BUSH RADIO

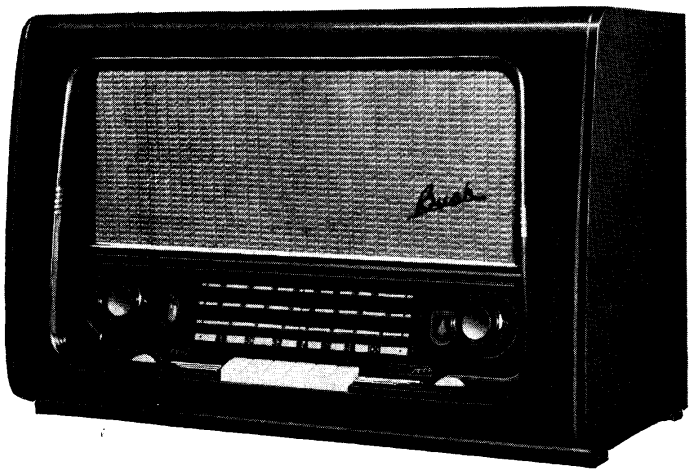
Service Instructions

for

TABLE RECEIVER MODEL

VHF.64

(AC MAINS)



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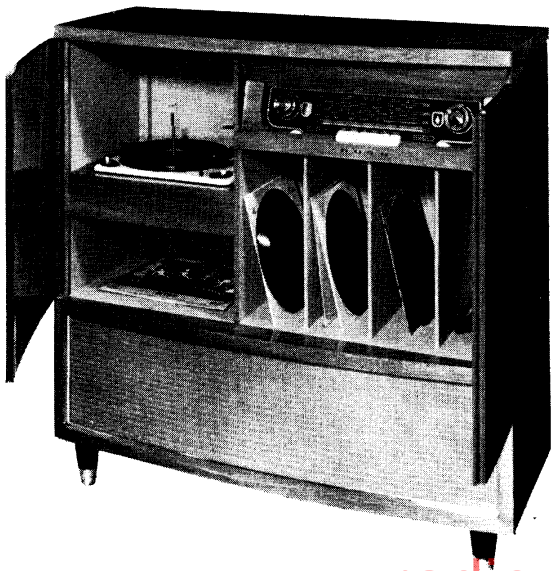
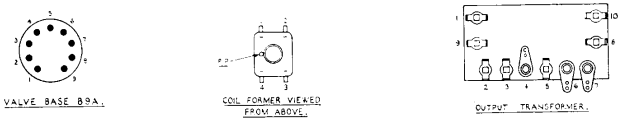


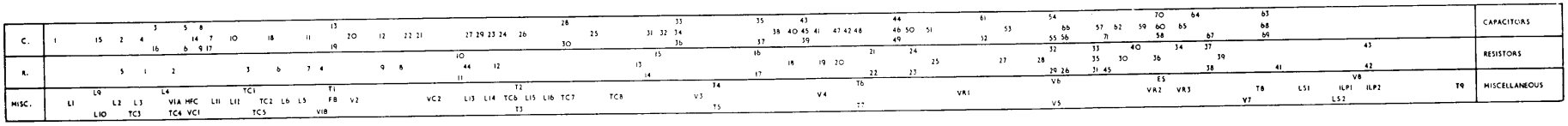
RADIOGRAM MODEL

RG.66

(AC MAINS)

