

TECHNICAL INFORMATION AND SERVICE DATA

AWA RADIOLA

Model 562-GF

**FIVE VALVE, TWO BAND,
32 VOLTS D.C. OPERATED SUPERHETERODYNE**

ISSUED BY:

AMALGAMATED WIRELESS (AUSTRALASIA) LTD.



ELECTRICAL SPECIFICATIONS

Frequency Ranges:

Medium Wave 540-1600 Kc/s.
(555-187.5 Metres)

Short Wave 6-18 Mc/s.
(50-16 Metres)

Intermediate Frequency 455 Kc/s.

Dial Lamps 6.3 volts, 0.25 Amp. M.E.S.

Fuses 5 Amp. Cartridge

Valve Complement:

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

Vibrator Power Unit 26671

Vibrator Cartridge V6732

Loudspeaker:

12 inch permanent magnet.
Part No. 20767.
Transformer TU201.
V.C. Impedance 6.5 ohms at 400 C.P.S.

Undistorted Power Output 2.5 watts

General Description:

The model 562-GF is a 5 valve, two band, 32 volts D.C. operated Phono/Radio superheterodyne and features of its design include:—Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and broadcast oscillator coil, air-dielectric trimming capacitors, straight-line edge lighted perspex dial scale.

The model also incorporates the Garrard RC75A which is designed to play 33½, 45 and 78 r.p.m. records. The record changer features a D.C. motor and simple construction with minimum of working parts, ensuring trouble-free service.

Connection to Power Supply:

The receiver will not operate unless it is connected to the power point in the correct polarity. It is necessary, therefore, that all power points to which the receiver may be connected are wired with the same polarity. The plug should be wired to the receiver power cable so that the red wire connects to the positive side of the supply and the black wire to the negative side.

A warning is given on the use of "Double Adaptors", which normally have one outlet in the reverse polarity to the other. If the use of a "Double Adaptor" is essential, the outlet with the correct polarity only should be used for the receiver.

Interference Suppression:

If the receiver is in operation whilst the motor generator is running some form of suppression will generally be necessary to reduce interference which is radiated from the generator and picked up by the receiver aerial.

It is recommended that the following be carried out:—

To each generator brush connect one end of a 0.5 µF capacitor. Then connect the other ends of the capacitors to the generator housing.

