HOTPOINT-BANDMASTER

Models G64MV, G64MVY & F64MV

FOUR VALVE, BROADCAST, VIBRATOR-OPERATED SUPERHETERODYNES

TECHNICAL INFORMATION & SERVICE DATA

NOTE: The Hotpoint G64MV and F64MV employ the same type of chassis and are respectively, moulded and wooden cabinet models. The model G64MVY employs a slightly modified circuit arrangement. Both circuit diagrams appear in this booklet.

ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGE
Models G64MV, F64MV 550-1600Kc. (545-187.5M)
Model G64MVY 540-1600Kc. (555-187.5M)

INTERMEDIATE FREQUENCY 455 Kc.

BATTERY ..... 4 volt Accumulator.

BATTERY CURRENT CONSUMPTION .... 0.8 Amp.

DIAL LAMP (1) ..... 2.0 volt, 0.06 Amp. M.E.S.

VIBRATOR CARTRIDGE ..... A.W.A. - OAK Synchronous Type V5278.

FUSE ..... 3 Amp. Cartridge.

VALVE COMPLEMENT—
(1) 1A7GT Converter.
(2) 1P5GT I.F. Amplifier.
(3) 1H5GT Detector, A.V.C. and A.F. Amplifier.
(4) 1Q5GT Power Output.

LOUDSPEAKER—
5 inch permanent magnet, Code No. AC24. V.C. Impedance—3 ohms at 400 C.P.S.
Transformer—XA7. Undistorted Output — 250 milliwatts.

CONTROLS—
Combined ON/OFF Switch and Volume (left)—Tuning (right).

MECHANICAL SPECIFICATIONS.

	Height	Width	Depth
Cabinet Dimensions (inches):			
Moulded	6¾	11⅛	5¾
Wooden	8⅛	12⅞	6⅜
Chassis Base Dimensions (inches)	2	10½	5½
Overall Chassis Height (inches)	6¼		

	Height	Width	Depth
Vibrator Power Unit Dimensions (inches)	4⅛	3⅛	3
Weight (nett lbs.)			13

Cabinet Colours:
Moulded ..... Ivory, Jade Green, Walnut
Wooden ..... Walnut

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 specialised equipment.

