

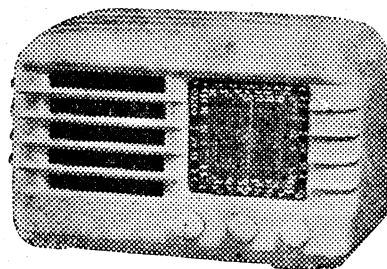
TECHNICAL INFORMATION
AND
SERVICE DATA

 **RADIOLAS**

MODELS 512-M & 519-M

**FIVE VALVE, ONE BAND,
A.C. OPERATED SUPERHETERODYNES**

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



ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGE:

Medium Wave 1600-540 Kc/s (187.5-555 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 60 watts

DIAL LAMPS 6.3 volts, 0.25 amp. M.E.S.

VALVE COMPLEMENT:

- (1) 6A8G Converter.
- (2) 6SK7GT I.F. Amplifier.
- (3) 6SQ7GT Detector, A.V.C. and A.F. Amplifier.
- (4) 6V6GT Output.
- (5) 6X5GT Rectifier.

LOUDSPEAKER:

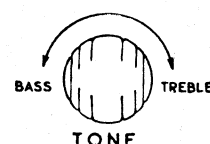
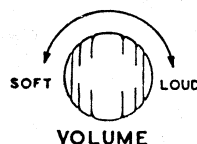
5 inch—Code No. A.A.16.

Transformer—XA2.

V.C. Impedance—3 ohms at 400 C.P.S.

UNDISTORTED POWER OUTPUT 3 watts

CONTROLS:

