

TECHNICAL INFORMATION  
AND SERVICE DATA

**AWA** **RADIOLA**

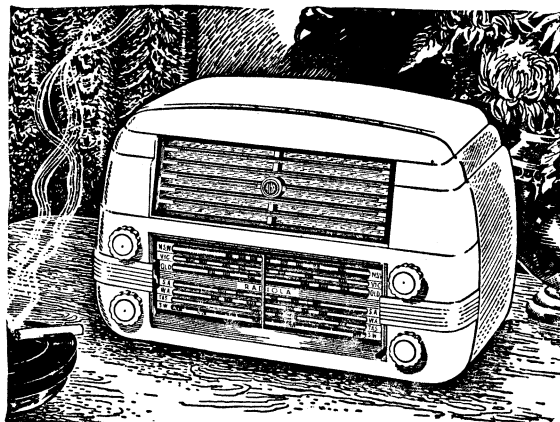
**Model 527-MA**

FIVE VALVE, BROADCAST  
A.C. OPERATED SUPERHETERODYNE  
AND

**Model 528-MA**

FIVE VALVE, TWO BAND  
A.C. OPERATED SUPERHETERODYNE

ISSUED BY  
**AMALGAMATED WIRELESS (A/SIA) LTD.**



**ELECTRICAL SPECIFICATIONS.**

FREQUENCY RANGE:

Model 527-MA—M.W.	540-1600 Kc/s. (555-187.5M.)
Model 528-MA—M.W.	540-1600 Kc/s. (555-187.5M.)
S.W.	6-18 Mc/s. (50-16M.)
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

LOUDSPEAKER (Electro Magnet):

9 inch x 6 inch—Code No. BE1.

TRANSFORMER—XA1.

V.C. Impedance—3 ohms at 400 C.P.S.

Field—1000 ohms.

UNDISTORTED POWER OUTPUT—3.5 watts.

VALVE COMPLEMENT

MODEL 527-MA.

1. 6A8G Converter.
2. 6AR7GT I.F. Amp., Det., A.V.C.
3. 6AU6 A.F. Amp.
4. 6V6GT Output.
5. 5Y3GT Rectifier.

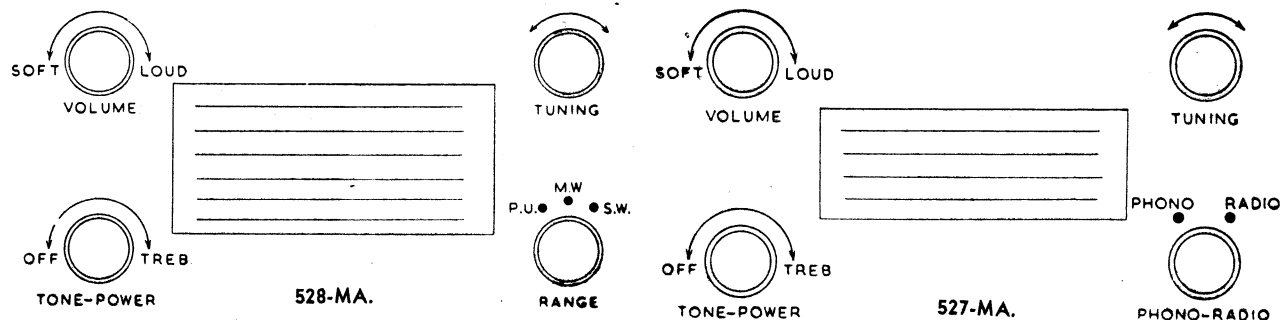
MODEL 528-MA.

1. X61M Converter.
2. 6AR7GT I.F. Amp., Det., A.V.C.
3. 6AU6 A.F. Amp.
4. 6V6GT Output.
5. 5Y3GT Rectifier.

**MECHANICAL SPECIFICATIONS.**

Cabinet Dimensions (inches)	Height	Width	Depth
Chassis Base Dimensions (inches)	10	16	9½
Carton Dimensions (inches)	2½	13½	6½
Weight (nett lbs.)	12	19	12
Cabinet Colours	24 lbs.		
		Walnut, Ivory, Burgundy.	

