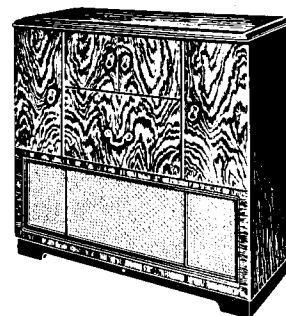


TECHNICAL INFORMATION
AND
SERVICE DATA

 **RADIOLA**
Model 550-GA

FIVE VALVE, TWO BAND,
A.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

Power Supply Rating 200-260 volts
50-60 C.P.S.

(Models are produced with other voltage and frequency ratings)

Power Consumption 60 watts Receiver
20 watts Record Changer

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

Valve Complement:

- | | |
|------------|--|
| (1) 6AE8 | Converter |
| (2) 6BA6 | I.F. Amplifier or Magnetic Pick-up Pre-amplifier |
| (3) 6AR7GT | A.F. Amplifier, Detector, A.V.C. |
| (4) 6BV7 | Output |
| (5) 5Y3GT | Rectifier |

Loudspeaker:

12 inch Permanent Magnet
Code No. — AU79
Transformer — TU202
V.C. Impedance — 6.5 ohms at 400 C.P.S.

Undistorted Power Output 4 watts

GENERAL DESCRIPTION

The Model 550-GA is a five valve, two band, A.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, 3 speed automatic record changer fitted with the A.W.A. Twin Jewel Magnetic pick-up head.

The record changer is the RC 75AZ and is designed to play 33 $\frac{1}{3}$, 45 and 78 R.P.M. records. The record changer features a synchronous motor and simple construction with minimum of working parts, ensuring trouble-free service.

NOTE:—On Phono operation, the 6BA6 is used as a Magnetic Pick-up Preamplifier.

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 are broken.

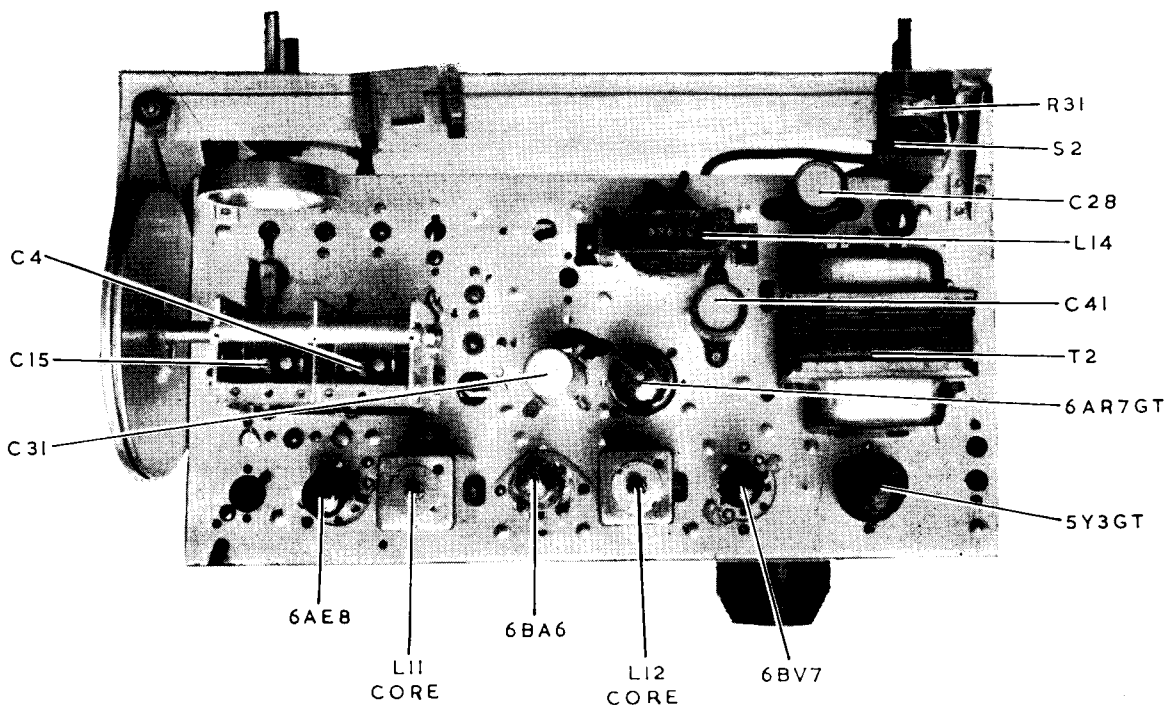
It is especially important that the adjustments should not be altered unless in association with the correct testing instruments listed below.

