

# MARCONIPHONE

## SERVICE MANUAL

PRIVATE AND CONFIDENTIAL  
TO THE TRADE ONLY



### Model 268

3-Valve Battery  
All-Wave Receiver

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OCT.

1 9 3 7

PART NO.

2 8 1 7 8

TECHNICAL SPECIFICATION

WAVELENGTH RANGE.

Short Waves	...	...	...	...	16.8 to 52 metres.
Medium Waves	...	...	...	...	195 to 560 "
Long Waves	...	...	...	...	800 to 2,000 "

DIMENSIONS.

Height	...	...	...	...	19 $\frac{3}{4}$ inches.
Width	...	...	...	...	16 $\frac{1}{2}$ "
Depth	...	...	...	...	10 "

WEIGHT.

45 lb. net., including batteries.

BATTERY SPECIFICATION.

High tension, 175 volts.

Marconiphone Catalogue No. B.550A.

Low tension, 2-volt 45-Ah accumulator. Exide type DFG.

CONSUMPTION.

L.T.	...	...	...	...	...	0.5 ampere (approximately).
H.T.	...	...	...	...	...	7.0 milliamps (average).

VALVES.

Marconi W21 (met.)	...	...	...	...	H.F. Amplifier.
„ Z21	...	...	...	...	Detector.
„ KT2	...	...	...	...	Output valve.

SPEECH OUTPUT.

400 milliwatts undistorted (approximately).

CIRCUIT DESCRIPTION.

Three aerial tapplings are incorporated in this receiver, A2 being for use under normal conditions. A1 incorporates a Droitwich filter, and A3 a resistance R1. Tapping A3 is for use in areas close to a powerful station other than Droitwich, but should not be used for short wave reception.

On medium and long waves the grid circuit of the H.F. amplifier is tuned in the conventional way, while on short waves the grid of V1 is choke fed by means of L2, the method of controlling volume in both cases being by means of VRI, which is arranged to vary the aerial coupling and grid bias of V1 concurrently.

The H.F. Amplifier valve is tuned-anode capacity coupled to the detector valve V2, which operates as a leaky grid detector. Variable reaction is obtained on all bands by VC3 in conjunction with the reaction coils L9 and L10.

An H.F. filter (R7, C8) is included in the anode circuit of the detector, which is parallel-fed transformer-coupled to the output valve (KT2). On short waves the intervalve transformer ratio is automatically doubled to 1 : 7 by means of the wavechange switch contacts 15-18.

Grid bias is obtained automatically by means of the voltage drop across the potentiometer R9, R10, which is connected between H.T. — and chassis, the bias for V1 being taken from the maximum negative point, i.e., H.T. — and that for the output valve from the tap ; C12 is a decoupling condenser.

## LOUDSPEAKER.

Type No. 24760D.

This loudspeaker has the latest type of high flux density magnet, D.C. resistance of speech coil, 4 ohms. Impedance at 800 cycles, 5 ohms.

## PICK-UP.

Sockets are provided for connection of a pick-up, which must be disconnected when using the instrument on radio. Marconiphone Model 25 pick-up is specially recommended. The pick-up should be used in conjunction with a 100,000 ohm volume control for this receiver.

Set the wave-change switch to short waves, remove aerial lead, and turn the volume and sensitivity controls to minimum for gramophone reproduction.

## DISMANTLING

### TRANSIT BOLTS.

The four red-headed transit screws must be removed from the underside of the cabinet when the instrument is finally installed.

### REMOVAL OF CHASSIS.

1. Remove back and knobs.
2. Unsolder loudspeaker leads from loudspeaker panel.
3. Remove the four fixing bolts from the underside of cabinet. The chassis may now be withdrawn.

**Note.**—The loudspeaker leads are sufficiently long to enable the set to be withdrawn for examination without disconnecting the speaker.

### REMOVAL OF LOUDSPEAKER.

1. Remove four screws securing loudspeaker and remove speaker.

## PRELIMINARY TESTS

1. *Battery Voltage.*—The accumulator must read at least 2 volts *on load*, and the H.T. battery should be replaced if its total voltage on load is less than 100. Examine all battery leads and if necessary clean or replace plugs or tags to ensure good contact. Apply vaseline to the accumulator spade tags to prevent corrosion.

2. *L.F. Test.*—Switch on, and touch the left-hand pick-up socket (looking from back of chassis) with a wetted finger. This should produce a definite click from the loudspeaker. If no sound is heard try replacing V3 (KT2) and examine loudspeaker leads, speech coil and transformers for discontinuity. See Continuity Checks, page 5.

3. *Detector Test.*—Connect the aerial via a small condenser (about 0.0003 mfd.) to the anode of V1. If the detector is operating correctly signals should be obtained from a medium wave local station with very flat tuning.

4. *H.F. Valve Test.*—Connect aerial to the fixed vanes of VCI. If signals are now heard on medium and long waves the fault must lie in the aerial coupling circuits, L2, L3, etc.

5. *H.T. Consumption Test.*—The following values were taken with a new H.T. battery. If the battery voltage is low a proportional reduction in consumption should be expected.

