



MARCONIPHONE

SERVICE MANUAL

PRIVATE AND CONFIDENTIAL
TO THE TRADE ONLY



Model 571

6-Valve All-Wave
AC/DC Superhet

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JAN.

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PART NO.

2 0 5 5 8

ISSUE 2H

MODEL 571

TECHNICAL SPECIFICATION

VOLTAGE RANGE.

105 to 225 volts, D.C. or A.C.
40 to 100 cycles (A.C.)

Note.—Should it be desired to operate Model 571 on mains with frequencies down to 25 cycles a 16 mfd condenser must be wired across C24. This addition may also be found effective in clearing up hum when either receiver is operated on bad 40 cycle mains. Use Part No. 22675 F.

POWER CONSUMPTION.

On 220 volt mains, approximately 85 watts.
On 110 volt mains, approximately 40 watts.

FUSES.

This instrument is protected by two 1.25 amp. fuses which are accessible when the back is removed. Use only fuses coded with a yellow spot for replacement (Part No. 19850 A).

SPEECH OUTPUT.

Approximately 2.5 watts maximum on 220 volt and 1.5 watts maximum on 110 volt mains.
Anode dissipation of KT32 output valve, 7 watts (with 220 volt mains).

WAVELENGTH RANGES.

Short Waves	...	...	...	...	16.5 to 52 metres.
Medium Waves	...	...	...	...	197 to 570 "
Long Waves	...	...	...	...	725 to 2,000 "

DIMENSIONS.

571—19½ inches high, 17¾ inches wide, 11 inches deep.

WEIGHT.

40 lb. net. 50 lb. gross.

VALVES.

Marconi W63 or KTW63	...	...	...	H.F. Amplifier.
" X63	...	...	...	Frequency Changer.
" W63 or KTW63	...	...	...	I.F. Amplifier.
" DH63	...	...	...	Detector, A.V.C. rectifier and 1st L.F. Amplifier.
" KT32	...	...	...	Output Valve.
" U31	...	...	...	H.T. rectifier.
" Y64	...	...	...	Visual Tuning Indicator.

LOUDSPEAKER.

No.24460T.

High flux density permanent magnet loudspeaker with elliptical cone.

D.C. Resistance of speech coil, 4 ohms.

Impedance at 800 cycles, 5 ohms.

EXTRA LOUDSPEAKER.

This receiver will operate two extra loudspeakers without greatly reducing the volume of the built-in speaker. The extra loudspeakers should be so arranged that their total impedance is approximately 5 ohms. Connexion should be made by well insulated leads to the speech coil tags on the loudspeaker. Marconiphone Models 144 and 196 are recommended.

CIRCUIT DESCRIPTION**H.F. AMPLIFIER.**

The aerial is coupled to the H.F. Amplifier valve (W63 or KTW63) by the series condenser C1 and the tuned circuits L1, L2, L3, VC1 etc., the valve being A.V.C. controlled.

FREQUENCY CHANGER.

The heptode frequency changer (X63) is coupled to the preceding valve by a tuned-anode capacity coupled circuit L5, L6 and L7 in which C25 constitutes the coupling condenser. The oscillator circuit is of the conventional tuned grid type, oscillation being produced by the coupled coils L9, L12, L10, L13 and L11, L14, working in conjunction with the oscillator portion of the mixer valve. The coil L8 in the cathode lead ensures frequency stability on short waves, the mixer section of the valve being A.V.C. controlled.

I.F. AMPLIFIER.

An iron-cored I.F. transformer operating at 465 kc couples the frequency changer to the I.F. amplifier valve (W63 or KTW63), which is A.V.C. controlled.

SECOND DETECTOR.

A second iron-cored I.F. transformer couples the I.F. amplifier to the detector, the signal diode being fed from a tapping on the transformer secondary. The A.V.C. diode is fed direct from the I.F. valve anode via C11, and the A.V.C. voltage set up across R14, R15, and R31 is fed back to the three controlled valves, R13, C18 serving as an L.F. smoothing circuit. The initial bias for V1, V2, V3 is provided by the resistance R20 in the H.T. negative lead, while A.V.C. delay voltage is developed across the resistances R12, R20.

L.F. AMPLIFIER.

The triode portion of V4 serves as the L.F. Amplifier and is fed through the volume control VR1. The series condenser C33 is included on short waves to limit the bass response and reduce background noise.

OUTPUT STAGE.

The L.F. amplifier is resistance capacity coupled to the output valve V5 (KT32). A continuously variable tone control, VC4, is connected between the anode and grid of this valve, and a tone correcting condenser, C29, is connected from anode to chassis.

H.T. RECTIFIER.

On A.C. mains the rectifier valve V6 (U31) operates as a half-wave rectifier to supply H.T. current to the valves and on D.C. mains as a low-value series resistance. Smoothing is provided by CK2, CK3, and the electrolytic condensers C16, C23 and C24.

VISUAL TUNING INDICATOR.

The cathode-ray type of visual tuning indicator (Y64) has its control grid connected to the maximum A.V.C. voltage point, i.e. at the junction of R13, R14.

MAINS INPUT.

The mains input to this receiver is H.F. filtered and fused, and a double pole switch is provided. The voltage adjustment unit serves to adjust the main H.T. voltage, the heater voltage and the screen voltages on the valves. The earth socket is of the split type, one half being connected through C40 to the chassis, and the other to the loudspeaker grille.

The chassis of this receiver is connected to one side of the mains, and care must be taken when servicing to avoid touching the chassis, and to avoid contacting an earth wire on to it.

ALL-WAVE FILTER AERIAL

Good reception depends on the aerial, and this is especially true in the case of short wave reception. Where trouble is experienced from interference, the Marconiphone All-Wave Filter aerial is recommended. For hints on erection, consult the instruction book supplied with the equipment.

PRELIMINARY TESTS

This receiver incorporates the new "International" type valves with octal bases. In these valves the grid connexion is made to the top cap and consequently it is more difficult to check up H.T. voltages. This model is however, provided with a removable cabinet bottom which facilitates servicing. The following tests can be made entirely from the top of the chassis without removing either chassis or cabinet bottom.

1. *Mains Continuity*.—Disconnect receiver from mains, switch on, and measure resistance across mains input pins—400 ohms (Receiver adjusted for 220 volts).
2. *Smoothed H.T. voltage*.—(a) on 230 volt A.C. mains—150 volts, measured between target on V.T. and chassis.
(b) on 200 volt D.C. mains—150 volts.
3. *Total Bias*.—Voltage between fuse in negative mains lead and chassis should be approximately 2.0 volts on 230 volt A.C. mains.
4. *L.F. Test*.—If L.F. side of receiver is operating correctly, a loud buzz should be heard when the grid of V4 is touched with the finger (aerial and earth disconnected and volume control turned to maximum).
5. *H.F. Tests*.—If signals are obtained when aerial is connected through small condenser to grid of V2 the previous stage is probably faulty. Similarly, if results are obtained by connecting the aerial to grid of V1 there will very likely be a fault in the aerial coupling circuits.
6. *Oscillator Test*.—Contact voltmeter across R8 in oscillator circuit and note readings with L12, L13, L14 first in circuit, and then shorted out.

