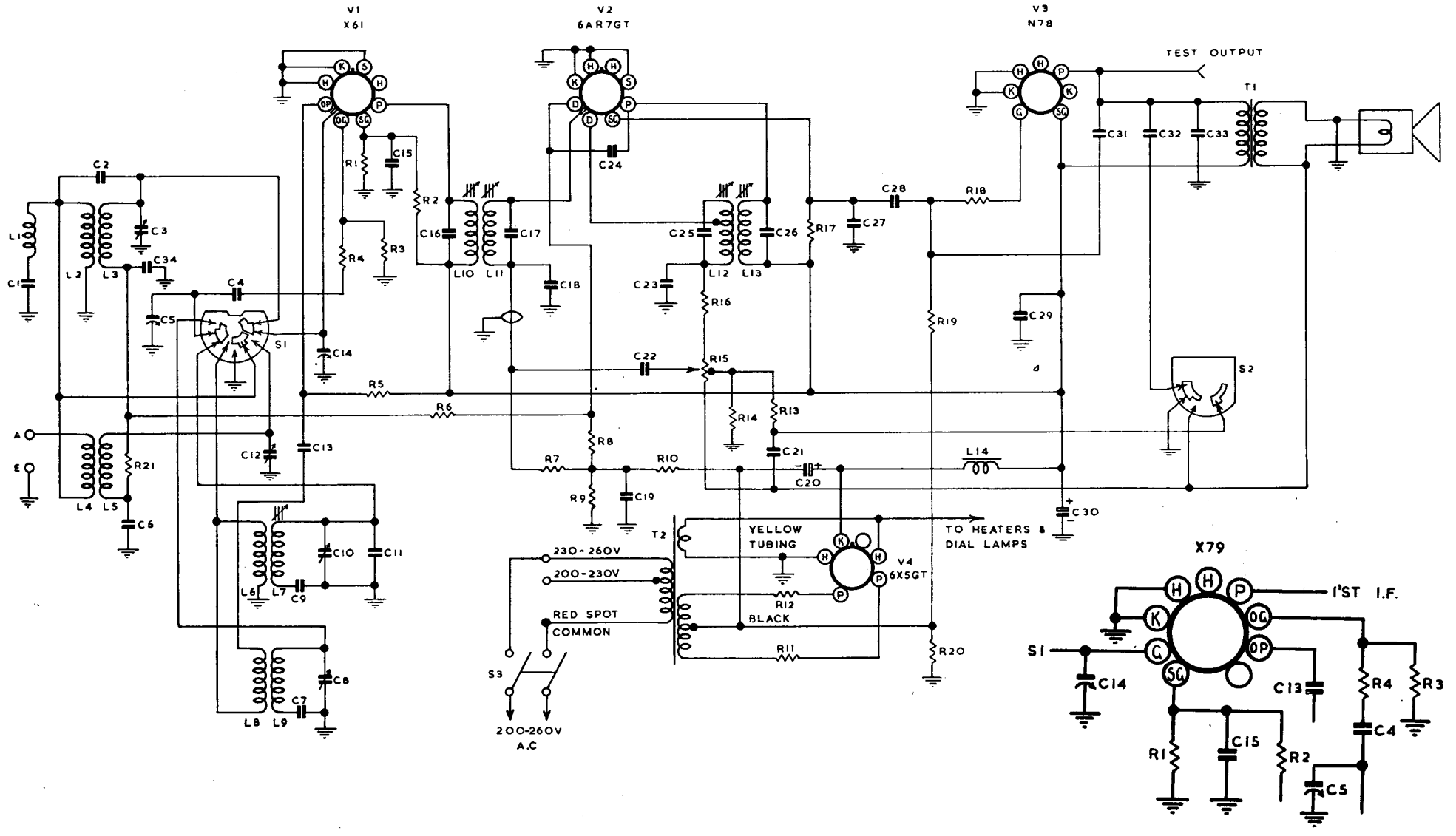


CODE VALUES ARE UNCHANGED.

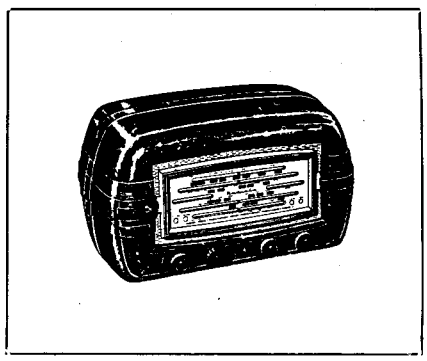
TECHNICAL INFORMATION
AND
SERVICE DATA

AWA RADIOLA

Model 430-MA

FOUR VALVE, TWO BAND, A.C. OPERATED SUPERHETERODYNE

ISSUED BY
AMALGAMATED WIRELESS (A/SIA) LTD.



