 3/36	1/16"	50'
858	24 x 5/36	1/8"	50'
859	30 x 4/36	3/16"	50'
863	24 x 10/36	1/4"	50'
864	48 x 4/34	3/8"	50'
868	48 x 7/36	1/2"	50'
865	48 x 11/36	5/8"	50'
865/1	48 x 11/36	3/4"	50'
857	48 x 19/36	25/32"	50'
856	48 x 19/36	1"	50'
856/1	48 x 19/36	1-3/8"	50'
856/2	48 x 19/36	1-1/2"	50'

BARE

860	24 x 10/36	1/4"	50'
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For longer lengths and alternate put-ups—Specify.

COPPER WIRE—SOLID—STRANDED

STRANDED TINNED COPPER WIRE

Cat. No.	Put-Up	Size AWG	Strand	O.D.
495	100' Coil	12	7/20	.102"
1671	100' Coil	14	7/22	.076"
1638	1000' Spool	14	7/22	.076"
1674	100' Coil	15	7/23	.069"
1633	1000' Spool	15	7/23	.069"
1628	1000' Spool	16	7/24	.062"

= 1671 meets H4.4—1940 type W—1

COIL LEAD, JUMPER CABLE

PURE ELECTROLYTIC, COPPER, annealed, tinned for quick soldering
MIL—W—3861 Type B. ASTM—B—33 Specifications

Cat. No.	Class Description	Put-Up	Size AWG	Strand	O.D.
1622	K	1000' Spool	22	7/30	.030"
1620	K	1000' Spool	20	10/30	.027"
1618	K	1000' Spool	18	16/30	.045"

BARE COPPER WIRE (Soft Drawn)

QQ—W—341A specifications

Cat. No.	Put-Up	Size AWG	Area Circular Mills	O.D.
1560	100' Coil	8	16,510	.1285"
1562	100' Coil	10	10,380	.102"
1563	1000' Spool	10	10,380	.102"
1566	100' Coil	12	6,530	.081"
1567	1000' Spool	12	6,530	.081"
1570	100' Coil	14	4,107	.061"
1571	1000' Spool	14	4,107	.061"
1574	100' Coil	16	2,583	.051"
1575	1000' Spool	16	2,583	.051"

SILICON BRONZE AERIAL WIRE

Especially designed for ships, airports, short wave and transmitting antennas where high tensile strength and resistance to the elements are important.

Cat. No.	Put-Up	Size AWG	Strand	Breaking Strength	O.D.
529	100'	4	7/12	3670 lbs.	.240"
528	100'	6	7/11	2140 lbs.	.190"
527	100'	8	7/10	1600 lbs.	.170"
499	100'	10	7/8	1000 lbs.	.122"
524	100'	12	7/20	650 lbs.	.100"
526	100'	14	7/22	420 lbs.	.075"

= 528 and = 499 meets MIL—W—13074; = 524 meets MIL—W—13276
For longer lengths and alternate put-ups—Specify.

* 1000 feet on deposit reels

COPPERWELD ENAMEL ANTENNA WIRE



Used where high tensile strength is required as for short wave and transmitting aeriels. Has low R.P. resistance and is ideal for transmitting doublet and directional antennas. Will maintain frequency characteristics because of its stretchless qualities.

Cat. No.	Put-Up	Size AWG	Tensile Strength	O.D.
710-100	100' Spool	10	1130 lbs.	.103"
710-250	250' Spool	10	1130 lbs.	.103"
710-500	500' Spool	10	1130 lbs.	.103"
710-1000	1000' Spool	10	1130 lbs.	.103"
710-2500	2500' Spool	10	1130 lbs.	.103"
712-100	100' Coil	12	720 lbs.	.082"
712-250	250' Coil	12	720 lbs.	.082"
712-500	500' Spool	12	720 lbs.	.082"
712-1000	1000' Spool	12	720 lbs.	.082"
712-2500	2500' Spool	12	720 lbs.	.082"
714-100	100' Coil	14	400 lbs.	.065"
714-250	250' Spool	14	400 lbs.	.065"
714-500	500' Spool	14	400 lbs.	.065"
714-1000	1000' Spool	14	400 lbs.	.065"
714-2500	2500' Spool	14	400 lbs.	.065"

SOLID ENAMEL COPPER WIRE

Cat. No.	Put-Up	Size AWG	O.D.
497	100' Coil	10	.103"
1497	1000' Spool	10	.103"
492	100' Coil	12	.082"
492A	150' Coil	12	.082"
492B	200' Coil	12	.082"
492	1000' Spool	12	.082"
490	100' Coil	11	.066"
490A	150' Coil	11	.066"
490B	200' Coil	11	.066"
1490	1000' Spool	11	.066"

STRANDED BARE COPPER WIRE

Cat. No.	Put-Up	Size AWG	Strand	O.D.
493	100' Coil	12	7/20	.100"
1670	100' Coil	14	7/22	.075"
1639	1000' Spool	14	7/22	.075"
1673	100' Spool	15	7/23	.068"
1634	1000' Spool	15	7/23	.068"
1680	100' Coil	16	7/24	.060"
1647	1000' Spool	16	7/24	.060"
681	100' Coil	18	7/26	.050"
1648	1000' Spool	18	7/26	.050"
700	100' Coil	19	7/27	.041"
1741	1000' Spool	19	7/27	.041"



RETRACTILE KINKLESS CORD SETS



BIRNBACH COILED RETRACTILE (KINKLESS) CORD AND CORD SETS



This series of Birnbach Coiled Kinkless Retractable Cords are permanently coiled into a spring-like shape without the use of metal springs or elastic bands. They have inherent "Recovery" properties. These Retractable cords extend approximately six times its retracted length, returning to its exact original shape and length when released. Always as long as you need them and no longer, they will not kink, tangle, trail, knot or dangle on the floor or bench and cause accidents.

RETRACTILE TEST LEAD WIRE

Stretch coiled kinkless test lead wire description: 12" coil—stretches to approx. 6 feet. One conductor #20 stranded copper rubber insulation .165 O.D. Colors: Red, Black.
 Cat. No. Std. Pkg.
 64...12" Retracted—Approx. 6' Extended...10
 65...24" Retracted—Approx. 12' Extended...10

RETRACTILE (KINKLESS) POWER CORD RUBBER, NEOPRENE AND PLASTIC



DESCRIPTION 2, 3, 4 conductor UL approved, retractile (kinkless) power cords supplied in 36" long mandrel lengths, which customer cuts to desired length.

Std. Pkg. 5

Additional conductors and sizes available.

Cat. No.	Retracted Length	Approx. Length Extended	Conds.	Size AWG	UL Type	Strand	Amp. Rating	Volt Rating	Nom O.D.
886	36"	18 FT.	2	18	SVO	41/34	7	300	.250"
887	36"	18 FT.	2	18	SVT	41/34	7	300	.250"
889	36"	18 FT.	2	18	SJO	41/34	7	300	.310"
889/3	36"	18 FT.	3	18	SJO	41/34	7	300	.310"
889/4	36"	18 FT.	4	18	SJO	41/34	7	300	.360"
890	36"	18 FT.	2	16	SJT	41/34	7	300	.310"
891	36"	18 FT.	2	16	SJO	65/34	10	300	.330"
891/3	36"	18 FT.	3	16	SJO	65/34	10	300	.365"
891/4	36"	18 FT.	4	16	SJO	65/34	10	300	.395"
893	36"	18 FT.	2	14	S0	41/30	15	600	.535"
893/3	36"	18 FT.	3	14	S0	41/30	15	600	.540"
893/4	36"	18 FT.	4	14	S0	41/30	15	600	.605"
894	36"	18 FT.	2	12	S0	65/30	20	600	.615"
894/3	36"	18 FT.	3	12	S0	65/30	20	600	.635"
894/4	36"	18 FT.	4	12	S0	65/30	20	400	.665"

COLOR CODING: 1-Black, 2-White, 3-Green, 4-Red

RETRACTILE (KINKLESS) POWER CORD SETS

Excellent for portable use. All mobile equipment and office equipment wherever the device application is synonymous with repetitive movement. The "Answer" to most tough hazard problems.

2 and 3 conductors SVO and SJO Retractable Kinkless Neoprene Service Cord Sets with Molded Male Plug one end, other end stripped and timed ready for application.

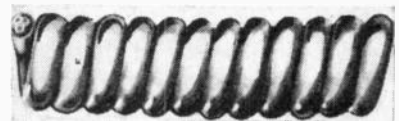


Cat. No.	Retracted Length	Approx. Length Extended	Conds.	Size AWG	UL Type	Strand	Std. Pkg.
880	18"	9 FT.	2	18	SVO	41/34	10
881	18"	9 FT.	2	18	SJO	41/34	10
881/3	18"	9 FT.	3	18	SJO	41/34	10
882	18"	9 FT.	2	16	SJO	65/34	10
882/3	18"	9 FT.	3	16	SJO	65/34	10

CONDUCTOR COLOR CODING: 1-Black, 2-White, 3-Green

RETRACTILE COILED COMMUNICATION CORD

Multi-conductors stranded communication cord No. 23 AWG. Timed copper wire neoprene jacketed. 18' lengths can be cut to exact requirement. Nom. cond. resistance .022 ohms per linear foot. Maximum working voltage 120 volts. Current carrying capacity 1 ampere.



Cat. No.	Retracted Length	Approx. Length Extended	Conds.	Size AWG	Strand	OD	Std. Pkg.
875	36"	18 FT.	2	23	21/36	200"	10
876	36"	18 FT.	3	23	21/36	210"	10
877	36"	18 FT.	4	23	21/36	240"	10
878	36"	18 FT.	5	23	21/36	285"	10
878/6	36"	18 FT.	6	23	21/36	305"	10
878/7	36"	18 FT.	7	23	21/36	320"	10

CONDUCTOR COLOR CODING: 1 Black, 2-White, 3 Red, 4-Green, 5 Blue, 6-Yellow, 7 Brown. Additional conductors and sizes available.

RETRACTILE (KINKLESS) COILED SHIELDED MICROPHONE CABLES



DESCRIPTION: Single and multi-conductor shielded microphone cable neoprene jacketed. This cable remains neat and compact with no danger of trapping or of the wire becoming entangled in equipment. Also suitable for stereo and additional speaker extensions.

Cat. No.	Retracted Length	Approx. Length Extended	Cond.	Size AWG	Nom. O.D.	Std. Pkg.
895	48"	25'	1	#24 Shielded	160"	10
895A	12"	6'	1	#24 Shielded	160"	10
895B	6"	3'	1	#24 Shielded	160"	10
896	48"	25'	2	#24 Shielded	200"	10
896A	12"	6'	2	#24 Shielded	200"	10
897	48"	25'	3	#24 Shielded	240"	10
897A	12"	6'	3	#24 Shielded	240"	10
898	48"	25'	4	#24 Shielded	270"	10
898A	12"	6'	4	#24 Shielded	270"	10

Additional conductors and sizes available.

CONDUCTORS ARE COLOR CODED.



STEREO MONAURAL WIRE AND CABLE



NEW STEREO MONAURAL WIRE AND CABLE



The following items were specifically developed for use in recording and playback equipment including all stereo cartridges; ceramic, magnetic, crystal and tone arms. Designed for extremely low hum and noise pickup. Individual conductors are ± 32 AWG, 7 strands ± 40 AWG tinned copper, .010" wall. Special formulation PVC $+80^{\circ}$ C to -40° C operation allowing ease of stripping and soldering. When shielded ± 40 AWG tinned copper, 30% coverage for maximum flexibility, minimum weight and diameter and for quick pushback.

TWISTED — UNSHIELDED

CAT. NO.	SPOOL	COND.	SIZE AWG	STRAND	NOM. WALL	NOM. O. D.
7571	1000'	1	32	7/30	.010"	.028"
7571	500'	1	32	7/30	.010"	.028"
7572	1000'	2	32	7/30	.010"	.047"
7572	500'	2	32	7/30	.010"	.047"
7573	1000'	3	32	7/30	.010"	.053"
7573	500'	3	32	7/30	.010"	.053"
7574	1000'	4	32	7/30	.010"	.061"
7574	500'	4	32	7/30	.010"	.061"
7575	1000'	5	32	7/30	.010"	.069"
7575	500'	5	32	7/30	.010"	.069"



TWISTED — SHIELDED

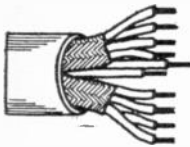
7581	1000'	1	32	7/30	.010"	.040"
7581	500'	1	32	7/30	.010"	.040"
7582	1000'	2	32	7/30	.010"	.067"
7582	500'	2	32	7/30	.010"	.067"
7583	1000'	3	32	7/30	.010"	.072"
7583	500'	3	32	7/30	.010"	.072"
7584	1000'	4	32	7/30	.010"	.080"
7584	500'	4	32	7/30	.010"	.080"
7585	1000'	5	32	7/30	.010"	.089"
7585	500'	5	32	7/30	.010"	.089"
7580	1000'	2	32 (Ind. Shielded)	7/30	.010"	.080"

CONDUCTOR COLOR CODE: 1-WHITE, 2-RED, 3-BLACK, 4-GREEN, 5-YELLOW.

STEREO VOLUME CONTROL CABLE

ESPECIALLY DESIGNED FOR STEREO COIN OPERATED MACHINES

Description: Ten conductors containing 2 quads individually shielded with tinned copper braid; 2 conductors not shielded; chrome vinyl jacket overall.



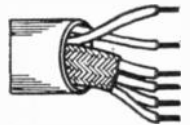
Cat. No.	Spool	Conds.	Size AWG & Stranding	Nom. Ins.	Nom. Jacket	Nom. O.D.
4520	500'	10	4 Shielded ± 24 (7 X 30)	.015"	.025"	.325"
			4 Shielded ± 24 (7 X 32)			
			2 Unshielded ± 22 (7 X 30)			

CONDUCTOR COLOR CODE: GRAY, WHITE, BLUE, GREEN (SHIELDED), RED BROWN, YELLOW, ORANGE (SHIELDED), WHITE, BLUE (UNSHIELDED)

SHIELDED JUKE BOX CONTROL CABLE

DESCRIPTION:

5 Conductor cable. Three cond. twisted color coded, black, green red with tinned copper shielded braid overall. Two conductor twisted color coded blue, yellow and chrome vinyl jacket overall.



Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
4515	500'	5	3 (Shielded) ± 22	7/30	.015"	.020"	.200" X .300"
			2 (Unshielded)				
4516	500'	6	2 Unshielded ± 22 (7 X 30)		.015"	.025"	.205" X .310"
			4 shielded ± 24 (7 X 32)				

DESCRIPTION:

Six conductors containing 4 cond. twisted tinned copper shielded braid; Two conductor twisted unshielded with chrome vinyl jacket overall.



JUKE BOX SPEAKER CABLE

Small, compact diamter. Useful. Practical. Ideal for rear auto speaker extension cable

DESCRIPTION:

Composed of 7 strand ± 32 -1 Bare—copper conductor, 1 tinned copper conductor, 2 conductors parallel chrome vinyl plastic insulation.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. O.D.
4500	1000'	2	24	7/32	.015"	.058" X .115"



JUKE BOX CONTROL CABLE

Used as replacement cable in Juke Boxes.

DESCRIPTION:

Two Conductors ± 16 stranded vinyl insulation tinned copper, color coded green-orange. One conductor ± 20 stranded tinned copper, vinyl insulation. Color coded Blue; 3 conductors cable with .020" chrome vinyl plastic jacket overall.

Cat. No.	Spool	Conds.	Size AWG	Strand	Nom. Insul.	Nom. Jacket	Nom. O.D.
4510	500'	3	2— ± 16	26/30	.020"	.020"	.240"
			1— ± 20	10/30	.020"		

Bimback PRICE LIST

SEE PAGES 1480 THRU 1496
NUMERICALLY ARRANGED BY CATALOG NUMBER

Cat. No.	Sub-List Price	Cat. No.	Sub-List Price	Cat. No.	Sub-List Price	Cat. No.	Sub-List Price
61-C	\$4.00 Ea.	805-V-C-C	18.23/Ea.	589-M	106.50/Ea.	792-C	12.40/Ea.
62-E	11.40 Ea.	807-V-C-C	9.80 Ea.	681-E	22.00/Ea.	868-C	10.75/Ea.
64	2.50 Ea.	807-V-C-C	9.80 Ea.	690-D	27.00/Ea.	868-E	96.00/Ea.
65	4.00 Ea.	808-B-25'	2.75 Ea.	691-D	33.50/Ea.	868-M	86.00/Ea.
66-C	25.50 Ea.	808-B-25'	2.75 Ea.	692-D	60.00/Ea.	870-C	87.00/Ea.
67-E	4.00 Ea.	808-B-C-C	2.75 Ea.	692-E	49.50/Ea.	870-D	45.11/00/Ea.
68-C	5.00 Ea.	809-B-25'	1.70/Ea.	693-B	41.75/Ea.	870-E	26.50/Ea.
72-C	3.00 Ea.	811-B-C-C	2.75/Ea.	693-B-4-D	32.00/Ea.	872-C	13.50/Ea.
73-C	5.05/Ea.	812	2.00/Ea.	694-D	69.34-D	872-D	32.50/Ea.
76-M	23.65/Ea.	813	1.17/Ea.	694-3-D	63.50/Ea.	872-E	62.75/Ea.
77-M	26.70 Ea.	813-B-25'	2.75 Ea.	694-4-D	95.00/Ea.	872-M	12.00/Ea.
84-C	3.05/Ea.	814-B-25'	2.75 Ea.	700-C	1.25/Ea.	875	4.50/Ea.
85-C	3.25/Ea.	815-B-C-C	2.19/Ea.	701-D	2.40/Ea.	876	4.30/Ea.
87-C	4.00/Ea.	815-B-C-C	2.75/Ea.	702-3-D	63.00/Ea.	877	4.675/Ea.
92-M	26.65/Ea.	815-B-C-C	2.75/Ea.	702-4-D	85.00/Ea.	878	32.50/Ea.
93-M	29.75/Ea.	816-B-C-C	1.19/Ea.	703-D	123.60/Ea.	878-C	79.40/Ea.
94-M	32.45/Ea.	816-B-C-C	1.19/Ea.	703-3-D	173.50/Ea.	878-D	156.25/Ea.
95-E	16.00/Ea.	817-B-C-C	3.00/Ea.	703-4-D	232.00/Ea.	880	3.25/Ea.
158-E	32.50/Ea.	817-B-C-C	3.00/Ea.	704-3-D	163.50/Ea.	880-3	29.00/Ea.
160-E	41.25/Ea.	818-10'	4.00/Ea.	704-4-D	227.50/Ea.	880-E	39.00/Ea.
162-D	30.00/Ea.	818-B-15'	4.20/Ea.	710-C	1.25/Ea.	881	5.57/Ea.
163-D	30.00/Ea.	818-B-C-C	4.45/Ea.	710-D	2.40/Ea.	882	14.60/Ea.
164-D	40.00/Ea.	819-B-10'	4.45/Ea.	711-D	2.40/Ea.	882-3	7.10/Ea.
165-D-230'	42.00/Ea.	819-B-C-C	4.45/Ea.	712-D	63.00/Ea.	882	148.00/Ea.
165-D-330'	42.00/Ea.	819-B-C-C	6.75/Ea.	712-E	85.00/Ea.	882-E	6.25/Ea.
172-E	43.50/Ea.	820-B-C-C	8.50/Ea.	712-F	52.25/Ea.	882-F	5.25/Ea.
172-M	85.00/Ea.	821-B-C-C	6.25/Ea.	714-C	117.50/Ea.	883	31.60/Ea.
172-N	11.75/Ea.	822	6.50/Ea.	714-D	170.00/Ea.	883-3	1.625/Ea.
172-O	58.75/Ea.	822	6.50/Ea.	714-E	112.50/Ea.	883-E	75.00/Ea.
172-P	11.50/Ea.	822	14.00/Ea.	714-F	200.00/Ea.	883-E	42.50/Ea.
174-C	160.00/Ea.	823-B-C-C	2.150/Ea.	714-G	230.00/Ea.	883-E	50.00/Ea.
174-D	160.00/Ea.	823-B-C-C	2.750/Ea.	714-H	245.00/Ea.	883-E	91.00/Ea.
175-C	18.75/Ea.	823-B-C-C	3.35/Ea.	710-C	9.79/Ea.	883-E	180.00/Ea.
175-E	99.75/Ea.	823-B-15'	7.95/Ea.	710-D	24.20/Ea.	883-E	7.29/Ea.
175-M	187.50/Ea.	823-B-15'	4.40/Ea.	710-E	91.40/Ea.	883-E	35.00/Ea.
175-N	12.00/Ea.	823-B-15'	4.90/Ea.	710-F	92.40/Ea.	883-E	70.00/Ea.
175-O	21.00/Ea.	826-B-C-C	5.00/Ea.	710-G	15.20/Ea.	883-E	38.50/Ea.
176-M	28.50/Ea.	826-B-C-C	26.75/Ea.	710-H	15.20/Ea.	883-E	77.00/Ea.
178-C	37.50/Ea.	828-B-C-C	80.00/Ea.	712-D	59.05/Ea.	883-E	9.00/Ea.
179-C	37.50/Ea.	829-B-C-C	108.25/Ea.	712-E	146.75/Ea.	883-E	9.00/Ea.
180-C	40.00/Ea.	829	3.00/Ea.	714-C	3.85/Ea.	883-E	43.75/Ea.
180-E	40.00/Ea.	830-B-C-C	32.50/Ea.	714-D	9.95/Ea.	883-M	87.50/Ea.
263-E	44.50/Ea.	830-B-C-C	35.00/Ea.	714-E	19.40/Ea.	883-M	43.50/Ea.
263-M	89.00/Ea.	831-B-C-C	35.00/Ea.	714-F	38.70/Ea.	883-M	52.50/Ea.
264-C	11.60/Ea.	831-B-C-C	30.00/Ea.	714-G	88.80/Ea.	883-M	105.00/Ea.
264-E	11.60/Ea.	831-B-C-C	30.00/Ea.	749-E	3.50/Ea.	883-M	14.00/Ea.
265-C	11.60/Ea.	832-B-C-C	139.48/Ea.	749-F	163.00/Ea.	883-M	66.00/Ea.
265-E	66.50/Ea.	832-B-C-C	4.60/Ea.	749-G	163.00/Ea.	883-M	97.25/Ea.
265-M	139.00/Ea.	832-C	3.86/Ea.	749-H	176.00/Ea.	883-M	23.70/Ea.
266-C	16.30/Ea.	832-C	4.22/Ea.	749-I	210.00/Ea.	883-M	25.65/Ea.
266-E	80.00/Ea.	834-C	4.72/Ea.	722-D	72.25/Ea.	884-M	2.50/Ea.
266-E	80.00/Ea.	834-C	3.22/Ea.	722-E	72.25/Ea.	884-M	2.50/Ea.
266-E	80.00/Ea.	834-C	7.60/Ea.	722-F	48.00/Ea.	884-M	30.50/Ea.
267-E	91.00/Ea.	838-C	10.30/Ea.	722-G	72.25/Ea.	884-M	25.65/Ea.
268-M	182.00/Ea.	838-C	4.60/Ea.	722-H	72.25/Ea.	884-M	48.50/Ea.
268-M	20.50/Ea.	838-C	10.90/Ea.	722-I	72.25/Ea.	884-M	25.00/Ea.
268-M	26.25/Ea.	838-C	6.90/Ea.	722-J	72.25/Ea.	884-M	25.00/Ea.
270-C	130.75/Ea.	838-C	9.20/Ea.	722-K	72.25/Ea.	884-M	48.50/Ea.
270-E	261.50/Ea.	838-C	9.20/Ea.	722-L	72.25/Ea.	884-M	48.50/Ea.
270-E	261.50/Ea.	838-C	9.20/Ea.	722-M	72.25/Ea.	884-M	48.50/Ea.
290-V-C-C	6.00/Ea.	845-C	4.50/Ea.	724-C	120.00/Ea.	884-M	30.50/Ea.
291	1.90/Ea.	845-C	5.00/Ea.	724-D	93.50/Ea.	884-M	30.50/Ea.
291-V-25'	2.20/Ea.	845-C	5.00/Ea.	724-E	195.00/Ea.	884-M	24.00/Ea.
291-V-C-C	6.60/Ea.	845-C	7.95/Ea.	724-F	74.18-D	884-M	47.00/Ea.
293-V-C-C	7.05/Ea.	845-C	7.95/Ea.	724-G	83.00/Ea.	884-M	47.00/Ea.
294-V-C-C	7.22/Ea.	845-C	85.00/Ea.	724-H	170.00/Ea.	884-M	47.00/Ea.
294-V-25'	2.00/Ea.	845-C	61.90/Ea.	724-I	120.00/Ea.	884-M	47.00/Ea.
294-V-C-C	7.50/Ea.	845-C	61.90/Ea.	724-J	120.00/Ea.	884-M	47.00/Ea.
295-V-25'	2.22/Ea.	845-C	109.75/Ea.	724-K	120.00/Ea.	884-M	47.00/Ea.
295-V-C-C	7.75/Ea.	845-C	22.50/Ea.	724-L	120.00/Ea.	884-M	47.00/Ea.
296-V-C-C	2.10/Ea.	845-C	46.90/Ea.	724-M	120.00/Ea.	884-M	47.00/Ea.
297	60.00/Ea.	845-C	44.50/Ea.	724-N	120.00/Ea.	884-M	47.00/Ea.
298	1.58/Ea.	845-C	21.00/Ea.	724-O	120.00/Ea.	884-M	47.00/Ea.
298	1.58/Ea.	845-C	21.00/Ea.	724-P	120.00/Ea.	884-M	47.00/Ea.
299-V-C-C	50.00/Ea.	845-C	13.00/Ea.	724-Q	120.00/Ea.	884-M	47.00/Ea.
300	22.22/Ea.	845-C	25.00/Ea.	724-R	120.00/Ea.	884-M	47.00/Ea.
300-V-25'	2.15/Ea.	845-C	57.4-D	724-S	120.00/Ea.	884-M	47.00/Ea.
300-V-C-C	8.35/Ea.	845-C	36.00/Ea.	724-T	120.00/Ea.	884-M	47.00/Ea.
301-V-15'	1.40/Ea.	845-C	63.70/Ea.	724-U	120.00/Ea.	884-M	47.00/Ea.
301-V-C-C	11.95/Ea.	845-C	24.00/Ea.	724-V	120.00/Ea.	884-M	47.00/Ea.
302-V-10'	1.55/Ea.	845-C	78.8-D	724-W	120.00/Ea.	884-M	47.00/Ea.
302-V-C-C	18.20/Ea.	845-C	35.20/Ea.	724-X	120.00/Ea.	884-M	47.00/Ea.
303-V-C-C	7.75/Ea.	845-C	37.00/Ea.	724-Y	120.00/Ea.	884-M	47.00/Ea.
303-V-C-C	20.00/Ea.	845-C	39.60/Ea.	724-Z	120.00/Ea.	884-M	47.00/Ea.
304-V-C-C	30.00/Ea.	845-C	54.35/Ea.	724-AA	120.00/Ea.	884-M	47.00/Ea.
305-V-10'	1.75/Ea.	845-C	53.35/Ea.	724-AB	120.00/Ea.	884-M	47.00/Ea.
305-V-C-C	14.25/Ea.	845-C	60.50/Ea.	724-AC	120.00/Ea.	884-M	47.00/Ea.
306-V-10'	1.85/Ea.	845-C	96.00/Ea.	724-AD	120.00/Ea.	884-M	47.00/Ea.
C	100 ft. — D	250 ft. — E	500 ft. — M	1000 ft. — F	2500 ft.	865-10'	24.00/Ea.
						865-1-C	46.50/Ea.
						865-1-M	458.00/Ea.
						865-1-E	458.00/Ea.
						865-1-C	46.50/Ea.
						865-1-E	458.00/Ea.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Birnbach PRICE LIST

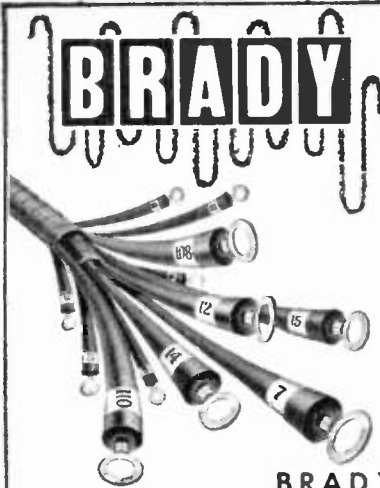
Main table with columns: Cat. No., Sup. List Price, Cat. No., Sup. List Price, Size, Ft., List Price Each, Cat. No., Sup. List Price, Size, Ft., List Price Each. Includes sections for HF HEAVY FORMVAR MAGNET WIRE, SOLID TINNED WIRE, DCC DOUBLE COTTON MAGNET WIRE, PE PLAIN ENAMEL MAGNET WIRE, and DNC DOUBLE NYLON MAGNET WIRE.

C = 100 ft. — D = 250 ft. — E = 500 ft. — M = 1000 ft. — F = 2500 ft. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE NOTE: FOR STRIPED VINYL SPIRAL TRACERS, ADD \$1.88 TO LIST PRICE PER 1000'. Where wire is shipped on returnable spools or reels a deposit covering same will be required. No credit will be allowed for returnable reels and spools unless returned prepaid within 12 months from date of shipment. All deposit spools and reels are billed separately on invoice and not included in price of materials sold.

Birnbach PRICE LIST

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Cat. No.	Sub. Price	List Price	Cat. No.	Sub. Price	List Price	Cat. No.	Sub. Price	List Price	Cat. No.	Sub. Price	List Price	Cat. No.	Sub. Price	List Price	Cat. No.	Sub. Price	List Price
001	18.90 C	34.00 C	440-B	34.00 C	44.00 C	1134-T	13.75 C	18.00 C	5026	3.50 Gr.	5.00 Gr.	6572	3.00 Gr.	5.00 Gr.	8579-A	370.00 C	
1	18.90 C	34.00 C	440-C	34.00 C	44.00 C	1135	14.00 C	18.00 C	5028	3.50 Gr.	5.00 Gr.	6573	3.00 Gr.	5.00 Gr.	8579-B	370.00 C	
1-A	18.90 C	34.00 C	440-D	34.00 C	44.00 C	1136	14.25 C	18.00 C	5031	3.50 Gr.	5.00 Gr.	6574	3.00 Gr.	5.00 Gr.	8579-C	370.00 C	
1-B	18.90 C	34.00 C	440-E	34.00 C	44.00 C	1137	14.50 C	18.00 C	5032	3.50 Gr.	5.00 Gr.	6575	3.00 Gr.	5.00 Gr.	8579-D	370.00 C	
1-C	18.90 C	34.00 C	440-F	34.00 C	44.00 C	1138	14.75 C	18.00 C	5033	3.50 Gr.	5.00 Gr.	6576	3.00 Gr.	5.00 Gr.	8579-E	370.00 C	
1-D	18.90 C	34.00 C	440-G	34.00 C	44.00 C	1139	15.00 C	18.00 C	5034	3.50 Gr.	5.00 Gr.	6577	3.00 Gr.	5.00 Gr.	8579-F	370.00 C	
1-E	18.90 C	34.00 C	440-H	34.00 C	44.00 C	1140	15.25 C	18.00 C	5035	3.50 Gr.	5.00 Gr.	6578	3.00 Gr.	5.00 Gr.	8579-G	370.00 C	
1-F	18.90 C	34.00 C	440-I	34.00 C	44.00 C	1141	15.50 C	18.00 C	5036	3.50 Gr.	5.00 Gr.	6579	3.00 Gr.	5.00 Gr.	8579-H	370.00 C	
1-G	18.90 C	34.00 C	440-J	34.00 C	44.00 C	1142	15.75 C	18.00 C	5037	3.50 Gr.	5.00 Gr.	6580	3.00 Gr.	5.00 Gr.	8579-I	370.00 C	
1-H	18.90 C	34.00 C	440-K	34.00 C	44.00 C	1143	16.00 C	18.00 C	5038	3.50 Gr.	5.00 Gr.	6581	3.00 Gr.	5.00 Gr.	8579-J	370.00 C	
1-I	18.90 C	34.00 C	440-L	34.00 C	44.00 C	1144	16.25 C	18.00 C	5039	3.50 Gr.	5.00 Gr.	6582	3.00 Gr.	5.00 Gr.	8579-K	370.00 C	
1-J	18.90 C	34.00 C	440-M	34.00 C	44.00 C	1145	16.50 C	18.00 C	5040	3.50 Gr.	5.00 Gr.	6583	3.00 Gr.	5.00 Gr.	8579-L	370.00 C	
1-K	18.90 C	34.00 C	440-N	34.00 C	44.00 C	1146	16.75 C	18.00 C	5041	3.50 Gr.	5.00 Gr.	6584	3.00 Gr.	5.00 Gr.	8579-M	370.00 C	
1-L	18.90 C	34.00 C	440-O	34.00 C	44.00 C	1147	17.00 C	18.00 C	5042	3.50 Gr.	5.00 Gr.	6585	3.00 Gr.	5.00 Gr.	8579-N	370.00 C	
1-M	18.90 C	34.00 C	440-P	34.00 C	44.00 C	1148	17.25 C	18.00 C	5043	3.50 Gr.	5.00 Gr.	6586	3.00 Gr.	5.00 Gr.	8579-O	370.00 C	
1-N	18.90 C	34.00 C	440-Q	34.00 C	44.00 C	1149	17.50 C	18.00 C	5044	3.50 Gr.	5.00 Gr.	6587	3.00 Gr.	5.00 Gr.	8579-P	370.00 C	
1-O	18.90 C	34.00 C	440-R	34.00 C	44.00 C	1150	17.75 C	18.00 C	5045	3.50 Gr.	5.00 Gr.	6588	3.00 Gr.	5.00 Gr.	8579-Q	370.00 C	
1-P	18.90 C	34.00 C	440-S	34.00 C	44.00 C	1151	18.00 C	18.00 C	5046	3.50 Gr.	5.00 Gr.	6589	3.00 Gr.	5.00 Gr.	8579-R	370.00 C	
1-Q	18.90 C	34.00 C	440-T	34.00 C	44.00 C	1152	18.25 C	18.00 C	5047	3.50 Gr.	5.00 Gr.	6590	3.00 Gr.	5.00 Gr.	8579-S	370.00 C	
1-R	18.90 C	34.00 C	440-U	34.00 C	44.00 C	1153	18.50 C	18.00 C	5048	3.50 Gr.	5.00 Gr.	6591	3.00 Gr.	5.00 Gr.	8579-T	370.00 C	
1-S	18.90 C	34.00 C	440-V	34.00 C	44.00 C	1154	18.75 C	18.00 C	5049	3.50 Gr.	5.00 Gr.	6592	3.00 Gr.	5.00 Gr.	8579-U	370.00 C	
1-T	18.90 C	34.00 C	440-W	34.00 C	44.00 C	1155	19.00 C	18.00 C	5050	3.50 Gr.	5.00 Gr.	6593	3.00 Gr.	5.00 Gr.	8579-V	370.00 C	
1-U	18.90 C	34.00 C	440-X	34.00 C	44.00 C	1156	19.25 C	18.00 C	5051	3.50 Gr.	5.00 Gr.	6594	3.00 Gr.	5.00 Gr.	8579-W	370.00 C	
1-V	18.90 C	34.00 C	440-Y	34.00 C	44.00 C	1157	19.50 C	18.00 C	5052	3.50 Gr.	5.00 Gr.	6595	3.00 Gr.	5.00 Gr.	8579-X	370.00 C	
1-W	18.90 C	34.00 C	440-Z	34.00 C	44.00 C	1158	19.75 C	18.00 C	5053	3.50 Gr.	5.00 Gr.	6596	3.00 Gr.	5.00 Gr.	8579-Y	370.00 C	
1-X	18.90 C	34.00 C	440-AA	34.00 C	44.00 C	1159	20.00 C	18.00 C	5054	3.50 Gr.	5.00 Gr.	6597	3.00 Gr.	5.00 Gr.	8579-Z	370.00 C	
1-Y	18.90 C	34.00 C	440-AB	34.00 C	44.00 C	1160	20.25 C	18.00 C	5055	3.50 Gr.	5.00 Gr.	6598	3.00 Gr.	5.00 Gr.	8579-AA	370.00 C	
1-Z	18.90 C	34.00 C	440-AC	34.00 C	44.00 C	1161	20.50 C	18.00 C	5056	3.50 Gr.	5.00 Gr.	6599	3.00 Gr.	5.00 Gr.	8579-AB	370.00 C	
2	18.90 C	34.00 C	440-AD	34.00 C	44.00 C	1162	20.75 C	18.00 C	5057	3.50 Gr.	5.00 Gr.	6600	3.00 Gr.	5.00 Gr.	8579-AC	370.00 C	
2-A	18.90 C	34.00 C	440-AE	34.00 C	44.00 C	1163	21.00 C	18.00 C	5058	3.50 Gr.	5.00 Gr.	6601	3.00 Gr.	5.00 Gr.	8579-AD	370.00 C	
2-B	18.90 C	34.00 C	440-AF	34.00 C	44.00 C	1164	21.25 C	18.00 C	5059	3.50 Gr.	5.00 Gr.	6602	3.00 Gr.	5.00 Gr.	8579-AE	370.00 C	
2-C	18.90 C	34.00 C	440-AG	34.00 C	44.00 C	1165	21.50 C	18.00 C	5060	3.50 Gr.	5.00 Gr.	6603	3.00 Gr.	5.00 Gr.	8579-AF	370.00 C	
2-D	18.90 C	34.00 C	440-AH	34.00 C	44.00 C	1166	21.75 C	18.00 C	5061	3.50 Gr.	5.00 Gr.	6604	3.00 Gr.	5.00 Gr.	8579-AG	370.00 C	
2-E	18.90 C	34.00 C	440-AI	34.00 C	44.00 C	1167	22.00 C	18.00 C	5062	3.50 Gr.	5.00 Gr.	6605	3.00 Gr.	5.00 Gr.	8579-AH	370.00 C	
2-F	18.90 C	34.00 C	440-AJ	34.00 C	44.00 C	1168	22.25 C	18.00 C	5063	3.50 Gr.	5.00 Gr.	6606	3.00 Gr.	5.00 Gr.	8579-AI	370.00 C	
2-G	18.90 C	34.00 C	440-AK	34.00 C	44.00 C	1169	22.50 C	18.00 C	5064	3.50 Gr.	5.00 Gr.	6607	3.00 Gr.	5.00 Gr.	8579-AJ	370.00 C	
2-H	18.90 C	34.00 C	440-AL	34.00 C	44.00 C	1170	22.75 C	18.00 C	5065	3.50 Gr.	5.00 Gr.	6608	3.00 Gr.	5.00 Gr.	8579-AK	370.00 C	
2-I	18.90 C	34.00 C	440-AM	34.00 C	44.00 C	1171	23.00 C	18.00 C	5066	3.50 Gr.	5.00 Gr.	6609	3.00 Gr.	5.00 Gr.	8579-AL	370.00 C	
2-J	18.90 C	34.00 C	440-AN	34.00 C	44.00 C	1172	23.25 C	18.00 C	5067	3.50 Gr.	5.00 Gr.	6610	3.00 Gr.	5.00 Gr.	8579-AM	370.00 C	
2-K	18.90 C	34.00 C	440-AO	34.00 C	44.00 C	1173	23.50 C	18.00 C	5068	3.50 Gr.	5.00 Gr.	6611	3.00 Gr.	5.00 Gr.	8579-AN	370.00 C	
2-L	18.90 C	34.00 C	440-AP	34.00 C	44.00 C	1174	23.75 C	18.00 C	5069	3.50 Gr.	5.00 Gr.	6612	3.00 Gr.	5.00 Gr.	8579-AO	370.00 C	
2-M	18.90 C	34.00 C	440-AQ	34.00 C	44.00 C	1175	24.00 C	18.00 C	5070	3.50 Gr.	5.00 Gr.	6613	3.00 Gr.	5.00 Gr.	8579-AP	370.00 C	
2-N	18.90 C	34.00 C	440-AR	34.00 C	44.00 C	1176	24.25 C	18.00 C	5071	3.50 Gr.	5.00 Gr.	6614	3.00 Gr.	5.00 Gr.	8579-AQ	370.00 C	
2-O	18.90 C	34.00 C	440-AS	34.00 C	44.00 C	1177	24.50 C	18.00 C	5072	3.50 Gr.	5.00 Gr.	6615	3.00 Gr.	5.00 Gr.	8579-AR	370.00 C	
2-P	18.90 C	34.00 C	440-AT	34.00 C	44.00 C	1178	24.75 C	18.00 C	5073	3.50 Gr.	5.00 Gr.	6616	3.00 Gr.	5.00 Gr.	8579-AS	370.00 C	
2-Q	18.90 C	34.00 C	440-AU	34.00 C	44.00 C	1179	25.00 C	18.00 C	5074	3.50 Gr.	5.00 Gr.	6617	3.00 Gr.	5.00 Gr.	8579-AT	370.00 C	
2-R	18.90 C	34.00 C	440-AV	34.00 C	44.00 C	1180	25.25 C	18.00 C	5075	3.50 Gr.	5.00 Gr.	6618	3.00 Gr.	5.00 Gr.	8579-AU	370.00 C	
2-S	18.90 C	34.00 C	440-AW	34.00 C	44.00 C	1181	25.50 C	18.00 C	5076	3.50 Gr.	5.00 Gr.	6619	3.00 Gr.	5.00 Gr.	8579-AV	370.00 C	
2-T	18.90 C	34.00 C	440-AX	34.00 C	44.00 C	1182	25.75 C	18.00 C	5077	3.50 Gr.	5.00 Gr.	6620	3.00 Gr.	5.00 Gr.	8579-AW	370.00 C	
2-U	18.90 C	34.00 C	440-AY	34.00 C	44.00 C	1183	26.00 C	18.00 C	5078	3.50 Gr.	5.00 Gr.	6621	3.00 Gr.	5.00 Gr.	8579-AX	370.00 C	
2-V	18.90 C	34.00 C	440-AZ	34.00 C	44.00 C	1184	26.25 C	18.00 C	5079	3.50 Gr.	5.00 Gr.	6622	3.00 Gr.	5.00 Gr.	8579-AY	370.00 C	
2-W	18.90 C	34.00 C	440-BA	34.00 C	44.00 C	1185	26.50 C	18.00 C	5080	3.50 Gr.	5.00 Gr.	6623	3.00 Gr.	5.00 Gr.	8579-AZ	370.00 C	
2-X	18.90 C	34.00 C	440-BB	34.00 C	44.00 C	1186	26.75 C	18.00 C	5081	3.50 Gr.	5.00 Gr.	6624	3.00 Gr.	5.00 Gr.	8579-BA	370.00 C	
2-Y	18.90 C	34.00 C	440-BB	34.00 C	44.00 C	1187	27.00 C	18.00 C	5082	3.50 Gr.	5.00 Gr.	6625	3.00 Gr.	5.00 Gr.	8579-BB	370.00 C	
2-Z	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1188	27.25 C	18.00 C	5083	3.50 Gr.	5.00 Gr.	6626	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1189	27.50 C	18.00 C	5084	3.50 Gr.	5.00 Gr.	6627	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-A	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1190	27.75 C	18.00 C	5085	3.50 Gr.	5.00 Gr.	6628	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-B	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1191	28.00 C	18.00 C	5086	3.50 Gr.	5.00 Gr.	6629	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-C	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1192	28.25 C	18.00 C	5087	3.50 Gr.	5.00 Gr.	6630	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-D	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1193	28.50 C	18.00 C	5088	3.50 Gr.	5.00 Gr.	6631	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-E	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1194	28.75 C	18.00 C	5089	3.50 Gr.	5.00 Gr.	6632	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-F	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1195	29.00 C	18.00 C	5090	3.50 Gr.	5.00 Gr.	6633	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-G	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1196	29.25 C	18.00 C	5091	3.50 Gr.	5.00 Gr.	6634	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-H	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1197	29.50 C	18.00 C	5092	3.50 Gr.	5.00 Gr.	6635	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-I	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1198	29.75 C	18.00 C	5093	3.50 Gr.	5.00 Gr.	6636	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-J	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1199	30.00 C	18.00 C	5094	3.50 Gr.	5.00 Gr.	6637	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-K	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1200	30.25 C	18.00 C	5095	3.50 Gr.	5.00 Gr.	6638	3.00 Gr.	5.00 Gr.	8579-BC	370.00 C	
3-L	18.90 C	34.00 C	440-BC	34.00 C	44.00 C	1201	30.50 C	18.00 C	5096	3.50 Gr.	5.00 Gr.	6639	3.00 Gr.				



