

TECHNICAL INFORMATION
AND
SERVICE DATA

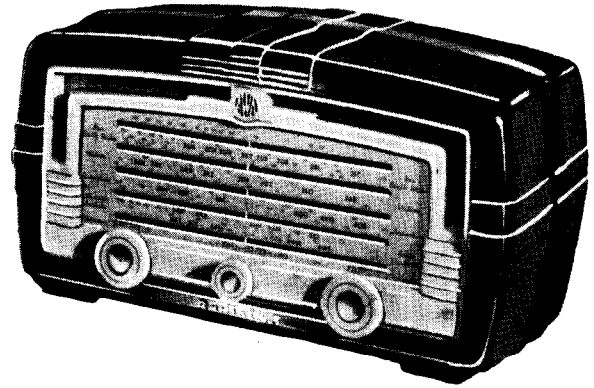
AWA RADIOLA

Model 565-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:

5 inch permanent magnet.
Part No. 20874.
Transformer Part. No. 31772E.
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 Detector, A.F. Amplifier, A.V.C.
- (4) 6AQ5 Output.
- (5) 6X4 Rectifier.

Chassis Removal:

(1) Remove the control knobs by pulling them straight off their spindles.

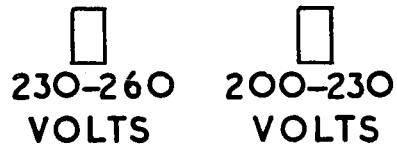
(2) Remove two nuts from the top of the cabinet back, two screws from underneath the cabinet back and withdraw it.

(3) The chassis is held to the cabinet front by two screws situated under it. Removal of these enables the chassis to be withdrawn.

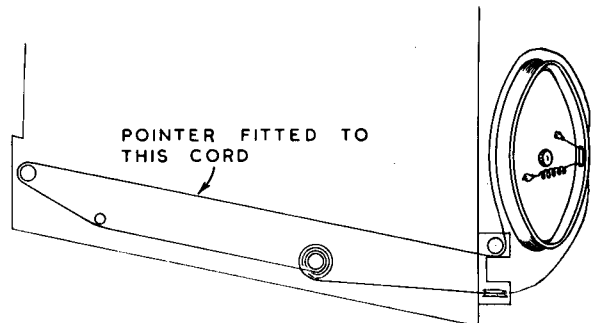
Connection to Power Supply:

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.

RED DOT INDICATES COMMON CONNECTION FOR ALL VOLTAGES.

