

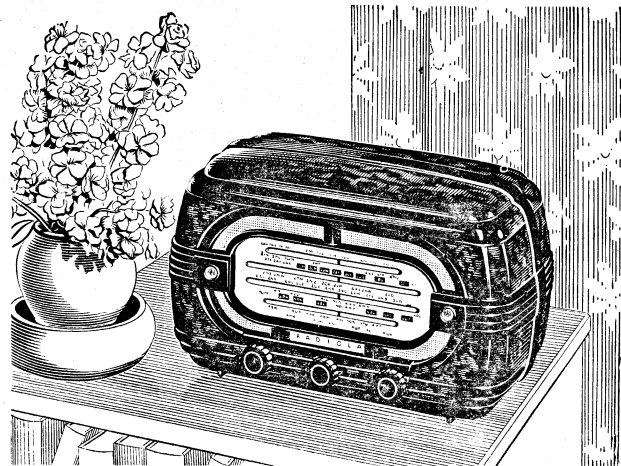
TECHNICAL INFORMATION
AND
SERVICE DATA

AWA **RADIOLA**

Model 429-MA

FOUR VALVE, BROADCAST
A.C. OPERATED SUPERHETERODYNE

ISSUED BY
AMALGAMATED WIRELESS (A/SIA) LTD.



ELECTRICAL SPECIFICATIONS.

Frequency Range 540-1600 Kc/s.
(555-187.5 M)
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 35 watts

LOUDSPEAKER (Permanent Magnet):
5 inch—Code number AC53.
Transformer—XA2.

V.C. Impedance—3 ohms at 400 C.P.S.
Undistorted Power Output—1.5 watts.

VALVE COMPLEMENT:

- (1) 6BE6, Converter.
- (2) 6AR7GT, I.F. Amp., Det., A.V.C.
- (3) N78, Output.*
- (4) 5Y3GT Rectifier.

*Some receivers have been fitted with a KT61 output valve which is identical in performance with the N78. KT61 socket connections are shown in Fig. 4.

MECHANICAL SPECIFICATIONS.

	Height	Width	Depth
Cabinet Dimensions (ins.)	7 $\frac{3}{4}$	12 $\frac{7}{8}$	7 $\frac{1}{4}$
Carton Dimensions (ins.)	10	16	10
Weight (nett lbs.)	12 lbs.		
Cabinet Colours	Walnut, Ivory, Burgundy.		

GENERAL DESCRIPTION.

The Radiola 429-MA is a compact mantel receiver housed in an attractively designed two-piece plastic cabinet. The back is so designed to enable the receiver to be carried with ease.

Features of design include—Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and oscillator coil, automatic tone compensation, straight-line edge lighted plastic dial scale.

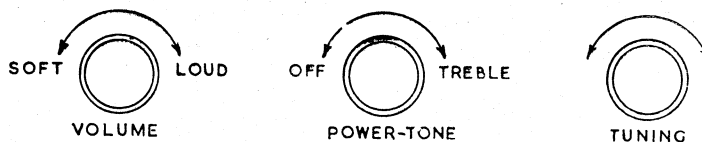


FIG. 1.

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 replaced or repaired, 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.
- (3) A.W.A. Output Meter, type 2M8832.

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.....	10
Power Transformer (T2):	
Primary	60
Secondary	350
Loudspeaker Input Transformer (T1):	
Primary	525 or 430
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.

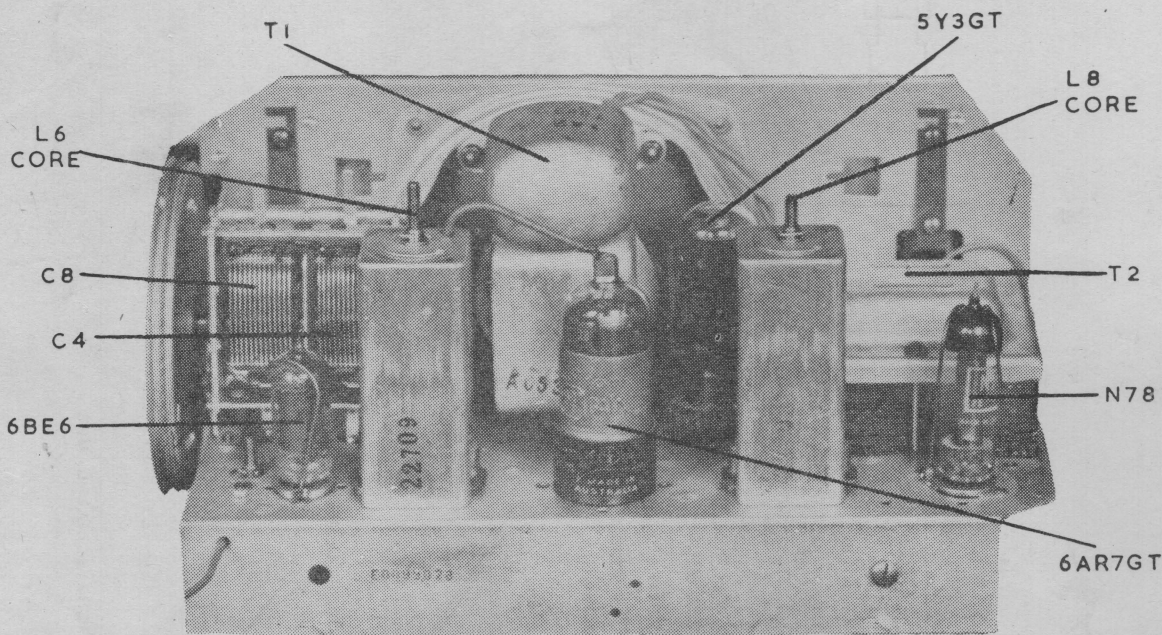
SOCKET VOLTAGES.

