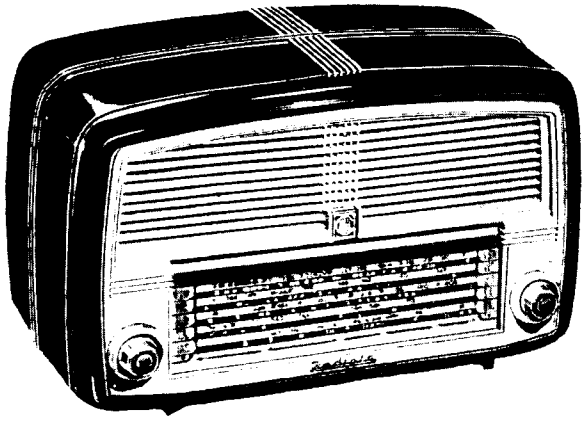
TECHNICAL INFORMATION AND SERVICE DATA

AWA RADIOLA

Model 566-MA

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

ISSUED BY:
AMALGAMATED WIRELESS (AUSTRALASIA) LTD.



ELECTRICAL SPECIFICATIONS

Frequency Range: -

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	40 watts
Dial Lamps	6.3 volts, 0.25 Amp. M.E.S.

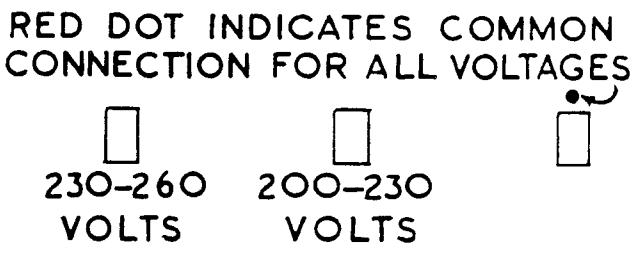
Loudspeaker:

7 inch x 5 inch permanent magnet
Part No. 20920.
Transformer — XA2.
V.C. Impedance — 3 ohms at 400 C.P.S.

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.



Valve Complement:

(1) 6AE8 — Converter
(2) 6BA6 — I.F. Amplifier
(3) 6BA6 — I.F. Amplifier
(4) 6BV7 — Detector, A.F. Amplifier, A.V.C., Output
(5) 6X4 — Rectifier

Undistorted Power Output: 1.5 watts.

Chassis Removal:

(1) Remove the knobs by pulling them straight off their spindles.

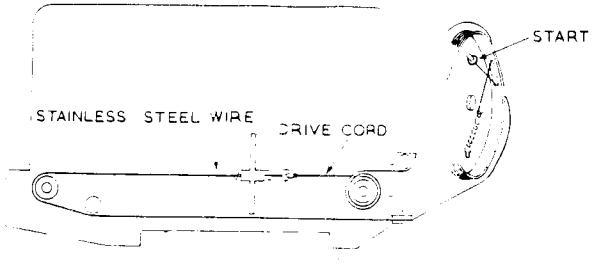
(2) Release two screws accessible through two holes in the rear of the cabinet back.

(3) Remove two screws from underneath the cabinet back and withdraw it.

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 Removal of these enables the chassis to be withdrawn.

Tuning Drive Cord Replacement:

The accompanying diagram shows the route of the cord and the method of attachment.



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 have been 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 2R7003, or

(2) A.W.A. Modulated Oscillator, series 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

Alignment Order	Connect "High" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for Maximum Peak Output:
1	Aerial Section of Gang (Centre Section)	455 Kc/s.	540 Kc/s.	L15 Core
2	Aerial Section of Gang (Centre Section)	455 Kc/s.	540 Kc/s.	L14 Core
3	Aerial Section of Gang (Centre Section)	455 Kc/s.	540 Kc/s.	L13 Core
4	Aerial Section of Gang (Centre Section)	455 Kc/s.	540 Kc/s.	L12 Core
5	Aerial Section of Gang (Centre Section)	455 Kc/s.	540 Kc/s.	L11 Core
6	Aerial Section of Gang (Centre Section)	455 Kc/s.	540 Kc/s.	L10 Core
	Repeat the above adjustments until the maximum output is obtained.			
7	Aerial Lead	600 Kc/s.	600 Kc/s.	L.F. Osc. Core Adj. (L6)*
8	Aerial Lead	1500 Kc/s.	1500 Kc/s.	H.F. Osc. Adj. (C10)
9	Aerial Lead	1500 Kc/s.	1500 Kc/s.	H.F. Aer. Adj. (C4)
10	Aerial Lead	1500 Kc/s.	1500 Kc/s.	H.F. Aer Adj (C2)
	Repeat adjustments 7, 8, 9, and 10.			
11	Aerial Lead	16 Mc/s.	16 Mc/s.	H.F. Osc. Adj. (C15)‡
12	Aerial Lead	16 Mc/s.	16 Mc/s.	H.F. Aer. Adj. (C6)‡