CIRCUIT CODE

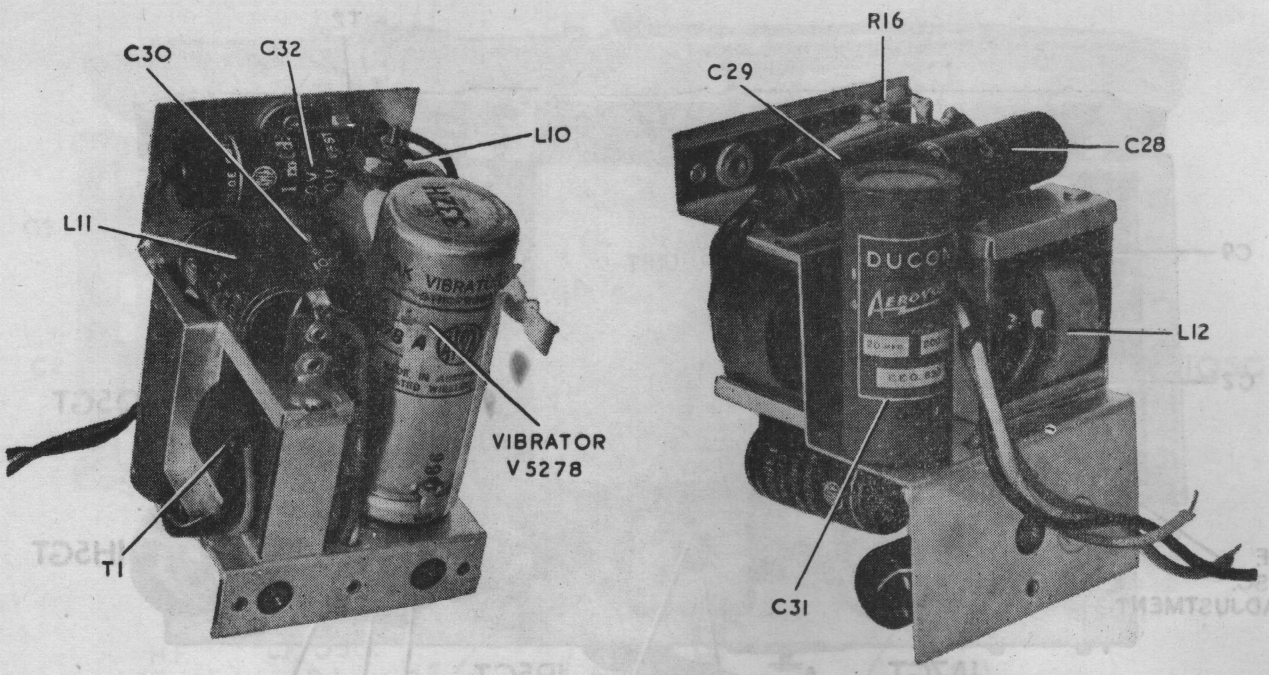
Circuit Code No.	Description	Stock Code or Part No.
	INDUCTORS.	
L1, L2	Aerial coil	7647
L3, L4	1st I.F. transformer	17645, 17640*
L5, L6	2nd I.F. transformer	17646, 17640*
L7, L8	Oscillator coil	7638
L9	Smoothing choke	19155
L10	R.F. filter choke	3149
L11	R.F. filter choke	13809
**L12	Smoothing choke	8321
	CAPACITORS.	
C1	4 uuF mica	224, 233
C2	12-430 uuF variable tuning (ganged)	18280
C3	3-25 uuF variable	19659
**C4	0.02 uF paper, 600 V.W.	228, 307
††C4	0.05 uF paper, 400 V.W.	228, 115
C5	0.05 uF paper, 400 V. working	228, 115
**C6	440 uuF mica, ± 2½%	13212†
††C6	420 uuF mica, ± 2½%	13212†
C7	9 uuF mica	13211†
C8	3-25uuF air trimmer	19659
C9	12-430 uuF variable tuning (ganged)	18280
C10	50 uuF mica	224, 555
C11	0.05 uF paper, 400 V. working	228, 115
C12	70 uuF silvered mica	226, 460
C13	70 uuF silvered mica	226, 460
**C14	0.02 uF paper, 600 V. working	228, 307
C15	70 uuF silvered mica	226, 460
C16	70 uuF silvered mica	226, 460
C17	0.1 uF paper, 400 V. working	228, 121
C18	400 uF, 12 P.V. electrolytic	EE10782
C19	400 uF, 12 P.V. electrolytic	EE10782
C20	100 uuF mica	224, 261
C21	100 uuF mica	224, 261
C22	0.02 uF paper, 600 V. working	228, 307
C23	200 uuF mica	224, 267
C24	0.02 uF paper, 600 V. working	228, 307
C25	0.0025 uF paper, 600 V. working	228, 289
C26	20 uF, 200 P.V. electrolytic	ET10695
**C27	0.25 uF paper, 400 V. working	228, 129
††C27	0.4 uF paper, 400 V. working	228, 133
**C28	0.05 uF paper, 400 V. working	228, 115
††C28	0.02 uF paper, 600 V. working	228, 307
**C29	0.05 uF paper, 400 V. working	228, 115
††C29	0.02 uF paper, 600 V. working	228, 307
C30	0.1 uF paper, 400 V. working	228, 121
C31	20 uF, 200 P. V. electrolytic	EE0839
**C32	0.1 uF paper, 400 V. working	228, 121
††C32	0.4 uF paper, 400 V. working	228, 133
**C33	100 uuF mica	224, 261
	RESISTORS.	
R1	1 megohm, ½ watt	600, 341
R2	0.2 megohm, ½ watt	600, 327
R3	63,000 ohms, 1 watt	600, 517 or 600, 717
**R4	2.5 megohms, ½ watt	600, 349
††R4	2.0 megohms, ½ watt	600, 347
R5	40,000 ohms, 1 watt	600, 513 or 600, 713
R6	1.6 megohms, ½ watt	600, 345
R7	20,000 ohms, ½ watt	600, 307
R8	0.5 megohm, volume control	19161
**R9	2 megohms, ½ watt	600, 347
††R9	10 megohms, 1 watt	600, 561 or 600, 761
R10	1 megohm, 1 watt	600, 541 or 600, 741
R11	1 megohm, ½ watt	600, 341
R12	16 ohms, 1 watt	BW1
R13	25 ohms, 1 watt	BW1
R14	22 ohms, 1 watt	BW1
R15	12 ohms, 1 watt	BW1
R16	500 ohms, ½ watt	600, 275
††R17	2000 ohms, 1 watt	600, 487 or 600, 687
††R18	1600 ohms, ½ watt	600, 285
	TRANSFORMERS.	
**T1 Vibrator		17566
††T1 Vibrator		17568
T2 Loudspeaker		XA7
	SWITCHES.	
S1 ON/OFF (incorporated in R8)		
	FUSES.	
F1 3 Amp. cartridge		370, 011

* Part number of winding only.

