HOTPOINT-BANDMASTER

Model H65ME

FIVE VALVE, BROADCAST, A.C. OPERATED SUPERHETERODYNE

TECHNICAL INFORMATION & SERVICE DATA

ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGE ..... 550-1600 Kc.

INTERMEDIATE FREQUENCY 455 Kc.

POWER SUPPLY RATING .... 200-260 volts, 50-60 C.P.S.
(Models are produced with other voltage and frequency ratings.)

POWER CONSUMPTION ..... 42 watts.

DIAL LAMPS (2) ..... 6.3 volt, 0.25 amp. M.E.S.

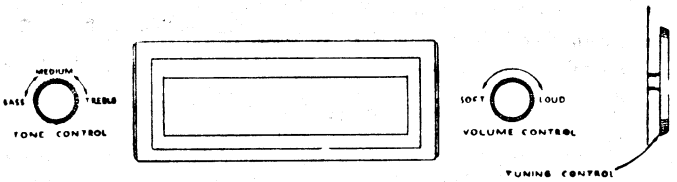
VALVE COMPLEMENT—

(1) 6A8G Converter.
(2) 6U7G I.F. Amplifier.
(3) 6B6G Det., A.V.C. and A.F. Amplifier.
(4) 6V6G Output.
(5) 6X5GT Rectifier.

LOUDSPEAKER—

5 inch—Code No. AA14.
Transformer—XA2.
V.C. Impedance—3 ohms at 400 C.P.S.
Field—1000 ohms.
Undistorted Output — 3 watts.

CONTROLS—



MECHANICAL SPECIFICATIONS.

	Height	Width	Depth
Cabinet Dimensions (inches)	9¼	12¾	6¾
Chassis Base Dimensions (inches)	2½	12¼	5¼
Overall Chassis Height (inches) ..			8

	Height	Width	Depth
Carton Dimensions (inches)	10	15¼	8¾
Weight (nett lbs.)			13½
Cabinet Colour			Walnut

ALIGNMENT PROCEDURE.

Manufacturer's Setting of Adjustment.

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 specially 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-adjsted 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.

Testing Instruments.

(1) A.W.A. Junior Signal Generator, type 2R3911.

or

(2) A.W.A. Modulated Oscillator, type J6726.

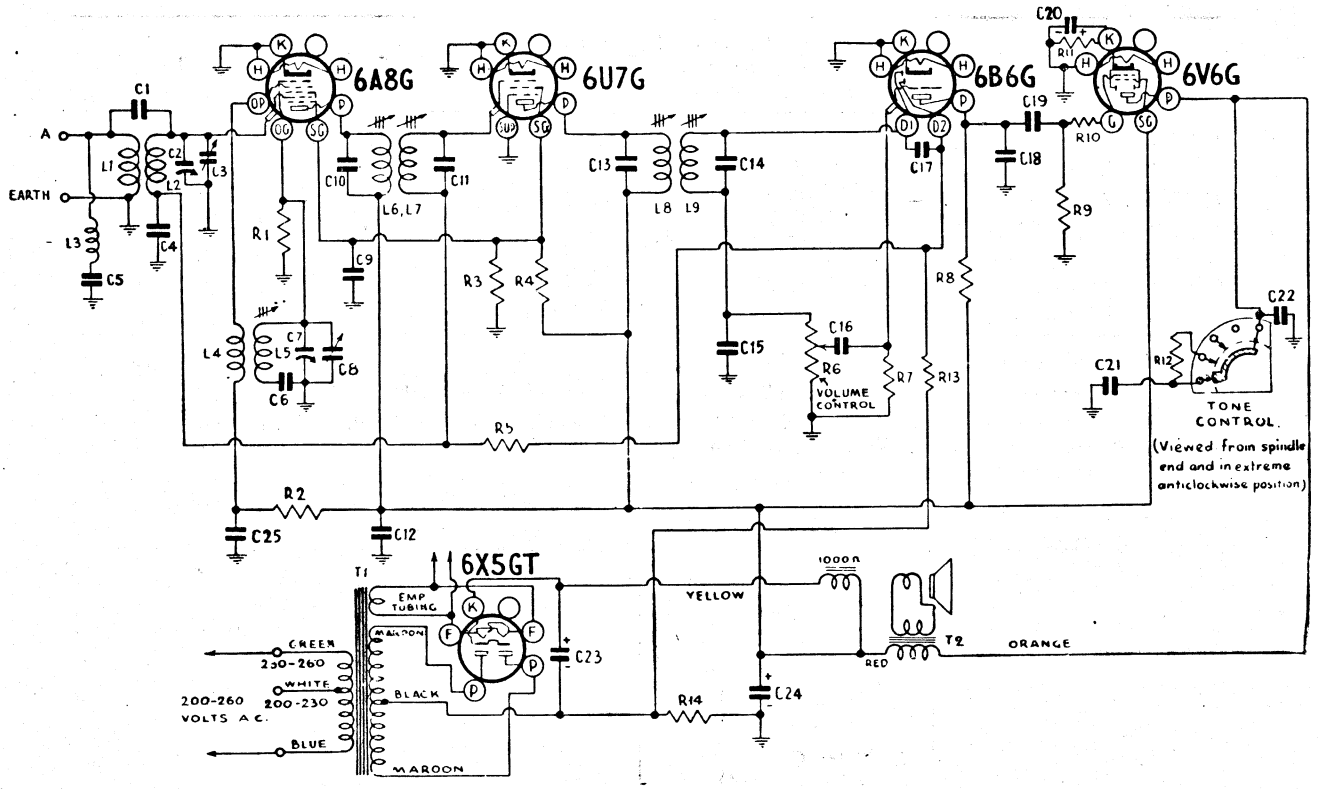
If the modulated oscillator is used, connect a 0.25 megohm resistor across the output terminals.