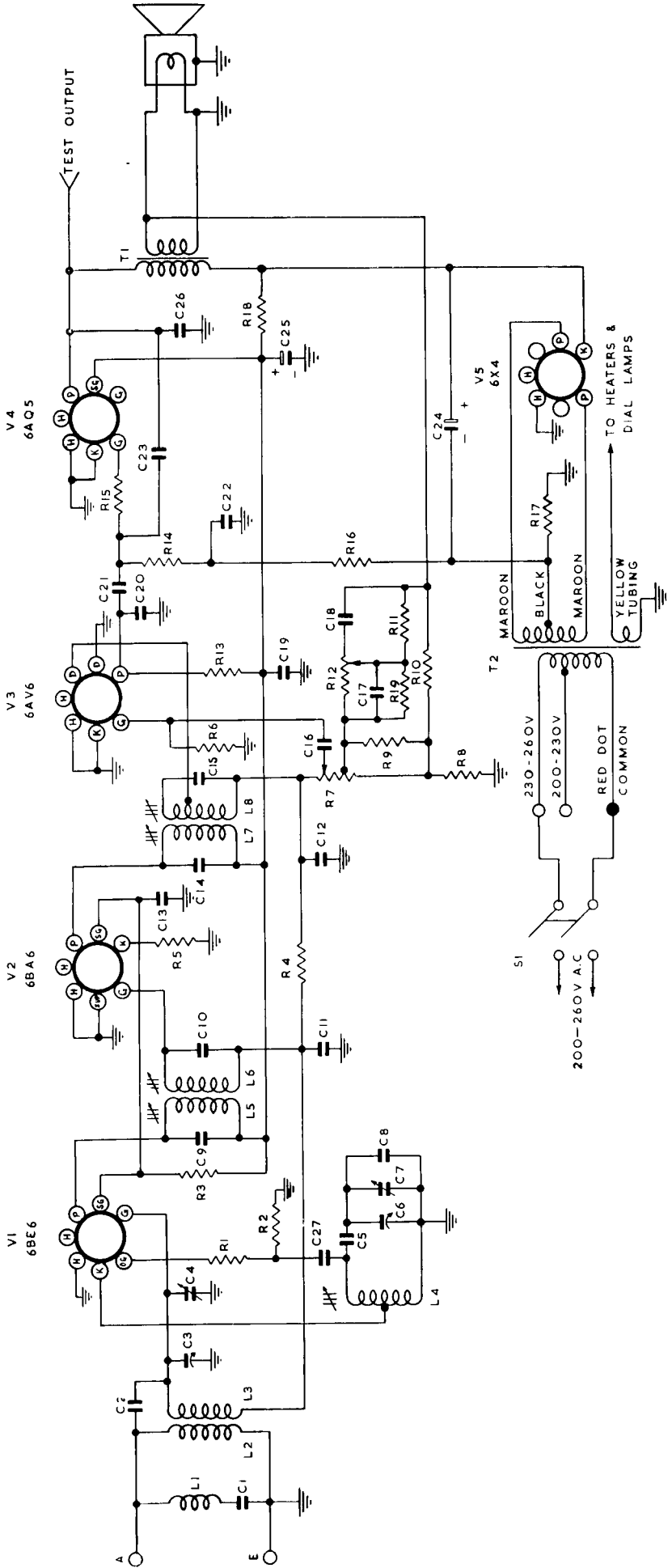


The power supply connections are shown in the accompanying diagram.