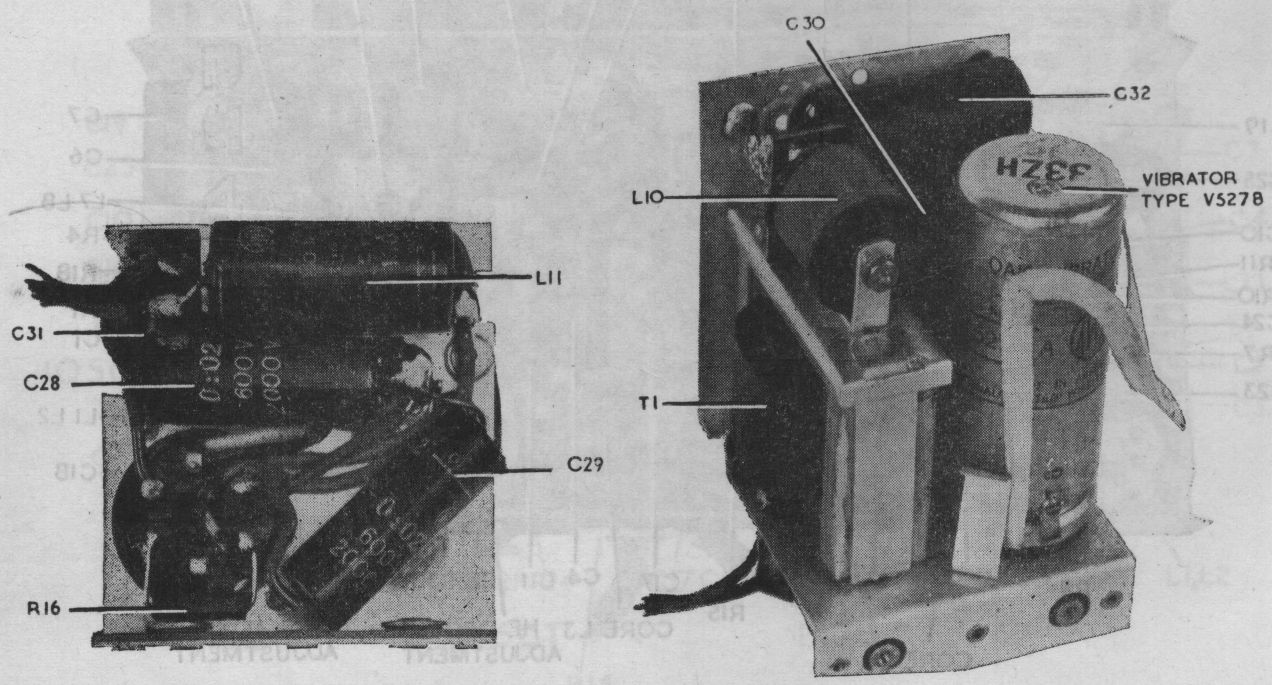
† Capacitance and tolerance (if shown) to be quoted.

** G64MV and F64MV only.

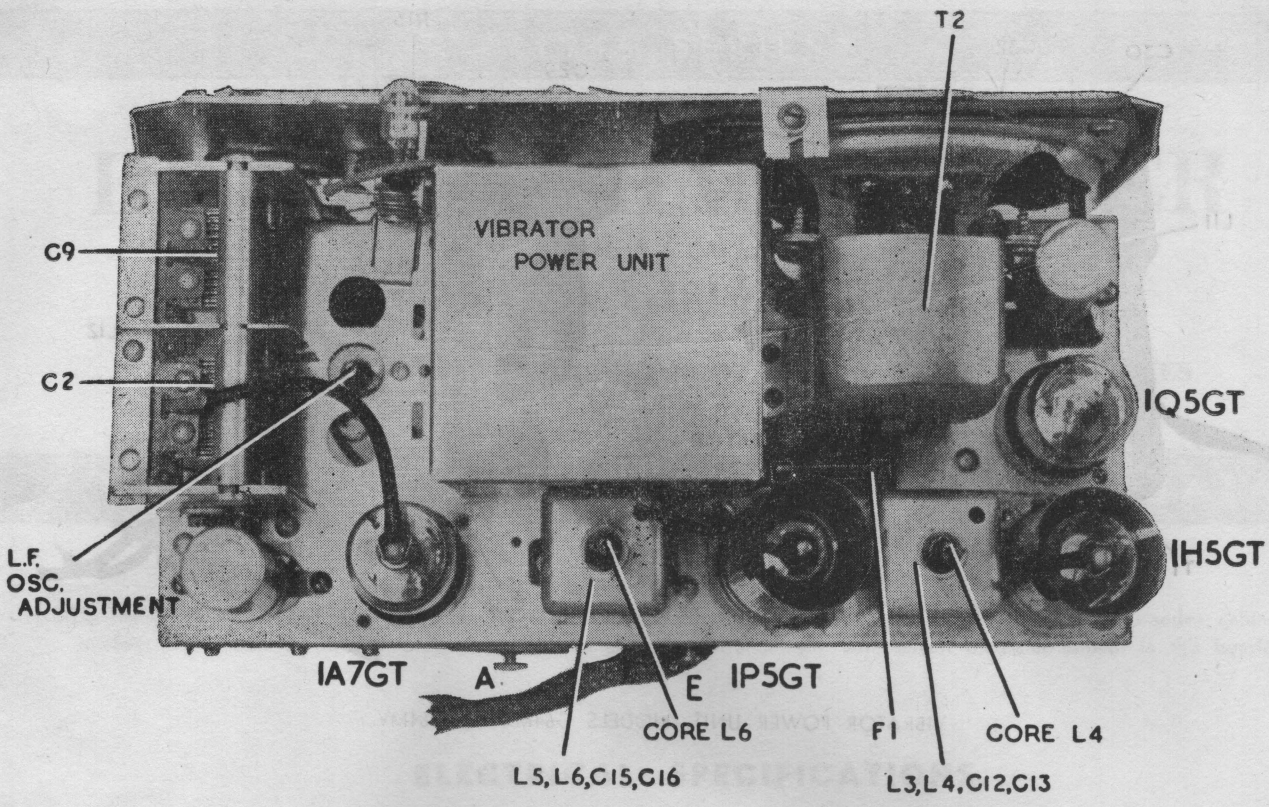
†† G64MVY only.