INDEX





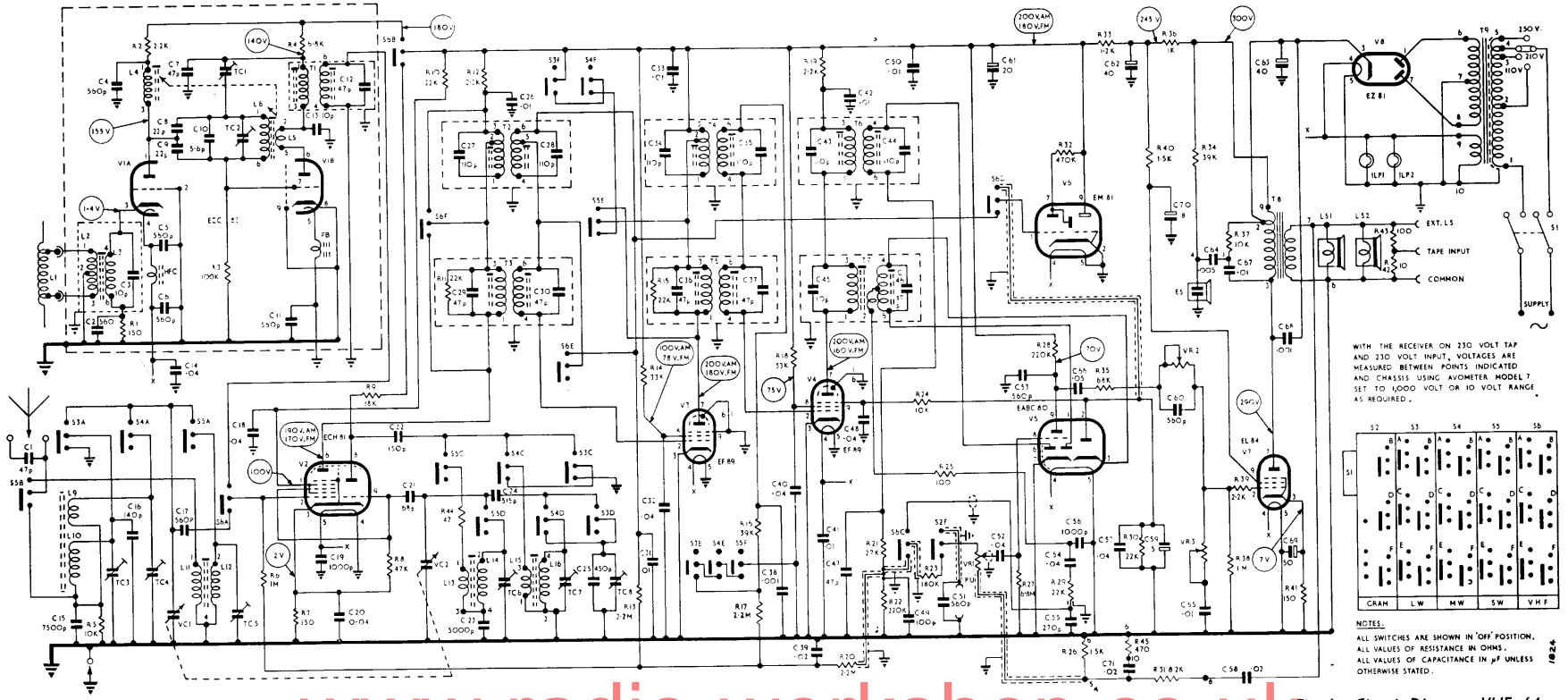
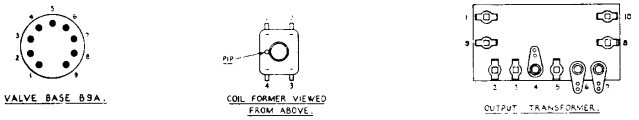


Fig. 1—Circuit Diagram VHF. 64



C.	1 15 2 4 3 16 5 8 6 9 17 14 7 10 18 11 13 19 20 12 22 21 27 29 23 24 26 28 30 25 33 31 32 34 35 37 38 40 45 39 43 47 42 48 44 46 50 49 61 52 53 54 55 56 66 57 62 59 60 70 65 67 58 68 69 63 64 71	CAPACITORS
R.	5 1 2 3 6 7 4 9 8 10 11 44 12 15 13 14 16 17 18 19 20 21 22 23 24 25 27 28 34 32 33 35 30 40 36 31 29 26 37 39 45 38 41 43 42	RESISTORS
MISC.	L9 L2 L3 L4 VIA HFC L11 L12 TC1 TC2 L6 L5 T1 FB V2 VC2 L13 L14 TC6 L15 L16 TC7 T2 TC8 T3 V3 T4 T5 V4 T6 T7 VR1 V6 V5 E5 VR2 VR3 V8 T8 L51 ILP1 ILP2 SLP1 T9 L52 L53 V7 L10 TC3 TC4 VC1 TC5 VIB	MISCELLANEOUS