This test shows whether the oscillator is functioning correctly. When the coupling coils are shorted, the voltage should rise considerably indicating an increase in current. e.g. on MW with receiver tuned to approximately 220 metres the readings are 3.2 and 6.0 volts respectively. These values will not necessarily apply to other wavelengths or wavebands, but in all cases a marked increase should be noted.

DISMANTLING

REMOVAL OF CHASSIS.

1. Remove knobs and unscrew back ; the latter is hinged for easy access.
2. Disconnect leads from loudspeaker, and remove mains resistance plugs.
3. Remove four fixing bolts from underside of cabinet, and detach lead connecting metallised base to chassis. The chassis may now be withdrawn. (Note.—By removing the three outer woodscrews fixing the three steel strips on the underside of the cabinet, the cabinet bottom may be removed for inspection of the chassis without removing the latter from the cabinet).

REMOVAL OF LOUDSPEAKER.

1. Disconnect leads to loudspeaker.
2. Remove four securing screws and withdraw speaker.

REMOVAL OF MAINS RESISTANCE UNIT.

1. Remove chassis.
2. Remove four screws securing unit to cabinet side and withdraw unit.

H.F. TESTS AND ADJUSTMENTS

GENERAL NOTES.

If the oscillator coils or I.F. transformers have been replaced or repaired, or if any wiring has been disarranged, a complete re-alignment (I.F., S.W., M.W., L.W.) must follow. If the H.F. circuits have been disturbed, re-alignment of these only will suffice.

The following apparatus will be required :—a screened oscillator (or oscillators) capable of tuning from 18 to 1,900 metres (16.66 megacycles to 157.9 kilocycles), with an attenuator ; an output meter or a 0.1 volt A.C. voltmeter ; and a trimming screwdriver with a minimum of metal in the blade. The E.M.I. Service Equipment is eminently suitable.

In carrying out the following operations it is important that the input to the receiver is kept low and progressively reduced as the circuits are brought into line, so that the reading on the output meter does not exceed 50 mw or 0.5 volts with the receiver volume control fully up. For all re-alignment purposes the output meter should be connected between the anode of V5 (KT32) and chassis. If an A.C. voltmeter is used it must be connected across the L.S. speech coil.

I.F. GANGING

Switch receiver to L.W. and set gang condenser to maximum capacity, volume control to maximum and tone control to minimum top (fully clockwise). Tune oscillator to 465 kc. and connect output leads to grid of V2 (X63) via a 0.1 mfd condenser (leaving receiver grid lead connected) and to chassis.

1. Switch on receiver and oscillator. If oscillator is mains driven it should be switched on for at least a quarter of an hour before use.
2. Adjust TCI2, TCI3, TCI4 and TCI5 in that order for maximum output.
3. Check the adjustment of the above trimmers in the same order.

SHORT WAVES.

1. Set receiver to S.W., with volume at maximum and tone control at maximum top (fully anti-clockwise) and set oscillator to 18 metres (16.66 megacycles).
Note :—Modulation of oscillator should not be more than 30 per cent. at 18 metres.
2. Tune in signal on receiver and adjust TC7 and TCI for maximum output, at the same time "rocking" the gang condenser. Repeat this operation until no further increase in output is obtained.
3. Set oscillator to 50 metres (6 megacycles) and tune in signal on receiver.
4. Adjust inductance of L1, L5 or L9 if necessary (see foot note).
5. Return to 18 metres and carefully re-adjust TCI, at the same time rocking the gang condenser.

Note.—If the aerial, anode or oscillator coil assemblies have been replaced or repaired, the inductance of L1, L5, or L9 respectively will have to be adjusted, otherwise it is unnecessary. The adjustment of inductance can be done satisfactorily only by using a tuning wand. In general it is the oscillator coil (L9) which should be most carefully adjusted. To make these adjustments proceed as follows :—

- (a) First make adjustments given in 1, 2, 3 above.
- (b) Insert the ferrocart end of the "tuning wand" into the coil assembly affected. If the output reading falls leave the coil untouched, but if it increases adjust the inductance by moving the loop of wire which will be found running across the inside of the coil former up or down until the output reading falls when the ferrocart end is inserted.
- (c) Insert the brass end of the wand into the coil assembly. If the output reading falls leave the coil untouched, but if it rises adjust the inductance as in (b) above until the reading falls upon the insertion of the wand.
- (d) Repeat (b) and (c) until the output reading falls when either end of the wand is inserted in the coil.

N.B.—A strip of insulating material with a "nick" cut in it will facilitate the above adjustments. The coil can may be removed to identify the loop, but it must be fixed securely for the actual alignment adjustments.

- (e) Complete alignment as shown in 5 above.

MEDIUM WAVES.

Set receiver to M.W., and volume and tone controls as for S.W. above.

1. Tune oscillator to 205 metres (1,463 kilocycles) and set receiver to 205 metre mark on scale (indicated by spot).

Note.—If the scale has been replaced or the pointer disarranged it will be necessary to reset the pointer. To do this turn gang condenser to minimum and set pointer horizontal to the left at this position.

2. Adjust TC8 for maximum output.
3. Set oscillator to 225 metres (1,333·3 kc.) and tune in signal on receiver.
4. Adjust TC2 and TC5 in that order for maximum output.
5. Set oscillator to 530 metres (566 kc.) and tune in signal on receiver.
6. Adjust TC10 for maximum output, at the same time “rocking” the gang condenser to ensure that the receiver is exactly in tune.
7. Return to 205 metres and check setting of TC8.

LONG WAVES.

1. Switch receiver to L.W., gang condenser at minimum and tune oscillator to 725 metres (413·8 kc.)
2. Adjust TC9 for maximum output.
3. Set oscillator to 850 metres (353 kc.) and tune in signal on receiver.
4. Adjust TC3 and TC6 for maximum output.
5. Set oscillator to 1,900 metres (157·9 kc.) and tune in signal on receiver.
6. Adjust TC11 for maximum output, at the same time “rocking” the gang condenser.
7. Re-check setting of TC9 at 725 metres.
8. Return to medium waves and repeat whole of medium and long wave alignment.

The use of a “tuning wand” (obtainable from E.M.I. Service) will facilitate all H.F. ganging operations.

The wand should be used as follows :—

- (a) Insert the ferrocart end of the wand into the can containing the coil of the circuit being aligned. If the output reading falls, leave the trimmer set, but if reading increases, increase capacity by screwing down trimmer until peak reading is obtained.
- (b) Insert brass end of wand, and if reading falls leave trimmer set, but if output reading increases decrease trimmer capacity until a peak reading is obtained.