Total feed at black lead	...	...	Volume at minimum, 6.9 mA.
			Volume at maximum, 7.7 mA.

## H.F. TESTS AND ADJUSTMENTS

Instability, insensitivity or poor selectivity indicate that the alignment of the tuned circuits is incorrect. If a coil or other component associated with the H.F. side of the receiver has been replaced or repaired, or if the wiring has been disarranged, the appropriate circuits must be re-aligned.

To do this the following apparatus is required :—An oscillator or signal generator capable of tuning from 16 to 1,500 metres, suitably screened, and with an attenuator, and an output meter. The E.M.I. Service equipment is very suitable. Alternatively an 0 to 2 A.C. voltmeter may be used as an output meter.

In carrying out the following operations it is important that the input to the receiver from the oscillator should be kept low, and progressively reduced as the circuits are brought into line, so that the reading on the output meter does not exceed approximately 50 mW or 0.5 volt. The output meter should be connected between anode V3 (KT2) and chassis. The 0-2 voltmeter must only be connected across the speech coil of the loudspeaker.

### POSITIONING THE POINTER.

Before proceeding with the ganging it is essential first to check the position of the pointer. The pointer should be horizontal with the gang condenser at maximum and minimum.

### MEDIUM WAVES.

1. Set TC1 to minimum and volume control to maximum.
2. Set receiver to 225 metres by the scale and connect oscillator to A2 and earth sockets.
3. Tune oscillator to 225 metres (1,333.3 kc.) and adjust TC5 and TC2 in that order for maximum output, keeping VC3 (reaction control) advanced as far as possible without oscillation. If maximum cannot be obtained with TC2 fully screwed up increase capacity of TC1 until a peak reading can be obtained with TC2, and repeat operation.
4. Ascertain that the receiver does not oscillate at any point on the M.W. band with VC3 at minimum and that oscillation is obtainable at all points on the band by advancing VC3.
5. Check accuracy of wavelength indication at top end of scale (about 450 metres). If it is possible to increase the accuracy by effecting a compromise, readjust the pointer as required.

### LONG WAVES.

1. Tune receiver (by scale) and oscillator to 1,000 metres (300 kilocycles).
2. Adjust TC6 for maximum output, keeping reaction control advanced so far as possible without oscillation.
3. Check that reaction is obtainable over whole waveband and is controllable at all points.

### ADJUSTMENT OF DROITWICH REJECTOR.

This must be done on the customer's aerial, using the signal from the Droitwich transmitter.

1. Connect aerial to A1 socket on receiver and adjust TC7 for *minimum* output with reaction control set as far up as possible without oscillation.

### SHORT WAVES.

1. Set receiver (by small spot on scale) and oscillator to 16.8 metres (17.9 megacycles) and adjust TC4 for maximum output, keeping reaction just short of oscillation all the time.
2. Check that receiver oscillates on all parts of S.W. band and that oscillation is controllable.

