

# LAMPHOUSE ANNUAL

1950 1951



NEW ZEALAND'S LEADING  
RADIO & ELECTRICAL HOUSE

# THE LAMPHOUSE ANNUAL 1950 1951



## FOREWORD

RECORDS BROKEN—Yes thanks to you, our customers all previous sales records were broken last-year. Thanks for your business. Thanks for the hundreds of letters and telegrams in appreciation of our last Annual. Thanks to our staff who gave another year of faithful service.

Yes it makes us very humble when we think of all those to whom we owe our thanks.

Humble with a resolve to repay with a better Annual and better service during 1950-51. A few prices are up, many prices are down, but Lamphouse values remain the best, so does our MONEY BACK GUARANTEE which reads:

"Any goods that are in any way unsuitable may be returned within seven days (from receipt) and your money will be refunded in full".

# ELECTRIC LAMP HOUSE LIMITED

11 MANNERS STREET

WELLINGTON, C.I.

## INDEX

	Page
<b>A</b> CCUMULATORS	36, 46
Adaptors, Electrical	30, 31, 36
Adaptors, Speaker Extension	77
Adhesives	19, 53
Aerial Eliminator	42
Aerial Equipment	Inside Front Cover
	16, 42, 43, 44, 45, 49, 85
Aerial Relay	56
Aerials, Motor-car	43
Aerial Tuning Unit	44, 45, 51
Aeritrol	44
Alligator Clips	73
Aluminium Solder	60
Ammeters	80
Amplifiers	38
Anchor Lugs	72
Appliance Cords	34
Appliance Plugs	32
Appliance Terminals	34
Applicators—Massage Vibrators	7
Arrestors, Lightning	42
Audio Transformers	76
Auto Cable—Inside Front Cover,	37
Auto Lamps	36
<b>B</b> AGS	51, 84
Bakelite, Sheet, Rod and Tube	50, 70
Banana Plugs and Sockets	73
Bargain Parcels	15, 47, 57, 66, 72
Bases, Chassis	54, 55, 68, 71
Bases, Coil	51, 66
Baskets Pressure Cooker	14
Batteries, Accumulators	36, 46
Batteries, "A", "B" and "C"	46
Batteries, Motor-Car	36
Batteries, Torch	21
Battery Cable—Inside Front Cover	75
Battery Clips	73
Battery Chargers	47, 79
Battery Charger, Spares	47
Battery Radio Set—Outside Back Cover	39, 41
Battery Testers	37, 79
Battery Tonic "Tarmag"	46
Battery Welders and Spares	17
Beads, Insulating	34
Bearings	54
Bed Lamps	24, 25, 26
Bed Warmers	8
Bells and Bell Material—Outside Back Cover,	16, 33, 53
Belts, Rubber,	34
Bezels Indicator	63
Bicycle Lamps	21
Bits-Soldering Iron	60
Blocks, Wood	32
Blocks, Era	32
Boards, Terminal	5
Bobbins, Element	35
Bobbins, I.F.	65
Bolts and Nuts	54, 74
Books	42, 50, 83
Boxes, Switch	30
Boxes Tool	19, 84
Boxes Valve	84

	Page
Bowl Buttons and Hooks	29
Bowls Mixer	35
Brackets Dial Lamp	51, 63, 73
Brackets Lamps	24, 25, 29
Brackets Hardware	54, 74
Brass Wire—Inside Front Cover	75
Braid, Shielded	34
Brushes, Carbon	6
Brushes Cleaning (Vacuum)	31
Buckles (Cable Clips)	22, 67
Bulbs (Electric Lamp)	36
Bulbs, Motor Car	47
Bulbs, Charger	51, 62, 63
Bulbs, Panel	21
Bulbs Torch	54, 55
Bushings	43
Button Insulators	29
Buttons Bowl	33, 56
Buzzers, Electric—Outside Back Cover,	57, 60, 84
<b>C</b> ABINETS, (All Types (See "Wire"))	31, 55
Cable Clips	55
Cable Reels—Inside Front Cover,	32
Cable Lug	35
Cabtyre Flex—Inside Front Cover,	48
Caps, Element	34
Caps, Headphones	52
Carbon Brushes	15, 52, 68
Carbon Piles	34
Carbon Resistors	36, 37
Carbons For Health Lamps	19
Car Lamps (Motor) and Accessories,	48
Casein Glue	46
Catwhiskers	29
"C" Batteries	29
Ceiling Flanges (Galleries)	29
Ceiling Plates	30
Ceiling Roses	30
Ceiling Switches and Cords	46
Cells, Dry	19, 53
Cement Adhesives	29
Chain	47, 79
Chargers, Battery	54, 55, 68, 71
Chassis Bases	53, 71
Chassis Plugs and Sockets	33
Chimes, Door	50, 56, 71
Chokes	83
Circuit Books	44
Clamps, Earth	85
Cleaners, Vacuum	43
Cleat Insulators	73
Clips Battery	31, 54
Clips Cable	44
Clips Earth	72
Clips Fahnstock	54, 73
Clips Grid, Screen	27
Clips Shade	6, 15
Clocks, Electric	10, 11
Clothes Dryers	15
Coffee Percolators	51
Coil Bases	19
Coil Dope	65
Coil Former	48, 51, 64, 65
Coils Radio	76
Coils, Speaker Transformer	51, 85
Coils, Transmitter	51, 65
Coil Terminal Bases	45, 51, 64
Coil Tuning Units	52, 71
Condensers, Couplers	37
Condensers, Generator	52, 71
Condensers, Hardware	51, 52, 66, 67
Condensers, Radio	75
Condensers, Wire—Inside Front Cover,	16, 31, 53, 71
Connecting Wire	30
Connectors Wire	8
Conversion Adaptors	14
Cookers Electric—Outside Back Cover,	10
Cookers Pressure	43
Coppers Electric	16, 31
Coppered Staples	63
Cord Connectors	34
Cord Dial	30
Cords, Appliance	48
Cords, Ceiling Switch	24
Cords, Headphones	30
Cords, Lighting Extension	48
Cords, Microphone—Inside Front Cover	20
Cord, Switches—Inside Front Cover,	52, 71
Counters	6
Couplers, Condensers	57
Crocodile Clips	48, 65
Crystal Microphones	11
Crystal Pickups	48
Crystal Sets and Parts	11
Cupboard Heaters	48
Cushions, Headphones	21
Cycle Lamps and Spares	8

	Page
<b>D</b> ARNALITES	83
Data Book	16, 75
D.C.C. and S.C.C. Wire	5
Decoration Lamps	48
Detectors, Crystal	15, 52, 62, 73
Dial Accessories	15, 52, 63
Dial Knobs	51, 62, 63
Dial Lamps	15, 52, 61, 62, 63
Dials	51
Dial Unit and Receiver Gang	37
Distributor Suppressors	74
Dome Nuts	33
Door Chimes and Bells—Outside Back Cover,	46
Dry Cells	10, 11
Dryers, Clothes	23
Dryers, Hair	47, 55
Dry Rectifiers	23
Dry Shavers	21
Dynamo Cycle Outfit	48

	Page
<b>E</b> AR CAPS, TELEPHONE	20, 48
Earphones	44
Earth Clips	44
Earth Wires	50, 70
Ebonite Rod and Tube	43, 49
Egg Insulators	8
Electric Bed Comfort (Warmers)	8

	Page		Page		Page
Electric Bells and Buzzer —Outside Back Cover	16	Glass and Glasses, Sundry	52	Lamps Fluorescent	11
Electric Clocks	6, 15	Glasses (Well)	29	Lamps Floor	24
Electric Clothes Dryer	10	Globes (Lamps)	21, 22, 36	Lamps Health	7, 8, 85
Electric Cookers —Outside Back Cover	8	Gloria Perm. Wave Outfit and Spares	23	Lamps Inspection, Hand	16
Electric Coppers	10	Glue	19	Lampshade Fittings	27
Electric Cupboard Heaters	11	Goat Valve Shields	74	Lampshades	6, 27, 28
Electric Fans	15, 16, 18	Gramophone Needles	5	Lamps, Motor Car	36
Electric Fires	8, 9	Gramophone Pick-ups	5	Lamps, Night	5
Electric Foodmixers	15	Gramophone Units	57	Lamps, Panel	62
Electric Footwarmers	8	Grid Clips	54, 73	Lamps, Reading	24, 25, 26
Electric Gaslighters	8	Grid Wire	75	Lamps, Sun	8
Electric Grinders	16	Grinders Electric	16	Lamps, Table	24, 25, 26
Electric Hair Dryers	23	Grommets	54, 74	Lamps, Torch	21
Electric Hair Waver and Spares	23			Lanterns Dualite	5
Electric Health Lamps	7, 8	<b>HACKSAW BLADES</b>	19	Laundry Equipment	10, 11, 12
Electric Immersion Heaters	6, 13	Hair Dryers	23	Laundry Irons	12
Electric Irons and Ironers	11, 12	Hair Waver and Spares	23	Lead-In Tubes	43
Electric Jugs	13	Hammers	50	Lead-In Wire	42
Electric Kettles	11, 13	Hand Lamps, Inspection	16, 57	Lever Switches —Inside Back Cover	70
Electric Lamps	22, 24, 25, 67	Handles, Iron and Jug	34	Lids Jug	34
Electric Motors	18	Handsets, Telephone	20, 56	Lighting Fittings	25, 29
Electric Percolators (Coffee)	15	Hardware	53, 54, 55, 71, 72, 73, 74	Lightning Arrestors	42
Electric Pokerwork Sets	17	Haversacks	84	Line Filters	16, 45
Electric Radiators	8, 9	Headphones and Spares	48	Loop Aerials	44, 64
Electric Radios	39, 40, 41	Headphone Transformers	50, 76	Low Frequency Chokes	50, 71
Electric Ranges —Outside Back Cover	18	Headlamps	15	Lugs	55, 73
Electric Sewing Machine Motors	23	Health Lamp and Spares	7, 8, 34, 85	Lubricating Oil	19
Electric Shavers	23	Heating Pads	8		
Electric Soldering Irons	60	Heaters, Electric (Fires)	8, 9	<b>MACHINES SEWING TOY</b>	33
Electric Sun Lamps	8	High Tension Batteries	46	Magic Eye Assembly	79
Electric Switches	16, 30, 31	High Frequency Chokes	50, 71	Magic Eye Escutcheons	63
Electric Table Lamps	24, 25, 26	Hikers One Coils	65	Magnets	20
Electric Table Stoves	8	Hikers One Sets	111	Massage Vibrators and Spares	7
Electric Toasters	12	Holders, Fuse	32, 56, 73	Mast Base	49
Electric Torches	5, 6, 15, 16, 21	Holders, Lamp	31, 36, 73	Mastless Aerials	42
Electric Urns	14	Holders, Lampshades	29	Medical Lamp	7, 8, 85
Electric Vacuum Cleaners	85	Holders, Valve	53, 69	Metal Rectifiers	47, 55
Electric Vibrators	7	Hooks, Bowl	29	Meters	13, 47, 55, 79, 80
Electric Water Heaters	6, 13, 14	Hooks, Insulated	8, 31	Meter Push Switch	53, 70
Electric Washers	10	Hooks, Lid	54	Meter Rectifiers	55
Electrodes and Spares Welder	17	Hook up Wire	75	Meter Shunts	79
Electrolytic Condensers	52, 66	Hoses Vacuum Cleaner	6	Mica Condensers	66
Electrotors	18	Hot Plate (Range)	34	Micro-Amp Meter	13
Element Formers	35	Hot Plate (Table)	8	Microphone Cable	75
Elements, Electric	6, 7, 14, 34, 35	Hotshot Batteries	46	Microphone Cords —Inside Front Cover	
Elements, Soldering Iron	60	Hydrometer and Spares	37, 79	Microphones	6, 20, 56
Eliminators, Aerial	42	<b>IMMERSION HEATERS</b>	6	Microphone Transformers	50, 56, 76
Eliminators, Interference	16, 42	Indicators, Neon	79	Minute Timers	85
Ensign Radios	39, 40, 41	Indicator Plates	15	Millammeters	55, 80
Enamelled Wire	75	Indicator Knobs	15	Mixer Bowls	35
Era Connectors	31, 32	Indicators, Dial	15	Mixers, Food	15
Escutcheons	63	Indoor Aerials	42	Model Motors	18
Exciter Unit, Transmitter	51	Infra Red Lamps	7, 85	Modulation Transformers Chokes	50
Extension Cords, Lighting	24	Inspection Hand Lamps	16, 37	Morse Keys —Inside Back Cover	56, 57
Extension Speaker Adaptors	77	Instruction Course, Radio	83	Morse Practice Sets	57
Extension Speaker Cabinets	57, 60, 77	Instrument Knobs	63	Motor Car Aerials	43
Extension Speakers	5, 77	Insulated Screws Eyes	8, 31	Motor Car Batteries	36
Eyelets	55	Insulated Staples	33, 43	Motor Car Cables —Inside Front Cover	
		Insulated Beads	34	Motor Car Cables	37
		Insulated Panels	50, 70, 74	Motor Car Fuses	37, 56
<b>FAHNSTOCK CLIPS</b>	72	Insulating Rod and Tube	50, 65, 70, 75	Motor Car Lamp Holders	36
Fans, Electric	15, 16, 18	Insulating Tape	75	Motor Car Lamps	36
Felts, Dial Knob	63	Insulating Washers	54, 74	Motor Car Radio Sets	39
Fence Insulators	43	Insulating Varnish	19	Motor Car Radio Suppressors	37
Ferrules	55	Insulators	43, 44, 49	Motor Car Switches	30
Fibre Washers	74	Instrument Knobs	52	Motor Cycle Batteries	36
Field Cable	75	Intercommunication Sets	20	Motor Pulleys	18
Filament Transformers	50, 76	Interference Suppressors	16, 45	Motors, Electric	18
Filter Chokes	50	Intermediate Frequency Transformers	51, 64, 65	Motors, Gramophone	57
Filter Condensers	52	Intermediate Frequency Transformer Bases	66	Motors, Sewing Machine	18
Filter Line	16, 45	Iron Elements and Spares	34	<b>NEON INDICATORS</b>	79
Fires, Electric	8, 9	Ironing Machines	11	Needles, Pick-Up	5, 57
Firmo Plastic Solution	53	Irons, Household	12	Needles, Toy Sewing Machine	33
Fittings, Lighting	25, 29	Irons, Soldering	60	Nichrome Wire —Inside Front Cover	
Fittings, Well Glass	29	Iron Stand —Outside Back Cover		Night Lights	6, 75
Fixed Condensers	52	<b>JACKS, Phone and Tip</b>	56, 69, 72	Nipples	5
Flanges	29	Jugs, Electric	13	Notennas	29
Flashlights	5, 6, 15, 16, 21	Jug Elements and Spares	6, 34	Nuts, Lock	42
Flexible Lead-ins	43	<b>KETTLES, ELECTRIC</b>	11, 13	Nuts, Lock and Bolts	53
Flexible Wires —Inside Front Cover	32	Kettle Elements and Spares	34	Oil Lubricating	19
Floor Lamps	24, 25	Key Relays	56	Opal Shades	28
Floor Polishers	85	Keys Morse —Inside Back Cover	57	Output Transformers	76
Fluorescent Lamps and Spares	11	Kits, Aerial	42	<b>PACKETS; SURPRISE</b>	57
Flush Switch and Plugs	16, 30, 53	Kits Coil	64, 65	Padding Condensers	52, 66
Flux, Welding	17	Kitchen Tidy	17	Pads, Heating	8
Food Mixers	15	Kitsets Plastic	85	Panel Bearings	54
Foot Controls (Sewing Motors)	18	Kit Sets, Radio	58, 59	Panel Lamps	62
Foot Warmers	8	Knife Switches	43	Panels Insulating	50, 70, 74
Formers, Choke	50	Knobs, Dial	15, 52, 63	Paper Tubing	50
Formers, Coil	65	Knobs, Toaster and Jug	34, 35	Parcels, Bargain	15, 47, 57, 66, 72
Formers, Element	35	<b>LAMP BRACKETS DIAL</b>	51, 63, 73	Parchment Lamp Shades	27, 28
Fuse Holders	32, 56	Lamp Brackets, Lighting	24, 29	Paste, Soldering	60
Fuses, Motor Car	37, 56	Lampholders	31, 36, 73	Pear Pushes (Bell)	33, 53
Fuses, Range	32	Lamphouse Circuit Book	83	Percolators, Electric	15
Fuse Wire	32	Lamphouse Data Book	83	Permanent Waving Outfit and Spares	23
		Lamphouse Instruction Course	83	Phone Cords	48
<b>Galleries (Lamp Shades)</b>	29	Lamps Bed	24, 25, 26	Phone Cord Tips	69
Galvanometers —Inside Back Cover		Lamps Cycle	21	Phone Jacks	69
Games and Toys	20, 33	Lamps Decoration	5	Phone Plugs	69
Ganged Condensers	51, 52, 66, 67	Lamps Dial	51, 62, 63	Phones, Head	68
Gas Lighter and Spares	8	Lamps Electric (Globe)	21, 22, 67	Pick-Ups	5, 57
Generator Condensers	37				
Generators Cycle	21				
Glass Plates	74				

Pick-Up Needles	5, 57
Piles, Carbon	52
Pillow Speakers	77
Plastic Kitsets	85
Plastic Lamphshades	27, 28
Plastic Wood	19
Plates, Aerial-Earth	43
Plates, Dial	15, 52, 62, 63
Plates, Glass	74
Plates, Switch	30, 53
Plugs Appliance	32
Plugs and Sockets, Chassis	53, 71, 73
Plugs, Banana	73
Plugs, Electric	5, 30, 31, 84
Plugs, Phone	69
Plugs, Speaker	53, 69
Plugs, Wander	55
Poker Work Machines and Spares	17
Pole Changers —Inside Back Cover	
Polishers, Floor	85
Portable Radios —Outside Back Cover	
Portable Set Aerials	44, 61
Potentiometers	68
Power Supply, Vibrator	47
Power Packs	47
Power Transformers	76
Pressure Cookers	14
Prods, Test	79
Pulleys	18, 43, 54
Pushback Wire	75
Pushes, Bell	16, 33, 53
Putty	19
<b>"QUICKMEND"</b>	19
<b>RADIATOR ELEMENTS</b>	35
Radiators, Electric	8, 9
Radio Batteries	46
Radio Circuit Book	83
Radio Coils	64, 65, 85
Radio Data Book	83
Radio Frequency Chokes	50
Radio Instruction Course	83
Radiometer	80
Radio Set Cabinets	60, 84
Radio Sets, Crystal	48
Radio Sets, Electric	39, 40, 41
Radio Sets, Portable —Outside Back Cover	
Range Elements	34
Range Fuses	32
Ranges, Electric —Outside Back Cover	
Range Spares	32
Range Switches	16, 30
Razors, Electrical	23
Reading Lamps	24, 25, 26
Record Changers	57
Rectifiers (For Chargers)	47
Rectifiers Meter	55
Red Diamond Crystal Detectors	48
Reels, Metal —Inside Front Cover	
Reflectors	28
Relays —Inside Back Cover	56
Remote Control Units	56
Resin Cored Solder	60
Resistance Boxes —Inside Back Cover	
Resistance Wire —Inside Front Cover	6, 75
Resistors, Fixed	15, 52, 68
Resistors, Variable —Inside Back Cover	16, 68
Resistors, Wirewound	16, 52, 68
Rheostats —Inside Back Cover	68
Rivets	55
Rods, Brass Aerial	49
Rod, Insulating	50, 70
Rods, Pendant	25
Rods, Threaded	74
Rope	16
Rubber Grommets	54, 74
Rubber Washers and Rings	34, 74
<b>SADDLES</b>	54
Satchels, Canvas	84
Scales, Dial	52, 62
Screen Grid Clips	54, 73
Screened Wire	75
Screws (Flush Switch)	30
Screws	54, 74
Screw Drivers	5, 19
Screw Eyes (Insulated)	8, 31
Sets, Kit	58, 59
Sets, Radio —Outside Back Cover	40, 41, 48
Sewing Machine Motors	18
Sewing Machines Toy	33
Shackle Insulators	43
Shackles Iron	16
Shade Holders and Clips	27, 29
Shades, Lamp	6, 27, 28
Shaft Adaptors and Connectors	52, 71
Shavers, Electric	23
Shaver Spares	23
Shaver Transformer	76
Shielded Wire —Inside Front Cover	75

Shielded Braid	75
Shields, Valve	53, 74
Shunts, Meter	79
Silk, Speaker	77
Sockets, Banana	73
Sockets, Chassis	51, 71, 73
Sockets, Lamp	31
Sockets, Valve	53
Sockets, Vibrator	47
Soldering Irons and Material	19, 60
Soldering Iron Spares	60
Soldering Lugs	73
Solder Liquid	19
Solenoids	53
Sounders —Inside Back Cover	
Spacers, Metal	54
Spaghetti Tubing	75
Spark Plug Suppressors	37
Speaker Cabinets	57, 60, 77
Speaker Cable	77
Speaker Cord Tips	69
Speaker Extension Adaptors	77
Speaker Extension Cord —Inside Front Cover	
Speakers Extension	5, 77
Speaker Plugs	53, 69
Speakers	5, 77, 78
Speaker Silk	77
Speaker Transformers	76
Spiral, Elements	35
Sprayers Vacuum Cleaner	6
Spring Aerials	42
Springs, Carbon Brush	34
Springs	34, 35, 54
Staples	33, 43
Standard Lamps	24, 25
Stands, Iron —Outside Back Cover	
Stay Mast Sets	49
Step-Down Transformers	76
Stoves, Table	8
Sun Lamps	8
Surprise Packets	57
Suppressors, Noise	16, 37
Supremacy Game	20
Switches, Electric	16, 30, 31, 53
Switches, Knife	43
Switches Lever —Inside Back Cover	70
Switches Motor Car	30, 53
Switches Radio —Inside Back Cover	16, 53, 70
<b>TABLE LAMPS</b>	24, 25, 26
Table Lamp Switches	30
Table Stoves	8
Tank Heater Elements	35
Tape, Insulating	75
Tapons	31
Tarmag	46
Telegraph Equipment —Inside Back Cover	20
Telephone Ear Pieces	20
Telephone Hand Sets	20, 56
Telephones, Head	48
Terminal Boards	5, 73
Terminals, Appliance	34
Terminals, Radio	16, 55, 69, 72, 73
Terminal Strips	72
Testing Equipment and Meters	13, 37, 47, 55, 79, 80
Test Prods	79
Threaded Rods	74
Thermometers	6
Tilters Shade	29
Timers, Minute	85
Tip Jacks	69, 72
Toasters, Electric	12
Toasters, Elements and Spares	35
Toaster Trays	13
Toggle Switches	53, 70
Tone Controls (Potentiometers)	68
Tool Boxes	19, 84
Tools, Vibro	17
Torch Bulb Holders	73
Torches	5, 6, 15, 16, 21
Torch Batteries	21
Torch Lamps	21
Toy Motors	18
Toys and Games	20, 33
Transformers, Audio	76
Transformers, Bell	33
Transformers, Filament	50, 76
Transformers, Headphones	50, 76
Transformers, I.F.	51, 64, 65
Transformers, Microphone	50, 56, 76
Transformers, Output	76, 78
Transformers, Power	76
Transformers, Shavers	76
Transformers, Speaker	76, 78
Transformers, Step-Down	76
Transformers, Valve Testing	76
Transformers, Vibrator	50, 76
Transmitter Exciter Unit	51
Transmitters Telegraph —Inside Back Cover	
Transmitting Coils	51
Traps, Wave	44, 45

Trays, Toaster	13
Trickle Chargers	47
Trimmer Condensers	52, 66, 67
Trouble Lamps	16, 37
Tru-Rip Flex	32
Tubes, Lead-in	43
Tubes (Valves)	62, 81, 82, 83, 84
Tubing Insulating	50, 65, 70, 75
Tubing, Spaghetti	75
Tubular, Condensers	52, 66
Tuners, Radio	45
Tuning Units	51, 64
Tuning Indicators	79
Tungar Bulbs	47

<b>ULTRA-VIOLET LAMPS</b>	8
Units, Remote Control	56
Units, Tuning	51
Urns, Electric	14

<b>VACUUM CLEANERS</b>	85
Vacuum Cleaner Spares	6, 34
Valve Boxes	84
Valves	62, 81, 82, 83, 84
Valve Shields	53, 74
Valve Sockets	53, 69
Valve Testers	79
Valve Testing Transformers	76
Variable Condensers	51, 52, 66, 67
Variable Resistance	68
Varnish, Insulating	19
Vibrator Chokes	49
Vibrators, Massage	7
Vibrators, Radio	47, 50
Vibrator Transformers	50, 76
Vibro-Tools	17
Voltage Dividers	68
Voltage Reducers	50
Volt Meters —Inside Back Cover	80
Volume Controls	68

<b>WALL BRACKETS</b>	24, 29
Wall Plugs	5, 31
Wander Plugs	55
Warmers, Bed	8
Warmers, Foot	8
Washers, Insulating	54, 74
Washers, Metal	54, 55
Washers, Rubber	34, 54, 74
Washing Boilers, Electric	10
Watch Cases	52
Water Heating Appliances	6, 10, 11, 13, 14
Water Heating Elements	14, 35
Watertight Fittings	29
Water Putty	19
Wave Change Switches —Inside Back Cover	53, 70
Wave Traps	44, 45
Wavers, Hair and Spares	23
Welders, Electric (Battery) and Spares	17
Well Glass Fittings	29
Windings, Element	35
Windings, Transformers	76
Wing Screws	74, 85
Wire, Aerial —Inside Front Cover	16, 42
Wire, Brass —Inside Front Cover	
Wires, Battery Cable —Inside Front Cover	75
Wire Bell	33, 75
Wire Cabtyre —Inside Front Cover	32
Wire Connecting —Inside Front Cover	75
Wire D.C.C.	16, 75
Wire Earth	42
Wire Enamelled	75
Wire Field Cable —Inside Front Cover	
Wire Flexible —Inside Front Cover	32
Wire Fuse	32
Wire Lead-In —Inside Front Cover	42
Wireless Jug Elements	6
Wireless Sets —Outside Back Cover	39, 40, 41, 48
Wire Microphone —Inside Front Cover	75
Wire, Motor Car —Inside Front Cover	37
Wire, Pushback	75
Wire, Range	32
Wire, Resistance —Inside Front Cover	6, 75
Wire, Shielded —Inside Front Cover	75
Wire, Speaker —Inside Front Cover	75, 77
Wire, Tinned Copper —Inside Front Cover	
Wire, Tinned Earth	44
Wire, T.R.S. —Inside Front Cover	
Wire, V.I.R. —Inside Front Cover	32
Wire, Wound Resistors	6, 75
Wood Blocks	32
Wood Plastic	19
Wood Screws	74

# CONTENTS

## LAMPHOUSE CATALOGUE

	Page
Catalogue Index .. .. .	1-3
General Information .. .. .	4
Catalogue .. .. .	5-85

## SPECIAL FEATURES

Station Log of Australian, New Zealand and Shortwave Stations .. .. .	103-111
R.C.A. Valve Chart—Characteristics of most types of American Valves .. .. .	116-128
Circuit Review .. .. .	97-101
Easy-Built Receivers .. .. .	90, 92, 98, 113

## CIRCUITS AND CONSTRUCTIONAL ARTICLES

	Page
Airline Battery Four .. .. .	86
Skyhawk Four (electric) .. .. .	88
Loudspeaker Crystal Set .. .. .	89
Easy-Built Octal Hiker's Two .. .. .	90
Easy-Built Five .. .. .	92
Oxford Crystal Set .. .. .	97
Popular One .. .. .	97
Easy-Built Clipper Four Portable .. .. .	98
Oxford Morse Oscillator .. .. .	99
Hiker's Octal Amplifier .. .. .	99
Oxford Electric Fence .. .. .	99
Belltone Amplifier .. .. .	100
Radiotron Amplifier .. .. .	100
10-Range Meter .. .. .	101
Simplex Universal Valve Tester .. .. .	101
Easy-Built Bedroom Three .. .. .	112

## GENERAL ARTICLES

	Page
Fluorescent Lighting in New Zealand .. .. .	87
Hints for DX Listener .. .. .	94
Conversion Table .. .. .	94
Handy Information .. .. .	102
Resistor Colour Code .. .. .	102-3
Connecting a Pick-up .. .. .	102
R.M.A. Colour Codes .. .. .	103
Australasian Broadcast Log .. .. .	103
Short-wave Station Log .. .. .	104
Conversion Table (Metres to Kc.) .. .. .	109
Short-wave Coil-winding Data .. .. .	109
North American Broadcast Log .. .. .	110
Hiker's One .. .. .	111
Radiotron Valve Chart .. .. .	116

# GENERAL INFORMATION

**PRICES:**—The prices in this Catalogue should be taken as an indication only. Prices are fluctuating rapidly and all orders will be executed at the prices ruling at the date of supply.

**TERMS OF BUSINESS.**—Our terms are cash with order. We buy for cash and sell for cash—that's why our prices are lower. If it is desired we will hold any moneys of regular customers in a deposit account for future purchases, otherwise any balance due will be returned with the goods.

**HOW TO ORDER.**—Order forms are always available for your convenience. It is only necessary to quote the catalogue number and short description when ordering, such as AE415—Iron Element.

**CATALOGUE NUMBERS.**—The first letter (A) of the number is for our reference. The balance of the catalogue number will always remain the same for the same article.

**FREIGHT.**—We pay freight on all retail orders over £1 value. Please include sufficient cash for postage on small orders.

**GUARANTEE.**—Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

**REFERENCE.**—Our Bankers are the National Bank of New Zealand, Ltd., Courtenay Place, Wellington.

**RETURNS.**—Should it be necessary to return goods, always put in a slip of paper with your name and address. When returning goods for credit or exchange, state invoice number in covering letter to ensure prompt attention.

**TELEGRAMS.**—Address telegrams to "Lamphouse," Wellington.

**REMITTANCES.**—Enclose cheque, pound notes, postal note, or money order to the full amount of your order. If you send coin or bank notes, be sure to register the latter. Make cheques and postal notes payable to the "Electric Lamphouse, Ltd., and keep numbers for reference.

**DELIVERY.**—We endeavour to maintain a same day dispatch service. This is not always possible as at times goods have to be specially procured, and at times exceptional rushes take place. It is very seldom, however, that an order is held for more than one day after receipt.

**SUBSTITUTES.**—As at times we may be out of stock of the exact article you require we suggest that you indicate on your order whether or not you wish us to substitute with similar articles in the event of the goods ordered being out of stock.

**POSTAL ADDRESS.**—All orders and general correspondence should be addressed to—

## The Electric Lamp House Limited

11 MANNERS STREET - - - WELLINGTON, C.1.

Telephones 43-015 and 43-016

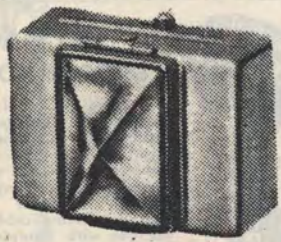
## A SUGGESTION

As it is much easier for us to make a refund along with your receipt than for you to get stamps or postal notes to remit a small balance that may be left owing when your receipt is sent, would it not save you inconvenience if you were always to send ample cash to allow for freight, etc.? We will refund the difference, or place it to your credit, according to your instructions. Do as hundreds of our customers do, send a blank cheque, which we will fill in when we have totalled your order. You can write across the top of the cheque "Not to exceed £5"—or £10, or £20, as the case may be.

# THE LAMPHOUSE CATALOGUE

1950 1951

### GEM HANDBAG TORCH



For pocket or handbag. Effective diamond-shaped glass lens, with plated bezel. Assorted metal cases anodised finish. Dimensions, 2 1/2 in. x 1 1/2 in. x 1 1/2 in.  
 Cat. No. AT820A—Complete with battery **5/11**  
 Battery used. Cat. No. AB203 **11 D. each**

### NIGHTLIGHT

Burns for 600 hours and only consumes one unit of electricity. Save on your light bills—save electricity. Leave a light burning all night at practically no cost. Plugs into any light socket. Transforms 230 volt current to 6 volts and torch-type bulb screws into end. Length 3 1/2 inches. Diameter, 1 1/2 inches. Ideal for sick-rooms, night lights, passages, lavs., etc., etc.  
 Cat. No. AF750—Nightlight complete with bulb. **8/2**



### GOLDRING PICK-UPS

Combine advantages of light weight with standard model. Have high outputs, good bass response and easy needle changing. Wide-frequency range and light record wear. Suitable for use with steel, fibre, or sapphire needles.



Bantam model, brown plastic. Cat. No. AP312 **30/9 each**



Super ivory plastic model. Cat. No. AP313 **40/6 each**  
 Goldring Sapphire Trailer-type Pick-up needles.

### DUALITE LANTERN

Amazing all-purpose lantern with two light sources—a spot beam with 800ft. penetration or a brilliant general purpose light. Controlled by change-over switch. Uses a 6-volt lantern battery giving many hours of unfailing light at very low cost. Reversible wide arm handle and grip handle at the rear. All cadmium steel body, grey finish, built very strongly. Complete with 2 bulbs and battery. Dimensions, 9 in. x 6 1/2 in. x 7 in. Weight, 2 1/2 lb.  
 Cat. No. AT790A— **40/6**  
**6/6**



Spare batteries. Cat. No. AB223—

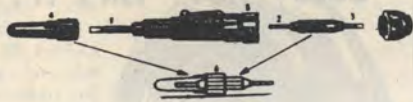
### EXTENSION SPEAKER



Mullard Extension Speaker in moulded plastic case, 8 in. in diameter, equipped with 5 in. P.M. speaker complete with volume control. Colours: brown, cream, pastel green, light mottled red, dark mottled red.  
 Cat. No. AS998 **64/6**

## NEW GOODS OFFERED ON THIS PAGE HAVE NOT PREVIOUSLY BEEN IN THE LAMPHOUSE ANNUAL.

### 3-IN-1



The large blade (1) is firmly fixed in barrel (5) and cannot be removed. The combined medium and small blades (2 and 3) can be used separately, or to give better grip, inserted either way into protector cap (4) which is specially shaped inside to hold them firmly.  
 Screwdrivers, plastic case. Three different size blades invaluable for those small jobs at home and in workshop where you want a fine screwdriver for small slots, etc. Clip for vest pocket.  
 Cat. No. AU3B **2/3**

### NEW DOUBLE PLUG



New type of double, three-pin plug which allows 2 appliances etc., to be used from one socket.  
 Cat. No. AG435— **4/9 each**

### TERMINAL BOARDS



Terminal Boards of moulded insulating material provided with holes for mounting resistors, condensers, etc. Size, 4 1/2 in. x 2 1/2 in. x 3-16 in. thick. **9 D. each**  
 Cat. No. AX1089

### PIFICO DECORATION SETS



Comprising 12 lights with bell-shaped bakelite shades in assorted pastel colours and decorated with 12 different nursery rhyme scenes in artistic colourings. Complete with 17 feet of flex, spare bulb and adaptor to fit light socket. Attractively cartoned; for 200 to 250 volts.  
 Cat. No. AF932 **39/6**

### MONEY BACK GUARANTEE

Any goods which prove in any way unsuitable may be returned within 7 days from receipt and your money will be Refunded in Full!

ALL PRICES IN THIS CATALOGUE ARE SUBJECT TO ALTERATION WITHOUT NOTICE.

# TORCHES

Just landed—dependable torch cases from Hong Kong—well known "Telephone" brand. Heavy brass, bright nickel-plated bodies. Reliable turn head focus. Good switch. All prices include bulb and batteries.



Cat. No. AT857A—5-cell .. .. **16/7**



Cat. No. AT883A—2-cell Standard **6/11**



Cat. No. AT839—2-cell Large Head **7/5**



Cat. No. AT842—3-cell Large Head **9/4**

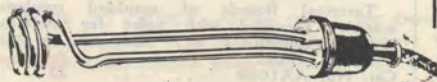
## RESISTANCE RIBBON

The following resistance ribbons are available from stock:—  
Cat. No.

Cat. No.	Resistance Ribbon (approx.)	25ft. coils	Resistance (ohms per yard)
CW 385	1-16in. x .0035	25ft.	7.635
CW 386	1-16in. x .004	25ft.	5.709
CW 387	1-16in. x .0045	25ft.	5.081
CW 388	1-16in. x .005	25ft.	10.04
CW 390	1-32in. x .005	25ft.	8.072
CW 391	1-32in. x .006	25ft.	4.2
CW 395	1-32in. x .010	25ft.	36.07
CW 398	1-64in. x .003	100ft.	

**ALL  
2/6  
PER  
REEL**

## EUTRON IMMERSION HEATER



A better class Immersion Heater. Can be placed in a vessel containing water, milk or other liquid. Boils quickly and economically—1000 watts. Length 8½ inches. Twelve months' guarantee. **20/- each**  
Cat. No. AE153

## "DARNALITES"



Illuminated Darner. Ladies! This is just the ideal thing for darning stockings or other fine work. The rays from the lighted top really penetrate the material you are darning, making "light" work of an otherwise tedious job. Complete with battery and globe. **6/5**  
Cat. No. AT770—Complete

## COLD! HOT! ISN'T IT?



Tell how really cold or hot it is with a "Thermodial". Attractive plastic cased clock face. British made thermometer, 4½in. high, 5in. wide, 1½in. deep. Very attractive and useful gift. **31/- each**  
Cat. No. AU169

## ANGLE LAMPSHADE



Metal lampshade, white inside. Designed for use with flexible arm and other desk lamps, 5½in. diameter. **6/- each**  
Cat. No. AF967

## VACUUM CLEANER SPARES

To suit Knight, Dome and many other brands of English cleaners.

Cat. No. AE204—Round Brushes ..	Each 12/4
Cat. No. AE207—Oval Brushes ..	15/7
Cat. No. AE206—Nosie Parker Attachments ..	5/8
Cat. No. AE203—Flexible Hoses with metal ends ..	38/1
Cat. No. AE208—Carpet Attachment ..	6/9
Cat. No. AE209—Motor Housings ..	10/2
Cat. No. AE210—Dust Bags ..	6/1
Cat. No. AE212—Spraying Attachment ..	13/6
Cat. No. AE240—Caps for Carbon Brushes ..	9d.



## CRYSTAL MICROPHONES

Technico Crystal Microphones. Diameter 2in., depth 3in. Chrome fittings. Head swivels on mounting connecting piece which is threaded for fitting on to stands. Supplied complete with connecting cable. Ideal for use with Lamphouse and other amplifiers. Full instructions for use with different types of circuits.

Cat. No. AM167—  
**149/- each**

## ROSS BATTERY CLOCKS

These clocks are powered by a single torch cell. No winding. No connections to electric supply. No attention whatsoever, except once every 6 months you put in a new cell costing ninepence. Wall model clocks available in red, ivory and green plastic. Diameter of case 8½ inches.



Cat. No. AE879 .. .. **£5/19/6**

## JUG SPARES



## THE "WIRELESS" JUG ELEMENT

The Element that can't burn out even if the jug is boiled dry. No spiral windings, etc. Can be easily fitted to any make of porcelain jug. Instructions with each element. Patented principle. **10/- each**  
Cat. No. AE1181 .. ..

# THE "HAYMAN" INFRA RED

# HEALTH LAMPS



As supplied to the Auckland Hospital Board and many other hospitals throughout New Zealand. These Lamps allow you to obtain exactly the same Infra Red Treatment as given in many of the leading hospitals. Specially designed for use in Hospital Massage Departments, Surgeries, Clinics, Convalescent Homes, Institutions, and in private homes.

### SPECIAL FEATURES INCORPORATED ARE:

Infra Red Radiating Element, emitting genuine Infra Red Rays, specially designed for heavy duty performance and long life; tested and proved by medical experts.  
 Non-luminous type Element. Special brightly polished reflector to give the right focus of rays to location under treatment.  
 Switch on bowl to control the Element without disconnection of Wall Plug or Light Socket.  
 Strong, quick-fixing swivel joints which hold the lamp down firmly in any desired position, vertical or horizontal, with a very wide range of movement.  
 Strong, heavy cast base prevents standard from falling over. Attractively finished in bright nickel-plating, and wrinkle-finish baked enamel. Infra Red Ray treatment is recommended for Rheumatism, Sciatica, Neuritis, Gout, Neuralgia, Lumbago, Toothache, Earache, Sprains, Insomnia, Chilblains, Boils, Septic Sores, and for healing open wounds and lacerations. Ask your doctor.

**TREATMENT:** Apply the Rays to the bare skin, keeping the bowl about 18 inches away, or according to the sensitiveness of the skin of the patient. The Rays should always be a comfortably strong warmth, and should never be allowed to be so close as to be unbearably hot. The Lamp should be adjusted to suit individual requirements.

Duration of treatment should be according to medical advice, but 20 to 30 minutes is usually long enough for the first treatment, 2 or 3 times daily, according to the ailment and measure of relief received. Longer treatments can be given when accustomed to the Rays.

Before commencing treatment, the patient should be made comfortable on a bed or chair so as not to be weary during the period of treatment



**FLOOR TYPE**  
 Cat. No. AE85—  
**£11/2/6**

**TABLE TYPE**  
 Cat. No. AE86—  
**£5/7/9**

Supplied Complete with Flexible Cord.

**SPARE ELEMENTS ARE AVAILABLE—**

Cat. No. AE87 .. .. . **25/9**

## Invigorating Health

When you use the new

### "PIFCO" Electric Massager VIBRATOR

The clear, fine textured youthful complexion that everyone admires and every woman envies originates deep in the tissues below the surface. Unless this tissue is constantly and healthily renewed by the blood stream the visible skin loses its fresh colour and vitality. Age lines develop and curves tend to sag. The Pifco Electric Massager stimulates a healthy circulation of the blood, invigorating the tissue, washing away waste products, keeping it vital and healthy. It tones up the underlying muscles, promotes the removal of fatigue poisons, and stimulates the dispersal of unwanted fatty accumulations. It loosens up tight, strained shoulder and neck muscles; sends relaxed waves over tired faces; tingles the scalp to a lively glow, makes the skin feel fresh and alive, and it is so simple and easy to use. Eases pain and acts as a tonic to the system. An instruction booklet giving full details plus Two Charts on how and where to use for different ailments is supplied with each Vibrator.

### MODERN BEAUTY TREATMENT IN YOUR OWN HOME!

For A.C. Current—on 200 to 250 Volts Inclusive



### Four Special Applicators:



#### FOR FACE MASSAGE.

The sponge rubber applicator for gentle massage. It sends soothing and relaxing waves over tired faces.



#### FOR NECK MASSAGE.

The flat rubber applicator loosens-up strained or tight shoulder and neck muscles, and is also used for bust development.



#### FOR BODY MASSAGE.

If your body is fatigued or your limbs ache, the hard applicator will drive away that lethargy and make the muscles supple and active.



#### FOR SCALP MASSAGE.

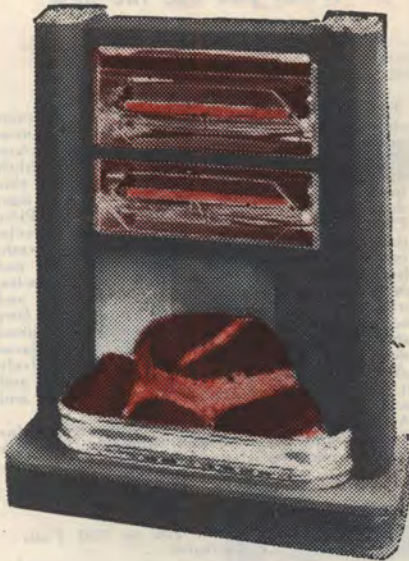
The spiked rubber applicator imparts strength and gives lustre to the hair. Dandruff is removed and the scalp made healthy. It lifts your head into the clouds.

Beautifully finished in Ivory Plastic Casing.

Cat. No. AE79 .. .. . **£5/5/6**



**"ULTIMATE" IMITATION COAL FIRES**



A well made 2000 watt Radiator incorporating the imitation "heaped-coal" effect. Switch on side enables elements to be controlled individually. The fire is finished in a light crackle finished grey or cream colour while all the trimmings are in chromium. Dimensions: Height 26in., Width 20in., Depth 8in.

Cat. No. AE381 .. .. **£14/15/9**

**"ERGON" ULTRA VIOLET HEALTH LAMPS**



The "Ergon" is a Carbon Arc Ultra Violet Lamp combined with Infra Red. The carbons, which are prepared from certain chemicals, emit Ultra Violet Rays. The Spiral emits simultaneously Infra Red. Ultra Violet Rays are invaluable in the treatment of various diseases and ills, but before buying for this purpose—**CONSULT YOUR DOCTOR!**

Daily sunbathes with this Lamp will not only keep you fit and raise your resistance to winter cold, but will also give you an enviable and healthy Suntan. Own your own sunshine—own an **ERGON HEALTH LAMP**  
Cat. No. AE89 .. .. **£10/18/4**

**WHO'S GOT COLD FEET?**

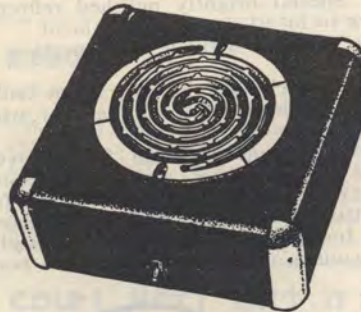


Warm comfort on cold days with a "Hayman" **ELECTRIC FOOT WARMER**. Gives warmth where it is wanted! Cold feet banished. Increases efficiency in Offices and Factories. Gives comfort in the Homes and to aged or infirm. Will dry wet shoes without damage to sole.

**POWER SAVER**—OPERATES FOR 20 HOURS ON ONE UNIT of Electricity—uses less current than the average Lamp.

**TWELVE MONTHS' GUARANTEE!**  
**NO PERMIT REQUIRED.**  
Cat. No. AE291 .. .. **48/9 each**

**"SPEEDEE" TABLE STOVES**



This compact, sturdy, reliable Table Stove has countless uses in every home. Living up to the motto that "Speedee" appliances are definitely faster," it has its most useful moments when making the bowl of hot soup for cold winter afternoons, or when making the "last cup" before bedtime.

**12 MONTHS' GUARANTEE!**  
Cat. No. AE459—2-heat .. .. **37/6**  
Cat. No. AE458—Single heat .. .. **27/6**

**WHY WASTE MATCHES?**

The "Firefly" Gas-lighter is operated by simply pressing the bottom, which connects a self-contained torch battery to the lighting filament. Ordinary torch battery used as a refill, costs 9d., lasts approx. 6 months. N.Z. made and patented.



Cat. No. AE39 .. .. **5/-**  
Spare Filament Tips—Cat. No. AE40 .. .. **2/-**

**RHEUMATISM DEFEATED**



Electroway Electric Pillows (bed warmers) are supplied complete with 3-heat switch and washable cover. Damp and clammy beds with their danger of rheumatism, chills, etc., need no longer be endured. A continuous supply of controlled heat at all times. Supplied complete with cord. .. .. **57/6 each**  
Cat. No. AE83 .. ..

**INSULATED SCREW EYES**



The wiring regulations state that all flexible cords running along walls, ceilings, must be supported by an insulated screw eye every 12 inches. Well, here they are. .. .. **4D. each**  
Cat. No. AS357 .. ..

**"MONARCH" Bed Comfort**

This new electrical device dispenses with the old-fashioned hot-water bottle. To heat it you simply connect it to the power supply and leave it for three minutes. It is then disconnected, and will retain a comfortable heat under the bed clothes for a number of hours. May be taken in your motor-car to add comfort to travelling, or to the pictures as a foot-warmer. Inexpensive to run, and, of course, invaluable in the sick room. It is extremely handy for people working at desks, tables, etc., who suffer from cold feet. Cost about 1d. per week for current. Can be bought without plug or cord or complete.



(The household iron or toaster cord set will fit the Monarch Bed Warmer.)  
Cat. No. AE82— .. .. **22/6**  
Cat. No. AE82A—Monarch Bed Warmer, with 3-pin Plug and Cord Set .. .. **29/-**

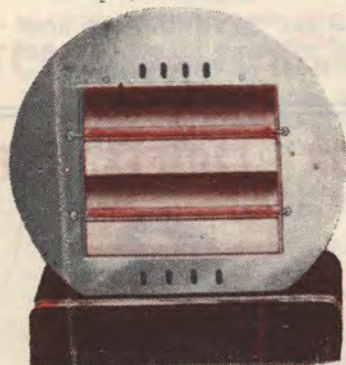
# MAKE THE HOME COSIER!

## ELECTROWAY, MODEL 72



A superior 2 kw. fire with large welded steel frame and 15 amp. switch.  
Cat. No. AE369 .. **77/6**

## ELECTROWAY "PLINTH" FIRE, 2000 watts.



Chromed brass disc, 15in. diam. x 18g., on coloured steel plinth, with chromed relief. With two reflector elements as illustrated. Switch and two yards 3-core flexible fitted to each fire.  
Cat. No. AE368 .. **£6/4/6**

## ELECTROWAY "BEAM" FIRE

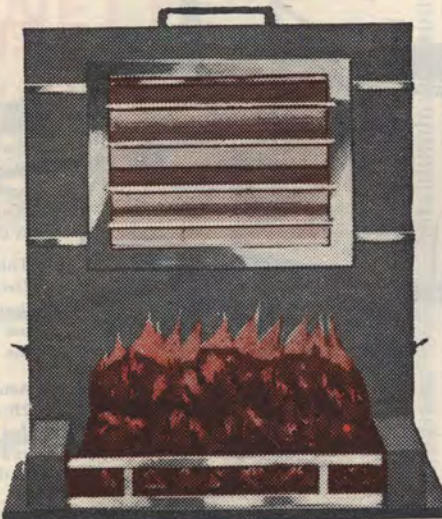


Concentrates the radiation in one direction. High radiant efficiency. 2 kw., with switch controlling one bar.  
Cat. No. AE370 .. **112/-**

### PERMIT

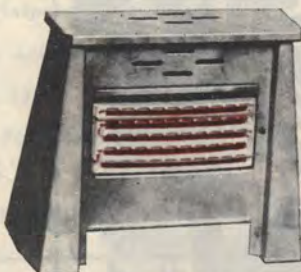
A permit to purchase a Radiator is necessary for some provinces in New Zealand. Consult your local power board before ordering.

## ELECTROWAY IMITATION COAL FIRE



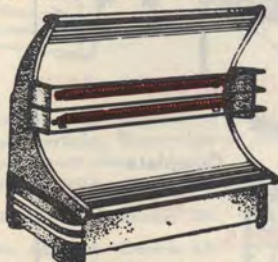
Provided with 2 super elements, each of 1000 watts, which can be operated independently by means of the high-grade English switches incorporated. Gives realistic impression of coal fire. Finished in sprayed silver with chromium-plated reflectors and trimmings. Small fan revolving inside red coals gives "smoke" effect.  
Cat. No. AE367 .. **£14/5/-**

## "ELECTROWAY" TILE RADIATOR



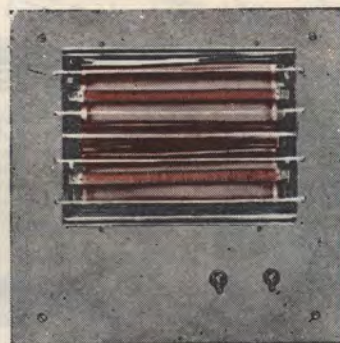
A well constructed, serviceable, Radiator that will give years of trouble-free comfort. 1000 watt Tile Element. Finished in a wide range of flecked colours, including Red, Slate, Green, Cream, etc. Complete with 4 feet flexible 3 core cord.  
Cat. No. AE371 .. **45/9**

## "ST. MARTINS" RADIATOR



A gracefully designed Radiator incorporating the maximum reflector surface for greatest heat radiation. Chrome reflector and trimmings. Base crackle finished. 2000 watts. Complete with 5ft. flex.  
Cat. No. AE352 .. **59/-**

## ELECTROWAY WALL INSET FIRE

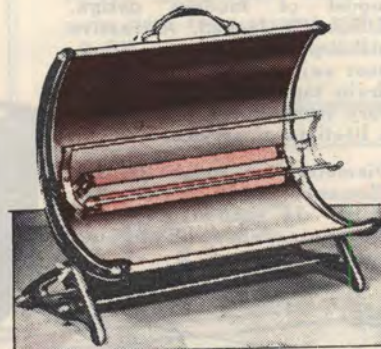


This inset fire with its flush-fitting chromium-plated front panel adapted to accommodate an opening in standard tile slabbing, is most suitable for the modern type of building. The chromium-plated reflector and the pencil rod elements complete the handsome design, entirely obviating that "flatness" of appearance so customary with many wall heaters. The dimensions for the two types are as follows: 1kw., Overall 16in. x 5in., Back Box 16in. x 4in.; 2kw., Overall 16½in. x 16½in.; Back Box 16in. x 16in.

Cat. No. AE365—1kw. type .. **63/-**  
Cat. No. AE366—2 kw. type .. **120/-**

The fires above are not supplied with heater flex, as they are designed for permanent building-in.

## "ULTIMATE" DE LUXE RADIATOR



Chrome reflector. 2000-watt. Fire of attractive appearance. Frame finished in black. Has two elements, each of 1000 watts, and switch so that one element can be turned off if not required. Complete with 3-wire flex.

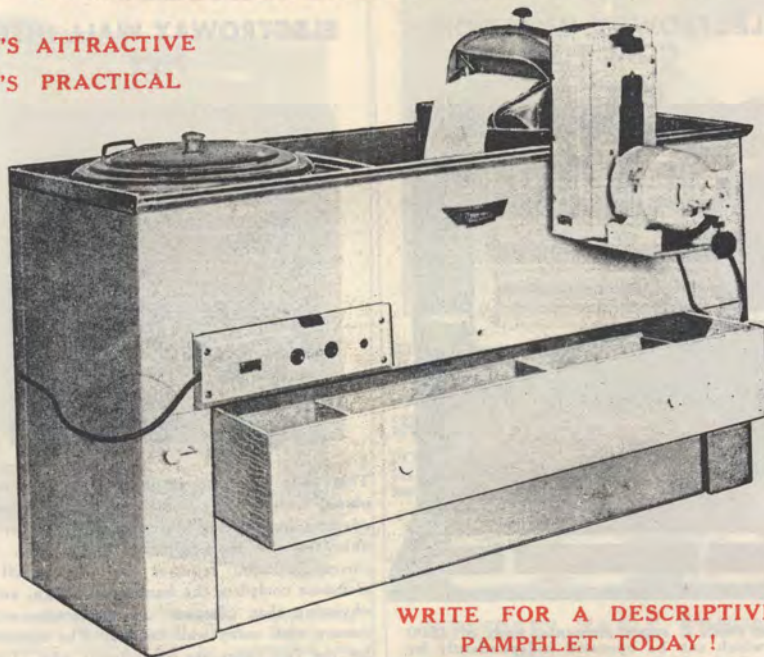
Cat. No. AE375—Two Elements **90/6 each**  
Cat. No. AE376—1 Element .. **78/- each**

### SWITCHES

All our Two Element Radiators are fitted with a switch so that either one or two elements can be used.

**A COMPLETE LAUNDRY IN ONE UNIT!**

**IT'S ATTRACTIVE  
IT'S PRACTICAL**



**WRITE FOR A DESCRIPTIVE  
PAMPHLET TODAY!**

**The "Hayman"  
PATENT COMBINATION  
ELECTRIC LAUNDRY UNIT**

Incorporates all of the following: 14-gallon Electric Washer Boiler, 2 large everlasting shining Metal Tubs, Built-in Ironing Point, Ironing Table Top, Ironing Skirt Board, Spacious Drawer, simple and easy hand-operated attachment\* for woollens and coloureds, convenient Soiled Clothes Bin. **AND IT'S FITTED WITH AN ELECTRIC WRINGER!**

This "Housewife's Delight" is supplied with a Motor-Driven Wringer which will slide as shown to any desired position over tubs and boiler. When not in use the Wringer slides up to the end of the Unit and the Ironing Top is fitted in place.

Actual Dimensions of Unit: Length 5ft. 1in., width 2ft., height 2ft. 9in. Uses a new type of electric washer that boils and washes clothes snow-white without labour and at trifling cost by the scientific and hygienic method of the boiling water process.

**BANISH THE HARDEST WORK OF WASH DAY!**  
Cat. No. AE70— **£94/17/6**  
WITH ELECTRIC WRINGER

*Boiled Clothes  
are Cleanest*

A very popular handsome model of modern design. Efficiently lagged. Attractive nickel-plated rim, spun lid, 2-heat switch. Red Pilot Lamp, drain tap, 2yds. flex cord. A very sturdily built washer for a lifetime of service.

Diameter 21in., height 2ft. 8in. Elements, 2,200 watts, 230 volts. 14 gallon capacity. Plugs into standard 3-pin plug socket.



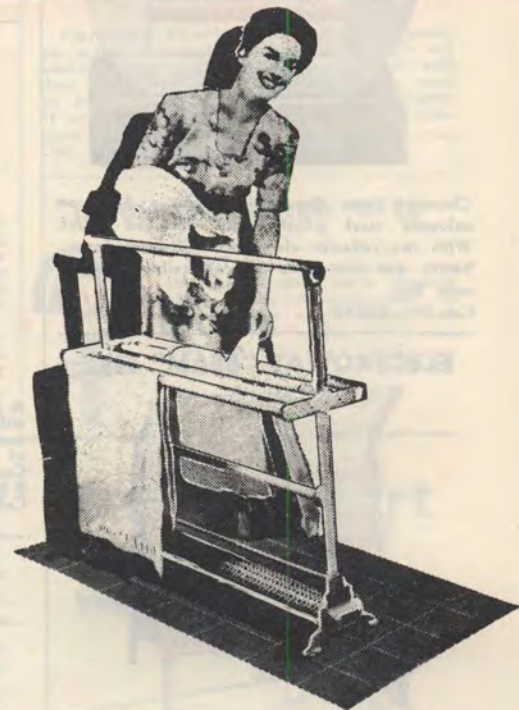
**Complete  
Cat. No. AE65— £18/7/6**

**NOTE THESE UNIQUE FEATURES:**

Boils Electrically.  
Hygienic, Snow-white Wash.  
No Damaged or Torn Garments.  
Ideal for New Homes (no chimney or Hearth needed).  
Low Running Cost (less than 3d. wash).

Everlasting—Copper throughout.  
Fast Boiling.  
Washes Woollen and Coloured Garments.  
Reasonably Priced.  
Wonderful for Bottling Fruit, etc.

**"HAYMAN" CLOTHES DRYER**



**THE SOLUTION TO WET WEATHER WASH DAYS!**

An electrically heated Airing and Drying Rack with 18ft. of Drying Rods in a floor space of 3ft. x 1ft. Children's Clothing, Bed Linen, Towels, Socks, Napkins—anything from a Bib to a Blanket made bone dry indoors, Day or Night, Wet or Fine. Operates for 5 hours for 1d. Gives a constant stream of warm, dry air, rising through the garments. 12 months guarantee. Fitted with 6ft. flex and 3-pin plug top.

Cat. No. AE288 .. .. . **£5/19/6**

# Ironing Day can be an EASY Day IF YOU USE AN "IRONETTE" ELECTRIC IRONER



With the "IRONETTE" any woman can easily cut one or two hours off her usual ironing time; can iron from 50 to 200 lbs. of laundry each week without the least bit of fatigue.

You, like thousands of other housewives, can dispense with the ironing day "lame back," sore feet, and that "all in" feeling, by investing in an "IRONETTE."

## Here are 5 FEATURES of the HOUSEWIFE'S DELIGHT:—

1. It irons everything—sheets, shirts, ruffled curtains, cottons, silks, woollens, etc.
2. It's portable. Dimensions: Length 29in., height 10in., width 15in. Plugs into an ordinary Hotpoint.
3. It's Safe; it's easy to Operate.
4. It's Economical—uses the same amount of electricity as the ordinary household iron.
5. Each "Ironette" is covered by a 12 months' guarantee.

Iron at Leisure—Have More Time for Pleasure with an "IRONETTE" Cat. No. AE280  
**£29**

## ELECTRIC CUPBOARD HEATERS



Keep your Household Linen dry and free from dampness. Here is a Cupboard Heater that will operate at almost negligible cost; can be mounted on the floor or screwed to the wall in a vertical or horizontal position. Emits warm, dry air from a large low temperature heating surface.

Operates for seven hours for One Penny

Size actual unit: Length 2ft., Diameter 2in.; protecting Gauze Surround, 4in. high x 5in. wide; 230v.—150 watts. Supplied without flex.

Cat. No. AE289 .. .. . **45/-**

## NEW SPEEDEE KETTLE



Three-pint, Chrome-plated, complete with cord and appliance plug. **77/6 each**  
Cat. No. AE193 .. .. .

## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

# FLUORESCENT LAMPS



### SAFE — RELIABLE — MODERN

The well-known Neon fittings and lamps available from stock. Our fluorescent tubes are available in two lengths—two feet and four feet. The two foot tubes consume 50 watts and give about as much light as a 75-watt lamp, and the four foot consumes 40 watts and gives more light than a 100-watt lamp.

All fittings are complete with everything needed to install them by an electrician, but they can also be supplied complete with flex and plug for plugging into an existing light point at an extra charge of 7/6.

Cream enamel fittings. ceiling mounting.

### TUBE COLOURING

Tubes can be supplied in three different tonings—Daylight, Warm-white or White. Give your preference when ordering.

Cat. No. AL710A—Single 4ft. .. **£5/-**

Cat. No. AL709A—Single 2ft. **£4/18/-**

Cat. No. AL711A—Double 4ft. **£7/19/-**

Decorative type, with attractive translucent reflector.

Cat. No. AL714A—Single 4ft. **£8/18/-**

Cat. No. AL712A—Single 2ft. **£7/7/-**

### SPARES

Cat. No. AL598—Spare 2ft. **8/- each**

Tubes, Cat. No. AL700—Spare 4ft. **13/9 each**

Tubes, white, Cat. No. AL699—Spare 4ft. **11/8 each**

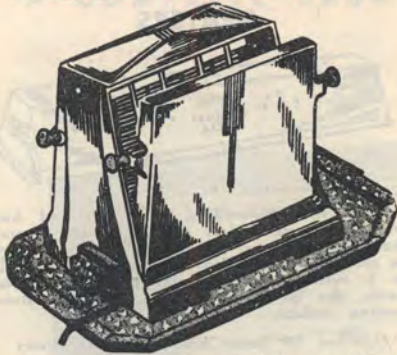
Tubes, Daylight .. .. .

Cat. No. AL720—Spare Starters **5/- each**

### FREIGHT

We pay Freight on all retail orders over £1 value. Please include sufficient cash for postage on small orders.

**"SPEEDEE" HOSTESS TOASTER**



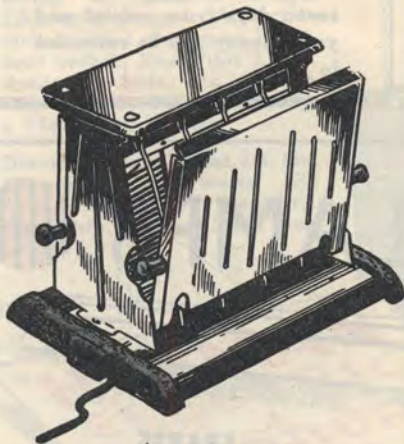
Another attractive and practical Speedee Toaster. Its moulded base in the form of a tray is designed to prevent the crumbs which collect on the table when using other toasters. The body of the Toaster, beautifully streamlined and chromium plated, conserves all the heat and supplies crisp golden brown toast in a minimum of time. Complete with 5ft. of flexible cord. Cat. No. AE301 .. .. . **35/-**

**"SPEEDEE" TIFFIN TOASTER**



Two-slice Chrome Toaster, with plastic tray and toast rack. Complete with 5ft. flexible cord. Cat. No. AE302 .. .. . **45/-**

**"SPEEDEE" TABLE TOASTER**



A beautifully finished two-slice Toaster of the turnover type, constructed of heavy-gauge metal, nickel-plated, and provided with four bakelite knobs for turning bread. Moulded plyths are provided to prevent scratching of highly polished table surfaces. Complete with five feet three-core Heater Flex and 3 pin plug. Cat. No. AE300 .. .. . **29/6**

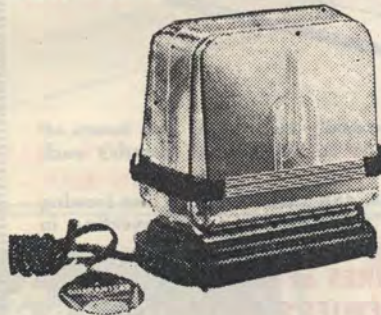
**THE 3 "SPEEDEE" TOASTERS ILLUSTRATED ABOVE EACH CARRY A GUARANTEE OF ONE YEAR.**

**"NEECO" CHEVRON TOASTER**



Two-slice Toaster of latest design and finished in gleaming chrome. Crisp brown toast is yours with a flip of the holder. Guaranteed 12 months. Supplied complete with 5ft. flexible cord and plug. Cat. No. AE311 .. .. . **48/-** each

**"ULTIMATE" DE-LUXE TOASTER**



The acme in Electric Toasters, the "Ultimate" is a beautifully designed toaster, the body being glittering chrome while the base and trimmings are in black plastic. The doors are fitted with streamlined handgrip handles which make for easy opening and closing. Each Toaster is supplied complete with flexible cord and carries a 12 months guarantee. We can recommend this for both its service ability and attractive design. Cat. No. AE310 .. .. . **55/-**

**English Irons**  
**24/11 24/11**



5lb. BRITISH-MADE IRONS, complete with 6ft. best Cord and Appliance Plug. Reduced from 42/- because of a few rust spots. This small damage in no way affects the efficiency of the iron but it saves you 12/-.

Cat. No. AE254—

Were 42/- **24/11**  
NOW

**"SPEEDEE" GEM**



Gleaming white tableware immaculately smooth, linen crisp clothes without a wrinkle, reward the housewife who chooses the "Gem." Easier to use, too, because of its chromium-plated mirror surface. Perfect balance makes ironing easy. Rapid heating does the work better and quicker. Cat. No. AE250— Complete with 5ft. flex. **47/6**

**NEECO "MODERNE" IRON**



You take the "drudge" right out of ironing when you use a NEECO "MODERNE" IRON. Beautifully finished in glittering chrome and fitted with a black streamlined plastic handle. Supplied complete with 5ft. flexible cord and a 3-pin plug cap—already to plug in. We can really recommend this Iron as being a first class "Neeco" product and the pride of every user. Guaranteed 12 Months. Cat. No. AE255 .. .. . **67/9**

**MORPHY RICHARDS AUTOMATIC IRON**



Make ironing a pleasure with one of these DE LUXE AUTOMATIC ELECTRIC IRONS. Thermostatically controlled, this Iron can be set to the correct temperature for the material you are ironing. Five different settings: for Rayon, Silk, Cotton, etc. Beautifully moulded Plastic handle with Indicator Light insetted. Highly polished chromium base. Complete with 5ft. flex.

Cat. No. AE265— **£3/7/6**  
With Chrome Body ..

Cat. No. AE263 — With **£3/11/9**  
enamelled pastel coloured body

**MAJESTIC LAUNDRY IRONS**

10½lb. Heavy Irons for Tailors, Laundries, etc. Supplied Complete with cord.

Cat. No. AE264 .. .. . **58/6** each

**NEECO PORCELAIN JUGS**



These Porcelain Jugs are well known for their high quality. Made of strong porcelain and attractively glazed. Hold 3 pints. Supplied complete with Plug and Cord. Note new reduced price.  
 Cat. No. AE160 .. .. **29/6** each

*Boils 1 pint in about 2½ minutes*

**"SPEEDEE" IMMERSION HEATERS**



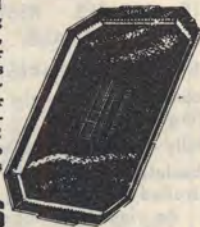
A real boon to the housewife. Fast, safe, dependable and economical. Can be used in any class of vessel containing water—either glass, porcelain, aluminium or other metals. Length, 10in. Rating 1000 watts.  
 Cat. No. AE150 .. .. **12/6** ea.  
 Complete with 3ft. Flex.

**Large Type**

Special type giving heavy wattage rating 2000 watts. Length 20in. Boils 4½ gallons water (summer temp.), in 1 hour, winter approx. 4 gallons.  
 Cat. No. AE152 .. .. **37/-** ea.

**TOASTER TRAYS**

Made of Moulded plastic in following colours: Red, Cream, Black, Green. For standing under toasters to catch crumbs, etc.—as well as many other home uses. Size (overall) 10½in. x 7in. 2 holes for fitting to Speedee Hostess Toasters.



Cat. No. AE303 **6/6**

Special Trays (drilled) for "Speedee" Tiffen Toasters.—Cat. No. AE305 .. .. **7/6**

**METER BARGAIN**

War Surplus! Ferranti 0/500 micro-amps, 2½in. moving coil meters.  
 Cat. No. AM24 .. .. **25/11** each

**ALL PRICES IN THIS CATALOGUE ARE SUBJECT TO ALTERATION WITHOUT NOTICE.**

**"SPEEDEE" ENAMELLED ELECTRIC JUG**



This pioneer in the unbreakable jug field is still one of the most popular jugs on the market. Fast-boiling—economical—unbreakable, this "Speedee" Jug is great value for a household boiling utensil. Each jug is complete with six feet Asbestos Flex and Appliance Plug. Current consumption 1,500 watts. Available in either Brown or Green enamel. Guaranteed 12 months. Capacity 3 pints.  
 Cat. No. AE167 .. .. **39/6**

**"SPEEDEE" ELECTRIC KETTLE**



Fast boiling. Built of extra heavy gauge copper and finished in gleaming everlasting chromium plate. It is the aristocrat of kettles. The "Speedee" Kettle will save you money and steps. Used right on the afternoon tea table, it is at home in a setting of dainty china and beautiful linen—at once the admiration and envy of your friends. Keeping the water hot as it does for some time after switching off it obviates the need for the hostess to rise and prepare that "second cup."

Cat. No. AE192—5-pint, 1500 watt **85/-**

Cat. No. AE191—3-pint .. .. **65/-**

**"ULTIMATE" ELECTRIC KETTLES**



These highly plated Electric Kettles are fast-boiling, and are made in accordance with "Ultimate" usual high manufacturing standards. Chromium plated with black plastic handle and knob. Capacity 3 pints. A robust and pleasing design. Supplied complete with flexible cord and plug.

Cat. No. AE190 .. .. **75/-**

**"SPEEDEE" CHROMIUM-PLATED JUG**

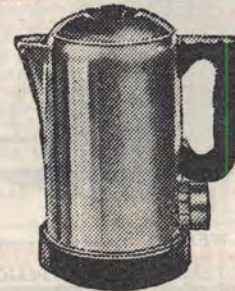


Beauty is much more than skin deep with the SPEEDEE "PREMIER" all chrome electric jug. An attractively designed jug that will be the envy of all your friends. The trimmings, such as handle, base, and knob, etc., are moulded in coloured plastics while the body is finished in glittering chromium.

Capacity 3 pints. Guaranteed 12 months. Boils in approximately 3 minutes. Supplied complete with 5ft. flexible cord and plug.

**NEW LOW PRICE!**  
 Cat. No. AE170 .. .. **59/6**

**"ULTIMATE" CHROME JUG**



A highly plated, attractively finished electric jug. Spun from heavy gauge copper and fitted with a solid plastic handle, base and knob. Holds 3 pints. Supplied complete with 4½ft. flexible cord. Quick boiling element. 12 months guarantee.

Cat. No. AE173 .. .. **78/-**

**ELECTRIC URNS**  
 SEE PAGE 14

**"DEBUTANTE" CHROME JUG**



A modern aristocratic design of chromium jug that combines both beauty and utility. You will quickly become enamoured with its graceful design and swift efficient service. Boils 3 pints in 3 minutes. Handle, knob and base are moulded from coloured plastics. Guaranteed 12 months and supplied complete with flexible cord and plug.

Cat. No. AE171 .. .. **75/-**

**IMPORTANT!**

Owing to existing conditions prices in this book are given as a guide only. All orders will be executed at the rate ruling at the date of supply.

# America's Finest Pressure Cooker is here . . . !

## HAWKIN'S UNIVERSAL PRESSURE COOKERS



Available in 3 sizes—7 pints; 8½ pints; 10½ pints. The latter size has specially ground base for use on Electric Ranges.

### Look at these Features!

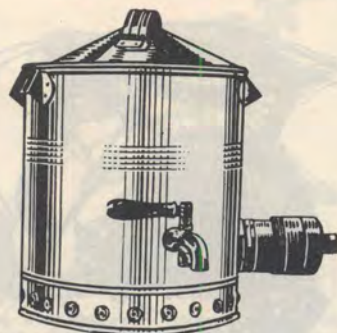
- VENT-WEIGHT maintains correct cooking pressure automatically.
- 'OVER-TEMPERATURE' PLUG provides complete safety by releasing pressure automatically if, through serious inadvertance, simple instructions are not followed.
- COVER LOCKING DEVICE permits single-handed operation. Handles are made of bakelite, always cool to the touch.

Pressure Cooking gives Perfect and more Nutritious Cooking.  
Illustrated booklet giving full cooking details supplied with each unit.

The Hawkins Universal is built under License from Landers, Fry and Clark, of New Britain, U.S.A., by L. G. Hawkins & Co. Ltd., London.

Cat. No. AE54—7 Pint ..	£5/7/6
Cat. No. AE55—8½ Pint ..	£5/10/-
Cat. No. AE56—10½ Pint ..	£6/16/-
Sets of Food Baskets for above Cookers.	
Cat. No. AE57—Extra ..	13/6

## ELECTRIC URNS



Highly polished Nickel-plated Electric Urns, for use in factories, schools, restaurants, hotels, boarding houses, social clubs, etc.

Fast Boiling. Operate from standard hotpoint. Prices are quoted without flexible lead. Add 2/- per yard for length of flex required.

Two, three, and four gallon urns are fitted with 3-heat switches.

### "SPEEDEE" URNS

Cat. No. AE130—1 gallon, 1500 watts ..	£5/17/6
AE131—2 gallon, 2000 watts ..	£8/6/6
AE132—3 gallon, 2000 watts ..	£8/14/-
AE133—4 gallon, 2000 watts ..	£9/15/-
AE134—"Speedee" replacement Elements, 2000 watts ..	29/3
AE135—"Speedee" Replacement Elements, 1500 watts ..	29/3

## HAWKIN'S PRESSURE COOKER SPARES

Cat. No. AE1270—Safety Plugs ..	Each 1/10
Cat. No. AE1271—Rubber Caskets ..	1/5
Cat. No. AE1272—Recipe Instruction Books ..	1/-
Cat. No. AE1273—Vent Weights (Jigglers) ..	9/-
Cat. No. AE57—Set of 3 Baskets ..	13/6

# "REGAL" ELECTRIC WATER HEATER



## FULLY AUTOMATIC

Hot Water Instantly! At the Turn of A Tap. Continuous Filling.

IDEAL FOR PRIVATE HOMES, RESTAURANTS, HOTELS, PRIVATE HOSPITALS, ETC.

### 5 BIG FEATURES:

1. The "REGAL" is constructed entirely of non-ferrous metals, therefore, rust resisting 100 per cent.
2. The manufacturers fully guarantee the workmanship.
3. The "REGAL" is absolutely fool-proof, cannot be boiled dry, thermostatically controlled, is self filling, and can be run from any power socket. An injection nipple supplied with the "REGAL" ensures proper displacement of water to maintain a steady flow.
4. All fittings are brass or copper heavily plated with a gleaming chromium plate.
5. The "REGAL" Water Heater is fully guaranteed and operating cost reduced to a minimum.

NO HOME IS COMPLETE WITHOUT A "REGAL"

Guarantee: 5 YEARS GUARANTEE against faulty workmanship. 1 YEAR GUARANTEE against faulty components.

Capacity: 2½ GALLONS.

Complete unit with Flexible Cable and all necessary plumbing attachments for fitting over wash basin or sink. **£17/8/9**

Cat. No. AE125 ..

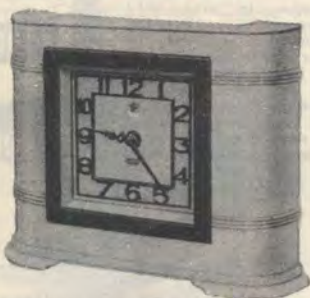
Complete Unit with flexible cable without copper piping, taps, etc.—Cat. No. AE124 .. **£14/19/-**

## "SMITH" ELECTRIC CLOCKS

MANUFACTURED BY ENGLAND'S LEADING CLOCK DESIGNERS.

The illustrations below show four of the many Electric Clocks produced by Smith's, England. The designs are very attractive and the workmanship the best.

### THE "SOVEREIGN"



Beautifully designed in an ivory plastic case. Height 6in.; width, 7 $\frac{1}{2}$ in.; depth 2 $\frac{1}{2}$ in. Gilt Bezel—Striking figures. Ideal as mantel clock for Dining Room.  
Cat. No. AE891 .. **£3/6/-**

### THE "EXMOOR"



An attractively designed clock in Chrome and Plastic that would be an added beauty to any room. 6in. diameter circular dial is easily read with bold black numerals on a silvered background. Height 6 $\frac{1}{2}$ in. Plastic Base 7in. x 1 $\frac{1}{2}$ in. The plastic is toned in walnut and the trimmings are chromium. A clock we can recommend for your lounge, dining room, sitting room, etc.  
Cat. No. AE882 .. **84/11**

### THE "RADLEY"



Another small mantel model for any room in the house. A neat and attractive shape. Height, 5in. Width, 5in.; Depth, 2 $\frac{1}{2}$ in.  
Cat. No. AE892 .. **58/-**

### THE "RAMSAY"



A small clock for the bedroom, Dining room, office, etc. Walnut Plastic Case. Height 5 $\frac{1}{2}$ in.; width, 5 $\frac{1}{2}$ in.; depth, 2 $\frac{1}{2}$ in. Two tone dial face with gilt trimmings.  
Cat. No. AE883 .. **64/7**

## HEAD-BAND TORCHES



These torches are extremely useful, as light can be attached to forehead thus leaving both hands free for the work on hand and at the same time assuring that the light is directed to the point where the operator is looking.

Battery box contains standard 4 $\frac{1}{2}$ -volt radio C battery and press on/off switch. A very reliable and useful light. complete  
Cat. No. AX1478 .. **17/11**

## WHITE PLASTIC RADIO KNOBS

Moulded Ivory Plastic Knobs  
Knurled edge for easy grip,  $\frac{3}{16}$ in. diameter. Fits  $\frac{1}{8}$ in. shaft.

Cat. No. AD75 .. **9D.** each



## SPEEDEE COFFEE PERCULATOR



The gleaming plated finish of this new Perculator makes it an ideal gift for any occasion and will add tone to any table, and of course it makes wonderful coffee.  
Cat. No. AE185 .. **£5/19/6**

## DELCO 8-INCH DESK FANS

Delco 8in. Desk Fans are modern, streamline fans, attractive to both the home and office, silent, balanced and exceedingly useful. These fans are the best on the market.

Incorporating the shaded pole motor, these fans give trouble-free operation controlled from a simple on/off and 2-speed switch mounted in the base to regulate the airflow.

All fans are supplied with a protective guard and approximately five feet of plastic cable.

The mounting consists of a sturdy pedestal of aluminium construction, with rubber pads on the base to prevent scratching or marking of polished surfaces.  
Cat. No. AE118 .. **£3/16/6**

## GREMLIN FOOD MIXER

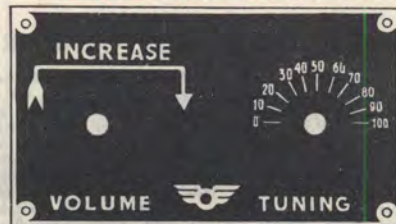


Incorporating the following features:—  
Beautifully finished in cream stove enamel. Handles in green or red relief. Equipped with highly efficient field control motor.

Complete with two plastic bowls—6in. and 9in. Detachable head and paddles. Special flat type stainless steel beaters with aerated groove. Adapted for fruit juice extractor. Three-speed control. Spare parts and bowls always available. Fully guaranteed for twelve months.

Cat. No. AE222 .. **£19/19/-**

## RADIO DIAL PLATE

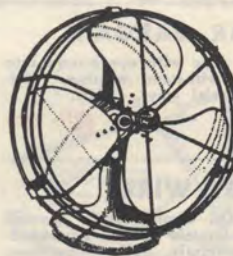


Dial plate as used on some "Easy-Built" kits. Size, 4in. x 2 $\frac{1}{2}$ in. Finish black and silver.  
Cat. No. AD35 .. **6/6** each

## COOL!

Yes, you can always keep cool with a 12-inch "Frost" British made electric fan. Sturdy motion, built for long life. Supplied complete with cord.

Cat. No. AE122—  
**90/-** each



## GREAT BARGAIN OFFER!

### 24 ASSORTED RESISTORS

Another great 1950 bargain. An assortment of two dozen  $\frac{1}{2}$  watt resistors valued at three times the price. Offered in a parcel lot for only 5/-. Values include: 200, 600, 2000, 10,000, and 150,000 ohms.

Should we run out of any of the above we will substitute with an equally popular size.

WHAT GREATER OFFER?

Cat. No. AR308 .. **5/-** LOT



## "BRONZO" AERIAL WIRE

IT'S NEW — IT'S DIFFERENT — IT'S BETTER

BRONZO is different because it is wire made especially for aerials. Made from phosphor-bronze it will last practically for ever. Core consists of six groups each containing seven fine wires making 42 strands of wire, which not only makes for highest tensile strength, but also ensures best possible reception through improved "skin effects" (radio frequency currents travel along the surface skin) of the wire. Ideal for lead-ins, as it can be bent and swayed almost indefinitely without breaking. Insulated overall with a waterproof braid.

BRONZO—Ideal for Aerials

BRONZO—Ideal for Lead-ins

Costs a little more, but is worth many times more than ordinary copper wire.

Cat. No. AA520—25ft. Coils .. **3/- each**

Cat. No. AA521—50ft. Coils .. **5/6 each**

Cat. No. AA523—100ft. Coils .. **9/6 each**



## THE RAILROAD TORCH

Red, green, or white light just by sliding the top glasses. Ideal for railwaymen, Boy Scouts, boats, etc., etc., and any child between four and 60 will have lots of fun with it. Supplied complete with 3-cell pocket lamp battery and globe. Size, 4in. x 2½in. x ¾in.

Cat. No. AT819A .. .. . **6/6**

## FROST WORKSHOP GRINDER

This British 4in. bench grinder is designed for use in the small workshop. Powered by a robust, quiet-running electric motor running at 2,800 R.P.M. Consumption only 60 watts. Bearings are oil-retaining sleeve type. Motor is totally enclosed and the windings are vacuum impregnated. Treated correctly and used within the limits of its size, this grinder will give you years of useful service. Complete with switch, tool rests, wheel guards and connecting flex. Size 7in. x 6in. x 5½in. **£5/12/6 each**

Cat. No. AU340 .. .. .



## ROPE WAR BARGAIN

23ft. lengths, light rope with eye bound into one end. Treated to withstand weather. Originally intended for aerial stands. New. **6D. each**

Cat. No. AX1532 .. .. .

## HANDY WIRE

Reels of 24 S.W.G., double-cotton covered copper wire. Approximately 60ft. For winding coils, temporary aeriels, bell connections, and a dozen and one handy uses around the home. **1/9 each**

Cat. No. AW348 .. .. .

## PRICES ARE SUBJECT TO ALTERATION

All Prices in this book must be regarded as an indication only—all orders will be executed at ruling prices.

**THE ELECTRIC LAMP HOUSE LIMITED,**  
11 MANNERS STREET,  
WELLINGTON, C.1.

## BELL PUSHES

Brass barrel-type bell push for mounting on front doors, or other positions exposed to the weather. Round type. Diameter 2in.; diameter of barrel, 1½in. **5/- each**

Cat. No. AG336 .. .. .

## ENGLISH CORD CONNECTORS

Sperryn 3-wire cord connectors—2-piece. We have awaited a long time for these, but a few have just come to hand. **5/- each**

Cat. No. AG23 .. .. .

## ARROW 3-HEAT SWITCH

Three-heat, flush mounting switches for replacements in electric stoves and similar appliances. 230-volt, 10 amp. **14/- each**

Cat. No. AG136 .. .. .

## FANS FOR YOUR CAR

Master auto fans—work from your battery. Supplied complete with mounting brackets.

Cat. No. AE117—6-volt .. **£3/19/6**

Cat. No. AE116—12-volt .. **£3/19/6**

## NOISE-FREE RECEPTION

### ENSIGN JUNIOR LINE FILTER

Junior in size only (measures 5½ x 2½ x 2). Performance definitely in senior class. Stops noise and interference entering your set from over the power mains. Just plugs into your power socket and you then plug your set into the filter.

Cat. No. AA4—  
**18/6 each**



## BRASS TERMINAL



Consists of two round knurled nuts, screwed on to lin. 3 B.A. screw. Useful and cheap terminal. **3D. each**

Cat. No. AT61 .. .. .

## SHACKLE

Useful iron shackle, clear lacquered, 2in. overall x 7-16in. between arms. Removable pin is threaded. Because they are a War Surplus line, we can sell them for only sixpence each!

Cat. No. AU10—  
**6D. each**



## DIMMER SWITCHES

30-ohm Variable Resistance, turning approximately 90 degrees. Switch is mounted in plastic case 2in. diameter with control knob on top. **1/- each**

Cat. No. AX1425 .. .. .

## MOTORIST TROUBLE LAMP

Wood handle and strong wire guard protect the lamp from damage. Will take any standard double-contact motor-car lamp. Can be used from battery or dash-board or used in conjunction with our voltage reducer, Cat. No. AT623. Supplied complete with nine feet twin-flex cord. **10/- each**

Cat. No. AE96 .. .. .



## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

**THE ELECTRIC LAMP HOUSE LIMITED**  
11 MANNERS STREET,  
WELLINGTON, C.1.

# The "Vibro-Tool" De Luxe

GIVES YOU POWER TO DO FAST WORK OF FINE QUALITY!

Writes on . . .  
Watches, Glassware, Tools, Leather, Plastics, Jewellery, Pots and Pans, Sporting Equipment, etc., etc.



Engrave your name . . . etch letters or designs . . . place permanent identification marks on anything with this unique hand tool. Carves Wood and linoleum, cuts cardboard and balsa, tools leather. Just plug in on any 230 volt A.C. line. No Workshop is complete without a Burgess Vibro-Tool.

For the first time, the simple principle of vibration is applied in a hand-tool that secures results never before accomplished so easily.

Amazingly versatile, the BURGESS VIBRO-TOOL enables many difficult industrial jobs, as well as the simplest home workshop tasks, to be carried out with speed and efficiency. For embossing thin gauge metals, frosting glass, designing on plastic, you can't beat the "VIBRO-TOOL" DE-LUXE.

The De-Luxe Kit is supplied complete with 19 attachments in a highly polished wooden case. Cat. No. AU360 . . . ONLY **£5/9/-**

### STANDARD VIBRO-TOOL

The Standard model is similar to above but is supplied with a general purpose engraving point only. Cat. No. AU361 . . . ONLY **51/9**

Both Units Supplied Complete with Illustrated Booklet.

### SPARE ACCESSORIES SAME AS USED WITH DE-LUXE "VIBRO-TOOL"

- Cat. No. AU362—Standard point (V5) for most types of engraving . . . 8d. ea.
- Cat. No. AU363—Hard Point (V3) for hardened metals, glass, etc. . . 6/3 ea.
- Cat. No. AU364—Knives—Straight for gasket and stencil cutting . . . 1/9 ea.
- Cat. No. AU365—Knives—Curved (V24) for general purpose cutting . . . 1/9 ea.



- Cat. No. AU366—Ball Points (V44/48) assorted sizes for embossing metals, hammering, working leather, etc. SET OF 5 . . . 2/10
- Cat. No. AU367—Carving Chisels (V51/56) for wood carving, lino-block cutting, etc. SET OF 4 . . . 6/10
- Cat. No. AU368—Diamond Point (V80) Not supplied with De-Luxe Kit. This is actual diamond inseting for continuous glass work, fine engraving on jewellery, etc. . . 28/9
- Cat. No. AU369—Abrasive Point (V81) for frosting glass, smoothing other surfaces 5/3
- Cat. No. AU370—Leather Tools (V82/87) for all types leather work, includes slotter, punch, liner, deerfoot, spoon, combination double liner and cutter. Set of 6 . . . 5/9 set
- Cat. No. AU371—Foot Gauge (V101) for use with knives to regulate depth of cut. 4/9
- Cat. No. AU372—Knife Adaptor (V25) 8d. ea.

# Poker Sets



## THE "HOMECRAFT" POKER WORK SET

For use from standard 230-volt light socket or power point. Tip gets very hot and by changing leads on to different terminals heat can be varied for different classes of work. Metal box measures 3 1/2 in. x 3 in. x 4 1/2 in.

The introduction of the Homecraft Poker Machine will undoubtedly advance this art in New Zealand. By using this machine the artist can concentrate all his or her attention on the pokerwork itself, as, when the heat is regulated to the required strength it automatically remains at the same heat. This enables the work to be executed at great speed. Homecraft Machines are perfectly safe in use.

- Cat. No. AE90 . . . . . **59/6**
- Cat. No. AE91—Spare Tips for above . . . . . **4D.** each
- Cat. No. AE92—Spare Handles (complete with flex) . . . **12/-** each

## "KITCHEN TIDY"



The modern version of a small hygienic rubbish bin. Outside metal container sprayed either Cream or Green. A handy sized galvanised bin (8 1/2 in. x 9 1/2 in.) complete with handle, slips inside this container and can be removed and emptied at frequent intervals. Just press the metal lever as illustrated and the lid swings open. So attractive, clean and convenient. Height 13 1/2 in., diameter 9 1/2 in. Cat. No. AU391 . . . . . **25/9**

### LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

# THE "ENSIGN" BATTERY WELDER

SAVE TIME! — LABOUR! — MONEY!

Works from any 6 to 12 volt storage battery providing instant and even heat. Do your own soldering, welding, brazing, with this useful tool.

The welder is of rugged construction. Battery leads are of heavy rubber-covered low-potential cable, giving maximum transfer of power to the welder.

The Welder is especially applicable for auto repairs, mudguards, radiators, etc., and also light inside work—for the farm it is invaluable for mending buckets, cans, and light farm implements. Battery firms use it for lead burning; especially useful for battery repairs on the roadside. Supplied with full instructions.

Cat. No. AE8 . . . . . **39/6** complete

### Spare:

- Cat. No. AE9—Carbon Electrodes . . 2/6
- Cat. No. AE10—Brass Electrodes . . 6d.
- Cat. No. AE11—Steel Electrodes . . 6d.
- Cat. No. AE12—Packets of Flux . . 6d.

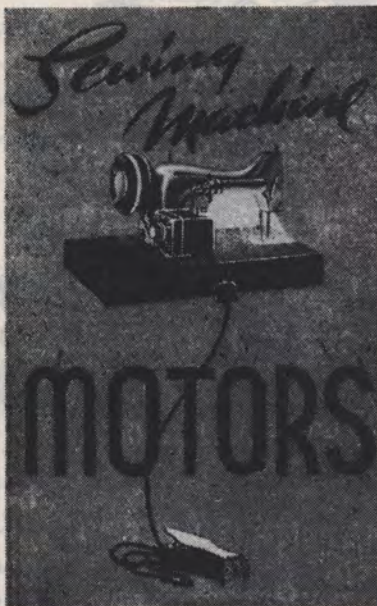


PLEASE INDICATE ON ALL ORDERS WHETHER WE MAY SUBSTITUTE IN THE EVENT OF THE LINE ORDERED BEING OUT OF STOCK OR UNPROCURABLE.

# Great Price Reduction!

**NO EXCHANGE! NO SALES TAX!**

Brings these **English Sewing Machine Motors** within the reach of every housewife. Transform that old-fashioned treadle or hand machine into a **Modern Electrically Operated Unit** by fitting this English motor. Fits all makes of household sewing machines and is supplied complete with a variable Foot Control for regulating the speed. Operates on 250 volts A.C. Pigmy light fitted on swivel bracket enables light to be thrown directly on to the work in hand. Plugs into either hotpoint or light socket and the current consumption is almost negligible. Complete with flexible cord already to go. Hundreds of these units have been sold throughout the country to satisfied users. **MEN!** This is a grand gift for wife or mother.



And Look at the **NEW LOW PRICE!**

Cat. No. AM663

NOW **£5/17/6** complete

Cat. No. AM664—Space Foot Controls for above **55/-**

## ELECTROTOR

The little chap with the big heart!

The illustrations give the actual size of the **AMAZING, WORLD STARTLING, LITTLE ELECTROTOR!**

ENGLAND'S LATEST IN MODEL MOTOR DESIGN.

Measures only  $\frac{7}{16}$  in. in diameter and  $\frac{9}{16}$  in. in width.

This **ELECTROTOR** is universally popular for model driving of all descriptions. Use it in your Meccano Units, Aeroplanes, Motor-Boats, and all other mechanised models. Requires only 3 to 4½ volts to drive it, and consumes less than a Torch Bulb—operates efficiently on 2 Penlite Cells. **AND LOOK AT THE WEIGHT—¾ oz.!** 4000 R.P.M. You won't believe it till you see it and use it. The **ELECTROTOR** first came into prominence in the public eye when used throughout the tests conducted by the "Daily Mail" in England of the Radio Controlled Power Boat.

IT IS NOT ONLY STARTLING—BUT IT IS PROVEN, and the Price for all this—Look!

Cat. No. AM595

Trade enquiries invited.



**7/-**

## MOTOR PULLEYS

Cast Aluminium Pulleys, 4in. diam. for "V" Belts.

- |   |                 |
|---|-----------------|
| Cat. No. AM600 for ½in. shaft.            | ALL             |
| Cat. No. AM601 for ¾in. shaft.            | <b>7/9</b> each |
| Cat. No. AM602 for 1in. shaft.            | <b>4/6</b> each |
| Cat. No. AM603 2in. diam., for ½in. shaft | <b>4/6</b> each |
| Cat. No. AM604 2in. diam. for ¾in. shaft  | <b>4/6</b> each |



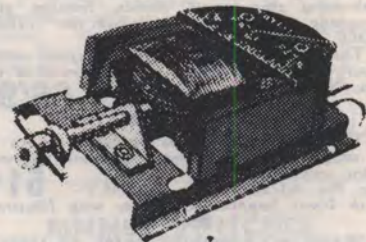
## ELECTRIC MOTORS



230 v. 50-cycle 1440 r.p.m. Fractional H.P. Motors. Ideal for saw benches, pumps, drills and many other purposes.

- |   |                |
|---|----------------|
| Cat. No. AM571 "Westinghouse" ½ h.p. Split Phase      | <b>£6/15/-</b> |
| Cat. No. AM572 "Westinghouse" ½ h.p. Split Phase      | <b>£8/6/-</b>  |
| Cat. No. AM560 "Hoover" ½ h.p. Split Phase            | <b>£7/-/-</b>  |
| Cat. No. AM561 "Hoover" ½ h.p. Split Phase            | <b>£7/5/3</b>  |
| Cat. No. AM584 "Hoover" ½ h.p. Split Phase            | <b>£7/10/-</b> |
| Cat. No. AM579 "Hoover" ½ h.p. Capacitor Start Motors | <b>£8/18/-</b> |

**Motor for Models!**  
**THE TAYCOL STAR**  
**ELECTRIC MOTOR**



The only motor with variable speed control and reverse switch combined. It has power in plenty to drive all the usual working models. Overall dimensions: 3½ x 2½ x 1½ in. Works from 4½- to 9-volt battery; consumption .8 amp. R.P.M. variable. A little masterpiece! One control arm switches on the current, decides the direction and controls the speed. No complicated wiring—only two leads to connect to the battery. Each motor individually boxed.

Cat. No. AM592 **15/6**

## "HAWKINS" FANS

English made 12in. Hawkins Oscillating Electric Fans. All metal. Heavy base. Fan oscillates to and fro and can be adjusted to any angle.

Cat. No. AE121—

**£5/5-**



## OUR GUARANTEE!

The Lamphouse 7-DAY MONEY BACK GUARANTEE protects your every purchase.

# AIDS FOR THE HANDYMAN!



## PLASTIC WOOD

The perfect moulding material. A plastic material which is easily worked. A high-class filler for all types of jobs. Used by Carpenters, Joiners, Painters, Mechanics, Farmers and Householders. Hardens very rapidly, and, like wood, can be cut, sawn, planed, filed, nailed or screwed. It can be varnished, stained, painted or polished. Grease-proof, water-proof, and weather-proof.  
Cat. No. AU168—1oz.

Tube .. .. 1/7

## LIQUID CASEIN GLUE— "ATAGLU"

Waterproof. A high-class, ready to use, casein liquid glue. "Ataglu" eliminates loss of time preparing hot glues. Does not stain. Gives a better spread than ordinary cold glues.

Cat. No. AU157 .. .. Tin 1/10½

## "3-IN-1" OIL

Motors, Lawnmowers, Vacuum Cleaners, etc., are all very hard to replace. Keep them in AI order with "3-in-1."

"3-in-1" also works miracles in brightening dull furniture and woodwork. A few drops on any soft cloth wrung out in water gives you a dusting and polishing cloth that not only polishes but also cleans and protects the finest finish.

Cat. No. AU151—3oz. Can .. 1/10½



## SCREWDRIVERS



Plastic Handles with space for screws etc. British made.

Each  
Cat. No. AU333 4½in. blade (light) .. 1/3  
Cat. No. AU332 4½in. blade (heavy) .. 2/-  
Cat. No. AU331 6in. blade (light) .. 1/6  
Cat. No. AU330 6in. blade (heavy) .. 2/3  
(Light blades are most suitable for radio work).

## "QUICKMEND"

IS THE NEW SCIENTIFIC LIQUID MENDER



Specially prepared for mending Aluminium, Brass, Silver, Copper, White Metal, Iron, Pewter, Guttering, Enamel, Petrol Tanks, Carburettors, Water Tanks. Requires no HEAT, no SOLDERING IRON, no FLUX. Is not soluble in Spirits or Acids; withstands the action of hot or cold water.

Full instructions with each bottle.

Cat. No. AU167 .. Costs Only 1/7 Bottle

## Amberlite Screwdrivers

Pocket sizes in Amberlite Screwdrivers all with pocket clips.

Cat. No.	ALL
AU316—1in. stem	1/4
AU317—2in. stem	
AU318—3in. stem	

## HACK-SAW BLADES

BEST QUALITY.

Cat. No. AU300 .. .. 6D. each

## "NEW GRIP" MENDS ANYTHING!



"NEW GRIP"—The Universal Cellulose Cement, mends anything: Slate, Glass, Paper, Ivory, Wood, Crockery, Canvas, etc. Recommended for Model Aero-plane building.

NEW PRICE!

Cat. No. AU156 .. 1/5

## "COILVARN"

QUICK DRYING INSULATING VARNISH



Coilvarn is a fast-drying moisture-proof Coil Dope. Painted over Coil Windings it will hold them rigidly in place and prevent the atmosphere getting at the windings. Excellent for coating Coil Formers before they are wound, and for impregnating wood panels so as to ensure they do not absorb moisture. Coilvarn can also be used for mending Speaker Cones, and a hundred and one other Radio jobs, requiring a first-class insulating varnish or cement.

Every experimenter or serviceman should keep a jar of COILVARN on hand.

Cat. No. AU200 .. .. 1/6 Jar

## RADIO SCREWDRIVERS



Insulated Handle Screwdrivers. Best steel, fine points, moulded handle that remains fast. 5000 volt test.—Cat. No. AU314 .. 10D. each

## "C.M." WATER PUTTY



Ready for use, simply by mixing with water. Dries rock hard without shrinking. Easy to apply, and can be used on wood, plaster stone, and similar material. Can be coloured or varnished.

Cat. No. AU163 (8 oz.) .. 1/6 per tin  
Cat. No. AU165—Large size (16 oz.) .. 2/4

## SAVE TIME AND TEMPER! Get one of these



## ALL-STEEL Handy Tool Boxes

19in. long, 6in. wide, 6½in. deep. Finished in green lacquer, solidly constructed, stout metal handle, and with a place for everything. Tools go in the bottom, and all the small things in the removable tray. It's a dandy job—good for a lifetime. Send for one today, and if you don't think it just the thing and grand value—return it, and we will refund your money.  
Cat. No. AU141 .. .. 40/-

## Try any line in this Catalogue at OUR RISK!

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

PROSPECTIVE BUYER — ALL GOODS LISTED IN THIS CATALOGUE ARE COVERED BY OUR 7 DAY MONEY-BACK GUARANTEE

**TELEPHONES**

All Plastic "Magnet" brand wall pattern, hand-set, direct working Telephone, with buzzer and ring key.

Requires 4½ volts per phone to energize. Connect with bell wire. Ideal for inter-office communication, between factory and office, shop and warehouse, etc. Plastic case of modern attractive appearance. Complete with wiring diagram.

