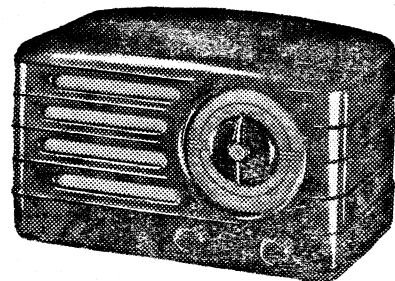


TECHNICAL INFORMATION
AND
SERVICE DATA

AWA RADIOLETTE

Model 516-M
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.
(Instruments available for other voltage and frequency ratings.)

POWER CONSUMPTION 35 watts

DIAL LAMP 6.3 volt, 0.25 amp. M.E.S.

VALVE COMPLEMENT:
(1) 6A8G Converter.

(2) 6G8G I.F. Amplifier, 2nd Det., and A.V.C.

(3) 6V6GT Output.

(4) 5Y3GT Rectifier.

LOUDSPEAKER (Permanent Magnet):

5 inch — Code No. AC36.

Transformer — XA2.

V.C. Impedance — 3 ohms at 400 c.p.s.

CONTROLS: Volume (left).
Tuning (right).

MECHANICAL SPECIFICATIONS.

	Height.	Width.	Depth.
Cabinet Dimensions (inches)	7 $\frac{3}{8}$	11 $\frac{1}{4}$	5 $\frac{1}{2}$
Chassis Base Dimensions (inches)	2	10 $\frac{1}{2}$	5 $\frac{1}{2}$
Overall Chassis Height (inches) ...			6 $\frac{1}{2}$

	Height.	Width.	Depth.
Weight (net lbs.)			13
Carton Dimensions (inches)	9 $\frac{3}{8}$	12	8
Cabinet Colours	Ivory, Jade, and Walnut		

GENERAL DESCRIPTION.

The Radiolette 516-M is a compact mantel receiver housed in an attractively designed moulded plastic cabinet which is produced in three colours—Ivory, Jade and Walnut.

Features of its design include: Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and oscillator coil; spiral-wound trimmers mounted on the tuning capacitor.

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

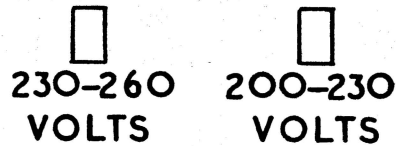
tuning capacitor be bent, as the unit is accurately aligned during manufacture and cannot be re-adjusted unless by skilled operators using specialised equipment.

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. The two R.F. alignment points, 600 Kc/s and 1500 Kc/s are marked on the right and left-hand edges of the glass dial scale.

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.

RED DOT INDICATES COMMON CONNECTION FOR ALL VOLTAGES.



SOCKET VOLTAGES.

Valves	Cathode to Chassis Volts	Screen Grid to Chassis Volts	Anode to Chassis Volts	Anode Current mA.	Bias Volts	Heater Volts
6A8G Converter	0	100	210	3.5	-3	6.3
	—	—	210	5.0	—	—
6G8G I.F. Amp., Detector, A.V.C.	0	100	100	4.0	-3	6.3
6V 6GT Output	0	100	200	14.0	-5	6.3
5Y3GT Rectifier	210		190 A.C.			5.0

Total H.T. Current — 35 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.

D.C. RESISTANCE OF WINDINGS.

Winding	D.C. Resistance in ohms
Aerial Coil—	
Primary	30
Secondary	4
Oscillator Coil—	
Primary	1.5
Secondary	6.0
I.F. Transformer Windings	8
Loudspeaker Input Transformer (T1)	
Primary	525 or 430
Secondary	*
Power Transformer (T2)	
Primary	60
Secondary	350

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.

* Less than 1 ohm.

MECHANICAL REPLACEMENT PARTS.

Item	Part No.	Item	Part No.
Cabinet	17600	Knob	17603
Cable, power	15940	Pointer	22527
Clip, grid	5793A	Screen, valve	22512
Dial scale	22517	Socket, valve	4704
Dial frame assembly	22515A	Spindle, drive	17647
Drum, drive	17626	Spring, drive tension	22524

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) Output Meter.

The instrument recommended should have an output impedance of 7000 ohms and a range of 5-3000 milliwatts. The meter should be connected across the primary of the loudspeaker.

ALIGNMENT TABLE.