**CONTROLS.**



**General Description.**

The models 527-MA and 528-MA are mantel models housed in moulded plastic cabinets.

Features of design include: Tropic-proof construction, automatic volume control, magnetite cores in I.F. Transformers and broadcast oscillator coils, air-dielectric trimming capacitors, extension speaker terminals, pick-up terminals, A.C. outlet for Electric Clock, Record Player or F.M. Tuner, and a straight-line edge lighted plastic dial scale.

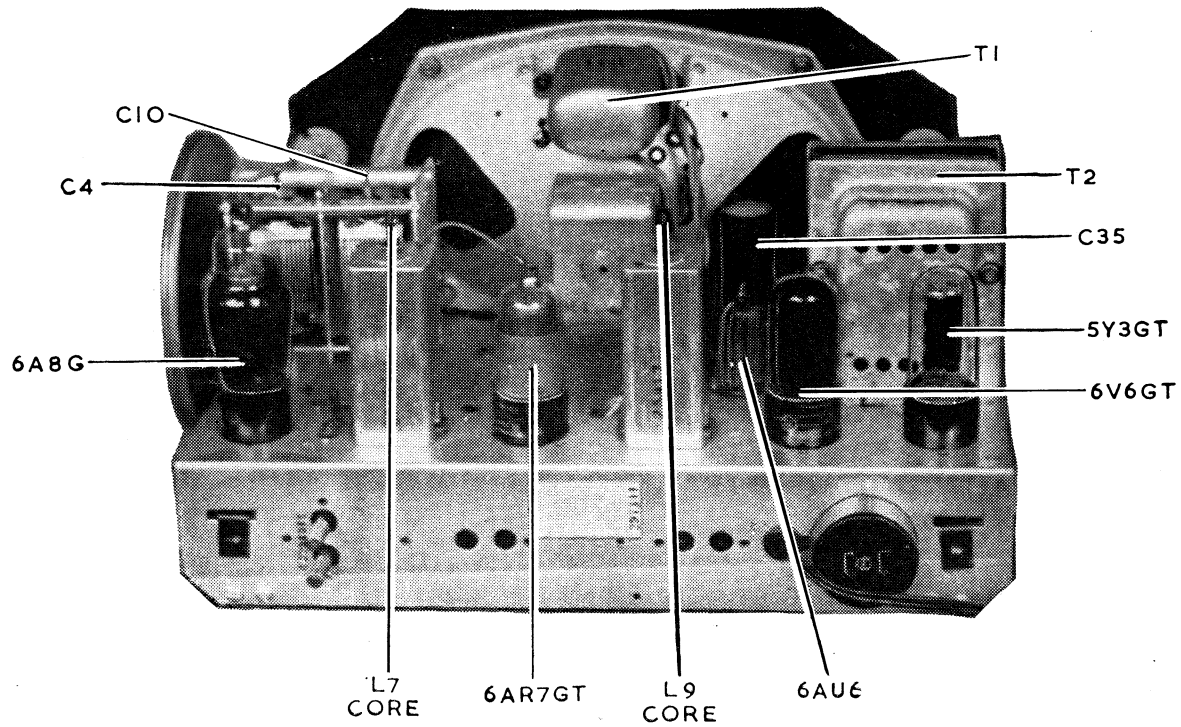
**CHASSIS REMOVAL.**

First remove the cabinet back. It is fastened to the cabinet by four screws.