VALVES	Screen Grid to Chassis Volts	Anode to Chassis Volts	Anode Current mA.	Heater Volts
6BE6 Converter	85	200	1.5	6.3
6AR7GT I.F. Amp., Det., A.V.C.	85	200	7.5	6.3
N78 Output	160	190	23	6.3
5Y3GT Rectifier	—	190 A.C.	—	5.0

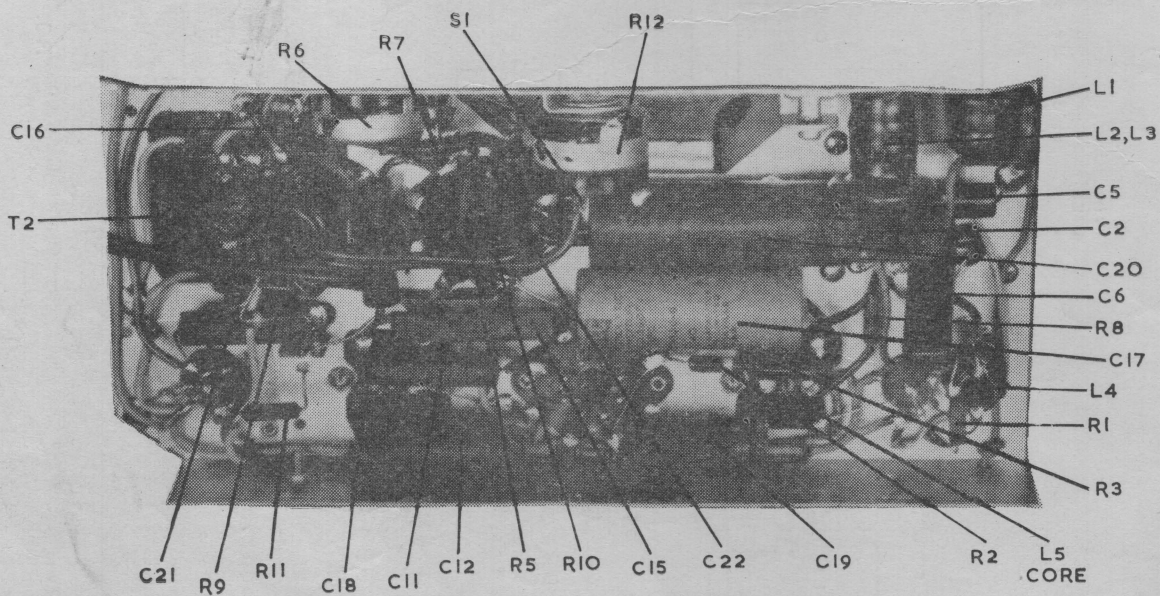
Volts across back-bias resistor R8—3.0 v.

Total H.T. Current—43 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.