## CONDENSER DRIVE.

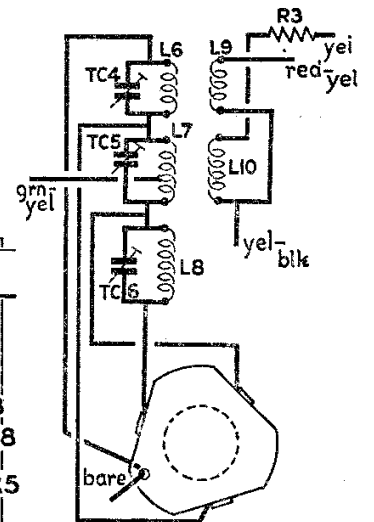
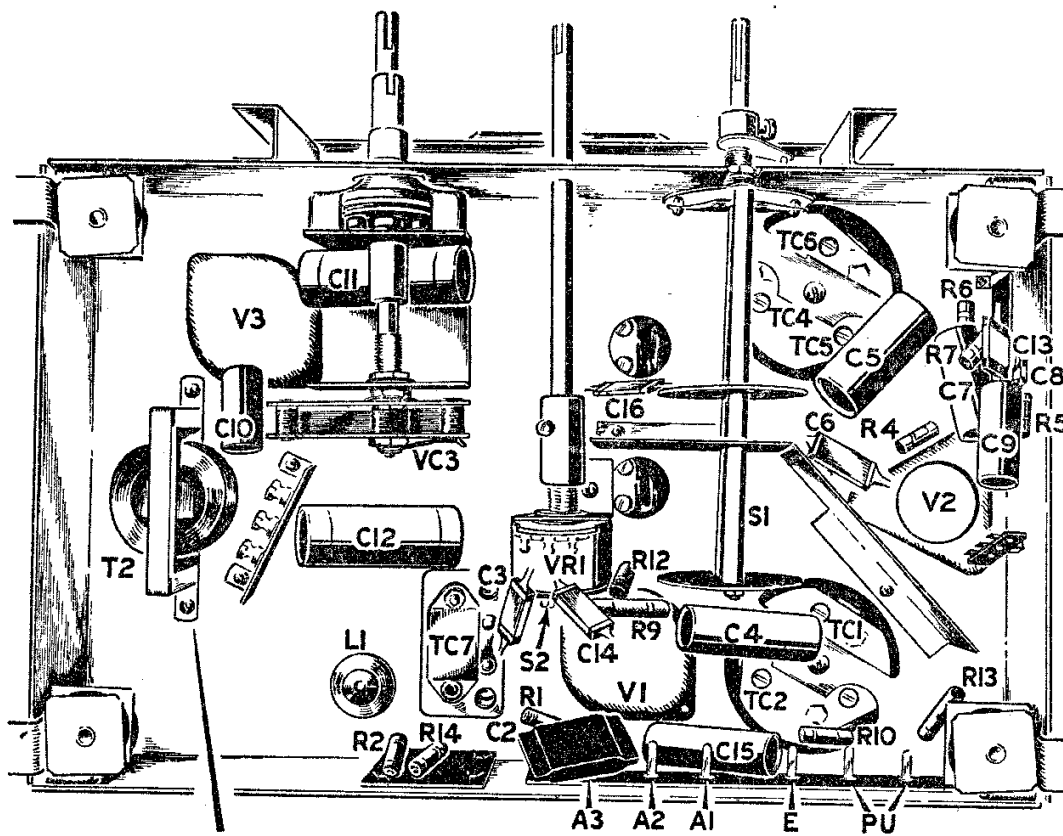
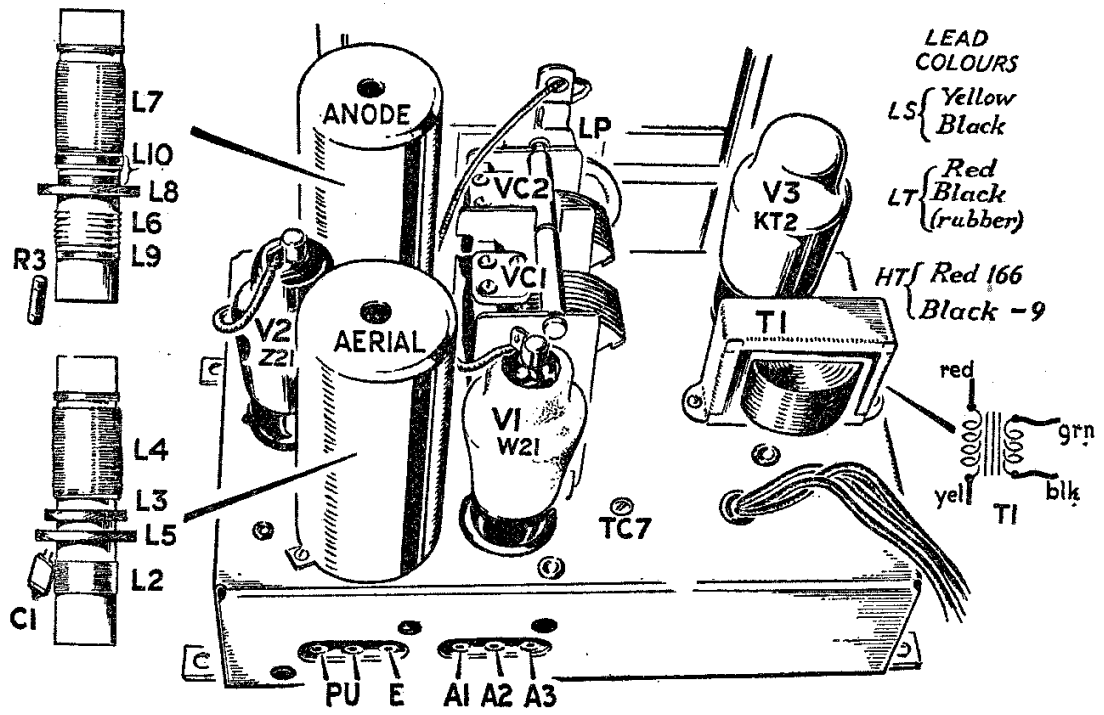
The scale may be replaced simply by removing the clamps securing the glass and substituting the new scale. In the event of the slow-motion drive becoming faulty it should be replaced as follows :—

1. Remove slow-motion drive, which is fixed by two screws.
2. Place new slow-motion drive in position, first tensioning the split gear segment with which the small pinion on the drive engages by twisting one-half of the segment against the spring one or two teeth, and then engaging with the pinion.
3. Insert the screws fixing the drive, being sure not to let the tensioned gear segment slip.

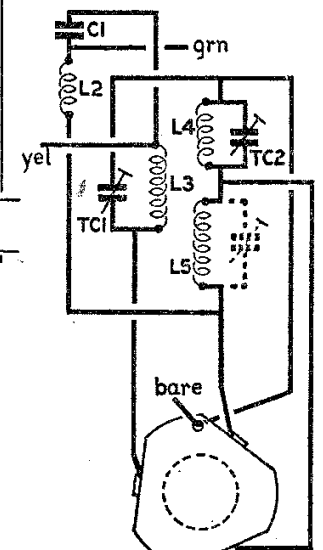
## CONTINUITY CHECKS

Resistance values  $\pm 15$  per cent. Remove valves and pilot lamp and disconnect batteries before making any resistance measurements.