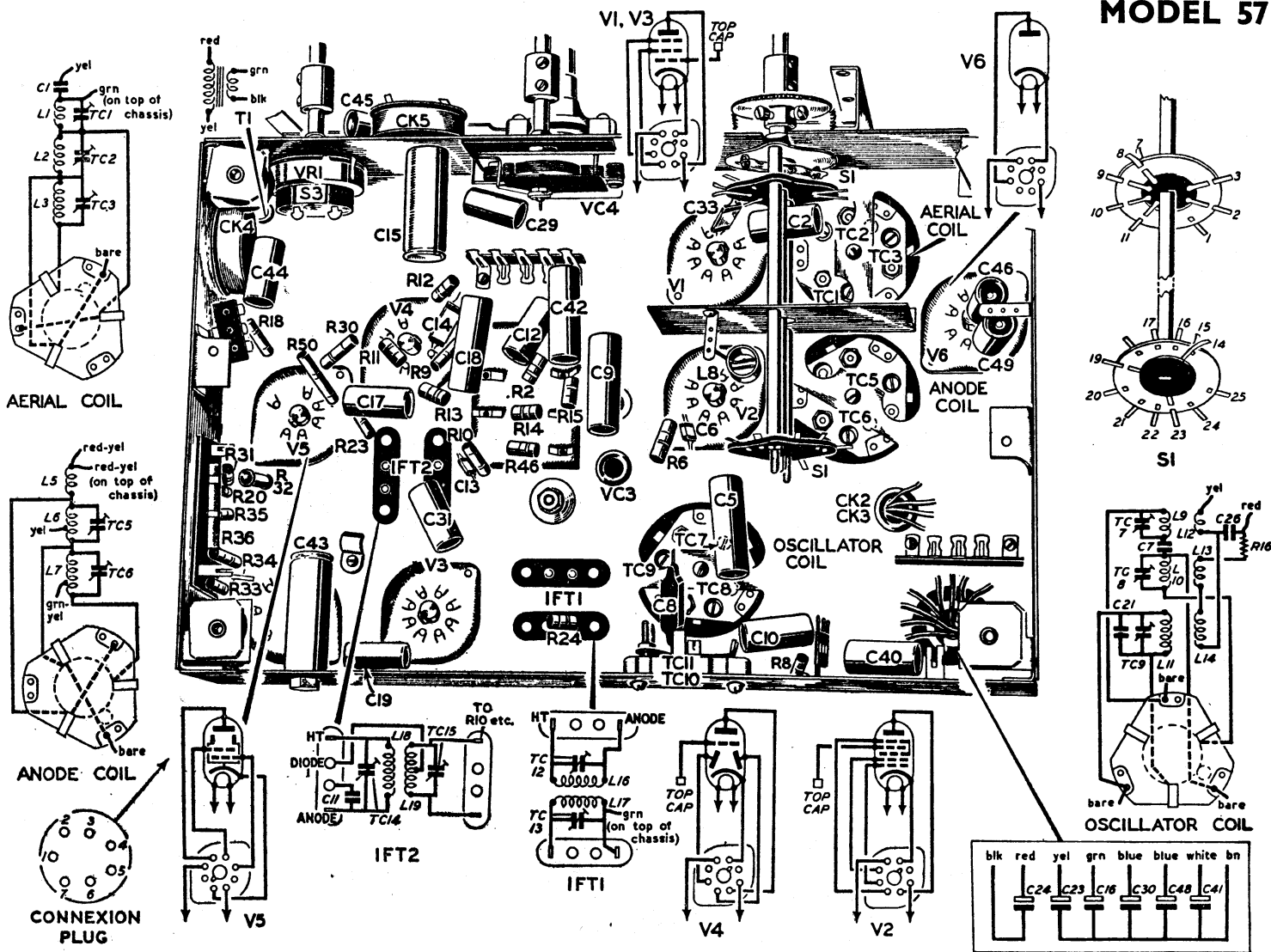
CHECKING CALIBRATION.

When re-alignment operations have been completed, the calibration of the wave-scale on all ranges must be checked. The pointer should be adjusted for the best possible compromise on all wavebands.

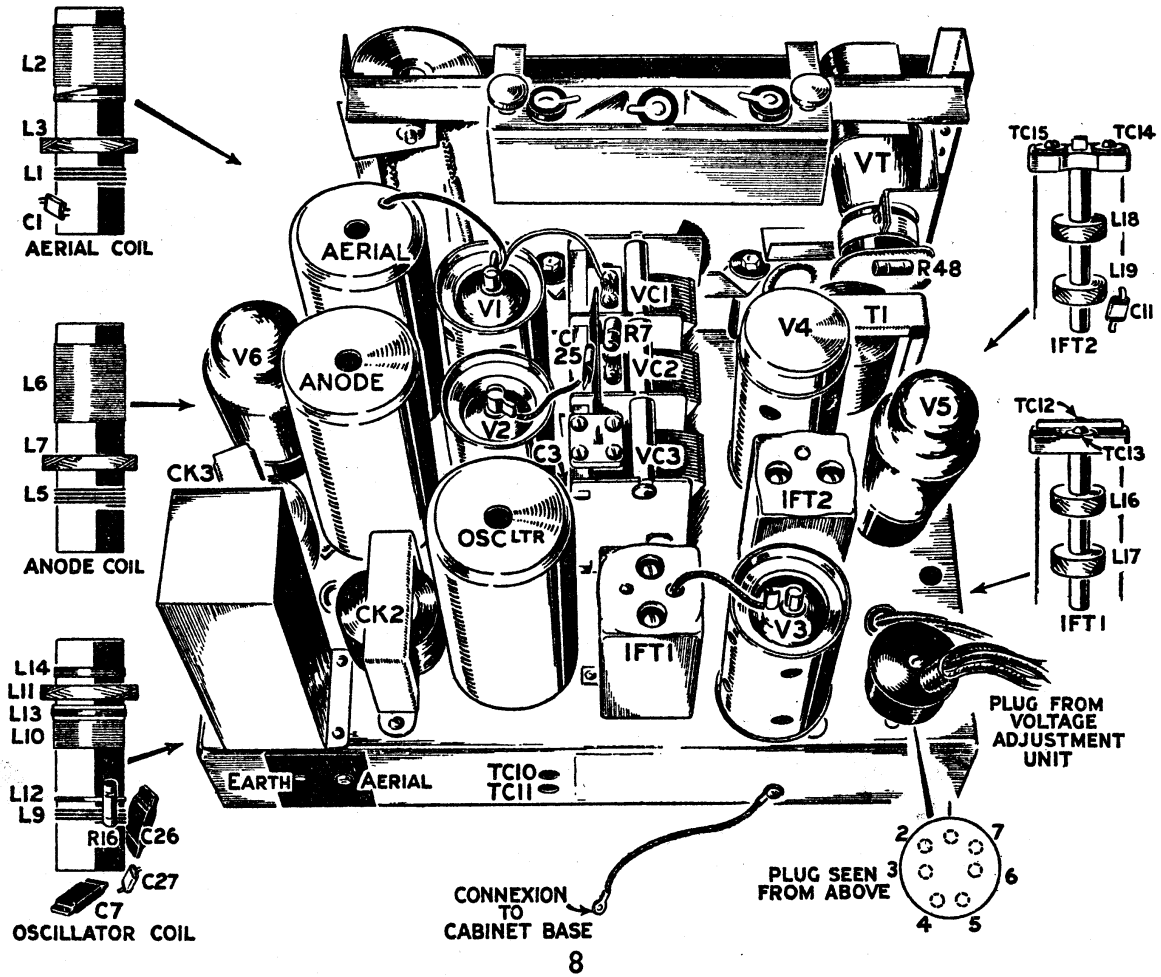
CONTINUITY CHECKS

Remove valves and pilot lamps. Values \pm 20 per cent.