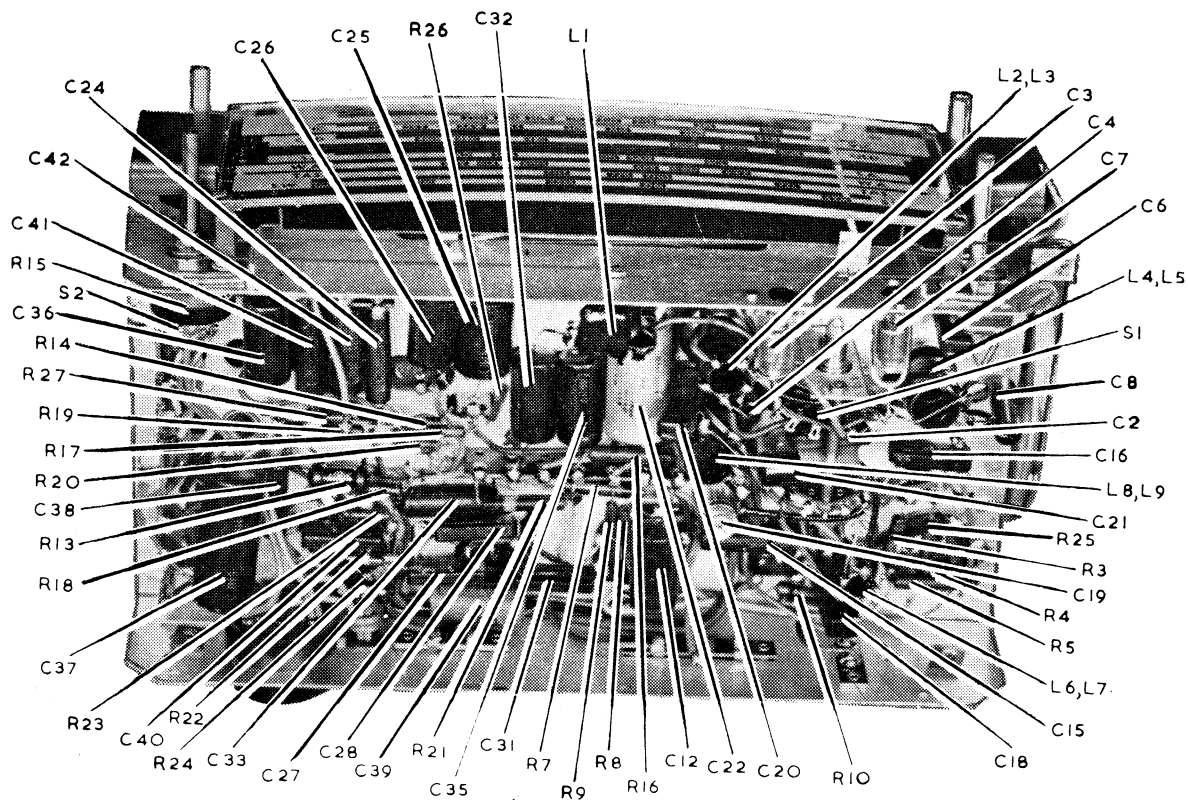
Then remove the control knobs by pulling them straight off their spindles.

The chassis is held in position by two screws through the base of the cabinet. Removal of these enables the chassis to be withdrawn from the cabinet.