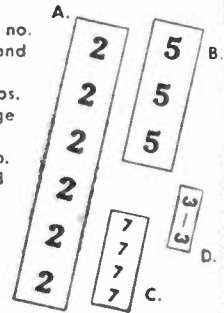
BRADY Self-Sticking WIRE MARKERS

• COMMUNICATION • INSTALLATION • REPAIR

Quick, permanent "around-the-wire" identification in a wide variety of materials that resist heat, moisture, chemicals... in vinyl cloth, all-vinyl, Mylar*, aluminum foil, acetate cloth or glass cloth. Stick tight to all wires — tell which wire goes where. Ask your jobber for Bulletin 130 listing more than 2000 stock markers. Specials made to order.

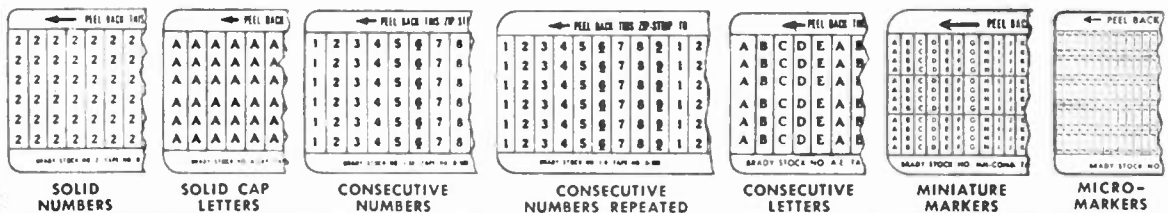
FOUR SIZES:

- A. 1 1/2" long for no. 10 gauge wires and larger.
- B. 3/4" long for nos. 12, 14 and 16 gauge wires.
- C. 1/2" long for no. 18 gauge wires and smaller.
- D. 5/16" long — only 5/16" x 3/64" — for flagging sub-miniature components.



*DuPont's Registered Trademark

BRADY PERMA-CODE WIRE MARKERS



Stock No.	Legend	Markers Per Card	3/4" 1 1/2"	Stock No.	Legend	Markers Per Card	3/4" 1 1/2"	Stock No.	Legend	Markers Per Card	1/2"
VINYL-CLOTH MARKERS (#B 500)											
Solid Numbers				Consecutive Numbers Repeated				Miniature Markers (#B-395)			
0	0	72	36	1-3	1-3	72	36	MM-0	0	150	1/2" long
1	1	72	36	1-4	1-4	72	36	MM-1	1	150	
2	2	72	36	1-5	1-5	70	35	MM-2	2	150	
3	3	72	36	1-6	1-6	72	36	and so on thru			
and so on thru				1-8	1-8	64	32	MM-25	25	150	
97	97	72	36	1-9	1-9	64	32	Solid Capital Letters			
98	98	72	36	0-9	0-9	54	27	MM-A-CAP	A	150	
99	99	72	36	1-10	1-10	60	30	MM-B-CAP	B	150	
100	100	50	25	0-10	0-10	60	30	MM-C-CAP	C	150	
101	101	50	25	1-12	1-12	72	36	and so on thru			
102	102	50	25	1-16	1-16	64	32	MM-Z-CAP	Z	72	36
103	103	50	25	1-18	1-18	72	36	Consecutive Numbers			
and so on thru				19-36	19-36	72	36	1-33	1-33	66	33
598	598	50	25	Consecutive Letters Repeated				34-66	34-66	66	33
599	599	50	25	A-E	A thru E	70	35	67-99	67-99	66	33
600	600	50	25	F-J	F thru J	70	35	and so on thru			
Solid Capital Letters				K-O	K thru O	70	35	225-249	225-249	50	25
A-CAP	A	72	36	P-T	P thru T	70	35	250-274	250-274	50	25
B-CAP	B	72	36	U-Z	U thru Z	72	36	275-299	275-299	50	25
C-CAP	C	72	36	Miniature Write-On Labels (Blank, No Printing)				300-324	300-324	50	25
and so on thru				MM-WO-1	3/4" x 1/2"	150		and so on thru			
Z-CAP	Z	72	36	MM-WO-2	1/4" x 1/2"	108		1975-1999	1975-1999	50	25
Consecutive Numbers				MM-WO-3	1/2" x 1/2"	54		NET PRICES			
1-33	1-33	66	33	Stock No. MM-Comb.							
34-66	34-66	66	33	Special Combination of most commonly used numbers, letters and symbols—all on one card. Includes Numbers 0-15; Letters A-Z; and these Symbols:							
67-99	67-99	66	33	FIL GRD B+ SEC							
and so on thru				PR1 PLA							
225-249	225-249	50	25	You get 3 complete sets of each number, letter and symbol.							
250-274	250-274	50	25	VINYL MICRO-MARKERS (#B 330)							
275-299	275-299	50	25	Solid Numbers				5/16" long			
300-324	300-324	50	25	MXM-0	0	250		MXM 1	1	250	
and so on thru				MXM 2	2	250		MXM 2	2	250	
1975-1999	1975-1999	50	25	MXM 3	3	250		MXM 3	3	250	
NET PRICES				and so on thru				MXM 24	24	250	
VINYL-CLOTH #B-500 STOCK CARDS				MXM 25	25	250		MXM 25	25	250	
MINIATURE #B-395 STOCK CARDS				Consecutive Numbers							
VINYL MICRO-MARKERS (#B-330) STOCK CARDS				MXM 0-49	0, 1, 2, 3 thru 49	250					
				MXM 50-99	50, 51, 52 thru 99	250					
				Consecutive Numbers Repeated							
				MXM-1-5	1 thru 5	250					
				MXM 1-10	1 thru 10	250					
				MXM 11-20	11 thru 20	250					
				MXM 1-25	1 thru 25	250					

W. H. BRADY CO. Manufacturers of Quality Pressure-Sensitive Tape Products. Est. 1914

70A

BELDEN ELECTRONIC WIRES & CABLES

MICROPHONE and SHIELDED POWER SUPPLY CABLES

TYPICAL APPLICATIONS: Microphones, hi-fi connector cards, shielded interconnecting and Power Supply cables, remote control circuits, strain gauges.

PLASTIC CABLES RECOMMENDED FOR: Lower capacitance, lower loss, greater ozone and oil resistance, lighter weight, smaller.




RUBBER CABLES RECOMMENDED FOR: Greater abrasion and impact resistance, and extra limpness so cable will lie flat on stage or studio floor.

BOTH TYPES HAVE: Long flex life and high tensile strength.

COLOR CODING OF INDIVIDUAL CONDUCTORS FOR CABLES ON THIS PAGE

No. of Conductors	Color Coding						
	White	Black	Red	Green	Blue	Brown	Yellow Orange
1							
2	X						
3	X	X					
4	X	X	X				
5	X	X	X	X			
6	X	X	X	X	X		
7	X	X	X	X	X	X	
8	X	X	X	X	X	X	X

PLASTIC MICROPHONE AND SHIELDED POWER SUPPLY CABLES




1 to 5 CONDUCTORS	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Impedance (Ohms)	*Cap. (mmf ft)	**Cap. (mmf ft)	STANDARD Spool Lengths in ft
	8411	1	25 (7x33)	.144	74	3500	52	34	—	15, 25, 50, 100, 500
	8401	1	25 (7x33)	.200	74	5000	57	25	—	15, 25, 50, 100, 500
	8422	2	22 (16x34)	.231	87	1000	—	18	32	15, 25, 50, 100, 500
	8403	3	20 (26x34)	.247	94	600	—	25	45	15, 50, 100, 250, 500, 1000
	8404	4	20 (26x34)	.250	89	600	—	25	45	15, 50, 100, 250, 500, 1000
	8405	5	20 (26x34)	.275	84	600	—	25	45	15, 50, 100, 250, 500, 1000
	*8434	4	25 (7x33)	.169	100	400	—	25	40	100, 500, 1000

3 strands copper, 1 strands Copperweld, tinned, polyethylene insulated, tinned copper braid shield, chrome vinyl jacket

Tinned copper, polyethylene insulated, cabled, tinned copper braid shield, chrome vinyl jacket

3 strands copper, 4 strands Copperweld, tinned, polyethylene insulated, black and red conductors under BELDFOIL¹ aluminum-Mylar shield, stranded ground wire green and white conductors under over-all BELDFOIL aluminum-Mylar shield, chrome vinyl jacket

RUBBER MICROPHONE AND SHIELDED POWER SUPPLY CABLES

1 to 8 CONDUCTORS	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	Impedance (Ohms)	*Cap. (mmf ft)	**Cap. (mmf ft)	STANDARD Spool Lengths in ft
	8410	1	25 (7x33)	.245	78	3000	52	33	—	15, 25, 50, 100, 500
	3 strands copper 4 strands Copperweld, tinned, rubber insulated, tinned copper braid shield, black rubber jacket.									
	8412	2	20 (26x34)	.268	85	600	—	42	68	15, 25, 50, 100, 500
	8428	2	18 (41x34)	.295	91	300	—	47	80	15, 25, 50, 100, 500
	8423	3	20 (26x34)	.277	84	600	—	50	85	15, 50, 100, 250, 500, 1000
	8424	4	20 (26x34)	.295	81	600	—	55	95	15, 50, 100, 250, 500, 1000
	8425	5	20 (26x34)	.323	76	600	—	44	80	15, 50, 100, 250
	8426	6	20 (26x34)	.349	91	600	—	40	78	15, 50, 100, 250
	8427	7	20 (26x34)	.360	91	600	—	40	75	15, 50, 100, 250
	8418	8	20 (26x34)	.386	89	600	—	42	75	15, 50, 100, 250
	8414	2	20 (26x34)	.256	100	600	—	45	80	50, 500

Tinned copper, rubber insulated, cabled, conductive textile wrapped shield, stranded ground wire, black rubber jacket.

* Capacitance between conductors (8401, 8410, 8411 between conductor and shield)
 ** Capacitance between 1 conductor and remaining conductors connected to shield
 † Trademark of Copperweld Steel Company
 ‡ DuPont trademark
 § Belden trademark
 * New item

One Wire Source for

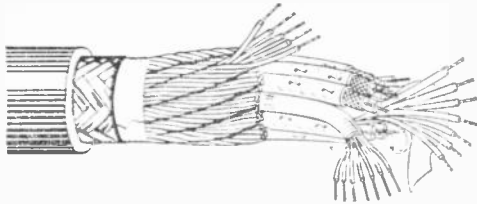
BELDEN ELECTRONIC WIRES & CABLES

TV CAMERA CABLES

Preferred by TV camera operators requiring dependable service under all conditions in which lighter weight, lower coefficient of friction, greater flexibility, and easier termination are essential.

Correct electronic characteristics are assured at every stage from design engineering through final inspection.

TRADE NUMBER ★8283



58 CONDUCTOR TV COLOR CAMERA CABLE

4-14 AWG (19x27) tinned copper, vinyl plastic insulated, color coded
 3-16 AWG (26x30) tinned copper, vinyl plastic insulated, color coded
 BELDFOIL aluminum-Mylar wrapped shield around the above 7 conductors cabled with stranded tinned copper drain wire
 8 coaxial cables
 Nom. impedance 53.5 ohms, color coded
 67-22 AWG (7x30) tinned copper, vinyl plastic insulated, color coded, 7 under conductive textile shield with stranded ground wire
 Tinned copper braid shield
 Chrome vinyl plastic jacket. 1.22" Nom. O.D.
 § Cut to customers' specified length.

28 CONDUCTOR TV CAMERA CABLE TRADE NUMBER 8280



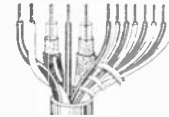
4-18 AWG 16x30 tinned copper, vinyl insulated, color coded
 21-22 AWG 7x30 tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded
 3-coaxial cables, Nom. impedance 51 ohms, color coded
 Tinned copper braid shield
 Chrome vinyl jacket. .750" Nom. O.D.
 Cut to customer's specified length.

24 CONDUCTOR TV CAMERA CABLE TRADE NUMBER ★8284



17-22 AWG (7x30) tinned copper, vinyl insulated, color coded
 4-16 AWG (26x30) tinned copper, vinyl insulated, color coded
 3 coaxial cables
 Nom. impedance 53.5 ohms, color coded
 Tinned copper braid shield
 Heavy cotton braid
 Chrome vinyl plastic jacket. .800" Nom. O.D.
 § Cut to customer's specified length.

13 CONDUCTOR TV EYE CABLE TRADE NUMBER 8282



9-22 AWG (7x30) tinned copper, vinyl insulated, color coded
 2-18 AWG (16x30) tinned stranded copper conductor vinyl insulated. Black and Red
 1-RG-58A U cable 50 ohm coax
 1-72 ohm coax, stranded conductor, Mylar tape wrapped
 Chrome vinyl jacket. .470" Nom. O.D.
 Standard spool lengths 50', 100', 500', 1000'.

§ Plus or minus 25 ft., minimum 25 ft., maximum 1500 ft.

75 OHM VIDEO CABLE

TYPICAL APPLICATIONS: Video signal transmission in color and monochrome TV studios. Provides high quality carrier of video signal with superior picture definition and eliminates problems of periodicity. Cable is manufactured with rigid control of concentricity

and all dimensional tolerances. Center conductor is maintained at same distance from shield through entire length of cable. 100% sweep tested.

DESCRIPTION	TRADE NUMBER	AWG & (Stranding) Material	Nom. O.D. (Inch)	Nom. Impedance (Ohms)	Nom. Velocity of Propagation	Nom. Cap. (mmf/ft)	Nom. Attenuation		STANDARD Spool Lengths in ft
							MC	db	
 Conductor, polyethylene insulated, tinned copper double braid shield, black polyethylene jacket.	8281	20 (Solid) copper	.310	75	65.2%	20.7	5	.55	100, 500, 1000
							10	.8	
							20	1.3	
							100	2.7	
							300	5.1	
							500	6.8	
							700	8.4	

BROADCAST AUDIO CABLES

Spiral wrapped copper shields plus drain wire plus shield isolation eliminate current loops so often found troublesome in this service.

Free stripping jackets, fast shield termination, and small diameters cut installation time and costs.

BROADCAST AUDIO CABLES	TRADE NUMBER	AWG & (Stranding) Inc. Drain Wire	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Suggested Working Voltage	Nominal Capacitance		STANDARD Spool Lengths in ft
							Between Cond. (mmf/ft)	Between one Cond. & other Cond. Tied to Shield (mmf/ft)	
	8436	22 (Solid)	.180	Blk, Red	90	100	31	52	100, 500, 1000
Tinned copper, Celanese wrap, Celanese braid lacquered, conductors cabled, tinned copper drain wire, tinned copper spiral wrapped shield, black vinyl jacket.									
	8437	22 (Solid)	.200	Blk, Red	88	200	48	85	100, 500, 1000
	★8441	22 (16x34)	.210	Blk, Red	88	200	49	86	100, 500, 1000
Tinned copper, vinyl insulated, conductors cabled, tinned copper drain wire, tinned copper braid shield, paper tape, black vinyl jacket.									
	8440	22 (Solid)	.185	Blk, Red	90	100	50	90	100, 500, 1000
Tinned copper, enamelled, cotton wrap, cotton braid, conductors cabled, tinned copper drain wire, tinned copper spiral wrapped shield, chrome vinyl jacket.									

★ New item.
 Ⓢ Trademark of Celanese Corp

Everything Electronic and Electrical

Sec. 6000





BELDEN ELECTRONIC WIRES & CABLES

TWO CONDUCTOR—TWISTED PAIR—SHIELDED CABLES

TYPICAL APPLICATIONS: PA and Call systems.

These cables are designed for every type service. A variety of gauges, insulations, shieldings, and jackets are offered so that the right

cable can be chosen for each job. Uniform quality and dimensions are maintained for dependable service. 8739, 8737, 8759, 8790, and 8762 recommended for stationary low impedance microphone lines.

TWISTED PAIRS 22 thru -16 Gauge	TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	Suggested Working Voltage	STANDARD Spool Lengths in ft
WITH JACKET  Tinned copper, vinyl insulated, tinned copper spiral wrapped shield, chrome vinyl jacket.	8739	22 (Solid)	.160	Blk, Red	90	38	66	350	100, 500, 1000
	8737	22 (7x30)	.170	Blk, Red	90	40	70	350	100, 500, 1000
	8759	20 (7x28)	.195	Blk, Red	90	47	79	350	100, 500, 1000
	8790	18 (7x26)	.231	Red, Wht	90	53	92	450	100, 500, 1000
	8780	16 (19x29)	.266	Blk, Wht	90	57	98	450	100, 500, 1000
	8762	20 (7x28)	.184	Blk, Wht	100	27	49	350	100, 500, 1000
Tinned copper, polyethylene insulated, stranded tinned copper ground wire, BELDFOIL aluminum-Mylar wrapped shield, chrome vinyl jacket.									
 Tinned copper, rubber insulated, braided tinned copper shield, chrome vinyl jacket.	8208	18 (16x30)	.270	Red, Wht	69	46	77	200	15, 50, 100, 500, 1000
	8209	18 (16x30)	.258	Red, Wht	69	51	89	200	15, 50, 100, 500, 1000
Tinned copper, rubber insulated, braided tinned copper shield, white cotton braid, treated for weather resistance.									
WITHOUT JACKET  Tinned copper, vinyl insulated, braided tinned copper shield.	8738	22 (Solid)	.130	Blk, Red	72	35	61	350	100, 500, 1000
	8758	20 (7x28)	.165	Blk, Red	63	42	72	350	100, 500, 1000
	8789	18 (7x26)	.205	Blk, Wht	74	50	89	450	100, 500, 1000
	8779	16 (19x26)	.225	Blk, Wht	83	63	112	600	100, 500, 1000
	8432	20 (10x30)	.225	Blk, Red	90	46	86	150	100, 500, 1000
Tinned copper, rubber insulated, cotton braid, lacquered, cabled, braided tinned copper shield.									
 Enameled copper, cotton braid, cotton braid, cabled, braided tinned copper shield.	8799	18 (Solid)	.165	Blk, Wht	78	30	50	100	100, 500, 1000

See BROADCAST AUDIO CABLES for additional 2 conductor shielded cables.




* Capacitance between conductors

** Capacitance between 1 conductor and other conductor connected to shield.

TWO CONDUCTOR—TWISTED PAIR—UNSHIELDED CABLES

TYPICAL APPLICATIONS: Sound and Alarm systems, speaker extensions. A variety of sizes and insulations are offered for every service.

Uniform quality and dimensions are maintained for dependable service and easy installations.

TWISTED PAIRS 22 through 16 AWG	TRADE NUMBER	AWG & (Stranding)	Insul. Thickness (Inches)	Cond. Color Coding	Nom. O.D. (Inch)	Suggested Working Voltage	STANDARD Spool Lengths in ft
WITHOUT JACKET  Copper, vinyl insulated, twisted.	8482	19 (Solid)	.015	Brn, Tan	.115	350	100, 500, 1000
	8492*	19 (Solid)	.025	1 cond. tinned copper	.170	600	100, 500, 1000
	8460	18 (7x26) tinned	.020	Blk, Wht	.175	450	100, 500, 1000
	8470	16 (19x29) tinned	.023	Blk, Wht	.195	600	100, 500, 1000
* Available with both conductors white or both brown.							
WITH JACKET  Copper, vinyl insulated, cabled, chrome vinyl jacket.	8740	22 (Solid) tinned	.015	Blk, Red	.150	200	100, 500, 1000
	▲8205	20 (10x30) tinned		Blk, Red	.190	350	25, 100, 500, 1000
	8486	19 (Solid)	.015	Brn, Tan	.162	350	100, 500, 1000
	8461	18 (7x26) tinned	.020	Blk, Wht	.195	450	100, 500, 1000
	8471	16 (19x29) tinned	.023	Blk, Wht	.246	600	100, 500, 1000
WITH COTTON BRAID  Tinned copper, rubber insulated, cabled, white cotton braid, treated for weather resistance.	8204	18 (16x30)		Red, Wht	.220	200	25, 100, 500, 1000

See PORTABLE CORDAGE and JUKE BOX CABLE for additional 2 conductor cables.




▲ Construction change.

One Wire Source for

BELDEN ELECTRONIC WIRES & CABLES

THREE CONDUCTOR SHIELDED CABLES



TYPICAL APPLICATIONS: PA, Sound systems, residential and industrial intercom systems. Offered in a variety of gauges, and shields to fit every application.

3 CONDUCTORS SHIELDED	TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Cond. Color Coding	Percent Shield Coverage	Nom. **Cap. (mmf ft)	Suggested Working Voltage	STANDARD Spool Lengths in ft
WITH JACKET 	★8731	22 (Solid)	.188	Blk, Red, Wht	90	57	350	100, 500, 1000
	8791	18 (7x26)	.236	Blk, Red, Wht	90	84	450	100, 500, 1000
Tinned copper wire insulated conductors cabled, tinned copper spiral wrapped shield, chrome vinyl jacket.								
	8735	22 (7x30)	.199	Blk, Red, Wht	70	60	350	15, 50, 100, 500, 1000
Tinned copper, vinyl insulated conductors cabled, tinned copper braid shield, chrome vinyl jacket.								
WITHOUT JACKET 	8433	20 (10x30)	.230	Blk, Red, Yel	89	76	175	100, 500
	Tinned copper, rubber insulated cotton braid lacquered, conductors cabled, tinned copper braid shield.							

See MICROPHONE CABLES for additional 3 conductor shielded cables.
 **Capacitance between 1 conductor and remaining conductors connected to shield.

THREE CONDUCTOR — UNSHIELDED CABLES

TYPICAL APPLICATIONS: All-purpose sound and intercom.





DESCRIPTION	TRADE NUMBER	AWG & (Stranding)	Insul. Thickness (Inches)	Nom. O.D. (Inch)	Cond. Color Coding	Suggested Working Voltage	STANDARD Spool Lengths in ft	
WITHOUT JACKET 	8483	19 (Solid)	.015	.132	Brn, Gray, Tan	350	100, 500, 1000	
	8493*	19 (Solid)	.025	.170	1 cond. tinned, 1 cond. insul. is ribbed	600	100, 500, 1000	
Bare copper, vinyl insulated coated. *Available with all conductors White or all Brown.								
WITH JACKET 	8443	22 (7x30) tinned	.010	.150	Blk, Grn, Red	200	25, 100, 500, 1000	
	8487	19 (Solid) Bare	.015	.180	Brn, Gray, Tan	350	100, 500, 1000	
Copper, vinyl insulated, cabled, chrome vinyl jacket.								

For additional 3 conductor cables see PORTABLE CORDAGE and JUKE BOX CABLES.

HI-FI, STEREO, and PHONOGRAPH CABLES

TYPICAL APPLICATIONS: Shielded connector cords and phono pick-up arm cables. Pick-up arm cables are extremely light, flexible, and small diameter with excellent dielectric strength. 8421 Hi-Fi connecting

cable has the spiral wrapped shield for easier and neater connections. Cellular polyethylene is used for lower loss. 8429 can be used on stereophonic heads.

DESCRIPTION	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Nom. O.D. (Inch)	Cond. Color Coding	Nom. Cap. (mmf ft)	STANDARD Spool Lengths in ft	
PHONO PICK UP ARM CABLES 	8430	2	32 (7x40)	.055	Blk, Red	21	10, 25, 250	
		4	use two 8430s for maximum channel isolation, one for each channel.					
	★8429	2	32 (7x40)		Blk, Red	22	10, 25, 250	
		4	use two 8429s for maximum channel isolation, one for each channel.					38 condr. to other cond. & shield
Tinned copper, vinyl insulated, twisted pair, tinned copper braid shield.								
	8431	1	24 (16x36)	.095	—	96	10, 15, 25, 100, 500	
Tinned copper, copper insulated, tinned copper braid shield, brown cotton braid.								
HI-FI CONNECTING CABLE 	★8421	1	25 (7x33)	.180	—	18	15, 25, 50, 100, 500	
3 strands tinned copper and 1 tinned Copperweld, cellular polyethylene insulated, tinned copper, spiral wrapped shield, chrome vinyl jacket.								

★New item

Everything Electronic and Electrical

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(See BELDEN Price List and Index on Pages 1518-1520)

The MASTER — 24th Edition

Sec. 6000


BELDEN ELECTRONIC WIRES & CABLES

MULTIPLE PAIR UNSHIELDED INTERCOM CABLE

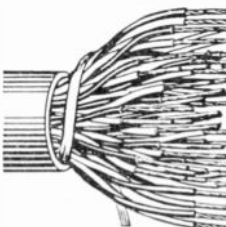
TYPICAL APPLICATIONS: Balanced line intercom systems.

Made with 80C vinyl plastic compounds for high dielectric strength and the best physical properties, such as free stripping, small diameter, and tear resistance. It also resists the effects of water, sun, oil, grease, and ozone.

The conductors are paired with a short-lay twist for conductor balance, providing a quiet circuit, free from crosstalk.

1 to 27 PAIRS	TRADE NUMBER	No. of Pairs	Stranding	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
	8740	1	Solid	.150	100, 500, 1000
	8741	2	Solid	.201	100, 500, 1000
	8742	3	Solid	.240	100, 500, 1000
	8743	6	Solid	.305	100, 500, 1000
	8747	6	7x30	.340	100, 500, 1000
	8744	9	Solid	.354	100, 500, 1000
	8748	9	7x30	.389	100, 500, 1000
	8753	11	Solid	.384	100, 500, 1000
	*8754	13	Solid	.409	100, 500, 1000
	8745	15	Solid	.420	100, 500, 1000
	8749	15	7x30	.425	100, 500, 1000
	*8755	19	Solid	.480	100, 500, 1000
	*8756	23	Solid	.510	100, 500, 1000
	8746	27	Solid	.550	To customers' specified length. §
	8750	27	7x30	.595	To customers' specified length. §

22 Tinned copper, vinyl insulated, cabled in pairs, chrome vinyl jacket. 200 Volts suggested working voltage



§ Plus or minus 25 ft., minimum 25 ft., maximum 1500 ft.

PAIRED INTERCOM CABLES COLOR CODE LISTING

Belden Intercom Cables are color coded for easy identification. In the description of Intercom Cables, color coding of pairs is identified by number shown in the following list:

Pair Number	Color Combination
1	Black paired with Red
2	Black paired with White
3	Black paired with Green
4	Black paired with Blue
5	Black paired with Brown
6	Black paired with Yellow
7	Black paired with Orange
8	Red paired with Green
9	Red paired with White
10	Red paired with Blue
11	Red paired with Yellow
12	Red paired with Brown
13	Red paired with Orange
14	Green paired with Blue
15	Green paired with White
16	Green paired with Brown
17	Green paired with Orange
18	Green paired with Yellow
19	White paired with Blue
20	White paired with Brown
21	White paired with Orange
22	White paired with Yellow
23	Blue paired with Brown
24	Blue paired with Orange
25	Blue paired with Yellow
26	Brown paired with Orange
27	Brown paired with Yellow

MULTIPLE CONDUCTOR UNPAIRED INTERCOM CABLES


TYPICAL APPLICATIONS: Control, annunciator, and communication circuits.

Cables are waterproof, oil resistant, weather resistant, flexible, lightweight, small in diameter, tear resistant, and easily stripped.

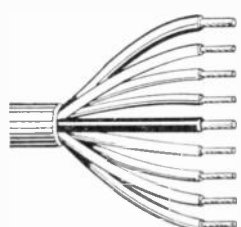
COLOR CODING OF INDIVIDUAL CONDUCTORS FOR CABLES 8443 through 8449

Conductor	Color
1st	Black
2nd	Red
3rd	Green
4th	White
5th	Brown
6th	Blue
7th	Orange
8th	Yellow
9th	Purple

18 Gauge conductors in cables 8446 through 8449 are Black and Red.

3 to 9 CONDUCTORS	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
	8443	3	22 (7x30)	.150	25, 100, 500, 1000
	8444	4	22 (7x30)	.168	25, 100, 500, 1000
	8445	5	22 (7x30)	.180	25, 100, 500, 1000
	8446	6	4-22 (7x30) 2-18 (16x30)	.222	15, 100, 500, 1000
	8447	7	5-22 (7x30) 2-18 (16x30)	.246	15, 100, 500, 1000
	8448	8	6-22 (7x30) 2-18 (16x30)	.251	15, 100, 500, 1000
	8449	9	7-22 (7x30) 2-18 (16x30)	.261	15, 100, 500, 1000

Tinned copper, vinyl plastic insulated, cabled, chrome vinyl jacket. 200 Volts suggested working voltage.



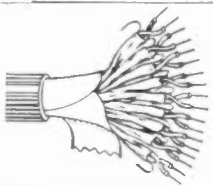
★New item

One Wire Source for

BELDEN ELECTRONIC WIRES & CABLES

MULTIPLE PAIR INDIVIDUALLY SHIELDED INTERCOM CABLE

These cables are similar in construction and features to the Multiple Pair Unshielded Cables. The addition of the BELDFOIL aluminum-Mylar tape shield insures no crosstalk between pairs and eliminates noise caused by external interference. See Color Code Listing on Top of Page 1508.





9 and 15 PAIR CABLES	TRADE NUMBER	No. of Pairs	Stranding	Nom. O.D. (Inch)	Nom. *Cap. (mmf ft)	Nom. **Cap. (mmf ft)	STANDARD Spool Lengths in ft
	★8764	9	Solid	.425	40	77	100, 500, 1000
	★8766	15	Solid	.510	40	77	100, 500, 1000

*22 Tinned copper, vinyl insulated, cabled in pairs, each pair and its ground wire under BELDFOIL aluminum-Mylar shield, over-all chrome vinyl jacket. 300 Volts suggested working voltage.

*Capacitance between conductors.
 **Capacitance between 1 conductor and other conductor connected to shield.

SPECIAL INTERCOM and SOUND CABLES


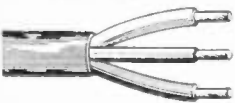


TYPICAL APPLICATIONS: Systems requiring shielded lines cabled with unshielded control lines. A variety of shield types to fit every application.

DESCRIPTION	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Cond. Color Coding	Nom. O.D. (Inch)	Percent Shield Coverage	Suggested Working Voltage	STANDARD Spool Lengths in ft
 Tinned copper, vinyl insulated, tinned copper braid shield over 1 conductor, 3 conductors cabled, chrome vinyl jacket.	8734	1 shielded 2 unshielded	22 (7x30) 22 (7x30)	Wht Blk, Red	.194	82	350	100, 500, 1000
 Tinned copper, polyethylene insulated, BELDFOIL aluminum-Mylar wrapped shield over 2 conductors, #20 stranded tinned copper ground wire, chrome vinyl jacket.	★8763	2 shielded 1 unshielded	20 (7x28) 20 (7x28)	Blk, Red Wht	.210	100	350	100, 500, 1000
 Tinned copper, polyethylene insulated, tinned copper braid shield over 2 conductors, chrome vinyl jacket.	8732	2 shielded 2 unshielded	22 (7x30) 22 (7x30)	Blk, Wht Blk, Wht	.188x.296	62	350	100, 500, 1000
 Tinned copper, vinyl insulated, BELDFOIL aluminum-Mylar wrapped shield over 2 conductors, #20 stranded tinned ground wire, chrome vinyl jacket.	★8722	2 shielded 2 unshielded	20 (7x28) 20 (7x28)	Blk, Red Grn, Wht	.260	100	350	100, 500, 1000

See JUKE BOX CABLES for additional special constructions.

JUKE BOX CABLES

TYPICAL APPLICATIONS: Speaker and control cables designed for music systems.

DESCRIPTION	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Cond. Color Coding	Nom. O.D. (Inch)	Suggested Working Voltage	STANDARD Spool Lengths in ft
 Copper conductors parallel, chrome vinyl insulated.	8782	2	24 (7x32)	1 Conductor tinned	.058x.115	300	25, 50, 100, 500, 1000
 Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket.	8783	3	1-20 (10x30) 2-16 (26x30)	Blue, Grn, Org	.250	450	100, 500
 Tinned copper, vinyl insulated, 3 conductors twisted under tinned copper braid shield, 2 conductors twisted unshielded, chrome vinyl jacket.	8785	2 unshielded 3 shielded	22 (7x30) 22 (7x30)	Blu, Yel Blk, Grn, Red	.211x.316	350	100, 500
 Tinned copper, vinyl insulated, 4 conductors twisted under tinned copper braid shield, 2 conductors twisted unshielded, chrome vinyl jacket.	8786	2 unshielded 4 shielded	22 (7x30) 24 (7x32)	Blu, Wht Blk, Grn, Red, Yel	.211x.316	350	100, 500

★New item.



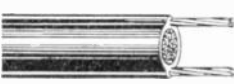
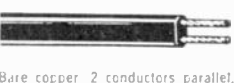
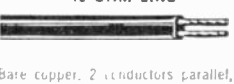
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BELDEN ELECTRONIC WIRES & CABLES

TRANSMISSION LINE CABLES

TWIN LEAD WIRES

DESCRIPTION	TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Velocity of Propagation	Nom. Capacitance (mmf ft)	Nom. Attenuation per 100'		STANDARD Package Lengths in ft
						mc	db	
300 OHM LINE  Bare copper, 2 conductors parallel, brown polyethylene insulated.	8225	20 (7x28)	.058 x .400	80%	4.4	100 200 300 400 500 700 900	1.1 1.7 2.2 2.7 3.1 3.7 4.5	25, 50, 75, 100 pancake coils in a sleeve 500 & 1000 spools
WELDOHM* 300 OHM LINE  Copper-weld, 2 conductors parallel, brown polyethylene insulated.	8230	20 (7x28)	.072 x .400	80%	4.4	100 200 300 400 500 700 900	1.1 1.7 2.2 2.7 3.1 3.7 4.5	25, 50, 75, 100 pancake coils in a sleeve 500, 1000 spools
CELLULINE** 300 OHM LINE  Copper-weld, 2 conductors parallel, brown polyethylene jacket with inert gas filled unicellular polyethylene core.	8275	20 (7x28)	.300 x .400	80%	4.6	100 200 300 400 500 700 900	1.05 1.64 2.12 2.58 2.9 3.62 4.3	50, 75, 100 coil in counter dispenser 500, 1000 spools
150 OHM LINE  Bare copper, 2 conductors parallel, brown polyethylene insulated.	8224	20 (7x28)	.075 x .182	76%	9.5	100 200 300 400	2.8 4.2 5.4 6.4	100, 500 spools
72 OHM LINE  Bare copper, 2 conductors parallel, brown polyethylene insulated.	8222	20 (7x28)	.075 x .128	69%	20.3	100 200 300 400	7.7 11.0 13.6 15.9	100, 500 spools

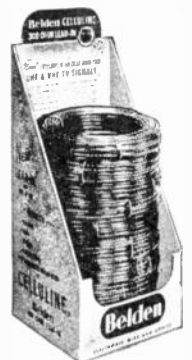
*Belden Trademark, Reg. U.S. Pat. off.

