TECHNICAL INFORMATION AND SERVICE DATA

A.W.A. Radiola Leisuregram Model 551-GA

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 C.P.S.
(Models are produced with other volta	age and frequency

(Models are produced with other voltage and frequency ratings)

Power Consumption: Receiver — 40 watts Record Player — 15 watts

Dial Lamp: 6.3 volt, 0.25 Amp. M.E.S.

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

Loudspeaker:

5 inch permanent magnet, Code No. AC64 Transformer XA2 V.C. Impedance, 3 ohms at 400 C.P.S.

GENERAL DESCRIPTION

The Radiola Leisuregram Model 551-GA is a portable Phono/Radio and features of its design include: Tropic-proof construction, automatic volume control, high permeability iron dust cores in I.F. transformers and oscillator coil, straight-line edge lighted perspex dial scale.

For the reproduction of phonograph recordings this model incorporates the A.W.A. three-speed manual player with the Ronette turnover crystal cartridge.

Controls: Tuning (top)

Radio/Phono/Tone (centre) Power/Volume (bottom)

ALIGNMENT PROCEDURE

Manufacturer's Setting of Adjustments.

This instrument 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 adjustments should not be altered unless in association with the correct testing instruments listed below.

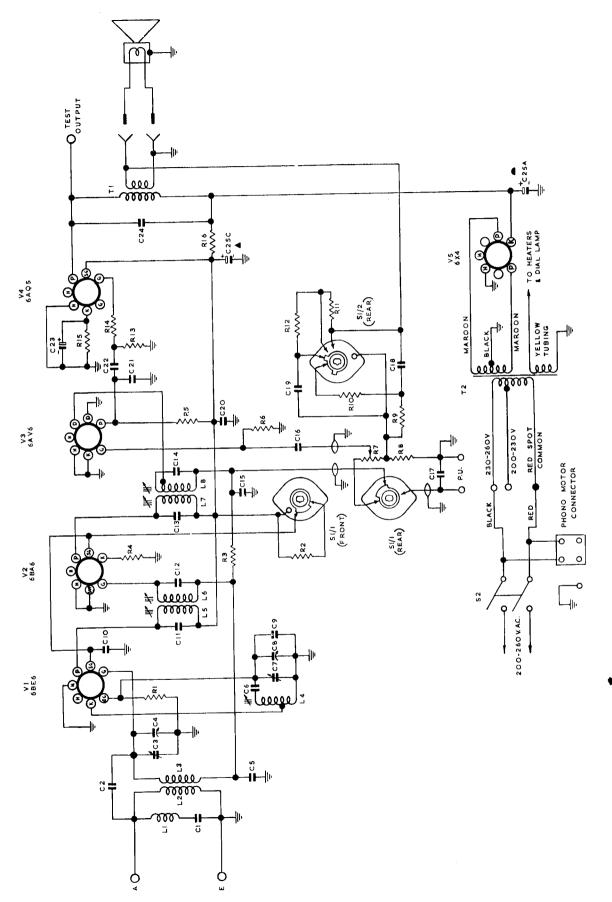
Under no circumsances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and cannot be re-adjusted unless by skilled operators using special equipment.

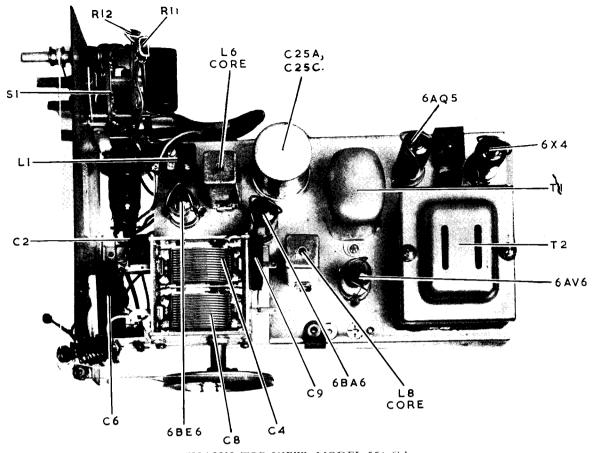
For all alignment operations, connect the "low" side of the signal generator to the receiver chassis and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