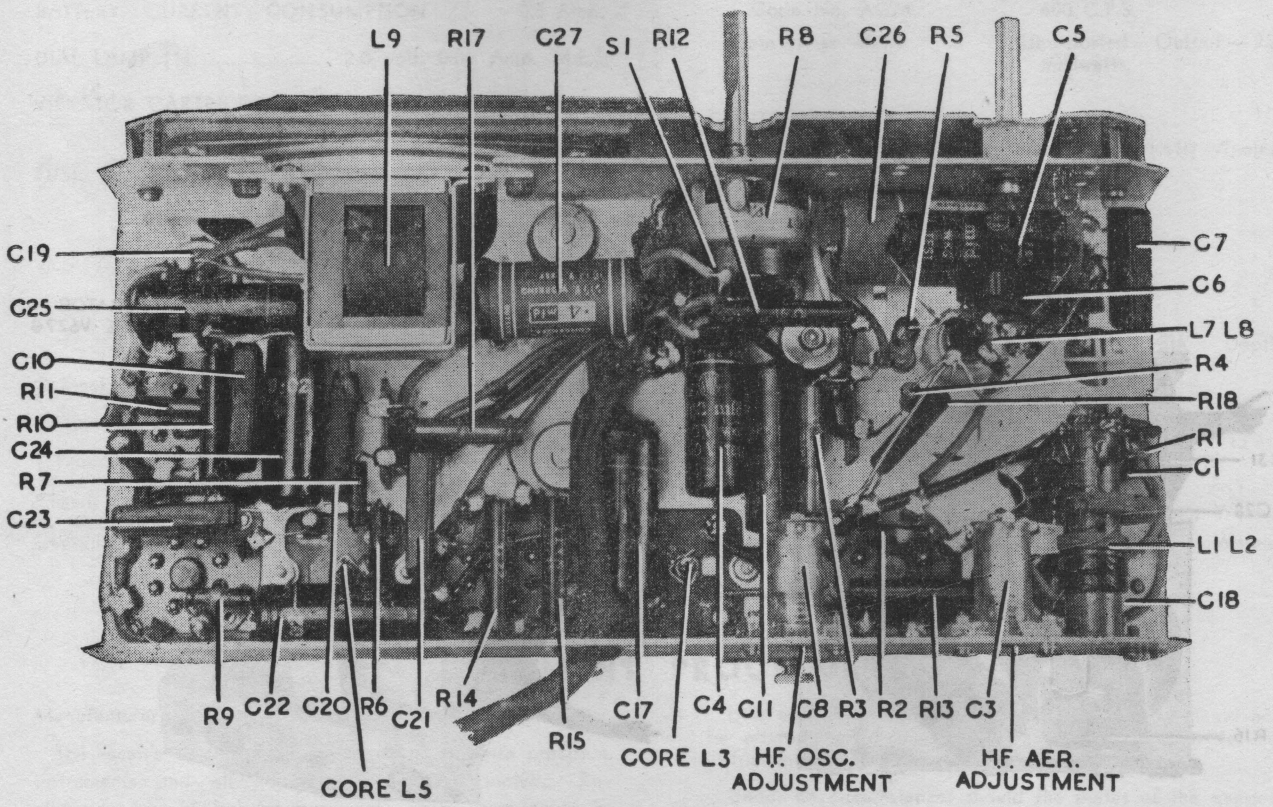
VIBRATOR POWER UNIT—MODELS G64MV and F64MV.



VIBRATOR POWER UNIT—MODEL G64MVY.



CHASSIS (TOP VIEW) MODEL G64MVY.



CHASSIS (UNDERNEATH VIEW) MODEL G64MVY.

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. The two R.F. alignment points, 600 kc. and 1500 kc. are marked on the right and left hand edges of the glass dial scale.

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.

(3) Output Meter.

The instrument recommended should have an output impedance of 12000 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 voice coil lead 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.

ALIGNMENT TABLE.

Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver Dial to:	Adjust for Maximum Peak Output.
1	1A7GT Grid*	455 Kc.	Below 550 Kc.†	L6 Core
2	1A7GT Grid*	455 Kc.	Below 550 Kc.†	L5 Core
3	1A7GT Grid*	455 Kc.	Below 550 Kc.†	L4 Core
4	1A7GT Grid*	455 Kc.	Below 550 Kc.†	L3 Core
	Repeat the above adjustments until the maximum output is obtained.			
5	Aerial Terminal	600 Kc.	.6 Mc. Mark	LF Osc. Adj. (L8 Core)‡
6	Aerial Terminal	1500 Kc.	1.5 Mc. Mark	HF Osc. Adj. (C8)
7	Aerial Terminal	1500 Kc.	1.5 Mc. Mark	HF Aer. Adj. (C3)
	Repeat adjustments 5, 6 and 7.			

* With grid clip connected. A .001 uF capacitor should be connected in series with the "high" side of the test instrument.

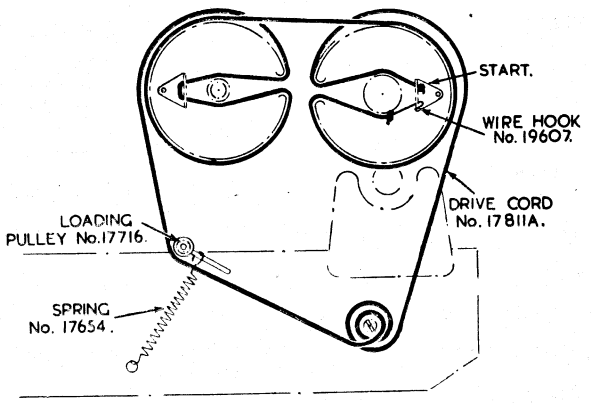
† Ganged tuning capacitor fully closed.

‡ Rock the Tuning Control back and forth through the signal and reset the dial pointer to the .6 Mc mark, if necessary, by turning it in the required direction whilst holding the tuning control knob.

Tuning Drive Cord Replacement.

To replace the drive cord it is first necessary to remove the front panel assembly by removing the dial pointer (it pulls straight off) and then the four mounting screws.

Disconnect the spring from the loading pulley. The diagram shows the route of the cord and the method of attachment. The cord is made from a 27¼ inch cut length which allows for the knot at each end. When fitting, apply tension to the cord during the operation and use a pair of round nose pliers to bend the hook round the anchor plate to take up any slack. Place the loading pulley on the drive cord and replace the spring.



Chassis Removal.

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

Resetting the Dial Pointer.

Should the pointer become displaced it can be reset as follows:

(1) First turn the tuning control knob clockwise until the pointer stops turning.

(2) Then, whilst holding the tuning control firmly, turn the pointer with the other hand to bring it to a horizontal position.

(3) Next tune a known local station and note any inaccuracy of the pointer in relation to the station.

(4) Finally, again holding the tuning control firmly, turn the pointer sufficiently to correct the error.

Loudspeaker Service.

To remove the loudspeaker, first unsolder the connecting leads. Peel back the fret material backing to reveal the four mounting screws and unscrew these to remove the unit.

It is inadvisable to attempt loudspeaker repairs other than adjustment of the voice coil and replacement of the transformer. The fitting of a new cone 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 with a sharp knife. Loosen the suspension screws, insert three narrow paper "feelers" in the gap and retighten the suspension screws. The "feelers" should be approximately 3/16 inch wide and 0.006 inch thick.

Test the loudspeaker, and, if satisfactory, fasten a replacement dust cover, part number 7848, in place with latex rubber cement.

SOCKET VOLTAGES AND CURRENTS

Valve.	Bias Volts.	Screen Grid to Chassis Volts.	Anode to Chassis Volts.	Anode Current mA.	Filament Volts.
1A7GT Converter	0	40	90	0.4	1.3—1.4
Oscillator	—	—	55	0.8	—
1P5GT I.F. Amplifier	0	90	90	1.5	1.3—1.4
1H5GT Detector	0	—	35*	0.06	1.3—1.4
1Q5GT Output	—4.5	90	85** 100†	8.0** 9.0†	1.3—1.4
Total Battery Current —0.8 Amp.					

Measured with no signal input. Volume Control-Battery Switch maximum clockwise.

* This reading may vary, depending on the resistance of the voltmeter used.

** G64MV and F64MV only.

† G64MVY only.

D.C. RESISTANCE OF WINDINGS.