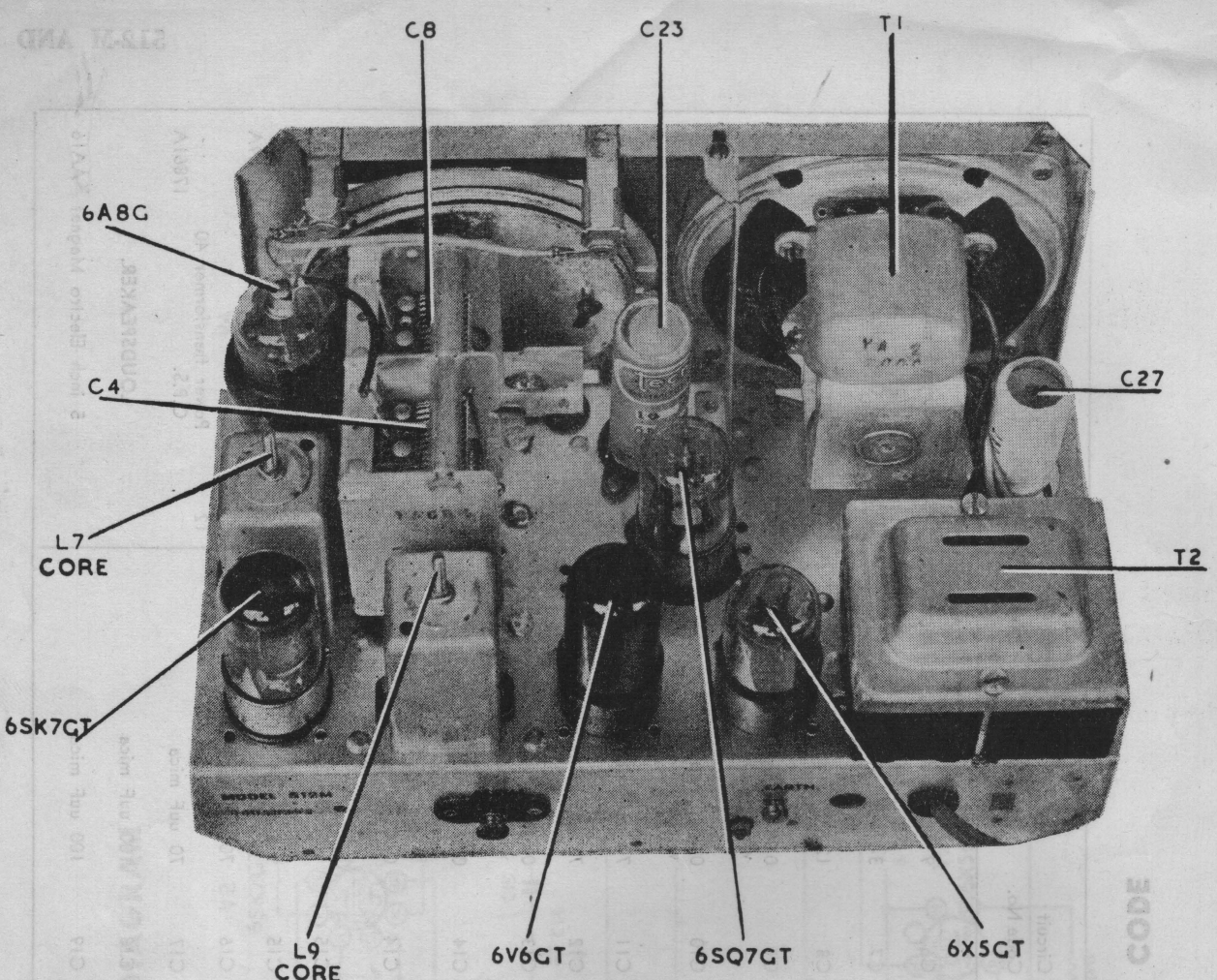


MECHANICAL SPECIFICATIONS.

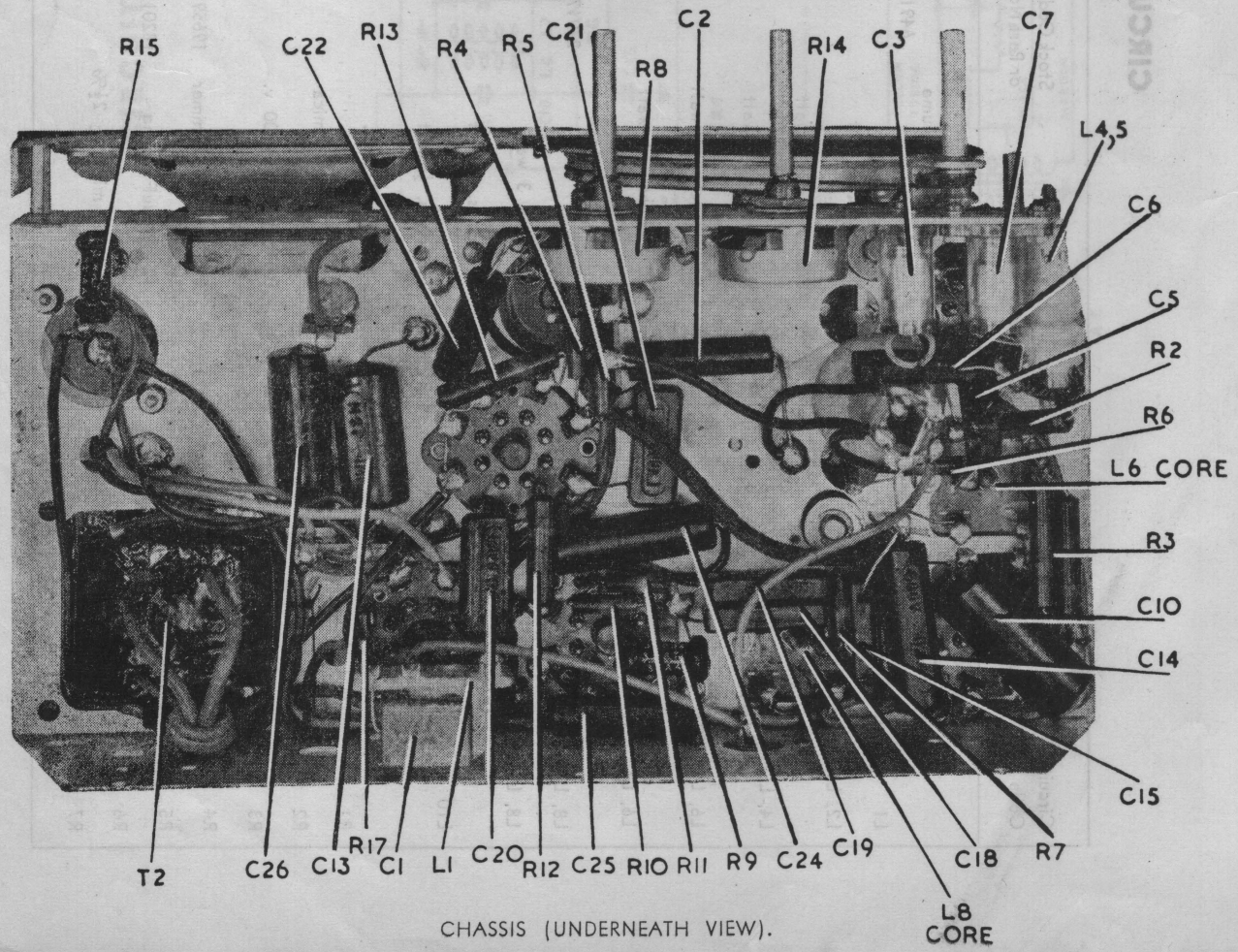
These specifications are the same as for Model 510-M.