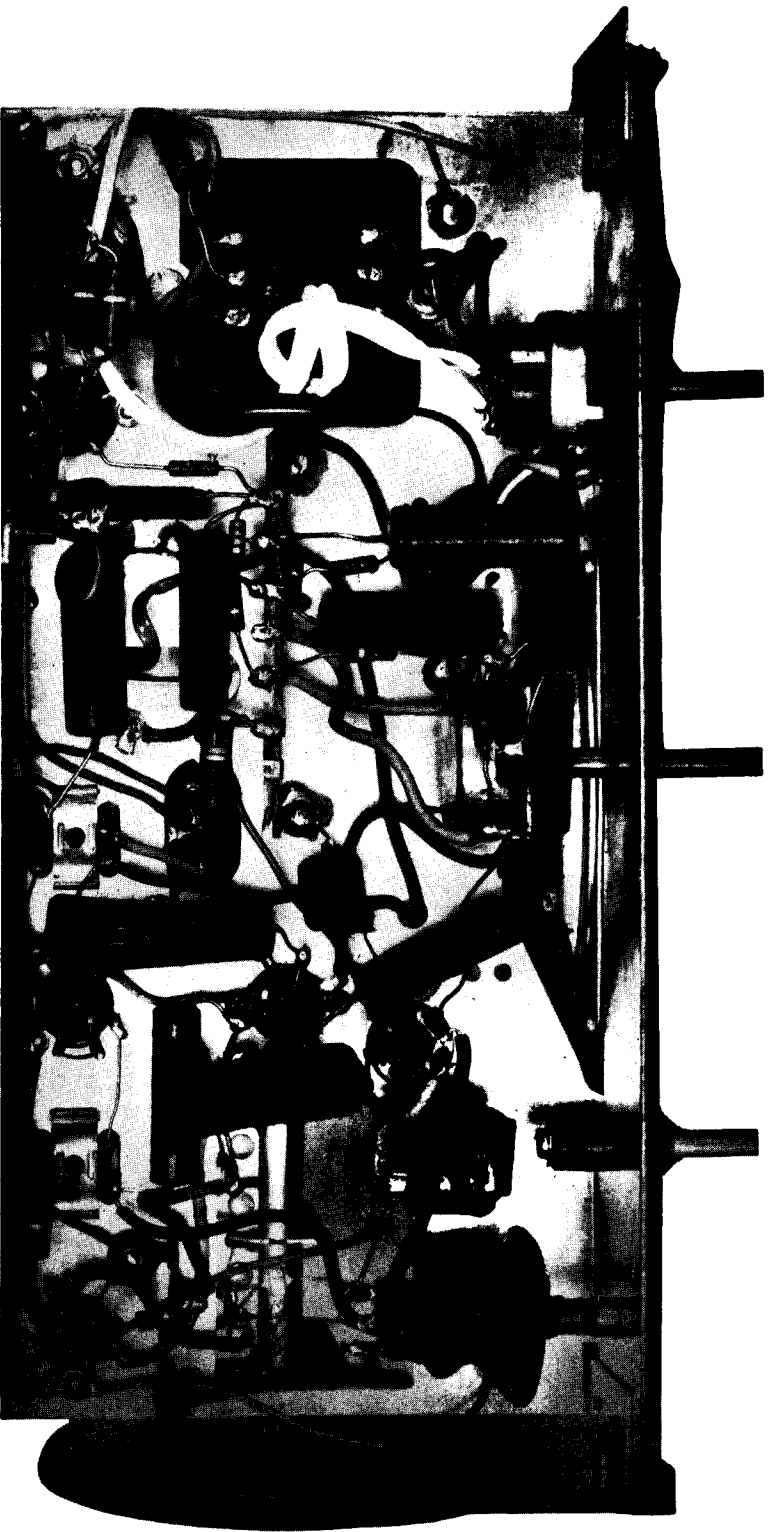
Tuning Drive Cord Replacement:

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



A B C D E F G H I J K

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



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 I 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. Realignment 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 cannot be readjusted unless 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.