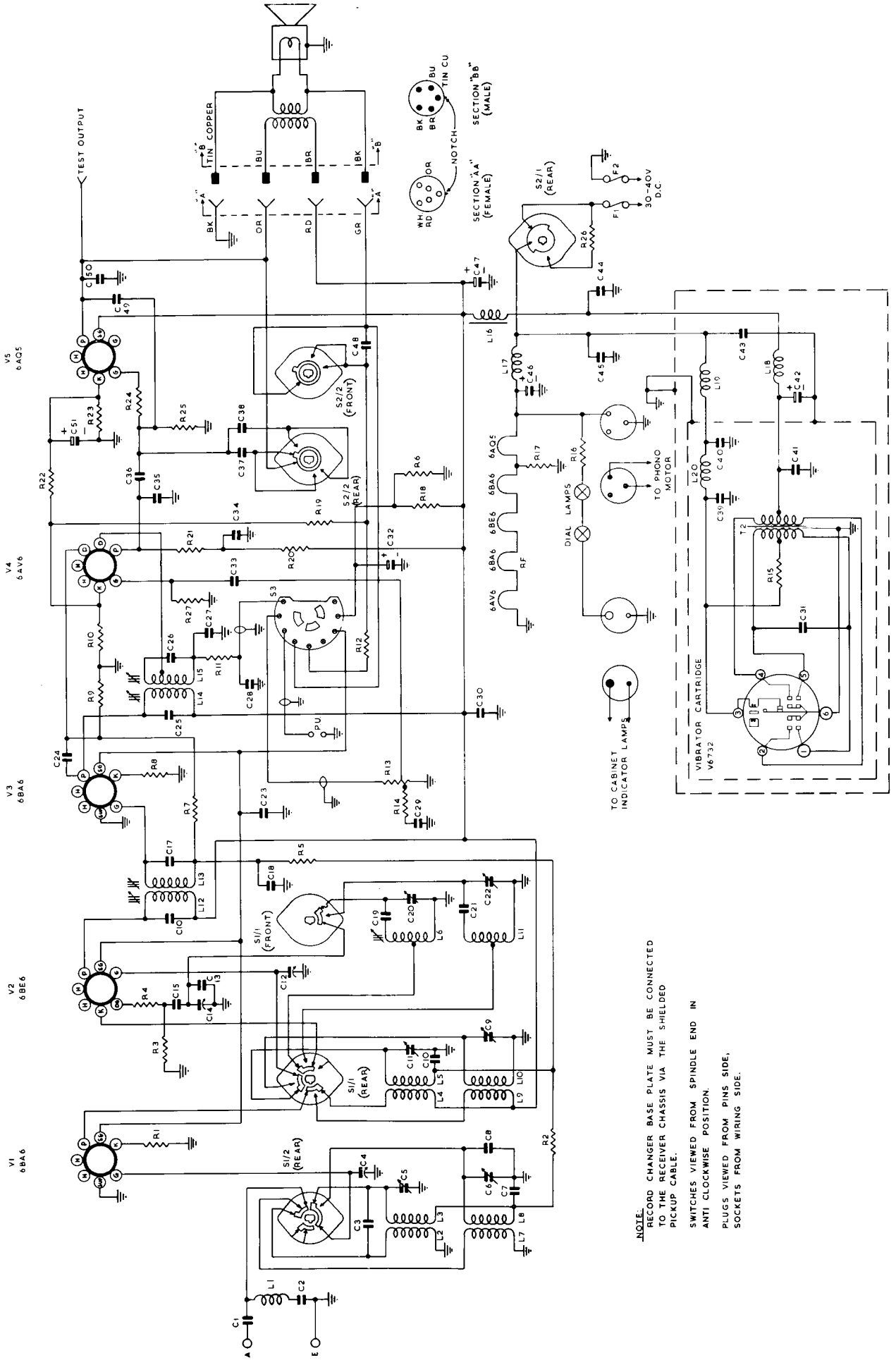
The generator housing should be earthed using a wire as short as possible and of not less than 7/.029 insulated cable.

Chassis Removal:

(1) Remove the control knobs by pulling them straight off their spindles. The Phono/Radio knob is situated inside the record changer compartment.

(2) Disconnect the loudspeaker, phono-motor and pick-up cables.

(3) The chassis is held in the cabinet by four screws through the receiver baseboard. Removal of these screws enables the chassis to be withdrawn.