(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 transformer with the voice coil of the loudspeaker open circuit. The circuit may be broken by unsoldering one humbucking coil lead (red or black) from the panel at the top of the loudspeaker.

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.

CIRCUIT DIAGRAM AND CODE



Circuit Code No.	Description	Stock Code or Part No.
	INDUCTORS.	
L1, L2	Aerial Coil	7647
L3	I.F. Filter Choke (including C5) ..	9382
L4, L5	Oscillator Coil	7638
L6, L7	1st I.F. Transformer	7639Z, 8282*
L8, L9	2nd I.F. Transformer	9316, 8281*
	CAPACITORS.	
C1	4 uuF mica	224, 233
C2	6-14 uuF variable ..	5462A
C3	12-430 uuF variable tuning (ganged)	7645
C4	0.05 uF paper, 400 V. working	228, 115
C5	50 uuF mica	224, 555
C6	420 uuF mica ± 2½% (padder) ..	13212†
C7	16-24 uuF variable ..	4849A
C8	12-430 uuF variable tuning (ganged)	7645
C9	0.1 uF paper, 400 V. working	228, 121
C10	70 uuF silvered mica	226, 460
C11	70 uuF silvered mica	226, 460
C12	0.1 uF paper, 400 V. working	228, 121
C13	70 uuF silvered mica	226, 257
C14	70 uuF silvered mica	226, 257
C15	110 uuF mica	13212†
C16	0.01 uF paper, 600 V. working	228, 301
C17	50 uuF mica	224, 555
C18	350 uuF mica	13211†
C19	0.01 uF paper, 600 V. working	228, 301
C20	25 uF, 40 V. electrolytic (Ducon)	ET10769
C21	0.035 uF paper, 600 V. working	228, 311
C22	0.02 uF paper, 600 V. working	228, 307
C23	8 uF, 525 PV electrolytic	ET1015
C24	8 uF, 525 PV electrolytic	EE10774
C25	0.05 uF paper, 400 V. working	228, 115
	RESISTORS.	
R1	50,000 ohms, ½ watt	600, 315
R2	20,000 ohms, 1 watt	600, 507 or 600, 707
R3	32,000 ohms, 1 watt	600, 511 or 600, 711
R4	20,000 ohms, 2 watt (2 x 40,000 ohms, 1 watt in parallel)	600, 507 or 600, 707
R5	1.6 megohms, ½ watt	600, 345
R6	0.5 megohm Volume Control	7690
R7	10 megohms, 1 watt	600, 561 or 600 761
R8	0.25 megohm, 1 watt	600, 529 or 600, 729
R9	0.5 megohm, ½ watt	600, 335
R10	50,000 ohms, ½ watt	600, 315
R11	325 ohms, 3 watt	602, 371
R12	5000 ohms, ½ watt ..	600, 095
R13	1.6 megohm, ½ watt	600, 345
R14	50 ohms, 3 watt	602, 355
	TRANSFORMERS.	
T1	Power Transformer, 50-60 C.P.S.	10229A
	Power Transformer, 40 C.P.S.	10231A
T2	Loudspeaker Transformer	XA2

* Part number of winding only.

† Capacitance and tolerance (if shown) to be quoted.

