

# HOTPOINT-BANDMASTER

## Models K55DM & B45DM

FIVE VALVE, TWO BAND, BATTERY/VIBRATOR OPERATED SUPERHETERODYNES

### TECHNICAL INFORMATION & SERVICE DATA

#### ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGES ..... Medium Wave 1600-540 Kc/s. (187.5-555M).  
 Short Wave 18-6 Mc/s. (50-16M).  
 INTERMEDIATE FREQUENCY: 455 Kc/s.

DIAL LAMP (2) ..... 2.0 volt, 0.06 Amp.

FUSE:

Battery Operation .....  $\frac{1}{4}$ — $\frac{3}{8}$  Amp.  
 Vibrator Operation ..... 3 Amp.

BATTERY COMPLEMENT:

There are three modes of operation—two employing "B" batteries and the third a Vibrator Power Unit. Battery cables are available fitted with telephone tips for batteries fitted with Fahnestock clips, or with plugs for socket-type batteries.

The batteries used and their respective cables are as follows:—

BATTERY OPERATION:

	Cable with tips.	Cable with plugs.
(1) 1—4 volt accumulator 2—45 volt "B" batteries	19183	19803
(2) 1—1.5 volt dry cell "A" battery 2—45 volt "B" batteries	19182	19801

NOTE: If a 1.5 volt dry cell "A" battery is used it is necessary, if dial illumination is required, to remove the dial lamp cable from the terminals on top of the chassis and to connect the cable to the outer terminals of a 4.5 volt battery—see diagram "Battery Connections."

VIBRATOR POWER UNIT OPERATION:

1—4 volt accumulator.  
 Vibrator Power Unit No. 19190.

BATTERY CONSUMPTION:

**Battery Operation:**

4 volt "A" battery .....	0.2 Amp.
1.5 volt "A" battery .....	0.3 Amp.
"B" battery .....	12 mA.

**Vibrator Operation .....** 0.8 Amp.

VALVE COMPLEMENT:

- (1) 1A7GT Converter.
- (2) 1P5GT I.F. Amplifier.
- (3) 1P5GT I.F. Amplifier.
- (4) 1H5GT Detector, A.V.C., and A.F. Amplifier.
- (5) 1Q5GT Output.

VIBRATOR ..... A.W.A./OAK Type V6804

LOUDSPEAKER (Permanent Magnet):

Model K55DM.

5 inch—Code No. AC25, AC26 and AC32.

Transformer XA8.

V.C. Impedance 3 ohms at 400 C.P.S.

Model B45DM.

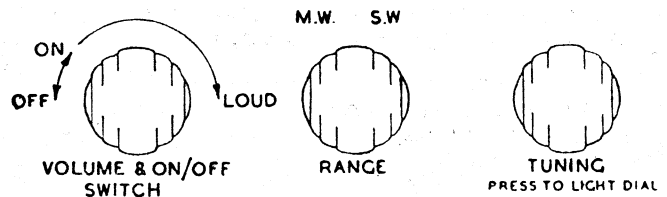
12 inch—Code No. AU28, AU29.

Transformer TU2.

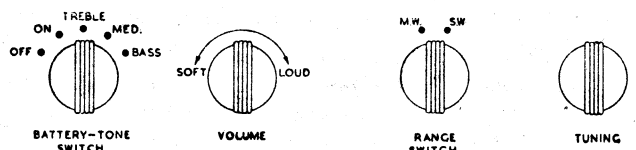
V.C. Impedance 12½ ohms at 400 C.P.S.

UNDISTORTED POWER OUTPUT ..... 250 milliwatts

CONTROLS:

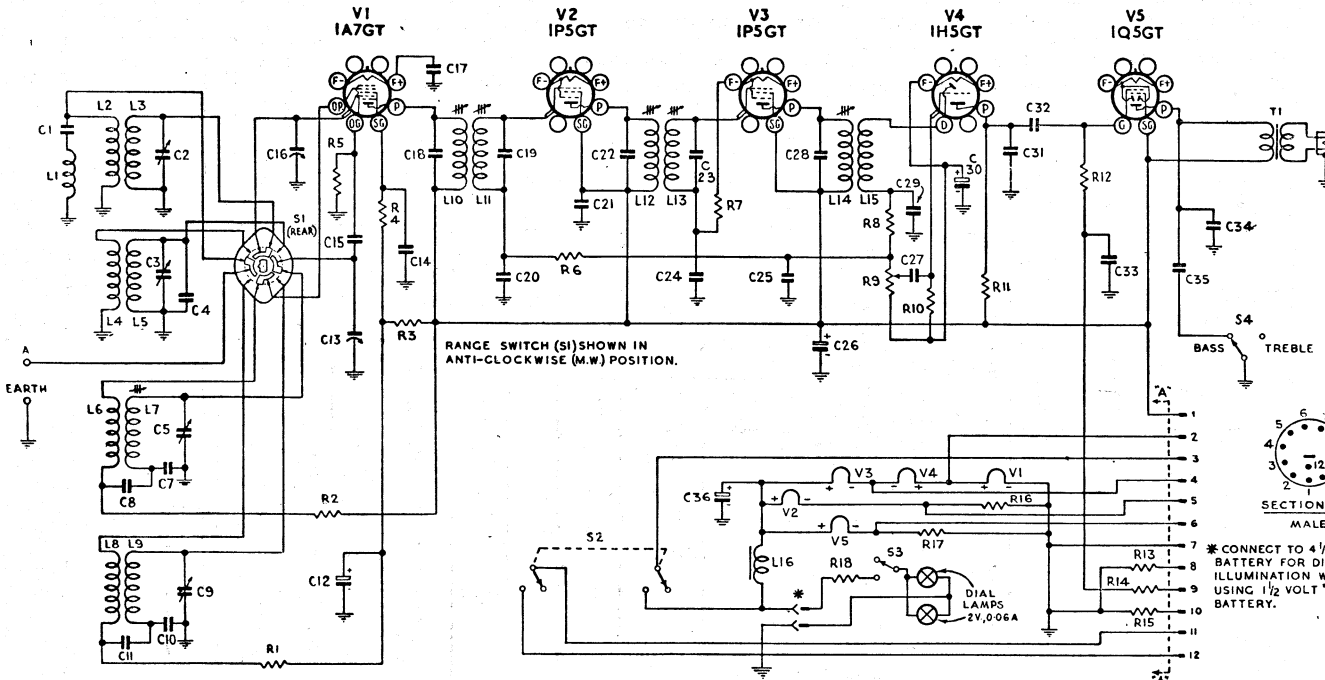


Model K55DM.

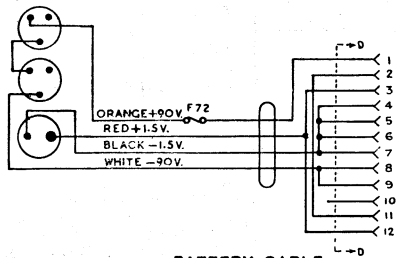


Model B45DM.

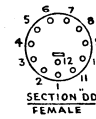
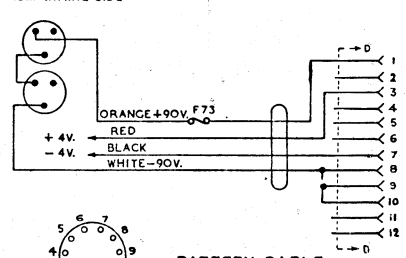
# CIRCUIT DIAGRAM — Model K55DM



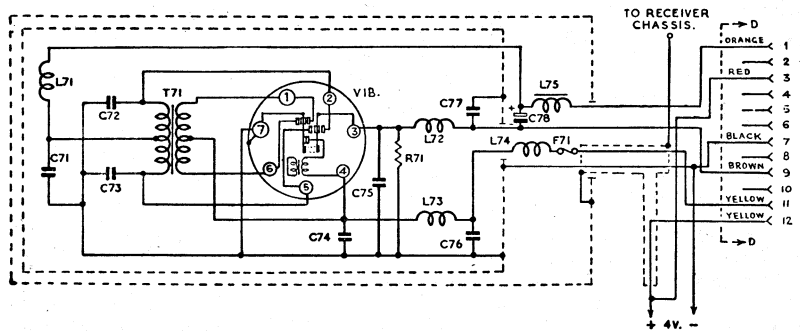
PLUGS VIEWED FROM WIRING SIDE.