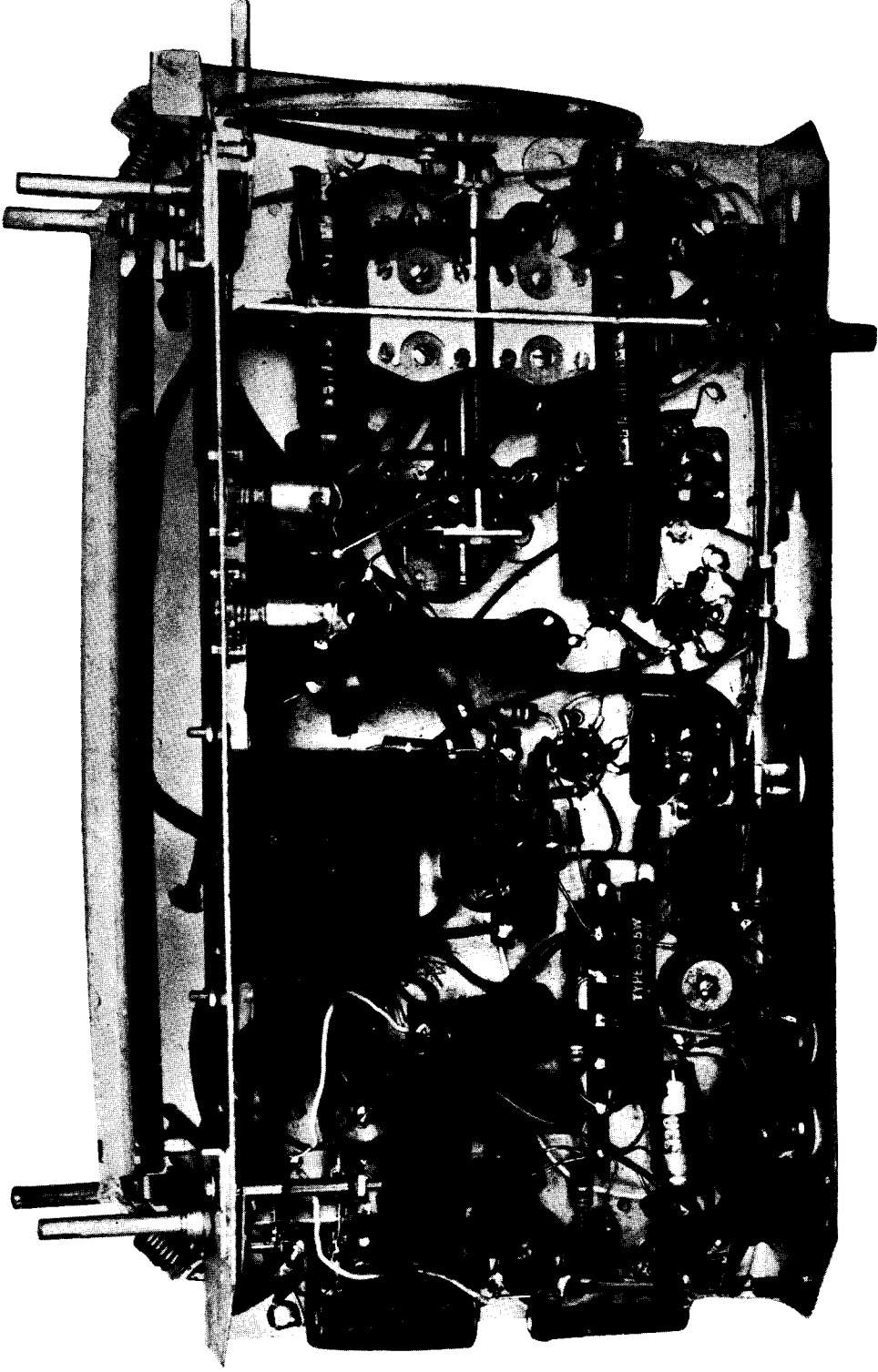


NOTE:
 RECORD CHANGER BASE PLATE MUST BE CONNECTED TO THE RECEIVER CHASSIS VIA THE SHIELDED PICKUP CABLE.

SWITCHES VIEWED FROM SPINDLE END IN ANTI CLOCKWISE POSITION.
 PLUGS VIEWED FROM PINS SIDE,
 SOCKETS FROM WIRING SIDE.