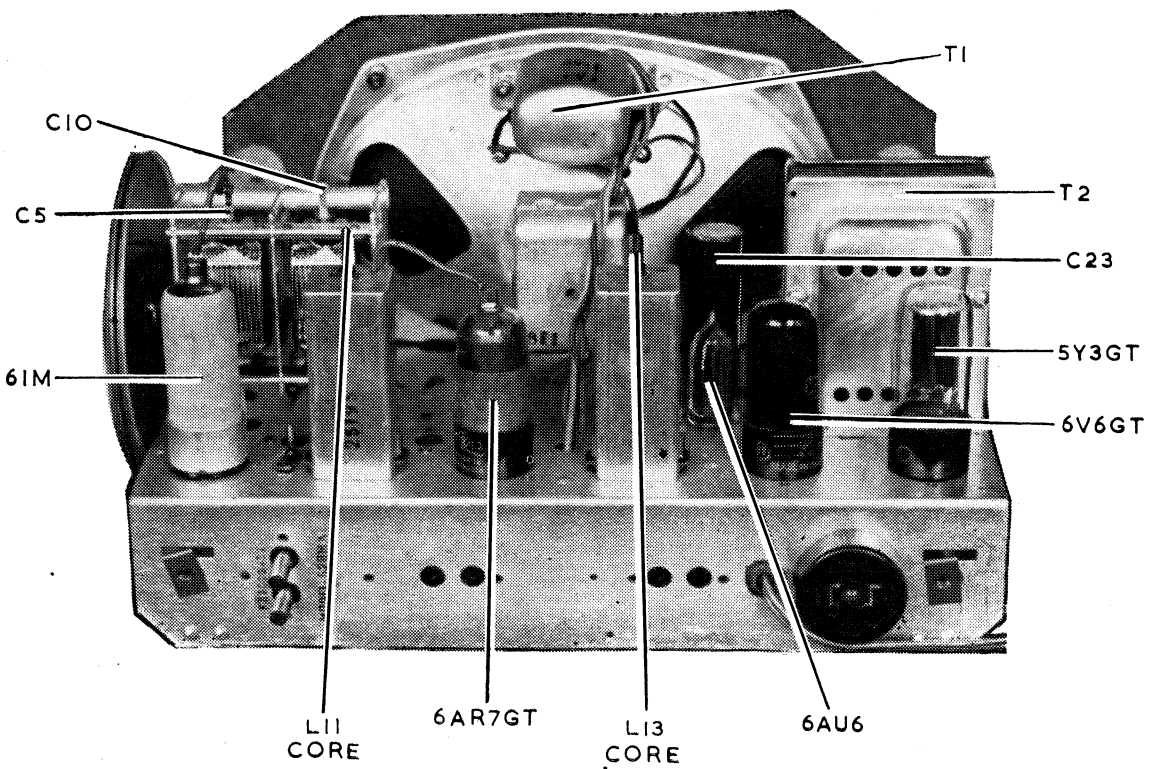
When replacing the cabinet back, make sure that the power cord passes through the slot provided in the bottom of the cabinet back.