**Belden Trademark, Reg. U.S. Pat. off. and Belden Patents — U.S. 2,782,251 and 2,814,666.



♣ The attractive pancake coils of 8225, 8230 and 8464 increase sales and lower handling costs.

⊠ 8275 Coils are packaged in an attractive floor merchandiser.


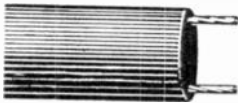


One Wire Source for

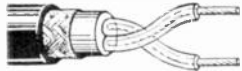
BELDEN ELECTRONIC WIRES & CABLES

TRANSMISSION LINE CABLES

AMATEUR TRANSMITTING and RECEIVING TWIN LEAD—1 KW (RF) RATED


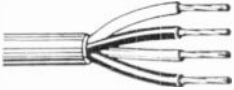
DESCRIPTION	TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Vel. of Propagation	Nom. Cap. (mmf ft)	Nom. Attenuation per 100'		STANDARD Spool Lengths in ft
						mc	db	
 <p>72 OHM</p>	★ 8210	13 (7x21)	.166	68%	21.0	100	3.8	50, 100, 500
						200	6.0	
						300	7.8	
						400	9.3	
						500	11.0	
						700	13.7	
						900	16.0	
Bare copper, 2 conductors parallel, brown polyethylene insulated								
 <p>300 OHM</p>	8235	18 (7x26)	.185	77%	5.0	100	.85	100, 500
						200	1.35	
						300	1.80	
						400	2.20	
						500	2.60	
						700	3.25	
						900	3.85	
Bare copper, 2 conductors parallel, brown polyethylene insulated.								

SHIELDED 100 OHM IMPEDANCE LINE

DESCRIPTION	TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Nom. Vel. of Prop.	Nom. Cap. (mmf ft)	Nom. Attenuation db 100 ft at				STANDARD Spool Lengths in ft
						100mc	200mc	300mc	400mc	
	8227	20 (7x28)	.325	62%	15.5	4.1	6.4	8.4	10.2	100, 250, 500
One conductor tinned, one bare copper, polyethylene insulated, cabled, polyethylene jacket, tinned copper braid shield, black vinyl jacket.										


ANTENNA ROTOR CABLE

Vinyl insulated for better resistance to sun and weather — longer life.

DESCRIPTION	TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Cond. Coding	Nom. O.D. (Inch)	Suggested Working Voltage	STANDARD Spool Lengths in ft
 <p>Bare copper, parallel, chrome vinyl insulated.</p>	8464	4	20 (7x28)	1 cond. tinned and insulation ribbed	.070 x .390	200	50, 75, 100 pancake coils 500, 1000 spools
 <p>Bare copper, vinyl insulated, cabled, chrome vinyl jacket</p>	8484	4	20 (7x28)	Blk, Grn, Red, Wht	.180	200	100, 500, 1000 spools
	8485	5	20 (7x28)	Blk, Grn, Red, Wht, Yel	.190	200	100, 500, 1000 spools
	8488	8	22 (7x30)	Blk, Blu, Brn, Grn, Org, Red, Wht, Yel	.205	200	100, 500, 1000 spools

ALUMINUM GROUND WIRE



Packaged in counter dispensers of 10-50' connected coils, or spools of 500 and 1000 ft. Wire on spools is marked every 100' for easy measuring.

DESCRIPTION	TRADE NUMBER	Nom. O.D. (Inch)	STANDARD Package Lengths in ft
 <p>8 AWG solid, soft annealed aluminum.</p>	8018	.128	500 in 10-50 connected coils 500, 1000 spools

★ New Item

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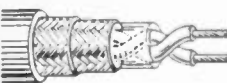



TV AND CHEATER CORDS

DESCRIPTION	TRADE NUMBER	Length in ft	STANDARD Package
 <p>SP-1 brown rubber parallel cord with male plug and TV connector.</p>	8874	6	Hanked in a descriptive sleeve
 <p>SPT-1 red plastic parallel cord with male and female TV connectors.</p>	★ 8875	6	Hanked in a descriptive sleeve

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BELDEN ELECTRONIC WIRES & CABLES

RG/U TRANSMISSION LINE CABLES

DESCRIPTION	TRADE NUMBER	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop. (mm/ft)	Nom. Cap. (pF/ft)	Nom. Attenuation (db)	STANDARD Spool Lengths in Ft
	8264 JAN-C-17	5A U	16 (solid) silver coated copper	Polyethylene	2 silver-coated copper	Gray non-contaminating vinyl	.328	50	66%	28.5	100 2.40 200 3.50 400 5.25	100 500 1000
	8237 JAN-C-17	8 U	13 (7x21) bare copper	Polyethylene	1 bare copper	Black vinyl	.405	52	66%	29.5	100 2.10 200 3.30 400 4.50	100 500 1000
	*8267 MIL-C-17B	8A U or 213 U	13 (7x21) bare copper	Polyethylene	1 bare copper	Black non-contaminating vinyl	.405	50	66%	28.5	100 2.10 200 3.30 400 4.50	100 500 1000
	8242 JAN-C-17	9 U	13 (7x21) silver coated copper	Polyethylene	2 inner-silver-coated copper outer-bare copper	Gray non-contaminating vinyl	.420	51	66%	30.0	100 2.10 200 3.30 400 4.50	100 500 1000
	8238 JAN-C-17	11 U	18 (7x26) tinned copper	Polyethylene	1 bare copper	Black vinyl	.405	75	66%	20.5	100 1.90 200 2.85 400 4.35	100 500 1000, 1500
	*8261 MIL-C-17B	11A U	18 (7x26) tinned copper	Polyethylene	1 bare copper	Black non-contaminating vinyl	.405	75	66%	20.5	100 1.90 200 2.85 400 4.35	100 500 1000
	8260 JAN-C-17	22A U	2-18 (7x.0152) bare copper	Polyethylene	1 tinned copper	Gray non-contaminating vinyl	.420	95	66%	16.0	100 4.00 200 5.50 400 8.50	100 500 1000
	8239 JAN-C-17	54A U	18 (7x.0152)	Polyethylene	1 tinned copper	Clear polyethylene	.250	58	66%	26.5	100 3.10 200 4.40 400 6.70	100 500 1000
	8245 JAN-C-17	55 U	20 (solid) bare copper	Polyethylene	2 tinned copper	Clear polyethylene	.206	53.5	66%	28.5	100 4.10 200 6.20 400 9.50	100 500 1000
	8259 JAN-C-17	58A U	20(19x.0071) tinned copper	Polyethylene	1 tinned copper	Black vinyl	.195	50	66%	28.5	100 5.30 200 8.20 400 12.60	25, 50 100, 500 1000





★ New item

CONTINUED NEXT PAGE

One Wire Source for






BELDEN ELECTRONIC WIRES & CABLES

RG/U TRANSMISSION LINE CABLES - Cont'd.

DESCRIPTION	TRADE NUMBER	RG No.	AWG & (Stranding) Material	Insulation	No. of Shields & Material	Jacket	Nom. O.D. (Inch)	Nom. Imp. (Ohms)	Nom. Vel. of Prop. (mmf ft)	Nom. Cap. (mmf ft)	Nom. Attenuation mc db	STANDARD Spool Lengths in ft
	8240 JAN-C-17	58 U	20 (Solid) tinned copper	Poly-ethylene	1 tinned copper	Black vinyl	.195	53.5	66%	28.5	100 4.10 200 6.20 400 9.50	25, 50 100, 500 1000
	*8262 MIL-C-17B	58C U	20 (19x0071) tinned copper	Poly-ethylene	1 tinned copper	Black non-contaminating vinyl	.195	50	66%	28.5	100 5.30 200 8.20 400 12.60	100, 500 1000
	8241 JAN-C-17	59 U	22 bare Copperweld	Poly-ethylene	1 bare copper	Black vinyl	.242	73	66%	21.0	100 3.75 200 5.60 400 8.30	25, 50 100, 500 1000
	*8263 MIL-C-17B	59B U	.0230 bare Copperweld	Poly-ethylene	1 bare copper	Black non-contaminating vinyl	.242	75	66%	20.5	100 3.75 200 5.60 400 8.30	100, 500 1000
	8254 JAN-C-17	62 U	22 bare Copperweld	Semi-solid Poly-ethylene	1 bare copper	Black vinyl	.242	93	84%	13.5	100 3.10 200 4.40 400 6.30	100 500 1000
	8257 JAN-C-17	71 U	22 bare Copperweld	Semi-solid Poly-ethylene	2 tinned copper	Clear Poly-ethylene	.250	93	84%	13.5	100 3.10 200 4.40 400 6.30	100 500 1000

COMMUNITY and MULTIPLE SET TV ANTENNA CABLES

All cables in this group are Sweep Tested.

DESCRIPTION	TRADE NUMBER	AWG & (Stranding) Material	Nom. O.D. (Inch)	Nom. Impedance (Ohms)	Nom. Velocity of Propagation	Nom. Cap. (mmf ft)	Nom. Attenuation mc db		STANDARD Spool Lengths in ft
	8231	21 (Solid) copper	.280	75	66%	20.5	50 100 200 300 400	1.8 2.2 3.8 4.8 5.9	100, 500, 1000
Conductor, polyethylene insulated, bare copper shield, black vinyl jacket.									
	*8212	20 (Solid) Copperweld	.242	75	78%	17.3	50 100 200 300 400	1.9 2.8 3.8 4.7 5.3	100, 500, 1000
Conductor cellular polyethylene insulated, bare copper braid shield, black polyethylene jacket									
	*8213	14 (Solid) copper	.405	75	78%	17.3	50 100 200 300 400	1.0 1.5 2.3 2.9 3.4	500, 1000, 1500
Conductor, cellular polyethylene insulated, bare copper braid shield polyethylene insulated, bare copper braid shield, black polyethylene jacket.									
	8232	20 (Solid) Copperweld	.315	75	78%	17.3	50 100 200 300 400	1.9 2.8 3.8 4.7 5.3	100, 500, 1000
	8233	14 (Solid) copper	.475	75	78%	17.3	50 100 200 300 400	1.0 1.5 2.3 2.9 3.4	500, 1000, 1500

★ New items

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(See BELDEN Price List and Index on Pages 1518-1520)

The MASTER — 24th Edition

BELDEN ELECTRONIC WIRES & CABLES

HOOK-UP and LEAD WIRES — MILITARY TYPES

Belden Mil Spec wire regularly exceeds the rigid requirements of Military Specifications. Consistent high quality of the product is possible because Belden is a basic wire manufacturer. This provides complete control of materials as well as each step of manufacturing from wire drawing to the finished product.

Continuous inspection is made in every operation. The finished wire is then laboratory-tested for compliance with the requirements of applicable military specifications by skilled engineers using the most modern test equipment.


The constant surveillance assures the recognized high quality of Belden products, which means the utmost in reliability and performance for all electronic or electrical applications.

COLOR CODING

Stock colors. First color in stripe combination is body color and second or third colors are stripes (White Black Red).

Code No.	Color Combination
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Light Blue
7	Violet (purple)
8	Gray (slate)
9	White
10	Black
11	Tan
12	Pink
13	Dark Blue
14	White Black
15	White Red
16	White Green
17	White Yellow
18	White Blue
19	White Brown
20	White Orange
21	White Gray
22	White Violet
23	White Black Red
24	White Black Green
25	White Black Yellow
26	White Black Blue
27	White Black Brown
28	White Black Orange
29	White Black Gray
30	White, Black, Violet


MILITARY SPECIFICATION MIL-W-76 A TYPE MW-PLASTIC (Formerly Type SRIR JAN-C-76) 1000V-80C



Tinned copper, vinyl insulated.
The extruded vinyl insulation is flame and ozone resistant and is inert to most chemicals, oils, and solvents.

TRADE NUMBER	Type Designation	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors on Standard Spools		
				25'	100'	1000'
★8525	MW-C-24-(7)-U	24 (7x32)	.058	1 Thru 22	1 Thru 22	
8530	MW-C-22-(1)-U	22 (Solid)	.059	1 Thru 13	1 Thru 22	1 Thru 22
8524	MW-C-22-(7)-U	22 (7x30)	.064	1 Thru 13	1 Thru 30	1 Thru 30
8529	MW-C-20-(1)-U	20 (Solid)	.066	1 Thru 13	1 Thru 22	1 Thru 22
8523	MW-C-20-(7)-U	20 (10x30)	.072	1 Thru 13	1 Thru 30	1 Thru 30
8522	MW-C-18-(16)-U	18 (16x30)	.081	1 Thru 13	1 Thru 22	1 Thru 22
★8521	MW-C-16-(19)-U	16 (19x29)	.096	1 Thru 6,9,10	1 Thru 6,9,10	1 Thru 6,9,10
★8520	MW-C-14-(19)-U	14 (19x27)	.111	1 Thru 6,9,10	1 Thru 6,9,10	1 Thru 6,9,10
★8527	MW-C-12-(19)-U	12 (19x25)	.130	1 Thru 6,9,10	1 Thru 6,9,10	1 Thru 6,9,10
★8526	NONE	10 (37x26)	.151	1 Thru 6,9,10	1 Thru 6,9,10	1 Thru 6,9,10

MILITARY SPECIFICATION MIL-W-16878 C† TYPE B — VINYL 600V-105C




Tinned copper, vinyl insulated.
Type B wire is suitable for general purpose wiring where excellent resistance to moisture and solvents may be required.

Standard Spools: 100 feet and 1000 feet

TRADE NUMBER	Military Type	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors
8505	B-26	26 (7x34)	.039	9 & 14 Thru 22
8509	B-24	24 (19x36)	.045	9 & 14 Thru 22
8504	B-24	24 (7x32)	.044	9 & 14 Thru 22
8508	B-22	22 (19x34)	.052	9 & 14 Thru 22
8503	B-22	22 (7x30)	.050	9 & 14 Thru 22
8507	B-20	20 (19x32)	.060	9 & 14 Thru 22
8502	B-20	20 (7x28)	.058	9 & 14 Thru 22
8506	B-18	18 (19x30)	.070	9 & 14 Thru 22
8501	B-18	18 (7x26)	.068	9 & 14 Thru 22
8500	B-16	16 (19x29)	.077	9 & 14 Thru 22

†Supersedes Mil-W-16878 B (4-3-58). ★New Item

MILITARY SPECIFICATION MIL-W-16878 C† TYPE B — VINYL-NYLON 600V-115C



Tinned copper, vinyl insulated, nylon jacket.
Type B with vinyl insulation and nylon jacket can be used to provide exceptional service with added abrasion resistance.

Standard Spools: 100 feet and 1000 feet

TRADE NUMBER	Military Type	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors
8515	B-26	26 (7x34)	.044	9 & 14 Thru 22
8519	B-24	24 (19x36)	.050	1 Thru 10 & 14 Thru 22
8514	B-24	24 (7x32)	.049	1 Thru 10 & 14 Thru 22
8518	B-22	22 (19x34)	.057	1 Thru 10 & 14 Thru 22
8513	B-22	22 (7x30)	.055	1 Thru 10 & 14 Thru 22
8517	B-20	20 (19x32)	.065	1 Thru 10 & 14 Thru 22
8512	B-20	20 (7x28)	.063	1 Thru 10 & 14 Thru 22
8516	B-18	18 (19x30)	.075	9 & 14 Thru 22
8511	B-18	18 (7x26)	.073	9 & 14 Thru 22
8510	B-16	16 (19x29)	.082	9 & 14 Thru 22

One Wire Source for

BELDEN ELECTRONIC WIRES & CABLES


HOOK-UP and LEAD WIRES — MILITARY TYPES

Teflon insulated wire is a high temperature wire having a temperature range of -90 C to +200 C. Its excellent physical and electrical properties are retained over this entire temperature range. The high abrasion resistance, dielectric strength, and low dissipation factor make it ideal for use as a component lead and connecting

wire where the operating environments are most severe. Teflon has practically universal chemical inertness and is also unaffected by weathering or moisture. Because it will not shrink and is nonflammable, direct application of soldering irons causes no damage to this insulating material.

MILITARY SPECIFICATION MIL-W-16878 C‡ TYPE E — TEFLON* 600V-200C


MILITARY SPECIFICATION MIL-W-16878 C‡ TYPE EE — TEFLON 1000V-200C



Concentrically stranded silver-coated copper, Teflon insulated.

Standard Spools: 25, 50, 100, 250, 500 and 1000 feet

TRADE NUMBER	Military Type	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors
8300	E-30	30 (7x38)	.033	1 Thru 10
8301	E-28	28 (7x36)	.036	1 Thru 10
8302	E-26	26 (7x34)	.041	1 Thru 10
8303	E-24	24 (19x36)	.046	1 Thru 10
8304	E-24	24 (7x32)	.045	1 Thru 10
8305	E-22	22 (7x30)	.051	1 Thru 10
8306	E-22	22 (19x34)	.052	1 Thru 10
8307	E-20	20 (19x32)	.060	1 Thru 10
8308	E-20	20 (10x30)	.060	1 Thru 10
8309	E-18	18 (19x30)	.072	1 Thru 10
8310	E-16	16 (19x29)	.085	1 Thru 10




Concentrically stranded silver-coated copper, Teflon insulated.

Standard Spools: 25, 50, 100, 250, 500 and 1000 feet

TRADE NUMBER	Military Type	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors
8320	EE-30	30 (7x38)	.043	1 Thru 10
8321	EE-28	28 (7x36)	.046	1 Thru 10
8322	EE-26	26 (7x34)	.050	1 Thru 10
8323	EE-24	24 (19x36)	.056	1 Thru 10
8324	EE-24	24 (7x32)	.055	1 Thru 10
8325	EE-22	22 (7x30)	.061	1 Thru 10
8326	EE-22	22 (19x34)	.062	1 Thru 10
8327	EE-20	20 (19x32)	.070	1 Thru 10
8328	EE-20	20 (10x30)	.070	1 Thru 10
8329	EE-18	18 (19x30)	.081	1 Thru 10
8330	EE-16	16 (19x29)	.090	1 Thru 10

Additional types, color combinations, and multiple conductor miniature cable shielded and unshielded available. Price and delivery on request.
*“Teflon”: Du Pont trade name for Tetrafluoroethylene Resin.
‡Supersedes Mil-W-16878 B (4-3-58).

MILITARY SPECIFICATION MIL-5086 A TYPE I — VINYL-NYLON 600V-105C



Tinned copper, vinyl insulated, nylon jacket.
Aircraft primary wire providing excellent resistance to abrasion, moisture, flame, fungus, aircraft oils and fuels.

Standard Spools: 100 and 1000 feet

TRADE NUMBER	Military Type	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors
8541	AN-22	22 (19x34)	.068	9
8542	AN-20	20 (19x32)	.078	9
8543	AN-18	18 (19x30)	.088	9
8544	AN-16	16 (19x29)	.098	9

COLOR CODING

Stock Colors. First color in stripe combination is body color and second or third colors are stripes (White Black Red).

Code No.	Color Combination	Code No.	Color Combination
1	Brown	16	White/Green
2	Red	17	White/Yellow
3	Orange	18	White/Blue
4	Yellow	19	White/Brown
5	Green	20	White/Orange
6	Light Blue	21	White/Gray
7	Violet (purple)	22	White/Violet
8	Gray (slate)	23	White/Black/Red
9	White	24	White/Black/Green
10	Black	25	White/Black/Yellow
11	Tan	26	White/Black/Blue
12	Pink	27	White/Black/Brown
13	Dark Blue	28	White/Black/Orange
14	White/Black	29	White/Black/Gray
15	White/Red	30	White/Black/Violet


Everything Electronic and Electrical

Sec. 6000

BELDEN ELECTRONIC WIRES & CABLES

HOOK-UP and LEAD WIRES


UL-600V-90C



Tinned copper, vinyl insulated, cotton braid, lacquered.

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors	STANDARD Spool Lengths in ft
*8937	22 (7x30)	.091	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
*8936	20 (10x30)	.098	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
*8935	18 (16x30)	.113	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
*8934	16 (26x30)	.126	1, 2, 3, 4, 5, 9, 10, 13	100, 500
*8933	14 (41x30)	.177	1, 2, 3, 4, 5, 9, 10, 13	100, 500


UL-600V-105C (CSA 600V-90C)



Tinned copper, vinyl insulated.

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors	STANDARD Spool Lengths in ft
*8920	22 (7x30)	.095	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
*8919	20 (10x30)	.102	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
8918	18 (16x30)	.112	1, 2, 3, 4, 5, 9, 10, 13	100, 1000
*8917	16 (26x30)	.126	1, 2, 3, 4, 5, 9, 10, 13	100, 500
*8916	14 (41x30)	.141	1, 2, 3, 4, 5, 9, 10, 13	100, 500

GENERAL-PURPOSE HOOK-UP WIRES



Tinned copper, cellulose acetate wrap, cellulose acetate braid lacquered.
Nom. d-c Insulation Resistance—200 megohms/ft.
Nom. Breakdown Voltage—1000

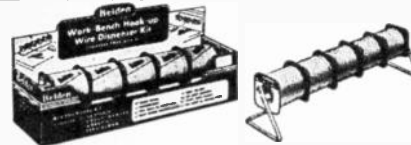
TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Stock Colors	STANDARD Spool Lengths in ft
8941	20 (Solid)	.072	1, 2, 3, 4, 5, 6, 9, 10	25, 100, 1000
8943	20 (10x30)	.076	1, 2, 3, 4, 5, 6, 9, 10	25, 100, 1000
8945	18 (Solid)	.080	2, 4, 5, 6, 9, 10	25, 100, 1000
8947	18 (16x30)	.087	2, 4, 5, 6, 9, 10	25, 100, 1000
8942	16 (26x30)	.099	2, 5, 10	100, 1000
8938	14 (41x30)	.115	2, 10	100, 500

COLOR CODING

Stock Colors. First color in stripe combination is body color and second or third colors are stripes (White/Black/Red)

Code No.	Color Combination	Code No.	Color Combination
1	Brown	16	White/Green
2	Red	17	White/Yellow
3	Orange	18	White/Blue
4	Yellow	19	White/Brown
5	Green	20	White/Orange
6	Light Blue	21	White/Gray
7	Violet (purple)	22	White/Violet
8	Gray (slate)	23	White/Black/Red
9	White	24	White/Black/Green
10	Black	25	White/Black/Yellow
11	Tan	26	White/Black/Blue
12	Pink	27	White/Black/Brown
13	Dark Blue	28	White/Black/Orange
14	White/Black	29	White/Black/Gray
15	White/Red	30	White/Black/Violet

KITS — HOOK-UP WIRE ON RACKS



R and D Labs Engineers . . . Servicemen . . . Hobbyists . . .




Each kit contains an assortment of Hook-Up Wire colors and types plus a portable metal dispenser rack for workbench or wall mounting. The dispenser rack provides a complete, compact, and convenient wire department for every working area.

TRADE NUMBER	No. of Spools	Spool Lengths	Type of Wire	Colors in Kit	TRADE NUMBER	No. of Spools	Spool Lengths	Type of Wire	Colors in Kit
8818	8	25'	20 solid, cellulose acetate (8941-25)	1, 2, 3, 4, 5, 6, 9, 10	8825	5	100'	20 stranded, MIL-W-16878C vinyl (8507-100)	9, 14, 15, 16, 17
8819	5	100'	20 solid, cellulose acetate (8941-100)	2, 5, 6, 9, 10	8826	5	100'	22 stranded, MIL-W-16878C vinyl (8508-100)	9, 14, 15, 16, 17
8820	8	25'	20 stranded, cellulose acetate (8943-25)	1, 2, 3, 4, 5, 6, 9, 10	8827	5	100'	22 stranded, MIL-W-16878C vinyl-nylon (8518-100)	2, 5, 6, 9, 10
8821	5	100'	20 stranded, cellulose acetate (8943-100)	2, 5, 6, 9, 10	8828	10	25'	26 stranded, MIL-W-16878C Type E Teflon (8302-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
8822	10	25'	20 solid, Type MW vinyl (8529-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	8829	10	25'	24 stranded, MIL-W-16878C Type E Teflon (8303-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
8823	5	100'	20 solid, Type MW vinyl (8529-100)	2, 5, 6, 9, 10	8830	10	25'	22 stranded, MIL-W-16878C Type E Teflon (8306-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
8824	8	25'	20 stranded, Type MW vinyl (8523-25)	1, 2, 3, 4, 5, 6, 9, 10	8831	10	25'	20 stranded, MIL-W-16878C Type E Teflon (8307-25)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10


★ New Item.

BELDEN ELECTRONIC WIRES & CABLES


SHIELDED HOOK-UP and GRID WIRES

DESCRIPTION	TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Suggested Working Voltage	Breakdown Voltage	Insulation Resistance megohms per 1000 feet	Cap. (mmf ft)	STANDARD Spool Lengths in ft
 Tinned copper, rubber insulated, cellulose acetate braid, lacquered, tinned copper braid shield.	8885	20 (10x30)	.117	1500	4000	300	80	15, 25, 100, 500
 Tinned copper, vinyl insulated, tinned copper braid shield.	*8886	20 (10x30)	.124	3000	7000	1500	82	15, 25, 100, 500
 Tinned copper, rubber insulated, tinned copper braid shield.	8206	18 (7x27)	.156					15, 50, 100, 250


TEST PROD WIRE

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Breakdown Voltage	Suggested Working Voltage	STANDARD Spool Lengths in ft	
 Tinned copper, rubber insulated, red or black. Extreme limpness and flexibility combined with high dielectric strength.	8899	18 (65x36) * 7' of red and 7' of black.	.140	20,000	5,000	10, 14*, 25, 100, 500, 1000
8898	18 (65x36)	.230	29,000	10,000	10, 25, 100, 500	


HIGH VOLTAGE CATHODE-RAY TUBE LEAD

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Breakdown Voltage	Suggested Working Voltage	STANDARD Spool Lengths in ft	
 Tinned copper, polyethylene insulated, red vinyl jacket. New improved high-voltage wire — more flexible and smaller diameter.	*8868	22 (7x30)	.150	40,000	20,000	25, 100, 500

DUPLEX PRIMARY WIRE

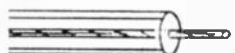
TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Color Coding	
 Tinned copper, vinyl insulated, conductors parallel, chrome vinyl jacket. Standard Spools: 100 and 500 feet	8677	16 (19x29)	164 x .276	Brown and Red
8675	14 (19x27)	189 x .326	Brown and Red	
8673	12 (19x25)	214 x .384	Brown and Red	

PRIMARY WIRE — AIRCRAFT, MARINE, AND AUTO


TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Color Coding	
 Tinned copper, rubber insulated, cotton braid, lacquered. Standard Spool: 100 feet	8652	16 (19x29)	.137	Black with White Tracer
8651	14 (19x27)	.159	Green with 2 White Tracers	
8650	12 (19x25)	.199	Red with 3 White Tracers	

See Military Specification MIL-5086A for additional Aircraft Primary Wires.

7 MM IGNITION WIRE

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Color Coding	
 Tinned Copperweld, POLYSIL* clear plastic insulation. * Belden Trademark Standard Spool: 100 feet	*8666	20 (7x28)	.280	Clear

SHIELDED PRIMARY WIRE

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	Color Coding	
 Tinned copper, rubber insulated, cotton braid, lacquered, tinned copper braid shield. Standard Spool: 100 feet	8656	16 (19x29)	.170	Blue

▲ Construction Change. ★ New item


Everything Electronic and Electrical

BELDEN ELECTRONIC WIRES & CABLES

SHIELDING AND BONDING CABLES

PORTABLE CORDAGE AND RUBBER MULTIPLE CONDUCTOR CABLES

TYPICAL APPLICATIONS: Power supply cordage, flexible speaker lines and unshielded control cables. Cables are abrasion and impact resistant, and limp.




2 to 5 CONDUCTORS
Stranded copper, rubber insulated, cabled with fillers, rubber jacket, 300 V — 60 C.

TRADE NUMBER	No. of Cond.	AWG & (Stranding)	Cond. Color Coding	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8452 UL Type SV	2	18 (41x34)	Blk, Wht	.245	15, 25, 50, 100 250, 500, 1000
8478 UL Type SJ	2	18 (41x34)	Blk, Wht	.299	25, 50, 100, 250 1000
8472 UL Type SJ	2	16 (65x34)	Blk, Wht	.325	25, 50, 100, 250
8453	3	18 (41x34) Tinned	Blk, Wht, Grn	.265	15, 50, 100, 500
8454	4	18 (41x34) Tinned	Blk, Wht, Brn, Red	.265	15, 50, 100, 500 1000
▲8455	5	3-20 (26x34) Tinned 2-18 (41x34) Tinned	Brn, Grn Wht Blk, Red	.280	15, 50, 100, 250

For additional UL type cordage, see current PORTABLE CORDAGE CATALOG.

PARALLEL LAMP CORD — RUBBER AND PLASTIC


TYPICAL APPLICATIONS: For light duty power supply and extensions.



2 CONDUCTORS
Stranded copper, parallel, insulated with one conductor polarity ribbed. 300V — 60C

TRADE NUMBER	Insulation	AWG & (Stranding)	Nom. O.D. (Inch)	Cond. Colors	STANDARD Spool Lengths in ft
8462 UL Type SP-1	Rubber	18 (41x34)	.123 x .223	Brown or Ivory	25, 100, 250
8888 UL Type SPT-1	Plastic	18 (41x34)	.110 x .214	Brown, Ivory or Silver Gray	25, 100

▲ Construction changes.
★ New item.




Braided tinned copper.

TRADE NUMBER	Stranding	Nom. I.D. (Inch)	STANDARD Spool Lengths in ft
8660	96x34	1/8	10, 50, 250
8668	120x34	11/64	10, 50, 250
★8663	160x34	1/4	10, 50, 250
8661	192x34	3/8	10, 50, 250
8669	336x34	1 1/2	10, 50, 250
8662	576x34	2 5/32	10, 50, 250

For additional sizes, see current BRAIDED AND STRANDED COPPER CABLE CATALOG.


BUS BAR WIRE



Solid tinned copper.

TRADE NUMBER	AWG	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8021	22	.025	100, 1000
8020	20	.032	100, 1000
8019	18	.040	100, 1000
8013	16	.050	100, 1000
8012	14	.064	100, 1000
8011	12	.080	100, 1000


LITZ WIRE



Copper Celenamel* insulated, nylon wrap
*Belden Trademark

TRADE NUMBER	Stranding	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8817	5x44	.008	100

VOICE COIL LEAD WIRE




Braided bare copper wire.

TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8127	25 (32x40)	.024	10, 500


One Wire Source for

BELDEN ELECTRONIC WIRES & CABLES


LEAD-IN WIRE

		Tinned copper, black rubber insulated.	
TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	STANDARD Spool Lengths in Ft
8200	13 (7x27)	.126	100, 500, 1000


STRANDED BARE AERIAL WIRE

		Stranded bare copper	
TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8002	16 (7x24)	.060	50, 75, 100, 1000
8000	14 (7x22)	.076	50, 75, 100, 1000

INDOOR AERIAL WIRE

		Tinned copper, chrome vinyl insulated.	
TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8014	25 (13x36)	.044	25, 500

SOLID FORMVAR AERIAL WIRE

		Copper, HF Formvar insulated.	
TRADE NUMBER	AWG & (Stranding)	Nom. O.D. (Inch)	STANDARD Spool Lengths in ft
8009	14 (Solid)	.067	100, 200, 500
8008	12 (Solid)	.084	100, 200, 500

MAGNET WIRE



Nylclad magnet wire combines the most desirable features of Formvar with the well-known toughness and solvent resistance of Nylon enamel.

For difficult and exacting windings, these plus values may represent the difference between low and high rejections.

Nylclad will out-perform all other A.I.E.E., Class A, film-coated wires with respect to: (1) ability to withstand winding abuse and forming operations; (2) resistance to the solvent action of insulating varnishes and all types of thinners; (3) resistance to softening at elevated temperatures; (4) solvent crazing; (5) windability.

BELDENAMEL (E)

Size	1/4 Pound Spool		1/2 Pound Spool		Turns per Linear Inch	Turns per Square Inch
	TRADE NUMBER	Approx. Length (Feet)	TRADE NUMBER	Approx. Length (Feet)		
14	...	...	8047	40	15.2	231
16	...	...	8048	63	19.1	365
18	...	...	8049	100	23.9	571
20	...	...	8050	160	29.9	894
22	...	...	8051	254	37.4	1399
24	...	...	8052	404	46.9	2200
26	...	...	8053	645	59.0	3481
28	8040	510	8054	1020	73.8	5446
30	8041	307	8055	1615	92.2	8501
32	8042	1257	8056	2515	114.0	12996
34	8043	2030	8057	4060	144.0	20736
36	8044	3200	8058	6400	180.0	32400
38	8045	5070	....	....	225.0	50625
40	8046	8050	....	....	290.0	84100

NYLCLAD (HNC)

Size	1/2 Pound Spool		1 Pound Spool		Turns per Linear Inch	Turns per Square Inch
	TRADE NUMBER	Approx. Length (Feet)	TRADE NUMBER	Approx. Length (Feet)		
14	8059	40	8073	80	14.9	222
16	8060	63	8074	126	18.6	346
18	8061	100	8075	199	23.2	538
20	8062	157	8076	315	28.9	835
22	8063	250	8077	501	36.0	1296
24	8064	396	8078	793	44.7	1998
26	8065	630	8079	1260	55.7	3102
28	8066	995	8080	1990	69.4	4816
30	8067	1570	8081	3140	86.2	7430
32	8068	2440	8082	4880	106.0	11236
34	8069	3930	8083	7860	133.0	17689
36	8070	6200	8084	12400	167.0	27889
38	8071	9700	8085	19400	206.0	42436
40	8072	16050	8086	32100	263.0	69169

Everything Electronic and Electrical

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BELDEN • Price List

Belden Trade No.	Unit & Length	Pkg.	Sugg. List Price Ea.
8000	50'		1.50
8000	75'		2.00
8000	100'		2.63
8000	1000'		.03'
8002	50'		1.13
8002	75'		1.38
8002	100'		1.75
8002	1000'		.025'
8008	100'		4.25
8008	200'		7.75
8008	500'		.045'
8009	100'		2.88
*8009	200'		5.50
8009	500'		.03'
8011	100'		3.50
8011	1000'		.035'
8012	100'		2.45
8012	1000'		.025'
8013	100'		1.85
8013	1000'		.02'
8014	25'		.63
8014	500'		.025'
8018	50'		1.50
8018	500'		.03'
8018	1000'		.03'
8019	100'		1.25
8019	1000'		.015'
8020	100'		1.00
8020	1000'		.015'
8021	100'		.88
8021	1000'		.015'
8127	10'		.63
*8127	500'		.065'
8200	100'		2.75
8200	500'		.03'
8200	1000'		.03'
8204	25'		2.15
8204	100'		6.25
8204	500'		.09'
8204	1000'		.09'
8205	25'		1.38
8205	100'		4.15
8205	500'		.055'
8205	1000'		.055'
8206	15'		1.25
8206	50'		3.40
8206	100'		6.00
8206	250'		.08'
8208	15'		1.95
8208	50'		5.40
8208	100'		9.90
8208	500'		.13'
8208	1000'		.13'
8209	15'		1.95
8209	50'		5.40
8209	100'		9.90
8209	500'		.13'
8209	1000'		.13'
*8210	50'		5.25
*8210	100'		9.40
*8210	500'		.105'
*8212	100'		8.90
*8212	500'		.09'
*8212	1000'		.09'
*8213	500'		.19'
*8213	1000'		.19'
*8213	1500'		.19'
8222	100'		3.40
8222	500'		.035'
8224	100'		3.40
8224	500'		.035'
*8225	25'		1.20
8225	50'		1.95
8225	75'		2.60
8225	100'		3.20
8225	500'		.045'
8225	1000'		.045'
8227	100'		15.00
8227	250'		.15'
8227	500'		.15'
*8230	25'		1.30
8230	50'		2.05
8230	75'		2.85
8230	100'		3.55
8230	500'		.05'
8230	1000'		.05'

Belden Trade No.	Unit & Length	Pkg.	Sugg. List Price Ea.
8231	100'		11.90
8231	500'		.12'
8231	1000'		.12'
8232	100'		15.25
8232	500'		.16'
8232	1000'		.16'
8233	500'		.27'
8233	1000'		.27'
8233	1500'		.27'
8235	100'		8.00
8235	500'		.08'
8237	100'		20.65
8237	500'		.21'
8237	1000'		.21'
8238	100'		18.65
8238	500'		.19'
8238	1000'		.19'
8238	1500'		.19'
8239	100'		13.75
8239	500'		.14'
8239	1000'		.14'
*8240	25'		2.50
*8240	50'		4.25
8240	100'		8.25
8240	500'		.10'
8240	1000'		.10'
*8241	25'		3.00
*8241	50'		5.25
8241	100'		9.15
8241	500'		.12'
8241	1000'		.12'
8242	100'		48.15
8242	500'		.49'
8242	1000'		.49'
8245	100'		15.00
8245	500'		.15'
8245	1000'		.15'
8254	100'		9.90
8254	500'		.10'
8254	1000'		.10'
8257	100'		15.90
8257	500'		.16'
8257	1000'		.16'
*8259	25'		2.60
*8259	50'		4.25
8259	100'		8.40
8259	500'		.105'
8259	1000'		.105'
8260	100'		37.50
8260	500'		.38'
8260	1000'		.38'
*8261	100'		21.00
*8261	500'		.21'
*8261	1000'		.21'
*8262	100'		9.50
*8262	500'		.10'
*8262	1000'		.10'
*8263	100'		11.25
*8263	500'		.12'
*8263	1000'		.12'
8264	100'		42.40
8264	500'		.43'
8264	1000'		.43'
*8267	100'		24.75
*8267	500'		.25'
*8267	1000'		.25'
8275	50'		4.00
8275	75'		5.40
8275	100'		7.15
8275	500'		.08'
8275	1000'		.08'
8281	100'		27.50
8281	500'		.28'
8281	1000'		.28'
8282	50'		22.50
8282	100'		45.00
8282	500'		.45'
*8282	1000'		.45'
*8283	50'		3.75'
*8284	50'		1.13'
*8285	50'		4.75
*8285	75'		7.00
*8285	100'		9.00
*8285	500'		.095'
*8285	1000'		.095'
8300	25'		2.50