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

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



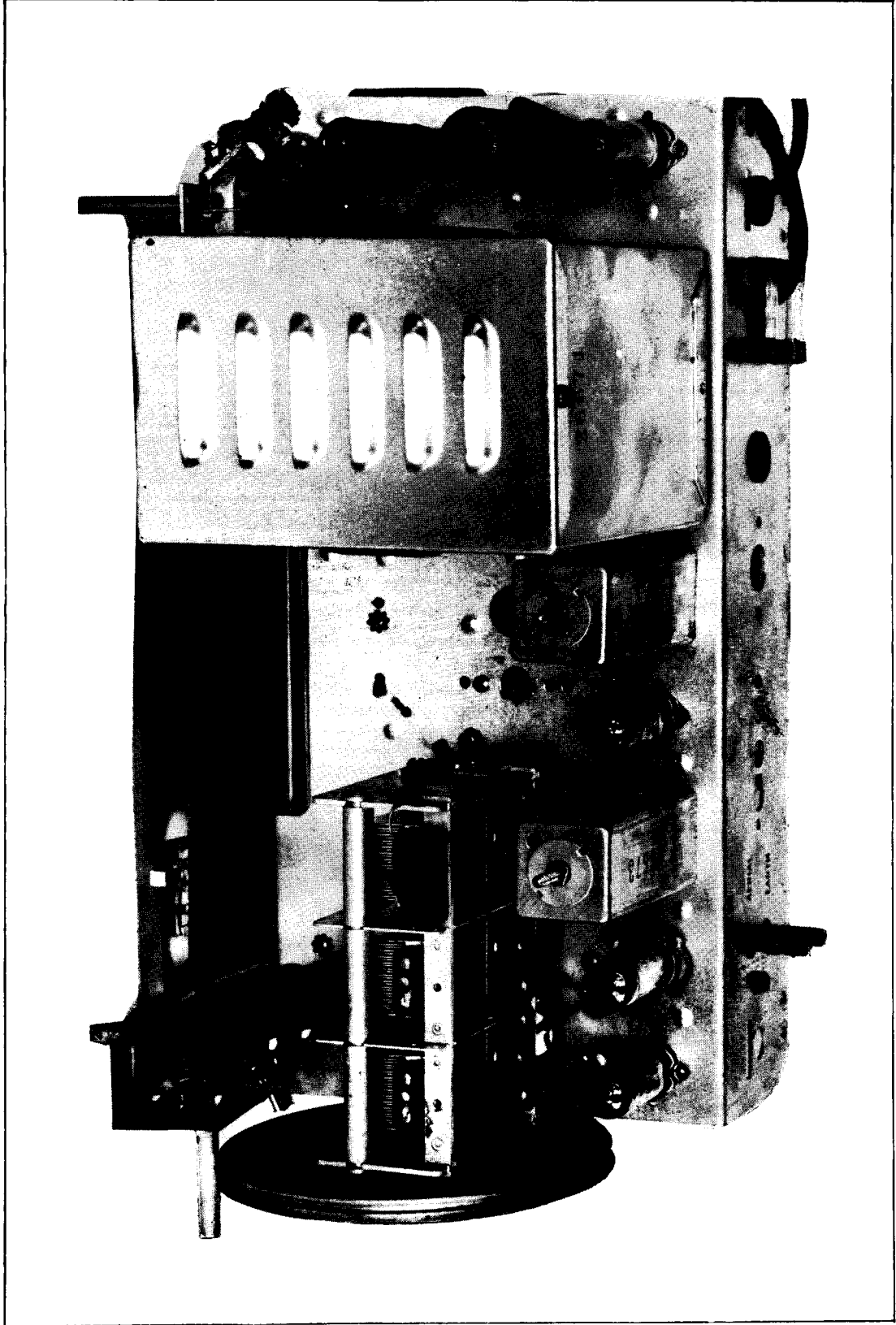
A B C D E F G H J K L M

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

FIG. 2

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

A B C D E F G H J K L



A B C D E F G H J K L

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

FIG. 1

Vibrator Cartridge Replacement:

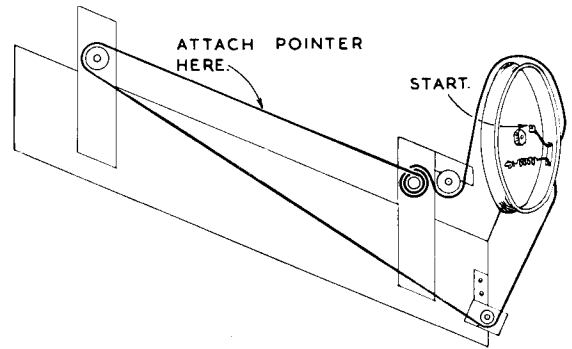
Remove the chassis from the cabinet, the lid from the outer case of the vibrator unit and the lid from the inner case. The cartridge is then accessible.

Vibrator Unit Replacement.

Remove the chassis from the cabinet and remove the lid from the vibrator unit outer case. Beneath the chassis disconnect three leads, red, yellow and black, which come from the vibrator unit. The unit may then be lifted out of the case.

Drive Cord Replacement:

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



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, and for short wave alignment, an additional 400 ohms non-inductive resistor in series with the "high" output lead of the instrument.

- (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	R.F. Section of Gang (Centre portion)	455 Kc/s.	540 Kc/s. (4QL)	L15 Core
2	R.F. Section of Gang (Centre portion)	455 Kc/s.	540 Kc/s. (4QL)	L14 Core
3	R.F. Section of Gang (Centre portion)	455 Kc/s.	540 Kc/s. (4QL)	L13 Core
4	R.F. Section of Gang (Centre portion)	455 Kc/s.	540 Kc/s. (4QL)	L12 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s.	600 Kc/s. (7ZL)	Osc. Core Adj. (L6)*
6	Aerial Terminal	1500 Kc/s.	1500 Kc/s. (3AK)	Osc. Adj. (C20)
7	Aerial Terminal	1500 Kc/s.	1500 Kc/s. (3AK)	R.F. Adj. (C11)
8	Aerial Terminal	1500 Kc/s.	1500 Kc/s. (3AK)	Aer. Adj. (C5)
Repeat adjustments 5, 6, 7 and 8.				
9	Aerial Terminal	16 Mc/s.	16 Mc/s.	Osc. Adj. (C22)‡
10	Aerial Terminal	16 Mc/s.	16 Mc/s.	R.F. Adj. (C9)†
11	Aerial Terminal	16 Mc/s.	16 Mc/s.	Aer. Adj. (C6)†