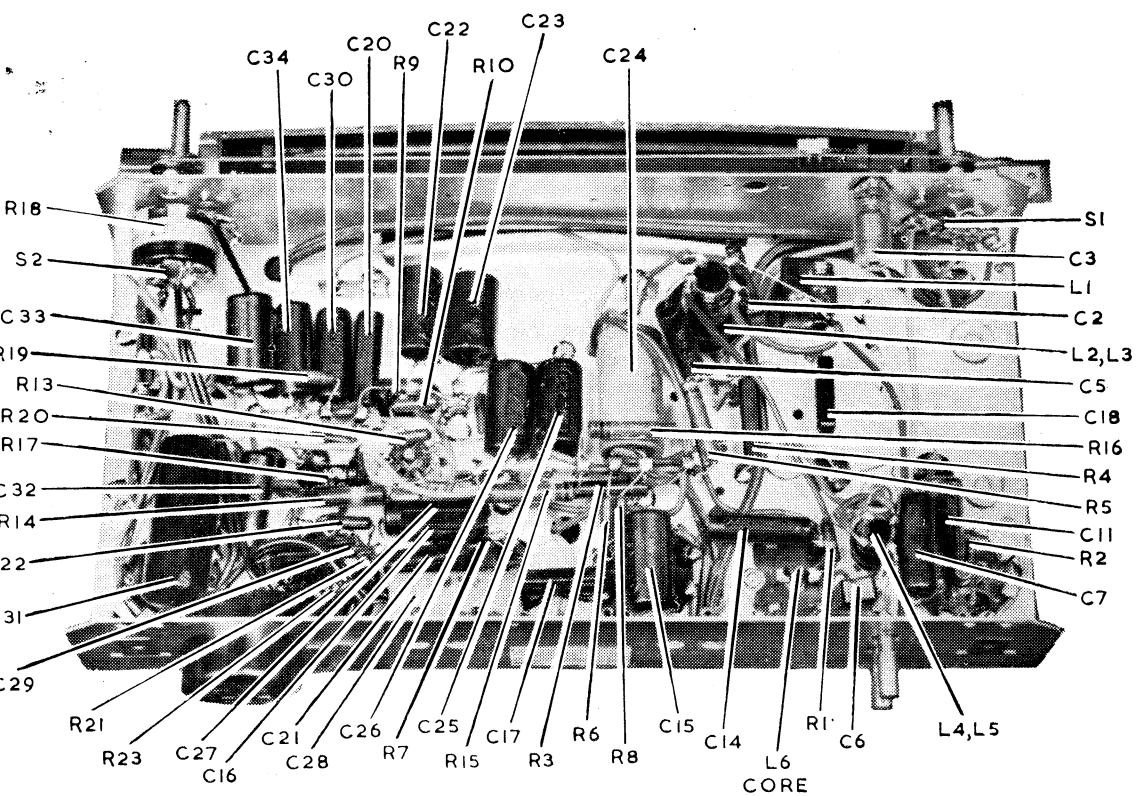
CHASSIS TOP VIEW MODEL 528-MA



CHASSIS UNDERNEATH VIEW MODEL 528-MA



CHASSIS TOP VIEW MODEL 527-MA



CHASSIS UNDERNEATH VIEW MODEL 527-MA

## D.C. RESISTANCE OF WINDINGS. MODEL 527-MA.

Winding	D.C. Resistance in ohms
Aerial Coil	
Primary (L2) .....	30
Secondary (L3) .....	4
Oscillator Coil	
Primary (L4) .....	2
Secondary (L5) .....	6.5
I.F. Transformer Windings .....	10
I.F. Filter (L1) .....	17.5*
Power Transformer (T2)	
Primary .....	25
Secondary .....	600
Loudspeaker Input Transformer (T1)	
Primary .....	430 or 525
Secondary .....	†

\*In some receivers this reading may be as high as 60 ohms.  
†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. MODEL 527-MA.

VALVES		Cathode to Chassis Volts	Screen to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Heater Volts
6A8G	Converter .....	0	90	260	1.6	6.3
	Oscillator .....	0	—	155	4.5	6.3
6AR7GT	I.F. Amp., Det., A.V.C. ....	0	90	260	5.0	6.3
6AU6	A.F. Amp. ....	0.1	70*	20*	0.8	6.3
6V6GT	Output .....	12.0	260	240	43	6.3
5Y3GT	Rectifier .....	—	—	325 A.C.	—	5.0

Voltage across back-bias resistor R17—2.0 volts.

Total H.T. Current—70 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.

\*Reading may vary depending on the resistance of the voltmeter used.

## D.C. RESISTANCE OF WINDINGS. MODEL 528-MA.

Winding	D.C. Resistance in ohms
Aerial Coil (M.W.)	
Primary (L2) .....	30
Secondary (L3) .....	4
Aerial Coil (S.W.)	
Primary (L4) .....	4
Secondary (L5) .....	*
Oscillator Coil (M.W.)	
Primary (L6) .....	2
Secondary (L7) .....	6
Oscillator Coil (S.W.)	
Primary (L8) .....	*
Secondary (L9) .....	*
I.F. Transformer Windings .....	10
I.F. Filter (L1) .....	17.5†
Power Transformer (T2)	
Primary .....	25
Secondary .....	600
Loudspeaker Input Transformer (T1)	
Primary .....	430 or 525
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. MODEL 528-MA.