Winding	D.C. Resistance in ohms
Aerial Coil	
Primary (L1)	9.5
Secondary (L2)	3.5
Oscillator Coil	
Primary (L7)	2
Secondary (L8)	6.5
I.F. Transformer Windings	7.5
Loudspeaker Input Transformer (T2)	
Primary	650
Secondary	*
Vibrator Transformer	
Primary	*
Secondary	500
Smoothing Choke (L9)	*
R.F. Filer Choke (L10)	*
R.F. Filter Choke (L11)	9
Smoothing Choke (L12)	200

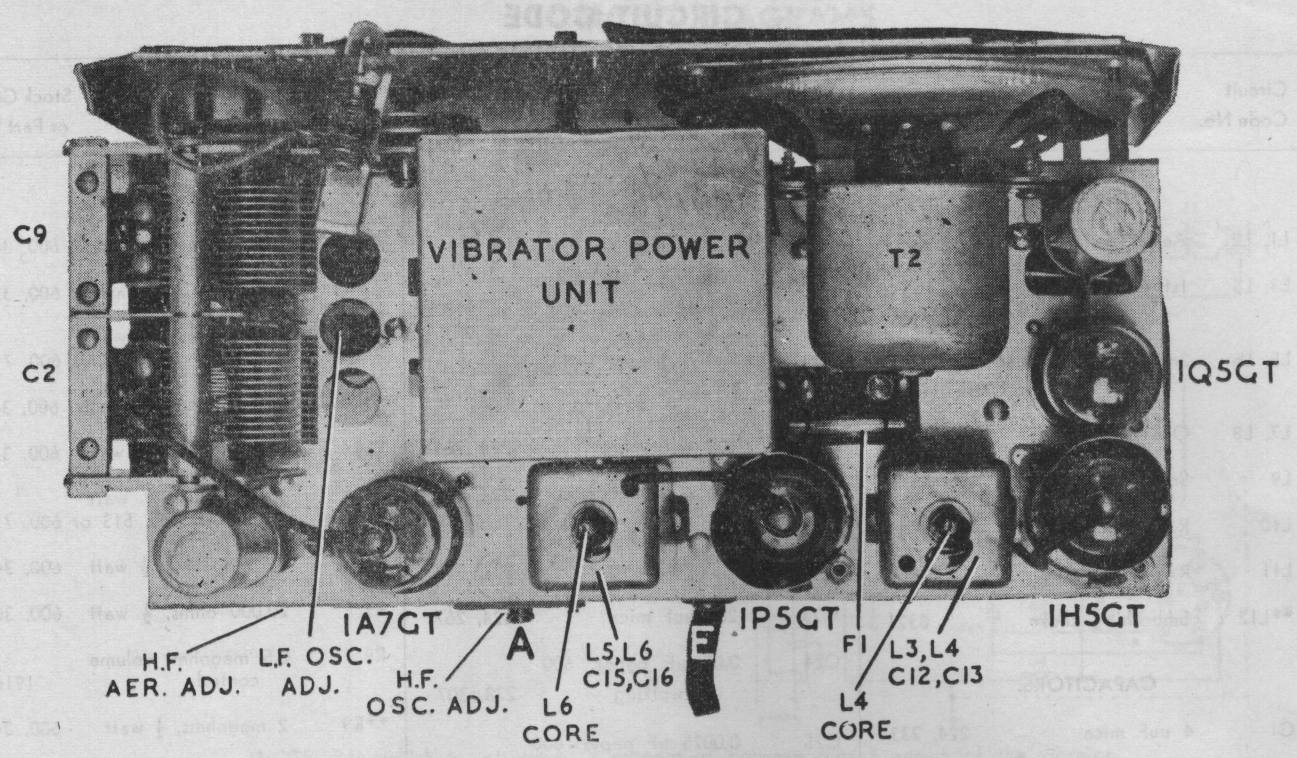
The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations, and it should not be assumed that a component is faulty if a slightly different reading is obtained.

* Less than 1 ohm.