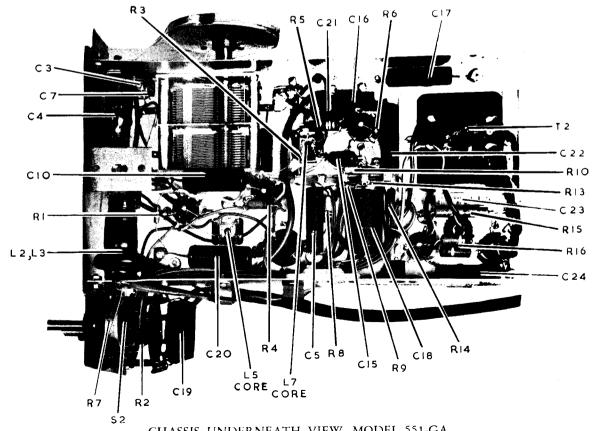
- (1) A.W.A. Junior Signal Generator, type 2R3911, or
- (2) A.W.A. Modulated Oscillator, type J6726.

 If the modulated oscillator is used, connect a 0.25 megohm non-inductive resistor accross the output terminals of the instrument.
- (3) A.W.A. Output Meter, type 2M8832.





CHASSIS TOP VIEW, MODEL 551-GA.



CHASSIS UNDERNEATH VIEW, MODEL 551-GA.

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	L8 Core
2	Aerial Section of Gang (Rear end)	455 Kc/s	540 Kc/s	L7 Core
3	Aerial Section of Gang (Rear end)	455 Kc/s	540 Kc/s	L6 Core
4	Aerial Section of Gang (Rear end)	455 Kc/s	540 Kc/s	L5 Core
epeat the ab	ove adjustments until the max	imum output is obtaine	d.	
5	Aerial Lead	600 Kc/s	600 Kc/s	L.F. Ocs. Core Adj. (L4)
6	Aerial Lead	1500 Kc/s	1500 Kc/s	H.F. Osc. Adj. (C7)
7	Aerial Lead	1500 Kc/s	1500 Kc/s	H.F. Aer. Adj. (C3)

Repeat adjustments 5, 6 and 7.

SOCKET VOLTAGES

	VALVES	Cathode to Chassis Volts:	Screen Grid to Chassis Volts:	Anode to Chassis Volts:	Anode Current mA:	Heater Volts:
6BE6	Converter	_	80	165	1.8	6.3
6BA6	I.F. Amp.	1.5	80	165	5.7	6.3
6AV6	A.F. Amp., Det., A.V.C.		_	60*	0.3	6.3
6AQ5	Output	7.0	165	250	29	6.3
6X4	Rectifier	250		235/235 A.C. R.M.S.		6.3

Total H.T. Current = 50 mA.

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

^{*} Rock the tuning control back and forth through the signal.