VALVES	Cathode to Chassis Volts	Screen to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Volts Heater
X61M Converter, M.W. ....	0	82	260	2.0	6.3
S.W. ....	0	—	—	—	—
Oscillator, M.W. ....	0	—	110	4.5	—
S.W. ....	0	—	110	4.5	—
6AR7GT I.F. Amp., Det., A.V.C. ....	0	82	260	5.0	6.3
6AU6 A.F. Amp. ....	0.1	70*	20*	0.8	6.3
5Y3GT Rectifier .....	12	260	240	43	6.3
6V6GT Output .....	—	—	325 A.C.	—	5.0

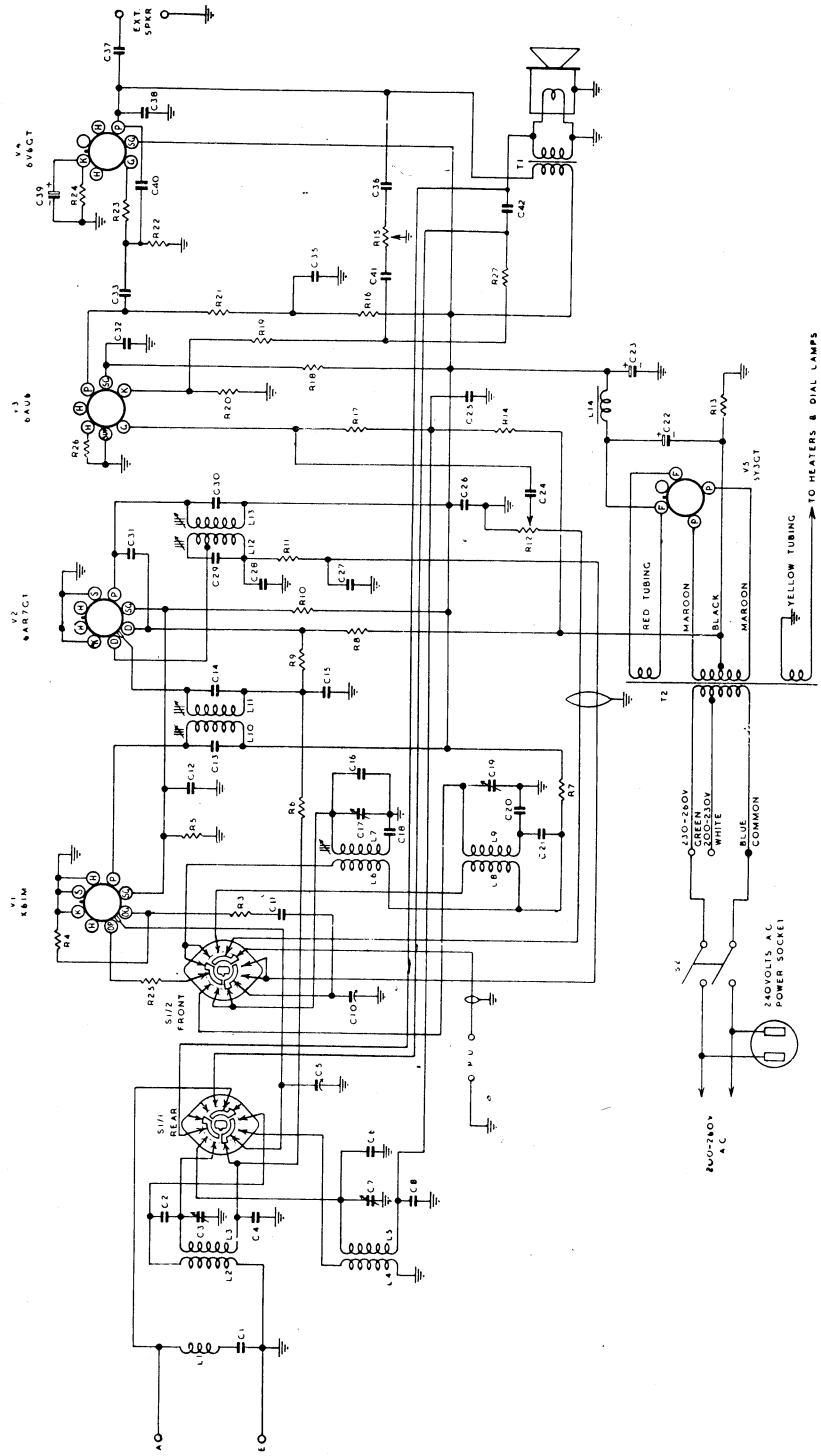
Voltage across back-bias resistor R13—2.0 volts.

