TECHNICAL INFORMATION AND SERVICE DATA

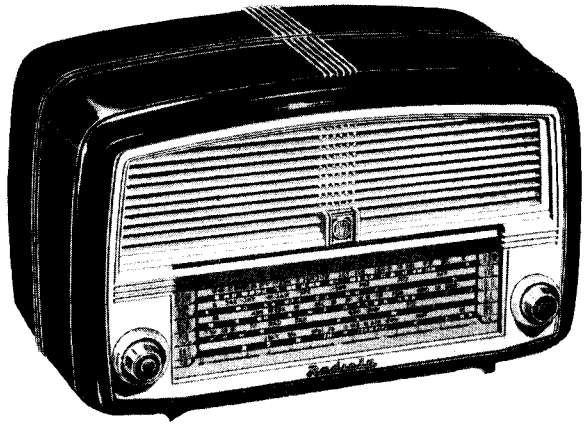
AWA RADIOLA

Model 573–MA

FIVE VALVE, BROADCAST, A.C. OPERATED SUPERHETERODYNE

ISSUED BY:

AMALGAMATED WIRELESS (AUSTRALASIA) LTD.



ELECTRICAL SPECIFICATIONS

Frequency Range	540-1600 Kc/s. (555-187.5 Metres)
Intermediate Frequency	455 Kc/s.
Power Supply Rating	200-260 volts 50-60 C.P.S.

(Models are produced with other voltage and frequency ratings)

Power Consumption	40 watts
Loudspeaker	7" x 5" Permanent Magnet

Part No. 20922.
Transformer 20976.
V.C. Impedance 3 ohms at 400 C.P.S.

Undistorted Power Output	3 watts

Valve Complement:

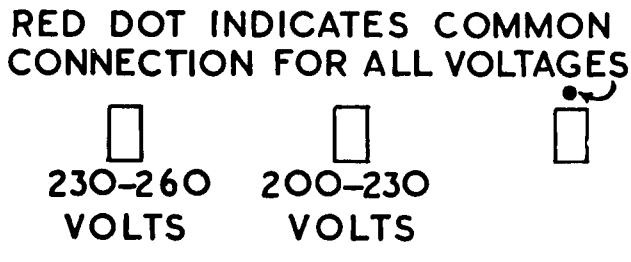
(1) 6BE6 Converter.
(2) 6BA6 I.F. Amplifier
(3) 6AV6 A.F. Amplifier, Detector, A.V.C.
(4) 6AQ5 Output.
(5) 6X4 Rectifier.

Dial Lamps	6.3 volt 0.25 Amp. M.E.S.

Connection to Power Supply:

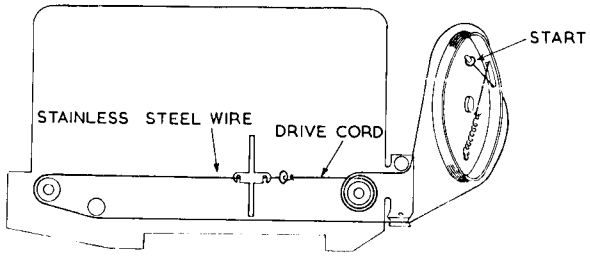
The receiver should not be connected to any circuit supplying other than alternating current from 200-260 volts and at the frequency stated on the label inside the cabinet.