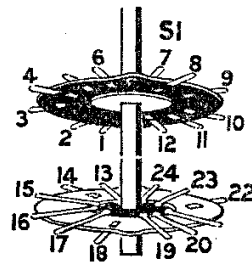
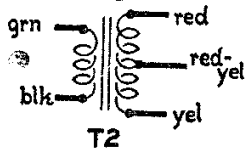
Component	Measured	Switch	Resistance
L1 ... ..	A1 and A2 sockets ... ..	—	6·0 ohms.
L2, L4, L5 ... ..	Grid V1 (W21) and fixed vanes of VCI ... ..	SW	21 ohms. (L2 4 ohms.) (L4 2 ohms.) (L5 15 ohms.)
L3 ... ..	Across ends ... ..	—	7·5 ohms.
L6, L7, L8, R2 ... ..	H.T. + plug and fixed vanes VC2 ... ..	—	23,000 ohms. (L6 0·1 ohm.) (L7 2·0 ohms.) (L8 14·0 ohms.)
L9 ... ..	Tag 3 on S1 and fixed vanes VC3 ... ..	—	0·5 ohm.
L10, R3 ... ..	Fixed vanes VC3 and anode (top cap) V2 ... ..	MW	512 ohms. (L10 12 ohms.)
R1 ... ..	A2 and A3 sockets ... ..	—	10,000 ohms.
VRI, R12, L2 ... ..	Grid V1 (W21) and chassis ... ..	SW	23,000 ohms to 148,000 ohms, according to position of VRI.
R4 ... ..	Grid V2 (Z21) and L.T. + spade ... ..	—	2·3 megohms.
T1 Primary ... ..	H.T. + plug and anode V3 (KT2) ... ..	—	1,000 ohms.
Secondary ... ..	Across loudspeaker leads (disconnect from speaker)	—	0·6 ohm.
T2 Primary + R13 ... ..	Across P.U. sockets ... ..	—	1,200 ohms. (T2 Primary 200 ohms.)
Secondary + R10 ... ..	Grid V3 (KT2) and chassis ... ..	SW MW	3,700 ohms. 2,350 ohms. (R10 1,000 ohms.)