ALIGNMENT TABLE.

Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust tcr Maximum Peak Output.
1	6A8G Grid*	455 kc.	550 kc.†	L9 Core
2	6A8G Grid*	455 kc.	550 kc.†	L8 Core
3	6A8G Grid*	455 kc.	550 kc.†	L7 Core
4	6A8G Grid*	455 kc.	550 kc.†	L6 Core
	Repeat the above adjustments u ntil maximum output is obtained.			
5	Aerial Term.	600 kc.	7ZL	L.F. Osc. Core Adj. (L5)‡
6	Aerial Term.	1500 kc.	3AK	H.F. Osc. Adj. (C7)
7	Aerial Term.	1500 kc.	3AK	H.F. Aer. Adj. (C2)
	Repeat adjustm ents 5, 6 and 7.			

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

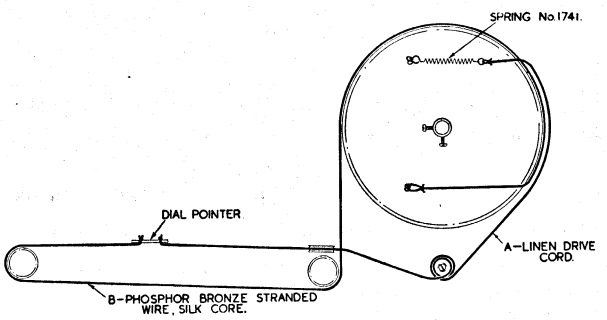
† Ganged tuning capacitor fully closed.

‡ Rock the tuning control back and forth through the signal and reset the dial pointer to 600 kc. (7ZL), if necessary. To move the pointer, loosen two set screws which fasten the drive drum to the gang spindle and move the drum sufficiently to correct the error.

Tuning Drive Cord Replacement.

The drive cord consists of two cords which are shown in the diagram as A and B; A being 18 inches long and B 27⅛ inches long, measured after looping in each case.

When fitting, start with both cords at the dial pointer, beginning with cord B, and follow the route shown in the diagram. Before fitting the spring, sheath it in tubing as formerly to prevent it rattling against the drum.



Resetting the Dial Pointer.

Should the pointer become displaced, loosen the two set screws which fasten the drive drum to the ganged tuning capacitor spindle and turn the drum to bring the pointer to the correct position.

Loudspeaker Service.

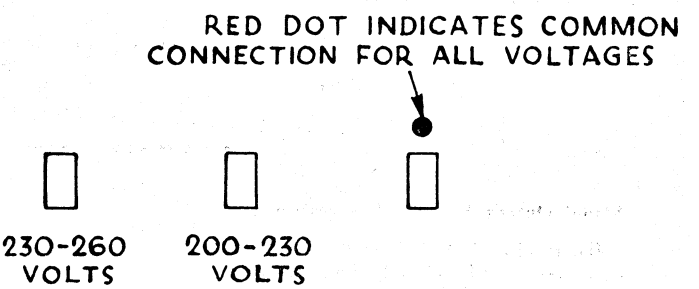
It is inadvisable to attempt loudspeaker repairs other than adjustment of the voice coil or replacement of the transformer. The fitting of a new cone or the replacement of a field winding should be done only by Service Departments suitably equipped to do the work.

To centre the voice coil, first remove the front dust-cover by carefully cutting around the inside of the voice coil former with a sharp knife. Loosen the suspension screws, insert three narrow paper "feelers" in the gap and re-tighten the suspension screws. The "feelers" should be approximately 3/16 inch wide and 0.006 inch thick.

After adjusting, test the loudspeaker and, if satisfactory, fasten a replacement dust cover, part No. 7848, in place with latex rubber cement. A substitute dust cover may be made by cutting a 1⅛ inch diameter disc of organdie or voile material.

Connection to Power Supply.