CHASSIS TOP VIEW MODEL 429-MA



CHASSIS UNDERNEATH VIEW MODEL 429-MA

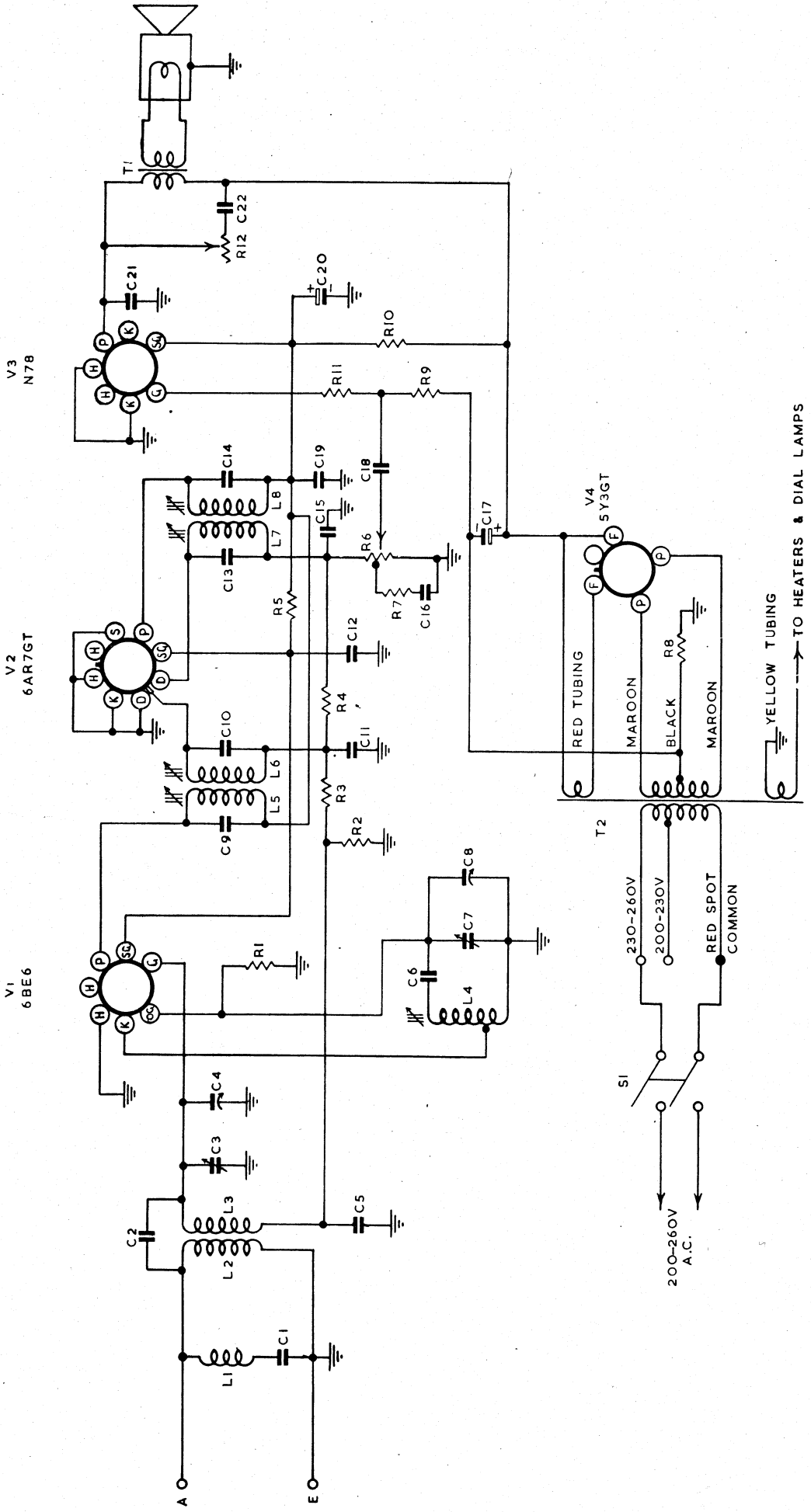


FIG. 5.

ALIGNMENT TABLE.

Alignment Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver to:	Adjust for Maximum Peak Output
1	Aerial Section of Gang (Rear portion)	455 Kc/s.	540 Kc/s.	L8 Core
2	Aerial Section of Gang (Rear portion)	455 Kc/s.	540 Kc/s.	L7 Core
3	Aerial Section of Gang (Rear portion)	455 Kc/s.	540 Kc/s.	L6 Core
4	Aerial Section of Gang (Rear portion)	455 Kc/s.	540 Kc/s.	L5 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. (L4)* H.F. Osc. Adj. (C7) H.F. Aer. Adj. (C3)
6	Aerial Lead	1500 Kc/s	1500 Kc/s.	
7	Aerial Lead	1500 Kc/s	1500 Kc/s.	
Repeat adjustments 5, 6 and 7.				

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

Chassis Removal.

- (1) Remove the control knobs by pulling them straight off their spindles.
- (2) Remove two recessed 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 from the cabinet.

When replacing the chassis, make sure that the dial lamps locate correctly in their respective light cowl.

Tuning Drive Cord Replacement.

The accompanying diagram shows the route of the cord and the method of attachment. The fret assembly must be removed before the drive cord can be fitted.

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.