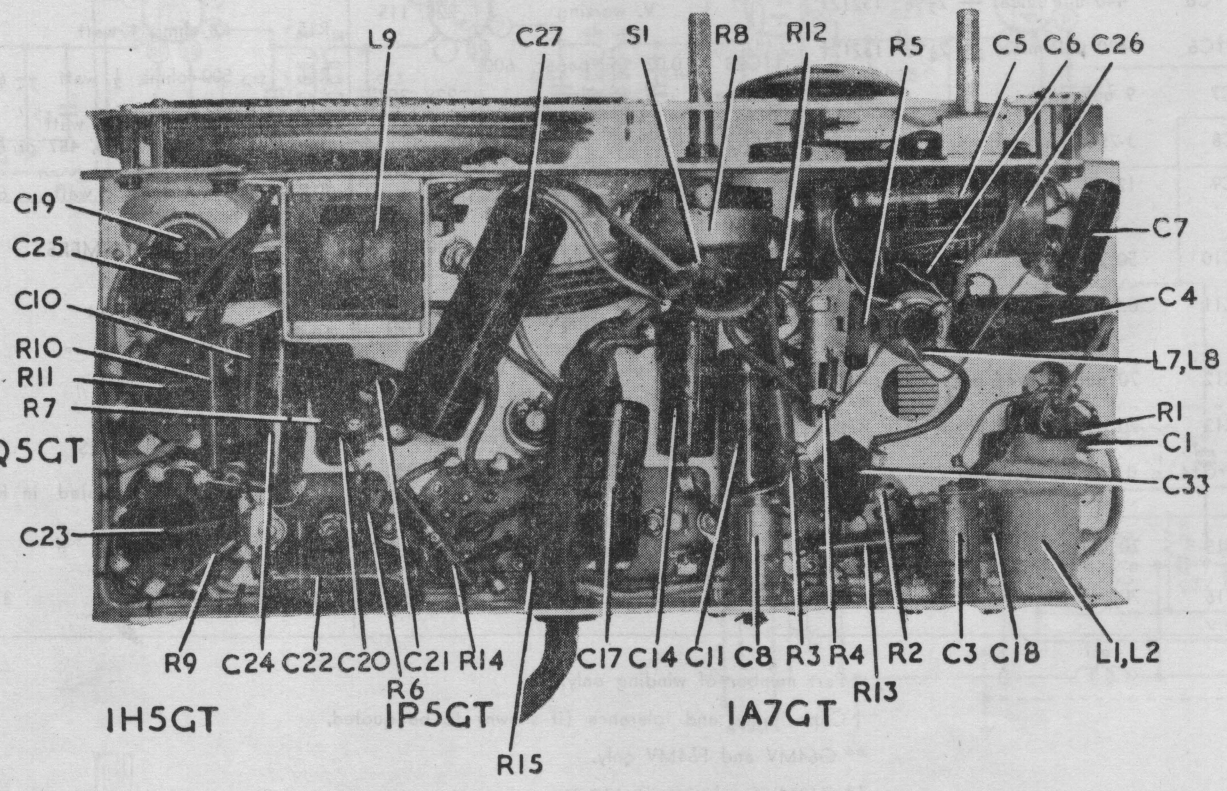
MECHANICAL REPLACEMENT PARTS.

Item.	Part No.
Arm, pulley	17719
Aerial Terminal Assembly	17717
Bracket, ganged capacitor mtg.	
Front	17619
Rear	17620
Bracket, tuning drive spindle	17648
Cabinet	G6, F6
Clamp, dial scale	17720
Clip, grid	7459
Clip, horseshoe	2524
Cloth, loudspeaker fret	17608
Cone Assembly, loudspeaker	8330
Dial Scale —	
G64MV, F64MV	19691
G64MVY	

Item.	Part No.
Drive Cord	17811A
Drum, drive	17627
Drum, pointer	17626
Dust cover, loudspeaker	7848
Hook, drive cord	19607
Knob	17603
Plate, tuning drive mounting	17621
Panel, fuse	19158
Pointer, dial	17602
Pulley, loading	17716
Socket, valve	4704
Spindle, pointer	17625
Spindle, tuning drive	17647
Spring, iron core locking	3091
Spring, loading, drive cord	17654
Strap, chassis mounting	17634

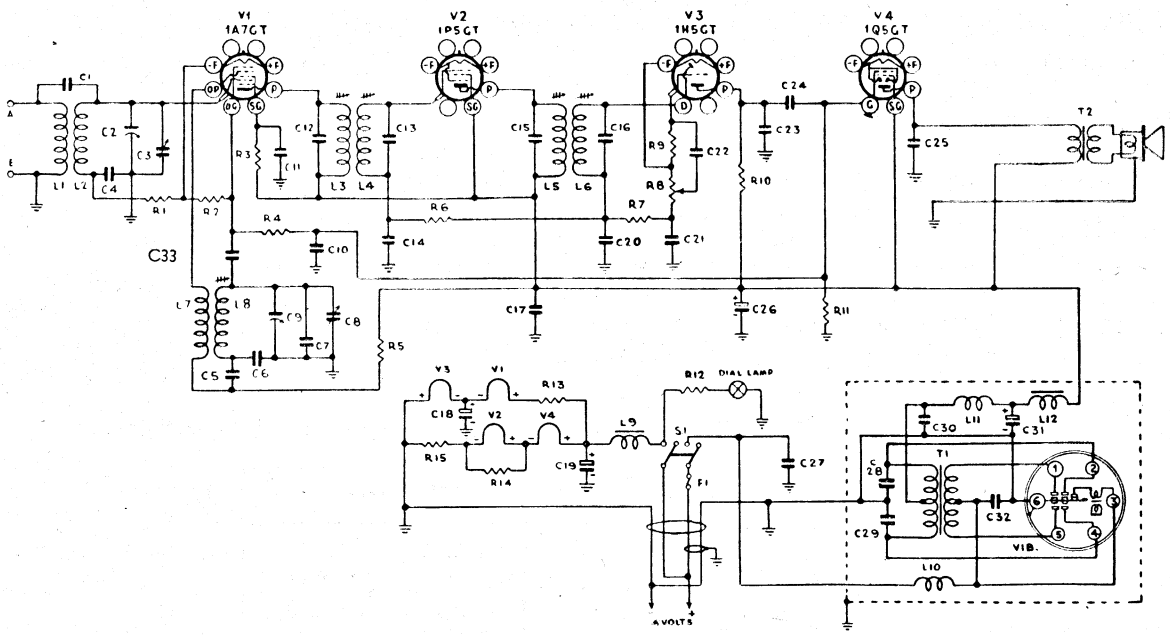


CHASSIS (TOP VIEW) MODELS G64MV and F64MV.