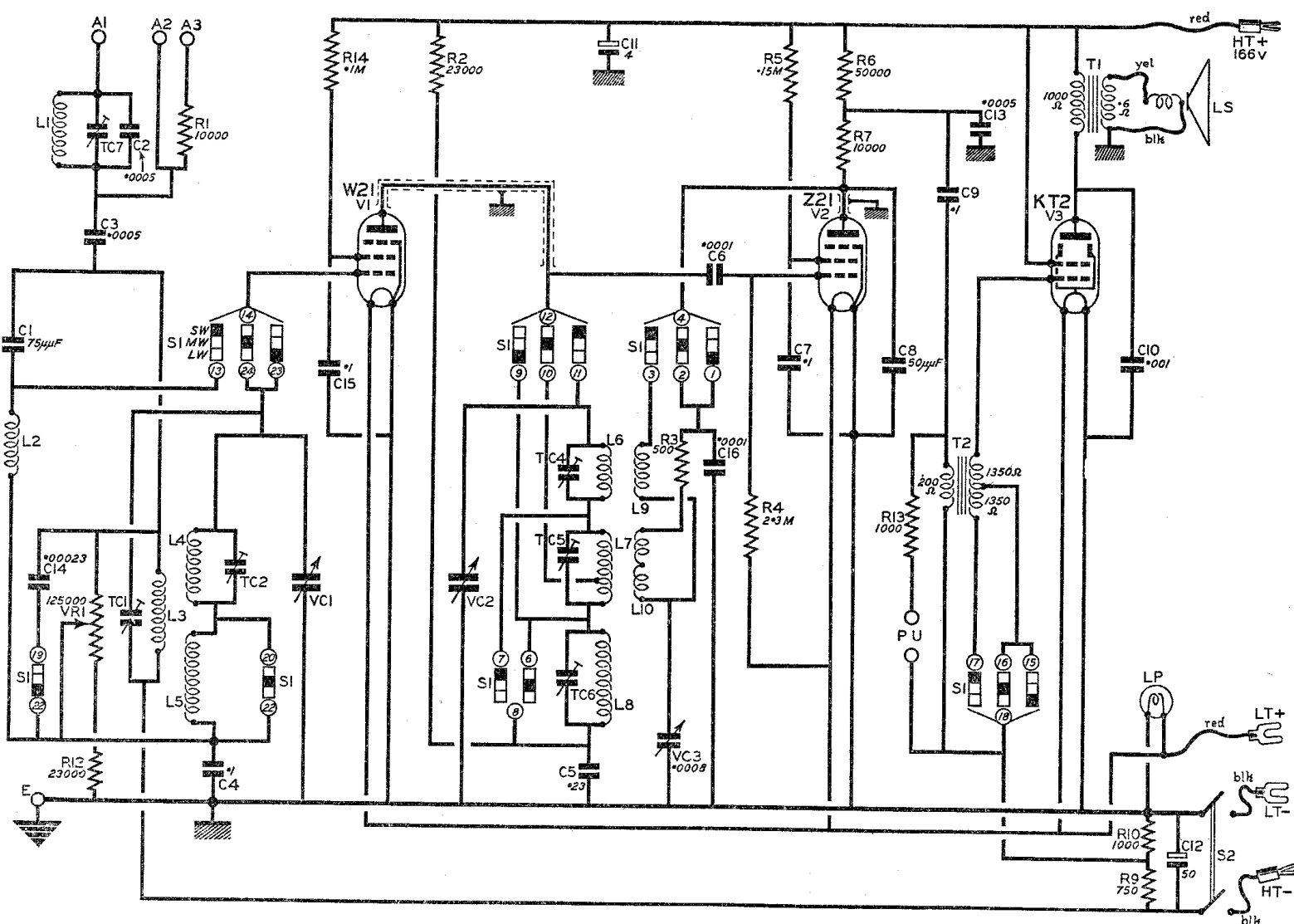


ANODE COIL



AERIAL COIL





### VALVE TABLE

Values  $\pm 15$  per cent. The following were taken with an H.T. battery reading 170 volts between maximum and  $-9$  volt sockets.

Valves.	V1 (W21)	V2 (Z21)	V3 (KT2)
Anode-frame volts ... ..	120*	80	153
Screen-frame volts ... ..	90*	70	158
Anode feed mA ... ..	1.1-0*	0.9	4*
Screen feed mA ... ..	0.4-0*	0.5	0.8*
Bias volts ... ..	12.0*	—	7.0*
Measured ... ..	H.T. — (black) and chassis	—	Junction R9, R10, and chassis

\* Varies with VR1. Where two values are given first is for VR1 at maximum.  
 Total H.T. consumption at  $-9$  volt battery socket 7.7-6.9\* milliamps.  
 Total L.T. consumption—0.5 A.

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
				£ s. d.	
83875	<b>Instructions.</b>				
27784	Warning and valve position label... ..	1	—	0 0 6	Doz.
22291	Instruction card ... ..	1	—	0 0 6	Each.
	Short wave guide ... ..	1	—	0 0 6	"
<b>CABINET PARTS AND FITTINGS</b>					
83430B	<b>Cabinet</b> ... ..	1	Pol	3 10 0	Each.
8195	Rubber foot ... ..	4	—	0 0 8	Doz.
—	Baffle board, with insert nuts ... ..	1	Std	0 3 9	Each.
14922	Insert nut for speaker ... ..	4	CB	0 1 4	"
27659	Ornamental bolt ... ..	2	BzP	0 0 3	"
14761	Ornamental washer ... ..	2	BzP	0 0 7	Doz.
14997	Washer } securing baffle board ... ..	2	WN	0 0 2	"
11627	Nut } ... ..	2	WN	0 0 6	"
9553	Screw } ... ..	4	—	0 0 2	"
28050	Wire mesh ... ..	1	AnBz	0 4 9	Each.
19273	Pin, securing wire mesh to baffle ... ..	4	—	0 0 1	Doz.
—	Felt for wire mesh, $\frac{1}{8}$ -in., 225/82316, S1429... ..	—	—	0 0 9	Sq. ft.
—	Felt for wire mesh, $\frac{1}{4}$ -in., 225/84316, S1459 ... ..	—	—	0 1 0	"
83449	Battery shelf ... ..	1	Std	0 2 9	Each.
15830	Screw securing battery shelf ... ..	4	—	0 0 2	Doz.
14922	Insert nut for battery strap ... ..	1	CB	0 1 4	"
24873	Bracket for cabinet back ... ..	3	CdP	0 0 1	Each.
13268	Bracket for cabinet back ... ..	1	CdP	0 0 1	"
8602	Screw, securing brackets ... ..	8	—	0 0 2	Doz.
27792A	Cabinet back ... ..	1	—	0 3 3	Each.
19896	Screw } securing cabinet back... ..	4	ParB	0 0 1	"
19895	Washer } ... ..	4	ParB	0 0 4	Doz.
18934	Strap, for accumulator ... ..	1	ParB	0 0 2	Each.
18907	Screw ... ..	2	ParB	0 0 8	Doz.
14997	Washer } securing strap... ..	3	ParB	0 0 2	"
11627	Nut } ... ..	1	ParB	0 0 6	"
24780A	Tuning escutcheon with felt ... ..	1	—	0 1 3	Each.
—	Felt, $\frac{1}{16}$ -in., 225/85501, S999 ... ..	—	—	0 0 9	Sq. ft.
23065	Clip } securing tuning escutcheon ... ..	2	—	0 0 9	Doz.
8692	Screw } ... ..	4	WN	0 0 2	"
16578	Cleat, for leads ... ..	1	WN	0 0 6	"
8692	Screw, securing cleat ... ..	1	WN	0 0 2	"
<b>CONTROLS</b>					
17054W	Knob—"Sensitivity" ... ..	1	ChF	0 0 7	Each.
17054F	Knob—"Volume" ... ..	1	ChF	0 0 7	"
17054S	Knob—"Wave-Band" ... ..	1	ChF	0 0 7	"
11805	Screw, P.K., securing knobs ... ..	3	—	0 0 6	Doz.
24371	Knob, tuner, large ... ..	1	—	0 0 7	Each.
24855A	Knob—"Tuner" ... ..	1	ChF	0 0 7	"
11773	Grub screw, securing "tuner" knob ... ..	1	WN	0 0 5	Doz.
<b>LOUDSPEAKER</b>					
24760D	Loudspeaker ... ..	1	—	1 0 0	Each.
24760C	Cone chassis, with two studs and four brackets ... ..	1	CdP	0 2 0	"
24763F	Magnet ... ..	1	—	0 15 6	"
24765	Stud } securing magnet to cone chassis ... ..	4	AcD	0 0 1	"
11635	Nut } ... ..	4	AcD	0 0 6	Doz.
16401D	Speech coil and cone ... ..	1	—	0 4 0	Each.
16010	Cone mounting ring, inner ... ..	1	—	0 0 3	"
16011	Cone mounting ring, outer ... ..	1	—	0 0 1	"
16012	Felt ... ..	1	—	0 0 2	"



Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
<b>LOUDSPEAKER—continued</b>					
16007	Card washer	2	—	£ 0 0 1	Doz.
6314	Washer	2	WN	0 0 2	"
11636	Nut	2	WN	0 0 4	"
12568A	Terminal panel, with two tags	1	—	0 0 4	Each.
11806	Tag	2	—	0 0 7	Doz.
211	Screw, P.K., securing terminal panel to cone chassis	2	—	0 0 6	"
23280	Dust bag	1	—	0 0 6	Each.
11311	Screw	4	ParB	0 0 2	Doz.
14120	Washer	4	WN	0 0 2	"
3167	Washer, S.P.	4	—	0 0 2	"
<b>RADIO UNIT</b>					
27770D	Radio Unit	1	—	6 15 6	Each.
25631	Bolt, 2BA, hex. hd.	4	WN	0 0 9	Doz.
10173	Spring washer	4	—	0 0 2	"
14997	Washer	4	WN	0 0 2	"
11206	Transit screw	4	RedHead	0 0 3	"
10173C	Spring washer	4	—	0 0 2	"
21328	Washer	4	WN	0 0 3	"
<b>INDUCTANCES</b>					
27760A	L1—Wave trap coil	1	—	0 1 6	Each.
12619	Screw, P.K., securing L1 to chassis	1	—	0 0 6	Doz.
24788A	L2—S.W. choke	1	—	0 4 0	Each.
	L3—M.W. and L.W. coupling coil				
	L4—M.W. grid coil				
	L5—L.W. grid coil				
	L6—S.W. anode coil				
24789B	L7—M.W. anode coil	1	—	0 4 0	"
	L8—L.W. anode coil				
	L9—S.W. reaction coil				
	L10—M.W. and L.W. reaction coil				
24355A	T1—Output transformer	1	—	0 4 6	"
18792C	T2—Intervalve transformer	1	—	0 9 6	"
10606	Screw, P.K., securing transformers	4	—	0 0 7	Doz.
<b>RESISTANCES.</b>					
19202F	R1 — 10,000 ohms	1	—	0 0 9	Each.
19202G	R2 — 23,000 ohms	1	—	0 0 9	"
19202A	R3 — 500 ohms	1	—	0 0 9	"
19202AM	R4 — 2.3 megohms	1	—	0 0 9	"
19202AJ	R5 — 150,000 ohms	1	—	0 0 9	"
19202J	R6 — 50,000 ohms	1	—	0 0 9	"
19202F	R7 — 10,000 ohms	1	—	0 0 9	"
17541BZ	R9 — 750 ohms (SL)	1	—	0 1 0	"
17541BB	R10— 1,000 ohms (SL)	1	—	0 1 0	"
19202G	R12— 23,000 ohms	1	—	0 0 9	"
19202B	R13— 1,000 ohms	1	—	0 0 9	"
19202L	R14—100,000 ohms	1	—	0 0 9	"
24752A	VR1 and S2—125,000 ohms volume control and On/Off switch complete with fixing nut and washer	1	—	0 5 0	"
27778	Bracket	1	CdP	0 0 1½	"
8777	Screw, P.K., securing bracket	2	—	0 0 6	Doz.
27781	Extension spindle	1	CdP	0 0 3	Each.
27782	Collar	1	WN	0 0 3	"
11805	Screw, P.K., securing extension spindle to collar	1	—	0 0 6	Doz.
13387	Screw, securing collar to spindle of VR1 and S2	2	WN	0 0 3	"