Total H.T. Current—67 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.

\*Reading may vary depending on the resistance of the voltmeter used.



## MECHANICAL REPLACEMENT PARTS.

Item	Part No.	Item	Part No.
Cabinet, Body .....	25580	Drum, Drive .....	26147
Back .....	25581	Knob (3) .....	26472
Fret .....	26451	Knob (1) .....	26473
Cable, Pick-up. Model 527-MA ...	25908	Panel, Power .....	26132
Model 528-MA ...	26090	Socket, Valve (Octal) .....	4704
Cable, Volume .....	26091	(Miniature) .....	19965
Chassis, Mounting Strap .....	26107	Strip, Tag 1 way .....	7628
Clip, Grid .....	7459	2 way (528-MA only) .....	8863
Dial Frame Assembly .....	26131	4 way .....	10236
Dial, Light Cowl .....	26543	7 way .....	9870
Dial, Pointer Assembly .....	26138	Terminal, Spring .....	5458
Dial, Scale. Model 527-MA .....	25963A		
Model 528-MA .....	25961A		

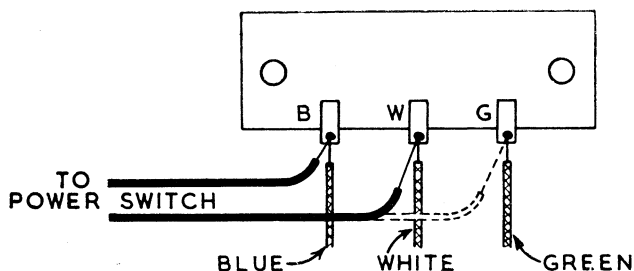






## CIRCUIT CODE RADIOLA 527-MA.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
	<b>INDUCTORS</b>							
L1	I.F. Filter (including C1)	9382	R22	50,000 ohms $\frac{1}{2}$ watt		C24	8 uF 525 P.V. Electrolytic	
L2, L3	Aerial Coil 540-1600 Kc/s	15454	R23	250 ohms 3 watt		C25	0.1 uF Paper 400 v.	
L4, L5	Oscillator Coil 540-1600 Kc/s	7638A		<b>CAPACITORS</b>		C26	0.1 uF Paper 400 v.	
L6, L7	1st I.F. Transformer	25195		2-20 uF Air Trimmer	19659	C27	0.02 uF Paper 600 v.	
L8, L9	2nd I.F. Transformer	25197		12-430 uF Tuning	18224		Working	
L10	Speaker Field 1000 ohms			0.05 uF Paper 200 v.		C28	25 uF 40 P.V. Electrolytic	
	<b>RESISTORS</b>			440 uF Mica Padder $\pm 2\frac{1}{2}\%$		C29	14 uF Mica	
R1	0.1 megohm $\frac{1}{2}$ watt		C6	0.05 uF Paper 400 v.		C30	0.1 uF Paper 200 v.	
R2	50,000 ohms $\frac{1}{2}$ watt		C7	Working			Working	
R3	20,000 ohms 1 watt		C8	9 uF Mica		C31	0.5 uF Paper 400 v.	
R4	30,000 ohms 1 watt		C9	2-20 uF Air Trimmer	19659		Working	
R5	20,000 ohms 2 watt		C10	12-430 uF Tuning	18224	C32	0.005 uF Paper 600 v.	
R6	1.5 megohm $\frac{1}{2}$ watt		C11	70 uF Mica		C33	0.1 uF Paper 400 v.	
R7	50,000 ohms $\frac{1}{2}$ watt		C12	100 uF Silvered Mica			Working	
R8	1.5 megohms $\frac{1}{2}$ watt		C13	100 uF Silvered Mica		C34	0.1 uF Paper 200 v.	
R9	0.5 megohms $\frac{1}{2}$ watt		C14	0.05 uF Paper 200 v.			Working	
R10	1.0 megohm $\frac{1}{2}$ watt			Working		C35	16 uF 525 P.V. Electrolytic	
R11	0.5 megohm Volume Control	26455	C15	0.1 uF Paper 400 v.			Working	
R12	2 ohms $\frac{1}{2}$ watt		C16	Working			<b>TRANSFORMERS</b>	