CIRCUIT CODE

Circuit Code No.	Description.	Stock Code or Part No.	Circuit Code No.	Description.	Stock Code or Part No.	Circuit Code No.	Description.	Stock Code or Part No.	Circuit Code No.	Description.	Stock Code or Part No.
INDUCTORS.											
L1	I.F. filter (including C1)	9382	R8	0.5 megohm, Volume Control	6491	C6	9 uuF mica		C20	200 uuF mica	
L2, L3	Aerial Coil, 540-1600 kc/s	15454	R9	325 ohms, 3 watt		C7	3-25 uuF air trimmer	19659	C21	50 uuF mica	
L4, L5	Oscillator Coil, 540-1600 kc/s	9206A	R10	50,000 ohms, ½ watt		C8	12-430 uuF tuning	18201	C22	0.01 uF paper, 600 v. working	
L6, L7	1st I.F. transformer (512-M)	17646	R11	0.5 megohm, ½ watt		C9	0.05 uF paper, 400 v. working		C23	16 uF 525 P.V. Electrolytic	
L6, L7	1st I.F. transformer (519-M)	22700	R12	0.25 megohm, 1 watt		C10	0.1 uF paper, 400 v. working		C24	0.02 uF paper, 600 v. working	
L8, L9	2nd I.F. transformer	17646	R13	10 megohms, 1 watt		C11	70 uuF mica		C25	0.01 uF paper, 600 v. working	
L8, L9	2nd I.F. transformer (519-M)	22703	R14	0.1 megohm, Tone Control	21917	C12	70 uuF mica		C26	0.03 uF paper, 600 v. working	
L10	Speaker field 1000 ohms		R15	50 ohms, 3 watt		C13	0.1 uF paper, 400 v. working		C27	8 uF 525 P.V. Electrolytic	
RESISTORS.											
R1	50,000 ohms, ½ watt		R16	100 ohms, ½ watt		C14	0.02 uF paper, 600 v. working (512-M only)		TRANSFORMERS.		
R2	20,000 ohms, 1 watt		R17	100 ohms, ½ watt		C14	0.005 uF paper 400 v. working (519-M only)		T1	Loudspeaker transformer	XA2
R3	25,000 ohms, 2 watt		CAPACITORS.			C15	14 uuF mica (512-M only)		T2	Power transformer 50-60 C.P.S.	17859A
R4	2.5 megohms, ½ watt		C1	50 uuF silvered mica		C16	70 uuF mica		T2	Power transformer 40 C.P.S.	17861A
R5	1.6 megohms, ½ watt		C2	0.05 uF paper 200 v. working		C17	70 uuF mica		LOUDSPEAKER.		
R6	0.1 megohm, ½ watt		C3	3-25 uuF air trimmer	19659	C18	100 uuF mica		5 inch Electro Magnet AA16		
R7	50,000 ohms, ½ watt		C4	12-430 uuF tuning	18201	C19	100 uuF mica				
			C5	470 uuF mica ± 2½% padder							



CHASSIS (TOP VIEW).



CHASSIS (UNDERNEATH VIEW).

SOCKET VOLTAGES

Valves.	Cathode to Chassis. Volts.	Screen Grid to Chassis. Volts.	Anode to Chassis. Volts.	Anode Current mA.	Heater Volts.
6A8G Converter	0	90	240	5	6.3
Oscillator	—	—	170	3.5	—
6SK7GT I.F. Amplifier	0	90	240	8	6.3
6SQ7GT Det., A.V.C., and A.F. Amplifier	0	—	90*	0.6	6.3
6V6GT Output	13	240	225	35	6.3
6X5GT Rectifier	300	—	280 A.C.	—	6.3

Volts across back-bias resistor R16—3.0.