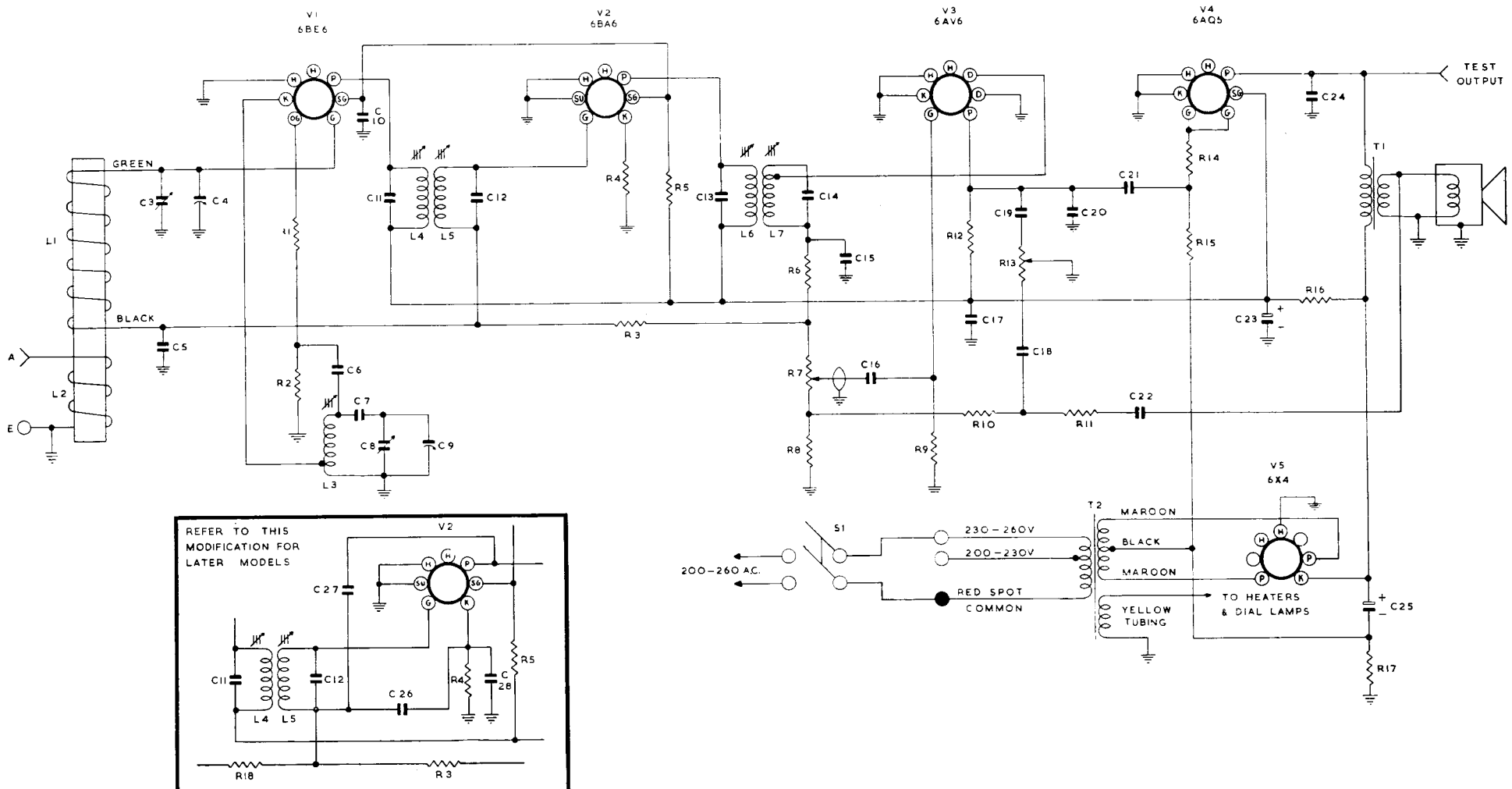
The power supply connections are shown in the accompanying diagram.



Tuning Drive Cord Replacement:

The accompanying diagram shows the route of the cord and the method of attachment.




V1
6BE6
V2
6BA6
V3
6AV6
V4
6AQ5
V5
6X4
TEST
OUTPUT
GREEN
BLACK
A
E
L1
L2
L3
L4
L5
L6
L7
T1
T2
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
C17
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
S1
200–260 A.C.
230–260V
200–230V
RED SPOT
COMMON
MAROON
BLACK
MAROON
YELLOW
TUBING
TO HEATERS
& DIAL LAMPS
REFER TO THIS
MODIFICATION FOR
LATER MODELS