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

‡ Use minimum capacity peak if two can be obtained. Check to determine if C22 has been adjusted to correct peak by tuning the receiver to approximately 15.09 Mc/s. where a weaker signal should be received.

† Use maximum capacity peak if two can be received.

REPLACEMENT PARTS

Cabinet	28118
Dial Scale	32217
Knob Assembly	26516
Knob Assembly, Range and Tone	26519
Knob Assembly, Phono/Radio	31844
Lamp Holder	32804
Pointer	33048
Socket Valve	19965
Socket Valve, Floating	23274

When ordering, always quote the above part numbers and in the case of coloured parts, the colour plus the part number.

D.C. RESISTANCE OF WINDINGS

Winding	D.C. Resistance in ohms.
Aerial Coil (M.W.)	
Primary (L2)	16
Secondary (L3)	5
Aerial Coil (S.W.)	
Primary (L7)	3
Secondary (L8)	*
R.F. Coil (M.W.)	
Primary (L4)	35
Secondary (L5)	4
R.F. Coil (S.W.)	
Primary (L9)	*
Secondary (L10)	*
Oscillator Coil (M.W.) (L6)	5
Oscillator Coil (S.W.) (L11)	*
I.F. Filter (L1)	17.5†
I.F. Transformer Windings	10
R.F. Choke (L17, L19, L20)	*
H.T. Filter Choke (L16)	200
R.F. Choke (L18)	18
Loudspeaker Input Transformer (T1)	
Primary	430 or 525
Secondary	*
Vibrator Transformer (T2)	
Primary	3
Secondary	900

* 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:†
6BA6 R.F. Amp. M.W.	1.7	70	200	2.75	6.3
S.W.	1.8	70	200	2.85	6.3
6BE6 Converter M.W.	—	70	200	1.25	6.3
S.W.	—	70	200	1.25	6.3
6BA6 I.F. Amp.	1.8	70	200	3.1	6.3
6AV6 Det., A.F. Amp., A.V.C.	.05	—	70*	0.5	6.3
6AQ5 Output	9.0	200	190	34	6.3

Total H.T. Current = 50 mA.

Measured with receiver connected to 32V D.C. Supply.

Total Input Current = Radio 1.3 Amp., Phono 1.8 Amp.

Volume Control maximum clockwise. Power/Tone Switch in "Speech" anti-clockwise position. No signal input. Voltmeter 1000 ohms per volt; measurement taken on highest scale giving accurate readable deflection.

* Cannot be measured with an ordinary voltmeter.

† These readings are nominal and will vary due to the Series Heater connections.