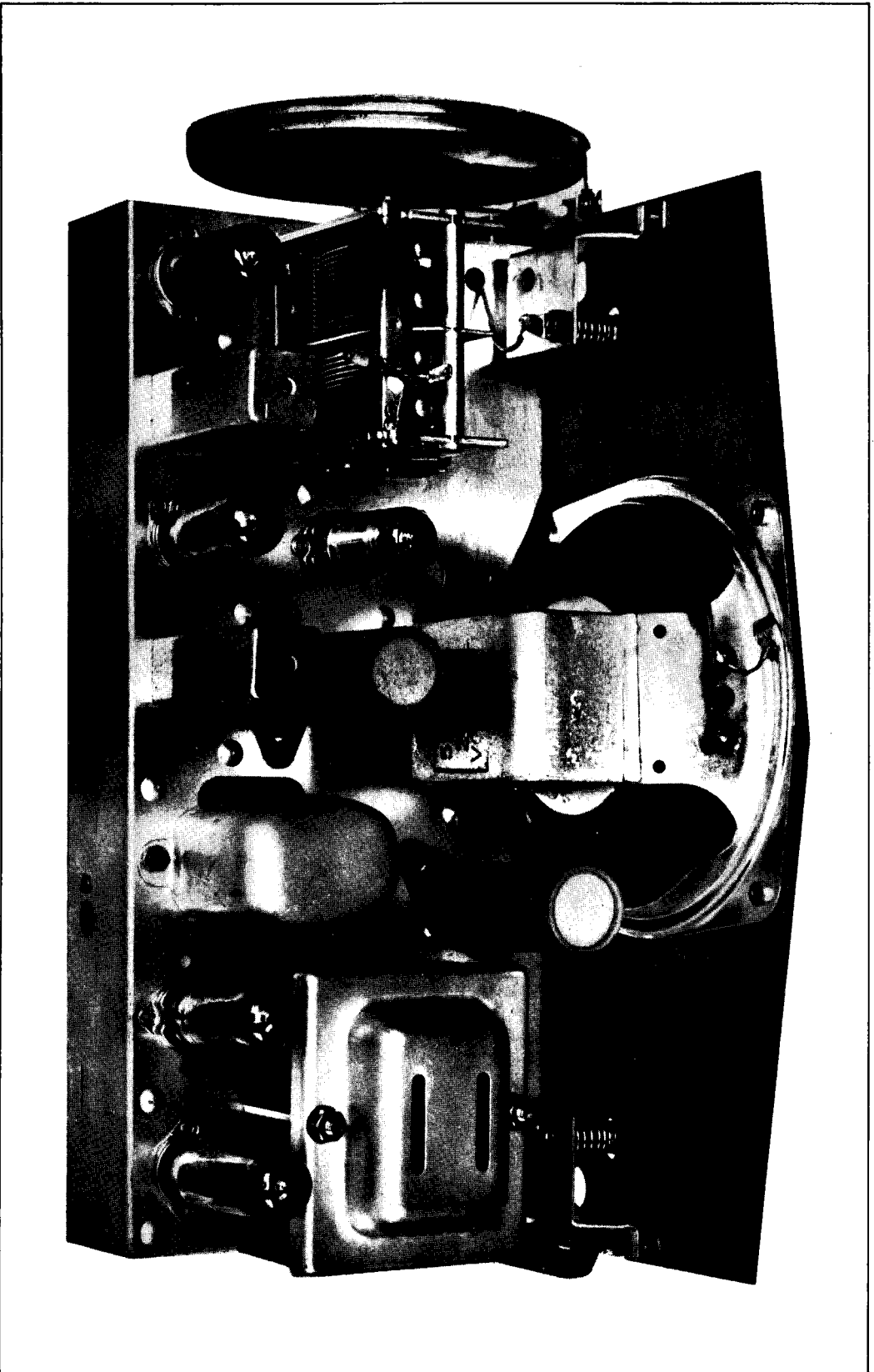
ALIGNMENT TABLE

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 (Drive End)	455 Kc/s.	540 Kc/s. (4QL)	L8 Core
2	Aerial Section of Gang (Drive End)	455 Kc/s.	540 Kc/s. (4QL)	L7 Core
3	Aerial Section of Gang (Drive End)	455 Kc/s.	540 Kc/s. (4QL)	L6 Core
4	Aerial Section of Gang (Drive End)	455 Kc/s.	540 Kc/s. (4QL)	L5 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Lead	600 Kc/s.	600 Kc/s. (7ZL)	L.F. Osc. Core Adj. (L4)*
6	Aerial Lead	1500 Kc/s.	1500 Kc/s. (3AK)	H.F. Osc. Adj. (C7)
7	Aerial Lead	1500 Kc/s.	1500 Kc/s. (3AK)	H.F. Aer. Adj. (C4)
Repeat adjustments 5, 6 and 7.				

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

A B C D E F G H I J K L

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 I J K L

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

FIG. 1.

MECHANICAL REPLACEMENT PARTS

Cabinet Back	32412
Cabinet Body	32410
Grille and Scale Assembly	31902
Knob, Tone, Tuning	31341
Knob, Volume	31342
Nameplate	27748
Nameplate, numeral	33102
Pointer	31346
Valve Socket Assembly	19965

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

D.C. RESISTANCE OF WINDINGS

Winding	D.C. Resistance in ohms.
Aerial Coil:	
Primary (L2)	3
Secondary (L3)	2
Oscillator Coil (L4)	5
I.F. Filter (L1)	17.5*
I.F. Transformer Windings	15
Power Transformer (T2)	
Primary	50
Secondary	450
Loudspeaker Input Transformer (T1)	
Primary	425 or 430
Secondary	†

† Less than 1 ohm.