ELECTRICAL SPECIFICATIONS

Frequency Ranges:
Medium Wave ..... 540-1600 Kc/s (555-187.5 Metres)
Short Wave ..... 6-18 Mc/s (50-16 Metres)

Intermediate Frequency ..... 455 Kc/s

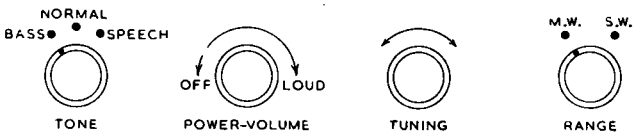
Power Supply Rating ..... 200-260 volts, 50-60 C.P.S.
(Models are produced with other voltage and frequency ratings.)

Power Consumption ..... 50 watts

Valve Complement:
(1) X61 or X79 Converter
(2) 6AR7GT. I.F. Amp., Det., A.F. Amp., A.V.C.
(3) N78 Output
(4) 6X5GT Rectifier

Loudspeaker:
6½ inch — code No. AE22
Transformer — XA2
V.C. Impedance — 3 ohms at 400 C.P.S.
Field — 1000 ohms

Undistorted Power Output ..... 3 watts

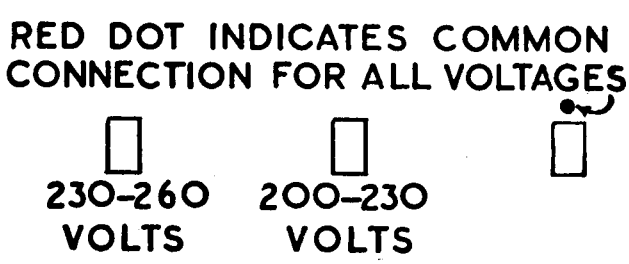


Chassis Removal

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

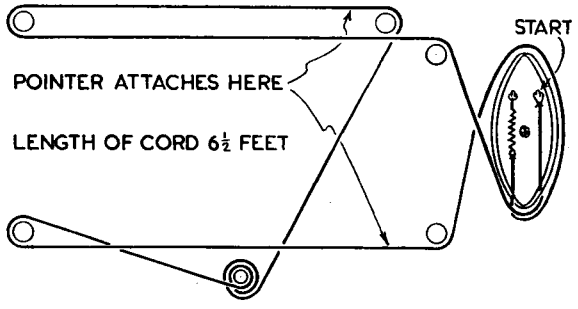
Remove two recessed nuts from the top of the cabinet back, two screws from underneath the cabinet back and withdraw it.

The chassis is held to the cabinet front by two screws situated under it. Removal of these enables the chassis to be withdrawn.