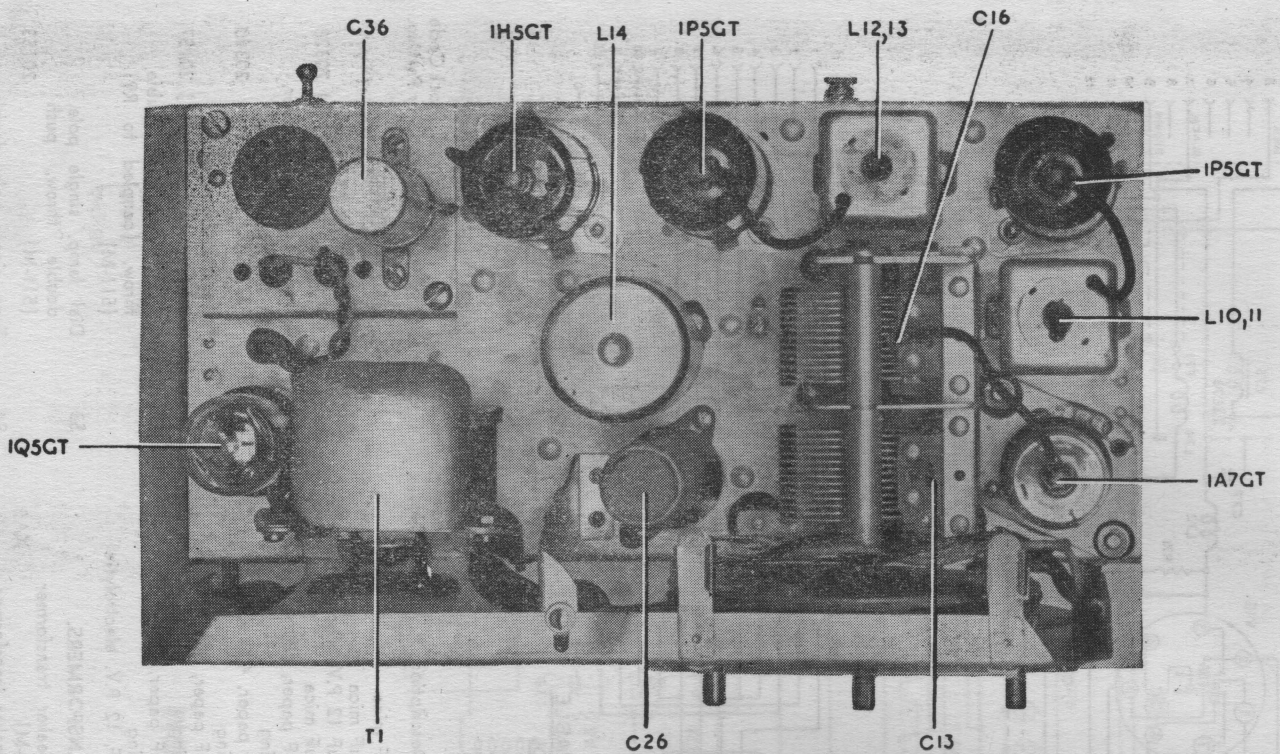


PLUGS VIEWED FROM WIRING SIDE.