Belden Trade No.	Unit & Length	Pkg.	Sugg. List Price Ea.
8300	50'		4.65
8300	100'		8.75
8300	250'		.10'
8300	500'		.10'
8300	1000'		.10'
8300	25'		2.90
8300	50'		5.40
8300	100'		10.25
8300	250'		.12'
8300	500'		.12'
8300	1000'		.12'
8301	25'		2.75
8301	50'		4.90
8301	100'		9.15
8301	250'		.12'
8301	500'		.12'
8301	1000'		.12'
8301	25'		3.15
8301	50'		5.65
8301	100'		10.65
8301	250'		.13'
8301	500'		.13'
8301	1000'		.13'
8302	25'		2.75
8302	50'		5.25
8302	100'		10.00
8302	250'		.12'
8302	500'		.12'
8302	1000'		.12'
8302	25'		3.15
8302	50'		6.00
8302	100'		11.50
8302	250'		.13'
8302	500'		.13'
8302	1000'		.13'
8303	25'		3.25
8303	50'		5.90
8303	100'		11.25
8303	250'		.13'
8303	500'		.13'
8303	1000'		.13'
8303	25'		3.65
8303	50'		6.65
8303	100'		12.75
8303	250'		.15'
8303	500'		.15'
8303	1000'		.15'
8304	25'		3.15
8304	50'		5.65
8304	100'		10.75
8304	250'		.13'
8304	500'		.13'
8304	1000'		.13'
8304	25'		3.50
8304	50'		6.00
8304	100'		12.25
8304	250'		.14'
8304	500'		.14'
8304	1000'		.14'
8305	25'		3.75
8305	50'		6.65
8305	100'		12.50
8305	250'		.15'
8305	500'		.15'
8305	1000'		.15'
8305	25'		4.15
8305	50'		7.40
8305	100'		14.00
8305	250'		.165'
8305	500'		.165'
8305	1000'		.165'
8306	25'		3.75
8306	50'		6.65
8306	100'		12.50
8306	250'		.15'
8306	500'		.15'
8306	1000'		.15'
8306	25'		4.15
8306	50'		7.40
8306	100'		13.75
8306	250'		.165'
8306	500'		.165'
8306	1000'		.165'
8307	25'		4.40
8307	50'		8.00
8307	100'		15.00
8307	250'		.175'
8307	500'		.175'
8307	1000'		.175'
8307	25'		4.75
8307	50'		8.75
8307	100'		16.50

Belden Trade No.	Unit & Length	Pkg.	Sugg. List Price Ea.
8307	250'		.19'
8307	500'		.19'
8307	1000'		.19'
8308	25'		4.40
8308	50'		8.00
8308	100'		15.00
8308	250'		.175'
8308	500'		.175'
8308	1000'		.175'
8308	25'		4.75
8308	50'		8.75
8308	100'		16.50
8308	250'		.19'
8308	500'		.19'
8308	1000'		.19'
8309	25'		5.00
8309	50'		9.40
8309	100'		18.00
8309	250'		.20'
8309	500'		.20'
8309	1000'		.20'
8309	25'		5.40
8309	50'		10.15
8309	100'		19.50
8309	250'		.22'
8309	500'		.22'
8309	1000'		.22'
8310	25'		6.90
8310	50'		13.75
8310	100'		25.00
8310	250'		.28'
8310	500'		.28'
8310	1000'		.28'
8310	25'		7.25
8310	50'		14.50
8310	100'		26.50
8310	250'		.29'
8310	500'		.29'
8310	1000'		.29'
8320	25'		3.40
8320	50'		6.40
8320	100'		12.25
8320	250'		.135'
8320	500'		.135'
8320	1000'		.135'
8320	25'		3.75
8320	50'		7.15
8320	100'		13.75
8320	250'		.15'
8320	500'		.15'
8320	1000'		.15'
8320	25'		3.75
8320	50'		7.00
8320	100'		13.50
8321	250'		.15'
8321	500'		.15'
8321	1000'		.15'
8321	25'		4.15
8321	50'		7.75
8321	100'		15.00
8321	250'		.165'
8321	500'		.165'
8321	1000'		.165'
8322	25'		3.40
8322	50'		6.25
8322	100'		11.90
8322	250'		.135'
8322	500'		.135'
8322	1000'		.135'
8322	25'		3.75
8322	50'		7.00
8322	100'		13.50
8322	250'		.15'
8322	500'		.15'
8322	1000'		.15'
8323	25'		4.00
8323	50'		7.50
8323	100'		14.35
8323	250'		.16'
8323	500'		.16'
8323	1000'		.16'
8323	25'		4.35
8323	50'		8.25
8323	100'		15.85
8323	250'</		

Sec. 6000

Belden Trade No.	Unit & Length	Pkg. Price Ea.	Sugg. List Price Ea.
8325	50' †	8.15	
8325	100' †	15.50	
8325	250' †	17.50	
8325	500' †	17.50	
8325	1000' †	17.50	
8325	25' †	4.75	
8325	50' †	8.90	
8325	100' †	17.00	
8325	250' †	19.00	
8325	500' †	19.00	
8325	1000' †	19.00	
8326	25' †	4.35	
8326	50' †	8.25	
8326	100' †	15.85	
8326	250' †	17.50	
8326	500' †	17.50	
8326	1000' †	17.50	
8326	25' †	4.75	
8326	50' †	9.00	
8326	100' †	17.40	
8326	250' †	19.00	
8326	500' †	19.00	
8326	1000' †	19.00	
8327	25' †	5.25	
8327	50' †	10.00	
8327	100' †	19.40	
8327	250' †	21.00	
8327	500' †	21.00	
8327	1000' †	21.00	
8327	25' †	5.65	
8327	50' †	10.75	
8327	100' †	20.90	
8327	250' †	23.00	
8327	500' †	23.00	
8327	1000' †	23.00	
8328	25' †	5.25	
8328	50' †	10.25	
8328	100' †	20.00	
8328	250' †	21.00	
8328	500' †	21.00	
8328	1000' †	21.00	
8328	25' †	5.65	
8328	50' †	11.00	
8328	100' †	21.50	
8328	250' †	23.00	
8328	500' †	23.00	
8328	1000' †	23.00	
8329	25' †	6.25	
8329	50' †	11.50	
8329	100' †	22.50	
8329	250' †	25.00	
8329	500' †	25.00	
8329	1000' †	25.00	
8329	25' †	6.65	
8329	50' †	12.25	
8329	100' †	24.00	
8329	250' †	26.50	
8329	500' †	26.50	
8329	1000' †	26.50	
8330	25' †	8.00	
8330	50' †	15.65	
8330	100' †	30.00	
8330	250' †	32.00	
8330	500' †	32.00	
8330	1000' †	32.00	
8330	25' †	8.35	
8330	50' †	16.35	
8330	100' †	31.50	
8330	250' †	34.00	
8330	500' †	34.00	
8330	1000' †	34.00	
8401	15' †	1.45	
8401	25' †	2.00	
8401	50' †	3.90	
8401	100' †	7.15	
8401	500' †	0.95	
8403	15' †	2.40	
8403	50' †	6.00	
8403	100' †	11.25	
8403	250' †	16.00	
8403	500' †	16.00	
8403	1000' †	16.00	
8404	15' †	2.50	
8404	50' †	6.75	
8404	100' †	12.75	
8404	250' †	17.00	
8404	500' †	17.00	
8404	1000' †	17.00	
8405	15' †	3.15	
8405	50' †	8.25	
8405	100' †	16.65	

Belden Trade No.	Unit & Length	Pkg. Price Ea.	Sugg. List Price Ea.
8405	250' †	21.00	
8405	500' †	21.00	
8405	1000' †	21.00	
8410	15' †	2.25	
8410	25' †	3.50	
8410	50' †	6.50	
8410	100' †	12.25	
8410	500' †	15.00	
8411	15' †	1.18	
8411	25' †	1.70	
8411	50' †	2.90	
8411	100' †	5.25	
8411	500' †	0.08	
8412	15' †	2.55	
8412	25' †	3.90	
8412	50' †	7.15	
8412	100' †	13.75	
8412	500' †	17.00	
8414	50' †	5.90	
8414	500' †	12.00	
8418	15' †	4.90	
8418	50' †	15.00	
8418	100' †	29.00	
8418	250' †	32.00	
8421	15' †	1.45	
8421	25' †	2.00	
8421	50' †	3.90	
8421	100' †	7.15	
8421	500' †	0.95	
8422	15' †	1.90	
8422	25' †	2.90	
8422	50' †	5.35	
8422	100' †	9.75	
8422	500' †	13.00	
8423	15' †	3.00	
8423	50' †	8.00	
8423	100' †	15.50	
8423	250' †	20.00	
8423	500' †	20.00	
8423	1000' †	20.00	
8424	15' †	3.25	
8424	50' †	9.35	
8424	100' †	17.65	
8424	250' †	21.50	
8424	500' †	21.50	
8424	1000' †	21.50	
8425	15' †	3.75	
8425	50' †	11.15	
8425	100' †	22.00	
8425	250' †	25.00	
8425	500' †	25.00	
8425	1000' †	25.00	
8426	15' †	4.50	
8426	50' †	13.65	
8426	100' †	26.25	
8426	250' †	30.00	
8427	15' †	4.90	
8427	50' †	14.75	
8427	100' †	28.75	
8427	250' †	32.00	
8428	15' †	2.90	
8428	25' †	4.75	
8428	50' †	9.00	
8428	100' †	17.50	
8428	500' †	19.00	
8429	10' †	0.95	
8429	25' †	1.65	
8429	250' †	10.00	
8430	10' †	0.73	
8430	25' †	1.00	
8430	250' †	0.75	
8431	10' †	0.88	
8431	15' †	1.10	
8431	25' †	1.70	
8431	100' †	5.25	
8431	500' †	0.90	
8432	100' †	10.65	
8432	500' †	11.00	
8432	1000' †	11.00	
8433	100' †	13.00	
8433	500' †	13.00	
8434	100' †	7.75	
8434	500' †	0.08	
8434	1000' †	0.08	
8436	100' †	7.90	
8436	500' †	0.08	
8436	1000' †	0.08	
8437	100' †	6.40	
8437	500' †	0.65	
8437	1000' †	0.65	
8440	100' †	7.65	
8440	500' †	0.08	
8440	1000' †	0.08	
8441	100' †	7.50	

Belden Trade No.	Unit & Length	Pkg. Price Ea.	Sugg. List Price Ea.
8441	500' †	0.08	
8441	1000' †	0.08	
8443	25' †	1.40	
8443	100' †	4.15	
8443	500' †	0.06	
8443	1000' †	0.06	
8444	25' †	1.65	
8444	100' †	5.00	
8444	500' †	0.07	
8444	1000' †	0.07	
8445	25' †	1.95	
8445	100' †	6.15	
8445	500' †	0.08	
8445	1000' †	0.08	
8446	15' †	1.75	
8446	100' †	9.00	
8446	500' †	12.00	
8446	1000' †	12.00	
8447	15' †	1.90	
8447	100' †	10.25	
8447	500' †	13.00	
8447	1000' †	13.00	
8448	15' †	2.00	
8448	100' †	10.65	
8448	500' †	13.00	
8448	1000' †	13.00	
8449	15' †	2.15	
8449	100' †	11.90	
8449	500' †	14.00	
8449	1000' †	14.00	
8452	15' †	1.50	
8452	25' †	2.50	
8452	50' †	4.15	
8452	100' †	7.50	
8452	250' †	10.00	
8452	500' †	10.00	
8452	1000' †	10.00	
8455	15' †	2.00	
8455	50' †	5.25	
8455	100' †	9.40	
8455	500' †	13.00	
8455	1000' †	13.00	
8454	50' †	6.00	
8454	100' †	11.50	
8454	500' †	16.00	
8454	1000' †	16.00	
8455	15' †	2.50	
8455	50' †	6.75	
8455	100' †	12.75	
8455	250' †	17.00	
8460	100' †	3.75	
8460	500' †	0.04	
8460	1000' †	0.04	
8461	100' †	5.25	
8461	500' †	0.55	
8461	1000' †	0.55	
8462	25' †	1.70	
8462	100' †	4.85	
8462	250' †	0.70	
8464	50' †	2.65	
8464	75' †	3.90	
8464	100' †	4.90	
8464	500' †	0.06	
8464	1000' †	0.06	
8470	100' †	4.75	
8470	500' †	0.05	
8470	1000' †	0.05	
8471	100' †	6.65	
8471	500' †	0.07	
8471	1000' †	0.07	
8472	25' †	3.15	
8472	50' †	6.25	
8472	100' †	11.90	
8472	250' †	13.00	
8478	25' †	2.75	
8478	50' †	4.90	
8478	100' †	9.00	
8478	250' †	11.00	
8478	500' †	11.00	
8478	1000' †	11.00	
8482	100' †	2.65	
8482	500' †	0.03	
8482	1000' †	0.03	
8483	100' †	3.25	
8483	500' †	0.35	
8483	1000' †	0.35	
8484	100' †	5.25	
8484	500' †	0.06	
8484	1000' †	0.06	
8485	100' †	6.15	
8485	500' †	0.65	
8485	1000' †	0.65	
8486	100' †	3.50	

Belden Trade No.	Unit & Length	Pkg. Price Ea.	Sugg. List Price Ea.
8486	500' †	0.35	
8486	1000' †	0.35	
8487	100' †	4.40	
8487	500' †	0.45	
8487	1000' †	0.45	
8488	100' †	7.50	
8488	500' †	0.08	
8488	1000' †	0.08	
8492	100' †	3.00	
8492	500' †	0.03	
8492	1000' †	0.03	
8493	100' †	3.75	
8493	500' †	0.04	
8493	1000' †	0.04	
8500	100' †	2.75	
8500	1000' †	0.30	
8500	1000' †	2.95	
8500	1000' †	0.30	
8501	100' †	2.30	
8501	1000' †	0.25	
8501	1000' †	2.50	
8501	1000' †	0.25	
8502	100' †	2.00	
8502	1000' †	0.02	
8502	1000' †	2.20	
8502	1000' †	0.25	
8503	100' †	1.95	
8503	1000' †	0.20	
8503	1000' †	2.15	
8503	1000' †	0.25	
8504	100' †	1.85	
8504	1000' †	0.20	
8504	1000' †	2.05	
8504	1000' †		

BELDEN • Price List

Belden Trade No.	Unit Pkg. & Length	Sugg. List Price Ea.
8522	1000' † ‡	.035'
8522	100' † °	2.25
8522	1000' † °	.035'
8523	25' † ‡	.80
8523	100' † ‡	1.75
8523	1000' † ‡	.035'
8523	100' † °	1.95
8523	1000' † °	.035'
8524	25' † ‡	.65
8524	100' † ‡	1.55
8524	1000' † ‡	.03'
8524	100' † °	1.75
8524	1000' † °	.03'
*8525	100' † ‡	1.55
*8525	1000' † ‡	.02'
*8525	100' † °	1.75
*8525	1000' † °	.02'
*8526	100' † ‡	10.60
*8526	1000' † ‡	.11'
*8527	100' † ‡	4.45
*8527	1000' † ‡	.05'
8529	25' † ‡	.75
8529	100' † ‡	1.60
8529	1000' † ‡	.03'
8529	100' † °	1.80
8529	1000' † °	.03'
8530	25' † ‡	.60
8530	100' † ‡	1.25
8530	1000' † ‡	.025'
8530	100' † °	1.45
8530	1000' † °	.025'
8541	100' † °	2.75
8541	1000' † °	.03'
8542	1000' † °	3.00
8542	1000' † °	.03'
8543	100' † °	3.50
8543	1000' † °	.035'
8544	100' † °	4.00
8544	1000' † °	.04'
8650	100' † °	.10'
8651	100' † °	.075'
8652	100' † °	.06'
8656	100' † °	.09'
8660	10' † °	.85
8660	50' † °	2.50
8660	250' † °	.085'
8661	10' † °	1.15
8661	50' † °	3.90
8661	250' † °	.115'
8662	10' † °	2.65
8662	50' † °	11.75
8662	250' † °	.27'
*8663	10' † °	1.00
*8663	50' † °	3.15
*8663	250' † °	.10'
*8666	100' † °	.10'
8668	10' † °	.95
8668	50' † °	3.25
8668	250' † °	.10'
8669	10' † °	2.00
8669	50' † °	9.15
8669	250' † °	.20'
8673	100' † °	17.75
8673	500' † °	.18'
8675	100' † °	12.75
8675	500' † °	.13'
8677	100' † °	10.00
8677	500' † °	.10'
*8722	100' † °	8.75
*8722	500' † °	.09'
*8722	1000' † °	.09'
*8731	100' † °	5.25
*8731	500' † °	.055'
*8731	1000' † °	.055'
8732	100' † °	7.50
8732	500' † °	.08'
8732	1000' † °	.08'
8734	100' † °	6.25
8734	500' † °	.065'
8734	1000' † °	.065'
8735	15' † °	1.45
8735	50' † °	3.80
8735	100' † °	7.15
8735	500' † °	.10'
8735	1000' † °	.10'
8737	100' † °	6.00
8737	500' † °	.06'

Belden Trade No.	Unit Pkg. & Length	Sugg. List Price Ea.
8737	1000' † °	.06'
8738	100' † °	4.25
8738	500' † °	.05'
8738	1000' † °	.05'
8739	100' † °	4.90
8739	500' † °	.05'
8739	1000' † °	.05'
8740	100' † °	3.00
8740	500' † °	.03'
8740	1000' † °	.03'
8741	100' † °	4.90
8741	500' † °	.05'
8741	1000' † °	.05'
8742	100' † °	6.50
8742	500' † °	.07'
8742	1000' † °	.07'
8743	100' † °	10.00
8743	500' † °	.10'
8743	1000' † °	.10'
8744	100' † °	13.50
8744	500' † °	.135'
8744	1000' † °	.135'
8745	100' † °	23.25
8745	500' † °	.24'
8745	1000' † °	.24'
8746	100' † °	13.75
8746	500' † °	.14'
8747	1000' † °	.14'
8748	100' † °	19.00
8748	500' † °	.19'
8748	1000' † °	.19'
8749	100' † °	32.50
8749	500' † °	.33'
8749	1000' † °	.33'
8750	100' † °	58'
8753	100' † °	18.25
8753	500' † °	.19'
8753	1000' † °	.19'
*8754	100' † °	20.65
*8754	500' † °	.21'
*8754	1000' † °	.21'
*8755	100' † °	33.50
*8755	500' † °	.34'
*8755	1000' † °	.34'
*8756	100' † °	38.75
*8756	500' † °	.39'
*8756	1000' † °	.39'
8758	100' † °	5.00
8758	500' † °	.05'
8758	1000' † °	.05'
8759	100' † °	6.50
8759	500' † °	.07'
8759	1000' † °	.07'
8762	100' † °	5.75
8762	500' † °	.06'
8762	1000' † °	.06'
*8763	100' † °	7.40
*8763	500' † °	.08'
*8763	1000' † °	.08'
*8764	100' † °	30.00
*8764	500' † °	.30'
*8764	1000' † °	.30'
*8766	100' † °	47.50
*8766	500' † °	.48'
*8766	1000' † °	.48'
8779	100' † °	8.75
8779	500' † °	.09'
8779	1000' † °	.09'
8780	100' † °	9.50
8780	500' † °	.10'
8780	1000' † °	.10'
*8782	25' † °	.88
*8782	50' † °	1.30
*8782	100' † °	2.05
*8782	500' † °	.035'
*8782	1000' † °	.035'
*8783	100' † °	7.50
*8783	500' † °	.08'
*8785	100' † °	8.75
*8785	500' † °	.09'
*8786	100' † °	9.55
*8786	500' † °	.10'
*8787	100' † °	32.00
*8787	500' † °	.32'
8789	100' † °	7.15
8789	500' † °	.075'

Belden Trade No.	Unit Pkg. & Length	Sugg. List Price Ea.
8789	1000' † °	.075'
8790	100' † °	7.40
8790	500' † °	.08'
8790	1000' † °	.08'
8791	100' † °	9.00
8791	500' † °	.09'
8791	1000' † °	.09'
8799	100' † °	7.50
8799	500' † °	.08'
8799	1000' † °	.08'
8817	100' † °	.50
8818		8.40
8819		13.50
8820		8.40
8821		13.75
8822		7.50
8823		8.00
8824		6.40
8825		12.80
8826		12.55
8827		13.50
8828		27.50
8829		32.50
8830		37.50
8831		44.00
8868	25' † °	1.25
8868	100' † °	3.15
*8868	500' † °	.05'
8874		.88
*8875		.63
8885	15' † °	1.15
8885	25' † °	1.70
8885	100' † °	5.25
8885	500' † °	.08'
*8886	15' † °	1.10
*8886	25' † °	1.60
*8886	100' † °	5.05
*8886	500' † °	.07'
*8888	25' † °	1.45
*8888	100' † °	3.90
8898	10' † °	1.05
8898	25' † °	1.95
8898	100' † °	5.75
8898	500' † °	.10'
8899	10' † °	.73
8899	14' † °	.93
8899	25' † °	1.25
8899	100' † °	3.65
8899	500' † °	.07'
8899	1000' † °	.07'
*8916	100' † °	4.40
*8916	500' † °	.05'
*8917	100' † °	3.50
*8917	500' † °	.035'
*8918	100' † °	2.75
8918	1000' † °	.03'
*8919	100' † °	2.25
*8919	1000' † °	.025'
*8920	100' † °	2.05
*8920	1000' † °	.025'
*8933	100' † °	5.75
*8933	500' † °	.06'
*8934	100' † °	3.75
*8934	500' † °	.04'
*8935	100' † °	3.15
*8935	1000' † °	.035'
*8936	100' † °	2.50
*8936	1000' † °	.03'
*8937	100' † °	2.30
*8937	1000' † °	.03'
8938	100' † °	4.65
8938	500' † °	.05'
8941	25' † °	1.05
8941	100' † °	2.70
8941	1000' † °	.04'
8942	100' † °	3.65
8942	1000' † °	.04'
8943	25' † °	1.05
8943	100' † °	2.75
8943	1000' † °	.04'
8945	25' † °	1.00
8945	100' † °	2.90
8945	1000' † °	.04'
8947	25' † °	1.05
8947	100' † °	3.15
8947	1000' † °	.04'

BELDENMEL MAGNET WIRE		
Sz.	1/2LB. SPOOLS List Price	1LB. SPOOLS List Price
14	—	1.05

Sz.	List Price	List Price
16	—	1.03
18	—	1.08
20	—	1.03
22	—	1.13
24	—	1.18
26	—	1.25
28	.78	1.30
30	.85	1.45
32	.85	1.48
34	.93	1.60
36	1.08	1.88
38	1.35	—
40	1.93	—

HNC NYLCLAD		
Sz.	1/2LB. SPOOLS List Price	1LB. SPOOLS List Price
14	1.03	1.95
16	1.03	1.95
18	1.05	2.00
20	1.10	2.08
22	1.15	2.18
24	1.20	2.30
26	1.30	2.53
28	1.43	2.75
30	1.58	3.08
32	1.68	3.25
34	1.98	3.75
36	2.38	4.70
38	2.95	5.95
40	4.65	9.35

INDEX

	PAGE
Aerial Wire	1517
Aircraft Wire	1513, 1515
Aluminum TV	—
Grounding Wire	1509
Amateur Transmission	—
Twin Lead	1509
Antenna Rotor Cables	1509
Audio Cables	1503
Automotive Wires	1515
Beldenmel	1517
Bonding Cables	1516
Broadcast Audio Cables	1503
Bus Bar Wire	1516
Cathode Ray Tube Cables	1515
Cellulose®	—
Transmission Line	1508
Cheater Cords	1509
Coaxial Cables	1510, 1511
Community TV Antenna	—
System Cables	1511
Enamel Wire	1517
Grounding Wire	1509
Hi-Fi Connector Cable	1505
Hook-Up Wires	1512-1514
Ignition Cable	1515
Intercom System	—
Cables	1504-1507
Juke Box Cables	1507
Lead-In Wire	1508, 1517
Lead Wire	1512-1514
Litz Wire	1516
Magnet Wire	1517
Marine Wires	1515
Microphone Cables	1502
Military Specifications	—
MIL-C-175	1510, 1511
MIL-W-76A, Type MW	1512
MIL-W-16878C, Type B	1512
MIL-W-16878C,	—
Type E & EE	1513
MIL-W-5086A	1513
JAN-C-17	1510, 1511
Multiple Conductor Cables	1506
Multiple Set Antenna Cable	1511
Nylclad	1517
Parallel Lamp Cordage	—
(SP-1 & SPT-1)	1516
Phonograph Pick-Up Cable	1505
Portable Cordage	1516
Primary Wire	1513, 1514
Public Address Cables	1504, 1505, 1507
RGU-Transmission	—
Line Cables	1510, 1511
Rotor Cables	1509
Shielded Hook-Up	—
or Grid Wire	1515
Shielded Intercom	—
System Cables	1504-1506
Shielded Power Supply	—
Cordage	1502
Shielding	1516
Sound System Cables	1504, 1505, 1507
Speaker Cables	1504, 1505, 1507
Snark Plug Wire	1515
Stereo Cables	1505
Strain Gauge Cables	1502
Teflon Hook-Up Wire	1513
Test Prod Wire	1515
TV Camera Cables	1503
TV Grounding Wire	1509
TV Power Supply Cord	1509
TV Twin Lead	1509
UL Type Cordage	1516
UL Type Lead Wire	1514
Video Cable	1503
Voice Coil Lead	1516
Weldohm®	—
Transmission Line	1508

* New Item. † Specify Color. ‡ Solid. ° Striped. ¶ To Customer's Specified Length.
 ALL SPOOLS ARE ONE PIECE UNLESS OTHERWISE INDICATED BY (°).
 • Spools may contain more than one piece, minimum length of any one piece is 50 ft.
 When priced per M ft. length may vary ± 10% from length shown; all other lengths are exact.
 Prices for striped wire include one or two stripes. If three stripes are required please write for quotation.



PERMALINE TV TRANSMISSION LINES

COLUMBIA is first to offer a television transmission line with an insulation so good that it can be **GUARANTEED IN WRITING** to give a service life far beyond the normal life of brown Polyethylene television lines. PERMALINE is a high molecular weight Polyethylene containing carbon black for maximum resistance to sunlight, which has been proven the chief factor in deterioration of ordinary television lines. The insulation value of 50 Mils of PERMALINE is equal to over 150 Mils of conventional brown Polyethylene.

Electrical characteristics of PERMALINE are very similar to Brown Polyethylene television lines but as there is no deterioration attenuation remains constant instead of increasing as is the case with brown Polyethylene, which becomes brittle and cracks. This is truly the first new development in television transmission lines in ten years.

25 YEAR WARRANTY

80 Mil 20 Ga. Str. PERMALINE — TV Transmission Line
.080 x .395

Cat. No.		
5050	.....	1,000 Ft. Metal Spool
5052	.....	500 Ft. Metal Spool
5053	.....	100 Ft. Coil in Transparent Bag
5055	.....	75 Ft. Coil in Transparent Bag
5057	.....	50 Ft. Coil in Transparent Bag

15 YEAR WARRANTY

50 Mil 20 Ga. Str. PERMALINE — TV Transmission Line
.050 x .385

5150	.....	1,000 Ft. Metal Spool
5158	.....	500 Ft. Metal Spool
5152	.....	100 Ft. Coil in Transparent Bag
5154	.....	75 Ft. Coil in Transparent Bag
5156	.....	50 Ft. Coil in Transparent Bag



20 Ga. Str. 4 Cond.
7 28 Flat Rotor Cable
PERMALINE INSULATION

One tinned copper conductor for easy identification.

Cat. No.		
5062	.....	250 FT. SPOOL
5064	.....	500 FT. SPOOL
5066	.....	1000 FT. SPOOL



22 Ga. Str. 4 Cond.
Round Rotor Cable

Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

Cat. No.		
5072	.....	250 FT. SPOOL
5074	.....	500 FT. SPOOL
5076	.....	1000 FT. SPOOL



22 Ga. Str. 5 Cond.
Round Rotor Cable

Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

Cat. No.		
5082	.....	250 FT. SPOOL
5084	.....	500 FT. SPOOL
5086	.....	1000 FT. SPOOL



22 Ga. Str. 8 Cond.
Round Rotor Cable

Inner conductors are plastic insulated and color coded. .020 PERMALINE Jacket over all.

Cat. No.		
5092	.....	250 FT. SPOOL
5094	.....	500 FT. SPOOL
5096	.....	1000 FT. SPOOL

SPECIAL CABLES WITH THE INSULATION DESCRIBED ON THIS PAGE CAN BE MADE TO SPECIFICATION.

PERMAFOAM COAXIAL CABLES

Two new coaxial cables widely used for amateur installations and multiple antenna systems. Columbia is first to introduce 52 ohm coaxial cable with a primary insulation of foamed polyethylene to reduce attenuation as much as 25% over cables with a solid dielectric over the center conductor. Both of these new cables have our super smooth non contaminating Permaline polyethylene outer jacket to provide a service life far beyond that obtained with conventional Vinyl insulated cables. Physical sizes of cables are not changed and will accommodate standard fittings.



RG 58/U 52 OHM IMPEDANCE
FOAMED POLY DIELECTRIC PERMALINE JACKET

7/21 Copper Conductor .405 O.D.
Attenuation 1.5 at 100 M/C 3.4 at 400 M/C

Cat. No.			
5015C	100 Ft. Spool	RG 8/U	
5015D	500 Ft. Spool	RG 8/U	
5015M	1000 Ft. Reel	RG 8/U	



RG 8/U 52 OHM IMPEDANCE
FOAMED POLY DIELECTRIC PERMALINE JACKET

20 Ga. Solid Copper Conductor .195 O.D.
Attenuation 3.1 at 100 M/C 7.1 at 400 M/C

5045C	100 Ft. Spool
5045D	500 Ft. Spool
5045M	1000 Ft. Spool

FLEXFOAM ULTRA LOW CAPACITY MICROPHONE CABLES

Another Columbia first is a complete line of microphone cables with capacity as much as 35% lower than the best regular microphone cables available today. This drastic lowering of capacity has been made possible by the use of foamed polyethylene as the inner dielectric instead of solid polyethylene as normally used. This low capacitance means that lengths of microphone cable can be increased as much as 50%. These cables are also ideal for Hi-Fi and high quality sound work because of the extremely low attenuation, particularly at the higher audio-frequencies. The use of a special flexible vinyl as an outer jacket provides flexibility practically as good as rubber yet has much greater abrasion resistance.



FLEXFOAM MICROPHONE CABLES
FOR CRYSTAL MICROPHONES, HI FI CONNECTING CABLES,
HIGH IMPEDANCE MICROPHONES

.190 O.D. Capacitance 16 MMFD. per Ft.

Cat. No.			
1389T	250 Ft. Spool	Spiral T/C Shield	
1389D	500 Ft. Spool	Spiral T/C Shield	
1399T	250 Ft. Spool	Braided T/CShield	
1399D	500 Ft. Spool	Braided T/CShield	

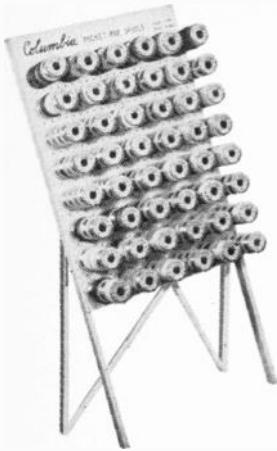
FOR LAPEL MICROPHONES, HI FI CONNECTING CABLES
AND OTHER APPLICATIONS REQUIRING SMALL DIAMETER
LOW CAPACITANCE CABLES

.140 O.D. Capacitance 19 MMFD per Ft.

1369T	250 Ft. Spool	Spiral T/C Shield
1369D	500 Ft. Spool	Spiral T/C Shield
1379T	250 Ft. Spool	Braided T/C Shield
1379D	500 Ft. Spool	Braided T/C Shield

WRITE TO YOUR LOCAL PARTS DISTRIBUTOR FOR COMPLETELY ILLUSTRATED COLUMBIA WIRE & SUPPLY CO. CATALOG

Sec. 6000



POCKET PAK SPOOL DISPLAY

A very compact display in two square feet of floor space, contains 192 spools of 48 different electronic and hook-up wire items. This attractive display will constantly remind your customer of his wire needs. No need now to spend costly time measuring and pricing small quantities of wire. A complete description of each type is printed on the spool, in addition to the stock number. Full description of all spools on pages 19 and 20 of cat. 107.

PERMALINE VHF - UHF TELEVISION TRANSMISSION LINE



Since the introduction of this cable in May 1956, it has been proven beyond any doubt that this cable has no equal for reliability over the entire range of VHF and UHF channels under the most adverse conditions, such as salt spray, sunlight, extremes of heat and cold, stress cracking, chemical fumes, whipping in high winds, etc. In many areas throughout the country where other cables have failed due to salt deposits on transmission lines, this cable has given satisfactory reception at all times. Foam polyethylene tubes provide excellent low loss dielectric and require no sealing. 22 gauge solid copperweld conductors mean high tensile strength so necessary where whipping of cable is a problem. Heavy duty jacket of high molecular weight BLACK PERMALINE POLYETHYLENE is a protection against all hazards. We believe this is the finest all-purpose television transmission line available today. Impedance is 270 ohms, nominal attenuation is 3.2 D/B at 500 M/C and 4.6 D/B at 900 M/C. Cable size is approximately .295 x .402.

- CAT. NO.
 5684C100 FT. CARTON
 5684D500 FT. SPOOL
 5684M1000 FT. REEL

PLASTIC MICROPHONE CABLES

Low capacitance cables with durable Flexlife plastic insulation provides resistance to abrasion, moisture and aging. Low loss polyethylene insulation over flexible stranded copper conductors. Grey Flexlife plastic jacket overall.

LAPEL MICROPHONE CABLE .130 O.D.



- Cat. No. 1315.....100 Ft. Spool.....25 Ga.....7/33 Stranding
 Cat. No. 1316.....500 Ft. Spool.....25 Ga.....7/33 Stranding
 NOMINAL CAPACITANCE 33 MMF PER FT.

CRYSTAL MICROPHONE CABLE .190 O.D.



- Cat. No. 1317.....100 Ft. Spool.....25 Ga.....7/33 Stranding
 Cat. No. 1318.....500 Ft. Spool.....25 Ga.....7/33 Stranding
 NOMINAL CAPACITANCE 24 MMF PER FT.

TWO CONDUCTOR PLASTIC MICROPHONE CABLE .230 O.D.



- .230 O.D.
 Cat. No. 1321.....100 Ft. Spool.....22 Ga.....16/34 Stranding
 Cat. No. 1322.....500 Ft. Spool.....22 Ga.....16/34 Stranding
 NOMINAL CAPACITANCE 30 MMF PER FT. BETWEEN 1 COND. AND REMAINING COND. CONNECTED TO SHIELD.



DELUXE TELEVISION SERVICE LITE



This newly designed service lite is one of the finest items in our entire line of television service accessories. Has a 2 1/4 inch highly polished aluminum reflector and wide opening spring clamp that will permit this lite to be attached almost anywhere inside the television cabinet leaving both hands free to work. Lower part of clamp has rubber covering that will hold firmly wherever it is placed. Comes complete with 7 1/2 watt 110 volt bulb and six foot parallel plastic cord with unbreakable male plug for attaching to baseboard or into service block on our all purpose Television Service Cord. Display cord furnished with orders for 25 or more lites.

- Cat. No. 185 DELUXE TELEVISION SERVICE LITE

COLUMBIA COAXIAL CABLES

	R G No.	Nominal Impedance	Nominal MMFD. Ft.	Wire Size	Overall Jacket	Spool Size	Cat. No.
	RG 59 U	73.0	21.0	22 C Weld	Black Vinyl .240 O.D.	100 Ft. 500 Ft. 1000 Ft.	1100 1102 1104
	RG 8 U	52.0	29.5	7/21	Black Vinyl .405 O.D.	100 Ft. 500 Ft. 1000 Ft.	1150 1152 1154
	RG 11 U	75.0	20.5	7/26	Black Vinyl .405 O.D.	100 Ft. 500 Ft. 1000 Ft.	1156 1158 1160
	RG 58 U	53.5	28.5	20 Ga.	Black Vinyl .195 O.D.	100 Ft. 500 Ft. 1000 Ft.	1162 1164 1166
	RG 58 A/U	50.0	29.0	19/.0068	Black Vinyl .159 O.D.	100 Ft. 500 Ft. 1000 Ft.	1174 1176 1178

WRITE TO YOUR LOCAL PARTS DISTRIBUTOR FOR COMPLETELY ILLUSTRATED COLUMBIA WIRE & SUPPLY CO. CATALOG



SEND FOR A COMPLETE ELECTRONIC WIRE CATALOG

MAGNET WIRE

Popular, profitable specialty wire packaged for easy selling in radio-electrical, department, specialty and hardware stores. Wide variety of sizes and insulations. Keeps stock in perfect order, always saleable. Supplied on Spool as shown and in Heavier Weights for whatever weight desired. Here is a handy and convenient way to stock small quantities of wire. It prevents wire from matting or tangling.