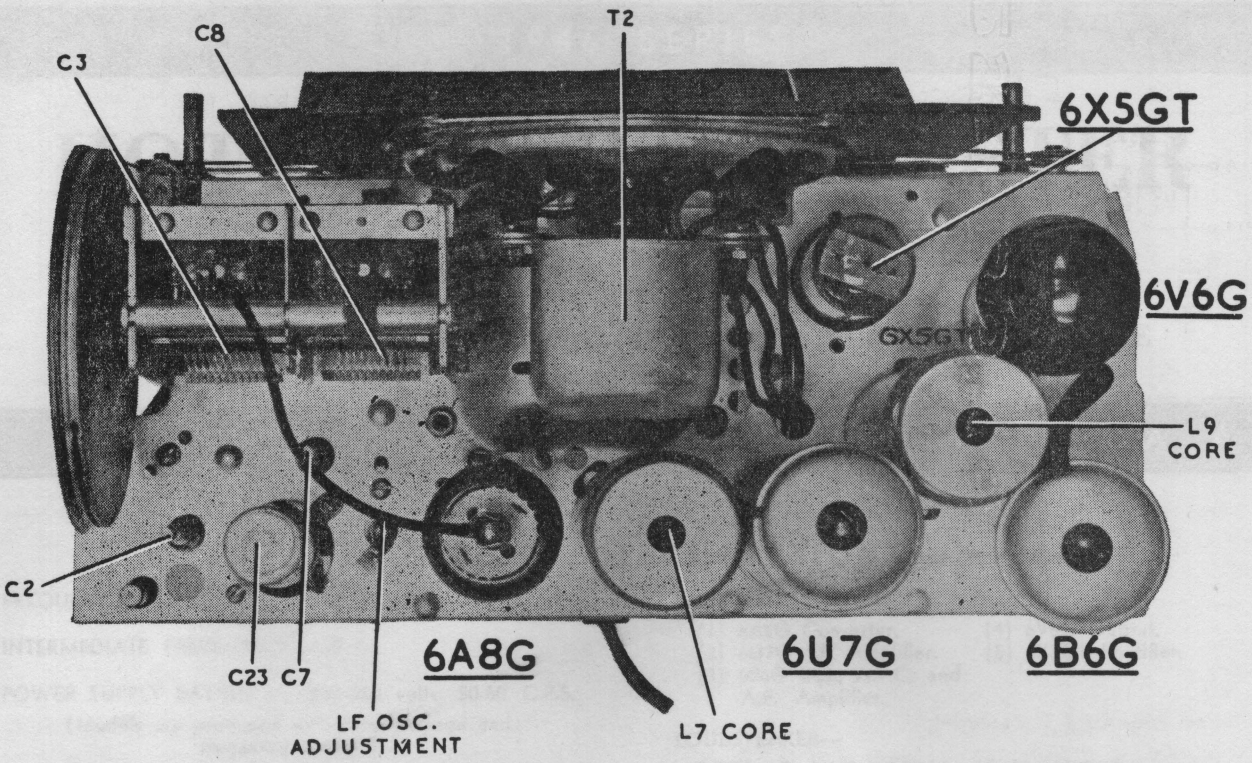
The receiver should not be connected to any circuit supplying other than alternating current from 200 to 260 volts and at the frequency stated on the label within the case. As supplied the receiver is ready for operation on voltages of 230 or above. Should the supply voltage be consistently below 230 it will be necessary to change the power cable connections to the power transformer as shown in the accompanying diagram.



Chassis Removal.