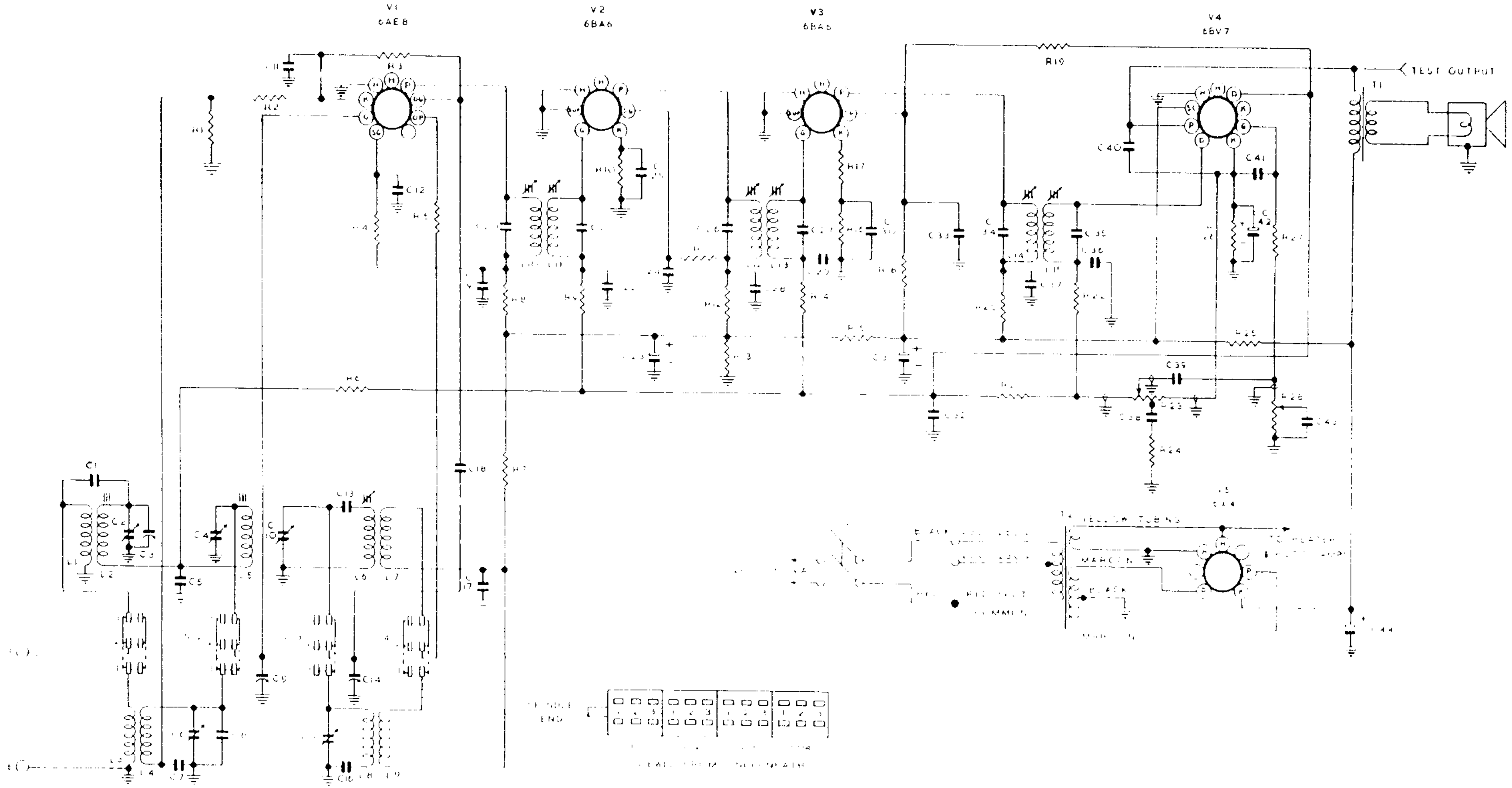
* Rock the tuning control back and forth through the signal.

† 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.