DRIVE CORD REPLACEMENT

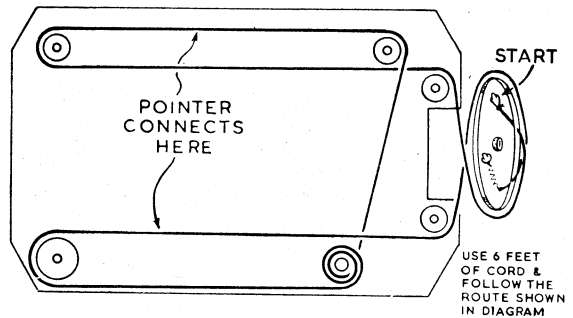


FIG. 2.

RED DOT INDICATES COMMON CONNECTION FOR ALL VOLTAGES

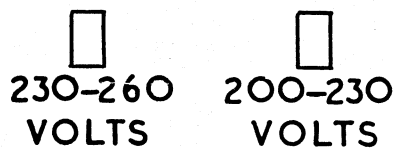


FIG. 3.

MECHANICAL REPLACEMENT PARTS.

Item	Part No.	Item	Part No.
Cabinet, front	26501	Knob	26516
Cabinet, back	26502	Light shield (walnut and bur- gundy cabinets only)	26527
Cable power	15940	Light, shield (ivory cabinet only)	27043
Clip, grid	7459	Socket, valve octal	4704
Dial, pointer	26884	Socket, valve miniature	19965
Dial, scale, Northern	25969B	Spindle, drive	26520
Dial, scale, Southern	25967B	Strip, tag 1 way	7628
Drum, drive	25261		
Fret, assembly	26889		

CIRCUIT CODE RADIOLA 429-MA.

Code No.	Description	Part No.	Code No.	Description	Part No.	Code No.	Description	Part No.
	INDUCTORS			CAPACITORS				
L1	I.F. Filter (including C1)	9382	C1	50 uuF Silvered Mica		C18	0.025 uF Paper 400 v. Working	
L2, L3	Aerial Coil 540-1600 Kc/s.	7647A	C2	4 uuF Mica		C19	0.1 uF Paper 400 v. Working	
L4	Oscillator Coil 540-1600 Kc/s.	15949	C3	2-20 uuF Trimmer (on Gang)	18671	C20	24 uF 350 P.V. Electrolytic	
L5, L6, L7, L8	1st I.F. Transformer ... 2nd I.F. Transformer ...	22709 22703	C4	12-430 uuF Tuning		C21	0.01 uF Paper 600 v. Working	
	RESISTOR		C5	0.05 uF Paper 200 v. Working		C22	0.05 uF Paper 400 v. Working	
R1	20,000 ohms ½ watt		C6	470 uuF Padder ± 2½%		C23	9 uuF Mica	
R2	0.5 megohm ½ watt		C7	2-20 uuF Trimmer (on Gang)			TRANSFORMERS	
R3	1.0 megohm ½ watt		C8	12-430 uuF Tuning	18671	T1	Loudspeaker Trans- former	XA2
R4	2.5 megohm ½ watt		C9	70 uuF Silvered Mica		T2	Power Transformer 50-60 C.P.S.	17871C
R5	10,000 ohms 1 watt		C10	70 uuF Silvered Mica			Power Transformer 40 C.P.S.	17873C
R6	0.5 megohm Volume Control (Tapped at 100,000 ohms)	26890	C11	0.05 uF Paper 200 v. Working			LOUDSPEAKER	
R7	10,000 ohms ½ watt		C12	0.1 uF Paper 400 v. Working			5 inch Permanent Magnet	AC53
R8	75 ohms ½ watt		C13	70 uuF Silvered Mica			SWITCH	
R9	0.5 megohm ½ watt		C14	70 uuF Silvered Mica		S1	Power Switch (on R12)	
R10	2,000 ohms 1 watt		C15	500 uuF Mica				
R11	50,000 ohms ½ watt		C16	0.025 uF Paper 400 v. Working				
R12	0.1 megohm Tone Control (including S1) ...	26441	C17	24 uF 350 P.V. Electrolytic				

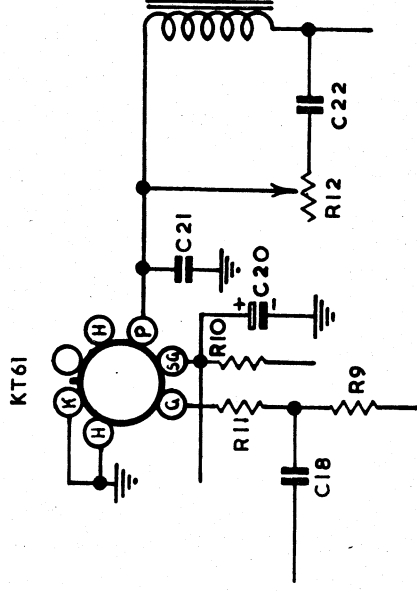


FIG. 4.

Code Values are unchanged.