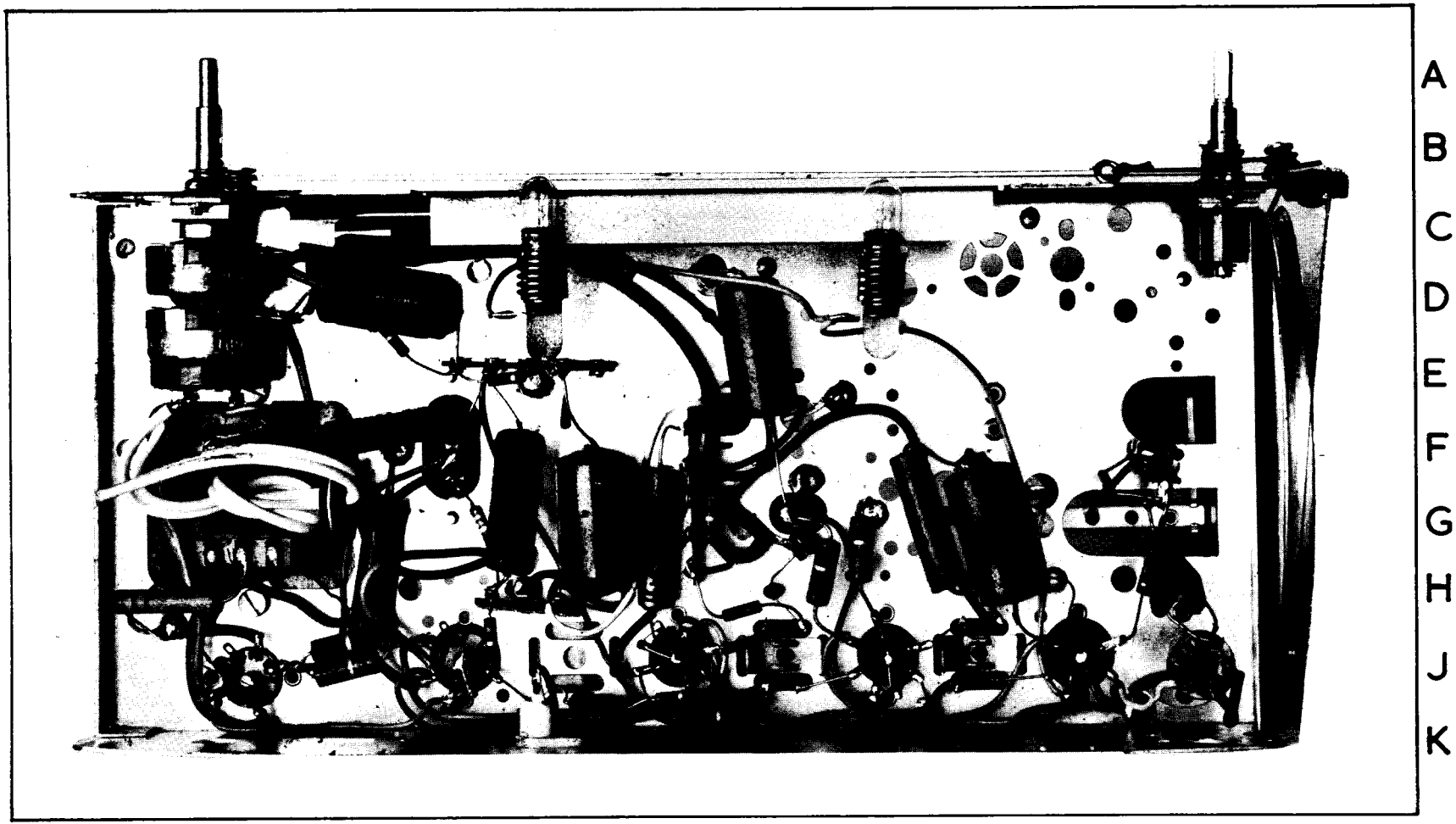

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H J K
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H J K

FIG. 2.

ALIGNMENT PROCEDURE

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Re-alignment should be necessary only when components in tuned circuits are repaired or replaced, or when it is found that the seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and can be re-adjusted only by skilled operators using special equipment.