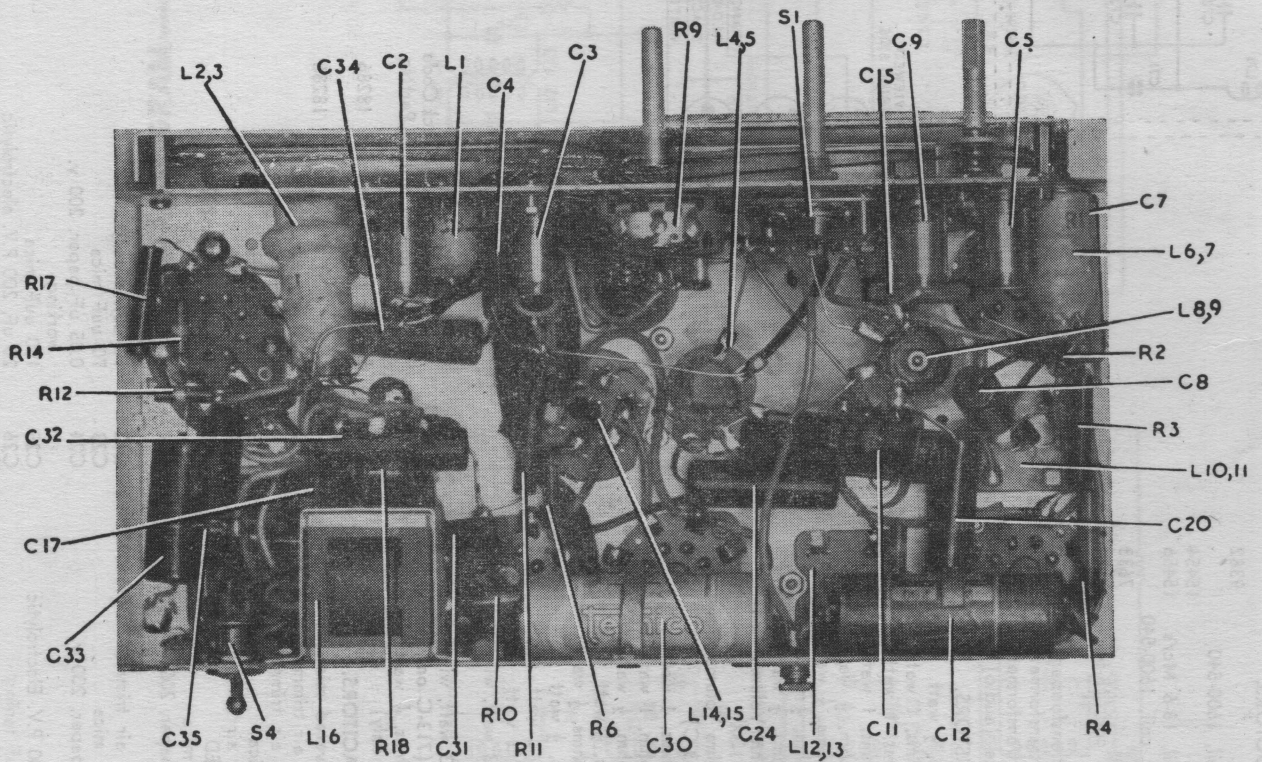


## VIBRATOR POWER UNIT No. 19190





CHASSIS (TOP VIEW).

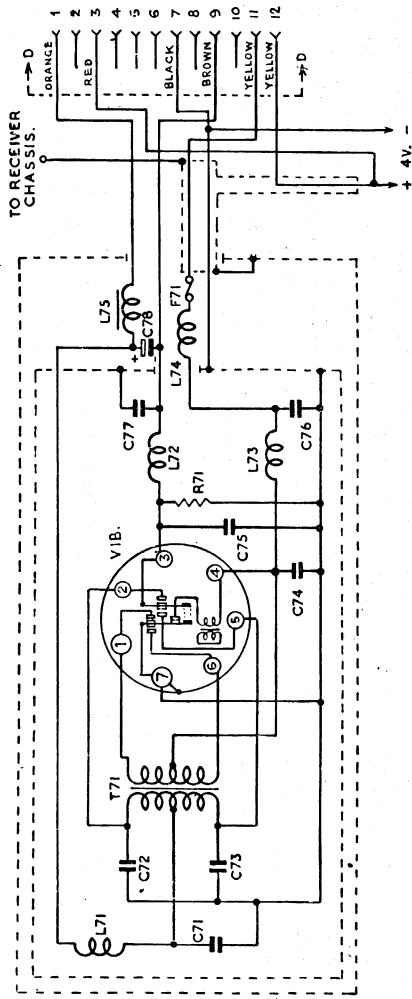


CHASSIS (UNDERNEATH VIEW).

NOTE: The above photographs are Top and Bottom views of the K55DM. The B45DM differs from these in that S4 is deleted and incorporated in the Battery/Tone Switch as given in the circuit code. Also the speaker is mounted inside the cabinet and not on the chassis as shown in the above photographs.

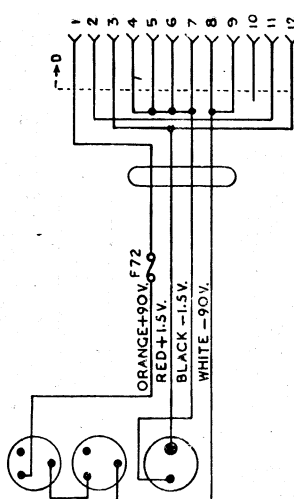
# CIRCUIT CODE — Models K55DM & B45DM

## VIBRATOR POWER UNIT No. 19190



PLUGS VIEWED FROM WIRING SIDE.