Cat. No. AU50—  
**£3/19/6** each

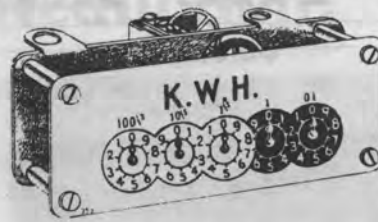
**SUITABLE BATTERIES FOR ABOVE**

Cat. No. AB210—  
3 No. 6 Cells **3/10** each

**BELL WIRE**  
Cat. No. AW113A—60ft. Coils Waxed Cotton covering **2/3** coil



**K.W.H. COUNTERS**



An exceedingly useful unit, which can be put to a variety of uses by the average experimenter. Can be adapted to count turns when winding coils, chokes, transformers, etc. Will register up to 999 and 99/100th and down to 1/100th of a turn. Removed from electricity measuring meters.—Cat. No. AU140 **2/6** each

**MAGNETS**



Strong Magnets removed from old meters. Useful in every workshop, office, etc., for picking up nails, screws, pins, etc. Every youngster will find dozens of other uses.

Cat. No. AU4 **6D.** each

**FUN FOR THE KIDS!**



Telephone Outfits—Consist of two Receiver Transmitter Handsets, 9 volt Battery and 18ft. wire all connected up ready to work. The kids will get hours of fun with these outfits, it is one of the most instructive and useful presents you could buy for them.

The outfits are so well made that they are quite suitable for practical use for talking between sick room and kitchen, Workshop to Factory, House to Garage, but would need addition of buzzer or bell system for efficient use.

**HOME TELEPHONE OUTFITS**  
Cat. No. AU51 **£3/18/6**

**Telephone Wire**

Twin Twisted Rubber Insulated 2-wire flexible cable covered overall with a black waterproof braid. Ideal for telephone and other low voltage circuits. **4D.** yd.  
Cat. No. AW87

**USED P. & T. TELEPHONE PIECES**

Used Ear Pieces and Hand Sets removed from old type Post & Telegraph Telephone sets. All in good working order.

**HANDSET**

Comprises Microphone and Earphone, short length of flexible cord attached to each set.

Cat. No. AX118—  
**5/11** each



**EARPIECES**

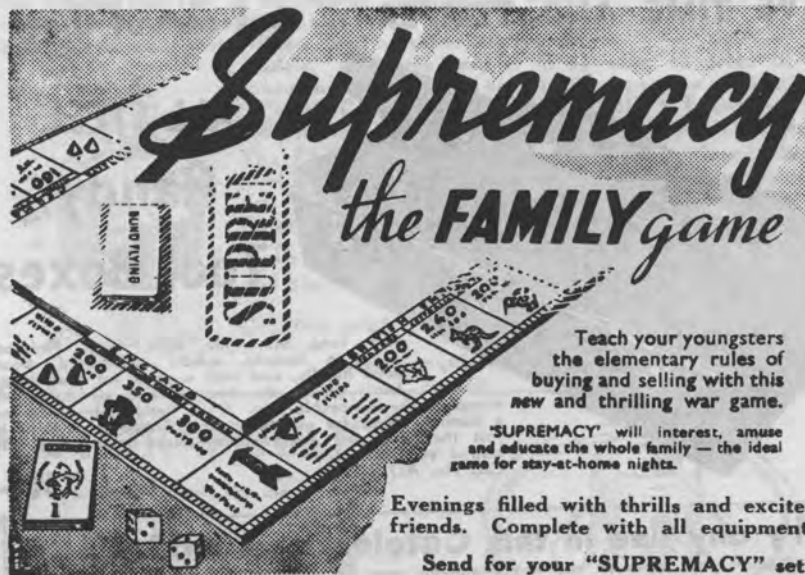
Heavy Bakelite Earpieces low impedance winding with strong magnets Complete with diaphragm — without cord.



Cat. No. AX119 **3/11**

**MICROPHONES**

Microphone portion only as used in the above P. & T. Handset. Unit mounted in circular plated metal casing as shown on handset illustration. **1/11** each  
Cat. No. AX116—Without flexible Cord.



**Supremacy**  
the FAMILY game

Teach your youngsters the elementary rules of buying and selling with this new and thrilling war game.

"SUPREMACY" will interest, amuse and educate the whole family — the ideal game for stay-at-home nights.

Evenings filled with thrills and excitement for your family and friends. Complete with all equipment and printed instructions.

Send for your "SUPREMACY" set to-day. The game that no one can resist.

Complete with all equipment and printed instructions.



Cat. No. AU100—  
Post free **19/6**

Your name mightn't be Eisenhower, Montgomery or McArthur but you too can organise and control masses of military materials in this great fascinating game of

**"SUPREMACY"**

THE GAME FOR ALL THE FAMILY!

There's no element of luck in this game — the most skilful player wins. It's really great fun and excitement capturing Aeroplanes, Tanks, Air Bases, Forts, Infantry, Divisions, winning Naval battles and controlling the English Channel.

Match your wits against your friends in the instructive and fascinating game of "SUPREMACY."

Anyone can learn to play within a few minutes.

From 2 to 7 players.



Recognised Dealers who have not already obtained supplies should write at once for our terms.

# TORCHES — BATTERIES — LAMPS

## "PIFGO" PLASTIC PENLITE



A Small Torch with a Big Light!

An English made Plastic Pen Torch that will clip into a man's coat pocket or slip into a lady's handbag. Small. CONVENIENT!  
Supplied complete with Globe and (915) Eveready Batteries. Cases in Assorted Colours.

Cat. No. AT813A—**6/11** complete  
NEW LOW PRICE!

## PERLUX "CHIC" TORCHES



Here's a super little Torch for a Ladies' Handbag or a Gent's pocket. Designed in attractively coloured plastic and using the "Eveready" 712 Battery the "Chic" measures only 4 1/2 in. x 1 in. Excellent value at the price. Complete with battery and globe.

Cat. No. AT817—**3/10** each

## PERLUX "PHOSPHO-GLO" TORCHES



Just the latest thing in torches. The plastic body is moulded with a luminescent material which causes it to glow in the dark. It's not only a novelty but a very practical idea. Length of torch 7 in. Fitted with pre-focus bulb. Uses two standard size torch cells. Supplied complete with globe and battery.

Cat. No. AT814 .. **12/6**

## "PERLUX" UNBREAKABLE TORCHES

Similar size, etc., to the above but moulded in a heavy yet flexible plastic for rough usage such as garages, factories, tramping, etc. NOT LUMINOUS. Supplied complete with batteries and globe.

Cat. No. AT818 .. **12/6**

## "COMMANDO" TORCHES



Something new in the way of a Torch. Novelty and usefulness combined. The base of the Torch slides back, leaving a space for Cigarettes or, for the Ladies, a neat Powder-puff Container. Uses the Standard Eveready Bijou Battery (type 712). Measurements of Torch, Length 4 1/2 in., Depth 4 in. Available in several different colours, complete with Bulb and Battery.

Cat. No. AT816 .. **7/6**

## "PERLUX" PLASTIC TORCH



A really streamlined Plastic Torch at a really good price: Moulded from Plastic, and in several different colour tonings. Fitted with the American Fixed Pre-focus Bulb. Fiem, quick-acting Switch. Length of Torch, 7 in. Uses two standard size Torch Cells (Eveready 950). Complete with Batteries and Globe.

Cat. No. AT815—**9/6** each

## QUALITY CYCLE LAMPS

Metal-cased English Cycle Lamp. A well-constructed job, with a 2 1/2 in. diameter highly polished, nickel-plated reflector; case coloured black. Fixing bracket and carrying handle provided. Complete with Battery and globe.



Cat. No. AT804—

**8/11**



## TORCH LAMPS

Standard Types.  
Best Quality.

- Cat. No. AL112—2.5 volts .. 7d. each
- Cat. No. AL113—Focus 3.5 volts .. 9d. each
- Cat. No. AL109—Focus 6 volts .. 1/- each
- Cat. No. AL99—2.5 volts, pre-Focus type (American Fixed Focus) .. 1/9 each
- Cat. No. AL1—6 volt 3 watt Cycle Dynamo Lamps .. 1/7 each
- Cat. No. AL2—6 volt 1.8 watt Cycle Dynamo Lamps .. 1/7 each

## THE "STARLITE" DYNAMO OUTFIT



A well-designed, black sprayed 6-volt Dynamo Set. 3 in. diameter, highly polished Reflector to give maximum efficiency. Incorporates space and switching arrangement to convert headlamp for stationery battery operation. Complete with Ruby Tail Lamp, connecting leads, globe and fixing brackets. A first rate English product.

Cat. No. AT807 .. **42/6** set

## BIG OFFER!

4.5 VOLT TORCH GLOBES.

We have purchased a large quantity of AMERICAN MADE "MATCHLESS" 4.5 volt .3 amp. Standard M.E.S. Base Torch Globes.

These globes are slightly rusted on the base (which in no way affects their operation) and we managed to get them at a greatly reduced price.

NOW YOU TAKE ADVANTAGE OF IT!

Cat. No. AL103—Normally 11d. each.  
NOW **6D.** each

OR 3/- BOX OF 10.

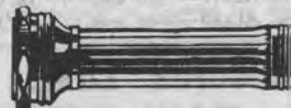
## 3 CELL LONG RANGE TORCHES



Very popular with hunters and fishermen and general outdoor use, where powerful light is needed. Will focus broad spreadlights or long penetrating beams. 3-Cell Focus Torch, 800ft. range. Complete with globe and batteries.

Cat. No. AT840 .. **14/6**

## 2 CELL FOCUSING TORCHES



A good heavy standard 2 cell torch finished in bright nickel plate, with carrying clip and decisive action switch. Special focussing clip in head. Highly plated reflector.

Cat. No. AT835 .. **8/-** complete

## EVEREADY

### EVEREADY TORCH BATTERIES

Always keep spares on hand.

- Cat. No. AB200—Standard Unit Cells (950) .. **9D.** each
- Cat. No. AB201—Baby Unit Cells (935) .. **8 1/2D.** each
- Cat. No. AB203—Bijou Midget Two Cell (712) .. **11D.** each
- Cat. No. AB204—Flat Pocket Torch Battery (703) .. **2/-** each
- Cat. No. AB205—Cycle Lamp Battery (701) .. **1/11** each
- Cat. No. AB202—Penlite Unit Cells (915) .. **9D.** each



Cat. No. AB270—U14 Gas lighter cells to fit "Eveready" Gaslighters **5/8**

Cat. No. AB223—Type 409 6-volt Battery. Height 3 1/2 in., width 2 1/2 in., depth 2 1/2 in. Constructed for Hand Lanterns, etc. .. **6/6**

ALL PRICES IN THIS CATALOGUE ARE SUBJECT TO ALTERATION WITHOUT NOTICE.

# Mazda LAMPS

Never be caught in the dark, always have a good supply of spare Mazda Lamps on hand. Yours will be a brighter home with Mazda Lamps.

## MAZDA GAS-FILLED GLOBES Clear or Frosted. 240 v.

A gas-filled globe suitable for every purpose. Clear types as used for ordinary house lighting in sizes to sufficiently illuminate any room, no matter how large or small. Used extensively in shops, stores, and factories. The pearl type is used mainly in confined spaces, where a large amount of close work is done, or where work under artificial light for long periods is necessary. Frosted just sufficiently not to impair the efficiency of the lamp, but to keep the sharp glare from the eyes. Ideal for Reading Lamps, Desk Lights, Offices, etc. **STANDARD BAYONET BASE.**



Cat. No. AL215—40 watt .. at 1/10 each  
 Cat. No. AL216—60 watt .. at 1/10 each  
 Cat. No. AL217—75 watt .. at 2/6 each  
 Cat. No. AL218—100 watt .. at 3/- each  
 Cat. No. AL219—150 watt .. at 5/- each  
 Cat. No. AL220—200 watt .. at 8/- each

## MAZDA STANDARD VACUUM BULBS

Clear or Frosted. 240 v.



Low intensity, small consumption lamps for passages, halls, etc., or where it is necessary to have a small lamp burning over a long period. Standard Bayonet base.

Cat. No. AL201—15 watt 1/10 each  
 Cat. No. AL202—25 watt 1/10 each

## SCREW-IN GLOBES

The same type of Gasfilled Globes as previously described, but using the Edison Screw (E/S) Standard Screw base.

Cat. No. AL602—40 watts .. 1/10 each  
 Cat. No. AL603—60 watts .. 1/10 each  
 Cat. No. AL604—75 watts .. 2/6 each  
 Cat. No. AL605—100 watts .. 3/- each  
 Cat. No. AL606—150 watts .. 5/- each  
 Cat. No. AL607—200 watts .. 8/- each  
 Cat. No. AL608—300 watts .. 14/8 each

**G.E.S. (GOLIATH) LARGE SCREW BASE**  
 Globes fitted with this special base for use in halls, factories, floodlights, etc.

Cat. No. AL211—300 watt .. 13/- each  
 Cat. No. AL212—500 watt .. 18/9 each  
 Cat. No. AL180—1000 watt .. 30/3 each

## Coloured Lamps

For displays, decorative purposes, etc. Sprayed colours in red, blue, green, orange, white yellow—

Standard Bayonet Cap—Vacuum Type  
 Cat. No. AL249—15 watt .. 2/1 each  
 Cat. No. AL250—25 watt .. 2/1 each  
 Natural colour glass for decorative purposes, photography, etc. Gasfilled. Colours—red, amber, blue, green.  
 Cat. No. AL258—40 watt .. 3/9 each  
 Cat. No. AL259—60 watt .. 4/5 each

## VACUUM SCREW-IN GLOBES

Similar type of Vacuum Bulb as described in first column but using the Edison Screw (E/S) Standard Screw base

Cat. No. AL600—240 volts, 15 watts .. 1/10 each  
 Cat. No. AL601—250 volts, 25 watts .. 1/10 each

## Lamps for House Lighting Plants

Low voltage globes with Standard bayonet cap base. Used mainly for house lighting plants in country districts. The 6 and 12 volt types can be used from a car battery for tent lighting, or in conjunction with wind-charger installations.



**6 VOLTS.**  
 Cat. No. AL500—10 watt .. 2/4 each  
 Cat. No. AL501—15 watt .. 2/4 each  
 Cat. No. AL502—25 watt .. 2/4 each  
 Cat. No. AL503—40 watt .. 2/4 each

**12 VOLTS.**  
 Cat. No. AL504—10 watt .. 2/4 each  
 Cat. No. AL505—15 watt .. 2/4 each  
 Cat. No. AL506—25 watt .. 2/4 each  
 Cat. No. AL507—40 watt .. 2/4 each  
 Cat. No. AL511—60 watt .. 3/- each

**25 VOLTS.**  
 Cat. No. AL550—15 watt .. 2/2 each  
 Cat. No. AL551—25 watt .. 2/2 each  
 Cat. No. AL552—40 watt .. 2/2 each  
 Cat. No. AL553—60 watt .. 2/3 each

**32 VOLTS.**  
 Cat. No. AL560—15 watt .. 2/2 each  
 Cat. No. AL561—25 watt .. 2/2 each  
 Cat. No. AL562—40 watt .. 2/2 each  
 Cat. No. AL563—60 watt .. 2/3 each

**50 VOLTS.**  
 Cat. No. AL570—15 watt .. 2/2 each  
 Cat. No. AL571—25 watt .. 2/2 each  
 Cat. No. AL572—40 watt .. 2/2 each  
 Cat. No. AL573—60 watt .. 2/3 each

## ROUGH SERVICE LAMPS

Vacuum type Lamps with special reinforced filaments for places where ordinary lamps have a short life, due to excessive vibration. Mainly used in garage hand-lamps, or machine lights.

Cat. No. AL237—40 watt B/C Base 2/3 each  
 Cat. No. AL238—60 watt B/C Base 2/3 each  
 Cat. No. AL609—40 watt E/S Base 2/3 each  
 Cat. No. AL610—60 watt E/S Base 2/3 each

## RADIO DIAL LAMPS

See Page 62.

# SHINING LAMP VALUES

## Mazda Gas-Filled 110 Volt Lamps

Low voltage globes as used on ships. Several districts not converted to the 240 volt supply still use this voltage. Available in B/C or E/S Base.

**110 VOLTS.**  
 Cat. No. AL580—15 watt .. 1/10 each  
 Cat. No. AL581—25 watt .. 1/10 each  
 Cat. No. AL582—40 watt .. 1/10 each  
 Cat. No. AL583—60 watt .. 1/10 each  
 Cat. No. AL584—75 watt .. 2/6 each  
 Cat. No. AL585—100 watt .. 3/- each  
 Cat. No. AL586—150 watt .. 5/- each  
 Cat. No. AL587—200 watt .. 8/- each

**110 VOLTS. Special G.E.S. ("Goliath") Base.**  
 Cat. No. AL588—300 watt .. 13/- each  
 Cat. No. AL589—500 watt .. 18/9 each  
 Cat. No. AL590—1000 watt .. 30/3 each

## Pigmy (Pilot Lamps)

15 WATT: SMALL SIZE BULB.

Cat. No. AL200—Bayonet Cap Base 1/9 each  
 Cat. No. AL599—Screw-in Base .. 1/9 each



## TORCH LAMPS

Standard Types  
 Best Quality

Cat. No. AL112—2.5 volts .. 7d. each  
 Cat. No. AL113—Focus 3.5 volts 9d. each  
 Cat. No. AL109—Focus 6 volts .. 1/- each  
 Cat. No. AL99—2.5 volts, pre-Focus type (American Fixed Focus) 1/9 each  
 Cat. No. AL1—6 volt 3 watt Cycle Dynamo Lamps .. 1/7 each  
 Cat. No. AL2—6 volt 1.8 watt Cycle Dynamo Lamps .. 1/7 each

## 19 VOLT LAMPS

Cat. No. AL126—Ideal for Christmas light strings. Standard Torch globe base. M.E.S. .. 1/6 each

# A Woman's Crowning Glory!

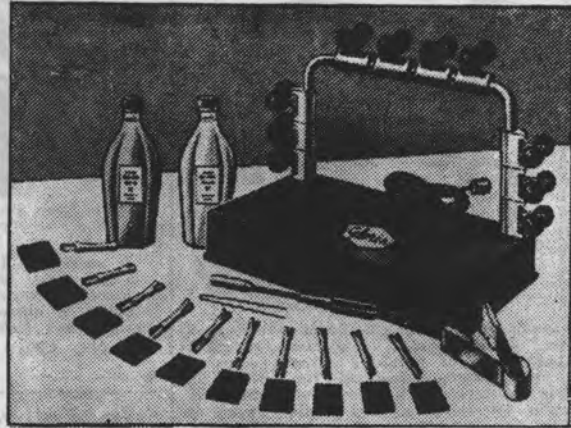
## PERM. YOUR HAIR YOURSELF—AT HOME!



Yes! Now you can cut out those tedious time-wasting hairdressing appointments!

All you need is—

### The "GLORIA" Home Permanent Wave Outfit



With the "GLORIA" Outfit you will be able to PERM YOUR OWN HAIR IN YOUR OWN HOME, easily obtaining a PERM OF PROFESSIONAL QUALITY—waves and curls of lasting loveliness, with self-setting ends. The "Gloria" is ready for service any time of the day or night. The parts of the "Gloria" Outfit are extremely easy to use, and by following the instructions you will immediately be able to "perm" your own hair and also that of other members of the family, if desired!

ASSURES A PERM OF PROFESSIONAL QUALITY. We illustrate the complete outfit above. It is, in principle, the same as used in any modern Beauty Salon. No experience or training is necessary with the "GLORIA" Permanent Wave Outfit. Those who live in the country will find this outfit will soon pay for itself by the saving of time and expense of going to town for perms.

**Complete Outfit**  
Cat. No. AE105

**£6/12/6 only.**

Includes 130-watt, 230-volt Permanent Waving Machine; 10 Heater Clamps; 10 Spring Winding Rods; 10 Rubber Pads; 1 bottle Waving Solution; 1 bottle Setting Lotion; 1 Damper; 1 Winder; 1 Instruction Book. Extra Parts and Refills of Waving and Setting Solutions can be bought separately.

Our Guarantee Protects You! **SEND FOR ONE NOW!**  
SPARES ALWAYS AVAILABLE.

### GLORIA WAVER SPARES

	Each.
Cat. No. AE106—Heating Clamps .. .. .	5/9
Cat. No. AE107—Curling Rods .. .. .	2/10
Cat. No. AE108—2½oz. bottle of Waving Solution ..	3/9
Cat. No. AE109—10oz. bottle of Waving Solution ..	10/9
Cat. No. AE110—2½oz. bottle of Setting Lotion ..	2/10
Cat. No. AE111—10oz. Bottle of Setting Lotion ..	9/3
Cat. No. AE112—Spare Dampers .. .. .	4/6
Cat. No. AE113—Spare Winders .. .. .	4/-
Cat. No. AE114—Rubber Pads .. .. .	5/- doz.

### ENGLISH PLASTIC CASE HAIR DRIERS



These Hair Driers are moulded in finished plastic. They are British made, the fan being driven by a solidly constructed and trouble-free motor. A heating element is incorporated and a switch provided so that hot or cold air can be obtained at will. As a quick and efficient means of drying the hair, these electrical driers are ideal. Complete with 5ft. flexible cord.

Cat. No. AE215 .. .. **£4/16/-**

## REMINGTON SHAVERS

### HOW TO BE LAZY

**15 MINUTES LONGER EACH MORNING.**

**Let the "Remington Foursome" Four Head Electric Shaver cut your Shaving Time to Seconds!**

Gives a smooth, clean shave without the use of soap and water. Fitted with the famous "BLUE STREAK" 2 in 1 CUTTING HEAD!

The complete unit is enclosed in a beautiful Ivory Plastic Case and is fitted with a snapfit, lucite head-guard to protect the heads when not in use. Manufactured by a subsidiary company in England for the well-known American firm. Supplied complete with 6ft. rubber flex all ready to plug-in to your light socket or hotpoint. 230 v. AC/DC.

Cat. No. AE490— **NEW LOW PRICE! £8/8/-**

**Shave the MODERN WAY**

### SPARE SHAVER HEADS

Cat. No. AE579—Remington Blue Streak Twin Cutters .. .. .	<b>31/-</b>
Cat. No. AE580—Remington Oval SU Head .. .. .	<b>21/5</b>
Cat. No. AE581—Schick Heads .. .. .	<b>40/-</b>

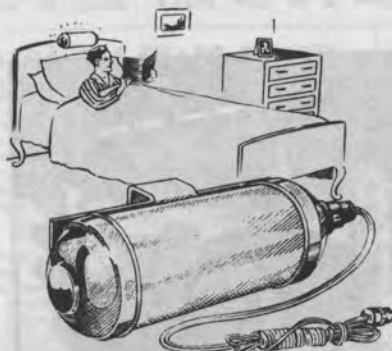
### IMPORTANT!

Owing to existing conditions prices in this book are given as a guide only. All orders will be executed at the rate ruling at the date of supply.



# A READING LAMP FOR EVERY PURPOSE!

## "LORAINÉ" TUBULAR PLASTIC BED LAMP



A superior quality Tubular Bedlamp of attractive and pleasing design. Comprises two circular end pieces of glittering chrome, a pastel tone plastic shade measuring 9in. in length, 4in. in diameter, with a heavy plastic back and clip for attaching to bed-rail. Switch is incorporated on the cord set fitting at one end of lamp. Each lamp is supplied complete with 10ft. flexible cord, light adaptor and globe.

*Utility and Attractiveness Combined!*

Cat. No. AF899 . . . ONLY **39/6** each

## "NIPPY" CLIP-ON LAMPS



An excellent little Clip-on Lamp for the back of the bed—or any other situation—table, bookcase, etc. Adjustable Plastic Shade throws the light wherever you want it. Shades are available in numerous mottled colours, while the bracket is chromium plated. Complete with 5ft. flex, switch and globe.

Cat. No. AF906 . . . **15/6** ea.

Cat. No. AF906A Complete with adaptor or plug . . . **16/6** ea.

## "PERLUX" DUAL PURPOSE LAMPS

A really handy reading Lamp which will clip on the bed rail or stand on a table. The shade is on a swivel and may be turned up or down. Finished in mottled colours. Complete with switch, lampholder, shade and globe, with approx. 6 feet flex. Moulded in plastic.



Cat. No. AF909—

**17/6**

Cat. No. AF909A—

Complete with adaptor or plug **18/6**

## "DIAMOND SHAPED" READING LAMPS



A neat Wall Lamp. Has "Diamond" shape wooden base with switch and lampholder mounted. Attractive Parchment Shade can be supplied in different colour tonings. Nine feet flexible cord, globe and adaptor on each Lamp.

Cat. No. AF910 . . . **29/6** ea.

## "SWAN NECK" READING LAMPS



WALL LAMP, supplied with 3 yards flexible cord. Polished wood base, 5 1/2 in. diam. Bracket extends 9 in. Parchment shade. Switch mounted flush in base.

Cat. No. AF902 . . . **35/-** each

Ditto, but using smaller 6 in. Chrome-plated Bracket.—Cat. No. AF901 . . . **33/6**

## "ORNAMENTAL DOG" READING LAMP



Here's the last word in a novel yet practical type of ORNAMENTAL READING LAMP. A highly polished casting of a dog is mounted on a wooden varnished base 8 1/2 in. x 3 in. x 1 in. with a background of circular frosted glass. The globe fits on to a clip at the back of the glass and gives a beautiful effect when lighted. Supplied complete with 10ft. flex, holder with switch, globe and adaptor.

Cat. No. AF904 . . . **45/-** each

Similar to above except with lion ornament in place of dog.

Cat. No. AF905 . . . **45/-** each

## FLOOR STANDARDS

TURNED IN NEW ZEALAND FROM NEW ZEALAND WOOD



Height to base of Lampholder, 61in.; diameter of base, 14in. Supplied complete with 12ft. flexible cord. Lampholders with switch and shade holder.

The Lamp Shades are NOT included in the price. Refer to page 12 for suitable shades.

VARNISHED — HIGHLY POLISHED  
Cat. No. AF920 . . . **£4/19/6**

## UNSTAINED FLOOR LAMPS

Similar to above but unstained.—  
Cat. No. AF 919, Plain Turned . . . **59/6**

Cat. No. AF918 Jacobean Twist (Spiral) . . . **79/6**

**MOVABLE ARM LAMP**



A Bracket Lamp, ball jointed at base, centre and head to allow the light to be directed at any angle. May be swivelled up, down, sideways—just wherever you want it. Bracket is manufactured in heavy chromium rod 3/4 in diam. and will project over any length up to 30in. Circular flange at base for screwing bracket to wall. Can be supplied with or without flex and lampholder, etc., as priced below.

- Cat. No. AF891—Bracket only without fittings . . . . . **33/6**
- Cat. No. AF892—Bracket complete with 10ft. flexible cord, lampholder with switch and light adaptor . . . . . **43/6**

**Lighting EXTENSION CORDS**

**Read in Comfort!**



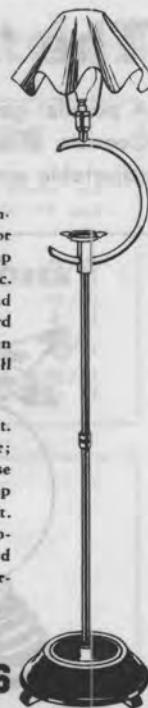
For taking the light where you want it. Ten feet long and supplied with an insulated shock-proof lampholder. Extra long lengths can be made up at 9d. yard extra.

- Cat. No. AE51 . . . . . **5/-**
- Cat. No. AE52 (with switch holder) . . . . . **8/9**

**LAMPHOUSE GUARANTEE**

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

**ASH-TRAY CHROME STANDARD LAMP**



A distinctively designed Standard Lamp 3ft. in height for use as a Reading Lamp beside armchairs, settees, etc. Designed to meet the demand for a bantam size Standard these Lamps would make an attractive addition to any well furnished room.

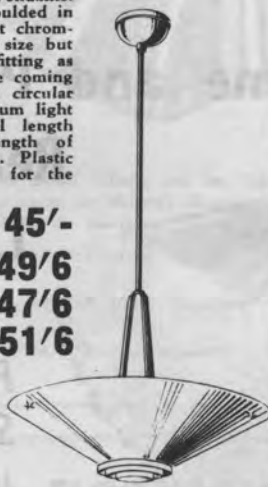
Chrome tubing measures 3ft. from floor to lampholder; black coloured wooden base is 8 1/2 in. diameter. The Lamp is supplied complete with 6ft. flexible cord, switch on lampholder, globe and waded shade. (State colour preference when ordering.)

- Cat. No. AF715—**COMPLETE £4/12/6**

**PLASTIC PENDANT FITTINGS**

Two styles of attractive Ivory Plastic Lighting Pendants. The shades proper and the ceiling cup are moulded in ivory plastic and the centre columns are bright chromium plated tubes. Both fittings are the same size but have slightly different bases. The "Cone" fitting as the name implies is shaped as a cone the base coming to a point, while the "Louvre" fitting has a circular slotted base as illustrated to allow for maximum light distribution. *Dimensions of fittings:* Overall length 30in. from ceiling mounting to base. Length of chromium tube 14in. Width of Bowl 14in. Plastic ceiling mount 6in. diam. The slotted inset for the "Louvre" fitting measures 4 1/2 in. diameter.

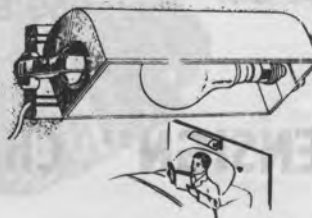
- Cat. No. AF708—"CONE" FITTING (This price does not include wiring.) . . . . . **45/-**
- Ditto, wired ready to plug in. . . . . **49/6**
- Cat. No. AF708A . . . . . **47/6**
- Cat. No. AF709—"LOUVRE" FITTING (This price does not include wiring.) . . . . . **51/6**
- Ditto, wired ready to plug in. . . . .
- Cat. No. AF709A . . . . .



**A SUGGESTION**

As it is much easier for us to make a refund along with your receipt than for you to get stamps or postal notes to remit a small balance that may be left owing when your receipt is sent, would it not save you inconvenience if you were always to send ample cash to allow for freight, etc.? We will refund the difference, or place it to your credit, according to your instructions. Do as hundreds of our customers do, send a blank cheque, which we will fill in when we have totalled your order. You can write across the top of the cheque "Not to exceed £5"—or £10, or £20, as the case may be.

**"BARONESS" PLASTIC LAMPS**



Moulded in Plastic the "Baroness" is a new dual-purpose Reading Lamp to meet every need. Two rubber covered clips (covered so as not to mark your furniture) enable the "Baroness" to clip on the bed-head while special grooves in back plate of the lamp allow also for wall mounting. Standing the "Baroness" on a table gives an excellent bedside or desk-lamp.

**ATTRACTIVE—YET VERSATILE!**

The shade is swivel mounted to allow you to concentrate the light just where you want it. Lamp measures: Length, 9 1/2 in.; Width, 3 1/2 in.; Height, 6in. ON-OFF Switch mounted in base. Supplied complete with 9ft. flexible cord. Moulded in three Colours: Pink, Green, White.

- Cat. No. AF912 . . . . . **38/6**
- (Without Globe.)
- 40-watt Globe . . . . . **1/10 extra**

**CHROME PENDANT RODS**

Chromium plated Rods for supporting glass fittings. Supplied in several different lengths as given below. Each Rod is fitted with a lampholder, attachment for mounting to the ceiling and a chromium metal cup to slide up the rod, covering the ceiling mount and giving a finished appearance. Rods 1/4 in. diameter.

- Cat. No. AF500—18in. Rod . . . . . 17/4
- Cat. No. AF501—24in. Rod . . . . . 18/10
- Cat. No. AF502—30in. Rod . . . . . 20/4
- Cat. No. AF503—36in. Rod . . . . . 21/10

# The "ENSIGN" Flexible Arm Reading Lamp

A popular general purpose Flexible Arm Reading Lamp. Consists of a heavy cast base with a 15in. Chrome adjustable arm which may be moved or set to any angle

required. Its flexibility makes it ideal as a Desk Lamp for the student, the reader and business man or any engaged in close work at the office or in the home

## AEROPLANE LAMP



Black wood base 6in. diam. Glass Ball 6in. diam. Plane mounted on chrome support. Supplied complete with 9ft. flexible cord. A novel decorative lamp.

Cat. No. AF903 .. .. 59/6 each

All lamps have Chrome Arms, but bases are in different colours, including antique, black and silver, flecked gold, etc. Supplied complete with 9ft. cord, adaptor, shade and globe. Switch is mounted on lamp holder.

PRACTICAL AND NEAT!

Cat. No. AF900

29/6



## "ENSIGN" Chrome and Plastic Reading Lamps



Here is a DUAL-PURPOSE READING LAMP for use either on a Bedside-Dressing Table, or for hanging on the wall over the bed.

The PASTEL TINTED PLASTIC SHADE is mounted on a swivel so that you may have the light just where you want it.

## Reading Lamps



Plastic Shades in all Colour Tonings

## ASH TRAY READING LAMP



Chromium tube fitted to black, wooden base 7 1/2 in. diam. Chrome ash tray and flush ivory push switch mounted. Supplied complete with 9ft. silk covered flex, parchment shade, globe and adaptor.—Cat. No. AF923 .. 35/-

STATE YOUR SHADE COLOUR PREFERENCE WHEN ORDERING.

An Ivory-topped ON-OFF Switch is mounted in the base in an easily accessible position. Each Lamp is fitted with 9ft. of flexible cord and a plug for either the light or hot-point—whichever you desire.

The glittering reflection from the combination of CHROME and PLASTIC make this lamp a BEAUTIFUL ADDITION TO ANY ROOM.

Cat. No. AF921 - - New Reduced Price

49/11

# Parchment & Plastic Lamp Shades

## COLOURS

All shades on this page can be supplied in the following colours. Red, Pink, Orange, Lemon, Pale Green, Pale Blue, as well as plain White. Please state colour when ordering.

### SMALL EMPIRE

Small shades for bracket lights or hanging lights in small rooms. Diameter 5 1/2 in. Height 4 1/2 in.

Cat. No. 7/P/R—Parchment **2/9** each

Cat. No. 7/P/Z—Plastic **4/6** each



Shades similar to above but supplied with clip for clipping directly on to upright lamp bulbs.

Cat. No. 7A/P/R—Parchment **2/9** each

Cat. No. 7A/P/Z—Plastic **4/6** each

### EMPIRE SHAPE 8in.

Height 8in. Diameter 8in. Laced with Rayon.



Cat. No. 3/P/R—Parchment **3/6** each

Cat. No. 3/P/Z—Plastic **6/-** each

### EMPIRE SHAPE 10in.

Height 7in. Diameter 10in. Laced with Rayon.



Cat. No. 1/P/R—Parchment **3/9** each

Cat. No. 1/P/Z—Plastic **7/11** each

### CLIP FITTINGS

All shades up to 14in. diameter can be supplied with clip fitting for use with table lamps at no extra cost.

### SQUAT EMPIRE

Low and wide shape which allows for maximum of light. Available in 10 and 14in. diameters as follows.

Cat. No. 15/P/R—Parchment 10in. **3/9**

Cat. No. 15/P/Z—Plastic 10in. **7/6**

Cat. No. 6/P/R—Parchment 14in. **6/-**

Cat. No. 6/P/Z—Plastic 14in. **12/6**



### PLASTIC WAVED SHADES

Modern Gleaming Plastic



Made in six soft pastel colours and its "chic" shape makes it universally popular for lounge, breakfast room, or Milady's Boudoir. The fine tinting on the translucent plastic enables you to obtain the maximum, yet a soft light. Bound with rayon to match.

Cat. No. 36/P/R—12in. diameter **13/6** each

Cat. No. 49/P/R 10 1/2 in. diameter **12/6** each

Cat. No. 48/P/R—9in. diameter **7/6** each

### FLOOR LAMP SHADES

Two sizes available. Especially suitable for floor standards but can also be used as hanging shades in large rooms, halls, etc. Rayon braid.

Cat. No. 32/P/R—20in. Diameter Parchment **21/-** each

Cat. No. 32/P/Z—20in. Diameter Plastic **29/6** each

Cat. No. 30/P/R—24in. Diameter Parchment **30/6** each

Cat. No. 30/P/Z—24in. Diameter Plastic **44/-** each



# LAMPSHADES — METAL AND PLASTIC



## PLASTIC SHADES

Cat. No. AF661—  
4 1/2 in. high, 5 1/2 in.  
diam. Green, Ivory  
and Pink.

**2/1** each

## TERRACED PLASTIC SHADES

4 1/2 in. high, 4 1/2 in. dia-  
meter, available in  
Ivory, Pink, and  
Green.

Cat. No. AF662—  
**1/10** each



## "TULIP" PLASTIC SHADES

5 in. high, 4 1/2 in. dia-  
meter. Moulded in  
attractive pastel ton-  
ings, pink, green, or  
white.

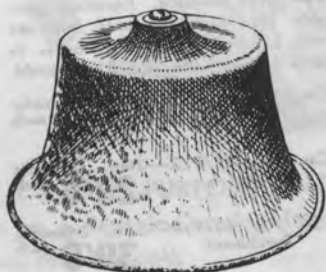
Cat. No. AF663—  
**3/10** each

## "NIPPY" LAMPSHADES



Made of translucent plastic, these shades are fitted with a wire clip which clamps direct on to the lamp bulb, making them ideal for adjustable table lamps, etc. Available in most popular colours. Diam. 5 1/2 in. **2/-** each  
Cat. No. AF255

## "CLIP-ON" SHADES



Another fancy shape in Plastic Shades. Several pastel tonings. Provided with clip for attaching to Reading Lamp bulb, etc. Dimensions: Diameter, 6 in.; height, 3 1/2 in. **2/11** each  
Cat. No. AF256

## THE "PLASTIC COOLICON"



"COOLICON" Lampshades are ideal for all lighting, whether in the home, warehouse or factory. There are two types in these fittings; one plastic and the other vitreous enamelled steel. The plastic type shown above is ready to fit on to the standard lampholder—no accessories are necessary. The plastic is strong, and will not discolour with the heat.  
9 in. Type—Takes 40/75 watt globes. Cat. No. AF950 .. **8/9** each  
11 in. Type—Takes 100/150 watt globe. Cat. No. AF951 .. **10/6** each

## THE "METAL COOLICON"



This shade is similar to the plastic version, except that the framework is of a green vitreous enamelled sheet steel. The inside is coloured white to give the maximum in lighting efficiency.  
9 in. Size—Takes 40/75 watt lamp.—Cat. No. AF952 .. **9/-**  
11 in. Size—Takes 100/150 watt lamp.—Cat. No. AF953 .. **10/9**

## HORIZONTAL REFLECTOR



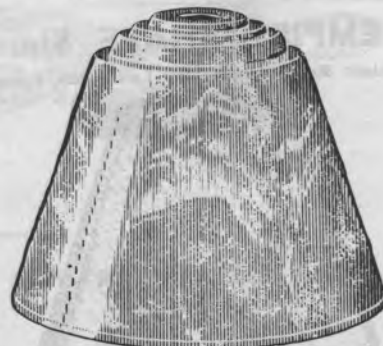
For reading and working lamps, etc. Provided with standard 1 1/2 in. hole for fitting on to lampholders. 6 1/2 in. diameter.  
Cat. No. AF966 .. **10/9** each

## "BELL" SHADES



A novel shape in Plastic Shades. Tinted in a Pink Pastel toning. Very strong yet light.  
Dimensions: Diameter, 6 1/2 in.; height, 5 in.  
Cat. No. AF257 .. **3/6** each

## BEAUTIFUL SHADES



Attractive translucent Plastic Lamp Shades in the following colours: Pink, Mauve, White, Green, Blue, Yellow. Size 7 in. diameter, 5 in. high. **2/3** each  
Cat. No. AF259

## OPAL TYPE SHADE



Moulded in New Zealand these Plastic shades take the place of the old glass opal shades. Very strong and light. Supplied in plain white and pastel tints.  
White—Cat. No. AF560 .. **1/8** each  
Tinted—Cat. No. AF561 .. **1/9** each

# BULK PURCHASE IN SHADES!

## 10in. ENAMELLED LAMPSHADES

10in Lampshades, white enamelled interior and blue enamelled outside. This type of shade is very popular for general use in the home, office, factory, warehouse, etc.

A Bulk Purchase of over ten thousand of these shades, enables us to sell them to you at approximately half the price they cost to manufacture.

Cat. No. AF600—  
**GREAT VALUE!**

**1/7** each or **16/11** dozen



# LAMP FITTINGS — BRACKETS

## GALLERIES FOR GLASS LAMP SHADES

All the following have a standard 1 1/2 in. hole for fitting on to standard size lamp-holders.



Brown Moulded Gallery 2 1/2 in.—  
Cat. No. AF350—  
1/3 each

Cat. No. AF351—Ditto, 3 1/2 in. .. 3/9  
Cat. No. AF352—Ditto, 4 1/2 in. .. 4/-  
Cat. No. AF356—Ditto, 4 1/2 in. white .. 4/3

### METAL GALLERIES AS ABOVE Oxidised Copper

Cat. No. AF353—2 1/2 in. .. 1/3  
Cat. No. AF354—3 1/2 in. .. 3/6  
Cat. No. AF355—4 1/2 in. .. 4/9  
Cat. No. AF379—Ditto, with hook .. 6/-

### CHROME FINISH

Cat. No. AF357—2 1/2 in. .. 1/9  
Cat. No. AF358—3 1/2 in. .. 4/9  
Cat. No. AF359—4 1/2 in. .. 5/3

### CHROME CEILING GALLERIES

Cat. No. AF360—3 1/2 in. .. 7/6  
Cat. No. AF361—4 1/2 in. .. 8/9

## FITTING ACCESSORIES

### DEEP 3-HOOK CEILING CANOPIES

Has three hooks for hanging bowl fittings, etc. Deep enough to fit right over the ceiling rose, thus saving the expense and trouble of removing the ceiling rose and block to fit a special connecting block. Oxidised copper finished.

Cat. No. AF310 .. 4/3

### SHALLOW 3-HOOK CEILING PLATES

Serves same purpose as the Deep 3-Hook Canopy described above. The mounting plate is flat, which necessitates the removal of the ceiling rose. Diameter 3 in. Oxidised Copper Finish.

Cat. No. AF309 .. 3/10 each  
Similar type of plate but with Single Hook. Nickel Finish.—Cat. No. AF313 3/9 each

### CHROME CHAIN

For Hanging Bowl Fittings, etc., 1 1/2 in. x 1 in. Cross Links. Also ideal for Hanging Mirrors.  
Cat. No. AF316 .. 3/3 yard

### HOOKS AND BUTTONS

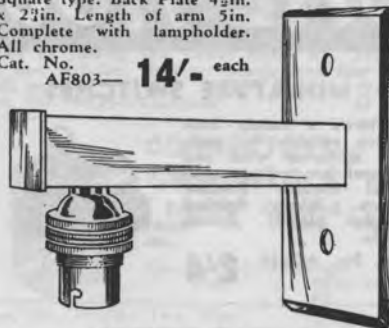
1/2 in. Nickel Plated Hooks, complete with washers and nut.—Cat. No. AF323 1/9 ea.

### BOWL BUTTONS

Oxidised. Complete with washers and nuts.  
Cat. No. AF325 .. 5D. each

## WALL BRACKET

Square type. Back Plate 4 1/2 in. x 2 1/2 in. Length of arm 5 in. Complete with lampholder. All chrome.  
Cat. No. AF803— 14/- each



## WALL BRACKETS



Chrome 9 in. Wall Brackets, complete with Lampholder. Best quality.  
Cat. No. AF801 .. 12/- each

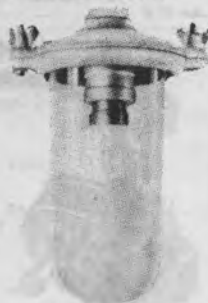
Cat. No. AF802—Ditto 6 in. size complete with Lampholder. .. 11/- each

## Well-Glass Watertight Fittings

### For OUTSIDE LIGHTING

Cat. No. AE842—  
60 watt size. Complete with holder.  
14/- each

Cat. No. AE841—  
150 watt size. Complete with holder.  
16/- each



Similar to above, but with enamelled reflector.  
Cat. No. AE847—  
150 watt size. Complete 17/3

SPARE GLASSES  
Cat. No. AE844—  
60 watt size 5/9

Cat. No. AE843—  
150 watt size. 6/9

## SHADE HOLDERS

Shade Holders for table lamps. Oxidised finish. Hinged in the centre so that the shade can be tilted.

Cat. No. AG36 2/3 ea.

Similar to the above, but chrome plated.

Cat. No. AG37 3/3 ea.



## SHADE HOLDERS

For fixing Shades to table lamps. Non adjustable type.

Cat. No. AG38 .. 2/3 each

## IMPORTANT!



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## SHADE CLIPS



Can be attached to any Lamphshade. By using this Clip an ordinary lamphshade can be converted to fit a reading lamp without the usual shade carrier.

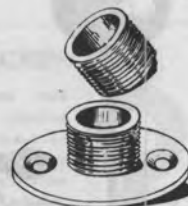
Just clips straight on to the globe.

Cat. No. AF381 .. 6D. each

## NIPPLES

Threaded Brass Tube for making table lamps, etc. Fit standard 1/2 in. lampholders.

Cat. No. AG300—  
6D. each



## FLANGES

Cat. No. AG306—1/2 in. .. 9D. each

## FLANGES

Metal Conduit Flanges to fit 1/2 in. Conduit.

Cat. No. AN1—w/male thread .. 4D. each

Cat. No. AN2—w/female thread 4D. each

## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

Prices for other Fitting Accessories on application.

# ELECTRICAL ACCESSORIES

## SWITCHES—INSULATED ELECTRIC



BEST QUALITY ENGLISH

- Cat. No. AG232—5-amp., 1-way .. 2/9
- Cat. No. AG235—10-amp., 1-way .. 4/6
- Cat. No. AG239—15-amp., 1-way .. 7/6
- Cat. No. AG230—5/10-amp., 2-way .. 3/6

## CEILING SWITCHES

- CRABTREE-SPERRY. BEST QUALITY.
- Cat. No. AG245—1-way .. 4/11 each
  - Cat. No. AG246—2-way .. 8/9 each



## CORDS FOR CEILING SWITCHES



Spare Cords for Ceiling Switches.  
Cat. No. AG116 8 D. each.

## LINE CORD SWITCHES



For through connection. Made of bakelite. This is a useful switch for fitting on the cords of vacuum cleaners, appliances, etc., to save walking to and fro from your hotpoint.  
Cat. No. AG131 .. 3/- each

Cat. No. AG133—"Torpedo" Shaped Small Cord Switches. Assorted Colours. 1/11 ea.

## MINIATURE SWITCHES

Here's a handy little switch suitable for radio and motor-car work and general low voltage electrical circuits. Positive action. Nicely finished (nickel plated). British made.



Cat. No. AG118 2/4

## 3-HEAT SWITCH

Flush Range Switch, suitable for Neeco and other ranges, grillers, etc., employing 3 heat flush switches. Dimensions 1 1/2 in. x 1 1/2 in. Complete with lock nut and black pointer knob.

Cat. No. AG135 .. 17/- each  
See diagram in Reference Section on how to connect a Three-Heat Switch.

## RADIATOR REPLACEMENT SWITCH

Flush mounting switch for "Speedee" Radiators.  
Cat. No. AG138 .. 3/9 each

## CEILING ROSES



Bakelite Ceiling Roses for electric light pendants.  
Cat. No. AG32—2-plate .. 1/4 each  
Cat. No. AG33—3-plate .. 1/6 each

## CONVERSION ADAPTORS



These conversion Adaptors will be found useful to the general public, besides appliance salesmen, etc. They enable a radio set with a three-pin plug to be used from a two-pin socket, etc.

Cat. No.	Fits into.	Takes.	Price.
AG500	3-pin ..	2-pin Tee	—
AG501	3-pin ..	2-pin Prfl.	3/9
AG502	3-pin ..	Lamp Socket	3/6
AG503	2-pin Tee ..	2-pin Prfl.	3/9
AG504	2-pin Tee ..	3-pin	4/-
AG505	2-pin Tee ..	Lamp Socket	3/9
AG506	2-pin Parallel	3-pin	4/-
AG507	2-pin Parallel	2-pin Tee	—
AG508	2-pin Parallel	Lamp Socket	3/9
AG509	Lamp Socket	2-pin Tee	—
AG510	Lamp Socket	2-pin Prfl.	4/-
AG511	Lamp Socket	3-pin	4/-

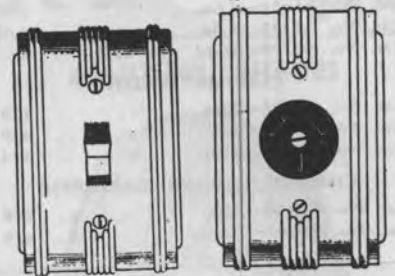
## FLUSH SWITCHES AND PLUGS

### SWITCHES ONLY.

- Cat. No. AG172—5/10-amp. Brown .. 2/3
- Cat. No. AG173—5/10-amp. Ivory (luminous) .. 2/10
- Cat. No. AG174—5/10-amp. Brown, 2-way .. 3/-
- Cat. No. AG175—5/10-amp. Ivory (luminous) 2-way .. 3/9

### PLUG BASES ONLY.

- Cat. No. AG177—3-pin, Brown Bases .. 2/3
- Cat. No. AG178—3-pin, Ivory Bases .. 2/8



## PLATES FOR SWITCHES AND PLUGS.

- Cat. No. AG186—Ivory Bakelite, Classic type, for 1 switch .. 1/4
- AG187—Ivory Bakelite, Classic type, for 2 switches .. 2/7
- AG189—Ivory Bakelite, Classic type, for 1 switch and 1 plug .. 2/7
- AG194—Ivory Bakelite, Classic type, for 1 plug .. 1/4
- AG195—Brown Bakelite, for 1 switch, Classic type .. 1/2
- AG196—Brown Bakelite, for 2 switches, Classic type .. 3/9
- AG193—Brown Plate for 1 plug .. 1/2
- AG185—Brown Plate for 1 switch and 1 plug .. 1/9
- AG197—Brown Fancy Screws .. 3d. each
- AG198—Ivory Fancy Screws .. 4d. each

## METAL MOUNTING BOXES

- AG190—Single Gang Boxes .. 1/9
- AG191—Double Gang Boxes .. 3/-

## TABLE LAMP SWITCH

Small Push Button Switch for mounting in the base of table lamps, etc. Single hole mounting. 230 volts—2/3 amp.



Cat. No. AG117— 2/8 each

## EGG CORD SWITCH

Switch (230 volt, 2 amp.) for hanging on end of cord. Handy for sick rooms, etc. British. Made of black bakelite.



Cat. No. AG132— 3/1 each

**ADAPTORS**

For end of cords to fit into light socket for extensions, etc.  
Cat. No. AG210 .. 9D. each



**2-LIGHT ADAPTORS**

Two-light Bakelite Adaptors.  
Cat. No. AG218

2/11 each



**SWITCH TYPE**

Enables an extension to be taken from a lamp-holder. Provided with a switch so that the centre light can be switched off, leaving the extension going.

Light Where You Want It!



Cat. No. AG220 .. 3/11 each

Cat. No. AG221—Heavier type 5/11 each

**LAMP HOLDERS**

CORDGRIP TYPE. BAKELITE—

Cat. No. AG250—With skirt Each 1/11

AG251—Without skirt 1/6

AG252—With switch, with skirt .. 5/6

AG253—With switch, without skirt 4/11

BATTEN TYPE—AG254—With skirt 2/11

AG256—Without skirt 2/2

Cat. No. AG260—With switch, without skirt 4/6

ANGLE TYPE BATTEN HOLDERS—Cat. No. AG258 .. 2/6

THREADED TYPE—Cat. No. AG261—3in. Bakelite type .. 2/7

Cat. No. AG263—3in. N. Plated Metal type 2/9

Cat. No. AG268—3in. conduit thread metal 2/9

Cat. No. AG269—3in. bakelite type 2/9

Cat. No. AG264—3in. with switch .. 5/9

E.S. HOLDERS—Cat. No. AG273—Batten type .. 3/6

Cat. No. AG274—Cordgrip type .. 3/9

Cat. No. AG275—3in. Bakelite .. 3/6

Cat. No. AG278—Goliath screw type .. 7/9

**CORD CONNECTORS (3-Wire)**



Cord Connectors for joining three-wire cord. Moulded in bakelite. Titegrip. N.Z.-made

Cat. No. AG25/414—Complete 3/- each

Cat. No. AG25—Body only .. 1/9 each

Cat. No. AG414—Side Entry. Plug Top .. 1/- each

**INDUSTRIAL CONNECTORS**

Consisting of all-rubber three-pin Plug and rubber-covered Connector body.

Cat. No. AG26 .. 7/6

**CONNECTORS FOR A.C. MAINS**



This two-piece Connector gets over the difficulty of joining two power leads, etc. Made of best bakelite, they are strong and easy to pull apart.

Cat. No. AG18—Complete .. 3/-

**CONNECTORS—2-WIRE BLOCK**



Porcelain Insulated Connector for joining wires, etc.

Cat. No. AG29—Single Wire .. 8D. each

Cat. No. AG28—Two Wire .. 1/- each

Cat. No. AG27—Three Wire .. 1/3 each

**CONNECTOR STRIPS**

These constitute 12 connectors (similar to above) moulded in bakelite on long, narrow Strip. Strips can be subdivided to give any number between one and twelve connectors. We can break strips to whatever number of connectors you require.

5/- STRIP OF 12 OR 5D. per connector  
Cat. No. AG30

**PLUG TOPS FOR APPLIANCES**

Plug top that fits on to the cord of appliance for plugging into the wall.



Cat. No. AG412—2 Pin Tee Plug .. 9d. ea.

Cat. No. AG410—2 Pin Parallel Plug .. 10d. ea.

Cat. No. AG415—3-pin Handgrip Plug Cap .. 9d. ea.

Cat. No. AG414—3 Pin Side Entry Plug 1/- ea.

Cat. No. AG425—3 Pin Side Entry Plug with rubber protecting cap 1/11 ea.

Cat. No. AG428—Heavy 3 Pin Rubber Plug Top 3/6 ea.

Cat. No. AG421—Heavy duty Bakelite moulded "Amalite" 3 Pin Plug Top 3/1 ea.

Cat. No. AG420—Ditto, Moulded in Ivory Colour .. 3/6 ea.

**WALL PLUGS AND BASES**

3 pin Side Entry Bakelite Plug Top and 10/15 amp. 3 pin Wall Base.

Cat. No. AG414/402 2/6 each

T Pin Top entry Plug Top and 10/15 amp. T pin Wall Base.

Cat. No. AG412/400 2/3 each



**WALL BASES**

TITEGRIP 10/15 amp. 3-pin PLUG BASES. Cat. No. AG402 .. 1/6 each

"AMALITE" 15 amp 3-pin PLUG BASES. Heavy Job. Cat. No. AG403 .. 2/6 each

TITEGRIP "TEE" 2-pin PLUG BASES. Cat. No. AG400 .. 1/6 each

PARALLEL 2-pin PLUG BASES. Cat. No. AG401 .. 2/- each

**CABLE CLIPS, BUCKLES**

Cat. No. AG514 .. 1D. each, 8D. doz.

**PLUGS, DOUBLE THREE-PIN**

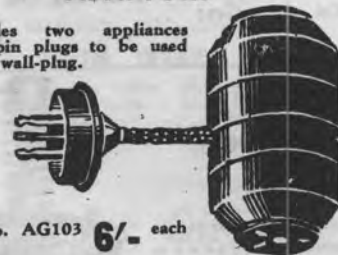


A useful plug where it is desired to take two leads from one three-pin socket. The plug illustrated is fitted to the appliance or radio cord. A standard 3-pin plug can then be inserted into the top of it.

Cat. No. AG433 .. 1/9

**LAMPHOUSE 2-WAY ADAPTORS**

Enables two appliances with 3-pin plugs to be used from a wall-plug.



Cat. No. AG103 6/- each

Similar to above but for two pin (Tee) plugs  
Cat. No. AG104 .. 6/-

**LAMPHOUSE GUARANTEE**

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**INSULATED SCREW EYES**

The wiring regulations state that all flexible cords running along walls and ceilings must be supported by an insulated screw eye every 12 inches. Well, here they are, moulded in plastic. Clear, Cream, and Amber colours.

Cat. No. AS353 .. 4D. each



**PRICES ARE SUBJECT TO ALTERATION**

All Prices in this book must be regarded as an indication only— all orders will be executed at ruling prices.

**THE ELECTRIC LAMP HOUSE LIMITED,**  
11 MANNERS STREET,  
WELLINGTON, C.1.



# ELECTRICAL ACCESSORIES, ETC.

## APPLIANCE PLUGS

Best English quality Appliance Plugs to fit practically every type of Iron, Toaster, Jug and other electrical appliances.

Cat. No. AG457 Unearthed type .. **1/7**

Cat. No. AG458 Earthed type .. **1/11**  
for use with 3-pin plug tops.



## HEAVY DUTY ENGLISH APPLIANCE PLUGS

A robust, well-made English Appliance Plug, for Kettles, Toasters, Jugs, Vacuum Cleaners, etc. Fitted with strong Earthing Clip.

Cat. No. AG452 .. **2/11**

## SWITCH APPLIANCE PLUGS

Used in many of the leading vacuum cleaners, such as the "KNIGHT." Push bar switch allows current to be turned off at appliance instead of going to and fro from the hotpoint.

Cat. No. AG465— **4/8** each



## FUSE WIRE CARDS & REELS



AG46— 5 amp., on card .. 3d. each  
AG47—10 amp., on card .. 3d. "  
AG48—15 amp., on card .. 3d. "  
AG350— 3 amp. (1lb. reels) .. 2/6 "  
AG351— 5 amp. (1lb. reels) .. 2/6 "  
AG352—10 amp. (1lb. reels) .. 2/6 "

## RANGE WIRE

Asbestos covered wire for internal wiring of electric ranges, fires, etc. Can be used in any position subject to heat.

Cat. No. AW84—23/.0076 (Flex) **1/-** yd.

Cat. No. AW86—7/.029 (Wire) **1/-** yd.

## FUSES FOR SWITCHBOARDS, ETC.



2-piece Fuse Blocks.  
Cat. No. AG160— 5-amp. .. **2/3** each  
Cat. No. AG161—10-amp. .. **2/3** each

## FUSES, ELECTRIC RANGE



Screw Type Fuses are used on nearly all makes of electric ranges and other electrical appliances.

Cat. No. AG41—10 amp.  
AG42—15 amp.  
AG43—20 amp.  
GLASS TYPE— **8** D. each

Set of Five costs .. **3/-**

## WOODEN ERA BLOCKS

Cat. No. AG78—Era Blocks, with connectors .. **3/-**

## WOOD BLOCKS

ROUND AND RECTANGULAR WOOD BLOCKS, for mounting switches, ceiling plates, etc. Carefully made and well finished. Recessed. (Made in N.Z.)



Cat. No. AG79—3/4 in. Round .. **5** D. each  
Cat. No. AG83—3 1/2 x 3 1/2 square .. **8** D. each  
Cat. No. AG80—6 x 3 rectangular .. **9** D. each  
Cat. No. AG81—9 x 3 rectangular .. **1/-** each  
Cat. No. AG82—6 x 6 square .. **1/6** each

## ART SILK FLEX

LIGHTING FLEX, 23/.0076. Twin wires enclosed in single braided casing. Available in Pink, Green, or Blue flecked. Ideal for ornamental fittings, reading lamps, etc.

Cat. No. AW274 .. **10 1/2** D. yard

## WIRE, FLEXIBLE

Two and three-wire, 23/.0076 P.V.C. Flexible for extensions, appliances, etc. Each core is P.V.C. insulated braided overall.

Cat. No. AW236—2-wire .. **1/-** yard

Cat. No. AW237—3-wire .. **1/6** yard

## WIRES, V.I.R. CABLE

Cat. No.	Yard.	100 yard coil.
AW77—1/.044 (1/18)	3d.	21/6
AW78—7/.029 (7/21)	6d.	44/6
AW79—3/.036 (3/20)	4 1/2d.	31/-
AW80—7/.036 (7/20)	8d.	59/6
AW81—7/.044 (7/18)	11d.	82/-

## CABTYRE RUBBER FLEX



Heavy rubber-covered Circular Flex for extensions in workshop. Flexible. 11/.012.

Cat. No. AW150—2-wire .. **1/2** yd.

Cat. No. AW151—3-wire .. **1/9** yd.

Cat. No. AW152—3-wire 40/.0076 (extra heavy) .. **2/-** yd.

## MOTOR CAR CABLES. See Page 37

## WIRES, HEATING



23/.0076 Rubber-insulated Asbestos-covered heating flexible. Covered overall with a glazed cotton braid. Used for toasters, and other appliance cords. **Yard.**

Cat. No. AW230—2-wire .. **1/-**

Cat. No. AW231—3-wire .. **1/5**

Cat. No. AW240—40/.0076, 2-wire .. **1/9**

Cat. No. AW241—40/.0076, 3-wire .. **2/2**

Cat. No. AW245—70/.0076, 3-wire .. **2/8**

## FLEX for EXTENSIONS



For 230-volt supply. Handy for extending lights, etc. 23/.0076.

Twin Twisted Cotton-covered Eng. Rubber, Insulated. **8** D. yard

Cat. No. AW270 .. **8** D. yard

## TRU-RIP FLEX



Thin Plastic-covered Flex. Two wires laid flat. Handy for wiring Table Lamps, etc.

Colours: Brown, Black, Red, White, Clear. Cat. No. AW272 .. **7 1/2** D. yard

Cat. No. AW271—Similar to above but 3-wire .. **1/-** yard

## RADIO WIRES SEE PAGE 75

# BELLS — BELL MATERIAL

## DING-DONG!



### CATHEDRAL ELECTRIC DOOR CHIMES

Here's the latest thing in Door-Calls. Instead of the usual clacker of a door knocker or the clang of a bell the "CATHEDRAL" DOOR CHIME gives a clear and mellow two-tone chime, sounding once for a back door caller and twice for the front door. The head-piece is beautifully moulded in translucent plastic in three colours —Walnut, Cream, and Brown—to blend with all interior finishes. The two tubes are of a polished gleaming, brass, lacquered to withstand tarnishing, machined to provide resonant tones. The unit works in conjunction with a 6 Volt supply (4 No. 6 Cells) and two bell pushes. Full instructions with each set.

Say Goodbye now to all that noise and clatter and invest in a "CATHEDRAL" DOOR CHIME. Cat. No. AG323 .. **67/6**

Supplied complete with batteries Cat. No. AG323A and two bell pushes **87/-**

Supplied complete with Transformer for use from the ordinary 230 volt mains. With two bell pushes. Cat. No. AG323B .. **95/-**

### Best British BELL

British. Pressed iron frame. Silver contact points. Terminals under cover. Nickel-plated steel gong, 2 1/2 in. diameter. Bakelite case. For battery or 4-volt A.C. operation.



Cat. No. AG320 **5/6**



### BRITISH BUZZER

British good quality Buzzer in bakelite case.

Cat. No. AG319 **5/-** each

**BELL BATTERIES**  
See Page 46

### SQUARE BELL PUSH

Attractively designed in moulded Bakelite. Size, 2in. square. Cat. No. AG333 **2/3**



### "ROUND" BELL PUSH



Good quality Brown Bakelite Push; 1 1/2 in. diameter.

Cat. No. AG334 **1/11** each

### "Cubist" BELL PUSH

Bell Push of exceptionally attractive appearance, suitable for inside or outside use. Moulded Bakelite. Size 2 1/2 in. x 2 in.



Cat. No. AG332 **1/11** each



### BAKELITE PEAR PUSHES

Bell Pear Push for cord suspension. Attractively finished in moulded bakelite. The plunger is of polished bone.

Cat. No. AG335 **1/11** each

### BELL TRANSFORMERS



Bell Transformers for 230-volt supply. Output 3 1/2/8 volts. Moulded into an attractive bakelite case. British.

Cat. No. AG339 .. **17/9** each

### BELL WIRE

Best quality British Bell Wire. Well Insulated Waxed Covering. Single Strand.

Cat. No. AW113—1/22 S.W.G. .. **2** D. yd.

Cat. No. AW113A—1/22 S.W.G. **2/3** coil 60ft. coil

### PLASTIC BELL WIRE

Single strand Plastic covered English Bell Wire. Several colours. In 60ft. coils only. Cat. No. AW108 .. **2/-** coil

### BELL STAPLES

INSULATED STAPLES  
Make a Neat Job!



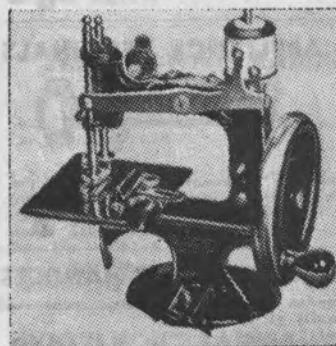
Insulated Staples for tacking up bell wire. Cat. No. AS118 .. **2 1/2** D. doz.  
Packets of 50 .. **9** D. packet

### TWIN WIRE

Twin twisted flexible cable. Rubber insulated and covered overall with a black waterproof braid. Excellent for bell and telephone work and for all low tension circuits. **4** D. yd. Cat. No. AW87

## Gift for Girls!

### PETER PAN SEWING MACHINES



The Peter Pan sewing machine is more than a toy; it has been expertly designed and is mechanically perfect and small jobs such as hemming handkerchiefs and patching can efficiently be carried out with this machine. Your daughter can make all her own doll's clothes thus training her for the practical sewing required later in life. Peter Pan is the perfect miniature sewing machine—fascinating, instructive and safe. Complete with full instructions. Size 7 in. x 7 in. x 3 1/2 in.

Cat. No. AU110 .. **44/-**

Cat. No. AU111—Spare Needles .. **4** D. ea.

### LAMPHOUSE GUARANTEE

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# ELEMENTS AND SPARES

## IRON SPARES

### "EVEN-GLO" IRON ELEMENTS



The Element in the iron is the part that does all the work and practically the only part that goes wrong. These Elements are specially constructed for long service, and will fit all standard makes of irons.

**FITALL TYPE IRON ELEMENTS.**  
Cat. No. AE415 .. 6/- each

Iron Elements, 110v.—  
Cat. No. AE420 .. 8/8 each

"HOTPOINT" IRON ELEMENTS, 240v.  
Cat. No. AE417 .. 6/6 each

"WESTINGHOUSE" AUTOMATIC IRON  
ELEMENTS  
Cat. No. AE416 .. 9/6 each

H.M.V. IRON ELEMENTS  
Cat. No. AE418 .. 8/- each

MORPHY-RICHARDS IRON ELEMENTS  
Cat. No. AE419 .. 8/- each

### APPLIANCE TERMINALS



Appliance Terminals, for fitting in the back of electric irons, etc. Supplied complete with nuts. Cat. No. AE400 .. 8D. each

### ELECTRIC IRON HANDLES

Wooden handles for electric irons—will fit practically all makes.  
Cat. No. AE405 .. 1/9 each

### "MAJESTIC" BAKELITE IRON HANDLES

Plastic streamlined handle for "Majestic" and "Dalbro" irons.  
Cat. No. AE406 .. 11/9

### APPLIANCE PLUGS

Appliance plugs and plug tops. See Page 32.

## JUG SPARES

### ELECTRIC JUG ELEMENTS

Spiral Windings for Electric Jugs, 230 volt.  
Cat. No. AE1171—

1/-

Porcelain Bobbins for Jug Elements.

Cat. No. AE1174—  
1/3 each



Complete Jug Elements, consisting of winding on bobbin and connecting rods.  
Cat. No. AE1175 .. 4/3 each

### TERMINAL PINS

Contact Pins as used on the "Neeco" and similar makes of Porcelain Jugs. Comprises 1 1/2 in. Brass Bolt with Contact Stud and two Brass Washers.  
Cat. No. AE1189 .. 1/- each

### ELECTRIC JUG LIDS

Bakelite lids as used on "Neeco" Jugs.  
Cat. No. AE1188 .. 6/6

### "SPEEDEE" JUG ELEMENTS

Coiled Copper Elements, for Enamelled or Chrome Jugs, "Speedee" Kettles, etc.  
Cat. No. AE1176 .. 12/6 each

### JUG ELEMENTS

Similar to above.  
2 Years' guarantee.  
Cat. No. AE1177—  
14/6 each



Nickel plated Ferrules for Eutron Elements.  
Cat. No. AE1169 .. 1/9 each

### VACUUM CLEANER SPARES

Cat. No. AE238—Carbon Brushes .. 1/3

Cat. No. AE239—Springs for Carbon Brushes .. 1/- ea.

Cat. No. AE233—Rubber rings for Cleaner Dust bags .. 2/3 ea.

### SEWING MOTOR SPARES

Carbon Brushes for English Sewing Machine Motors  
Cat. No. AE245 .. 1/3 each

Cat. No. AE246—Springs for above .. 1/- each

Cat. No. AM565—Rubber Belts .. 1/4 each

## INSULATING BEADS

Fishshine white porcelain insulating beads. Used for insulating wires particularly in heating appliances such as irons, grills, ranges, soldering irons, etc., etc.

Cat. No.	Overall Length inches	Size of Hole inches	Diam. inches	Max. S.W.G. Wire	Approx. Number to Cover one inch	Approx. Quantity per Packet	Price per Packet
AE1250	.125	.056	.125	18	10	72	9d.
AE1252	.201	.092	.201	14	6	60	9d.
AE1254	.323	.123	.323	11	4	12	9d.
AE1256	.438	.175	.438	8	2.8	12	1/3
AE1258	.532	.235	.532	4	2.5	12	2/3

## RUBBER RINGS

For fixing Elements in metal jugs, such as Speedee, Ultimate, etc.  
Cat. No. AE1170 .. 6D. each

### SPARES FOR "SPEEDEE" CHROME JUGS

Cat. No. AE1195—Spare Lid Knobs for "Premier" Model .. 7d.

Cat. No. AE1196—Spare Plastic Handles for "Premier" Model .. 4/-

Cat. No. AE1197—Spare Plastic Bases for "Premier" Model .. 4/-

Cat. No. AE1195—Spare Lid Knobs for "Debutante" Model .. 7d.

Cat. No. AE1198—Spare Plastic Handles for "Debutante" Model .. 4/9

Cat. No. AE1199—Spare Plastic Bases for "Debutante" Model .. 4/9

## APPLIANCE CORDS

Cords for electrical appliances, irons, toasters, jugs, etc., etc. Fitted with "Fitall" type appliance plug on one end and a wall plug on the other end.



Cat. No. AE800—Cord with 2-pin parallel Cap .. 6/3

AE801—With two-pin tee cap .. 6/3

AE803—With three-pin cap .. 7/-

AE804—With part Rubber enclosed three-pin Cap .. 8/-

(Note.—The above are fitted with 6 feet best cord. Extra long cords can be supplied. Add 1/6 for each yard required.)

## RANGE SPARES

### "FITZALL" RANGE ELEMENTS

Electric Range Hot Plates. Elements that will fit all makes of ranges. Speedee to fit any make of range, 8in. to 11 1/2 in. diameter. 1750 watts.

Cat. No. AE1220 .. 46/6

Ditto, 6in. to 8in. diameter, 900 watts.  
Cat. No. AE1221 .. 36/6

### "ULTIMATE" ELEMENTS FOR RANGETTES

OVEN FLAT ELEMENT.  
Cat. No. AE1226 .. 23/9

HOTPLATES FOR RANGETTES.  
Cat. No. AE1222—Ultimate 6in. .. 28/3

Cat. No. AE1223—Ultimate 8in. .. 39/6

### KETTLE ELEMENTS

#### "HECLA" KETTLE STRIPS

Most kettles are fitted with two of these strips and several are fitted with three.  
Cat. No. AE1030 .. 8/6 each

### CARBONS FOR HEALTH LAMPS

Spare Carbons for Pifco and other Arc type Health and Sun-tan lamps.  
Cat. No. AE599 .. 4/- pair

## TOASTER SPARES



### "EVEN-GLO" TOASTER ELEMENTS

There's an "EVEN-GLO" ELEMENT to fit every make of Toaster. Made with good quality mica and English Nichrome Ribbon, these elements are a first grade production.

Cat. No. AE1003—Speedee type	each	5/11
Cat. No. AE1004—Hotpoint type	..	9/-
Cat. No. AE1006—Hi-Speed type	..	8/-
Cat. No. AE1007—Magnet type	..	8/-
Cat. No. AE1008—Hecla type	..	8/-
Cat. No. AE1009—Universal 4-Strip	..	8/-
Cat. No. AE1010—Westinghouse type	..	8/-
Cat. No. AE1011—Esfesca	..	8/-
Cat. No. AE1012—Servex	..	8/-
Cat. No. AE1013—Ultimate	..	8/6
Cat. No. AE1014—Majestic type	..	7/6
Cat. No. AE1015—Monarch type (2-strip)	..	8/-
Cat. No. AE1017—"Neco Chevron" type	..	9/-
Cat. No. AE1018—Electroway type	..	8/-

### TOASTER TRAYS

Cat. No. AE303—For "Speedee" Toasters (Size overall 10 1/2 in. x 7 in.)	..	5/3 each
Cat. No. AE305—For "Speedee Tiffin" Toasters	..	7/6 each

### TOASTER SPRINGS

Coiled Springs. Suitable for practically all makes of Toasters.  
Cat. No. AE985 .. 7D. each

### TOASTER KNOBS

ROUND KNOB. Suitable for Toaster Doors, Kettle Lids, Saucepan lids, etc.  
Cat. No. AE984 .. 5D. each

FLAT KNOB. For "Speedee" Toaster Doors.  
Cat. No. AE983 .. 6D. each

### SPARES

We have only listed on these pages spares for the more popular type of appliances. If you need a spare part for any electrical appliance please write. WE MAY BE ABLE TO HELP YOU!

### "DORMEYER" MIXER BOWLS

Space Bowls, Clear Glass for Dormeyer Electric Mixers.  
Cat. No. AE821—Large .. 19/6  
Cat. No. AE822—Small .. 10/6

## RADIATOR SPARES

### SPIRAL ELEMENT WINDINGS

Spiral Element Windings for re-winding Radiator, Stove, and Hotplate Elements, etc., etc. Made of first grade English Resistance Wire.

Cat. No. AE1111—230 volt, 600 watt	2/-
Cat. No. AE1112—230 volt, 750 watt	2/3
Cat. No. AE1113—230 volt, 1000 watt	2/6

### PENCIL ROD ELEMENTS



#### "Even-Glo"

8 1/2 in. Element, 800 watt with end cap and Fixing Screws	7/6
Cat. No. AE1118	..
10 in. Element, 1000 watt, with end caps and fixing screws.—Cat. No. AE1117	7/6
Ditto, 12 in., 1000 watts.	12/6
Cat. No. AE1119	..

#### "OXFORD"



9 1/2 in. Replacement Element, without end caps. Heavy twisted end leads for secure contact. Made for "Speedee" and similar Radiators. 1000 watts.—Cat. No. AE1116 5/6 each

### PORCELAIN ELEMENT BARS



Round Porcelain Bars for Radiator Elements, etc. Unwound. Size 9 1/2 in. x 1/2 in. diam.  
Cat. No. AE1101 .. 2/3 each

Cat. No. AE1100—8 1/2 in. x 1/2 in. 2/3 each

### METAL END CAPS

Metal End Caps for Radiator Elements. The small cup measures 1/2 in. diameter with a depth of 1/2 in. Holes either side of lip and main centre hole to take holding bolt.  
Cat. No. AE1102 5 d. ea.



### ELEMENT FORMERS

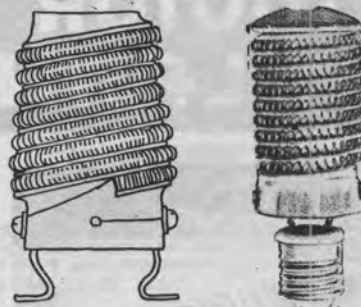
Cone-type formers for bowl-type electric fires, etc. Porcelain, with grooves to take standard windings (750-watt suggested). No base or supports are included. Former is drilled bottom and top to simplify attaching the spiral. Height 3 in., diam. 1 1/2 in.

Cat. No. AE1109—4/3 each



## BOWL FIRE ELEMENTS

### "FITZALL" BOWL FIRE ELEMENTS



This type of Element can be adapted to numerous makes of Bowl Fire Radiators. Radiators with elements using the plug-in or screw-in base may, with slight adaption, take this type of element. Distance between screw holes on legs of former 1 1/2 in. 750 watt spiral.  
Cat. No. AE1104 .. 7/9 each

Similar to above but fitted with a screw-in base.  
Cat. No. AE1105 .. 8/3

### RADIATOR ELEMENTS



Large tile, 9 1/2 x 3 1/2, 1000 watts. Complete.  
Cat. No. AE1133 .. 14/6

Small tile, 7 1/2 x 3, 1000 watts.  
Cat. No. AE1134 .. 12/3

### ELECTROWAY RADIATOR ELEMENTS

Short tubular Pencil Element 8 in. x 1/2 in.  
Cat. No. AE1120 .. 9/6

Long tubular Pencil Element 11 in. x 1/2 in.  
Cat. No. AE1121 .. 10/6

Small Tile Element 7 1/2 in. x 3 in.  
Cat. No. AE1136 .. 11/-

Large Tile Element 9 1/2 in. x 3 in.  
Cat. No. AE1137 .. 12/6

### "COYLROD" TANK HEATERS



Water Heaters for permanent installation in Tanks, Water Cylinders, etc.  
Cat. No. AE540—750 watt .. 22/- each

Cat. No. AE541—1000 watt .. 22/- each

Cat. No. AE547—1500 watt, 3 heat type .. 37/6 each

Brass Flanges for fixing above. 5/9 set  
Cat. No. AE543 ..

MAIL ALL ORDERS TO ...

THE  
ELECTRIC LAMPHOUSE  
LIMITED.

11 Manners Street, Wellington, C.I.

# MOTOR CAR LAMPS

# MOTOR CAR BATTERIES



We can supply Lamps for any type of car, including types with special caps, and if you are in doubt about the type to order, send a sample.

### 6/8 VOLT SINGLE CONTACT SINGLE FILAMENT LAMPS.

Cat. No.	Candle Power.	Equivalent Wattage.	Location.	Price.
AL300	6	5	Tail	1/6
AL302	15	12	Stop	2/11
AL303	21	20	Head	2/11
AL304	32	25	Head	2/11
AL305	50	35	Head	2/11

### 6/8 VOLT DOUBLE CONTACT SINGLE FILAMENT LAMPS.

Cat. No.	Candle Power.	Equivalent Wattage.	Location.	Price.
AL306	6	5	Tail	1/6
AL308	15	12	Stop	2/11
AL309	21	20	Head	2/11
AL310	32	25	Head	2/11
AL311	50	35	Head	2/11

### 12/16 VOLT SINGLE FILAMENT SINGLE CONTACT LAMPS.

Cat. No.	Candle Power.	Equivalent Wattage.	Location.	Price.
AL312	6	5	Tail	1/6
AL314	15	12	Stop	2/11
AL315	21	20	Head	2/11
AL316	32	25	Head	2/11
AL317	50	35	Head	2/11

### 12/16 VOLT SINGLE FILAMENT DOUBLE CONTACT LAMPS.

Cat. No.	Candle Power.	Equivalent Wattage.	Location.	Price.
AL313A	6	5	Tail	1/6
AL315A	15	12	Stop	2/11
AL316A	21	20	Head	2/11
AL317A	32	25	Head	2/11
AL318	50	35	Head	2/11

### 6/8 VOLT DOUBLE FILAMENT HEAD LAMPS WITH STANDARD DOUBLE CONTACT CAP.

Cat. No.	Candle Power.	Equivalent Wattage.	Price.
AL319	21/3 (Ford)	20/3	3/2
AL320	32/6	25/5	3/2
AL321	21/21	20/20	3/7
AL322	32/32	25/25	3/7
AL323	50/50	35/35	3/7

### 12/16 VOLT DOUBLE FILAMENT HEAD LAMP WITH STANDARD DOUBLE CONTACT CAP.

Cat. No.	Candle Power.	Equivalent Wattage.	Price.
AL327	21/3	20/3	3/2
AL328	32/6	25/5	3/2
AL329	21/21	20/20	3/7
AL330	32/32	25/25	3/7
AL331	50/50	35/35	3/7

### Motor Car Lamps!



### 6/8 VOLT LAMPS WITH SPECIAL CAPS.

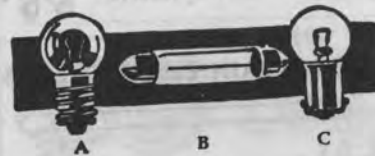
Cat. No.	Location.	Wattage.	Cap. Price.
AL350	Head	25/25 Prefocus 836	5/1
AL351	Head	35/35 Prefocus 836	5/1

For Most American Cars.

### 12/16 VOLT LAMPS WITH SPECIAL CAPS.

Cat. No.	Location.	Wattage.	Cap. Price.
AL373	Head	25/25 Prefocus 836	5/1
AL374	Head	35/35 Prefocus 836	5/1

### SPECIAL INTERIOR LAMPS, Etc.



- A—Ignition Indicator Min. Screw.
- B—Trafficator.
- C—Ignition Indicator Min. Bayonet Cap.

### 6/8 Volts

Cap. No.	Location.	Size, M.M.	Cap.	Price.
AL335—Trafficator	..	38 x 7½	B	2/11
AL336—Festoon	..	43 x 15	B	2/7
AL337—Festoon	..	32 x 15	B	2/7
AL338—Ignition Indicator	—	—	A	1/5
AL339—Ignition Indicator	—	—	B	1/5
AL340—Dash Board Dial	—	—	C	1/5

### 12/16 Volts

Cap. No.	Location.	Size, M.M.	Cap.	Price.
AL341—Trafficator	..	38 x 7½	B	2/11
AL342—Festoon	..	43 x 15	B	2/7
AL343—Festoon	..	32 x 15	B	2/7
AL344—Ignition Indicator	—	—	A	1/5
AL345—Ignition Indicator	—	—	C	1/5
AL346—Dash Board Dial	—	—	C	1/5

Mail all Orders to:—  
**THE LAMPHOUSE,**  
 11 MANNERS STREET,  
 WELLINGTON, C.1.

### OXFORD MOTOR CAR BATTERIES



Eighteen month's unconditional guarantee. Solidly built H.D. leak-proof Batteries. Thick plates, built in New Zealand for N.Z. conditions.

**CAREFULLY SEALED CELLS**

**THICK PLATES**

**LONG LIFE GUARANTEED**

Cat. No. AA40—6-volt, 9-plate. Width 7in. x length 7in. x height 9in. **Price. £4/12/-**

AA41—6-volt, 11-plate. English. 7in. x 7½in. x 9in. **£5/9/9**

AA42—6-volt, 11-plate. Squat. 7in. x 7½in. x 7½in. **£4/17/-**

AA43—6-volt, 13-plate. 7in. x 9½in. x 9in. **£5/19/6**

AA44—6-volt, 13-plate. Squat. 7in. x 9½in. x 7½in. **£5/12/6**

AA45—6-volt, 15-plate. 7in. x 10½in. x 9in. **£7/2/-**

AA46—6-volt, 15-plate. Squat. 7in. x 10½in. x 7½in. **£6/5/-**

AA47—6-volt, 17-plate. 7in. x 11½in. x 9in. **£8/6/6**

AA48—6-volt, 17-plate. Squat. 7in. x 11½in. x 7½in. **£7/8/6**

AA49—6-volt, 19-plate. 7in. x 12½in. x 9in. **£9/11/-**

AA50—12-volt, 7-plate. 7in. x 11½in. x 9in. **£7/13/-**

AA51—12-volt, 9-plate. 7in. x 12½in. x 9in. **£8/9/-**

AA52—12-volt, 11 plate, 7in. x 14½in. x 9in. **£10/9/6**

AA53—12-volt, 11-plate. Squat. 7in. x 14½in. x 7½in. **£9/7/9**

AA54—6-volt, 7-plate. Motor Cycle, 3½in. x 4½in. x 6½in. **£2/11/6**

3/- ALLOWANCE WILL BE MADE ON OLD BATTERIES RETURNED.

### AUTO LAMP HOLDERS AND ADAPTORS

MINIATURE ADAPTOR  
 M.B.C. Adaptor with Double Contact base.  
 Cat. No. AG212 **1/9**

MINIATURE CORDGRIP HOLDER

M.B.C. Bakelite Cordgrip Lampholders for making lighting connections in cars. Double Contact.



Cat. No. AG282— **1/5** AG212 AG282

MINIATURE BATTEN HOLDER  
 Similar to above but with a small round flange for easy mounting.  
 Cat. No. AG283 **1/4**

# MOTOR CAR ACCESSORIES

## GARAGE HANDLAMPS



The ideal INSPECTION LAMP for work-shops, garages, factories, etc. Take the light where you want it most. Wooden handle, strong wire protective frame. Fitted with bakelite shockproof lampholder. Globe and Flex extra.  
Cat. No. AE95 .. .. . **19/6**

## MOTOR-CAR FUSES



Cat. No. AX1426—1.5 amp. )  
Cat. No. AS200—5 amp. ) **5D.** each  
Cat. No. AS201—10 amp. )  
Cat. No. AS202—15 amp. )  
Cat. No. AS203—20 amp. ) Length 1 1/2 in.

## BATTERY TESTERS



Hydrometers for testing Car or Radio Batteries. Full size, glass tube type giving an instantaneous, accurate reading. Rubber bulb and nozzle. Don't be stuck—keep a check on your Car Battery yourself.  
Cat. No. AM300 .. .. . **7/6**

## MINIATURE SWITCHES

Here's a handy little switch suitable for radio and motor-car work. Positive action. Nicely finished (nickel plated). British made.



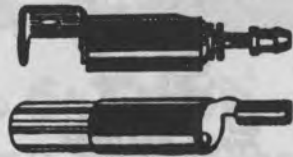
Cat. No. AG118 **2/4**

## GENERATOR CONDENSERS



Special Condensers for noise suppressors on motor cars. .5MFD. Metal Case, Pigtail connection.  
Cat. No. AC657 .. .. . **4/3** each

## MOTOR CAR RADIO SUPPRESSORS



Spark Plug Type (top illustration). A sturdy unit which meets the most exacting demands for spark plug suppression.

Cat. No. AR229 .. .. . **1/8**

Distributor Type—Cat. No. AR228 **1/11**

The above suppressors will not affect power or petrol consumption of your engine.



**"TAR-MAG"**  
Battery Tonic!



Use "TARMAG" to give new life to old batteries, and added life to new ones. It dissolves the basic lead sulphate crystals which prevent electrolyte contact and helps your battery to give its best. For better lighting and better starting — TARMAG.

Cat. No. AA70 .. .. . **2/9**  
6 volt charge, 1 bottle .. .. .  
12 volt, 2 bottles .. .. . **5/6**

# GREAT AUTO CABLE OFFER!

LARGE QUANTITY, PURCHASED AT A SPECIAL PRICE, ENABLES US TO MAKE THIS OFFER. GENUINE IMPORTED, WITH HEAVY RUBBER INSULATION. COVERED OVERALL WITH A GLAZED OIL AND WATERPROOF BRAID.

## SINGLE OIL PROOF CABLE



9/012 (No. 18)—Single Flexible Oil Proof Cable. Approx. 4 M.M.

Cat. No. AW300—  
Usually 9d. Yard. NOW **5D.** YARD

16/012 (No. 16)—Single Flexible Oil Proof Cable. Approx. 5 M.M.

Cat. No. AW301—  
Usually 1/- Yard. NOW **7D.** YARD

## 7 M.M. HIGH TENSION CABLE



Rubber-covered Ignition Cable, multiple covers of high-grade Rubber. 7 M.M.

Cat. No. AW303—  
Usually 10d. ft. NOW **6D.** per ft.  
Cat. No. AX1374—9MM. **4D.** per ft.

## TWIN FLEX

Twin twisted flexible cable rubber insulated covered overall with a black waterproof braid. Excellent for low tension extension lamps, etc.

Cat. No. AW87 .. .. . **4D.** YARD

## TWIN OIL PROOF CABLE



9/012 (No. 18)—Twin Flexible Oil Proof Cable.

Cat. No. AW311—  
Usually 11d. yard. NOW **8D.** YARD

16/012 (No. 16)—Twin Flexible Oil Proof Cable.

Cat. No. AW312—  
Usually 1/- yard. NOW **9D.** YARD

# The NEW DE LUXE VICTORY AMPLIFIERS



**NEW ZEALAND'S  
GREATEST AMPLIFIER  
VALUE!**

"VICTORY" AMPLIFIERS are ideal for use in Dance-halls, Cafeterias, Factories, Church Meetings, Office Systems, Auditoriums, etc.

These high quality, low cost Amplifiers incorporate all the latest in circuit design. Because of their excellent fidelity of tone and the wide range bass and treble boost controls, we have no hesitation in recommending these Amplifiers for use in the reproduction of recorded music of all types.

## "VICTORY" SENIOR DE-LUXE

**Beam Power Output—  
Full Tone Control**

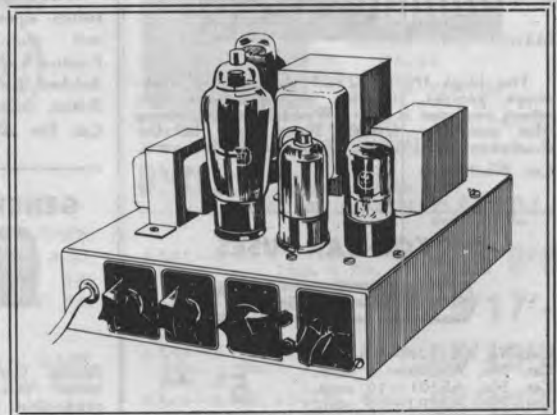
**Look at these Features!**

Dual channel Microphone and Gramophone input with individual volume controls. Beam power output and incorporating negative feedback.

**Full 10 Watts  
Undistorted Output!**

Fitted with multi-match output transformer allowing for correct matching to any Speaker.

VALVES: 5Z3, 807, 6J7, 6N7.



Variable tone controls are provided to accentuate bass or treble as desired and to aid in compensating for varying acoustical conditions.  
Cat. No. AR854 .. .. . **£12/19/6**

A suitable speaker for the above Amplifier is the ROLA Model 12-0 12in. P.M. (Extra), or the ROLA G12 12in. Heavy Duty (Extra).

## 15 WATT DE-LUXE

Has all the above features but uses two additional valves giving 15 watts undistorted output and incorporates extra Pre-amp stage.

VALVES: 5Z3, (2) 6SJ7, (2) 807, 6J7, 6SN7.

Cat. No. AR855 .. .. . **£18/12/6**

Suitable Speaker for above, ROLA Model 12-0 12in. P.M. Speaker, or the ROLA Model G12 12in. Heavy Duty.

(Both extra.)



## "VICTORY" JUNIOR AMPLIFIER

A small Amplifier which will give outstanding reproduction. 5 Watt Output. Compact and attractive, suitable for Velocity, Crystal and Dynamic Microphones, continuously Variable Tone Control. Wide range frequency response, Hi-Fidelity Phone Reproduction.

### TECHNICAL SPECIFICATIONS:

Rated Output, 5 watts; Input, Microphone and Gramophone; Gramophone gain, 76 D.B.; Hum Level, 55; Variable Tone Control; Output Impedance, 5,000 ohms to Speaker Transformer.

Control is provided for compensation of acoustics when using in various locations.

The Victory Junior Amplifier offers for the first time an intermediate Power Amplifier with every feature usually found in units selling at double the price. Splendid for use in Meeting Halls, Office Systems, Night Clubs, Auction Rooms, etc.

Cat. No. AR851 .. .. . **£8/19/6**

Suitable Speaker for the above Amplifier is ROLA Model 8M 8in. P.M. (Extra.)



**We design and manufacture Amplifiers and Public Address Systems for all purposes—let us quote you for your requirements.**

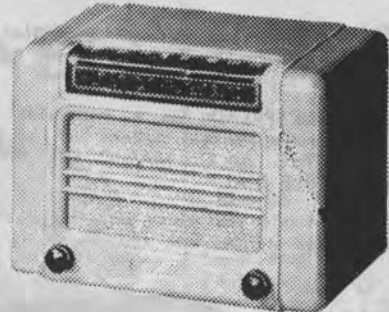


# ENSIGN RADIOS

## "Ensign Pacemaker"

POWERFUL QUALITY, PERFORMANCE, and REPRODUCTION throughout N.Z. Broadcast Band.

MODERN DESIGN—Incorporating Latest Features and Improvements in Radio Design. Latest Local Tubes. Uses full Automatic Volume Control preventing fading thus keeping volume uniform on all stations.



**Definitely Unequaled By Any Other Radio In Its Class!**

BEAUTIFUL POLISHED PLASTIC CABINET in Mottled Brown, Green, Red, or Ivory. Dimensions: Height, 7in.; Length, 9½in.; Breadth, 6½in. 5 tubes.

QUALITY CONSTRUCTION — Using only the finest standard components throughout.

SUPERB TONE with a fine fidelity 5in. P.M. Speaker.

**REASONABLE LOW PRICE**

Cat. No. AR729 (Ivory) ..... **£19/8/6**

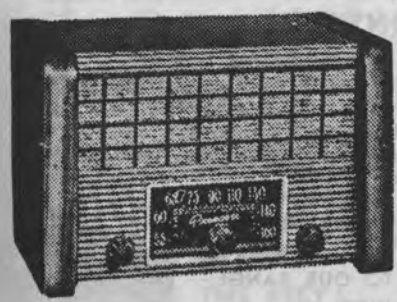
Cat. No. AR729A (Other colours) ..... **£18/18/6**

## Battery Pacemaker

*Ideal for situations where power is not available!*

**WORKS FROM 6-VOLT BATTERY**

*Sets the pace*



IDEAL FOR PEOPLE IN THE COUNTRY OR FOR TRAVELLING USE.

Uses five of the latest Miniature low-drain Valves — tone and volume controls — low battery drain only .75 amp.

Fitted with Special 5in. P.M. Speaker and mounted in attractive veneered Cabinet.

Cat. No. AR735— **£30/10/-**

## "Ensign" 6-Tube "Pacemaker" Broadcast

Unequaled in New Zealand for their Sterling Performance, Exceptional Tonal Quality, Expert Workmanship, and Low Cost.

The 6-Valve is a right-up-to-the-minute Receiver giving amazing results on the Broadcast band. A 6½in. Anisotropic Alnico "Rola" Speaker is used, giving an unsurpassed rich and mellow tone. As is usual with "Ensigns," the latest in components is used and the Valves are as follows: 6SG7, 6SA7, 6Q7G, 6U7G, 6V6GT, 6X5GT.

The distinguished Cabinet, measuring Length, 17in.; Width, 8½in.; Height, 11., is of the highest quality veneer and in keeping with the general standard of the set.

**NO AERIAL OR EARTH IS NECESSARY!** See the "ENSIGN" 6-VALVE RADIO described below.

TUNING, VOLUME and TONE Controls are mounted on the front of the Cabinet, as illustrated.

Cat. No. AR734 ..... **£28/10/-**



## "Motorola" 6 VALVE CAR RADIO

We are again able to offer the well-known "MOTOROLA" Car Radio. A powerful 6 valve Auto Radio with speaker enclosed with set. Remote control unit has bracket attached for easy attachment to dashboard. Measures 5½in. in length, 1½in. deep. Attractively designed and giving an excellent performance the "MOTOROLA" is "tops" in Car Radios available today.

Metal cabinet housing set measures: Length, 9½in.; height, 6½in.; width, 5in. and is attractively finished with ivory plastic front.



Cat. No. AR780—

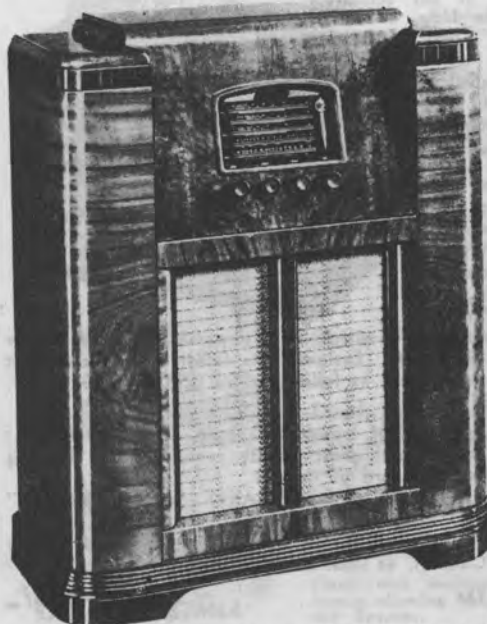
**£37/10/-**

AS ABOVE, BUT FOR 12 VOLT. **£37/10/-**  
Cat. No. AR782—



# ENSIGN RADIOS

## The 7-VALVE BAND-SPREAD



CONSOLE MODEL, RICHLY VENEERED FLOOR MODEL CABINET. Cabinet measures: Height 38in., width 32in., depth 17in. This is not only a world-wide receiver but a piece of furniture that would add to the charm of any room.

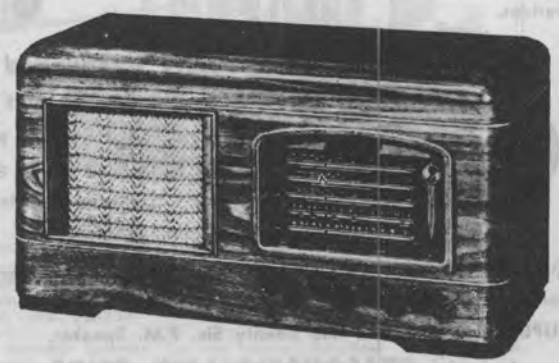
Cat. No. AR733 £66/5/-

Features the latest Bandsread Tuning—tuning that provides 20 times more space between dial calibrations, giving each foreign band a wider tuning range.

The "ENSIGN" BANDSPREAD has a world-wide coverage, enabling you to tune the overseas stations just like the locals. Features FULL ACTING A.V.C., MAGIC EYE INDICATOR, BEAUTIFUL SLIDE-RULE DIAL.

Bring the world right into your home with this 7-valve Super. Brings in New Zealand stations with amazing clarity.

Each is easy to tune, and the following ranges are covered: Regular broadcast band, 550-1600 K.C.; Short-wave inter band, 6-19 M.C. Spreadband tuning for the following short-wave bands: 15.10 to 15.50 MC; 11.65 to 12.30 MC; 9.475 to 9.80 MC. Valve combination: 6U7G R.F., 6K8GT Mixer, 6U7G I.F., 6Q7GT 2nd Detector; 6V6GT Power Amplifier, 6X5GT Rectifier, 6U5 Tuning Indicator.



BEAUTIFUL MANTEL MODEL CABINET, exquisitely veneered and measuring: Length, 24in.; Height, 13in.; Width, 11in. Uses 8in. mellow-tone Speaker.

Cat. No. AR730 £49/15/-



## "Ensign" 6-Tube Broadcast Receiver



NO AERIAL OR EARTH NECESSARY! This and the 6-Valve "Pacemaker" described above are fitted with a special Built-in Aerial and Earth, alleviating the necessity of the customary outdoor leads.

**AN EXPERTLY DESIGNED 6-VALVE RADIO OF PROVEN ABILITY!—A BROADCAST SET MADE STRICTLY TO SUIT NEW ZEALAND CONDITIONS!**

Six of the latest American Midget Valves built into a really grand circuit to give you SUPERB "PULLING POWER" and the usual "ENSIGN" OUTSTANDING TONAL QUALITY. Valves used are types 6X4, 6AQ5, 6ATG, 6BAG, 6BE6, 6BA6. 6½in. Anisotropic Alnico "Rola" P.M. Speaker. Set is mounted in an attractively veneered Cabinet measuring: Height 10in., Length 19in., Width 9½in. Volume and Tuning Controls are mounted on the front of the Radio while the Tone Control is fitted to the side.

A RADIO WE ARE PROUD TO ADD TO OUR RANGE OF "ENSIGN" QUALITY RADIOS!

Cat. No. AR736 £29/17/6

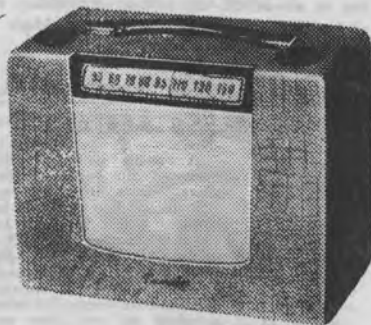


THE  
**ENSIGN**  
"PACEMAKER"  
A.C. AND BATTERY  
PORTABLE



**CAMPING**

Here's a Radio that can be used anywhere. Operates from both the POWER POINT or from SELF-CONTAINED BATTERIES. You get real entertainment wherever you go with an "ENSIGN" PACEMAKER TWO-WAY PORTABLE. In the Car, on the boat or train, at the beach, hiking, picnicking, tramping or in the home—just one flick of the finger and its at your service.