For all alignment operations, connect the low side of the signal generator to the receiver chassis and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments:

(1) A.W.A. Junior Signal Generator, type 2R7003, or

(2) A.W.A. Modulated Oscillator, series J6726.
If the modulated oscillator is used, connect a 0.25 megohm non-inductive resistor across the output terminals.

(3) A.W.A. Output Meter, type 2M8832.

ALIGNMENT TABLE

Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for Maximum Peak Output:
1	Aerial Section of Gang (Rear End)	455 Kc/s.	540 Kc/s.	L7 Core.
2	Aerial Section of Gang (Rear End)	455 Kc/s.	540 Kc/s.	L6 Core.
3	Aerial Section of Gang (Rear End)	455 Kc/s.	540 Kc/s.	L5 Core.
4	Aerial Section of Gang (Rear End)	455 Kc/s.	540 Kc/s.	L4 Core.
	Repeat the above adjustments until the maximum output is obtained.			
5	Inductively coupled to Rod Aerial*	600 Kc/s.	600 Kc/s.	L.F. Osc. Core Adj. (L3)†
6	Inductively coupled to Rod Aerial*	1500 Kc/s.	1500 Kc/s.	H.F. Osc. Adj. (C8)
7	Inductively coupled to Rod Aerial*	1500 Kc/s.	1500 Kc/s.	H.F. Aer. Adj. (C3)
	Repeat adjustments 5, 6 and 7.			

*A coil comprising 3 turns of 16 gauge D.C.C. wire and about 12 inches in diameter should be connected between the output terminals of the test instrument, placed concentric with the rod aerial and distant not less than 1 foot from it.

†Rock the tuning control back and forth through the signal.