PLUGS VIEWED FROM WIRING SIDE.



BATTERY CABLE No. 1980J

BATTERY CABLE No. 1980K

Circuit Code No.	Description.	Stock Code or PartNo.
L1	I.F. filter	9382
L2, L3	Aerial coil, 1600-540 Kc/s	15454
L4, L5	Aerial coil, 18-6 Mc/s	15456
L6, L7	Oscillator coil, 1600-540 Kc/s	7638
L8, L9	Oscillator coil, 18-6 Mc/s	15485
L10, L11	1st I.F. transformer	15482
L12, L13	2nd I.F. transformer	15482
L14, L15	3rd I.F. transformer	15483
L16	L.T. Choke (audio)	XA18

### RESISTORS.

R1	400 ohms, 1/2 watt	
R2	40,000 ohms, 1 watt	
R3	5,000 ohms, 1 watt	
R4	63,000 ohms, 1 watt	
R5	0.1 megohm, 1/2 watt	
R6	1.6 megohms, 1/2 watt	
R7	0.5 megohm, 1/2 watt	
R8	20,000 ohms, 1/2 watt	
R9	0.5 megohm Volume Control (511-M)	20293
R9	0.5 megohm Volume Control (713-C)	7927
R10	10 megohms, 1 watt	
R11	1.0 megohm, 1 watt	
R12	0.5 megohm, 1/2 watt	
R13	400 ohms, 1/2 watt	
R14	0.5 megohms, 1/2 watt	
R15	320 ohms, 1/2 watt	
R16	56 ohms, 1 watt	
R17	26 ohms, 1 watt	
R18	7 ohms, 3 watt, wire wound	
R19	7 ohms, 3 watt, wire wound (713-C only)	
R20	10,000 ohms, 1/2 watt (713-C only)	

### CAPACITORS.

C1	50 uF silvered mica	19659
C2	3-25 uF air trimmer	19659
C3	3-25 uF air trimmer	19659
C4	9 uF mica	
C5	3-25 uF air trimmer	19659
C6	NOT USED	
C7	420 uF mica	
C8	0.05 uF paper, 200 v. working	19659
C9	3-25 uF air trimmer	
C10	4000 uF mica	
C11	0.05 uF paper, 200 v. working	
C12	20 uF, 200 P.V. Electrolytic	
C13	12-430 uF tuning (ganged)	18286
C14	0.1 uF paper, 200 v. working	

Circuit Code No.	Description.	Stock Code or PartNo.	Circuit Code No.	Description.	Stock Code or PartNo.
C15	50 uF tuning (ganged)	18286	S1	Range, single wafer, 2 position, rotary (713-C)	20328
C16	12-430 uF tuning (ganged)	18286	S2	Battery/Tone, single wafer, 5 position, rotary (713-C)	20340
C17	0.1 uF paper, 200 v. working		S3	Range, single wafer, 2 position, rotary (511-M)	20157
C18	70 uF mica		S4	Battery, double pole, double throw, (coupled to R9) (511-M)	
C19	70 uF mica			Dial lamp, single pole, double throw, push (511-M)	20153
C20	0.05 uF paper, 200 v. working			Tone, single pole, double throw, (713-C)	
C21	0.1 uF paper, 200 v. working				
C22	70 uF mica				
C23	70 uF mica				
C24	0.05 uF paper, 200 v. working				
C25	100 uF mica				
C26	20 uF, 200 P.V. electrolytic				
C27	0.01 uF paper, 600 v. working				
				<b>TRANSFORMERS.</b>	
				Loudspeaker transformer (511-M)	XA8
				Loudspeaker transformer (713-C)	

## MECHANICAL SPECIFICATIONS.

	Height.	Width.	Depth.
<b>Cabinet Dimensions (inches)—</b>			
K55DM .....	9	17 $\frac{3}{8}$	6 $\frac{3}{4}$
B45DM .....	32	30	13
<b>Chassis Base Dimensions (inches)</b>			
	2 $\frac{1}{2}$	11	5 $\frac{1}{2}$
<b>Overall Chassis Height (inches)</b>			
	7		