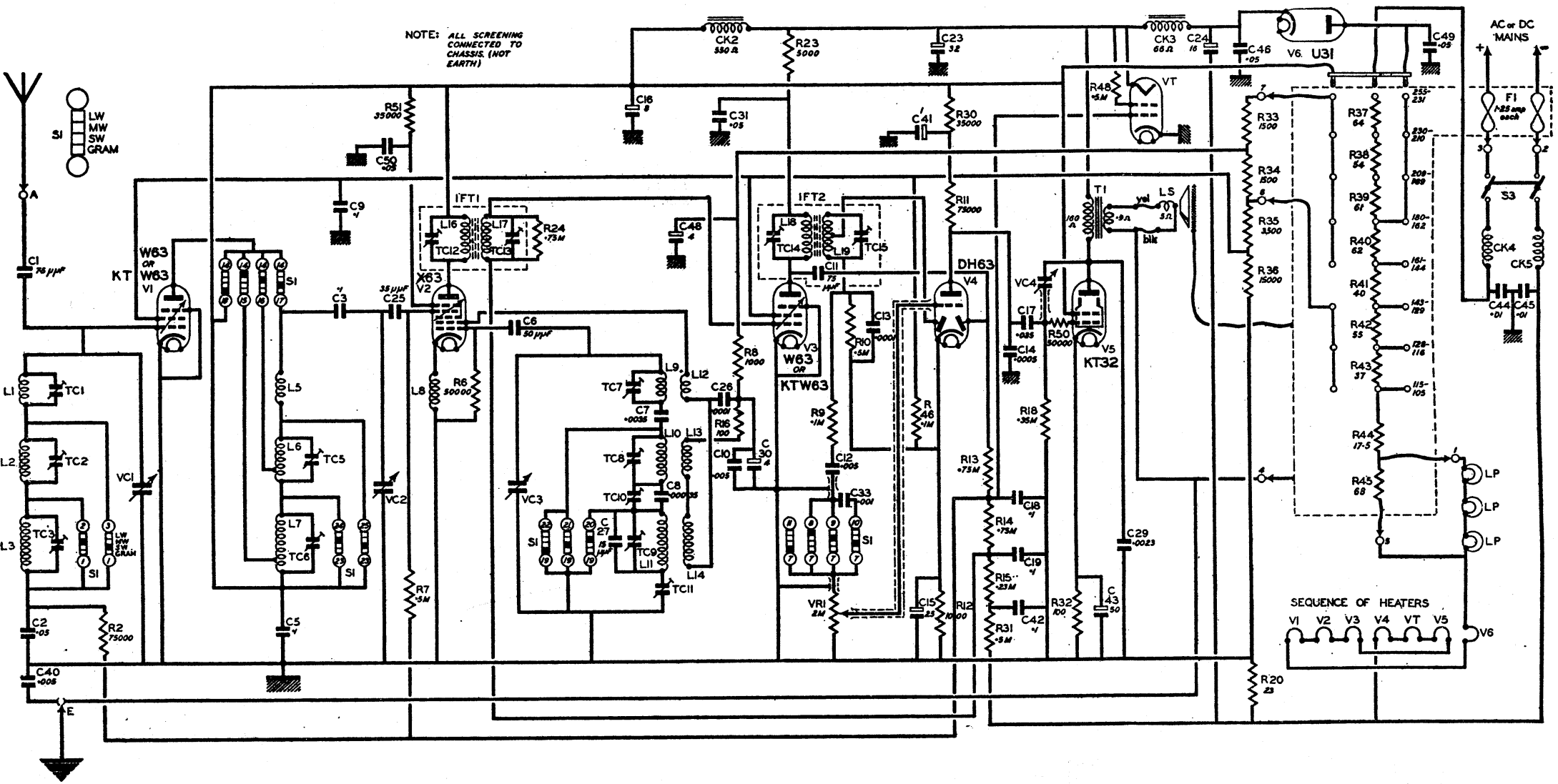
Component.	Measured.	Switch.	Resistance.
L1, L2, L3	Fixed vanes VC1 and contact 1 on S1	SW MW LW	(L1) 0.1 ohm. (L1 + L2) 6.0 ohms. (L1 + L2 + L3) 20 ohms.
L5	Anode V1 (KTW63) and screening grid V5 (KT32)	SW	0.1 ohm.
L6	Contacts 24 and 25, S1	LW	5.5 ohms.
L7	Contacts 23 and 24, S1	LW	14.0 ohms.
L9	Across ends	—	0.1 ohm.
L10	Across ends	—	5.5 ohms.
L11	Across ends	—	4.2 ohms.
L8	Cathode V2 (X63) and chassis	—	0.1 ohm.
L12, L13, L14, R8, R16, R33	Osc. anode V2 and pin 7 mains resistance connexion	—	2,600 ohms. (L12) 1.0 ohm. (L13) 2.0 ohms. (L14) 3.0 ohms.
L16	Anode V2 and screening grid V5	—	6.3 ohms.
L17, R15, R31, R20	Control grid V3 (KTW63) and chassis	—	0.73 megohm. (L17 6.3 ohms.)
L18, R23	Anode V3 and Target of VT	—	5,000 ohms. (L18 6.3 ohms.)
Half L19, R10, R12	Diode V4 (DH63) and chassis	—	0.5 megohm. (L19 6.3 ohms.)
R2, R13, L1	Fixed vanes VC1, and diode 2, V4	SW	0.825 megohm.
R7, R14, L17	Control grid V2 and control grid V3	—	1.25 megohms.
R6	Osc. grid V2 and chassis	—	50,000 ohms.
R15, R31, R20, L17	Control grid V3 and chassis	—	0.73 megohm.
R46, R36, R12	Screening grid V3 and cathode V4	—	13,800 ohms.
VRI	Control grid V4 and chassis	—	4 ohms. to 2 megohms.
CK2, CK3, CK4, CK5, T1, T2 and LS	See circuit diagram.		



Note:—On some Models CK4 & C44 will be found on the front outside edge of the chassis.



NOTE: ALL SCREENING CONNECTED TO CHASSIS (NOT EARTH)



SEQUENCE OF HEATERS
 V1 V2 V3 V4 VT V5 V6

RESISTANCE COLOUR CODE

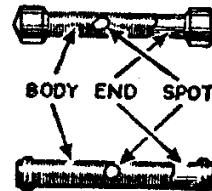
BODY AND END

Colours.
1st and 2nd figures.)

- 0 Black.
- 1 Brown.
- 2 Red.
- 3 Orange.
- 4 Yellow.
- 5 Green.
- 6 Blue.
- 7 Violet.
- 8 Grey.
- 9 White.

SPOT Colours.
(Additional 0's.)

- 0 Black.
- 0· Brown.
- 00· Red.
- 000· Orange.
- 0,000· Yellow.
- 00,000· Green.



WIRE COLOUR CODE

H.T. positive (+)	...	...	...	...	Red.
Anodes of valves when not direct to					
H.T. +	...	...	...	...	Red/Yellow.
Screening grids when not direct to					
H.T. +	...	...	...	...	Red/Black.
Grid circuits	...	...	...	...	Green.
Mains	...	...	...	...	Red/Brown.
Heaters, filaments and cathodes	...	...	...	...	Brown.
Earth	...	...	...	...	Black.
General purpose colour	...	...	...	...	Yellow.

Yellow will be used for leads not falling in the general code, and when stocks of any colour are temporarily exhausted in the factory.