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.

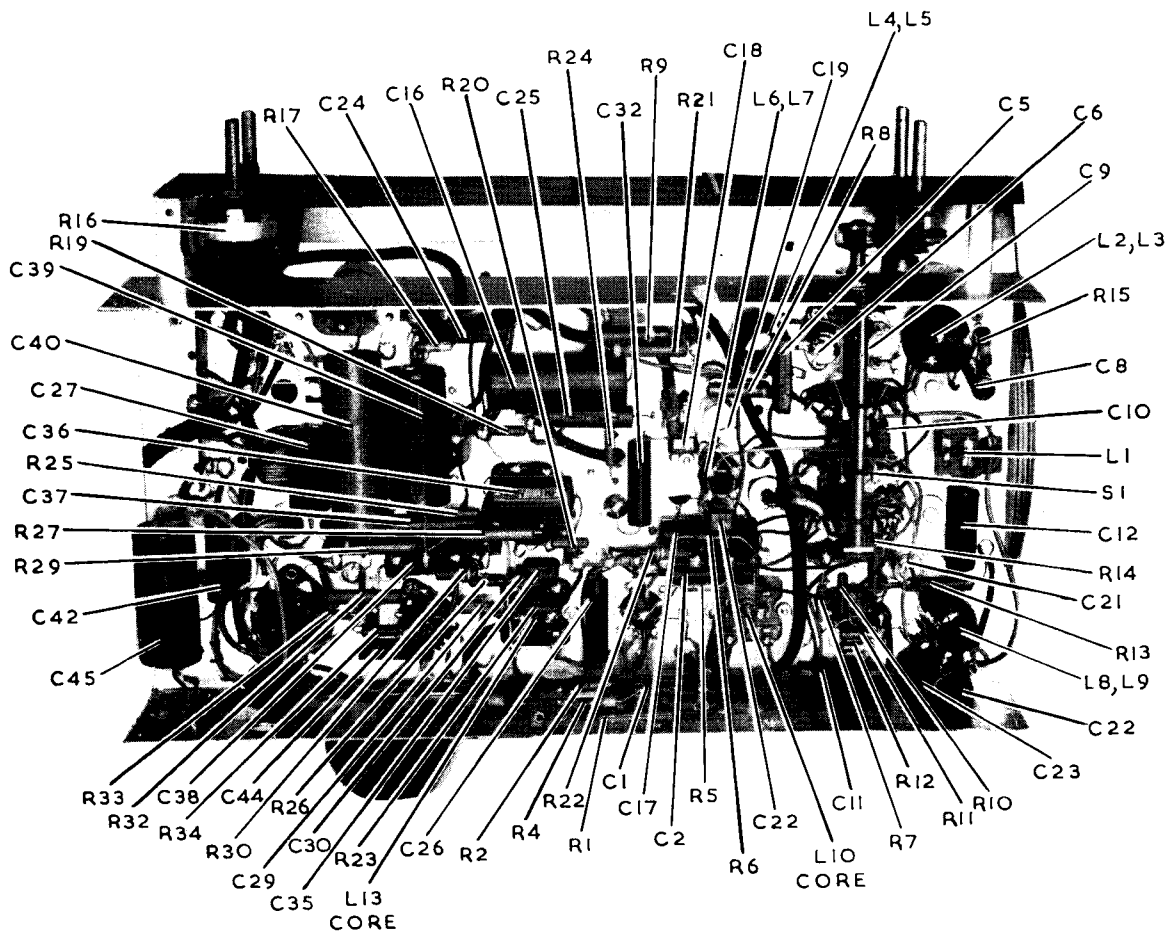
For all alignment operations connect the low side of the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

- (1) A.W.A. Junior Signal Generator, Type 2R3911, or
- (2) A.W.A. Modulated Oscillator, Type 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.