	Height.	Width.	Depth.
<b>Carton Dimensions (inches)—</b>			
K55DM .....	9 $\frac{1}{4}$	17 $\frac{3}{4}$	10
B45DM .....	33	31 $\frac{3}{4}$	14 $\frac{3}{4}$
<b>Weight (nett lbs.)—</b>			
K55DM .....	14		
B45DM .....	56		
<b>Cabinet Finish—</b>			
K55DM .....		Walnut Veneer	
B45DM .....		Walnut Veneer	

## GENERAL DESCRIPTION.

The models K55DM and B45DM are table and console models respectively. They may be either battery or vibrator operated, and for battery operation either a 4 volt accumulator, or a 1.5 volt dry cell "A" battery may be used, the necessary circuit modification being effected by the battery cable employed.

Battery connections are shown in the accompanying diagrams.

Design features include: Tropic proof construction, automatic volume control, magnetite cores in I.F. transformers and broadcast oscillator coil and air-dielectric trimming capacitors.

Model B45DM employs straight line, edge-lighted dial with metropolitan stations printed in 1/8 inch high characters.

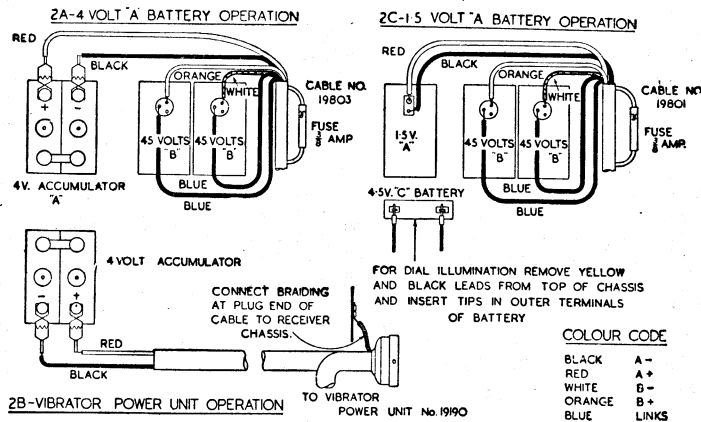


FIG. 2 - BATTERY CONNECTIONS 20380

## ALIGNMENT PROCEDURE.

### Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturers 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 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 an 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) Output Meter.

The instrument recommended should have an output impedance of 12,000 ohms and a range of 5-3,000 milliwatts. The meter should be connected across the primary of the loudspeaker transformer with the voice coil of the loudspeaker open-circuit.

If the output meter used is one which does not impress a load on the anode circuit of the output valve, it will not be necessary to open-circuit the voice-coil.

## ALIGNMENT TABLE.

Order.	Connect "high" side of Generator to:	Tune Generator to:	Set Receiver Dial to:	Adjust for Maximum Peak Output.
1	1A7GT Grid *	455 Kc/s	540 Kc/s	L14 Core
2	1A7GT Grid *	455 Kc/s	540 Kc/s	L13 Core
3	1A7GT Grid *	455 Kc/s	540 Kc/s	L12 Core
4	1A7GT Grid *	455 Kc/s	540 Kc/s	L11 Core
5	1A7GT Grid *	455 Kc/s	540 Kc/s	L10 Core
Repeat the above adjustments until the maximum output is obtained				
6	Aerial Terminal	600 Kc/s	600 Kc/s	L.F. Osc. Core Adj. (L7)‡
7	Aerial Terminal	1500 Kc/s	1500 Kc/s	H.F. Osc. Adj. (C5)
8	Aerial Terminal	1500 Kc/s	1500 Kc/s	H.F. Aer. Adj. (C2)
Repeat adjustments 6, 7 and 8				
9	Aerial Terminal	16 Mc/s	16 Mc/s	H.F. Osc. Adj. (C9)†
10	Aerial Terminal	16 Mc/s	16 Mc/s	H.F. Aer. Adj. (C3)§

\* With grid clip connected. A 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.

† Use the minimum capacity peak if two can be obtained. Check to determine that C9 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.

### Loudspeaker Service.

It is inadvisable to attempt loudspeaker repairs other than replacement of the transformer. The fitting of a new cone should be done only by Service Departments suitably equipped to do the work.

### Chassis Removal.

Model K55DM:

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

Model B45DM:

- (1) Remove the knobs and felt washers. The knobs are each held by set screws.
- (2) Disconnect the loudspeaker cable.
- (3) The chassis is held in the cabinet by four winged nuts, two at each end of the dial frame assembly.