CIRCUIT CODE—RADIOLA 566-MA

Code No.	Description	Part No.	Fig. No.	Location
	INDUCTORS			
L1, L2	Aerial Coil 540-1600 Kc/s	30768	2	D15
L3, L4	Aerial Coil 6-18 Mc/s	15456	2	J15
L5	Aerial Coil 540-1600 Kc/s	33598	1	C5
L6, L7	Oscillator Coil 540-1600 Kc/s	7638A	2	G12
L8, L9	Oscillator Coil 6-18 Mc/s	15458	2	D10
L10, L11	1st I.F. Transformer	33594	1	H5
L12, L13	2nd I.F. Transformer	33594	1	H8
L14, L15	3rd I.F. Transformer	33596	1	H11
	RESISTORS			
R1	1,000 ohms ½ watt		2	G15
R2	470 ohms 1 "		2	H14
R3	47,000 ohms ½ "		2	J13
R4	22,000 ohms 1 "		2	H13
R5	220 ohms 1 "		2	G13
R6	0.1 megohm ½ "		2	D12
R7	39,000 ohms ½ "		2	D9
R8	2,200 ohms ½ "		2	F8
R9	0.1 megohm ½ "		2	H12
R10	1,500 ohms ½ "		2	J11
R11	10,000 ohms ½ "		2	J9
R12	2,200 ohms ½ "		2	H9
R13	15,000 ohms 1 "		2	G9
R14	0.1 megohm ½ "		2	H9
R15	6,000 ohms 2 "		2	F10
R16	390 ohms 1 "		2	F8
R17	220 ohms 1 "		2	H8
R18	22,000 ohms 1 "		2	G7
R19	10 megohms ½ "		2	H8
R20	2,200 ohms ½ "		2	H7
R21	1.8 megohms ½ "		2	H6
R22	47,000 ohms ½ "		2	H7
R23	0.5 megohm Volume Control	32815	2	C2
R24	33,000 ohms ½ watt		2	D1
R25	5,000 ohms 2 "		2	J4
R26	150 ohms 1 "		2	G4
R27	47,000 ohms ½ "		2	J6
R28	1 megohm Tone Control (incl. S2)	32815	2	D2
	CAPACITORS			
C1	6.8 $\mu\mu$F ceramic		2	D15
C2	4-27 $\mu\mu$F trimmer	33304	2	D18
C3	12-445 $\mu\mu$F tuning	18631	1	F3
C4	4-27 $\mu\mu$F trimmer	33304	2	D11
C5	0.05 μF paper 200V working		2	D12
C6	2-20 $\mu\mu$F air trimmer	19659	2	J15
C7	0.05 μF paper 200V working		2	H16
C8	10 $\mu\mu$F mica		2	G14
C9	12-445 $\mu\mu$F tuning	18631	1	F4
C10	8-40 $\mu\mu$F trimmer Simplex General		2	F13
C11	0.025 μF paper 400V working		2	G15
C12	0.025 μF paper 400V working		2	G14
C13	470 $\mu\mu$ padder $\pm$ 2½%		2	F12
C14	12-445 $\mu\mu$F tuning	18631	1	F6
C15	2-20 $\mu\mu$F air trimmer	19659	2	F10
C16	4,000 $\mu\mu$F padder $\pm$ 2½%		2	D8
C17	0.025 μF paper 400V working		2	C9
C18	47 $\mu\mu$F mica		2	H13
C19	0.025 μF paper 400V working		2	K13
C20	150 $\mu\mu$F silvered mica (in 1st I.F.)		1	H5
C21	150 $\mu\mu$F silvered mica (in 1st I.F.)		1	H5
C22	0.025 μF paper 400V working		2	G11
C23	8 μF 525 P.V. electrolytic		1	G8
C24	0.025 μF paper 400V working		2	H11
C25	0.025 μF paper 400V working		2	G11
C26	150 $\mu\mu$F silvered mica (in 2nd I.F.)		1	H8
C27	150 $\mu\mu$F silvered mica (in 2nd I.F.)		1	H8
C28	0.025 μF paper 400V working		2	K10
C29	0.025 μF paper 400V working		2	G10
C30	0.025 μF paper 400V working		2	F8
C31	24 μF 350 P.V. electrolytic		1	E9
C32	0.025 μF paper 400V working		2	F6
C33	0.025 μF paper 400V working		2	F8
C34	220 $\mu\mu$F silvered mica (in 3rd I.F.)		1	H11
C35	220 $\mu\mu$F silvered mica (in 3rd I.F.)		1	H11
C36	100 $\mu\mu$F ceramic		2	H6
C37	0.025 μF paper 400V working		2	K8
C38	0.025 μF paper 400V working		2	G1
C39	0.05 μF paper 200V working		2	F6
C40	0.0025 μF paper 600V working		2	H6
C41	100 $\mu\mu$F ceramic		2	H6
C42	25 μF 40 P.V. electrolytic		2	G4
C43	0.01 μF paper 600V working		2	D5
C44	24 μF 350 P.V. electrolytic		1	E13
	TRANSFORMERS			
T1	Loudspeaker Transformer	XA2	1	D11
T2	Power Transformer 50-60 C.P.S.	25807G	1	F15
	40 C.P.S.	25809G		
	LOUDSPEAKER			
	7" x 5" Permanent Magnet	20920	1	C11
	SWITCHES			
S1	Range Switch	34167	2	F14
S2	Power Tone Switch (on R28)		2	C2