CHASSIS TOP VIEW, MODEL 550-GA.



CHASSIS UNDERNEATH VIEW, MODEL 550-GA.

CIRCUIT CODE—RADIOLA 550-GA

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
L1	INDUCTORS		R24	820 ohms	1 "	C21	2.20 μ F air trimmer	19659
L2, L3	I.F. Filter (including C7)	9382	R25	2 ohms	1 "	C22	4,000 μ F padder \pm 2 1/2%	
L4, L5	Aerial Coil 540-1,600 Kc/s	15454	R26	0.47 megohm	1 "	C23	0.05 μ F paper 400V working	
L6, L7	Aerial Coil 6-18 Mc/s	15456	R27	1.0 megohm	1 "	C24	0.05 μ F paper 200V working	
L8, L9	Oscillator Coil 540-1,600 Kc/s	7638A	R28	470 ohms	1 "	C25	0.05 μ F paper 200V working	
L10, L11	Oscillator Coil 6-18 Mc/s	15458	R29	39,000 ohms	1 "	C26	0.05 μ F paper 200V working	
L12, L13	1st I.F. Transformer	26673	R30	0.22 megohm	1 "	C27	0.1 μ F paper 400V working	
L14	2nd I.F. Transformer	25197	R31	1.0 megohm	1 "	C28	16 μ F 525 P.V. Electrolytic	
	Filter Choke	TU17		(including S2)		C29	100 μ F mica	
			R32	150 ohms	1 watt	C30	100 μ F mica	
R1	RESISTORS		R33	0.47 megohm	1 "	C31	400 μ F 12 P.V. Electrolytic	
R2	22,000 ohms		R34	4,700 ohms	1 "	C32	0.0025 μ F paper 600V working	
R3	4,700 ohms					C33	100 μ F silvered mica	
R4	Not Used					C34	100 μ F silvered mica	
R5	39,000 ohms					C35	47 μ F mica	
R6	0.22 megohm					C35	0.1 μ F paper 400V working	
R7	1.0 megohm					C37	0.0025 μ F paper 600V working	
R8	0.47 megohm					C38	0.01 μ F paper 600V working	
R9	200 ohms					C39	0.5 μ F paper 400V working	
R10	200 ohms					C40	16 μ F 525 P.V. Electrolytic	
R11	39,000 ohms					C41	8 μ F 525 P.V. Electrolytic	
R12	33,000 ohms					C42	0.0025 μ F paper 600V working	
R13	27,000 ohms					C43	0.5 μ F paper 400V working	
R14	0.1 megohm					C44	9 μ F mica	
R15	0.5 megohm						TRANSFORMERS	
R16	(tapped at 40,000 ohms)	27145				T1	Loudspeaker Transformer	TU202
						T2	Power Transformer 50-60 C.P.S.	25829B
R17	39,000 ohms						40 C.P.S.	17877B
R18	33,000 ohms						LOUDSPEAKER	
R19	10.0 megohms						12 inch Permanent Magnet	AU79
R20	1.5 megohms						SWITCHES	
R21	39,000 ohms					S1	Phono/Radio/Range Switch	31388
R22	0.1 megohm					S2	Power Switch (on R31)	
R23	47,000 ohms							