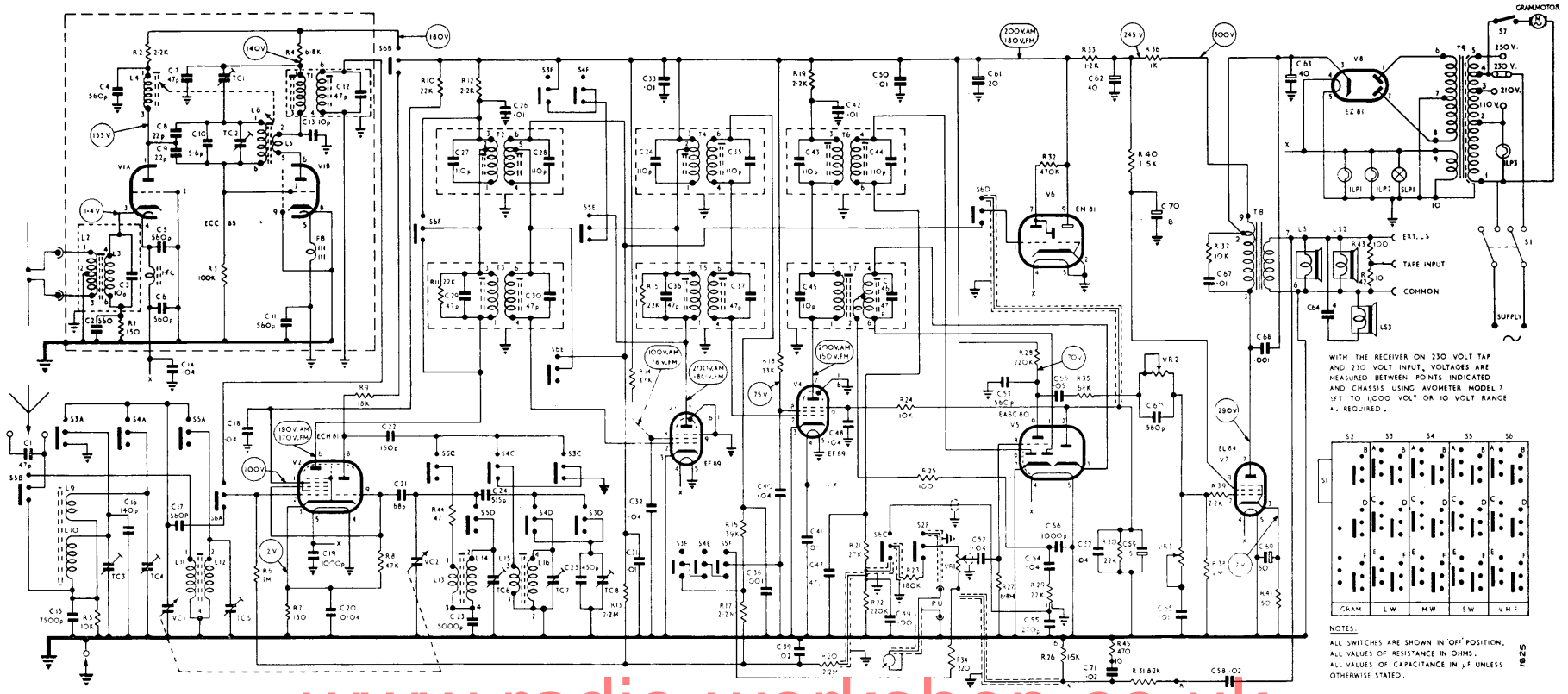


Fig. 2—Circuit Diagram RG.66

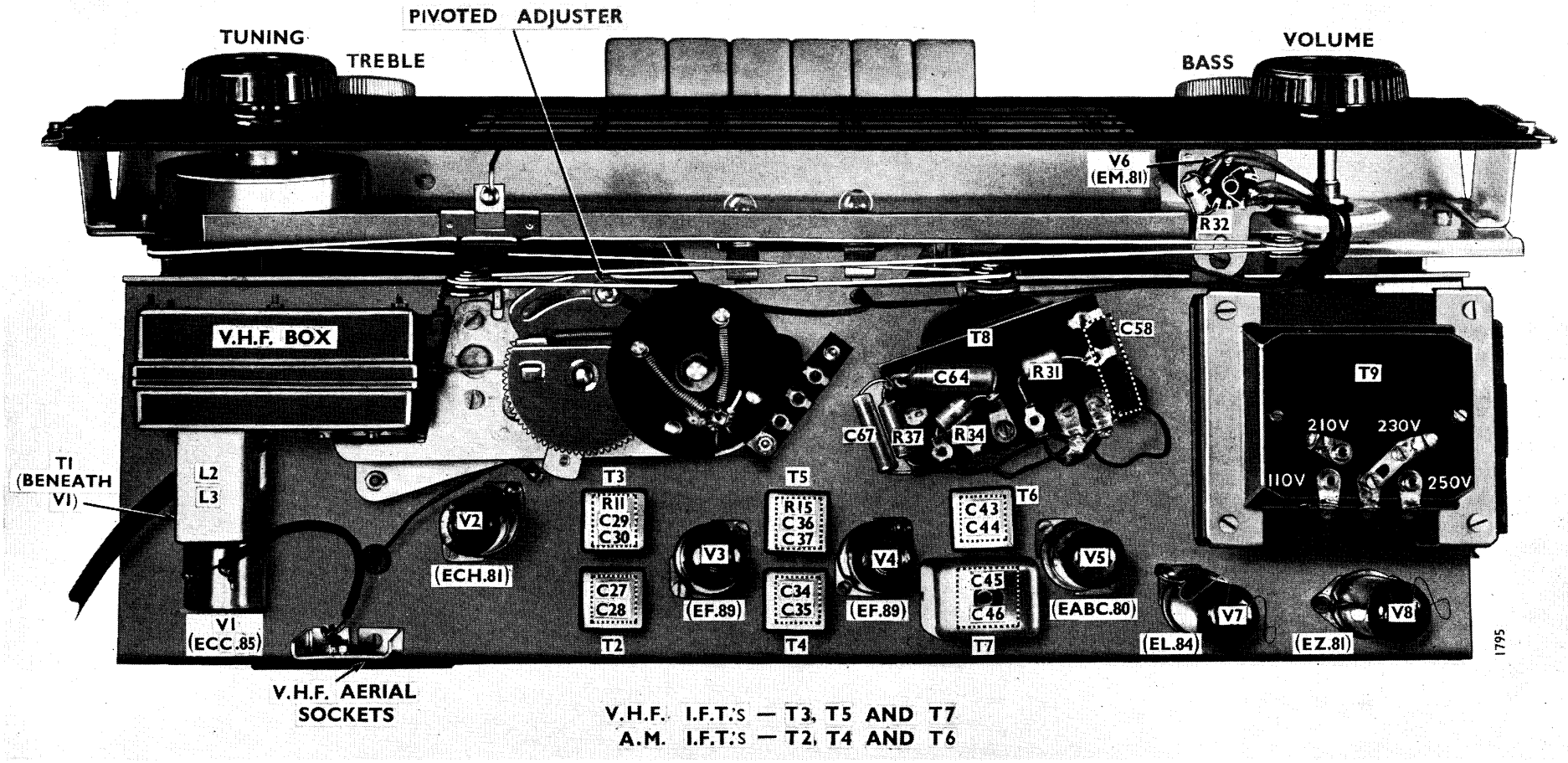


Fig. 3—Top View, VHF.64

SPECIFICATION

BASIC DESIGN

When switched to L.W., M.W. or S.W., the circuit is a conventional 7-valve (including rectifier and tuning indicator) superhet, using Mullard valves in the following sequence:—

Frequency changer ECH 81 (V2), 1st I.F. Amplifier EF 89 (V3), 2nd I.F. Amplifier EF 89 (V4), Detector, AGC Diode and Audio Amplifier EABC 80 (V5), Tuning indicator EM 81 (V6), Output EL 84 (V7), Full Wave Rectifier EZ 81 (V8).