VALVE TABLE

(VOLTAGE, CURRENT AND RESISTANCE TESTS.)

Values ± 20 per cent.

Voltage and current readings taken on 225 volt A.C. mains with aerial disconnected and receiver tuned to a point of no reception.

Resistance readings (in ohms) taken with receiver disconnected from mains and valves removed.

S = short circuit ∞ = open circuit. Socket numbers (see diagram below) are given in brackets.

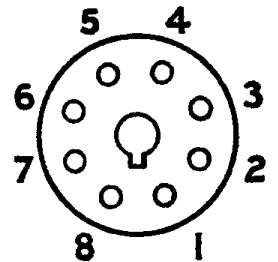
H.T. current, and to a greater extent H.T. voltage values will vary in proportion with the voltage of the mains on which the receiver is operating.

Valves.	V1 KTW63	V2 X63	V3 KTW63	V4 DH63	V5 KT32	V6 U31	V7 Y64	
ANODE	Volts to chassis	135	Mixer 135 | Osc. 110	125	75	140	—	
	Current (mA) ...	3.8*	2.5* | 3.0*	4.0*	0.7	54	—	
	Resistance to chassis	(3) 20,000	(3) 20,000	(3) 25 500	(3) 0.13 megohm	(3) 20,700	(5) ∞	(3) 0.52 megohm
SCREEN	Volts to chassis ...	75	75	75	—	135	—	
	Current (mA) ...	1.0*	2.4*	1.0*	—	4	—	
	Resistance to chassis	(4) 13,000	(4) 13,000	(4) 13,000	—	(4) 20,000	—	(4) 20,500 (Target)
BIAS	Voltage ...	1.9	1.9	1.9	1.1	6.0	157	1.9
	Measured ...	Across R20			Cathode to chassis			Across R20
CATHODE	—Resistance to chassis	(8) S	(8) 0.1	(8) S	(8) 1,000	(8) 100	(8) 20,600	(8) S
HEATER	Volts across sockets	6.3	6.3	6.3	6.3	26.0	26.0	6.3
	Current (amps.)	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Resistance to chassis (2)	∞	∞	∞	23	∞	∞	∞
	Resistance to chassis (7)	∞	∞	∞	∞	∞	∞	∞
Other socket to chassis resistances (Socket numbers in brackets)	(1) S	(1) S	(1) S	(1) S	(1) S	(1) S	(1) S	(1) ∞
	—	—	—	—	(4) 2.23 (megohms)	—	(4) 20,600	—
	(5) S	(5) 50,000	(5) S	(5) S	(5) 0.501 megohm	(5) 0.4 megohm	—	(5) 1.5 megohms
	(6) ∞	(6) 19,600	—	—	(6) 55,000	(6) ∞	(6) ∞	(6) ∞
	(Cap) 1.55 megohms	(Cap) 1.98 megohms	(Cap) 0.73 megohm	(Cap) 10 ohms to 2 meg. (VRI)	—	(3) ∞	—	—

* These values will vary when a strong station is tuned in ; bias values and anode and screen currents will reduce ; and oscillator anode and mixer screen currents will increase.

Total H.T. feed (measured at cathode V6) 80 mA (average).

Current in screen potentiometer (R33, R34, R35, R36) 5.3 mA (average).



**VALVE SOCKET
SEEN FROM TOP**

MODEL 571

SPARE PARTS LIST

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
				£ s. d.	
	Instructions.				
28137	Instruction card	—	—	0 0 6	Each.
22291	Short wave guide	—	—	0 0 6	"
83983	Valve position label	—	—	0 0 7½	Doz.
28090	Voltage adjustment label	—	—	0 0 6	"
20394	Transit label... ..	—	—	0 0 1	Each
	CABINET PARTS AND FITTINGS				
83946B	Cabinet	1	Pol	4 4 0	Each
8195	Rubber foot	4	—	0 0 8	Doz.
26519	Bottom panel plate	3	CdP	0 0 4	"
8651	Screw, securing plates	6	—	0 0 2	"
—	Screen paper S876 213/78209	—	—	0 0 4½	Yard.
—	Baffle board, with insert nuts	1	Std	0 3 6	Each.
14922	Insert nut, for loudspeaker	4	CB	0 1 4	Doz.
9553	Screw 1-in. } securing baffle board	3	—	0 0 3	"
15832	Screw 1¼-in. }	4	—	0 0 2	"
28144A	Wire mesh with earthing lead and tag	1	AnBr	0 4 6	Each.
15140	Tag	1	—	0 0 3	Doz.
19273	Pin, securing wire mesh to baffle	4	—	0 0 1	"
—	Felt for wire mesh, ¼-in., S1429, 225/82316	—	—	0 0 9	Sq. ft.
—	Felt for wire mesh, ¼-in., S1459, 225/84316	—	—	0 1 0	"
13268	Bracket for cabinet back	1	CdP	0 0 1	Each.
24873	Bracket (larger) for cabinet back	1	CdP	0 0 1	"
8602	Screw, securing brackets	4	—	0 0 2	Doz.
28140A	Cabinet back (printed)	1	—	0 3 3	Each.
28145	Hinge strap	2	—	0 0 2	"
9526	Screw } securing hinge strap to cabinet	2	BzP	0 0 4½	Doz.
6461	Washer }	2	BzP	0 0 2	"
19896	Screw } securing cabinet back to brackets	2	ParB	0 0 4	Doz.
19895	Washer }	2	ParB	0 0 4	Doz.
26105A	Tuning escutcheon	1	—	0 1 0	Each.
9545	Screw, securing escutcheon	4	BzP	0 0 3	Doz.
26106	Window	1	—	0 0 2	Each
26128	Clamping rubber, long	2	—	0 0 4½	Doz.
26129	Clamping rubber, short	2	—	0 0 2	"
26107	Clamp } securing window	4	—	0 0 4½	"
14791	Screw }	4	WN	0 0 4	"
	LEADS, PLUGS, ETC.				
19063B	Mains lead	1	—	0 1 6	Each.
8227A	Mains plug	1	—	0 1 7	"
26777D	Mains socket	1	—	0 2 9	"
26776	Contact spring	2	—	0 0 6	Doz.
26777	Socket base	1	—	0 0 9	Each.
26778B	Socket top, with ring... ..	1	BzP	0 1 9	"
11222	Screw } securing socket base to socket top	2	BzP	0 0 2	Doz.
3166	Washer SP }	2	—	0 0 2	"
11628	Nut }	2	WN	0 0 4	"
27824D	Screen earthing lead, with two tags	1	—	0 0 3	Each.
15159	Tag	2	—	0 0 3	Doz.
8602	Screw } securing screen lead to cabinet bottom panel	1	WN	0 0 2	"
19883	Washer }	1	WN	0 0 1	"
8777	Screw PK, securing lead to radio unit chassis	1	—	0 0 6	"
16289J	Aerial plug, yellow	1	—	0 0 2	Each.
16289B	Earth plug, black	1	—	0 0 2	"
18889A	Carton, for mains lead and plugs	1	—	0 0 1	"
19850A	Fuse, (2 spare)	4	—	0 0 6	"
27899	Rubber band, securing spare fuses	1	—	0 0 1	Doz.
7155	Cleat, for speaker lead	1	WN	0 0 1	Each.
8602	Screw, securing cleat to baffle	1	WN	0 0 2	Doz.
20217	Sleeve, for visual tuner	1	—	0 0 2	"