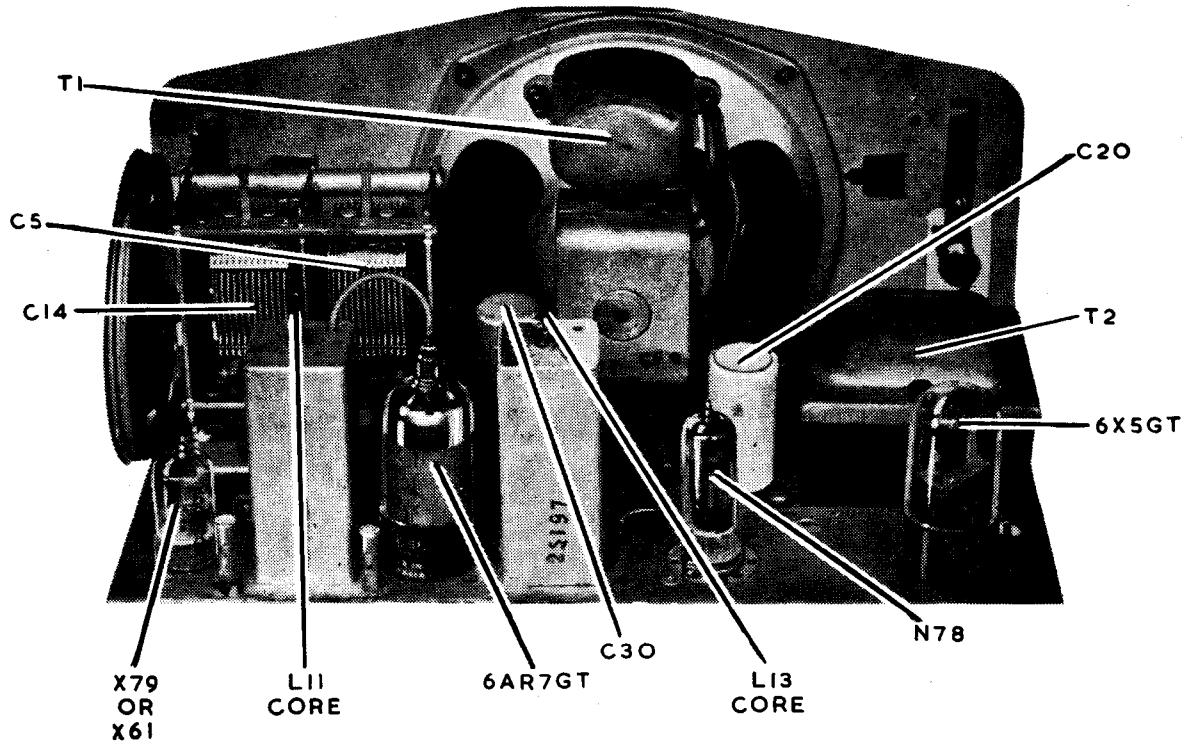
Connection to Power Supply

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.

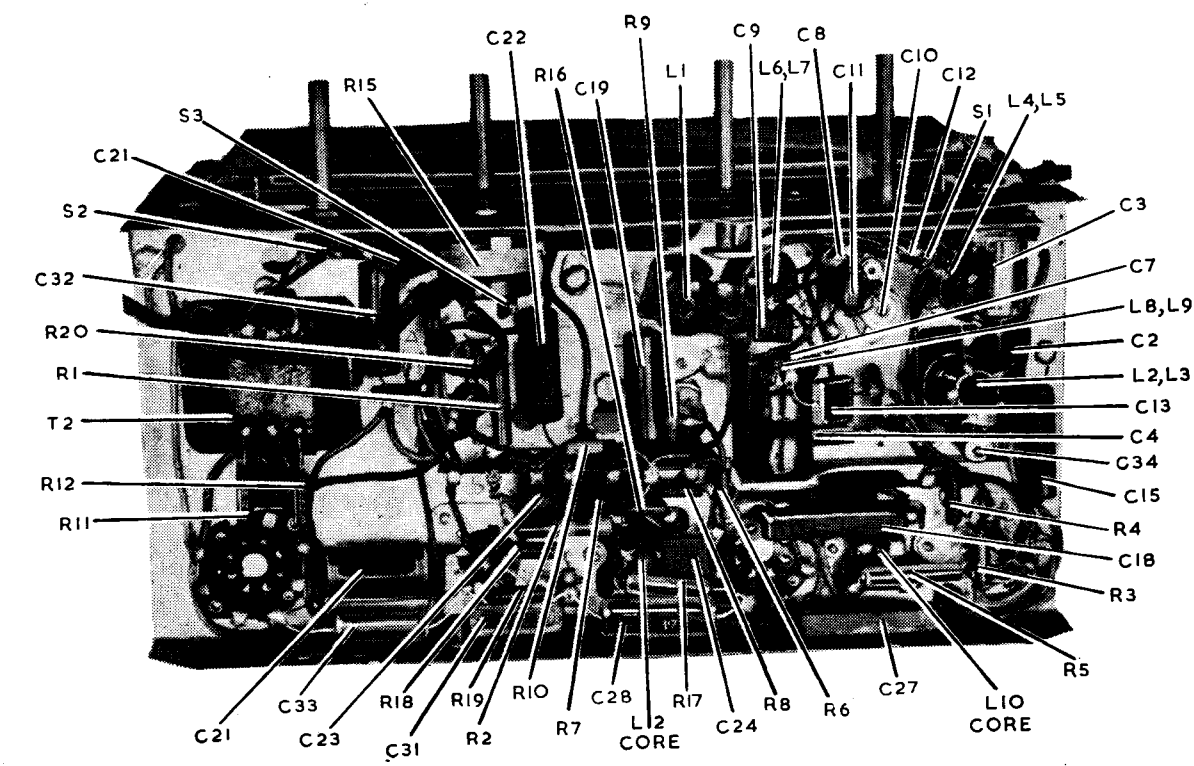


Drive Cord Replacement

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



CHASSIS TOP VIEW MODEL 430-MA



CHASSIS UNDERNEATH VIEW MODEL 430-MA

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 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 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

Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for maximum peak output
1	Aerial Section of Gang (Front portion)	455 Kc/s	540 Kc/s	L13 Core
2	Aerial Section of Gang (Front portion)	455 Kc/s	540 Kc/s	L12 Core
3	Aerial Section of Gang (Front portion)	455 Kc/s	540 Kc/s	L11 Core
4	Aerial Section of Gang (Front portion)	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. (C10)
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. (C8) †
9	Aerial Terminal	16 Mc/s	16 Mc/s	H.F. Aer. Adj. (C12) ‡

* 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 obtained.