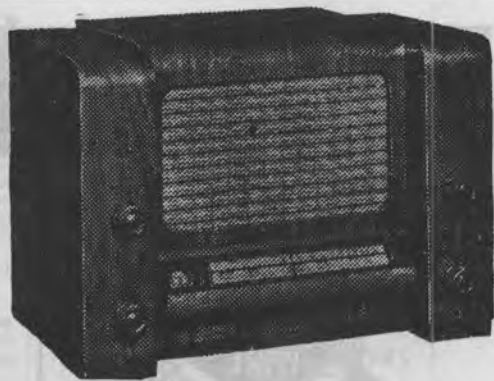
Brings in all N.Z. Stations. NO AERIAL OR EARTH necessary. Uses Five of the latest midget Valves. An anisotropic 5in. Speaker for that "easy on the ear" tone. Cabinet Measurements: 12in. x 9in. x 6½in. Weight: 15lb. 4oz. (with Batteries). Uses two Eveready 482 "Minimax" Portable Batteries, one C12 Eveready Battery. Also fitted with 5ft. flex for using from the light socket or power point.



**IT'S CONVENIENT !  
IT'S NEAT !  
IT'S THE BEST !**

Cat. No. AR737 ... **£32/10/-**

**ENSIGN**  
7-VALVE  
DUAL  
WAVE



It's an exciting Model with a performing ability you can't beat anywhere at the price.

**BRINGS THE WORLD RIGHT INTO YOUR HOME**

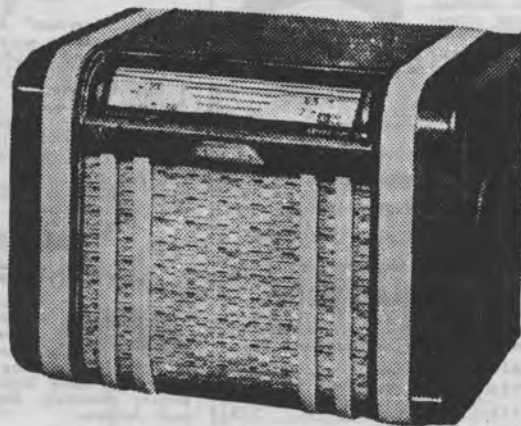
Super sensitive circuit—there is no finer 7-tube circuit built. Uses all the latest type tubes—2 6U7G, 1 6Q7, 1 6V6GT, 1 6X5GT, 1 6U5 and 1 6K8GT.

R.F. Stage increases sensitivity at least seven times, results in greater distance reach, finer tone and reduced interference. Reduces and eliminates background hiss and noise.

Magnificent Tone. If you are looking for that full richness and fidelity of tone, just the way it is when it leaves the broadcasting studio, you'll find it in the "ENSIGN 7." It develops full four watts output which is beautifully handled by the heavy-duty 8-inch concert-dynamic speaker. Continuously variable tone control lets you emphasise bass and treble tonal ranges to suit your personal taste. Cabinet, richly veneered. Length, 19in., height, 13½in., width 11in.

**BRING THE WORLD RIGHT INTO YOUR HOME ON THE NEW ROLLER DIAL !**  
Cat. No. AR732 ... **£44/5/-**

**ENSIGN** 5-VALVE  
DUAL WAVE



The "ENSIGN D/W 5" will be your big thrill with its wonderful realistic tonal quality—its powerful two-band reception.

Both Broadcast and Dual-Wave reception, with amazing clarity and tone for such a small set. Consider, too, its advanced circuit features, its sturdy dependability, its ultra-modern Roller Dial assembly, its excellent workmanship throughout. Employs all the latest type tubes—6K8GT, 6SG7, I.F., 6SQ7, general purpose Det.-A.V.C.-1st Audio, 6V6GT Beam Power Output, 6X5GT Rectifier.

Full automatic volume control maintains uniform level and prevents fading; beam power output provides plenty of volume; full 5in. P.M. Speaker gives you better tonal

quality; quality component parts throughout increases circuit stability. The striking little Cabinet measures only: Length 11½in., height 8½in., width 8in.

Cat. No. AR731 ... **£26/15/-**

**6-VALVE DUAL WAVE**  
(WITH MAGIC EYE)

Similar to the 5 valve described above but with a Magic Eye added. Incorporates 8in. P.M. Speaker giving excellent tonal quality. Cabinet measurements: Length 15½in., height 11½in., width 8½in.

Cat. No. AR743 ... **£34/5/-**

# RADIO ACCESSORIES

## COPPER AERIAL WIRE



- Cat. No. AA503—7/22 Plain Copper, 100ft. Coil (7 strand) .. 5/11 coil
  - Cat. No. AA502—7/22 Plain Copper, 75ft. Coil (7 Strand) .. 4/9 coil
  - Cat. No. AA501—7/22 Plain Copper, 50ft. Coil (7 strand) .. 3/6 coil
  - Cat. No. AA499—7/23 Tinned Copper, 100ft. Coil (7 Strand) .. 5/11 coil
- This Wire is Recommended for Standard Aerial Systems.*
- Cat. No. AA510—7/029 Tinned Copper, 50ft. Coil (7 Strand) .. 3/6 coil
  - Cat. No. AA511—7/029 Tinned Copper 75ft. Coil (7 strand) .. 5/3 coil
  - Cat. No. AA512—7/029 Tinned Copper 100ft. Coil (7 strand) .. 5/11 coil
  - Cat. No. AA518—16 S.W.G. Solid Copper Wire, 100ft. coil .. 5/3 coil
  - Cat. No. AA517—16 S.W.G. Solid Copper Wire, 50ft. coil .. 2/9 coil

## ENSIGN LEAD IN WIRE

Heavy covered, insulated lead in wire. Will stand plenty of swaying and rough weather. Core is of pure copper stranded flexible wire. Ideal for lead-ins and also suitable for motor-c wiring and all other purposes requiring a well-insulated single flexible wire.



- Cat. No. AA504 .. 1 1/2 ft.
- Cat. No. AA505—25ft. Coils .. 2/7 ea.
- Cat. No. AA506—50ft. Coils .. 5/- ea.
- Cat. No. AA507—75ft. Coils .. 7/6 ea.
- Cat. No. AA508—100ft. Coils .. 9/- ea.

## AERIALITE AERIAL WIRE

Flexible Copper Wire, covered with waterproof braid. Excellent for indoor or outdoor aerials.

- Cat. No. AA513—25ft. Coils .. 2/-
- Cat. No. AA514—50ft. Coils .. 3/7
- Cat. No. AA515—75ft. Coils .. 5/5
- Cat. No. AA516—100ft. Coils .. 7/-

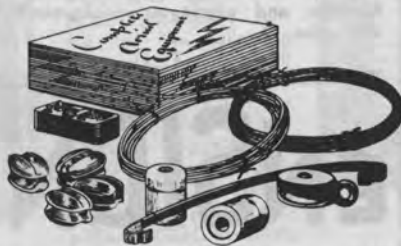
## THE "NOTENNA" AERIAL ELIMINATOR



Equally successful on both broadcast and shortwaves. Replaces aerials of all types. Very compact size. No lightning arrestor required. Reduces noise, interference and man-made static. Simply attached between aerial and earth terminals on your set and to earth wire. Money back if you are not more than satisfied. Dimensions 4in. x 2 1/2in. x 3in.

Cat. No. AA10 .. 8/5

## The "LAMPHOUSE AERIAL KIT"



The "Everyman" Aerial Kit consists of standard equipment used in conjunction with all short-wave and broadcast receivers.

Contains: 100ft. 7/23 7-strand Aerial Wire, 4 Egg Insulators, 1 lin. Pulley, 1 Lightning Arrestor, 1 Lead-in Strip, 20ft. Lead-in-Wire, 2 Nail Knobs. Actual cost of components if purchased individually, 15/-.

SPECIAL KIT PRICE—

Cat. No. AA599 .. 13/11

## "MARQUIS" LIGHTNING ARRESTORS



Prevention is better than cure. Make sure your aerial system has a lightning arrestor in it to safeguard your set should lightning strike the aerial wire. Australian made Bakelite cased with two connecting terminals. Instructions for fitting with each Arrester.

Cat. No. AA428 .. 2/-

## RADIO FUNDAMENTALS EXPLAINED

Another excellent booklet for the Radio beginner: "DRULEIGH RADIO FUNDAMENTALS EXPLAINED" is a 70-page book produced for Radio students who want a simple, yet practical, explanation of radio principles before proceeding with more advanced theory required for most examinations. Contains Radio Dictionary, schematic diagrams, tables, etc. Limited number of copies available. **2/-** copy plus 2d. postage, etc.



An indoor spring type aerial that will stretch out to about 12 feet across an ordinary room, and will remain in its spiral form. Made from pure copper wire.

Cat. No. AA285 .. 3/6 each

## MASTLESS AERIALS



A neat, compact Aerial designed for use in crowded areas, where it is impracticable to erect a pole or horizontal type Aerial. Ideal for flat dwellers, etc. Comprised of several 12 gauge solid copper leads mounted in heavy service insulator. The insulator can be simply attached to any firm structure. Supplied with 25 feet lead-in wire. The Mastless Aerial can be erected in a space of 20 minutes.

Cat. No. AA296 .. 19/-

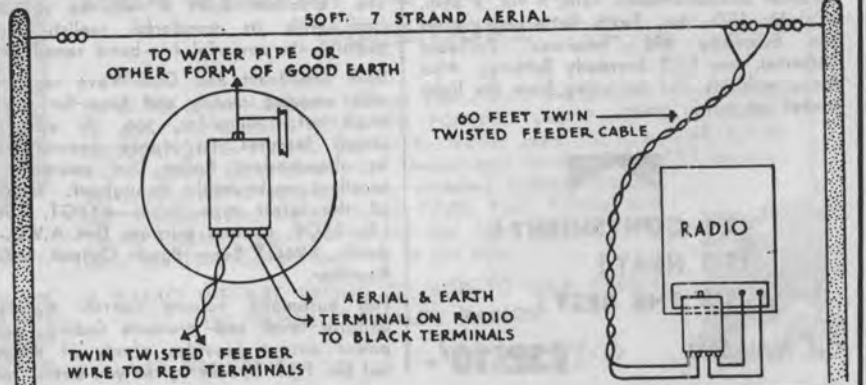
## "NOISE MASTER" NOISE REDUCING AERIAL

For both Broadcast and Dual-wave Receivers. A complete Noise Reducing Aerial System incorporating a Aerial Coupler Interference Eliminator. No wiring or assembling necessary—the aerial system is supplied complete ready to put up.

Includes everything necessary with the exception of the supports. A clear diagram is supplied with each unit. Comprises 50ft. aerial with 60ft. of twin lead-in feeder line; two sets of halyard ropes 24ft. each; Coupling Transformer; insulators, etc.

Ideal for city, suburban and country use as it will combat interference from trams, trains, neon signs, electric motors and other man made static. ALSO, acts as a station booster giving extra volume to weak stations.

Cat. No. AA590 .. 37/6



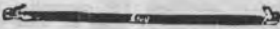
# ESSENTIALS FOR YOUR AERIAL!

## LEAD-INS, EBONITE



Lead-ins are used for putting through the wall. Consists of brass rod insulated with ebonite. With a nut and washer on each end. Diameter 3/16 in. Ebonite Lead-in, 9in. long. **1/11** each  
Cat. No. AA404 .. ..

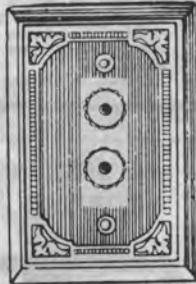
## FLEXIBLE LEAD-IN STRIPS



Flexible Lead-in Strips that can be fitted under windows, when it is not desired to bore a hole through the wall to install a permanent lead-in Tube. Length 9in. **1/3** each  
Cat. No. AA405 .. ..

## AERIAL AND EARTH PLATES

Eliminate those unsightly wires leading to your set by having them concealed in the wall. This beautiful moulded plate is fitted with two terminals on to which the Aerial and Earth leads to your set connect. The Aerial and Earth proper are connected at the rear of the plate. Moulded in Ivory or Brown Plastic. Modern design.



Cat. No. AA460—Brown plastic .. **2/4**  
Cat. No. AA461—Ivory plastic .. **2/9**

## INSULATED STAPLES Make a Neat Job!



Insulated Staples are used by all who wish to make a neat job. The fibre insulation in these staples protects the wire and guards against loss of signal strength. British made.

Cat. No. AS118 **2 1/2** D. doz. or **9** D. pkt. 50

## STAPLES

Coppered Staples (not insulated), for fastening earth wires, etc.



Cat. No. AS119— **1 1/2** D. doz.

## PULLEYS— GALVANISED



Cat. No. AA412— **1/3** each  
1-inch Galvanised Pulleys ..  
Cat. No. AA413— **2/3** each  
1 1/2-inch Galvanised Pulleys ..

## EGG INSULATORS



Egg Insulators are almost universally used in N.Z. To secure good results you should put two or three on each end of the aerial. N.Z. made.

Cat. No. AA600 .. .. **5** D. each

## LARGE EGG INSULATORS

2in. long and 1 1/2in. diameter. Brown glazed.  
Cat. No. AA606 .. .. **10** D. each

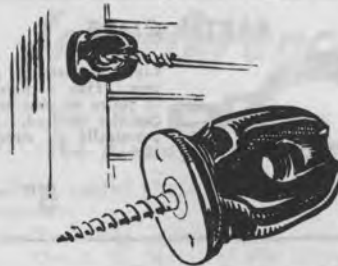
## CLAMP INSULATORS



Used for taking wires along outside walls, etc. Made in two pieces, and when screwed up, grip the wire and make a neat and efficient job. 1 1/2in. high, 1 1/2in. diameter.

Cat. No. AA603 .. **7** D. each

## HOUSE INSULATOR



Used for insulating electrical equipment from the house. Very solidly constructed; has a screw of 2in. length and the porcelain portion measures 3in x 2 1/2in.

Cat. No. AA602 .. .. **2 1/2** each

## "BUTTON" INSULATORS

For use on Electric Fence installations and for installing wires run along walls, etc. N.Z. made. Brown glazed.



1 1/2 x 1 1/2—Cat. No. AA604  
4d. ea., 3/10 doz.  
(Screws not included)

Cat. No. AT588 2in. x  
11 wood screws for use  
with above .. 8d. doz.

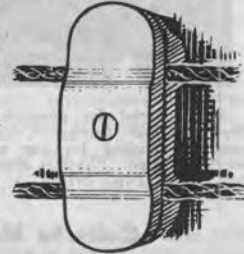
## KNIFE SWITCHES



Single Pole Double Throw Aerial-Earth Switches. Bakelite base. British.  
Cat. No. AS490 .. .. **1/6**

## "CLEAT" INSULATORS

Cleat Insulators for running two wires along walls, etc. 2 1/2in. long, 15/16in. wide, 3/4in. high.



Cat. No. AA605 .. .. **7** D. pair

## SHACKLE INSULATORS

Used for corner insulators on Electric Fence Units and for other purposes requiring a substantial insulator. Size: 2 1/2in. diam., 1 1/2in. high, 3/4in. hole.



Cat. No. AA607 .. .. **1/2** each

## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

## PRICES ARE SUBJECT TO ALTERATION

All prices in this book must be regarded as an indication only—all orders will be executed at ruling prices.

## AUTO AERIALS—3 TYPES

"WALBAR" Australian made Motor Car Aerials. Gleaming Chromium plating—Guaranteed Rustless. 3 different models.

### 3 PIECE DE-LUXE SIDE MOUNTING

A really finished article. Extends in three pieces to 5ft. 6in. First section 2ft.; second section to 4ft. and third section to 5ft. 6in. Heavy rubber and chromium mounting plate for side mounting. We can recommend this as a first class De-luxe Aerial.

Cat. No. AA324 .. .. **52/6**

### 3 PIECE STANDARD SIDE MOUNTING

Extends the same as the De-luxe model to 5ft. 6in. in three sections. Has two sliding plastic cups for firm mounting to side of car.

Cat. No. AA325 .. .. **42/6**

### 2 PIECE WINDSCREEN MOUNTING

Extends in two pieces to 3ft. 9in. First section 2ft., second section 1ft. 9in. Provided with fastening bolt and clip to attach to centre metal strip on windscreen.

Cat. No. AA326 .. .. **32/6**



**AERIAL FOR PORTABLES**



Loop Aerial for portable receivers, matched for standard Ensign Coils and fitted with primary winding for use with ordinary aerial when required. Physical dimensions 8in. x 7 1/2in. Cat. No. AA300 .. .. . **9/6**

**Coils to Match**

Cat. No. AC306—  
Ensign Oscillator Coil .. .. . **8/11**  
Cat. No. AC340—  
Iron Core I.F. Transformers .. .. . **15/6** each

**HI-Q PORTABLE AERIAL**

Another first class Portable Radio Aerial. Oval in appearance, measuring 7in. in length with a width of 5 1/2in. A highly efficient diamond weave wound on a linen bonded insulating board, tropicalised and incorporating a primary winding so that an external Aerial and Earth can be added if wanted. Wound for 440 mmfd. gangs. Cat. No. AA303 .. .. . **10/6**

**PRICE FLUCTUATIONS**

Now that Exchange has been dropped price reductions are being manifested daily. **ALL ORDERS WILL BE EXECUTED AT THE LATEST PRICE AT THE TIME OF ORDERING.**

**WIRE. TINNED EARTH**



7/.029 (7 Strand) Bare Tinned Copper Earth or Aerial Wire. .. .. . **1 1/2** ft.  
Cat. No. AA509 .. .. .

**EARTH CLAMPS**

Heavy brass type, N.Z. made. Will ensure a good permanent earth on a water pipe, etc., 1/2in. water pipe size (will fit pipes up to 3/4in. outside diameter). Cat. No. AA436—  
**10** D. each



1/2in. water pipe size (will fit pipes up to 1in. outside diameter). Cat. No. AA437—  
**1/-** each

1in. water pipe size (will fit pipe up to 1 1/2in. outside diameter). Cat. No. AA438— .. .. . **1/3** each

**EARTH CLIPS**



Light adjustable pattern. Has a number of holes so that screw can be shifted. Fits practically all sizes of pipes.

Cat. No. AA434 .. .. . **5** D. each

**Money Back Guarantee**

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

**AERIAL SPECIAL!**  
**ARMY Z.C.1 TRANSCEIVER AERIALS**

**32ft. Mast! Excellent as House or Car Aerials**

Comprises three 6ft. lengths 3/4in. pipe, four 4ft. lengths metal tubing, size varying from 3/4in. at one end to 1in. at the other; set of aerial stays, reducer (for fitting thin section of aerial into heavy section), one rubber socket for heavy section, one rubber socket and insulating condenser for mounting thin (whip) section only. May be used as a vertical house type antenna, or whip section could be used as car or caravan aerial. Supplied complete with carrying bags. Cat. No. AX1085. Price **£2/16/6**

**WHIP SECTION ONLY**

Consists of four 4ft. sections Metal Tubing, varying from 3/4in. to 1in. diameter. These being approx. 16ft. long and light in weight make ideal elements for 10 metre rotary beam antennas, in addition to being suitable for auto, caravan and home use. Complete in canvas bag. Cat. No. AX1080. Price **12/9**

**SIZZLING WAR SURPLUS BARGAINS**



**3 Link Plastic Chain INSULATORS**

as used in Army Radio aeriels. Very effective insulators. Put one chain on each end of your aerial. Worth 2/6 each but because they are surplus war stocks, to be sold for a song. Length of 3 links, 9 inches. Weight 3 ozs. only. Cat. No. AA601. .. Only **5** D. Set

**HERE'S 5 GOOD REASONS why you should use an "AERITROL"**



FULL DIRECTIONS SUPPLIED WITH EACH UNIT

**A Truly Marvellous "Aid to Better Reception"**

1. It will separate interfering stations.
2. It will reduce noise level and interference.
3. It will increase volume of weak stations.
4. It will eliminate outdoor and indoor aeriels. Acting as a perfect aerial eliminator.
5. It controls volume from powerful local stations.

**FREE 7-DAY OFFER**

INSTALLED IN A FEW MINUTES, WITHOUT TOOLS!

IT'S SAFE!

IT USES NO ELECTRICITY!  
IT COSTS NOTHING TO RUN!

Works on all types of Receivers, battery or electric—old and new. Constructed in strong metal case 4in. x 4in. x 4 1/2in. high. Black crackle finish.

Cat. No. AA1 .. .. . **37/6** only

**TRY IT OUR RISK!**

Send for an "AERITROL" today; try it in your own home for 7 days. If at the end of that time you are not thoroughly satisfied with it return it, and we will refund your money in full.

**Cut Out Interference!**

**The "ENSIGN" LINE FILTER**



**Try this "Policeman of the Airways" at our Risk!**

These useful Units have two distinct purposes:

1. To stop interference entering the A. C. Mains at the source of the trouble.
2. To stop interference coming over the Mains from entering the Receiver.

The best place to stop interference is at its source and if you have a small motor or other Appliance which causes interference in your own or anyone else's Radio, it may be successfully cured by installing an Ensign Filter. The Filter is plugged in to the Power Point and the offending appliance plugged into the Filter. No other installation is required. It can be used on any appliance not exceeding 750 watts. Should it be impracticable to stop the trouble at its source, we must try and stop it from entering the Receiver.

We must decide whether the man-made static, which is proving so troublesome, is being picked up by the aerial or is coming over the power lines or both. A good test is to tune the set to a point where the noise is particularly bad and turn the volume control well up. Now remove the aerial wire and attach it to the earth terminal, but do not remove the earth wire. The effect will be to reduce the noise level, but if the man-made static continues to be very severe you will at once know that at least a portion of the interference is coming over the A.C. power mains, and you will at least need an Ensign Line Filter before you can overcome the trouble. On the other hand, if the noise is entirely eliminated you will know that the noise is being picked up by the aerial and some form of noise-reducing aerial will be required.

Designed for use with electrically operated radio receivers. Simply fits between the receiver and the wall plug. It will definitely stop all man-made static entering through either A.C. or D.C. Mains. Particularly successful in D.C. and on ships with D.C. generators.

Cat. No. AA5 . . . . . **25/6**

**MONEY BACK OFFER**

There is no risk in this purchase. Send for the "ENSIGN" LINE FILTER now and try it out. If you are not completely satisfied (You're the Judge) return it within 7 DAYS and we will refund your MONEY IN FULL!

**THE "SIDNEY" WAVE TRAP**



Used to separate stations which interfere or overlap each other. Gives sharper tuning to all size Receivers from Crystal Sets onwards. Will also act as a booster for strengthening weak stations.

Components mounted on a 4in. x 3 1/2in. wooden baseboard. Front panel of light bakelite. Neat appearance. Printed instructions with every set.

Cat. No. AA12 . . . . . Price **15/11**

**The 3 in 1 RADIO TUNER**

**SERVES 3 BIG PURPOSES**

1. **Aerial Eliminator.**
2. **Station Booster.**
3. **Separates Interfering Stations.**

Besides making an excellent variable Coil for Crystal Sets., etc. Depending on the manner it is connected, this useful piece of apparatus serves any of the above functions. Operates on any make or model of radio receiver, greatly enhancing the performance. As an aerial tuner it will improve the reception of weak stations.

As a wave trap it will prevent interference between stations and improve selectivity. As an aerial eliminator it makes an outdoor aerial unnecessary. The tuner can also be used as the tuning coil of a crystal or other small set. Supplied complete with instructions and can be fitted by anyone in a few minutes. Size 5in. long x 2 1/2in. high and 1 1/2in. wide. Printed details with each Tuner.

**BUY UNDER OUR 7 DAY MONEY BACK GUARANTEE!**

**DE-LUXE MODEL**  
Cat. No. AC300— **ONLY 6/11**

**WAR SURPLUS BARGAINS**

There's dozens throughout this catalogue. **DON'T MISS OUT ON THEM . . . ORDER NOW!**

# RENEW THOSE WORN BATTERIES!

## "A" BATTERIES

### No. 6 DRY CELLS

1½ volt IGNITION or BELL BATTERY.  
Size 6½in. high; 2½in. Diam.  
Weight, 2lbs. 2oz.

Cat. No. AB210—

**3/10** each



## "A" BLOCK BATTERIES



1½ v. "A" Battery, for use in Portable Receivers. Eveready type (742). Size 3½in. x 2½in. x 2½in. Weight 1lb. 10oz.

Cat. No. AB211

**4/6** each

1½ v. "A" BATTERY, for large Portables, etc. Eveready type (741). Size 4½in. x 2½in. x 5½in. Weight 3lb. 2oz.

Cat. No. AB212

**8/9** each

1½ v. "A" BATTERY, for Home battery-operated Receivers. Eveready type (X250). Size 9½in. x 4½in. x 5½in. Weight 10lb. 12oz. Cat. No. AB214

**28/9**

## SPECIAL "A" BATTERIES



Designed especially for use with Portable Receivers. 1.4 volts. Weight 2lb. 12oz. Length 10½in., width 3½in., depth 1½in.

Eveready Type (No. 745). Cat. No. AB213

**9/1**

## "HOTSHOT" BATTERIES

6-volt "HOTSHOT" IGNITION BATTERIES. Eveready type (1461). Size 7½in. x 10½in. x 2½in. Weight 9lb. Complete with canvas carrying handle.

Cat. No. AB224

**£15/10**

## 108 VOLT PORTABLES

108-volt "B" BATTERIES. Constructed for use with the "Vidor" Portable Radios. Tapped at 3v., 1½v., GB, 67½, 108v. Eveready type (C29). Size 8in. x 5in. x 3½in. Weight 6½lb.

Cat. No. AB255

**42/-**

## TORCH BATTERIES

ALL TORCH BATTERIES ARE LISTED ON PAGE 21.

## "B" BATTERIES



"Superdyne" 45-volt Heavy Duty "B" Batteries. For home receivers, etc. Extra long life. Eveready type (770). Size 7½in. x 4½in. x 8½in. Weight 11½lb. Tapped at 22½ volts.

Cat. No. AB235

**26/10**

## The . . . "PORTABLE 45"

45-volt Light Duty "B" Batteries, for use in Portable Radios, etc. Eveready type (762). Size 5½in. x 2½in. x 4½in. Weight 2½lb.

Cat. No. AB237

**16/11**



## "MINIMAX" BATTERIES

45-volt SMALL "B" BATTERY. Used extensively in portable sets. (Eveready type 482).

Size 5½in. x 3½in. x 1½in. Cat. No. AB238—

**15/5** each

3-pin Plugs for above 482 batteries. Cat. No. AT90—

8d. each

45-VOLT MINIATURE MINIMAX BATTERIES. Used extensively in Deaf Aids. Eveready type (MP 45). Size 3½in. x 1½in. x 2½in. Weight, 9oz.

Cat. No. AB245

**12/3** each

67½ volt "MINIMAX" "B" BATTERIES. For Miniature Portable Receivers. Eveready type (467). Size 3½in. x 1½in. x 2½in. Weight 12oz.

Cat. No. AB250

**16/7** each

## MOTOR-CAR BATTERIES

We have a full range of Motor-car batteries available. Refer to page 36 for prices and particulars.

## "C" BATTERIES

(BIAS)

9-volt "C" BATTERY (793). Size 3½in. x 1in. x 5½in. Tapped at 1½, 3, 4½, 6, 9 volts. Cat. No. AB225

**4/10** each

4½ volt "C" BATTERY (761). Size 3½in. x 1½in. x 4in. Tapped at 1½, 3, and 4½ volts. Cat. No. AB220

**3/2** each

9-volt "C" BATTERY (739). Special type, now used in many modern portable sets. Size 8½in. x 3½in. x 1½in. Cat. No. AB226

**8/2** each

## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

## NEW LIFE

FOR OLD BATTERIES!



## TAR-MAG

TAR-MAG dissolves the gradual deposit of Basic Sulphate of Lead crystals which impregnate the active paste material on the plates, thus preventing the electrolyte contacting with it, with the result the battery ceases to function although there is still plenty of life and usefulness.

TAR-MAG dissolves the crystals and enables the battery to function as new. TAR-MAG will bring your old battery up to full strength—will increase life of new batteries up to 50 per cent. For Better Lighting Split Second Starting, try TAR-MAG.

TAR-MAG is a liquid which is simply poured into the cells. Complete with instructions.

Cat. No. AA70—

Charge for 6-volt Battery .. **2/9**

Cat. No. AA70A—

Charge for 12-volt Battery .. **5/6**

## " OXFORD " RADIO BATTERIES

'OXFORD' Non-Sulphating Special Type RADIO BATTERIES

Heavy duty solidly constructed leak-proof Batteries that deliver maximum power. Thick plates, carefully sealed cells; built for long, enduring, trouble-free service. With radio type terminals; 18 months' unconditional guarantee. Batteries are supplied dry unless specially requested otherwise. They can also be supplied charged and filled with acid, at no extra cost, but freight is payable by purchaser on all charged batteries.

Cat. No.

AA20—2-volt, 100

amp., 4½ x 7 x 9½

**£2/6/-**

AA22—2-volt, 140

amp., 4½ x 7 x 9½

**£2/18/6**

AA23—6-volt, 100

amp., 7 x 9½ x 9½

**£5/19/-**

AA24—6-volt, 140

amp. Type for

Vibrators—

7 x 11½ x 9½

**£7/13/-**

AA26—6-volt, 160

amp. Type for

Vibrators—

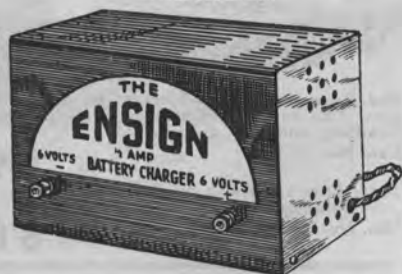
7 x 12½ x 9½

**£8/14/6**



# CHARGERS — RECTIFIERS — VIBRATORS

## THE "ENSIGN" 1/2 AMP CHARGER



You never need to be stuck with a run-down Car or Radio Battery. These units will charge all types of 6-volt Batteries. Operate from 230 volt A.C. Current. Connect direct to Battery. Uses 1/2 amp. Dry Metal Type Rectifier. Size of Sprayed Metal Case: Length 8in., Height, 5 1/2in.; depth, 4in.  
Cat. No. AA220 .. **£4/12/6**

## SPARE BULBS FOR BATTERY CHARGERS (TUNGAR TYPE.)

- Cat. No. AA189—2 amp. ... **32/6** each
- Cat. No. AA190—6 amp. ... **50/-** each

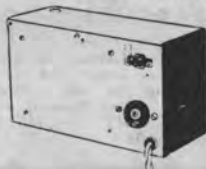
## DRY RECTIFIERS

6-volt, 1/2-amp. METAL PLATE RECTIFIERS. Suitable for Resistance or Inductive loading and Battery Charging, etc. For use with C.T. Transformer. Voltage across Secondary, 19 volts. C.T. at 9.5 volts. Copper on Secondary carries .35 amp. continuous running.—Cat. No. AA175 .. **18/6** each



6-volt, 2-amp. similar to above. Suitable for 2-amp. Battery Chargers. Copper on Secondary carries 1.4 amp. continuous use.  
Cat. No. AA176 .. **33/6** each

## "OXFORD" VIBRATOR PACK



This pack has been designed specifically for the conversion of battery radio receivers to vibrator operation and contains the necessary high tension and low tension filtering.

**ELECTRICAL SPECIFICATIONS:** Input, 6 volts 1 amp.; Output, 135 volts 30 milliamp.; Reed, 5 pin synchronous.

**FILTERING:** Complete filtering is provided both for R.F. and Audio. This means to say that in addition to the normal R.F. chokes, there is included in the unit a high tension filter choke and a low tension filter choke.

**MECHANICAL ARRANGEMENT:** The reed, transformer and R.F. chokes are contained in a completely enclosed box which is rubber-mounted on to the base chassis. The rubber mounting eliminates mechanical noise due to the vibrator operation. Totally enclosed in a heavy aluminium case measuring 9in. x 5 1/2in x 3in.  
Cat. No. AA213 .. **£7/19/6**

## VIBRATORS

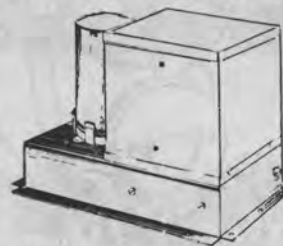
Vibrator Units for replacements or for constructors. Positive starting long-life Vibrators. Low cost per hour. Trouble-free operation.



6-volt Non-synchronous 4-pin type.  
Cat. No. AB60 .. **25/-**

- 6-volt Synchronous 5-pin type (for special socket).  
Cat. No. AB61 .. **27/6**
- 6-volt Synchronous 5-pin type (standard socket).  
Cat. No. AB62 .. **27/6**
- 6-volt Synchronous 6-pin type  
Cat. No. AB64 .. **27/6**
- Sockets for Vibrators—5-pin special type.  
Cat. No. AB63 .. **1/-** each

## WAR SURPLUS BARGAINS



### 12-Volt Vibrator Pack

A real heavy duty Power supply for that vast field of battery operated multi-tube Receivers, medium power Public Address Systems and low power Transmitters. Completely enclosed in a heavy metal cadmium-plated box with hash filter. They are ideal for short-wave Receivers. The dimensions are 6in. long by 4in. wide and 6in. deep. Although designed to operate from 12 volt D.C. they can be converted to 6v. The Output is 250 volts at 60 mills. The B Supply-smoothing choke and filter condenser are supplied separately. (ZC1 parts)  
**12 VOLT POWER PACK—**  
Cat. No. AX1001 .. **£3/-**

Spare Transformers for above, 12-volt to 300/180/0/180/300 volts. **5/11**  
Cat. No. AX1088 ..

### 12-VOLT, 6-PIN VIBRATORS

Another great buy—6-pin, 12-volt Vibrators. These have been stored for some time and it is possible that some may need adjusting on the points. Because there are a small percentage like this we offer the lot at the Special Price of  
Cat. No. AB67 .. **9/11**



### BARGAIN OFFER!

#### 12 Volt 7-Pin Vibrators

Army Surplus stocks. Imported 12-VOLT 7-PIN SYNCHRONOUS VIBRATORS. Worth 27/6.  
Cat. No. AB65 .. **4/11** each  
OUR PRICE ..

# WAR SURPLUS BARGAIN PARCELS!

### No. 2 ASSORTED PARCEL

- 2 1K5G Valves
- 6 Octal Wafer Valve Sockets
- 4 3 Link Plastic Insulators
- 2 Small Pointer Knobs
- 10 Assorted Tubular Condensers
- 10 Assorted 1/2-watt Resistors
- 2 dozen Assorted Terminal Strips

Items priced individually would total £1/1/3 but supplied as a BARGAIN PARCEL  
Cat. No. AX122 .. **15/-** Lot

### No. 3 DE-LUXE PARCEL

- 4 6U7G Valves
- 1 6X5GT Valve
- 1 6Q7GT Valve
- 1 1K5G Valve
- 1 1LD5 Valve
- 12 Octal Wafer Valve Sockets
- 1 0-500 M.A. Micro-Amp. Meter
- 4 Small Pointer Knobs
- 1 Complete Aerial Stay Set
- 24 Assorted Terminal Strips
- 10 Assorted 1/2-watt Resistors
- 10 Assorted Tubular Condensers
- 2 I.F. Transformers
- 3 S.C. Jacks
- 1 Meter Rectifier

Items priced individually would total £6/3/8 but supplied as a BARGAIN PARCEL  
Cat. No. AX123 .. **£4/10/-** Lot

### No. 1 VALVE PARCEL

- Comprises SIX VALVES
- 2 Type 6X5GT
- 2 Type 6U7G
- 2 Type 6Q7GT

Separately these valves would total £1/10/4 but supplied as a BARGAIN PARCEL

Cat. No. AX121 .. **22/6** Lot

### No. 4 METER PARCEL

Comprises THREE METERS  
"WESTON" 0-100 M.A. 2 1/2in. Round R.F. Milliammeter. Flush mounting—Plastic case. Manufactured in the United States by the Western Electrical Instrument Corporation, and still packed in original sealed carton.  
"FERRANTI" 0-500 Micro-Amp. 2in. Round Meter. Flush mounting—Plastic case. Luminised dial. Brand new in sealed cartons.  
"DE-JUR" 0-1 M.A. 3in. Round Moving Coil D.C. Meter. Flush mounting—Plastic case 1000 ohms. per volt; internal resistance 60 ohms. Manufactured in the United States. Cartoned brand new.

The true value of these Meters would be in the vicinity of £10 but as a BARGAIN PARCEL  
Cat. No. AX124 .. **£5/-** Lot



# CRYSTAL SETS AND HEADPHONES

## LOGGING D.X.



### BROWN'S ENGLISH HEADPHONES

A really first-class pair of Headphones; comfortable and easily adjustable. All bakelite headpieces. Total impedance 2000 ohms. Fitted with 3ft. flexible cord. Excellent quality reproducers.

Cat. No. AC245 .. .. **23/6** pair

### "SUPERIOR" AMERICAN HEADPHONES

Cannon Ball "Superior" American first class Headsets. Units encased in metal shells with screw-on plastic caps. Total impedance of phones 4000 ohms. Ideal for Crystal Sets, One Valvers, and all receivers, etc., requiring a sensitive pair of phones. Supplied complete with 5 feet cord.

Cat. No. AC244 .. .. **19/6** pair

### ARMY PHONES



This dynamic Headset is the last word in phones. In reality 2 miniature loud speakers, 80 ohms. Necessitates the use of a matching transformer to use with ordinary radio or small receivers. Would make a good quality Dynamic Microphone, giving fairly flat response, for the amateur. Pre-amp would be required for this purpose. Supplied complete with flexible cord.

Cat. No. AX1065—  
**GREAT VALUE! 9/11** pair

Suitable matching Output Transformer.  
Cat. No. AX1012 .. .. **12/6**

### SPARES FOR "BRANDES" HEADPHONES

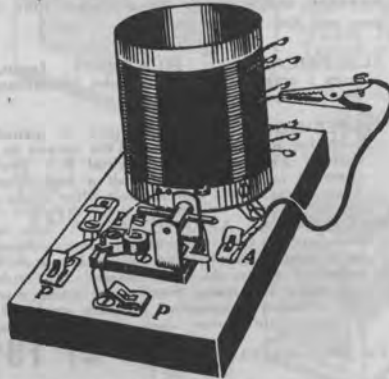
Spare Caps for Brandes Phones. .. .. **3/6** each  
Cat. No. AC206 .. ..

### WAR SURPLUS HEADPHONE CORDS

6ft. Headphone Cords. Two lots of 2 leads for connecting to phones and terminating at other end in two leads for attaching to set. Plastic wires, braided and cotton braided overall.

**GREAT VALUE!**  
Cat. No. AC203 .. .. **2/11**

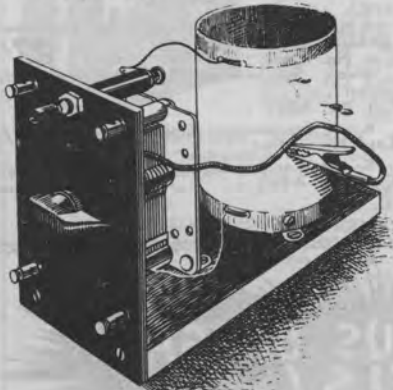
### "ECONOMY" CRYSTAL SET



A very simple and inexpensively designed but efficient Crystal Set, comprising a multi-tapped Coil and Catswhisker type Crystal Detector mounted with Fahnestock Clips on wooden base-board. Simple in operation. Full instructions enclosed with each.

Price does not include Headphones.  
Cat. No. AC290 .. .. **14/6** each

### "DIAMOND" CRYSTAL SET



Originally designed for areas where the ability to separate local stations was a prime consideration, these Crystal Sets will be found quite suitable for use in districts at a considerable distance from powerful broadcast stations. Our test model worked well 100 miles away from 2YA's aerial. Complete with instructions.

Cat. No. AC293 .. .. **28/6**

(Price does not include headphones.)

### ANOTHER BARGAIN! HEADPHONE CUSHIONS

Another bargain from WAR SURPLUS. Sponge Rubber Cushions to fit over Army Headphones and other headphones using a headpiece with a diameter of approximately 3in. Worth twice the price to manufacture.

Cat. No. AC205 **NOW 1/-** pair

### "RED DIAMOND" DETECTORS



Red Diamond Detectors are the semi-permanent type. Can be adjusted by moving the plunger. Sensitive, and give good results.

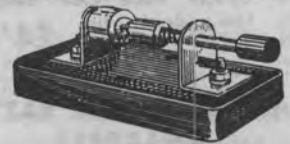
Cat. No. AC270 .. .. **5/9**

Spare Pairs of Crystals for Red Diamond Detectors—

Cat. No. AC271 .. .. **3/6**

## BIG REDUCTION!

### "WAVEMASTER" DETECTORS



Semi-Permanent Crystal Detectors, mounted on small black bakelite base. Not enclosed. An English-made Detector that will give excellent reception.—Cat. No. AC273—

**NOW 2/6** each

### Catswhisker Type

Similar to those described above but using ordinary catswhisker and crystal.

Cat. No. AC272 .. **NOW 1/11** each

### CRYSTALS



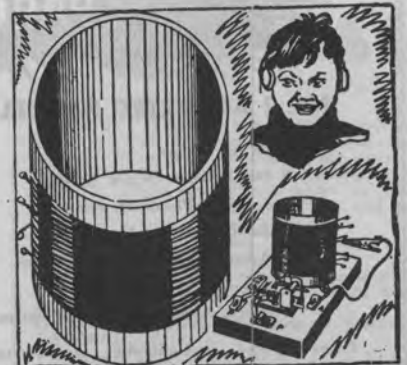
"LUCERNE" Crystals. Packed in small packets and supplied complete with Catswhisker. British manufacture.

Cat. No. AC286—  
**NEW LOW PRICE!**  
**8D.** packet

Galena Crystals, in packets.

Cat. No. AC287 .. .. **6D.**

### CRYSTAL SET COILS



Coils for Crystal Sets. Consist of 70 turns, 24-gauge D.C.C. Wire on 3in. diam. bakelite former. Tapped every tenth turn.

Cat. No. AC266 .. .. **4/-** each

**8**

**MONSTER PAGES**



**WAR**



**GREAT Values!**

**SURPLUS**

★★★

**BARGAINS!**

**BARGAINS WE WON'T BE ABLE TO REPEAT!**

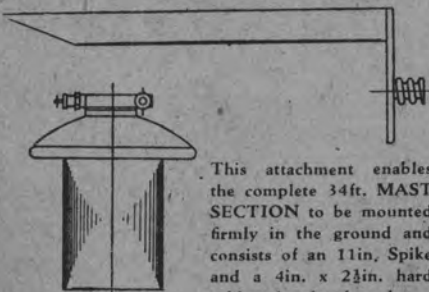
**ARMY ZC1 TRANSCEIVER AERIALS**  
Excellent as House or Car Aerials

Comprises three 6ft. lengths 3/4in. pipe, four 4ft. lengths metal tubing, size varying from 3/4in. at one end to 1/2in. at the other; set of aerial stays, reducer (for fitting thin section of aerial into heavy section), one rubber socket for heavy section, one rubber socket and insulating condenser for mounting thin (whip) section only. May be used as a vertical house type antenna, or whip section. Could be used as car or caravan aerial. Supplied complete with carrying bags.—Cat. No. AX1085 Price **£2/16/6**

**Whip Section Only**

Consists of four 4ft. sections Metal Tubing varying from 3/4in. to 1/2in. diameter. These being approx. 16ft. long and light in weight make ideal elements for 10 metre rotary beam antennas, in addition to being suitable for auto, caravan and home use. Complete in canvas bag.—Cat. No. AX1080 .. Price **12/9**

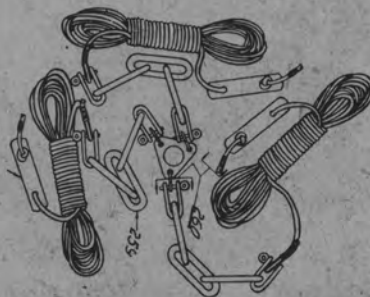
**HEAVY AERIAL MAST BASE**



This attachment enables the complete 34ft. MAST SECTION to be mounted firmly in the ground and consists of an 11in. Spike and a 4in. x 2 1/2in. hard rubber insulated socket.

Cat. No. AX1069 .. .. **5/11**

**GREAT BARGAIN! AERIAL STAY SETS**



Complete 3 rope Aerial Stay Set to give rigid support to your Aerial Mast. Comprises 3 sets of proofed halyard ropes each 24ft. in length with a 3 Link Plastic Chain Insulator on end of each rope. Insulators fasten to centre mounting plate (as illustrated) by means of two U shaped shackles. A wooden tightener is attached to each rope. These Aerial Stay Sets would be great value at 10/- but another bulk purchase from War Surplus enables us to sell at the gift price of **3/11** set  
Cat. No. AX1067 .. ..

**WHIP AERIAL BASE**

This is the attachment for use with the Whip Aerial when mounting on vans, trucks, etc. Consists of a rubber-mounted socket and condenser.—Cat. No. AX1068 .. .. **7/11**

**METAL STAY PLATES**

Metal plates triangular in shape 2in. x 2in. x 2in. with small ringlets attached to each corner to take ropes (As illustrated with Aerial Stay Set across page). Has 1in. hole in centre. Handy little junction piece for Aerial systems. Cat. No. AX1299 .. .. **4<sup>D</sup>** each

**AERIALS ETC.**

**ZC1 WHIP AERIAL ADAPTOR**

Used for joining whip section to main mast section on ZC1 Aerials. **3/6** each  
Cat. No. AX1073 .. ..

**O.S. EGGS**

Egg Insulators, large size. 5in. long x 3 1/4in. diameter. **2/6** each  
Cat. No. AX1474 .. ..

**BRASS AERIAL RODS**

Three foot lengths brass tube, 3/4in. diameter, threaded so that each end will fit into next section and thus make a continuous length. The experimenter will find many uses for these rods. **2/6** each  
Cat. No. AX1509 .. ..

**Sizzling War Surplus Bargain**



**3 Link Plastic Chain INSULATORS**

as used in Army Radio Aerials.

Very effective insulators. Put one chain on each end of your aerial. Worth 2/6 each but because they are surplus war stocks, to be sold for a song. Length of 3 links, 9 inches. Weight 3 ozs. only. **ONLY 5<sup>D</sup>** set  
Cat. No. AA601 .. ..

# BIG BARGAINS FROM WAR SURPLUS!

## WAR BARGAINS!

### CHOKES REMOVED FROM ZC1 TRANSCEIVERS

#### 2.5 Henry 80 MA Filter Chokes

Mounted in metal containers 2in. high x 3in. between mounting holes. Lug Cat. No. AX1010 .. **17/6** type connection.

#### Modulation Chokes

Small Heavy Duty Modulation Chokes. Similar dimensions and descriptions to above. Suitable for plate circuits of 6V6GT or similar valve. **5/11** each Cat. No. AX1011 ..

#### Parasitic Chokes

The ideal Unit for preventing parasites in low and medium power Transmitters. 3 1/2 in. x 1 in. **1/-** each Cat. No. AX1047 ..

#### Vibrator Chokes

Low tension Hash Chokes for use with Vibrator Packs and Motor Car Sets, etc. Size: 1 1/2 in. long, 1/2 in. diameter. Wax coating. **1/9** each Cat. No. AX1141 ..

Cat. No. AX1155—High Tension R.F. .. **1/9** each

### RADAR CHOKES

10 Henry—3000 volt—50 m.a. D.C. Chokes. Length 3 1/2 in., height 3 1/2 in., width 3 in. Cat. No. AX1335 .. **15/-**

### R.F. CHOKE FORMERS

Insulated formers 1 in. in length 3/4 in. diameter, with metal end caps and pigtail leads. Will make excellent formers for winding your own special resistors.

Cat. No. AX1202 **2D.** each or **1/6D.** doz.

### Low Tension R.F. Chokes

Good Hash Choke as used in ZC1 Unit. 1 1/2 in. long wound on 1/2 in. bakelite former. **6D.** each Cat. No. AX1200 ..

### 650 Micro Henry Choke

Cylindrical 1 1/2 in. long x 1 in. with solder lug mounting. Might be used as a crystal set coil or for line filter work. **9D.** each Cat. No. AX1246 ..

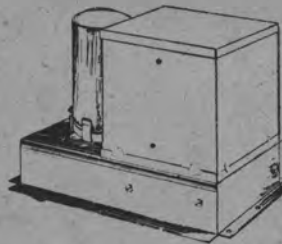
### VOLTAGE REDUCERS

Voltage Reducers 230 volts down to 4 volts 2.5 amp. Extremely robust in construction; length 3 1/2 in., height 3 1/2 in., width 3 in. Removed from dismantled radar equipment. **15/-** each Cat. No. AX1330 ..

### ZC1 INSTRUCTION BOOKS

A 58-page Booklet of working instructions for the ZC1 Mk. II Transceivers. **1/6** each Cat. No. AX1062 ..

### 12-VOLT VIBRATOR PACK



A real heavy duty Power supply for that vast field of battery-operated multi-tube Receivers, medium power Public Address Systems and low power Transmitters. Completely enclosed in a heavy metal cadmium-plated box with hash filter. They are ideal for short-wave Receivers. The dimensions are 6in. long by 4in. wide and 6in. deep. Although designed to operate from 12 volt D.C. they can be converted to 6v. The Output is 250 volts at 60 mills. The B Supply, smoothing choke and filter condenser are supplied separately.

12 VOLT POWER PACK— **£3** Cat. No. AX1001 ..

### SPARE TRANSFORMERS

#### ZC1 Vibrator Transformers

Power Transformers from ZC1 Transceivers. Input 12 volts, Two Output windings, 180/0/180 volts and 300/0/300 volts. "Hams" have many uses for these useful transformers.

Cat. No. AX1088 .. **5/11** each

### BARGAIN OFFER!

#### 12 Volt 7-Pin Vibrators

Army Surplus stocks. Imported 12-VOLT 7-PIN SYNCHRONOUS VIBRATORS. Worth 27/6.

Cat. No. AB65— **OUR PRICE 4/11** each



### 12 VOLT 6-PIN VIBRATORS

12 volt 6-pin Vibrators. All brand new but slightly soiled with storage. May be necessary to adjust points before using. **GRAND BUY!**

Cat. No. AX1280 .. **15/-** each

### MICROPHONE TRANSFORMERS

For use with Dynamic type Microphones. Size 1 1/2 in. x 1 1/2 in. x 2 in. high. **12/6** Cat. No. AX1013 ..

### HEADPHONE TRANSFORMERS

For matching Dynamic Headphones. Size 1 in. x 1 1/2 in. x 2 in. high. **12/6** Cat. No. AX1012 ..

### MIDGET MIKE TRANSFORMERS

Small Microphone Transformer without case. 1 1/2 in. x 1 1/2 in. x 1 in. **5/6** Cat. No. AX1231 ..

### BAKELITE PANNELLING

#### MICARTA SHEET

A beautifully finished Radio Panelling. Linen bonded, with a very shiny surface. Coloured brown. You can find many uses for panelling such as this at prices like this.

Cat. No.	Sheet
AP526—6in. x 6in. x 1/16in.	9d.
AP525—12in. x 12in. x 1/16in.	2/-
AP524—12in. x 24in. x 1/16in.	4/-
AP523—24in. x 24in. x 1/16in.	8/-
AP522—36in. x 36in. x 1/16in.	17/6

ANOTHER GREAT BARGAIN!

### EBONITE ROD

Cat. No.	per ft.
AX1438—2 1/2 in. Diam. Ebonite Rod	15/6
AX1437—2 1/2 in. " " "	14/-
AX1432—1 1/2 in. " " "	12/6
AX1431—1 1/2 in. " " "	10/6
AX1436— 1/2 in. " " "	3/8
AX1435— 1/2 in. " " "	3/-
AX1434— 1/2 in. " " "	2/8
AS148— 1/2 in. " " "	2/3
AX1433— 1/2 in. " " "	1/9
AS149— 1/2 in. " " "	1/3

### EBONITE TUBING

Cat. No.	Outside Diam. (in.)	Hole (in.)	Price (ft.)
AX1443	1	5/8	3/9
AX1444	1 1/2	5/8	2/4
AX1446	1 1/2	1/2	1/3
AX1447	3/16	1/16	11d.
AX1448	3/16	1/32	11d.
AX1449	.090	.037	4d.

### EBONITE SHAFTS

Ebonite Insulated Shafts 2 1/2 in. in length x 1/2 in. diameter. 1 in. threaded projection from one end for mounting. Serves a variety of uses for component mounting. **6D.** each Cat. No. AX1150 ..

### PAPER TUBING

1/2 in. Outside Diameter, 2ft. lengths. Cat. No. AX1207 .. **2/-** piece

### HAMMERS



Engineer's type Hammers. 3 1/2 in. x 1 in. Head. Handle 13 in. **2/6** each Cat. No. AX1071 ..

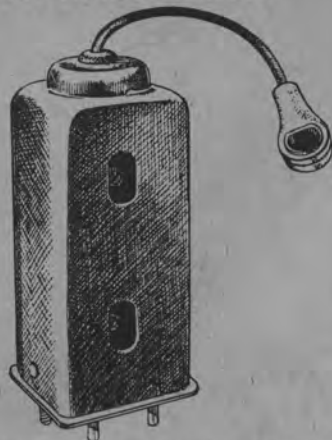
### PLASTIC MOULDED BASE

Plastic moulded morse key bases as used with the Army Morse Key. Measuring 3 1/2 in. x 1 1/2 in. x 3/16 in. thick. 1/2 in. holes drilled at each corner. Make good mounting strips for different small components.

Cat. No. AX1312 **6D.** each or **4/6D.** doz.

# VALUES IN SURPLUS WAR STOCKS

## I.F. TRANSFORMERS



Each Transformer tested under rigid army supervision. The finest money can buy, and only half the price of ordinary I.F.S. 465 k.c. Iron Cored.  
 Cat. No. AX1006—No. 1 I.F. **7/11** each  
 Cat. No. AX1007—No. 2 I.F. **7/11** each

## WAR SURPLUS BARGAINS!

### TRANSMITTER EXCITER UNIT

Comprises 3-gang Tuning Condenser and Dial, together with Oscillator and Buffer Coils, R.F. Chokes, 2-gang Wave Change Switch and associated Resistors and Condensers. Ruggedly constructed Unit—cadmium plated. Both coils are completely shielded and provided with switching to cover from 1.9 to 8 M/c. Unit uses two 6U7G Valves—one as an electron coupled oscillator and one as a single ended buffer. These tubes are not included in the price.

Cat. No. AX1009 .. **30/-** each

Similar unit to above, but less dials, R.F. choke, wave-change switch and trimmers.  
 Cat. No. AX1190 .. **15/-** each

### COIL MOUNTING BASES



Seven-hole oblong bases of hi-test ceramic insulating material 4 1/2 in. x 1 1/2 in. 5-16 in. thick. Invaluable for mounting coils and components where high insulation is desirable.  
 Cat. No. AX1502— .. **6** D. each  
 1/2 in. diameter holes .. ..  
 Cat. No. AX1503— .. **6** D. each  
 5-32 in. diameter holes .. ..

### CANVAS SATCHELS

Strong canvas carrying bags with lace up top. Measures 11 in. length by 4 in. diameter. Were used for peg bags with ZC1 Aerials. A handy little satchel for small tools, etc.  
 Cat. No. AX1250 .. .. **9** D. each

### CANVAS HOLD-ALLS

Originally used as carrying caps on ZC1 Aerials. Canvas Bag 5 1/2 in. deep x 2 1/2 in. diameter with carrying laces eyeletted in. Would serve as a nail holder or screw holder for carpenters, etc.  
 Cat. No. AX1247 **6** D. each or **6** for **2/6**

## COILS FOR T1803 R.A.F. TRANSMITTERS

### Master Oscillator Coils

These coils are constructed of 12g. silver plated copper wire 2 1/2 in. in diameter, rigidly mounted on four "Keramot" supports. The coil is mounted in a complete unit and the inductance is continuously variable from 21 to 12 turns by sliding contact. The dial indicates the number of complete turns in use, and also the portions of the last turn to one degree. The coupling coil is fitted with two tapings, and is fully adjustable from maximum to minimum coupling with a dial indicator showing the degree of coupling. Plugs 1/2 in. diameter are fitted on the base of the assembly for plug-in purposes, if required. Two small fixed capacities are mounted on the unit—one air di-electric, and one mica, both of at least 1500 volt working.

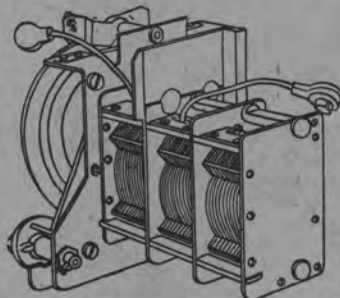
### Amplifier Coils

Similar in construction to the Master Oscillator coils described above with the exception that there is no coupling coil and no mica capacitor. The diameter of the winding is 3 in. and the inductance of the coil is continuously variable from 0-12 tapings.

Both coils described above are supplied complete in a wooden box measuring 9 in. high, 6 in. x 6 in. with hinged lid.  
 Cat. No.

AX1288—Amplifier Coil	Range A	15,000-10,000 K.C.	..	3/11
AX1289—Amplifier Coil	Range B	10,000-6,000 K.C.	..	3/11
AX1290—Master Oscillator	Range B	10,000-6,000 K.C.	..	8/6
AX1293—Amplifier Coil	Range C1	3,000-15,000 K.C.	..	3/11
AX1294—Master Oscillator	Range C1	3,000-15,000 K.C.	..	8/6
AX1295—Amplifier Coil	Range D	500-136 K.C.	..	8/6
AX1296—Master Oscillator	Range D	500-136 K.C.	..	8/6
AX1297—Master Oscillator	Range A	15,000-10,000 K.C.	..	8/6

## RECEIVER GANG & DIAL UNIT



Three-gang Tuning Condenser (192.5 MMFD MAX.) and Dial. Dial has vernier drive with two "click stop" positions. Hand grip 2 1/2 in. Knob. Suitable dial for any type of short wave receiver and lower power transmitter.

Cat. No. AX1008 .. .. **9/11**

## The Light with Many Uses THE "ANDY" LIGHT



This Unit consists of an insulated socket and plug collar, 3 in. flexible Swan Neck and Torch Bulb type Lampholder.  
 Cat. No. AX1042 .. .. **2/11**

## WAR SURPLUS BARGAINS!

Coils, removed from NEW ZC1 Army Transceivers. In perfect working order. Never used.

### Short Wave Receiving Coils—Aerial

Wound on 1/2 in. diam. former. 465 k.c. Iron Core. Fitted on to mounting terminal base. Lug connections. Shielded in can. Dimensions: 3 in. high x 1 1/2 in. x 1 1/2 in., 4 to 8 M.C.  
 Cat. No. AX1003 .. .. **9** D. each

### Oscillator Coils

Similar description to above mounted in can 2 in. high x 1 1/2 in. x 1 1/2 in. Air Core.  
 Cat. No. AX1005 .. .. **1/6** each

### R.F. Interstage Coils

Similar details to above Aerial coils.  
 Cat. No. AX1004 .. .. **1/6** each

### B.F.O. Coils

For use with 465 I.F. Transformers and complete with .001 and .005 mfd. 5 per cent. Tolerance Mica Condensers. Shielded in can. Dimensions: 2 in. high x 1 1/2 in. x 1 1/2 in.  
 Cat. No. AX1002 .. .. **2/-** each

### P.A. Tank Coils

Unshielded Coils covering approximately 2 to 4 megs. (Low frequency) 40 Turns of 26 S.W.G. Enamelled Copper Wire Wound on 1 in. former.  
 Cat. No. AX1034 .. .. **11 1/2** D. each

Ditto. High Frequency. Covering approximately 4 to 8 megs. 18 Turns of 22 S.W.G. C. and E. Copper Wire.  
 Cat. No. AX1035 .. .. **11 1/2** D. each

### Driver Tuning Coils

Driver Tuning Coils. Constitute 103 turns of 7/46 S.W.G. Litz wire dual-lateral wound on 1/2 in. former and tapped at 30 turns from start of winding. Mounted in metal can 3 in. x 1 1/2 in. x 1 1/2 in.  
 Cat. No. AX1087 .. .. **2/6** each

### Aerial Loading Coils

Wound on 4 1/2 in. long x 2 in. diameter ribbed ebonite former. .. **1/6** each  
 Cat. No. AX1092 .. ..

### Aerial Tuning Coils

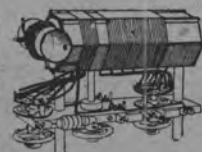
Two windings on 5 1/2 in. long x 2 in. diameter former. First winding constitutes 60 Turns 22 S.W.G. Tinned Copper wire tapped every 6 turns. Second winding is 10 turns same wire tapped every turn. Spacing between two windings = 1/2 in.  
 Cat. No. AX1249 .. .. **2/-** each

### Master Oscillator Coils

Coverage 2.2 to 6.5 megs. Windings incorporate .00005 mfd. mica condenser and a 50,000 ohm. resistor. Mounted in can 3 in. x 1 1/2 in. x 1 1/2 in.  
 Cat. No. AX1176 .. .. **2/6** each

## AERIAL TUNING UNITS

Tank Coil — Tuning Unit: Tank coil consisting of 75 turns double spaced tinned copper wire, 22 gauge; wound on a heavy former 2 in. diameter and tapped by means of two single bank 11-position rotary selector switches. Coil and Switches mounted by means of 2 heavy bakelite end pieces, fitting on a cadmium-plated metal bracket.



Cat. No. AX1024 .. .. **6/11**

**ELECTROLYTIC MOUNTING PLATES**

Condenser mounting plates as used for mounting electrolytics. Metal plates oval in shape (similar to a wafer valve socket) with mounting holes 1 1/2 in. apart. Centre hole is 1/2 in diameter. Ideal for converting tubular electrolytics for upright chassis mounting.

Cat. No. AX1152 **2**D. each or **1/6** dozen

**BAKELITE ELECTROLYTIC PLATES**

Plastic moulded plates oval in shape. Mounting holes 1 1/2 in. apart. Centre hole is 1/2 in diameter, used for insulating upright mounting electrolytic condensers from chassis.

Cat. No. AX1300 **2**D. each or **1/6** dozen

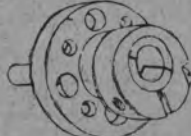
**CONDENSER MOUNTING RUBBERS**

Small Condenser Mounting Rubbers 1/2 in. deep, diameter 1/2 in. with 1/4 in. hole through the centre. For cushioning variable condensers from Chassis.

Cat. No. AX1363 **2**D. each or **1/6** dozen

**CONDENSER SHAFT REDUCERS**

Cast metal Condenser Shaft Reducers. Bush takes a 1/2 in. shaft and terminates with 1/2 in. shaft. Bush is fitted with tightening screw for good junction. Overall length 2 in., diameter 1 1/2 in.



Cat. No. AX1118 **GOOD BUY!** **9**D. each

**3-GANG CONDENSERS**

3 Gang Variable Condensers. Some of the plates have been removed giving them the approximate capacity of .00018 mfd. per section. Grid clip and leads attached to the second and third sections. Complete with mounting brackets. **GREAT VALUE!**

Cat. No. AX1225 **2/11** each

**SEMI-MIDGET CONDENSERS**

Single gang semi-midget variable condensers. .00018 mfd. capacity. 2 in. x 2 in. overall. 1/2 in. shaft.

Cat. No. AX1368 **7/6** each

**BLOCK CONDENSERS**

Metal cased block type Condenser 2 mfd. 200v. Working. Width 1 1/2 in., depth 1/2 in., height 2 1/2 in.

Cat. No. AX1308 **1/1** each

4 mfd. 200v. Working. Width 1 1/2 in., depth 1/2 in., height 2 1/2 in.

Cat. No. AX1309 **1/6** each

**WAR SURPLUS BARGAINS!**

**TUBULAR CONDENSERS**

Cat. No. AX1027—.02 mfd. 400 v. Tubular Condensers **6**D. each or **5/1** dozen

AX1028—.1 mfd. 400 v. **9**D. each

Tubular Condensers AX1029—.25 mfd. 400 v. **1/3** each

Tubular Condensers AX1030—.25 mfd. 25 v. **1/9** each

Electrolytic Condensers

**PADDERS AND TRIMMERS**

465 K.C. Single Hole mounting type Padders. 1 in. square. **2/1** each

Cat. No. AX1031

Double Trimmers: Philips make. Low-loss air spaced type, with mounting piece 2 in. x 1/2 in. **2/1** each

Cat. No. AX1032

Aerial Trimmer Condensers: An air-spaced midget variable condenser with a capacity of 25 mmfd. **3/1** each

Cat. No. AX1033

**ELECTROLYTICS**

Upright mounting Metal Cased Electrolytic Condensers. 10 mfd. x 10 mfd. Cat. No. AX1025 (uninsulated) **5/11** each

Cat. No. AX1026 (insulated) **5/11** each

**"CHANEX" BLOCK CONDENSERS**

"Chanex" metal block condensers. 1 mfd. 400 volt Working D.C. Test 1500 volt D.C. Upright mounting 2 1/2 in. high, 1 1/2 in. x 1 1/2 in. Cat. No. AX1371 **1/6**

**HIGH-VOLTAGE CONDENSERS**

The following condensers have been dismantled from Radar transmitters. Cat. No. AX1346—.004 4000 volt **5/1** each

Cat. No. AX1347—.005 5000 volt **7/6** each

**CARBON PILES**

Carbon piles as used in aircraft voltage regulators. Cat. No. AX1420 **8/6** each

**HEAVY-DUTY RESISTORS**

Seventy-five watt Wire-wound Resistors, tapped at 750 ohms, 1200 ohms, 1500 ohms. Cat. No. AX1489 **ONLY 3/6** each

One hundred watt, 1700 ohm Wire-wound Resistors Cat. No. AX1506 **4/1** each

Same as above but 3000 ohm Cat. No. AX1507 **4/1** each



**RESISTORS**

**Carbon Resistors**

Cat. No. AX1373—"OH10HM" 1.75 megohm 1 watt Carbon Resistors **4**D. each

Cat. No. AX1239—Ceramic 2,800 ohm 1 watt Resistors **3**D. each or **2/6** dozen

**3 Watt Resistors**

1 Meg. 3 watt Resistors. Length 2 1/2 in., 1/2 in. diameter. Cat. No. AX1367 **9**D. each

**SURPLUS INSTRUMENT KNOBS**



Black Handgrip Bakelite Instrument Knobs as used with Army Equipment during wartime. Has 1/2 in. brass insert in centre but has no grub screw. 4 other brass inserts 1/2 in. tapped with thread also on rear of knob to allow for firm attachment to a metal or plastic disc. **BULK BUYING ENABLES US TO PASS THESE ON TO YOU AT**

Cat. No. AX1107— **6**D. each or **5/6** doz.

**TUNING SCALE PLATES**



Tuning Scale Plates, 6 in. x 2 1/2 in. Brown plate with white markings. 1/2 in. Control holes. Cat. No. AD34 **NOW 1/1**

**DIAL SCALES**



Oxidised metal plates 4 in. in diameter with the numbering from 2 to 7 over a half circle. Calibrated in 44 divisions. 1/2 in. hole in centre to take condenser shaft and also mounting holes. Would make a great dial scale for a small receiver. **1/1** each

Cat. No. AX1147/48 **1/1** each

**WAR SPECIAL! TUNING DIALS**



As used in ZC1 Transceivers. Suitable for receivers or transmitters. Can be set for two preset frequencies, with flick tuning mechanism. Cat. No. AX1090/4 **2/11**

As above but Mark 2 Exciter Unit Dials. Cat. No. AX1253 **2/11** each

**GLASS CIRCLES**

4 1/2 in. diameter glass circles mounted in knurled plastic ring. Cat. No. AX1424 **6**D. each



**PLASTIC WATCH CASES**

Plastic Watch Cases, 2 in. diameter, 1/2 in. rim round top case, holds watch in position and allows 1 1/2 in. opening for watch face.

Cat. No. AX1036—(Case only) **9**D. each

**7-PIN SPEAKER PLUGS**

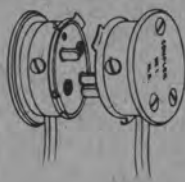


"AMPHENOL"  
American made 7-pin Speaker Plugs complete with detachable mounting flange measuring 1 1/2 in. between mounting holes.

Cat. No. AX1362

1/- each

**SURPLUS CORD CONNECTORS**



A 2 piece 2-wire connector to serve a variety of uses. Heavy plastic moulded bodies plug into each other forming a strong coupling and giving a sure contact. Two ringclips enable both halves to be firmly locked together. Excellent as a lead coupler for caravans, extension speakers and

extensions of all descriptions. 1/6 set  
Cat. No. AX1083

**SWITCHES**

These Switches have been removed from ZC1 Army Transceivers. All are brand new, although some may have solder marks.

**S.P.S.T. TOGGLE SWITCHES**

Standard type S.P.S.T. 230-volt 3 amp. Toggle Switch. 2/3 each  
Cat. No. AX1020

**FLUSH MOUNTING SWITCHES**

10 amp., 240 volt Flush Mounting Switches. Can be used for ordinary house lighting circuits or for any other purpose where an on-off switch is required. 1/6 each  
Cat. No. AX1019

**PUSH-TO-TALK SWITCHES**

D.P.D.T. Push Switch. Excellent for a meter push switch or for inter-communication work. Depth 3 in., width 3 in. 2/- each  
Cat. No. AX1021

**WAVE CHANGE SWITCHES**

3-Bank, 2-Position, 9-Pole Wave Change Switches as used in these Transceivers for Receiver/Band/C.W. Switch 4/6 each  
Cat. No. AX1016

2-Bank, 3-Position, 4-Pole Wave Change Switches as used for normal/net/remote switch. 3/- each  
Cat. No. AX1017

3-Bank, 3-Position, 6-Pole Wave Change Switches. 4/6 each  
Cat. No. AX1018

**PRESS BUTTONS**

Ex. Air Force aircraft. Strong push button mounted in plastic casing 2 in. x 1 1/2 in. x 1 1/2 in. The button is recessed into the mounting. Ideal as cord grip bell push, or press-to-light switch. 1/- each  
Cat. No. AX1406

**PENDANT PUSHES**

Strong Plastic Cord Grip Pushes similar in action to a bell pear push. Originally used in conjunction with bomb release apparatus on aircraft. Diameter 1 1/2 in. height 2 in. Decisive push contact. Button is recessed inside protective outer casing. GREAT VALUE!  
Cat. No. AX1381 1/- each

**ON-OFF PLATES**

Small nickelled plates for slipping over the threaded bush of a toggle switch. Marked ON-OFF. Gives a neat finish to flush mounting toggle switches. 3D each  
Cat. No. AX1210

**VALVE SHIELDS**

Cadmium plated Valve Shields for glass Octal based Tubes, 4 1/2 in. x 1 1/2 in. x 1 1/2 in. Complete with flush mounting base.

Cat. No. AX1052— 1/- complete

Similar Shield to above but made from heavy metal and reinforced.

Cat. No. AX1054— 1/3 complete



**SMALL VALVE SHIELDS**

Small cadmium plated Valve Shields measuring 3 in. high and 1 1/2 in. square. Ideal for G.T. Tubes. Supplied complete with mounting base. ANOTHER BARGAIN!  
Cat. No. AX1102 6D each

**WAR SURPLUS BARGAINS!**

**OCTAL WAFER VALVE SOCKETS**

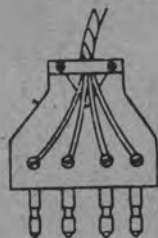
Heavy Wafer Octal Valve Sockets to take all the modern types of tubes with the octal base. These sockets have the mounting holes spaced 1 in. further apart than the standard type but otherwise are exactly the same as the standard wafer socket selling at 8d.

GREAT BARGAIN!

Cat. No. AS630—

4 1/2 D. each or 3/9 doz.

**2-4 PRONG PLUGS**



Heavy Bakelite Plugs. 4 prongs approx. 3-16 in. diameter, with screw terminals. Recessed for cord entry with detachable moulded piece to clamp on to cord making a sure and safe connection.

WORTH TWICE THE PRICE TO MANUFACTURE!

Cat. No. AX1185—

1/- each

Cat. No. AX1301—2 Prong Plug. Similar to above illustration but with only 2 outside prongs. 9D each

**GREAT BARGAINS FROM WAR SURPLUS!**

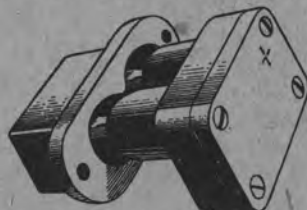


**SOLENOIDS**

Aircraft gun-trigger solenoids (new) 24 volts D.C. Magnavox, MK7, Model 1.

Cat. No. AX1382 8/6 each

**CHASSIS PLUG AND SOCKET**



Exceptionally heavy Power Plug and Socket. Plug is chassis mounting; socket can be attached to cord. REALLY A BARGAIN AT  
Cat. No. AX1060 2/11 set

**BIG REDUCTION!**

**FIRMO-PLASTIC SOLUTION**

A general purpose solution used for bonding rubber to metal, or rubber to wood, concrete, slate, etc. Used extensively for cementing linoleums, rubber window trimmings in automobiles, flooring, etc.

PACKED IN 1/2 PINT TINS

Because the tins still have Army labels on them and the extra cost of re-canning would add to the price we are selling at well below the normal price (2s. 9d.).

ANOTHER GENUINE BARGAIN!

Cat. No. AX1254 1/6 tin



**SHIELDED OCTAL SOCKETS**



Constitute a standard Octal speaker plug mounted in a shell. A good recessed socket for wires carrying dangerous voltages. Impossible to touch male prongs. Overall diameter 1 1/2 in.

Neat and compact. For below surface mounting on all types of Radio apparatus including P.A. amplifiers, transmitters, electronic instruments, etc.

Cat. No. AX1230 1/6 each

**ENGLISH 5-PIN PLUGS**

English 5-pin Chassis Mounting Plugs 5 prongs mounted on bakelite wafer base 1 1/2 in. x 1 1/2 in. with mounting holes at every corner. 9D each  
Cat. No. AX1356

**ENGLISH 5-PIN SOCKETS**

Wafer socket to take plug described below. Wafer socket 1 1/2 in. x 1 1/2 in. 9D each  
Cat. No. AX1357

**ENGLISH 5-PIN CORD TYPE PLUGS**

English 5-pin Plugs. Heavy bakelite two-piece plug—cord grip—fits into socket listed above (Cat. No. AX1357). 1/- each  
Cat. No. AX1358

Five-pin sockets for fitting into cord to take above plugs. 9D each  
Cat. No. AX1359

**LOCK NUTS**

Hexagon Lock Nuts for Toggle Switches.

Cat. No. AX1211 2D each

**METAL SPACERS**

Cadmium plated Spacers serve dozens of uses for the radio hobbyist.

Cat. No.	Length (in.)	Diameter (in.)	Size of Hole (in.)	Price
AX1199	1/8	5/16	3/16	1d. each or 6d. dozen
AX1198	1/4	1/4	3/16	1d. each or 6d. dozen
AX1157	3/8	1/2	1/8	2d. each or 1/6d. dozen

**THREADED METAL SPACERS**

As above but centre hole is threaded.

Cat. No.	Length (in.)	Diameter (in.)	Size of Hole (in.)	Price
AX1241	1/4	1/4	1/8	1d. each.
AX1110	3/4	1/4	1/8	1d. each.
AX1146	1	3/8	3/16	2d. each or 1/6d. dozen

**COLOURED METAL SCREWS**

Coloured metal screws as used on the dial assembly of a ZC1 Transceiver. Stem 2 1/2 in. long x 1/4 in. diameter tapped with 3/16 in. thread approx. 1/2 in. from one end. Other end has small slot to take screwdriver.

Cat. No. AX1151 2D. each or 1/6 dozen

**METAL SCREWS**

2 in. x 1/4 in. Bright Cadmium Plated Screws. Whitworth 1/4 in. thread. Flat head not slotted. Used as the centre bolt in the large ZC1 terminals.

Cat. No. AX1149 2D. each or 1/6 dozen  
Cat. No. AX1114—Ditto. 1 1/2 in. x 1/4 in. Whitworth 1/4 in. thread. Flat head. 1D. each or 9D. dozen

Cat. No. AX1212—Cadmium Plated 3/48 x 1/4 in. 4D. dozen or 3/6 gross

**SMALL SPINDLES**

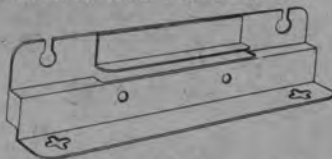
Better described as a small pulley, 1/4 in. outside diameter with a 3/16 in. centre, fastened to a metal spindle 1 1/2 in. x 1/4 in. This would have many uses for motor driven models.

Cat. No. AX1135 3D. each

**TRIANGULAR BRACKETS**

Cadmium plated triangular brackets 3 in. in width by 4 1/2 in. high. Two mounting lugs fitted for firm attachment. Suitable for mounting panels, to chassis, etc.

Cat. No. AX1197 3D. each

**MOUNTING BRACKETS**

Heavy metal mounting brackets suitable for shelves, etc., length 8 in., depth 2 in., width of turnover 1 1/2 in. Two mounting holes on each flange as illustrated.

Cat. No. AX1091 ..

**CHASSIS HARDWARE****MOUNTING PILLARS**Heavy mounting pillars that have a variety of uses. Length overall 5 in. Body 4 1/2 in. long, diameter 1/4 in. solid. 3/16 in. diameter threaded ends protrude 1/2 in. 4D. each or 3/6 dozen  
Cat. No. AX1139**SPACING BAR**Metal Spacing Bar 4 1/2 in. x 1/4 in. Internally threaded at either end with 1/4 in. hole.  
Cat. No. AX1116 .. 2D. each**CHASSIS SCREWS**Cadmium plated Chassis Retaining Screws. These screws measure 8 1/2 in. in length and are 1/4 in. in diameter. The stem is tapped for approximately 1/2 in. from one end with a slotted head on the other.  
Cat. No. AX1108 3D. each or 2/6 dozen**BEARINGS**Bearings complete with nut. Shaft 1 1/2 in. x 1/4 in. diameter and tapped approx. 1/2 in. from end with a 1/4 in. thread. Supplied complete with nut.  
Cat. No. AX1159 3D. each**PANEL BEARINGS**Constitute threaded bush 1/4 in. in length and 1/4 in. diameter. Fitted with nut. 3D. each  
Cat. No. AX1136**SMALL HOLLOW SOCKETS**Metal sockets 1/2 in. long, 1/4 in. diameter with outside thread and nut. 3/16 in. hollow centre. Cadmium plated.  
Cat. No. AX1134 2D. each or 1/6 dozen**KNURLED NUTS**1/4 in. diameter Nickel Plated Knurled Nuts, with 3/16 in. threaded hole. Knurled edge for neat grip.  
Cat. No. AX1306 1D. each or 9D. dozen**LID HOOKS**Lid Hook assemblies removed from remote control units. A small cadmium plated clip. Ideal for cupboard doors. 3D. each  
Cat. No. AX1305**CLIPS—CLAMPS, ETC.****BONDING CLIPS**Circular metal band 3/16 in. in width x 1/4 in. diameter. Fitted with nut and bolt for tightening. Similar in appearance to hose pipe clip.  
Cat. No. AX1408 6D. each or 5/- dozen**OVAL BONDING CLIPS**Similar to clip described above except oval in shape, length 1/2 in., width 1/4 in.  
Cat. No. AX1409 6D. each or 5/- dozen**BRASS SADDLES**Brass saddles for saddling wiring or conduit together. 2 in. in width x 1/2 in. deep with small mounting flanges at either end. 3D. each  
Cat. No. AX1414**GALVANISED SADDLES**1/2 in. Galvanised Half-saddles. Half-circular with mounting flange to enable them to be screwed to a wall for holding cable or conduit. Will take up to 1/4 in. diameter. 1D. each  
Cat. No. AX1111**EMBRACING CLAMPS**1/4 in. diameter circle. Strap 1/2 in. in width with drilled screw hole. Make an ideal earth clamp or similar. 1D. each  
Cat. No. AX1112**METAL DISCS**Metal discs as used with the dial assembly on Army ZC1 Transceivers. Overall diameter 3 1/2 in. with a 1 1/2 in. diameter hole in centre. Cadmium plated.  
Cat. No. AX1109 2D. each or 1/6 dozen**DISC COLLARS**Cast Metal Collars 1 1/2 in. diameter with 1/4 in. hole. 3/16 in. thick. Perforated casting.  
Cat. No. AX1142 2D. each or 1/6 dozen**BULK PURCHASE!**  
**Rubber Grommets**Fit 1/4 in. diam. hole. Inside diam. 1/2 in. Bulk buying enables us to give you a great reduction. Normally 3d. each.  
Cat. No. AS245—

NOW! 2D. each or 1/6 dozen

**LEATHER WASHERS**Insulating leatheroid washers. Size: Outside diam., 9/16 in.; hole 3/16 in.; 1/16 in. thick.  
Cat. No. AS309 .. 6D. dozen**WASHERS****PORCELAIN WASHERS**

Porcelain insulating washers. Small size. Width 1/4 in. with a 1/16 in. hole through centre. A good insulating washer for slipping over fine wires. 2D. dozen

Cat. No. AX1206

**CERAMIC WASHERS**

General purpose ceramic insulating washers. 1/4 in. diameter, 1/4 in. thick with a 1/4 in. hole through centre.

Cat. No. AX1277 3D. each or 2/6 dozen

**TERMINAL BUSHINGS**

Fibre bushings as originally used on ZC1 Terminals. Solid fibre insulated washers with unlimited uses to the Radio Hobbyist. Diameter 1/4 in. reducing in two steps to 1/8 in. Will take 1/4 in. bolt. 2D. each or 1/6 dozen

Cat. No. AX1192

**CUP WASHERS**Cadmium Plated Cup Washers. 1/4 in. across base, 1/4 in. deep with a 3/16 in. hole. A general purpose washer with many uses.  
Cat. No. AX1232/3 1D. each or 6D. dozen**RUBBER WASHERS**

Rubber washers 1/4 in. diameter, with a 1/4 in. hole, giving a band of 1/4 in. Good and strong yet flexible.

Cat. No. AX1179 1D. each or 6D. dozen

**COILED SPRINGS**Coiled springs 1/4 in. in length; diameter 1/4 in. Used as Dial Springs with Army Transceivers. Would make a good come-back spring for small doors and many other general uses.  
Cat. No. AX1205 .. 6D. each**FLICK TUNING CAMS**Constitutes an oxidised metal finger knob attached to metal spindle 1 1/2 in. in length by 1/4 in. diameter. We must admit that the uses for these must be limited. If you have a use for them, the cost is only—  
Cat. No. AX1106 2D. each or 1/6D. doz.**MIDGET CHASSIS**Bright Cadmium Plated Chassis, measuring 4 in. by 4 1/2 in. with a 1/4 in. fold at one end. Approx. 24 gauge metal. Two 1/4 in. holes and two 1 3/16 in. holes are the main drillings on the chassis but there are also several small mounting holes. This is just the thing for a Chassis for a miniature set. 1/- each  
Cat. No. AX1193**GRID CLIPS**Small Grid Clips for G.T. or Metal Valves mounted on Bakelite plate 1 1/2 in. x 1/4 in.  
GREAT VALUE!

Cat. No. AX1203—

1D. each

**RUBBER COVERED GRID CLIPS**

Screen Grid Clips to fit Octal based, glass or metal Valves. Rubber protecting cap moulded over clip. 6 in. length of pushback wire attached.—Cat. No. AX1043 .. 3D. each

**BIG BARGAINS FROM WAR SURPLUS!**

**HEAVY DUTY INSULATED TERMINALS**

These Terminals were used for Aerial connections on Transceivers and are an extremely robust and well-insulated job. Overall dimensions of terminal assembly 2 1/2 in. high, 3/4 in. diameter bakelite top. Heavy rubber insulating washers over steel stem.  
Cat. No. AX1050—



1/3

Similar to above but small size (1 1/2 in. x 3/4 in. and not insulated).  
Cat. No. AX1050A .. 1/-

**ALL-METAL TERMINALS**

Non-insulated all-metal oxidized Radio Terminals Threaded headpiece & washer screwing down on to base washer makes for sure connection. 4BA x 3/4 in. stem allows ample room for attaching insulated washers if terminal is required to be insulated.



Cat. No. AX1051 6D. each

**HEAVY METAL TERMINALS**

Heavy metal terminals nickel plated. Knurled nut screws down over wire giving a firm connection. Insulating washers, 3/32 in. bolt complete with nut and solder lug. 3/4 in. diameter; overall length 1 1/2 in.  
Cat. No. AX1315 .. 9D. each

**DOUBLE TERMINALS**

8BA Brass Double Terminals. Centre stem is 1 1/2 in. in length and has on it three knurled nuts spaced with spiral washers and a set of nuts and washers for attaching to chassis. Ideal for crystal sets and small sets in general.  
Cat. No. AX1402 .. 6D. each

Cat. No. AX1401—Ditto but much longer size. Threaded stem is 3 in. in length x 2BA. Three heavy knurled nuts (same principle as above) and mounting nuts. .. 1/- each

**PLASTIC TERMINAL TOPS**

Black Plastic Tops 3/4 in. diameter as used on ZCI terminals. Brass inset with 1/4 in. thread. Apart from their use with terminal assemblies these knobs will serve many other purposes such as feet for kettles, chassis stands, etc., etc.  
Cat. No. AX1154 4D. each or 3/- doz.

**BATTERY TERMINAL KNOBS**

Black plastic knobs 1 in. diameter with knurled edge. These knobs do not use a grub screw but are threaded inside the 5/16 in. hole. Take a 1/4 in shaft comfortably. You can find many uses for these knobs at such a gift price!  
Cat. No. AX1100 2D. each or 1/6D. doz.

**PLASTIC KNOBS**

Black plastic knobs 3/4 in. diameter. Small brass insert to take 1/4 in. rod. Fitted with grub screw.  
Cat. No. AX1143 .. 3D. each

**WANDER PLUGS**

A heavy duty plug with a Plastic Top and a 3/16 in. Metal Split Pin. Split pin could be spread out to fit sockets slightly larger.



Cat. No. AX1184 .. 6D. each

**SMALL CROWN EYELETS**



Approximately 1/4 in. in diameter with 1/8 in centre hole. Protruding spikes around edge of eyelet fold over and make a firm sure connection.  
Cat. No. AX1387 9D. dozen or 7/6 gross

**RING LUGS**

8BA Cable Lugs Nickel Plated. Crimping edge to take connecting wire.  
Cat. No. AX1388 6D. dozen or 4/6 gross

Similar to above but larger 4BA and tinned  
Cat. No. AX1389 .. 9D. dozen

**CABLE ENDS—CLAW TYPE**



Brass claw type cable ends. Length 1 1/2 in. Round eyelet is 3/4 in diameter with a 1/8 in. hole in centre and has a crimped fold-over edge. Groove for cord 3/16 in.  
Cat. No. AX1394 2D. each or 1/6 dozen  
Cat. No. AX1395—With 1/4 in. diameter eyelet and 1/8 in. hole in centre. 2D. each or 1/6 dozen

**CABLE ENDS—HOOK TYPE**



Cadmium-plated Cable Ends. Have hook end for fitting around terminal and teeth for crimping over and holding cable. Overall length 2 in.

	For Cable up to	
Cat. No.	Hook slot (diam.)	
AX1393	—3-16in. (2BA) 2MM.	2D. each
AX1396	—3-16in. (2BA) 7MM.	1/9
AX1397	—3-16in. (2BA) 5MM.	dozen
AX1398	—5-32in. (4BA) 5MM.	

**SMALL CABLE CLIPS**

Strap 1/4 in. wide formed into 3/16 in. circle with projecting bracket for mounting; Small and neat.  
Cat. No. AX1419 .. 1D. each

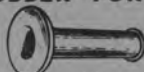
**CABLE LUGS 5m.m.**

Nickel Plated Cable Lugs. 1 in. in length, width of flange 5/16 in., 3/16 in. hole to take cord. Will fit terminals up to 3/16 in. diameter.  
Cat. No. AX1399 2D. each or 1/6 dozen

**50 AMP. CABLE LUGS**

Tinned 50 amp. Cable Lugs. Length 1 1/2 in. width of flange 1/2 in., hole to take cable 5/16 in. Will fit over terminals up to 1/2 in. diameter.  
Cat. No. AX1407 .. 4D. each

**HARDWARE RUBBER FURULE**



Rubber Furule as illustrated. Useful as protection for wires passing through sets, chassis, etc., 1 1/2 in. long x 1/4 in. maximum diameter 3-16 in. hole. .. 2D. each  
Cat. No. AX1204 .. 2D. each

**RIVETS**

3/4 in. x 1/4 in. brass hollow. 2D. doz.  
Cat. No. AX1214  
3-16 in. diam. x 1/4 in. eyelet. 4D. doz.  
Cat. No. AX1216  
.14 in. x .267 in., Stimpson No. 78 brass eyelet. 4D. doz.  
Cat. No. AX1217  
3-32 in. x 3-32 in. brass hollow; zinc plated. 2D. doz.  
Cat. No. AX1215 .. 2D. doz.

**WASHERS**

Lock Washers, 3-64 x 1-32 in. x 5G.  
Cat. No. AX1229 .. 1D. doz.

**WAR BARGAINS! METER RECTIFIERS**



5MA COPPER OXIDE METER RECTIFIERS.

Mounted on plastic sheet 1 1/2 in. x 3/4 in. Ex Army stocks, at a fraction of their true value. 5/- each  
Cat. No. AM45

**METER SPECIAL!**



"Western" 0-100 M.A. 2 1/2 in. round R.F. thermo-couple milliammeter. Flush mounting—plastic case.

**GREAT VALUE!**

Cat. No. AM23 .. 29/11 each  
"Ferranti" 0-100 M.A., D.C., 2 1/2 in. round meter with luminous dial. .. 35/11 each  
Cat. No. AM22 .. 35/11 each

**SPECIAL CHASSIS AND PANEL**

Cadmium Plated Radio Chassis, taken from dismantled Army ZCI Transceivers. Dimensions 20 in. x 8 1/2 in. x 3 in. deep; 22 Valve and Coil holes drilled. Space for Tuning Gang and Coil Assembly. Ideal chassis for a communications or a similar receiver. 7/9 each  
Cat. No. AX1058 .. 7/9 each

**RUBBER MOUTH PIECES**

Rubber mouthpieces for ZCI Microphones.  
Cat. No. AX1182 .. 3D. each

**VENT PLUG CAPS**

Heavy vulcanite screw in caps as used on automobile batteries to stop acid from spilling out, 1 1/2 in. diam., with 1 in. thread. Keep spares always handy for your battery.  
Cat. No. AX1188—6D. each or 5/- doz.

**BARGAIN METERS**

0-100 M.A. Moving Coil Milliammeters. These meters have been removed from brand new ZCI Transceivers and except for a few scratches are brand new. 22/6 each  
Cat. No. AX1014 .. 22/6 each



## BIG VALUE IN HEADPHONES!

### ARMY DYNAMIC PHONES



This dynamic Headset is the last word in phones. In reality 2 miniature loud speakers, 80 ohms. Necessitates the use of a matching transformer to use with ordinary radio or small receivers. Would make a good quality Dynamic Microphone, giving fairly flat response, for the amateur. Pre-amp would be required for this purpose. Supplied complete with flexible cord. Cat. No. AX1065 . . . . . **9/11** pair

Suitable matching Output Transformer. Cat. No. AX1012 . . . . . **12/6**

### HEADPHONE CUSHIONS

Sponge Rubber Cushions for AX1065 Headphones. Can also be used on other phones with an approx. 3in. diam. earpiece. . . . . **1/-** pair  
Cat. No. AC205 . . . . .

### ARMY "MIKES."—Carbon Type



A solidly constructed Hand Type Microphone, featuring a press switch mounted in the handle. Complete with 6ft. flex. Unit is enclosed in a heavy bakelite case. This Microphone is suitable for telephone amateur radio work and any similar purpose requiring a sturdy "mike." Cat. No. AX1063 . . . . . **12/6** each

### DYNAMIC HAND MICROPHONES

Similar in physical construction and appearance to the above (No. AX1063). Has lower output than the Carbon type and therefore requires the use of the Microphone Input Transformer listed below. This "Mike" gives better response than the Carbon type. . . . . **17/6**  
Cat. No. AX1064 . . . . .

### Microphone Transformers

for use with above. Cat. No. AX1013 . . . . . **12/6** each

### S.P.D.T. KEY RELAYS

This unit is designed for operation from 12 volts and draws approx. .08 amp. Relay will operate from voltages as low as 8 volts providing spring tension is decreased. Cadmium plated parts are mounted on bakelite plate, measuring 3 1/2in. x 1 1/2in. x 2in. overall. A very efficient relay which is suitable for many purposes including aerial changeover for transmitters, remote control of transmitters, receivers, etc. . . . . **7/6**  
Cat. No. AX1022 . . . . .

## REMOTE CONTROL UNITS TWO-WAY INTER-COMMUNICATION SETS

This unit consists of Morse Key, Buzzer and associated Terminals and switches in heavy gauge steel case. Measurements: 9in. x 5 1/2in. x 5in. This unit makes an ideal Portable Telephone which could be used for a number of purposes, e.g., between houses, workshops and office, sick room and kitchen, and similar purposes.



Each unit is provided with 2 Headphone Jacks which enables two persons to listen at the one time.

Accessories required would be:— Carbon Microphone, Dynamic Headphones and reel of coupling wire, all of which are listed under War Surplus.

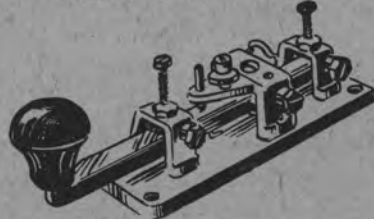
Cat. No. AX1061— **30/-** each

Cat. No. AX1061A— as above but used

**19/11**

## WAR SURPLUS BARGAINS!

### ARMY MORSE KEYS

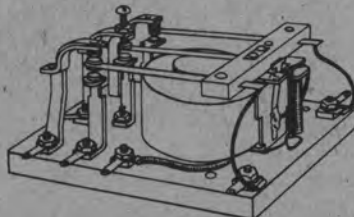


This key is very compactly constructed on a bakelite base measuring 3 1/2in. x 1 1/2in. Very efficient for sending Morse at a high speed, and is complete with fine adjusting screw. As used by the Army and other services.

WORTH 30/- . . . . . BUT NOW **5/11**  
Cat. No. AX1075A—

### ZC1 Relays

### 3 P.D.T. AERIAL RELAYS



A sturdily constructed relay which was designed for antenna change-over when using break-in operation on ZC1 Mark 2 Army Transceivers. Similar in constructional details to Key Relay, with the exception that two extra poles have been included. Operation is positive and contacts are easily adjustable. Suitable for any purposes requiring three circuits to be thrown in two positions. 12-volt operation at .1 amp. Measures 3 1/2in. x 3in. x 1 1/2in. . . . . **13/-**  
Cat. No. AX1023 . . . . .

### BUZZERS

Buzzers as used in the Remote Control Units of ZC1 Transceivers. A solidly constructed high-frequency buzzer suitable for Morse Code practice, etc. Operates from 4 1/2 volts and has an adjusting knob to vary the pitch. Cat. No. AX1303 . . . . . **7/6**

## PHONES—MIKES, ETC. P.O. TYPE HANDSETS

Streamlined telephone type handsets, consisting of microphone and receiver in plastic handset. . . . . **£2/10/-** each  
Cat. No. AX1223 . . . . .

### REMOTE CONTROL UNIT SPARES

Microphone Transformer. . . . . **4/6**  
Cat. No. AX1267 . . . . . Units.  
Metal case for Remote Control . . . . . **2/6**  
Cat. No. AX1304 . . . . .  
Single Jacks for Remote Control Unit. . . . . **6/-**  
Cat. No. AX1310 . . . . .  
Double Jacks for Remote Control Units. . . . . **6/-**  
Cat. No. AX1311 . . . . .  
Chokes, Line Suppression for Remote Control units. . . . . **1/6**  
Cat. No. AX1307 . . . . .

## FUSES—HOLDERS, etc.

### FUSE HOLDERS

Plastic mounting piece 1 1/2in. x 1 1/2in. x 1/16in. thick with two clips mounted to take tubular fuse. Overall distance between clips is 1 1/2in. which allows them to take the standard size fuses. . . . . **3/-** each  
Cat. No. AX1113 . . . . .



### TUBULAR FUSES

1.5 amp. tubular glass fuses. Standard size 1 1/2in. x 1in. . . . . **5/-** each  
Cat. No. AX1426 . . . . .

### 15 AMP. TUBULAR FUSES

Standard 15 amp. Tubular Fuse, suitable for Car or Radio purposes. Standard size 1 1/2in. x 1in. . . . . **5/-** each  
Cat. No. AS202 . . . . .

**"GARRARD" RADIOGRAM UNITS**



**Model A.C.6**

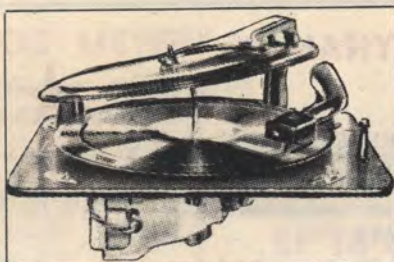
Consisting of an **ELECTRIC GRAMOPHONE MOTOR** with a **Magnetic Pick-up** mounted. On-off switch is incorporated in the tone arm and a variable speed regulator is attached to the frame. 230 volt A.C.; 10in. Turntable; Induction Motor. Just plug it into a light socket or power point, connect to your Radio and you play the music you like. **£6/4/6**  
Cat. No. AP299

**Model "S"**

Similar in most ways to the A.C.6 described above but using a drum drive motor. Maintains a speed of 78 R.P.M. with ample torque to play the heaviest recordings. Automatic stop. Magnetic Pick-up. A simple, inexpensive unit maintaining the well known Garrard standard of quality and reliability.

**NEW LOW COST!** **£4/17/9**  
Cat. No. AP298

**"GARRARD" AUTOMATIC RECORD CHANGERS Model A.C.65**



"GARRARD" Units and Changers are recognised throughout the world as the peak in Radiogram Units. The Electric Motor, Magnetic Pick-up and Automatic Record Changer combined (as illustrated) will take 8 records, either 10in. or 12 in., and play them through from start to finish without any attention whatsoever. Automatic devices lift tone arm from record when finished and place the next disc in position. Induction motor 230 volts A.C. Complete with full details. **£15/1/3**  
Cat. No. AP301

**Model R.C.70**

Similar to the AC65 model described above but using the new Garrard Drum Drive Motor and maintaining a constant speed of 78 R.P.M. Plays up to 10 recordings either 10in. or 12in. Will not stack mixed recordings. No electrical interference when motor is running.

**GREAT VALUE!** **£9/16/9**  
Cat. No. AP302

**"ACOS" CRYSTAL PICK-UPS**



Another top line Cosmocord Crystal Pick-up. Gives crystal clear reproduction to all recordings. Play the records you like when you like, through your own radio by using the "Acos." Crystal cartridge is fitted in a streamlined plastic arm. Needle pressure 35 gms. English manufacture.

**NEW LOW PRICE!**

Cat. No. AP308 ... **44/-**

Cat. No. AP335—Spare Crystals **18/6 ea.** for above

**PICK-UP NEEDLES**

"Songster" brand Bronze Pick-up Needles. Play approximately 8 records per needle. Packed in tins of 100.

Cat. No. AP330 ... **1/8 tin**

**BIG BARGAIN! MORSE PRACTICE SETS**



British-made Morse Practice Set, has Morse Code embossed on base. Stroke of key can be adjusted to individual requirements. Terminals are provided so that the Set can be used in conjunction with another set. Containing Key and Buzzer on One Base. Light Pattern. Measurements 4 1/2 in. long, 2 1/2 in. wide, 1 1/2 in. high.

Cat. No. AH110—Only **5/11 ea.**

**BUNDLE OF BARGAINS!!**



You get value at its best when you purchase your "1950 SURPRISE PACKET"—a package of all sorts of Radio and Electrical "odds and ends," new and used components of all descriptions.

Trust us with 5/- and if you are not more than satisfied we will refund your money.

**THERE'S ONLY ONE JUDGE—YOURSELF!**

**TRY IT AT OUR RISK!**

Order Your "1950 SURPRISE PACKET" **5/-** NOW!

**MUSIC HOW YOU LIKE IT!**

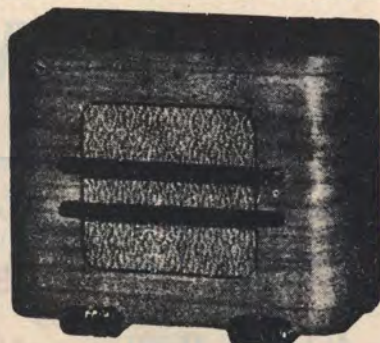


**GRAMOPHONE PICK-UP**

Arrange your own programmes and have "music as you like it" with a "GOLD-RING" Magnetic Pick-up—The Pick-up that gives Studio-like reproduction to all recordings. Can be connected to practically every make of multi-valve Radio and attached to either a hand-wound or Electric type Gramophone Motor.