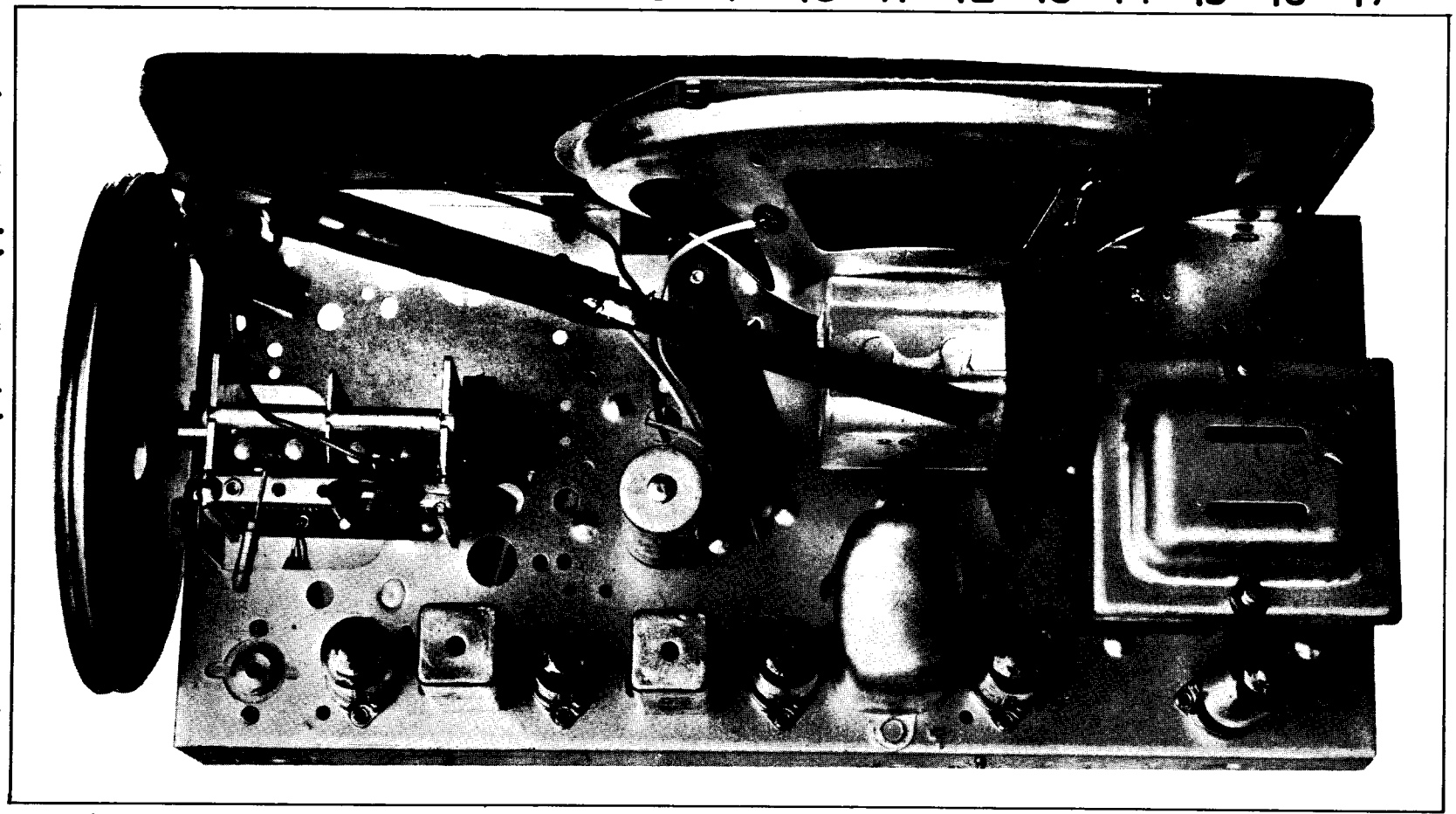


FIG. 1.

D.C. RESISTANCE OF WINDINGS

Winding	D.C. Resistance in ohms
Ferrite Aerial Assembly:	
Primary (L1)	*
Secondary (L2)	1
Oscillator Coil (L3)	3.5
I.F. Transformer Windings	15
Power Transformer (T2):	
Primary	50
Secondary	350
Loudspeaker Input Transformer (T1):	
Primary	525 or 430
Secondary	*

*Less than 1 ohm.

The above readings were taken on a standard chassis but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

SOCKET VOLTAGES

Valves	Cathode to Chassis Volts:	Screen Grid to Chassis Volts:	Anode to Chassis: Volts:	Anode Current mA:	Volts: Heater
6BE6 Converter	—	85	165	2	6.3
6BA6 I.F. Amp.	1.5	85	165	4.5	6.3
6AV6 Det., A.F. Amp., A.V.C.	—	—	80	1	6.3
6AQ5 Output	—	165	240	29	6.3
6X4 Rectifier	250	—	235/235 A.C. R.M.S.		6.3

Volts across Back-bias resistor R17 = 7.5.

Total H.T. Current = 50 ma.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise.

Voltmeter **20,000** ohms per volt; measurements taken on highest scale giving accurate readable deflection.

MECHANICAL REPLACEMENT PARTS

ITEM	PART No.
Bearing Post (Pulley No. 31365)	31366
Bracket (Tuning Capacitor)	33377
Bracket (Tuning Spindle and Volume Control)	33378
Cabinet Back (including moulded brackets)	34352
Cabinet Front (including Fret, Medallion, Nameplate and Retainers)	33350
Clip (Retaining I.F.'s)	27780
Clip (Retaining Loudspeaker)	33379
Cover Plate (Oscillator Coil Mounting)	33383
Cover (Power Transformer)	20150
Dial Scale	32233D
Dial Scale Assembly	34570
Drive Cord	32812/2
Drive Drum Assembly	31381
Fret Cloth (Mattis)	33395
Fret Cloth (Plastic)	34525
Grommet (Gang)	33389
Grommet (Power Cable)	32813
Knob (Volume and Tuning) (Large)	34138
Knob (Tone and Tuning) (Small)	34137
Lamp Holder	33580
Light Shield (Ivory Cabinets only)	34537
Nut (Retaining Volume Control)	5926
Pointer Assembly	34153
Power Cable	15940
Pulley, Drive Cord (3) (Small)	31365
Pulley (Volume Control Spindle)	34148
Rod Aerial Support Assembly	34500
Screw (Cabinet Mounting)	33391
Screw (Mounting Oscillator Coil)	31373
Spacer (Gang Mounting)	33398
Spacer Wood (Loudspeaker)	33362
Spindle Assembly (Drive)	34159
Spring (Drive)	1741
Strap Mounting (Mounting Chassis in Cabinet)	33376
Strap (2) (Underneath Cabinet)	34556
Terminal Panel 2 way	32822
Terminal Panel 3 way	32824
Terminal Panel 5 way (2)	32821
Valve Socket Assembly, 7 pin	Code No. 794576
Volume Control Cable	33579
Washer (Gang Mounting)	15735
Washer (Oscillator Coil Mounting)	7910