‡ Use maximum capacity peak if two can be obtained.

CIRCUIT CODE—RADIOLA 430-MA

Code No.	Description	Part No.
	INDUCTORS	
L1	I.F. Filter (including C1)	9382
L2, L3	Aerial Coil 540-1600 Kc/s	15454
L4, L5	Aerial Coil 6-18 Mc/s	15456
L6, L7	Oscillator Coil 540-1600 Kc/s	7638A
L8, L9	Oscillator Coil 6-18 Mc/s	15458
L10, L11	1st I.F. Transformer	25195
L12, L13	2nd I.F. Transformer	25197
L14	Speaker Field 1000 ohms	
	RESISTORS	
R1	16,000 ohms 1 watt	
R2	20,000 ohms 2 ,,	
R3	50,000 ohms ½ ,,	
R4	100 ohms ½ ,,	
R5	32,000 ohms 1 ,,	
R6	2.0 megohms ½ ,,	
R7	2.0 megohms ½ ,,	
R8	1.0 megohm ½ ,,	
R9	0.32 megohm ½ ,,	
R10	0.4 megohm ½ ,,	
R11	100 ohms ½ ,,	
R12	100 ohms ½ ,,	
R13	5,000 ohms ½ ,,	
R14	2,500 ohms ½ ,,	
R15	0.5 megohm Volume Control (Incl. S3)	26888
R16	50,000 ohms ½ watt	
R17	63,000 ohms 1 ,,	
R18	50,000 ohms ½ ,,	
R19	0.1 megohm ½ ,,	
R20	75 ohms ½ ,,	
R21	0.1 megohm ½ ,,	
	CAPACITORS	
C1	50 μμF silvered mica	
C2	4 μμF mica	
C3	2-20 μμF air trimmer	19659
C4	50 μμF mica	
C5	12-430 μμF tuning	18222
C6	0.05 μF paper 200V working	
C7	4000 μμF padder ± 2½%	
C8	2-20 μμF air trimmer	19659
C9	440 μμF padder ± 2½%	
C10	2-20 μμF air trimmer	19659
C11	9 μμF mica	
C12	2-20 μμF air trimmer	19659
C13	200 μμF mica	
C14	12-430 μμF tuning	18222
C15	0.025 μF paper 400V working	
C16	100 μμF silvered mica	
C17	100 μμF silvered mica	
C18	1000 μμF mica	
C19	0.1 μF paper 200V working	
C20	8 μF 525 P.V. Electrolytic	
C21	0.025 μF paper 400V working	
C22	0.005 μF paper 600V working	
C23	500 μμF mica	
C24	50 μμF mica	
C25	100 μμF silvered mica	
C26	100 μμF silvered mica	
C27	1000 μμF mica	
C28	0.02 μF paper 600V working	
C29	0.1 μF paper 400V working	
C30	16 μF 525 P.V. Electrolytic	
C31	50 μμF mica	
C32	0.05 μF paper 400V working	
C33	0.0025 μF paper 600V working	
C34	0.05 μF paper 200V working	
	TRANSFORMERS	
T1	Loudspeaker Transformer	XA2
T2	Power Transformer 50 C.P.S.	17859D
	Power Transformer 40 C.P.S.	17861D
	LOUDSPEAKER	
	6½ inch electro magnet	AE22
	SWITCHES	
S1	Range Switch	26863
S2	Tone Switch	26853
S3	Power Switch (On R15)	

D.C. RESISTANCE OF WINDINGS

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	50
Secondary	400
Loudspeaker Input:	
Transformer (T1):	
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.

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

*Less than 1 ohm.

SOCKET VOLTAGES

Valves	Bias Volts	Screen Grid to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Heater Volts
X61 or X79 Converter M.W.	−2.0 *	65	215	1.5	6.3
S.W.	−2.0 *	70	215	1.5	—
Oscillator M.W.	—	—	90	4	6.3
S.W.	—	—	90	4	—
6AR7GT I.F. Amp., Det., A.F. Amp., A.V.C.	−2.0 *	85	215	7	6.3
N78 Output	−5.0 †	215	200	36	6.3
6X5GT Rectifier	(Cathode to chassis volts = 280)		280/280 A.C.R.M.S.		6.3

Total H.T. Current — 60 mA.

* Cannot be measured with an ordinary voltmeter.

† Measured across back-bias resistor R20.

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.