V1
6AE8
V2
6BA6
V3
6BA6
V4
6BV7
TEST OUTPUT
T1
R19
R3
R2
C12
C40
C41
C42
C33
C34
C35
C36
C39
R17
R23
R24
R25
R27
R28
C1
C4
C5
C9
C13
C14
C16
C18
L1
L2
L4
L5
L6
L7
L8
L9
YELLOW TUBING
MAROON
BLACK

D.C. RESISTANCE OF WINDINGS

Winding	D.C. Resistance in ohms
Aerial Coil (M.W.	
Primary (L1)	13
Secondary (L2)	1.5
Aerial Coil (M.W.) L5	1.5
Aerial Coil (S.W.)	
Primary (L3)	4
Secondary (L4)	*
Oscillator Coil (M.W.	
Primary (L6)	2
Secondary (L7)	6
Oscillator Coil (S.W.	
Primary (L8)	*
Secondary (L9)	*
1st and 2nd I.F. Transformer Windings	14
3rd I.F. Transformer Windings	13
Power Transformer T2	
Primary	50
Secondary	350
Loudspeaker Input Transformer (T1)	
Primary	450
Secondary	*

* 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		Cathode to Chassis Volts	Screen Grid to Chassis Volts.	Anode to Chassis Volts.	Anode Current mA.	Heater Volts.
6AE8	Converter	[illegible]	50	76	[illegible]	6.3
6BA6	I.F. Amp.	[illegible]	62	72	2.0	6.3
6BA6	I.F. Amp.	[illegible]	95	138	5.8	6.3
6BV7	A.F. Amp., Det., A.V.C. Diode	[illegible]	150	240	[illegible]	6.3
6X4	Rectifier	[illegible]		240-240 A.C. R.M.S.	[illegible]	6.3

Total H.T. Current = 42mA.

Measured at 240 volts A.C. supply. No signal input. Volume Control maximum clockwise.

Voltmeter **20,000** ohms per volt measurements taken on highest scale giving accurate readable deflection.

MECHANICAL REPLACEMENT PARTS

ITEM	PART No.
Bearing Post (Pulley No. 31365	31366
Bracket (Tuning Capacitor)	33377
Bracket (Tuning Spindle and Volume Control	33378
Cabinet Back (Including moulded brackets)	34352
Cabinet Front (Including Fret, Medallion, Name-plate and Retainers)	34350
Clip (Retaining I.F.'s)	27780
Clip (Retaining Loudspeaker	33379
Cover (Power Transformer)	20150
Dial Scale	32234B
Dial Scale Assembly	34570B
Drive Cord	32812/2
Drive Drum Assembly	31381
Fret Cloth (Mattis)	33395
Fret Cloth (Plastic)	34525
Grommet (Gang)	33389
Grommet (Power Cable)	32813
Knob (Volume and Tuning) Large	34138
Knob (Tone and Range) (Small	34137
Light Shield (Ivory Cabinets only	34537

ITEM	PART No.
Nut (Retaining Volume Control)	5926
Pointer Assembly	34153
Power Cable	15940
Pulley, Drive Cord (3" Small	31365
Pulley (Volume Control Spindle	34148
Screw, Cabinet Mounting	33391
Spacer, Gang Mounting	33398
Spacer, Wood Loudspeaker	33362
Spindle Assembly, Drive	34159
Spring (Drive	1741
Strap (Mounting Chassis in Cabinet	33376
Strap (2) Underneath Cabinet	34556
Terminal Panel Assembly, 2 way	32822
Terminal Panel Assembly, 2 way	32826
Terminal Panel Assembly, 5 way	32821
Terminal Panel Assembly, 7 way	32828
Valve Socket Assembly, 7 pin	Code No. 794576
Valve Socket Assembly, 9 pin	Code No. 793037
Volume Control Cable	33579
Washer (Gang Mounting	15735

When ordering, always quote the above part numbers or code numbers and, in the case of coloured parts, such as cabinets, knobs, etc., the colour plus the part number.