VARIOUS OTHER

INSULATIONS

Film Technical Classification

- ENAMEL—oleoresinous
- FORMVAR—poly vinyl acetal
- SODEREZE—polyurethane
- THERMALEZE—epoxide polyester
- NYFORM—formvar, nylon sheath
- NYLON
- BONDEZE
- GRIPEZE
- LECTRON—acrylic
- ISONSEL—terephthalic polyester
- ALKANVAR—terephthalic polyester
- SYLKVD ENAMELED
- COTTON AND COMBINATIONS
- SILK AND COMBINATIONS
- CELANESE AND COMBINATIONS
- GLASS AND COMBINATIONS
- PAPER AND COMBINATIONS

PLAIN ENAMEL MAGNET WIRE

Size	1/4 lb.	1/2 lb.	1 lb.
11	\$0.45	\$0.75	\$1.39
13	.45	.80	1.46
16	.50	.84	1.42
17	.50	.87	1.44
18	.50	.89	1.45
19	.55	.92	1.49
20	.55	.94	1.50
21	.55	.95	1.59
22	.55	.97	1.70
23	.58	.99	1.75
24	.60	1.00	1.87
25	.65	1.10	1.95
26	.65	1.10	2.03
27	.70	1.15	2.14
28	.73	1.20	2.25
29	.75	1.25	2.30
30	.80	1.30	2.35
31	.89	1.35	2.45
32	.90	1.40	2.50
33	.95	1.50	2.65
34	1.00	1.70	2.75
35	1.09	1.84	3.14
36	1.29	2.00	3.50
37	1.45	2.25	4.00
38	1.70	2.50	4.50
39	1.87	3.00	5.00
40	2.50	3.75	6.00
41	3.00	5.63	8.48
42	3.48	6.60	12.89
43	4.35	8.25	15.75
44	4.88	9.38	18.45

SINGLE FORMVAR MAGNET WIRE

Size	1/4 lb.	1/2 lb.	1 lb.
11	\$0.66	\$1.12	\$2.07
15	.66	1.20	2.10
16	.73	1.25	2.14
17	.75	1.30	2.15
18	.75	1.34	2.17
19	.83	1.39	2.23
20	.83	1.40	2.25
21	.83	1.42	2.37
22	.83	1.45	2.56
23	.89	1.49	2.62
24	.90	1.50	2.60
25	.97	1.65	2.92
26	.99	1.65	3.05
27	1.05	1.74	3.26
28	1.10	1.80	3.37
29	1.14	1.87	3.46
30	1.20	1.95	3.42
31	1.34	2.02	3.67
32	1.35	2.10	3.75
33	1.42	2.25	3.95
34	1.50	2.55	4.12
35	1.64	2.81	4.70
36	1.92	3.00	5.26
37	2.17	3.37	6.00
38	2.55	3.75	6.76
39	2.80	4.50	7.50
40	3.75	5.64	9.00
41	3.75	6.75	12.60
42	4.28	7.40	13.43
43	5.18	7.88	14.25
44	6.60	11.70	22.58

HEAVY FORMVAR MAGNET WIRE

Size	1/4 lb.	1/2 lb.	1 lb.
11	\$0.73	\$1.24	\$2.27
15	.73	1.34	2.33
16	.84	1.39	2.35
17	.84	1.44	2.37
18	.84	1.47	2.39
19	.92	1.52	2.45
20	.92	1.54	2.51
21	.92	1.55	2.61
22	.92	1.60	2.80
23	.97	1.64	2.87
24	1.00	1.65	3.07
25	1.15	1.97	3.50
26	1.19	1.98	3.64
27	1.25	2.07	3.84
28	1.34	2.15	4.04
29	1.37	2.24	4.14
30	1.49	2.34	4.22
31	1.67	2.52	4.58
32	1.69	2.63	4.67
33	1.77	2.81	4.94
34	1.87	3.19	5.16
35	2.04	3.46	5.88
36	2.39	3.75	6.58
37	2.72	4.20	7.50
38	3.17	4.69	8.45
39	3.50	5.64	9.38
40	4.69	7.04	11.27
41	5.18	7.59	13.65
42	5.78	8.15	14.72
43	6.00	8.63	15.08
44	7.43	11.40	23.33

DOUBLE COTTON COVERED MAGNET WIRE

Size	1/4 lb.	1/2 lb.	1 lb.
11	\$0.55	\$0.95	\$1.87
15	.58	.98	1.90
16	.60	1.00	1.95
17	.60	1.05	2.00
18	.60	1.10	2.05
19	.65	1.15	2.28
20	.65	1.25	2.34
21	.77	1.34	2.50
22	.82	1.39	2.64
23	.88	1.50	2.75
24	.94	1.60	3.00
25	.95	1.65	3.14
26	1.00	1.75	3.39
27	1.15	1.89	3.64
28	1.20	2.14	4.00
29	1.30	2.39	4.56
30	1.32	2.50	4.75
31	1.50	2.75	5.00
32	1.75	3.00	5.64
33	1.89	3.37	6.25
34	2.14	3.89	7.20
35	2.39	4.25	7.50
36	2.75	4.89	8.65
37	2.25	6.25	11.80
38	4.75	8.65	16.30
39	6.00	11.50	20.00
40	8.00	15.00	28.15

BARE COPPER WIRE

Size	1/4 lb.	1/2 lb.	1 lb.
11	\$0.53	\$0.97	\$1.54
15	.57	1.00	1.60
16	.60	1.10	1.83
17	.62	1.12	1.87
18	.63	1.14	1.90
19	.65	1.17	1.95
20	.67	1.20	2.00
21	.68	1.20	2.07
22	.70	1.24	2.14
23	.70	1.27	2.17
24	.70	1.30	2.20
25	.72	1.30	2.20
26	.73	1.34	2.27
27	.75	1.37	2.30
28	.77	1.40	2.40
29	.77	1.42	2.47
30	.77	1.42	2.47
31	.77	1.44	2.53
32	.77	1.44	2.60
33	.78	1.47	2.68
34	.80	1.50	2.77
35	.82	1.55	2.90
36	.84	1.60	3.04
37	.92	1.75	3.22
38	1.00	1.90	3.40
39	1.02	1.97	3.45
40	1.04	2.04	3.50

TINNED COPPER WIRE

Size	1/4 lb.	1/2 lb.	1 lb.
11	\$0.67	\$1.13	\$1.75
15	.73	1.27	1.92
16	.80	1.40	2.00
17	.84	1.44	2.03
18	.87	1.47	2.08
19	.90	1.50	2.12
20	.94	1.53	2.17
21	.95	1.53	2.24
22	.97	1.57	2.30
23	.98	1.58	2.34
24	1.00	1.60	2.37
25	1.00	1.60	2.37
26	1.00	1.60	2.37
27	1.05	1.67	2.64
28	1.10	1.75	2.90
29	1.13	1.84	2.94
30	1.17	1.92	2.97
31	1.20	2.00	3.04
32	1.24	2.09	3.10
33	1.27	2.17	3.19
34	1.30	2.25	3.27
35	1.32	2.30	3.40
36	1.34	2.34	3.54
37	1.36	2.42	3.72
38	1.38	2.50	3.90
39	1.39	2.50	3.95
40	1.40	2.67	4.00

BARE NICKEL CHROMIUM WIRE

No. 2000

Recommended for electrical heating appliances and other devices where the highest quality in performance is required, whose operating temperatures do not exceed 1850° F. Particularly suited for heavy duty rheostats and controls which require compact resistance.

ON PROTECTA-METAL SPOOLS

Size	1 Oz.	1/4 Lb.	1 Lb.
11	.....	\$1.52	\$5.56
15	.....	1.56	5.65
16	.....	1.58	5.73
17	.....	1.63	5.80
18	.....	1.67	5.87
19	.....	1.71	6.02
20	\$0.67	1.76	6.17
21	.71	1.85	6.49
22	.72	1.93	6.79
23	.74	2.08	7.44
24	.76	2.22	8.09
25	.82	2.37	8.74
26	.87	2.53	9.39
27	.89	2.57	9.96

Size	1 Oz.	1/4 Lb.	1 Lb.
28	\$0.92	\$2.84	\$10.53
29	1.00	2.98	11.18
30	1.09	3.11	11.83
31	1.14	3.28	12.28
32	1.18	3.43	12.73
33	1.31	3.79	14.73
34	1.44	4.16	16.73
35	1.58	4.55	17.71
36	1.71	4.94	18.69
37	2.22	6.50	23.86
38	2.74	8.05	29.03
39	2.86	8.39	31.62
40	2.98	8.95	34.20

TEST PROD WIRE



A Specially Constructed High Grade Wire For Use On Laboratory Test Equipment, Bench Analyzers, Etc.

SPECIFICATIONS: Extra flexible tinned copper; cotton wrap; red or black; live rubber insulation.

1001	5,000 volts	20	41 x 36	.043	.140
1006	10,000 volts	18	65 x 36	.088	.250

LEAD COVERED CABLE



FOR FREEDOM FROM INTERFERENCE, CORROSION AND DAMPNESS.

SPECIFICATIONS: Tinned copper wire; heavy rubber insulation and cotton braid; heavy lead sheath.

1453	2 cond.	18	Solid	1/32	.210 x .200
1454	3 cond.	18	Solid	1/32	.420



Military Types . . . A ROME CABLE PRODUCT

SEND FOR A COMPLETE ELECTRONIC WIRE CATALOG

THERMOPLASTIC INSULATED HOOK-UP WIRE SPECIFICATION MIL-W-76A (SUPERSEDES JAN. C-76)

This specification has been approved by the Departments of the Army, Navy, and Air Force. Insulation possesses high dielectric strength. Impervious to oils, acids, alkalis, moisture and flame. The following types and colors are available for shipment from stock—
*See other sizes, types and covering over insulated wire.

TYPE HW
TYPE MW

SPECIFICATION MIL-W-76A
Single Conductor, Solid or Stranded Conductor as Indicated, Tinned Copper, Thermoplastic Insulation. No further covering. (SU-PERSEDES SRIR SPECIFICATION JAN-C-76). Ins. Nom., .015"; Max. R.M.S. Voltage 1000; Stand. Spool, 1000 ft.
Single Conductor, Solid or Stranded Conductor as Indicated, Tinned Copper, Thermoplastic Insulation. No further covering. (SU-PERSEDES SRHV SPECIFICATION JAN-C-76). Ins. Nom., .017"; Max. R.M.S. Voltage 2500; Stand. Spool, 1000 ft.

CAT. NO.	MIL-W-76A TYPE DESIGNATION	SIZE	STRAND-ING	O.D.	MAX. COLORS	AVAILABLE COLORS—(COLOR CODE) *COVERING OVER INSULATED WIRE		
						Color	Shield	Type
707	MW-C 22 (1) U	22	Solid	.062"	1 thru 13	1—Black (0)	12—Pink	None
717	MW-C 20 (1) U	20	Solid	.069"	1 thru 13	2—Brown (1)	15—Dark Blue	Jacket (Nylon)
727	MW-C 18 (1) U	18	Solid	.077"	1 thru 13	3—Red (2)	14—White/Black Tr. (90)	Braid
737	MW-C 22 (7) U	22	7/010	.070"	1 thru 22	4—Orange (3)	17—White/Red (95)	*Shield
747	MW-C 20 (7) U	20	7/0216	.078"	1 thru 22	5—Yellow (4)	16—White/Green (95)	Jacket and Shield (Nylon)
757	MW-C 18 (16) U	18	19/0092	.084"	1 thru 22	6—Green (5)	17—White/Yellow (94)	**Braid and Shield
637	HW-C 22 (1) U	22	Solid	.088"	1 thru 13	7—Blue (6)	18—White/Blue (96)	Shield and Outer Jacket (Nylon)
642	HW-C 20 (1) U	20	Solid	.105"	1 thru 13	8—Violet (Purple) (7)	19—White/Brown (91)	Jacket, Shield, Outer Jacket
647	HW-C 18 (1) U	18	Solid	.113"	1 thru 13	9—Gray (Slate) (8)	20—White/Orange (95)	JST Jacket, Shield, Outer Jacket
667	HW-C 22 (7) U	22	7/010	.106"	1 thru 22	10—White (9)	21—White/Gray (98)	**Braid, Shield, Outer Jacket
672	HW-C 20 (7) U	20	7/0126	.114"	1 thru 22	11—Tan		
677	HW-C 18 (16) U	18	19/0092	.125"	1 thru 22			**Specify, Synthetic, or Glass yarn

*Other color combinations and sizes on special production order. **Available on factory order. Spec. MIL-W-76A, Types LW & HW with above coverings. We are also prepared to furnish wires to Military Specifications MIL-W-1687A—Types B, C, D, E, EE, FF, N, Quoted on request. Write for the Rome Cable Corporation TR-5 catalogue, complete with Military Specifications for Electronic Instrumentation and Sub-Minature Wires, Multi-Conductor and Co-Axial Cables. Underwriter's Laboratory Approved—Rome High Temp—Rome Synthinol—Registered.

Rome Synthinol THERMOPLASTIC INSULATED HOOK-UP WIRE



Rome Synthinol is a polyvinyl chloride type of thermoplastic insulation impervious to oils, acids, alkalis, moisture and flame, and Approved by Underwriters' Laboratories where exposed to temperatures not exceeding 80° Centigrade.

Rome Synthinol is specially designed for the chassis and sub-chassis wiring of radio and television receivers and transmitters as well as all other types of electronic equipment. It has physical and electrical characteristics of unusual permanency.

U.L. Voltage Rating—300 Volts Max.
Single and Two-Conductor Twisted Cable.
Color Coded

Typical Test Results
Breakdown Voltage:
1/64" Synthinol over 10000 volts
1/32" Synthinol over 18000 volts
Insulation Resistance:
1/32" Synthinol over 5000 megohms feet

STANDARD SPOOL PUT-UP: 25 FT., 100 FT., 500 FT., 1000 FT. Colors: Black, Blue, Brown, Green, Orange, Pink, Purple, Red, Slate, White, Yellow.

CAT. NO.	SIZE AWG.	STRANDING	NOM. INS. THCKNS.	VOLTS	MAX. DIA. INCHES
801	22	Solid	1/64	300	.065
811	20	Solid	1/64	300	.071
841	18	Solid	1/64	300	.080
821	22	7 x No. 30	1/64	300	.069
831	20	10 x No. 30	1/64	300	.078
846	18	16 x No. 30	1/64	300	.085
851	22	Solid	1/32	600	.097

CAT. NO.	SIZE AWG.	STRANDING	NOM. INS. THCKNS.	VOLTS	MAX. DIA. INCHES
856	20	Solid	1/32	600	.104
861	18	Solid	1/32	600	.112
866	22	7 x No. 30	1/32	600	.102
871	20	0 x No. 30	1/32	600	.110
876	18	16 x No. 30	1/32	600	.119
881	20—2 cond.	10 x No. 30	.025	300	.170

Rome Hi-Temp RUBBER INSULATED HOOK-UP WIRE



The result of extensive laboratory development and proved by a decade of service—Rome Hi-Temp is offered for radio and electronic circuits where resistance to moisture and heat is required.

SPECIFICATIONS

Conductors: Annealed tinned, solid or stranded copper conforming to A.S.T.M. Specification B 33 and/or Underwriters' Standards.

In order to provide maximum flexibility and prevent unraveling of the strands a short lay stranding is used as follows:

- No. 22 Awg. .33 inch max.
- No. 20 Awg. .50 inch max.

Insulation: Rome Hi-Temp—a high quality, free-stripping heat-resistant rubber insulation approved by Underwriters' Laboratories.

Typical Test Results
Breakdown Voltage (1/32" Hi-Temp).....10500 volts
Insulation Resistance.....Over 10000 megohms feet
*Only factory length reels are furnished with U.L.'s labels.

STANDARD SPOOL PUT-UP:
25 FT., 100 FT., 500 FT., 1000 FT.

CAT. NO.	SIZE	STRANDING	INSULATION THICKNESS	DIAMETER (INCHES)
901	No. 22	Solid	1/32"	.075
911	No. 20	Solid	1/32"	.086
921	No. 22	7 x No. 30	1/32"	.085
931	No. 20	10 x No. 30	1/32"	.090

ANALYZER CABLE

SPECIFICATIONS: Extra flexible tinned copper; plastic insulation; color coded; Brown cotton braid overall.

TYPE	SIZE	STRAND-ING	INSULATION THICKNESS (Inches)	FINISHED O.D. (Inches)
1501	8 cond.	2-14	41 x 30	1/64
		6-18	16 x 30	
1502	9 cond.	2-14	41 x 30	1/64
		7-18	16 x 30	

FLEXIBLE COTTON BRAIDED CABLE

For speakers, testers, battery hook-up, etc.

SPECIFICATIONS: Tinned flexible copper; cotton sleeve; five colored plastic insulation; bunched individual conductors; heavy brown cotton braid overall; color coded. Size 20; Stranding 10X30; Insulation Thickness 1/64".

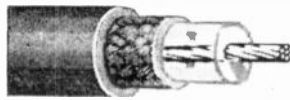
TYPE NO.	TYPE	FINISHED O.D. (Inches)	TYPE NO.	TYPE	FINISHED O.D. (Inches)
1481	1 cond.	.150	1487	7 cond.	.275
1482	2 cond.	.175	1488	8 cond.	.300
1483	3 cond.	.200	1489	9 cond.	.310
1484	4 cond.	.275	1490	10 cond.	.325
1485	5 cond.	.250	1494	11 cond.	.335
1486	6 cond.	.260	1495	12 cond.	.350

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.

RG TYPE COAXIAL CABLES



SEND FOR A COMPLETE ELECTRONIC WIRE CATALOG



No. RG/U	Cat. No.	Non-Contaminating Low Temp. Black Jacket		Vinyl & Poly. Jackets		Shields		Dielectric O.D.	Center Conductor	V. P. %	Cap. Mmfd. Ft.	Max. Oper. Volts Rms.	Nom. Imp. Ohms
		No. RG U	Cat. No.	Jacket O.D.	Vinyl Jacket	Outer	Inner						
5B	4432	5	4431	.332	Black	C	C	.185	16	65.9	28.5	3000	52.5
6A	4433			.332	Black	S	S	.185	0.038	65.9	29.5	3000	50
		7	4434	.370	Black	C	C	.250**	10	84	12.5	1000	97
		8	4415	.405	Black	C	C	.285	7.21	65.9	29.5	1000	52
8A	4435			.405	Black	C	C	.285	7.0296	65.9	30.5	1000	50
		9	4436	.420	Grey	C	S	.280	7.218	65.9	30	1000	51
9A	4437			.420	Grey	S	S	.280	7.218	65.9	30	1000	51
9B	4438			.425	Black	S	S	.285	7.02968	65.9	30.5	1000	50
10A	4439			.405	Black	C	C	.285	7.0296	65.9	30.5	1000	50
		11	4419	.405	Black	C	C	.285	7.26T	65.9	29.5	1000	75
11A	4440			.405	Black	C	C	.285	7.26T	65.9	29.5	1000	75
12A	4441			.405	Black	C	C	.285	7.26T	65.9	29.5	1000	75
		13	4442	.425	Black	C	C	.285	7.26T	65.9	29.5	1000	75
13A	4443			.425	Black	C	C	.285	7.26T	65.9	29.5	1000	75
14A	4467			.545	Grey	C	C	.370	10	65.9	29.5	5700	52
14A	4468			.545	Black	C	C	.370	.166	65.9	30	5700	50
		21	4444	.322	Grey	S	S	.185	.16N	65.9	29	2700	53
21A	4445			.332	Black	S	S	.185	.038N	65.9	30	2700	50
		29	4446	.184	Poly	C	T	.116	20	65.9	28.5	1000	53.5
		54A	4469	.250	Poly	C	T	.178	7.0152	65.9	29.5	3000	58
		55	4447	.206	Poly	T	T	.116	20	65.9	28.5	1000	53.5
55A	4448			.216	Black	S	S	.116	.0358	65.9	29.5	1000	50
		58	4405	.195	Black	C	T	.116	20	65.9	28.5	1000	53.5
58A	4449			.195	Black	C	T	.116	19.0071T	65.9	29.5	1000	50
58B	4450			.195	Black	C	T	.116	19.0071T	65.9	29.5	1000	50
		59	4401	.242	Black	C	C	.146	.220W	65.9	21	2300	73
59A	4451			.242	Black	C	C	.146	.0230W	65.9	29.5	2300	75
59B	4470			.242	Black	C	C	.146	.0230W	65.9	29.5	2300	75
		62	4452	.242	Black	C	C	.146**	.220W	84	13.5	750	93
62A	4453			.242	Black	C	C	.146**	.220W	84	13.5	750	93
		63	4454	.405	Black	C	C	.285**	.220W	84	10	1000	125
63B	4455			.405	Black	C	C	.285**	.220W	84	10	1000	125
		71	4456	.250	Poly	T	T or C	.146**	.220W	84	13.5	750	93
71A	4466			.245	Black	T	T or C	.146**	.220W	84	13.5	750	93
		108	4464	.235	Black	C	T	.079 ea.	Two 7.28T	68	23.5	1000	78
108A	4465			.235	Black	C	T	.079 ea.	Two 7.28T	65.9	23.5	1000	78
122	4457			.160	Black	C	T	.096	27.36T	65.9	29.5	1000	50

ALSO TRIAXIAL CABLE DOUBLE SHIELD DOUBLE JACKET

**Semi Solid Dielectric N-Nichrome C-Copper S-Silvered Copper SW-Copperweld T-Tinned Copper

TELEVISION CABLE — TRANSMISSION CABLES

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

Nominal Properties

No.	Type	Size & Stranding	Specifications and General Applications	Nominal Diameter (in.)	Frequency (mc)	Attenuation Per 100 ft.	Impedance (ohms)	Velocity of Propagation (%)	Capacitance Per Ft. (mmf)
4500	2 cond.	22 7x30	Both conductors bare copper; flexible stranding; conductors parallel insulated with polyethylene. USE: Receiving antenna at high frequencies.	.075 X .365	50 100 200 300 400 500	.72 1.1 1.7 2.2 2.7 3.1	300	85	1.6
4503	2 cond.	20 7x28	Same as 4500	.072 X 100	Same as 4500	Same as 4500	300	85	1.6
4504	2 cond.	20 7x28	Same as 4500	.080 X 100	Same as 4500	Same as 4500	300	85	4.6
4506	2 cond.	20 7x28	Same as 4500	.100 X 100	Same as 4500	Same as 4500	300	85	4.6
4527	2 cond. round	20 7x28	Copperweld conductors; tubular design protects against exterior hazards. USE: For UHF and VHF.	.350			300	84	5.6
4507	3 cond.	20 7x28	Two bare, one tinned copper conductor; polyethylene insulation. USE: Same as 4503.	.072 X .365	Same as 4500	Same as 4500	300	85	4.6
4508	1 cond.	22 7x30	Three conductors bare copper, one conductor tinned. Brown polyethylene insulation. USE: Rotor Aerials.	.072 X .345	Same as 4500	Same as 4500	300	85	4.6
4509	4 cond.	20 7x28	Same as 4508 Except brown vinyl plastic.	.072 X 100	Same as 4500	Same as 4500	300	85	4.6
4510	1 cond.	20 7x28	Same as 4508	.072 X 100	Same as 4500	Same as 4508	300	85	4.6
4515	4 cond.	22 7x30	Copper conductors. Color coded with gray jacket overall. USE: Rotor Aerials.	.160					
4521	8 cond.	22 7x30	Same as 4515	2.05					





INTERCOMMUNICATING AND SOUND SYSTEM CABLES

SEND FOR A COMPLETE ELECTRONIC WIRE CATALOG

PAIRED PLASTIC CONDUCTORS

SPECIFICATIONS AND GENERAL APPLICATIONS Tinned copper conductor .010" vinyl plastic insulation. Cabled .302" gray vinyl plastic Jacket overall



NO.	TYPE	SIZE AND STRANDING	NOMINAL DIAMETER (Inches)
5201	1 Pr. 2 Condr.	22 Solid	.145
5205	2 Pr. 4 Condr.	22 Solid	.190
5211	3 Pr. 6 Condr.	22 Solid	.230
5221	5 Pr. 10 Condr.	22 Solid	.250
5226	6 Pr. 12 Condr.	22 Solid	.265
5231	7 Pr. 14 Condr.	22 Solid	.280
5236	8 Pr. 16 Condr.	22 Solid	.300
5241	9 Pr. 18 Condr.	22 Solid	.320
5251	11 Pr. 22 Condr.	22 Solid	.360
5271	15 Pr. 30 Condr.	22 Solid	.390
5286	27 Pr. 54 Condr.	22 Solid	.510

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.

MULTIPLE CONDUCTORS FULLY COLOR CODED

SIZE & STRANDING 22 - 7x30 SPECIFICATION AND GENERAL APPLICATION Tinned copper conductor .010" vinyl plastic insulation. Cabled .020" gray vinyl plastic Jacket overall



NO.	TYPE	NOMINAL DIAMETER (Inches)	
5401	3 Condr.	.140	Black, green red
5406	4 Condr.	.158	Black, green, red, white
5411	5 Condr.	.170	Black, brown, green, red, white
5416	6 Condr.	.212	Black, blue, brown, green, red, white
5421	7 Condr.	.230	Black, blue, brown, green, orange, red, white
5426	8 Condr.	.235	Black, blue, brown, green, orange, red, white, yellow
5431	9 Condr.	.245	Black, blue, brown, green, orange, purple, red, white, yellow

STANDARD SPOOL PUT-UP: 10 FT., 15 FT., 25 FT., 100 FT., 500 FT., 1000 FT.

PHONOGRAPH MULTIPLE CABLE STANDARD SPOOL PUT-UP: 500 FT., 1000 FT.



TYPE No.	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O.D. (Inches)
5030	2-16 28-22	Connections between commercial electric phonographs (juke boxes) and record selectors.	1 condr. No. 16 gauge bare copper wire with 1/64" black vinylite insulation. 1 condr. No. 16 gauge solid bare copper wire with 1/64" red vinylite insulation. 14 condrs. No. 22 gauge solid bare copper wire with .010" vinylite insulation, all individually color coded. 14 condrs. No. 22 gauge tinned copper wire with a .010" vinylite insulation, all individually color coded. All condrs. grouped into cable form with a tight spiral cotton wrapping and with a heavy black vinylite jacket over-all. 3 condrs. No. 22 with 1/64" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with a treated cotton braid overall lacquered.	Solid	
5103	3-22	Same as 5030		7 x 30	.125
5123	2-16 1-18	Same as 5030	2 condrs. No. 16 1/64" thermoplastic insulation. 1 condr. No. 18 1/32" thermoplastic insulation, all individually color coded. All conductors grouped into cable form with gray vinyl plastic jacket.	2-26 x 30 1-16 x 30	.165
5135	22 5 condr.	Same as 5030	5 condr. No. 22 with 1/64" thermoplastic insulation; 3 condr. twisted together with a braided tinned copper shield; 2 condr. twisted; all condr. grouped into cable form with a brown cotton braid overall.	5-7 x 30	.225
5124	4-18	Same as 5030	No. 18 solid 4 condr. color coded gray plastic jacket overall.	4-18	.225



MICROPHONE CABLE CONDUCTOR COLOR CHART: 1—Black; 2—White; 3—Red; 4—Green; 5—Yellow; 6—Blue; 7—Brown.

STANDARD SPOOL PUT-UP: 9 FT., 10 FT., 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

SHIELDED: Weatherproof rubber jacket for all microphone or weatherproof extension work. (Longer continuous lengths if desired.)






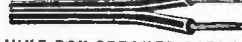



No.	TYPE	SIZE	SPECIAL USE	SPECIFICATIONS	STRANDING	FINISHED O. D. (Inches)	NOMINAL CAPACITY per ft. (mmf)
1458	2 conductor	22	Low impedance microphones	Tinned copper conductors polyethylene insulation conductors; black and white. Cabled with fillers closely woven tinned copper shield. Gray vinyl plastic jacket.	16 x 34	.231	32.
1461	1 conductor	22	Lapel microphone	Tinned copper polyethylene insulation with a closely woven tinned copper shield. Grey vinyl plastic jacket.	16 x 34	.135	34.
1457	1 conductor	22	Crystal, ribbon and other high impedance microphones	Same as 1461 except heavier polyethylene insulation on conductor.	16 x 34	.200	25.
					26 x 34	.175	40.
1459	1 conductor	20	Lapel microphone	Tinned Copper Wire with polyethylene to .087" O.D. with a closely woven tinned copper shielded braid, and a heavy black plastic jacket overall.	26 x 34	.240	33.
1460	1 conductor	20	Crystal microphone	Tinned copper, yarn serve; wall of live rubber; tinned copper braid shield; rubber jacket overall.	26 x 34	.280	68.
1462	2 conductor	20	Carbon microphones	Same as 1460; color coded			
1456	2 conductor	18	Heavy duty studio cable	Same as 1460; color coded	41 x 34	.295	80.
1463	3 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.290	85.
1464	4 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.300	95.
1465	5 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.340	
1466	6 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.550	
1467	7 conductor	20	Carbon microphones	Same as 1460; color coded	26 x 34	.370	



SEND FOR A COMPLETE ELECTRONIC WIRE CATALOG

INTERCOMMUNICATING AND SOUND SYSTEM CABLES

STANDARD SPOOL PUT-UP: 10 FT., 25 FT., 50 FT., 100 FT., 500 FT., 1000 FT.

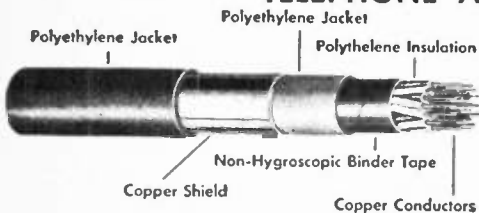
	NO.	TYPE	Size & Stranding	INSULATION THICKNESS (INCHES)	SPECIFICATION AND GENERAL APPLICATION	NOMINAL DIAMETER (INCHES)
	5501	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.110
	5506	3 Condr.	22 Solid	.015	Same as 5501—condr. red—1 condr. black—1 condr. blue.	.145
	5521	2 Condr.	20 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven braided tinned copper shield.	.155
	5511	2 Condr.	22 Solid	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—and a spiral tinned copper shield with .020" tubed gray vinyl plastic jacket.	.170
	5516	2 Pair 4 Condr.	22 7x30	.015	Stranded tinned copper vinyl plastic insulation, 2 pair cabled (1 conductor—1 pair black & white with braided tinned copper shield—1 pair black & brown unshielded—both pair bunched and .020" gray vinyl plastic jacket overall.	.168x.276
	5526	2 Condr.	20 10x30	.015	Tinned copper vinyl plastic insulation, wires twisted together—1 condr. red—1 condr. black—closely woven tinned copper shield.	.215
	5531	3 Condr.	20 10x30	.015	Same as 5526—1 condr. red—1 condr. black—1 condr. blue.	.230
	5536	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together, 1 condr. red—1 condr. white, closely woven braided tinned copper shield.	.235
	5568	2 Condr.	22 7x30	.015	Tinned copper vinyl plastic insulation, 2 condrs.—cabled black and red—tinned copper spiral wrapped shield .023" chrome vinyl plastic jacket.	.166
	5569	3 Condr.	22 7x30	.015	Tinned copper vinyl plastic insulation, 3 condrs.—cabled black, red, white—tinned copper braid shield—chrome vinyl plastic jacket.	.193
	5538	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together, 1 condr. red, 1 condr. white. Spiral tinned copper shield and .020" gray vinyl plastic jacket overall.	.225
	5543	2 Condr.	20 10x30	.015	Same as 5538 1 condr. Red, 1 condr. Black.	.185
	5541	2 Condr.	18 16x30	.015	Stranded tinned copper vinyl plastic insulation, wires twisted together, 1 condr. red—1 condr. white, closely woven braided tinned copper shield and .020" gray vinyl plastic jacket overall.	.260
	5547	2 Condr.	24 7x32	.015	Stranded 1 condr. bare copper—1 condr. tinned copper—2 condrs. parallel gray vinyl plastic insulation.	.058x.115
	5551	1 Condr.	24 16x34	.020	Stranded tinned copper polyethylene insulation closely woven braided tinned copper shield with .015" gray vinyl jacket.	.125
	5556	2 Condr.	19 Solid	.015	Bare copper vinyl plastic insulation, wires twisted together—1 condr. brown—1 condr. tan.	.115
	5561	3 Condr.	19 Solid	.015	Same as 5556—1 condr. brown—1 condr. tan—1 condr. gray.	.132
	5566	2 Condr.	22 Solid	.015	Bare copper .015 rubber insulation with a black cotton braid weatherproof finish. Conductors coded for easy identification. Ideal for exterior or interior communication installations.	.131x.203

TELEPHONE AND COMMUNICATION CABLE

DIRECT BURIAL TYPE **FULLY COLOR CODED**

SPECIFICATIONS

Solid bare annealed copper 22 Awg. gauge conductors; thin wall, color coded, polyethylene insulation; conductors twisted to form pairs with symmetrically varying lays to minimize cross-talk; cabled (for 6 thru 50 pairs) by stranding pairs in concentric layers, or (for 75 thru 400 pairs) by stranding pairs into concentrically formed units, which are in turn cabled to form the complete assembly; non-hygroscopic binder tape furnishing high dielectric strength between shield and individual conductors; continuous copper shielding tape; high-molecular weight, polyethylene jacket.



GENERAL APPLICATION AND ADVANTAGE

APPLICATION: Communication and Telephone Cable for use in direct burial installations provides a high quality product similar to that used for aerial and duct systems, but with the addition of protective armoring. This minimizes the possibility of damage to the cable from rodents and insects and, correctly installed, reduces the dangers to the cable from sharp stones and other hazards of underground burial installations.

ADVANTAGE: The lightweight, but rugged construction of direct burial Communication and Telephone Cable permits fast and economical underground installation of communication systems with the assurance of dependable and enduring service. This is made possible through utilization of the same high quality polyethylene compounds that are used in its counterpart for aerial and duct type installations, with the added protection of copper armoring tapes and a durable, high-molecular weight, polyethylene jacket.

NO.	NO. OF PAIRS	NO. OF COND.	COND. SIZE	NOMINAL JACKET THICKNESS, MILS		NOMINAL O. D. (Inches)
				INNER	OUTER	
6006	6	12	22 Solid	40	40	.450
6012	12	24	22 Solid	40	40	.500
6018	18	36	22 Solid	40	40	.560
6025	25	50	22 Solid	40	40	.630
6050	50	100	22 Solid	40	40	.820
6075	75	150	22 Solid	50	50	.990
6100	100	200	22 Solid	50	50	1.20
6150	150	300	22 Solid	50	50	1.30
6200	200	400	22 Solid	50	50	1.50
6300	300	600	22 Solid	50	60	1.80
6400	400	800	22 Solid	50	60	2.00



Radio & TV Wire Products

P.A. and sound system cables

1282 juke box speaker cable



24/2 7/32 stranded one conductor tinned one conductor bare copper. Parallel lay chrome vinyl insulation. Nominal O.D. .058" x 155". Put-up 500 ft. and 1000 ft. spools.

List Price \$17.00 M. Wt. 6 Lbs. per M. Ft.

1206 shielded connector cable



18/1 16/30 stranded tinned copper conductor .040" wall rubber insulation. Tinned copper braid shield. Nominal O.D. .155". Put-up 250 ft. spools.

List Price \$51.00 M. Wt. 24 Lbs. per M. Ft.

1283 juke box control cable



Three conductors twisted 2-#16 26/30 stranded tinned copper .020" vinyl plastic insulation color coded green and orange; 1-#20 10/30 stranded tinned copper .020" vinyl Plastic blue. Overall chrome vinyl jacket. Nominal O.D. .240". Put-up 500 ft. spools.

List Price \$70.00 M. Wt. 40 Lbs. per M. Ft.

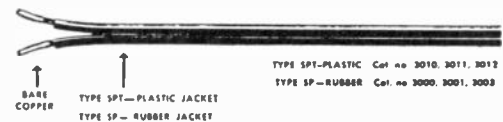
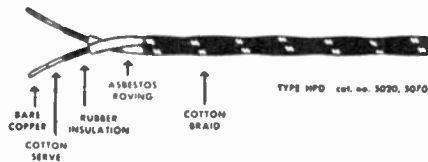
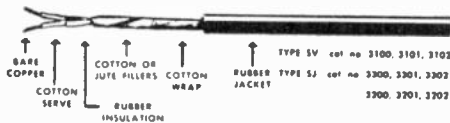
1934 extension wiring cable



22/3 7/30 stranded tinned copper conductor .015" vinyl plastic insulation coded red, white and black. White conductor covered with tinned copper braid shield, black and red unshielded with .020" chrome vinyl plastic jacket. Nominal O.D. .185". Put-up 500 ft. and 1000 ft. spools.

List Price \$60.00 M. Wt. 22 Lbs. per M. Ft.

flexible and portable cords



Catalog Number	AWG Size	UL Type	Number of Strands	Insulation Cond. In.	Thickness Jacket In.	Nominal Outside Diameter Inch	Current Carrying Capacity Amp.	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
3000	18/2	SP-1	41/34	2/64	—	.120x225	7	250' Spool	4 Spools	22	37.50
3001	18/2	SP-2	41/34	3/64	—	.150x285	7	250' Spool	4 Spools	36	58.00
3003	16/2	SP-2	65/34	3/64	—	.170x320	10	250' Spool	4 Spools	50	82.00
3010	18/2	SPT-1	41/34	2/64	—	.120x225	7	250' Spool	4 Spools	23	33.60
3011	18/2	SPT-2	41/34	3/64	—	.150x285	7	250' Spool	4 Spools	33	56.00
3012	16/2	SPT-2	65/34	3/64	—	.170x320	10	250' Spool	4 Spools	45	82.00
3100	18/2	SV	41/34	1/64	2/64	.250	7	250' Spool	4 Spools	42	71.00
3200	18/2	SJ	41/34	2/64	2/64	.305	7	250' Spool	4 Spools	54	93.00
3201	18/3	SJ	41/34	2/64	2/64	.345	7	250' Spool	4 Spools	73	137.00
3202	18/4	SJ	41/34	2/64	2/64	.360	5.6	250' Spool	1 Spool	96	200.00
3300	18/2	SJ	16/30	2/64	2/64	.305	7	250' Spool	4 Spools	54	76.00
3301	18/3	SJ	16/30	2/64	2/64	.345	7	250' Spool	4 Spools	73	130.00
5020	18/2	HPD	41/34	2/64	—	.274	10	250' Spool	4 Spools	32	82.00
5070	16/2	HPD	65/34	2/64	—	.301	15	250' Spool	4 Spools	42	97.00

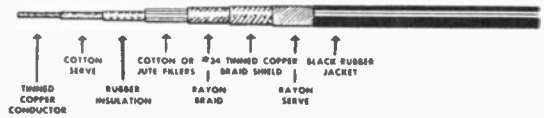
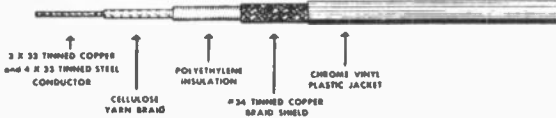
Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.



Radio & TV Wire Products

microphone cables

Cornish Microphone Cables are available in plastic and rubber insulations. Plastic cables utilize polyethylene insulation on the conductor with outer vinyl plastic jacket. They are designed for low capacitance, high insulation resistance, low attenuation; and withstand severe service under all operating conditions.



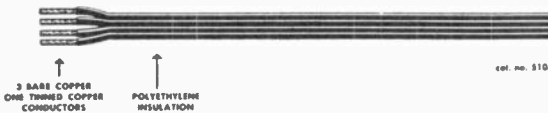
PLASTIC MICROPHONE CABLE								
Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inches	Nominal Capacitance Per Ft. MMF	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
2411	25/1	7/33	.144	37	500' Spool	1 Spool	15	53.00
2401	25/1	7/33	.200	25	500' Spool	1 Spool	25	70.00

RUBBER MICROPHONE CABLE								
2101	20/1	26/34	.260	32*	500' Spool	1 Spool	49	100.00
2152	20/2	26/34	.280	68*	500' Spool	1 Spool	54	116.00
2153	20/3	26/34	.280	85*	500' Spool	1 Spool	59	180.00
2154	20/4	26/34	.305	95*	500' Spool	1 Spool	72	200.00
2182	18/2	41/34	.295	80*	500' Spool	1 Spool	60	175.00
2160	20/1	26/34	.175	34*	500' Spool	1 Spool	25	88.00

*Between one conductor and remaining conductors connected to shield.

antenna control cables

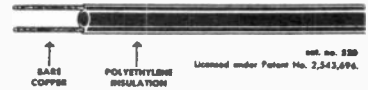
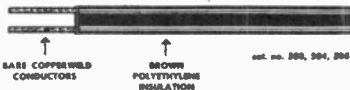
Cornish Antenna Control Cables are available in polyethylene and vinyl plastic insulations in a varied range of conductors to adequately meet all installation problems encountered. Flat and round constructions are furnished in brown colored outer insulation.



Catalog Number	AWG Size	Number of Strands	Thickness Conductor Insulation Inch	Nominal Outside Dimension Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
510	20/4	7/28	—	.075x.350	1000' Spool	1 Spool	20	34.00
514	20/4	7/28	.010	.170	1000' Spool	1 Spool	24	50.00
515	20/5	7/28	.010	.180	1000' Spool	1 Spool	30	60.00
518	22/8	7/30	.015	.205	1000' Spool	1 Spool	34	70.00

t-v lead-in cables

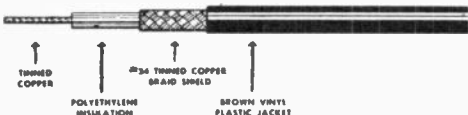
Cornish TV Lead-in Cables are furnished only in pure virgin polyethylene insulation to insure long life under severe operating conditions and are designed so that only exceptionally low losses at high frequencies are experienced. They are available with pure copper or copperweld conductors. Copperweld 300 Ohm lead-in cable has 1 1/2 times the tensile strength of copper and has approximately 2 1/2 times greater flexing life. It insures long service life in TV aerial installations requiring long runs.



Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inch	Frequency (MC)	Attenuation Per 100 Ft. (Decibels)	Impedance (Ohms)	Capacitance Per Ft. (MMF)	Standard Put-Up Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
500	20/2	7/28	.052 x .400	100	1.1	300	4.6	1000' Spool	17	26.00
501	20/2	7/28	.072 x .400	200	1.7	300	4.6	1000' Spool	18	28.60
502	20/2	7/28	.100 x .400	300	2.2	300	4.6	1000' Spool	20	30.40
				400	2.7	300				
503	20/2	7/28	.052 x .400	100	1.1	300	4.6	1000' Spool	17	26.00
504	20/2	7/28	.072 x .400	200	1.7	300	4.6	1000' Spool	18	28.60
505	20/2	7/28	.100 x .400	300	2.2	300	4.6	1000' Spool	20	30.40
				400	2.7	300				
520	20/2	7/28	.320 x .460	100	1.25	300	4.65	500' Spool	28	50.00
499	22/2	7/50	.040 x .360			300	4.6	1000' Spool	12	20.50

RG/U coaxial transmission cables

Cornish RG/U Coaxial Transmission Cables are available in two basic constructions, namely RG-11/U, Catalog No. 522 and RG-59/U, Catalog No. 521. They are designed for use as communication cables and television antenna lead-in cable. These cables are available, normally, from factory stock. Other special RG/U constructions can be furnished to special order providing quantities required constitute an economical manufacturing run.



Catalog Number	AWG Size	Number of Strands	Nom. Outside Diam. Inch	Frequency (MMC)	Atten. per 100 Ft. (Decibels)	Impedance (Ohms)	Capacitance per M Ft. (MMF)	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Per M Ft. Lbs.	List Price Per M'
521 RG-59/U	22/1	Solid	.245	100	3.75	73	21	500 Ft. Spool	1 Spool	43	97.00
				200	5.60						
				400	8.30						
522 RG-11/U	18/1	7/26	.405	100	1.90	75	20.5	500 Ft. Spool	1 Spool	98	194.00
				200	2.85						
				400	4.35						

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.



Radio & TV Wire Products

test lead wire



Catalog Number	AWG Size	Number of Strands	Jacket Insulation Inch	Nominal Outside Diameter Inch	Suggested Voltage Rating	Available Standard Put-Up	Standard Shipping Pkgs.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1142	18	65/36	.044	.140	5000	100' Spool	4 Spools	15	40.00
1142	18	65/36	.044	.140	5000	500' Spool	1 Spool	15	40.00
1142	18	65/36	.044	.140	5000	1000' Spool	1 Spool	15	40.00

STANDARD COLORS:—Red and Black.

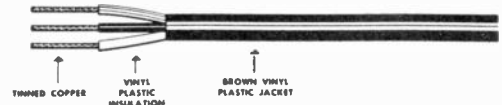
intercommunication cable

Cornish Intercommunication and Sound Cables are made in various constructions utilizing plastic insulation for both conductors and jacket. Where installation conditions dictate, Cornish shielded cables are recommended.



Catalog Number	AWG Size	Number of Strands	Number of Pairs	Thick. Conductor Insulation Inch	Thickness Jacket Insulation Inch	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1240	22/2	Solid	1	.015	.015	.145	500' Spool	1 Spool	14	30.00
1241	22/4	Solid	2	.015	.015	.205	500' Spool	1 Spool	22	49.00
1242	22/6	Solid	3	.015	.015	.230	500' Spool	1 Spool	29	65.00
1243	22/12	Solid	6	.015	.015	.265	500' Spool	1 Spool	42	92.50
1244	22/18	Solid	9	.015	.015	.320	500' Spool	1 Spool	68	132.50
1245	22/30	Solid	15	.015	.015	.380	500' Coil	1 Coil	105	250.00
1246	22/54	Solid	27	.015	.015	.510	500' Coil	1 Coil	170	430.00

plastic insulated cable



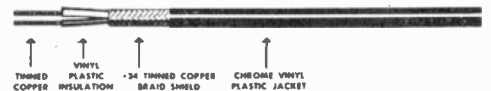
Catalog Number	AWG Size	Number of Strands	Thick. Conductor Insulation Inch	Thickness Jacket Insulation Inch	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1223	22/3	7/30	.015	.015	.140	500' Spool	1 Spool	14	34.00
1224	22/4	7/30	.015	.015	.160	500' Spool	1 Spool	20	45.00

shielded intercommunication cable



Catalog Number	AWG Size	Number of Strands	Thickness Conductor Insulation Inch	Tinned Copper Shielding	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Pkg.	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1230	20/2	10/30	.015	#34	.163	1000 ft.	2	22	50.00
1238	18/2	16/30	.015	#34	.228	1000 ft.	2	35	70.00
1233	20/3	10/30	.015	#34	.230	500 ft.	2	42	95.00

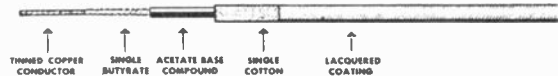
intercommunication cable



Catalog Number	AWG Size	Number of Strands	Thickness Conductor Insulation Inch	Thickness Jacket Insulation Inch	Nominal Outside Diameter Inch	Standard Put-Up	Standard Shipping Package	Approx. Weight Lbs./M Ft.	List Price Per M Ft.
1234	20/2	10/30	.015	.015	.205	1000' Spool	1 Spool	29	60.00
1236	20/3	10/30	.015	.015	.262	1000' Spool	1 Spool	35	105.00
1237	18/2	16/30	.015	.015	.260	500' Spool	1 Spool	35	72.00
1239	*20/4	10/30	.015	.015	.230	500' Spool	1 Spool	45	109.00

* Two conductors twisted and shielded with unshielded twisted pair.

no flame-cor hook-up wire



Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inches	Voltage Break-Down Nominal Volts	Available Standard Put-Ups	*Standard Shipping Package	Approx. Weight Lbs./M Ft.	List Price Per M Ft.
1084	18	16/30	.110	7400	1000' Spool	1	9	38.05
1085	20	10/30	.102	7400	1000' Spool	1	7	31.00
1086	22	7/30	.091	7400	1000' Spool	1	6	26.40
1079	18	Solid	.103	7400	1000' Spool	1	9	35.10
1080	20	Solid	.095	7400	1000' Spool	1	6	28.10
1081	22	Solid	.091	7400	1000' Spool	1	5	24.50

STANDARD COLORS:—Black, Red, Green, Yellow, Blue, Brown, Orange, Slate, White.



Radio & TV Wire Products

replacement and extension cord sets

DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug and Molded-On \approx 185TV Connector UL Flag Label.

SUGGESTED USE
Television Power Supply Cord for use on original equipment or as a replacement cord set.



DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug, Appliance end slit 2 inches. Conductor stripped 1 inch. Hanked UL Flag Label.

SUGGESTED USE
Replacement Cord-set for radios, record players, lamps and small appliances.



DESCRIPTION
18/2 SV Black with Cornish Molded-On Male Plug, Appliance end jacket removed 2 inches. Conductors stripped 1 inch. Hanked UL Flag Label.

SUGGESTED USE
Replacement Cord-set for food mixers, test equipment and small appliances.



DESCRIPTION
18/2 16/30 SJ Black with Cornish Molded-On Plug Appliance end jacket removed 2 inches. Conductors stripped 1 inch. Hanked UL Flag Label.

SUGGESTED USE
Replacement Cord set for electric tools, small motors and general use.



DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Plug and soft molded rubber cube tap. UL Blue Flag Label.

SUGGESTED USE
Extension Cord set for office and household use.



DESCRIPTION
18/2 16/30 SJ Black with Cornish Molded-On Male Plug and Cornish Molded-On Female Connector. Coiled and boxed.

SUGGESTED USE
Extension Cord set for outdoor and heavy duty use.



DESCRIPTION
16/2 Glazed Cotton HPD Replacement Heater Cord with Cornish Molded-On Plug and with crotch and conductors wrapped 3 inches with asbestos thread and conductors bared 1/2 inch. Hanked, Green Flag Label.

SUGGESTED USE
For electric irons and other heating devices.



DESCRIPTION
18/2 SP-1 Brown with Cornish Molded-On Male Plug and Molded-On \approx 190 Connector. *Not UL Approved.

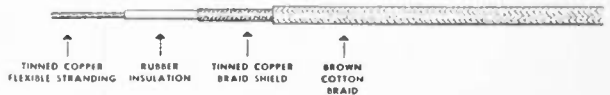
SUGGESTED USE
Television Power Supply "Cheater" Cord for sale to and use by authorized television servicemen.



Catalog Number	Length	Standard Put-Up	Standard Shipping Pkg.	Wght. Standard Shipping Pkg.	List Price Per M Cords	Catalog Number	Length	Standard Put-Up	Standard Shipping Pkg.	Wght. Standard Shipping Pkg.	List Price Per M Cords
3185	6 Feet	100	100	19	497.00	3580	6 Feet	100	100	24	802.90
3189	9 Feet	100	100	25	605.65	3581	9 Feet	100	100	32	975.00
3500	6 Feet	100	100	18	400.00	3582	12 Feet	100	100	38	1125.75
3501	10 Feet	100	100	26	554.55	5520	7 Feet	100	100	30	1306.40
3509	6 Feet	100	100	28	762.15	3543	15 Feet	1	20	23	2080.65
3510	10 Feet	50	50	23	1095.25	3544	25 Feet	1	20	33	2785.90
3519	6 Feet	50	50	19	786.25	3190*	6 Feet	100	100	19	497.00
3520	10 Feet	50	50	28	1132.50	3191*	9 Feet	100	100	25	605.65

phonograph pick-up arm cable

This cable is designed specifically for use as phonograph pick-up arm cable. The conductor, being stranded from #36 AWG wire, is very flexible. The overall diameter of the wire is quite small and cable is devoid of stiffness.



Catalog Number	AWG Size	Number of Strands	Thick. Conductor Insulation Inch	Tinned Copper Shielding	Nom. Outside Diameter Inch	Outer Braid	Standard Put-Up	Standard Shipping Package	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1250	24/1	16/36	.015	\approx 36	.095	Overall	100' Spool	4 Spools	7	53.00
1251	24/1	16/36	.015	\approx 36	.080	None	100' Spool	4 Spools	6	45.00

high voltage and cathode-ray tube lead wire

This cable is designed for high voltage applications such as leads to cathode-ray tubes in television receivers and oscilloscopes. It has a high dielectric strength, corona resistance, and minimum surface leakage.

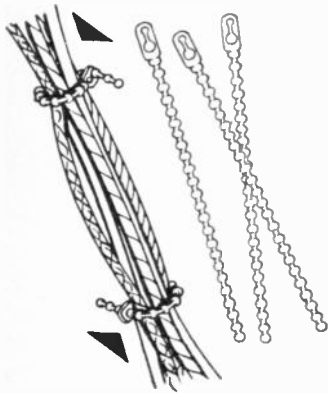


Catalog Number	AWG Size	Number of Strands	Nominal Outside Diameter Inch	Suggested Voltage Rating	Color	Available Standard Put-Ups	Standard Shipping Package	Approx. Wght. Lbs./M Ft.	List Price Per M Ft.
1248	20/1	10/30	.108	10,000	White	100' Spool	4 Spools	14	30.00
1249	20/1	10/30	.169	20,000	White With Red Stripe	100' Spool	4 Spools	24	55.00

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.



Cable Ties, Clamps, Dial Cables, Aids



CABLE TIES for All Cable Lacing Problems

The new, fast way to solve all production line, test and repair cable lacing. Slip Tie around wire bundle, pull end through locking loop, snap into place. Standard 4" lengths make up to 1 1/2" diameter cable. In Red, Yellow, Blue.

NYLON 10"		PLASTIC 4"		PLASTIC 10"	
No.	List Per M	No.	List Per M	No.	List Per M
9363	Natural Color only ----- \$60.00	9362-1	Red ----- \$18.50	9364-1	Red ----- \$36.00
		9362-4	Yellow ----- 18.50	9364-4	Yellow ----- 36.00
		9362-6	Blue ----- 18.50	9364-6	Blue ----- 36.00

G-C CABLE CLAMPS



NYLON CLAMPS MADE WITH DUPONT "ZYTEL"

Lightweight, chemically resistant with excellent shock resisting properties in temperature range from -60° to 300° F. Approved for military applications.

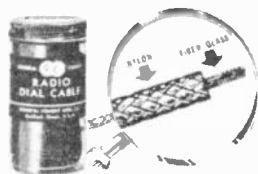
No.	Rod Size	Diameter	Width	Length	Material Thickness	List per M
9411	1/4"	.125	3/4"	0.328	.050	\$50.00
9412	3/16"	.188	3/4"	0.390	.050	\$52.95
9413	1/4"	.250	3/4"	0.421	.050	57.90
9414	5/16"	.313	3/4"	0.453	.050	63.95
9415	3/8"	.375	3/4"	0.483	.050	67.20
9416	7/16"	.438	3/4"	0.531	.050	71.05
9417	1/2"	.500	3/4"	0.562	.050	75.65
9418	9/16"	.563	1/2"	0.625	.060	93.40
9419	5/8"	.625	1/2"	0.610	.060	109.40



PLASTIC CABLE CLAMPS MADE WITH ETHYL CELLULOSE

Lightweight, chemically resistant with excellent shock resisting properties in temperature range from -40° to 185° F. Approved Army-Navy Aeronautical AN742.

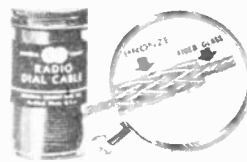
No.	Rod Size	Diameter	Width	Length	Material Thickness	List Per M
9381	1/4"	.125	1/2"	0.328	.063	\$32.00
9382	3/16"	.188	1/2"	0.390	.063	33.20
9383	1/4"	.250	1/2"	0.421	.063	36.60
9384	5/16"	.313	1/2"	0.453	.063	40.40
9385	3/8"	.375	1/2"	0.483	.063	42.50
9386	7/16"	.438	1/2"	0.531	.063	46.10
9387	1/2"	.500	1/2"	0.562	.063	49.40
9388	9/16"	.563	1/2"	0.625	.063	57.80
9389	5/8"	.625	1/2"	0.618	.063	60.00
9390	3/4"	.625	1/2"	0.610	.063	66.40
9391	11/16"	.688	1/2"	0.666	.063	71.20
9392	3/4"	.750	1/2"	0.765	.063	74.60
9393	7/8"	.875	1/2"	0.812	.063	80.60
9394	1"	1.000	1/2"	0.906	.063	86.00
9395	1 1/8"	1.125	1/2"	0.968	.063	91.80



G-C No. 70 BRAIDED BRONZE DIAL CABLE

Braided phosphor bronze .040" diameter with great strength and flexibility.

No.	Length	List
70-25	25' spool	\$1.80
70-50	50' spool	2.65
70-100	100' spool	5.00



G-C No. 75 STANDARD THIN NYLON DIAL CORD

Finest braided nylon .028" diameter used on most TV and radio sets

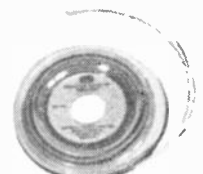
No.	Length	List
75-25	25' spool	\$1.50
75-50	50' spool	2.65
75-100	100' spool	4.95



G-C No. 88 STANDARD COLOR TV DIAL CORD

No-Stretch" nylon .028" diameter, coated with no-stretch plastic

No.	Length	List
88-25	25' spool	\$1.50
88-100	100' spool	5.00



G-C TEFLON TUBING

New "spaghetti" with unsurpassed electrical and mechanical properties. Withstands temperatures from -450° to 500° F. High dielectric, low friction coefficient. All sizes: natural, red and blue.



G-C GENFLEX PLASTIC TUBING

High grade extremely flexible tubing, with high dielectric averaging 8000 volts. In black, red, green and clear.

No.	Gauge	Approx. I.D.	Standard Package	List
663	18	.042	20 ft.	\$1.35
605	16	.053	20	1.35
607	14	.066	20	1.35
609	12	.085	20	1.35
611	10	.106	15	1.35
613	8	.133	15	1.35
616	6	.166	10	1.35
617	4	.208	10	1.35
620	2	.263	10	1.35



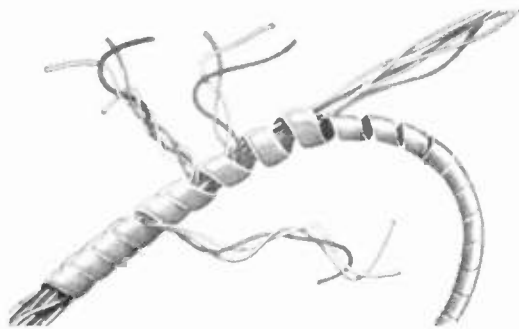
G-C ASSORTED SPAGHETTI KIT

Kit of 26 assorted lengths from No 17 wire to 3/8" I.D.

No. 550	List \$0.60
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SEND POSTCARD for your free G-C Catalog to GENERAL CEMENT, Dept. R-M, Rockford, Illinois.



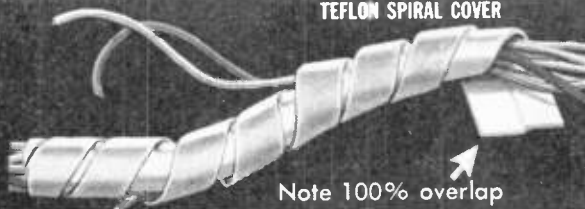
SPIRAL WRAP

SPIRAL WRAP

another product by

illumitronic  engineering

TEFLON SPIRAL COVER



Note 100% overlap

SPIRAL WRAP:

Is spirally cut tubing and is most desirable for cabling loose wires into neat cables. Spiral Wrap is suitable for mass production or laboratory prototypes.

MANY USES:

Replaces cable lacing, prevents wire abrasion, replaces spaghetti, will insulate tools, and a multitude of other uses.

TWO SIZES:

Spiral Wrap is available from stock 1/4" outside diameter and 3/8" outside diameter, both expandable up to 2" diameter. Other sizes available on special order.

FOUR COLORS:

Spiral Wrap is available from stock White, Blue, Black and Red. Other colors available on special order.

ADVANTAGES:

The many advantages of Spiral Wrap are: allows individual wires to leave cable at any point—excellent insulator—low initial cost—reusable—saves on labor costs—and many others.

QUANTITY DISCOUNT:

(on all materials except Teflon Spiral Cover):

1' - 499'	Net	1000' - 4999'	Less 20%
500' - 999'	Less 10%	5000' - 9999'	Less 33 1/3%
10,000' - 49,999'			Less 33 1/3% - 10%

POLYETHYLENE SPIRAL WRAP

#197.4	Unexpanded O D	Cat. No.	Lgth	Lgths/Box	Net/Foot	Net/Lgth
Minimum I.D. is 1/4"	1/4"	197.4C	3'	10	\$.09	\$.27
Minimum O.D. is 1/2"	1/2"	197.4M	25'	1	.08	2.00
	1/2"	197.4W	100'	1	.07	7.00
	1/2"	197.4X	500'	1	.07	35.00
#197.6		197.6C	3'	10	.135	.405
Minimum I.D. is 1/2"	1/2"	197.6M	25'	1	.12	3.00
Minimum O.D. is 3/4"	3/4"	197.6W	100'	1	.105	10.50
	3/4"	197.6X	500'	1	.105	52.50

Specify color: White, Black, Red, Blue

IRRADIATED SPIRAL WRAP

HIGH TEMPERATURE — FLAME RETARDANT
WILL NOT COLD FLOW

Made with a special mixture polyethylene, and then irradiated with extremely high velocity electrons.

	Cat. No.	Length	Lgths/Box	Net/Ft.	Net/Lgth
Minimum inside Diameter is 1/4"	196.4A	1'	10	\$.58	\$.58
	196.4C	3'	1	.55	1.65
Minimum outside Diameter is 1/2"	196.4M	25'	1	.53	13.25
	196.4W	100'	1	.52	52.00
	196.4X	500'	1	.52	260.00

RULAN SPIRAL WRAP

FLAME RETARDANT

This material has additives which cause the polyethylene to be flame retardant and self-extinguishing. Temperature characteristics are not quite as good as standard polyethylene.

#198.4	Cat. No.	Length	Lgths/Box	Net/Ft.	Net/Lgth
Minimum inside Diameter is 1/4"	198.4C	3'	10	\$.14	\$.42
	198.4M	25'	1	.13	3.25
Unexpanded OD 1/2"	198.4W	100'	1	.12	12.00
	198.4X	500'	1	.12	60.00

#198.6	Cat. No.	Length	Lgths/Box	Net/Ft.	Net/Lgth
Minimum inside Diameter is 1/2"	198.6C	3'	10	.18	.54
	198.6M	25'	1	.17	4.25
Minimum outside Diameter is 3/4"	198.6W	100'	1	.15	15.00
	198.6X	500'	1	.15	75.00

BLACK or WHITE

TEFLON SPIRAL WRAP

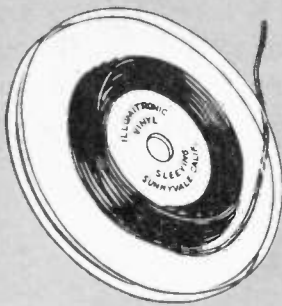
NON-INFLAMMABLE HIGHEST TEMPERATURE
(270 C. Continuous)

	Cat. No.	Length	Lgths/Box	Net/Ft.	Net/Lgth
Minimum Outside Diameter 1/4"	199.4A	1'	5	\$ 1.54	\$ 1.54
.030" Wall	199.4C	3'	3	1.49	4.47
NATURAL Finish only	199.4M	25'	1	1.45	36.25

TEFLON SPIRAL COVER

	Cat. No.	Size	Lgth.	Net/Ft.	Net/Lgth.
HIGH TEMPERATURE NON INFLAMMABLE	220.4A	1'	1	\$ 1.40	\$ 1.40
	220.4B	2'	1	1.35	2.70
	220.4C	3'	1	1.30	3.90
	220.4D	4'	1	1.30	5.20
FOR USES Similar to SPIRAL WRAP	220.8A	1'	1	1.92	1.92
	220.8B	2'	1	1.86	3.72
	220.8C	3'	1	1.80	5.40
	220.8D	4'	1	1.80	7.20
MATERIAL Teflon	220.12A	1'	1	2.40	2.40
	220.12B	2'	1	2.34	4.68
	220.12C	3'	1	2.28	6.84
	220.12D	4'	1	2.28	9.12
Note unique cross-section gives 100% overlap	220.16A	1'	1	2.90	2.90
	220.16B	2'	1	2.84	5.68
	220.16C	3'	1	2.78	8.34
	220.16D	4'	1	2.78	11.12
QUANTITY DISCOUNT 1'-24'-Net 25'-49'-Less 25% 50'-up-Less 33 1/3%	220.20A	1'	1	3.50	3.50
	220.20B	2'	1	3.43	6.86
	220.20C	3'	1	3.36	10.08
	220.20D	4'	1	3.36	13.44
	220.24A	1'	1	3.98	3.98
220.24B	2'	1	3.91	7.82	
220.24C	3'	1	3.84	11.52	
220.24D	4'	1	3.84	15.36	

V-105* VINYL SLEEVING



Illumitronic V-105 tubing is a specially compounded Poly-Vinyl-Chloride plastic (also called "Vinyl"). It is especially suited for electronic, electrical and aircraft applications over a wide temperature range (105°C to -30°C). The material is non-flammable and has excellent resistance to acids, alkalis, gasoline, oil, water, alcohol, petroleum solvents and fungi.

Illumitronic V-105 conforms to spec. MIL-1-631C, grade C, ASTM-D876, ASTM-D9222 and is U/L approved.

PROPERTIES

Temperature rating 105°C
 Flexibility (low temp.) -30°C
 Dielectric Strength 800 V/Mil
 Flammability non-flammable
 Tensile Strength 2500 PSI



ILLUMITRONIC V-105 SLEEVING

NET COST PER LENGTH

Cat.No.	Nom. I.D.	Nom. Wall	1'	25'	50'	100'	200'	500'	1000'	Std. Colors
V-105-24	.022	.012"		.51		1.59		7.35	14.40	
V-105-20	.034	.016"	.03	.53	—	1.62	—	7.50	14.70	1-2-3-4
V-105-19	.038	.016"		.53	—	1.65	—	7.65	15.00	
V-105-18	.042	.016"		.54	—	1.68	—	7.73	15.15	
V-105-17	.047	.016"		.56	—	1.70	—	7.80	15.30	
V-105-16	.053	.016"	.03	.57	—	1.76	—	8.18	16.05	1-2-3-4
V-105-15	.059	.016"		.59	—	1.80	—	8.33	—	
V-105-14	.066	.016"		.59	—	1.88	—	8.63	—	
V-105-13	.076	.016"		.60	—	1.92	—	8.85	—	
V-105-12	.085	.016"	.05	.63	—	2.04	—	9.45	—	1-2-3
V-105-11	.095	.016"		.65	—	2.10	—	9.75	—	
V-105-10	.106	.016"		.68	—	2.22	—	10.35	—	
V-105-9	.118	.020"		.80	—	2.72	—	12.83	—	
V-105-1"	.125	.020"	.06	.81	—	2.78	—	13.13	—	1-2-3
V-105-8	.133	.020"		.83	—	2.81	—	13.28	—	
V-105-7	.148	.020"		.86	—	2.96	—	14.03	—	
V-105-6	.166	.020"		.95	—	3.29	—	15.68	—	
V-105-5	.186	.020"	.06	1.01	—	3.48	6.84	—	—	1-2-3
V-105-4	.208	.020"		1.08	—	3.80	7.50	—	—	
V-105-3	.234	.020"		1.17	—	4.14	8.16	—	—	
V-105-1/2"	.250	.020"		1.20	—	4.43	8.63	—	—	
V-105-2	.263	.020"	.08	1.26	—	4.49	8.88	—	—	1-2
V-105-1	.294	.020"		1.35	—	4.88	9.66	—	—	
V-105-3/8"	.3125	.025"		1.71	—	6.32	12.54	—	—	
V-105-0	.330	.020"	.08	1.46	—	5.31	10.50	—	—	
V-105-3/8"	.375	.025"	.11	2.07	—	7.53	14.76	—	—	1-2
V-105-7/8"	.438	.025"	.12	2.33	—	8.48	16.68	—	—	
V-105-1 1/2"	.500	.025"	.14	2.63	4.95	9.53	—	—	—	
V-105-1/4"	.562	.030"	.17	3.48	6.21	—	—	—	—	1-2
V-105-3/4"	.625	.030"	.18	3.60	6.68	—	—	—	—	
V-105-3/4"	.750	.035"	.23	4.73	9.08	—	—	—	—	
V-105-3/4"	.875	.035"	.24	5.33	10.28	—	—	—	—	
V-105-1	1.000	.035"	.29	6.15	11.70	—	—	—	—	
V-105-1 1/4"	1.062	.035"	.33	7.20	13.88	—	—	—	—	1-2
V-105-1 1/4"	1.250	.040"	.38	8.33	16.28	—	—	—	—	
V-105-1 3/4"	1.375	.040"	.39	8.85	17.25	—	—	—	—	
V-105-1 1/2"	1.500	.045"	.48	10.80	21.15	—	—	—	—	
V-105-1 3/4"	1.750	.050"	.59	13.43	26.40	—	—	—	—	1-2
V-105-2	2.000	.060"	.78	18.08	35.63	—	—	—	—	
V-105-2 1/4"	2.250	.065"	.90	21.30	42.08	—	—	—	—	
V-105-2 1/2"	2.500	.070"	1.05	25.13	49.58	—	—	—	—	

V-105-S1 25 assorted 1' lengths, assorted colors (up to "0") 99
 V-105-S2 10 assorted 1' lengths, assorted colors (over 1/2" to 1") 1.49
 Colors other than Standard available on special order. Colors: 1 Clear, 2 Black, 3 Red, 4 Yellow, 5 Green, 6 Blue, 7 Brown, 8 White, 9 Orange, 10 Violet.

VINYL LACING CORD

Over 90% of lacing cost is labor So—
 Cut lacing costs with ILLUMITRONIC VINYL LACING
 Because—



- DOES NOT SLIP—Will not become loose. No special knots to tie.



- IS NON-ABRASIVE—DOES NOT BURN OR CUT HANDS. Sore hands mean slow work.

A typical harness uses 75c worth of labor and 3c worth of lacing! Our Vinyl usually saves over 20% of lacing time.

Material is .060" black Vinyl—is resistant to heat and cold and impervious to termites and fungus. Carries Army/Navy approval under Cert. No. ANEESA-13004, Spec. I-1-57.

Cat.	Put-up	Net
224-6A	50' Spool	.55
224-6C	100' Spool	.95
224-6P	1 lb. Spool (600')	3.95

Lacing Quantity Discount
 1- 9 lbs. NET, 10-24 lbs. NET LESS 10%;
 25-49 lbs. NET LESS 25%; 50 lbs. up NET LESS 33 1/3%

LADDER LINE® and U-LINE®



SUPERIOR CONSTRUCTION

The wires are spaced 1" or 1/2" apart and molded into the ends of polystyrene spacers for maximum strength. Only LADDER LINE® and U-LINE® are constructed this way.

CAT. NO.	DESCRIPTION	Net Per C. Ft.
300 S	SILVER U-LINE	
	1/2" Spaced, Open Wire Line, Solid Copper, Silver Sheathed FORMVAR Coated Wire, Out-Field Spacers	Less than 500' 6.30 500' to 999' 5.67 1000' or more 5.36
	U-LINE	
300 C	U-LINE	
	1/2" Spaced, Open Wire Line, Solid Copper FORMVAR COATED Wire, Out-Field Spacers	Less than 500' 6.00 500' to 999' 5.40 1000' or more 5.10
	SILVER LADDER LINE	
500 S	SILVER LADDER LINE	
	1" Spaced, Open Wire Line, Solid Copper, Silver Sheathed FORMVAR Coated Wire, Straight Spacers	Less than 500' 5.70 500' to 999' 5.13 1000' or more 4.85
	LADDER LINE	
500 C	LADDER LINE	
	1" Spaced, Open Wire Line, Solid Copper FORMVAR Coated Wire, Straight Spacers	Less than 500' 5.40 500' to 999' 4.86 1000' or more 4.59
	STEEL CORE LADDER LINE	
500 W	STEEL CORE LADDER LINE	
	1" Spaced, Open Wire Line, Steel Core Copper Sheath, Straight Spacers	Less than 500' 4.50 500' to 999' 4.05 1000' or more 3.83

All available in 30', 35', 40', 50', 60', 75', 100' and 250' rolls.

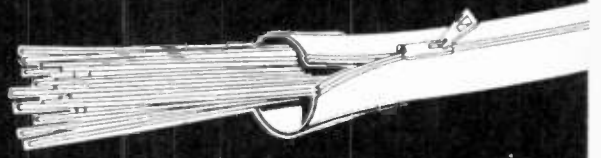
products by

illumitronic  engineering

USE ZIPPERTUBING TO:

**HARNESS -
SHIELD -
CABLE -
PROTECT**

illumitronic
Zippertubing



illumitronic

sunnyvale,



california

engineering

HARNESS WIRES EASILY

Use perforated Zippertubing. Slip branchouts through perforations. Zip it up. Unzip to change.

CUTS TIME

Applies in seconds. No pulling — tugging.

MAKE YOUR OWN SHIELDED CABLES

Provides a jacket and a shield for wires in one application. Gives 100% coverage and provides equal or better than any other type of shielding. Ideal for Hi-Fi shielding.

EASY TO CHANGE OR ADD WIRES

Simply unzip, then rezip. Ideal for prototype and R&D work.

MAKE YOUR OWN CUSTOM CABLES

As many conductors and types as you want—group them together—zip it up. No expensive minimums. You can make exactly what you want!

FOR SPECIFICATIONS SEE SHEET #ZT-2

Zippertubing may be sealed permanently by use of ZT Sealer

**IDEAL FOR HI-FI, R&D,
PROTOTYPE
OR PRODUCTION**

"JOBBER PAK"



One slider included with each pak.
Extra sliders @ .15 ea.
1 oz. ZT Sealer .35 ea.

"JOBBER PAK" available in 5', 10' and 20' Spools
For larger quantities or other types see OEM sheets
NET PER FOOT

DIAMETER	GENERAL PURPOSE #GP20—	PERFORATED #PGP20—	SHIELDED #SH—
3/8"	.335	.365	.525
1/2"	.34	.37	.54
5/8"	.345	.38	.57
3/4"	.35	.385	.60
7/8"	.36	.39	.645
1"	.365	.395	.68
1 1/8"	.37	.41	.71
1 1/4"	.38	.415	.74
1 3/8"	.39	.425	.77
1 1/2"	.395	.43	.80
1 5/8"	.40	.44	.83
1 7/8"	.405	.445	.86
1 3/4"	.41	.45	.89
2"	.42	.455	.92
2 1/4"	.43	.47	1.01
2 1/2"	.445	.485	1.08
2 3/4"	.46	.505	1.16
3"	.475	.515	1.24
3 1/4"	.485	.53	1.29
3 1/2"	.50	.545	1.32
3 3/4"	.515	.565	1.37
4"	.53	.575	1.41

STANDARD COLORS **CLEAR BLACK BROWN** **CLEAR** **GREY**

Sec. 6000

ETHYL CELLULOSE CLAMPS

The Ethylene Cellulose Clamps are tough and will withstand moisture, age and vibration and eliminate corrosion. They can be used within a temperature range of from -40 F to +185 F.

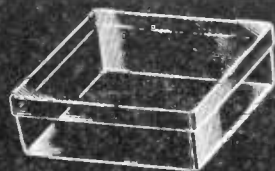
CAT. #	DIA.	1000 PAK NET / 1000	PLASTIC BOX PAK		100 PAK
			# PAK	NET PAK	
241E-1/8		\$12.40	75	\$1.58	\$1.64
241E-3/16		12.85	75	1.62	1.70
241E-1/4		13.70	75	1.74	1.81
241E-5/16		15.15	75	1.97	2.00
241E-3/8		15.90	50	1.80	2.10
241E-7/16		17.45	50	1.74	2.30
241E-1/2		18.55	50	1.88	2.45
241E-9/16		21.70	50	2.03	2.86
241E-5/8		22.55	35	1.73	2.97
241E-11/16		24.90	35	1.80	3.28
241E-3/4		26.75	25	1.43	3.53
241E-7/8		27.95	25	1.58	3.69
241E-1		30.20	25	1.65	3.98
241E-1-1/8		32.25	25	1.76	4.25
241E-1-3/16		33.80	25	1.80	4.46
241E-1-1/4		34.45	25	1.86	4.54
241E-S1	(assortment)		50	2.00	—

NYLON CLAMPS

Molded of DuPont "Zytel" 101 Nylon Resin, the Nylon Clamps will withstand severe temperature and mechanical conditions. The wide temperature range is from -60 F to +300 F, along with strength and toughness and the fact that they do not support combustion, allow Illumitronic Nylon Clamps to meet the most rigid specifications.

CAT. #	DIA.	1000 PAK NET 1000	PLASTIC BOX PAK		100 PAK
			# PAK	NET PAK	
241N-1/8		\$18.75	75	\$2.55	\$2.48
241N-3/16		19.93	75	2.78	2.63
241N-1/4		21.75	50	2.10	2.87
241N-5/16		23.90	50	2.33	3.16
241N-3/8		25.22	50	2.82	3.33
241N-7/16		26.66	50	2.63	3.52
241N-1/2		28.36	50	2.70	3.74
241N-9/16		35.25	50	3.23	4.65
241N-5/8		41.25	35	2.58	5.45
241N-11/16		44.25	35	3.15	5.90
241N-3/4		46.50	25	2.56	6.20
241N-7/8		51.75	25	2.85	6.86
241N-1		53.50	25	2.95	7.10
241N-S1	(assortment)		50	2.50	—

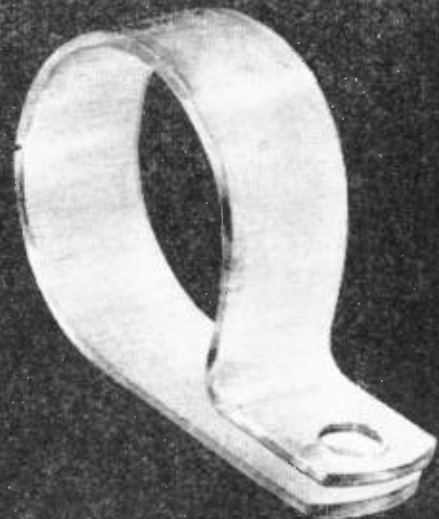
Larger Sizes Available On Request



illumitronic PLASTIC CLAMPS

illumitronic engineering
sunnyvale, california

- Illumitronic Plastic Clamps combine light weight, chemical and moisture resistance with excellent shock resistance and mechanical properties.
- No shorting or grounding! No rust or corrosion!
- Used to hold wires, coax, cables, tubing, conduit, card sets, condensers, coils, and other electronic components.



Plastic Box Pak is packaged in a 4⁵/₈" x 4³/₈" x 1¹/₄" Plastic "See-thru" Box which is reusable for storage of small parts.



NATIONAL LOS ANGELES, CALIF.

WIRE & CABLE CORPORATION

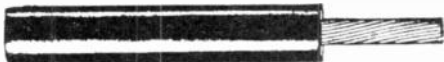
"MIL and JAN-spec" WIRES

WIRES TO GOVERNMENT SPECIFICATION
ARMY • NAVY • AIR FORCE

Largest Electronics
and Aircraft Wire
and
Cable Inventory
West of Chicago!

See "File-O-Matic"
for
our complete line

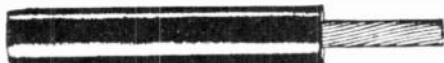
**MIL-W-16878-C
HOOK-UP WIRE**



TYPE B



TYPE B NYLON



TYPE C



TYPE C NYLON



TYPE D



TYPE D NYLON



TYPE E TEFLON AND EE

MIL-W-76A



TYPE LW



TYPE MW

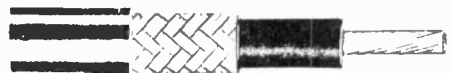


TYPE HW

AIRCRAFT WIRE



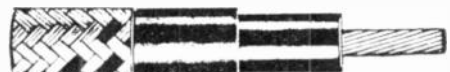
MIL-W-5086 TYPE I



MIL-W-5086 TYPE II



MIL-W-5086 TYPE III



MIL-C-7078 TYPE I

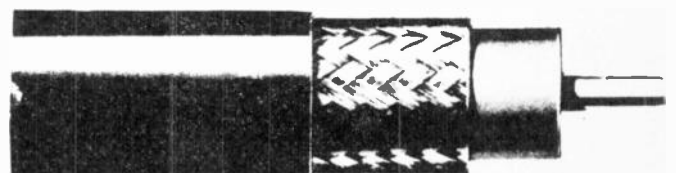


MIL-C-7078 TYPE II

**A COMPLETE WAREHOUSE STOCK
OF RADIO FREQUENCY COAX**



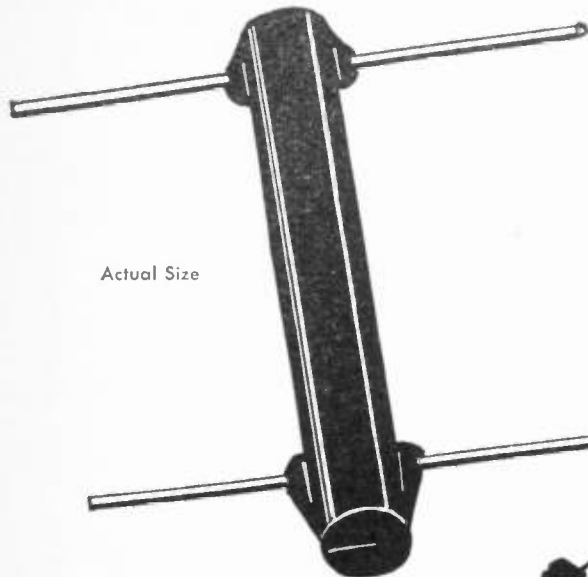
RG 142/U



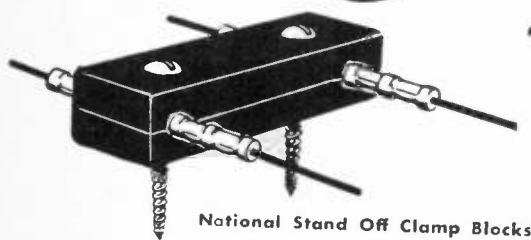
RG 17A/U



RG 59/U



Actual Size



National Stand Off Clamp Blocks



Nicopress
connector sleeve
Crimping Tool



CATALOG #N-470-300: TAPERED-LINE impedance matching transformer for 2 inch OPENLINE. Matches 470 ohm line to 300 ohms.