When switched to the V.H.F. band the circuit is modified by the addition of two further stages. The valve sequence is then:—

V.H.F. Amplifier and mixer ECC 85 (V1), 1st I.F. Amplifier, heptode section of ECH 81 (V2), 2nd I.F. Amplifier EF 89 (V3), 3rd I.F. Amplifier EF 89 (V4), Ratio Detector and Audio Amplifier, two diodes and triode of EABC 80 (V5), Tuning Indicator EM 81 (V6), Output EL 84 (V7), Full wave Rectifier EZ 81 (V8).

V.H.F. Oscillator and R.F. tuning is by means of iron dust cores moved by a cord drive system attached to the spindle of the A.M. tuning capacitor. Separate I.F. transformers are used for A.M. (470 Kc/s) and F.M. (10·7 Mc/s) and the appropriate set of I.F. transformers is selected by means of slider switches operated by piano-key type push buttons. V4 operates on V.H.F. as a partial limiter and a negative bias derived from the ratio detector stabilizing capacitor is applied to the suppressor.

Both sets are designed for high quality sound reproduction over a wide frequency range and incorporate the features which have become associated with this type of set, notably the provision of separate bass and treble controls and a balanced three speaker system with an electrostatic tweeter. Negative feedback over the audio stages is taken from the secondary of the output transformer.

VALVES

The valves are 6·3V. types with B9A bases. Currents: ECC 85, 435mA, ECH 81, 300mA, EF 89 (2), 200mA, EABC 80, 450mA, EM 81, 300mA, EL 84, 760mA, EZ 81, 1 Amp.

VOLTAGE RANGE

V.H.F. 64, 100–120V. and 200–250V., 40 to 100 c/s A.C.
R.G. 66, 100–120V. and 200–250V., 50 c/s A.C.

MAINS CONSUMPTION

V.H.F. 64—65 watts approximately.
R.G. 66—80 watts approximately.

LAMPS

V.H.F. 64—2 at 6·5V., 0·3 A (Scale).
R.G.'66—2 at 6·5V., 0·3A (Scale).
1 at 110V. 15W. G.E.C. Pigmy or similar (Gramophone compartment).

AUDIO OUTPUT

4 watts approximately.

WAVEBANDS

L.W. 285 to 155 Kc/s (1,050 to 1,935 metres).
M.W. 1,604 to 535 Kc/s (187 to 560 metres).
S.W. 18·75 to 6 Mc/s (16 to 50 metres).
V.H.F. 87·5 to 100 Mc/s.

INTERMEDIATE FREQUENCIES

A.M. 470 Kc/s.
F.M. 10·7 Mc/s.

CONTROLS (Left to Right).

Volume; Bass; piano keys: "Off", "Gram", "L.W.", "M.W.", "S.W.", "V.H.F."; Treble; Tuning.

GRAMOPHONE PICK-UP

The pick-up sockets are situated at the back of the chassis on the left, next to the aerial and earth sockets.

AERIAL CONNECTIONS

A.M. A permanently connected ferrite rod aerial is fitted for L.W. and M.W. Sockets are provided at the back of the chassis on the left for connection of an external aerial for use on S.W., and on L.W., and M.W., where reception conditions are poor. On the RG.66 the Sockets are at the back of the cabinet in the bottom left-hand corner.

F.M. A dipole (loaded in the case of the VHF.64) is fitted internally which is connected to the receiver by means of an 80 Ω line and a two pin plug. An external aerial may be used in areas where signal strength is inadequate or electrical interference excessive.

EXTERNAL SPEAKER

A permanent magnet type (approx. 2·5 Ω impedance) should be used.

CABINET DIMENSIONS

V.H.F. 64. Height 14⅞". Width 22½". Depth 9½". Weight 28 lbs.
R.G. 66. Height 37¾". Width 38⅛". Depth 16⅝". Weight 95 lbs.