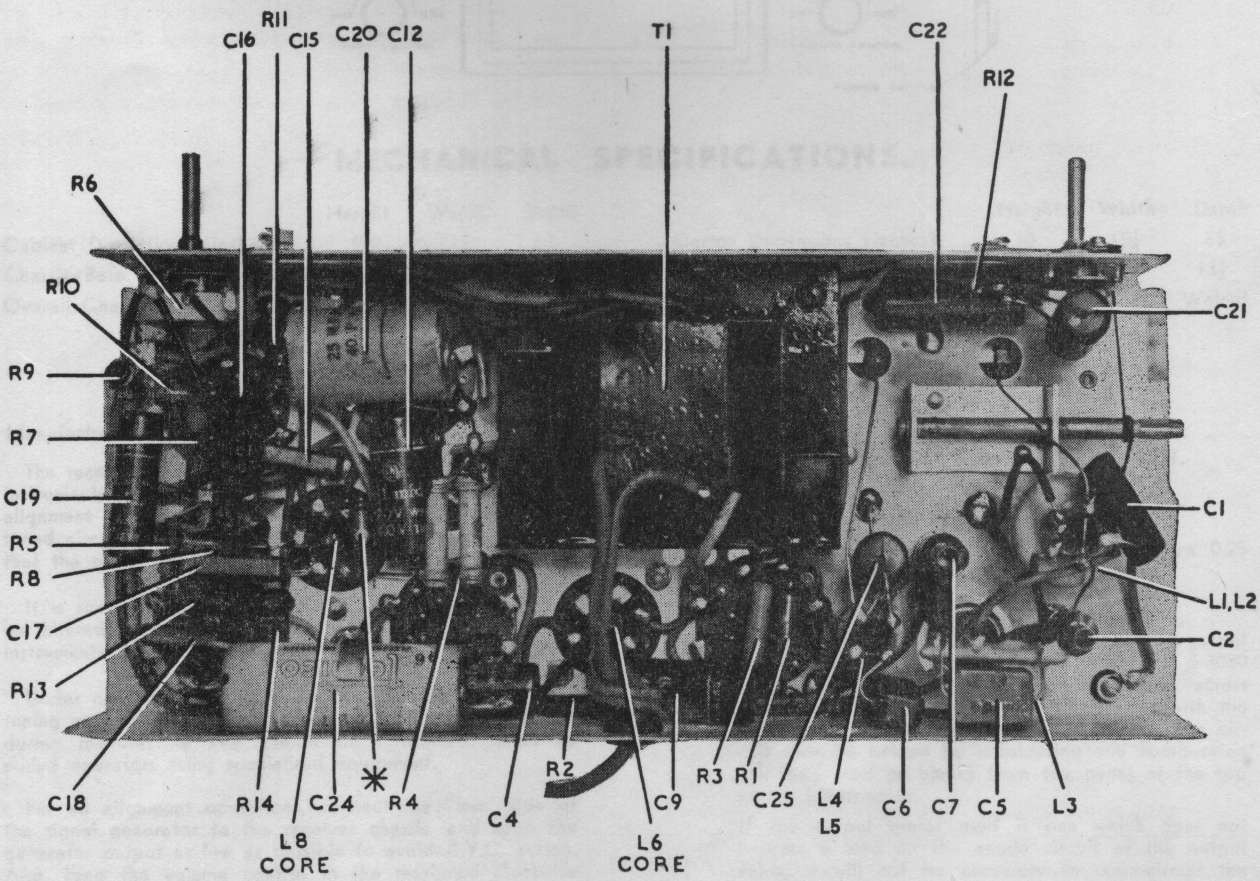
First remove the control knobs. Those on the front are each held by a set screw and the tuning control knob at the side pulls straight off.

Two screws located on the rear and at each end of the chassis fasten it in the moulded cabinet. The chassis base is fitted with two clips which engage in two locating grooves in the sides of the cabinet. If, on removing the screws, it is found that the chassis does not slide out freely, it will be that the clips are binding in the grooves and more effort will be required to remove the chassis.



NOTE: Capacitors C10, C11, C13, C14 are located within the I.F. transformer screens.

CHASSIS (TOP VIEW).



CHASSIS (UNDERNEATH VIEW).

SOCKET VOLTAGES AND CURRENTS

Valve.	Bias Volts.	Screen Grid to Chassis Volts.	Plate to Chassis Volts.	Plate Current mA.	Heater Volts.
6A8G Converter	—3*	90	230	2.5	6.3
Oscillator	—	—	150	4	—
6U7G I.F. Amplifier	—3*	90	230	7	6.3
6B6G Detector, A.V.C. and A.F. Amp.	0	—	120*	0.4	6.3
6V6G Output	—12.5	230	215	34	6.3
6X5GT Rectifier		600/300 volts, 60mA. total current.			

Voltage across loudspeaker field—60 volts.

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

Voltages and currents 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 (L1)	9.5
Secondary (L2)	3.5
Oscillator Coil—	
Primary (L4)	2
Secondary (L5)	6.5
I.F. Filter (L3)	17*
I.F. Transformer Windings	7.5
Loudspeaker Input— Transformer (T2)	
Primary	500
Secondary	†
Power Transformer (T1)—	
Primary	32
Secondary	1000

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.

MECHANICAL REPLACEMENT PARTS.

Item.	Part No.
Bracket, ganged capacitor mounting	7467
Bracket, tuning drive spindle	7472
Cabinet	7478
Clip, grid	7459
Clip, horseshoe, 3/16 inch	2537
1/4 inch	2524
Cone assembly, loudspeaker	10678
Dial Scale	20001
Drive cord	8046A
Drum, drive	5068
Dust cover, loudspeaker	7848
Frame, dial scale	8254D
Knob, large	7483
small	7482
Pointer, dial	8045
Pulley, brass	1730
Screen, I.F. transformer	3351
Cap	8372
Screen, valve	8147
Cap	8148
Register	4733
Socket, dial lamp—	
left-hand	5463A
right-hand	5463G
Socket, valve	4704
Spindle, tuning drive	9807
Spring, drive tension	1741
Spring, iron core locking	3091
Terminal	5458