CIRCUIT CODE — RADIOLA 562-GF

Code No.	Description	Part No.	Fig. No.	Location	Code No.	Description	Part No.	Fig. No.	Location
INDUCTORS									
L1	I.F. Filter (including C2)	9382	2	L15	C11	2-20 μ F air trimmer	19659	2	F14
L2,L3	Aerial Coil 540-1600 Kc/s	15454	2	J15	C12	12-430 μ F tuning	18321	1	E5
L4, L5	R.F. Coil 540-1600 Kc/s	23891	2	E13	C13	9 μ F mica		1	E6
L6	Oscillator Coil 540-1600 Kc/s	15949	2	H10	C14	12-430 μ F tuning	18321	1	E6
L7, L8	Aerial Coil 6-18 Mc/s	15456	2	E15	C15	70 μ F mica		2	H13
L9, L10	R.F. Coil 6-18 Mc/s	26060	2	J13	C16	100 μ F silvered mica		2	H6
L11	Oscillator Coil 6-18 Mc/s	26678	2	E10	C17	100 μ F silvered mica		2	H6
L12, L13	1st I.F. Transformer	26673	2	H6	C18	0.05 μ F paper 200V working		2	J11
L14, L15	2nd I.F. Transformer	25197	2	H9	C19	470 μ F padder \pm 2 1/2%	19659	2	G10
L16	Filter Choke	15317	2	E7	C20	2-20 μ F air trimmer		2	D10
L17	R.F. Choke	3149	2	G2	C21	4,000 μ F padder \pm 2 1/2%	19659	2	D12
L18	R.F. Choke	13809	In	Vibrator Unit	C22	2-20 μ F air trimmer		2	H11
L19	R.F. Choke	22936	"	"	C23	0.1 μ F paper 400V working		2	J9
L20	R.F. Choke	22936	"	"	C24	50 μ F mica		2	H9
			"	"	C25	100 μ F silvered mica		1	H9
			"	"	C26	100 μ F silvered mica		1	H9
			"	"	C27	100 μ F mica		2	J8
R1	200 ohms		2	J16	C28	100 μ F mica		2	J7
R2	0.1 megohm		2	F12	C29	0.01 μ F paper 600V working		2	D15
R3	20,000 ohms		2	K13	C30	0.1 μ F paper 400V working		2	K7
R4	100 ohms		2	J14	C31	1.0 μ F 400V working (2X0.5 μ F paper in parallel)		2	
R5	0.1 megohm		2	J13	C32	8 μ F 525 P.V. electrolytic		In	Vibrator Unit
R6	20,000 ohms		2	F9	C33	0.02 μ F paper 600V working		2	F8
R7	0.1 megohm		2	H8	C34	0.1 μ F paper 400V working		2	H7
R8	200 ohms		2	K11	C35	0.1 μ F paper 400V working		2	G4
R9	1.5 megohms		2	J10	C36	50 μ F mica		2	H6
R10	100 ohms		2	G9	C37	500 μ F mica		2	J5
R11	50,000 ohms		2	J8	C38	200 μ F mica		2	G3
R12	1,000 ohms		1	B3	C39	0.1 μ F paper 200V working		In	Vibrator Unit
R13	0.5 megohm Volume Control (Tapped at 40,000 ohms)	27145	1	C15	C40	0.4 μ F paper 200V working		"	"
R14	22,000 ohms		1	C15	C41	0.1 μ F paper 200V working		"	"
R15	5 ohms		5	Unit	C42	16 μ F 525 P.V. Electrolytic		"	"
R16	65 ohms		5	In	C43	100 μ F mica		"	"
R17	160 ohms		5	Vibrator	C44	0.1 μ F paper 400V working		"	"
R18	13,000 ohms		3	H1	C45	0.5 μ F paper 400V working		"	"
R19	1,000 ohms		1	J6	C46	20 μ F 200 P.V. Electrolytic		2	F2
R20	50,000 ohms		1	G8	C47	16 μ F 525 P.V. Electrolytic		1	G16
R21	0.25 megohm		1	H7	C48	0.4 μ F paper 200V working		2	G5
R22	3,000 ohms		3	H3	C49	14 μ F mica		2	J2
R23	250 ohms		3	H5	C50	0.005 μ F paper 600V working		2	K4
R24	50,000 ohms		3	H8	C51	25 μ F 40 P.V. Electrolytic		2	J4
R25	0.5 megohm		3	K4					
R26	5 ohms		25	K4					
R27	10 megohms		3	J3					
				J3					
				E16					
				H8					
CAPACITORS									
C1	.01 μ F paper 600V working		2	K14	T1	TRANSFORMERS			
C2	47 μ F silvered mica		2	L15	T2	Loudspeaker Transformer	TU201	In	Vibrator Unit
C3	4 μ F mica		2	J16		Vibrator Transformer	17894		
C4	12-430 μ F tuning	18321	1	E3		LOUDSPEAKER			
C5	2-20 μ F air trimmer	19659	2	H15		12 inch permanent magnet	20767		
C6	2-20 μ F air trimmer	19659	2	F15	S1	SWITCHES			
C7	0.05 μ F paper 200V working		2	J15	S2	Range Switch	27084	2	G12
C8	9 μ F mica		2	D14	S3	Power/Tone Switch	33149	2	E3
C9	2-20 μ F air trimmer	19659	2	H14		Phono/Radio Switch	33152	1	C3
C10	0.05 μ F paper 200V working		2	E13	F1	FUSES			
					F2	3 amp cartridge		1	K14
						3 amp cartridge		1	L14