Total H.T. Current—60 mA.

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.

* Calculated from measured current. An ordinary voltmeter will register a lower value.

D.C. RESISTANCE OF WINDINGS.

Winding.	D.C. Resistance in ohms.
Aerial Coil—	
Primary (L2)	30
Secondary (L3)	4
Oscillator Coil—	
Primary (L4)	2
Secondary (L5)	6
I.F. Transformer Windings	12
I.F. Filter (L1)	17.5†
Power Transformer (T1)—	
Primary	50
Secondary	400
Loudspeaker input trans- former (T2)—	
XA2 Primary	525 or 430**
Secondary	*

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.

† In some receivers this reading may be as high as 60 ohms.

** Depending on material used.

MECHANICAL REPLACEMENT PARTS

Item.	Part No.	Item.	Part No.
Cabinet	20164	Knob (colour to be specified)	17603
Cable, power	209	Screen, I.F. transformer	17639
Cable, volume control	15451	Socket, valve	4707
Clip, grid	7459	Socket, valve cushion	40142
Cone Assembly, loudspeaker	10678	Strip tag, 1 way	7628
Dial Scale, 512-M	21912	2 way	8021
Dial Scale, 519-M	22682	2 way	8863
Dial Pointer Assembly	20132	Socket, dial lamp	20163
Drum, drive	20130	Terminal, aerial	17717
Dust Cover, loudspeaker	7848		

ALIGNMENT PROCEDURE.

The alignment procedure is the same as for Model 510-M with the exception of the alignment table given below.

ALIGNMENT TABLE

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. (C5)
7	Aerial Terminal	1500 kc/s	1500 kc/s	H.F. Aer. Adj. (C2)
Repeat adjustments 5, 6 and 7.				

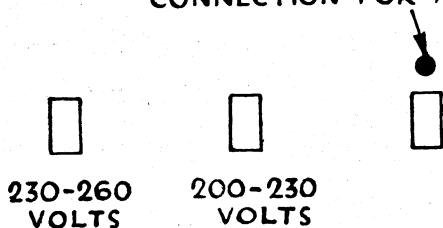
* With grid clip connected. An 0.001 uF capacitor should be connected in series with the "high" side of the test instrument.

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

CONNECTION TO POWER SUPPLY.

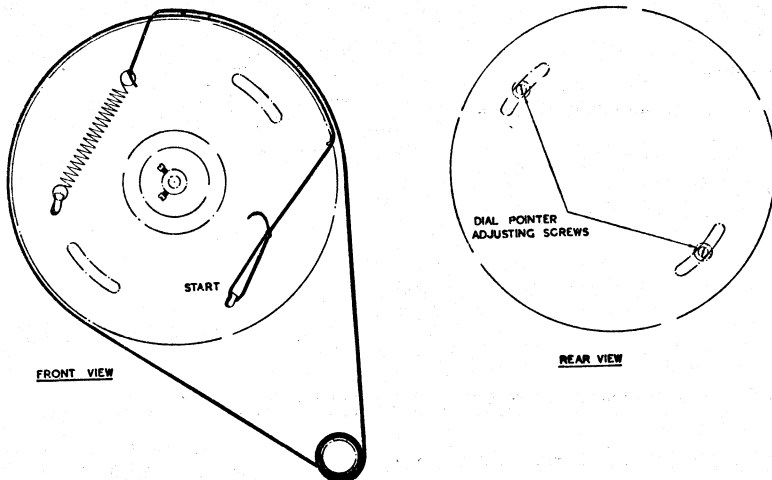
The receiver should not be connected to any circuit supplying other than alternating current of from 200-260 volts and at the frequency stated on the label within the cabinet. The power supply connection is shown in the accompanying diagram.

RED DOT INDICATES COMMON CONNECTION FOR ALL VOLTAGES



DIAL POINTER ADJUSTMENT.

To shift the position of the dial pointer, loosen two screws in the rear of the drive drum—see accompanying diagram—move the drum to the required position, and re-tighten the screws.



CIRCUIT DIAGRAM