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	L13 Core
2	Aerial Section of Gang (Drive end)	455 Kc/s	540 Kc/s	L12 Core
3	Aerial Section of Gang (Drive end)	455 Kc/s	540 Kc/s	L11 Core
4	Aerial Section of Gang (Drive end)	455 Kc/s	540 Kc/s	L10 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Lead	600 Kc/s	600 Kc/s	L.F. Osc. Core Adj. (L7)*
6	Aerial Lead	1,500 Kc/s	1,500 Kc/s	H.F. Osc. Adj. (C19)
7	Aerial Lead	1,500 Kc/s	1,500 Kc/s	H.F. Aer. Adj. (C9)
Repeat adjustments 5, 6 and 7.				
8	Aerial Lead	16 Mc/s	16 Mc/s	H.F. Osc. Adj. (C21)†
9	Aerial Lead	16 Mc/s	16 Mc/s	H.F. Aer. Adj. (C6)‡

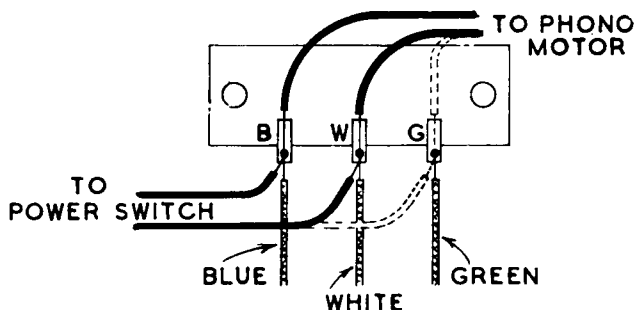
* Rock the tuning control back and forth through the signal.

† Use minimum capacity peak if two can be obtained. Check to determine that the trimmer 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 obtained.

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 within the cabinet. The power supply connections are shown in the accompanying diagram.



Chassis Removal

First remove the control knobs by pulling them straight off their spindles.

Then, disconnect the loudspeaker cable, pick-up cable, phono-motor plug from the socket on the rear of the chassis and the dial lamp leads from the top of the chassis.

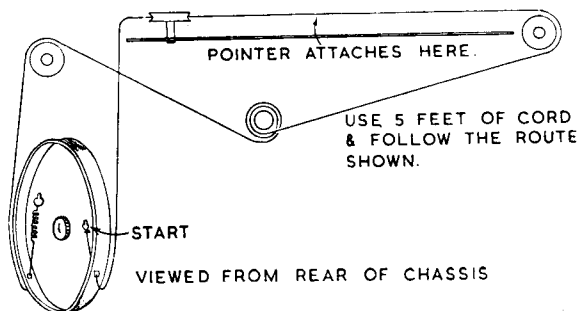
Pull the Record Changer Drawer out and from the rear of the cabinet remove two bolts situated under the receiver

shelf. Two other bolts holding the chassis are accessible from the front of the cabinet under the receiver shelf with the Record Changer Drawer open.

With these bolts removed, the chassis may be withdrawn from the cabinet.

Drive Cord Replacement.

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



Dial Lamp Replacement.

First remove the chassis from the cabinet. The Dial Lamps and Record Compartment Lamp may now be removed from their brackets and the faulty lamps replaced.

SOCKET VOLTAGES

VALVE	Cathode to Chassis Volts:	Screen Grid to Chassis Volts:	Anode to Chassis Volts:	Anode Current mA:	Heater Volts:
6AE8 Converter BC	2.4	90	270	2.0	6.3
SW	2.8	95	270	2.6	6.3
6BA6 I.F. Amp. Radio	2.5	65	270	2.5	6.3
Pre-Amp. Phono	1.0	25*	90*	1.0	6.3
6AR7GT A.F. Amp. Det., A.V.C.	—	20*	25*	0.8	6.3
6BV7 Output	6	270	260	33	6.3
5Y3GT Rectifier	—	—	300/300	—	5.0

A.C. R.M.S.

Total H.T. Current = 60mA.

Volts across L14 = 60 volts.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise. Voltmeter 1,000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

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