* In some receivers this reading may be as high as 60 ohms.

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:	Heater Volts:
6BE6 Converter	—	85	165	1.8	6.3
6BA6 I.F. Amp.	1.6	85	165	5.5	6.3
6AV6 Det., A.F. Amp., A.V.C.	—	—	80*	0.3	6.3
6AQ5 Output	—	165	250	28	6.3
6X4 Rectifier	255	—	245/245 AC. R.M.S.	—	6.3

Volts across back-bias resistor R14 = 8 volts.

Total H.T. Current = 48 mA.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise. Voltmeter 1000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

* This reading may vary depending on the resistance of the voltmeter used.

CIRCUIT CODE — RADIOLA 565MA

Code No.	Description	Part No. Fig. No.	Location	Code No.	Description	Part No. Fig. No.	Location
INDUCTORS							
L1	I.F. Filter (including C1)	9382	E14	C4	2-20 μ F Trimmer (on gang)		G3
L2, L3	Aerial Coil 540-1600 Kc/s.	30768	D16	C5	440 μ F padder $\pm 2\frac{1}{2}\%$		G13
L4	Oscillator Coil 540-1600 Kc/s.	32406	E13	C6	12-445 μ F Tuning	18679	G6
L5, L6	1st I.F. Transformer	27351	J5	C7	2-20 μ F Trimmer (on gang)		G5
L7, L8	2nd I.F. Transformer	27353	J9	C8	9 μ F mica (not used in later models)		G5
RESISTORS							
R1	100 ohms	$\frac{1}{2}$ watt	H16	C9	100 μ F Silvered Mica (in 1st I.F.)		J5
R2	22,000 ohms	"	H17	C10	100 μ F Silvered Mica (in 1st I.F.)		J5
R3	10,000 ohms	"	J15	C11	0.05 μ F paper 200V working		H13
R4	2.2 megohms	"	D12	C12	220 μ F ceramic		H11
R5	220 ohms	"	J12	C13	0.05 μ F paper 400V working		G11
R6	10.0 megohms	"	G12	C14	100 μ F Silvered Mica (in 2nd I.F.)		J9
R7	0.5 megohms Volume Control (Tapped at 40,000 ohms)		D9	C15	100 μ F Silvered Mica (in 2nd I.F.)		J9
		27145		C16	0.01 μ F paper 600V working		D11
R8	50 ohms	$\frac{1}{2}$ watt	C9	C17	0.1 μ F paper 200V working		C7
R9	2,200 ohms	"	D9	C18	0.1 μ F paper 200V working		D7
R10	1,000 ohms	"	F7	C19	0.05 μ F paper 400V working		J8
R11	2,200 ohms	"	G7	C20	100 μ F mica		F11
R12	0.1 megohm Tone Control (including S1)		C5	C21	0.025 μ F paper 400 V working		G8
		26441		C22	0.1 μ F paper 200 V working		E8
R13	0.27 megohms	1 watt	G9	C23	9 μ F mica		H6
R14	0.47 megohms	"	G7	C24	24 μ F 350 P.V. Electrolytic		E12
R15	47,000 ohms	"	G6	C25	24 μ F 350 P.V. Electrolytic		G9
R16	0.47 megohms	"	F7	C26	0.0025 μ F paper 600 V working		J3
R17	150 ohms	"	H2	C27	47 μ F Silvered Mica (added in later models)		
R18	5,000 ohms	"	H4	TRANSFORMERS			
R19	10,000 ohms	"	E8	T1	Loudspeaker Transformer	XA2	H12
CAPACITORS							
C1	47 μ F Silvered Mica		E14	T2	Power Transformer 50-60 C.P.S.	25807	F15
C2	6.8 μ F Ceramic		F15		40 C.P.S.	25809	
C3	12-445 μ F Tuning		G4	S1	LOUDSPEAKERS 5" permanent magnet SWITCHES Power switch (on R12)	20875	C10