Part No.	Description	Parts per inst.	Finish	Retail List Price	Per
<b>CONDENSERS</b>					
22001AB	C1 —0.000075 mfd. ...	1	—	£ 0 0 9	Each.
22330P	C2 —0.0005 mfd. (SL) ...	1	—	0 2 6	"
22001E	C3 —0.0005 mfd. ...	1	—	0 0 9	"
24900AA	C4 —0.1 mfd. ...	1	—	0 1 4	"
24900AE	C5 —0.23 mfd. ...	1	—	0 1 9	"
22170B	C6 —100 mmfd. ...	1	—	0 0 9	"
24900AA	C7 —0.1 mfd. ...	1	—	0 1 4	"
22164J	C8 —0.0005 mfd. ...	1	—	0 0 9	"
24900AA	C9 —0.1 mfd. ...	1	—	0 1 4	"
24900A	C10—0.001 mfd. ...	1	—	0 1 0	"
17250E	C11—4.0 mfd. ...	1	—	0 2 6	"
17250F	C12—50.0 mfd, 12 v. D.C. ...	1	—	0 2 6	"
22001E	C13—0.0005 mfd. ...	1	—	0 0 9	"
22001AD	C14—0.00023 mfd. ...	1	—	0 0 9	"
24900AA	C15—0.1 mfd. ...	1	—	0 1 4	"
22170B	C16—100 mmfd. ...	1	—	0 0 9	"
23922B	TC1, TC2—Pre-set condensers ...	1	—	0 2 6	"
23922B	TC4, TC5 and TC6—Triple pre-set condensers ...	1	—	0 2 6	"
11219	Screw	2	WN	0 0 3	Doz.
3166	Washer, S.P. } securing triple pre-set condensers ...	2	—	0 0 2	"
16240D	TC7—Trimmer condenser (wave trap) ...	1	—	0 1 2	Each.
11229	Screw	2	WN	0 0 3	Doz.
1062	Washer	2	WN	0 0 3	"
3166	Washer, S.P. } securing TC7 ...	2	—	0 0 2	"
11629	Nut	2	WN	0 0 6	"
24710G	VC1 and VC2—Two-gang condenser, complete with drive gear ...	1	—	0 16 6	Each.
24717	Bracket ...	1	CdP	0 0 3	"
14791	Screw	2	WN	0 0 4	Doz.
3166	Washer, S.P. } securing bracket to front plate of condenser ...	2	—	0 0 2	"
24718	Distance piece	1	WN	0 0 4	"
11223	Screw	1	WN	0 0 3	"
3166	Washer, S.P. } for stiffening bracket ...	1	—	0 0 2	"
24720A	Spring gear assembly ...	1	—	0 0 9	Each.
24045	Spring ...	2	—	0 0 1	"
24725	Pin, securing spring gear assembly ...	1	WN	0 0 6	Doz.
24050B	Drive mechanism ...	1	—	0 2 0	Each.
24050	Inner spindle ...	1	—	0 0 4	"
25615A	Outer spindle, with pinion ...	1	—	0 1 4	"
24053B	Barrel and flange ...	1	—	0 0 4	"
3540	Ball ...	7	—	0 0 1	Doz.
24057	Washer ...	1	CP	0 0 1	"
24055	Spring ...	1	—	0 0 1	Each.
3522	Ball (large) ...	3	—	0 0 1	Doz.
5183	Circlip ...	1	WN	0 0 2	"
8777	Screw, P.K. } securing drive mechanism to bracket ...	2	—	0 0 6	"
3166	Washer, S.P. }	2	—	0 0 2	"
11219	Screw	3	WN	0 0 3	"
3166	Washer, S.P. } securing two-gang condenser assembly to chassis ...	3	—	0 0 2	"
27777A	VC3—Reaction condenser and drive ...	1	—	0 9 3	Each.
10611V	VC3—Reaction condenser ...	1	—	0 3 9	"
24833M	Drive mechanism ...	1	—	0 4 3	"
24833A	Base ...	1	—	0 0 6	"
27774	Inner spindle ...	1	—	0 0 6	"
26114	Outer spindle ...	1	CP	0 1 0	"
3658	Ball ...	3	—	0 0 2	Doz.
24832	Ball retaining washer ...	2	—	0 0 1	Each.
24834	Ring... ...	1	WN	0 0 9	Doz.
11328	Screw	4	WN	0 0 2	"
25092	Spring } securing ring to base ...	4	—	0 0 6	"
27777	Bracket ...	1	CdP	0 0 7½	Each.
12441	Nut	2	AcD	0 0 1	"
3910	Washer, S.P. } securing VC3 to bracket ...	1	—	0 0 2	Doz.
11223	Screw	2	WN	0 0 3	"
3166	Washer, S.P. } securing drive mechanism to bracket ...	2	—	0 0 2	"
11628	Nut	2	WN	0 0 4	"
27776	Washer ...	1	WN	0 0 3	"