NATIONAL OPENLINE domestic television lead-in. Solid copper, Formvar coated.

Catalog #N-470-1

1 inch spacing between conductors . . . Spreaders at 6 inch intervals . . . Impedance 470 ohms . . . Standard put-up 250 foot reels, 12 reels per carton. Shipping weight 50 lbs.

Catalog #N-300-1/2

1/2 inch spacing between conductors . . . Spreaders at 6 inch intervals . . . Impedance 300 ohms (approx.) . . . Standard put-up 250 foot reels, 20 reels per carton. Shipping weight 75 lbs. NATIONAL 1 inch and 1/2 inch OPENLINE is available on 100, 75, 60 and 50 foot reels and is also available in Copperweld.

NATIONAL OPENLINE

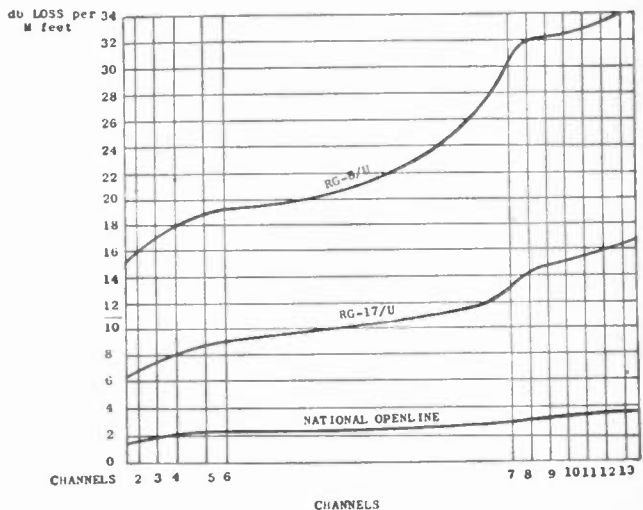
DESIGNED FOR COMMERCIAL TV DISTRIBUTION SYSTEMS AND RF POWER TRANSMISSION

Specifications: two inch spacing between conductors . . . 12 or 14 ga. copperweld . . . 470 or 500 ohm impedance . . . attenuation: 150 mc 0.25 DB PER 100 FEET, AT 30 mc 0.1 DB per 100 FEET. Velocity factor 0.975 . . . copperweld steel for maximum strength and electrical stability, and to insure permanent uniform performance . . . Spreaders are brown polystyrene, spaced at average five foot intervals, staggered slightly to avoid spurious resonances.

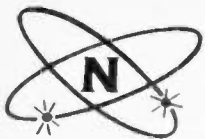


National Connector Sleeves

Charts showing the db loss per 1000 feet of NATIONAL OPENLINE with comparison to RG-8/U and RG-17/U.



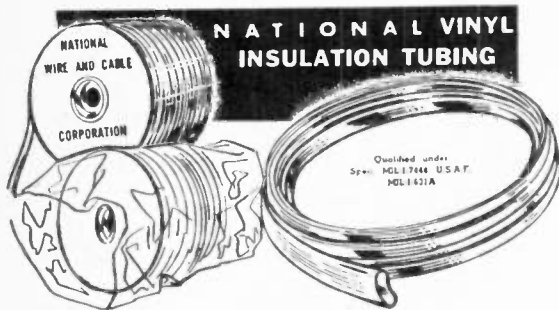
CHANNELS	2	3	4	5	6	7	8	9	10	11	12	13
	1.67	1.82	1.90	2.03	2.11	2.94	3.09	3.14	3.19	3.25	3.30	3.34
	16.	17.	18.	19.	19.5	30.	32.	32.4	32.6	33.	33.5	34.
	7.	7.3	8.	8.75	9.	13.	14.5	14.75	15.	15.5	16.	16.25



NATIONAL

LOS ANGELES, CALIF.

WIRE & CABLE CORPORATION



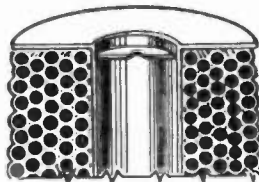
Sizes 24 through $\frac{3}{8}$ on spools completely enclosed in plastic wrapping. Sizes $\frac{7}{16}$ " through $2\frac{1}{2}$ " in coils. GP — general purpose tubing qualified under spec. MIL-1-631A, Type F, Form U, Grade A, Classes I and II, Categories 1 and 2.

National's commercial and specification grade Vinyl tubing is manufactured from only the highest quality materials. Extreme care in preparing the compound formulations assures product uniformity. The most modern of plants, complete with compounding facilities and controlled extrusion techniques, together with modern inspection equipment provides rigid physical and visual inspection on each length of tubing, assuring a finished product fully guaranteed against defective workmanship and materials. A product development laboratory is engaged in constant research to provide you with the finest in tubing.

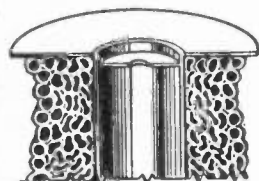
**NATIONAL
"SOFT-WOUND"
Prevents
Flattening**

Conventional methods of spooling insulation sleeving frequently produce flattening of those coils close to the spool core. Both assembly time and material are wasted. Certain thin wall tubings manufactured to low-temperature specifications are most susceptible. It also occurs to a lesser degree in all other types of insulation sleeving.

The new National method eliminates this condition. It provides full-round tubing, even at the spool core. While this method is called "Soft-Wound," the tubing is spooled with the normal compactness.



CROSS SECTION OF SOFT WOUND SPOOL



CROSS SECTION OF ORDINARY SPOOL

**We Specialize in
MIL-SPEC
Wires & Cables
and Custom
Cable Engineering**



**Custom Engineered
Custom Fabricated
Special Cables**

NATIONAL'S field engineers are thoroughly qualified to assist you with your cable problems. Your phone call or written inquiry will receive immediate expert attention. Designed To Your Specifications.

ROYAL CABLES

ELECTRIC

ROYAL ELECTRIC CORPORATION

an associate of International Telephone & Telegraph Corporation

PAWTUCKET • RHODE ISLAND

ROYAL COAXIAL CABLES

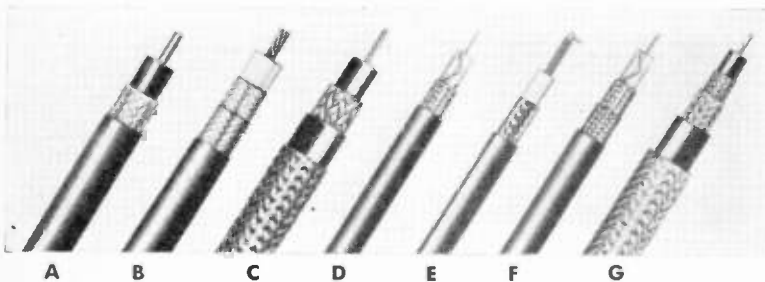
For constructions, see illustrations below

Cable Type	Construction Code	Nom. O. D. (Inch)	Nom. Imp. Ohms	Cable Type	Construction Code	Nom. O. D. (Inch)	Nom. Imp. Ohms	Cable Type	Construction Code	Nom. O. D. (Inch)	Nom. Imp. Ohms	Cable Type	Construction Code	Nom. O. D. (Inch)	Nom. Imp. Ohms
RG-6/U	B	.339	75	RG-55A/U	B	.216	50	RG-87A/U	H	.430	50	RG-219/U	C	.945	50
RG-6A/U	B	.339	75	RG-55B/U	B	.206	53.5	RG-94/U	H	.445	50	RG-220/U	A	1.12	50
RG-8/U	A	.405	52	RG-58/U	A	.195	53.5	RG-108A/U	J	.235	78	RG-221/U	C	1.195	50
RG-8A/U	A	.405	50	RG-58A/U	A	.195	52	RG-116/U	H*	.475	50	RG-222/U	B	.332	50
RG-9A/U	B	.420	50	RG-58C/U	A	.195	50	RG-117/U	H	.730	50	RG-223/U	B	.216	50
RG-9B/U	B	.425	50	RG-59/U	A	.242	75	RG-118/U	H*	.780	50	RG-224/U	H*	.615	50
RG-10A/U	C	.475	50	RG-59A/U	A	.242	75	RG-119/U	H	.465	50	RG-225/U	H	.430	50
		max.		RG-59B/U	A	.242	75.3	RG-120/U	H*	.525	50	RG-226/U	H	.500	50
RG-11/U	A	.405	75	RG-62/U	D	.242	93	RG-122/U	A	.160	50	RG-227/U	H*	.490	50
RG-11A/U	A	.405	75	RG-62A/U	D	.242	93	RG-140/U	H	.233	75	RG-228/U	H*	.795	50
RG-12A/U	C	.475	75	RG-62B/U	D	.242	93	RG-141/U	H	.190	50	K-14	A	.870	72
		max.		RG-63/U	D	.405	125	RG-141A/U	H	.190	50	K-109A	K	.275	160
RG-13A/U	B	.425	75	RG-63B/U	D	.405	125	RG-142/U	H	.206	50	K-111	L	.480x	300
RG-14A/U	B	.545	50	RG-65A/U	E	.405	950	RG-142A/U	H	.206	50			.290	
RG-17/U	A	.870	52	RG-71/U	F	.250	93	RG-143/U	H	.325	50	K-125	M	.460	75
RG-17A/U	A	.870	50			max.		RG-143A/U	H	.325	50	K-126	M	.315	75
RG-18/U	C	.945	52	RG-71A/U	F	.250	93	RG-144/U	H	.410	75	K-133	A	.242	75
		max.				max.		RG-211/U	H	.730	50	K-134	A	.405	75
RG-18A/U	C	.945	50	RG-71B/U	F	.250	93	RG-213/U	A	.405	50	K-135	M	.460	75
		max.		RG-74A/U	G	.615	50	RG-214/U	B	.425	50	K-136	M	.315	73
RG-22B/U	J*	.420	95			max.		RG-215/U	C	.475	50	K-137	A	.405	75
RG-34/U	A	.645	71	RG-79B/U	D*	.475	125	RG-216/U	B	.425	75	K-139	M	.460	75
RG-34A/U	A	.630	75	RG-86/U	P	.650x	200	RG-217/U	B	.545	50	K-404	A	.242	70
RG-55/U	B	.201	53.5			.300		RG-218/U	A	.870	50	K-1201	N	.185	....

* with variations

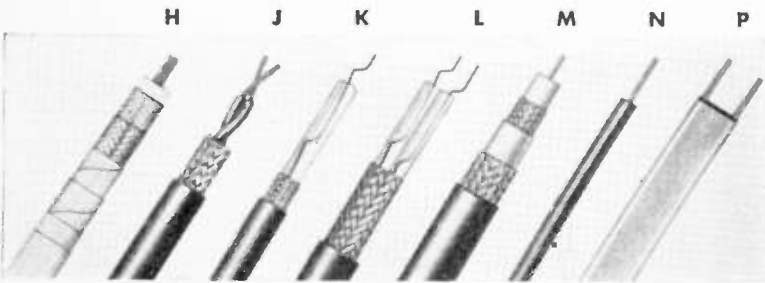
ROYAL "FOAMAX"

(foam dielectric coaxial cables)



Cable Type	RG equiv.	Construction Code	Nom. O. D. (Inch)	Nom. Imp. Ohms
K-436	11/U	A	.407	75
K-437	11/U(DS)	M	.460	75
K-440	59/U	A	.242	75

ROYAL MULTI-CONDUCTOR CABLES



With capability and capacity in both engineering and production, Royal is ready to quote on your multi-conductor cable needs. Call on Royal's skills and manufacturing resources for special communication and control cables, whether of simple or complex construction.

coaxial, communication and control . . . portable cords . . . power supply cords

- ★ manufactured to the latest specifications
- ★ precision-engineered and quality-controlled for dependable performance

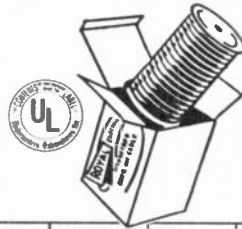
ROYAL LEAD-IN WIRE

Cable Type	Construction Code	Description	Dimensions (Inch)	Nom. Imp. Ohms
TV-1182	P	Heavy-Duty	.405 x .098	300
TV-9120	P	Standard	.350 x .055	300
TV-2000	P	Light-Duty	.335 x .055	300

ROYAL ANTENNA ROTOR CABLE

Cat. No. 9104—Four No. 20 7-strand conductors, thermoplastic insulation, twisted in BROWN vinyl tubed jacket.

ROYAL PORTABLE & FLEXIBLE CORDS

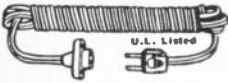
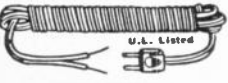
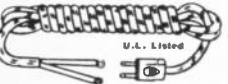


This listing shows only a very few of the complete line of wires and cords manufactured by Royal and sold through important distributors across the country. Complete listings on request.

Cord Type	Cat. No.	AWG Size & No. of Cond.	Insul. Thick.	Nom. O. D. (inches)	Current Carrying Cap. Amps.	Standard Put-up	Colors
SP	1522-13	18-2	SP-1 1/64	.127 x .235	7	250' spool	Brown, Ivory, Black
SPT	1121-13	18-2	SPT-1 1/64	.127 x .215	7	250' spool	Brown, Ivory, White, Black
SV	4428-13	18-2	1/64	.250	7	250' spool	Black
SJ	4628-20	18-2	1/32	.305	7	250' spool*	Black
SJ	4638-20	18-3	1/32	.330	7	250' spool*	Black

* in corrugated "Handi-Pak" carton

ROYAL CORD SETS

DESCRIPTION	LENGTH FEET	CAT. NO.	
		Rubber Cord	Vinyl Cord
 <p>TV CORD SET UL listed, #18 SP-1 brown cord with molded-on vinyl television connector and cap.</p>	6	K-3601	K-3701
	9	K-3602	K-3702
 <p>REPLACEMENT CORD SET UL listed, #18 SP-1 (rubber) or SPT-1 (vinyl) cord with molded-on vinyl cap. Vinyl in brown, ivory or black. Rubber, brown only.</p>	6	K-2801	K-2701
	9	K-2802	K-2702
	12	.....	K-2703
 <p>HEATER REPLACEMENT CORD SET (for soldering irons, etc.) UL listed, #18 3000 cycle Type HPD glazed cotton heater cord with molded-on cap.</p>	6	Braided Cord K-3000	

ROYAL is recognized throughout the electrical and electronic industries as the brand of maximum quality and dependability. These and other items in the broad Royal line of wiring materials are available through your wholesaler. Specify **ROYAL** when you order.

ROYAL ELECTRIC CORPORATION
an associate of International Telephone & Telegraph Corporation
PAWTUCKET • RHODE ISLAND

ROYAL
ELECTRIC
... an associate of **ITT**





Send for Latest Catalog



SYMBOL OF THE FINEST and NEWEST DEPENDABLE WIRE and CABLE

TV twin-leads, coaxial cable, hook-up wire, rotor antenna cable, custom-engineered multi-conductor cable. For prices, samples and technical data, contact your nearest Plastoid representative.

CAA-SIGNAL & CONTROL CABLE
(Thermoplastic Insulation and Jacket)

COAXIAL CABLES

Spec JAN-C-17A & MIL-C-17B Including Low-Temperature, Non-Contaminating Jackets
Double Shielded & Jacketed Coaxial Cable

SPECIAL PURPOSE CABLES

Meteorological Survey Cable
Underwater Sound Equipment Cable
Geophysical Cable
Fire Control Wire & Cable

Electronic Computer Wire & Cable
Inside Telephone Cable
Special Design High Frequency Cable
Thermostat Cable 2-7 conductors (Twisted and Thermoplastic Jacketed)
Microphone Cables
Sound & Intercommunication Wire & Cable
Rotor Antenna Cable

TEFLON INSULATED WIRE & CABLE

MIL-W-16878A TYPES "E" & "EE"
Multi-conductor Cables
Teflon Coaxial Cables
MIL-W-7139A

RADIO AND ELECTRONIC HOOK-UP WIRE

MIL-W-76A (superseding JAN-C-76)
MIL-W-16878B (types B, C & D, with & without nylon jackets); Underwriters Laboratory — 80°; 90°; 105°
(PVC insulation, nominal walls of .008; .015; .031; .047 & with braided outercovering or extruded nylon jacket)

AIRCRAFT WIRE & CABLE

MIL-W-5086A MIL-W-5274A
MIL-C-7078A MIL-W-7072A
MIL-W-8777A

NAVY SHIPBOARD CABLE

MIL-C-915A & MIL-C-2194B

REA TELEPHONE CABLE
(Spec PE-14)

MULTI PAIR RURAL DISTRIBUTION WIRE

TRAFFIC CONTROL CABLES
(Specs IMSA 19 & 20)

POWER CONTROL CABLES
(Specs IPCEA & IMSA)
(Thermoolastic Insulation and Jacket)

AIRPORT LIGHTING CABLE

COMMUNITY TV COAXIAL CABLE



Synkote Insulated Wire and Cable is "Manufactured by the mile—tested by the inch"

Plant: HAMBURG, N. J. • Offices: Long Island City, N. Y.

HOOK-UP WIRE

MIL-W-76A



Type MW

(Medium Wall)

Tinned Copper Conductor
Voltage Rating: 1000 volts
Temperature Rating: —40°C +80°C
Put-Up: 1,000 Ft. Spool*

Type MW-J

(Medium Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-Up: 1,000 Ft. Spool*

Type MW-B

(Medium Wall—Braided)

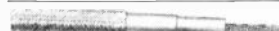
Tinned copper conductor
Overall fungus resistant glass braid and flame-proof lacquer
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-Up: 1,000 Ft. Spool*

Type MW-S

(Medium Wall—Shielded)

Specification MIL-W-76A
supersedes JAN-C-76.

This broader classification covers wider hook up applications for electronic devices and instruments; aircraft radio and radar transmitters and receivers.



Type MW-JS

(Medium Wall—Jacketed and Shielded)

Tinned copper conductor
Extruded Nylon Jacket
Overall Tinned Copper Shield
Voltage Rating: 1000 Volts
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Type HW

(Heavy Wall)

Tinned Copper Conductor
Voltage Rating: 2500 volts—^{size} 21 to 16
600 volts—14 to 6
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Type HW-J

(Heavy Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 2500 volts—^{size} 21 to 16
600 volts—14 to 6
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

Temperature rating —40°C +80°C. Synkote insulation offers high dielectric strength, flexibility at high and low temperatures and is impervious to acids and alkalis.



Type LW

(Light Wall)

Tinned Copper Conductor

Type LW-J

(Light Wall—Nylon Jacket)

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 500 volts
Temperature Rating: —40°C +90°C
Put-up: 1,000 Ft. Spool*

MIL-W-16878-B
(Navy)



Type B

"Syntherm" electrical high temp. hook-up wire conforms to Navy spec. MIL-W-16878-B. For the internal wiring of meters, panels and electronic equipment.

Tinned Copper Conductor
Base Color: White, Helical stripping for color coding.
Voltage Rating: 600 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

MIL-W-16878-B
(Navy)



Type B-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Base Color: White, Helical stripping for color coding.
Voltage Rating: 600 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*



Type C

Tinned Copper Conductor
Base Color: White, Helical stripping for color coding.
Voltage Rating: 1000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*



Type C-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Base Color: White, Helical stripping for color coding.
Voltage Rating: 1000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*



Type D

Tinned Copper Conductor
Voltage Rating: 3000 volts
Temperature Rating: —54°C +105°C
Put-up: 1,000 Ft. Spool*

MORE SYNKOTE CABLES ON FOLLOWING PAGES →

SPECIFY **SYNKOTE** FOR SURE PERFORMANCE

MIL-W-16878-B
(Navy)

Type D-Nylon

Tinned Copper Conductor
Overall Extruded Nylon Jacket
Voltage Rating: 3000 volts
Temperature Rating: -54°C +105°C
Put-up: 1,000 Ft. Spool*

Type E-Extruded Teflon

600 Volts
Temperature Rating +200°C
1. Silver coated copper conductor.
2. Extruded teflon insulation — ten solid color per spec. Also with contrasting helical color coding in single and double combinations.
3. May be supplied in single or multiple conductor cables with or without shields—consisting of silver coated, tinned or bare copper as required.

Plastoid Part	Spec. Designation	AWG Size & Stranding	Max. O.D.	Approx. Wt. #/M'
PP12003	E-26	26/7x34	.043"	2.0
PP12001	E-21	24/7x32	.048"	3.0
PP12024	E-21	21/19x36	.048"	3.0
PP12005	E-22	22/7x30	.051"	4.0
PP12025	E-22	22/19x34	.051"	4.0
PP12006	E-20	20/7x28	.062"	5.5
PP12026	E-20	20/10x32	.062"	5.5
PP12027	E-18	18/19x30	.074"	8.0
PP12008	E-16	16/19x29	.087"	11.0
PP12009	E-14	14/19x27	.101"	15.0

Type EE-Extruded Teflon

1000 Volt
Temperature Rating +200°C
1. Silver coated copper conductor.
2. Extruded teflon insulation — ten solid colors per spec. Also with contrasting helical color coding in single and double combinations.
3. May be supplied in single or multiple conductor cables with or without shields — consisting of silver coated, tinned or bare copper as required.

Plastoid Part	Spec. Designation	AWG Size & Stranding	Max. O.D.	Approx. Wt. #/M'
PP12015	EE-26	26/7x34	.053"	2.5
PP12016	EE-21	21/7x32	.058"	3.5
PP12028	EE-21	21/19x36	.058"	3.5
PP12017	EE-22	22/7x30	.064"	5.0
PP12029	EE-22	22/19x34	.064"	5.0
PP12018	EE-20	20/7x28	.072"	6.5
PP12030	EE-20	20/19x32	.072"	6.5
PP12031	EE-18	18/19x30	.084"	10.0
PP12020	EE-16	16/19x29	.095"	13.5
PP12021	EE-14	14/19x27	.113"	18.0

MIL-W-7139A

Extruded Teflon

Voltage Rating 600
Temperature Rating 400°F
Conforms to Dept. of Navy Bureau of Aeronautics requirements
1. Silver Coated Copper Conductor
2. Teflon Insulation
3. Glass Braid 4. Dacron Braid

Mil. Part No.	Plastoid Part No.	AWG Size & Stranding	Diel. O. D.	Nom. O. D.
RM-22	PP12,051	22/19x,0063	.050	.088
RM-20	PP12,052	20/19x,0079	.068	.098
RM-18	PP12,053	18/19x,0100	.080	.110
RM-16	PP12,051	16/19x,0113	.088	.118
RM-14	PP12,053	14/19x,0142	.108	.138
RM-12	PP12,056	12/19x,0179	.132	.162

Outer Covering Conforms with Para. 3.2.3 MIL-W-7139A

TEFLON* MINIATURE COAXIAL CABLE

DESCRIPTION: Plastoid "Teflon" miniature coaxial cables are about 1/4 the outside diameter of comparable RG types, yet provide the same impedance characteristics as standard types. In three widely used impedance ranges (50, 70 and 93 ohms) these "Teflon" miniature cables exhibit stable characteristics when operated up to 200°C and can be used successfully in confined areas and where high ambient temperatures are present. These miniature coaxial cables may be applied with any desired outer coating, and will withstand temperatures up to 250°C, when supplied with an impregnated fiber glass jacket.

CONSTRUCTION: Both conductor and braid usually employ silver plated wire. Standard jacket material is "Teflon". Any desired jacketing such as Nylon, Fiberglass, Teflon Coated Fiberglass, KEL-F or other suitable jackets are available to meet unique conditions and specifications.

APPLICATIONS: Plastoid "Teflon" miniature coaxial cables are the ultimate in space conservation as compared to standard RG types. Because of their rugged construction, they are an important contribution to such varied applications as aircraft and guided missiles, plants or laboratories where instrument hook-ups are subjected to chemical corrosion or abrasive treatment.

DESIGN FEATURES: Plastoid "Teflon" miniature coaxial cables have many advantages, a few of which are: Miniature size with same impedance as comparable RG types; ability to withstand high temperature and corrosive or abrasive conditions; high voltage characteristics and excellent flexibility at temperatures as low as -65°C. The uniform OD of these light weight cables makes it possible to use the same size connector for each of the three impedance ranges.

TYPICAL CONSTRUCTION



Plastoid Part Number	Imp. Ohms	Conductor	Diel.	Braid	Jacket* O.D.	Jacket Type	Cap. Mmfd. /ft.	V.P. %
12,270	50	1x.0385 SC	.109	Silver Copper Double	.167	Glass Braid, Silicone Saturant	29.0	70
15,251	50	1x.011 SCW	.035	Silver Copper	.063	Nylon	29.0	70
15,252	50	7x.010 SCW	.095	Silver Copper	.125	Nylon	29.0	70
15,253	50	1x.012 SCW	.036	Silver Copper	.064	Nylon	29.0	70
12,310	70	7x.004 SCW	.060	Silver Copper	.095	Glass Braid, Silicone Saturant	21.0	70
15,254	70	7x.0063 SCW	.095	Silver Copper	.125	Nylon	21.0	70
4,692	70	7x.004 SCW	.070	Silver Copper	.105	Glass Braid, Teflon Saturant	21.0	70
15,255	70	1x.011 SCW	.056	Silver Copper	.084	Nylon	21.0	70
12,221	93	7x.004 SCW	.103	Silver Copper	.131	Nylon	16.0	70
12,341	93	7x.004 SB	.104	Silver Copper	.138	Fused Teflon Tape	16.0	70
15,256	93	7x.004 SCW	.095	Silver Copper	.125	Nylon	16.0	70
12,279	94	1x.011 NCW	.096	Silver Copper	.118	Nylon	15.3	70
12,282	94	1x.011 SCW	.096	Silver Copper	.122	Nylon	15.3	70
12,280	94	1x.011 SCW	.095	Silver Copper	.140	Nylon Braid over PVC	15.3	70
15,257	94	1x.011 SCW	.095	Silver Copper	.140	Nylon over PVC	15.3	70

LEGEND Center Conductor:
SCW — Silver Coated Copperweld
SC — Silver Coated Copper
NCW — Nickel Coated Copperweld
SB — Silver Coated Beryllium

*Jacket may be altered to meet any special requirements.
*duPont's trade name for Polytetrafluoroethylene

MORE SYNKOTE CABLES ON FOLLOWING PAGES →

SPECIFY SYNKOTE FOR SURE PERFORMANCE

RG TYPE COAXIAL CABLE - Polyethylene Dielectric

Military Number RG - u	Plastoid Part Number	V.P. %	Cap. Mmfd. Ft.	Max. Oper. Volts RMS	Nominal Imp. Ohms	Armor O.D.	Jacket O.D.	Type Jacket	Shields Outer Inner	Dielect. O.D.	Center Cond.	Applicable Spec.	
5	4600	65.9	28.5	3000	52.5								
5A	4601	65.9	29.0	3000	50.0		.332	II	SC SC	.185	.0508C	JAN-C-17A	
5B	4602	65.9	29.0	3000	50.0		.328	IIa	SC SC	.181	.0508SC	JAN-C-17A	
212	15151	65.9	29.0	3000	50.0		.332	IIa	SC SC	.181	.0510SC	MIL-C-17B	
6	4603	65.9	20.0	2700	76.0		.332	II	SC SC	.185	.0285CW	JAN-C-17A	
6A	4604	65.9	20.0	2700	76.0		.332	IIa	SC SC	.185	.0285CW	MIL-C-17B	
7	4605	84.0	12.5	1000	97.0		.370	I		C	.250*	.0359C	JAN-C-17A
8	4606	65.9	29.5	5000	52.0		.405	I		C	.285	7x .0285C	JAN-C-17A
8A	4607	65.9	29.5	5000	52.0		.405	IIa		C	.285	7x .0285C	MIL-C-17B
213	15152	65.9	30.5	5000	50.0		.405	IIa		C	.285	7x .0296C	MIL-C-17B
9	4608	65.9	30.0	5000	51.0		.420	II	C SC	.280	7x .0285SC	JAN-C-17A	
9A	4609	65.9	30.0	5000	51.0		.420	II	SC SC	.280	7x .0285SC	JAN-C-17A	
9B	4610	65.9	30.5	5000	50.0		.420	IIa	SC SC	.280	7x .0285SC	MIL-C-17B	
214	15153	65.9	30.5	5000	50.0		.425	IIa	SC SC	.285	7x .0296SC	MIL-C-17B	
10	4611	65.9	29.5	5000	52.0	.475	.405	II		C	.285	7x .0285C	JAN-C-17A
10A	4612	65.9	29.5	5000	52.0	.475	.405	IIa		C	.285	7x .0285C	MIL-C-17B
215	15154	65.9	30.5	5000	50.0	.475	.405	IIa		C	.285	7x .0296C	MIL-C-17B
11	372	65.9	20.5	5000	75.0		.405	I		C	.285	7x .0159TC	JAN-C-17A
11A	4614	65.9	20.5	5000	75.0		.405	IIa		C	.285	7x .0159TC	MIL-C-17B

Military Number RG - u	Plastoid Part Number	V.P. %	Cap. Mmfd. Ft.	Max. Oper. Volts RMS	Nominal Imp. Ohms	Armor O.D.	Jacket O.D.	Type Jacket	Shields Outer Inner	Dielect. O.D.	Center Cond.	Applicable Spec.	
12	4615	65.9	20.5	5000	75.0	.475	.405	II		C	.285	7x .0159TC	JAN-C-17A
12A	4616	65.9	20.5	5000	75.0	.475	.405	IIa		C	.285	7x .0159TC	MIL-C-17B
13	4617	65.9	20.5	5000	75.0		.420	I	C C	.285	7x .0159TC	JAN-C-17A	
13A	4618	65.9	20.5	5000	74.0		.425	IIa	C C	.285	7x .0159TC	MIL-C-17B	
216	15155	65.9	20.5	5000	75.0		.425	IIa	C C	.285	7x .0159TC	MIL-C-17B	
14	4619	65.9	29.5	7000	52.0		.545	II	C C	.370	1x .102C	JAN-C-17A	
14A	4620	65.9	29.5	7000	52.0		.545	IIa	C C	.370	1x .102C	MIL-C-17B	
217	15156	65.9	30.5	7000	50.0		.545	IIa	C C	.370	1x .106C	MIL-C-17B	
21	4630	65.9	29.0	2700	53.0		.332	II	SC SC	.185	1x .0508N	JAN-C-17A	
21A	4631	65.9	29.0	2700	53.0		.332	IIa	SC SC	.185	1x .0508N	MIL-C-17B	
22	4632	65.9	16.0	1000	95.0		.405	I		TC	.285	Two 7x .0152C	JAN-C-17A
22B	4634	65.9	16.0	1000	95.0		.420	IIa		TC	.285	Two 7x .0152C	MIL-C-17B
54A	4640	65.9	26.5	3000	58.0		.250	III		TC	.178	7x .0152C	JAN-C-17A
55	4641	65.9	28.5	1900	53.5		.206	III	TC TC	.116	1x .0320C	JAN-C-17A	
55A	4684	65.9	30.5	1900	50.0		.216	IIa	SC SC	.116	1x .0355C	MIL-C-17B	
55B	15108	65.9	28.5	1900	53.5		.206	HM	TC TC	.116	1x .0323C	MIL-C-17B	
58	4644	65.9	28.5	1900	53.5		.195	I		TC	.116	1x .0320C	JAN-C-17A
58A	4645	65.9	28.5	1900	52.0		.195	I		TC	.116	19x .0066TC	JAN-C-17A
58B	4646	65.9	28.5	1900	53.5		.195	IIa		TC	.116	1x .0320C	MIL-C-17B
58C	4647	65.9	30.5	1900	50.0		.195	IIa		TC	.116	19x .0071TC	MIL-C-17B

(see legend on next page at bottom)

SPECIFY SYNKOTE FOR SURE PERFORMANCE

RG TYPE COAXIAL CABLE—Polyethylene Dielectric (Continued)

Military Number RG-u	Plastoid Part Number	V.P. %	Cap. Mmfd /ft.	Max Oper. Volts RMS	Nominal Imp Ohms	Armor O.D.	Jacket O.D.	Type Jacket	Shields		Dielect. O.D.	Center Cond.	Applicable Spec.
									Outer	Inner			
59	423	65.9	21.0	2300	73.0		.242	I		C	.146	1x .0253CW	JAN-C-17A
59A	4649	65.9	20.5	2300	75.0		.242	IIa		C	.146	1x .0230CW	MIL-C-17B
59B	15109	65.9	20.5	2300	75.0		.242	IIa		C	.146	1x .0230CW	MIL-C-17B
62	4650	84.0	13.5	750	93.0		.242	I		C	.146*	1x .0253CW	JAN-C-17A
62A	4651	84.0	13.5	750	93.0		.242	IIa		C	.146*	1x .0253CW	MIL-C-17B
63	4652	84.0	10.0	1000	125.0		.405	I		C	.285*	1x .0253CW	JAN-C-17A
63B	4653	84.0	10.0	1000	125.0		.405	IIa		C	.285*	1x .0253CW	MIL-C-17B
71	4654	84.0	13.5	750	93.0		.250	III	TC	TC	.146*	1x .0253CW	JAN-C-17A
71B	15113	84.0	13.5	750	93.0		.250	HM	TC	C	.146	1x .0253CW	MIL-C-17B
79	4657	84.0	10.0	1000	125.0	.475	.405	I		C	.285*	1x .0253CW	JAN-C-17A
79B	4658	84.0	10.0	1000	125.0	.475	.405	IIa		C	.285*	1x .0253CW	MIL-C-17B
108	4661		20.0	1000	76.0		.245	II		TC	.079	Two 7x .012C	JAN-C-17A
108A	4662		20.0	1000	76.0		.235	IIa		TC	.079	Two 7x .012C	MIL-C-17B
122	4671	65.9	30.5	1900	50.0		.160	IIa		TC	.096	27x .005TC	MIL-C-17B

LEGEND

Center Conductor:

- C — Bare Copper
- SC — Silver Coated Copper
- CW — Copperweld
- TC — Tinned Copper
- N — Nichrome

Shield:

- C — Bare Copper
- SC — Silver Coated Copper
- T — Tinned Copper

* Semi solid Dielectric

Jacket Material:

Type I — PVC Black* withstands Cold Bend after 20 hrs at -40 C.

Type II — PVC NEVA Gray non-contaminating — withstands Cold Bend after 20 hrs at -25 C.

Type III — Polyethylene-natural withstands Cold Bend after 20 hrs at -40 C.

Type HM — High Molecular Polyethylene

* Polyethylene Dielectric per Federal Spec. LP 590 Supersedes MIL D 3054

RG TYPE COAXIAL CABLE Teflon* Dielectric (made to spec. MIL-C-17B)

Military Number RG-u	Plastoid Part Number	V.P. %	Cap. Mmfd. /ft.	Max. Oper. Volts	Nom Imp Ohms	Armor O.D.	Jacket		Teflon Tape		Shields		Dielect. O.D.	Center Cond.	
							Outer	Inner	Outer	Inner	Outer	Inner			
87A	4690	69.5	29.5	5000	50		.425					SC	SC	.280	7x .0325C
225	15164	69.5	29.5	5000	50		.430					SC	SC	.285	7x .03125C
140	4691	69.5	19.5	2300	75			.233					SC	.146	1x .0255CW
141	4694	69.5	29.5	1900	50		.190						SC	.116	1x .03595CW*
141A/U	15134	69.5	29.5	1900	50		.190						SC	.116	1x .039CW
142	4696	69.5	29.5	1900	50		.206						SC	.116	1x .03595CW*
142A	15136	69.5	29.5	1900	50		.206						SC	.116	1x .039CW
143	4686	69.5	29.5	3000	50		.325						SC	.185	1x .0575CW
143A	15137	69.5	29.5	3000	50		.325						SC	.185	1x .059CW
144	15100	69.5	19.5	5000	75		.410						SC	.285	7x .01795CW

Teflon Dielectric — made to specification, MIL-C-17B — MINIATURE TYPE

Military Number RG-u	Plastoid Part Number	V.P. %	Cap. Mmfd. ft	Max Oper. Volts	Nom Imp Ohms	Jacket	Shield	Dielect. O.D.	Center Cond.
187	4695	69.5	19.5	1200	75	Extruded Teflon or Fused Teflon Tape	SC	.060	7x .0045CW
188	4697	69.5	29.0	1200	50	Extruded Teflon or Fused Teflon Tape	SC	.060	7x .00675CW
195	4698	69.5	15.0	1500	95	Extruded Teflon or Fused Teflon Tape	SC	.102	7x .0045CW
196	4699	69.5	29.0	1000	50	Extruded Teflon or Fused Teflon Tape	SC	.034	7x .0045CW

LEGEND

- Center Conductor:**
 SC — Silver Coated Copper
 C — Bare Copper
 K — Karma
 L-W — Silver Coated Copperweld

- Shield:**
 SC — Silver Coated Copper
 C — Bare Copper
 K — Karma

Dielectric:
 Type F-1 — Polytetrafluoroethylene

Jacket:
 Type V — Fiberglass per MIL-G-1140

* Available with non-magnetic stranded silver plated copper center conductor

* duPont's trade name for Polytetrafluoroethylene

SPECIFY SYNKOTE FOR SURE PERFORMANCE

AIRCRAFT WIRE

MIL-W-5086A—Type 1

(Dated June 18, 1957. Superseding MIL-W-5086—Nov. 30, 1950)
 600 Volts
 Temp. Rating—55°C ± 105°C
 Synkote insulated electrical aircraft wire conforms to MIL Spec MIL-W-5086-A

1. Constructional Details—
 - (a) Concentric stranded tinned copper cond.
 - (b) Synthetic resin insulation (105°C)
 - (c) Extruded clear nylon jacket
2. Standard Packaging AN-22 & AN-20
 5,000' non-returnable reel
 AN-18 & AN-16
 3,000' non-returnable reel
 AN-14 & AN-12
 2,000' non-returnable reel
3. Available with tinned copper shield and/or extruded nylon jacket over shield. Identified as Type 1 or Type 2 per spec. MIL-C-7078A
4. Standard Color: White
5. May be furnished in multiple cond. combinations—color coded as required.