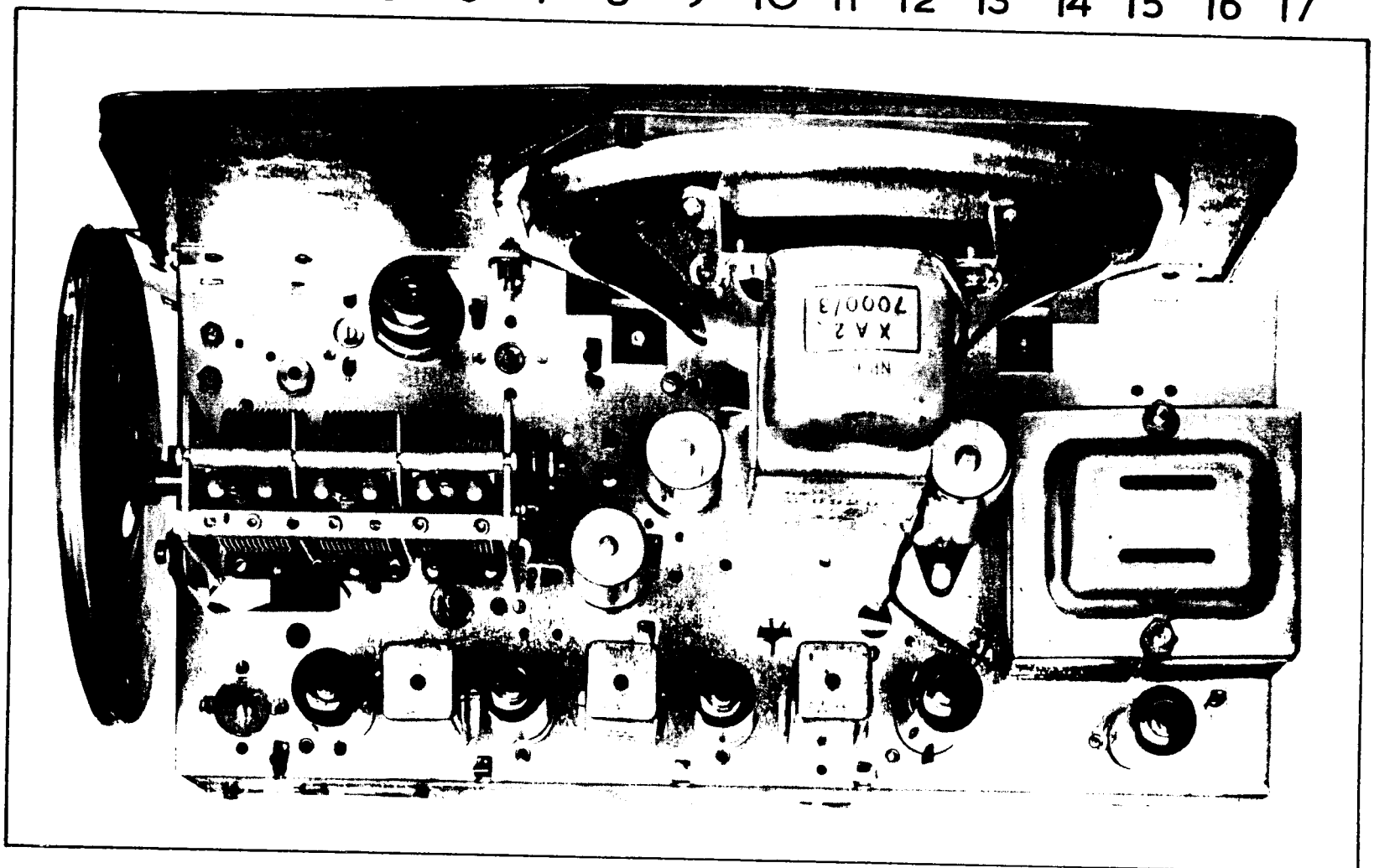

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H J K
A B C D E F G H J K
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

FIG. 1


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H J K
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H J K

FIG. 2