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
<b>CONDENSERS—continued</b>					
27775	Collar ... ..	1	WN	£ s. d. 0 0 3	Each.
11805	Screw, P.K., securing collar to spindles of VC3 and drive mechanism ...	2	—	0 0 6	Doz.
14791	Screw	2	WN	0 0 4	"
3166	Washer, S.P. } securing VC3 assembly to chassis ... .. }	2	—	0 0 2	"
<b>SWITCHES</b>					
27780A	S1—Wave-change switch, complete with nut and washer ... ..	1	—	0 6 0	Each.
12619	Screw, P.K., securing screen of switch to chassis ... ..	3	—	0 0 6	Doz.
<b>TUNING DETAILS</b>					
24730A	Scale frame assembly ... ..	1	WMEn	0 1 9	Each.
8777	Screw, P.K., securing scale frame assembly ... ..	4	Loc	0 0 6	Doz.
24739B	Indicator assembly ... ..	1	—	0 0 6	Each.
24767	Wave band indicator ... ..	1	—	0 0 3	"
21276	Eyelet, securing indicator ... ..	4	—	0 0 1	Doz.
24749A	Indicator operating lever ... ..	1	WN	0 0 3	Each.
13387	Screw, securing lever to spindle of S1 ... ..	2	WN	0 0 3	Doz.
24740B	Tuning scale (printed) ... ..	1	—	0 2 6	Each.
24741	Glass ... ..	2	—	0 0 2	"
24742	Clamp	2	CdP	0 0 9	Doz.
24194	Rubber	2	—	0 0 3	"
24774	Clamp, long } securing tuning scale and glass ... .. }	1	CdP	0 0 9	"
24745	Rubber, long	1	—	0 0 6	"
211	Screw, P.K.	4	—	0 0 6	"
11219	Screw	1	WN	0 0 3	"
23983	Washer } securing bottom of scale ... .. }	1	WN	0 0 3	"
3166	Washer, S.P.	1	—	0 0 2	"
24728A	Pointer ... ..	1	CB	0 0 2	Each.
13893	Screw, securing pointer ... ..	2	WN	0 0 8	Doz.
22238D	Lampholder ... ..	1	—	0 1 0	Each.
22704B	Lamp ... ..	1	—	0 0 9	"
<b>VALVE HOLDERS, SCREENS, PANELS, &amp;c.</b>					
26000A	Valveholder, 4-pin, for V1 ... ..	1	—	0 0 3	Each.
26000B	Valveholder, 5-pin, for V3 ... ..	1	—	0 0 4	"
27766B	Anti-micro valveholder for V2 with fixing studs ... ..	1	—	0 0 9	"
27772A	A.E. and P.U. panel, with six sockets ... ..	1	—	0 0 6	"
18297	Rivet, securing panel ... ..	3	—	0 0 1	Doz.
22536A	Panel with four tags, for resistances and condensers ... ..	1	—	0 0 3	Each.
10400	Tag ... ..	4	—	0 0 1	Doz.
22539	Backing insulation ... ..	1	—	0 0 1	Each.
19287	Rivet, securing panel ... ..	2	—	0 0 1	Doz.
24017A	Tag panel, with five tags ... ..	2	—	0 0 3	Each.
24020A	Tag panel, with three tags ... ..	1	—	0 0 2	"
12619	Screw, P.K.	4	—	0 0 6	Doz.
10606	Screw, P.K. (larger) } securing tag panels ... .. }	1	—	0 0 7	"
24768	Coil spacer ... ..	2	—	0 0 5	"
21337A	Coil screen ... ..	2	—	0 1 0	Each.
8777	Screw, P.K., securing coil screens ... ..	4	—	0 0 6	Doz.
19897	Clip for top of V1 and V2 ... ..	2	—	0 0 1	Each.
16755	Insulation bush (small) ... ..	7	—	0 0 1	"
16756	Insulation bush ... ..	1	—	0 0 1	"
16757	Insulation bush (large) ... ..	1	—	0 0 1	"
7155	Cleat ... ..	4	WN	0 0 1	"
15159	Tag ... ..	1	—	0 0 3	Doz.
16576	Long tag ... ..	3	—	0 0 3	"
27787A	Battery lead with two tags and two plugs ... ..	1	—	0 2 6	"
8519	Tag ... ..	2	—	0 0 1	"
3475G	Plug, yellow ... ..	2	—	0 0 1½	"
16289J	Aerial plug, yellow ... ..	1	—	0 0 2	Each.
16289B	Earth plug, black ... ..	1	—	0 0 2	"

**" FINISH " CODE**

AcD	...	...	...	...	Acid Dip.	ParB	...	...	...	...	Parkerised Black.
AnBz	...	...	...	...	Antique Bronze.	Pol	...	...	...	...	Polished.
CB	...	...	...	...	Camera Black.	Std	...	...	...	...	Standard.
CdP	...	...	...	...	Cadmium Plate.	WN	...	...	...	...	White Nickel.
ChF	...	...	...	...	Chrome Filled.	WME <sub>n</sub>	...	...	...	...	White Matt Enamel.
CP	...	...	...	...	Copper Plate.						

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In order to expedite delivery of spare part orders, please quote :—

1. Model number and serial number.
2. Spare part number, description, and " finish " as given in the above list.
3. Quantity required.

Unless full particulars are quoted, delay in the execution of orders must inevitably result.

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