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

CIRCUIT CODE-RADIOLA 551-GA

INDUCTORS Description Part No. Code	مام مامر		14	-		
250 μμ padder ± 2½% 240 μμ padder ± 2½% 1549 1549 1540 600 Kc/s 1549 1549 1540 1594 154			rari NO.	Code No.	Description	Part No.
15464 C7 2-20 μμF frimmer 15454 C8 12-430 μμF frimmer 15464 C8 12-430 μμF frimmer 15461,600 Kc/s 15949 C9 9 μμF mica 15949 C10 0.05 μF paper 400V working 1540-1,600 Kc/s 15949 C10 0.05 μF paper 400V working C12 100 μμF silvered mica C13 100 μμF silvered mica C13 100 μμF silvered mica C14 100 μμF silvered mica C15 C14 C16 C1		INDUCTORS		%	440 μ F padder $+$ 2½%	
15454 1546 1546 1546 1546 1546 1546 1546 1546 15949 15949 15949 15949 15949 15949 15949 15949 15949 15949 15949 15949 15949 100		I.F. Filter (including C1)	9382	50	2-20 uuF trimmer	27526
ii 540-1,600 Kc/s 15949 C9 9 μμF mica nsformer 27351 C10 0.05 μF paper 400V working c11 0.05 μF silvered mica c12 100 μμF silvered mica c13 100 μμF silvered mica c13 100 μμF silvered mica c14 100 μμF silvered mica c15 100 μμF silvered mica c16 0.01 μF paper 600V working c17 0.0025 μF paper 600V working c18 0.4 μF paper 600V working c18 0.25 μF paper 200V working c20 0.025 μF paper 400V working c20 0.025 μF paper 400V working c22 0.025 μF paper 400V working c23 0.025 μF paper 600V working c25 μF and paper 600V working c16 μmica c200V working c16 μmica c200V working c16 μF and can		Aerial Coil 540-1,600 Kc/s	15454	8	12-430 µµF tuning	18674
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1		2nd I.F. Transformer	27353	::0	100 μμΕ silvered mica	
1		RESISTORS		C12	100 µuF silvered mica	
		- 171		C13	100 uuF silvered mica	
C15 100 μμF mica C16 0.01 μF paper 600V working C17 0.0025 μF paper 200V working C18 0.025 μF paper 200V working C19 0.025 μF paper 200V working C20 0.05 μF paper 200V working C21 0.05 μF paper 200V working C22 0.025 μF paper 400V working C23 0.025 μF paper 400V working C24 0.02 μF paper 400V working C25 0.025 μF paper 400V working C26 0.02 μF paper 200V working C27 0.02 μF paper 200V working C28 0.02 μF paper 200V working C29 0.05 μF paper 400V working C20 0.05 μF paper 400V working C21 100 μμF paper 200V working C22 0.025 μF paper 200V working C23 25 μF 350 P.V. Electrolytic C24 μF 350 P.V. Electrolytic C24 μF 350 P.V. Electrolytic C26 24 μF 350 P.V. Electrolytic C27 26 μΕ 350 P.V. Electrolytic C27 26 μΕ 350 P.V. Electrolytic C27 27 μF 350 P.V. Electrolytic C27 2 μΕ 350 P.V. Electrolytic C28 2 μΕ 350 P.V. Electrolytic C29 2 μΕ 350 P.V. Electrolytic C20 2 μΕ 350 P.V. Electrolytic C27 2 μΕ 350 P.V. Electrolytic C28 2 μΕ 350 P.V. Electrolytic C29 2 μΕ 350 P.V. Electrolytic C20 2 μΕ 350 P.		-		C14	100 uuF silvered mica	
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1 1 1 1 1 1 1 1		220 ohms ½ "		C16	$0.01~\mu F$ paper 600V working	
C18 0.4 μF paper 200V working C19 0.25 μF paper 200V working C20 0.25 μF paper 200V working C20 0.05 μF paper 400V working C21 0.05 μF paper 400V working C21 0.025 μF paper 400V working C22 0.025 μF paper 400V working C23 C24 C24 C25 μF paper 400V working C23 C24 μF paper 400V working C25 C25 μF paper 400V working C25 C25 C25 C24 μF paper 400V working C25		0.27 megohm 1 ,,		C17	0.0025 uF paper 600V working	
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g S2) y watt C21 100 μμF mica C22 0.025 μF paper 400V working C22 0.025 μF paper 400V working C23 0.025 μF paper 400V working C23 0.025 μF paper 600V working C24 μF S50 μV. Electrolytic C25 24 μF S50 μV. Electrolytic C26 24 μF S50 μV. Electrolytic C27 0.01 μF paper 400 μνείση C27 0.02 μF paper 400 μκείση C27 0.02 μF paper 400 μκείση C27 0.02 μF paper 400 μκείση C27 0.03 μκείση				C19	0.25 µF paper 200V working	