Cat. No. AP306 ... **35/-**

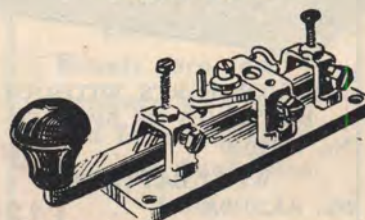
**VICTORIA SPEAKER CABINETS**



Well-finished veneered Speaker Cabinet for extension speakers, etc. Measurements: 11 1/2 in. wide, 9 1/2 in. high, 6 1/2 in. deep. Provided with baffle for 8in. Speaker.  
Cat. No. AC183 ... **42/6 ea.**

**BIG BARGAINS IN MORSE KEYS**

**War Special! ARMY KEYS**



This key is very compactly constructed on a bakelite base measuring 3 1/2 in. x 1 1/2 in. Very efficient for sending Morse at a high speed, and is complete with fine adjusting screw. As used by the Army and other services.

**WORTH 30/- ... BUT NOW**  
Cat. No. AX1075A— **5/11**

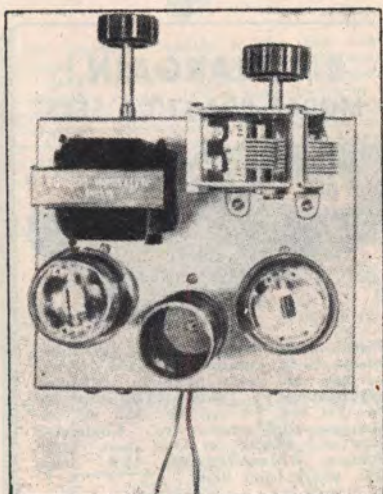
# ★ ★ LAMPHOUSE KITSETS ★ ★

## THE "BELL-TONE" DYNAMIC AMPLIFIER

LOW COST—OUTSTANDING PERFORMANCE!  
MODERN AND INEXPENSIVE!

A simple Amplifier capable of delivering 9.5 watts undistorted output.  
COMPLETE KIT OF PARTS

- Cat. No. AK2061 .. .. . **£8/7/6**
- Suitable Speakers—
- Cat. No. AS964 "Rola" 12-0 P.M. Speaker .. .. **£4/7/1**
- Cat. No. AS963 "Rola" G12 P.M. Speaker .. .. **£8/8/-**

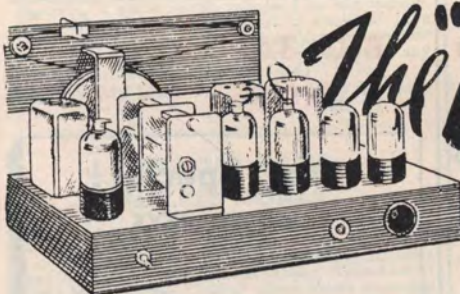


## THE "OCTAL HIKER'S TWO"

A 2-valve battery operated receiver that will give great pulling power on headphones and will bring in the more powerful stations at speaker strength.

COMPLETE KIT OF PARTS  
WITH BATTERIES

- Cat. No. AK2031 .. .. **£4/12/6**
- Speaker—
- The ideal speaker for use with above is the "Alnico 5" 5in. permanent magnet.
- Cat. No. AS950 .. .. **24/11**



# The "DEFIANT 5" BATTERY RECEIVER

"THE DEFIANT" is an up-to-date 5-valve Battery-operated Receiver using all 1.4-volt, low-drain Valves. The Circuit is straightforward and contains no frills. With the addition of a loop aerial "THE DEFIANT" could be easily transformed to a good quality Portable.

KIT OF PARTS WITHOUT BATTERIES OR SPEAKER

- Cat. No. AK2039 .. .. **£10/10/6**
- WITH BATTERIES
- Cat. No. AK2039A .. .. **£12/10/-**
- SUITABLE SPEAKER
- Cat. No. AS969—
- "Rola" 8K 8in. Speaker .. .. **£2/4/10**

### CRYSTAL SET KITS

- |                                |                                 |
|--------------------------------|---------------------------------|
| THE "LISTNER"—                 | THE "SELECTIVE"—                |
| Cat. No. AK2048 .. <b>15/6</b> | Cat. No. AK2049 .. <b>18/6</b>  |
| THE "SIMPLE"—                  | THE "17-STATION"—               |
| Cat. No. AK2051 .. <b>10/-</b> | Cat. No. AK2053 .. <b>16/11</b> |

# KITS for Radio TRAINING

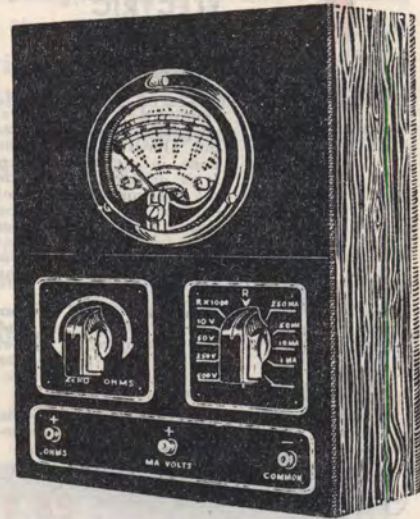
## THE "10-RANGE METER"

AN EXCELLENT PIECE OF TEST EQUIPMENT FOR THE RADIO ENTHUSIAST.

A simple, inexpensive to build meter kit covering 10 ranges and giving reasonably accurate readings.

COMPLETE KIT OF PARTS

Cat. No. AK2041 .. .. . **£5/12/6**



## THE "OCTAL HIKERS" AMPLIFIER

An excellent single-valve amplifier using a 1.4-volt octal tube for amplifying crystal sets or small one-valve receivers such as the "Hiker's One."

Cat. No. AK2010 .. .. **45/-**

## THE "EASY-BUILT" CLIPPER PORTABLE

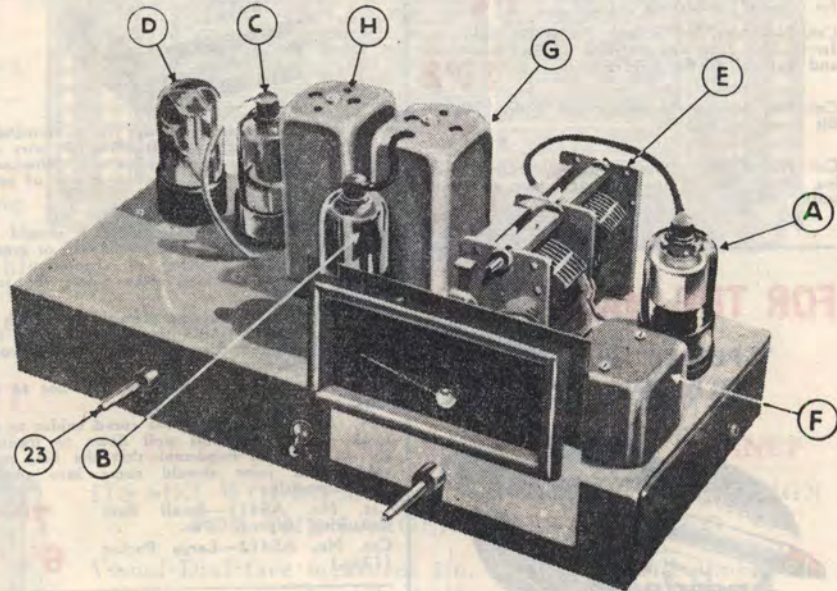
An ideal circuit for those wishing to build a portable set to take with them on their vacation as well as for use at weekend outings, tennis parties, tramping-motoring trips, etc. Four modern 1.4-volt valves give maximum operating efficiency as well as being a great little economiser as far as the battery drain is concerned.

COMPLETE KIT OF PARTS WITH SPEAKER WITHOUT BATTERIES

Cat. No. AK2040 .. .. **£9/19/6**

COMPLETE KIT OF PARTS WITH BATTERIES

Cat. No. AK2040A .. .. **£11/16/6**

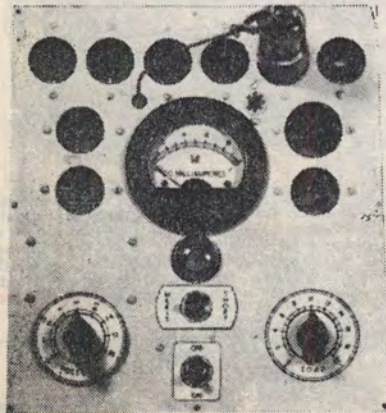


## THE "SIMPLEX" UNIVERSAL VALVE TESTER

A simply designed, versatile valve tester that will test the majority of valves available on the New Zealand market.

COMPLETE KIT OF PARTS

Cat. No. AK2032 .. .. **£7/17/6**



LAMPHOUSE  
Kitsets are only  
designed on Proven  
and Tested Circuits.  
Buy with Confidence  
from  
"LAMPHOUSE."

# SOLDERING ACCESSORIES

## "SOLON" ELECTRIC SOLDERING IRONS



**Improved Bit.**—Oval shaped tinned copper bit allows work to be done in a narrow space. It is designed to provide the maximum amount of heat at the working end with a minimum of heat loss due to radiation, as the heating element is totally enclosed in the bit.

**Constant Heat.**—Four minutes to heat up and the "Empire" Model SOLON is ready for continuous use if required.

**Flexible Lead.**—Six feet of Tough Rubber-Sheathed 3-core Flex.

Cat. No. AS375—Solon Domestic or Radio Soldering Iron .. **28/1**

Cat. No. AS395—Spare Bit for Standard "Solon" Iron .. **5/7 each**

Cat. No. AS394—Spare Elements for "Solon" Soldering Irons .. **7/4 each**

Cat. No. AS376—"Solon" Pencil Bit Soldering Iron. This Iron has a Pencil Tip for fine work and general Radio Soldering. .. **30/2**

Cat. No. AS393—Spare Bit for "Solon" Pencil Bit Iron .. **1/7**

Cat. No. AS377—"Solon" Heavy Duty Soldering Iron. This is the 1lb. Iron for all heavy work. .. **54/9**

## FOR THE HANDYMAN!

### "SPEEDEE" ELECTRIC SOLDERING IRONS



Consumes 100 watts—no more than a small light bulb. Indispensable to the handy man in workshop or home.

Cat. No. AS406 .. **16/7 each**

#### SPARE ELEMENTS FOR ABOVE—

Cat. No. AS407 .. **6/- pair**

#### SPARE COPPER BITS—

Cat. No. AS408 .. **3/- each**

### "SPEEDEE" HEAVY DUTY IRONS

Designed for commercial use requiring a heavy iron for long periods. Watts, 180. Weight, 3½lb.

Cat. No. AS396 .. **47/6 each**

Spare Elements for above. .. **19/- each**

## 6-VOLT SOLDERING IRONS

It's been a long time since we were able to offer a low voltage iron like the "PYROBIT INSTRUMENT." Works from a 6-volt storage or Car Battery and consumes only 45 watts. Fine point, and can be manipulated like a pencil. High bit temperature 300 deg. C. Supplied complete with 3½ft. flexible cord.—Cat. No. AS383 **33/-**

Spare Elements for Rawl Plug Soldering Irons.

Cat. No. AS392 .. **8/6 each**

## "ERSIN" MULTICORE SOLDER

The New English Solder



"ERSIN" Multicore Solder is recommended for the home constructor. It looks like wire and is filled with a resin preparation which eliminates the necessity for using flux or spirits of salts, etc.

#### Instructions for Using:

1. The joints to be soldered should be thoroughly cleaned and free from acid or grease. On plated parts (nickel or chromium) the "plate" should be filed away where the joint is to be made.

2. Heat the soldering iron just enough to melt the solder. "Tin" the copper bit by first filing lightly and then rubbing with the cored solder until coated.

3. Heat again for working, but not to red heat.

4. Apply the bit and the cored solder to the work, rubbing the bit well down to transmit the heat. It is important that the bit, cored solder and joint should come into contact simultaneously.

Cat. No. AS411—Small Reel measuring approx. 27in. .. **7D reel**

Cat. No. AS412—Large Packet (12oz.) .. **6/- pkt.**

## SOLDERING PASTE

Super Soldering Paste. An ideal paste for use instead of flux or resin. Can be used on all metals except aluminium.

Cat. No. AS423—2oz. tins .. **1/5**

Cat. No. AS424—4oz. tins .. **2/1**

## SOLDER STICKS

Full size sticks of 34/66 Solder. Each stick ways about ½lb..

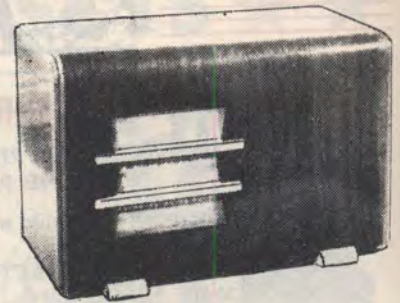
Cat. No. AS418 .. **2/- stick**

## STRIP SOLDER

Small strips of 45/55 top grade Solder. Each strip measures approx. 27in. long ¼in. wide.

Cat. No. AS416 .. **7d. strip**

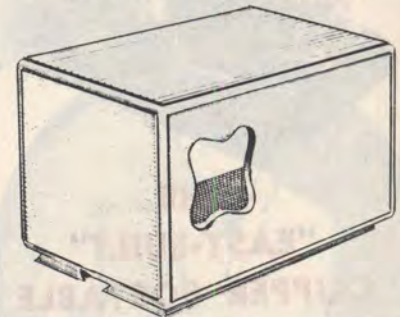
## "COVENTRY" MANTEL CABINET



A modern Mantel Cabinet to take a small broadcast or shortwave receiver. Richly veneered. Well made. Takes 5in. speaker.

Dimensions: Length 16in., depth 7½in., height 10in. Cat. No. AC152 .. **70/-**

## "ECONOMY" CABINET



An attractively designed low price cabinet to take small electric or battery sets of 3 or 4-valve size. Finished in a glistening ivory enamel and with a cut-out to take a 5in. Speaker. Cabinet measures 10½in. long, 6½in. high, and 7½in. wide. Similar cabinet to that used with our New "Easy Built Bedroom 3."

Cat. No. AC156 .. **27/6**

## "CLASSIC" SPEAKER CABINETS



The "Classic" is a well-made, richly-veneered cabinet made for extension speakers or for call-systems which are being used so extensively at present. Will take an 8in. or a 5in. Speaker and are supplied with fawn speaker cloth. Honey coloured trimmings. Dimensions: Length 12in., depth 6½in., height 10in.

Cat. No. AC151 .. **39/6 each**

## ALUMINIUM SOLDER

For repairs in aluminium ware and die cast metals. No soldering iron or flux necessary. Recommended for aluminium saucapans, kettles. Full instructions supplied with each stick.

Cat. No. AS420—Small stick, 5in. x ¼in. **1/8**

★ **BIG DIAL VALUES!** ★

Three high quality Dials, designed by Australia's leading Dial manufacturers for those who want a first-class article at a reasonable price. All are calibrated for New Zealand, Australian and Shortwave Stations and matched to the Plessey type "K" 3-gang condenser (440 mmfd.) Dial Shaft, 3/8in.

A popular size for 5 or 6 valvers. Attractive colour toning. Glass scale is mounted against a black background. Station markings are in Green and Orange with Ivory trimmings. Fancy brown mottled Escutcheons, two Dial Lightholders for edge lighting. Maximum measurements for Visual Dial face. Length, 8in.; Depth, 6½in. Overall dimensions of frame: Length, 10in.; Depth, 9½in.

Cat. No. AD120—NEW LOW PRICE .. .. . **49/11**

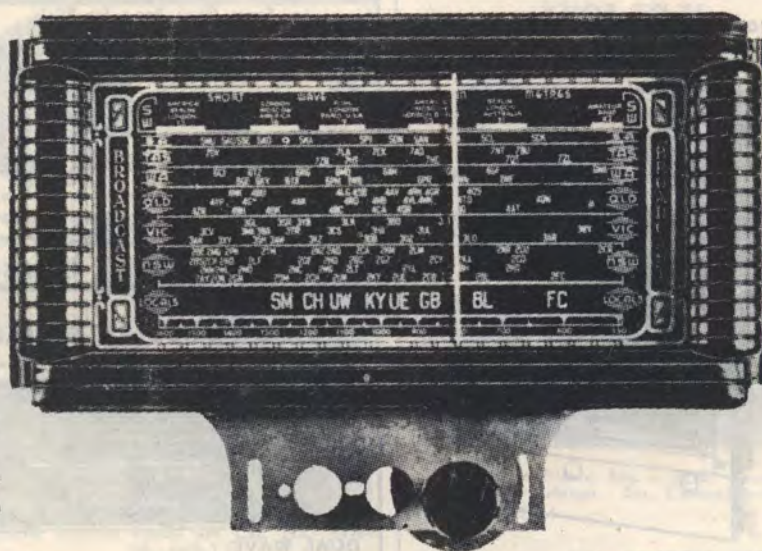
**A BEAUTIFULLY MANUFACTURED DIAL WITH A LINED, MOTTLED BROWN PLASTIC ESCUTCHEON.**

Glass scale is mounted against a brown background and coloured as follows:— Orange, designing colour; White and Yellow, station markings.

2 Dial Light Holders for Edge Lighting are mounted.

Visual Dial face measures: Length, 10in.; Depth, 5in. Overall Dimensions of Frame: Length, 12in. Depth, 8in.

Cat. No. AD122—  
NEW LOW PRICE .. .. . **64/11**



**A DE LUXE SPECIAL FOR A CONSOLE CABINET**

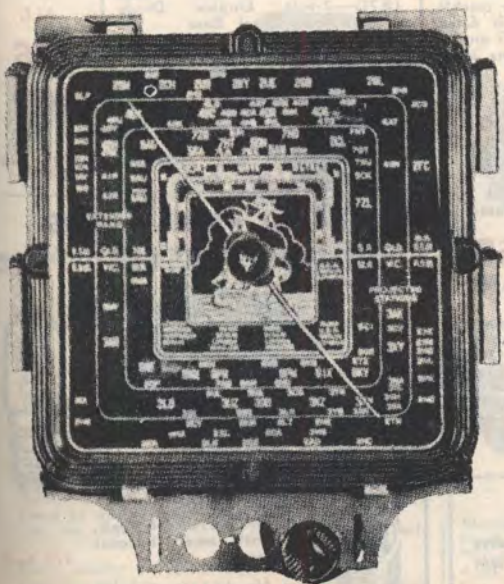
ITS SIZE WOULD MAKE IT AN ADMIRABLE DESIGN FOR THE LARGER CLASS OF RADIO

Visual Dial face measures 8in. x 8in. Overall dimensions are: Length, 10½in.; Depth, 11½in.

Colour scheme is as follows: Background—Black. Station markings—Green, Orange and Ivory. Trimmings in Orange and Ivory.

Grooved brown mottled bakelite Escutcheon. Space for Four Dial Lights.

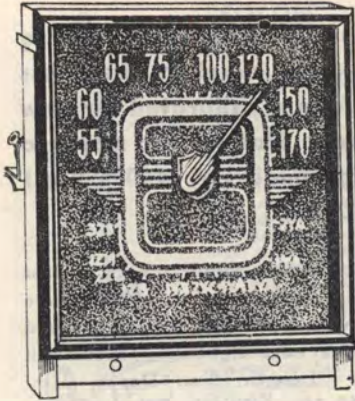
Cat. No. AD121—NEW LOW PRICE .. .. . **64/11**



**OUR GUARANTEE**

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

**GIVE YOUR SET "THE NEW LOOK!"**



**THE "SKY-KING" BROADCAST DIAL**

A really first-class Broadcast Dial, ideal for the smaller class of set, such as a Portable or small Electric, or Battery Radio. Logged in Kilocycles between 550 and 1700. Station markings also given. Tracks with a 420/480 gang 3in. shaft: anti-clockwise rotation. Size: 4in. x 4in.

COLOURING: Brown background, White figures, Red station markings, Gold trimmings, Escutcheon in Brown. Two Dial Light Holders for Flood Lighting.

AN ATTRACTIVE AND WELL DESIGNED DIAL.

Cat. No. AD115 . . . . . **24/6**

**WAR BARGAINS!**

Z.C.1 TRANSCEIVER DIALS

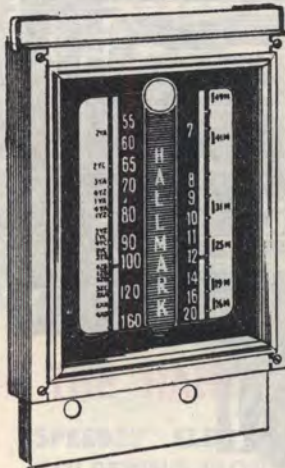


Dials as used in the sender and receiver sections of Z.C.1's. Can be set for two preset frequencies, with flick tuning mechanism. Diameter of dial, 4in.; diameter of hand-grip instrument knob, 2 1/2in.

Cat. No. AX1090/4 . . . . . **2/11 each**

**"HALLMARK" 3 COLOUR DIALS**

Another Addition to our Dial Range!



THREE COLOURS—Yellow, Green, White.

DUAL WAVE — VERTICAL MOUNTING.

Dimensions—

- Overall . . . . . 10 1/2 in. x 6 1/2 in.
- Face . . . . . 7 1/2 in. x 5 1/2 in.
- Escutcheon Inside . . . . . 6 1/2 in. x 4 1/2 in.

Spin Drive. Details given with each Dial simplify mounting. The whole job is Cadmium plated and is really a finished article.

This is the same Dial as is used on the popular "EASY BUILT 5" RECEIVER.

Cat. No. AD102 . . . . . **42/6**

THEY'RE REAL VALUE AT THE PRICE!

**PRICES ARE SUBJECT TO ALTERATION**

All Prices in this book must be regarded as an indication only—all orders will be executed at ruling prices.

**SPARE DIAL SCALES**

Spare Glass Faces for Dials.

"SKY-KING" BROADCAST ANTI-CLOCKWISE. Facing Glass, 550 kc., on left-hand side.  
Cat. No. AD116 . . . . . **6/-**

**LAMPHOUSE GUARANTEE**

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

**"HI-Q" SLIDE RULE DIALS**



DUAL WAVE.

A handsome and well-constructed horizontal slide-rule dual-wave Dial, finished in crackle black and cadmium plate. The Dial is fitted with FLY-WHEEL type SPIN TUNING and is edge lit. Approximate outside dimensions 1 1/2 in. x 6 in. The Dial Glass is printed in two colours and calibrated to match the Plessey type 1842/11 Condensers (440 to 480 Mmfd.).

Cat. No. AD106 . . . . . **58/4**

TRIPLE WAVE.

Similar description to above but fitted with Triple-Wave Scale. Dial Glass is printed in three colours.

Cat. No. AD107 . . . . . **58/9**

BROADCAST.

A small Dial of similar design and construction to the Dual Wave type described above but not incorporating SPIN TUNING. Outside measurements: 6 1/2 in. x 5 in. The Dial Glass is single colour. Calibrated to match the Plessey type 9372/L27 Condenser.

Cat. No. AD105 . . . . . **47/2**

**FREIGHT**

We pay Freight on all retail orders over £1 value. Please include sufficient cash for postage on small orders.

**VALVE BARGAINS!**

**6 TYPES OF TUBES**

Another Bulk Purchase of Radio Valves enables us to sell these tubes at a fraction of their true cost. ALL BRAND NEW! There are no catches—all tubes are 100 per cent. brand new.

- 1K5G—2-volt R.F. Amplifier Pentode Octal Base . . . . . **ALL**
- 1K7G—2-volt Duplex Diode Pentode Octal Base . . . . . **2/6**
- 1L5G—2-volt Power Amplifier Pentode Octal Base . . . . . **EACH**
- 1LD5—1.4-volt Diode Pentode Loctal Base . . . . . **7/- ea.**
- 3D6/1299—1.4-volt U.H.F. Tetrode Loctal Base . . . . .
- 1LN5—1.4-volt R.F. Amplifier Pentode Loctal Base . . . . .

**RADIO PANEL LAMPS**

AL300—6 volt, with S/C large bayonet base for Columbus and similar sets . . . . . **1/6 each**

RADIO PANEL LAMPS. Tubular Type, screw base.

- Cat. No. AL119—2 volt, .05 amp. (special low consumption for battery set) . . . . . **1/3 each**
- Cat. No. AL120—2.5 volt . . . . . **1/3 each**
- Cat. No. AL121—3.8 volt . . . . . **1/3 each**
- Cat. No. AL122—6 volt . . . . . **1/3 each**
- Cat. No. AL124—6 volt, screw base, round bulb . . . . . **1/3 each**



Cat. No. AL123—6 volt, with small bayonet base . . . . . **1/3 each**

Cat. No. AL118—2 volt Battery Set type with small bayonet base . . . . . **1/3 each**

# DIAL ACCESSORIES — KNOBS

## BIG VALUE! IN POINTER KNOBS



Small Pointer Knobs. Black bakelite indicator type Knobs. Hole for 1/16 in. shaft. Brass inset.

Cat. No. AD66—Small Pointer.

9D. each

## BAKELITE POINTER KNOBS

Ideal knobs for test equipment, all types of transceivers, and electrical and radio test equipment. Hole for 1/16 in. diam. shafts. Black finish with engraved white line through centre of pointer.



Cat. No. AD68—2 1/2 in. . . . . 1/9 each

Cat. No. AD67—1 1/2 in. . . . . 9D. each

## FANCY BROWN PLASTIC KNOBS

The Knobs illustrated are neat designs on plastic, with hole for 1/16 in. shaft. Best make, with brass inset.

Round Knob, 1 in. diam., walnut finish.

Cat. No. AD72—

1/2 each



Similar Knob, smaller diameter.

Cat. No. AD73—

1/1 each



Floral Knob, mahogany colour.

Cat. No. AD71—

1/4 each

## HEXAGONAL SHAPE KNOB

Walnut finish.

Cat. No. AD70—

11D.



## INSTRUMENT KNOB



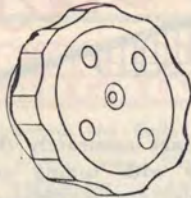
Black Moulded Instrument Knob, fits 1/16 in. shaft. Metal inset. (Knobs are slightly damaged.) Fixed by grub screw. Diam. 2 in.

Cat. No. AD40 . . . . . 2/9 each

Knob similar to above but without flange.

Cat. No. AD41 . . . . . 2/6 each

## SURPLUS INSTRUMENT KNOBS



Black Handgrip Bakelite Instrument Knobs as used with Army Equipment during wartime. Has 1/16 in. brass insert in centre but has no grub screw. 4 other brass inserts 1/16 in. tapped with thread also on rear of knob allow for firm attachment to a metal or plastic disc. BULK BUYING ENABLES US TO PASS THESE ON TO YOU AT

Cat. No. AX1107—

6D. each or 5/6 doz.



## DIAL PLATE

Indicator Plates, engraved from 0 to 10 degrees. Diameter 1 1/2 in., hole 1/8 in. Cat. No. AD30

2/3

(Suitable Pointer Knobs are—Cat. No. AD67—9d. each.)

## OVERSTOCKED! OBLONG INDICATOR PLATES

Metal indicator Plates marked 0—10 with 20 divisions. Size 1 1/2 in. x 2 1/2 in. Background black with all markings in white. These plates are normally priced at 2s. each but because we are at present overstocked—down comes the price.

Cat. No. AD33—

NOW 1/4 each

(Suitable Pointer Knobs are Cat. No. AD66, 9d. each.)



## "MARQUIS" MAGIC EYE ESCUTCHEON



Moulded in brown plastic. Neat design. Fit into 1 1/2 in. diam. hole. Give that finished look to your set.

Cat. No. AS507—

9D. each

## MAGIC EYE ESCUTCHEONS



Moulded in beautifully finished plastic it will finish off any radio cabinet. Made for use with "Magic Eye" Tuning Indicator. Size overall 4 1/2 in. x 1 1/2 in.

Cat. No. AS506 . . . . . 9D. each

## Forty-Niner Special!

### DIAL ESCUTCHEONS

Prices slashed as an Anniversary special

Oval shape. Black plastic.

Outside measurements 8 1/2 in. x 7 1/2 in.

Inside measurements 6 1/2 in. x 5 1/2 in.

Cat. No. AD200 . . . . . NOW 11 1/2 D. each

Glasses for above. Cat. No. AD201 1/4 ea.



### OCTAGONAL ESCUTCHEONS

Square Brown Bakelite type, with Octagonal opening. Overall dimensions: 4 1/2 in. x 4 1/2 in. Opening is 3 1/2 in.

Cat. No. AD218 . . . . . 11 1/2 D. each

### KNOB FELTS

Felt Circles, for fitting between control knobs and cabinet of Radio Sets. Outside diameter 1/2 in. with 1/16 in. hole.

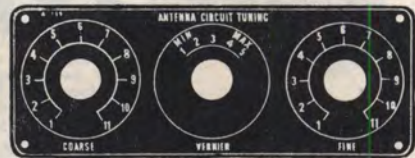
Cat. No. AD25 . . . . . 1D. each

### DIAL CORD

Glazed Cord, suitable for dial restringing.

Cat. No. AD26 . . . . . 2D. yard

### TUNING SCALE PLATES



Tuning Scale Plates, 6 in. x 2 1/2 in. Brown plate with white markings. 1/2 in. Control holes.

Cat. No. AD34 . . . . . 1/4 each

### PILOT LIGHT BRACKET



Red ruby jewel. Two lugs insulated from bracket. Jewel fits into 7/16 in. panel hole.

Cat. No. AD500—

2/9 each

### RUBY WINDOW BRACKET FITTING

An inexpensive accessory, comprising nickel-plated bezel with ruby lens and bulb-holder. Fixed by 3 screws provided. Takes all M.E.S. bulbs.

Cat. No. AD501 5/6 each



### FREIGHT

We pay Freight on all retail orders over £1 value. Please include sufficient cash for postage on small orders.

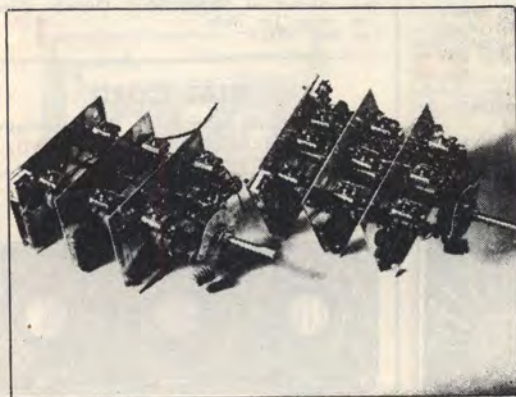




All ENSIGN Coils are designed by experts and are accurately tested and matched. ENSIGN Coils are designed for use with tuning condensers (measured without trimmers) of maximum capacity 440 to 480 mmfd. and minimum capacity 9 to 15 mmfd. and especially for the Plessey types "K" and "E", tuning condensers for which our dial scales are calibrated.

All coils other than those specified are wound on 1/2 in. ext. dia. former and all broadcast coils are wound with seven or ten strand Litz secondaries and high impedance primaries. Broadcast Band Coverage, 535 to 1700 k.c.

**"ENSIGN" TUNING UNITS**



Completely wired and assembled unit for use in 5-valve receivers. Consists of aerial and oscillator sections and has a coverage on short wave from 19/50 metres and broadcast 540 to 1600 k.c. for use with Plessey Type K. 1842-11. Condenser and 6K8 Converter Tube. Price includes all coils, wave change switch already assembled, padders, bypass condensers, and trimmers. Air tested and aligned. Full instructions. **£4/3/11**  
Cat. No. AC350

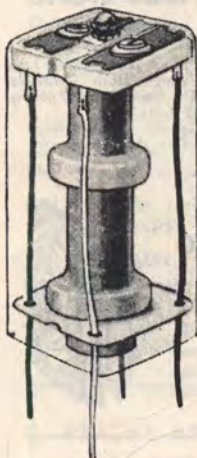
**DUAL WAVE UNIT**

Dual Wave, assembled similar to the above, but containing Aerial R.F. and Oscillator Sections.  
Cat. No. AC351 **£6/2/8**

**TRIPLE WAVE UNIT**

Similar to above, containing Aerial, R.F. and Oscillator sections.  
Cat. No. AC352 **£6/13/9**

**" ENSIGN " INTERMEDIATE FREQUENCY TRANSFORMERS**



have been carefully designed by experts to give maximum results. Types suitable for midget, commercial or high fidelity receivers are available. These factors allow the experimenter and home constructor more scope than before when designing a receiver.

Cat. No. AC340—Iron Core, Litz wound in 1 1/2 in. square by 3 1/2 in. high can, 465 k.c.

**15/6 each**

Cat. No. AC341—Air Core Ditto **14/6**

**ANOTHER WAR SPECIAL!**

**I.F. Transformers**



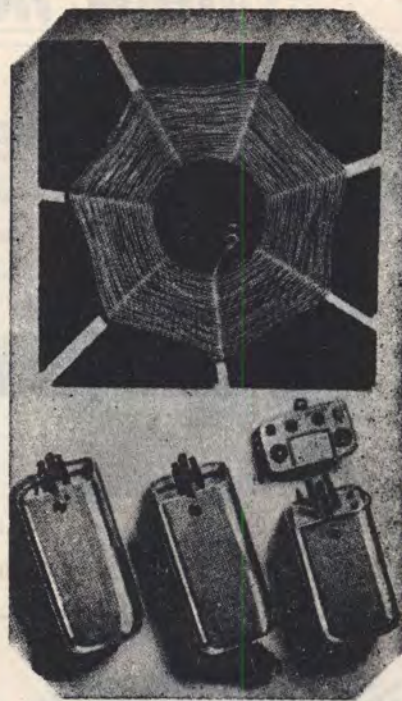
Each Transformer tested under rigid army supervision. The finest money can buy, and only half the price of ordinary I.F.S. 465 k.c. Iron Cored.

Cat. No. AX1006—No. 1 I.F. **7/11 ea.**  
Cat. No. AX1007—No. 2 I.F.

**COILS FOR KITS**

Cat. No. AC533—Coils for Easy-Built Three **4/9 ea.**

**"ENSIGN" PORTABLE COIL KIT**



Special Coil Kit for portable sets. Consists of "Ensign" Loop Aerial, 8in. x 8in. (matched to standard "Ensign" coils and fitted with primary windings for use with outdoor aerial when required); "Ensign" Oscillator Coil; 2 "Ensign" I.F. Transformers and Padder.

Cat. No. AC449 .. **£2/7/- ea.**  
Aerial only. Cat. No. AA300 .. **12/-**

**"ENSIGN" SHORT WAVE COILS**

Unshielded, wound on 1/2 in. Formers, 19/50 Metres.

Cat. No. AC320—Aerial .. **5/6 ea.**  
Cat. No. AC321—R.F. .. **5/6 ea.**  
Cat. No. AC322—465 K.C. Oscillator **5/6 ea.**

**AIR CORE TYPE**

Air Core Litz Wound, mounted in 1 1/2 in. square by 1 1/2 in. cans. Broadcast.

Cat. No. AC303—Aerial .. **8/11**  
Cat. No. AC304—R.F. .. **8/11**  
Cat. No. AC306—Oscillator, 465 KC **8/11**



**IRON CORE TYPE**

Iron Core Adjustable Permeability Litz Wound in 1 1/2 in. square by 1 1/2 in. cans. Broadcast.

Cat. No. AC301—Aerial .. **11/6**  
Cat. No. AC302—R.F. .. **11/6**

Suitable Oscillator Coils for above (air core)  
Cat. No. AC306—465 K.C. .. **8/11**

**UNSHIELDED TYPE**

Air Core Litz Wound Broadcast 1/2 in. Former.  
Cat. No. AC311—Aerial .. **5/10**  
Cat. No. AC312—R.F. .. **5/10**  
Cat. No. AC313—Oscillator, 465 k.c. **5/10**

# COILS, COIL FORMERS, ETC.

## "ENSIGN" UNIVERSAL REPLACEMENT COILS

Universal replacement coils adjustable in inductance to suit gang condenser capacities from 360 to 480 mmfd. Will replace existing coil. Unshielded.

- Cat. No. AC330—Aerial Type .. 7/11
- Cat. No. AC331—R.F. Type .. 7/11
- Cat. No. AC332—Oscillator Type .. 7/9

FULL DETAILS WITH EACH COIL.

## MIDGET I.F. TRANSFORMERS

Measuring only 2in. high x 1 1/2in. diameter, the "Ensign" Midget I.F. is ideal for the miniature portable receiver. Permeability tuned. Wound on Polystyrene Former; 2 pyc; 465 k.c. Noise to signal ration excellent. Aluminium can.



Cat. No. AC524 .. 15/6 each

## "ECONOMY" I.F. BOBBINS



Cat. No. AC527—465 K.C. Air Core 4/6

## CRYSTAL SET COILS



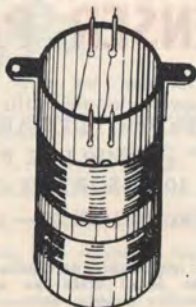
Coils for Crystal Sets. Consist of 70 turns, 24-gauge D.C.C. Wire on 3in. diam. bakelite former. Tapped every tenth turn.

Cat. No. AC266 .. 4/- each

## T.R.F. COILS

These Coils have been developed for constructors wanting low-priced yet well-made T.R.F. Coils. Wound with enamelled wire on bakelite former 1 1/2in. diam.

- Cat. No. AC530—Aerial 3/3
- AC531—R.F. 3/3
- AC532—R.F. 3/9



## HIKER'S ONE COILS

Ready wound coils for the famous Hiker's One sets. Wound on Coil Former 1 1/2in. diam. x 3 1/2in.

Cat. No. AC535 .. 3/9 each

## WAR SURPLUS BARGAINS!

I.F. Transformers and Coils, removed from NEW ZC1 Army Transceivers. In perfect working order. Never used.

### I.F. TRANSFORMERS

Best I.F.S. ever made. Made under strict supervision. 465 k.c. Iron Core Type. In cans, complete with slug type Trimmers. Dimensions of can: 3 1/2in. high x 1 1/2in. x 1 1/2in.

- Cat. No. AX1006—1st I.F. 7/11 ea.
- Cat. No. AX1007—2nd I.F. 7/11 ea.

### SHORT WAVE RECEIVING COILS — AERIAL

Wound on 3/4in. diam. former. 465 k.c. Iron Core. Fitted on to mounting terminal base. Lug connections. Shielded in can. Dimensions: 3in. high x 1 1/2in. x 1 1/2in. 4 to 8 M.C.

Cat. No. AX1003 9D. each

### OSCILLATOR COILS

Similar description to above mounted in can 2in. high x 1 1/2in. x 1 1/2in. Air Core.

Cat. No. AX1005 1/6 each

### R.F. INTERSTAGE COILS

Similar details to above Aerial coils.

Cat. No. AX1004 1/6 each

### B.F.O. COILS

For use with 465 I.F. Transformers and complete with .001 and .005 mfd. 5 per cent. Tolerance Mica Condensers. Shielded in can. Dimensions: 2in. high x 1 1/2in. x 1 1/2in.

Cat. No. AX1002 3/6 each

### P.A. TANK COILS

Unshielded Coils covering approximately 2 to 4 megs. (Low frequency) 40 Turns of 26 S.W.G. Enamelled Copper Wire. Wound on 1in. former.

Cat. No. AX1034 11 1/2 D. each

Ditto, High Frequency. Covering approximately 4 to 8 megs. 18 Turns of 22 S.W.G. C. and E. Copper Wire.

Cat. No. AX1035 11 1/2 D. each

### DRIVER TUNING COILS

Driver Tuning Coils. Constitute 103 turns of 7/46 S.W.G. Litz wire dual-lateral wound on 3/4in. former and tapped at 30 turns from start of winding. Mounted in metal can 3in. x 1 1/2in.

Cat. No. AX1087 2/6 each

### AERIAL LOADING COILS

Wound on 4 1/2in. long x 2in. diameter ribbed ebonite former.

Cat. No. AX1092 1/6 each

### AERIAL TUNING COILS

Two windings on 5 1/2in. long x 2in. diameter former. First winding constitutes 60 Turns 22 S.W.G. Tinned Copper wire tapped every 6 turns. Second winding is 10 turns same wire tapped every turn. Spacing between two windings = 3in.

Cat. No. AX1249 2/- each

### MASTER OSCILLATOR COILS

Coverage 2.2 to 6.5 megs. Windings incorporate .00005 mfd. mica condenser and a 50,000 ohm. resistor. Mounted in can 3in. x 1 1/2in. x 1 1/2in.

Cat. No. AX1176 2/6 each

## BULK PURCHASE!

### BAKELITE COIL BASES



Used for finishing Coil Windings and for connecting to the wiring of the Set. Provided with 4 lug Terminals mounted on bakelite strip. Mounting holes 1 1/2in. apart. Bulk purchase enables to sell these at a fraction of their true cost!

Cat. No. AC529— 2D. each 1/3 doz.

## "PLUG-IN" COIL FORMERS

Coil Formers for winding short-wave plug-in coils. Eight-ribbed bakelite. Well made. 1 1/2in. diameter.

Cat. No. AF55 — 4-pin Plug-in-Former 2/9 ea.

Cat. No. AF56 — 5-pin Plug-in-Former 2/9 ea.

Cat. No. AF57 — 6-pin Plug-in-Former 2/9 ea.



## "COIL FORMER"



This Former Tube for coil winding has very high insulating properties, the surface being made of pure bakelite.

Cat. No.	Each
AF78—3/4in. dia., 6in. lengths	1/-
AF80—1in. dia., 6in. lengths	1/3
AF81—1 1/2in. dia., 6in. lengths	1/10
AF81A—1 1/2in. dia., 3in. lengths	1/-
AF83—1 1/2in. dia., 6in. lengths (valve base size)	2/3
AF86—2in. dia., 6in. lengths	2/3
AF87—2 1/2in. dia., 6in. lengths	2/4
TF88— 3in. dia., 5in. lengths	2/1

## WAR SURPLUS PAPER TUBING

3/8in. Outside Diameter, 2ft. lengths.  
Cat. No. AX1207 .. 2/- piece

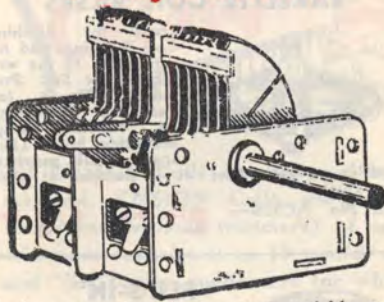
## ENSIGN COILS

### Colour Code

AERIAL & R.F.		
Grid	.. ..	Green
Plate or Aerial	.. ..	Yellow
Earth or B +	.. ..	Red
Earth or A.V.C.	.. ..	Black
OSCILLATOR		
Grid	.. ..	Green
Plate	.. ..	Yellow
B +	.. ..	Red
Padder	.. ..	Black
INTERMEDIATE FREQUENCY TRANSFORMERS		
Plate	.. ..	Blue
B +	.. ..	Red
Grid or Diode Plate	.. ..	Green
A.V.C. or Diode Load	.. ..	Black

# CONDENSERS are Cheaper at "LAMPHOUSE!"

## SPECIAL PURCHASE 2 Gang Condensers



A large quantity of two gang variable condensers, new, but bearing solder marks. Capacity .000385 mfd.; complete with mounting brackets, etc. in shaft. Bulk buying enables us to pass these on at **7/11** each. Cat. No. AX111

## TUBULAR CONDENSERS



Non-inductive Condensers with wire ends.  
350 VOLTS (WORKING).

Cat. No.	Value	each
AC672	.01mfd.	9d.
AC674	.1 mfd.	9d.
AC676	.25 mfd.	9d.
<b>500/600 VOLT WORKING</b>		
AC700	.0001	1/-
AC701	.0002	1/-
AC702	.00025	1/-
AC703	.0003	1/-
AC704	.0005	1/-
AC705	.001	1/-
AC706	.002	1/-
AC707	.003	1/-
AC709	.005	1/-
AC710	.006	1/-
AC711	.01	1/-
AC712	.02	1/2
AC712A	.03	1/2
AC713	.05	1/3
AC714	.1	1/3
AC715	.25	1/9
AC716	.5	1/9

## HIGH VOLTAGE TUBULAR CONDENSERS

Cat. No. AC645—.5 mfd, 2000 volts **2/9**

## MICA FIXED CONDENSERS



Cat. No.	Value	each
AC750	.00005	1/-
AC751	.0001	1/-
AC753	.00025	1/-
AC755	.0005	1/3
AC756	.001	1/3
AC757	.002	1/3
AC758	.003	1/3
AC759	.004	1/3
AC760	.005	2/-
AC766	.01	2/-
AC767	.02	2/6

## Another Condenser Bargain CERAMIC FIXED CONDENSERS

Cat. No. AC660—.5 pfd **5** ALL  
Cat. No. AC662—.15 pfd **5** D each

## ELECTROLYTIC CONDENSERS



## ELECTROLYTIC CONDENSERS IN ROUND CARDBOARD CONTAINERS.

Cat. No.	Value	each
AC600	.8 mfd.	2/11
AC614	.16 mfd.	3/11
AC636	.50 mfd., 25 volt	3/2
AC625	.25 mfd., 35 volt	2/6
AC619	.10 mfd., 40 volt	2/3
AC640	.12 v. 500 mfd.	7/6
AC635	.50 mfd., 350 volt	8/6

DRY ELECTROLYTIC CONDENSERS IN METAL CASES.  
AC601—.8 mfd. Upright Mounting .. 5/-  
AC613—.16 mfd. " " .. 6/11  
AC620—.10 x 10 mfd. " " .. 7/6

WET ELECTROLYTICS IN METAL CASES.  
AC602—.8 mfd. 500 volt .. 8/3  
AC615—.16 mfd. 440 volt .. 7/9

## PADDERS AND TRIMMERS

Single bank Trimming Condensers, capacity 30 mmfd.

Bakelite Mounted.  
Cat. No. AC876—**7**D. each



2 Bank Trimming Condensers Capacity 30 mmfd. Bakelite mounted. **1/5** each  
Cat. No. AC877  
Single Hole MOUNTING PADDERS, 600 mmfd. Isolantite mounting. **3/-** each  
Cat. No. AC880  
Cat. No. AC878—Ditto 1200mmfd. **2/-** each  
Cat. No. AC879—Ditto 1600 mmfd. **2/-** each  
I.F. BASES Double Padders. 120/120. 1 1/2 in. x 1 1/2 in. Isolantite mounting. **1/3** each  
Cat. No. AC882

## HIGH VOLTAGE CONDENSERS LOW PRICED

Cat. No.	Value	each
AC650	.0005mfd., 1800 volts test, mica	1/9
AC653	.001 " 1800 " " "	2/6
AC652	.002 " 1800 " " "	2/6
AC651	.005 " 1800 " " "	2/6
AC654	.01 " 1800 " " "	2/6
AC655	.001 " 2500 " " "	2/9

# BARGAIN CONDENSER PARCEL!

10 Assorted Condensers offered in a parcel lot at a great reduction off their listed value.

### EACH PARCEL CONTAINS:

- 2 .002 mfd. Mica;
  - 2 15 pfd. Ceramic;
  - 2 .25 mfd. 350/400 volt Tubular;
  - 2 .02 mfd. 350/400 volt Tubular;
  - 2 .1 mfd. 350/400 volt Tubular.
- CONDENSERS**

# WAR BARGAINS!

## CONDENSERS

The following Condensers have been removed from brand new ZC1 Transceivers:—

Cat. No. AX1025—10 x 10 mfd. Electrolytics	<b>5/11</b>
Cat. No. AX1026—10 x 10 mfd. Insulated	<b>5/11</b>

## Tubular Condensers

AX1027—.02 mfd. 400 volt Tubular Condensers .. **6**D. each or **5/-** doz.

AX1028—.1 mfd. 400 volt Tubular Condensers .. **9**D. each  
AX1029—.25 mfd. 400 volt Tubular Condensers .. **1/3** each  
AX1030—.25 mfd. 25 volt Electrolytic Condensers .. **1/9** each

## Padders and Trimmers

465 K.C. Single Hole mounting type Padders. 1in. square. **2/-** each  
Cat. No. AX1031  
Double Trimmers: Philips make. Low-loss air spaced type, with mounting piece 2in. x 1in. **2/-** each  
Cat. No. AX1032  
Aerial Trimmer Condensers: An air-spaced midget variable condenser with a capacity of 25 mmfd. **3/-** each  
Cat. No. AX1033

## Ganged Condensers

Standard 3-gang Condensers, as used in ZC1 Transceivers, 1in. shaft, complete with mounting brackets and connections. Brand new. Capacity .000385 .. **9/6** each  
Cat. No. AX1095

3-gang Condenser complete with ZC1 dial. Half of moving plates of condensers have been removed, making them ideal for short wave work. Approx. capacity .000175 mmfd.—Cat. No. AX1008 .. **9/11**

3 Gang Variable Condensers. Some of the plates have been removed giving them the approximate capacity of .00018 mfd. per section. Grid clip and leads attached to the second and third sections. Complete with mounting brackets. **2/11**  
Cat. No. AX1225—Great Value!

## Plessey Split Stator Condensers

2 GANG: 2 identical sections with 2 sets of stators and corresponding rotors in each; larger capacity set in each section has a max. of 195 mmfd., min. 9. Smaller capacity in each section max. 135 mmfd., min. 7.5.  
Cat. No. AC926 .. **5/11**  
3 GANG: 2 sets of stators and rotors in each section. Middle and rear sections identical. Larger capacity set max. 258 mmfd., min 10. Smaller set max. 40 mmfd., min. 6. Front section: Larger capacity set 275, min. 10. Smaller capacity set max. 100, min. 7.5.  
Cat. No. AC927 .. **7/11**

Because we are overstocked we have chopped the price to give you this BIG BARGAIN!

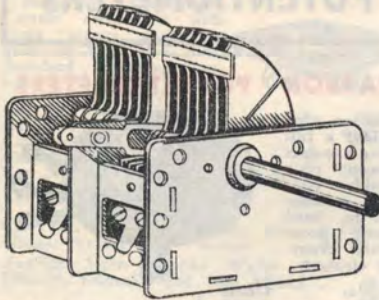
### COMPLETE PARCEL OF 10 ASSORTED CONDENSERS

Cat. No. AX120— **5/-** LOT

If we should perchance sell out of any of the listed sizes we will substitute with another popular size.

# VARIABLE CONDENSERS

## GANGED CONDENSERS



British-made reliable Condensers will match up with Ensign Coil Kits. Rin. shafts, anti-clockwise rotation. Capacity .00042.

Cat. No. AC922—2-gang .. .. **13/-**

Cat. No. AC923—3-gang .. .. **18/6**

## INTERFERENCE SUPPRESSION CONDENSERS

Specially constructed Condensers to alleviate radio interference set up by electrical units such as motors, etc. Fits direct to the motor or other such unit.

Cat. No. AC595—Tubular Pack. .1 mfd. + .1mfd. + .01 mfd. 250 volt A.C. .. **5/6**

Cat. No. AC596—Oblong Metal Can. 1 1/2 in. x 1 1/2 in. with mounting bracket. .01 mfd. + .01 mfd. + .02 mfd. 250 volt A.C. **5/6**

## MEISSNER TRIMMERS



High-quality trimmer. Type 50, mounted on high dielectric porcelain base and completely shielded in brass can. Capacity 25MMFD. Dimensions: 1 1/2 in. high by 3/4 in. diameter. Normally worth 4/6 each, but because they are war surplus offered at 2/- each.

Cat. No. AC865 .. .. **2/-** each

## TRIMMING CONDENSER



Air-spaced trimming condenser, 1/2 in. shaft; capacity 35MMFD. Knob is not supplied with condenser.

Cat. No. AC807 .. .. **6/6** each

## WAVEMASTER CONDENSERS

Double-spaced plates, high frequency insulation. Single-end bearing with provision for ganging. Max. cap. 8MMFD; min. cap. 1MMFD. 3 plates, spacing .15in.

Cat. No. AC835 .. .. **7/6** each

## "ENSIGN" MIDGET CONDENSERS

Ideal Gang Condensers for miniature portables, etc. Overall dimensions only, Height 1 1/2 in., Width 1 1/2 in., Depth 1 1/2 in.: 1 gang section 1/2 in. Capacity, .000365 max., 14 p.f.d. min. Ceramic insulation. Nickel silver contacts.

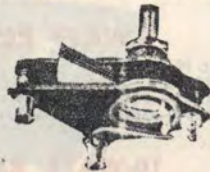


Cat. No. AC924—2 gang .. .. **18/6**

Cat. No. AC925—3 gang .. .. **19/9**

## MIDGET VARIABLE CONDENSERS

Very compact Condensers for constructing small receivers, wave traps, and other apparatus. Solid dielectric type. 1/2 in. diam. shaft. Overall dimensions, 1 1/2 in. x 1 1/2 in. x 1/2 in. thick. Shaft assembly 1 1/2 in. long.



AC918, .0003— **5/3**

Cat. No. AC919—.0005 .. .. **5/3**

Cat. No. AC917—.0001 .. .. **5/3** each

## "Wavemaster" Transmitting Condenser

A reasonably priced condenser having both single bearing mounting and rigidity of construction. Plate spacing (.150in.) enables this condenser to be used for a variety of purposes in medium power transmitters. It is admirably suited for ganging, resulting in a

## MIDGET CONDENSERS, R.C.S.

Midget Condensers with high voltage trolitul insulation end pieces, single bearing type.

Cat. No.	Max. Cap.	Min. Cap.	Plates	Price
AC809	Mmfd.10	Mmfd.3	3	5/-
AC810	Mmfd.25	Mmfd.3.5	4	5/4
AC811	Mmfd.50	Mmfd.4	7	6/3
AC812	Mmfd.100	Mmfd.6	14	7/9

## R.C.S. MIDGET CONDENSERS

Trolitul high voltage insulation end pieces and double bearing, suitable for ganging.



Cat. No.	Max. Cap.	Min. Cap.	Plates	Price
AC814	Mmfd.10	Mmfd.3	2	6/6
AC815	Mmfd.25	Mmfd.3.5	4	6/6
AC816	Mmfd.50	Mmfd.4	7	7/6
AC817	Mmfd.100	Mmfd.6	14	8/11

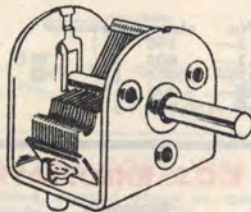
## GENERATOR CONDENSERS



Special Condensers for noise suppression on motor car radio installations, etc. .5mfd. Metal case.

Cat. No. AC657 .. .. **4/10** each

## TUNING CONDENSERS

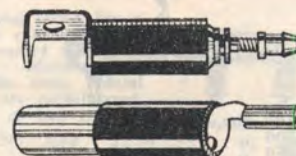


Single gang for crystal sets, Hiker's One, wave-traps, small valve sets, etc., etc. Small size make them ideal for portables, etc. Panel mounting. Size 1 1/2 in. x 1 1/2 in. x 1 1/2 in. high; shaft 1/2 in. long.

Cat. No. AC905—.0003 .. .. **6/3**

Cat. No. AC906—.0005 .. .. **6/3**

## MOTOR RADIO SUPPRESSORS



Spark Plug Type (top illustration). A sturdy unit which meets the most exacting demands for spark plug suppression.

Cat. No. AR229 .. .. **1/8**

Distributor Type—Cat. No. AR228 **1/11**

The above suppressors will not affect power or petrol consumption of your engine.

## 1/- — 6-VOLT LAMPS — 1/-

Six-volt 17 c.p. Lamp, standard bayonet base. These were originally motor-car lamps, but bases were converted during the war to standard size. Because they look a little rough we offer them at 1/- each. Ideal for camp, caravans, etc., etc.

Cat. No. AL489 .. .. **1/-** each

## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

# RESISTORS, FIXED AND VARIABLE

## COLOUR CODED RESISTORS



Conservatively rated at 1 watt. They will stand up to 50 per cent. overload without injury. Colour coded to the R.M.A. standard. They are accurate to within 5 per cent. of stated values, which remain constant whether in use or in stock. Perfectly noiseless and completely free from hand capacity effects. All one watt size.

## 1-WATT RESISTORS

Cat. No.	Ohms.
AR210	100
AR211	200
AR212	250
AR213	300
AR214	400
AR215	500
AR216	750
AR182	1,000
AR183	2,000
AR184	3,000
AR185	4,000
AR186	5,000
AR187	7,500
AR188	10,000
AR189	15,000
AR190	20,000
AR191	25,000
AR192	30,000
AR193	50,000
AR194	75,000
AR195	100,000
AR196	150,000
AR197	200,000
AR198	250,000
AR199	300,000
AR200	500,000
AR201	1 megohm
AR202	2 megohm
AR203	3 megohm
AR204	4 megohm
AR205	5 megohm
AR206	6 megohm
AR207	7 megohm
AR208	8 megohm
AR209	10 megohm

ALL  
6D. each

## 1/2-WATT RESISTORS

AR310	50
AR319	750
AR325	1,000
AR335	5,000
AR339	10,000
AR341	15,000
AR343	20,000
AR345	25,000
AR349	50,000
AR351	100,000
AR359	200,000
AR361	250,000
AR363	300,000
AR365	500,000
AR367	1 megohm
AR369	2 megohm
AR371	3 megohm
AR381	5 megohm
AR389	10 megohm

4D. each

## 2-WATT RESISTORS

Cat. No.	Resistance	Price
AR100	20 ohm wire wound (centre tap)	3/6
AR101	50 ohm wire wound (centre tap)	3/6
AR102	100 ohm wire wound (centre tap)	3/6
AR110	20 ohm wire wound	1/2
AR114	200 ohm wire wound	1/2
AR118	5,000 ohm wire wound	1/6
AR125	10,000 ohm wire wound	1/6
AR130	20 ohm carbon	9d.
AR135	5,000 ohm carbon	9d.

## 5-WATT RESISTORS

Cat. No.	Resistance	Price
AR250	20 ohm wire wound	2/-
AR255	1500 ohm wire wound	2/3
AR259	5000 ohm wire wound	2/3

## 10-WATT RESISTORS

Cat. No.	Resistance	Price
AR266	250 ohm wire wound	3/4
AR267	300 ohm wire wound	3/4
AR268	400 ohm wire wound	3/4
AR269	500 ohm wire wound	3/4
AR270	750 ohm wire wound	3/4
AR281	5,000 ohm 8/10 watts wire wound	3/6
AR285	10,000 ohm wire wound	3/6

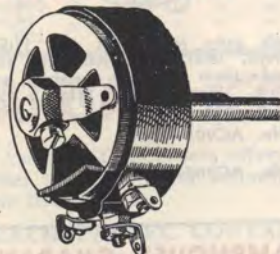
## Another Resistor Special!

Because we are overstocked with the following 1/2 watt resistors we have chopped the price almost in half to reduce our stock. Get your order away now!

Cat. No.	ohms	watts
AR312	200	1/2
AR317	600	1/2
AR327	2,000	1/2
AR329	3,000	1/2
AR355	150,000	1/2

3D. each

## R.C.S. RHEOSTATS



R.C.S. Rheostats, made from moulded bakelite with brass spindles, 1/2 in. diam. shaft. Nickel-silver contacting ring ensures smooth action.

Cat. No. AR507	— 6 ohm .25 amp.	5/9 ea.
Cat. No. AR508	— 10 ohm .25 amp.	5/9 ea.
Cat. No. AR509	— 20 ohm .25 amp.	5/9 ea.
Cat. No. AR510	— 30 ohm .25 amp.	5/9 ea.

## POTENTIOMETERS

### CARBON POTENTIOMETERS

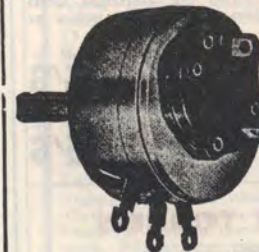
Carbon type employs a full wiping contact between the movable contact member and the hard smooth composition resistance element.



Cat. No.	Ohms
AP110	1,000
AP111	2,000
AP112	2,500
AP115	5,000
AP117	10,000
AP118	15,000
AP120	25,000
AP122	50,000
AP125	100,000
AP126	250,000
AP128	500,000
AP130	1 megohm
AP132	2 megohm

ALL  
4/- EACH

### POTENTIOMETERS with Switch



Cat. No. AP145—  
500,000 ohm with  
S.P.S.T. Switch.

5/9

Cat. No. AP146—  
500,000 ohm with  
D.P.S.T. Switch.

6/-

### 1/2 MEG POTENTIOMETERS

(FROM WAR TRANSCIEVERS)

500,000 ohm Carbon Potentiometers.  
1 1/2 in. diameter—length of shaft 1 in.

Cat. No. AX1041 .. 3/6 each

### R.C.S. WIRE-WOUND POTENTIOMETERS

Made from moulded bakelite with brass spindles. Nickel-silver contacting ring ensures smooth action, 1/2 in. diameter shaft.

Cat. No. AP29	— 200 ohm, 50 M.A.	5/6
Cat. No. AP30	— 400 ohm, 50 M.A.	6/9
Cat. No. AP31	— 1,000 ohm, 35 M.A.	6/9
Cat. No. AP32	— 2,500 ohm, 30 M.A.	6/9
Cat. No. AP33	— 5,000 ohm, 30 M.A.	6/9
Cat. No. AP34	— 10,000 ohm	6/9
Cat. No. AP37	— 25,000 ohm	8/11
Cat. No. AP40	— 50,000 ohm	10/2

### R.C.S. VOLTAGE DIVIDERS



These are wound on tubing 1/2 in. in diameter, and the highest grade nichrome wire is used in their winding. The current capacity is 50 M/A. The contact clips are of a special flat type, which, while making perfect contact, do not damage the wire. The total length of the Divider is 4 1/2 in., and has two clips.

Cat. No. AR2	— 15,000 ohms	4/9
Cat. No. AR3	— 25,000 ohms	4/9

## R.C.S. WIREWOUND RESISTORS



AR5	— 100-ohm, 100 MA
AR7	— 200 " 100 "
AR8	— 250 " 100 "
AR9	— 300 " 100 "
AR11	— 400 " 100 "
AR13	— 450 " 100 "
AR14	— 500 " 100 "
AR15	— 750 " 100 "
AR16	— 1000 " 100 "
AR18	— 1500 " 100 "
AR19	— 2000 " 50 "
AR23	— 5000 " 50 "

each  
1/-

## RESISTANCE WIRE

Resistance wires and Ribbons are available in small reels for making special resistances, etc. Refer to page 75.

## CHEAP CHASSIS BASES

Sprayed finish, Chassis Bases for 5-valve sets. Size 1 1/2 in. x 6 in. x 2 1/2 in. deep. While stocks last only 7/6 each.  
Cat. No. AX131 .. 7/6 each

# VALVE SOCKETS

## WAFER SOCKETS

Ruggedly constructed. Certain connection with three points contacting each of the valve pins. Standard mounting centres.



- Cat. No. AS631—4-pin .. ALL
- Cat. No. AS632—5-pin .. 7D.
- Cat. No. AS633—6-pin .. EACH
- Cat. No. AS634—7-pin ..
- Cat. No. AS635—8-pin (Octal) ..
- Cat. No. AS636—Loctal .. 1/-
- Cat. No. AS637—Sockets for Midget Valves (1S4 series) .. 1/3 each
- English 5-pin Special Wafer Sockets (for PM22A Valves). Cat. No. AS602 .. 3/9

## AMPHENOL VALVE SOCKETS



Amphenol Valve Sockets, complete with metal mounting plates

- Cat. No. AS614—4-pin .. ALL
- Cat. No. AS615—5-pin ..
- Cat. No. AS616—6-pin .. 10D.
- Cat. No. AS617—7-pin .. EACH
- Cat. No. AS618—7-pin Large ..
- Cat. No. AS619—8-pin ..
- Cat. No. AS619A—8-pin Clip Mounting Type, without Flange .. 8D. each

## MOUNTING FLANGES FOR AMPHENOL VALVE SOCKETS

Metal Mounting plate similar to that illustrated on Amphenol socket above. Converts ring mounting socket to flange type.

- Cat. No. AS612 .. 4D. each

## BASEBOARD MOUNTING VALVE SOCKETS



Amphenol Sockets mounted on raised metal shield to enable the sockets to be screwed on wooden baseboards, etc.

- Cat. No. AS620—4-pin ..
- Cat. No. AS621—5-pin .. 2/3 each
- Cat. No. AS624—8-pin Octal ..

## WAR SURPLUS BARGAINS!

### OCTAL WAFER VALVE SOCKETS

Eby Wafer Octal Valve Sockets to take all the modern types of tubes with the octal base. These sockets have the mounting holes spaced 1/4 in. further apart than the standard type but otherwise are exactly the same as the standard wafer socket selling at 8d.

**GREAT BARGAIN!**

- Cat. No. AS630—
- 4 1/2 D. each or 3/9 doz

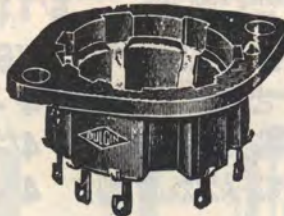
## "STEATITE SOCKETS"



Made from entirely new dielectric, ultra low loss. Phosphor bronze silver-plated contacts Steatite Sockets are particularly recommended for high frequency work and where high temperatures are encountered. Ideal for Transmitters and Amplifiers and other apparatus in excess of 20 watts.

- Cat. No. AS641—4-pin .. ALL
- Cat. No. AS642—5-pin .. 5/-
- Cat. No. AS643—6-pin .. EACH
- Cat. No. AS644—7-pin ..
- Cat. No. AS645—8-pin ..

## SIDE-CONTACT CHASSIS VALVE-HOLDERS.



8-CONTACT.

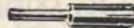
Moulded bakelite chassis valve holders for the side-contact valves. Fitted with eight leaf contacts and integral solder tags. Very efficient and reliable contact is made with valves of the type concerned.

- Cat. No. AS601 .. 1/7

## RIMLOCK SOCKETS

Philips Rimlock type valve sockets.—Cat. No. AS600 .. 1/5 each

## SPEAKER CORD TIPS



Nickel-plated tips for speaker and 'phone cords. Cat. No. AT28 .. 2D. each

## DE-LUXE CORD TIPS

A nickel plated, stepped phone or speaker tip. Finished article.

- Cat. No. AT26 .. 6D. each

## PRICES ARE SUBJECT TO ALTERATION

All Prices in this book must be regarded as an indication only—all orders will be executed at ruling prices.

**THE ELECTRIC LAMP HOUSE LIMITED**  
11 MANNERS STREET,  
WELLINGTON, C.1.

# PLUGS—JACKS

## SPEAKER PLUGS

For use with Speakers, Battery Cables, etc. Metal top clips on to a bakelite base. Deep metal casing enables plug to be removed easily from socket and also allows good space for internal wiring.



- Cat. No. AP240—4-pin .. 1/- each
- Cat. No. AP242—5-pin .. 1/- each
- Cat. No. AP248—8-pin .. 1/- each

Black Bakelite Amphenol Type.

- Cat. No. AP244—6-pin .. 1/- each
- Cat. No. AP246—7-pin .. 10d. each

## BIG REDUCTION! PHONE PLUGS



A Jack Plug with strong brass contacts, Heavy black bakelite moulding.

- Cat. No. AP269 WERE 4/6 NOW 2/-

## JACKS



Bulgin S.C. Jacks—Cat. No. AJ22 1/8 each



Bulgin Single Closed Circuit Jacks.

- Cat. No. AJ23— 2/4 each

## TWIN TIP JACK UNITS

A strong spring firmly makes contact to any tip inserted within its grip. Mounted on bakelite strip. Metal parts are nickelplated.



Jacks fit any standard 'phone tip.  
Cat. No. AJ8 .. 6D. each

## SURPLUS WAR STOCKS

### Jacks



Single Key Jacks (S.C.), Single-pole double-contact insulated jack mounted on 2 1/2 in. x 3 in. bakelite panel.

- Cat. No. AX1038— 1/- each

Double Phone Jacks (D.C.) mounted on 2 1/2 in. x 3 in. panel.

- Cat. No. AX1039— 1/6 each

Line-Microphone Jacks. A double outlet 3-contact insulated Jack.  
Cat. No. AX1040 .. 2/- each

# SWITCHES

## MINIATURE SWITCHES

Here's a handy little switch, suitable for radio and motor-car work. Positive action. Nicely finished (nickel plated). British made.  
Cat. No. AG118 **2/4**



## RADIO TOGGLE SWITCHES

British, quick make-and-break Toggle Switches. Rating 230 v., 3 amp.  
Cat. No. AS441—S.P. On-off **2/6** each  
Cat. No. AS442—D.P. On-off **4/-** each  
Cat. No. AS443—S.P. Change-over **3/3** ea.  
Cat. No. AS444—D.P. Change-over **4/6** ea.



## NAME PLATES FOR TOGGLE SWITCHES



On-off Plates to fit standard toggle switch.  
Cat. No. AX1210 **3D** each

## ROTARY RADIO SWITCHES



Rated 230 volt, 2 amp. These are the rotating type of switches and are supplied with 1/2 in. shaft, so that a knob can be fitted to match the other controls on the set. One hole fixing. Switch mounted in hermetically sealed cases, perfectly reliable contact, durable construction.  
Cat. No. AS445—S.P., on-off **4/3** each

## METER PUSH SWITCH



Designed for one-hole fixing to panels between 1/16 in. and 7/32 in. thick. With highly polished nickel-plated bush-nose and coloured insulated plunger. Silver-contacts make sure of trouble-free contact. With terminal screws, one pole live to bush. Rating: 1 amp. at 10 volts or 100 m.a. at 100 volts.  
Cat. No. AS482 **2/9** each

## HIGH QUALITY LEVER SWITCHES

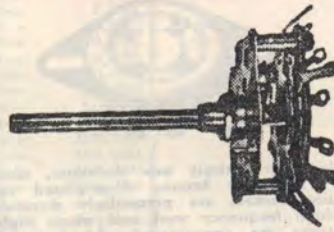
D.P.D.T. Lever switches with low loss troluit mounting. Spring relay contacts give positive connection. Ideal for inter-com. or radiogram switching. Flush mounting. Overall Measurements: length 3 in.; depth, 1 1/2 in.; width 1/2 in. Superbly constructed switch.  
Cat. No. AX1313—

OUR PRICE **3/6**

4-Pole Double Throw Lever Switch similar in construction to above. Can be described as a double set of D.P.D.T. switches. Centre position of lever is "off," "up" position closes first circuit; "down" position closes second circuit. There's many uses for a high quality switch such as this. Overall Measurements: length, 3 in.; depth, 1 1/2 in.; width, 1/2 in.  
Cat. No. AX1314—

OUR PRICE **4/6**

## WAVE-CHANGE SWITCHES



Switches suitable for band changing, and for use with test equipment, etc. Best imported manufacture. Made from laminated bakelite. All 1/2 in. diam. shaft. Phosphor bronze points for sure contact.

- 10 position, Single Bank Switch; 2 1/2 in. shaft.—Cat. No. AS450 **4/-** each
- 3 position, 2 Bank, 3 pole, 3 1/2 in. shaft.—Cat. No. AS471 **5/11** each
- 3 position, 3 Bank, 3 pole, 1 1/2 in. Shaft length from mounting bush 5 1/2 in. Cat. No. AS476 **6/11** each
- 2 position, 1 Bank, 6 pole, 2 1/2 in. Shaft.—Cat. No. AS470 **6/6** each
- Single Bank, 3-pole, 2-position Switches. Cat. No. AS454 **4/-** each
- Single Bank, 2-Pole, 2-position Switches. Cat. No. AS455 **4/-** each
- Single Bank, 2-Pole, 3-Position Switches. Cat. No. AS456 **4/-** each

## WAR SURPLUS

These Switches have been removed from ZC1 Army Transceivers. All are brand new, although some may have solder marks.

## FLUSH MOUNTING SWITCHES

10 amp., 240 volt Flush Mounting Switches. Can be used for ordinary house lighting circuits or for any other purpose where an on-off switch is required.—Cat. No. AX1019 **1/6** ea.

## PUSH-TO-TALK SWITCHES

D.P.D.T. Push Switch. Excellent for a meter push switch or for inter-communication work. Depth 3 in., width 1/2 in.  
Cat. No. AX1021 **2/-** each

## S.P.S.T. TOGGLE SWITCHES

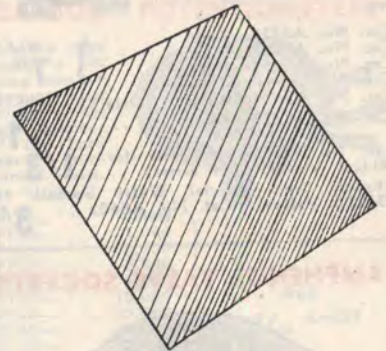
Standard type S.P.S.T. 230-volt 3 amp. Toggle Switch.  
Cat. No. AX1020 **2/3** each

## WAVE CHANGE SWITCHES

- 3-Bank, 2-Position, 9-Pole Wave Change Switches as used in these Transceivers for Receiver/Band/C.W. Switch. Cat. No. AX1016 **4/6** each
- 2-Bank, 3-Position, 4-Pole Wave Change Switches as used for normal/net/remote Switch. Cat. No. AX1017 **3/-** each
- 3-Bank, 3-Position, 6-Pole Wave Change Switches. Cat. No. AX1018 **4/6** each

## RADIO PANELS

### "PANICA" RADIO PANELS



Panica Radio Panelling is practically indestructible. It has high insulating properties, is non-hygroscopic, and has great tensile strength. Panica is easily worked and can be cut, sawn and drilled, has a high polished black mirror finish on both sides, suitable for panels of Radio Sets, test instruments and other apparatus. The sizes given below are approximate, but each panel supplied will cut to size stated.

- Cat. No. AP510—5 1/2 in. x 6 1/2 in. x 1/16 in. **2/-**
- Cat. No. AP511—8 1/2 in. x 6 1/2 in. x 1/16 in. **3/-**
- Cat. No. AP512—11 1/2 in. x 6 1/2 in. x 1/16 in. **4/-**
- Cat. No. AP513—5 1/2 in. x 6 1/2 in. x 1/16 in. **4/-**
- Cat. No. AP514—8 1/2 in. x 6 1/2 in. x 1/16 in. **6/-**
- Cat. No. AP515—11 1/2 in. x 6 1/2 in. x 1/16 in. **8/-**
- Cat. No. AP516—5 1/2 in. x 6 1/2 in. x 3/16 in. **6/-**
- Cat. No. AP517—8 1/2 in. x 6 1/2 in. x 3/16 in. **9/-**
- Cat. No. AP518—11 1/2 in. x 6 1/2 in. x 3/16 in. **12/-**

## BAKELITE SHEETS

Thin Bakelite Sheets for all insulating purposes.

- Cat. No. AP532—12 in. x 12 in. x 1/32 in. **10/10**
- Cat. No. AP533—6 in. x 6 in. x 1/32 in. **10d.**
- Cat. No. AP535—6 in. x 3 1/2 in. x 1/32 in. **6d.**

## INSULATING MATERIAL

### Ebonite Rod

Cat. No.	2 1/2 in. Diameter	Ebonite Rod	per ft.
AX1438	2 1/2 in.	"	15/6
AX1437	2 1/2 in.	"	14/-
AX1432	1 1/2 in.	"	12/6
AX1431	1 1/2 in.	"	10/6
AX1436	1 in.	"	3/8
AX1435	1 in.	"	3/-
AX1434	1 in.	"	2/8
AS148	1 in.	"	2/3
AX1433	1 in.	"	1/9
AS149	1 in.	"	1/3
AS151	Rod, 6 in. x 1/2 in.	"	8d.
AS153	Rod, 6 in. x 1/2 in.	"	1/3

### Ebonite Tubing

Cat. No.	Outside Diameter (in.)	Hole (in.)	Price (ft.)
AX1443	1	1/8	3/9
AX1444	1 1/2	1/8	2/4
AX1445	1 1/2	1/4	1/9
AX1446	1 1/2	1/2	1/3
AX1447	3/16	1/16	11d.
AX1448	3/16	1/32	11d.
AX1449	.090	.037	4d.
AS155	Tube, 6 in. x 1/2 in.	"	1/2
AS157	Tube, 6 in. x 1/2 in.	"	1/-

## CHASSIS

Metal chassis are available for the following Kits. Details as to whether battery or A.C. powered and chassis dimensions are given below.

Cat. No.	Price
AC1100—6in. x 6in. x 2½in. Hikers Two Valve (Battery) ..	9/-
AC1105—5in. x 4½in. x 1½in. with 5in. x 5in. Panel. Mighty Midget 1 Valve (Battery) ..	9/-
AC1106—10½in. x 6½in. x 2½in. Easy Built Five Valve (A.C.) ..	14/6
AC1109—9in. x 9in. x 2in. Outdoor Portable 3 Valve (Battery) ..	10/9
AC1113—9in. x 8½in. x 2in. Popular Skysweeper 4 Valve (A.C.) ..	10/9
AC1115—9½in. x 4½in. x 2½in. Versatile-Radiotron Amplifier 3 Valve (A.C.) ..	9/-
AC1116—9in. x 6½in. x 2in. T.R.F. Tuner 3 Valve ..	9/-
AC1120—10in. x 9in. with Bracket Simplex Valve Tester Panel ..	15/-
AC1125—12in. x 5½in. x 2½in. Defiant 5 Valve (Battery) ..	14/6
AC1127—10½in. x 8½in. x 2½in. Sky-Hawk 4 Valve (A.C.) ..	10/9
AC1128—7in. x 6in. x 2in. Scout (Battery) ..	10/9
AC1131—13½in. x 6in. x 2½in. Bell Tone Amplifier (A.C.) ..	14/6
AC1132—15in. x 9½in. x 3in. D/W Super Six (A.C.) ..	15/-
AC1134—11½in. x 4½in. x 2½in. Easy Built 4 Valve Clipper (Battery) ..	10/9

## TERMINALS

### CONDENSER COUPLINGS

½in. Bakelite and Metal Flexible Condenser Couplings for ganging two variable condensers. Flexible brass connector on bakelite mount.

Cat. No. AC901—  
**2/3** each



### SHAFT CONNECTORS

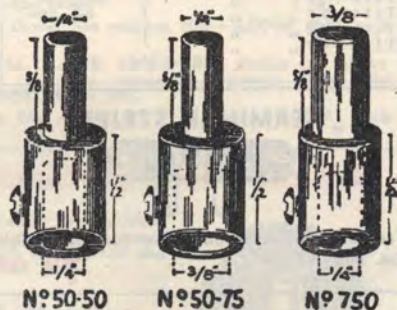
Solid Brass Shaft Connector, with two set screws each end for joining 2 ½in. shafts.

Cat. No. AC902 **8**D. each

Nº250

THE BEST COSTS LESS AT THE LAMPHOUSE!

### SHAFT ADAPTORS



For Condenser or Volume control shafts, etc. ½in. to ½in. shaft extender (50-50)—  
Cat. No. AS134 1/6 each

½in. to ½in. shaft reducers (50-75)—  
Cat. No. AS135 1/6 each

½in. to ½in. shaft reducers (750)—  
Cat. No. AS133 1/6 each

½in. Diam. Ebonite Rod for insulated condenser shaft; 6in. lengths—Cat. No. AS151 8d. each

### CONNECTORS—SINGLE



Small Brass Connector Size ½in. x ½in.  
Cat. No. AC194—  
**3**D. each

### CHASSIS PLUGS AND SOCKETS



Miniature 3-pin type Socket mounts on to chassis. Extremely useful unit for connecting external units such as microphones, pickups, etc.  
Cat. No. AP290 .. **1/3** pair

### LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.

### H.F. CHOKES

Honeycomb wound H.F. Chokes. 10M.H.  
Cat. No. AC140—

**2/9** each



H.F. CHOKES. 2.5 M.H. Pye Wound (4-pye) Chokes, wound on Isolantite Former. We have overbought this line and are therefore prepared to sell them at a greatly reduced price. Usually 4/6 each.

Cat. No. AC138 .. **1/9**

Similar to above but with connecting leads cut rather short. Removed from New ZC1 Receivers.

Cat. No. AX1047A .. **1/3**

### L.F. CHOKES

30 hy. 50 M.A. Filter Chokes.  
Cat. No. AC141 .. **14/6**

30 hy. 100 M.A. ditto.  
Cat. No. AC142 .. **19/6**

30 hy. 150 M.A. ditto.  
Cat. No. AC143 .. **32/6**

## WAR BARGAINS!

### CHOKES REMOVED FROM ZC1 TRANSCEIVERS

#### 30 Henry 100 MA Filter Chokes

Mounted in metal containers 2in. high x 3in. between mounting holes. Lug type connection.  
Cat. No. AX1010 .. **17/6**

#### Modulation Chokes

Small Heavy Duty Modulation Chokes. Similar dimensions and description to above. Suitable for plate circuits of 6V6GT or similar valve. .. **5/11** each  
Cat. No. AX1011 .. **5/11**

#### Parasitic Chokes

The ideal Unit for preventing parasites in low and medium power Transmitters. 3½in. x ½in.  
Cat. No. AX1047 .. **1/-** each

#### Vibrator Chokes

Low tension Hash Chokes for use with Vibrator Packs and Motor Car Sets, etc. Size: 1½in. long, ½in. diameter. Wax coating.  
Cat. No. AX1141 .. **1/9** each

Cat. No. AX1155—High Tension R.F. .. **1/9** each

#### Low Tension R.F. Chokes

Good Hash Choke as used in ZC1 Vibrator Unit. 1½in. long wound on ½in bakelite former. .. **6**D. each  
Cat. No. AX1200 .. **6**D. each

#### 650 Micro Henry Choke

Cylindrical 1½in. long x 1in. with solder lug mounting. Might be used as a crystal set coil or for line filter work.  
Cat. No. AX1246 .. **9**D. each

## WAR SURPLUS BARGAINS!

### CARBON HAND MICROPHONES



A solidly constructed Hand Type Microphone, featuring a press switch mounted in the handle. Complete with 6ft. flex and heavy line plug (Phone Plug). Unit is enclosed in a heavy bakelite case. This Microphone is suitable for telephone amateur radio work and any similar purpose requiring a sturdy mike.  
Cat. No. AX1063 .. **12/6** each

### DYNAMIC HAND MICROPHONES

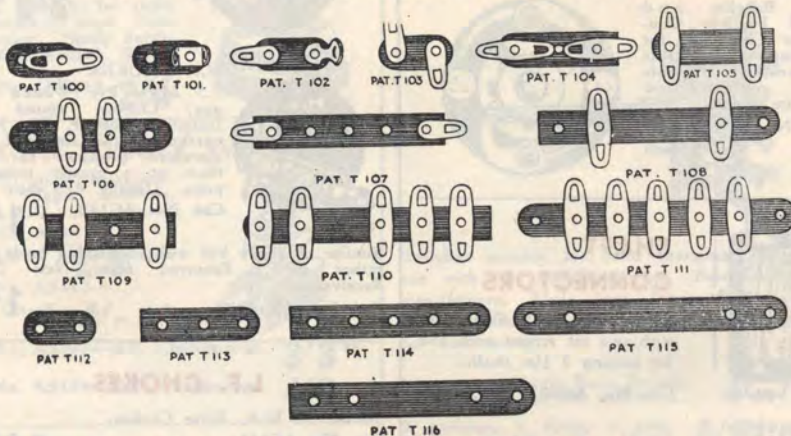
Similar in physical construction and appearance to the above (No. AX1063). Has lower output than the Carbon type and therefore requires the use of the Microphone Input Transformer listed below. This "Mike" gives better response than the Carbon type.  
Cat. No. AX1064 .. **17/6**

MICROPHONE TRANSFORMERS, for use with above.  
Cat. No. AX1013 .. **12/6** each



**GREAT VALUE!**

**TERMINAL STRIPS FOR EVERY PURPOSE!**



**A complete range constituting 16 different patterns.**

BAKELITE STRIP. 3/8 in. wide.

Cat. No.			Cat. No.		
AT100	—1 lug	Straight	AT109	—3 lug	R/angles
AT101	—1 lug	R/angle	AT110	—5 lug	R/angles
AT102	—2 lug	1 R/angle 1 Straight	AT111	—5 lug	R/angles
AT103	—2 lug	R/angles	AT112	—2 Hole	Blanks
AT104	—2 lug	Straight	AT113	—3 "	"
AT105	—2 lug	R/angles	AT114	—5 "	"
AT106	—2 lug	R/angles	AT115	—4 "	"
AT107	—2 lug	Straight	AT116	—4 "	"
AT108	—2 lug	R/angles			
					6d. doz.
		1d. each			
		1d. "			
		2d. "			
		2d. "			
		2d. "			
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**ASSORTED PACKET**  
Another Anniversary Bargain!

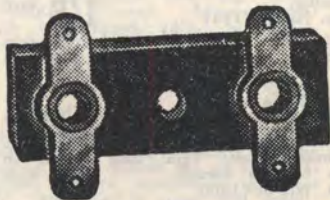
We offer a packet of 40 assorted strips of all types listed above at the Special Price of  
Cat. No. AT120 .. **5/-** pkt.

**TERMINAL STRIPS**

Bakelite Terminal Strips, fitted with double ended lugs. Ideal for the neat assembling of small components, such as resistors and condensers. Lugs eyeleted on to strip.

- Cat. No. AT135—24 lug Strip **2/6** each
- Cat. No. AT136—12 lug Strip **1/5** each
- Cat. No. AT137—6 lug Strip **9D.** each

**ANCHORING STRIPS**



Used for supporting condensers, resistors, etc., above earth or chassis. Fixed by bolt through centre hole.  
Cat. No. AT134 .. **2 1/2D.** each

**TERMINAL STRIPS**



Terminal Screws mounted on insulated strips.  
Cat. No. AT127 .. **7D.** each

**TERMINAL PANELS**



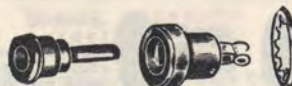
Terminal Panel 2 1/2 in. x 1 1/2 in., fitted with 2 N.P. heavy type screw-down terminals. Ideal for Aerial and Earth, Pick-up Connections or similar purposes. We bought them cheaply—you take advantage of it.  
Cat. No. AX271 .. **6D.** each

**FAHNSTOCK CLIPS**



Spring Brass.  
5/16 in. x 1 in.  
Cat. No. AT41 **2D.** ea.

**TIP JACKS AND PLUGS**



Amphenol Single Tip Jacks; a useful all bakelite plug and chassis mounting socket. Socket can be attached to panel or chassis by means of a gripping ring provided. Plug fits snugly into tight-fitting jaws in socket. Socket can be used separately to take phone or speaker  
Cat. No. TJ25 .. **1/3** pair

**N.P. TERMINALS**



4 B.A. nickel-plated terminals with hole. Complete with nut. Cat. No. AT55 **5D.** each

**SMALL INSULATED TERMINALS, 4BA.**



The illustration is approximately full size. These terminals fill the want of many who seek a small, inexpensive type. The heads are removable and have inserts. In two colours, red and black.

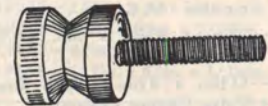
Cat. No. AT70 .. **11D.** each

**INSULATED BAKELITE TERMINALS**



Insulated type supplied in either red or black. Spring grip makes easy connection or disconnection. Designed so that when fitted they are insulated from metal chassis. Finished job.  
Cat. No. AT65 .. **8D.** each

**BRASS TERMINALS**



Brass Binding Posts complete with three nuts and two washers. Length of threaded stem 2 in. Thread 4BA. Excellent heavy Duty Terminal.  
Cat. No. AT60 .. **4D.** each

**ALL-METAL TERMINALS**

Non-insulated all-metal oxidised Radio Terminals. Threaded headpiece and washer screwing down on to base washer makes for sure connection. 4BA x 3/8 in. stem allows ample room for attaching insulated washers if terminal is required to be insulated.  
Cat. No. AX1051 **6D.** each



**WAR SURPLUS SPECIAL!**  
**Heavy Duty Insulated Terminals**

These Terminals were used for Aerial connections on Transceivers and are an extremely robust and well-insulated job. Overall dimensions of terminal assembly 2 1/2 in. high, 3/4 in. diameter bakelite top. Heavy rubber insulating washers over steel stem.  
Cat. No. AX1050—



**1/3**  
Similar to above but small size (1 1/2 in. x 3/8 in.) and not insulated.  
Cat. No. AX1050A .. **1/-**

# LUGS

## SOLDERING LUGS.

4 B.A. Double Ended Soldering Lugs (tinned).  
Cat. No. AT7 3D. doz.



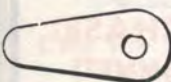
## PEAR-SHAPED LUGS

Small, 1/2 in. long, 5/32 in. hole.

Cat. No. AT2 3D. doz.

Large, 1 in. long, 5/32 in. hole.

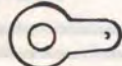
Cat. No. AT3 3D. doz.



## DROP-SHAPED LUGS

1/2 in. long, 7/32 in. hole.

Cat. No. AT4 3D. doz.



Large N.P. Terminal Spade Lugs.

Cat. No. AT5— 3D. each



Small N.P. Terminal Spade Lugs.

Cat. No. AT17— 1D. each, 11D. doz.



Ring Type Small N.P. Lugs. Cat. No. AT18— 1D. each, 9D. doz.



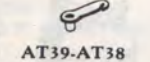
## RIVET LUGS

AT42 AT37

Double-ended solder lugs with centre hollow rivet. 13-16 in. long, 1/4 in. rivet.  
Cat. No. AT37 3D. doz.



Solder lugs with hollow rivet one end. 7-16 in. long, 3-16 in. rivet.  
Cat. No. AT38 3D. doz.



Same as above, but 9-16 in. long, 1/4 in. rivet.  
Cat. No. AT39 .. 3D. doz.

Angle Coil-mounting lugs, 1/2 in. x 1/4 in.  
Cat. No. AT42 .. 3D. doz.

## SOLDERING LUG ASSORTMENT



A miscellaneous selection of 100 Assorted Solder Lugs.  
Cat. No. AT1 .. 1/9 Packet

## SPADE ANCHOR LUGS



Steel cadmium plated for mounting coils, condensers, shield cans, etc., 6/32 thread. Hole in flat portion fits 9/64 in. diameter eyelets and 6/32 screws.  
Cat. No. AT40 .. 2D. each

## CORD GRIP DIAL LAMPHOLDERS

Take the standard screw base panel lamp. Cord mounting with no fastening bracket. Apart from their use as dial lampholders they can also be used with decoration strings, etc.  
Cat. No. AD509 .. 9D. each

# CONNECTORS

## INSULATED SPADE TERMINALS



Insulated Spade Terminals are useful for easy connection of wires under terminals, etc. Colours: Red and Black.  
Cat. No. AT15 .. 4D. each

## R.C.S. TERMINAL BOARDS

### BAKELITE TERMINAL BOARDS.

for neat assembling of Resistors and Condensers. Lugs are eye-letted on to the bakelite. Mounting holes provided.

### 23 LUG STRIP.

Neatness is a big factor in any job!

Cat. No. AT145 .. 4/-

## DIAL LIGHT HOLDERS



With clip style bracket, made to clip over condenser, etc. To take screw globe.  
Cat. No. AD504— 9D. each

As above, but without clip—AD506 9D. each

DIAL LAMP HOLDERS, similar to above, but to take miniature bayonet type Dial Lamps. With clip.

Cat. No. AD505 .. 1/- each

## MINIATURE SCREW HOLDERS

Bakelite Lampholders, miniature screw thread which takes torch and similar lamps.



Cat. No. AS223— 11D. each

# WAR BARGAINS!

## METAL REELS

8 1/2 in. Diameter Metal Reels complete with small winding handle and anchoring brackets. Will hold approximately 70 to 100 yards single wire cable. Many uses can be found for these reels such as, garden hose winders, clothes line winders, boys hoops and dozens of other uses.

Another bulk purchase from War Assets enables us to sell these at 1/6 each  
Cat. No. AX1082 .. 1/6 each



## "ANDY" LIGHT

This Unit consists of an insulated socket and plug collar, 3 in. flexible Swan Neck and Torch Bulb type Lampholder.

Cat. No. AX1042 .. 2/11 each

# CLIPS

## ALLIGATOR CLIPS



Here's a Handy Clip for coil and battery connections. The strong spring ensures a good connection.

Cat. No. AC19 .. 5D. each

## INSULATED CROCODILE CLIPS



Insulated Crocodile Clip. Useful for servicemen, experimenters, etc., when dealing with high voltages. Wire passes through insulator to grip sleeve and screw. Nickel-plated. Red and black insulated.

Cat. No. AC18 .. 1/- each

## UNIVERSAL BATTERY CLIPS



British made, these Clips have good strong springs that make a sure contact.

Cat. No. AC120— 5 amp. (Pee Wee) 8d. each

Cat. No. AC121—10/25 amps. .. 1/- each

Cat. No. AC122—50 amp. .. 1/1 each

## RUBBER COVERED GRID CLIPS

Screen Grid Clips to fit Octal based, glass or metal Valves. Rubber protecting cap moulded over clip. 6 in. length of pushback wire attached.—Cat. No. AX1043 .. 3D. each

## CLIPS, SCREEN GRID

For attaching leads to the top of screen grid valves, etc.

Cat. No. AC23 .. 1D. each



Cat. No. AC24—

Screen Grid Caps for Metal valves .. 1D.

## BANANA PLUGS AND SOCKETS



Banana Plugs and Sockets have all sorts of uses, such as for aerial and earth connections, coil tapping, battery connections, etc. Red and Black. Insulated.

Cat. No. AT23—Banana Plugs only 6D. each

Cat. No. AT24—Sockets for above 6D. each

# RADIO HARDWARE

## ANOTHER BIG SPECIAL!

### 3/4 in. Wood Screws

3/4 in. x 8 gauge Wood Screws. Big purchase from War Surplus Stock enables us to sell at this unbeatable price.  
Cat. No. AT556 .. **1/6 gross**



## WOOD SCREWS

Counter-sunk heads. Gimlet points. All sizes can be supplied. The following are in most popular demand: Bright Mild Steel.

Cat. No.	Size	Dozen
AT550	1/2 in. x 1	3d.
AT552	1/2 in. x 2	3d.
AT554	1/2 in. x 3	3d.
AT558	1/2 in. x 4	3d.
AT560	1/2 in. x 5	4d.
AT562	1/2 in. x 6	4d.
AT564	1/2 in. x 8	5d.
AT566	1/2 in. x 8	5d.
AT568	1 in. x 4	5d.
AT570	1 in. x 6	5d.
AT572	1 in. x 8	6d.
AT574	1 1/2 in. x 8	7d.
AT576	1 1/2 in. x 10	7d.
AT578	1 1/2 in. x 6	7d.
AT580	1 1/2 in. x 9	8d.

## HANDYMANS



ASSORTED

## WOOD SCREWS

An assortment of 50 wood screws, various sizes. All with countersunk heads. All popular types. Don't be "caught out"! Keep a jar of these screws always on your work bench.  
Cat. No. AT590 .. **1/9 jar**

## SELF-TAPPING SCREWS



For mounting components on radio chassis, etc. 3/4 in. long. No. 6 Gauge.  
Cat. No. AT400 .. **5 D. per dozen**  
**4/9 per gross**

## SCREWS AND NUTS

Best English quality. All Brass.

Cat. No.	Size	Dozen
AT428	1/2 in. x 6BA Screws and Nuts	9 1/2 d.
AT430	1/2 in. x 6BA Ditto	10 1/2 d.
AT424	1/2 in. x 4BA Ditto	1/1
AT426	1/2 in. x 4BA Ditto	1/1
AT421	1/2 in. x 2BA Ditto	1/7
AT423	1/2 in. x 2BA Ditto	1/6
AT433	6BA Brass Hex. Nuts	5 1/2 d.
AT432	4BA Ditto	6d.
AT431	2BA Ditto	8 1/2 d.
AT436	6BA Washers	4d.
AT435	4BA Washers	4 1/2 d.
AT434	2BA Washers	6d.

## NUTS AND BOLTS

### General Assortment

Here's a list of a few types of which limited stocks only are available.

Cat. No.	Size	Dozen
AX1162	6/32 in. Cadmium plated bolts. Mixture of lengths varying between 3/4 in. and 1 in.	5d.
AX1164	3/16 in. Cadmium plated bolts. Mixture of lengths varying between 3/4 in. and 1 in.	5d.
AX1169	10/32 in. Cadmium plated Hex. Nuts	3d.
AX1171	1/2 in. Whitworth Hex. Nuts both brass and Cadmium plated	3d.
AT451	3/16 in. Brass Nuts	4d.

## RODS, THREADED—BRASS

Threaded Rod is useful for many odd jobs, 6in. lengths, each with four nuts. **8 D. each**  
Cat. No. AS125—5/32

## DOME NUTS

Give that finished look to a job.  
Cat. No. AT417—6BA Dome Nuts .. **1 D. each**  
Cat. No. AT419—4BA Dome nuts .. **1 D. each**  
Cat. No. AT418—2BA Dome nuts .. **2 D. each**



## WASHERS

Cat. No. AX1119—1/2 in. hole; 3/4 in. O.D. Cadmium plated .. **4d.**  
AX1120—3/16 in. hole; 5/16 in. O.D. Cadmium plated .. **4d.**  
AX1121—1/2 in. hole; 3/4 in. O.D. Steel .. **4d.**  
AX1227—3/16 in. hole; 1/2 in. O.D. Cadmium plated .. **4d.**  
AX1228—Locking washers, 1/2 in. hole; Cadmium plated .. **3d.**

## FLAT GLASS PLATES

Nickel plated 1/2 in. Glass Plates. Designed for attaching to the back of pictures, mirrors, etc., but also serving dozens of uses to the radio man. Bracket may be bent in centre giving a heavy coil mounting base. Length 1 1/2 in. Width 3/4 in. **3 D. each**  
Cat. No. AT30 .. **3 D. each**



## RIGHT ANGLE BRACKETS



Height 1 in., turned over base 3/4 in. Width 3/4 in. Copper plated. Two holes drilled as illustrated. Real Value. **1 D. each**  
Cat. No. AT33—

## BRE INSULATING WASHERS

Insulating Washers for insulating potentiometers and other components from metal panels, etc. 3/4 in. diam. x 3/4 in. diam. hole x 1-16 in. thick.  
Cat. No. AS302 .. **9 D. dozen**



Ditto, 1/2 in. x 1/2 in. x 1/16 in.  
Cat. No. AS305—Fibre .. **9 D. dozen**

## BAKELITE WASHERS

Insulating Washers stamped from 1-16 in. Bakelite Sheet.  
Cat. No. AS229—1/2 in. diam. x 1/2 in. diam. hole .. **3 D. doz.**  
Cat. No. AS308—1/2 in. diam. x 1/2 in. diam. hole .. **3 D. doz.**

## THICK RUBBER WASHERS



Dimensions:  
Diameter 11-16 in.; diameter of hole, 3/4 in., thickness 1/4 in.  
Cat. No. AS250—**1 D. each; 9 D. dozen**

## PORCELAIN INSULATING WASHERS



High Insulating Properties. Size: Overall Diam. 1/2 in. Diam. of hole 1/4 in. Thickness, 3-32 in.  
Cat. No. AS320—**6 D. dozen**

## RUBBER GROMMETS

Made of good quality black vulcanised rubber. For fitting in holes in chassis, etc. to insulate and protect cables. To fit 3/4 in. holes. Inside diameter 1/2 in. Cat. No. AS244 .. **2 D. each**



Fit 3-16 in. diam. hole. Inside diam. 1/2 in. Cat. No. AS243 .. **2 D. each**

## BULK PURCHASE!

### RUBBER GROMMETS

Fit 3/4 in. diam. hole. Inside diam 1/2 in. Bulk buying enables us to give you a great reduction. Normally 3d. each.

Cat. No. AS245—**NOW! 2 D. each or 1/6 dozen**

## Anniversary Special!

### BAKELITE PANNELLING

A beautifully finished Radio Panelling. Lamin bonded, with a very shiny surface. Coloured brown. You can find many uses for panelling such as this at a price like this.

Cat. No. AP526—6in. x 6in. x 1/16in. .. **9 D. sheet**  
Cat. No. AP525—12in. x 12in. x 1/16in. .. **2/- sheet**  
Cat. No. AP524—12in. x 24in. x 1/16in. .. **4/- sheet**  
Cat. No. AP523—24in. x 24in. x 1/16in. .. **8/- sheet**

## "GOAT" VALVE SHIELDS



Form fitting Valve Shields, complete with split ring and base mounting clips.

Cat. No. AS20—**1/3 complete**

Metal Shields for G.T. Type Valves.  
Cat. No. AS21 .. **9 D. each**

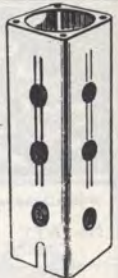
## VALVE SHIELDS

Cadmium plated Valve Shields for glass Octal based Tubes, 4 1/2 in. x 1 1/2 in. x 1 1/2 in. Complete with flush mounting base.

Cat. No. AX1052—**1/- complete**

Similar Shield to above but made from heavy metal and reinforced.

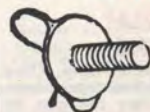
Cat. No. AX1054—**1/3 complete**



## LEATHER WASHERS

Insulating leatheroid washers. Size: Outside diam., 9/16 in.; hole 3/16 in.; 1/16 in. thick.  
Cat. No. AS309 .. **6 D. dozen**

## WING SCREWS



Wing screws 3/4 in. length. 3/4 in. Whitworth thread.

Cat. No. AX1127—**1 D. each**

# WIRE — CABLE

## INSTRUMENT WIRES



**Only the Best British Wire Stocked.**

### PRICES PER REEL.

Prices given below were correct at the time of going to press.

Further shipments covering various sizes are anticipated during the current season and all orders will be executed at the ruling price.