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
				£ s. d.	
CONTROLS.					
24371A	Knob—Tuner, large	1	—	0 0 7	Each.
24855B	Knob—"Tuner"	1	ChF	0 0 7	"
11773	Grub screw, securing "Tuner" knob	1	WN	0 0 5	Doz.
17054AA	Knob—"Volume" and On-Off	1	ChF	0 0 7	Each.
17054Z	Knob—"Wave Band"	1	ChF	0 0 7	"
11805	Screw, P.K., securing knobs	2	—	0 0 6	Doz.
27748B	Knob—Tone	1	—	0 0 6	Each.
10257	Grub Screw securing tone knob	1	WN	0 0 1	"
LOUDSPEAKER					
24460T	Loudspeaker, with earthing lead and tag	1	—	1 5 0	Each.
15161	Tag	1	—	0 0 3	Doz.
24763G	Magnet	1	—	0 14 9	Each.
28054	Stud { securing magnet to cone chassis	4	WN	0 0 1	"
11627	Nut {	4	WN	0 0 6	Doz.
24460M	Cone chassis, with four studs	1	CdP	0 2 6	Each.
25224A	Tag panel, with two tags	1	—	0 0 1	"
7237	Tag	2	—	0 0 4	Doz.
13810	Rivet, securing tag panel to chassis	2	—	0 0 3	Each.
24461B	Speech coil and cone	1	—	0 3 0	"
19585	Card washer	2	—	0 0 1	Doz.
25205	Washer plate } securing spider of cone to studs on cone chassis	1	WN	0 0 1½	Each.
19687	Nut }	2	AcD	0 0 2	Doz.
26515	Stop washer	1	BME nLoc	0 0 6	"
25022	Sleeve } securing stop washer to centre core of magnet	1	WN	0 0 6	"
25023	Screw }	1	HdCB	0 0 6	"
25204	Felt strip	1	—	0 0 1½	Each.
25202	Dust bag	1	—	0 0 4½	"
11213	Screw } securing loudspeaker to insert nuts in baffle board	4	ParB	0 0 2	Doz.
1021	Washer }	4	WN	0 0 2	"
MAINS RESISTANCE UNIT					
28118	Bracket, supporting resistance unit and heat deflector	3	CdP	0 0 3	Each.
9559	Screw } securing brackets	6	WN	0 0 4	Doz.
22764	Washer }	6	WN	0 0 1	"
28119	Heat Deflector	1	CdP	0 0 3	Each.
11219	Screw } securing heat deflector and resistance unit to brackets	6	WN	0 0 3	Doz.
3166	Washer SP }	6	—	0 0 2	"
28115C	Mains resistance unit	1	—	1 1 9	Each.
28115B	Resistance element	1	—	0 6 3	"
20374	Distance piece	2	—	0 0 7½	"
11219	Screw } securing resistance element to cover	4	WN	0 0 3	Doz.
1035	Washer }	2	—	0 0 1	"
3166	Washer SP }	2	—	0 0 2	"
28111B	Panel assembly, with mains plugs, fuse clips and sockets	1	—	0 5 0	Each.
11229	Screw } securing panel to cover	6	WN	0 0 4	Doz.
3165	Washer SP }	6	—	0 0 2	"
11629	Nut }	6	WN	0 0 6	"
28120B	Seven-pin plug and lead	1	—	0 4 3	Each.
27815D	Seven-pin plug	1	—	0 1 3	"
27817	Screw } securing cap to plug	1	WN	0 0 1	"
27818	Nut }	1	WN	0 0 1	"
12613	Cleat for lead	1	WN	0 0 1	"
11219	Screw } securing cleat to cover	1	WN	0 0 3	Doz.
3166	Washer SP }	1	—	0 0 2	"
11628	Nut }	1	WN	0 0 4	"

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
RADIO UNIT					
28100C	Radio Unit ...	1	—	11 8 0	Each.
25631	Bolt, 2BA hex. hd.	4	WN	0 0 9	Doz.
10173C	Spring washer	4	—	0 0 2	"
23097	Washer	4	WN	0 0 3	"
11205	Transit bolt ...	2	Red Hd.	0 0 2	"
10173	Spring washer	2	—	0 0 2	"
24778	Plate ...	2	WN	0 0 6	"
INDUCTANCES					
23921J	{ L1 —S.W. aerial coil L2 —M.W. aerial coil L3 —L.W. aerial coil } aerial coil assembly ...	1	—	0 2 9	Each.
23921K	{ L5 —S.W. anode coil L6 —M.W. anode coil L7 —L.W. anode coil } anode coil assembly ...	1	—	0 3 0	"
24096B	L8 —Frequency stabilizing coil ...	1	—	0 0 3	"
23921F	{ L9 —S.W. oscillator grid coil L10—M.W. oscillator grid coil L11—L.W. oscillator grid coil L12—S.W. oscillator anode coil L13—M.W. oscillator anode coil L14—L.W. oscillator anode coil } oscillator coil assembly ...	1	—	0 3 6	"
	{ L16—Primary 1st I.F. transformer L17—Secondary 1st I.F. transformer } see I.F.T. 1 ...	1	—		
	{ L18—Primary 2nd I.F. transformer L19—Secondary 2nd I.F. transformer } see I.F.T. 2 ...	1	—		
22624F	CK2 smoothing choke ...	1	—	0 6 0	Each.
22624E	CK3 smoothing choke ...	1	—	0 6 0	"
10606	Screw, P.K., securing CK2 and CK3 ...	4	—	0 0 7	Doz.
16840B	CK4, HF choke ...	1	—	0 1 3	Each.
16840B	CK5 HF choke ...	1	—	0 1 3	"
28107A	Panel with two tags ...	2	—	0 0 1½	"
10400	Tag ...	4	—	0 0 1	Doz.
11273	Screw	2	—	0 0 6	"
2015	Washer	2	—	0 0 2	"
5946	Spacer	2	AcD	0 0 3	"
3166	Washer SP	2	WN	0 0 2	"
11628	Nut	2	WN	0 0 4	"
26330AK	IFT1—1st IF transformer complete with L16, L17, TC12 and TC13 ...	1	—	0 7 0	Each.
26330AL	IFT2—2nd IF transformer complete with L18, L19, C11, TC14, TC15 ...	1	—	0 7 9	"
12619	Screw, P.K., securing IF transformers ...	4	—	0 0 6	Doz.
24355J	T1—output transformer ...	1	—	0 6 0	Each.
10606	Screw, P.K., securing T1 ...	2	—	0 0 7	Doz.
RESISTANCES					
24150K	R2 — 75,000 ohms ...	1	—	0 0 9	Each.
24150J	R6 — 50,000 ohms ...	1	—	0 0 9	"
24150N	R7 —500,000 ohms ...	1	—	0 0 9	"
24150B	R8 — 1,000 ohms ...	1	—	0 0 9	"
24150L	R9 —100,000 ohms ...	1	—	0 0 9	"
24150N	R10—500,000 ohms ...	1	—	0 0 9	"
24150K	R11— 75,000 ohms ...	1	—	0 0 9	"
24150B	R12— 1,000 ohms ...	1	—	0 0 9	"
24150AL	R13—750,000 ohms ...	1	—	0 0 9	"
24150AL	R14—750,000 ohms ...	1	—	0 0 9	"
24150M	R15—230,000 ohms ...	1	—	0 0 9	"
24150AA	R16— 100 ohms ...	1	—	0 0 9	"