R13	100 ohms $\frac{1}{2}$ watt		C17	100 uF Mica		T1	Loudspeaker Transformer	XA1
R14	0.5 megohm 1 watt		C18	50 uF Mica		T2	Loudspeaker Transformer	
R15	0.25 megohm 1 watt		C19	100 uF Silvered Mica			Power Transformer 50-60 C.P.S.	17875B
R16	50,000 ohms 1 watt		C20	100 uF Silvered Mica			Power Transformer 40 C.P.S.	17877B
R17	32 ohms 3 watt			Working			<b>LOUDSPEAKER</b>	
R18	0.1 megohm Tone Control (inc. S2)	26456	C21	100 uF Mica			9" x 6" Electro Magnet	BE1
R19	1500 ohms $\frac{1}{2}$ watt		C22	0.1 uF Paper 400 v.			<b>SWITCHES</b>	
R20	1500 ohms $\frac{1}{2}$ watt			Working			Phono/Radio Switch	26445
R21	0.5 megohm $\frac{1}{2}$ watt		C23	0.4 uF Paper 200 v.		S1	Power Switch (on R18)	
				Working		S2		



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

## 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 cannot be re-adjusted unless by skilled operators using specialised 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.

## ALIGNMENT TABLE. MODEL 527-MA.

Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output
1	6A8G*	455 Kc/s.	540 Kc/s.	L9 Core
2	6A8G*	455 Kc/s.	540 Kc/s.	L8 Core
3	6A8G*	455 Kc/s.	540 Kc/s.	L7 Core
4	6A8G*	455 Kc/s.	540 Kc/s.	L6 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s.	600 Kc/s.	L.F. Osc. Core Adj. (L5) †
6	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Osc. Adj. (C9)
7	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Aer. Adj. (C3)
Repeat adjustments 5, 6 and 7.				

\*With grid clip connected. A 0.001 uF capacitor should be connected in series with the "high" side of the test instrument.

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

## ALIGNMENT TABLE. MODEL 528-MA.

Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output
1	X61M*	455 Kc/s.	540 Kc/s.	L13 Core
2	X61M*	455 Kc/s.	540 Kc/s.	L12 Core
3	X61M*	455 Kc/s.	540 Kc/s.	L11 Core
4	X61M*	455 Kc/s.	540 Kc/s.	L10 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s.	600 Kc/s.	L.F. Osc. Core Adj. (L7) †
6	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Osc. Adj. (C17)
7	Aerial Terminal	1500 Kc/s.	1500 Kc/s.	H.F. Aer. Adj. (C3)
Repeat adjustments 5, 6 and 7.				
8	Aerial Terminal	16 Mc/s.	16 Mc/s.	H.F. Osc. Adj. (C19)**
9	Aerial Terminal	16 Mc/s.	16 Mc/s.	H.F. Aer. Adj. (C7) ‡

\*With grid clip connected. A 0.001 uF capacitor should be connected in series with the "high" side of the test instrument.

†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.