### ENAMELLED WIRE.

1lb. Reels.			1lb. Reels		
Cat. No.	Gauge	Price	Cat. No.	Gauge	Price
AW400	16	1/8	AW480	10	6/6
AW402	18	1/8	AW482	18	6/8
AW404	20	1/9	AW484	20	6/11
AW406	22	1/10	AW486	22	7/3
AW408	24	1/11	AW488	24	7/6
AW410	26	2/-	AW490	26	7/10
AW412	28	2/-	AW492	28	8/2
AW414	30	2/3	AW494	30	8/11
AW416	32	2/4	AW496	32	9/5
AW418	34	2/6	AW498	34	10/9
AW420	36	2/9	AW500	36	11/9
AW422	38	3/-	AW502	38	13/-
AW424	40	3/5	AW504	40	—

### SMALLER REELS

Cat. No. AW356—29	S.W.G.	Enamelled Wire 100ft.	1/3
Cat. No. AW358—30	S.W.G.	Enamelled Wire 100ft	1/3

### D.C.C. WIRE

1lb. Reels.			1lb. Reels.		
Cat. No.	Gauge	Price	Cat. No.	Gauge	Price
AW432	16	2/4	AW510	16	7/3
AW434	18	2/5	AW512	18	7/11
AW436	20	3/1	AW514	20	9/2
AW438	22	3/6	AW516	22	10/8
AW440	24	4/1	AW518	24	13/-
AW442	26	4/8	AW520	26	—
AW444	28	5/3	AW522	28	—
AW446	30	7/-	AW524	30	—
AW448	32	7/3	AW526	32	—
AW450	34	7/6	AW528	34	—
AW452	36	8/-	AW530	36	—

## CONNECTING WIRE



### ENSIGN PUSH BACK WIRE

Best quality solid push back wire in assorted colours. 10ft. coils. Cat. No. AW157 .. 1/3 coil

Stranded push back wire in assorted colours. 10ft. coils. Cat. No. AW156 .. 1/3 coil

(Any length of push back wire can be supplied at the rate of 1/- for 10 feet.)

**Motor Car Cables.**  
See Page 31.

## Special Purchase

WIRES SUITABLE FOR SPEAKER EXTENSIONS, TALK BACK SYSTEMS, BELL INSTALLATIONS AND SIMILAR PURPOSES.

2-Wire Twin Twisted P.V.C. Flexible Stranded Copper Wire. 6 D. Yard Cat. No. AW87A .. 6

2 Wire Rubber-Covered Flexible Wire, covered overall with a waterproof braid. Cat. No. AW87 .. 6 D. Yard

## METALLIC SHIELDED WIRE

Metal shielded wire. Suitable for grid leads, input leads on Amplifiers, Microphones, Electric String Instruments, etc. 4 D. per ft. Cat. No. AW158 .. 4

## BULK PURCHASE BATTERY CABLE



5 wire Battery Cable, rubber insulated and in distinctive colours. Covered overall in cotton braid. Bulk buying again chops the price down to as low as the 1939 price. 6 D. ft. Cat. No. AW101 .. 6

8 Wire Battery Cable. 6 D. ft. Cat. No. AW102 .. 6

## MICROPHONE CABLE

Insulated and shielded Microphone Cable for connecting Pickups, Microphones, Speakers, etc. 7 D. ft. Cat. No. AW160—Single .. 7

1/- ft. Cat. No. AW162 Twin .. 1/-

**230 Volt Power Flex.**  
Refer Page 33.

## PLASTIC CONNECTING WIRE

10/.010 P.V.C. Insulated Flex, suitable for battery connections, indoor aerials and for any other purpose requiring a light, thin, stranded insulated flexible wire. Assorted Colours. 1/- coil Cat. No. AW159—10ft. Coil .. 1/-

Any length can be supplied at a rate of 1/- for every 10ft.

## 36 GAUGE ENAMELLED WIRE—Large Reels

36 gauge Enamelled Copper Wire. We have several reels averaging between 2 and 3lb. each. There is not a great call for this gauge on big reels so we cut the price and make them a bargain offering. 6/6 lb. Cat. No. AX1377 .. 6/6

## SPAGHETTI INSULATING TUBING

Cat. No.	Length	Each
AS1	1 mil., 1 yd. lengths	4 1/2 d.
AS2	2 mil., 1 yd. lengths	5d.
AS3	3 mil., 1 yd. lengths	5d.
AS4	4 mil., 1 yd. lengths	6d.
AS6	5 mil., 1 yd. lengths	7d.
AS5	6 mil., 1 yd. lengths	8d.
AS7	8 mil., 1 yd. lengths	1/-
AS8	10 mil., 1 yd. lengths	1/-

## SHIELDED BRAID

Metal Screening Tubing, for slipping over insulated wires, etc., for shielding. In many modern A.C. circuits it is essential to screen grid and plate leads to prevent pick-up on these leads. Flexible. 6 D. ft. Cat. No. AW163—3in. 6



6 D. ft. Cat. No. AW164—3/16in. 6

## RESISTANCE WIRE

100 yard Reels of Nichrome Resistance Wire for winding your own Resistors, Shunts, Elements, etc.

Cat. No. AW380—37 S.W.G. (45 ohms per yard) 1/6 reel  
Cat. No. AW383—40 S.W.G. (200 ohms per yard) 1/6 reel  
Cat. No. AW377—33 S.W.G. (19.5 ohms per yard) 100ft. reel .. 1/6

### RESISTANCE WIRE

For making Resistor Shunts, Elements and other items requiring high-grade Resistance Wire.

Cat. No. AW368—24 S.W.G. (4.20 ohms per yard) 40ft. reel 1/6  
Cat. No. AW370—26 B. & S. 7.562 ohms per yard) 50ft. reel 1/6  
Cat. No. AW373—28 B. & S. (12.16 ohms per yard) 50ft. reel 1/6  
Cat. No. AW378—34 B. & S. (45.8 ohms per yard) 100ft. reel 1/6  
Cat. No. AW379—36 S.W.G. (34.20 ohms per yard) 100ft. reel 1/6  
Cat. No. AW382—39 S.W.G. (145.6 ohms per yard) 100yd. reel 1/6  
Cat. No. AW384—40 B. & S. (205 ohms per yard) 100yd. reel 1/6

### RESISTANCE RIBBON

Cat. No. AW389—1.32 x .0035 Resistance Ribbon (14.12 ohms per yard) 50ft coils 2/6  
Cat. No. AW398—1.64 x .003 Resistance Ribbon (36.07 ohms per yard) 100ft coils 2/6

## BLACK INSULATING TAPE



Has many uses, such as binding hockey sticks, axes, etc., besides being an excellent means of insulation.

Cat. No. AS235—5yd. rolls x 3in.	roll 8 D.
Cat. No. AS237—10yd. rolls x 3in.	10 D.
Cat. No. AS238—8oz. rolls x 3in.	2/7

# "ENSIGN" HIGH QUALITY TRANSFORMERS

## POWER TRANSFORMERS



WELL MADE, FIRST GRADE TRANSFORMERS. 230 VOLT PRIMARY WINDINGS. FLAT MOUNTING.

Secondary Windings:  
280/280 volts, 60 M.A.; 6.3 volt, 2 amp; 6.3 volt, 2 amp.—Cat. No. AT649 .. **31/6**

350/350 volts, 60 M.A.; 5 volt, 2 amp; 6.3 volt, 2 amp.—Cat. No. AT650 .. **34/9**

385/385 volts, 80 M.A.; 5 volt, 2 amp; 0.3 volt, 3 amp.—Cat. No. AT651 .. **38/-**

385/385 volts, 100 M.A.; 5 volt, 2 amp; 6.3 volt, 4 amp.—Cat. No. AT652 .. **55/-**

400/400 volts, 150 M.A.; 5 volt, 3 amp; 6.3 volt, 4 amp.—Cat. No. AT654 .. **72/6**

350/350 volt, 60 M.A.; 5 volt, 2 amp; 2.5 volt, 5 amp.—Cat. No. AT656 .. **38/-**

385/385 volt, 80 M.A.; 5 volt, 2 amp; 2.5 volt, 8 amp.—Cat. No. AT657 .. **43/6**

385/385 volt, 100 M.A.; 5 volt, 2 amp; 2.5 volt, 10 amp.—Cat. No. AT658 .. **55/-**

### UPRIGHT MOUNTING.

Similar Transformers to the above but constructed for vertical mounting.

60 M.A., 6.3 volts. Cat. No. AT650A .. **34/9**

80 M.A., 6.3 volts. Cat. No. AT651A .. **38/-**

100 M.A., 6.3 volts. Cat. No. AT652A .. **55/-**

125 M.A., 6.3 volts. Cat. No. AT653A .. **57/6**

## Special 150 M.A. Transformers

6.3 volt, 150 M.A. Upright Mounting Power Transformers. Suitable for use with receivers and amplifiers requiring 2 separate 6.3 v. windings. 5 volt, 3 amp. Rectifier winding. Mounted in crackle finished case. Wire lead connections. Cat. No. AT655 .. **£3/19/6**

## ELECTRIC HIKERS' POWER TRANSFORMER

Power Transformers wound especially for use with the "Electric Hikers" and "Eaglet Two" Kitsets. Cat. No. AT695 .. **40/- each**

## FILAMENT TRANSFORMERS

Cat. No. AT632—6.3 volts 2 amp. .. **25/-**

## "ENSIGN" ELECTRIC SHAVER TRANSFORMERS

Stepdown from 230 to 110 volts at 15 watts. Specially constructed for use with 110 volt Electric Shavers. Dimensions: Length 2 1/2 in., Height, 2 in., weight 1 lb. 3 oz. Cat. No. AT621 .. **24/6 each**

## 230/110v. TRANSFORMERS



Stepdown from 230 to 110 volts. Rating 60-80 watts. Cat. No. AT622 .. **37/6**  
Larger or special stepdown transformers can be made to order.

## 240/6 VOLT TRANSFORMERS

This reducer supplies 6 volts 5 amps. from the 240-volt light or power. A 2-pin plug outlet is provided. Cat. No. AT623 .. **39/6**

## TRANSFORMERS FOR VALVE TESTERS

In response to many enquiries we have now available a special transformer for valve testers, experimenters, etc. It has a 230-volt primary and secondary windings of 2 amps., as follows—1.5 volts, 2 volts, 2.5 volts, 4 volts, 5 volts, 6.3 volts, 7.5 volts, 12.5 volts, 25 volts and 30 volts. Cat. No. AT616 .. **47/6**

## "ENSIGN" UNIVERSAL OUTPUT TRANSFORMER

These Transformers have been designed to meet the needs of engineers, experimenters, and servicemen, for a single unit so constructed as to provide the correct impedance matching between various types of Audio Output Tubes in a single Push-Pull, Parallel, or Class B Circuit, and any Dynamic Speaker. Full instructions are given with each Transformer. Rating 6 watts. Cat. No. AT602 .. **17/6**

Cat. No. AT601—10 Watt Size .. **25/-**

## "MINOR" UNIVERSAL OUTPUT TRANSFORMERS

Similar Transformer to above but rated at 3 watts. Replacement Transformer for 3 in. and 5 in. Speakers, as used in small receivers, etc. Dimensions: Length, 1 1/2 in.; height, 1 1/2 in. Small size makes this ideal where cabinet space is limited. Instructions with each Transformer.—Cat. No. AT603 .. **14/-**

## 20 WATT UNIVERSAL OUTPUT TRANSFORMERS

Designed specially for Power Amplifier Systems, etc.; 12 in. Speakers. PRIMARY tapped at 5000, 6600, 8000, 10,000 ohms; SECONDARY to suit 1.5, 3, 8, 15, or 500 ohms. Good Quality Transformer at low cost. Cat. No. AT604 .. **57/6**

### IMPORTANT!

Owing to existing conditions prices in this book are given as a guide only. All orders will be executed at the rate ruling at the date of supply.

## WAR BARGAINS!

### Microphone Transformers

For use with Dynamic type Microphones. Size 1 1/2 in. x 1 1/2 in. x 2 in. high. Cat. No. AX1013 .. **10/6**

### Headphone Transformers

For matching Dynamic Headphones. Size 1 1/2 in. x 1 1/2 in. x 2 in. high. Cat. No. AX1012 .. **12/6**

### ZC1 Vibrator Transformers

Power Transformers from ZC1 Transceivers. Input 12 volts. Two Output windings, 180/0/180 volts and 300/0/300 volts. "Hams" have many uses for these useful transformers. Cat. No. AX1088 .. **5/11 each**

## "ENSIGN" SPEAKER TRANSFORMERS

Made from the best stalloy steel and wire and under strict supervision these transformers are ideal for replacement, etc.

Cat. No. AT714—Single Pentode 7000 ohms .. **9/6**

Cat. No. AT715—Push Full Pentode .. **15/6**

Cat. No. AT716—Single Triode 5000 ohms .. **9/6**

Cat. No. AT717—Push Pull Triode .. **15/6 ea.**

Cat. No. AT720—2500 ohms Speaker Transformers. Special price .. **4/6 each**



## "ENSIGN" SPEAKER TRANSFORMER COILS

Will fit practically all types of Speaker Transformers, thus doing away with the necessity of replacing the complete transformer. Cat. No. AT730—Single Pentode .. **6/10**

Cat. No. AT731—Single Triode .. **7/6**

Cat. No. AT732—P.P. Pentode .. **7/6**

Cat. No. AT733—P.P. Triode .. **7/6**

## "ENSIGN" AUDIO TRANSFORMER

Vacuum Sealed Interstage Audio Transformer. Wound on first grade core using best quality copper wire flexible leads to ensure higher efficiency. Ratio 3 to 1. Size, 2 1/2 in. high, 3 in. wide and 2 in. deep. Cat. No. AT610 .. **17/- each**



## "ENSIGN" VIBRATOR POWER TRANSFORMERS

Manufactured from the first grade material. 150 volt, 25 M.A.—6 volt. Cat. No. AT625 .. **17/6**

**MAKE EVERY ROOM  
A RECEPTION ROOM**

with an

**ENSIGN  
EXTENSION SPEAKER**



■ ATTRACTIVE MAGNET SPEAKER WITH 5½in. CONE.

■ ATTRACTIVE CABINET, 8½in. high, 11in. wide, 5½in. deep. In Dark Brown richly veneered wood.

■ FITTED WITH 10,000 OHM VOLUME CONTROL.

■ Type of Speaker permits connections to all types of Receivers, whether mains or battery, having high impedance output.

Cat. No. AS996— **£3/19/6**

■ Cat. No. AS995—As above but incorporating an 8in. Speaker instead of a 5½in.

**£4/9/6**

**AN  
"ENSIGN"  
EXTENSION  
SPEAKER  
ADAPTOR**

Enables you to fit an Extension Speaker to any Electric set in the matter of a few minutes.  
(SEE BELOW)



**EXTENSION SPEAKER CABINET'S**

Richly veneered well made Speaker Cabinets. Dimensions: 12in. wide, 10in. high, 6½in. deep. Finished in Honey-Coloured Trimmings. (Similar to illustration of "Ensign" Extension Speaker.)

Cat. No. AC151 .. .. **39/6 each**

**SPEAKER FLEX.**

Thin Twin Transmission Cable, for extension Speakers, Speaker Systems or for double doublet and similar Aerial Systems. Standard Flexible 2-Core Wire, rubber-covered and covered over all in a Waterproof Braid. Flexible and long-lasting.

Cat. No. AW87 .. .. **4D. per yard**

**MULTI-WIRE SPEAKER CABLE**



5-wire Speaker Cable, insulated with P.V.C. in distinctive colours and bound over all in cotton braid.

Cat. No. AW101 .. .. **6D. ft.**

8-wire Ditto cotton braided over rubber insulated wires. Special bulk purchase enables us to sell at . . .

Cat. No. AW102 .. .. **6D. ft.**

**OUR GUARANTEE!**

The Lamphouse 7-DAY MONEY BACK GUARANTEE protects your every purchase.

**"ENSIGN" SPEAKER EXTENSION ADAPTORS**



Extension Speaker Adaptors. The problem of fitting an extension speaker to your electric set has been solved! All you do is remove the output valve, plug in the adaptor, then put back the valve on top of the adaptor. The adaptor can also be used as a tone improver.

Can be used in conjunction with all P.M. speakers which have output transformers fitted.

Cat. No. AS680—4-pin .. **7/6 each**

Cat. No. AS681—5-pin .. **7/6 each**

Cat. No. AS682—6-pin .. **7/6 each**

Cat. No. AS683—Octal .. **8/6 each**

**SPEAKER SILK**

Special Fabric for putting in front of Speakers in cabinets, etc.

Cat. No. AS900—12in. x 12in. **1/5 each**

Cat. No. AS901—16in. x 16in. **2/6 each**

**5-inch AMERICAN P.M. SPEAKERS**

**THE LOWEST PRICE 5in. SPEAKER ON THE MARKET!**



Complete with separate **MIDGET OUTPUT TRANSFORMER**  
5,000 ohms.

FEATURING:

**The Famous "ALNICO 5" MAGNET**

DEPENDABILITY,  
PERFORMANCE,  
APPEARANCE!  
Cadmium Plated Overall.

The magnet that combines LARGE CAPACITY with Exceptionally LIGHT WEIGHT.

**LOOK—**  
each (Complete)  
Cat. No. AS950.

We bought a big quantity at a good price, so now you take advantage of it!

**24/11**

**IT'S ANOTHER LAMPHOUSE BARGAIN!**

GET THE "NEW TONE" IN YOUR SET



# Rola

THE WORLD'S FINEST  
SOUND REPRODUCERS

## Electro-Magnetic SPEAKERS



HERE IS A **Rola!**  
THE SPEAKER THAT MAKES EVERY  
RADIO... A BETTER RADIO

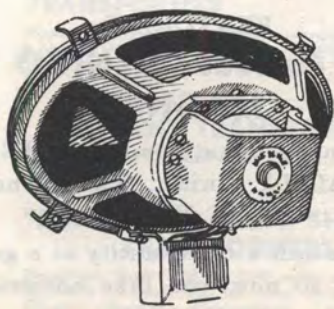
We have not listed the usual range of Electro-dynamic Speakers this year as supplies are becoming increasingly difficult to procure.

Anisotropic Alnico magnets have so greatly improved the performance of the Rola permanent magnet speakers as to make this type far more efficient than the electro-dynamic types with the result that the latter are rapidly becoming obsolete. We do however get a few occasionally, so if you especially want an Electro-dynamic speaker let us have your order and we will do our best to execute it for you.

Our Cat. No.	Rola No.	Overall Diam. (in.)	Voice Coil Diam. (in.)	Voice Coil Impedance (ohms)	Power Handling Capacity (watts)	Weight with transformer lb. oz.	Price
AS962	12U	12 1/16	1 3/4	8.4	15	12	12 12 0
AS963	G12	12 1/16	1 3/4	15	15	11	8 8 0
AS964	12-0	12 1/16	1 3/4	2.3	7	5	4 7 1
AS965	12-M	12 1/16	1	2.3	7	3 12	3 4 8
AS966	10-42	10 1/16	1	2.3	7	5	4 7 1
AS967	10-M	10 1/16	1	2.3	7	3 12	2 15 0
AS968	8-M	8 1/16	1	2.3	7	2 13	2 14 0
AS969	8K	8 1/16	1	2.3	5 1/2	2 11	2 4 10
AS970	8H	8 1/16	1	3.7	4	1 14	1 19 0
AS971	6K	6 9/16	3/4	3.7	5	2 6	2 11 0
AS972	6J	6 9/16	3/4	3.7	4 1/2	2 2	2 3 0
AS973	6H	6 9/16	3/4	3.7	4	1 12	1 17 1
AS974	5H	5	5/8	3.7	3 1/2	1 10	1 14 0
AS975	5C	5	5/8	3.7	2 1/2	1	1 9 9
AS978	3C	3 9/16	1/2	3.7	1/2	8 1/2	1 9 9

## 1949's BIG BUY!

### OVAL E.M. SPEAKERS



A GREAT FORTY-NINER BARGAIN!

Elliptical Electro-magnetic Speakers. The equivalent of the 8in. or 10in. recognised shape. A thorough test proves these speakers to give an excellent tonal quality under ordinary conditions and also at a high volume—both undistorted and perfect clarity. 1500 ohm Field. 5000 ohm Transformer. **Measurements:** Length, 10 1/2 in. Width at deepest point, 6 1/2 in.

A Large Quantity Purchase Direct from the Distributors Gives YOU a **BIG REDUCTION IN PRICE.**

Cat. No. AS917 ... .. **35/-**

## PHILIPS "TICONAL" P.M. SPEAKERS



**6 3/4 in. SPEAKER:** A medium sensitivity light weight Speaker with good rigidity. Voice Coil impedance, 5 ohms at 1000 cycles per second. Baffle aperture 6in. Without Output Transformer. Cat. No. AS938 ... .. **23/3 each**

**8 1/2 in. SPEAKER:** A high quality 8 1/2 in. standard Speaker of recognised quality. Already used in many commercial made receivers. Voice Coil impedance, 5 ohms at 1000 cycles per second. Baffle aperture 7 1/2 in. Without Output Transformer.—Cat. No. AS939 ... .. **27/6 each**

### Suitable Transformer.

A suitable Transformer for use with any of the above "Philips" Speakers would be the "Minor" 3-watt Universal Output Transformer. Cat. No. AT603 ... .. **14/-**

### "ACOS" PILLOW SPEAKER

Don't disturb the rest of the household when listening to the **BIG INTERNATIONAL TESTS** this year!

The Pillow-Speaker is a high quality reproducer designed to replace the loud-speaker or headphones and it is intended to be placed under a pillow or cushion to provide individual personal listening to radio programmes, etc., without causing disturbance or annoyance to others in the near vicinity. The smartly styled black and chrome disc-shaped plastic case (4 3/16 in. diam. x 1 1/16 in. thick) causes no uncomfortable lump beneath the pillow head. Cumbersome head attachments are entirely eliminated. There are no moving parts on the Pillow-Speaker, nothing to loosen or wear out. Hermetically sealed, it can be dipped into disinfecting solutions with temperatures not exceeding 120 degrees F. Weight 8oz. 6ft. cord attached. Connects to any Superhet receiver. Full connecting details supplied with each unit.

Cat. No. AS913 ... .. **64/-**

# TEST EQUIPMENT

## MAGIC EYE ASSEMBLY



For 6-prong Tubes. An easy method of adapting a Magic Eye or Electron Ray Tube to any standard radio receiver having a.v.c., or any Frequency Modulated receiver. Also used extensively for installing Magic Eyes as indicators in test instruments such as signal tracers, condenser testers, etc.

The metal encased socket is completely wired with a 5-wire colour-coded cable 22in. in length. The necessary 1-megohm target-to-plate resistor is concealed and protected by the socket's metal shell.

Complete set of parts, without valve.

Cat. No. AS500 .. .. . **10/6**

## NEW LINE

### ENSIGN 5 AMP. CHARGERS

Heavy Duty 6-volt 5 amp. Ensign Chargers. Will charge all types of 6-volt Wet Batteries. Operates from 230-volt A.C. Connect direct to battery. Uses a 5 amp. "Westinghouse" Dry Rectifier. Mounted in crackle finished metal case, length 6 1/2 in., height 6 1/2 in., width 4 1/2 in.

Cat. No. AA236 .. .. . **£6/10/-**

## LAMPHOUSE GUARANTEE

Any goods that prove in any way unsuitable may be returned undamaged within seven days from receipt and your money will be refunded in full.



## "NE-O-LITES"

Every Experimenter and Serviceman should have one!

Neon Indicator attached to prods.

Here's what it does:

1. Will test any current from 110 v. to 550 v., and will indicate the voltage.
2. Will tell instantly whether A.C. or D.C. current.
3. Will detect live and earth wires.
4. Will give a temporary pilot light on any electrical apparatus.

Cat. No. AM254 .. .. . **4/6 each**

## HYDROMETERS



Cat. No. AM300 .. .. . **7/6**

SPARE FLOATS—Cat. No. AM301 **2/3**

## War Surplus

This Year's Annual features hundreds of War Surplus Bargains. Look for them—they're 1949's greatest buy.

**ALL PRICES IN THIS CATALOGUE ARE SUBJECT TO ALTERATION WITHOUT NOTICE.**

## "OXFORD" TEST PRODS



Polished Ebonite Handles and complete with flexible leads. **7/- pair**  
Cat. No. AM1 .. .. .

## METER SHUNTS

Meter Shunts wound for use with 0.1 M.A. Meters, with internal resistance of 100 ohms. Bobbin wound. Accurately adjusted. Length 1 1/2 in., Diameter 3/8 in.

Cat. No. AM70—25 milliamp  
Cat. No. AM71—50 milliamp  
Cat. No. AM72—100 milliamp  
Cat. No. AM73—250 milliamp } **5/- each**

Special sizes may be made to order.

## "MARQUIS" TEST PRODS

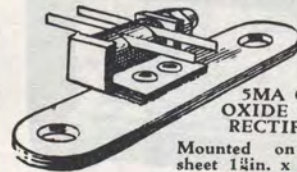


Plastic handled Test Prods. Coloured Red and Black. Length 4in. Diameter 3/8 in. Supplied without leads. **3/8 pair**  
Cat. No. AM5 .. .. .

Suitable flexible leads would be Cat. No. AW300 Cellulose Covered Lead .. **5d. yard**

## WAR BARGAINS!

### METER RECTIFIERS



5MA COPPER OXIDE METER RECTIFIERS.

Mounted on plastic sheet 1 1/2 in. x 3/4 in. Ex Army stocks, at a

fraction of their true value. **5/- each**  
Cat. No. AM45 .. .. .

## The "RADAMETA" VALVE-TESTER and MULTI-METER

Another Great Value in Test Equipment the "RADAMETA" Mutual Conductance VALVE TESTER and MULTI-METER

This Tester is a modern instrument, featuring a Roller-Chart Dial.

Tests modern Octal-based Tubes. Multi-Meter reads over 21 ranges.

IT'S PORTABLE! WEIGHS ONLY 13lb.

Four ranges milliamperes 0/1, 0/10, 0/50, 0/250. Three ranges ohms 0/500, 0/50,000, 0/10 megohms. Five ranges D.C. volts (1000 O.P.V.), 0/10, 0/50, 0/250, 0/500, 0/1000. Five ranges A.C. volts (1000 O.P.V.) 0/10, 0/50, 0/250, 0/500, 0/1000, (all at 50 cycles). Five ranges output volts at 400 cycles, 0/10, 0/50, 0/250, 0/500, 0/1000. Three

ranges electrolytic and paper condenser tests. Line check for 240 volts A.C., 50 cycles.

Inter-element shorts test on all valves. Trans-conductance tests on valves direct reading in MA/V. Emission test on rectifier and diode valves. Gas test on all types of valves tested by trans-conductance method. Current consumption 240 v. 50 cycle 40 watts. 6 volt D.C., 2 amps.

**NEW "NO EXCHANGE" PRICE!**

Cat. No. AM405 .. .. . **£34/6/-**



**THE BEST COSTS LESS AT THE "LAMPHOUSE" NEW ZEALAND'S LEADING RADIO & ELECTRICAL HOUSE**



# QUALITY TEST EQUIPMENT

SHERLOCK HOLMES SAYS..

*"Don't guess at the trouble TEST WITH PIFCO RADIOMETER"*



Pifco goes straight to the heart of the trouble, testing sets and components with equal ease and speed. Any radio set can be tested, either A.C. or D.C. Mains or Battery operated. Solidly constructed in a fine bakelite case 4in. x 2½in. overall. The Pifco Radiometer has readings for high and low voltage, milliamperes, continuity test, etc.

The "ALL-IN-ONE" RADIOMETER for A.C. or D.C.—For testing electric or battery radio sets. Anybody can trace faults with this wonder instrument. Finished in black bakelite. Size of dial 1½in. by ½in., complete with leads. Ranges: 0-240 volts, 0-6 volts, 0-30 M.A., and continuity test.

**Amazing Value at the New Low Price!**

Cat. No. AM103 .. **37/-**

Cat. No. AM50—  
Spares Fuses for Meters **1/1 ea.**

## 0-1 M.A. METERS

"PALEC"  
4in. SQUARE METERS



"Polec" (Australian) 4in. Square Cased 0-1 m.a. D.C. Meters. Well damped. Easy action. 1000 ohms per volt. \*100 ohms internal resistance.

Mounted in moulded plastic case. Accurate and durable! ANOTHER ANNIVERSARY REDUCTION! Cat. No. AM38—

Worth £5 . . . NOW **69/6**

## "BURLINGTON" 0-1 m.a. Meters



3in. Square Bakelite Case "Burlington" (U.S.A.) Meters, 0.1 m.a. D.C. 85 ohms internal resistance; 1000 ohms per volt.

Cat. No. AM17—  
**59/6 each**

## "WESTON" 0-1 M.A. METERS

3in. Square Bakelite cased "Weston" Meters. 0-1 M.A.; D.C.; 105 ohms internal resistance; 1000 ohms per volt.

Cat. No. AM10 .. **62/6 each**

## 0-1 M.A. METERS



0-1 M.A. Moving Coil D.C. Meters. 1000 ohms per volt. Internal resistance 60 ohms.

DE JUR (U.S.A.), 2½in. Round Scale, 3½in. Outside Diameter.

Cat. No. AM15 .. **£2/10/-**

PALEC (Australian), 2½in. Round Scale, 3½in. Outside Diameter. Internal resistance 100 ohms.

Cat. No. AM16 .. **£3/15/-**

## "PALEC" UNIVERSAL SCALE METERS

"PALEC" 0-1 m.a. 2½in. round face Meters, fitted with SPECIAL "UNIVERSAL SCALE" Internal Resistance 100 ohms; 1000 ohms per volt. Reading M.A. and Volts in the following ranges: 0-1, 0-10, 0-100, 0-500, 0-1000; low ohms, 0-500; high ohms, 0-100,000.

Cat. No. AM16A .. **£3/19/6**

# Smashing War BARGAIN!

"WESTON" 0-100 M.A. 2½in. Round R.F. Thermo-coupled. Flush mounting—plastic case Milliammeter. Worth £8.

GREAT VALUE!

Cat. No. AM23 .. **29/11 each**

"FERRANTI" 0-100 M.A. D.C. 2½in. Round Meter with luminous Dial.

Cat. No. AM22 .. **35/11 each**

"SIMPSON" 0-15 volts 3in. A.C. Square meters.

Cat. No. AM55 .. **55/- each**

Same as above but with Illuminated Dial.

Cat. No. AM56 .. **67/6 each**

"TRIPLETT" 0-50 amp. A.C. 3in. Square Meter

Cat. No. AM57 .. **55/-**

"BURLINGTON" 0-25 volts A.C. 3in. Square Meter

Cat. No. AM58 .. **47/6**



"G.E." 0-150 volts D.C. Voltmeter. Flush Mounting with External Multiplier.

Cat. No. AM59 .. **95/-**

METER VALUES THAT ARE HARD TO BEAT!

Prices as Low and Even Lower Than Pre-War!



THE "LAMPHOUSE" carries a full range of all types of valves. Numerous brands are usually available but owing to Import Restrictions we cannot guarantee being able to supply a specific brand. Always state your first and second preference when ordering. Do not hesitate to write us for any special types not listed—we will probably be able to quote.

Prices Subject to Alteration.

Type.	Price.	Type.	Price.	Type.	Price.	Type.	Price.	Type.	Price.
01A	9/6	2B7	18/-	6F8G	12/11	6X5G	10/6	25Y5	19/6
0A3/VR75	16/3	2E5	12/-	6G6G	13/11	6X5GT	10/6	25Z5	9/8
0A4G	13/9	3Q4	13/3	6G8G	12/2	6Y6G	13/6	25Z6	11/11
0C3/VR105	19/10	3Q5GT	14/10	6H6	10/-	6Z7G	13/6	25Z6G	9/8
0D3/VR150	19/7	3S4	15/-	6H6G	8/6	6ZY5G	14/4	25Z6GT	10/7
0Z4	13/3	3V4	18/-	6H6GT	9/6	7A4	15/6	26	7/-
0Z4G	12/8	5R4CT	21/6	6J5	9/10	7A5	17/-	27	9/-
1A4P	13/10	5T4	16/2	6J5G	8/3	7A6	14/-	30	7/11
1A5G	14/2	5U4G	9/7	6J5GT	9/2	7A7	14/-	31	8/6
1A5GT	14/2	5V4G	15/1	6J6	18/5	7A8	17/-	32	18/-
1A6	13/2	5W4	10/3	6J7	11/9	7B4	13/-	33	17/-
1A7G	14/3	5W4GT	10/-	6J7G	10/6	7B5LT	14/-	34	17/-
1A7GT	13/1	5X4G	9/1	6J7GT	10/10	7B6	15/6	35	12/6
1B4P	18/-	5Y3GT	7/4	6J8G	12/-	7B7	14/-	35A5	15/6
1B5/25S	12/7	5Y4G	7/3	6K5GT	10/3	7B8	17/-	35L6GT	12/6
1C4	13/6	5Z3	11/9	6K6G	9/4	7C5	13/-	35Z3	14/10
1C5G	13/11	5Z4	13/6	6K6GT	10/6	7C6	14/-	35Z4GT	10/5
1C5GT	15/-	6A3	16/6	6K7	11/7	7C7	15/6	35Z5GT	10/7
1C6	13/11	6A4	11/6	6K7G	10/2	7F8	—	36	10/1
1C7G	13/6	6A6	12/11	6K7GT	9/11	7G7	—	37	11/9
1D4	13/2	6A7	11/3	6K8	13/6	7H7	23/-	38	10/2
1D5GP	14/-	6A8	13/6	6K8G	14/4	7J7	23/-	39/44	10/4
1D7G	13/1	6A8G	11/-	6K8GT	13/6	7Q7	—	41	9/9
1D8GT	20/5	6A8GT	11/1	6L5G	9/6	7Y4	—	42	9/8
1E5GP	12/6	6AB5/6N5	13/6	6L6	19/-	10	15/6	43	10/5
1E7GV	18/6	6AB7/1853	19/2	6L6G	16/4	10	25/11	45	7/9
1F4	14/3	6AC5G	10/-	6L7	13/7	12A6	20/-	45Z5GT	10/6
1F5G	14/6	6AC7/1852	20/-	6L7G	13/-	12A6GT	10/9	46	11/9
1F6	21/6	6AF6G	11/4	6N6G	18/-	12A7	16/9	47	10/10
1F7GV	14/4	6AG5	18/5	6N7	13/6	12ABGT	10/10	48	21/-
1G4GT	13/2	6AG7	18/-	6N7G	11/6	12B8GT	13/9	49	15/9
1G5G	11/6	6AK5	37/6	6N7GT	13/1	12C8	14/1	50	20/9
1G6GT	13/3	6AK6	17/-	6Q7	12/4	12F5GT	10/3	50L6GT	12/3
1H4G	8/5	6AL5	22/3	6Q7GT	10/-	12J5GT	9/9	50Y6GT	9/6
1H5G	13/5	6AQ5	13/9	6R7	10/7	12J7GT	11/6	53	14/9
1H5GT	11/9	6AQ6	15/5	6R7GT	12/9	12K7GT	10/7	55	9/6
1H6G	13/1	6AR7GT	13/5	6R7G	10/4	12K8	17/-	56	7/6
1J6G	12/5	6AT6	10/11	6R7GT	10/-	12Q7GT	11/6	57	9/8
1K4	10/5	6AU6	12/6	6S7	12/-	12SA7	11/3	58	9/8
1K5G	6/9	6AV6	9/8	6S7GT	12/-	12SA7GT	12/6	59	14/11
1K6	14/5	6B4G	19/6	6S7G	11/10	12SC7	11/8	70L7GT	18/3
1K7G	13/11	6B5	17/6	6SA7	10/7	12SF5	9/6	71A	9/8
1L4	9/6	6B6G	11/6	6SA7GT	11/6	12SG7	—	75	9/10
1L5G	12/8	6B7	12/8	6SB7	15/11	12SH7	—	76	7/3
1LA4	—	6B7S	12/5	6SC7	12/6	12SJ7	10/7	77	9/11
1LA6	22/3	6B8	14/10	6SF5	11/9	12SK7	10/6	78	10/3
1LD5	19/6	6B8G	12/10	6SF7	15/3	12SN7GT	15/6	79	11/2
1LH4	27/-	6BA6	13/7	6SG7	11/9	12SQ7	10/6	80	6/4
1LN5	19/3	6BE6	12/9	6SJ7	10/10	12SR7	13/6	81	18/8
1M5G	13/6	6C4	15/9	6SJ7GT	12/9	12SS7	—	82	12/-
1N5G	12/6	6C5	10/8	6SK7	10/7	12Z3	11/10	83	11/-
1N5GT	14/-	6C5G	10/-	6SK7GT	11/1	15	16/4	83V	14/6
1P5GT	14/10	6C6	10/4	6SL7GT	14/3	19	12/6	84/6Z4	11/-
1Q5GT	13/-	6C8G	19/9	6SN7GT	13/7	24A	12/-	85	9/6
1R5	13/11	6D6	10/1	6SQ7GT	11/8	25A6	13/10	89	9/11
1S4	13/11	6D8G	12/7	6SS7	9/6	25A6GT	10/9	112A	9/6
1S5	13/11	6E5	12/10	6T7G	12/1	25A7GT	13/6	117Z3	19/3
1T4	13/11	6F5	11/7	6U5/6G5	12/7	25B6G	12/6	117Z6GT	16/3
1T5GT	16/-	6F5G	9/4	6U7G	9/10	25L6	12/6	117L7GT	30/-
1U5	15/6	6F5GT	9/6	6V6	14/9	25L6G	10/-	117N7GT	19/4
1V	8/5	6F6G	11/8	6V6G	10/6	25L6CT	13/9	117P7GT	—
2A3	16/1	6F6GT	10/2	6V6GT	10/-				
2A5	9/11	6F8G	10/2	6W7G	12/6				
2A6	11/3	6F8GT	9/-	6X4	11/6				
2A7	11/1	6F7	21/7	6X5	12/5				

Transmitting and Special Types  
(PRICES ON APPLICATION)

MULLARD VALVES

Type.	Base.	Price.	Type.	Base.	Price.	Type.	Base.	Price.	Type.	Base.	Price.
ABC1	P	14/1	CL2/CL4	P	14/5	DW2	A	9/6	EBL1	P	15/9
ACO44	A	16/-	CY1	P	9/11	DW4/350	A	9/6	EBL31	K	13/9
AF3	P	17/7	CY31	K	9/11	EAC91	B7G	20/-	EC31	K	11/9
AK2	P	15/9	DAC32	K	10/9	EAF41	B8A	12/2	EC52	B9G	11/9
AL3/AL4	P	13/6	DAF91	B7G	10/9	EAF42	B8A	—	EC91	B7G	22/6
AZ1	P	7/8	DF33	K	12/2	EB34	K	10/3	ECC32	K	15/3
AZ31	K	7/8	DF91	B7G	10/9	EB4	P	10/3	ECC34	K	15/3
AZ41	B8A	9/-	DK32	K	13/-	EB41	B8A	17/9	ECC35	K	18/3
CBL1	P	13/6	DK40	D8A	15/6	EB91	B7G	13/9	ECC91	B7G	18/4
CBL31	K	16/1	DK91	B7G	9/6	EBC3	P	11/2	ECH2	P	16/3
CCH35	K	14/11	DL33	K	12/2	EBC33	K	11/2	ECH3	P	16/3
CL2	P	14/5	DL35	K	12/2	EBF2	P	14/5	ECH35	K	14/5
CL33	K	12/7	DL92	B7G	10/2	EBF32	K	13/6	ECH41	B8A	13/6

Continued overleaf

## MULLARD VALVES—Continued

Type.	Base.	Price.	Type.	Base.	Price.	Type.	Base.	Price.	Type.	Base.	Price.
ECH42	B8A	14/5	EL91	B7G	18/-	PEN4DD	M	15/9	URIC	O	10/5
EF36	K	12/2	EM1	P	12/2	PEN4ODD	M	17/-	VP13C	M	15/3
EF37	K	12/2	EM34	K	12/2	PEN4VA	M	13/9	VP2	M	15/3
EF39	K	9/11	EM4	P	13/3	PEN428	M	14/5	VP2B	M	17/9
EF41	B8A	11/9	EY91	B7G	18/-	PM1HF	A	12/3	VP4	M/O	17/9
EF42	B8A	16/6	EZ40	B8A	10/4	PM12M	A	14/5	VP4A	M/O	17/9
EF50	B9G	10/-	EZ41	B8A	10/4	PM2A	A	8/9	VP4B	M	14/5
EF54	B9G	16/6	FC13C	M	16/-	PM2B	M	12/2	2D4A	O	10/-
EF6	P	13/3	FC2	M	17/9	PM2HL	A	9/6	2D4B	M	10/6
EF9	P	11/3	FC2A	M	17/9	PM2A	O	12/2	354V	O	10/9
EF91	B7G	22/-	FC4	M	16/-	PM24A	O	13/9			
EF92	B7G	20/-	EW4/500	A	10/5	PM24M	O	15/3			
EF951	B9G	42/-	IW4/350	A	10/3	QV04-7	B9G	27/-			
EK2	P	15/3	IW4/500	A	10/3	QV04-20	K				
EK3	P	15/3	KBC1	P	17/9	QV05-25	O	34/6			
EK32	K	17/1	KBC32	K	12/2	SP13C	M	12/-			
EL2	P	16/1	KF3	P	18/1	SP2	M	15/9			
EL3	P	13/6	KF35	K	13/3	SP4	O/M	17/9			
EL32	K	15/3	KK2	P	14/5	TDD13C	M	15/3			
EL33	K	13/6	KK32	K	15/9	TDD2A	O	12/2			
EL35	K	19/10	KL35	K	12/7	TDD4	M	13/9			
EL37	K	21/-	KL4	P	12/2	TH21C	M	19/9			
EL41	B8A	13/3	PEN44	M	12/2	TH30C	M	19/9			
EL42	B8A	15/2	PEN36C	M	14/5	TH4B	M	19/9			

## DEFINITION OF BASES

A	= 4-pin English
K	= Octal
M	= 7-pin English
O	= 5-pin English
P	= Side Contact
B7G	= 7-pin Amer. miniature
B8A	= 8-pin Rimlock
B9G	= 9-pin

## PHILIPS VALVES

(NOTE: Where type numbers are bracketed the types are direct equivalents or substitutes.)

On some of the special types prices are not available at present. These may be had on application.

A425—4-pin American	11/9
A609—4-pin American	8/7
A615—4-pin American	9/0
A642—4-pin American	13/9
AB1(2D4A)—5-pin Eng. substitute	10/-
AB2—Small side contact "V"	12/4
ABC1(TDD4)—7-pin Eng. substitute	13/9
ABC1—Side contact 8-pin "P"	14/1
ABL1(Pen4DD)—7-pin English substitute	15/9
AF2(VP4A)—5-pin Eng. substitute	17/9
AF3—Side contact 8-pin "P"	17/7
AF6(VP4B)—7-pin Eng. substitute	14/5
AK2(FC4)—7-pin Eng. substitute	16/-
AK2—Side contact 8-pin "P"	15/9
AL2(4682)—Side contact 8-pin "P"	18/6
AL3(AL4)—Side contact 8-pin "P"	13/6
AF4(PenA4)—7-pin Eng. substitute	12/2
AX50—4-pin English substitute	30/-
AZ1—Side contact 8-pin "P"	7/8
AZ3(AZ4)—Side contact 8-pin "P"	14/3
AZ31—American octal	7/8
AZ41—Rimlock B8A	9/-
AZ50—4-pin English	30/-
B405—4-pin American	10/9
B406—4-pin American	10/9
B442—4-pin American	13/6
B443(PM24)—4-pin Eng. substitute	13/9
B443(C443)—5-pin Eng. substitute	14/9
B605—4-pin American	10/9
DF70—Wire-in Deaf Aid	13/-
DL71—Wire-in Deaf Aid	13/-
DL72—Wire-in Deaf Aid	13/-
C1—Side contact 8-pin "P"	17/-
C1C—4-pin English	17/-
C8—Side contact 8-pin "P"	15/9
C10—Side contact 8-pin "P"	15/9
C12—Side contact 8-pin "P"	19/6
C243N—5-pin American	13/9
C443—5-pin English	14/9
CBL1—Side contact 8-pin "P"	13/6
CBL31—American Octal	16/1
CC1—Side contact 8-pin "P"	11/9
CCH35—American octal	14/11
CF2(VP13A)—Side contact 8-pin "P"	15/3
CK1(FC13)—Side contact 8-pin "P"	16/-
CL2(CL4)—Side contact 8-pin "P"	14/5
CL33—American octal	12/7
CY1—Side contact 8-pin "P"	9/11
CY2—Side contact 8-pin "P"	16/3
CY31—American octal	9/11
CY32—American octal	
DAC21—American octal	13/6
DAC32(1H5)—American octal	10/9
DAF91(1S5)—B7G American min.	10/9
DDR100—American octal	
DF21—American octal	13/6
DF33(1N5)—American octal	12/2
DF91(1T4)—B7G American min.	10/9
DF92(1L4)—B7G American min.	10/9
DK21—American octal	15/3
DK32(1A7)—American octal	13/-
DK40—Rimlock B8A	15/6
DK91(1R5)—B7G American min.	9/6
DL21—American octal	13/6
DL33(3Q5)—American octal	12/2
DL35(1C5)—American octal	12/2
DL36(1Q5)—American octal	12/2
DL41—Rimlock B8A	13/3

DL91(1S4)—B7G American min.	13/3
DL92(3S4)—B7G American min.	10/2
DL93(3A4)—B7G American min.	
DL94(3V4)—B7G American min.	12/2
DL95(3Q4)—B7G American min.	12/2
DLL21—American octal	20/-
E415(164V)—5-pin Eng. substitute	11/9
E424—5-pin English substitute	14/11
E438(904V)—5-pin Eng. substitute	11/9
442(SP4)—5-pin Eng. substitute	17/9
E443H(PM24M)—5-pin English substitute	15/3
E446(SP4)—5-pin Eng. substitute	17/9
E452T(SP4)—5-pin Eng. substitute	17/9
E463(Pen4VA)—7-pin English substitute	13/9
E499(4657)—5-pin Eng. substitute	18/4
E707(4624)—4-pin Amer. substitute	70/2
EA40—Rimlock B8A	28/-
EA50—Wire-in	11/9
EAB1(EB4)—8-pin side contact "P"	10/3
EAC91—B7G American miniature	20/-
EAF41—Rimlock B8A	12/2
EAF42—Rimlock B8A	12/6
EB4—8-pin side contact "P"	10/3
EB34(6H6)—American octal	10/3
EB40—Rimlock B8A	46/-
EB41—Rimlock B8A	17/9
EB91(6AL5)—B7G American min.	13/9
EBC3—Side contact 8-pin "P"	11/2
EBC33(6Q7)—American octal	11/2
EBC41—Rimlock B8A	
EBF2—Side contact 8-pin "P"	14/5
EBF32(6B8)—American octal	13/6
EBF35—American octal	
EBL1—Side contact 8-pin "P"	15/9
EBL21—American octal	18/-
EBL31—American octal	13/9
EC31—American octal	11/9
EC50—Side contact 8-pin "P"	40/6
EC52—9-pin B9G	11/9
EC53—9-pin B9G	17/9
EC54—9-pin B9G	13/3
EC80(604)—9-pin American novel	50/-
EC81(6R4)—9-pin American novel	
EC91—B7G American miniature	22/6
ECC31—American octal	16/6
ECC32—American octal	15/3
ECC33(6SN7)—American octal	19/-
ECC34—American octal	15/3
ECC35(6SL7)—American octal	18/3
ECC40—Rimlock B8A	19/3
ECC91(6J6)—B7G American min.	18/4
ECH3—Side contact 8-pin "P"	16/3
ECH21(757)—American octal	14/5
ECH35(6K8)—American octal	14/5
ECH41—Rimlock B8A	13/6
ECH42—Rimlock B8A	14/5
EEL1—Side contact 8-pin "P"	48/3
EF5(EF9)—Side contact 8-pin "P"	11/3
EF6—Side contact 8-pin "P"	13/3
EF9—Side contact 8-pin "P"	11/3
EF22(7B7)—American octal	13/3
EF36—American octal	12/2
EF37(6J7)—American octal	12/2
EF39(6K7)—American octal	9/11
EF40—Rimlock B8A	
EF41—Rimlock B8A	11/9
EF42—Rimlock B8A	16/6
EF50—9-pin B9G	10/-
EF54—9-pin B9G	16/6
EF55—9-pin B9G	16/6
EF91—7-pin B7G American min.	22/-
EF92—7-pin B7G American min.	20/-
EFF51—9-pin B9G	42/-
EK2—Side contact 8-pin "P"	15/3

EK32(6A8)—American octal	17/1
EL2—Side contact 8-pin "P"	16/1
EL3—Side contact 8-pin "P"	13/6
EL32—American octal	15/3
EL33(6V6)—American octal	13/6
EL34(6L6)—	
EL35—American octal	19/10
EL37—American octal	21/-
EL38—American octal	23/-
EL41—Rimlock B8A	13/3
EL42—Rimlock B8A	15/2
EL51—Side contact 8-pin	92/6
EL60—9-pin B9G	58/6
EL91—7-pin B7G American min.	18/-
EM1—Side contact 8-pin "P"	12/2
EM4—Side contact 8-pin "P"	13/3
EM34—American octal	12/2
EN31—American octal	26/-
EW60—9-pin B9G	56/9
EY51—Wire-in	25/-
EY91—7-pin B7G American min.	18/-
EZ2—Side contact 8-pin "P"	9/-
EZ3—Side contact 8-pin "P"	9/-
EZ22—American octal	10/4
EZ35(6X5)—American octal	10/4
EZ40—Rimlock B8A	11/9
EZ41—Rimlock B8A	10/4
GZ32(5V4)—American octal	11/9
FW4-800—4-pin English	14/-
HVR2—4-pin English	25/-
KBC1—Side contact 8-pin "P"	17/9
KBC32—American octal	12/2
KC3(PM2HL)—4-pin English	8/6
KDD1(PM2B)—7-pin English	12/2
KF3—Side contact 8-pin "P"	18/1
KF35—American octal	13/3
KK2—Side contact 8-pin "P"	14/5
KK32(1C7)—American octal	15/9
KL4—Side contact 8-pin "P"	12/2
KL35(1F5)—American octal	12/7
KL32—American octal	18/6
LSD2—Edison screw	
LSD3—4-pin American	
LSD4—	
LSD7—4-pin American	
UAF41—Rimlock B8A	12/6
UAF42—Rimlock B8A	12/6
UBL21—American octal	18/4
UCH21—American octal	18/4
UCH41—Rimlock B8A	13/6
UCH42—Rimlock B8A	14/5
UF21—American octal	17/-
UL41—Rimlock B8A	12/7
UL41—Rimlock B8A	13/3
UM4—American octal	15/3
UY1(N)—American octal	10/4
UY41—Rimlock B8A	9/-
5Y3—American octal	
80—4-pin American	
506(DW2)—4-pin English	9/6
1561—4-pin English	14/5
1805(506)—4-pin English	10/4
1875—Side contact 8-pin "P"	50/-
1876—Side contact 8-pin "P"	26/6
1877—4-pin English	26/6
1904—4-pin English	16/9
1909—3-pin "H"	15/3
1914—Edison screw	16/7
3510—P.E. cell (Vac)	14/5
3512—P.E. cell (Vac)	87/9
3530—P.E. cell (Gas)	64/10
3533—P.E. cell (Gas)	64/10
3534—P.E. cell (Gas)	64/10
3538—P.E. cell (Gas)	69/4
3541—P.E. cell (Gas)	64/10

**PHILIPS VALVES** — *Continued*

3543—P.E. cell (Gas) wire in ..	71/7
3546—P.E. cell (Gas)	64/10
* Also available without base.	
20AV—P.E. cell (Vac) Amer. loctal ..	
20CG—P.E. cell (Gas) Amer. loctal ..	
20CV—P.E. cell (Vac) Am. loctal ..	
55CG—P.E. cell (Gas) Am. Pee-wee	
56CG(918)—P.E. cell (Gas) 4-pin Amer.	
90AV—P.E. cell (Vac) Am. Min B7G	
90CG—P.E. cell (Gas) Am. Min B7G	
90CV—P.E. cell (Vac) Am. Min B7G	
4060—3-pin "H"	179/2
4613(E406)—4-pin English	39/2

4624(E707)—4-pin special	80/2
4654—Side contact 8-pin "P"	24/3
4657—5-pin English	22/6
4673—Side contact 8-pin "P"	18/-
4682(AL2)—Side contact 8-pin "P"	18/6
4689—Side contact 8-pin "P"	30/-
4690—Side contact 8-pin "P"	44/7
4699—Side contact 8-pin "P"	25/3
4687—Stabilizer neon	14/-
7475—Stabilizer neon	21/2
85A1—Stabilizer neon	19/10
100E1—Stabilizer neon	88/-
13201—Stabilizer neon	46/10
150A1—Stabilizer neon	28/10
150C1	32/5

DB7-2—Cathode ray tube ..	
DB9-3—Cathode ray tube ..	
DG4-2—Cathode ray tube ..	
DG7-1—Cathode ray tube ..	
DG7-2—Cathode ray tube ..	
DG9-3—Cathode ray tube ..	
DN7-2—Cathode ray tube ..	
DN9-3—Cathode ray tube ..	
DN9-5—Cathode ray tube ..	
TH1—Vacuum thermocouple ..	
TH2—Vacuum thermocouple ..	
TH3—Vacuum thermocouple ..	
TH4—Vacuum thermocouple ..	
TH5—Vacuum thermocouple ..	
4383—Rare gas fuse ..	

Substitute Type	Philips Type	Base Description	Price	Substitute Type	Philips Type	Base Description	Price
DW2	506	4-pin English	9 6	SP4	E452T	5-pin English	17 9
FC2A	KK2	7-pin English	17 9	TDD2A	KBC1	5-pin English	12 2
FC13	AK2	7-pin English	16 0	TDD4	ABC1	7-pin English	13 9
PenA4	CK1	Side contact 8-pin "P"	16 0	UR3C	CY2	7-pin English	16 0
Pen4VA	AL4	7-pin English	12 2	VP2B	KF3	7-pin English	17 9
Pen4DD	E463	7-pin English	13 9	VP4	E447	7-pin English	17 9
PM2B	ABL1	7-pin English	15 9	VP4a	AF2	5-pin English	17 9
PM2HL	KDD1	4-pin English	12 2	VP4b	AF6	7-pin English	14 5
PM22A	KC3	4-pin English	9 6	VP13A	CF2	Side contact 8-pin "P"	15 3
PM24M	KL4	5-pin English	12 2	2D4A	AB1	4-pin English	10 3
SP4	E443H	5-pin English	15 3	345V	E424	5-pin English	10 9
SP4	AF7	7-pin English	17 9	6X5P	EZ2	7-pin English	9 0
SP4	E446	5-pin English	17 9	6X5P	EZ3	Side contact 8-pin "P"	9 0
FC4	E442	5-pin English	17 9	904V	E438	5-pin English	11 9

**LAMPHOUSE RADIO BOOKS**

★ **"The Lamphouse" RADIO CIRCUIT BOOK** ★

An 80-page booklet containing nearly 200 different Circuits. Circuits of all types, from Crystal Sets to a 26 Valve De Luxe Receiver. Amplifiers, power packs, electric fence units, testing equipment, short-wave converters, wave traps, oscillators, aerial systems—in short, a Circuit to meet every requirement. Schematic diagrams only are given and not constructional details. No claim is made that this book contains any new Circuits all having previously been published in Lamphouse Annuals or Radiograms.

Enthusiasts, whether beginners or experienced servicemen, will find this book invaluable as a reference medium. Your Radio Library will not be complete without a copy.

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★ **"The Lamphouse" RADIO INSTRUCTION BOOK** ★

This 48-page, attractively covered Booklet contains a simple yet most thorough Radio Course. Compiled from previous Lamphouse publications, revised and rewritten in simple, everyday language, for those enthusiasts starting out in Radio as a hobby or a career. Devoid of any deep technical terms as used by Radio veterans. Just a straight-out study in basic radio principles and theory. Questions set and answers given on each chapter.

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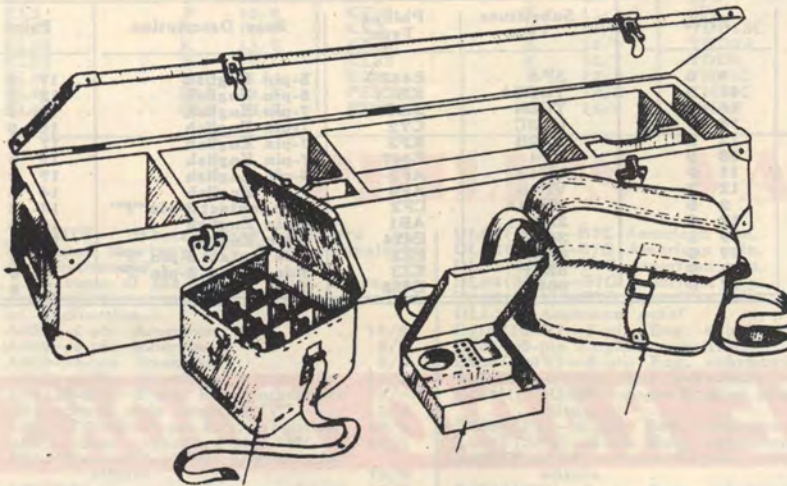
Postage 1d. extra.

**THE BEST COSTS LESS AT THE "LAMPHOUSE" NEW ZEALAND'S LEADING RADIO & ELECTRICAL HOUSE**



# BARGAINS OF THE YEAR!

## TOOL BOXES AND HAVERSACKS



AX1084

### WOODEN TOOL BOXES

Exceptionally strong wooden boxes, suitable for tools, etc. Partitions can be easily removed if not required. Patent heavy clamp fasteners. Carrying handles, and metal corner pieces. Size 42in. x 8in. x 7in. Only **15/11** each. Cat. No. AX1077

AX1066

### SPARE PARTS BOXES

A small metal box measuring 6in. x 6in. x 1 1/2in. Suitable for many purposes in the home workshop. Cat. No. AX1066 .. **3/-** each

AX1059

### SPARE VALVE BOXES

A heavy gauge Steel Box measuring 6 1/2in. x 6 1/2in. x 6in., divided into 9 compartments each measuring 1 1/2in. square. Each compartment rubber-cushioned. Complete with carrying handle and vibration-proof-catch. Cat. No. AX1084 .. **7/6** each

### HAVERSACKS

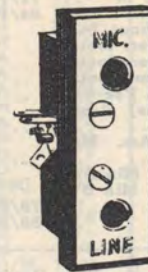
Made from heavy quality reinforced waterproof canvas. Ideal for lunch bags, tool kits, etc. 11in. x 7in. x 3in. Cat. No. AX1059 .. **5/-** each

## WAR SURPLUS VALVES

- 6X5GT—6.3 volt Full-wave Rectifier, Octal Base .. **4/11**
- 6Q7GT—6.3 volt Duplex Diode Hi-Mu Triode, Octal Base .. **5/11**
- 6U7G—6.3 volt Triple Grid Super Control Amplifier, Octal Base .. **3/6**
- 6K8G—6.3 volt Triode-Hexode Converter, Octal Base .. **7/11**
- 807—6.3 volt Transmitting Beam Power Amplifier, 5-pin Base .. **6/9**
- 953—Acorn Base .. **9/6**
- 954—6.3 volt Detector Amplifier Pentode, Acorn Base .. **5/-**
- 955—6.3 volt Detector, Amplifier, Oscillator, Acorn Base .. **7/6**
- 959—1.25 volt Pentode Detector Amplifier, Acorn Base .. **5/6**
- 9004—6.3 volt U.H.F. Diode, Acorn Base .. **3/6**

## SURPLUS WAR STOCKS

### Jacks

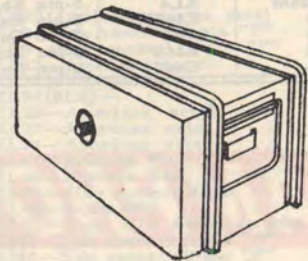


Single Key Jacks (S.C.), Single-pole double-contact insulated jack mounted on 2 1/2in. x 3in. bakelite panel. Cat. No. AX1038—**1/-** each

Double Phone Jacks (D.C.) mounted on 2 1/2 in. x 3in. panel. Cat. No. AX1039—**1/6** each

Line-Microphone Jacks. A double outlet 3-contact insulated Jack. Cat. No. AX1040 .. **2/-** each

## METAL TOOL BOXES



This box is actually the Cabinet in which the ZC1 set is made. Waterproof, moisture proof, etc. Inside measurements are 20 1/2in. x 11in. x 8 1/2in. Made of steel, crackle finished in green and featuring a rubber flange on which the lid is fitted by pressure thumb screws. Canvas cover fits over lid. Carrying handles at either end.—Cat. No. AX1078 .. **25/-** each

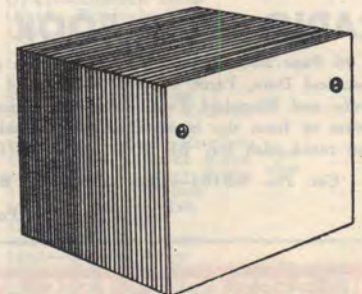
## PLASTIC RINGS

Plastic rings, coloured black: Diameter 2 1/2in., hole 1 1/2in., leaving 1in. lip around. Cat. No. AX1191—**3<sup>D</sup>** each or **2/-** doz.

## WATER-TIGHT PLUGS

Reynolle heavy-duty iron-clad Plugs and sockets, 15 amp. Cat. No. AX1411—Plugs .. **11/-** ea. Cat. No. AX1412—Sockets .. **11/-** ea.

## "HIKER'S ONE" CABINET



A neat compact little Wooden Cabinet to take the "Hiker's One" or sets of a similar nature. Measurements: Width 7 1/2in., height 7in., depth 6 1/2in. Gives your little receiver that finished look. Cat. No. AC154 .. **14/6**

# PLASTIC KIT-SET

Fun and Instruction for Young and old

Mould your own plastic novelties with this modern plastic kitset. Outfits consist of seven different colours of plastics, heating lamp, hand press, dies, and complete instructions. Great hobby for young or old.

Cat. No. AU220 . . . . . **29/6**



WITH THIS SET MOULD THESE ARTICLES IN MODERN PLASTICS

## INFRA-RED LAMP BULBS

As used for medical lamps, industrial purposes, such as paint drying, chicken brooders, etc., etc.—230-volt.

Cat. No. AL651—With E.S. Cap . . . . . **17/4 each**

Cat. No. AL650—Standard Bayonet Cap . . . . . **17/4 each**

## AERONET AERIAL



Here's a new aerial. The Aeronet is made of woven metal net, 2½ in. in diameter. Although only 25ft. long, it contains over 2,000 feet of copper ribbon wire. It is this enormous collective surface area in such a short overall length that makes it so efficient as an aerial, both for broadcast and short-wave. For outside or inside use.

Cat. No. AA290—  
**17/6 each**

## AERTRAX HOUSE AERIAL



Two-piece house aerial is designed for universal mounting and fixing under all conditions, being easily adjustable as required. May be fixed to a wall, window sill, caravan, car, etc., and the aerial can be retracted in a few seconds. The aerial is of robust construction and extremely resilient as it is made from duralium tubing, 7ft. 6in. in length and made in two sections. Wing nut permits easy adjustment, while a O.B.A. screw provides a connection for the lead-in wire.

Cat. No. AA340 . . . . . **30/- each**

## BARGAIN LINES TO CLEAR

### COILS

Coils for 1084 Army Transmitters:—

Cat. No.	Range	Kc.'s
AX1512—A	..	20,000-14,300
AX1513—B	..	14,300-10,700
AX1514—C	..	10,700-6,000
AX1515—D	..	6,000-4,285
AX1516—E	..	4,285-2,500
AX1517—F	..	2,500-1,600
AX1518—G	..	1,600-1,000
AX1519—H	..	1,000-600
AX1520—J	..	600-350
AX1521—K	..	350-200
AX1522—L	..	200-120
AX1523—		180
AX1524—		40

ALL  
**2/- EACH**  
TO CLEAR

Wood Boxes to hold one of any of above Coils.

Cat. No. AX1525 . . . . . **1/6 each**

16 Coils in case for Type 1083. Any receiver.

Cat. No. AX1528 . . . . . **12/- set**

Individual Coils for X1083 Transceiver.

Cat. No. AX1526 . . . . . **1/- each**

### INSULATED WIRE

Hand-drawn No. 10 solid American copper, well insulated. Ideal for low voltage circuits carrying heavy current, such as private generating plants, etc.,  
Cat. No. AX1510 . . . . . **3<sup>D</sup>. yard**

½ in. x 2½ in. long Pillars with threaded wing nut pinned on.  
Cat. No. AX1511 . . . . . **3<sup>D</sup>. each**

9-volt, 16 C.P., double-contact motor-car lamps.  
Cat. No. AX134 . . . . . **3<sup>D</sup>. each**

### SMITH'S "MINUTE" TIMERS

Boon for Housewives, Photographers, and others requiring a warning after a predetermined number of minutes. Setting pointer to number of minutes required, automatically winds timer which rings single gong after minutes have expired. Size 3½ in. x 3½ in. x 2½ in. deep.  
Cat. No.—AU118 . . . . . **26/6 each**

### VACUUM CLEANERS

Just arrived supplies of "Empire Electric" Vacuum Cleaners, complete with all accessories. Full particulars on request. **£17/9/6**  
Cat. No. AE198 . . . . .



# ELECTRIX BRITISH FLOOR POLISHER

This floor polisher is an invaluable aid to the quick and efficient polishing of wood floors, linos, surrounds and tiles. Three brushes revolve at high speed obtain a brilliant polished surface. The triangular construction enables the most easy access to corners and the rubber protection buffer avoids damage to skirting boards and furniture. The motor is robustly constructed and is fitted with self-lubricated ball bearings. A generous length of flex ensures a wide polishing range—230-volt.

NEW LOW PRICE! SALES TAX OFF!

Cat. No. AE228 . . . . . **£15/-/-**

# The "Airline 4" Battery Radio

**T**HIS receiver is a four-valve broadcast superhet, using 1.4-volt battery valves. It uses a Philips Rimlock DK40 for the converter, a 1LN5 I.F. amplifier, a 1H5GT second detector and first audio valve. The final valve is a 3D6 output valve. Coupled to a good P.M. speaker, such as the Rola 6H, it will give surprisingly good quality. The whole job, supplied complete with batteries, will fit neatly in the cabinet provided.

The wiring is not at all difficult, as there is ample room under the chassis without any cramming of parts. You will notice we supply a main chassis on which the valve sockets and I.F. transformers are mounted and under which the associated condensers and resistors are wired. Also there is a small sub-chassis which is attached to the main chassis.

Before doing this, however, it will be necessary to mount the tuning condenser on this small chassis and fit the aerial and oscillator coils (which are unshielded) underneath. Under this sub-chassis, too, is mounted the padder condenser and also the .1 condenser and 100K resistor which connects to the black lug of the aerial coil. When connecting up the various leads be sure they will be long enough to go through the holes in the top of the main chassis and connect to their respective points underneath. For instance, the plate lug of the oscillator coil will need a lead long enough to feed through the top of the chassis and over to pin 3 of the DK40. The best plan is to end on the generous side, then you can bolt the sub-chassis in place and know you will not have to take it off again because your leads are short.

When you have mounted your sockets and I.F. transformers in place, then get your sub-chassis wired up as far as possible and mounted in place. With the leads feeding through the main chassis use different colours of hook-up wire if possible then there will be no trouble in telling where the leads should go to. Do not have them longer than necessary. When hooking up the .1 condensers see that the earthed end is the lug that attaches to the metal casing. Also use shielded lead for the two volume control connections. There is very little else to worry about. Be sure that the connections are firmly soldered, also a point worth mentioning is to see that the polarity of the 25 mfd. condenser is observed. The negative end going to B- and the positive end is earthed.

We would advise getting the kit complete for maximum results. However, any standard good quality components can be used, but for goodness sake at least get the aerial and oscillator coils and tuning condenser all to match. It is absolutely essential that you do this if good results are to be obtained. We have stressed this point many times, yet time and again we have constructors using coils and a tuning condenser which bear no relation to one another and then wondering why the set won't operate or they cannot get the stations to line up with their place on the dial.

### LINING UP

Having got the set wired up and checked all the connections carefully, connect the "A" battery leads to the set, switch on, and note whether the valve filaments show a faint glow. If not, have a good look round and see where you have gone wrong. By getting the "A" battery leads correct first, there is no chance of putting the "B" voltage across the filaments and digging up the necessary for a new set of valves. Now connect up the "B" batteries, switch on again and make a few adjustments.

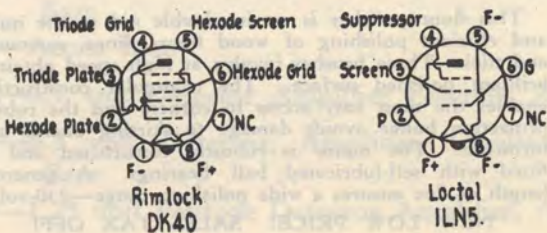
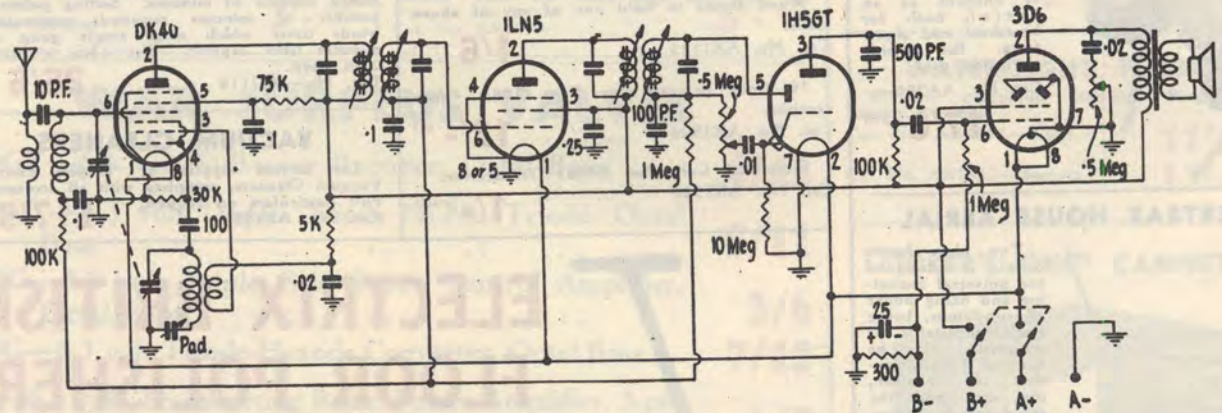
Unscrew the padder condenser about two turns and loosen off the two trimmers on the main tuning condenser. Tune in a station at the high frequency end of the dial, round about 2YD, and adjust the oscillator trimmer until the station comes in at its right spot on the dial. Now adjust the other trimmer for maximum strength. Tune up now around 2YA end and without touching the trimmers adjust the padder condenser until 2YA or whatever station you are on is tuned in at its right spot and at maximum strength. This of course is possible only if your dial is designed to match your condenser as with our kitset. Now go back to a fairly weak station well down the other end of the dial and make a final adjustment of the trimmer condensers. Don't touch the padder. Slight adjustment could also now



be made to the adjusting slugs of the I.F.s, but care must be taken not to turn the screw too far off as you may loosen the setting altogether. Also it is very easy to break out the adjusting slugs in these transformers.

A point we should mention here is that the I.F.s provided with the kit are not colour coded. Looking at the base we will see two lugs close together, and two more widely separated. With the two close lugs nearest to you the connections are as follows: Left-hand lug, plate; right-hand lug, B+. This leaves the two other lugs—the right-hand lug is grid or diode, and the left-hand lug grid or diode return.

**"LAMPHOUSE" KITSETS  
ARE BASED ON PROVEN  
CIRCUITS**



**PARTS LIST FOR "AIRLINE 4"**

- 1 Chassis
- 1 "Sky-King" Dial
- 1 2-gang Variable Condenser
- 1 DK40 Philips Valve
- 1 1LN5 Valve
- 1 1H5GT Valve
- 1 3D6/1299 Valve
- 2 I.F. Transformers
- 2 Trimmers
- 3 .1 mfd Condensers
- 1 .25 mfd. Condenser
- 2 .02 mfd. Condensers
- 1 .01 mfd. Condenser
- 1 25 mfd. 25-volt condensers
- 2 .0001 mfd. Mica Condensers
- 1 .0005 mfd. Mica Condenser
- 9 Assorted Resistors
- 1 1/2-meg. Potentiometer with D.P.S.T. Switch
- 1 1/2-meg. Potentiometer without switch
- 1 Padder
- 1 "Ensign" Oscillator Coil
- 1 "Ensign" Aerial Coil
- 4 Valve Sockets

Sundries: Hook-up Wire, Nuts and Bolts, Clips, Mounting Strip etc.  
Cat. No. AK2068 ..

**Without Batteries, Speaker or Cabinet** **£7/5/-**

Cat. No. AK2068A—WITH BATTERIES, BUT WITHOUT SPEAKER AND CABINET **£9/2/-**

Cat. No. AK2068B—COMPLETE WITH "ROLA" 6H SPEAKER AND BATTERIES **£10/17/9**

Cat. No. AK2068C—COMPLETE WITH SPEAKER, BATTERIES AND VENEERED CABINET **£14/7/6**



**FLUORESCENT LIGHTING IN N.Z.**

(With acknowledgments to the "Mazda" and "Osram" Agents for their assistance.)

IN the last few years there has been greater development in the design of electric light sources than ever before. In particular, there has been a concentration of effort on the possibilities of electric discharge through gases, which have resulted in many new types of lamps. Discharges through mercury and sodium vapours, through neon and carbon-dioxide gases; discharges with high and low gas pressures at high and low voltages, have followed one another in such rapid succession that fitting designers have been much occupied to exploit to the full the individual advantages of each lamp.

One of the most recent of these is the low-voltage fluorescent discharge tube. This is a natural outcome of the work pioneered in England and America long before the war, and which resulted in high-voltage fluorescent tubes, where a discharge in the vapour or gas (generally mercury or neon) produces ultra-violet radiation, which excites a luminescent coating on the inner walls of the tubes. High efficiencies and a wide range of colours are thus obtained, and many installations have been erected both for exterior display (where such tubes are often still called "neon" sign lamps) and for interior lighting, where they have been woven into attractive shapes by skilled glass workers, and where combinations of colours give them an interest and attraction all their own.

Comparatively little has been done on the design of fittings for these tubes. Their brightness is low and generally no diffusing material is required to make them comfortable to look at; they can be made so attractive that additional decoration is unnecessary.

Even in industry, bare tubes are found satisfactory. Their low intensity makes them suitable even at comparatively low mounting heights. Their higher efficiency and lower heat production aid the maintenance of constant temperature and the avoidance of local "hot-spots".

There is no doubt that such tubes will play an important part in lighting in the future, but, for the present, they have been displaced in this country by a low-voltage tube working on a similar principle. This tube, available at present in only one form and with colour-rendering properties similar to "daylight" seems to be regarded by many as the panacea to all our lighting ills, almost, indeed, as the "ultimate" in lamp design. It is a remarkable tube, giving an average luminous efficiency about twice that of an ordinary general lighting service tungsten filament lamp, and has already found many valuable uses.

**RADIANT HEATING**

In all practical light sources the light is accompanied by heat, and those who work under high illumination often find the heat very uncomfortable. Particularly severe examples are the cinema, studio set and stage, where intensities of several hundreds of foot-candles are common, but even in more ordinary walks of life, heating due to artificial lighting can be unpleasant. The 5ft. tube is excellent in this respect, because the radiant

heat for a given illumination from 5ft. tubes is of the order of a quarter of that from tungsten filament lamps. The effect of this can only be assessed by working for long periods under tungsten and fluorescent tubes, but the difference at high illumination can be so great that operators have been known to ask whether the fluorescent tube had a refrigerative quality.

**PRESENT APPLICATIONS OF TUBES**

The most prominent application of these tubes up to the present has been in factories and shops. The low brightness of the tube is of great value for low mounting because the glare effect is comparatively small, both for direct light and reflections from shiny surfaces; the low brightness of the fluorescent tube often gives much easier seeing conditions on polished surfaces than does local tungsten lighting. However, it is still very important to shield the tube from the worker's eyes (in their normal working position) as far as possible. A sustained view of the bare tube is undesirable.

Psychological points, also, are of much greater importance than many people imagine. As an example, in a factory lighted with local fittings, the upper parts of the walls and the ceilings tend to be dark and so give an unpleasant tunnel effect which is depressing to the workers. This can be avoided either by using special fittings to light the roof and walls, or by using trough fittings with open tops so that some light escapes upwards.

As explained, it is necessary to have some type of fittings around the tube because of the reflectivity of the walls, etc., in factories, but this does not necessarily apply to office premises. In these and similar rooms bare tubes have been used effectively. The decorations and general fittings in an office can be kept in far better condition than in a factory.

During the wartime period the 5ft. 80-watt tube was used extensively, but its popularity is now greatly slipping away in favour of the 4ft. 40-watt tube, which is half the wattage, yet its efficiency is almost three-quarters that of the larger tube.

Here is some data on the two Tubes which are most popular at the present time:—

- 5ft., 80-watt type:  
Diameter of Tube, 1 1/2 in.  
Approximate output in lumens, 2,800.
- 4ft., 40-watt type:  
Diameter of Tube, 1 1/2 in.  
Approximate output in lumens, 2,100.

The life of both these Tubes is in the vicinity of 2000 hours.

**FLUORESCENT CHEMICALS**

To obtain the various colours in fluorescent lighting, several chemical powders are used. The phosphor used to give these colours is listed below:—

Phosphor	General Colour
Calcium Tungstate ..	Blue
Magnesium Tungstate ..	Blue-white
Zinc Silicate ..	Green
Zinc Beryllium ..	Yellow-white
Cadmium Silicate ..	Yellow-pink
Cadmium Borate ..	Pink
360 BL phosphor ..	Blue ultra

**HOW TO DECIDE ON FLUORESCENT LIGHTING**

We have worked out a simple equation so that a prospective user of fluorescent lighting can work out the number of tubes required

for a room, office, factory or wherever this lighting is desired. The following formula determines the number of foot candles in comparison with the size of tube and the size of the room or office in which the tubes are to be installed:—

$$\text{Foot Candles} = \frac{\text{Lumens} \times .5}{\text{Area of room} \times 1.43}$$

Lumens equals the output of the tube (this is taken to be 2,800 in the case of a 5ft. 80-watt tube or 2,100 for the case of a 4ft. 40-watt tube). .5 is taken as the co-efficient of utilisation factor. This varies considerably from .39 to .70, but we have determined .5 as the average. Area equals area of room in square feet. 1.43 is the depreciation factor.

An example would be as follows:—  
If a 5ft. tube was to be used in a room 10ft. x 10ft. the equation would work out something like this:—

$$\text{Foot Candle} = \frac{2,400 \times .5}{100 \times 1.43}$$

This would be equivalent to approximately 8 foot candles. The technical committee of the Illuminating Engineering Society has issued a small table indicating the number of foot candles for the various classes of work.

Recommended Foot Candles	Class of Task
3 ..	Casual observation where no specific work is performed.
4-5 ..	Work of simple character not involving close attention to fine details.
7-8 ..	Less exacting visual tasks such as general office, large assembly work and class rooms.
10 ..	Visual tasks such as reading, writing, detailed office work and sewing of light goods, retail shops.
15 ..	Prolonged critical visual tasks such as proof-reading, type-setting, drawing, reading, fine machine work, fine assembling, sewing on dark goods, large stores.
20-25 ..	Severe and prolonged visual tasks such as fine engraving, sewing of dark goods and discrimination or inspection of fine details of light contrast.

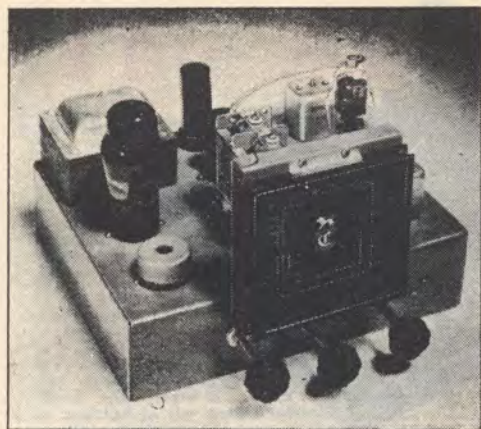
**FLUORESCENT LIGHTING IN THE FUTURE**

In conclusion, the temptation to consider the future development and influence of fluorescent lighting can hardly be resisted; the possible tube developments and the range of applications are so considerable that he would be an unusual engineer or designer who did not at some time turn his thoughts to what may come. In doing this we should not think only of the 5ft. and 4ft. tubes, or even of low-voltage tubes, for there is every reason to believe that when manufacturing recommences in earnest, the high-voltage tube, which developed so rapidly pre-war, will come into its own once again. This is the trend in America, where the success of low-voltage fluorescent tubes has stimulated interest in the high-voltage types which are now becoming more prevalent since the cessation of hostilities.

The day should not be far distant when lighting in your home, built-in fluorescent lighting, can be "tailor" made.

\* True daylight varies widely in colour; the 4ft. tube corresponds approximately to noon sunlight.





**F**OUR valves in a simple t.r.f. circuit, with reaction, make this set a great little performer that is at the same time simple and cheap to build.

A 6K7 r.f. pentode provides plenty of gain, which is built up still further by the regenerative leaky-grid detector, long recognised by set builders the world over as the easiest and cheapest way of getting maximum sensitivity from a minimum number of valves.

#### GOOD SENSITIVITY AND SELECTIVITY

Not only sensitivity, but selectivity, too, is improved enormously by reaction. With it, local stations that spread over a great portion of the dial can be confined to a few degrees. The tuned r.f. stage helps considerably in this respect, too, while still better results can be obtained by those living in city areas if a short aerial is used.

If the set is to be used for local work only, then even in the suburban areas there is plenty of selectivity to ensure complete separation of the locals.

As regards sensitivity, a few feet of wire for an aerial will give far more volume from nearby stations than would be needed for any home. In good locations there will be no difficulty in bringing in all the main New Zealand stations at fine speaker volume, providing an efficient aerial and earth system is used.

Tone is natural, and a well-baffled speaker of good make will give reproduction that is crisp and clear, equal to that obtained from many sets costing several times as much.

#### THE COILS

A standard aerial coil, and an r.f. type with reaction, are required, together with a 2-gang condenser of approximately .00035 mfd. capacity per section for tuning purposes.

To ensure a good margin of safety, the 450-ohm bias resistor for the 6F6 should be rated to carry 100 mls. Though theoretically a 1-watt carbon resistor should be quite satisfactory, it is exceedingly risky to run any type of resistor according to its rated dissipation. A 100 per cent. margin of safety for the lower ratings, at least, should always be allowed.

#### MAKING A START

When the parts have all been obtained, a start can be made by mounting the power transformer, valve and speaker sockets, coils, condenser gang, volume control potentiometer, reaction condenser, aerial and earth terminals, voltage divider, and power cable grommet.

As there are many types of power transformers on the market, the terminal arrangement on the panel has not been shown on the wiring sketch.

The heater wiring should be put in first of all. To do this, solder a lead to each of the "6.3-volt, 2 amp." terminals on the power transformer panel, and take them to the terminals 2 and 7 of the 6F6 socket. Repeat the process, but take the second pair of leads to the same terminals on the 6C5 socket. Next, run a final pair of leads between terminals 2 and 7 on the 6C5 and 6K7 sockets.

To avoid the risk of introducing hum, these leads should either be twisted or run side by side, close together.

Now the rectifier can be wired up. To do this, run a pair of leads from the "5-volt 2 amp." terminals on the power transformer panel; to terminals 2 and 3 on the 5Z4 socket, and another pair from the "385v. 60 m.a." terminals to terminals 4 and 6. Both "C.T." ter-

# THE "SKYHAWK FOUR"

minals on the power transformer panel should be connected together and earthed to a soldering lug held down by the nut on a convenient mounting bolt.

The four leads to the rectifier should be bunched together and kept towards the back wall of the chassis.

The remainder of the wiring can now be put in as shown on the wiring diagram. All valve socket connections are clearly shown on the circuit diagram, the pins being numbered correspondingly on both diagrams.

Starting from the aerial terminal, wire up the aerial coil, then the 6K7, then the detector coil, and so on until the wiring is complete. The lugs on the coils supplied will be colour-coded, and the connections will be indicated on a slip of paper accompanying each coil.

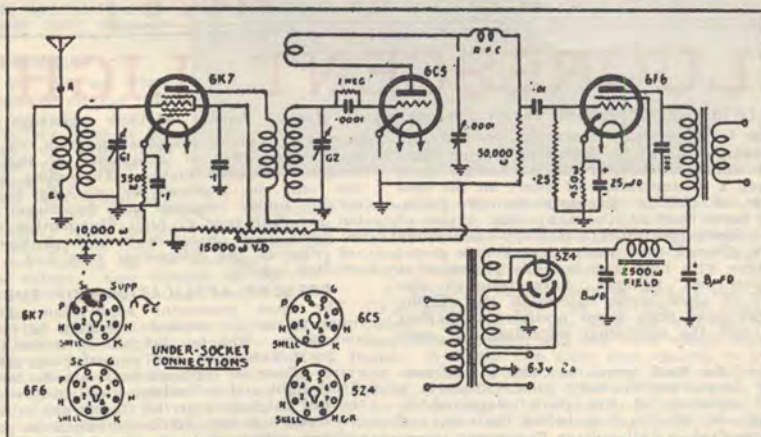
advanced and the tuning dial slowly rotated. A station should soon be picked up.

To align the receiver, set the two trimmers on top of the gang about half-way out, and tune in a station near the middle of the band—preferably one that requires a fair amount of reaction to bring it up to quiet room volume. Then adjust the trimmer on aerial section of the gang until volume is loudest.

#### UNIT SHOULD NOT OSCILLATE

When the unit is switched in or out of circuit, it may be necessary with some receivers to make a slight adjustment to the main tuning control.

It will be found that the booster operates best, giving greatest gain and selectivity, with the regeneration control set just below the oscillation point.



The circuit of the "Sky-Hawk," together with under-socket connections for all valves. An error occurs in the connection supplying B+ to 6C5 plate. Junction of 50,000 ohm resistor and tapping on voltage divider is shown connected direct to earth, whereas connection should be made to earth through a .5 mfd. condenser.

When the detector socket is being wired up, keep the grid lead, as well as the grid leak, as far as possible from the rectifier leads, to avoid introducing any hum pick-up from the latter. If necessary, a small metal shield measuring about 2 inches long by 1½ inches high can be mounted between the two sockets to eliminate this risk entirely.

The polarity of the three dry electrolytics should be carefully watched. In the case of the two 8 mfd. types, the end painted red or marked positive should be connected to "B+", and in the case of the 25 mfd. condenser, this end should be connected to the 6F6 cathode.

When the wiring has been completed and checked, the power cable can be wired in—black lead to "C" on the power transformer panel, red to "220v., 240v., or 260v.," depending on the voltage of the supply mains, and, if a 3-pin plug is used, white or any other colour, to chassis.

#### MOUNTING THE DIAL

Lastly, the dial can be mounted and the dial lights wired up. To do this, run a pair of twisted leads from the heater lugs of the 6F6 socket to the lugs of the dial light sockets. A pair of leads is then run between the lugs on the two dial light sockets, and the wiring is complete.

#### READY FOR OPERATION

Take a final run over all connections, and then plug in the valves and speaker, and connect up the aerial and earth leads.

Invert the chassis and turn on the power, and at the same time watch and listen closely for any signs of sparking or power transformer overload. If a faint bubbling is heard from the transformer, for example, switch off immediately, as there is something radically wrong somewhere.

If everything seems O.K., however, and a faint hum is heard when an ear is placed close to the speaker, the volume control can be

## "SKY HAWK FOUR" PARTS LIST

- 1 Chassis
- 1 Dial
- 1 .0001 mfd Midget Condenser
- 1 2-gang Variable Condenser
- 1 Aerial and R.F. Coil
- 1 each Type 6K7, 6C5, 6F6, 5Z4 Valves.
- 5 Wafer Valve Sockets
- 1 60 M.A. 6.3 Volt Power Transformer
- 1 10,000 ohm Wire Wound Potentiometer
- 1 R.F. Choke
- 2 8 mfd Electrolytic Condensers
- 1 25 mfd Electrolytic Condenser
- 5 Fixed Condensers
- 1 15,000 ohm Voltage Divider
- 5 Resistors

SUNDRIES: Hook-up Wire, Tip Jack, Grid Clips, Knobs, Solder Lugs, Nuts and Bolts, etc.

### Complete Kit of Parts (WITHOUT SPEAKER)

as above— **£9/15/-**  
Cat. No. AK2054

### Speaker

Suitable Speaker for the "Skyhawk 4" would be "Rola" 8in. E.M.—Cat. No. AS922 **£2/16/6**

# WAR BARGAINS!

SEE PAGES 49-56

# This Crystal Set Works a Loudspeaker

(Abridged article from *Hobbies Illustrated*)

**M**ANY readers, upon noticing this heading, will probably burst into derisive laughter. However, it represents the result of weeks of experimental work. The set described and illustrated will work a loudspeaker. At our location three stations could be clearly heard, and loudest being just audible in an adjoining room.

THE secret lay firstly in using a modern super-sensitive permag speaker and secondly in getting the last ounce of efficiency from the crystal circuit and using the best available crystal. As the diagram shows, this means a simple circuit with the least losses, so it is only recommended for localities where the stations are not too far away (within 4 or 5 miles) and are sufficiently far apart in frequency to avoid interference.

Even so, don't expect the volume to rattle the flies off the lampshade, or even to approximate the output from a small portable; remember, a crystal set can't amplify and you can only get what comes down the aerial, less circuit losses. Results are best during the quiet of night, so with a good aerial (60ft. at least, outside, high up) and earth, this set is very satisfactory as a bedside wireless, and when placed alongside the pillow on a table the voices and music come through quite clearly, yet soft enough not to annoy other members of the family.

## THE TUNING COIL

Using a piece of coil former  $1\frac{1}{2}$ in. diameter by 3in. long, wind on 110 turns of approximately 30-gauge S.W.G. enamelled or cotton-covered wire, starting about  $\frac{1}{4}$ in. from the bottom, to clear the mounting brackets. Make a tap at the 10th turn and then every 5 turns up to the sixtieth turn or up to the eightieth if you haven't "had it" by then! A simple way to make the tap is to bare half an inch of the wire, loop it and twist it up, then fix it with a drop of solder. "Stagger"

the taps about half an inch on the former to help in connecting and avoiding shorts.

The little angle brackets supplied with each kit are fixed to the coil with  $\frac{1}{4}$ in. Whitworth brass bolts and nuts, and to the baseboard with short screws.

## THE CRYSTAL

Quite some time was spent trying the various types, and we found that while the cats-whisker type could give very loud signals, the sensitive spots were few and far between, and the catswhisker would jump off with the least provocation. However, as there are no phone cords to jerk the set round, they are practical and those who must use this type can get a good imported crystal.

However, the best all-round type is undoubtedly the "Red Diamond" semi-permanent detector, where a special second crystal takes the place of the catswhisker, and the two are held firmly by a spring.

## A DE-LUXE CRYSTAL

Some of you wealthy fellows can try the new Sylvania 1N34 crystal diode, reputed to be the "loudest crystal ever" by American enthusiasts. Our depleted pocket could not stand the required £1 or so, but we understand that they have extremely small losses and need no polarising, so ought to be highly suitable for our purpose.

## IMPORTANT

When adjusting any kind of double crystal always pull apart the crystals before moving by means of the arm. Always keep them from scraping, i.e., never rotate the arm or move it about with the crystals touching, but pull outwards, move or turn it, and place directly back without any twisting or scraping.

## THE CHASSIS

The chassis consists of a front and back strip cut from  $\frac{1}{4}$ in. plywood as shown in Fig. 3, screwed to a base measuring  $6\frac{1}{2}$  x 3 $\frac{1}{2}$ in. The .0005 mfd. variable tuning condenser, on-off switch and detector, are mounted on the front strip, as seen by the top plan in Fig. 3.

Having fitted the four terminals to the back strip, screw the coil down and wire it in, then wire the rest according to Fig. 2.

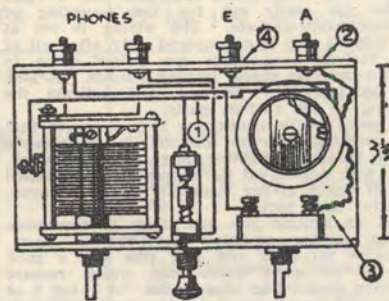
Check the circuit and see that it is all right. Do not try to follow the wiring off Fig. 3 just copy the lay-out, as the drawing is actually of a different circuit we were experimenting with and we used it to avoid making a fresh one! For the connections use Fig. 2.

## THE SPEAKER

The set is designed for a 6in. Rola permag, which is an exceptionally sensitive type, with a 15,000 ohm matching transformer (anything from 10,000 ohms will do). We have also tried an 8in. Rola with equally good results.

## AERIAL AND EARTH

As we have said before you need a good aerial to catch all the signal you can. Use about sixty feet, up to a hundred feet, and as high as possible. Make it about 50ft. long, of bellwire or similar—you can get nylon-covered which is cheap and efficient. If the aerial to the house set runs near your window, you can make a connection to it.

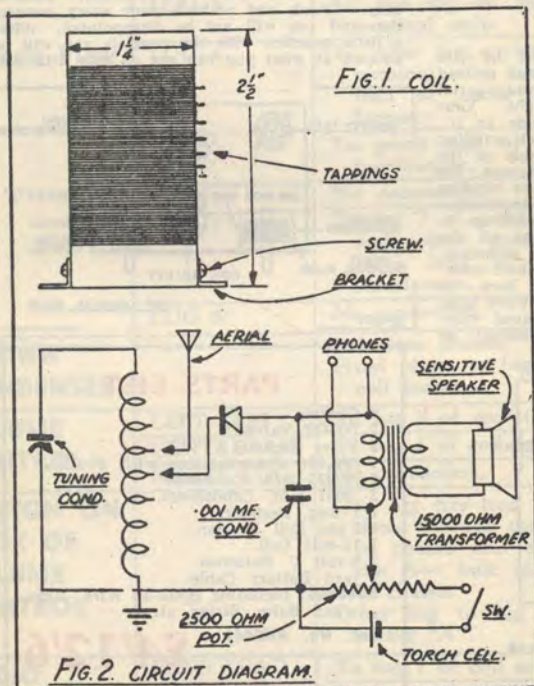


The earth must be good—connect to a water-pipe (NOT a gas-pipe) near where it runs underground if possible, or drive a pipe into the earth for 2 or 3 feet, fill with salt or a few copper-sulphate crystals and moisten. Drill for a screw to make a good connection, or use a commercial earth clip.

## OPERATING

Set the tuning dial to the middle of its range and adjust the crystal until you hear a station, tune it in and vary the potentiometer until the signal is best. Reverse the battery leads if there is no improvement.

Try the aerial and crystal leads on the various taps (the same, and different ones, independently) until you have the best compromise between the strength and lack of interference. Re-tune each time you alter a tap. Furthermore, don't bend the taps over much, as breakage of coil-wire might ensue, occasioning much wrath, which, as we all know, is bad for the system.



## PARTS LIST

- 1 .0005 mfd. Tuning Condenser.
- 1 .001 Fixed Condenser.
- 2oz. 30-gauge Enamelled Wire.
- 1 Red Diamond Crystal Detector.
- 1 2500 ohm Potentiometer.
- 1  $1\frac{1}{2}$ in. x 3in. Coil Former.
- 1 S.P.S.T. Toggle Switch.
- 4 Terminals.
- 2 Knobs.
- 1 Torch Cell.
- 1 Baseboard.
- 2 Panels.
- 2 Crocodile Clips.
- Sundries: Hook-up wire, lugs, screws, etc.

## KIT OF PARTS

(As above)

Cat. No. AK2064—

**28/11**

"Rola" 6in. Model 6J  
Speaker (Extra).

**£2'3/-**

# "EASY BUILT" OCTAL HIKERS TWO

THIS latest addition to our "Easy-Built" family is the ever-popular "Hiker's Two". A two-valve set which has been in great demand in the past, we now present it again but this time with a more complete write up. This set will easily drive a speaker on the more powerful stations and of course headphones may be used if desired.

The chassis measures 6in. x 4in. and is 1in. deep. The front panel measures 6in. x 4½in. Holes are ready cut for the mounting of sockets, controls, etc. The wiring is not at all difficult and is commenced only after all of the various components are bolted down in their respective places on the chassis. A look at the top view diagram will indicate the placing of the various parts.

A point worth mentioning here is to see that the earthing lugs on the chassis are scraped clean before attempting any soldering work. You will notice we have prepared a detailed list of parts giving complete wiring information for each part.

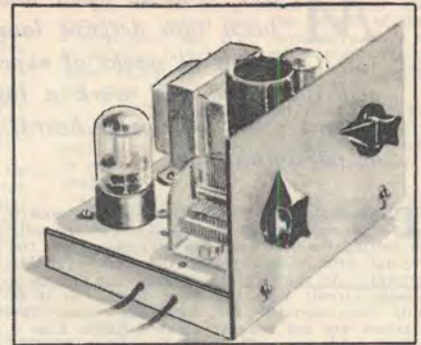
Let us assume you are about to commence wiring having mounted the various parts. There is no hard and fast rule but a good idea is to earth those lugs which require earthing first. Lug 2 of socket "A", lug 2 of socket "B" and lug 3 of the coil socket all need earthing and should be earthed to the

We will say no more on the actual wiring as a study of the list and diagrams we have prepared should give you all the information you want. Good soldered joints, short leads, and neat appearance are things to aim at. When taking the battery leads out through the chassis, stick to a system. Use the hole nearest the side of the chassis for A-, the next one A+, then B-, next B+15, and finally B+18. Be sure not to make them too short. Also twist the A- and A+ leads together and this will prevent any confusion with the "B" leads.

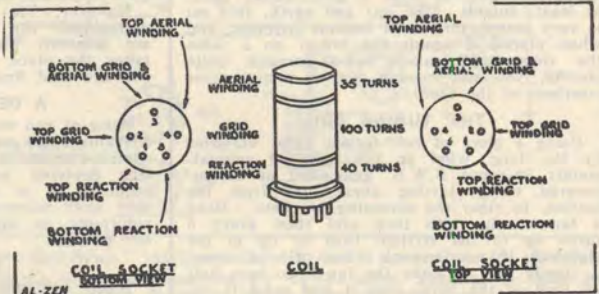
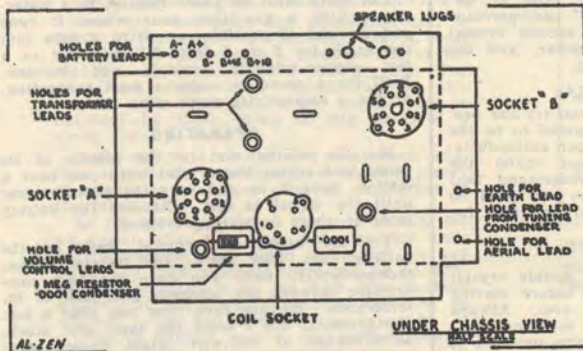
### WINDING THE COIL

Let us now proceed to the only thing which may be considered a bit tricky—winding the coil. This consists of three windings of 32-gauge enamel wire all on the one former. Neatness is essential if erratic operation is to be avoided.

Make a small hole at the top of the former above the appropriate pin, which is number 1, feed the wire through the hole and down the inside of the former, bring it out at the gap between the former and the base, thread the wire through one of the holes at the bottom of the former several times and be sure to leave enough to solder on to the appropriate pin. Then commence to wind closely and neatly 35 turns. When this is done make a small hole



turns; reaction winding: 15 turns. Half a turn either way makes a big difference with short-wave coils and an interesting time can be had making up a few different coils. Local and overseas "hams" and many other stations can be heard in this way.

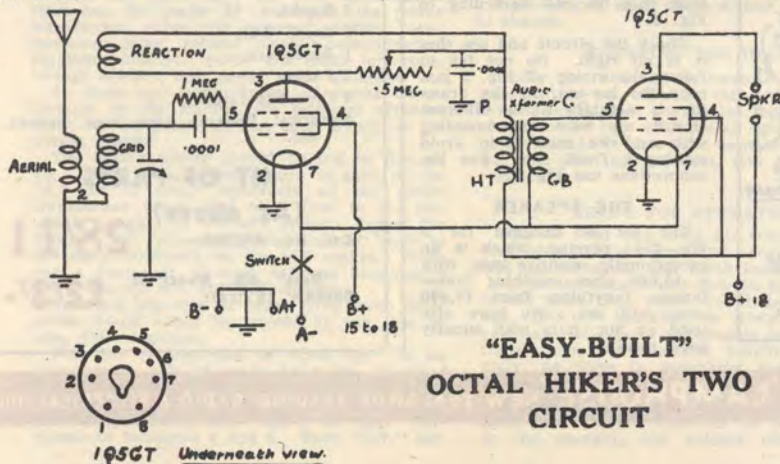
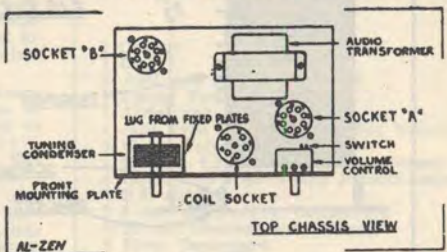


A final word—don't rush the job. Take it easy. Check and recheck your every connection and you will not be disappointed. After a little practice with the controls you will be amazed at what you can get on this little set.

nearest lug on the chassis. Keep your leads short and close to the chassis.