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
RESISTANCES—continued					
24150AK	R18—350,000 ohms	1	—	£ 0 0 9	Each.
17541DC	R20— 23 ohms (SL)	1	—	0 1 0	"
24150E	R23— 5,000 ohms	1	—	0 0 9	"
24150AL	R24—750,000 ohms	1	—	0 0 9	"
24150H	R30— 35,000 ohms	1	—	0 0 9	"
24150N	R31—500,000 ohms	1	—	0 0 9	"
19104BB	R32— 100 ohms (SL)	1	—	0 1 3	"
17140AV	R33— 1,500 ohms	1	—	0 0 9	"
17140AV	R34— 1,500 ohms	1	—	0 0 9	"
17140BK	R35— 3,500 ohms	1	—	0 0 9	"
17140AG	R36— 15,000 ohms	1	—	0 0 9	"
	R37—				
	R38—				
	R39—				
	R40—				
28115C	R41— mains resistance unit	1	—	1 1 9	"
	R42—				
	R43—				
	R44—				
	R45—				
24150L	R46—100,000 ohms	1	—	0 0 9	"
24150N	R48—500,000 ohms	1	—	0 0 9	"
24150J	R50— 50,000 ohms	1	—	0 0 9	"
24150H	R51— 35,000 ohms	1	—	0 0 9	"
27655CY	VRI and S3. 2 megohm volume control and mains On-Off switch, with nut and SP washer	1	—	0 5 0	"
CONDENSERS					
22164B	C1 —7.5 mmfd	1	—	0 0 9	Each
24900W	C2 —0.05 mfd.	1	—	0 1 3	"
24900AA	C3 —0.1 mfd.	1	—	0 1 4	"
24900AA	C5 —0.1 mfd.	1	—	0 1 4	"
22164J	C6 —50 mmfd	1	—	0 0 9	"
22330CP	C7 —0.0035 mfd. ± 2 per cent.	1	—	0 2 6	"
22330AL	C8 —0.0035 mfd. ± 5 per cent.	1	—	0 2 6	"
24900AA	C9 —0.1 mfd.	1	—	0 1 4	"
24900J	C10—0.005 mfd.	1	—	0 1 0	"
22164K	C11—75 mmfd.	1	—	0 0 9	"
26300J	C12—0.005 mfd.	1	—	0 1 0	"
22164L	C13—100 mmfd.	1	—	0 0 9	"
22170E	C14—500 mmfd.	1	—	0 0 9	"
21553F	C15—50 mfd. electrolytic	1	—	0 2 6	"
28084A	C16—8 mfd. electrolytic (with C23, C24, C30, C41 and C48)	1	—	0 12 9	"
12619	Screw, P.K., securing electrolytic condenser block	4	—	0 0 6	Doz.
26300U	C17—0.035 mfd.	1	—	0 1 0	Each.
24900AA	C18—0.1 mfd.	1	—	0 1 4	"
24900AA	C19—0.1 mfd.	1	—	0 1 4	"
	C23—32 mfd. electrolytic, see C16				
	C24—16 mfd. electrolytic, see C16				
22164F	C25—35 mmfd.	1	—	0 0 9	"
22330AA	C26—100 mmfd. (± 5 per cent.)	1	—	0 2 6	"
22164D	C27—15 mmfd.	1	—	0 0 9	"
24900E	C29—0.0023 mfd.	1	—	0 1 0	"
	C30—4 mfd. electrolytic, see C16				
24900W	C31—0.05 mfd.	1	—	0 1 3	"
22001F	C33—0.001 mfd.	1	—	0 0 9	"
24900J	C40—0.005 mfd.	1	—	0 1 0	"
	C41—1 mfd. electrolytic, see C16				
24900AA	C42—0.1 mfd.	1	—	0 1 4	"
21553F	C43—50 mfd. electrolytic	1	—	0 2 6	"
24900N	C44—0.01 mfd.	1	—	0 1 0	"
24900N	C45—0.01 mfd.	1	—	0 1 0	"
24900VV	C46—0.05 mfd.	1	—	0 1 3	"
	C48—4 mfd. electrolytic, see C16				
24900VV	C49—0.05 mfd.	1	—	0 1 3	"

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
CONDENSERS—continued					
24900W	C50—0.05 mfd. ...	1	—	£ 0 1 3	Each.
23922D	TC1, TC2 and TC3, triple pre-set condenser ...	1	—	0 2 0	"
23922N	TC5 and TC6, twin pre-set condenser ...	1	—	0 1 9	"
23922B	TC7, TC8 and TC9, triple pre-set condenser ...	1	—	0 2 6	"
24027	Adjusting screw ...	8	AcD	0 0 3	Doz.
19050	Screw ...	3	WN	0 0 3	"
3166	Washer SP } securing above pre-set condensers ...	3	—	0 0 2	"
26350AJ	TC10 and TC11, twin pre-set condenser ...	1	—	0 2 0	Each.
25067	Adjusting screw ...	2	AcD	0 0 6	Doz.
10710	Screw 4BA ...	1	WN	0 0 2	"
3166	Washer SP ...	1	—	0 0 2	"
11628	Nut ...	1	WN	0 0 4	"
11231	Screw 6BA ...	1	WN	0 0 2	"
3165	Washer SP ...	1	—	0 0 2	"
	TC12 and TC13, see IFT 1				
	TC14 and TC15, see IFT 2				
26130C	VC1, VC2 and VC3, three gang condenser ...	1	—	0 12 6	Each.
26113	Bracket ...	1	AlSp	0 0 2	"
11219	Screw ...	2	WN	0 0 3	Doz.
3166	Washer SP } securing bracket to front of three gang condenser ...	2	—	0 0 2	"
21236	Rubber bush ...	3	—	0 0 1	Each.
6305	Washer ...	3	WN	0 0 1	Doz.
3167	Washer SP } securing three gang condenser ...	3	—	0 0 2	"
11627	Nut ...	3	WN	0 0 6	"
10611U	VC4, tone condenser ...	1	—	0 3 6	Each.
12441	Nut securing VC4 to panel ...	1	WN	0 0 1	"
25484	Panel ...	1	—	0 0 1	"
14519	Rivet, securing panel ...	4	—	0 0 1	Doz.
VALVE HOLDERS, SCREENS, PANELS, LEADS, ETC.					
26005F	Valve holder, 8-pin ...	6	—	0 0 6	Each.
24981	Valve screen base ...	4	—	0 0 1 $\frac{1}{2}$	"
26003A	Valve holder, 7-pin, for mains resistance plug ...	1	—	0 0 4 $\frac{1}{2}$	"
16358	Rivet, securing valve holders and screen bases ...	14	—	0 0 1	Doz.
24982B	Valve screen ...	4	—	0 0 6	Each.
26112	Valve screen top, for V4 ...	1	—	0 0 2	"
24038	Valve top clip ...	4	—	0 0 1	"
21337D	Coil screen (aerial) ...	1	—	0 1 0	"
21337E	Coil screen (anode) ...	1	—	0 1 0	"
21337A	Coil screen (oscillator) ...	1	—	0 1 0	"
12619	Screw, P.K., securing coil screens ...	6	—	0 0 6	Doz.
24013	Spacer for coils ...	3	—	0 0 3	"
28082A	A and E panel with sockets ...	1	—	0 0 4 $\frac{1}{2}$	Each.
20267	Insulation ...	1	—	0 0 9	Doz.
14519	Rivet securing panel and insulation ...	3	—	0 0 1	"
20369	Insulating shield for IFT3 ...	2	—	0 0 6	"
24095A	Panel, with two tags ...	1	—	0 0 2	Each.
15159	Tag ...	1	—	0 0 3	Doz.
12619	Screw, P.K., securing panel and tag to top of three gang condenser ...	1	—	0 0 6	"
24017A	Tag panel, with five tags ...	2	—	0 0 3	Each.
24020A	Tag panel, with three tags ...	2	—	0 0 2	"
12619	Screw, P.K., securing tag panels ...	6	—	0 0 6	Doz.
22677D	Panel with eight tags ...	2	—	0 0 6	Each.
10439	Tag ...	16	—	0 0 2	"
26139	Backing panel ...	2	—	0 0 6	Doz.
8777	Screw, P.K., securing panels ...	4	—	0 0 6	"
25296D	Loudspeaker lead ...	1	—	0 0 6	Each.
28108B	Lead with three-pin plug ...	1	—	0 2 6	"
16757	Insulating bush, rubber, large ...	6	—	0 0 1	"
16756	Insulating bush, rubber, ...	2	—	0 0 1	"
16755	Insulating bush, rubber, small ...	3	—	0 0 1	"
7155	Cleat ...	2	WN	0 0 1	"
12619	Screw, P.K., securing cleat ...	2	—	0 0 6	Doz.
16576	Long tag ...	2	—	0 0 3	"
15159	Tag ...	1	—	0 0 3	"
12619	Screw, P.K., securing tags ...	2	—	0 0 6	"
11227	Screw ...	1	WN	0 0 6	"
3165	Washer SP } stop for S1 ...	1	—	0 0 2	"