### Dial Pointer Adjustment.

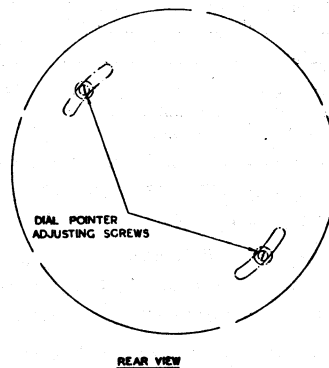
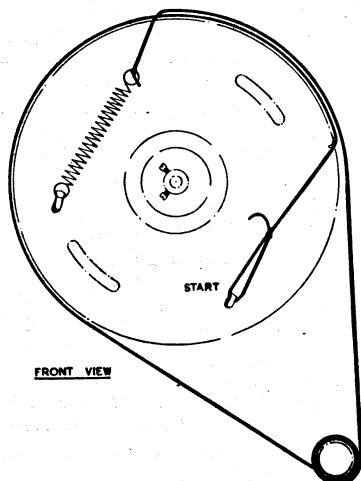
Model K55DM:

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.

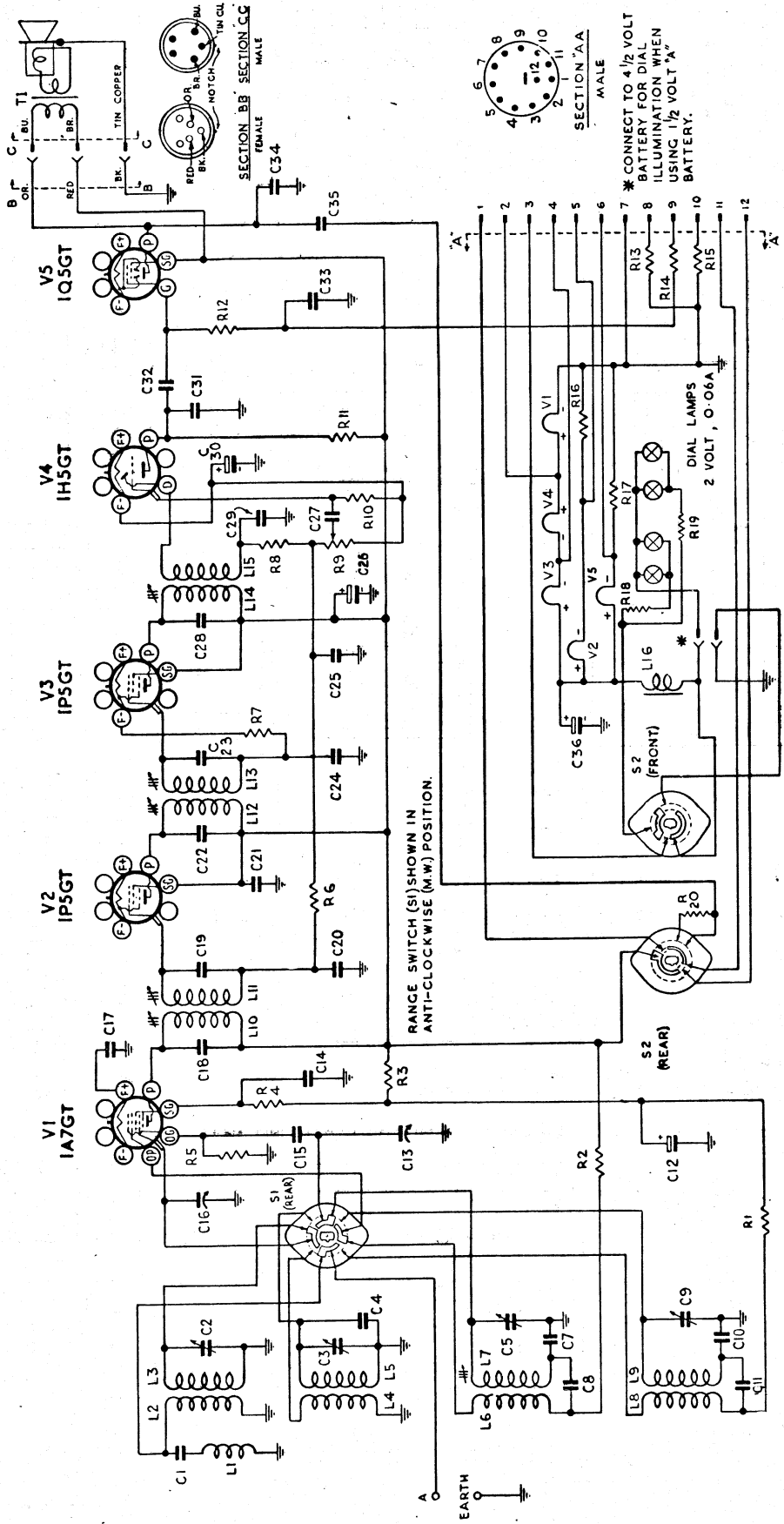
Model B45DM:

The dial pointer is held in position on the drive cord by two rubber-lined clips. To alter the position of the pointer, loosen the holding clips slightly, and move the pointer in the required direction. It is important to re-clamp the clips after any adjustment of the dial pointer.

To replace the Tuning Drive Cord, follow the diagram which is affixed to the back of the Dial Frame assembly. This shows the route of the cord and the method of attachment.



# CIRCUIT DIAGRAM — Model B45DM



## SOCKET VOLTAGES AND CURRENTS

Valve.	Bias Volts.		Screen to Chassis Volts.		Anode to Chassis Volts.		Anode Current mA.		Filament Volts.
	B	V	B	V	B	V	B	V	
1A7GT Converter .....	0	0	40*	40*	85	90	0.3	0.4	1.4
Oscillator M.W. ....	—	—	—	—	50	50	0.8	0.8	—
S.W. ....	—	—	—	—	75	75	1.2	1.1	—
1P5GT I.F. Amplifier .....	0	0	90	90	85	85	1.3	1.1	1.4
1P5GT I.F. Amplifier .....	0	0	90	90	85	85	1.3	1.5	1.4
1H5GT Detector .....	0	0	—	—	50	50	0.03	0.03	1.4
1Q5GT Output .....	-4.5*	-4.5*	90	90	80	85	9	9	1.4

Measured with no signal input. Volume Control maximum clockwise.

\* These readings may vary, depending on the resistance of the voltmeter used.

## D.C. RESISTANCE OF WINDINGS.

Winding.	D.C. Resistance in ohms
Aerial Coil (M.W.)—	
Primary (L2)	27
Secondary (L3)	5
Aerial Coil (S.W.)—	
Primary (L4)	3
Secondary (L5)	*
Oscillator Coil (M.W.)—	
Primary (L6)	2.5
Secondary (L7)	7
Oscillator Coil (S.W.)—	
Primary (L8)	*
Secondary (L9)	*
I.F. Transformer Windings	8
I.F. Filter (L1)	45†
Smoothing Choke (L16)	*
Smoothing Choke (L75)	200
R.F. Filter Choke (L73, L74)	*
R.F. Filter Choke (L71, L72)	9
Loudspeaker Input Transformer (T1)	
XA8 Primary	650
XA8 Secondary	*
TU2 Primary	490
TU2 Secondary	*
Vibrator Transformer (T71)	
Primary	*
Secondary	300

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.

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

## MECHANICAL REPLACEMENT PARTS.

Item.	Part No.	Item.	Part No.
Cabinet, table model .....	K5	Drive drum assembly—	
Cabinet, console model .....	B4	Table model .....	20130
Cable, battery—		Console model .....	9090
4 volt .....	19183	Fuse .....	58940
1.5 volt .....	19182	Knob—	
Cable, volume control .....	15464	Table model .....	17603
Cable, loudspeaker—		Console model .....	4589
Console model .....	19188	Strip, tag—	
Chassis end .....	20124	Table model, 3 way .....	8821
Table model .....	20124	1 way .....	7628
Console model—left hand .....	20316	Console model, 4 way .....	10236
Right hand .....	20318	1 way .....	7628
Dial scale—		Socket, valve .....	4704
Table model .....	20361	Socket, valve, cushion .....	20142
Console model .....	20184	Spindle, tuning drive—	
Dial pointer assembly—		Table model .....	20140
Table model .....	20132	Console model .....	20339
Console model .....	20331	Vibrator power unit .....	19190
		Terminal, aerial .....	17717