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2		ohms ½		C21	100 uuF mica	
½ C23 25 μF 40 P.V. Electrolytic C24 0.01 μF paper 600V working C25 24 μF 350 P.V. Electrolytic C25 24 μF 350 P.V. Electrolytic C26 C24 μF 350 P.V. Electrolytic C26		-in	****	C22	0.025 µF paper 400V working	
2		100 ohms ½ ,,		C23	25 uF 40 P.V. Electrolytic	
18		6.1 megohm ½ ,,		C24	0.01 aF paper 600V working	
C26 24 #F 350 P.V. Electrolytic .TRANSFORMERS T1 Loudspeaker Transformer T2 Power Transformer, 50 C.P.S. LOUDSPEAKER 5 inch Permanent Magnet SWITCHES 18674 S1 Phono-Radio-Tone Switch S2 Power Switch fon R7)		$27,000$ ohms $\frac{1}{2}$,,		C25	24 WF 350 P.V. Electrolytic	
TRANSFORMERS TI Loudspeaker Transformer T2 Power Transformer, 50 C.P.S. T2 Power Transformer, 40 C.P.S. LOUDSPEAKER 5 inch Permanent Magnet SWITCHES 18674 S1 Phono-Radio-Tone Switch S2 Power Switch fon R7)		0.47 megohms $\frac{1}{2}$,,		C26	24 µF 350 P.V. Electrolytic	
T1 Loudspeaker Transformer T2 Power Transformer, 50 C.P.S. 40 C.P.S. LOUDSPEAKER 5 inch Permanent Magnet SWITCHES 18674 S1 Phono-Radio-Tone Switch S2 Power Switch fon R7)		47,000 ohms ½ ,,			TRANSFORMERS	
12 Power Transformer, 50 C.P.S. 40 C.P.S. LOUDSPEAKER 5 inch Permanent Magnet 5V/ITCHES 18674 S1 Phono-Radio-Tone Switch 52 Power Switch fon R7)		220 ohms 1 ,,		Ξ	Loudspeaker Transformer	XA2
40 C.P.S. LOUDSPEAKER 5 inch Permanent Magnet 5 NVITCHES 18674 S1 Phono-Radio-Tone Switch 52 Power Switch fon R7)		5,000 ohms 2 ,,		12	Power Transformer, 50 C.P.S.	25807B
10UDSPEAKER 5 inch Permanent Magnet 5 SWITCHES 18674 S1 Phono-Radio-Tone Switch 52 Power Switch (on R7)		CAPACITORS			40 C P S	25800R
27526 SWITCHES SWITCH Asgnet SWITCHES SY Phono-Radio-Tone Switch S2 Power Switch (on R7)		50 $\mu\mu$ F silvered mica			LOUDSPEAKER	7,007
27526 SWITCHES 18674 SI Phono-Radio-Tone Switch S2 Power Switch (on R7)		4 μμF mica	,		5 inch Permanent Magnet	ACAA
18674 S1 Phono-Radio-Tone Switch S2 Power Switch (on R7)		2-20 μμF trimmer	27526		SWITCHES	
S2 Power Switch (on R7)		12-430 μμF tuning	18674	SI	Phono-Radio-Tone Switch	31320
		$0.05~\mu F$ paper $200 V$ working		. ZS	Power Switch (on R7)	2010

D.C. RESISTANCE OF WINDINGS

Winding	D.C. Resistance in ohms
Aerial Coil:	
Primary (L2)	30
Secondary (L3)	4
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	525 or 430
Secondary	†

[†] Less than 1 ohm.

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

Chassis Removal.

- (1) Remove the control knobs by pulling them straight off their spindles.
- (2) Remove six screws from the front panel and withdraw the panel.
- (3) Remove the three chassis-mounting screws from underneath the chassis and partially withdraw the chassis until the speaker and pick-up cables and phono motor power

leads are accessible. Removal of these cables from the chassis enables it to be completely withdrawn.

(4) To remove the Record Player from the cabinet (which will also give access to the valves without removal of the chassis), firstly release the clamps located in the front left-hand and rear right-hand corners of the player, unscrew four screws, one in each corner of the player base. Raise the player and remove the pick-up cable and phono motor power leads from the chassis. The player may now be completely removed.

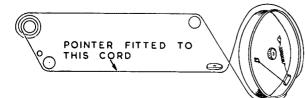
Connection to Power Supply.

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.

RED DOT INDICATES COMMON CONNECTION FOR ALL VOLTAGES

230-260 200-230 VOLTS VOLTS





Drive Cord Replacement.

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

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