Order	Connect "high" side of generator to:	Tune generator to:	Tune receiver to:	Adjust for maximum peak output
1 ‡	6A8G*	455 Kc/s	540 Kc/s	L8 Core
2	6A8G*	455 Kc/s	540 Kc/s	L7 Core
3	6A8G*	455 Kc/s	540 Kc/s	L6 Core
4	6A8G*	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) †
6	Aerial lead	1500 Kc/s	1500 Kc/s	H.F. Osc. Adj. (C5)
7	Aerial lead	1500 Kc/s	1500 Kc/s	H.F. Aer. Adj. (C2)
Repeat adjustments 5, 6 and 7.				

‡ Before I.F. alignment is possible, a capacity lead connected to the plate of the 6G8G must be twisted until it lies alongside the electrolytic capacitor C7. Upon completion of I.F. alignment, move the capacity lead back as far as possible towards the 1st I.F. without causing oscillation. At this point, no further adjustment of the I.F.'s must be made.

* With grid clip connected. An 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.

CHASSIS REMOVAL.

First remove the control knobs and felt washers—each knob is held by a set screw. Then, remove two screws from underneath the cabinet and withdraw the chassis.

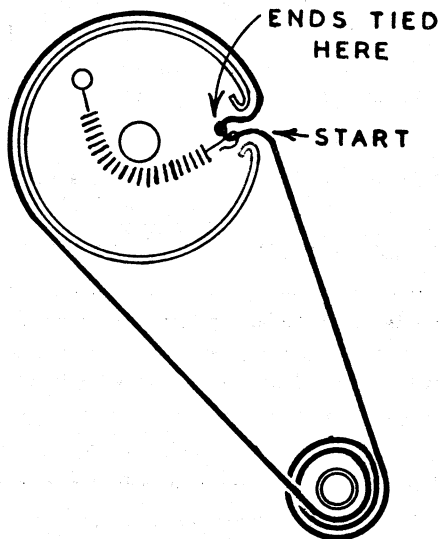
DIAL POINTER ADJUSTMENT.

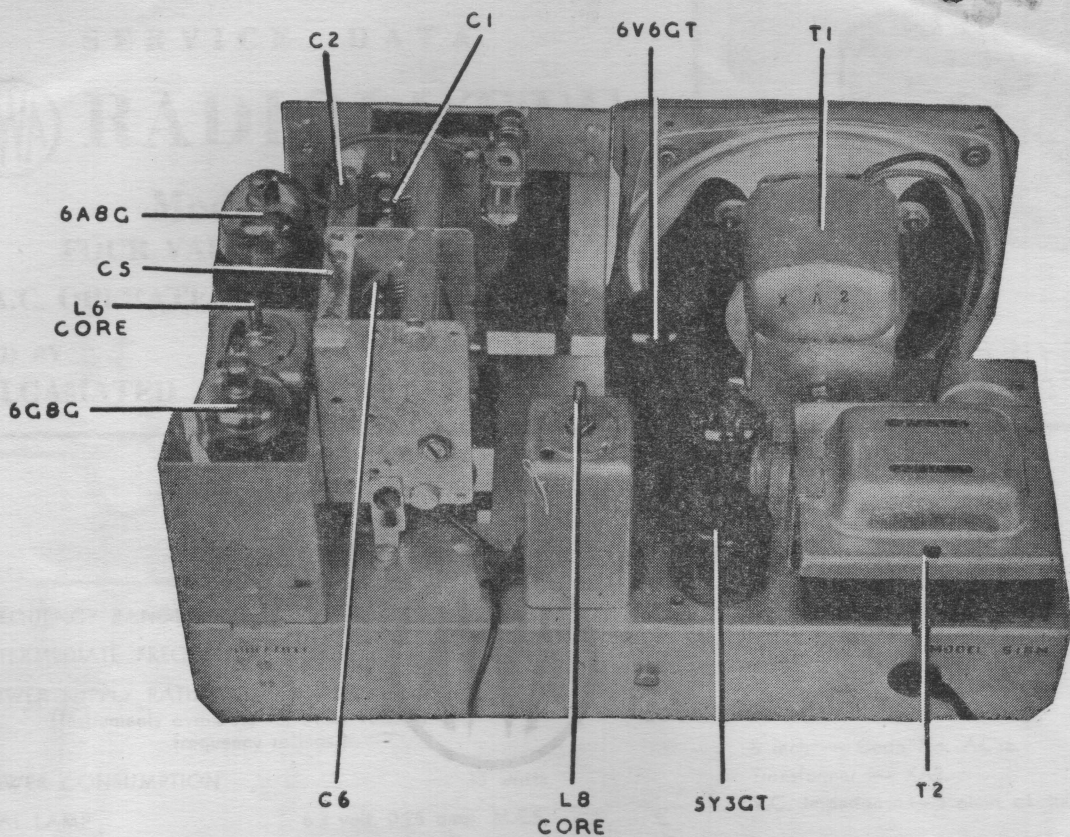
To shift the position of the dial pointer, loosen the set screw in the rear of the pointer. Turn the pointer in the required direction and re-tighten the set screw.