Part No.	Description	Parts per Inst.	Finish	Retail List Price	Per
SWITCHES					
26137A	S1, change over switch, with nut and SP washer	1	—	0 5 3	Each.
8777	Screw, P.K., securing screen of switch	2	—	0 0 6	Doz.
	S3, see VRI and S3				
CONDENSER DRIVE AND TUNING DETAILS					
26156A	Spring gear assembly	1	—	0 0 9	Each.
24045	Spring	2	—	0 0 1	"
13387	Screw, securing spring gear assembly to spindle of three gang condenser	2	WN	0 0 3	Doz.
26154A	Plate and bush	1	AlSp	0 0 4½	Each.
11627	Nut	2	WN	0 0 6	Doz.
1021	Washer } securing plate to pillars on front of three gang condenser	2	WN	0 0 3	"
26161A	Intermediate gear and disc... ..	1	—	0 0 9	Each.
21823B	Disc drive assembly	1	—	0 0 3	"
11805	Screw, P.K., securing disc drive assembly to spindle of drive mechanism	1	—	0 0 6	Doz.
24833K	Drive mechanism	1	—	0 3 0	Each.
26114	Outer spindle	1	CP	0 1 0	"
26115	Inner spindle	1	—	0 0 4½	"
3658	Ball	3	—	0 0 2	Doz.
24832	Retaining washer	2	—	0 0 1	Each.
24834	Clamping ring	1	—	0 0 9	Doz.
11328	Screw	4	WN	0 0 2	"
25092	Spring } securing clamping ring	4	—	0 0 6	"
11222	Screw } securing drive mechanism to plate	2	WN	0 0 2	"
3166	Washer SP }	2	—	0 0 2	"
26159A	Pointer	1	MgSp	0 0 3	Each.
13893	Screw, securing pointer to spring gear assembly	2	WN	0 0 8	Doz.
26600E	Scale frame assembly, complete with rubber strips and three lampholders	1	—	0 5 6	Each.
28094	Rubber strip, long	2	—	0 0 6	Doz.
28093	Rubber strip, short	6	—	0 0 3	"
8777	Screw, P.K., securing scale frame assembly	4	—	0 0 6	"
28233C	Tuning scale, printed	1	—	0 3 6	Each.
26147A	Scale clamp (long) with rubber	1	BnEn	0 0 1	"
28094	Rubber	1	—	0 0 6	Doz.
26607	Scale clamp (short)... ..	1	BnEn	0 0 1	Each.
28092	Spacing washer	2	WN	0 0 3	Doz.
11805	Screw, P.K., securing scale clamps	4	—	0 0 6	"
28085	Reflector	1	WMEn	0 0 4½	Each.
6461	Washer	2	WN	0 0 1	Doz.
3158	Knurled screw, securing reflector	2	WN	0 0 1	Each.
26610G	Wave Band indicator dial (printed)	1	—	0 0 9	"
26608B	Indicator bracket and bush	1	CdP	0 0 3	"
11219	Screw	2	WN	0 0 3	"
3166	Washer SP } securing indicator bracket	2	—	0 0 2	"
26609	Washer plate }	1	CdP	0 0 2½	"
26612	Pivot spindle, for indicator dial	1	WN	0 0 2	Each.
13387	Screw, securing pivot spindle	1	WN	0 0 3	Doz.
10615	Circlip, securing indicator dial on spindle	1	WN	0 0 2	"
28052A	Sprocket	1	—	0 0 6	Each.
13387	Screw, securing sprocket to spindle of S1	2	WN	0 0 3	Doz.
26138B	Chain	1	—	0 0 4½	"
27956	Spring	1	—	0 0 1	"
26613A	Bracket, for visual tuner	1	CdP	0 0 4½	"
11219	Screw	2	WN	0 0 3	Doz.
3166	Washer SP } securing bracket to scale frame	2	—	0 0 2	"
26614	Plate	1	CdP	0 0 3	"
24369	Clamp	1	CdP	0 0 1	Each.
14791	Screw	2	WN	0 0 4	Doz.
3166	Washer SP } securing clamp to bracket for visual tuner	2	—	0 0 2	"
26005G	Visual tuner socket and lead, with R48	1	—	0 2 3	Each.
26005B	Socket	1	—	0 0 6	"
28088A	Lead	1	—	0 1 0	"
21316A	Lamp	3	—	0 0 9	"

“ FINISH ” CODE

AcD	...	...	...	...	Acid Dip.	CP	...	...	...	...	Copper Plate.
AlSp	...	...	...	...	Aluminium Spray.	CdP	...	...	...	...	Cadmium Plate.
AnBz	...	...	...	...	Antique Bronze.	MgSp	...	...	...	...	Matt Gold Spray.
BMEen	...	...	...	...	Black Matt Enamel.	ParB	...	...	...	...	Parkerised Black.
BzP	...	...	...	...	Bronze Polish.	Pol	...	...	...	...	Polished.
BzSp	...	...	...	...	Bronze Spray.	Std	...	...	...	...	Standard.
CB	Camera Black.	WMEen	White Matt Enamel.
ChF	Chrome Filled.	WN	White Nickel.
ChP	Chromium Plate.						

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