VALVE VOLTAGES

Valve	*Anode Volts*	*Screen Volts*	*Cathode Volts*
V1 (ECC85)	155	—	1·4
V2 (ECH81)	190 AM 170 FM	100	2
V3 (EF89)	200 AM 180 FM	100 AM 78 FM	—
V4 (EF89)	200 AM 180 FM	75	—
V5 (EABC80)	70	—	—
V6 (EM81)	200 AM 180 FM	—	—
V7 (EL84)	290	245	7
V8 (EZ81)	—	—	300

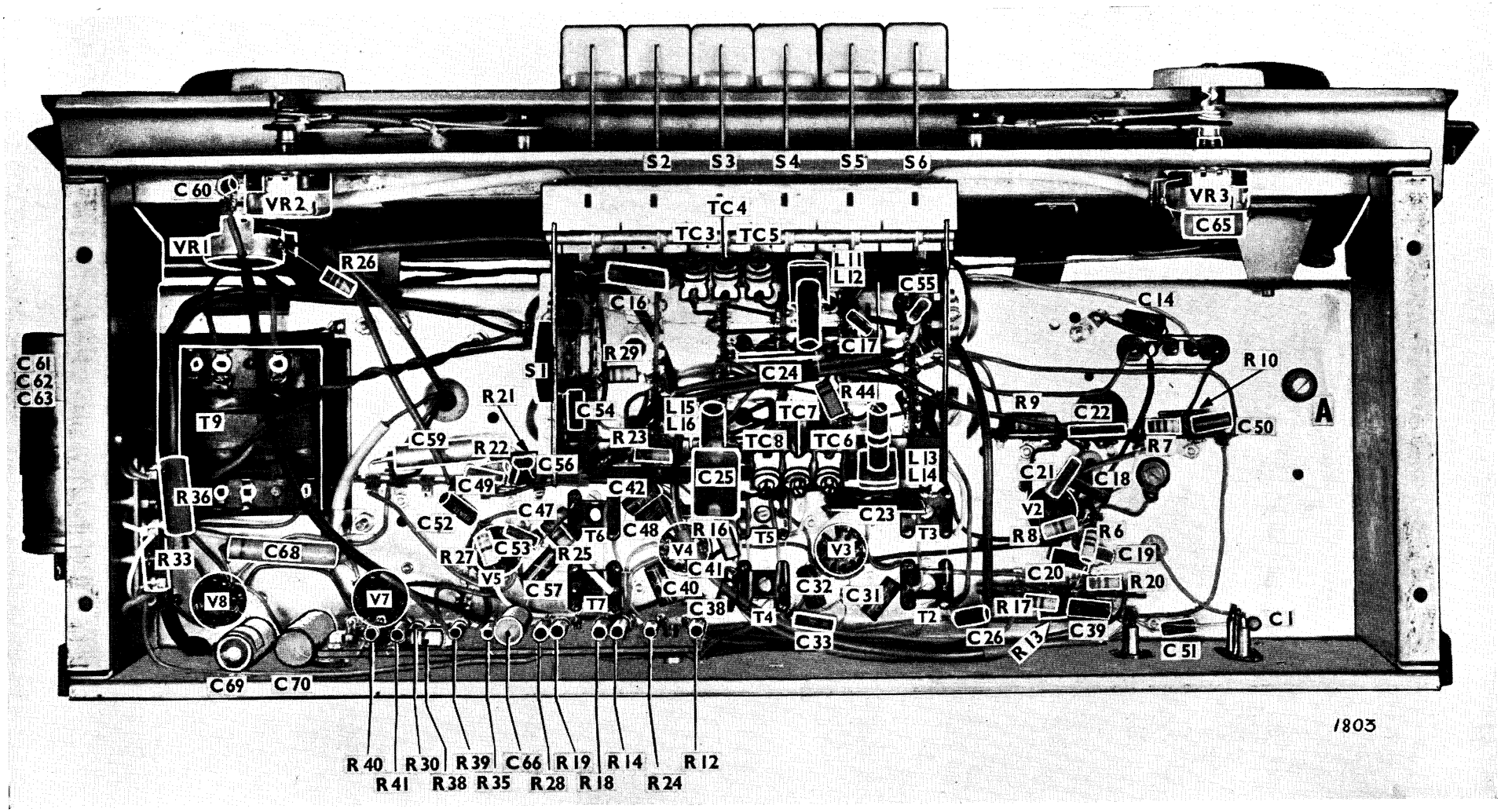


Fig. 4—Under View VHF.64

ALIGNMENT PROCEDURE

GENERAL

1. The V.H.F. 64 may be aligned n the cabinet if the wooden panel beneath the chassis is removed, but the R.G. 66 chassis must be removed from the cabinet.
2. Switch on the receiver and the signal generator about 15 minutes before carrying out the alignment.
3. Use a non-metallic trimming tool.
4. IFT T7 has the secondary at the bottom of its can. All other IFT's have the secondaries at the top.

A.M.

I.F. Alignment

Switch the receiver to M.W. and set the pointer to 1 mc/s. Inject 470 Kc/s modulated, to pin 2, V4 and adjust the secondary and primary of T6 for maximum audio output. Transfer the generator to pin 2, V3 and adjust the secondary and primary of T4 for maximum output. Transfer the generator to pin 2, V2 and adjust the secondary and primary of T2 for maximum output.

R.F. Alignment

Transfer generator to the A.M. aerial sockets and align as follows:—

Operation	Band	Generator Frequency	Adjust for Maximum Audio Output
1	M.W.	600 Kc/s	L15/L16 Osc.
2	M.W.	1,500 Kc/s	TC7 Osc.
3	Repeat and check calibration		
4	L.W.	214 Kc/s	TC8 Osc.
5	Repeat and check calibration		
6	S.W.	6 Mc/s	L13/L14 Osc. and L11/L12 Aerial
7	S.W.	15 Mc/s	TC6 Osc. and TC5 Aerial
8	Repeat and check calibration		

For the adjustment of TC3 and TC4 (L.W. and M.W. aerial trimmer) it is necessary to couple the generator by means of a single loop of wire approximately 5″ in diameter, positioned 12″ to 18″ away from the cabinet. Align as follows :—

Operation	Band	Generator Frequency	Adjust for Maximum Audio Output