TUNING DRIVE CORD REPLACEMENT.

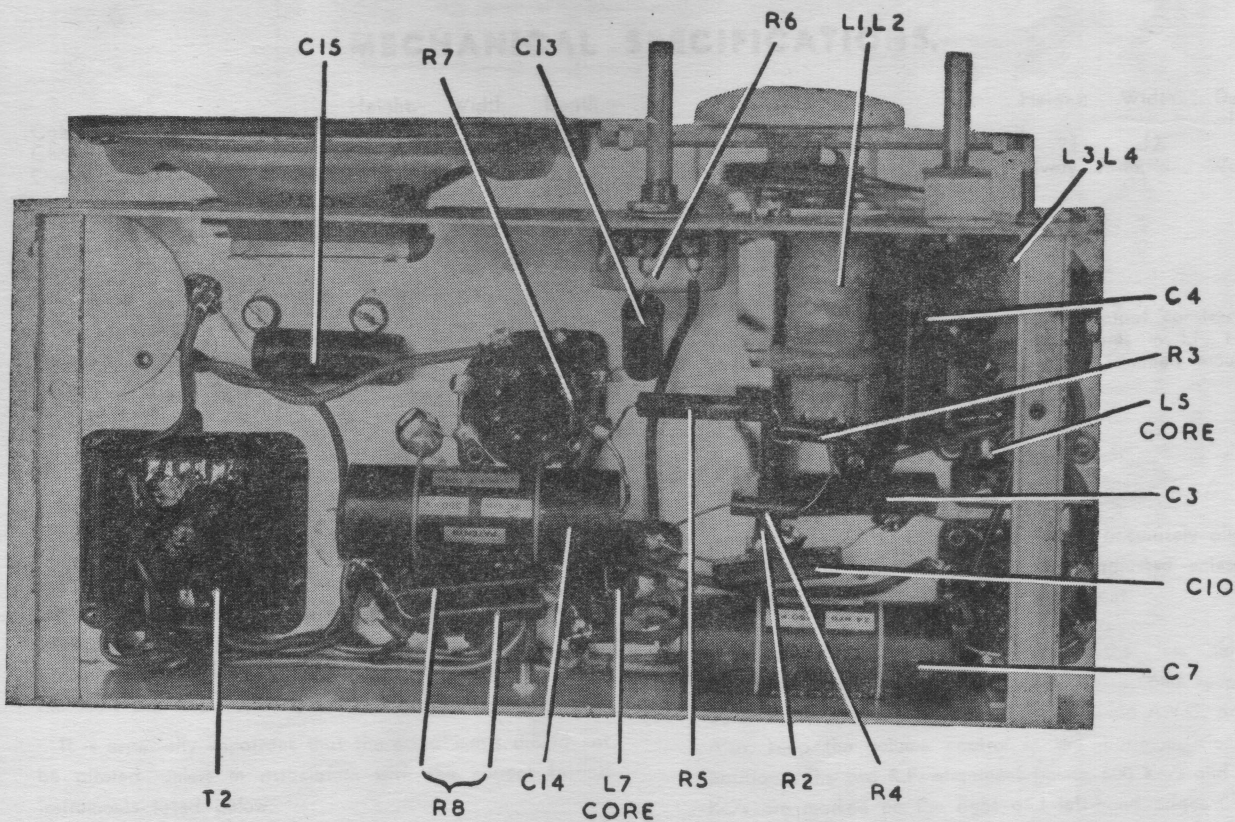
To replace the drive cord it is first necessary to remove the dial assembly by removing the dial pointer and then the two mounting screws.

The accompanying diagram shows the route of the cord and the method of attachment. The drive cord is approximately 12" long.





CHASSIS (TOP VIEW) Model 516-M



CHASSIS (UNDERNEATH VIEW) Model 516-M