Before proceeding, tick these connections off on your list. Carry on now as you wish taking care to check each connection against your list. For instance, lug 4 of the coil socket has about a foot of wire soldered to it which is fed through the hole in the side of the chassis. The aerial is connected to this lead. Tick this off against your list and when the list is completely ticked off you can be sure you have wired your set correctly. You can easily cross-check each connection. Take lug 5 of the coil socket—this goes to lug 3 of valve socket "A" and if we look at the list again we see that lug 3 of valve socket "A" goes to lug 5 of the coil socket so we get a double check.

directly above pin number 3 and feed the wire through, making sure you leave enough to lead down to the pin. This completes your aerial winding, which should be quite tight. Your grid and reaction windings are done in the same way leaving ½in. between each winding and taking the leads down the inside of the former to their correct pins. Scrape the enamel off the ends of the wire before winding round the pins and soldering. The application of coil "dope" helps to keep the windings in place. An important point—see that all the windings are put on in the same direction. Well, there is room for experiment here. A coil which will cover the usual short-wave band can be made up using 26-gauge enamel wire. Aerial winding: 4 turns; grid winding: 20



### PARTS LIST

- 1 Chassis.
- 2 1Q5GT Valves.
- 3 Valve Sockets.
- 1 500,000 Potentiometer with Switch.
- 1 .00035 mfd. Condenser.
- 2 .0001 mfd. Condensers.
- 1 1 meg. Resistor.
- 1 5-pin Coil Former.
- 1 1½-volt Cell.
- 2 9-volt C Batteries.
- 1 yard Battery Cable.
- Sundries: Including Hook-up Wire, Nuts and Bolts, Strips, etc.

Cat. No. AK2041 **£4/12/6**

### Suitable Speaker

Cat. No. AS960—Rola 5in. P.M. **£1/9/9**

**CONNECTIONS TO BE MADE**

<b>COIL</b> Under Chassis View	LUG 1	To centre lug of volume control. To one end of .0001 condenser. To blue lead of audio transformer.
	LUG 2	To fixed plates of tuning condenser. To one end of the .0001 condenser and 1 meg. resistor which are twisted together.
	LUG 3	Earthed to chassis.
	LUG 4	To length of wire which is used for aerial connection.
	LUG 5	To lug 3 of valve socket "A".
<b>VALVE SOCKET "A"</b> Under Chassis View	LUG 1	No connection.
	LUG 2	Earthed to chassis.
	LUG 3	To lug 5 of coil socket. Left-hand lug of volume control.
	LUG 4	Has length of wire soldered to it which goes to B+15.
	LUG 5	To the twisted ends of the .0001 condenser and 1 meg. resistor.
	LUG 6	No connection.
	LUG 7	To lug 7 of socket "B". To one lug of the switch attached to the back of the volume control.
	LUG 8	No connection.
<b>VALVE SOCKET "B"</b> Under Chassis View	LUG 1	No connection.
	LUG 2	Earthed to chassis.
	LUG 3	To one lug on speaker terminal strip.
	LUG 4	To other lug on speaker terminal strip and red lead of audio transformer.
	LUG 5	To green lead of audio transformer.
	LUG 6	No connection.
	LUG 7	To lug 7 of socket "A" and other green or black lead of audio transformer.
	LUG 8	No connection.
<b>TUNING CONDENSER</b>		Bolted to chassis. Fixed plates to lug 2 of coil socket.
<b>VOLUME CONTROL</b>	LEFT LUG	To lug 3 of socket "A".
	CENTRE LUG	To lug 1 of coil socket.
	RIGHT LUG	No connection.
<b>SWITCH ON BACK OF VOLUME CONTROL</b>		One lug has lead going down through the hole in chassis and out of the A- hole at back of chassis. Other lug to lug 7 of socket "A".
<b>AUDIO TRANSFORMER</b>	BLUE LEAD	To lug 1 of coil socket.
	RED LEAD	To lug 4 of socket "B".
	GREEN LEAD	To lug 5 of socket "B".
	BLACK or other GREEN LEAD	To lug 7 of socket "B".

<b>1 MEG. RESISTOR and .0001 CONDENSER</b>		These will be considered as a single unit as they are placed together and have their ends twisted and soldered. One pair of ends go to lug 5 of socket "A". The other pair go to lug 2 of the coil socket.
<b>.0001 CONDENSER</b>	ONE END OTHER END	Earthed to chassis. To lug 1 of coil socket.
<b>SPEAKER TERMINAL STRIP</b>	ONE LUG	Has lead from lug 3 of socket "B" soldered to it.
	OTHER LUG	Has lead from lug 4 of socket "B" and lead from B+18 soldered to it.
<b>BATTERY LEADS</b>		These are fed through the five small holes at the back of chassis.
	B+18 LEAD	Connects up to the same lug on the speaker terminal strip as that to which lug 4 of socket "B" is connected.
	B+15 LEAD	Connects to lug 4 of socket "A".
	B- LEAD	Is earthed to chassis.
	A+ LEAD	Is earthed to chassis.
	A- LEAD	Connects to one lug of switch attached to back of volume control. There is a hole directly below the control through which to feed the lead.
<b>BATTERIES</b>		You will receive three batteries with your kit. The large round one being the "A" battery and the two flat batteries when joined together the "B" battery. The centre connection on the round cell is A+, the outside connection is A-.
		The B battery is made up by connecting a short wire between -9 on one battery and + on the other battery. This now leaves a + terminal free which becomes B+18 and a free -9 terminal which becomes B-. B+15 is the second terminal away from B+18. It has -3 marked on it but don't worry about that. Ignore all other markings on the batteries.
	AERIAL LEAD	This feeds through a hole in the side of the chassis and connects to lug 4 of coil socket.
	EARTH LEAD	Feeds through other hole and is earthed to suitable lug.

# NEW "EASY BUILT" SUPER FIVE

WE present here a brand-new version of our "Easy-Built 5." A study of the schematic diagram "A" will no doubt be of interest to our more experienced builders. The use of the ECH21 converter tube will probably be met with a nod of approval and we can assure you that it has a great bearing on the outstanding performance of this excellent receiver.

However, as far as this article is concerned, the man who wants to build a set and merely wants to know how to put it together is our main concern. Let us then assure anyone who is considering building this receiver that this is a high-class job which will out perform many 5 valvers on the market today.

You will notice we have prepared two lists: One with the various parts listed alphabetically, A, B, and so on—the other numerically, 1, 2, etc. The first list refers to the larger components, coils, tuning condenser, valve sockets, etc., and the second list to the various trimmers, resistors, and fixed condensers. There are various diagrams also to enable you to get a good idea of the placement of the parts—this will be of great value to the beginner as the wiring is enormously simplified if the components are properly placed.

Having checked off all the parts, the next thing is to get cracking on the actual assembly. Mount the sockets first. Note that "A" is the odd loctal socket. With your kit you will receive some solder lugs. These are mounted at suitable points under the chassis to enable the easy earthing of any components which require to be earthed to the chassis. These are secured by a nut and bolt or by placing under the nut which secures the valve sockets in place.

When mounting the sockets see that the notched hole or key-way points in the direction indicated in the diagram. Loctal socket "A" (the ECH21 socket) has its key-way pointing to the edge of the chassis, also a solder lug is placed under the securing nut nearest this key-way. Socket "B," the 6U7G socket, is mounted with its key-way pointing to the rear of the chassis. An earthing lug is also placed under the nut nearest this key-way also. This valve needs shielding, so mount the shield base when attaching socket. Be sure to bolt down firmly. Now, socket "C," the 6Q7GT socket, with its key-way pointing to the chassis front, also has a lug attached to this point. Socket "D," the 6V6GT socket has the key-way pointing to the rear and a lug at this point. Finally we come to the 6X5GT socket, socket "E." This mounts with the key-way pointing away from the chassis edge and has a solder lug under the nut nearest the key-way.

Now with all the sockets mounted, fit the two I.F. transformers "I" and "J" in place, also the power transformer "K," and under the chassis the filter choke "L." Place a solder lug under each mounting nut. Twenty-eight and 29, the tone and volume controls,

may also be fitted. A study of the given chassis and under chassis diagrams will indicate the positioning of these parts. Do not attempt to mount the sub chassis and condenser gang yet as this will have to be wired up first before attaching to the main chassis. Just leave that on one side for the time being. Having got your valves and dial removed from the scene of operations, turn the chassis over.

Before going any further, remember this—poorly soldered joints are the cause of more disappointment in a set's performance than all other constructional faults put together. Erratic performance can often be put down to bad connections, so please be careful with your soldering. Keep your iron properly tinned and use your solder sparingly. A great blob of solder does not necessarily mean a good joint. Do not try to solder dirty leads or lugs—scrape them clean first. When you are dealing with several leads, twist together first and then solder.

Take a look at under chassis diagram "C." This gives you the approximate placing of the various small parts. We have shown no wiring as it was felt that the number of leads going apparently in all directions at once would confuse, rather than help, the beginner. Instead we use our lists. Look at "A" on our list of connections to be made. Now "A" is the ECH21 socket and suppose we take pin No. 3 we will see that this connects to the yellow lug on "H," the oscillator coil, and if we refer to "H" on the list, you will see that the yellow lug goes to pin No. 3 of "A." This enables you to cross-check any connection you make. The idea now is that as you make the various connections you tick them off the list. When you have ticked off all of the connections you can be sure that the wiring up is complete. By this means you can keep an eye on the correctness of your wiring.

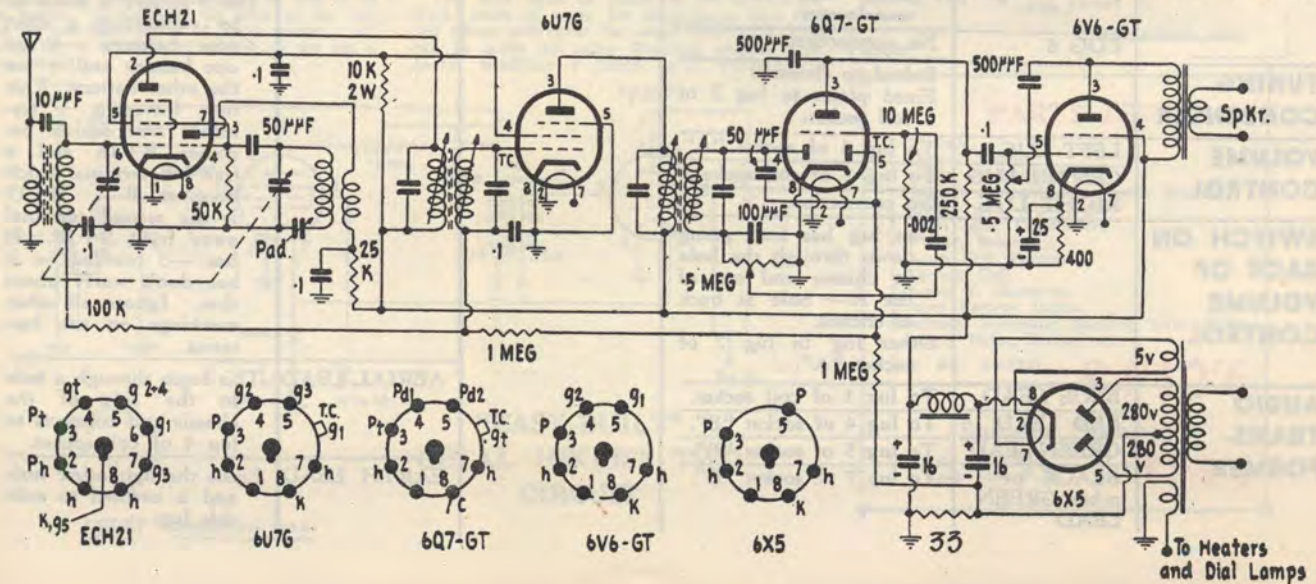
The heaters of the valves are generally the first things to wire up, so let us get on with that particular job. First, earth one of the 6.3 lugs on "K" the power transformer, to the nearest solder lug. Now solder a length of hook-up wire to pin No. 8 of socket "A" and then lead it along the chassis to pin No. 7 of socket "B," cut off. Now solder the two ends to the No. 7 pin. Continue the lead now along to pin No. 7 of socket "D," cut off, but don't solder as there are other connections to be made to this pin yet. Solder now a lead to the remaining 6.3 lug on the transformer "K" and run this along also to pin No. 7 of socket "D," cut off, and now with the lead from socket "B" and the end from the coil of



hook-up wire twist and solder the three ends to the No. 7 pin of "D" socket. Lead the coil of hook-up wire now to pin No. 7 of socket "C" and cut off. Solder this and another length of about 10in. to this pin and push the free end of the 10in. length through the hole in the chassis directly below 29, the volume control. This lead will be used later for wiring up the dial lights. You have now wired up one side of your heaters. Check and make sure your wiring corresponds with the list connections. Tick them off as you go.

Now back to socket "A." The centre lug and the No. 1 lug are joined together and earthed to the solder lug, which is, we hope, secured under the nut which holds the socket in place. Tick this off. Now to socket "B." This socket has three lugs earthed, 2, 5, and 8, so solder a short lead on 2, and one on 5, and then solder the two ends to pin No. 8 and earth this pin to the nearest solder lug. Tick this little lot off. Socket "C" has pins No. 1, 2, and 8 earthed. Link these three together with a short length of bare wire and earth to the nearest lug. Now with socket "D," earth pin No. 2 only. Have a look now at socket "E" which is the 6X5GT socket. We can put a little work in here. Pin No. 2—solder one end of hook-up wire on to this and lead over to one 5v. lug of transformer, "K." Cut off and solder this end to the lug. Now with pin No. 7 repeat the process and finish up on the other 5v. lug of "K." Take pin No. 3 now, solder a lead on and solder other end to one 280v. lug of "K." A lead now to pin No. 5 and the other end solder to the other 280v. lug.

Have a look now at the small sub chassis. This mounts above the main chassis and on it is mounted the tuning condenser "F," and beneath this little chassis is mounted the two coils and various other odds and ends. Suppose we get this sub chassis wired up now



and mounted in place. A glance at diagram "D" will indicate the positioning of the various parts. The coils "G" and "H" are attached to the chassis by a small bolt.

Now first of all secure the tuning condenser "F" in place, securing a couple of solder lugs down at the same time, and then the two coils, "G" and "H," should be mounted. Now, with the aerial coil "G," you will find a tiny condenser. Solder this across the yellow and green lugs. Solder about 2ft. of pushback wire to the yellow lug—this will be used as your aerial lead. Now on each of the bottom lugs of the two-gang condenser "F," solder two leads of sufficient length to feed through the respective holes and connect to the two coils. The lead

end of 21 the 10,000 ohm, 2-watt resistor. Now take the free ends of 6 and 7, the .1 condensers, and earth onto a solder lug. Now back to the B+ lug of "I," the 1st I.F. tranny, solder a lead from there to the B+ lug of "J," the 2nd I.F. tranny, also to this B+ lug of "J." Solder the free end of 21, also one end of 22, the 250,000 ohm resistor and a 4 1/2 in. lead.

Now to socket "D," the 6V6GT socket. Onto pin No. 4 solder the following: The other end of the 4 1/2 in. lead, the positive (+) end of 16, the 16 mfd. condenser, and one lead of "L," the filter choke. Earth the negative (-) end of 16. To pin No. 8 of socket "E," the 6X5GT socket solder the positive (+) end of 17 the other 16 mfd. condenser and the other lead of "L," the filter choke. To pin No. 2 of socket "D" solder one end of 27 the 400 ohm resistor. This pin should be earthed. To the No. 8 pin, solder the free end of 27, plus the positive (+) end of 15 the 25 mfd. condenser. Earth the negative (-) end of 15 to the nearest solder lug.

Take a look now at 28, the tone control. The right-hand lug (that is the lug on the right when you look at the back of the control and the lugs point upwards) is earthed to the chassis. From your shielded lead, cut two lengths about 13in. each. See that the shielded braid is pushed back far enough to prevent it shorting onto the wire. Now solder one end of each of these two leads onto the centre and left-hand lugs. Run these two leads along the front of the chassis and then at right angles across the chassis to socket "D."

The lead from the left-hand lug going to pin No. 5 and the lead from the centre lug to pin No. 6. It is advisable to solder these two shielded leads together at two or three points along the way. Also near the front of the chassis you should have a couple of solder lugs under the nuts which secure the sub chassis. Earth the braid to these two lugs.

Now 29—the volume control. Earth the left-hand lug to the nearest solder lug. Now solder one end of your shielded wire onto the right-hand lug, lead across the chassis to the diode return lug of "J," the 2nd I.F. transformer and solder on together with one end of 9, the .0001 mica condenser. Earth the other end of 9, also the braid to the solder lug under the nut which secures the rear section of the sub chassis. Solder a lead between the plate lug of 2nd I.F. tranny "J" and pin No. 3 of 6U7G socket "B." Now still on "J," solder a lead onto the diode lug and solder the other end onto pin No. 4 of "C," the 6Q7GT socket, together with one end of 10, the .00005 mica condenser. Now onto pin No. 5 of "D" solder one end of 13, the .1 paper condenser, the other end solders with 11 the .0005 mica condenser and the free end of 22, the 250,000 ohm resistor onto pin No. 3 of socket "C." Earth the other end of 11. Do not have these leads

longer than necessary. Nip off any leads which are too long. Still with socket "C," connect the following onto pin No. 5: One end of 23 and 24, the 1 meg. resistors, also the free end of 10. Now pin No. 6. Cut about 7in. of shielded wire and solder one end, together with an end of 12, the .002 condenser, and 25, the 10 meg. resistor, onto this pin. See that the braid does not short onto any of the wiring. Push this lead up through the hole provided in the chassis. Later on a grid clip is soldered to this end to go onto the top of the 6Q7GT valve. Solder the other end of 12 onto the centre lug of 29, the volume control. Earth the free end of 25.

Have a look at 26 which is a 33 ohm resistor. As we do not possess such a value, we have substituted two resistors, one 100 ohm, and the other of 50 ohm. These are placed side by side and the ends are twisted together, thus making a single unit. Now solder one end of this unit together with one end of your hook-up wire onto the negative (-) lead of 17. Be sure you cut the resistor and condenser leads as short as possible. Earth the free end of 26, the 33 ohm unit. Now lead the hook-up wire which has one end attached to the negative lead of 17, over to the C.T. lug of "K," the power transformer. Cut off and solder the two ends onto this lug. Now lead the hook-up wire along the chassis, keeping it as flat as possible and take it over to 23. Cut the pigtail of 23 as short as possible, leaving only enough to solder the lead to. Now with 24, the other 1 meg. resistor, also cut the pigtail short and solder one end of your hook-up wire to it and lead the wire across to the grid return lug of "I," the 1st I.F. transformer. Now before soldering to this lug, also attach the insulated end of 8, the .1 condenser. Earth the other end of this condenser. Now across pin No. 3 of "D," and pin No. 6 of "D" solder 14, the .0005 mica condenser.

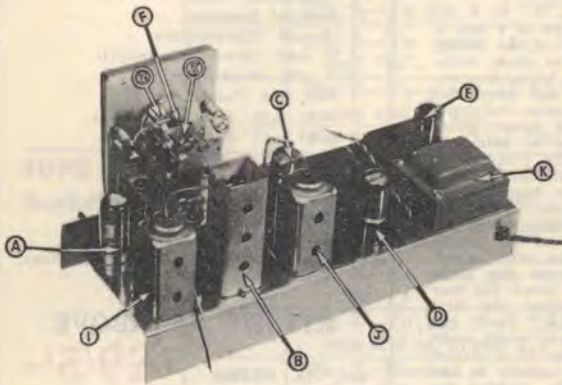
Now wire up your power flex to the 230v. lugs on the transformer "K." Be sure to use a rubber grommet in the hole where the flex comes through the rear of the chassis. This should complete the under chassis wiring.

Fit the dial now. This needs little explanation. You will see the tuning shaft is fitted to the hole between the volume control and tone control, and a cord feeds up from here to the dial drum which mounts onto the tuning condenser shaft.

We come now to the wiring of the dial lights. Having got your dial completely set up, solder the end of the hook-up wire which is poking up from the chassis onto one lug of the holders, then continue a lead across the back of the dial to one lug on the other holder. The other lug on each should be bent back and soldered to the holder clip. Screw the lights in and fit the holders in place.

You still have a shielded lead doing nothing in particular, so plug the 6Q7GT valve into its socket which is "C." Estimate the length of lead required to go to the top cap of this valve, see that the braid will not foul the wire and solder on the grid clip. Do not solder when the clip is on the valve.

Solder about 18in. of black lead onto a suitable solder lug and lead to the rear of the chassis. This will be used as the earth lead. The best plan now is to thoroughly check all

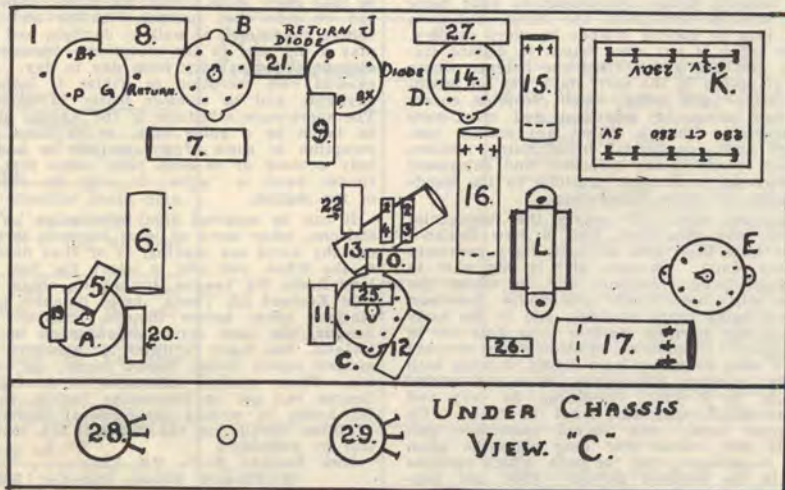


from the front section going to green lug of the aerial coil "G," and the lead from the rear section going to the green lug of oscillator coil "H." Now from these lugs we have to take other leads which feed through the main chassis and connect up underneath there. A good idea is to use leads having the same colour as the lug to which each is to be soldered. That is, green lead to green lug, yellow lead to yellow lug, and then there will be no mistake. Let us get cracking.

To the green lug of aerial coil "G," solder about 4in. of green hook-up wire. Earth the red lug to nearest solder lug. Now to the black lug. Solder the insulated end of 4, the .1 condenser, also one end of 18, the 100,000 ohm resistor. Now earth the other end of 4. Solder about 8in. of wire to the free end of 18. Turn to the oscillator coil, "H" now. Solder about 4in. of green lead to the green lug. Now about 6in. of red lead to the red lug, also the same length of yellow lead to the yellow lug. Have a look at 1, the padder condenser, that is the one with the porcelain base. Attach this so that the adjusting screw may be seen through the small hole in the top of the sub chassis. Earth one lug and take a short lead to the black lug of "H," the oscillator coil from the other lug.

Let us now mount the sub chassis in place, making sure to push the loose leads through the holes in the top of the main chassis and when securing in place, put a solder lug under each securing nut. Take the green lead of the aerial coil "G" and solder onto pin No. 6 of "A," the ECH21 socket. Solder the lead from 18, the 100,000 ohm resistor onto the grid return lug of "I," the first I.F. transformer. Do not have any of these leads longer than necessary. The green lead from oscillator coil "H" connects to one end of 5, the .00005 condenser, the other end of 5 going to pin No. 4 of "A," the ECH21 socket. Cut the condenser leads short so as not to contact any other parts. Now solder the yellow lead from the oscillator coil "H" onto pin No. 3 of "A" and the red lead from "H" onto one end of 20, the 25,000 ohm resistor, also to the insulated lug of 6, the .1 condenser, the other end of 20 being connected to the B+ lug of "I" the first I.F. transformer. Do not earth 6 yet!

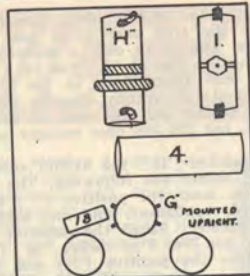
Now solder a short lead from pin No. 4 to pin No. 7 of "A," also solder one end of 19, the 50,000 ohm resistor to pin No. 7. Earth the other end of 19. No. 2 pin of "A," now, a lead from there to the plate lug of "I," the first I.F. transformer. A lead now from pin No. 5 of "A" to pin No. 4 of "B," the 6U7G socket. Before attaching, however, to this No. 4 pin of "B," connect also the lug on the insulated end of 7 the .1 condenser and one



your wiring and see that there is no faulty wiring, unintentional blobs of solder causing shorts, etc. All being O.K., wire up your speaker. Now these leads go through the hole in the chassis near the power transformer. This should have a grommet placed in it. One lead goes to pin No. 3 of "D," and the other lead to pin No. 4 of "D." It is also a good idea to take a lead from the frame of the speaker and earth it onto one of the solder lugs under the chassis. These three leads can all feed through the one hole.

Now fit the various valves into their sockets, placing the shield on the 6U7G valve and attach the grid leads. Connect up the aerial and earth. Give the set a trial run now and watch the 6X5GT valve in particular for any excessive heating inside the tube. Should it tend to glow red all over, switch off immediately. Check your wiring and rectify the fault. If you have made a good job, there will be no trouble of this sort and the valve will have a dull red glow near the top.

Now assuming you are getting some sort of results from the set, the next job is to adjust the various trimmer and padder condensers for best results. This is a most important operation and must be done carefully. Bull-at-a-gate methods are out. All adjustments should be made with a non-metal instrument, such as a broken knitting needle filed to fit the adjusting screws. First of all, screw in 1, the padder condenser tightly and then slacken off about one

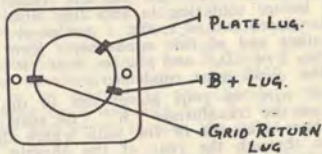


MOUNTING OF PARTS ON SUB CHASSIS "D"

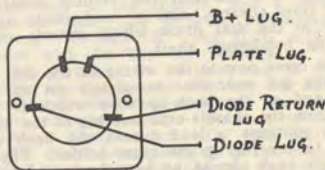
turn. Then tighten up the screws of 2 and 3, the trimmer condensers on top of the tuning condenser, and slacken off two or three turns. Now tune in a station at the high-frequency end of the dial. That is, the end where the tuning condenser plates are almost fully unmeshed. Keep the volume well down, either with a small temporary aerial, or by using the volume control. Now adjust the trimmer on the front section of the gang for best volume, using the volume control if it becomes too strong. Should you require to screw the trimmer right out, you must then screw the rear trimmer in about one turn and then adjust the first trimmer again. On the other hand, if you find it necessary to screw the front trimmer right in, then you must screw the rear trimmer out one turn and adjust the first trimmer again for best results. Rock the tuning knob slowly back and forth while making these adjustments. Now tune in a station round about 1YA or 2YA and adjust 1, the padder condenser for best results, rocking the knob slowly back and forth at the same time. This is all we can advise in the way of adjustment. The two I.F. transformers have two adjusting screws also, but it is very easy to break these if the utmost care is not exercised. Should you decide to try any adjustment, do not turn them more than a 1/2-turn either way. If at all possible, get the whole job aligned by a qualified serviceman.

All that is required now is the fitting into the cabinet and your job is completed and a fine set you will have, the outstanding performance of which is contributed to in no small measure by the ECH21 converter tube. We can assure you, you will be delighted with the result of your few hours labour spent in its construction.

I.F. TRANSFORMER CONNECTIONS.



1<sup>st</sup> I.F. "I" GRID LEAD FROM TOP OF CAN.



2<sup>nd</sup> I.F. "J"

PARTS LIST

- 1 Chassis.
  - 1 each ECH21, 6U7G, 6Q7GT, 6V6GT, 6X5GT Valves.
  - 4 Octal Valve Sockets.
  - 1 Octal Valve Socket.
  - 1 2-gang Variable Condenser.
  - 2 Trimmers.
  - 1 Padder.
  - 1 Unshielded "Ensign" Aerial Coil.
  - 1 Unshielded "Ensign" Oscillator Coil.
  - 1 "Sky-King" Dial.
  - 11 Assorted Resistors.
  - 2 16 mfd. Electrolytics.
  - 1 25 mfd. 25-volt Electrolytic.
  - 5 .1 mfd. Condensers.
  - 1 .002 mfd. Condenser.
  - 2 .0005 mfd. Mica Condensers.
  - 1 .0001 mfd. Mica Condenser.
  - 2 .00005 Mica Condensers.
  - 2 1/2-meg. Potentiometers.
  - 1 280/280 6.3-volt Transformer.
  - 1 Filter Choke.
  - 3 Knobs.
- Sundries: Hook-up Wire, Bolts and Nuts, Lugs, Clips, etc.

KITSET AS ABOVE

Cat. No. AK2065 .. £9/5/-

Kitset with "Rola" 8in. 8K Speaker

Cat. No. AK2065A .. £11/7/6

Kitset with Speaker and Veneered Cabinet

Cat. No. AK2065B .. £15/7/6

WIRING CHARTS GIVEN ON NEXT TWO PAGES

HINTS FOR THE DX LISTENER

ALL readers of the Annual have at some time wondered how to hear a certain broadcast, and often wished they knew when and where to listen. In the early days of radio the DX hobby was founded and over the years has proved to be the most interesting and educational hobby in existence. It not only helps to bring programmes to your home from stations throughout the world, but is a great help in making friends in every country. The DXer is one who listens to distant stations, and has grown from the listener whose only reception in the early days was on broadcast band, until today, when reception covers the vast range of broadcast and short-wave frequencies. Though DXers are mainly concerned with commercial broadcasting stations on both bands, many members find enjoyment in listening to amateur stations in the bands set aside for these transmitters.

Broadcast band DX covers the frequencies 550 to 1600 kilocycles, and in New Zealand DXers have been able to hear every continent on this band. Seasons play a big part in broadcast band reception, and in winter listeners will find North and South American stations being heard at dusk, and in the early hour of the morning stations from Asia are in abundance. In summer, conditions are reversed with a total reception from North America both in the evening and again from the period 11 p.m. to 2 a.m. Conditions do vary and Asian signals are also heard at times. On broadcast band, one should remember that signals only travel over long distances when there is darkness over the path, which explains why in the equinox periods (April and Sep-

tember) signals from Europe and Africa are heard at dawn, they travel in darkness from the transmitter over Asia and down to New Zealand.

Short-wave signals being radiated upwards in a slanting direction and redirected downwards by the very high layers in the atmosphere and so take giant skips across the globe. There it can be seen that sunspot, weather and ionosphere conditions, as well as daylight and dark play a big part in the reception. Signals will also be found to vary from day to day. As a general rule reception in winter is better in daylight, and in summer better in darkness. The short-wave schedules in the Annual should be taken as a guide only, as in some cases reception of some of the stations is had for only a week or so each year, when that particular band is "alive" to suit the schedule of the station.

It can be expected that information on new stations, other news on what listeners throughout the world are hearing, is of vital necessity to the DXer, and this is where the New Zealand Radio DX League through its organ "The New Zealand DX Times" helps listeners to get stations never before thought possible. The League, the most active organisation in Australasia, has many facilities for members, with airmail report forms, report forms, log books, etc. Those readers interested in joining the League can get an interesting booklet on the DX hobby by writing the National Secretary.

Full details on the N.Z.R.D.X.L. can be had by writing,

New Zealand Radio DX League, 15 Plunket Street, Dunedin, S.2.

Useful Conversion Table

Multiplied by	to obtain
Diam. of circle	3.1416 Circumference
Metres	1.0933 Yards
Metres	3.28 Feet
Sq. Metres	1.196 Sq. Yards
Sq. Metres	10.764 Sq. feet
Cu. Metres	1.308 Cu. Yards
Cu. Metres	35.315 Cu. Feet
Inches	2.54 Centimetres
Sq. Inches	6.45 Sq. Centimetres
Cu. Inches	16.39 Cu. Centimetres
Feet	3.048 Metres
Yards	.9144 Metres
Miles	1.609 Kilometres
Knots	1.152 Miles per hour
Kilogrammes	2.204 Pounds
Grains	.065 Grammes
Pints	.568 Litres
Ounces	28.35 Grammes
Pounds	453.6 Grammes
Litres	1.76 Pints
U.S. Gallons	.8333 Imperial Galls.

**CONNECTIONS TO BE MADE**

<b>ECH21 Socket</b>	<b>A</b>	Centre lug to pin 1 of "A" and earthed. Pin 1—To centre lug and earthed.
		Pin 2—To plate pin on first I.F. trany "I".
		Pin 3—To yellow lug on oscillator coil "H".
		Pin 4—To one end of .00005 condenser "5", also to pin 7 of "A".
		Pin 5—To pin 4 of "B".
		Pin 6—To green lug on aerial coil "G".
		Pin 7—To pin 4 of "A", also to one end of 19.
		Pin 8—To pin 7 of "B".
<b>6U7G Socket</b>	<b>B</b>	Pin 1—No connection.
		Pin 2—Earthed to chassis with pins 5 and 8.
		Pin 3—To plate pin on 2nd I.F. trany "J".
		Pin 4—To pin 5 of "A", also to one end of 7 and 21.
		Pin 5—Earthed to chassis with pins 2 and 8.
		Pin 6—No connection.
		Pin 7—To pin 8 of "A" and pin 7 "D".
		Pin 8—Earthed to chassis with pins 2 and 5.
<b>6Q7GT Socket</b>	<b>C</b>	Pin 1—Earthed to chassis with pins 2 and 8.
		Pin 2—Earthed to chassis with pins 1 and 8.
		Pin 3—To one end of 11, 13 and 22.
		Pin 4—To one end of 10, and diode pin on 2nd I.F. Trany "J".
		Pin 5—To one end 23 and 24 and other end of 10.
		Pin 6—Used as junction for one end of 12 and 25, also shielded lead which goes up through chassis to cap of valve.
		Pin 7—To pin 7 of "D", also to dial light holders.
		Pin 8—Earthed to chassis with pins 1 and 2.
<b>6V6GT Socket</b>	<b>D</b>	Pin 1—No connection.
		Pin 2—Earthed to chassis.
		Pin 3—To one end of 14, also to one speaker lead.
		Pin 4—To other speaker lead, also one lead of "L" positive (+) end of 16 and B+ lug on 2nd I.F. trany "J".
		Pin 5—To one end of 13, also through shielded lead to left-hand lug of tone control 28.
		Pin 6—To one end of 14 also through shielded lead to centre lug of tone control 28.
		Pin 7—To pin 7 of "B" and "C", also to 6.3v. lug of "K".
		Pin 8—To positive (+) end of 15, also one end of 27.

<b>6X5GT Socket</b>	<b>E</b>	Pin 1—No connection.
		Pin 2—To one 5v. lug on "K".
		Pin 3—To one 280v. lug on "K".
		Pin 4—No connection.
		Pin 5—To other 280v. lug on "K".
		Pin 6—No connection.
		Pin 7—To other 5v. lug on "K".
		Pin 8—To positive (+) end of 17 also one lead of "L".
<b>2-Gang Condenser</b>	<b>F</b>	Lead taken from bottom lug of fixed plates of section nearest dial, to the green lug of "G".
		Lead taken from bottom lug of fixed plates of rear section, to the green lug of "H".
<b>Aerial Coil</b>	<b>G</b>	The small condenser supplied is soldered between the green and yellow lugs.
		Lead taken from yellow lug and used as aerial connection.
		Red lug earthed to chassis.
		Green lug—A lead to pin 6 of "A", also to fixed plates of front section of "F".
<b>Oscillator Coil</b>	<b>H</b>	Black lug to one end of 4 and 18.
		Yellow lug—A lead to pin 3 of "A".
		Red lug—A lead to one end of 6 and 20.
		Green lug to fixed plates of rear section of "F", also lead to one end of 5.
<b>1st I.F. Transformer</b>	<b>I</b>	Black lug to one lug of 1.
		Green (grid) lead from top, fits on to cap of 6U7G valve.
		B+ lug has lead to B+ lug of "J", also to 20.
		Plate lug to pin 2 of "A".
<b>2nd I.F. Transformer</b>	<b>J</b>	Grid return lug to one end of 8, 18 and 24.
		B+ lug has lead from B+ lug of "I", one end of 21 and 22, also lead from pin 4 of "D", all soldered to it.
		Plate lug to pin 3 of "B".
		Diode lug to one end of 10 and pin 4 of "C".
<b>Power Transformer</b>	<b>K</b>	Diode return lug to one end of 9, also through shielded lead to right-hand lug of 29.
		230v. lugs to power flex.
		6.3v. lugs—one lug is earthed to chassis, the other lug has a lead going to pin 7 of "D" from which a lead goes to pin 7 of "C" and up through chassis to connect to dial light holders. Also from pin 7 of "D" a lead to pin 7 of "B", continuing onto pin 8 of "A".
		5v. lugs—one lug to pin 2 of "E", the other lug to pin 7 of "E".
<b>Filter Choke</b>	<b>L</b>	280v. lug to pin 3 of "E", other 280v. lug to pin 5 of "E".
		C.T. lug to negative (—) end of 17 and one end of 23 and 26.
		One lead to pin 8 of "E".
		Other lead to pin 4 of "D".



## CONDENSER, RESISTOR CONNECTIONS

Padder Condenser	No. 1	One lug to black lug of "H". Other lug earthed to chassis.	16 mfd. Electrolytic	No. 16	Positive (+) end to pin 4 of "D". Negative (-) end earthed to chassis.
	2 3	These condensers are connected to main tuning condenser. Solder to main condenser in the position indicated in diagram "A", that is, the large lug of 2 is soldered to the front metal plate of the tuning condenser and the large lug of 3 is soldered to the back metal plate. A small lead is then taken from each spare lug, the lead from 2 going to the top lug of fixed plates of front section of "F". The lead from 3 going to the top lug of fixed plates of rear section of "F".	16 mfd. Electrolytic	17	Positive (+) end to pin 8 of "E". Negative (-) end to one end of 23 and 26 and C.T. lug of "K".
.1 Tubular Metal Condenser	4		Insulated lug to black lug of "G". Lug on metal case earthed to chassis.	100,000 ohm Resistor	18
	.00005 Mica Condenser	5		50,000 ohm Resistor	19
.1 Tubular Metal Condenser	6	Insulated lug to one end of 20, also lead through chassis to red lug of "H". Lug on metal case earthed to chassis.	25,000 ohm Resistor	20	One end to insulated lug of 6, also lead through chassis to red lug of "H". Other end to B+ lug of "I".
	.1 Tubular Metal Condenser		7	10,000 ohm 2-watt Resistor	21
.1 Tubular Metal Condenser	8	Insulated lug to grid return lug of "I". Lug on metal case earthed to chassis.	250,000 ohm Resistor	22	One end to B+ lug of "J". Other end to pin 3 of "C".
	.1 Tubular Metal Condenser		9	1 meg. Resistor	23
.0001 Mica Condenser	10	One end to diode return lug of "J". Other end earthed to chassis.	1 meg. Resistor	24	One end to pin 5 of "C". Other end to grid return lug of "I".
	.00005 Mica Condenser		11	10 meg. Resistor	25
.0005 Mica Condenser	12	One end to pin 4 of "C". Other end to pin 5 of "C".	33 ohm Resistor	26	This is made up of 2 resistors of 100 ohms and 50 ohms each. These are placed together and the ends twisted together and soldered. This can now be regarded as one resistor of 33 ohms. One end to C.T. lug of "K". Negative (-) end of 17. Other end earthed to chassis.
	.002 Tubular Condenser		13	400 ohm Resistor	27
.002 Tubular Condenser	14	One end to pin 6 of "C". Other end to centre lug of 29.	.5 meg. Tone Control	28	Left-hand lug through shielded lead to pin 5 of "D". Centre lug through shielded lead to pin 6 of "D". Right-hand lug earthed to chassis.
	.1 Tubular Condenser		15	.5 meg. Volume Control	29
.0005 Mica Condenser	15	One end to pin 3 of "D". Other end to pin 6 of "D".	25 mfd. Electrolytic	15	Positive (+) end to pin 8 of "D". Negative (-) end earthed to chassis.

# 1950-CIRCUIT REVIEW-1951

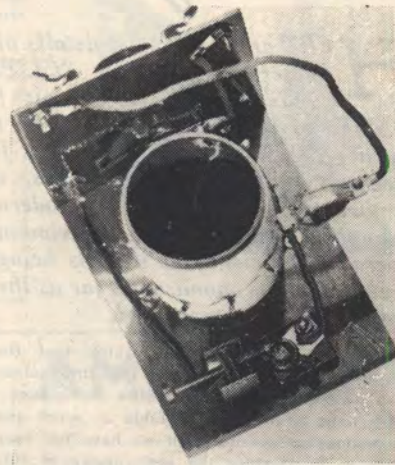
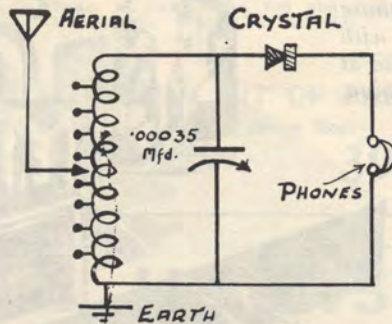
## “OXFORD” CRYSTAL SET

Though progress is being made rapidly in the radio world there will always be a place for the Crystal Set, that reliable and compact little receiver that works “for a song.”

The “OXFORD” CRYSTAL SET illustrated may be constructed with ease by any schoolboy.

Though there may be one or two multi-valve receivers in the household, the crystal set is still practicable, for while mother and father may not wish to listen to the “big” radio, junior can always dash away and listen to his serials on the headphones without disturbing other members of the family.

However, this set is not recommended for use further than 30 to 40 miles away from a strong station. There have been instances where crystal sets have brought in stations up to 200 miles away and sometimes even overseas, but this must be considered an exception to, and not the general rule.



**Full Constructional  
Details Supplied  
With Each Kitset**

**COMPLETE KIT**  
(Without Headphones) **15/11**  
Cat. No. AK2006 ... ..



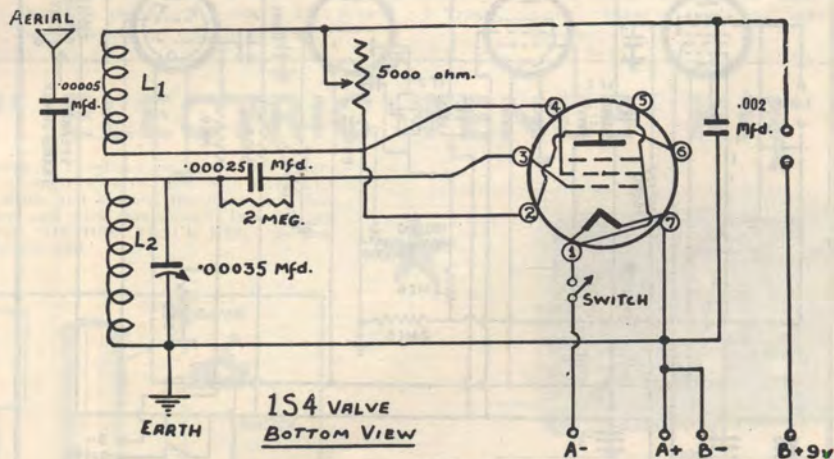
## “THE POPULAR ONE”

Once again we bring before you THE “POPULAR ONE,” the neat and compact little receiver that has proved so popular in recent years. It's the LITTLE chap with the BIG heart!

### A Simple Circuit — Brilliant Performance

We constructed the trial set in a small wooden cabinet 5½ in. x 4½ in. x 2½ in. deep, and would suggest that you do likewise. A cabinet any smaller than this would tend to cram the components and probably impair the performance.

It's easy to build and gives exceptionally good results. Uses a miniature tube. It's small, and may in fact be carried in the average size coat pocket.



### PARTS LIST

- 1 Midget valve socket. 1 1S4 valve.
- 1 .00035 mica spaced condenser.
- 2 Small pointer knobs.
- 1 Twin tip jack.
- 1 2 meg. ½ watt resistor.
- 1 5000 ohm volume control.
- 1 Switch.
- 1 only .00025 mica condenser.
- 1 .00005 mica condenser.
- 1 .002 condenser.
- 1 Midget R.F. coil. 2 Fahnestock clips.
- 6 Penlite cells. 3ft. Pushback wire.
- 1 1½ v. unit cell. 8 Nuts and bolts.

**Complete KIT OF PARTS**  
as above.

Cat. No. AK2005 (Head-  
phones extra) .. **42/6**

SUITABLE HEADPHONES  
Cat. No. AC245—  
("Brown's") .. **23/6** pair

**"Build Your Own" KITS**

# THE "Easy Built" Clipper 4 PORTABLE

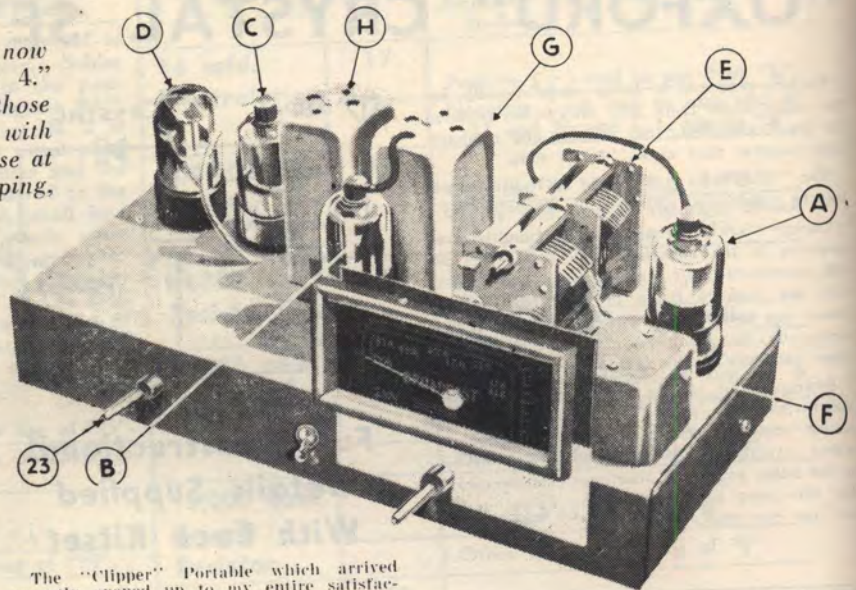
HERE are a few brief details of the now deservedly popular "CLIPPER 4." This is an ideal circuit for those wishing to build a portable set to take with them on their vacation as well as for use at weekend outings, tennis parties, tramping, motoring trips, etc. Four modern 1.4-volt valves give maximum operating efficiency as well as being a great little economiser as far as the battery drain is concerned.

As portables go you may think that the chassis we use (11in. x 4½in.) is a little larger than necessary. We fully realize the tendency these days is to get a portable as small and as compact as possible, but we have felt very reluctant to sacrifice the performance of this radio by cutting down its size.

By using midget I.F. transformers, a midget variable condenser and numerous other midget parts the set could have been reduced in physical dimensions, but from our experience we find that midget components of this nature do not give the performance of their larger counterparts.

Also, the smaller the set the more difficult is the wiring for an inexperienced constructor, and as the "Easy-Built" range of kits is designed for simple construction we are sure you will agree that a slightly larger set giving a 100 per cent. performance is better than a midget set that is not quite as good as it could be.

We can heartily recommend our "Easy-Built" Clipper 4 Portable as a first-class proven set that can be constructed with ease by even a novice with very limited radio construction experience.



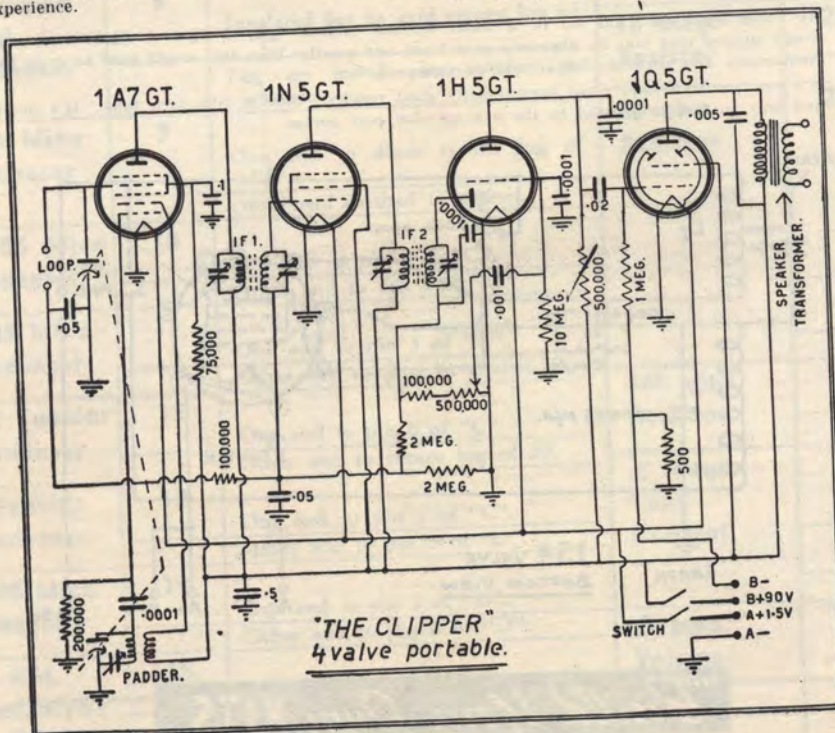
The "Clipper" Portable which arrived recently opened up to my entire satisfaction.

This Circuit is indeed a winner, and results I have obtained leave nothing to be desired.

Thanking you for your prompt service and attention. I am, yours faithfully, J.J. Tongaporutu.

"I have recently completed the assembly of the "Clipper" 4-valve portable kit which I got from you early this month. The results are excellent and exceed expectations." H.F. Pahiatua.

"I have the "Clipper" Portable going perfectly now and I am very pleased with it." F.J.G., Blenheim.



## THE "EASY BUILT CLIPPER" PARTS LIST

- 1 Chassis.
- 1 2-gang Variable Condenser.
- 2 "Ensign" 465 K.C. I.F. Transformers.
- 1 "Ensign" Oscillator Coil (Shielded).
- 1 "Ensign" Loop Aerial.
- 1 5in. Speaker.
- 1 1A7GT Valve.
- 1 1N5GT Valve.
- 1 1H5GT Valve.
- 1 1Q5GT Valve.
- 4 Valve Sockets.
- 1 Dial.
- 1 500,000 ohm Volume Control with D.P.S.T. Switch.
- 10 Resistors.
- 1 0.001 mfd. Mica Condensers.
- 1 0.01 mfd. Tubular Condenser.
- 1 0.05 mfd. Tubular Condenser.
- 1 0.02 mfd. Tubular Condenser.
- 2 0.5 mfd. Tubular Condensers.
- 1 1 mfd. Tubular Condenser.
- 1 8 mfd. Electrolytic Condenser.
- 2ft. Battery Cable.
- 2 pkts. Hook-up Wire.
- 18 Nuts and Bolts.
- 1 Terminal Strip.
- 18 Solder Lugs.
- 2 Knobs.
- 3 Grid Clips.
- 1 Gronmet.
- 1 Padder Condenser.

Complete Kit of Parts as above—

Cat. No. AK2040 **£9/19/6**

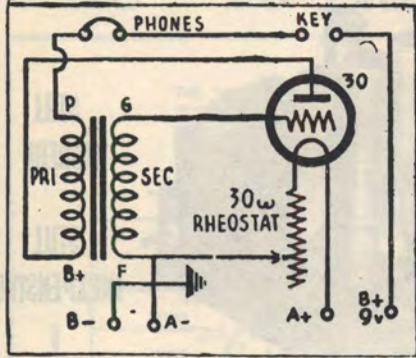
**Batteries.**

- 2 45-volt Portable Batteries.
- 1 1½-volt "A" Battery.

Complete Kit WITH BATTERIES—

Cat. No. AK2040A **£11/16/6**

# THE "OXFORD" MORSE OSCILLATOR



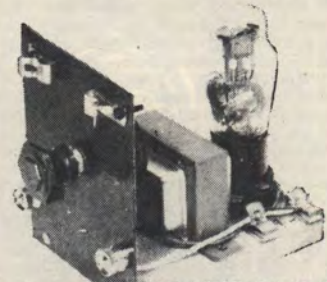
The Morse Code is one of the first things to learn if you have ambitions to become a radio operator or "Ham." The short-wave fan will also get much more fun from his set if he can understand dot dash messages flashing all over the world.

The "Oxford Oscillator" can be constructed within an hour by even a beginner. There's hours of constructive fun and enjoyment in learning the "Code" on this unit.

### Complete KIT OF PARTS

(Without Morse Key)

Cat. No. AK2015 .. **39/6**



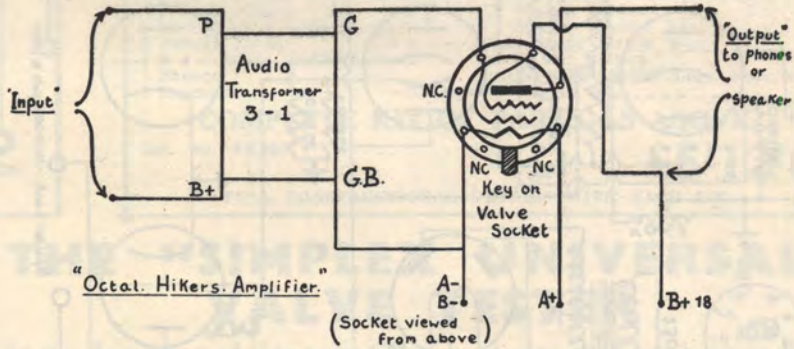
The "OXFORD" MORSE CODE OSCILLATOR

# THE "OCTAL HIKER'S" AMPLIFIER



The OCTAL HIKERS ONE VALVE AMPLIFIER

1C5G. or 1Q5G.



Above is the circuit of an excellent Single Valve Amplifier using an Octal Type Tube. This amplifier may be used in conjunction with any of the Hiker's Series Sets, or for amplifying a crystal set or other small receivers. The input to the amplifier is simply connected to the headphone terminals of the Hiker's or crystal set, etc. A 3:1 audio transformer is shown in the diagram, but a 3½:1 or 5:1 Transformer would do equally as well.

To obtain satisfactory results it is recommended that 18 volts be used on the plate of the valve, although the amplifier may work on a lower voltage. Using the 22½ volt tapping of a 45 volt B battery would be quite satisfactory.

The ideal Amplifier to hook on to your "Hiker's One" to operate a Speaker.

### PARTS LIST

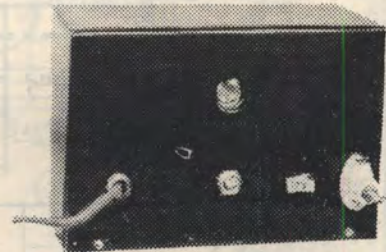
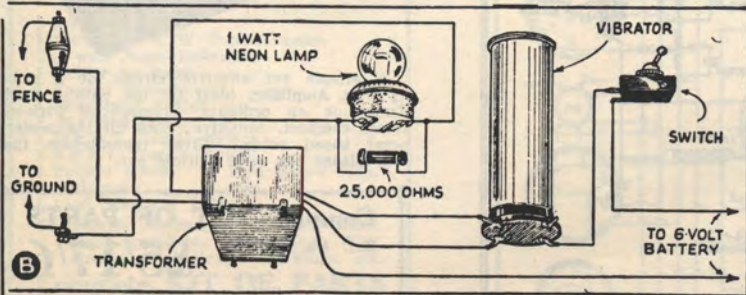
- 1 1C5GT or 1Q5GT Valve.
- 1 Octal Baseboard Socket.
- 1 Audio Transformer.
- 7 Fahnestock Clips. Hook-up Wire.
- 1 Baseboard. Solder Lugs.
- 12 Wood Screws. 1 No. 6 Dry Cell.
- 2 9-volt C. Batteries.

### Complete KIT OF PARTS as above.

Cat. No AK2010 .. **45/-**

# "OXFORD" ELECTRIC FENCE KIT

A simply designed ELECTRIC FENCE UNIT, easy to construct and worth its weight in gold to the farmer. It has been proved that a single wire charged with electricity is more effective in keeping livestock in selected fields and keeping intruders out, than the old-fashioned barbed wire fence or board fence, and with this thought in mind and in response to numerous requests, we present the "OXFORD FENCE KIT," as previously mentioned a simply designed and constructed unit.



### Complete KIT OF PARTS

(Including Cabinet)

Cat. No. AK2042 .. **£3/15/-**

# The "Bell-tone" Dynamic Amplifier

HERE is a simple amplifier capable of delivering 9.5 watts undistorted output. It is easy to build, has no hum, and is inexpensive. It is dynamically coupled, which accounts for its distortionless reproduction, giving as it does a truly "bell-like" tone. Frequency response is flat from 40 to 9000 cycles! The R.M.A. definition of a high-fidelity receiver is "one which has an audio reproduction range from 50 to 7,500 cycles with a harmonic distortion not to exceed 5 per cent." The range of the average console radio is from 100 to 4,000 cycles. We give you these figures by way of comparison. Another point is that from low volume up to full output the same high quality is obtained—no falling off in bass response at low volume. The 6AC5G tubes are designed to operate with dynamic coupling from the driver cathodes—the 6F8G is an ideal tube for this purpose. The cathodes of this tube automatically supply the correct bias for the 6AC5's. Dynamic coupling is the only possible method employable in television, where distortionless amplification over a wide frequency range is necessary. The coupling between the 6N7G and 6F8G is also unusual, and phase inversion is obtained without the necessity of having both input leads above earth. It is similar to a method used in "talkie" equipment.

**Low Cost!**  
**Outstanding Performance!**

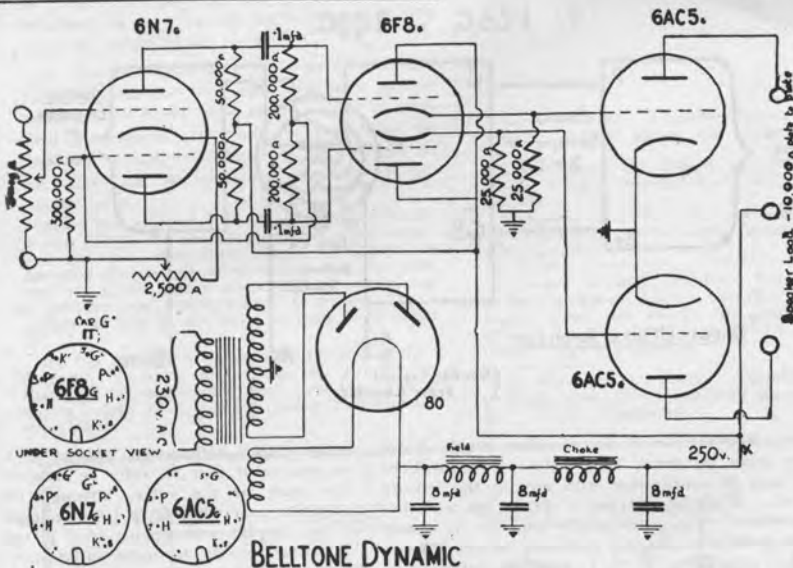


STILL  
MODERN

STILL  
INEXPENSIVE



**A POPULAR  
PRE-WAR AMPLIFIER**



### Complete KIT OF PARTS

Cat. No. AK2061 .. **£8/7/6**

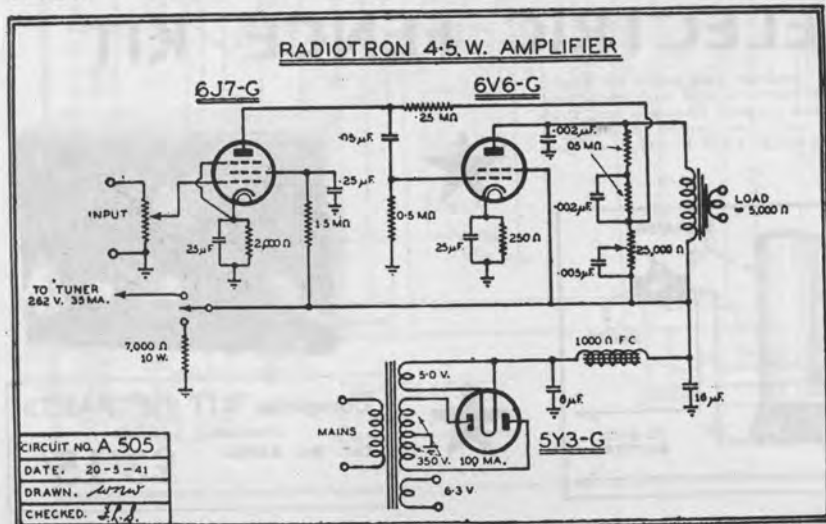
### SUITABLE SPEAKERS—

Cat. No. AS964 "Rola" 12-0 P.M. Speaker .. **£4/7/1**

Cat. No. AS963 "Rola" G12 P.M. Speaker .. **£8/8/-**

The circuit design incorporates an E.M. Speaker. Only P.M. types are now being manufactured and to use these a choke is included in the Kit of Parts to replace the speaker field. For details of connecting, see article on page 102.

# The "RADIOTRON" AMPLIFIER



CIRCUIT NO. A 505  
DATE. 20-5-41  
DRAWN. *SMW*  
CHECKED. *J.L.A.*



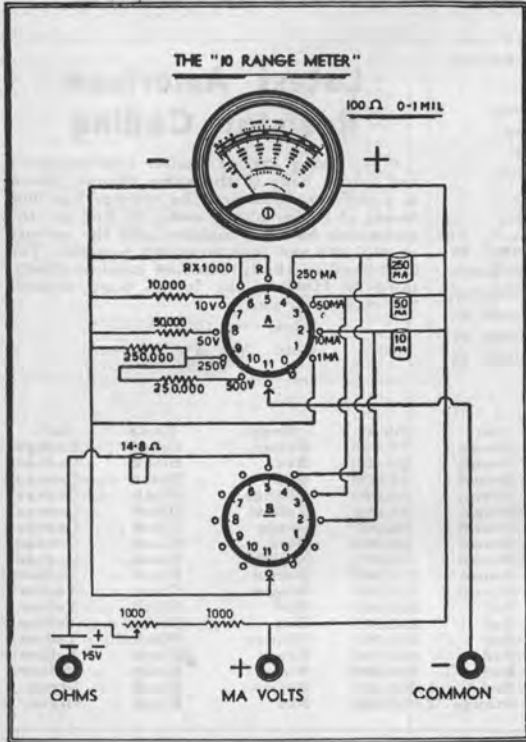
A simple yet effective circuit of a small 4½ watt Amplifier, ideal for use with a Radio Tuner or an ordinary Gramophone Pick-up. Neat, compact, sensitive; uses all the modern octal based tubes. Gives reproduction that will please the most critical ear.

### Complete KIT OF PARTS

Cat. No. AK2044 **£5/17/6**

(Without Speaker)

# The "10 Range Meter"



Considerable time and thought have been devoted to producing a meter kitset which would be simple and inexpensive to build, yet giving reasonably accurate readings. Here is the result.

The circuit is built around a 3in. 0.1 m.a. 100 ohm internal resistance, Palec Meter fitted with an easily read Universal scale.

The complete unit is housed in a wooden cabinet measuring 9in. x 7in. x 2in.

An excellent piece of Test Equipment for the Radio enthusiast.



## PARTS LIST

- |   |  |
|---|--|
| 1 Palec 0-1 Ma. Meter (with Universal Scale). | 1 1000 ohm Volume Control.                   |
| 1 12 Contact 2 bank Switch.                   | 3 Banana Sockets.                            |
| 2 Pointer Knobs.                              | 1 Special Wooden Box.                        |
| 1 9 x 7 x 1/2 in. Bakelite Panel.             | 3ft. Single Strand Wire.                     |
| 4 Shunts.                                     | 1 4 1/2 volt Battery.                        |
| 5 Resistors.                                  | SUNDRIES: Solder Lugs, Nuts, and Bolts, etc. |

COMPLETE KIT OF PARTS AS ABOVE.

Cat. No. AK2041

£5/12/6

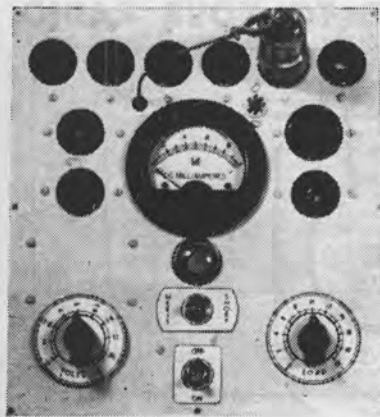
FULL CONSTRUCTIONAL DETAILS WITH EACH KIT.

# THE "SIMPLEX UNIVERSAL" VALVE TESTER

In the designing of this versatile valve tester we have kept in mind that the circuit must be simple and inexpensive, yet capable of testing all the many types of valves on the New Zealand market. The "Simplex Universal" will test all American types including Octal, Loctal and Miniature, the Philips range, the Mullard and other standard English types.

It's certainly universal and as the name implies is not a complicated unit. It's just the ideal unit for the serviceman, advanced constructor or the "Ham."

Details covering operation, and a suggested chart are supplied with each kit.



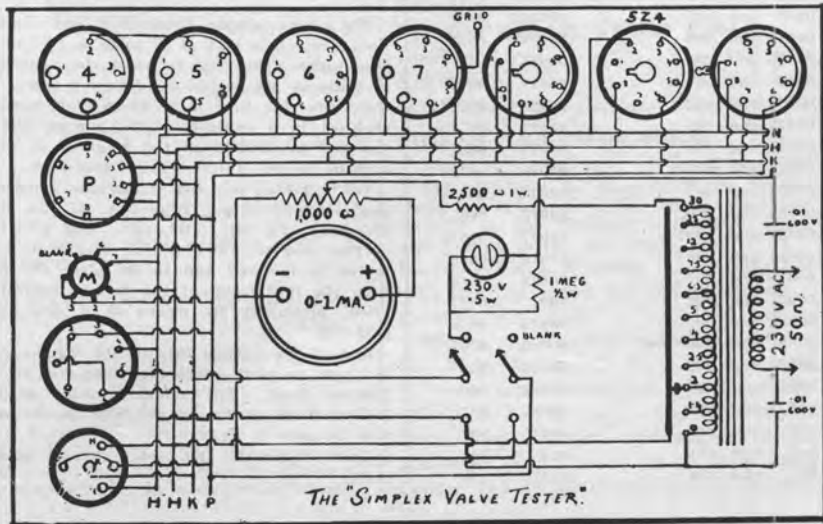
## PARTS LIST

- 1 Panel.
- 1 each 4, 5, 6, 7, Loctal, Midget Valve Sockets.
- 2 Octal Valve Sockets.
- 1 each Phillips (P), Squash 7-pin, 5-pin Valve Sockets.
- 1 0-1 MA Meter.
- 1 1000 ohm W/W Potentiometer.
- 1 1/2 watt Neon Indicator.
- 1 Holder for same.
- 1 Special Transformer.
- 1 10-position Switch.
- 2 .01 Condensers.
- 1 D.P.D.T. Toggle Switch.
- 1 S.P.S.T. Toggle Switch.
- 2 Pointer Knobs. 1 yard 3-core Flex.
- 2 Resistors. 1 Clip.
- 1 yard Spaghetti Tubing.

SUNDRIES: Including Nuts and Bolts, Hook-up Wire, Connecting Wire, Grommets, Indicator Markings, etc.

Complete KIT OF PARTS as above. £7/17/6

Cat. No. AK2032



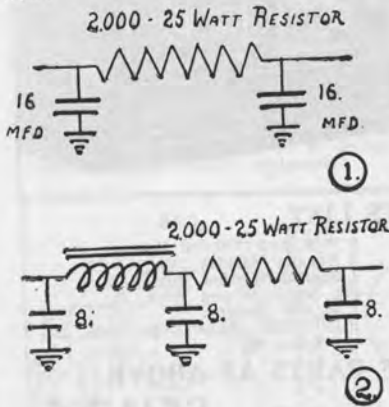
# ★ ★ HANDY INFORMATION ★ ★

## Converting Circuits to Use P.M. Speakers

It is really not a difficult task to convert a Radio Circuit incorporating an Electro-magnetic Speaker to use a Permanent Magnet type.

Manufacturers are now concentrating mainly on the Permanent Magnet type of speaker using the latest "Alnico" Anisotropic Magnet, and the day is not far away when the good old E.M.'s will be just a pleasant memory.

Below we give two Circuits showing the simplicity of the interchangeability of these two types.



The Field winding of the standard E.M. Speaker is replaced by a Heavy-duty Resistor. A 2,000 ohm 25-watt type is suitable for the majority.

Figure 1 shows the alteration using 2-16 mfd. Electrolytic Condensers for filtering.

In case of hum where this filtering proves insufficient, Circuit 2 should be used. This incorporates a Filter Choke as well as the resistance.

8 mfd. Electrolytics are of a large enough capacity in this set-up.

## Condensers in Series and Parallel

Separate capacitities.	Combination series parallel.
.0001 and .00025	.000071 .00035
.0001 and .0005	.000083 .0006
.0001 and .001	.000093 .0011
.0001 and .002	.000095 .0021
.0001 and .005	.000098 .0051
.0001 and .006	.000098 .0061
.00025 and .0005	.00016 .00075
.00025 and .001	.0002 .00125
.00025 and .002	.00022 .00225
.00025 and .005	.00023 .00525
.00025 and .006	.00024 .00625
.00035 and .005	.00033 .00535
.00035 and .006	.00036 .00335
.00035 and .0002	.00013 .00055
.00035 and .0001	.000075 .00015
.00035 and .0005	.00018 .00085
.0005 and .001	.00033 .0015
.0005 and .002	.0004 .0025
.0005 and .005	.00045 .0055
.0005 and .006	.00046 .0065
.001 and .002	.00066 .003
.001 and .005	.00083 .006
.001 and .006	.00085 .007
.002 and .005	.0014 .007
.002 and .006	.0015 .008
.005 and .006	.0027 .011

## STANDARD RESISTOR COLOUR CODE

In the R.M.A. (American) standard coding, ten colours are assigned to the figures as shown in the following table:—

Figure	Colour	Figure	Colour
0	Black	5	Green
1	Brown	6	Blue
2	Red	7	Violet
3	Orange	8	Grey
4	Yellow	9	White

The body of the Resistor is coloured to represent the first figure of the resistance value. One end of the resistor is coloured to represent the second figure. A band or dot of colour, representing the number of ciphers following the first two figures, is located within the body colour.

### EXAMPLES:

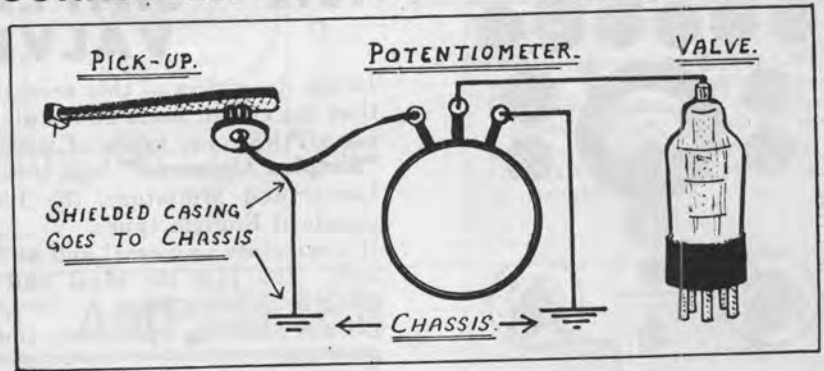
Ohms.	Body	End.	Dot.	Ohms.	Body	End.	Dot.
100	Brown	Black	Brown	15,000	Brown	Green	Orange
150	Brown	Green	Brown	20,000	Red	Black	Orange
200	Red	Black	Brown	25,000	Red	Green	Orange
250	Red	Green	Brown	30,000	Orange	Black	Orange
300	Orange	Black	Brown	40,000	Yellow	Black	Orange
350	Orange	Green	Brown	50,000	Green	Black	Orange
400	Yellow	Black	Brown	60,000	Blue	Black	Orange
450	Yellow	Green	Brown	75,000	Violet	Green	Orange
500	Green	Black	Brown	100,000	Brown	Black	Yellow
750	Violet	Green	Brown	150,000	Brown	Green	Yellow
1,000	Brown	Black	Red	200,000	Red	Black	Yellow
2,000	Red	Black	Red	250,000	Red	Green	Yellow
3,000	Orange	Black	Red	300,000	Orange	Black	Yellow
4,000	Yellow	Black	Red	500,000	Green	Black	Yellow
5,000	Green	Black	Red	750,000	Violet	Green	Yellow
6,000	Blue	Black	Red	1,000,000	Brown	Black	Green
10,000	Brown	Black	Orange	2,000,000	Red	Black	Green

## Latest American Resistor Coding

When using IRC or similar type resistors the colour code is the same though shown in a different manner. The resistor has four bands of colour at one end. To find out the resistance hold the resistor with the colours on the left and read from left to right. The first band is (Body), second band is (End), third is (Dot). The fourth band denotes the tolerance, i.e.

Silver = 10% +/-  
Gold = 5% +/-

## CONNECTING A PICK-UP TO YOUR RADIO



The above simple illustration and instructions show how easy it is to fit a Pick-up to your radio. The valve to which the connection is made in the set is the Detector tube. On most sets this tube is a shielded one usually enclosed in a valve can with a grid clip on top and is situated in the majority of cases next to the two valves without grid clips.

The following is a list of the most commonly used Detector tubes: Type 21A, 57, 55, 6C6, 6B7, 2B7, 75, 6Q7, 6B8, 6J7. The grid clip of this tube to which a wire is already connected is removed and in its place the lead from the centre lug of the volume control is fitted, preferably by means of a detachable grid clip.

One of the outside lugs of the volume control goes to earth while the other goes to the Pick-up Lead. The shielded casing of the Pick-up Lead or the second wire as the case may be goes to earth.

Earth refers to the metal chassis of the radio.

## Electric Supply

Those who are interested in checking up the amount of mains current consumed by their receivers, transmitter, etc., will find this table useful. The first column shows the watts consumed, the second the current, and the remaining two, units against time.

At 230v. Watts	Amp.	Unit per Hour.	EL. Supply Hours per Unit.
40	.173	.04	25
50	.213	.05	20
60	.26	.06	16.6
70	.30	.07	14.3
80	.34	.08	12.5
90	.39	.09	11.1
100	.43	.1	10
120	.52	.12	8.3
140	.61	.14	7.1
160	.7	.16	6.3
180	.78	.18	5.5
200	.87	.2	5.0

# AUSTRALASIAN BROADCAST LOG

Compiled by Arthur T. Cushen, 212 Earn Street, Invercargill. (\* Proposed stations and power increases.)

Call	Location	Kilo-cycles	Power Watts.	Call	Location	Kilo-cycles	Power Watts.	Call	Location	Kilo-cycles	Power Watts.
10L	Longreach, Q.	540	200	3YZ	Greymouth, N.Z.	920	*10,000	2XC	Newcastle, N.S.W.	1,230	2,000
2CR	Cumneok, N.S.W.	550	10,000	2XL	Cooma, N.S.W.	920	500	3TR	Sale, Victoria	1,240	1,000
3GI	Sale, Viet.	560	7,000	4VL	Charleville, Q.	920	500	6IX	Perth, W.A.	1,240	500
6WA	Munding, W.A.	570	10,000	6	Northam, W.A.	920	—	1YD	Auckland, N.Z.	1,250	750
2YA	Wellington, N.Z.	570	60,000	3UZ	Melbourne, Viet.	930	600	9PA	Port Moresby, N.G.	1,250	500
3WV	Horsham, Vic.	580	10,000	2JV	Suva, Fiji	930	400	3SR	Shepparton, Victoria	1,260	2,000
40R	Brisbane, Q.	590	2,000	2ZA	Palmerston North, N.Z.	940	*2,000	28M	Sydney, N.S.W.	1,270	1,000
7ZL	Hobart, Tas.	610	2,000	4RK	Rockhampton, Q.	940	2,000	3AW	Melbourne, Vic.	1,280	600
2FC	Sydney, N.S.W.	610	10,000	7ZR	Hobart, Tas.	940	500	4BK	Brisbane, Q.	1,290	750
3AR	Melbourne, Viet.	620	10,000	2UE	Sydney, N.S.W.	950	1,000	27M	Tamworth, N.S.W.	1,300	2,000
40N	Townsville, Q.	630	7,000	3YC	Christchurch, N.Z.	960	*10,000	1XH	Hamilton, N.Z.	1,310	2,000
50K	Crystal Brook, S.A.	630	7,500	3BO	Bendigo, Vic.	960	500	5AD	Adelaide, S.A.	1,310	500
2YC	Wellington, N.Z.	650	*60,000	4AY	Ayr, Q.	960	500	3BA	Ballarart, Vic.	1,320	500
2BH	Broken Hill, N.S.W.	650	200	1XX	Whangarei, N.Z.	970	2,000	6KY	Perth, W.A.	1,320	500
2NT	Manilla, N.S.W.	660	10,000	5DN	Adelaide, S.A.	970	500	3SH	Swan Hill, Vic.	1,330	200
2CO	Corowa, N.S.W.	670	7,500	2ZR	Wellington, N.Z.	980	*10,000	4BU	Bundaberg, Q.	1,330	500
2HR	Lochmivar, N.S.W.	680	300	2KM	Kempsey, N.S.W.	980	300	2XX	Nelson, N.Z.	1,340	*2,000
4AT	Atherton, Q.	680	500	6AM	Northam, W.A.	980	2,000	2LF	Young, N.S.W.	1,340	300
70T	Queenstown, Tas.	680	300	2GZ	Orange, N.S.W.	990	2,000	6TZ	Dardanup, W.A.	1,340	2,000
3YA	Christchurch, N.Z.	690	10,000	3HA	Hamilton, Vic.	1,000	1,000	3GL	Geelong, Vic.	1,350	1,000
4KO	Brisbane, Q.	690	1,000	2XG	Gisborne, N.Z.	1,010	2,000	4GY	Gympie, Q.	1,350	200
6WF	Perth, W.A.	690	5,000	4CA	Cairns, Q.	1,010	300	3MA	Mildura, Vic.	1,360	200
2NR	Grafton, N.S.W.	700	7,000	4MB	Maryborough, Q.	1,010	300	2XP	New Plymouth, N.Z.	1,370	*2,000
7NT	Kelso, Tas.	710	7,000	7EX	Lauceson, Tas.	1,010	1,000	2MO	Gunnedah, N.S.W.	1,370	100
4YZ	Invercargill, N.Z.	720	5,000	2KY	Sydney, N.S.W.	1,020	500	58E	Mt. Gambier, S.A.	1,370	200
2TR	Taree, N.S.W.	720	200	3DB	Melbourne, Viet.	1,030	500	6GE	Geraldton, W.A.	1,370	500
6GF	Kalgoorlie, W.A.	720	2,000	4ZB	Dunedin, N.Z.	1,040	*10,000	2GN	Goulburn, N.S.W.	1,380	200
5CL	Adelaide, S.A.	730	5,000	5PT	Crystal Brook, S.A.	1,040	2,000	4MK	Mackay, Q.	1,380	100
2HL	Sydney, N.S.W.	740	10,000	2CA	Canberra, F.T.	1,050	2,000	4BH	Brisbane, Q.	1,390	1,000
1VA	Auckland, N.Z.	750	10,000	4SB	Kimberly, Q.	1,060	2,000	2PK	Parkes, N.S.W.	1,400	200
2XB	Broken Hill, N.S.W.	750	2,000	1ZB	Auckland, N.Z.	1,070	*10,000	5AU	Port Augusta, S.A.	1,400	200
*6	Moora, W.A.	750	—	2RG	Griffith, N.S.W.	1,070	200	2KO	Newcastle, N.S.W.	1,410	500
4QS	Dalby, Q.	760	10,000	6WR	Katanning, W.A.	1,070	2,000	2AP	Apia, Samoa	1,420	2,000
3LO	Melbourne, Vic.	770	10,000	2LT	Lithgow, N.S.W.	1,080	100	3XY	Melbourne, Vic.	1,420	600
4YA	Dunedin, N.Z.	780	10,000	4RO	Rockhampton, Q.	1,080	200	4XD	Dunedin, N.Z.	1,430	100
2KA	Katoomba, N.S.W.	780	1,000	7HT	Hobart, Tas.	1,080	500	2WL	Wollongong, N.S.W.	1,430	500
4TO	Townsville, Q.	780	200	3LK	Lubeck, Vic.	1,090	2,000	6CL	Collie, W.A.	1,430	500
10G	Brisbane, Q.	790	3,500	3ZB	Christchurch, N.Z.	1,100	*10,000	2QN	Deniliquin, N.S.W.	1,440	200
1YZ	Rotorua, N.Z.	800	10,000	4LG	Longreach, Q.	1,100	1,000	4IP	Ipswich, Q.	1,440	200
*2	Bega, N.S.W.	800	—	6MD	Merredin, W.A.	1,100	500	2MG	Mudgee, N.S.W.	1,450	100
6WN	Perth, W.A.	800	1,000	7LA	Lauceson, Tas.	1,100	500	7DV	Derby, Tas.	1,450	100
*2	Glen Innes, N.S.W.	810	—	21W	Sydney, N.S.W.	1,110	1,000	2CR	Cessnock, N.S.W.	1,460	300
2DI	Dubbo, N.S.W.	810	200	4BC	Brisbane, Q.	1,120	1,000	5MU	Murray Heights, S.A.	1,460	200
7BT	Burnie, Tas.	810	200	2YD	Wellington, N.Z.	1,130	*5,000	3CV	Bendigo, Vic.	1,470	500
6GN	Geraldton, W.A.	820	1,000	2AD	Armidale, N.S.W.	1,130	200	2MW	Murwillumbah, N.S.W.	1,470	500
5RM	Renmark, S.A.	830	2,000	3CS	Colac, Vic.	1,130	200	2AY	Albury, N.S.W.	1,480	200
*2	Kempsey, N.S.W.	840	10,000	6PM	Perth, W.A.	1,130	500	2BE	Bega, N.S.W.	1,490	200
2CY	Canberra, F. T.	850	10,000	2HD	Newcastle, N.S.W.	1,140	500	4ZR	Roma, Q.	1,490	200
2YX	Toowoomba, Q.	860	5,000	2WG	Wagga, N.S.W.	1,150	2,000	2BS	Bathurst, N.S.W.	1,500	200
4GR	Napier, N.Z.	860	500	3XC	Timaru, N.Z.	1,160	2,000	3AK	Melbourne, Viet.	1,500	200
7HO	Hobart, Tas.	860	500	1QA	Mackay, Q.	1,160	2,000	5DR	Darwin, N.T.	1,500	500
2GB	Sydney, N.S.W.	870	1,000	3	Mt. Gambier, S.A.	1,160	—	2NA	Newcastle, N.S.W.	1,510	2,000
1YC	Auckland, N.Z.	880	*10,000	2NZ	Inverell, N.S.W.	1,170	2,000	*2	Narara, N.S.W.	1,520	—
3TL	Warragul, Vic.	880	200	2XM	Gisborne, N.Z.	1,180	100	5AL	Alice Springs, S.A.	1,530	30
4WK	Warwick, Q.	880	100	3KZ	Melbourne, Viet.	1,180	600	*2	Tenterfield, N.S.W.	1,530	—
6PR	Perth, W.A.	880	500	2CH	Sydney, N.S.W.	1,190	750	3	Bendigo, Vic.	1,530	—
*10Y	Cairns, Q.	890	2,000	2XA	Wanganui, N.Z.	1,200	2,000	*5	Port Lincoln, S.A.	1,530	—
5AN	Adelaide, S.A.	890	2,000	5KA	Adelaide, S.A.	1,200	500	2LG	Lithgow, N.S.W.	1,540	200
4YC	Dunedin, N.Z.	900	*10,000	2GF	Grafton, N.S.W.	1,210	200	*4	Gympie, Q.	1,540	—
2LM	Lismore, N.S.W.	900	500	3YR	Warrambool, Vic.	1,210	200	*7	Queenstown, Tas.	1,540	—
7AD	Devonport, Tas.	900	300	6KG	Kalgoorlie, W.A.	1,210	500	*2	Armidale, N.S.W.	1,550	—
4QR	Pialba, Q.	910	2,000	1AK	Oakey, Q.	1,220	2,000	*2	Canberra, F. T.	1,560	—

## R.M.A. COLOUR CODES

### CONDENSERS.

Condensers are marked the same way as resistors so far as a table of figures and zero equivalents is concerned.

You look at the condenser on the side that is trade-marked. The three dots are read from left to right. The final number obtained is in micromicrofarads. If you want to convert to microfarads, just simply divide the figure obtained, by 1,000,000 that is, move the decimal point six places to the left.

Sometimes arrows or arrowheads occur. Just simply read the dots above or in these, from tail to head. They indicate that you should read from left to right.

Regarding tubular paper condensers, some manufacturers, in addition to the colours discussed above, use the following colours to indicate the D.C. working voltage:

Brown	100	Violet	700
Red	200	Grey	800
Orange	300	White	900
Yellow	400	Gold	1000
Green	500	Copper	1600
Blue	600	Silver	2000

### I.F. TRANSFORMERS.

Red ..... "B"-plus lead  
 Blue ..... Plate lead  
 Green ..... Control-grid lead  
 Black ..... Grid-return lead

(If the secondary is centre-tapped, the second diode plate lead is green-and-black striped; and black is used for the centre-tap lead).

### AUDIO TRANSFORMERS.

Red ..... "B"-plus lead  
 Blue ..... Plate lead  
 Green ..... Grid lead  
 Black ..... Grid return

Brown, Start lead of plate winding in C. T. transformers.  
 Yellow, Start lead of grid winding if secondary is tapped.  
 Brown, Start lead of plate winding if transformer is centre-tapped.  
 Yellow, Start lead of grid winding if transformer is centre-tapped.

Note.—If polarity is not important, the brown and yellow leads may be blue and green respectively, in some transformers.

### LOUDSPEAKER VOICE COILS.

Green Black ..... Start lead  
 Green ..... Finish lead

### LOUDSPEAKER FIELD COILS.

Black and red ..... Start lead  
 Yellow and red ..... Finish lead  
 Slate and red ..... Tap lead

### POWER TRANSFORMERS.

Primary ..... Both leads, black

(If primary is tapped, black is the start or common lead; black and red striped is the finished lead, and black and yellow is the tap lead).

Rectifier Plate Winding ..... Both red  
 Centre tap is red and yellow striped.

Rectifier Fil. Wdg. .... Both yellow  
 Centre tap is yellow and blue striped

Fil. Wdg. No. 1 ..... Both green  
 Centre tap is green and yellow striped

Fil. Wdg. No. 2 ..... Both brown  
 Centre tap is brown and yellow striped

Fil. Wdg. No. 3 ..... Both slate  
 Centre tap is slate and yellow striped.



# SHORT WAVE STATIONS OF THE WORLD

This list of short wave stations covering frequencies from 4500 to 18000 kilocycles, contains stations best received in New Zealand. Schedules are effective April, 1950, and times given are all N.Z.S.T., 12 hours ahead of G.M.T. Locations shown are those of studio location to which reports are addressed. News broadcasts are in English unless otherwise stated.

Compiled by Arthur T. Cushen, 212 Earn Street, Invercargill, Short Wave Editor of "New Zealand DX Times" the official organ of the New Zealand Radio Club

League. Enquiries concerning unlisted stations, addresses, and fuller details to the above address will be answered promptly.

**ABBREVIATIONS:** BBC'S Pacific Service (6.00-7.45 p.m. daily), G.O.S. General Overseas Service, 24 hours a day. European Service. English periods are 5.15-5.30 p.m., 6.0-6.15 p.m., 6.45-7 p.m., 7.45-8.00 p.m., 11.15-11.45 p.m., 6.00-6.30 a.m., 8.30-8.45 a.m., 9.15-10.00 a.m. A.F.R.S. Armed Forces Radio Service, San Francisco and New York. A.F.R.N. Armed Forces Radio Network, Tokio, Japan.

Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.	Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
HC2AK—Guayaquil, Ecuador	4650	1,000	"Radio Ecuador," 11 a.m.-1.30 p.m.	Multan, Pakistan	4910	7,500	
HC2ET—Guayaquil, Ecuador	4720	300	"Radio El Telegrafo," 10.30 a.m.-1.30 p.m.	ZOY—Acera, Gold Coast	4915	5,000	3.45-6.34 a.m., News 4.30, 6 a.m.
YVMA—Maracaibo, Ven.	4705	300	"Ecos del Zulia," 11 a.m.-2.30 p.m.	VLM—Brisbane, Aust	4917	10,000	8.00 a.m.-1.30 a.m.
YVKV—La Guaira, Ven.	4760	1,000	"Emisora Vargas," 11 a.m.-2.30 p.m.	YUM2—Madras, India	4920	10,000	Midnight-5.00 a.m.
HJGB—Bucaramanga, Colombia	4775	1,500	"Radio Santander," 11 a.m.-2.45 p.m.	YVKR—Caracas, Ven.	4920	5,000	"Radio Caracas," 11 p.m.-5 a.m., 9 a.m.-3.30 p.m.
YLVA—Valencia, Ven.	4780	300	"La Voz de Carabobo," 9.30 a.m.-2.30 p.m.	HJAE—Cartagena, Colombia	4965	750	"Radio Colonial," 11 p.m.-6 a.m., noon-3 p.m.
Radio Malaya, Singapore	4780	10,000	12.15-3.30 a.m., "Radio Malaya."	CR7BV—Lourenco Marques, Mozambique	4930	7,500	3.00-9.00 a.m. (English).
*HJAB—Barranquilla, Colombia	4785	1,000	"La Voz de Barranquilla."	JKM—Tokio, Japan	4930	5,000	7.55 p.m.-2.00 a.m.
YVQC—Cuidad, Bolivia, Ven.	4790	1,000	"Eeis del Orinoco," 10.30 a.m.-2.30 p.m.	Karachi, Pakistan	4935	7,500	
Peshawar, Pakistan	4790	7,500		YVMQ—Barquisimeto, Ven.	4940	4,000	11.30 p.m.-3.30 p.m.
HJDX—Medellin, Colombia	4705	750	"Ecos de la Montana," 10.30 a.m.-2.30 p.m.	HJCW—Bogota, Colombia	4945	1,000	"Radio Barquisimeto," "Radio Sur America," 11.45 p.m.-4.15 p.m.
YVME—Maracaibo, Ven.	4800	2,000	"Ondas del Lago," 10.30 a.m.-2.30 p.m.	HJCQ—Bogota, Colombia	4955	1,000	"Radiodifusora Nacional," 10 a.m.-4 p.m.
ZYF8—Manaos Brazil	4800	5,000	"Radio Difusoras Amazonas," 10 p.m.	YUD2—Delhi, India	4960	10,000	1.15-5.30 a.m.
HJDX—Medellin, Colombia	4795	750	"Radio Difusoras Amazonas," 10 a.m.-3 p.m.	HC5HC—Riobamba, Ecuador	4960	—	"Ondas del Chimboraz," 2-4 p.m.
YVMG—Maracaibo, Ven.	4810	400	"Radio Popular," 11.30 a.m.-3.30 p.m.	F.R.S., Malta	4960	—	Sign off 9.00 a.m.
HJBB—Cucuta, Colombia	4815	750	"La Voz de Cucuta," "La Voz del Norte."	HJAE—Cartagena, Colombia	4965	750	"Laboratories Fuentes," noon-3.30 p.m.
Lahore, Pakistan	4818	7,500		HJAG—Barranquilla, Colombia	4975	450	"Emisora Atlantica," noon-1.15 p.m.
CR7BV—Lourenco Marques, Mozambique	4820	7,500	4.00-9.00 a.m.	HCQRN—Quito, Ecuador	4985	250	11.45 p.m.-1.45 p.m. "Radio Quito."
Singapore, Malaya	4825	10,000	10.30 p.m.-3.30 a.m.	YVMO—Barquisimeto, Ven.	4990	650	9.30 a.m.-2.30 p.m. "Radio Occidental."
HJED—Call, Colombia	4825	1,000	"La Voz del Valle," noon-3.32 p.m.	WWV—Washington, D.C.	5000	10,000	Frequency check station.
HJKE—Bogota, Colombia	4835	5,000	Noon-2.30 p.m., "Radio Continental."	YDQ2—Macassar, Celebes	5030	500	10.00 a.m., 3.00-6.30 p.m., 9.00 p.m.-3.00 a.m.
VUC2—Calcutta, India	4840	10,000	1.00-5.30 a.m.	Radio Djokjakarta, Java	5030	—	Dutch Forces service.
YVOI—Valera, Ven.	4840	300	"Radio Valera," 11 a.m.-2.40 p.m.	YVKM—Caracas, Ven.	5030	1,000	"Radio Continental."
CSX2—Ponta Delgada, Azores	4845	1,000	9.00-11.00 a.m., "Emisora Regional."	PZX—Paramaribo, Surinam	5750	750	11 a.m.-1.45 p.m.
YDP—Medan, Sumatra	4845	500	9.30 p.m.-2.35 a.m., "Radio Sumatra."	CE8AA—Santiago, Chile	5805	500	"Radio Soc. Nacional de Agricultura," Opens 11.30 p.m.
HJGF—Bucaramanga, Colombia	4845	1,000	"Radio Bucaramanga," 1-3 p.m.	OAXIB—Piura, Peru	5840	500	11.00 a.m.-4.30 p.m., "Radio Piura."
VQG1—Nairobi, Kenya	4855	1,500	10-11 p.m., 3-7 a.m.	CP15—La Paz, Bolivia	5855	300	Noon-3.00 p.m., "Radio el Condor."
JKL—Tokio, Japan	4840	5,000	ARFN. 9.00 p.m.-2.05 a.m.	TIGPH—San Jose, Costa Rica	5870	—	"Alma Tica," noon-4 p.m.
YUD3—Delhi, India	4860	5,000		HRN—Tegucigalpa, Honduras	5875	750	"La Voz de Honduras," 1-3 a.m., 11 a.m.-4 p.m.
HJEX—Call, Colombia	4865	2,500	"Radio Pacifico," noon-3 p.m.	ZRK—Capetown, South Africa	5875	5,000	4.45-6.30 p.m., 4-9.05 a.m., 9 p.m.-3.5 a.m.
YDD2—Batavia, Java	4865	300	10.30 a.m.-12.30 p.m., 4.30-7.15, 9.30 p.m.-4 a.m.	*CP15—La Paz, Bolivia	5880	1,000	"Radio El Condor."
—Pelttermaritzburg, St. Af.	4875	1,000	4.45-6.30 p.m., 8.15-12.10 a.m., 2-9.05 a.m.	OAX4Z—Lima, Peru	5895	14,000	"Radio Nac. de Peru," 11 a.m.-1.30 p.m.
HJFH—Armenia, Colombia	4875	3,000	"La Voz de Armenia," 10.45 p.m.-3 p.m.	ZNR—Mafeking, Bechuanaland	5900	200	11 p.m.-1 a.m., 5-7.30 a.m.
VUB2—Bombay, India	4880	10,000	2.00-5.30 a.m.	OAX4V—Lima, Peru	5940	500	2.09-4.45 p.m., "Radio America."
HJDP—Medellin, Colombia	4885	2,500	"Emisora Claridad 11 a.m.-3 p.m.	HVJ—Vatican City, Vatican	5970	25,000	News for Britain, 7.15 a.m.
Johannesburg, South Africa	4895	5,000	3.50-9.05 a.m.	OAX4P—Huancayo, Peru	5980	250	"Radio Huancayo."
VLX—Perth, Western Aust.	4897	10,000	12.30-10.00 p.m.	CBNX—St. Johns, Newfoundland, Canada	5985	300	1.30-5.00 a.m., 9.30 a.m.-2.00 p.m.
Colombo, Ceylon	4900	7,500	5.00-8.30 p.m., 9.50 p.m.-4.45 a.m.	HI4T—Ciudad Trujillo, D.R.	5985	500	Midnight-5.00 p.m. "La Voz de Dominicana."
YDB2—Batavia, Java	4910	300	10.30 a.m.-1.30 p.m., 3.30-6.30 p.m., 7.30-8.30 a.m.	HCJB—Quito, Ecuador	5990	500	English to 5 p.m.
JKI—Tokio, Japan	4910	5,000	8.55-10.15 a.m., 7.55 p.m.-2.00 a.m.	Andorra, Andorra	5997	20,000	"Radio Andorra," 10 p.m.-10.30 a.m.
				*PR13—Belo Horizonte, Brazil	6000	5,000	"Radio Inconfidencia."

Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.	Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
ZFY—Georgetown, Br. Guiana	6000	1,000	"Voice of Guiana," 10.40 p.m.-12.15 p.m.	Tabriz, Azerbaijan, Iran	6090	—	2-6.45 a.m.
YSW—Santa Ana, El Salvador	6000	1,000	12.30-4.00 p.m., "Radio del Pueblo."	CBFW—Montreal, Canada	6090	7,500	12.30 a.m.-4.30 p.m.
HHYM—Port-au-Prince, Haiti	6000	—	5.00-7.00 a.m., 11.30 a.m.-2.00 p.m.	*GWM—London, England	6090	50,000	"Radiodifusor Sao Paulo," to 3 p.m.
Radio Noumea, New Caledonia	6000	500	Noon-1.00 p.m., 7.30-9.00 p.m.	ZYB7—Sao Paulo, Brazil	6095	5,000	9.00 p.m.-4.05 a.m.
DZH4—Manila, Philippines	6000	—	10.30 p.m.-4.00 a.m. "The Voice of Manila."	DYH3—Cebu, Philippines	6100	250	"La Voz de la America" to 6 p.m.
OAX2A—Trujillo, Peru	6000	250	11.30 a.m.-4.30 p.m., "Radio Trujillo."	TGOA—Guatemala City, Guata.	6102	—	8.30 a.m.-3.30 a.m.
Damascus, Syria	6000	500	5-6 p.m., midnight-1 a.m., 4-9 a.m.	WLKS—Kure, Japan	6105	1,000	"Voice of B.C.O.F."
HJKB—Bogota, Colombia	6000	—	2.00-4.00 p.m., "Emisora Nuevo Mundo."	ZYN6—Fortaleza, Brazil	6105	5,000	"Ceara Radio Club," 8.30 a.m.-2 p.m.
VE9AI—Edmonton, Canada	6005	200	2-6.5 p.m.; News, 5 p.m.	HJFK—Pereira, Colombia	6105	2,500	"La Voz Amiga," 9 a.m.-3.30 p.m.
CFXC—Montreal, Canada	6005	75	Midnight-5.00 p.m.	*CP2—La Paz, Bolivia	6110	5,000	"Radio Nac. de Bolivia."
HP3K—Colon, Panama	6005	250	"La Voz de la Victor," 12.5 a.m.-1 p.m.	GSL—London, England	6110	50,000	GOS 4.00-6.15 p.m.
Rabat, Morocco	6005	2,500	7.00-8.45 p.m., midnight-11.30 a.m.	H11Z—Ciudad Trujillo, D.R.	6115	400	10.30 p.m.-4.00 p.m.
CJCX—Sydney, N.S., Canada	6010	1,000	11.55 p.m.-4 p.m.	OIX1—Helsinki, Finland	6118	15,000	5-7 p.m., 9-midnight, 3.30-8.45 a.m.
CE601—Antofagasta, Chile	6010	5,000	"La Voz del Norte," 2-4 p.m.	*HP5H—Panama City, Panama	6122	600	"La Voz del Pueblo," 11 p.m.-4.45 p.m.
VUD9—Delhi, India	6010	7,500	2.45-4.00, 4.10-6.30 a.m.	H11G—Ciudad Trujillo, Dom. Rep.	6125	150	"Radio la Opinion," 1-9 p.m.
Dornbirn, Austria	6005	200	5-7.35 p.m., 4-11 a.m., "Radio Vorarlberg."	GWA—London, England	6125	50,000	European Service.
OLR2A—Prague, Czechoslovakia	6010	30,000	European Service.	DYH2—Cebu, Philippines	6130	1,000	News 2 a.m., signs 4.00 p.m.
GRB—London, England	6010	50,000	"Radio Victoria."	CHNX—Halifax, Canada	6130	500	11 p.m.-3.15 p.m.
OAX1Q—Lima, Peru	6010	2,000	"Radio Club Pernambuco."	COCD—Havana, Cuba	6130	1,000	"La Voz del Afre," 2 a.m.-5 p.m.
PRA8—Recife, Brazil	6012	5,000	9.15 a.m.-2.07 a.m.	XEUZ—Mexico City, Mexico	6130	1,000	8 a.m.-5.20 p.m.
JKK—Tokio, Japan	6015	5,000	"Radio Mil," to 6 p.m. and later.	VX2—Perth, Western Aust.	6130	10,000	10.30 p.m.-4.00 a.m.
XE01—Mexico City, Mexico	6015	1,000	"La Voz de Colombia," 12-1 a.m., to 4 p.m.	ZJM4—Limassol, Cyprus	6135	7,500	3.55 p.m.-6.35 p.m.
HJXC—Bogota, Colombia	6018	750	10.00-11.30 p.m., English.	F.B.S., Malta	6140	—	3.45-8.15 a.m.
HS8PD—Bangkok, Siam	6020	2,500	4.00-9.30 a.m.	WRUA—Boston, Mass., U.S.A.	6140	50,000	B.B.C. News Relay 6.00 p.m.
Brazaville, French Eq. Africa	6024	1,500	Midnight-5.45 p.m.	HJDE—Medellin, Colombia	6145	5,000	"La Voz de Antioquia," 9 a.m.-3.30 p.m.
XEUW—Veru Cruz, Mexico	6020	250	12.45-3.30 a.m. in English.	VLR2—Melbourne, Aust.	6150	2,000	8.00-10.15 a.m., 8.45 p.m.-2.00 a.m.
Kuala Lumpur, Malaya	6025	7,500	Good signal, 8 a.m.	GRW—London, England	6150	50,000	European and Latin-American service.
PGD—Hilversum, Holland	6025	5,000	12.30 a.m.-7.00 p.m.	WEIN1—Vienna, Austria	6155	300	4.45 p.m.-12.05 p.m.
CFVP—Calgary, Canada	6030	100	"El Eco de Michoacan" to 4 p.m.	CE615—Santiago, Chile	6155	3,000	"La Co-operative Vitalicia," 4 p.m.
XEKW—Morelia, Mexico	6030	500	5.00-9.45 p.m., 2.55-10.00 a.m.	CS2WD—Lisbon, Portugal	6155	300	7.30 a.m.-noon.
Radio Stuttgart, Germany	6030	10,000	10.00 p.m.-2.00 a.m.	HJKJ—Bogota, Colombia	6160	—	11.50 p.m.-4.00 p.m.
DZH6—Manila, Philippines	6030	1,000	"Radio Miramar," 11 a.m.-4 p.m.	CBRX—Vancouver, Canada	6160	150	Relays CBR to 7 p.m., news 6.55 p.m.
HP5B—Panama City, Panama	6030	150	6-8 p.m., 6-10.15 a.m., "Radio Monte Carlo."	Saigon, French Indo-China	6165	10,000	Eng. 1.30-2.30 a.m.
Monte Carlo, Monaco	6035	25,000	English 2.15-3.15 a.m.	HER3—Berne, Switzerland	6165	25,000	5.20-6.40 p.m., 5-10.15 a.m.
Rangoon, Burma	6035	1,500	"Radio Landa" closes 5.00 p.m.	*GWK—London, England	6165	50,000	"N.B.C.," 10 p.m.-1.30 a.m., 10 a.m.-2 p.m.
OAX6B—Arequipa, Peru	6035	100	European Service.	HHCN—Port-au-Prince, Haiti	6167	100	"Radio Felix," 11 a.m.-2 p.m.
GWS—London, England	6035	50,000	"Radio Nacional," 10 a.m.-3 p.m.	CXA21—Montevideo, Uruguay	6170	100	11.30 a.m.-1 p.m., 4.30-7.15, 10 p.m.-3.30 a.m.
CXA30—Montevideo, Uruguay	6035	800	"Radio Libertad," 1 a.m.-4 p.m.	GSZ—London, England	6170	100,000	"Radio Gobernacion," 1 a.m.-6 p.m.
COBE—Havana, Cuba	6040	1,000	"Voice of America" 7.30-10.30 a.m.	YDA2—Bandoeng, Java	6170	250	9 a.m.-4.00 a.m.
GSY—London, England	6040	100,000	To South America, 1.30-6 p.m.	XEXA—Mexico City, Mexico	6175	1,000	12.30-5.30 a.m.
WRUA—Boston, U.S.A.	6040	20,000	8.15-11.30 a.m.	DUH2—Manila, Philippines	6170	400	3.55-6.35 p.m., 3.45-8.15 a.m.
WRUS—Boston, Mass., U.S.A.	6040	50,000	"La Voz de Tampico," 4.45 a.m.-4.45 p.m.	VUV2—Hyderabad, India	6170	—	11.30 p.m.-5.00 p.m.
XETW—Tampico, Mexico	6045	100	European Service.	ZJM5—Limassol, Cyprus	6175	7,500	"Radio Aconagua," 10.30 p.m.-4 p.m.
Radio Batavia, Java	6045	100,000	"Radio Arequipa."	HOB—Panama City, Panama	6175	—	6.30-11.15 a.m., 6-8.15 p.m.
GSA—London, England	6050	50,000	11.30 p.m.-3.30 p.m.	LRM—Mendoza, Argentina	6180	10,000	"Impulsoras del Progreso" 2-5 p.m.
*OAX6A—Arequipa, Peru	6050	250	12.30-1.30 a.m., Wed., Fri. only.	GRO—London, England	6180	50,000	"Radio Equinoccial," 3.50-6.15 a.m.
HJEX—Cali, Colombia	6055	2,500	9 p.m.-2.15 a.m.	XECC—Puebla, Mexico	6185	50	9.00 p.m.-1.30 a.m.
VQ7LO—Nairobi, Kenya	6060	1,500	Closes 4.15 p.m. "Radio Balboa."	HCILQ—Ibarra, Ecuador	6187	250	"Radio France," 4.00-7.45 p.m., 2.00-10.00 a.m.
CRKZ—Montreal, Canada	6060	50,000	European Service.	VUD7—Delhi, India	6190	100,000	G.O.S. 5.30 p.m.
KNBI—San Francisco, Calif.	6060	50,000	"Radio Continental," 10 a.m.-4 p.m.	Hanoi, Indo-China	6190	1,000	"Radiodifusora Nacional," 3.30 p.m.
HORT—Balboa, Panama	6060	—	6.40-8.10 p.m.	Frankfurt, Germany	6190	1,000	5.00-5.15 p.m., 11.15 p.m.-2.30 a.m.
GSX—London, England	6060	100,000	10.55 p.m.-4.45 p.m.	GRN—London, England	6195	50,000	11.30 p.m.-5.00 p.m.
Radio Pakistan, Karachi, Pakistan	6062	250	"Radio Ariel." Opens 10 p.m.	HJCT—Bogota, Colombia	6198	10,000	English 7.30-7.50 a.m.
"Radio Tannarive," Madagascar	6065	—	2.30 a.m.-8 p.m.	Paris, France	6200	50,000	Opens 11.30 p.m., closes 4.10 p.m. in English.
HC2FQ—Guayaquil, Ecuador	6065	500	4.00-10.00 a.m., "Voice of America."	HCIAC—Quito, Ecuador	6210	250	1.00 a.m.-2.30 p.m.
*SBO—Stockholm, Sweden	6065	12,000	10.00-11.00 a.m., 3.00 p.m.-4.56 a.m.	WARSAW 3, Warsaw, Poland	6215	7,500	"La Voz de Atlantida," to 3 p.m.
CFRX—Toronto, Canada	6070	1,000	English 9.00-9.20 a.m.	CE622—Santiago, Chile	6220	5,000	"La Voz de Bogota," 10 a.m.-4.10 p.m.
GRR—London, England	6070	50,000	11 p.m.-2.00 p.m.	TGJA—Guatemala City, Guat.	6230	1,000	"Soc. de Nacional Agricultura," Signs 5 p.m.
*CXA3—Montevideo, Uruguay	6078	1,000	4.00-11.00 a.m.	HRD2—La Caiba, Honduras	6235	200	"Da Voz de Guardia Civil," noon-3 p.m.
CKFX—Vancouver, Canada	6080	10	8.45-10.30 a.m., 8.30 p.m.-1.30 a.m.	HJCF—Bogota, Colombia	6240	750	"La Voz de El Salvador," "Radio Nac. de Paraguay," to 4 p.m.
Munich Germany	6080	85,000	4.00-10.00 a.m., "Voice of America."	CE625—Santiago, Chile	6250	5,000	Closes 4 p.m. "Emisora Colombia."
RAIS—Berlin, Germany (U.S. Zone)	6080	85,000	10.00-11.00 a.m., 3.00 p.m.-4.56 a.m.	YSUA—Cincenta, El Salvador	6250	—	
Rome, Italy	6085	10,000	English 9.00-9.20 a.m.	TGRA—Guatemala City, Guat.	6255	—	
ZYK2—Recife, Brazil	6085	15,000	11 p.m.-2.00 p.m.	YSR—San Salvador, El Salv.	6270	1,000	
Radio Luxembourg, Luxembourg	6090	6,000	4.00-11.00 a.m.	ZPA1—Asuncion, Paraguay	6276	2,500	
VLI2—Sydney, N.S.W.	6090	2,000	8.45-10.30 a.m., 8.30 p.m.-1.30 a.m.	HJWO—Bogota, Colombia	6270	—	

Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.	Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
OTM1—Leopoldville, Bel. Congo	6282	—	5-7 p.m., 4-8 a.m.	VUM3—Madras, India	7260	250	7.00-9.30 p.m., 10.30 p.m.-11.30 p.m., mid-night-5.00 a.m.
OAX4L—Lima, Peru	6315	500	11.00 a.m.-5.00 p.m.	VUM2—Madras, India	7260	10,000	1.30-3.30 p.m., Mid-3.30 a.m.
YNAS—Managua, Nicaragua	6305	100	Opens 11.57 p.m.	VUD5—Delhi, India	7270	100,000	11 p.m.-midnight, 4.15-5.15 a.m.
OAX4M—Miraflores, Lima, Peru	6310	—	English sign off 4.55 p.m.	VUD8—Delhi, India	7275	7,500	2.45-4.00 a.m., 4.10-6.30 a.m.
Baden-Baden, Germany	6321	1,000	4 p.m.-10 a.m.; "Sued-westfunk."	VLT5—Port Moresby, New Guinea	7280	2,000	8.45-10.45 a.m., 8.15 p.m.-12.45 a.m.
COCW—Havana, Cuba	6325	1,000	11 p.m.-5 p.m.	GWN—London, England	7280	50,000	European service, 5-8.15 p.m., 11 p.m.-2 a.m.
OAX6E—Arequipa, Peru	6333	3,000	"Radio Continental," 11 a.m.-5 p.m.	JKJ—Tokio, Japan	7285	5,000	9.25-11 a.m., 7.55 p.m.-2.00 a.m.
HE12—Berne, Switzerland	6345	25,000	Messages to displaced persons, 8.15-9.15 p.m., 5.30-7.30 a.m.	ZQP—Lusaka, Sth. Rhodesia	7285	—	4.30-5 a.m. daily.
Red Cross, Geneva, Switzerland	6345	25,000	Messages to displaced persons, 8.15-9.15 p.m., 5.30-7.30 a.m.	VCD3—Delhi, India	7290	10,000	10.30 p.m.-midnight.
COKQ—Santiago, Cuba	6345	—	"Radio Mundial."	Munich, Germany	7290	85,000	4.00-10.00 a.m. "Voice of America."
OAX4H—Lima, Peru	6368	1,000	"Radio Mundial."	VUD2—Delhi, India	7290	10,000	2.30-4.30 p.m., 11.30 p.m.-1.00 a.m.
CS2MA—Lisbon, Portugal	6370	10,000	8.30 a.m.-noon.	Moscow	7290	—	2.00-3.15 p.m.
HIICM—Port-au-Prince, Haiti	6400	1,000	11 a.m.-3 p.m.	Hamburg, Germany	7295	25,000	4.00 p.m.-10.05 a.m. "Nordwest sender."
TGQA—Quezaltenango, Guatam.	6405	300	6-8 a.m., 1-4 p.m.	Athens, Greece	7300	7,000	Eng. 4.30 a.m., signs 9.30 a.m.
OAX4G—Lima, Peru	6410	300	"Radio Lima," closes 4.40 p.m.	ZOY—Accra, Gold Coast	7300	5,000	Signs 6 a.m.
COHI—Santa Clara, Cuba	6450	300	"RHC—Cadena Azul," midnight-6.02 p.m.	YSO—San Salvador, El Sal.	7312	1,000	"La Voz de Democracia," noon-4 p.m.
TGWB—Guatamala, Guatamala	6460	1,000	"La Voz de Guatamala," Sign off 4.00 p.m.	GRJ—London, England	7320	50,000	Radio Moscow, U.S.S.R.
—Panama, Panama	6460	—	"Radio Mundial."	Radio Moscow, U.S.S.R.	7310	50,000	English, 6.30-7.30, 8.30-9.30 a.m.
TG2—Guatamala City, Guatam.	6620	300	"Radio Morse," 12.3 a.m.-5 p.m.	Radio Mauritius, Forest Side, Mur.	7315	1,500	3.30-5.15 a.m.
OAX1A—Chiclayo, Peru	6710	150	10.00 a.m.-4.30 p.m.	Monte Carlo, Monaco	7350	25,000	6.00-8.00 p.m.
Greek Army Radio, Larissa	6745	500	4.30-6.30 p.m., 5.00-9.00 a.m.	HC2DC—Guayaquil, Ecuador	7350	250	11 a.m.-1.45 p.m. "Radio Cent."
UN—Geneva, Switzerland	6675	7,500	French-English 6.30-6.50 a.m.	TGDA—Quezaltenango, Guat.	7160	—	"La Voz de Occidente."
YNPS—Managua, Nicaragua	6765	800	"La Voz de Nicaragua," 10 a.m.-5 p.m.	YNFT—Granada, Nicaragua	7500	250	"La Voz de la Sultana," 10 a.m.-3 p.m.
CP49—La Paz, Bolivia	6770	500	"Radio Municipal," 10.20 a.m.-2 p.m.	YNLAT—Granada, Nicaragua	7615	300	English 1.00-1.15 a.m.
Singapore, Malaya	6770	7,500	9.15 p.m.-4.30 a.m. British Far Eastern Broadcasting Service.	Sunatra, N.E.I.	7620	—	English news 8.30 a.m.
Radio Kol-Israel, Palestine	6835	—	5.00-6.15 p.m., 2.30-5.30 a.m.	Sofia, Bulgaria	7670	5,000	Used irregularly.
YNOW—Managua, Nicaragua	6850	1,000	"La Voz de la America Central."	ZM2AP—Apia, Samoa	7700	2,000	7.10 a.m. English 8.15 a.m.
HC4EB—Manta, Ecuador	6870	375	"Radio Manta," 1-4 p.m.	ZAA—Tirana, Albania	7850	3,000	5-9 a.m., News 6, 7 a.m.
TGLB—Mazatenango, Guata.	6905	—	Noon-3 p.m.	SUX—Cairo, Egypt	7860	10,000	"Radio Ecuador, Amuzonico," 11.30 p.m.
YNQW—Managua, Nicaragua	6917	—	"La Voz de Victoria," 6 a.m.-4 p.m.	HC1CG—Quito, Ecuador	7875	200	2.00-5.00 p.m., 8.30 p.m.-1.30 a.m., Eng. identification each 1/4 hour.
YNBO—Boaco, Nicaragua	6985	30	"La Voz de Boaco," 11 a.m.-3 p.m.	HLKA—Seoul, Korea	7935	5,000	9.30-11.00 a.m., "Radio Falange."
YNBH—Managua, Nicaragua	7008	500	"Radio Panamerica," 11 a.m.-3.20 p.m.	EJ431—Alicante, Spain	7950	1,200	Saturdays 6.30-7.30 a.m.
YNWW—Granada, Nicaragua	7020	—	"Radio Sport," 6 a.m.-3 p.m.	JJOY—Athens, Greece	8000	375	Frequency Measurement.
EAJ9—Malaga, Spain	7020	1,000	"Radio National," 7-10 a.m.	JJY—Kenigawa, Japan	8000	2,000	5-6.15 p.m., 10.15 p.m.-1.10 a.m., 3.30-9 a.m.
Valencia, Spain	7037	300	"Radio Mediterraneo."	FNE—Beirut, Syria	8035	3,000	"Radio Maroc."
YSI—San Salvador, El Sal.	7040	100	6 a.m.-4 p.m.	CNR—Rabat, Morocco	8035	12,000	10.15 p.m.-1.30 a.m.
HC2CM—Guayaquil, Ecuador	7055	250	"Radiodifusora Iman," noon-4.15 p.m.	YN3—Pontianak, Borneo, N.E.I.	8090	150	"Radio America," noon-4 p.m.
GRS—London, England	7075	50,000	Closes 7.30 a.m. All Arabic.	YNXW—Managua, Nicaragua	8195	—	6.30-7.30 a.m.; Sundays, 11 p.m.-midnight.
Y15KG—Baghdad, Iraq	7090	50,000	Noon-1 p.m., midnight-3.30 a.m.	CR6RG—Dundo, Angola	8210	300	2.00 a.m.-7.00 p.m., relays CBX.
Radio Bangkok, Siam	7105	800	"Radio Somali," 2.30-3.30 a.m.	COJK—Camaguey, Cuba	8656	1,000	1-5.30 p.m.
GRM—London, England	7120	50,000	"La Voz de Manabi," 11.45 p.m.-3.30 p.m.	COCO—Havana, Cuba	8700	2,000	"Radio America," mid-night-1.30 p.m.
Hargeisa, Br. Somaliland	7125	1,000	"La Voz del Tropico," noon-3.15 p.m.	COCQ—Havana, Cuba	8825	5,000	10.30 p.m.-5.15 p.m.
HC4FA—Portoviejo, Ecuador	7140	100	European Service.	COKG—Santiago, Cuba	8955	500	"Cadena Oriental de Radio," 11 p.m.-5 p.m.
YNFP—Managua, Nicaragua	7140	100	European Service.	BCAF—Taipei, Taiwan	8990	—	English 11.00-11.15 p.m.
GRT—London, England	7150	50,000	6.00-9.30 a.m. "Voice of America."	Tel Aviv, Israel	9000	7,500	"Radio Kol-Israel," English, 7.30 a.m.
HC1BF—Quito, Ecuador	7160	500	North American service, 1.15-2 p.m.	COBZ—Havana, Cuba	9026	250	"Radio Salas," mid-night.
GRK—London, England	7185	50,000	To 4 p.m. Sundays.	CNR3—Rabat, Morocco	9095	25,000	5-8 p.m., 6-10 a.m.
GWZ—London, England	7200	100,000	Closes 2.30 a.m.	Peiping, North China	9040	—	English news, 1.30 a.m.
GWL—London, England	7205	50,000	9.30 p.m.-3.00 a.m.	CR6RB—Luanda, Angola	9165	—	5.00-6.30 a.m.
HISZ—Santiago de los Caballero	7212	300	7.00 p.m.-9.30 p.m., 1.15-4.30 a.m.	Radio Congo, Leopoldville, B. Congo	9210	250	11 p.m.-2.20 a.m.
BED9—Taipei, Taiwan (Formosa)	7220	3,000	3.00 p.m.-8.00 a.m.	CRSAA—Macao, Portug. China	9235	500	"La Voz de Cuba," 1-5 p.m. and later.
YDP2—Medan, Sumatra	7210	350	4.00 p.m.-10.60 a.m., Forces station.	COBQ—Havana, Cuba	9235	—	Eng. 9.00-9.25 a.m.
VUC3—Calcutta, India	7210	250	2.00-3.30 p.m., 2.00 a.m.-5.30 a.m.	Radio Bucharest, Romania	9250	2,000	"Radio Vangardia," 6-9 a.m., noon-1 p.m.
Forces Broadcasting Service, Cyprus	7220	—	European service.	COCX—Havana, Cuba	9270	1,000	"Casa Levin," mid-night-4 p.m.
KZCA—Salzburg, Austria	7220	350	English news, 12.30 a.m.	Radio Rodina, Sofia, Bulgaria	9315	5,000	4-6 p.m., 10-midnight, 4-6.30 a.m., 7-8.10 a.m., English news 8.30 a.m.
VUB3—Bombay, India	7240	250	5-7 p.m., 11 p.m.-11.05 a.m.	OAX4J—Lima, Peru	9330	1,000	"Radio International," 11 a.m.-5 p.m.
GSW—London, England	7230	50,000	7.00-8.00 a.m.	COBC—Havana, Cuba	9362	1,000	"Radio Progresso," mid-night-1 p.m.
VUB2—Bombay, India	7240	10,000	8.25 a.m.-2.00 a.m.	Madrid, Spain	9370	50,000	"Radio Nat. de Espana," 3-8.30 a.m.
Vienna, Austria	7240	400	4.15-7.15 p.m.; 11 p.m.-10 a.m.				
VUD10—Delhi, India	7240	20,000					
*GW1—London, England	7250	50,000					
JKF—Tokio, Japan	7257	5,000					
GSU—London, England	7260	50,000					

Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.	Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
OTM2—Leopoldville, Belgium Congo	9380	50,000	3.45-9 a.m., 5-7 p.m.	LLG—Oslo, Norway	9610	100,000	6.25-7.30 p.m., 4.00-9.00 a.m.
GRI—London, England	9410	50,000	Latin American service, 11 a.m.-3.30 p.m.	ZYC8—Rio de Janeiro, Brazil	9610	25,000	8.00 a.m.-3.00 p.m.
CP21—Sucre, Bolivia	9430	270	"Radio La Pata," 2-4.45 a.m., 8-10 a.m.	VW55—Perth, Western Aust.	9610	2,000	10.30 p.m.-4.00 a.m.
COCH—Havana, Cuba	9440	1,000	11 p.m.-5 p.m. "Union Radio."	VX33—Perth, West Aust.	9610	10,000	2.30-10.00 p.m.
Brazzaville, Fr. Eq. Africa	9440	50,000	4 a.m.-1 p.m., News 6.45, 8.45 a.m.	CHLS—Montreal, Canada	9610	50,000	8.45-10.00 p.m., Sundays (to N.Z.).
*OAX4W—Lima, Peru	9440	1,500	"Radio America."	Radio Goa, Goa, Portuguese India	9610	500	12.30-3.30 a.m.
LRV—Buenos Aires, Argentina	9450	15,000	Eng. 3.00-6.00 p.m.	XERQ—Mexico City, Mexico	9615	500	"Radio Continental," heard 6 p.m.
TAP—Ankara, Turkey	9465	20,000	1.45 p.m.	VLB9—Melbourne, Aust.	9615	100,000	3.00-3.45 a.m.
CR6A—Luanda, Angola	9470	250	7-8.30 a.m.	VP4RD—Port of Spain, Trinidad	9620	500	10.00 p.m.-1.00 a.m., 8.00 a.m.-3.00 p.m., Local News 10 p.m., B.B.C. relay 11 p.m.
CP38—La Paz, Bolivia	9480	250	"Radio Nat. de Bolivia."	VUD7—Delhi, India	9620	100,000	7.00-8.00 a.m.
Radio Monte Carlo, Monaco	9490	25,000	6.00-8.00 p.m., 11 p.m.-1.00 a.m.	DUH4—Manila, Philippines	9620	400	News 10 p.m. "The People's Station."
*GWF—London, England	9490	50,000		Paris, France	9620	100,000	5.15-7 p.m., 7.15-9 a.m.
XEWW—Mexico City, Mexico	9500	10,000	"La Voz de America Latina," 12.30 a.m.-6.45 p.m.	Radio Addis Ababa, Ethiopia	9620	1,000	1.45-4.10 a.m., English 3.15-4 a.m.
VL13—Sydney, N.S.W.	9500	2,000	10.45 a.m.-8.15 p.m.	CX46—Montevideo, Uruguay	9623	3,000	8.30 a.m.-2 p.m.
OIX2—Helsinki, Finland	9500	15,000	5.30-6.30 p.m., 10-midnight, 3.30-8.45 p.m.	GWO—London, England	9625	50,000	Eng. news 3.45 p.m., sign off 6 p.m.
DZH3—Manila, Philippines	9500	-	9.30 a.m.-4 a.m.	XEBT—Mexico City, Mexico	9625	10,000	Eng. news 3.45 p.m., sign off 6 p.m.
HOLA—Colon, Panama	9505	-	8.25 p.m.-2 a.m.	VUD2—Delhi, India	9630	10,000	7.00-9.00 p.m.
JRD—Tokyo, Japan	9505	7,500	Closes 3 p.m.	CBFX—Montreal, Canada	9630	7,500	Sign off 5.00 p.m.
*YUC—Belgrade, Yugoslavia	9507	10,000	7.55 p.m.-2.00 a.m.	CKLO—Sackville, N.B., Canada	9630	50,000	"Radio Italiana," Turin, Italy
GSB—London, England	9510	50,000	5.15-10.45 a.m., 11 a.m.-8 p.m.	CX48—Montevideo, Uruguay	9640	3,000	Closes 10 a.m.
KCBR—San Francisco, Calif.	9510	100,000		DZH2—Manila, Philippines	9640	1,000	4-6 a.m., 9 a.m.-2 p.m. (see 11840).
ZBW3—Hongkong, China	9515	5,000	4.30-6 p.m., 10.30 p.m.-3 a.m. R.B.C. new 11 p.m., 1 a.m.	*CHMD—Sackville, N.B., Canada	9640	50,000	9.00 a.m.-4.00 a.m.
VL7—Port Moresby New Guinea	9520	2,000	Testing to 7.00 a.m.	*COX—Havana, Cuba	9640	5,000	Signs 4 p.m.
Paris, France	9520	100,000	2.00-1.00, 6.00-8.00 p.m.	GVZ—London, England	9640	50,000	
OZF—Copenhagen, Denmark	9520	100,000	1.15-7 p.m., 7.15-9 p.m.	HVJ—Vatican City, Europe	9645	25,000	4.00-4.30 a.m.
H2L—Ciudad Trujillo, D.R.	9525	500	3.00-5.25 p.m. (Eng. 5 p.m.)	VLB2—Melbourne, Aust.	9650	100,000	8.00-9.30 a.m.
GWJ—London, England	9525	50,000	"La Voz de Tropico."	KNBA—San Francisco, Cal.	9650	50,000	7.45-8.15 p.m.
RGEI—San Francisco, Calif.	9530	100,000	European Service.	HEB6—Schwarzenburg, Switzerland	9655	100,000	
WNRE—New York, U.S.A.	9530	100,000	A.F.R.S.	WEIN3—Vienna, Austria	9664	250	4.45 p.m.-12.05 p.m.
YUC3—Calcutta, India	9530	250	Voice of America, 10 a.m.	LRX—Buenos Aires, Argentina	9660	7,500	"Radio el Mundo."
KRH0—Honolulu, Hawaii	9530	50,000	1.30-3.30 p.m., 11 p.m.-1 a.m.	VLQ3—Brisbane, Aust.	9660	10,000	8 a.m.-2 a.m.
WGEO—Schenectady, U.S.A.	9530	100,000	9.00 p.m.-2.15 a.m.	GWP—London, England	9660	50,000	
SBU—Stockholm, Sweden	9535	12,000	Noon-5 p.m.	HVJ—Vatican City, Vatican	9660	25,000	News 6.15 a.m.
HER1—Berne, Switzerland	9535	100,000	6.30-10 a.m.	Radio Moscow, U.S.S.R.	9660	50,000	English, 6.30-7.30, 8.30-9.30 a.m.
Munich, Germany	9540	85,000	1.30-3 p.m., 5.20-6.40 p.m., 5-10.15 a.m.	HBM—Port-au-Prince, Haiti	9660	1,000	"Nac. Broadcasting Co.," 10 p.m.-1.30 a.m.
Paris, France	9540	100,000	4.00-10.00 a.m. "Voice of America."	JK12—Tokyo, Japan	9655	5,000	10.25 a.m.-7.45 p.m.
LKJ—Oslo, Norway	9540	5,000	1.55-3.45 p.m., 5-5.45 a.m.	WNBI—New York, U.S.A.	9670	50,000	
YE9A1—Edmonton, Canada	9540	-	7-7.15 p.m., 10.45-12.30 a.m., 4-10 a.m.	WRCA—New York, U.S.A.	9670	50,000	Noon-3.15 p.m. to South America.
VL8—Melbourne, Aust.	9540	2,000		GWT—London, England	9675	50,000	European Service, 7 p.m. 11 p.m.-4.30 a.m., 8.30-10.15 a.m., 4.30-4.45 p.m.
XEFT—Vera Cruz, Mexico	9540	250	10.30 a.m.-7.15 p.m.	VUD9—Delhi, India	9680	7,500	12.00-12.50 a.m.
ZL2—Wellington, N.Z.	9540	10,000	"La Voz de Vera Cruz," 6 p.m. and later.	XEQ—Mexico City, Mexico	9680	1,000	"Radio Panamericana," midnight-5.45 p.m.
YDQ—Maccassar, Celebes	9550	10,000	10 a.m.-noon, 3.00-6.30 p.m., 9 p.m.-3 a.m.	EQ—Teheran, Iran	9680	14,000	"Radio Teheran," 5-7.30 a.m., news, 6.30 a.m.
*OLR3A—Prague, Czechoslovakia	9550	30,000	News 7.45 a.m.	VUD3—Delhi, India	9680	5,000	3.00-3.30 p.m.
GWB—London, England	9550	50,000	European service.	VUD6—Delhi, India	9680	10,000	10 p.m., 2 a.m., 3-5 a.m.
ZYK3—Recife, Brazil	9565	-	11 p.m.-1.00 a.m., 7.00 a.m.-2.00 p.m.	LRA1—Buenos Aires, Argentina	9683	7,000	"Radio del Estado."
VUB3—Bombay, India	9550	250	11.30 p.m.-1.45 a.m.	GRX—London, England	9690	50,000	Pacific Service.
Paris, France	9558	100,000	5.15-9.15 p.m., 10-11.30 p.m., 10.30-11.15 a.m.	Singapore, Malaya	9690	7,500	10.30 p.m.-4.30 a.m.
XETT—Mexico City, Mexico	9558	500	Midnight-6.45 p.m.	DYH5—Manila, Philippines	9690	250	9.00 a.m.-5.00 a.m. (next day).
JRD2—Tokyo, Japan	9560	7,500	7.55 p.m.-2.00 a.m.	JKM2—Tokyo, Japan	9695	5,000	9.45-11.00 a.m.
VUD7—Delhi, India	9565	100,000	3.15-4.10 p.m.	GWY—London, England	9700	100,000	"Voice of America" relays.
*KWIX—San Francisco, Calif.	9570	50,000	3.15-8.45 p.m. A.F.R.S.	KCBF—San Francisco, Calif.	9700	50,000	9 p.m.-2.30 a.m.
WRUA—Boston, U.S.A.	9570	50,000		FLWS—Cincinnati, U.S.A.	9700	75,000	Noon-5 p.m.
GSC—London, England	9580	50,000	Eastern Broadcasts 4.30 p.m.	Fort-de-France, Martinique	9705	1,500	"Radio Martinique."
GWX—London, England	9570	100,000		OAX4K—Lima, Peru	9712	250	"Radio Golcocha," 11 a.m.-3 p.m.
VLH3—Melbourne, Aust.	9580	10,000	8.28 p.m.-2.00 a.m.	Radio Malaya, Singapore	9710	7,500	10.30-3.30 a.m.
VLA11—Melbourne, Aust.	9580	100,000	4.30-5.15 a.m. (Ger.).	PR17—Rio de Janeiro, Brazil	9720	50,000	"Radio Nacional."
VLB9—Melbourne, Aust.	9580	100,000	4.30-5.15 a.m.	Radio Sario, Mendado, Celebes	9720	800	10 p.m.-midnight.
CE960—Santiago, Chile	9585	1,000	Noon-5.00 p.m. "Radio la Americana."	CS2MF—Lisbon, Portugal	9727	10,000	Noon-1.00 p.m. "Emisora Nacional."
PCJ—Bilversum, Holland	9590	60,000	7-8 a.m.	CE970—Valparaiso, Chile	9728	1,000	11 p.m.-4 p.m., opens and signs in English.
VUD4—Delhi, India	9590	10,000	News 1 a.m.	DZH7—Manila, Philippines	9730	1,000	
VUM2—Madras, India	9590	10,000	7-9.30 p.m., 10.30-11.30 p.m.	Leipzig, Germany	9730	12,000	3 p.m.-11 a.m.
VUD3—Delhi, India	9590	5,000	4.30-5.30 a.m.	H12—Ciudad Trujillo, D.R.	9740	7,500	Midnight-5.00 p.m.
VUM3—Madras, India	9590	250	1.30-3.30 p.m.	CTC2—Leopoldville, B. Congo	9745	50,000	English to 4 p.m.
WLWK—Cincinnati, Ohio, U.S.A.	9590	75,000		KCBR—San Francisco, Calif.	9750	200,000	9 p.m.-3 a.m.
GRY—London, England	9600	50,000	African Service, news 8.45 a.m.; 6 p.m.	CR7BE—Lourenco Marques, Mos.	9755	10,000	English to 3.00 a.m.
Athens, Greece	9605	7,500	5.30-7.35 p.m., 10.00 p.m.-1.00 a.m.	Khartoum, Sudan	9750	400	4.15-4.45 p.m., 4.30-6.00 a.m.
XEVU—Mexico City, Panama	9605	250	"Radio Univ. Nacional," 2-5 p.m.	TGWA—Guatemala City, Guat.	9780	10,000	Spanish to 5.15 p.m.
HP5J—Panama City, Panama	9605	380	"La Voz de Panama," 10 a.m.-3.30 p.m.	Monte Carlo, Monaco	9785	25,000	6.00-8.00 p.m., 6.00-10.15 a.m.
JKL2—Tokyo, Japan (AFRS)	9606	5,000	9.15 a.m.-8.45 p.m.	HSSPD—Bangkok, Siam	9790	2,500	10.00-11.30 p.m. in English.

Call and Location.	Freq. in Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.	Call and Location.	Freq. in Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
Budapest, Hungary ..	9815	500	4.00-10.00 a.m.	HEU5—Berne, Switzerland ..	11815	100,000	7.15-8.45 p.m.
GRH—London, England ..	9825	50,000	North American and Pacific Services.	GSN—London, England ..	11820	50,000	Pacific service.
COBL—Havana, Cuba ..	9833	1,000	'Radio Cadena Suaritos,' 7.15-8.30 p.m. to N.Z.	XEBR—Hermosillo, Mexico ..	11820	150	'Radiodifusora de Sonora,' 2 a.m.-6 p.m.
GRU—London, England ..	9915	50,000		WABC—New York ..	11830	—	3.15-3.45 p.m. (Russian).
XDY—Mexico City, Mexico ..	9924	8,000	3-3.15 a.m.	WCRC—New York, U.S.A. ..	11830	50,000	
HCJB—Quito, Ecuador ..	9960	1,000	English, 11.30 a.m.-5 p.m.	VLW3—Perth, Aust. ..	11830	2,000	3.30-10.15 p.m.
WWV—Washington, D.C., U.S.	10000	10,000	Frequency check station.	VUD6—Delhi, India ..	11830	10,000	3.30-10 p.m.
SUV—Cairo, Egypt ..	10055	10,000		VUD8—Delhi, India ..	11830	7,500	Midnight-2.15 a.m.
PSH—Rio de Janeiro, Brazil	10220	12,000	10-11 a.m., irregular.	CXA19—Montevideo, Uruguay	11835	1,500	'Radio El Spectador,' 11 p.m.-3 p.m.
PLB4—Batavia, Java ..	10360	3,000	10.30 a.m.-1.30 p.m. 3.30-6.30 p.m., 9.30 p.m.-4 a.m.	Algiers, Algeria, North Africa	11835	12,000	5.25-8 p.m., 5-11 a.m.
Peiping, North China ..	10260	—	English news, 1.30 a.m.	DUH5—Manila, Philippines ..	11840	400	News 10.00 p.m.
ZIK2—Belize, Br. Honduras	10600	200	2-2.15 a.m., 4-5.48 a.m.	*GWQ—London, England ..	11840	50,000	
Tananarive, Madagascar ..	10625	—	4.30-5.30 p.m., 8.30-10 p.m.	Paris, France ..	11840	100,000	7.15-9.30 a.m., 4-4.45 p.m.
SDB2—Stockholm, Sweden ..	10780	10,000	3-11 a.m.	*CXA8—Colonia, Uruguay ..	11840	3,000	
PLB9—Batavia, Java ..	11000	2,000		LLK—Oslo, Norway ..	11850	100,000	6.25-7.30 p.m., 4.00-10.00 a.m.
Ponta Delgada, Azores ..	11090	1,000	7-8 a.m., closes with clock chime.	VLB4—Melbourne, Aust. ..	11850	100,000	7.00-8.15 p.m., 8.30 p.m.-2.00 a.m.
CS2MK—Lisbon, Portugal ..	11040	10,000	5.30-8.30 a.m. 'Emisora Nacional.'	VUD4—Delhi, India ..	11850	20,000	7.20-9 p.m., 12.30-5.30 a.m.
YDH2—Semarang, Java ..	11100	100	9.00 p.m.-3.00 a.m.	DZH8—Manila, Philippines ..	11855	1,000	
Radio Moscow, U.S.S.R. ..	11630	50,000	English, 6.30-7.30 a.m.	CE1185—Santiago, Chile ..	11860	3,500	'Radio El Mercurio,' midnight-3.30 p.m.
GRG—London, England ..	11680	50,000	5-7.15 a.m., 7.30-9 a.m.	GSE—London, England ..	11860	50,000	European service; also 11 a.m.-2.30 p.m., Spanish.
HJCT—Bogota, Colombia ..	11680	—	Closes 4 p.m. 'Radio Nacional.'	ZPA3—Asuncion, Paraguay ..	11863	1,000	'Radio Teleco,' 9.55 a.m.-2.05 p.m.
BCAF—Taipie, Formosa ..	11680	3,500	10-11 a.m., 2.55-5 p.m., 8.30 p.m.-2.30 a.m.	HER5—Berne, Switzerland ..	11865	100,000	10.30-11.15 a.m., 7.15-8.45 p.m., 1.30-3 p.m.
HVJ—Vatican City, Vatican ..	11688	25,000	Fridays, 8.30-8.45 a.m.	Munich, Germany (Voice of America) ..	11870	75,000	
HP5A—Panama City, Panama	11695	1,000	'Radio Teatre Estrella,' to 4 p.m.	VUD9—Delhi, India ..	11870	7,500	9.30-2.30 a.m.
Paris, France ..	11700	100,000	'Radio Bulnes.'	VLH4—Melbourne, Aust. ..	11880	10,000	8-10.15 a.m., 6.30-8.30 p.m.
GVV—London, England ..	11700	50,000	North American service.	LRS—Buenos Aires, Argentina	11880	10,000	Eng. to 6.00 p.m.
SBP—Stockholm, Sweden ..	11705	12,000	7-1.45 a.m. (Sun. only).	Singapore, Malaya ..	11880	7,500	BFEB5, 9.15 p.m.-4.30 a.m.
VLG3—Melbourne, Aust. ..	11710	10,000	9 p.m.-midnight.	BEB5—Shanghai, China ..	11871	1,000	9 p.m.-3.00 a.m.
VUD5—Delhi, India ..	11710	100,000	7.00-8.00 a.m.	LBR—Rocario, Argentina ..	11880	10,000	9 p.m.-2 p.m.
WLWR—Cincinnati, Ohio ..	11710	75,000	11 a.m.-noon, 1-5 p.m.	VLA8—Melbourne, Aust. ..	11880	100,000	4.30-5.15 a.m.
HEI5—Berne, Switzerland ..	11715	25,000		VUD11—Delhi, India ..	11890	20,000	1.30-3.00 p.m.
Dakar, Fr. West Africa ..	11715	—	'Radio Dakar,' 12.15-12.45 a.m.	Paris, France ..	11885	25,000	5-5.45 p.m., 6.30, 6.45 p.m.
ZJM7—Limassol, Cyprus ..	11720	7,500	3.55-6.30 p.m., 10.30 p.m.-3.00 a.m.	GWV—London, England ..	11890	100,000	
CHOL—Montreal, Canada ..	11720	50,000	To N.Z. Sun. 8.45-10.30 p.m.	Manila, Philippines ..	11890	50,000	9 p.m.-2.15 a.m. (Voice of America).
Moscow, U.S.S.R. ..	11720	50,000	2.00-3.15 p.m. (Eng.)	KWIX—San Francisco, Calif.	11890	50,000	9 p.m.-2.30 a.m.
PRL8—Rio de Janeiro, Brazil	11720	50,000	Eng. 2.30-2.45 p.m.	Dakar, Senegal, Africa ..	11895	12,000	7.00-7.30 p.m., 6.00-11.00 a.m.
*GVV—London, England ..	11730	50,000		CE1190—Santiago, Chile ..	11900	1,000	11 p.m.-4 p.m.
*EQE—Teheran, Iran ..	11730	14,000	'Radio Teheran.'	CXA10—Montevideo, Uruguay	11900	10,000	'Radio Electrica,' 8.30 a.m.-2.15 p.m.
KGEX—San Francisco, Calif.	11730	100,000	9 p.m.-3 a.m.	KWID—San Francisco, Calif.	11900	100,000	5.30-11.30 p.m.
PHI—Hilversum, Holland ..	11730	20,000	7-8 a.m.	GVX—London, England ..	11930	50,000	News, 10 p.m.
WRUL—Boston, Mass., U.S.A.	11730	50,000	Eng. to 9.30 a.m.	GVY—London, England ..	11955	50,000	8 a.m.-3.15 p.m.
*LKQ—Oslo, Norway ..	11735	5,000	'R.H.C. Cadona Azul,' 11 p.m.-6 p.m.	ZPA5—Encarnacion, Paraguay	11955	2,500	'Radio Encarnacion,' 11 p.m.-2 p.m.
COCY—Havana, Cuba ..	11740	1,000	4.00-5.15 a.m. (Ger.)	Radio Moscow, U.S.S.R. ..	11960	50,000	English, 1.30-3.15 p.m.
VLB10—Melbourne, Aust. ..	11740	100,000	Midnight-4 p.m. 'Nuevo Mundo.'	Brazzaville, French Eq. Africa	11870	50,000	5-7.30 p.m., 4 a.m.-1 p.m. English news, 5.30 p.m.
CE1174—Santiago, Chile ..	11740	—		CE1180—Santiago, Chile ..	12000	1,000	'Radio Soc. Nac. de Agricultura,' 11 p.m.-4 p.m.
WRUX—Boston, Mass., U.S.A.	11740	50,000	Eng. to 9.30 a.m.	Damascus, Syria ..	12000	500	5.00-6.00 p.m., 4.00-8.45 a.m.
Radio Pakistan, Lahore ..	11745	7,500	News midnight, 2.45-4.30 a.m.	GRV—London, England ..	12040	50,000	10 a.m.-3.30 p.m. in Spanish.
GSD—London, England ..	11750	50,000	5.15 a.m.-3.45 p.m.	GRF—London, England ..	12090	50,000	GOS 7.00-10.00 p.m.
VLG10—Melbourne, Victoria ..	11760	10,000	8.55-11.50 p.m.	HISX—Cuidad Trujillo, D.R.	12110	250	'Radiodifusora Oficiales' 4 a.m.-2.40 p.m.
CKRA—Sackville, N.B., Canada	11760	50,000	11.30 a.m.-3.15 p.m.	TFJ—Reykjavik, Iceland ..	12235	7,000	2-2.30 a.m., Mondays
VLB3—Melbourne, Aust. ..	11760	100,000	8.30-11.30 p.m.	HCJB—Quito, Ecuador ..	12435	10,000	English to 5 p.m.
VLC3—Melbourne, Aust. ..	11760	50,000	3.00-3.45 a.m.	CS2WI—Paredo, Portugal ..	12400	300	1 a.m.-11.30 p.m.
VLA8—Melbourne, Aust. ..	11760	100,000	8.00-9.30 a.m., 4.30-5.35 p.m.	Omdurman, Sudan ..	13200	—	'Sudan Broadcasting Service,' 4-6 a.m.
VUD11—Delhi, India ..	11760	20,000	7.00-8.00 a.m.	EA9AA—Tangiers, Africa ..	14278	1,000	'Radio Africa,' 7.00-9.55 a.m.
ZYB8—Sao Paulo, Brazil ..	11765	5,000	'Radiodifusora Sao Paulo,' 1 a.m.-2.35 p.m.	WWV—Washington, D.C., U.S.	15000	1,000	Frequency checks.
KNBI—San Francisco, Calif. ..	11770	50,000	Noon-5 p.m.	GWC—London, England ..	15070	50,000	G.O.S. 6.00-8.00 p.m.
WGEA—Schenectady, N.Y. ..	11770	100,000	8.15-11 a.m.	CBX—Montreal, Canada ..	15090	7,500	
GVU—London, England ..	11770	50,000	European service.	HONA—Panama City, Panama	15100	7,500	'Radio Central America,'
Saigon, French Indo-China ..	11780	12,000	Eng. 10-10.45 p.m., 1.30-2.30 a.m.	EPB—Teheran, Iran ..	15100	14,000	'Radio Teheran,' English news, 11.30.
HP5G—Panama City, Panama	11780	600	5 a.m.-5 p.m.	BEA—Nanking, China ..	15105	7,500	9.00 p.m.-3.15 a.m.
*XENN—Mexico City, Mexico	11780	500	'Radiomundial.'	GWG—London, England ..	15110	50,000	6.00-8.00 p.m.
OIX3—Helsinki, Finland ..	11780	15,000	4.45 p.m.-12.5 p.m.	HCJB—Quito, Ecuador ..	15110	1,000	Special Pacific broadcast to 5 p.m.
ZL3—Wellington, N.Z. ..	11780	7,500	7.00-9.00 p.m. 'Radio New Zealand.'	Colombo, Ceylon ..	15120	100,000	10.00 p.m.-4.15 a.m.
WEIN4—Vienna, Austria ..	11785	200	5-8.30 a.m.	HED7—Schwarzenburg, Switzerland ..	15120	100,000	
VUD5—Delhi, India ..	11790	100,000	7.00-8.00 a.m.	Rome, Italy ..	15125	10,000	12.10-1.10 p.m.
WRUS—Boston, Mass., U.S.A.	11790	50,000		KGEI—San Francisco, Calif.	15130	50,000	5.30-10.30 p.m.
KNBA—San Francisco, Calif.	11790	1,000		KCBR—San Francisco, Calif.	15130	200,000	Noon-5 p.m.
GWV—London, England ..	11790	100,000		WLWS—Cincinnati, Ohio, U.S.	15130	75,000	12.30-9.45 a.m.
WRUA—Boston, Mass., U.S.A.	11790	50,000	8.30 a.m.-11 a.m.	GSE—London, England ..	15140	50,000	6.00-8.00 p.m.
Radio Batavia, Java ..	11795	100,000		ZYK2—Recife, Brazil ..	15145	—	11.00 p.m.-7.00 a.m.
KCBF—San Francisco, Calif.	11810	50,000	9 p.m.-3 a.m.	WRCA—New York, U.S.A. ..	15150	50,000	4-5.15 a.m., 7-11 a.m.
COBH—Havana, Cuba ..	11800	1,000	'Radio Cadena, Havana' to 5 p.m.				
Radio Monte Carlo, Monaco	11800	25,000	6.00-8.00 p.m.				
GWH—London, England ..	11800	50,000	Pacific service.				
KCBR—San Francisco, Calif.	11810	200,000	3.15-8.45 p.m.				
WGEA—Schenectady, U.S.A. ..	11810	100,000	1-3 p.m.				
Rome, Italy ..	11810	10,000	9.00-9.20 a.m. News 10.20 p.m.				
ZL3—Wellington, N.Z. ..	11810	1,500	Daily 9.30-11.20 p.m.				
VLC7—Melbourne, Aust. ..	11810	50,000	Midnight-1.45 a.m.				

Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
KNBX—San Francisco, Calif.	15150	100,000	
Munich 11, Germany ..	15150	75,000	5.45-7 a.m.
YDC—Batavia, Java ..	15150	3,000	9.30 p.m.-4.00 a.m. News 11 p.m.
SBT—Stockholm, Sweden ..	15155	12,000	3-6.15 a.m.
OZH—Copenhagen, Denmark ..	15165	50,000	10-11 p.m., Tue., Thurs., Sat.
VLG7—Melbourne, Aust. ..	15160	10,000	8-10 a.m.
ZYB9—Sao Paulo, Brazil ..	15160	5,000	"Radiodifusora Sao Paulo."
VUD7—Delhi, India ..	15160	100,000	3.15-6.30 p.m. News 4.30 p.m.
Lisbon, Portugal ..	15160	10,000	Opens 9.00 a.m.
KEWW—Mexico City, Mexico ..	15160	10,000	
ZYN7—Fortaleza, Brazil ..	15165	5,000	7.00-9.00 a.m.
VLB11—Melbourne, Aust. ..	15160	100,000	9.30-11.30 a.m.
*TGWA—Guatemala City, Guat.	15170	10,000	
GSO—London, England ..	15180	50,000	GOS, 5.00 p.m.-9.00 p.m.
VUD5—Delhi, India ..	15190	100,000	3.15-6 p.m., 9-10.15 p.m.
VUD5—Delhi, India ..	15190	100,000	1.30-2.45 p.m.
CKCX—Montreal, Canada ..	15190	50,000	2.15-4 a.m.
OIX4—Helsinki, Finland ..	15195	100,000	3.00-5.00 p.m., midnight-1 a.m., 9.00-10.00 a.m.
TAQ—Ankara, Turkey ..	15195	20,000	Mailbag, Mondays 8.30 a.m.
VLB6—Melbourne, Aust. ..	15200	100,000	9.45-11.15 a.m.
VLG—Melbourne, Aust. ..	15200	50,000	4.00-4.45 p.m. (French).
WOOO—New York, U.S.A. ..	15200	50,000	10.30 p.m.-9.30 a.m.
VLA6—Melbourne, Aust. ..	15200	100,000	8.00-9.30 a.m., 4.45-5.45 p.m.
GWU—London, England ..	15210	100,000	7.30-8.00 a.m.
WBOS—Boston, Mass., U.S.A.	15210	50,000	4-10 a.m., 1-3 p.m.
VLG11—Melbourne, Aust. ..	15210	10,000	2.00-4.15 p.m.
KGEX—San Francisco, Calif.	15210	100,000	
VLG-11—Melbourne, Aust. ..	15220	50,000	8.00-9.45 a.m.
PCJ2—Hilversum, Holland ..	15220	60,000	To N.Z. Tuesdays, 9-10.30 p.m.
JBD3—Tokio, Japan ..	15225	7,500	10.50 a.m.-7.45 p.m.
JBD4—Tokio, Japan ..	15235	7,500	10.50 a.m.-7.45 p.m.
VLH5—Melbourne, Aust. ..	15230	10,000	11.15 a.m.-8.15 p.m.
VLA5—Melbourne, Aust. ..	15230	100,000	9.45-11.15 a.m.
Radio Moscow, U.S.S.R. ..	15230	50,000	English, 1.30-3.15 p.m. Noon-1 p.m.
*OLR5A—Prague, Czechoslovakia	15230	30,000	
KNBX—San Francisco, Calif.	15240	100,000	
Paris, France ..	15240	100,000	4-4.45 p.m.
VLG6—Melbourne, Aust. ..	15240	10,000	10.30 a.m.-8 p.m., 3-4, 4.35-5.40 p.m.
WLWK—Cincinnati, Ohio ..	15250	50,000	5-10 a.m.
WLWR—Cincinnati, Ohio ..	15250	175,000	11 a.m.-5 p.m.
KRHO—Honolulu, Hawaii ..	15250	100,000	9 p.m.-3 a.m.
GSI—London, England ..	15260	50,000	
WCBN—New York, U.S.A. ..	15270	50,000	5-9.30 a.m.
Radio Pakistan, Dacca, Pak.	15275	7,500	Eng. news 12.30, 2.45 a.m.
WNRE—New York, U.S.A. ..	15280	50,000	4-11 a.m.
ZL4—Wellington, N.Z. ..	15280	10,000	7.00-9.00 p.m.
WRUL—Boston, Mass., U.S.A.	15290	50,000	5-9 a.m., 9.10-10 a.m.
VUD3—Delhi, India ..	15290	5,000	3.30 p.m.-midnight.
LRU—Buenos Aires, Argentina	15290	10,000	Eng. to 6.00 p.m.
VUD10—Delhi, India ..	15290	20,000	4.10-6.30 a.m.
GWR—London, England ..	15300	50,000	News 11 p.m.
Singapore, Malaya ..	15300	7,500	9.15 p.m.-4.30 a.m.

Call and Location.	Freq. Kilo-cycles.	Power in Watts.	Schedule, Slogan, English News, Periods, etc.
GSP—London, England ..	15310	50,000	9.15-11.45 a.m.
HER6—Berne, Switzerland ..	15315	100,000	1.30-3 p.m.
VLA5—Shepparton, Victoria ..	15320	100,000	4.45 p.m.-5.40 p.m.
CKCS—Montreal, Canada ..	15320	50,000	4.30-11.05 a.m.
VLC4—Melbourne, Aust. ..	15320	50,000	4.45-5.45 p.m., 8.30-11.30 p.m.
HE17—Berne, Switzerland ..	15320	25,000	1.30-3 p.m.
WGO—Schenectady, U.S.A. ..	15330	100,000	11 p.m.-9.30 a.m.
Radio Pakistan, Dacca ..	15330	7,500	English news, midnight.
Manila, Philippines ..	15330	50,000	7.15-8.45 p.m. (U.N.).
KNBX—San Francisco, Calif.	15330	200,000	9 a.m.-3 p.m.
Athens, Greece ..	15345	7,500	3.00-9.30 a.m., 10.30 a.m.-11.00 a.m.
VUD8—Delhi, India ..	15350	7,500	2-6.30 p.m., 8.30 p.m.-1.30 a.m.
Paris, France ..	15350	25,000	Midnight-2 a.m.
WRUA—Boston, Mass. ..	15350	50,000	4-11 a.m., 1-5 p.m.
FHE—Dakar, Senegal ..	15392	12,000	7-8.30 a.m. in French.
PZX5—Paramaribo, Surinam ..	15405	750	10-11.30 p.m.
Radio Moscow, U.S.S.R. ..	15420	50,000	English, 1.30-3.15 p.m.
GWE—London, England ..	15435	50,000	
Brazzaville, French Eq. Africa	15595	50,000	5-6.30 p.m., 9.45-12.45 a.m.
HEK5—Berne, Switzerland ..	15875	25,000	7.20-7.50 a.m.
HVJ—Vatican City, Vatican ..	17445	25,000	1.40-2.15 a.m.
Brazzaville, French Eq. Africa	17527	50,000	5-6.30 p.m., 9.45-12.45 a.m.
PLD6—Batavia, Java ..	17630	2,500	3.00-4.00 a.m.
GVP—London, England ..	17700	50,000	11 p.m.-2 a.m.
GRA—London, England ..	17715	50,000	GOS 8.00-10.00 p.m.
GVQ—London, England ..	17730	50,000	
WRUW—Boston, Mass., U.S.A.	17750	50,000	10.30 p.m.-7 a.m.
VUD3—Delhi, India ..	17760	5,000	7.00-7.40 p.m.
KWID—San Francisco, Calif.	17760	100,000	9 a.m.-12.15 p.m.
KCBR—San Francisco, Calif.	17770	200,000	
OTC4—Leopoldville, Bel. Congo	17770	50,000	4.30-9.45 a.m., 10 p.m.-2.30 a.m.
PHI—Hilversum, Holland ..	17760	5,000	
WNBI—New York, U.S.A. ..	17780	50,000	4-11 a.m., noon-5 p.m.
Radio Monte Carlo, Monaco ..	17780	25,000	11.00 p.m.-1.00 a.m.
KGEX—San Francisco, Calif.	17780	100,000	5.30-8.45 p.m.
HEK7—Berne, Switzerland ..	17784	25,000	8-8.30 p.m., Monday.
GSG—London, England ..	17790	50,000	Eastern Service.
KRHO—Honolulu, Hawaii ..	17800	100,000	7.45-8.45 p.m.
WLWO—Cincinnati, Ohio ..	17800	75,000	5-10 a.m.
GSV—London, England ..	17810	50,000	5.30-9 p.m., 10 p.m.-1 a.m.
CKNC—Montreal, Canada ..	17820	50,000	2.15-7 a.m.
VUD10—Delhi, India ..	17830	5,000	3.20-10.30 p.m., 10.40 p.m.-1 a.m.
WCBX—New York, U.S.A. ..	17830	50,000	4 a.m.-noon, 1-3 p.m.
VLC9—Melbourne, Aust. ..	17840	50,000	2.00-4.00 p.m., 4.30-5.40 p.m.
Paris, France ..	17850	25,000	2.30-3.30 a.m.
GRP—London, England ..	17870	50,000	3.30 a.m.-5 a.m.
WGX—Schenectady, N.Y. ..	17880	50,000	4-11 a.m.
KGEX—San Francisco, Calif.	17880	100,000	Noon-3 p.m.
HCBJ—Quito, Ecuador ..	17890	10,000	5.00-8.45 a.m. to Europe.
GRQ—London, England ..	18025	50,000	
GVO—London, England ..	18080	50,000	
WNRA—New York ..	18160	50,000	10.30 p.m.-6.15 a.m.

CONVERSION TABLE

Kilocycles to Metres

Freq. in K.C.	Wave-length in Metres.	Freq. in K.C.	Wave-length in Metres.
1000 =	299.8	770 =	389.4
990 =	302.8	760 =	394.5
980 =	305.9	750 =	399.8
970 =	309.1	740 =	405.2
960 =	312.3	730 =	410.8
950 =	315.6	720 =	416.4
940 =	319.0	710 =	422.3
930 =	322.4	700 =	428.3
920 =	325.9	690 =	434.6
910 =	329.4	680 =	440.9
900 =	333.1	670 =	447.5
890 =	336.9	660 =	454.3
880 =	340.7	650 =	461.3
870 =	344.6	640 =	468.5
860 =	348.6	630 =	475.9
850 =	352.7	620 =	483.6
840 =	356.9	610 =	491.5
833 =	360.1	600 =	499.7
830 =	361.2	590 =	508.2
820 =	365.6	580 =	516.9
810 =	370.2	570 =	526.0
800 =	374.8	560 =	535.4
790 =	379.5	550 =	545.1
780 =	384.4		

SHORT-WAVE COIL WINDING DATA

Wave-Range.	Aerial.		Detector.		
	R.F.	Grid.	Reaction.	Gauge.	
150 mfd. Capacity—					
12 to 19 metres ..	3	3	3	3	16 enamel
19 to 39 metres ..	4	6	6	6	24 "
29 to 51 metres ..	8	15	15	9	24 "
45 to 84 metres ..	10	26	26	11	24 "
70 to 110 metres ..	10	33	33	12	24 "
100 mfd. Capacity—					
12 to 17.5 metres ..	3	3	3	3	16 "
17 to 26 metres ..	4	7	7	5	24 "
25 to 38 metres ..	6	10	10	7	24 "
37 to 55 metres ..	7	16	16	8	24 "
54 to 85 metres ..	8	25	25	10	24 "
84 to 115 metres ..	10	34	34	12	24 "
75 mfd. Capacity—					
12 to 17 metres ..	3	3	3	3	16 "
17 to 24 metres ..	4	7	9	5	24 "
23 to 35 metres ..	5	11	11	7	24 "
34 to 51 metres ..	7	17	17	8	24 "
50 to 78 metres ..	10	26	26	10	24 "
77 to 100 metres ..	10	35	35	11	24 "
50 mmfd. Capacity—					
12 to 16.5 metres ..	3	3	3	3	16 "
16 to 22 metres ..	4	6	6	5	24 "
21 to 32 metres ..	5	10	10	8	24 "
31 to 45 metres ..	6	16	16	10	24 "
44 to 65 metres ..	8	23	23	12	24 "
64 to 95 metres ..	10	36	36	12	24 "

# PRINCIPAL NORTH AMERICAN BROADCAST STATIONS

This log of North American stations contains only the dominant stations on each frequency. Further information can be had from Arthur T. Cushen, 212 Earn Street, Invercargill, of the New Zealand Radio DX League and compiler of this log.

All powers shown are for daytime operation. Times shown are: A = Atlantic, 16 hours behind N.Z.S.T. E = Eastern, 17 hours behind N.Z.S.T. C = Central, 18 hours behind N.Z.S.T. M = Mountain, 19 hours behind N.Z.S.T. P = Pacific, 20 hours behind N.Z.S.T.

Call and Location.	Power in Watts. Zone	Call and Location.	Power in Watts. Zone	Call and Location.	Power in Watts. Zone
<b>540 Kilocycles—</b>		<b>790 Kilocycles—</b>		<b>1040 Kilocycles—</b>	
CBK—Watrous, Sask. ...	50,000 M	KECA—Los Angeles, Calif. ...	5,000 P	WHO—Des Moines, Iowa ...	50,000 C
<b>550 Kilocycles—</b>		KXXX—Kolby, Kansas ...	5,000 C	<b>1050 Kilocycles—</b>	
KFMB—San Diego, Calif. ...	1,000 P	WMC—Memphis, Tenn. ...	5,000 C	CFGP—Grand Prairie, Alta. ...	1,000 M
KMVI—Wailuku, Hawaii ...	1,000 —	<b>800 Kilocycles—</b>		KEG—Monterey, N.L. ...	50,000 C
KTSA—San Antonio, Tex. ...	5,000 C	CKLW—Windsor, Ont. ...	50,000 E	<b>1060 Kilocycles—</b>	
<b>560 Kilocycles—</b>		XELO—Ciudad Jaurex, M. ...	50,000 C	CFCN—Calgary, Alta. ...	10,000 M
KLZ—Denver, Colo. ...	5,000 M	<b>810 Kilocycles—</b>		KYW—Philadelphia, Pa. ...	50,000 E
KPQ—Wenatchee, Wash. ...	1,000 P	KCMO—Kansas City, Mo. ...	10,000 C	<b>1070 Kilocycles—</b>	
KQW—San Jose, Calif. ...	5,000 P	WGY—Schenectady, N.Y. ...	50,000 E	KXN—Los Angeles, Cal. ...	50,000 P
<b>570 Kilocycles—</b>		XEFW—Tampico, Mex. ...	5,000 C	<b>1080 Kilocycles—</b>	
KLAC—Los Angeles, Cal. ...	1,000 P	<b>820 Kilocycles—</b>		KRLD—Dallas, Texas ...	50,000 C
KUTA—Salt Lake City, Ut. ...	5,000 M	WBAP—Fort Worth, Texas ...	50,000 C	KSCO—Santa Cruz, Calif. ...	1,000 P
KVI—Tacoma, Wash. ...	5,000 P	WFAA—Dallas, Texas ...	50,000 C	KWJ—Portland, Ore. ...	10,000 P
WBAP—Ft. Worth, Texas ...	50,000 C	<b>830 Kilocycles—</b>		<b>1090 Kilocycles—</b>	
WFAA—Dallas, Texas ...	50,000 C	WCCO—Minneapolis, Minn. ...	50,000 C	KING—Seattle, Wash. ...	50,000 P
WNAX—Yankton, S. Dak. ...	5,000 C	<b>840 Kilocycles—</b>		KTHS—Hot Springs, Ark. ...	5,000 C
<b>580 Kilocycles—</b>		WHAS—Louisville, Ky. ...	50,000 C	WBAL—Baltimore, Md. ...	50,000 E
KMJ—Fresno, Cal. ...	5,000 P	<b>850 Kilocycles—</b>		XERB—Tijuana, Mex. ...	50,000 P
WBW—Topeka, Kansas ...	5,000 C	KOA—Denver, Colo. ...	50,000 M	<b>1100 Kilocycles—</b>	
<b>590 Kilocycles—</b>		WJW—Cleveland, Ohio ...	5,000 E	KJBS—San Francisco, Cal. ...	1,000 P
KGMB—Honolulu, Hawaii ...	5,000 —	<b>860 Kilocycles—</b>		WTAM—Cleveland, Ohio ...	50,000 E
KHQ—Spokane, Wash. ...	5,000 P	KTRB—Modesto, Calif. ...	1,000 P	<b>1110 Kilocycles—</b>	
WOW—Omaha, Nebr. ...	5,000 C	NEMO—Tijuana, Mex. ...	5,000 P	KFAB—Omaha, Nebr. ...	50,000 C
<b>600 Kilocycles—</b>		<b>870 Kilocycles—</b>		KHPA—Hilo, Hawaii ...	1,000 —
CJOR—Vancouver, B.C. ...	5,000 P	WWL—New Orleans, La. ...	50,000 C	KXLA—Pasadena, Calif. ...	10,000 P
KFSD—San Diego, Cal. ...	5,000 P	<b>880 Kilocycles—</b>		WBT—Charlotte, N.C. ...	50,000 E
WREC—Memphis, Tenn. ...	5,000 C	WCBS—New York, N.Y. ...	50,000 E	<b>1120 Kilocycles—</b>	
<b>610 Kilocycles—</b>		<b>890 Kilocycles—</b>		KMOX—St. Louis, Mo. ...	50,000 C
KFRC—San Francisco, Cal. ...	5,000 P	WENR—Chicago, Ill. ...	50,000 C	<b>1130 Kilocycles—</b>	
KGGM—Albuquerque, N.M. ...	5,000 M	WLS—Chicago, Ill. ...	50,000 C	CBR—Vancouver, B.C. ...	5,000 P
WDAF—Kansas City, Mo. ...	5,000 C	<b>900 Kilocycles—</b>		KWKH—Shreveport, La. ...	50,000 C
<b>620 Kilocycles—</b>		CJVI—Victoria, B.C. ...	1,000 P	<b>1140 Kilocycles—</b>	
KGW—Portland, Ore. ...	5,000 P	NEW—Mexico City, Mex. ...	50,000 C	KGDM—Stockton, Calif. ...	5,000 P
KNGS—Hanford, Cal. ...	1,000 P	<b>910 Kilocycles—</b>		KSOO—Sioux Falls, S.D. ...	5,000 C
KTAR—Phoenix, Ariz. ...	5,000 M	KLX—Oakland, Cal. ...	1,000 P	XENT—Nuevo Laredo, Mex. ...	50,000 C
KWFT—Wichita Falls, Tex. ...	5,000 C	<b>920 Kilocycles—</b>		<b>1150 Kilocycles—</b>	
<b>630 Kilocycles—</b>		KARK—Little Rock, Ark. ...	5,000 C	KCKY—Coolidge, Ariz. ...	1,000 M
KOH—Reno, Nev. ...	5,000 P	KXLY—Spokane, Wash. ...	5,000 P	KRRD—Los Angeles, Cal. ...	1,000 P
KPOA—Honolulu, Hawaii ...	5,000 —	<b>930 Kilocycles—</b>		KRSC—Seattle, Wash. ...	1,000 P
KYOD—Denver, Colo. ...	5,000 M	KHJ—Los Angeles, Cal. ...	5,000 P	KSAL—Salina, Kansas ...	5,000 C
KXOK—St. Louis, Mo. ...	5,000 C	WKY—Oklahoma City, Okla. ...	5,000 C	WJBO—Baton Rouge, La. ...	5,000 C
<b>640 Kilocycles—</b>		<b>940 Kilocycles—</b>		<b>1160 Kilocycles—</b>	
KPI—Los Angeles, Cal. ...	50,000 P	KFRE—Fresno, Calif. ...	50,000 P	KSL—Salt Lake City, Utah ...	50,000 M
<b>650 Kilocycles—</b>		XEQ—Mexico City, Mex. ...	50,000 C	WJJD—Chicago, Ill. ...	50,000 C
WSM—Nashville, Tenn. ...	50,000 C	<b>950 Kilocycles—</b>		<b>1170 Kilocycles—</b>	
<b>660 Kilocycles—</b>		KFEL—Denver, Colo. ...	5,000 M	KCBQ—San Diego, Calif. ...	5,000 P
KPAR—Fairbanks, Alaska ...	10,000 —	KDSH—Boise, Idaho ...	5,000 M	KVOO—Tulsa, Okla. ...	50,000 C
WNBC—New York, N.Y. ...	50,000 E	KJR—Seattle, Wash. ...	5,000 P	<b>1180 Kilocycles—</b>	
<b>670 Kilocycles—</b>		KPRC—Houston, Texas ...	5,000 C	WHAM—Rochester, N.Y. ...	50,000 E
WMAQ—Chicago, Ill. ...	50,000 C	<b>960 Kilocycles—</b>		<b>1190 Kilocycles—</b>	
<b>680 Kilocycles—</b>		KMA—Shenandoah, Iowa ...	5,000 C	KEX—Portland, Ore. ...	50,000 P
KABC—San Antonio, Texas ...	50,000 C	KOOL—Phoenix, Ariz. ...	5,000 M	WOWO—Fort Wayne, Ind. ...	10,000 C
KNBC—San Francisco, Cal. ...	50,000 P	KROW—Oakland, Cal. ...	1,000 P	<b>1200 Kilocycles—</b>	
<b>690 Kilocycles—</b>		<b>970 Kilocycles—</b>		WOAI—San Antonio, Texas ...	50,000 C
KULA—Honolulu, Hawaii ...	10,000 —	KHBC—Hilo, Hawaii ...	1,000 —	<b>1210 Kilocycles—</b>	
<b>700 Kilocycles—</b>		KNEB—Scottsbluff, Neb. ...	1,000 C	WCAU—Philadelphia, Pa. ...	50,000 E
WLW—Cincinnati, Ohio ...	50,000 C	KOIN—Portland, Ore. ...	5,000 P	<b>1220 Kilocycles—</b>	
<b>710 Kilocycles—</b>		WDAY—Fargo, N.D. ...	5,000 C	CJOC—Lethbridge, Alta. ...	5,000 M
KGNC—Amarillo, Texas ...	10,000 C	<b>980 Kilocycles—</b>		WGAR—Cleveland, Ohio ...	5,000 E
KIRO—Seattle, Wash. ...	50,000 P	CKWX—Vancouver, B.C. ...	5,000 P	XEB—Mexico City, Mex. ...	50,000 C
KMPC—Hollywood, Cal. ...	50,000 P	KFWB—Los Angeles, Cal. ...	5,000 P	<b>1230 Kilocycles—</b>	
KTBS—Shreveport, La. ...	10,000 C	KMBC—Kansas City, Mo. ...	5,000 C	KLAS—Las Vegas, Nev. ...	250 M
<b>720 Kilocycles—</b>		<b>990 Kilocycles—</b>		<b>1240 Kilocycles—</b>	
WGN—Chicago, Ill. ...	50,000 C	KFDX—Wichita Falls, Tex. ...	5,000 C	RSON—San Diego, Calif. ...	250 P
<b>730 Kilocycles—</b>		WHOO—Orlando, Fla. ...	5,000 E	<b>1250 Kilocycles—</b>	
XEX—Mexico City, Mex. ...	50,000 C	WNOX—Knoxville, Tenn. ...	10,000 C	KPAC—Fort Arthur, Texas ...	1,000 C
<b>740 Kilocycles—</b>		<b>1000 Kilocycles—</b>		KTMS—Santa Barbara, Cal. ...	1,000 P
KCBS—San Jose, Calif. ...	50,000 P	KOMO—Seattle, Wash. ...	50,000 P	KWSC—Pullman, Wash. ...	5,000 P
KTRH—Houston, Texas ...	50,000 C	WCFL—Chicago, Ill. ...	50,000 C	<b>1260 Kilocycles—</b>	
<b>750 Kilocycles—</b>		XEOY—Mexico City, Mex. ...	10,000 C	CFRN—Edmonton, Alta. ...	5,000 M
KXL—Portland, Ore. ...	10,000 P	<b>1010 Kilocycles—</b>		KGIL—San Fernando, Calif. ...	1,000 P
WSB—Atlanta, Ga. ...	50,000 E	CBX—Edmonton, Alta. ...	50,000 M	KYA—San Francisco, Cal. ...	1,000 P
<b>760 Kilocycles—</b>		KLRA—Little Rock, Ark. ...	50,000 C	<b>270 Kilocycles—</b>	
KGU—Honolulu, Hawaii ...	2,500 —	<b>1020 Kilocycles—</b>		KEJZ—Fort Worth, Texas ...	5,000 C
WJR—Detroit, Mich. ...	50,000 E	KDKA—Pittsburgh, Pa. ...	50,000 E	KIOX—Bay City, Texas ...	1,000 C
<b>770 Kilocycles—</b>		KFYD—Los Angeles, Cal. ...	5,000 P	KTFI—Twin Falls, Idaho ...	5,000 M
KOB—Albuquerque, N.M. ...	50,000 M	<b>1030 Kilocycles—</b>		KCOK—Tulare, Calif. ...	1,000 P
<b>780 Kilocycles—</b>		KWBU—Corpus Christi, Tex. ...	50,000 C		
WBMM—Chicago, Ill. ...	50,000 C	WBZ—Boston, Mass. ...	50,000 E		

Call and Location.	Power in Watts.	Zone	Call and Location.	Power in Watts.	Zone	Call and Location.	Power in Watts.	Zone
<b>1280 Kilocycles—</b>			<b>1380 Kilocycles—</b>			<b>1480 Kilocycles—</b>		
KFOX—Long Beach, Calif. ..	1,000	P	KHON—Honolulu, Hawaii ..	5,000	—	KANS—Wichita, Kansas ..	5,000	C
KIT—Yakima, Wash. ..	1,000	P	KIDO—Boise, Idaho ..	1,000	M	KGLU—Stafford, Ariz. ..	1,000	M
KNAK—Salt Lake City, Utah ..	1,000	M	KSBW—Salinas, Calif. ..	1,000	P	KIEM—Eureka, Calif. ..	1,000	P
KXOB—Stockton, Calif. ..	1,000	P	KWK—St. Louis, Mo. ..	1,000	C	KVOE—Santa Ana, Calif. ..	1,000	P
			WLOS—Asheville, N.C. ..	5,000	E	KYOS—Merced, Calif. ..	5,000	P
						WABB—Mobile, Ala. ..	5,000	C
<b>1290 Kilocycles—</b>			<b>1390 Kilocycles—</b>			WRDW—Augusta, Ga. ..	5,000	E
KHSL—Chico, Calif. ..	1,000	P	KCRC—Enid, Okla. ..	1,000	C	<b>1490 Kilocycles—</b>		
KITO—San Bernardino, Calif. ..	1,000	P	KGER—Long Beach, Calif. ..	5,000	P	KTOH—Lihue, Hawaii ..	250	—
KTRN—Wichita Falls, Texas ..	1,000	C	KSLM—Salem, Ore. ..	1,000	P	<b>1500 Kilocycles—</b>		
KUOA—Sioux Springs, Ark. ..	5,000	C	WFBL—Syracuse, N.Y. ..	5,000	E	KSTP—St. Paul, Minn. ..	50,000	C
						KRRX—San Jose, Calif. ..	1,000	P
<b>1300 Kilocycles—</b>			<b>1400 Kilocycles—</b>			WTOI—Washington, D.C. ..	50,000	E
KOL—Seattle, Wash. ..	5,000	P	KRE—Berkeley, Calif. ..	250	P	XERH—Mexico City, Mex. ..	2,000	C
KROP—Brawley, Calif. ..	1,000	P	KYAK—Yakima, Wash. ..	250	P			
KYNO—Fresno, Calif. ..	1,000	P				<b>1510 Kilocycles—</b>		
			<b>1410 Kilocycles—</b>			KGA—Spokane, Wash. ..	50,000	P
<b>1310 Kilocycles—</b>			CKMO—Vancouver, B.C. ..	5,000	P	KSDO—San Diego, Calif. ..	5,000	P
KFBB—Great Falls, Mont. ..	5,000	M	KERN—Bakerfield, Cal. ..	1,000	P	WLAC—Nashville, Tenn. ..	50,000	C
KTKR—Taft, Calif. ..	500	P	WALA—Mobile, Ala. ..	5,000	C			
KWBR—Oakland, Calif. ..	1,000	P	WING—Dayton, Ohio. ..	5,000	E	<b>1520 Kilocycles—</b>		
WRR—Dallas, Texas ..	5,000	C				KOMA—Oklahoma City, Okla. ..	50,000	C
			<b>1420 Kilocycles—</b>			WKBW—Buffalo, N.Y. ..	50,000	E
<b>1320 Kilocycles—</b>			KUJ—Walla Walla, Wash. ..	1,000	P	KTED—Laguna Beach, Cal. ..	1,000	P
KCRA—Sacramento, Calif. ..	1,000	P	WOC—Davenport, Iowa ..	5,000	C			
KDYL—Salt Lake City, Utah ..	5,000	M	WRBL—Columbus, Ga. ..	5,000	E	<b>1530 Kilocycles—</b>		
KXYZ—Houston, Texas ..	5,000	C	NEXX—Tijuana, B. Cal. ..	5,000	P	KFBK—Sacramento, Calif. ..	50,000	P
						WCKY—Cincinnati, Ohio ..	50,000	E
<b>1330 Kilocycles—</b>			<b>1430 Kilocycles—</b>					
KFAC—Los Angeles, Cal. ..	5,000	P	KARM—Fresno, Calif. ..	5,000	P	<b>1540 Kilocycles—</b>		
KFH—Wichita, Kansas ..	5,000	C	KLO—Ogden, Utah ..	5,000	M	KGBC—Galveston, Texas ..	1,000	C
KPOL—Portland, Ore. ..	5,000	P	KNEW—Spokane, Wash. ..	5,000	P	KXEL—Waterloo, Iowa ..	50,000	C
WFBC—Greenville, S.C. ..	5,000	E	KTUL—Tulsa, Okla. ..	5,000	C	WPTR—Albany, N.Y. ..	50,000	E
<b>1340 Kilocycles—</b>			<b>1440 Kilocycles—</b>			<b>1550 Kilocycles—</b>		
KIST—Santa Barbara, Calif. ..	250	P	KFDA—Amarillo, Texas ..	5,000	C	KENT—Shreveport, La. ..	1,000	C
KRCX—Glendale, Ariz. ..	250	M	KMED—Medford, Ore. ..	1,000	P	KSMO—San Mateo, Calif. ..	1,000	P
			KMLB—Monroe, La. ..	1,000	C	WLOA—Braddock, Pa. ..	1,000	E
<b>1350 Kilocycles—</b>			KPRO—Riverside, Calif. ..	1,000	P	XEBG—Tijuana, B.C. Mex. ..	1,000	P
KCOR—San Antonio, Texas ..	1,000	C	KVON—Nappa, Calif. ..	500	P	KPMC—Bakersfield, Calif. ..	1,000	P
KGHF—Pueblo, Colo. ..	5,000	M			WQXR—New York, N.Y. ..	10,000	E	
KCSB—San Bernardino, Calif. ..	500	P	<b>1450 Kilocycles—</b>					
WADC—Akron, Ohio ..	5,000	E	KVEN—Ventura, Calif. ..	250	P	<b>1570 Kilocycles—</b>		
WSMB—New Orleans, La. ..	5,000	C	KSAN—San Francisco, Calif. ..	250	P	KCVR—Lodi, Calif. ..	250	P
						WPTW—Piqua, Ohio ..	250	E
<b>1360 Kilocycles—</b>			<b>1460 Kilocycles—</b>			XERF—Villa Acuna, Mex. ..	50,000	C
RGB—San Diego, Calif. ..	1,000	P	KIMA—Yakima, Wash. ..	1,000	P	<b>1580 Kilocycles—</b>		
KMO—Tacoma, Wash. ..	5,000	P	KDON—Santa Cruz, C. ..	1,000	P	KLOU—Lake Charles, La. ..	1,000	C
KRIS—Corpus Christi, Texas ..	1,000	C	KSO—Des Moines, Iowa ..	5,000	C	KOWI—Santa Monica, Calif. ..	1,000	P
KSCJ—Sioux City, Iowa ..	5,000	C	WACO—Waco, Texas ..	1,000	C	<b>1590 Kilocycles—</b>		
WSAI—Cincinnati, Ohio ..	5,000	E				KSJO—San Jose, Cal. ..	1,000	P
			<b>1470 Kilocycles—</b>			KTIL—Tillamook, Ore. ..	250	P
<b>1370 Kilocycles—</b>			KELA—Centralia, Wash. ..	1,000	P	KVVC—Ventura, Calif. ..	1,000	P
KEEN—San Jose, Calif. ..	1,000	P	KPLC—Lake Charles, La. ..	5,000	C	WAKR—Akron, Ohio ..	5,000	E
WCOA—Pensacola, Fla. ..	500	C	KXGA—Sacramento, Cal. ..	1,000	P	XEMC—Mexico City, Mex. ..	5,000	C
WDEF—Chattanooga, Tenn. ..	1,000	C	WMBD—Peoria, Ill. ..	5,000	C			
WSPD—Toledo, Ohio ..	5,000	E	WRGA—Rome, Ga. ..	5,000	E	<b>1600 Kilocycles—</b>		
			XESM—Mexico City, D.F. ..	5,000	C	KASH—Eugene, Ore. ..	1,000	P
						KUBA—Yuba City, Calif. ..	500	P
						WVOM—Brookline, Mass. ..	5,000	E

# THE "IMPROVED HIKER'S ONE" KITSET

## The Greatest Kitset We Have Ever Produced!

**T**HIS set has stood the test of time and there are now thousands of Hikers Sets in use throughout the Dominion. Practically the only failures have been entirely due to bad and untidy workmanship. When making your set be neat, particularly with the coil and soldering. Attention to these points and success will be yours. In country districts (away from powerful local stations) reception of all the main New Zealand stations and many Australians can be had in the evenings; whilst your nearest YA station will come in during daylight even in summer, and all this without the need of a large and expensive "B" Battery.

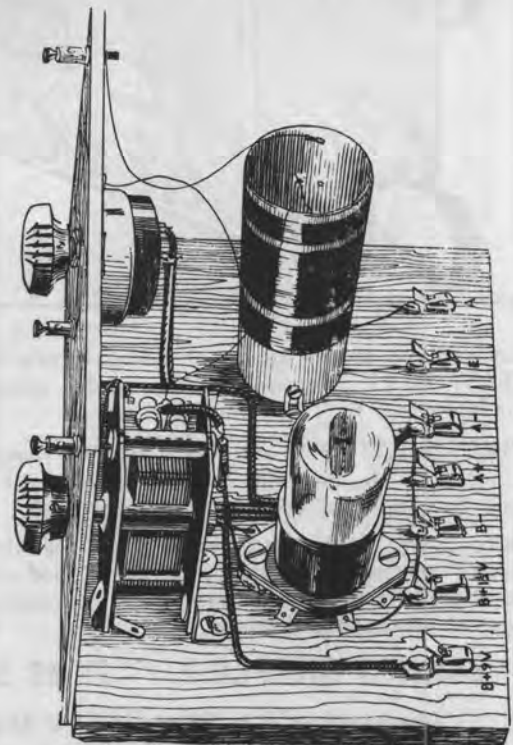
Still Tops the Poll as the Most Popular Kitset in New Zealand!  
**A ONE-VALVE BATTERY RADIO THAT REALLY "PULLS" THE STATIONS**  
 It's Easy to Construct—Cheap to Buy—and Economical to Run!  
**WRITE FOR FREE ILLUSTRATED LEAFLET.**

### PARTS LIST

- |  |                      |
|--|----------------------|
| 2 .0001 mfd. Mica Condensers                           | 1 Coil Pushback Wire |
| 1 1 meg. Resistor                                      | 1 Baseboard          |
| 1 Variable Single Gang Condenser, .00035 or .0005 mfd. | 1 Panel              |
| 1 500,000 Potentiometer with switch                    | 2 Knobs              |
| 9 Fahnestock Clips or Terminals                        | 1 1½v. Dry Cell      |
| 1 Valve, 49, 1Q5GT, 1C5GT                              | 1 9v. C. Battery     |
| 1 Valve Socket   |                      |
| 1 1½in. x 3½in. Coil Former                            |                      |
| 1oz. 32 gauge Enamelled Wire                           |                      |
| 2 Coil Feet  |                      |
| 14 Wood Screws   |                      |
| 2 Nuts and Bolts                                       |                      |

**COMPLETE KIT OF PARTS WITH OCTAL TUBE AND BATTERIES**

Cat. No. AK2004—  
 New Low Price .. **42/6**

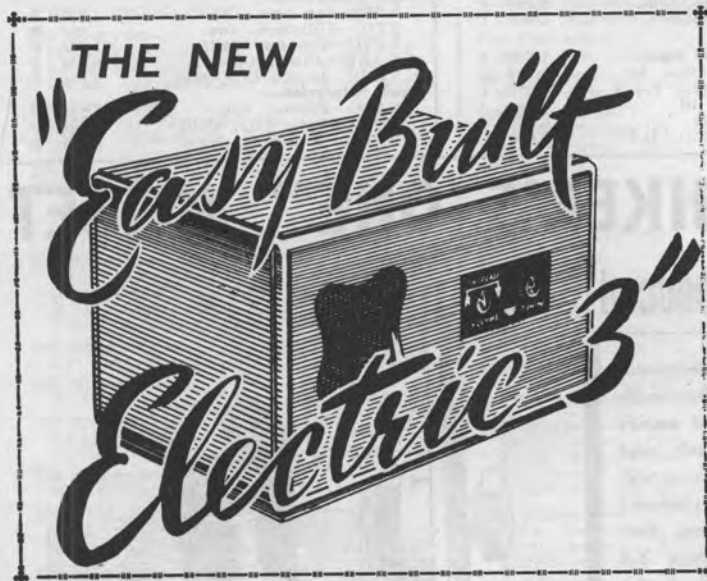




# A GREAT PERFORMER!

## ANOTHER "EASY-BUILT" KIT-SET!

### THE 3 VALVE Bedroom RADIO



An addition to our range of Radio Kitsets designed on the "EASY BUILT" system—the new radio construction method made famous by The Lamphouse.

"EASY-BUILT" KITS are just what the name implies; radio kitsets that can be easily built by anyone with a knowledge of how to solder and who can count up to 30.

Instead of constructing the set by following a schematic circuit of radio symbols, all items and connections are numbered, and it's just a matter of soldering one to seven—four to eighteen and so on.

#### SOUND SIMPLE? IT IS SIMPLE!

Any boy from 9 to 90 can make a Radio under the "Easy-Built" system.

#### PARTS LIST

#### "Easy-Built" Bedroom 3

- |   |  |
|---|--|
| 1 Chassis                                     | 1 .004 mfd. Mica Condenser                               |
| 1 "Easy-Built" Coil                           | 1 .0001 mfd. Mica Condenser                              |
| 1 .0005 mfd. Air Spaced Condenser             | 1 .00025 mfd. Mica Condenser                             |
| 1 60 M.A. 6.3v. Power Transformer             | 1 .25 mfd. Tubular Condenser                             |
| 1 Filter Choke                                | 1 .01 mfd. Tubular Condenser                             |
| 2 16 mfd. Electrolytics                       | 5 Assorted Resistors                                     |
| 1 10 mfd. Electrolytic                        | 1 Special Dial Plate                                     |
| 1 each Type 6X5GT, 6U7G, 6V6GT Valves         | 2 Pointer Knobs  |
| 3 Octal Valve Sockets for above Valves        | 2 yards Power Flex                                       |
| 1 500,000 ohm Potentiometer                   | 1 coil Hook-up Wire                                      |
| 1 5in. P.M. Speaker with separate Transformer | <b>Sundries:</b> Nuts and Bolts, Solder Lugs, Grid Clips |

ANOTHER GREAT FEATURE—  
THE *LOW COST!*

# £7.15.0

Cat. No. AK2060.

Without Cabinet.

Complete with Attractive Ivory Coloured Cabinet . . . . . £8/19/6  
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# The EASY BUILT BEDROOM A.C.3



**THIS** year we present a new arrival in our family of "Easybuilt" receivers. After a great deal of thought and burning of the midnight oil we decided to produce a receiver which we felt would have even greater appeal than our two previous efforts. This receiver is a simple A/C set which is designed to bring in the local stations at good speaker strength which is all we intend to claim for it, although in localities away from powerful stations reasonable distance reception may be expected.

A point well worth stressing here is the importance of aerial length with a set of this type. You will be well repaid if you spend a little time trying the effect of various aerial lengths on the receiver. As too long an aerial may cause an annoying "cross talk" effect between the locals and too short of course will prevent the reception of the weaker stations at full volume.

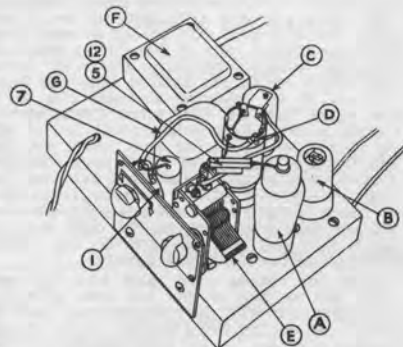
A glance at the circuit will show a receiver which is in essence similar in design to sets which have given outstanding results since the early days of radio. This then is our modern version of an old friend and we feel sure you will give him the welcome he deserves. The low cost and modest size of this receiver make it the answer to the "second set" problem for although we do not claim it will perform up to "superhet" standards it will definitely give satisfactory listening on any of the local stations. The simplicity of construction and the fact that there are no trimmers and padder condensers to be lined up as in a super-heterodyne receiver, makes this receiver an ideal one for the beginner in set construction to make a start with. Without further ado we will now get weaving on the actual business of having this fine little set transformed from a magazine article into a working model.

First check off the various parts against the list. Having done this the next thing is to mount the various parts. Now if you will look through this article you will notice that not only have we provided the conventional circuit diagram but also for the benefit of the less experienced we have also included our "Easybuilt" method. By using this method the new chum can check and cross check his every connection against the list and be sure his wiring up is O.K.

Now you will see list one sets out the various components that mount by means of nuts and bolts. That is the tuning condenser, valve sockets, volume control, etc. The small components which are soldered to the various points are set out in list number 2. So if you are not too good on circuit diagrams you can wire the set entirely from these lists. As you come to each component check it off the list and when the wiring is complete you can easily check up by seeing that the lists are completely ticked off.

Take a look at diagram "B." This gives you the actual placement of parts. Now the first thing to do is to mount the valve sockets, etc. When mounting the valve sockets A, B, and C, see that the key or notched hole points in the same direction as indicated in the diagram also place a solder lug under the securing nuts of each. One lug should go under the front nut of "A," another under the nut nearest the chassis edge in the case of "B" and the nut nearest the front of the chassis with "C." The rest of the parts may now be bolted down. That is the power transformer "F," power choke "G," tuning condenser "E," volume control "I," and under the chassis the speaker transformer "H." Do not mount the coil "D" yet as it may be knocked about when the chassis is turned over. Let us proceed now with the job of soldering up the valve sockets and various components. So make sure your soldered joints are good as a badly soldered connection can cause a lot of trouble in the way of noisy operation or poor reception.

Having got your iron heated and the various parts close handy, cut about 4in. off your coil of hook-up wire and strip off the insulation. Now solder one end to one of the 6.3v. lugs of power transformer "F" then lead the wire across to the C.T. lug and solder to this point then lead the wire on to the lug under the nut securing socket "C" and solder securely. Take care this bare wire contacts no other points than those mentioned. Check these connections off your list. Cut a 3/4in. length of hook-up wire now and solder one end to the other 6.3v. lug of transformer "F." Now cut a 4in. length of hook-up wire and solder one end together with the free end of the previous length on to pin No. 7 of socket "C." Lead



TOP OF CHASSIS (DIAGRAM A)

the 4in. length over to pin No. 7 of socket "B" and solder it on to this pin together with another 2in. length of wire, the free end this time connecting to pin No. 7 of socket "A."

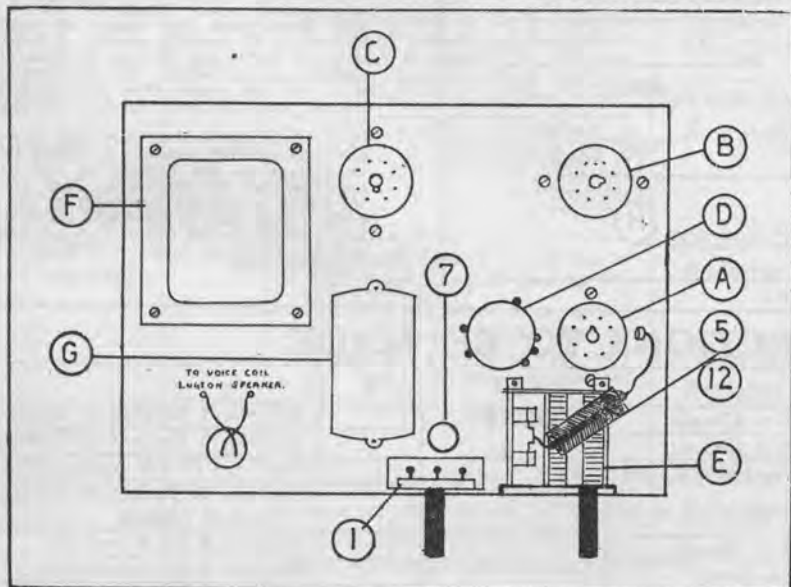
Run a short length of bare wire to Pins No. 1 and 2 of socket "C" and earth to the lug under the nut securing the socket. Do the same with Pins No. 1 and 2 of socket "B." Now with socket "A" a bare length of wire soldered to Pins 2, 1, 8, and 5 and earthed to the lug under the nut securing the socket. This completes all the earthing of the various sockets. Check all of these connections off your list.

Solder a short length of wire to one of the 250v. lugs on transformer "F" and solder the other end on to Pin No. 3 of "C." Now another length on to the other 250v. lug, the free end this time solders on to Pin No. 5 of "C." Check this off. Still on socket "C" solder one end of a 3in. length of wire on to Pin No. 8 and the other end on to the nearest lug of filter choke "G."

Look now at No. 9 on your list which is a 300 ohm. resistor. Actually you will receive two 600 ohm. resistors which are twisted together to make 300 ohms. Now No. 3 is a 10 mfd. condenser and this also has its ends twisted together with the 300 ohm. unit. Run a little solder along the twisted ends to make a good joint. The positive end of this unit is now soldered to pin No. 8 of "B." The negative end is earthed by soldering it to Pin No. 1 of "C."

Let us get the other two electrolytics wired up now. That is 1 and 2 on the list. Twist the two negative leads together and earth by soldering on to the earthed 6.3v. lug on transformer "F." The positive ends now. One to each lug of filter choke "G." Cut a 5in. length of wire now and solder one end on to pin No. 4 of socket "B." Now pick up 10 the 50,000 ohm. resistor and 13 the 25 meg. resistor, solder one end of these together with the free end of the 5in. length of wire and one of the covered leads of speaker transformer "H" on to "G" the filter choke, use the lug nearest the front of the chassis. Twist the free end of 13 with one end of 8 the .01 condenser and one end of 6 the .0025 condenser and solder on to pin No. 3 of socket "A." Earth the free end of 6.

Now the free end of 8 is soldered together with one end of 11 the 500,000 ohm resistor on to pin No. 5 of socket "B," solder the free end of 11 on to pin No. 2 of socket "C" which is or should be earthed. Have a glance at diagram "C" once in a while as this will help you in placing the various parts all of which have been arranged with an eye to easy wiring. Speaker transformer "H" has a covered lead lying round loose so let us get rid of it by soldering a length of wire on to it and run this over to pin No. 3 of socket "B." Before soldering, however, slip a length of spaghetti



TOP OF CHASSIS VIEW (DIAGRAM B).



<b>6X5GT SOCKET</b>	<b>C</b>	Pin No. 1 Earthed to Chassis.
		Pin No. 2 Earthed to Chassis.
		Pin No. 3 To one 280v. lug of "F."
		Pin No. 4 No connection.
		Pin No. 5 To other 280v. lug of "F."
		Pin No. 6 No connection.
		Pin No. 7 To one 6.3v. lug on "F."
		Pin No. 8 To lug of "G" nearest back of chassis.
<b>R.F. COIL WITH REACTION</b>	<b>D</b>	Lug 1 To aerial.
		Lug 2 Earthed to Chassis.
		Lug 3 To fixed plates of tuning condenser "E."
		Lug 4 Earthed to Chassis.
		Lug 5 To centre lug of vol. control "I."
		Lug 6 To pin No. 4 of "A."
<b>TUNING CONDENSER</b>	<b>E</b>	Fixed plates to No. 3 lug of coil "D" and one end of 5 and 12.
<b>POWER TRANSFORMER</b>	<b>F</b>	230V. LUGS WIRED TO POWER FLEX
		6.3v. lugs: One lug is earthed to chassis and also used as earthing point for 1 and 2. The other 6.3v. lug is connected to Pin No. 7 of "A," "B," and "C."
		280v. C.T. The 280v. lugs wire up to pins No. 3 and 5 of "C." The C.T. lug is earthed. Do not use the 5v. lugs.
<b>FILTER CHOKE</b>	<b>G</b>	Lug nearest front of Chassis has the following connections made to it. One end of 10 and 13, also one covered lead of "H," positive end of 1 and Pin No. 4 of "B."
		Other lug connects to Pin No. 8 of "C" and positive (+) end of 2.
<b>SPEAKER TRANSFORMER</b>	<b>H</b>	One covered lead to front lug of "G," other covered lead to Pin No. 3 of "B."
		Enamelled leads feed through Chassis and connect to two voice coil lugs on side of speaker frame.
<b>.5 MEG. VOLUME CONTROL</b>	<b>I</b>	Left hand lug earthed to Chassis.
		Centre lug to one end of 7, also to lug No. 5 on coil "D."
		Right hand lug to one end of 10.

**SMALL COMPONENT CONNECTIONS TO BE MADE**

<b>16 Mfd Electrolytic</b>	<b>1</b>	(+) Positive end to one lug of "G."
		(-) Negative end earthed to Chassis.
<b>16 Mfd Electrolytic</b>	<b>2</b>	(+) Positive end to other lug of "G."
		(-) Negative end earthed to Chassis.
<b>10 Mfd Electrolytic</b>	<b>3</b>	(+) Positive end to Pin No. 8 of "B."
		(-) Negative end to Pin No. 1 of "C" which is earthed to Chassis.
<b>.004 Mica condenser</b>	<b>4</b>	One end to Pin No. 3 of "B."
		Other end earthed to Chassis.
<b>.0001 Mica condenser</b>	<b>5</b>	One end to fixed plates of tuning condenser.
		Other end to grid cap on 6U7G valve.
<b>.00025 Mica condenser</b>	<b>6</b>	One end to Pin No. 3 of "A."
		Other end earthed to Chassis.
<b>.25 Tubular condenser</b>	<b>7</b>	One end to centre lug of vol. control "I."
		Other end earthed to Chassis.
<b>.01 Tubular condenser</b>	<b>8</b>	One end to Pin No. 3 of "A."
		Other end to Pin No. 5 of "B."
<b>300 Ohm Resistor (See Text)</b>	<b>9</b>	One end to Pin No. 8 of "B."
		Other end to Pin No. 1 of "C" which is earthed to Chassis.
<b>50,000 Ohm Resistor</b>	<b>10</b>	One end to lug of "G" nearest front of Chassis.
		Other end to right hand lug of vol. control "I."
<b>500,000 Ohm Resistor</b>	<b>11</b>	One end to Pin No. 5 of "B."
		Other end to Pin No. 2 of "C" which is earthed to Chassis.
<b>2 Megohm Resistor</b>	<b>12</b>	One end to grid cap of 6U7G valve.
		Other end to fixed plates of tuning condenser.
<b>.25 Meg Resistor</b>	<b>13</b>	One end to Pin No. 3 of "A."
		Other end to lug of "G" nearest front of Chassis.

# THE R.C.A. VALVE CHART



Giving full characteristics of all receiving tubes has been printed in our Annual by the kind permission of the R.C.A. representatives for New Zealand . . . The National Electrical and Engineering Co., Wellington.



Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type	
		Dimen.	S. C.	C. T.	Volts	Amp.													
00-A	Detector Triode	D12	4D	D.C. F	5.0	0.25	Grid-Leak Detector	45	—	Grid Return to (-) Filament	—	1.5	30000	666	20	—	—	00-A	
01-A	Detector Amplifier	D12	4D	D.C. F	5.0	0.25	Class A Amplifier	90 135	- 4.5 - 9.0	—	—	2.5 3.0	11000 10000	725 800	8.0 8.0	—	—	01-A	
0Z4	Full-Wave Gas Rectifier	B3	4R	Cold	—	—	Rectifier	Starting-Supply Voltage per Plate, 300 min. peak volts. Peak Plate Current, 200 max. ma. D-C Output Current, 75 max., 30 min. ma. D-C Output Voltage, 300 max. volts.										0Z4	
0Z4-G	Full-Wave Gas Rectifier	B1	G-4R	Cold	—	—	Rectifier											0Z4-G	
1A3	HF Diode	B0	5AP2	H	1.4	0.15	Detector Rectifier	Max. Peak Inverse Volts, 330 Max. Peak Plate Ma., 5 Max. D-C Output Ma., 0.5 Max. Peak Heater-Cathode Volts, 140										1A3	
1A4-P	Supercontrol RF Amplifier Pentode	D9	4M	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1D5-GP.										1A4-P	
1A5-GT	Power Amplifier Pentode	C3	G-4X	D.C. F	1.4	0.05	Class A Amplifier	85 90	- 4.5 - 4.5	85 90	0.7 0.8	3.5 4.0	300000 300000	800 850	—	25000 25000	0.100 0.115	1A5-GT	
1A6	Pentagrid Converter	D9	6L	D.C. F	2.0	0.06	Converter	135 180	{ - 3.0 min. }	67.5 67.5	2.5 2.4	1.2 1.3	400000 500000	Anode-Grid (#2): 180 max. volts, 2.3 ma. Oscillator-Grid (#1) Resistor $\omega$ . Conversion Transcond., 300 micromhos.				1A6	
1A7-GT	Pentagrid Converter	C3	GT-7ZK	D.C. F	1.4	0.05	Converter	90	0	45 $\phi$	0.7	0.6	600000	Anode-Grid (#2): 90 max. volts, 1.2 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.				1A7-GT	
1B3-GT/8016	Half-Wave Rectifier	D1a	3C	F	1.25	0.2	Half-Wave Rectifier	Max. Peak Inverse Plate Volts, 40000 Max. Peak Plate Ma., 17 Max. Average Plate Ma., 2 Max. Frequency of Supply Voltage, 300 Kc										1B3-GT/8016	
1B4-P	RF Amplifier Pentode	D8	4M	D.C. F	2.0	0.06	Amplifier	For other characteristics, refer to Type 1E5-GP.										1B4-P	
1B5/25S	Duplex-Diode Triode	D8	8M	D.C. F	2.0	0.06	Triode Unit as Amplifier	For other characteristics, refer to Type 1H6-G.										1B5/25S	
1B7-GT	Pentagrid Converter	C3	GT-7ZK	D.C. F	1.4	0.10	Converter	90	0	45 $\phi$	1.3	1.5	350000	Anode-Grid (#2): 90 max. volts, 1.6 ma. Oscillator-Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 350 micromhos.				1B7-GT	
1C5-GT	Power Amplifier Pentode	C3	G-4X	D.C. F	1.4	0.10	Class A Amplifier	83 90	- 7.0 - 7.5	83 90	1.6 1.6	7.0 7.5	110000 115000	1500 1550	—	9000 8000	0.20 0.24	1C5-GT	
1C6	Pentagrid Converter	D8	4L	D.C. F	2.0	0.12	Converter	For other characteristics, refer to Type 1C7-G.										1C6	
1C7-G	Pentagrid Converter	D8	G-7Z	D.C. F	2.0	0.12	Converter	135 180	- 3.0 - 3.0	67.5 67.5	2.5 2.0	1.3 1.5	600000 700000	Anode-Grid (#2): 180 max. volts, 4.0 ma. Oscillator-Grid (#1) Resistor $\omega$ . Conversion Transcond., 325 micromhos.				1C7-G	
1D5-GP	Supercontrol RF Amplifier Pentode	D8	G-5Y	D.C. F	2.0	0.06	Class A Amplifier	90 180	{ - 3.0 min. }	67.5 67.5	0.9 0.8	2.2 2.3	600000 1.0 $\phi$	720 750	—	—	—	1D5-GP	
1D5-GT	Supercontrol RF Amplifier Tetrode	D8	G-8R	D.C. F	2.0	0.06	Class A Amplifier	180	- 3.0	67.5	0.7	2.2	600000	650	—	—	—	1D5-GT	
1D7-G	Pentagrid Converter	D8	G-7Z	D.C. F	2.0	0.06	Converter	For other characteristics, refer to Type 1A6.										1D7-G	
1D8-GT	Diode-Triode Power Amplifier Pentode	C3	G-8AJ	D.C. F	1.4	0.10	Pentode Unit as Class A Amplifier Triode Unit as Class A Amplifier	45 90	- 4.5 - 9.0	45 90	0.3 1.0	1.6 5.0	300000 200000	650 925	—	20000 12000	0.035 0.200	1D8-GT	
1E5-GP	RF Amplifier Pentode	D8	G-5Y	D.C. F	2.0	0.06	Class A Amplifier	90 180	- 3.0 - 3.0	67.5 67.5	0.7 0.6	1.6 1.7	1.0 $\phi$ 1.3 $\phi$	600 650	—	—	—	1E5-GP	
1E7-G	Twin-Pentode Power Amplifier	D3	G-8C	D.C. F	2.0	0.24	Class A Amplifier	135	- 7.5	135	—	—	—	Power Output is for one tube at stated plate-to-plate load.			24000	0.575	1E7-G
1F4	Power Amplifier Pentode	D12	8K	D.C. F	2.0	0.12	Amplifier	For other characteristics, refer to Type 1F5-G.										1F4	
1F5-G	Power Amplifier Pentode	D10	G-8X	D.C. F	2.0	0.12	Class A Amplifier	90 135	- 3.0 - 4.5	90 135	1.1 2.4	4.0 8.0	240000 200000	1400 1700	—	20000 16000	0.11 0.31	1F5-G	
1F6	Duplex-Diode Pentode	D9	8W	D.C. F	2.0	0.06	Pentode Unit as Amplifier	For other characteristics, refer to Type 1F7-G.										1F6	
1F7-G	Duplex-Diode Pentode	D8	G-7AF	D.C. F	2.0	0.06	Pentode Unit as RF Amplifier Pentode Unit as AF Amplifier	180 135 $\times$	- 1.5 - 2.0	67.5	0.7	2.2	1.0 $\phi$	650	—	—	—	—	1F7-G
1G4-GT	Detector Amplifier Triode	C3	G-8S7	D.C. F	1.4	0.05	Class A Amplifier	90	- 6.0	—	—	2.3	10700	825	8.8	—	—	1G4-GT	
1G5-G	Power Amplifier Pentode	D10	G-4X	D.C. F	2.0	0.12	Class A Amplifier	90 135	- 6.0 - 13.5	90 135	2.5 2.5	8.5 8.7	133000 160000	1500 1550	—	8500 9000	0.25 0.55	1G5-G	
1G6-GT	Twin-Triode Amplifier	C3	G-7AB	D.C. F	1.4	0.10	Class B Amplifier	90	0	—	—	—	—	Power Output is for one tube at stated plate-to-plate load.			12000	0.350	1G6-GT
1H4-G	Detector Amplifier	D3	G-8S7	D.C. F	2.0	0.06	Class A Amplifier Class B Amplifier	90 135 180	- 4.5 - 9.0 - 13.5	—	—	—	2.5 3.0 3.1	11000 10300 10300	850 900 900	9.3 9.3 9.3	—	—	1H4-G
1H5-GT	Diode High-Mu Triode	C3	GT-32K	D.C. F	1.4	0.05	Triode Unit as Class A Amplifier	90	0	—	—	0.15	240000	275	65	—	—	1H5-GT	
1H6-G	Duplex-Diode Triode	D3	G-7AA	D.C. F	2.0	0.06	Triode Unit as Class A Amplifier	135	- 3.0	—	—	0.8	35000	575	20	—	—	1H6-G	
1J5-G	Power Amplifier Pentode	D10	G-8X	D.C. F	2.0	0.12	Class A Amplifier	135	- 16.5	135	2.0	7.0	105000	950	—	13500	0.45	1J5-G	
1J6-G	Twin-Triode Amplifier	D3	G-7AB	D.C. F	2.0	0.24	Class B Amplifier	135 135	0 - 3.0	—	—	—	—	Power Output is for one tube at stated plate-to-plate load.			10000 10000	2.1 1.9	1J6-G
1L4	RF Amplifier Pentode	B0	8AR	D.C. F	1.4	0.05	Class A Amplifier	90 90	0 0	67.5 90	1.2 2.0	2.9 4.5	600000 260000	925 1025	—	—	—	1L4	
1LA4	Power Amplifier Pentode	B5	8AD1	D.C. F	1.4	0.05	Amplifier	For other characteristics, refer to Type 1A5-GT.										1LA4	
1LA6	Pentagrid Converter	B5	7AK	D.C. F	1.4	0.05	Converter	90	0	45 $\phi$	0.6	0.55	750000	Anode-Grid (#2): 90 max. volts, 1.2 ma. Oscillator Grid (#1) Resistor, 0.2 meg. Conversion Transcond., 250 micromhos.				1LA6	
1LB4	Power Amplifier Pentode	B5	8AD1	D.C. F	1.4	0.05	Class A Amplifier	For other characteristics, refer to Pentode Unit of Type 1D8-GT.										1LB4	
1LE3	Detector Amplifier Triode	B5	4AA	F	1.4	0.05	Class A Amplifier	90 90	0 - 3	—	—	4.5 1.4	11200 19000	1300 760	14.5 14.5	—	—	1LE3	

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias V	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mbes	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
		Dimm.	S. C.	C. T.	Volts	Amp.												
1LH4	Diode High-Mu Triode	B5	8AG	D.C. F	1.4	0.05	Triode Unit as Class A Amplifier	For other characteristics, refer to Type 1H5-GT.										1LH4
1LN5	RF Amplifier Pentode	B5	7AO	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.35	1.6	1.1§	800	—	—	—	1LN5
1N5-GT	RF Amplifier Pentode	C3	GT-5YK	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.3	1.2	1.5§	750	—	—	—	1N5-GT
1N6-G	Diode-Power Amplifier Pentode	D1	G-7AM	D.C. F	1.4	0.05	Pentode Unit as Class A Amplifier	90	- 4.5	90	0.7	3.4	300000	800	—	25000	0.1	1N6-G
1P5-GT	Supercontrol RF Amplifier Pentode	C3	GT-5YK	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.7	2.3	800000	750	—	—	—	1P5-GT
1Q5-GT	Beam Power Amplifier	C3	G-8AF	D.C. F	1.4	0.1	Class A Amplifier	110	- 6.6	110	1.4	10.0	100000	2200	—	8000	0.40	1Q5-GT
1R5	Pentagrid Converter	B0	7AT	D.C. F	1.4	0.05	Converter	45 90	0 0	45 67.5	1.9 3.2	0.7 1.6	600000 600000	Grid #1 Resistor, 100000 ohms. Conversion Transcond., 300 micromhos.			1R5	
1S4	Power Amplifier Pentode	B0	7AV	D.C. F	1.4	0.1	Class A Amplifier	45 90	- 4.5 - 7.0	45 67.5	0.8 1.4	3.8 7.4	100000 100000	1250 1575	—	8000 8000	0.065 0.27	1S4
1S5	Diode-Pentode	B0	8AU	D.C. F	1.4	0.05	Pentode Unit as AF Amplifier	Plate Supply, 90 volts applied through 1 meg. resistor. Screen Supply, 90 volts applied through 3 meg. resistor. Grid Bias, 0 volts. Grid Resistor, 10 megohms. Voltage Gain, 50 approx.										1S5
1T4	Super-Control RF Amplifier Pentode	B0	8AR	D.C. F	1.4	0.05	Class A Amplifier	45 90	0 0	45 67.5	0.7 1.4	1.7 3.5	350000 500000	700 900	—	—	—	1T4
1T5-GT	Beam Power Amplifier	C3	G-8X	D.C. F	1.4	0.05	Class A Amplifier	90	- 6.0	90	0.8	6.5	—	1150	—	14000	0.17	1T5-GT
1U4	RF Amplifier Pentode	B0	8AR	D.C. F	1.4	0.05	Class A Amplifier	90	0	90	0.45	1.6	1.5§	900	—	—	—	1U4
1-V	Half-Wave Rectifier	D5	4G	H	6.3	0.3	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 325 Max. D-C Output Ma., 45 Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 0 ohms; at 150 volts, 30 ohms; at 325 volts, 75 ohms.										1-V
2A3	Power Amplifier Triode	E3	4D	F	2.5	2.5	Class A Amplifier	250	- 45.0	—	—	60.0	800	5250	4.2	2500	3.5	2A3
2A4-G	Gas-Triode	D3	G-8S	F	2.5	2.5	Relay Service	Peak Anode Voltage, 200 max. volts, inverse or forward. Peak Anode Current, 1.25 max. amperes. Average Anode Current, 0.1 max. ampere.										2A4-G
2A5	Power Amplifier Pentode	D12	6B	H	2.5	1.75	Amplifier	For other characteristics, refer to Type 6F6-G.										2A5
2A6	Duplex-Diode High-Mu Triode	D9	6G	H	2.5	0.8	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										2A6
2A7	Pentagrid Converter	D9	7C	H	2.5	0.8	Converter	For other characteristics, refer to Type 6A8.										2A7
2B7	Duplex-Diode Pentode	D9	7D	H	2.5	0.8	Pentode Unit as Amplifier	For other characteristics, refer to Type 6B8-G.										2B7
2E5	Electron-Ray Tube	D5	8R	H	2.5	0.8	Visual Indicator	For other characteristics, refer to Type 6E5.										2E5
3A8-GT	Diode-Triode RF Amplifier Pentode	C5A	8AS	D.C. F	1.4 2.8	0.1 0.05	Triode Unit as Class A Amplifier Pentode Unit as Class A Amplifier	90 90	0 0	— 90	— 0.5	0.2 1.5	200000 800000	325 750	65	—	—	3A8-GT
3Q4	Power Amplifier Beam	B0	7BA	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	For other characteristics, refer to Type 3V4										3Q4
3Q5-GT	Beam Power Amplifier	C3	G-7AP	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	110 110	- 6.6 - 6.6	110 110	1.4 1.1	10.0 8.5	100000 100000	2200 2000	—	8000 8000	0.40 0.33	3Q5-GT
3S4	Power Amplifier Pentode	B0	7BA	D.C. F	1.4 2.8	0.1 0.05	Class-A Amplifier	90 90	- 7 - 7	67.5 67.5	1.4 1.1	7.4 6.1	100000 100000	1575 1425	—	8000 8000	0.27 0.235	3S4
3V4	Power Amplifier Pentode	B0	6BX	D.C. F	1.4 2.8	0.1 0.05	Class A Amplifier	90 90	- 4.5 - 4.5	90 90	2.1 1.7	9.5 7.7	100000 120000	2150 2000	—	10000 10000	0.27 0.24	3V4
5T4	Full-Wave Rectifier	D7	5T	F	5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550 Max. D-C Output Ma., 225 Min. Total Effect. Supply Imped. per Plate, 150 ohms										5T4
5TP4	Projection Kinescope	H1	12C	H	6.3	0.6	For Picture Reproduction	Electrostatic Focus, Magnetic Deflection Minimum Useful Screen Diameter, 4 1/2 in. Phosphor: White Fluorescence, Medium Persistence Max. Anode -No. 2 Volts, 27000										5TP4
5U4-G	Full-Wave Rectifier	E2	G-5T1	F	5.0	3.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1550 Max. D-C Output Ma., 225 Min. Total Effect. Supply Imped. per Plate, 75 ohms										5U4-G
5V4-G	Full-Wave Rectifier	D10	G-5L1	H	5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 375 Max. Peak Inverse Volts, 1400 Max. D-C Output Ma., 175 Min. Total Effect. Supply Imped. per Plate, 100 ohms										5V4-G
5W4	Full-Wave Rectifier	C2	5T	F	5.0	1.5	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400 Max. D-C Output Ma., 100 Min. Total Effect. Supply Imped. per Plate, 50 ohms										5W4
5W4-GT	Full-Wave Rectifier	C7	G-5T1	F	5.0	1.5	—	For other ratings, refer to Type 5W4.										5W4-GT
5X4-G	Full-Wave Rectifier	E2	G-5Q	F	5.0	3.0	—	For other ratings, refer to Type 5U4-G.										5X4-G
5Y3-GT	Full-Wave Rectifier	C7	G-5T1	F	5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400 Max. D-C Output Ma., 125 Min. Total Effect. Supply Imped. per Plate, 50 ohms										5Y3-GT
5Y4-G	Full-Wave Rectifier	D10	G-5Q	F	5.0	2.0	—	For other ratings, refer to Type 5Y3-GT.										5Y4-G
5Z3	Full-Wave Rectifier	E3	4C	F	5.0	3.0	—	For other ratings, refer to Type 5U4-G.										5Z3
5Z4	Full-Wave Rectifier	C2	5L	H	5.0	2.0	With Capacitive-Input Filter With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. Peak Inverse Volts, 1400 Max. D-C Output Ma., 125 Min. Total Effect. Supply Imped. per Plate, 50 ohms										5Z4
6A3	Power Amplifier Triode	E3	4D	F	6.3	1.0	Amplifier	For other characteristics, refer to Type 6B4-G.										6A3
6A4/LA	Power Amplifier Pentode	D12	6B	F	6.3	0.3	Class A Amplifier	100 180	- 6.5 - 12.0	100 180	1.6 3.9	9.0 22.0	83250 45500	1200 2200	—	11000 8000	0.31 1.40	6A4/LA
6A6	Twin-Triode Amplifier	D12	7B	H	6.3	0.8	Amplifier	For other characteristics, refer to Type 6N7-GT.										6A6
6A7	Pentagrid Converter	D9	7C	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										6A7
6A7S	Pentagrid Converter	D9	7C	H	6.3	0.3	Converter	For other characteristics, refer to Type 6A8.										6A7S

OUR "EASY BUILT" KITS ARE TRIED AND PROVEN

Table with columns: RCA Type, Name, Tube Dimensions and Socket Connections, Cathode Type and Rating, Use, Plate Supply Volts, Grid Bias, Screen Supply, Screen Current, Plate Current, AC Plate Resistance, Trans-Conductance, Amplification Factor, Load Resistor, Power Output, and RCA Type. Rows include various tube types like 6A8, 6A8-G, 6A8-GT, 6AB5/6N5, 6AB7/18S3, 6AC5-GT, 6AC7/18S2, 6AD6-G, 6AD7-G, 6AE5-GT, 6AE6-G, 6AE7-GT, 6AF6-G, 6AG5, 6AG7, 6AK6, 6AL5, 6AQ5, 6AQ6, 6AT6, 6AU6, 6B4-G, 6B5, 6B6-G, 6B7, 6B7S, 6B8, 6B8-G, 6BA6, 6BE6, 6BF6, 6BG6-G, and 6C4.

# LOOK FOR OUR WAR SURPLUS BARGAINS!

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating		Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias V	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type				
		Dimen.	S. C.	C. T.	Volts													Amp.			
6C5	Detector* Amplifier Triode	B3	6Q	H	6.3	0.3	Class A Amplifier	250	- 8.0	—	—	8.0	10000	2000	—	—	—	6C5			
								90 300	Cath. Bias, 6400 ohms. Cath. Bias, 5300 ohms.									Gain per stage = 11 Gain per stage = 13			
								250	-17.0 approx.									Plate current to be adjusted to 0.2 milliamperes with no signal.			
6C5-GT	Detector* Amplifier Triode	C3	GT-6Q	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6C5.										6C5-GT			
6C6	Triple-Grid Detector Amplifier	D13	6F	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.										6C6			
6C7	Duplex-Diode Triode	D8	7G	H	6.3	0.3	Triode Unit as Class A Amplifier	250	- 9.0	—	—	4.5	16000	1250	20	—	—	6C7			
6C8-G	Twin-Triode Amplifier	D8	G-8Q	H	6.3	0.3	Each Unit as Amplifier	250	- 4.5	—	—	3.2	22500	1600	36	—	—	6C8-G			
6D6	Triple-Grid Supercontrol Amplifier	D13	6F	H	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6U7-G.										6D6			
6D7	Triple-Grid Detector Amplifier	D13	7H	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.										6D7			
6D8-G	Pentagrid Converter	D8	G-8A1	H	6.3	0.15	Converter	135 250	- 3.0 - 3.0	67.5 100	1.7 2.6	1.5 3.5	600000 400000	Anode-Grid (#2): 250 $\mu$ max. volts. 4.3 ma. Oscillator-Grid (#1) Resistor = 1.0 meg. Conversion Transcond., 550 micromhos.	—	—	—	—	6D8-G		
6E5	Electron-Ray Tube	D4	8R	H	6.3	0.3	Visual Indicator	Plate & Target Supply = 125 volts. Triode Plate Resistor = 1.0 meg. Target Current = 0.8 ma. Grid Bias, -4.0 volts; Shadow Angle, 0°. Bias, 0 volt; Angle, 90°; Plate Current, 0.1 ma. Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 2.0 ma. Grid Bias, -7.5 volts; Shadow Angle, 0°. Bias, 0 volt; Angle, 90°; Plate Current, 0.2 ma.										6E5			
6E6	Twin-Triode Power Amplifier	D12	7B	H	6.3	0.6	Push-Pull Class A Amplifier	180 250	-20.0 -27.5	—	—	—	—	—	—	—	—	Power Output is for one tube at stated plate-to-plate load.	15000 14000	0.75 1.60	6E6
6E7	Triple-Grid Supercontrol Amplifier	D13	7H	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6U7-G.										6E7			
6F5	High-Mu Triode	C1	8M	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.										6F5			
6F5-GT	High-Mu Triode	C3	G-8M1	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.										6F5-GT			
6F6	Power Amplifier Pentode	C2	7E	H	6.3	0.7	Amplifier	For other characteristics, refer to Type 6F6-G.										6F6			
6F6-G	Power Amplifier Pentode	D10	G-7E1	H	6.3	0.7	Class A Amplifier	250	- 16.5	250	6.5	34.0	80000	2500	—	—	7000	3.2			
								285	-20.0	285	7.0	38.0	78000	2550	—	—	7000	4.8			
								250	-20.0	—	—	31.0	2600	2600	6.8	4000	0.85				
								315	Cath. Bias -24.0	285	12.0	62.0	Cath. Bias Resistor, 320 ohms	10000	10.5†						
								315	-24.0	285	12.0	62.0	—	10000	11.0†						
								375	Cath. Bias -26.0	250	8.0	54.0	Cath. Bias Resistor, 340 ohms	10000	19.0†						
375	-26.0	250	5.0	34.0	—	10000	18.5†														
350	Cath. Bias -38.0	—	—	50.0	Cath. Bias Resistor, 730 ohms	10000	9.0†														
350	-38.0	—	—	48.0	—	6000	13.0†														
6F6-GT	Power Amplifier Pentode	C5b	G-7E1	H	6.3	0.7	Amplifier	For other characteristics, refer to Type 6F6-G.										6F6-GT			
6F7	Triode-Pentode	D8	7E	H	6.3	0.3	Triode Unit as Class A Amplifier	100	- 3.0 min.	—	—	3.5	16000	500	8	—	—				
								100	- 3.0 min.	100	1.6	6.3	290000	1050	—	—					
								250	- 3.0 min.	100	1.5	6.3	850000	1100	—	—					
250	-10.0	100	0.6	2.8	Oscillator Peak Volts = 7.0. Conversion Transcond. = 300 micromhos.	—	—														
6F8-G	Twin-Triode Amplifier	D8	G-8Q	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.										6F8-G			
6G6-G	Power Amplifier Pentode	D1	G-7E1	H	6.3	0.15	Pentode Class A Amplifier	135	- 6.0	135	2.0	11.5	170000	2100	—	12000	0.6				
								180	- 9.0	180	2.5	15.0	175000	2300	—	10000	1.1				
								180	-12.0	—	—	11.0	4750	2000	9.5	12000	0.25				
6H6	Twin Diode	Ata	7Q	H	6.3	0.3	Voltage Doubler	Max. A-C Supply Volts per Plate (RMS), 150 Total Effect. Plate-Supply Imped. per Plate: half-wave, 30 ohms; full-wave, 15 ohms.													
								Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 150 Min. Total Effective Plate-Supply Impedance: up to 117 volts, 15 ohms; at 150 volts, 40 ohms.												
									Detector Rectifier	For other ratings, refer to Type 6H6.											
6H6-GT	Twin Diode	C1	G-7Q11	H	6.3	0.3	Detector Rectifier	For other ratings, refer to Type 6H6.										6H6-GT			
6J5	Detector Amplifier Triode	B3	6Q	H	6.3	0.3	Class A Amplifier	90 250	0 - 8.0	—	—	10.0 9.0	6700 7700	3000 2600	20 20	—	—	6J5			
6J5-GT	Detector Amplifier Triode	C3	GT-6Q	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6J5.										6J5-GT			
6J6	Twin Triode	B0	7B	H	6.3	0.45	Each Unit as Class A Amplifier	100	—	Cathode Resistor, for both units, 50 ohms		8.5	7100	5300	38	—	—				
								150	-10.0	Cath. Res., 220 ohms, both units	30.0	Grid Current, 16 ma. Driving Power, 0.35 watt.		—	—	3.5					
								100	- 3.0	100	0.5	2.0	1.0†	1185	—	—					
250	- 3.0	100	0.5	2.0	1.0 + †	1225	—	—													
6J7	Triple-Grid Detector Amplifier	C1	7R	H	6.3	0.3	Pentode Class A RF Amplifier	90 $\times$ Cath. Bias, 2600 ohms. Screen Resistor = 1.2 meg. Grid Resistor, ** Gain per stage = 85 300 $\times$ Cath. Bias, 1200 ohms. Screen Resistor = 1.2 meg. / 0.5 megohm.   Gain per stage = 140													
								250	- 4.3	100	—	—	—	—	—	—	—				
								180	- 5.3	—	—	5.3	11000	1800	20	—					
250	- 8.0	—	—	6.5	10500	1900	20	—													
6J7-G	Triple-Grid Detector Amplifier	D8	G-7R11	H	6.3	0.3	Amplifier Detector	For other characteristics, refer to Type 6J7.										6J7-G			
6J7-GT	Triple-Grid Detector Amplifier	C3	GT-7R	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6J7.										6J7-GT			
6J8-G	Triode-Heptode Converter	D8	G-8H	H	6.3	0.3	Triode Unit as Oscillator	100	—	Triode-Grid Resistor =		4.0	Triode-Grid & Heptode-Grid Current, 0.3 ma.		—	—					
								250	- 3.0	100	3.0	1.4	Triode-Grid & Heptode-Grid Current, 0.4 ma.								
								100	- 3.0	100	2.9	1.3	4.0†	Conversion Transcond., 260 micromhos. Conversion Transcond., 290 micromhos.							
250	- 1.5	—	—	0.35	78000	900	70	—													
250	- 3.0	—	—	1.1	50000	1400	70	—													
6K5-GT	High-Mu Triode	D8	GT-8U	H	6.3	0.3	Class A Amplifier	100 250	- 1.5 - 3.0	—	—	—	—	—	—	—	—	6K5-GT			

Discontinued types are shown in light face. Metal and miniature tubes are identified respectively by a narrow or a wide riser preceding or following the type designation.



Type	Name	Tube Dimensions and Socket		Cathode Type and Rating		Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ hos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type						
		Dims.	S. C.	C. T.	Volts													Amp.					
6K6-GT	Power Amplifier Pentode	C3	G-7B1	H	6.3	0.4	100	- 7.0	100	1.6	9.0	104000	1500	—	12000	0.35	6K6-GT						
							250	-18.0	250	5.5	32.0	68000	2300	—	7600	3.40							
							315	-21.0	250	4.0	25.5	75000	2100	—	9000	4.50							
6K7	Triple-Grid Supercontrol Amplifier	C1	7R	H	6.3	0.3	285	-25.5	285	9.0	55.0	—	—	—	12000	10.5†	6K7						
							285	Cath. Bias	285	9.0	55.0	—	—	—	12000	9.8†							
							100	- 1.0	100	2.7	9.5	150000	1650	—	—	—		—					
							250	-10.0	100	—	—	—	—	—	—	Oscillator Peak Volts = 7.0							
6K7-G	Triple-Grid Supercontrol Amplifier	D8	G-7R1	H	6.3	0.3	Amplifier Mixer										For other characteristics, refer to Type 6K7.	6K7-G					
6K7-GT	Triple-Grid Supercontrol Amplifier	C8	GT-7R2	H	6.3	0.3	Amplifier										For other characteristics, refer to Type 6K7.	6K7-GT					
6K8	Triode-Hexode Converter	C1	8K	H	6.3	0.3	100	—	—	—	3.8	Triode-Grid & Hexode-Grid Current, 0.15 ma.					6K8						
							100	- 3.0	100	6.2	2.3	400000	—	—	—	—		—	—				
6K8-G	Triode-Hexode Converter	D8	G-8K1	H	6.3	0.3	Oscillator and Mixer										For other characteristics, refer to Type 6K8.	6K8-G					
6K8-GT	Triode-Hexode Converter	C7a	GT-8K2	H	6.3	0.3	Oscillator and Mixer										For other characteristics, refer to Type 6K8.	6K8-GT					
6L5-G	Detector Amplifier Triode	D3	G-8Q1	H	6.3	0.15	135	- 5.0	—	—	3.5	11300	1500	17	—	—	6L5-G						
							250	- 9.0	—	—	8.0	9000	1900	17	—	—							
6L6	Beam Power Amplifier	D7	7AC	H	6.3	0.9	250	-14.0	250	5.0	72.0	—	—	—	2500	6.5	6L6						
							250	Cath. Bias	250	5.4	75.0	—	—	—	2500	6.5							
							270	-17.5	270	11.0	134.0	—	—	—	5000	17.5†							
							270	Cath. Bias	270	11.0	134.0	—	—	—	5000	18.5†							
							360	-22.5	270	5.0	88.0	—	—	—	6600	26.5†							
							360	Cath. Bias	270	5.0	88.0	—	—	—	9000	24.5†							
							360	-22.5	270	5.0	88.0	—	—	—	6000	31.0†							
360	Cath. Bias	270	5.0	88.0	—	—	—	3800	47.0†														
6L6-G	Beam Power Amplifier	E2	G-7AC1	H	6.3	0.9	250	-20.0	—	—	40.0	1700	4700	8.0	5000	1.4	6L6-G						
							250	Cath. Bias	—	—	40.0	—	—	—	6000	1.3							
							For other characteristics, refer to Type 6L6.																
6L7	Pentagrid Mixer Amplifier	C1	7T	H	6.3	0.3	250	- 3.0	100	7.1	2.4	Oscillator-Grid (#3) Bias, -10 volts. Grid #3 Peak Swing, 12 volts minimum. Conversion Transcond., 375 micromhos.					6L7						
							250	- 3.0†	100	6.5	5.3	600000	1100	—	—	—		—					
6L7-G	Pentagrid Mixer Amplifier	D8	G-7T1	H	6.3	0.3	Mixer Amplifier										For other characteristics, refer to Type 6L7.	6L7-G					
6N6-G	Direct-Coupled Power Amplifier	D10	G-7AU	H	6.3	0.8	Class A Amplifier										Output Triode: Plate Volts, 300; Plate Ma., 45; Load, 7000 ohms. Input Triode: Plate Volts, 300; Grid Volts, 0; A-F Signal Volts (Pkm), 21; Plate Ma., 8.	4.0	6N6-G				
6N7	Twin-Triode Amplifier	C2	8B	H	6.3	0.8	Amplifier										For other characteristics, refer to Type 6N7-GT.	6N7					
6N7-GT	Twin-Triode Amplifier	C3	G-8B1	H	6.3	0.8	250	- 5.0	—	—	6.0	11300	3100	35	20000	exceeds	6N7-GT						
							294	- 6.0	—	—	7.0	11000	3200	35	or more	0.4							
							300	0	—	—	Power Output is for one tube at stated plate-to-plate load.					8000	10.0						
6P5-GT	Detector Amplifier Triode	C3	G-8Q1	H	6.3	0.3	Amplifier Detector										For other characteristics, refer to Type 76.	6P5-GT					
6P7-G	Triode-Pentode	D8	G-7U	H	6.3	0.3	Amplifier and Converter										For other characteristics, refer to Type 6P7.	6P7-G					
6Q7	Duplex-Diode High-Mu Triode	C1	7V	H	6.3	0.3	100	- 1.0	—	—	0.8	58000	1200	70	—	—	6Q7						
							250	- 3.0	—	—	1.0	58000	1200	70	—	—							
6Q7-G	Duplex-Diode High-Mu Triode	D8	G-7V1	H	6.3	0.3	Triode Unit as Amplifier										For other characteristics, refer to Type 6Q7.	6Q7-G					
6Q7-GT	Duplex-Diode High-Mu Triode	C3	GT-7V2	H	6.3	0.3	Triode Unit as Amplifier										For other characteristics, refer to Type 6Q7.	6Q7-GT					
6R7	Duplex-Diode Triode	C1	7V	H	6.3	0.3	250	- 9.0	—	—	9.5	8500	1900	16	—	—	6R7						
							90	Cath. Bias, 4400 ohms.	—	—	—	—	—	—	—	—		—	—	Gain per stage = 10			
6R7-G	Duplex-Diode Triode	D8	G-7V1	H	6.3	0.3	Triode Unit as Amplifier										For other characteristics, refer to Type 6R7.	6R7-G					
6R7-GT	Duplex-Diode Triode	C3	G-7V1	H	6.3	0.3	Triode Unit as Amplifier										For other characteristics, refer to Type 6R7.	6R7-GT					
6S7	Triple-Grid Supercontrol Amplifier	C1	7R	H	6.3	0.15	135	- 3.0	67.5	0.9	3.7	1.0‡	1250	—	—	6S7							
							250	- 3.0	100	2.0	8.5	1.0‡	1750	—	—								
6S7-G	Triple-Grid Supercontrol Amplifier	D8	G-7R1	H	6.3	0.15	Amplifier										For other characteristics, refer to Type 6S7.	6S7-G					
6SA7	Pentagrid Converter	B3	8R	H	6.3	0.3	100	Self-Excited	100	8.5	3.3	500000	Grid #1 Resistor, 20000 ohms. Conversion Transcond., 450 micromhos.	1.0‡	—	—	6SA7						
6SA7-GT	Pentagrid Converter	C3	G-8AD	H	6.3	0.3	Mixer										For other characteristics, refer to Type 6SA7.	6SA7-GT					
6SB7-Y	Pentagrid Converter	B3	8R	H	6.3	0.3	100	- 1.0	100	10.2	3.6	500000	Grid #1 Resistor, 20000 ohms. Conversion Transcond., 950 micromhos	1.0‡	—	—	6SB7-Y						
							250	- 1.0	100	10.0	3.8	—	—	—	—	—							
6SC7	Twin-Triode Amplifier	B3	8B	H	6.3	0.3	Each Unit as Amplifier										250 - 2.0	—	—	—	—	6SC7	
6SF5	High-Mu Triode	B3	8AB	H	6.3	0.3	100	- 1.0	—	—	0.4	85000	1150	100	—	—	6SF5						
							250	- 2.0	—	—	0.9	66000	1500	100	—	—							
6SF5-GT	High-Mu Triode	C3	G-8AB1	H	6.3	0.3	Class A Amplifier										90	Cath. Bias, 8800 ohms.	Grid Resistor, ** 0.5 megohm.	Gain per stage = 43	Gain per stage = 63	6SF5-GT	
							300	Cath. Bias, 3200 ohms.	Amplifier										For other characteristics, refer to Type 6SF5.				
6SF7	Diode Supercontrol Amplifier Pentode	B3	7AZ	H	6.3	0.3	100	- 1.0	100	4.3	13.5	200000	1975	—	—	6SF7							
							250	- 1.0	100	4.1	13.9	700000	2050	—	—								
6SG7	HF Amplifier Pentode	B3	8BK	H	6.3	0.3	100	- 1.0	100	3.2	8.2	250000	4100	—	—	6SG7							
							250	- 1.0	125	4.4	11.8	900000	4700	—	—								
							250	- 2.5	150	3.4	9.2	1.0+‡	-4000	—	—								

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Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Ma	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ hos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type		
		Dmax.	S.C.	G.T.	Volts													Watts	
6SH7	HF Amplifier Pentode	B3	8BK	H	6.3	0.3	Class A Amplifier	100 250	- 1.0 - 1.0	100 150	2.1 4.1	5.3 10.8	350000 900000	4000 4900	—	—	6SH7		
6SJ7	Triple-Grid Detector Amplifier	B3	8N	H	6.3	0.3	Class A Amplifier	100 250	- 3.0 - 3.0	100 100	0.9 0.8	2.9 3.0	700000 1.0+ $\frac{1}{2}$	1575 1650	—	—	6SJ7		
6SJ7-GT	Triple-Grid Detector Amplifier	C3	GT-8N $\frac{1}{2}$	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SJ7.										6SJ7-GT	
6SK7	Triple-Grid Supercontrol Amplifier	B3	8N	H	6.3	0.3	Class A Amplifier	100 250	- 1.0 - 3.0	100 100	4.0 2.6	13.0 9.2	120000 800000	2350 2000	—	—	6SK7		
6SK7-GT	Triple-Grid Supercontrol Amplifier	C3	GT-8N $\frac{1}{2}$	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SK7.										6SK7-GT	
6SL7-GT	Twin-Triode Amplifier	C3	8BD	H	6.3	0.3	Each Unit as Amplifier	250	- 2.0	—	—	3.3	44000	1600	70	—	6SL7-GT		
6SN7-GT	Twin-Triode Amplifier	C3	8BD	H	6.3	0.6	Each Unit as Amplifier	For other characteristics, refer to Type 6J5.										6SN7-GT	
6SQ7	Duplex-Diode High-Mu Triode	B3	8Q	H	6.3	0.3	Triode Unit as Class A Amplifier	100 250	- 1.0 - 2.0	—	—	0.4 0.9	110000 91000	900 1100	100 100	—	—	6SQ7	
6SQ7-GT	Duplex-Diode High-Mu Triode	C3	GT-8Q $\frac{1}{2}$	H	6.3	0.3	Triode Unit as Amplifier	For other characteristics, refer to Type 6SQ7.										6SQ7-GT	
6SR7	Duplex-Diode Triode	B3	8Q	H	6.3	0.3	Triode Unit as Class A Amplifier	250	- 9.0	—	—	9.5	8500	1900	16	10000	0.3	6SR7	
6SS7	Triple-Grid Supercontrol Amplifier	B3	8N	H	6.3	0.15	Class A Amplifier	100 250	- 1.0 - 3.0	100 100	3.1 2.0	12.2 9.0	120000 1.0 $\frac{1}{2}$	1930 1850	—	—	6SS7		
6ST7	Duplex-Diode Triode	B3	8Q	H	6.3	0.15	Triode Unit as Amplifier	For other characteristics, refer to Type 6SR7.										6ST7	
6SZ7	Duplex-Diode High-Mu Triode	B3	8Q	H	6.3	0.15	Triode Unit as Class A Amplifier	100 250	- 1.0 - 3.0	—	—	0.8 1.0	61000 58000	1500 1200	70 70	—	—	6SZ7	
6T7-G	Duplex-Diode High-Mu Triode	D8	Q-7V $\frac{1}{2}$	H	6.3	0.15	Triode Unit as Class A Amplifier	135 250	- 1.5 - 3.0	—	—	0.9 1.2	65000 62000	1000 1050	65 65	—	—	6T7-G	
6U5/6G5	Electron-Ray Tube	D4	8R	H	6.3	0.3	Visual Indicator	Plate & Target Supply = 100 volts. Triode Plate Resistor = 0.5 meg. Target Current = 1.0 ma. Grid Bias, -8 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°. Plate Current, 0.19 ma. Plate & Target Supply = 250 volts. Triode Plate Resistor = 1.0 meg. Target Current = 4.0 ma. Grid Bias, -22 volts; Shadow Angle, 0°. Bias, 0 volts; Angle, 90°. Plate Current, 0.24 ma.										6U5/6G5	
6U7-G	Triple-Grid Supercontrol Amplifier	D12a	Q-7R $\frac{1}{2}$	H	6.3	0.3	Class A Amplifier	100 250	- 3.0 - 3.0	100 100	2.2 2.0	8.0 8.2	250000 800000	1500 1600	—	—	6U7-G		
6V6	Beam Power Amplifier	C2	7AC	H	6.3	0.45	Amplifier	For other characteristics, refer to Type 6V6-GT.										6V6	
6V6-GT	Beam Power Amplifier	C3	G-7AC $\frac{1}{2}$	H	6.3	0.45	Single-Tube Class A Amplifier	180 250 315	- 8.5 - 12.5 - 13.0	180 250 225	3.0 4.5 2.2	29.0 45.0 34.0	58000 52000 77000	3700 4100 3750	—	—	3500 5000 8500	2.0 4.5 5.5	6V6-GT
6V7-G	Duplex-Diode Triode	D8	Q-7V $\frac{1}{2}$	H	6.3	0.3	Triode Unit as Amplifier	250	- 3.0	100	0.5	2.0	1.5 $\frac{1}{2}$	1225	—	—	—	—	6V7-G
6W7-G	Triple-Grid Detector Amplifier	D8	Q-7R $\frac{1}{2}$	H	6.3	0.15	Class A Amplifier	250	- 3.0	100	0.5	2.0	1.5 $\frac{1}{2}$	1225	—	—	—	—	6W7-G
6X4	Full-Wave Rectifier	B1a	8B5	H	6.3	0.6	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210 Min. Total Effect. Supply Imped. per Plate, 150 ohms										6X4	
6X5	Full-Wave Rectifier	C2	8S	H	6.3	0.6	With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 70 Max. Peak Plate Ma., 210 Min. Value of Input Choke, 8 henries										6X5	
6X5-GT	Full-Wave Rectifier	C3	G-8S $\frac{1}{2}$	H	6.3	0.6	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 210 Min. Total Effect. Supply Imped. per Plate, 150 ohms										6X5-GT	
6Y5	Full-Wave Rectifier	D8	8J	H	6.3	0.8	With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 350 Max. D-C Output Ma., 50										6Y5	
6Y6-G	Beam Power Amplifier	D10	G-7AC $\frac{1}{2}$	H	6.3	1.25	Single-Tube Class A Amplifier	135 200	- 13.5 - 14.0	135 135	3.5 2.2	58.0 61.0	9300 18300	7000 7100	—	—	2000 2600	3.6 6.0	6Y6-G
6Y7-G	Twin-Triode Amplifier	D3	Q-8B $\frac{1}{2}$	H	6.3	0.6	Class B Amplifier	For other characteristics, refer to Type 79.										6Y7-G	
6Z5	Full-Wave Rectifier	D8	8K	H	6.3 12.6	0.4	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 230 Max. D-C Output Ma., 60										6Z5	
6Z7-G	Twin-Triode Amplifier	D3	Q-8B $\frac{1}{2}$	H	6.3	0.3	Class B Amplifier	135 180	0 0	—	—	—	—	—	—	—	9000 12000	2.5 4.2	6Z7-G
6ZY5-G	Full-Wave Rectifier	D3	Q-8B $\frac{1}{2}$	H	6.3	0.3	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Volts, 1250 Max. D-C Output Ma., 40 Min. Total Effect. Supply Imped. per Plate, 225 ohms										6ZY5-G	
7A4	Detector Amplifier Triode	B8	8AC $\frac{1}{2}$	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6J5.										7A4	
7A5	Beam Power Amplifier	C8	8AA	H	6.3	0.75	Class A Amplifier	110 125	- 7.5 - 9.0	110 125	3.0 3.3	40.0 44.0	14000 17000	5800 6000	—	—	2500 2700	1.5 2.2	7A5
7A6	Twin Diode	B5	7AJ	H	6.3	0.15	Detector Rectifier	Maximum A-C Voltage per Plate.....150 Volts, RMS Maximum D-C Output Current per plate.....8 Milliamperes										7A6	
7A7	Triple-Grid Supercontrol Amplifier	B5	8V	H	6.3	0.3	Class A Amplifier	For other characteristics, refer to Type 6SK7.										7A7	
7A8	Octode Converter	B8	8U	H	6.3	0.15	Converter	100 250	- 3.0 - 3.0	75 100	2.7 3.2	1.8 3.0	650000 700000	Anode-Grid (#2): 250 $\frac{1}{2}$ max. volts, 4.2 ma. Oscillator-Grid (#1) Resistor = Conversion Transcond., 550 micromhos.				7A8	
7B4	High-Mu Triode	B8	8AC $\frac{1}{2}$	H	6.3	0.3	Amplifier	For other characteristics, refer to Type 6SF5.										7B4	

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**EVERY RADIO MAN NEEDS A "PIFCO RADIOMETER!"**

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating		Use <small>Values to right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stand Power Output Ohms	Power Output Watts	Type
		Dimm.	S. C.	C. T.	Volts												
7B5	Power Amplifier Pentode	C6	8AE	H	6.3	0.4	Class A Amplifier For other characteristics, refer to Type 6K6-GT.										7B5
7B6	Duplex-Diode High-Mu Triode	B5	8W	H	6.3	0.3	Triode Unit as Amplifier For other characteristics, refer to Type 6SQ7.										7B6
7B7	Triple-Grid Supercontrol Amplifier	B5	8V	H	6.3	0.15	250	- 3.0	100	1.7	8.5	750000	1750	—	—	—	7B7
7B8	Pentagrid Converter	B8	8X	H	6.3	0.3	Converter For other characteristics, refer to Type 6A8.										7B8
7C5	Beam Power Amplifier	C6	8AA	H	6.3	0.45	Class A Amplifier For other characteristics, refer to Type 6V6-GT.										7C5
7C6	Duplex-Diode High-Mu Triode	B5	8W	H	6.3	0.15	250	- 1.0	—	—	1.3	100000	1000	100	—	—	7C6
7C7	Triple-Grid Detector Amplifier	B5	8V	H	6.3	0.15	100 250	- 3.0 - 3.0	100 100	0.4 0.5	1.8 2.0	1.25 2.0	1225 1300	—	—	—	7C7
7DP4	Directly Viewed Kinescope	11	12C	H	6.3	0.6	For Picture Reproduction Electrostatic Focus, Magnetic Deflection Minimum Useful Screen Diameter, 6 in. Phosphor: White Fluorescence, Medium Persistence Max. Anode—No. 2 Volts, 8000										7DP4
7E6	Duplex-Diode Triode	B5	8W	H	6.3	0.3	Triode Unit as Amplifier For other characteristics, refer to Type 6R7.										7E6
7E7	Duplex-Diode Pentode	B5	8AE	H	6.3	0.3	100 250	- 1.0 - 3.0	100 100	2.7 1.6	10.0 7.5	150000 700000	1600 1300	—	—	—	7E7
7F7	Twin-Triode Amplifier	B5	8AC	H	6.3	0.3	Each Unit as Amplifier For other characteristics, refer to Type 6SL7-GT.										7F7
7G7/1232	Television Amplifier Pentode	B5	8V	H	6.3	0.45	250	- 2.0	100	2.0	6.0	800000	4500	—	—	—	7G7/1232
7GP4	Directly Viewed Kinescope	11a	14G	H	6.3	0.6	For Picture Reproduction Electrostatic Focus, Electrostatic Deflection Minimum Useful Screen Diameter, 6 in. Phosphor: White Fluorescence, Medium Persistence Max. Anode—No. 2 Volts, 4000										7GP4
7H7	Triple-Grid Supercontrol Amplifier	B5	8V	H	6.3	0.3	100 250	- 1.0 - 2.5	100 150	3.3 3.5	8.2 9.5	250000 800000	3800 3800	—	—	—	7H7
7J7	Triode-Heptode Converter	B5	8BL	H	6.3	0.3	100 250	- 1.0 - 3.0	100 100	3.7 3.1	5.4 1.1	370000 300000	1600 1500	—	—	—	7J7
7Q7	Pentagrid Converter	B5	8AL	H	6.3	0.3	100 250	- 2.0 - 2.0	100 100	8.5 8.5	3.3 3.5	500000 1.05	20000 ohms Conversion Transcond., 550 micromhos.	—	—	—	7Q7
7Y4	Full-Wave Rectifier	B5	8AB	H	6.3	0.5	With Capacitive-Input Filter Max. A-C Volts per Plate (RMS), 325 Max. Peak Inverse Voltage, 1250 With Inductive-Input Filter Max. A-C Volts per Plate (RMS), 450 Max. Peak Inverse Voltage, 1250 Max. D-C Output Ma., 60 Min. Total Effect. Supply Max. Peak Plate Ma., 180 Imped. per Plate, 150 ohms. Min. Value of Input Choke, 10 henries										7Y4
9AP4	Directly Viewed Kinescope	K1	8AL	H	2.5	2.1	For Picture Reproduction Electrostatic Focus, Magnetic Deflection Minimum Useful Screen Diameter, 7 7/8 in. Phosphor: White Fluorescence, Medium Persistence Max. Anode—No. 2 Volts, 7000										9AP4
10	Power Amplifier Triode	E3	4D	F	7.5	1.25	350 425	- 32.0 - 40.0	—	—	16.0	5150 5000	1550 1600	8.0 8.0	11000 10200	0.9 1.6	10
10BP4	Directly Viewed Kinescope	J1	12D	H	6.3	0.6	For Picture Reproduction Magnetic Focus and Deflection Minimum Useful Screen Diameter, 9 in. Phosphor: White Fluorescence, Medium Persistence Max. Anode—No. 2 Volts, 10000										10BP4
11 12	Detector & Amplifier Triode	D2 D11	4F 4D	D.C. F	1.1	0.25	90 135	- 4.5 - 10.5	—	—	2.5 3.0	15500 15000	425 440	6.6 6.6	—	—	11 12
12A5	Power Amplifier Pentode	D5	7F	H	6.3 12.6	0.6 0.3	100 180	- 15.0 - 25.0	100 180	3.0 8.0	17.0 45.0	50000 35000	1700 2400	—	4500 3300	0.8 3.4	12A5
12A7	Rectifier-Pentode	D9	7K	H	12.6	0.3	135	- 13.5	135	2.5	9.0	102000	975	—	13500	0.55	12A7
12A8-GT	Pentagrid Converter	C3	GT-8A	H	12.6	0.15	Converter Maximum A-C Plate Voltage.....125 Volts, RMS Maximum D-C Output Current.....30 Milliampers For other characteristics, refer to Type 6A8.										12A8-GT
12AH7-GT	Twin Triode	C0	8BE	H	12.6	0.15	100 180	- 3.6 - 6.5	—	—	3.7 7.6	10300 8400	1550 1900	16 16	—	—	12AH7-GT
12AP4	Directly Viewed Kinescope	L1	8AL	H	2.5	2.1	For Picture Reproduction Electrostatic Focus, Magnetic Deflection Minimum Useful Screen Diameter, 10 3/4 in. Phosphor: White Fluorescence, Medium Persistence Max. Anode—No. 2 Volts, 7000										12AP4
12AT6	Duplex-Diode High-Mu Triode	B0	7BT	H	12.6	0.15	Triode Unit as Class A Amplifier For other characteristics, refer to Type 6AT6										12AT6
12AU7	Twin-Triode Amplifier	B0a	8A	H	6.3 12.6	0.3 0.15	100 250	0 - 8.5	—	—	11.8 10.5	6250 7700	3100 2200	19.5 17	—	—	12AU7
12B8-GT	Triode-Pentode	C7a	8T	H	12.6	0.3	90	0	—	—	2.8	37000	2400	90	—	—	12B8-GT
12BA6	RF Amplifier Pentode	B0	7BK1	H	12.6	0.15	Class A Amplifier For other characteristics, refer to Type 6BA6										12BA6
12BE6	Pentagrid Converter	B0	7CH	H	12.6	0.15	Converter For other characteristics, refer to Type 6BE6										12BE6
12C8	Duplex-Diode Pentode	C1	8E	H	12.6	0.15	250	- 3.0	125	2.3	10.0	600000	1325	—	—	—	12C8
12F5-GT	High-Mu Triode	C3	0-8M1	H	12.6	0.15	Amplifier Cath. Bias, 3500 ohms. Screen Resistor = 1.1 meg. Grid Resistor, ** Gain per stage = 59 300 $\mu$ Cath. Bias, 1600 ohms. Screen Resistor = 1.2 meg. 0.5 megohm. Gain per stage = 75 For other characteristics, refer to Type 6SF5.										12F5-GT
12H6	Twin-Diode	A1	7Q	H	12.6	0.15	Detector Rectifier For other ratings, refer to Type 6H6.										12H6
12J5-GT	Detector Amplifier Triode	C3	GT-4Q1	H	12.6	0.15	Amplifier For other characteristics, refer to Type 6J5.										12J5-GT
12J7-GT	Triple-Grid Detector Amplifier	C3	GT-7R	H	12.6	0.15	Amplifier For other characteristics, refer to Type 6J7.										12J7-GT
12K7-GT	Triple-Grid Supercontrol Amplifier	C3	GT-7R	H	12.6	0.15	Amplifier For other characteristics, refer to Type 6K7.										12K7-GT
12K8	Triode-Heptode Converter	C1	8K	H	12.6	0.15	Oscillator Mixer For other characteristics, refer to Type 6K8.										12K8
12Q7-GT	Duplex-Diode High-Mu Triode	C3	GT-7V	H	12.6	0.15	Triode Unit as Amplifier For other characteristics, refer to Type 6Q7.										12Q7-GT
12SA7	Pentagrid Converter	B3	8R	H	12.6	0.15	Mixer For other characteristics, refer to Type 6SA7.										12SA7
12SA7-GT	Pentagrid Converter	C3	0-8AD	H	12.6	0.15	Mixer For other characteristics, refer to Type 6SA7.										12SA7-GT

Metal and miniature tubes including the 12AU7 (9-pin, T-6 1/2 bulb type), are identified respectively by a narrow or a wide riser preceding or following the type designation.

THE LAMPHOUSE CARRY ALL TYPES OF VALVES!

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Ma	Screen Supply Volts	Screen Current Ma	Plate Current Ma	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type
		Dims.	S. C.	C. T.	Volts												
125C7	Twin-Triode Amplifier	B3	8S	H	12.6	0.15											125C7
125F5	High-Mu Triode	B3	6AB	H	12.6	0.15											125F5
125F5-GT	High-Mu Triode	C3	G-6AB1	H	12.6	0.15											125F5-GT
125F7	Diode Supercontrol Amplifier Pentode	B3	7AZ	H	12.6	0.15											125F7
125G7	HF Amplifier Pentode	B3	8BK	H	12.6	0.15											125G7
125H7	HF Amplifier Pentode	B3	8BK	H	12.6	0.15											125H7
125J7	Triple-Grid Detector Amplifier	B3	8N	H	12.6	0.15											125J7
125J7-GT	Triple-Grid Detector Amplifier	C3	GT-8N $\frac{1}{2}$	H	12.6	0.15											125J7-GT
125K7	Triple-Grid Supercontrol Amplifier	B3	8N	H	12.6	0.15											125K7
125K7-GT	Triple-Grid Supercontrol Amplifier	C3	GT-8N $\frac{1}{2}$	H	12.6	0.15											125K7-GT
125L7-GT	Twin-Triode Amplifier	C3	8BD	H	12.6	0.15											125L7-GT
125N7-GT	Twin-Triode Amplifier	C3	8BD	H	12.6	0.3											125N7-GT
125Q7	Duplex-Diode High-Mu Triode	B3	8Q	H	12.6	0.15											125Q7
125Q7-GT	Duplex-Diode High-Mu Triode	C3	GT-8Q $\frac{1}{2}$	H	12.6	0.15											125Q7-GT
125R7	Duplex-Diode Triode	B3	8Q	H	12.6	0.15											125R7
125R7-GT	Duplex-Diode Triode	C3	GT-8Q $\frac{1}{2}$	H	12.6	0.15											125R7-GT
12Z3	Half-Wave Rectifier	Q5	4G	H	12.6	0.3											12Z3
14A7/12B7	Triple-Grid Supercontrol Amplifier	B6	8V	H	12.6	0.15											14A7/12B7
15	RF Amplifier Pentode	D9	8F	D.C. H	2.0	0.22											15
19	Twin-Triode Amplifier	D8	8C	D.C. F	2.0	0.26											19
20	Power Amplifier Triode	D1	4D	D.C. F	3.3	0.132											20
22	RF Amplifier Tetrode	E1	4K	D.C. F	3.3	0.132											22
24-A	RF Amplifier Tetrode	E1	6E	H	2.5	1.75											24-A
25A6	Power Amplifier Pentode	C2	7S	H	25.0	0.3											25A6
25A6-GT	Power Amplifier Pentode	C3	G-7S1	H	25.0	0.3											25A6-GT
25A7-GT	Rectifier Pentode	C3	8F	H	25.0	0.3											25A7-GT
25AC5-GT	High-Mu Power Amplifier Triode	C3	G-8Q1	H	25.0	0.3											25AC5-GT
25B5	Direct-Coupled Power Amplifier	D9a	8D	H	25.0	0.3											25B5
25B6-G	Power Amplifier Pentode	D10	G-7S1	H	25.0	0.3											25B6-G
25B8-GT	Triode-Pentode	C3	8T	H	25.0	0.15											25B8-GT
25C6-G	Beam Power Amplifier	D10	G-7AC1	H	25.0	0.3											25C6-G
25L6	Beam Power Amplifier	C2	7AC	H	25.0	0.3											25L6
25L6-GT	Beam Power Amplifier	C3	G-7AC1	H	25.0	0.3											25L6-GT
25N6-G	Direct-Coupled Power Amplifier	D9	G-7W	H	25.0	0.3											25N6-G
25Y5	Rectifier-Doubler	D8	8E	H	25.0	0.3											25Y5
25Z5	Rectifier-Doubler	D8	8E	H	25.0	0.3											25Z5
25Z6	Rectifier-Doubler	C2	7Q	H	25.0	0.3											25Z6
25Z6-GT	Rectifier-Doubler	C3	G-7Q1	H	25.0	0.3											25Z6-GT
26	Amplifier Triode	D12	4D	F	1.5	1.05											26
27	Detector Amplifier Triode	D6	8A1	H	2.5	1.75											27

Discontinued types are shown in light face. Metal end miniature tubes are identified respectively by a narrow or a wide riser preceding or following the type designation.

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use <small>Values in right give operating conditions and characteristics for indicated typical use</small>	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conduction (Grid-plate) $\mu$ mas	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type	
		Dims.	E.C.	C.T.	Volts	Ampl.													
30	Detector* Amplifier Triode	D6	4D	D.C. F	2.0	0.06	Amplifier											30	
For other characteristics, refer to Type 1H4-G.																			
31	Power Amplifier Triode	D6	4D	D.C. F	2.0	0.13	Class A Amplifier	135 180	-22.5 -30.0			8.0 12.3	4100 3600	925 1050	3.8	7000 5700	0.185 0.375	31	
32	RF Amplifier Tetrode	E1	4K	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	-3.0 -3.0	67.5 67.5	0.4 0.4	1.7 1.7	950000 1.0+ $\frac{1}{2}$	640 650				32	
							Bias Detector	180	-6.0 (approx.)	67.5									
Plate current to be adjusted to 0.2 milliamperes with no signal.																			
32L7-GT	Rectifier-Beam Power Amplifier	C3	8Z	H	32.5	0.3	Amplifier Unit as Class A Amplifier Half-Wave Rectifier	90 90	-5.0 -7.0	90 90	3.0 2.0	38.0 27.0	15000 17000	6000 4800		2600 2600	0.8 1.0	32L7-GT	
Maximum A-C Plate Voltage.....125 Volts, RMS Maximum D-C Output Current.....60 Milliamperes.																			
33	Power Amplifier Pentode	D12	8K	D.C. F	2.0	0.26	Class A Amplifier	180	-18.0	180	5.0	22.0	55000	1700		6000	1.5	33	
34	Supercontrol RF Amplifier Pentode	E1	4M	D.C. F	2.0	0.06	Screen-Grid RF Amplifier	135 180	{ -3.0 } min.	67.5 67.5	1.0 1.0	2.8 2.8	600000 1.0 $\frac{1}{2}$	600 620				34	
35	Supercontrol RF Amplifier Tetrode	E1	8E	H	2.5	1.75	Screen-Grid RF Amplifier	180 250	{ -3.0 } min.	90 90	2.5* 2.5*	6.3 6.5	300000 400000	1020 1050				35	
35A5	Beam Power Amplifier	G8	6AA	H	35.0	0.15	Single-Tube Class A Amplifier	For other characteristics, refer to Type 35L6-GT.											35A5
35B5	Beam Power Amplifier	B1a	7BZ	H	35.0	0.15	Class A Amplifier	110	-7.5	110	3.0	40		5800		2500	1.5	35B5	
35L6-GT	Beam Power Amplifier	C3	G-7AC1	H	35.0	0.15	Single-Tube Class A Amplifier	110 200	-7.5 -8.0	110 110	3.0 2.0	40.0 41.0	14000 40000	5800 5900		2500 4500	1.5 3.3	35L6-GT	
Max A-C Plate Volts (RMS), 117    Min. Total Effect. Plate-Supply Impedance, 15 ohms Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100																			
35W4	Half-Wave Rectifier Heater Tap for Pilot	B1a	50Q $\frac{1}{2}$	H	35.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z4-GT.											35W4
35Z3	Half-Wave Rectifier	C6	4Z	H	35.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z4-GT.											35Z3
35Z4-GT	Half-Wave Rectifier	C3	G-8AA	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235    Min. Total Effective Plate-Supply Impedance: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms.											35Z4-GT
35Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C3	G-8AD $\frac{1}{2}$	H	35.0	0.15	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 235    Min. Total Effect. Plate-Supply Imped.: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms. Max. D-C Output Ma.: With Pilot and No Shunt Res., 60; With Pilot and Shunt Res., 90; Without Pilot, 100.											35Z5-GT
36	RF Amplifier Tetrode	D6	8E	H	6.3	0.3	Screen-Grid RF Amplifier	100 250	-1.5 -3.0	55 90	1.7*	3.2	550000 550000	850 1080				36	
							Bias Detector	100 $\frac{1}{2}$ 250 $\frac{1}{2}$	-5.0 -8.0	55 90									
Grid-bias values are approximate. Plate current to be adjusted to 0.1 milliamperes with no signal.																			
37	Detector* Amplifier Triode	D6	8A $\frac{1}{2}$	H	6.3	0.3	Class A Amplifier	90 250	-6.0 -18.0			2.5 7.5	11500 8400	800 1100	9.2 9.2			37	
							Bias Detector	90 250	-10.0 -28.0										
Grid-bias values are approximate. Plate current to be adjusted to 0.2 milliamperes with no signal.																			
38	Power Amplifier Pentode	D6	8F	H	6.3	0.3	Class A Amplifier	100 250	-9.0 -25.0	100 250	1.2 3.8	7.0 22.0	140000 100000	875 1200		15000 10000	0.27 2.50	38	
39/44	Supercontrol RF Amplifier Pentode	D8	8F	H	6.3	0.3	Class A Amplifier	90 250	{ -3.0 } min.	90 90	1.6 1.4	5.6 5.8	400000 1.0 $\frac{1}{2}$	1000 1050				39/44	
40	Voltage Amplifier Triode	D12	4D	D.C. F	5.0	0.25	Class A Amplifier	135 $\times$ 180 $\times$	-1.5 -3.0			0.2 0.2	150000 150000	200 200	30 30		40		
41	Power Amplifier Pentode	D6	6B	H	6.3	0.4	Amplifier	For other characteristics, refer to Type 6K6-GT.											41
42	Power Amplifier Pentode	D12	6B	H	6.3	0.7	Amplifier	For other characteristics, refer to Type 6F6-G.											42
43	Power Amplifier Pentode	D12	6B	H	25.0	0.3	Amplifier	For other characteristics, refer to Type 25A6-GT.											43
45	Power Amplifier Triode	D12	4D	F	2.5	1.5	Class A Amplifier	180 275	-31.5 -56.0			31.0 36.0	1650 1700	2125 2050	3.5 3.5	2700 4600	0.82 2.00	45	
							Push-Pull Class AB $\frac{1}{2}$ Amplifier	275	Cath. Bias, 775 ohms $\frac{1}{2}$ -68.0 volts, fixed bias			36.0 $\frac{1}{2}$ 2.0 $\frac{1}{2}$							5060 3200
Max. A-C Plate Volts (RMS), 117    Max. D-C Output Ma., 65    Min. Total Effect. Plate-Supply Imped., 15 ohms. Max. Peak Inverse Volts, 350    Max. Peak Plate Ma., 390																			
45Z3	Half-Wave Rectifier	B0	8AM	H	45.0	0.075	Half-Wave Rectifier	For other ratings, refer to Type 35Z5-GT.											45Z3
45Z5-GT	Half-Wave Rectifier Heater Tap for Pilot	C3	G-8AD $\frac{1}{2}$	H	45.0	0.15	With Capacitive-Input Filter	For other ratings, refer to Type 35Z5-GT.											45Z5-GT
46	Dual-Grid Power Amplifier	E3	8C	F	2.5	1.75	Class A Amplifier	250 300 400	-33.0 0 0			22.0 8.0 $\frac{1}{2}$ 12.0 $\frac{1}{2}$	2380 — —	2350 — —	5.6	6400 5200 5800	1.25 16.0 $\frac{1}{2}$ 20.0 $\frac{1}{2}$	46	
							Class B Amplifier	300 400	0 0										
47	Power Amplifier Pentode	E3	8B	F	2.5	1.75	Class A Amplifier	250	-16.5	250	6.0	31.0	60000	2500		7000	2.7	47	
48	Power Amplifier Tetrode	E3	8A	D.C. H	30.0	0.4	Tetrode	96 125	-19.0 -20.0	96 100	9.0 9.5	52.0 56.0		3800 3900		1500 1500	2.0 2.5	48	
							Tetrode Push-Pull Class A Amplifier	125	-20.0	100		100.0 $\frac{1}{2}$					3000	5.0 $\frac{1}{2}$	
49	Dual-Grid Power Amplifier	D12	8C	D.C. F	2.0	0.12	Class A Amplifier	135 180	-20.0 0			6.0 4.0 $\frac{1}{2}$	4175 —	1125 —	4.7	11000 12000	0.17 3.5 $\frac{1}{2}$	49	
							Class B Amplifier	180	0										
50	Power Amplifier Triode	F1	4D	F	7.5	1.25	Class A Amplifier	300 400 450	-54.0 -70.0 -84.0			35.0 55.0 55.0	2000 1800 1800	1900 2100 2100	3.8 3.8 3.8	4600 3670 4350	1.6 3.4 4.6	50	
							Class A Amplifier	110	-7.5	110	4	49	10000	7500		2500	1.9		
50B5	Beam Power Amplifier	B1a	7BZ	H	50.0	0.15	Class A Amplifier	110	-7.5	110	4.0	49.0	13000	9000		2000	2.1	50B5	
50L6-GT	Beam Power Amplifier	C3	G-7AC1	H	50.0	0.15	Single-Tube Class A Amplifier	110 200	-7.5 -8.0	110 110	2.0 2.0	50.0 50.0	30000 30000	9500 9500		3000	4.3	50L6-GT	
50Y6-GT	Rectifier-Doubler	C3	G-7Q1	H	50.0	0.15	Rectifier-Doubler	For other ratings, refer to Type 25Z6.											50Y6-GT
50Z7-G	Rectifier-Doubler Heater Tap for Pilot	D3	G-8AN $\frac{1}{2}$	H	50.0	0.15	Voltage Doubler	Max. A-C Volts per Plate (RMS), 117    Min. Total Effective Plate-Supply Impedance: 15 ohms. Max. D-C Output Ma., 65											50Z7-G
							Half-Wave Rectifier	Max. A-C Volts per Plate (RMS), 235    Min. Total Effective Plate-Supply Impedance per Plate: Up to 117 volts, 15 ohms; at 235 volts, 100 ohms. Max. D-C Output Ma. per Plate, 65											
53	Twin-Triode Amplifier	D12	7B	H	2.5	2.0	Amplifier	For other characteristics, refer to Type 6N7-GT.											53
55	Duplex-Diode Triode	D8	8G	H	2.5	1.0	Triode Unit as Amplifier	For other characteristics, refer to Type 85.											55
56	Detector Amplifier Triode*	D5	8A $\frac{1}{2}$	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 76.											56
57	Triple-Grid Detector Amplifier	D13	8F	H	2.5	1.0	Amplifier Detector	For other characteristics, refer to Type 6J7.											57

RCA Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating		Use Values to right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	RCA Type	
		Dimts.	I. C.	E. T.	Volts													Ang.
58	Triple-Grid Supercontrol Amplifier	D13	8F	H	2.5	1.0											58	
For other characteristics, refer to Type 6U7-G.																		
59	Triple-Grid Power Amplifier	E3	7A	H	2.5	2.0	Triode <sup>†</sup> Class A Amplifier	250	-28.0	—	—	26.0	2300	2600	6.0	5000	1.25	59
							Pentode <sup>**</sup> Class A Amplifier	250	-18.0	250	9.0	35.0	55000	2500	—	6000	3.0	
							Triode <sup>†</sup> Class B Amplifier	300	0	—	—	20.0 $\Phi$	—	—	—	4600	15.0 $\dagger$	
70L7-GT	Rectifier-Beam Power Amplifier	C5b	8AA	H	70.0	0.15	Amplifier Unit as Class A Amplifier	110	-7.5	110	3.0	40.0	15000	7500	—	2000	1.8	70L7-GT
							Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117	Max. Peak Inverse Volts, 350	Max. D-C Output Ma., 70	Max. Peak Plate Ma., 420	Min. Total Effect. Supply Imped., 15 ohms						
71-A	Power Amplifier Triode	D12	4D	F	5.0	0.25	Class A Amplifier	90	-16.5	—	—	10.0	2170	1400	3.0	3000	0.125	71-A
75	Duplex-Diode High-Mu Triode	D8	8G	H	6.3	0.3	Amplifier	180	-40.5	—	—	20.0	1750	1700	3.0	4800	0.790	
For other characteristics, refer to Type 6SQ7.																		
76	Detector Amplifier Triode*	D8	8A <sub>1</sub>	H	6.3	0.3	Class A Amplifier	250	-13.5	—	—	5.0	9500	1450	13.8	—	—	76
							Bias Detector	250	(-20.0 approx.)	—	—	—	—	—	—	—	—	
Plate current to be adjusted to 0.2 milliamperes with no signal.																		
77	Triple-Grid Detector Amplifier	D8	8F	H	6.3	0.3	Class A Amplifier	100	-1.5	60	0.4	1.7	60000	1100	—	—	—	77
							Bias Detector	250	-3.0	100	0.5	2.3	1.0 + $\dagger$	1250	—	—	—	
Cathode current 0.65 ma. Plate Resistor, 250000 ohms. Grid Resistor, ** 250000 ohms.																		
78	Triple-Grid Supercontrol Amplifier	D8	8F	H	6.3	0.3	Amplifier Mixer	For other characteristics, refer to Type 6K7.										78
79	Twin-Triode Amplifier	D8	8H	H	6.3	0.6	Class B Amplifier	180	0	—	—	—	—	—	—	7000	5.5	79
								250	0	—	—	—	—	—	14000	8.0		
Power Output is for one tube at stated plate-to-plate load.																		
80	Full-Wave Rectifier	D12	4C	F	5.0	2.0	For other ratings, refer to Type 5Y3-GT.										80	
81	Half-Wave Rectifier	F1	4B	F	7.5	1.25	With Capacitive-Input Filter	Max. A-C Plate Volts (RMS), 700				Max. D-C Output Ma., 85				81		
								Max. Peak Inverse Volts, 2000				Max. Peak Plate Ma., 500						
82	Full-Wave Rectifier	D12	4C	F	2.5	3.0	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 450	Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 115	Max. Peak Plate Ma., 600	Min. Total Effect. Supply Imped. per Plate, 50 ohms.				82		
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 550	Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 115	Max. Peak Plate Ma., 600	Min. Value of Input Choke, 6 henries						
83	Full-Wave Rectifier	E3	4C	F	5.0	3.0	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 450	Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 225	Max. Peak Plate Ma., 1000	Min. Total Effect. Supply Imped. per Plate, 50 ohms.				83		
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 550	Max. Peak Inverse Volts, 1550	Max. D-C Output Ma., 225	Max. Peak Plate Ma., 1000	Min. Value of Input Choke, 3 henries						
83-V	Full-Wave Rectifier	D12	4AD	H	5.0	2.0	For other ratings, refer to Type 5V4-G.										83-V	
84/6Z4	Full-Wave Rectifier	D5	8D	H	6.3	0.5	With Capacitive-Input Filter	Max. A-C Volts per Plate (RMS), 325	Max. Peak Inverse Volts, 1250	Max. D-C Output Ma., 60	Max. Peak Plate Ma., 180	Min. Total Effect. Supply Imped. per Plate, 150 ohms.				84/6Z4		
							With Inductive-Input Filter	Max. A-C Volts per Plate (RMS), 450	Max. Peak Inverse Volts, 1250	Max. D-C Output Ma., 60	Max. Peak Plate Ma., 180	Min. Value of Input Choke, 10 henries						
85	Duplex-Diode Triode	D8	8G	H	6.3	0.3	Triode Unit as Class A Amplifier	135	-10.5	—	—	3.7	11000	750	8.3	25000	0.075	85
								250	-20.0	—	—	8.0	7500	1100	8.3	20000	0.350	
89	Triple-Grid Power Amplifier	D8	8F	H	6.3	0.4	As Triode <sup>†</sup> Class A Amplifier	160	-20.0	—	—	17.0	3300	1425	4.7	7000	0.30	89
							Class A Amplifier	250	-31.0	—	—	32.0	2600	1800	4.7	5500	0.90	
							As Pentode <sup>**</sup> Class A Amplifier	100	-10.0	100	1.6	9.5	104000	1200	—	10700	0.33	
							Class A Amplifier	250	-25.0	250	5.0	32.0	70000	1800	—	6750	3.40	
							As Triode <sup>†</sup> Class B Amplifier	180	0	—	—	6.0 $\Phi$	—	—	13600	2.50 $\dagger$		
																9400	3.50 $\dagger$	

(Chart II continued on next page.)

Discontinued types are shown in light face. Metal and miniature tubes are identified respectively by a narrow or a wide riser preceding or following the type designation.

- ★ For Grid-leak Detection—plate volts 45, grid return to + filament or to cathode.
- Either A, C, or D, C. may be used on filament or heater, except as specifically noted. For use of D.C. on A-C filament types, decrease stated grid volts by 1/2 (approx.) of filament voltage.
- ▲ Supply voltage applied through 20000-ohm voltage-dropping resistor.
- ▶ Mercury-Vapor Type.
- Grid #1 is control grid. Grid #2 is screen. Grid #3 tied to cathode.
- † Grid #1 is control grid. Grids #2 and #3 tied to plate.
- Grids #1 and #2 connected together. Grid #3 tied to plate.
- Grids #3 and #5 are screen. Grid #4 is signal-input control grid.
- ▲ Grids #2 and #4 are screen. Grid #1 is signal-input control grid.
- \*\* For grid of following tube.
- Both grids connected together; likewise, both plates.
- † Power output is for two tubes at stated plate-to-plate load.
- For two tubes.
- † This diagram is like the one having the same designation without the prefix G, except that Pin No. 1 has no connection.
- Obtained preferably by using 70000-ohm voltage-dropping resistor in series with a 90-volt supply
- ▲ This diagram is like the one having the same designation with the prefix G, except that base sleeve is connected to Pin No. 1.
- †† This diagram is like the one having the same designation without the prefix G, except that Pin No. 1 is connected to internal shield.
- Panel lamp section is between pins 2 and 3.

- † Grids #2 and #3 tied to plate.
- ▲▲ Both grids connected together; likewise both cathodes.
- ▲ This diagram is like the one having the same designation without the prefix GT, except that the base sleeve is connected to Pin No. 1.
- Applied through plate resistor of 250000 ohms or 500-henry choke shunted by 0.25-megohm resistor.
- Applied through plate resistor of 100000 ohms.
- Applied through plate resistor of 250000 ohms.
- 50000 ohms. \*Maximum.
- Requires different socket from small 7-pin.
- Grid #2 tied to plate.
- Grids #1 and #2 tied together.
- Plate voltages greater than 125 volts RMS require 100-ohm (minimum) series-plate resistor.
- Applied through plate resistor of 150000 ohms.
- For signal-input control-grid (#1); control-grid #3 bias, -3 volts.
- Applied through 200000-ohm plate resistor.
- ▲ Grids #2 and #4 are screen. Grid #3 is signal-input control grid.
- Notes 1: Types with octal bases have *Miniature Cap.*; all others have *Small Cap.*
- Notes 2: Subscript 1 on class of amplifier service (as AB<sub>1</sub>) indicates that grid current does not flow during any part of input cycle.
- Subscript 2 on class of amplifier service (as AB<sub>2</sub>) indicates that grid current flows during some part of the input cycle.

KEY TO TUBE DIMENSIONS

Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter	Symbol	Maximum Overall Length x Diameter
A1	1 1/2" x 1 1/8"	B5a	9 1/2" x 1 1/8"	C7a	3 9/16" x 1 1/8"	D8	4 11/16" x 1 9/16"	E3	5 1/2" x 2 1/8"
A1a	1 1/2" x 1 1/8"	C0	3 1/2" x 1 1/8"	C8	3 1/2" x 1 1/8"	D9	4 11/16" x 1 9/16"	F1	6 1/2" x 2 1/8"
B0	2 1/2" x 1 1/8"	C1	3 1/2" x 1 1/8"	D1	4" x 1 1/8"	D9a	4 11/16" x 1 9/16"	F1a	6 1/2" x 2 1/8"
B0a	2 1/2" x 1 1/8"	C2	3 1/2" x 1 1/8"	D1a	4 1/8" x 1 1/8"	D10	4 1/2" x 1 1/8"	G1	8" x 2 1/8"
B1	2 1/2" x 1 1/8"	C3	3 1/2" x 1 1/8"	D2	4 1/8" x 1 1/8"	D11	4 1/2" x 1 1/8"	H1	12 1/2" x 5 1/8"
B1a	2 1/2" x 1 1/8"	C4	3 1/2" x 1 1/8"	D3	4 1/8" x 1 1/8"	D12	4 1/2" x 1 1/8"	I1	14 1/8" x 7 1/8"
B2	2 1/2" x 1 1/8"	C5a	3 1/2" x 1 1/8"	D4	4 1/8" x 1 1/8"	D12a	4 1/2" x 1 1/8"	I1a	14 1/8" x 7 1/8"
B3	2 1/2" x 1 1/8"	C5b	3 1/2" x 1 1/8"	D5	4 1/8" x 1 1/8"	D13	4 1/2" x 1 1/8"	J1	18" x 10 1/8"
B4	2 1/2" x 1 1/8"	C6	3 1/2" x 1 1/8"	D6	4 1/8" x 1 1/8"	E1	5 1/2" x 1 1/8"	K1	21 1/2" x 9 1/8"
B5	2 1/2" x 1 1/8"	C7	3 1/2" x 1 1/8"	D7	4 1/8" x 1 1/8"	E2	5 1/2" x 2 1/8"	L1	25 1/2" x 12 1/8"

Type	Name	Tube Dimensions and Socket Connections		Cathode Type and Rating			Use Values in right give operating conditions and characteristics for indicated typical use	Plate Supply Volts	Grid Bias in Volts	Screen Supply Volts	Screen Current Ma.	Plate Current Ma.	AC Plate Resistance Ohms	Trans-Conductance (Grid-plate) $\mu$ mhos	Amplification Factor	Load for Stated Power Output Ohms	Power Output Watts	Type		
		Dimm.	S. C.	G. T.	Volts	Amp.														
V-99 X-99	Detector* Amplifier Triode	C4 D1	4E 4D	D.C. F	3.3	0.063	Class A Amplifier	90	- 4.5	—	—	2.5	15500	425	6.6	—	—	V-99 X-99		
112-A	Detector* Amplifier Triode	D12	4D	D.C. F	5.0	0.25	Class A Amplifier	90 180	- 4.5 -13.5	—	—	5.0 7.7	5400 4700	1575 1800	8.5	—	—	112-A		
117L/M7-GT	Rectifier-Beam Power Amplifier	C5b	8A0	H	117	0.09	Amplifier Unit as Class A Amplifier Half-Wave Rectifier	105	- 5.2	105	4.0	43.0	17000	5300	—	4000	0.85	117L/M7-GT		
117N7-GT	Rectifier-Beam Power Amplifier	C5b	8AV	H	117	0.09	Amplifier Unit as Class A Amplifier Half-Wave Rectifier	100	- 6.0	100	5.0	51.0	16000	7000	—	3000	1.2	117N7-GT		
117P7-GT	Rectifier-Beam Power Amplifier	C5b	8AV	H	117	0.09	Amplifier Unit as Class A Amplifier Half-Wave Rectifier	For other characteristics, refer to Type 117L/M7-GT.										117P7-GT		
117Z3	Half-Wave Rectifier	B1a	4CB	H	117	0.04	With Capacitive-Input Filter	For other ratings, refer to Type 117L/M7-GT.										117Z3		
117Z6-GT	Rectifier-Doubler	C5	G-7Q1	H	117	0.075	Voltage Doubler Half-Wave Rectifier	Max. A-C Plate Volts (RMS), 117 Max. A-C Volts per Plate (RMS), 117 Max. D-C Output Ma., 60 Min. Total Effective Plate-Supply Impedance per Plate: Half-Wave, 30 ohms; Full-Wave, 15 ohms.										117Z6-GT		
183/ 483	Power Amplifier Triode	D12	4D	F	5.0	1.25	Class A Amplifier	250	-60.0	—	—	30.0	1750	1700	3.0	5000	1.8	183/ 483		
485	Detector Amplifier Triode	D8	8A1	H	3.0	1.25	Class A Amplifier	180	- 9.0	—	—	5.8	8900	1400	12.5	—	—	485		
876	Current Regulator	G1	—	F	—	—	Voltage Range	40 to 60 Volts										Operating Current	1.7 Amperes	876
886	Current Regulator	G1	—	F	—	—	Voltage Range	40 to 60 Volts										Operating Current	2.05 Amperes	886

Discontinued types are shown in light face. Metal and miniature tubes are identified respectively by a narrow or a wide riser preceding the type designation.

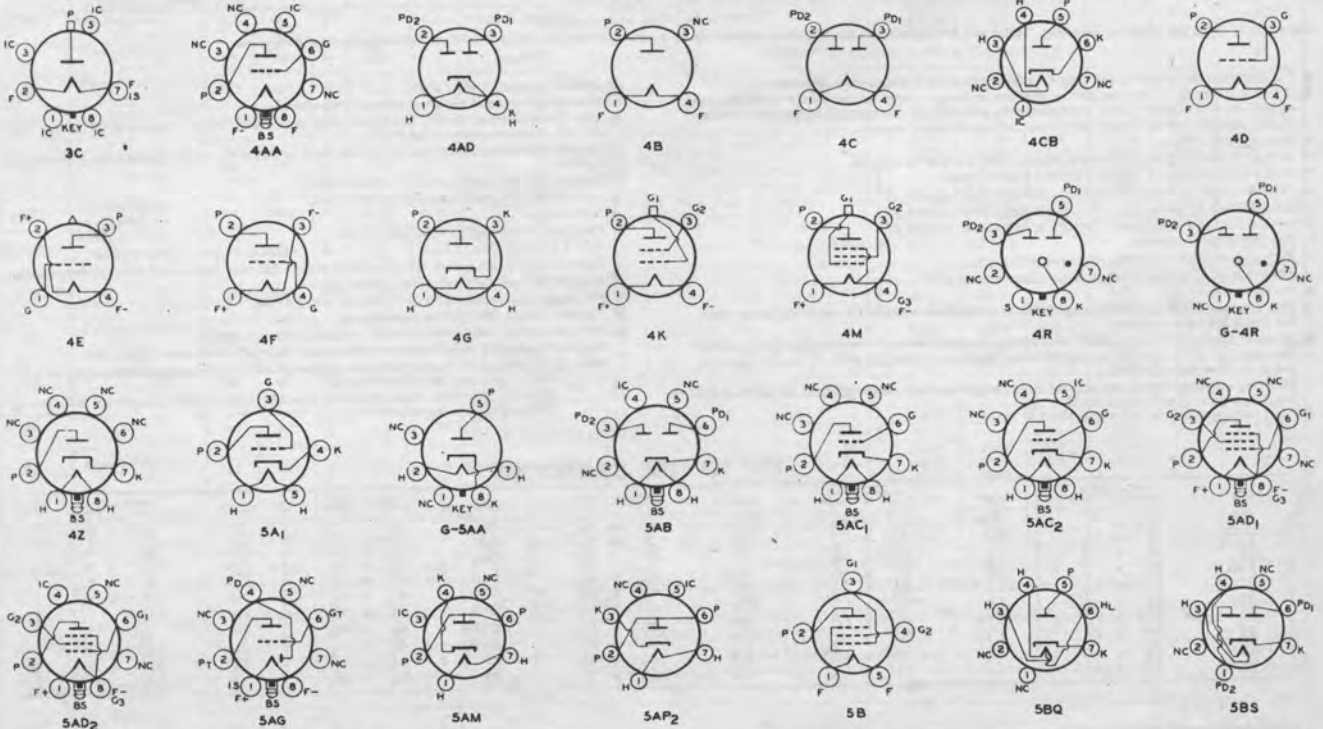
### Socket Connections

Bottom Views

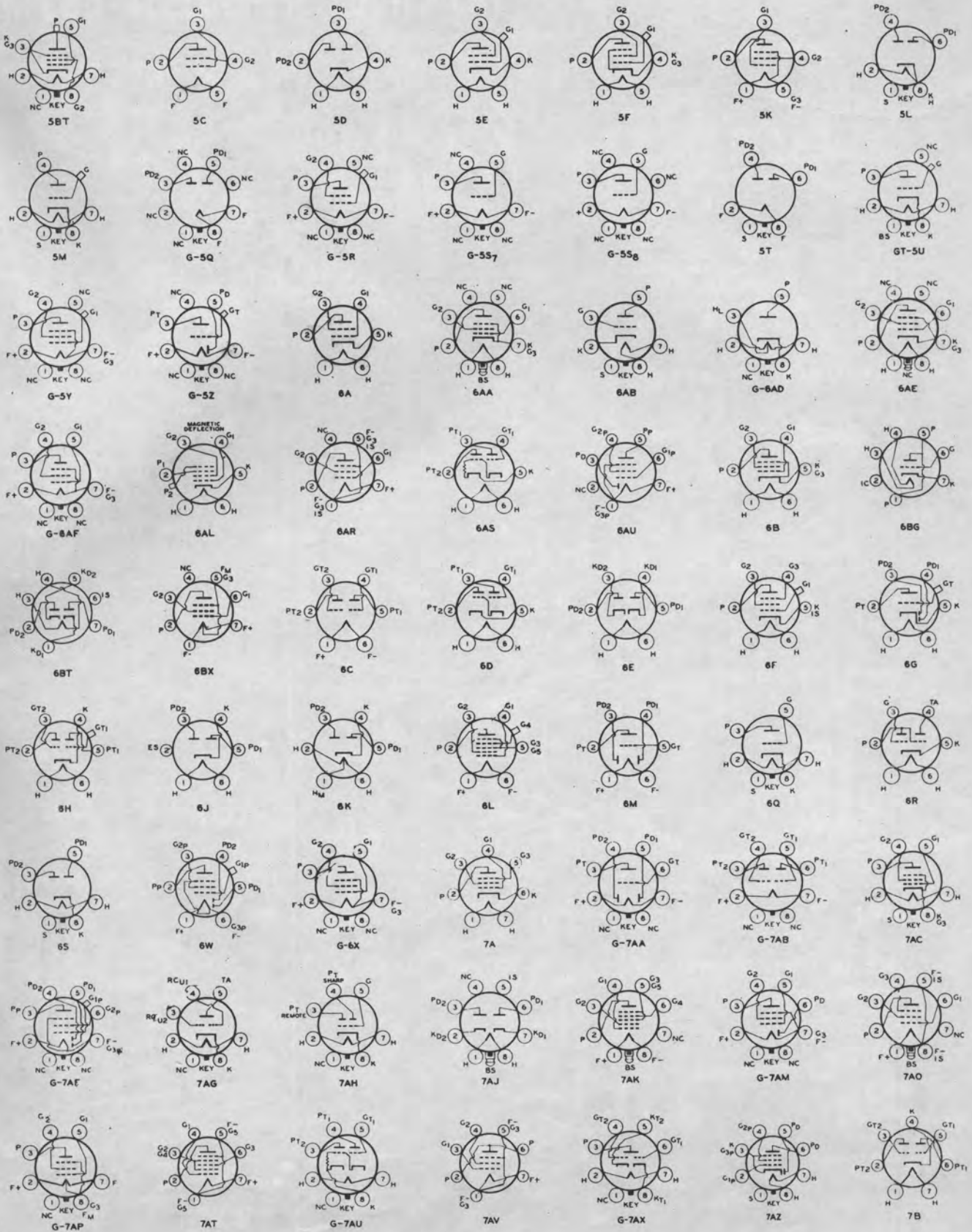
#### KEY TO TERMINAL DESIGNATIONS OF SOCKETS

Alphabetical Subscripts B, D, HP, HX, P, and T indicate, respectively, beam unit, diode unit, heptode unit, hexode unit, pentode unit, and triode unit, in multi-unit types.

- BC - Base Sleeve
- BS - Base Shell
- DJ - Deflecting Electrode
- ES - External Shield
- F - Filament
- F<sub>M</sub> - Filament Mid-Tap
- G - Grid
- H - Heater
- H<sub>L</sub> - Heater Tap for Panel Lamp
- H<sub>M</sub> - Heater Mid Tap
- IC - Internal Connection-Do Not Use
- IS - Internal Shield
- K - Cathode
- NC - No Connection
- P - Plate (Anode)
- RC - Ray-Control Electrode
- S - Shell
- TA - Target
- U - Unit
- - Gas-Type Tube

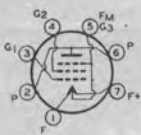


Socket Connections

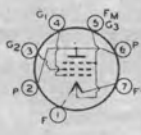




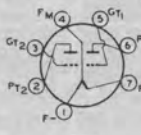
Socket Connections



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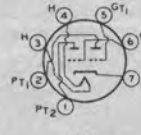
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7BC



7BD



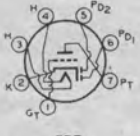
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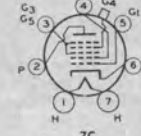
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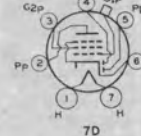
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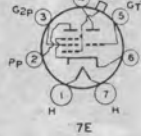
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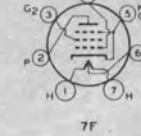
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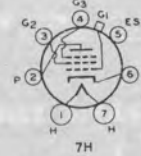
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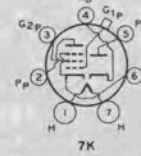
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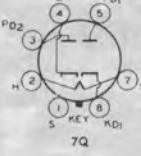
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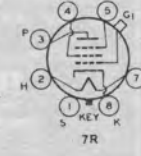
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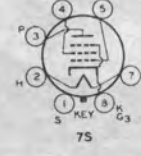
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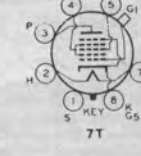
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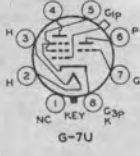
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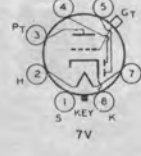
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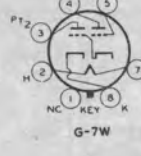
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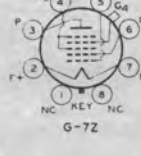
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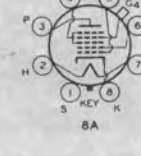
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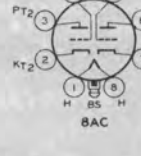
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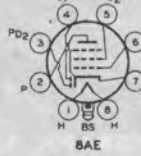
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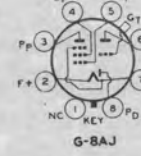
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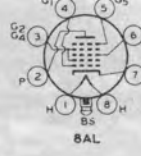
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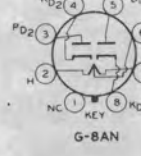
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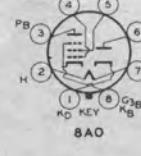
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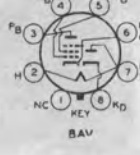
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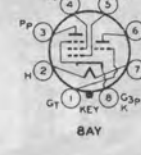
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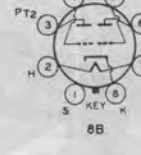
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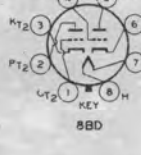
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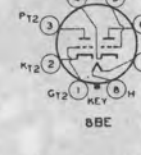
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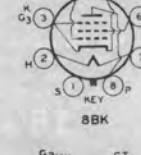
8B



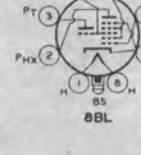
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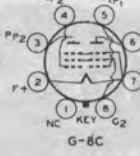
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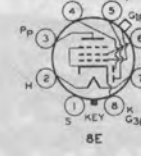
8BK



8BL



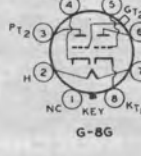
G-8C



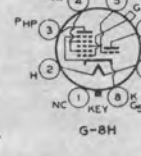
8E



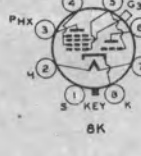
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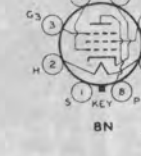
G-8G



G-8H



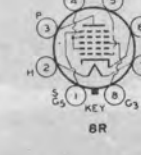
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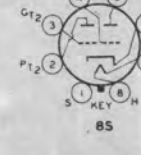
8N



8Q



8R



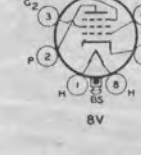
8S



8T



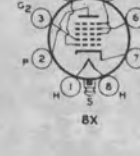
8U



8V



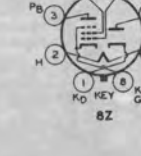
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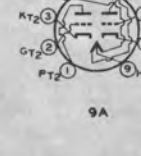
8X



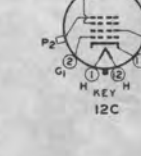
8Y



8Z



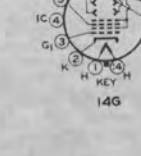
9A



12C



12D

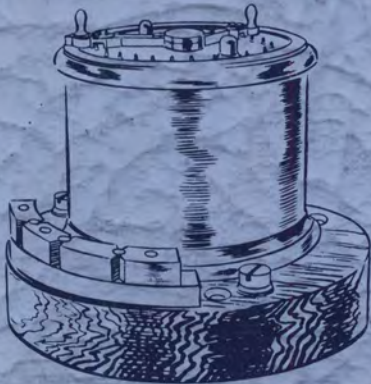


14G

# SURPLUS TELEGRAPH EQUIPMENT

Obsolete Telegraph Equipment. Experimenters, Hams, and others will find many uses for this well-made, and ruggedly-built telegraph equipment. Order early—supplies are limited.

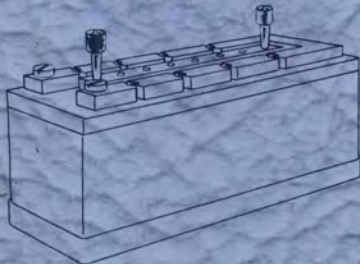
## CIRCULAR RHEOSTATS



Heavy type variable Resistances, wood base, heavy brass case. Variable from 0 to 4000 ohms by means of two moving arms. Size 6in. diameter, 5in. high. Used. **12/6** each  
Cat. No. AX1491

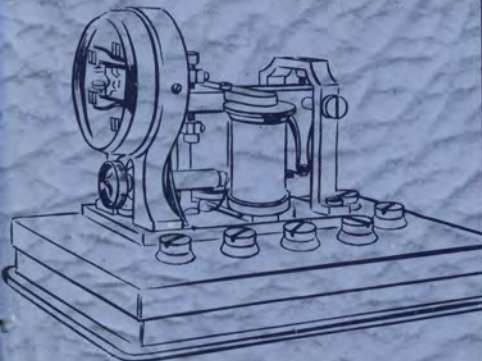
Same as above but slightly damaged.  
Cat. No. AX1491A .. **9/6** each

## RESISTANCE BOXES



Contains a large number of resistance coils. Range 0/1100 ohms and variations can be obtained in 10 ohm steps by means of plugs. 6 1/2in. x 2 1/2in. x 3in. high. Used. Very accurate.  
Cat. No. AX1490 .. **15/-** each

## TELEGRAPH POLE CHANGERS



Pole Changers as used in telegraph systems. Mounted on teak wood base. Size 4 1/2in. x 6in. x 5in. high. Used. **12/6** each  
Cat. No. AX1492

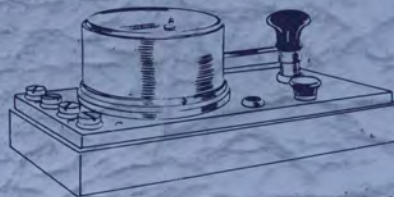
As above but slightly damaged  
Cat. No. AX1492A .. **9/6** each

## GALVANOMETERS



Siemens' Eros. Galvanometers, mounted on wood base and complete with glass dome protection, 4in. x 4in. x 4 1/2in. high. Used.  
Cat. No. AX1501 .. **12/6** each

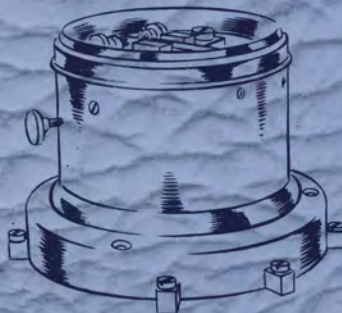
## TELEGRAPH KEY



Morse Telegraph key. Really high-class job. Six terminal reversing type. Glass protected. Used. **15/-** each  
Cat. No. AX1497

As above but slightly damaged.  
Cat. No. AX1497A .. **9/6** each

## TELEGRAPH RELAYS



Telegraph Relays mounted on wood base. Brass case glass cover, heavy construction, 5 1/2in. diameter, 4in. high. **10/-** each  
Cat. No. AX1505

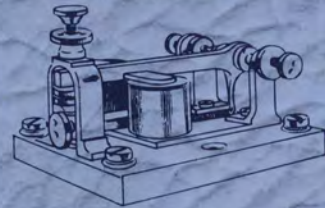
## LEVER SWITCHES



Telegraph-type Lever Switches mounted on round wood base of 4in. diameter., solid brass fittings. Single pole change-over (2 circuit) type. Used. **2/-** each  
Cat. No. AX1498

Similar to above but 3 circuit, 2-way. Used.  
Cat. No. AX1499 .. **2/-** each

## SOUNDERS

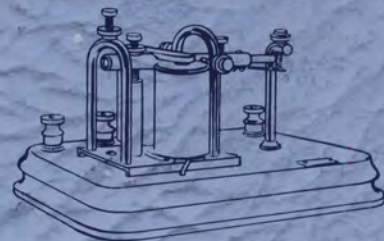


Telegraph-type Sounders mounted on wood base. Heavy brass terminals and fittings, 4 1/2in. x 4 1/2in. x 4in. high. Used.

Cat. No. AX1500 .. **7/6** each

As above but slightly damaged.  
Cat. No. AX1500A .. **4/6** each

## TELEGRAPH TRANSMITTERS



Western-Electric quad-type telegraph transmitters, 8in. x 4 1/2in. x 4 1/2in. high. Used.

Cat. No. AX1493 .. **10/-** each

## TELEGRAPH SOUNDERS



Western-Electric type 3C, 140 ohm Telegraph Sounders. Size 5 1/2in. x 3in. x 4in. high. Brand new.

Cat. No. AX1494 .. **17/6** each

## WAFER TYPE SWITCHES



Single-bank Wafer Switches, with 1in. diameter shafts fitted for lock nut for panel mounting.

Cat. No. AX1495—1 pole, 5 way **3/6** each

Cat. No. AX1496—4 pole, 2 way **3/6** each

# Mullard



enjoyable listening  
wherever you go

Size 8½ x 4½ x 2½. Weight including batteries only 3½ lbs. and carried as easily as a folding camera. Switches "on" automatically when lid opens and "off" when closed. Unbreakable plastic case with carrying handle. Splendid tone, ample volume.



**17 GUINEAS**

complete with Batteries



Cat. No. AR760

Spare Batteries and Valves readily available

**A Portable For Any Occasion**

## FRONT DOOR! BACK DOOR!

Combined bell and buzzer in attractive moulded plastic case. Will operate either from batteries or from bell transformer. Bell rings from front door; buzzer rings from back door. Dimensions 4in. x 2½in. x 1½in. Supplied complete with instructions and wiring diagram.

**BUZZ—DING!**



Cat. No. AG317

9/- each

### COMPLETE OUTFIT

Combined bell and buzzers as described above with all necessary equipment for installation. Outfit comprises bell and buzzer unit, 2 60ft. coils bellwire, packet insulated staples, 2 bell pushes, 2 No. 6 dry cells. Buy it and install it yourself. Complete Buzz-Ding Outfit. Cat. No. AG318

25/-

### PROTECT YOUR TABLE



Stands for irons—insulated with asbestos. Suitable for use with all types of irons.

Cat. No. AE403

6/6 each

### OUR GUARANTEE!

The Lamphouse 7-DAY MONEY BACK GUARANTEE protects your every purchase.

# ULTIMATE RANGETTES



Your "ULTIMATE" choice.

Solid—Durable—Practical. This fine Ultimate Rangette incorporates many new and improved features seldom found outside the high price field of electric ranges. Just think how these improvements will save you time and money. Here, without doubt, is outstanding value in Rangettes.

#### MODEL 341

- Compact and portable—plugs into any power point. Large area hotplates giving 186 square inches of cooking surface.
- Easy-clean enamelled oven—1,300 cubic inches of baking capacity.
- Fully lagged for power economy and efficiency. Glass wool lagged one inch thick oven walls.
- Swing-away lagged oven door allows full oven access and is fitted with temperature indicator.

- Three-heat rotary switches control oven and one hotplate. Single on/off switch controls other hotplate.
- "Simmerstat" optional on all elements. This new element regulator gives variable heat control from simmering to boiling point.
- Complete with oven tray, grill, and equipped with cool moulded door handle.

Cat. No. AE452—

**£19/17/6**