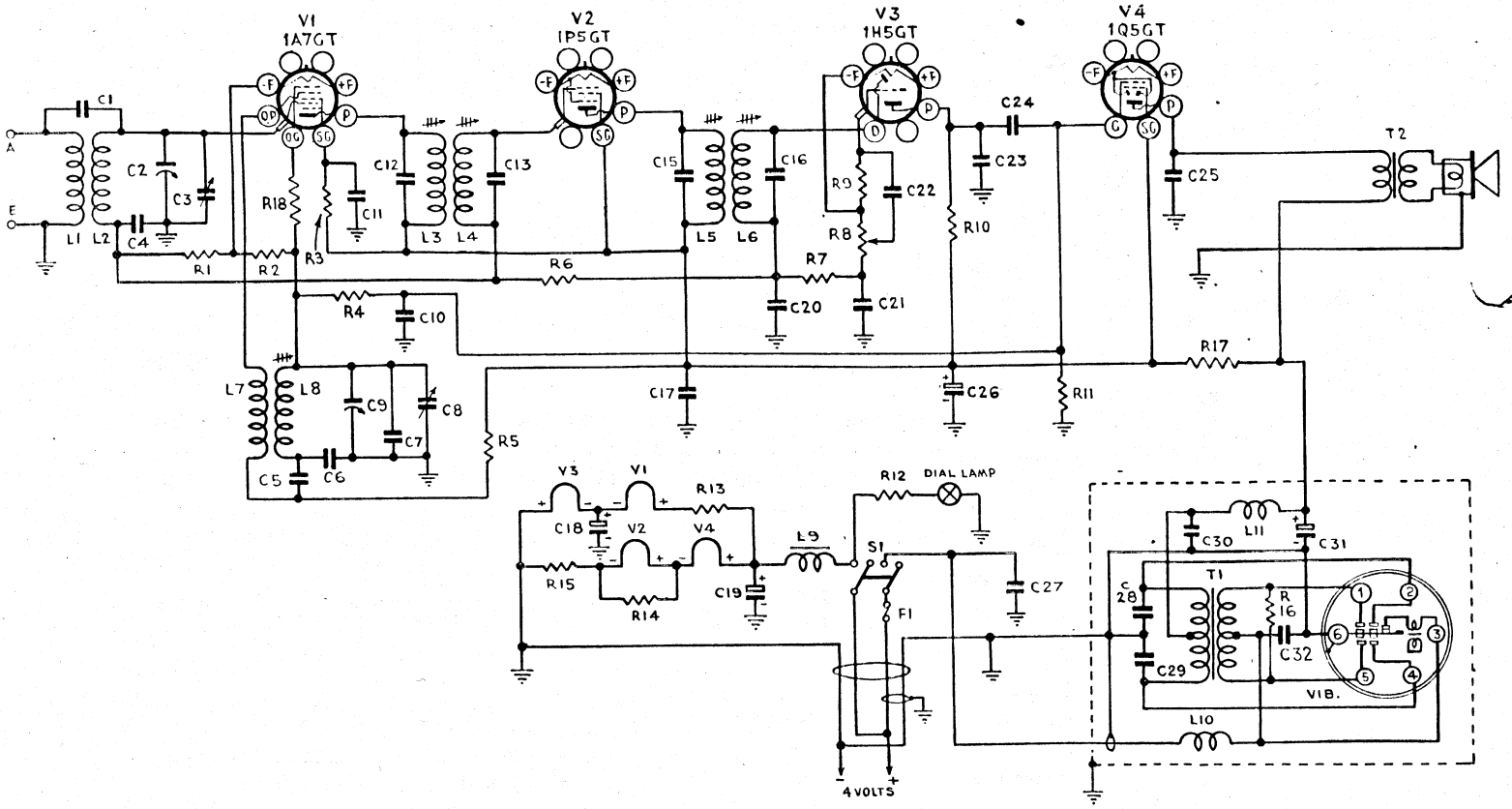
CHASSIS (UNDERNEATH VIEW) MODELS G64MV and F64MV.

CIRCUIT DIAGRAMS



NOTE: R16, which is not shown, is connect ed between pins 1 and 5 of the vibrator.

MODELS G64MV and F64MV.



MODEL G64MVY.