MIL-C-7078A—Type 1

(Type 1 per MIL-W-5086A with overall shield)

- 600 Volts
 Temp. Rating—55°C ± 105°C
1. Constructional Details—
 - (a) Concentric stranded tinned copper cond.
 - (b) Synthetic resin insulation (105°C)
 - (c) Extruded clear nylon jacket
 - (d) Overall tinned copper shield
 2. Standard Put-Up 1000' spool or reel. Larger packaging available
 3. This construction may be furnished with an overall extruded nylon jacket recognized as Type 2 per spec. MIL-C-7078A

MIL-W-5086A—Type 2

(Dated June 18, 1957. Superseding MIL-W-5086—Nov. 30, 1950)
 600 Volts
 Temp. Rating—55°C ± 105°C

1. Constructional Detail—
 - (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
 - (b) Synthetic resin insulation (105°C)
 - (c) Glass braid—saturated
 - (d) Extruded clear nylon jacket sizes AN-22 thru AN-12 braided nylon. Impregnated with nylon lacquer sizes AN-10 thru AN-4
2. Standard Packaging AN-22 & AN-20
 5,000' non-returnable reel
 AN-18 & AN-16
 3,000' non-returnable reel
 AN-14 & AN-12
 2,000' non-returnable reel
 AN-10 1,000' non-returnable reel
 AN-8 thru AN-1
 500' or 1,000' non-returnable reel
 AN-0 thru AN-1/0
 500' non-returnable reel
3. Available with tinned copper shield in all sizes. Also with extruded nylon jacket over shield in sizes AN-22 through AN-12 per spec. MIL-C-7078A—Type 1 or Type 2 as required.
4. Standard Color: White
5. May be furnished in multiple cond. combinations—color coded as required.

AIRCRAFT WIRE

MIL-C-7078A—Type 2

(Type 2 per MIL-W-5086A with overall shield)

- 600 Volts
 Temp. Rating—55°C ± 105°C
1. Constructional Details—
 - (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
 - (b) Synthetic resin insulation (105°C)
 - (c) Glass braid—saturated
 - (d) Extruded clear nylon jacket sizes AN-22 thru AN-12 braided nylon impregnated with nylon lacquer sizes AN-10, AN-8 and AN-6
 - (e) Overall tinned copper shield
 2. Standard put-up 1000' spool or reel. Larger packaging available
 3. May be furnished with extruded nylon jacket over shield in sizes AN-22 thru AN-12. Recognized as Type 2 per spec. MIL-C-7078A.

MIL-W-5086A—Type 3

(Dated June 18, 1957. Superseding MIL-W-5086—Nov. 30, 1950)
 600 Volts
 Temp. Rating—55°C ± 105°C

1. Constructional Details—
 - (a) Concentric stranded or rope lay stranded tinned copper cond. as required by spec.
 - (b) Synthetic resin insulation
 - (c) Glass braid saturated
 - (d) Secondary synthetic resin insulation
 - (e) Extruded clear nylon jacket sizes AN-22 thru AN-12 braided nylon impregnated with nylon lacquer sizes AN-10 thru AN-4
2. Standard Package AN-22 and AN-20
 5,000' non-returnable reel
 AN-18 and AN-16
 3,000' non-returnable reel
 AN-14 and AN-12
 2,000' non-returnable reel
 AN-10
 1,000' non-returnable reel
 AN-8 thru AN-1
 500' non-returnable reel
 AN-0 thru AN-1/0
 500' non-returnable reel
3. Available with tinned copper shield in all sizes. Also with extruded nylon jacket over shield in sizes AN-22 thru AN-12 per spec. MIL-C-7078A—Type 1 or Type 2 as required.
4. Standard Color: White
5. May be furnished in multiple combination cond.—color coded as required.

MIL-C-7078A—Type 3

(Type 3 per MIL-W-5086A with overall shield)

- 600 Volts
 Temp. Rating—55°C ± 105°C
1. Constructional Details—
 - (a) Concentric stranded or rope lay stranded tinned copper cond. as required per spec.
 - (b) Synthetic resin insulation (105°C)
 - (c) Glass braid—saturated
 - (d) Secondary synthetic resin insulation (105°C)
 - (e) Extruded clear nylon jacket AN-22 thru AN-12 braided nylon impregnated with nylon lacquer sizes AN-10 AN-8 and AN-6
 - (f) Overall tinned copper shield.
 2. Standard put-up 1000' spool or reel. Larger packaging available
 3. May be furnished with overall extruded nylon jacket over shield in sizes AN-22 thru AN-12. Recognized as Type 2 per spec. MIL-C-7078A.

AIRCRAFT WIRE

MIL-W-5274A (USAF)

Synkote insulated aircraft wire to conform to MIL spec. MIL-W-5274A (USAF). All wires under this classification are approved constructions and are made in strict compliance with the applicable spec.

Type 1—Class A

Tinned copper conductor
 Overall extruded nylon jacket
 Color Code: White
 Voltage Rating: 600 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 1,000 Ft. spool
 Larger packaging available

Type 1—Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
 Extruded nylon jacket
 Overall tinned copper shield
 Color Code: White
 Voltage Rating: 600 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 1,000 Ft. spool
 Larger packaging available

Type 2—Class A

Tinned copper conductor
 Fungus resistant glass fiber braid
 Overall extruded nylon jacket
 Color Code: White
 Voltage Rating: 600 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 1,000 Ft. spool
 Larger packaging available

Type 2—Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
 Fungus resistant glass fiber braid
 Extruded nylon jacket
 Overall tinned copper shield
 Color Code: White
 Voltage Rating: 600 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 1,000 Ft. spool
 Larger packaging available

Type 3—Class A

Tinned copper conductor
 Fungus resistant glass fiber braid
 Overall extruded nylon jacket
 Color Code: Light Red
 Voltage Rating: 3000 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 1,000 Ft. spool
 Larger packaging available

Type 3—Class A (Shielded)

(Shielding in accordance with specification MIL-C-7078A)

Tinned copper conductor
 Fungus resistant glass fiber braid
 Extruded nylon jacket
 Overall tinned copper shield
 Color Code: Light Red
 Voltage Rating: 3000 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 1,000 Ft. spool
 Larger packaging available

MIL-W-7072A Aluminum

Synkote insulated aluminum aircraft wire manufactured to conform to MIL spec. MIL-W-7072A.

Type 1

Aluminum conductor
 Fungus resistant glass fiber braid
 Flame proof saturant and lacquer
 Color Code: White
 Voltage Rating: 600 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up: 500 ft. and 1,000 ft. spool

AWG Size & Spec. Desig.	Cond. Stranding	Nom. O.D.	Approx. Wt. ± %/M
AL-8	41x24	.240"	31.0
AL-6	7x10x24	.308"	52.0
AL-4	7x15x24	.368"	71.0
AL-2	7x24x24	.440"	101.0
AL-1	7x30x24	.488"	124.0
AL-1/0	19x18x24	5.44"	150.0
AL-2/0	19x18x24	5.95"	190.0
AL-3/0	19x22x24	.664"	225.0
AL-4/0	19x28x24	.724"	275.0

Type 2

Aluminum conductor
 Fungus resistant glass fiber braid
 Flame proof saturant nylon braid
 Flame proof saturant and lacquer
 Color Code: White
 Voltage Rating: 600 Volts
 Temp. Rating—55°C ± 100°C
 Put-Up
 Sizes 8 thru 2 —1,000 ft. spool
 Sizes 1 thru 4 —500 ft. spool

AWG Size & Spec. Desig.	Cond. Stranding	Nom. O.D.	Approx. Wt. ± %/M
AL-8	41x24	.240"	32.0
AL-6	7x10x24	.312"	52.0
AL-4	7x15x24	.372"	74.0
AL-2	7x24x24	.444"	104.0
AL-1	7x30x24	.492"	128.0
AL-1/0	19x18x24	.550"	155.0
AL-2/0	19x18x24	.600"	195.0
AL-3/0	19x22x24	.668"	232.0
AL-4/0	19x28x24	.728"	283.0

For a more comprehensive showing of



DEPENDABLE
 WIRE AND
 CABLE
 send for our
 latest catalog
 PLASTOID
 CORPORATION
 Long Island City, N. Y.



HICKORY BRAND

Electronic Wires and Cables

Plastic Insulated and Sheathed

COAXIAL CABLES (American Standard RF Cables)



#RG-9 A/U



#RG-59 A/U



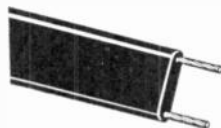
#RG-11 A/U

Hickory Brand Coaxial Cables are designed to provide definite characteristics. Polyethylene is used for conductor insulation and assures maximum operating efficiency. These cables are especially adaptable to applications requiring high, very high and ultra-high frequencies including community antenna systems and closed circuit TV. Typical examples of RG/U Cables are shown. Because of the constantly changing requirements for this type of cable, it is suggested that the factory be contacted for any cables not listed herein.

Army Navy Type No.	Inner Conductor In.	Diameter of Dielectr. In.	Nominal Impedance Ohms	Attenuation dB/100 Ft. 10%		Nominal Overall Diameter In.
				400 Mc	3000	
RG-58C U	.0375" 19 x .0071	0.116"	50	14	50	0.195"
RG-55A U	0.035" 20 AWG	0.116"	50	11.7	40	0.216"
RG-9A U	7 x 21 AWG	0.285"	50	5.5	19	0.420"
RG-10A U	7 x 21 AWG	0.285"	50	5.5	19	0.475"
RG-14A U	0.106" 10 AWG	0.370"	50	4.3	14	0.545"
RG-74A U	0.106" 10 AWG	0.370"	50	4.3	14	0.615"
RG-17A U	0.195"	0.680"	50	2.5	11	0.870"
RG-18A U	0.195"	0.680"	50	2.5	11	0.945"
RG-19A U	0.260"	0.910"	50	2.3	—	1.120"
RG-59A U	0.023"	0.146"	75	9	30	0.242"
RG-6A U	.0285" 21 AWG Copperweld	0.185"	75	6.5	23	0.332"
RG-11A U	7 x 26 AWG	0.285"	75	5.2	18.5	0.405"
RG-12A U	0.016" 7 x 26 AWG	0.285"	75	5.2	18.5	0.475"
RG-13A U	0.016" 7 x 26 AWG	0.285"	75	5.2	18.5	0.425"
RG-62A U	0.0253" 22 AWG	0.146"	93	8	—	0.242"
RG-71 U	0.0253" 22 AWG	0.146"	93	8	—	0.250"
RG-63B/U	0.0253" 22 AWG Copperweld	0.285"	125	5.5	—	0.405"
RG-79B/U	0.0253" 22 AWG Copperweld	0.285"	125	5.5	—	0.475"

TV LEAD-IN WIRES

No. 8225



LENGTH: 50' coil 75' coil

2 conductors 20 AWG 7 x 20 copper .058" x .400" nom dia.

SPECIFICATIONS: 2 cond. parallel brown polyethylene insulation.

Nom. Attenuation:

1.1 db 100' at 100 m.c.

1.7 db 100' at 200 m.c.

2.2 db 100' at 300 m.c.

2.7 db 100' at 400 m.c.

Impedance—300 ohms

Capacitance—4.4 mmf ft

100' coil 500' spool 1000' spool

ANTENNA ROTOR CABLES

No. 8465



LENGTH: 75' coil 100' coil 500' spool 1000' spool

4 conductors 22 AWG 7 x 30 copper .070" x .390" nom dia.

SPECIFICATIONS: 4 cond. parallel grey vinyl insulation. 1 outer conductor tinned for polarity.

No. 8230



LENGTH: 50' coil 75' coil

2 conductors 20 AWG 7 x 28 copper-weld .072" x .400" nom dia.

SPECIFICATIONS: 2 cond. parallel brown polyethylene insulation.

Nom. Attenuation:

1.1 db 100' at 100 m.c.

1.7 db 100' at 200 m.c.

2.2 db 100' at 300 m.c.

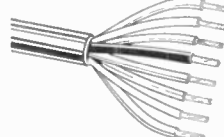
2.7 db 100' at 400 m.c.

Impedance—300 ohms

Capacitance—4.4 mmf ft

100' coil 500' spool 1000' spool

No. 8488



LENGTH: 100' spool 500' spool 1000' spool

8 conductors 22 AWG 7 x 30 copper .205" nom dia.

SPECIFICATIONS: 8 cond. cabled .010 vinyl insulation black, blue, brown, green, orange, red, white and yellow. .020 tubed vinyl jacket.

ALSO AVAILABLE ARE HICKORY BRAND PUBLIC ADDRESS
and SOUND SYSTEM CABLES, HOOK-UP AND LEAD WIRES, MICROPHONE
CABLES, SHIELDING AND BONDING CABLE AND FLEXIBLE TUBING

HICKORY BRAND ELECTRONIC WIRES and CABLES are Manufactured by
SUPERIOR CABLE CORPORATION • HICKORY, NORTH CAROLINA

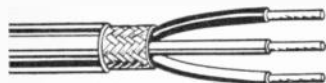


HICKORY BRAND

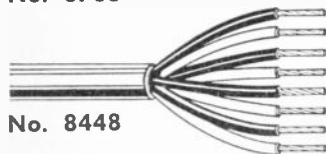
Electronic Wires and Cables

Plastic Insulated and Sheathed

INTERCOMMUNICATING and SOUND SYSTEM CABLES



No. 8735



No. 8448



No. 8739

Hickory Brand shielded and unshielded intercommunicating and sound system cables provide dependable service as interconnecting cables on electronic equipment, remote control circuits, special press-to-talk microphone circuits, power supply cords and a multitude of electronic applications. These cables are designed for long service life, excellent mechanical and electrical characteristics and uniform quality.

Special vinyl compounds assure high insulation resistance, best electrical and physical properties. Precision short lay cabling maintains conductor balance, provides quiet circuit, free from cross talk. The outer, free stripping vinyl jacket is waterproof, weather resistant and is ideal for all industrial, commercial and home installations. Quick termination, positive color coding and small diameter insure maximum economy in all installations. For balanced intercommunication systems, annunciators, telephones, control circuit cable, electronic computer cable, multiple speaker cable and signal systems.

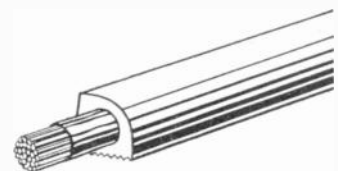
Cat. No.	No. Conductors	Cond. Type	Ins.	Dia. over Jckt.	Length
8737	2 (shielded)	22 (7 x 30)	.015"	.160"	500'-1000'
8759	2 (shielded)	20 (7 x 28)	.015"	.185"	500'-1000'
8739	2 (shielded)	22 (solid)	.015"	.150"	500'-1000'
8735	3 (shielded)	22 (7 x 30)	.015"	.189"	500'-1000'
8734	3 (1 shielded)	22 (7 x 30)	.015"	.184"	500'-1000'
8732	4 (2 shielded)	22 (7 x 30)	.015"	---	500'-1000'
8738	2 (shielded)	22 (solid)	.015"	---	500'-1000'
8740	1 pair	22 (solid)	.015"	.134"	500'-1000'
8741	2 pair	22 (solid)	.015"	.185"	500'-1000'
8742	3 pair	22 (solid)	.015"	.220"	500'-1000'
8743	6 pair	22 (solid)	.010"	.265"	500'-1000'
8744	9 pair	22 (solid)	.010"	.320"	500'-1000'
8753	11 pair	22 (solid)	.010"	.360"	500'-1000'
8745	16 pair	22 (solid)	.010"	.390"	500'-1000'
8746	26 pair	22 (solid)	.010"	.510"	500'-1000'
8747	6 pair	22 (7 x 30)	.010"	.310"	500'-1000'
8748	9 pair	22 (7 x 30)	.010"	.355"	500'-1000'
8749	16 pair	22 (7 x 30)	.010"	.460"	500'-1000'
8750	26 pair	22 (7 x 30)	.010"	.555"	500'-1000'
8442	2 conductors	22 (7 x 30)	.015"	.130"	500'-1000'
8443	3 conductors	22 (7 x 30)	.015"	.140"	500'-1000'
8444	4 conductors	22 (7 x 30)	.015"	.158"	500'-1000'
8445	5 conductors	22 (7 x 30)	.015"	.170"	500'-1000'
8446	6 conductors	22 (7 x 30)	.015"	.212"	500'-1000'
8447	7 conductors	22 (7 x 30)	.015"	.230"	500'-1000'
8448	8 conductors	22 (7 x 30)	.015"	.235"	500'-1000'
8449	9 conductors	22 (7 x 30)	.015"	.245"	500'-1000'

QUARTER-ROUND CABLE

Shaped polyvinyl chloride jacketed intercommunicating and signal cable enclosing as many as 51 pairs of color coded PVC insulated conductors. Easily installed in any type structure. Eliminates unsightly installation of wire, cable or exposed duct, because QR Cable fits snugly and neatly against floor or wall. Matches decor of room because it comes in six popular colors: Black, Ivory, Green, Brown, Beige and Gray. Installs easily with clip or can be cemented in place. Order length required.

11, 16, 26, 51 pairs available 24 AWG

11, 16, 26 pairs available 22 AWG



HICKORY BRAND ELECTRONIC WIRES and CABLES are Manufactured by
SUPERIOR CABLE CORPORATION • HICKORY, NORTH CAROLINA

Saxton TV TRANSMISSION WIRE & ACCESSORIES

BRONX, NEW YORK

PLASTIC COVERED MICROPHONE CABLES

Saxton microphonic cables will provide long, troublefree service, and will withstand aging, moisture, and physical handling. Saxton cables have high insulation characteristics, low capacitance, and minimum attenuation at audio frequencies.



Identifying No. MCL

Single 25 AWG conductor, stranded and tinned, consisting of three No. 33 copper and four No. 33 steel strands. Cellulose yarn braid. Polyethylene plastic insulation. Tinned copper braided shield. Outside diameter .110". Capacitance 33 mmf per foot. Especially suitable for use with hi-impedance lapel type microphones. Grey vinyl plastic jacket. 500 or 1000 foot spools.



Identifying No. MCU

Single 25 AWG conductor, stranded and tinned, consisting of three No. 33 copper strands and four No. 33 steel strands. Cellulose yarn braid. Polyethylene plastic insulation. Tinned copper braided shield. Outside diameter .200". Capacitance 26 mmf per foot. Especially suited for use with hi-impedance microphones of all types. Grey vinyl plastic jacket. 500 foot or 1000 foot spools.



Identifying No. MCX

Dual conductor No. 22 AWG, each conductor consisting of 16 No. 34 tinned copper strands. Polyethylene plastic insulation. Tinned copper braided shield. Grey vinyl plastic jacket. Outside diameter .230". Capacitance with one conductor grounded to shield = 31 mmf per foot. Especially recommended for use with all types of low impedance microphones. 500 or 1000 foot spools.

COPPERWELD WIRE CABLE

Unannealed No. 18 copperweld (40%) wire, hard drawn and shiny, wound on metal spools. Widely used as either electric fence wire, antenna wire, or as replacement for open line transmission wire. Also used in No. 12 and No. 14 gauges with Saxton 600 ohm spacers. (See page 6-7) for installations requiring 600 ohm transmission line. The No. 18 gauge wire is wound in either 1000 foot or 1/2 mile lengths; the No. 12 and No. 14 wire, in 1000 foot lengths only.



Identifying No.'s

EF-18-1000 1000 foot spool, 18 gauge
 EF-18-2500 1/2 mile spool, 18 gauge
 EF-12-1000 1000 foot spool, 12 gauge
 EF-14-1000 1000 foot spool, 14 gauge
 EF-16-1000 1000 foot spool, 16 gauge
 EF-10-1000 500 or 1000 foot coil, 10 gauge
 EF- 8-1000 500 or 1000 foot coil, 8 gauge
 EF- 6-1000 500 or 1000 foot coil, 6 gauge

LAMP CORD CABLE

Saxton lamp cord is made for long, trouble-free usage in a multiplicity of applications where efficient transfer of power is necessary.



Identifying No. POT

41 strands of No. 31 bare copper conductor in each of 2 (No. 18 AWG) parallel wires in a plastic vinyl jacket. Colors: Brown or White. Diameter 11/4" x .230". Also available with rubber insulation. 250 foot spools.

TV ANTENNA MATCHING "BALUN COILS"



Identifying No. BC-2 1121

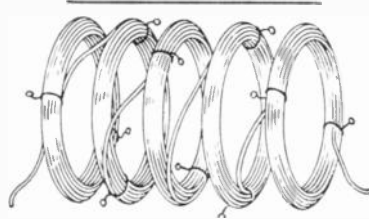
Highly efficient—extremely versatile loss balun coils. Eliminates standing waves and provides efficient matching as follows:

- 1. 72 to 150 ohms
- 2. 72 to 450 ohms
- 3. 150 to 300 ohms
- 4. 150 to 450 ohms
- 5. 300 to 450 ohms
- 6. 75 to 300 ohms

Unique raised toothed construction allows minute coil contact losses since effect is similar to air dielectric. Each winding has an impedance of 150 ohms. Infinitely more efficient than resistive devices which have large power loss factor. Same suggested uses.

Antenna to line matching, 2 set coupler, 3 set coupler, 4 set coupler, set to line, etc.

ALUMINUM GROUND WIRE



AG8 - 8 gauge, AG6 - 6 gauge, AG11 - 11 gauge. Dead soft annealed aluminum wire in No. 8 AWG, No. 6 AWG, or No. 11 AWG. (See illustration.) Put up in 1000 foot continuous coils tied off at every 50 or 100 feet, as specified. Also wound on metal spools in 500 or 1000 foot continuous lengths. Conforms with all local regulations. Also available in 50 and 100 foot containers, for efficient self-service sales.

SPEAKER BAFFLE



Made of Unbreakable Hi-Impact Styrene. Complete with mask, hardware, and instruction sheet. In grey, mahogany, or oak finish. Will house either 5" x 7" or 6" x 9" elliptical speakers, 5" or 6" round speaker. Individually boxed. Easily mounted, efficient, good to look at.

Ideal housing for speaker used for paging, monitoring, extensions (radio, public address, hi fi, or juke box) boat, station wagon, or truck installations; and a thousand other uses.

3 WIRE INTERCOM

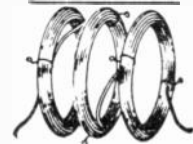
Identifying No. IC-3

3 conductors twisted. Identifying colors No. 22 solid copper conductors, overall vinyl jacket. 1000 foot spools.

Identifying No. IC-3S

Same as above—stranded.

ANTENNA WIRE



Identifying No. AW22S

Seven strands of pre-stretched stranded pure copper wire in inter-connected 50 or 100 foot coils, totalling 1000 feet. 1000 foot per carton.

Identifying No. AW24S

Same as above—24 gauge.

Identifying No. AWE-12 - AWE-14

Solid hard drawn copper wire, enamel covered, 12 and 14 gauge, 1000 foot continuous coils, tied off every 100 feet.

GUY WIRE



All of the guy wire items also available in 50 foot coils, 500 foot metal spools, or 1000 foot wooden reels, at a small additional charge.

Specify type of coils or spools when ordering.

Ident. No.	Description	No Strands	Gauge	Standard Packing	Strength Test	Strength Yield
428	GW 4/20 Heavy galvanized steel, half hard temper.	4	20	10-100 ft. coils 1-1000 ft. spool	300 lbs. p.s.i.	4% per C ft.
429	GW 6, 20 Heavy galvanized steel, half hard temper.	6	20	10-100 ft. coils 1-1000 ft. spool	465 lbs. p.s.i.	3.6% per C ft.
430	GW 6/18 Heavy galvanized steel, half hard temper.	6	18	10-100 ft. coils 1-1000 ft. spool	675 lbs. p.s.i.	3% per C ft.
431	AL 7/16 EC quality aluminum, aircraft temper.	7	16	10-100 ft. coils 1-1000 ft. spool	440 lbs. p.s.i.	4.5% per C ft.
432	ASL 7/16 EC quality aluminum, aircraft temper with triple coated single steel core	6 alum 1 steel	16 17	10-100 ft. coils 1-1000 ft. spool	493 lbs. p.s.i.	3.5% per C ft.
433	CO 6 20 Copperweld - 30% copper over steel core, non-rust, half hard temper.	6	20	10-100 ft. coils 1-1000 ft. spool	600 lbs. p.s.i.	2.7% per C ft.
434	CO 6/18 Copperweld - 30% copper over steel core, non-rust, half hard temper.	6	18	10-100 ft. coils 1-1000 ft. spool	1100 lbs. p.s.i.	2.5% per C ft.
435	CO 3/18 Copperweld - 30% copper over steel core, non-rust, half hard temper.	3	18	10-100 ft. coils 1-1000 ft. spool	550 lbs. p.s.i.	2.5% per C ft.

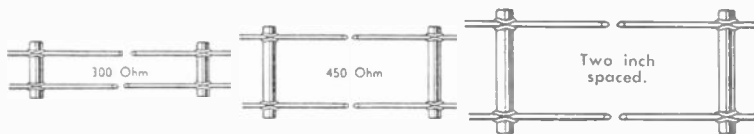
Inquiries invited for large or small runs of special or unlisted wire and cable constructions including Multi-conductor, shielded or stranded types.

Saxton TV TRANSMISSION WIRE & ACCESSORIES

GENERAL DESCRIPTION

Saxton lo-loss open wire transmission line is made for maximum uhf, vhf, or color reception. Signal loss under any weather conditions is the lowest of any wire made by any manufacturer. Copperweld (40% copper - 60% steel) is recommended for general use. Copper formvar covered for special conditions such as humid, coastal areas. For the few who prefer aluminum, pure copper, or pure copper formvar covered, Saxton also offers a quality product with these same specifications.

LO-LOSS OPEN WIRE GIVES MAXIMUM RECEPTION The truly all-weather, all-area transmission line.



AVAILABLE IN 5 TYPES ILLUSTRATED



SAXTON OPEN LINE SPECIFICATIONS

- INSULATORS—Polystyrene molded, slip proof.
- SPACING—6" or 12" on 150 Ohm, 6" on 300 Ohm, random spacing on 600 Ohm.
- MATERIALS USED—No. 18 gauge wire (40% Copperweld), Pure copper, Pure copper formvar coated aluminum, (No. 12 gauge for 2 inch spaced open line.)
- TENSILE STRENGTH—400 pounds.
- CAPACITANCE negligible.

SAXTON OPEN LINE PRODUCTS are spooled on 100, 250, 500, and 1000 foot identified reels. The reels are so made that it is possible to determine the wire still remaining on the reel at all times.

ALL SAXTON PRODUCTS are made under carefully supervised, rigidly engineered specifications. Truly the antenna and the product are a "PERFECT MATCH" and "MADE FOR EACH OTHER".

CHARACTERISTIC CHART—TRANSMISSION LINE LOSS—DB LOSS PER 1000 FEET

Type	100 MC		500 MC		1000 MC	
	Wet	Dry	Wet	Dry	Wet	Dry
300 Ohm Open Wire	1.20	0.10	2.30	.80	1.9	1.8
300 Ohm Tubular	2.8	1.1	6.8	3.1	10.2	4.8
300 Ohm Flat	7.6	1.5	20.0	3.2	30.0	5.0
RG-59U		3.8		9.4		14.2
RG-11U		1.8		5.0		7.6

TRANSMISSION LINE LOSS—DB LOSS PER 100 FEET

Type	100 MC		500 MC		1000 MC	
	Wet	Dry	Wet	Dry	Wet	Dry
450 Ohm Open Wire	0.35		.78		1.1	
300 Ohms Tubular	2.5	1.1	6.8	3.0	10.0	4.6
300 Ohm Flat	7.3	1.2	20.0	3.2	30.0	5.0
RG-59U		3.8		9.4		14.2
RG-11U		1.8		5.0		7.6

- 300 Ohm Open Wire Transmission Line available in 3" insulated spacing for additional rigidity and ease of handling at a small additional charge. For further information ask your distributor salesman.
- Normal impedance: 600-ohm with #18 gauge wire; 475-ohm with #14 gauge; 450-ohm with #12 gauge.

SAXTON LIGHTNING ARRESTOR Identifying No. LA6



A highly efficient arrester and static eliminator made of glazed reinforced porcelain for UHF and VHF applications.

Positive protection is obtained by externally taping both sides of line so that the circuit is broken prior to damage. Built-in compensating inductor improves reception by maintaining constant line impedance. Resistor network drains off static impulses and prevents dangerous potentials across the set terminals.

FLOATING GUY RING Identifying No. FG



Cast aluminum, 2-piece floating guy ring (see illustration) fits masts up to 1 1/4" in diameter. Available with 3, 4, or 6 holes. Standard 4-hole units will be shipped unless otherwise specified. Individually packed, complete with set screw hardware in individual plastic bags. 50 to the master carton.

GROUND MAST CLAMP Identifying No. GMC



Brass alloy mast clamp for use in grounding masts or for effecting ground connection on cold water systems. Ridged tooth inner section makes for good, solid, effective ground. Complete with set screw. (See illustration.) 100 to carton.

SPIRAFIL CABLE

Information on Foamflex also available on request.



Spirafil is a semi-flexible, aluminum sheathed coaxial cable which is ideal for community antenna, broadcast, communications, or microwave work. A product of the Phelps Dodge Copper Products Corporation, it is impervious to migratory losses or variation of electrical value caused by chemical reaction, weather aging, or other influences commonly creating this condition. For use in underground or underwater applications, it is also obtainable with a high molecular weight polyethylene habirlene jacket which will allow such installations to be made without fear of corrosion for the life of the installation. Spirafil is made with an impedance of either 50 ohms or 70 ohms, and in either 3/8" or 1/2" diameters.

- Identifying No. SP5-A 3/8" 50 ohm spirafil
- SP50-B 1/2" 50 ohm spirafil
- SP70-3 3/8" 70 ohm spirafil
- SP70-B 1/2" 70 ohm spirafil

For habirlene covering add H - i.e., SP 50-H is 3/8" Spirafil, 50 ohms impedance, habirlene covering. Spirafil must be ordered in units of 2000'. The unique construction of Spirafil, whereby the center solid copper conductor is centered in the solid, tubular aluminum sheath by means of a spirally wound polyethylene spacer, creates some very interesting features. Some of these features are no radiation, low attenuation, excellent frequency response, uniform electrical properties over wide temperature variations, and unlimited operating life. Additional information and specifications available on request.

OPEN WIRE STAND OFF INSULATORS

A standoff which is especially designed for use with open line transmission wire installations. To take up slack in line, tighten screws in slots after pulling taut. For use as ordinary spacer—partially tighten set screws (see illustrations). This will permit free movement of wire in the slots, thereby doing away with potential wire breaks due to backward and forward motion caused by wind. Ideal also for use as anchor point or spacer for "Fence Wire" installations.

For use in 600 ohm installation, use outside two slots. Particularly good for community installations, where random spacing of open lines is desirable to avoid tuned circuits created by regular spacing. Permits inexpensive, efficient, time-saving, trouble-free installations. For use with wire gauges from No. 12 to No. 18.

Molded polystyrene standoff with proper spacing for either 300 ohm, 450 ohm, or 600 ohm installations. 100 to box. 1000 to master carton.



TEE TAP CONNECTOR

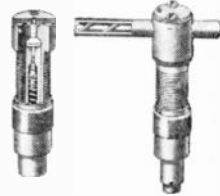
Identifying No.

TTC—for coaxial cables

TTS—for Spirafil or Foamflex cables

The Saxton Tee Tap allows quick, electrically perfect connection to Spirafil or coaxial cables without cutting the distribution lines and without necessity for re-insulation.

The tapping arrangement also provides proper impedance match from RG59U to RG59U and from RG11U to RG59U. Other impedance matches are available.



HEAVY DUTY OPEN LINE STRESS INSULATORS

Identifying No.

1094

SB-300

Plastic blocks, slotted at either one or two inch centers complete with plated screw. For taking up slack and for use as anchor points in Open Line installations.

Identifying No.

SB-600

Same as above—Heavy duty. 2" spacing to accommodate #12 AWG wires.



Saxton TV TRANSMISSION WIRE & ACCESSORIES

BRONX, NEW YORK

Lightweight, pliable plastic covered flat or round cables specifically designed for antenna rotor work.

ROTOR CABLES



Identifying No. RC-4F

Four conductor, parallel, flat ribbon type, rotor cable. Each conductor consists of seven strands of number 30 bare copper, total number 22 AWG. One outside conductor tinned to indicate polarity. Brown polyethylene plastic insulation. 500 foot and 1000 foot spools.



Identifying No. RC-4R

Four No. 20 AWG conductor, color coded, round rotor cable. Each conductor consists of seven No. 28 bunched copper strands in plastic vinyl jacket. External jacket of brown vinyl. Diameter .165". 500 foot and 1000 foot spools.



Identifying No. RC-8R

Eight No. 20 AWG conductors, color coded, round rotor cables. Each conductor consists of seven No. 28 bunched copper strands in plastic vinyl jacket. External jacket of black vinyl. Diameter .219". 500 and 1000 foot spools.

PLASTIC INSULATED

INTERCOMMUNICATION CABLES

Sturdy, pliable, lightweight, plastic multi-wire cables. Small diameter and extreme flexibility. Recommended for control, communications, and annunciator circuits.



Identifying No. IC-420

Four color coded conductors No. 20 AWG. Each conductor consists of seven No. 29 bunched copper strands in a plastic jacket. External jacket of brown vinyl, diameter .160". 500 foot and 1000 foot spools.



Identifying No. IC-820

Eight color coded conductors of No. 20 AWG. Each conductor consists of seven No. 28 bunched copper strands in a plastic vinyl insulating jacket. Outer jacket black vinyl. Diameter .215". 500 and 1000 foot spools. *Note: Prices quoted on request on cables, up to and including 64 conductors (32 pair). All special cables unshielded and with grey vinyl jackets.*

TWIN LEAD TRANSMISSION WIRE

First quality standard gauge 300 ohm twin lead transmission wire.



Identifying No. *TL55

55 mil polyethylene—No. 22 AWG copper strand 1000 foot spools—brown.

Identifying No. *TL100

In brown or silver—100 mil polyethylene, No. 20 AWG copper strand, 1000 foot spool.

* Also available with clear polyethylene jacket on special order.

SHIELDED INTERCOMMUNICATION CABLES

Sturdy, pliable two wire shielded cables especially designed for intercom work. Easily handled, easily and quickly stripped.



Identifying No. ICX

Dual conductor No. 20 AWG. Each conductor consists of 10 No. 30 tinned copper strands, polyethylene insulated. Outside jacket brown vinyl. Diameter .195". Tinned copper braid shield. 500 foot and 1000 foot spools.



Identifying No. ICF

Dual conductor No. 20 AWG. Each conductor consists of 10 No. 30 twisted and tinned copper strands, P.V.C. insulated and color coded. Shield is twisted, spiral aluminum shield. Outside jacket black vinyl. Diameter .198". 500 or 1000 foot spools. (A new type of construction, the large advantage of which is the ease with which it can be worked. After removing the outside jacket, twist the tinned spiral aluminum shield for ground, instead of pigtail, as with copper shields.)

TUBULAR TWIN LEAD

TRANSMISSION WIRE

Saxton 300 ohm Tubular Twin Lead In-lead-in wire is virtually unaffected by weather or physical handling due to the tough outer concentrated polyethylene wall.



Identifying No. TU-20

Seven strands of No. 28 gauge (No. 20 AWG) pure copper wire imbedded in pure polyethylene. In 500 or 1000 foot coils. Capacitance 4.0 mmf per foot. Primarily used in uhf applications.

"SPONGEE" AIR FOAM 300 OHM UHF/VHF WEATHERPROOF LEAD-IN TRANSMISSION WIRE

Saxton "Spongee" foam polyethylene hi-gain lead-in owes its efficiency to the unique arrangement whereby the sponge-like arrangement of the plastic fibers provides thousands of individual but connected cells so arranged that all possible moisture is eliminated between the conductors. This results in the maintenance of a constant impedance and negates the necessity for the sealing or draining of the terminal points. Abrasion and damage from sun or rain are eliminated by the tough outer concentrated polyethylene wall.



Identifying No. FRC300

No. 30 AWG conductors. Each conductor consisting of 7 strands of 28 gauge pure copper. Conductors are imbedded in a foam-like sponge arrangement of brown polyethylene with heavy brown polyethylene outer layer. Outside diameter .297". Impedance 300 ohm. Velocity of propagation 82%. Capacitance 4.5 MMF per foot. 500 and 1000 foot coils.

Identifying No. FRC301

Same as above with non-contaminating jacket for coastal use.

COAXIAL CABLES TRANSMISSION WIRES

Saxton coaxial cables are made to conform with JAN specs and are ideally suited for use with receiver, transmitter, or community installations.



Identifying No. RG59U

Solid bare copperweld No. 22 AWG conductor, pure polyethylene insulation. Bare copper braid shield. Black external vinyl or polyethylene jacket. Diameter .242".
 Atten. at 100 MC 3.74 db per 100 ft.
 Atten. at 200 MC 5.60 db per 100 ft.
 Atten. at 500 MC 9.40 db per 100 ft.
 Impedance 72 ohms
 Velocity of Propagation 67%
 Capacitance 20 mmf per ft.
 500 or 1000 foot spools.



Identifying No. RG8U

7 No. 21 stranded, bare copper conductors (No. 13 AWG). Pure polyethylene insulation. Bare copper braid shield. Black external jacket. Diameter .405".
 Atten. at 180 MC 2.08 db per 100 ft.
 Atten. at 200 MC 3.27 db per 100 ft.
 Atten. at 500 MC 4.75 db per 100 ft.
 Impedance 52 ohms
 Velocity of Propagation 67%
 Capacitance 28.3 mmf per ft.
 500 or 1000 foot spools.



Identifying No. RG11U

7 No. 26 stranded, tinned copper conductors (No. 18 AWG). Pure polyethylene insulation. Bare copper braided shield. Black external jacket. Diameter .405".
 Atten. at 100 MC 1.90 db per 100 ft.
 Atten. at 200 MC 2.84 db per 100 ft.
 Atten. at 500 MC 4.98 db per 100 ft.
 Impedance 73 ohms
 Velocity of Propagation 67%
 Capacitance 20 mmf per ft.
 500 or 1000 foot spools

GROUND RODS BY SAXTON



Saxton ground rods are made in a variety of types and sizes to conform with local regulations and to fulfill the requirements of a particular job.

Identifying No.'s CGR-4, CGR-6

Triple copper plated steel, 3/4" diameter, hand rubbed oil finish. In 4' or 6' lengths as required. Complete with clamp for securing ground wire. Standard package of 25 rods of size designated.

Identifying No.'s ALGR-4, ALGR-6

Solid hard drawn aluminum, 3/4" diameter, special alloy, in 4' or 6' lengths as required. Complete with clamp for securing ground wire. Standard package of 25 of size designated.

REAMER FOR COAXIAL

CABLE

Identifying No. CR

A reaming device for quickly preparing Spirafil or coaxial cables for Tee Tap connection.

PHONOGRAPH WIRE

Identifying No. PW

For use as pickup arm lead. No. 22 stranded with braided copper shield. 500 or 1000 foot spools.

Identifying No. PWW

Same as above with spirally wound, tinned copper wrap around shield and protective vinyl covering. 500 or 1000 foot spools.