When ordering, always quote the above part numbers or code numbers, and in the case of coloured parts such as cabinets, knobs, etc., the colour plus the part number.

CIRCUIT CODE, RADIOLA 573-MA

Code No.	Description	Part No.	Fig. No.	Location
	INDUCTORS			
L1, L2	Ferrite Aerial Assembly	34327B	1	C7
L3	Oscillator Coil 540-1600 Kc/s	32406	2	J16
L4, L5	1st I.F. Transformer	27351	1	H6
L6, L7	2nd I.F. Transformer	27353	1	H8
	RESISTORS			
R1	100 ohms ½ watt		2	H16
R2	22,000 ohms ½ ,,		2	F15
R3	1.5 megohms ½ ,,		2	G9
R4	220 ohms 1 ,,		2	G12
R5	10,000 ohms 1 ,,		2	H11
R6	47,000 ohms ½ ,,		2	H10
R7	0.5 megohm Volume Control	32809/3	2	C3
R8	100 ohms ½ watt		2	H9
R9	10 megohms ½ ,,		2	J9
R10	680 ohms ½ ,,		2	D5
R11	680 ohms ½ ,,		2	E7
R12	0.22 megohm 1 ,,		2	K10
R13	0.1 megohm Tone Control (incl. S1)	32809/3	2	D3
R14	47,000 ohms ½ watt		2	J7
R15	0.47 megohm ½ ,,		2	G6
R16	5,000 ohms 2 watts		2	J5
R17	150 ohms 1 watt		2	H2
	CAPACITORS			
C1	Not Used			
C2	Not Used			
C3	4-27 $\mu\mu$F trimmer	33304	1	F5
C4	12-445 $\mu\mu$F tuning	18685	1	F5
C5	0.05 μF paper 200V working		2	G13
C6	47 $\mu\mu$F mica		2	H16
C7	440 $\mu\mu$F padder $\pm$ 2½%		2	H16
C8	8-40 $\mu\mu$F trimmer		1	G3
C9	12-445 $\mu\mu$F tuning	18685	1	F3
C10	0.1 μF paper 400V working		2	G13
C11	100 $\mu\mu$F silvered mica (in 1st I.F.)		1	H6
C12	100 $\mu\mu$F silvered mica (in 1st I.F.)		1	H6
C13	100 $\mu\mu$F silvered mica (in 2nd I.F.)		1	H8
C14	100 $\mu\mu$F silvered mica (in 2nd I.F.)		1	H8
C15	220 $\mu\mu$F ceramic		2	H10
C16	.01 μF paper 600V working		2	G9
C17	0.1 μF paper 400V working		2	E10
C18	0.25 μF paper 200V working		2	D5
C19	0.01 μF paper 600V working		2	E5
C20	100 $\mu\mu$F mica		2	J8
C21	0.05 μF paper 400V working		2	G7
C22	0.4 μF paper 200V working		2	G8
C23	24 μF 350 P.V. Electrolytic		1	F8
C24	0.0025 μF paper 600V working		2	H5
C25	24 μF 350 P.V. Electrolytic		1	E13
	TRANSFORMERS			
T1	Loudspeaker Transformer	20976	1	G11
T2	Power Transformer, 50 C.P.S.	25807G	1	F15
	40 C.P.S.	25809G		
	LOUDSPEAKER			
	7 x 5 inches Permanent Magnet	20922	1	B11
	SWITCHES			
S1	Power Switch (on R13)		2	D3