9	M.W.	1,500 Kc/s	TC4
10	L.W.	214 Kc/s	TC3

V.H.F.

Test Equipment Required

(*a*) Signal generator covering 10·7 Mc/s (IF) and 87·5 to 100 mc/s.
(*b*) Avometer model 8 or D.C. Valve-voltmeter and Microammeter (50μA FSD).
(*c*) 2–47k ¼ watt resistors, matched.
(*d*) 1–1k ¼ watt resistor.

I.F. Alignment (10·7 Mc/s)

Preliminary Note.—With the exception of the discriminator T7 primary the correct peak associated with all cores is the first one reached.

(i) from the top of the coil former as the core enters the secondary winding, or
(ii) from the base of the coil former as the core enters the primary winding.

1. Switch receiver to the V.H.F. band. Connect the two 47k resistors, in series between point "A" and chassis. Connect the AVO Model 8 (on 10V. D.C. range) or the valve-voltmeter across the two resistors. These components are shown dotted in the circuit diagrams (fig. 1 and 2).
2. Inject 10·7 Mc/s unmodulated to pin 2 V2 and turn volume control to minimum. During alignment it is advisable to ensure that the input from the generator is just sufficient to maintain an output of 4 volts on the voltmeter.
3. Adjust the primary of T7 for maximum D.C. output (start with core ⅜″ inside former).
4. Connect the 1k resistor across the secondary of T5 and adjust the primary of T5 for maximum D.C. output.
5. Transfer the 1k resistor to the primary of T5 and adjust the secondary of T5 for maximum D.C. output.
6. Transfer resistor to the secondary of T3 and adjust the primary of T3 for maximum D.C. ouput.
7. Transfer resistor to the primary of T3 and adjust the secondary of T3 for maximum D.C. output.
8. Readjust the primary of T7 for maximum D.C. output.
9. Connect the AVO (on 50μA range) or the microammeter between the junction of the two 47k resistors and point "B".
10. Adjust the secondary of T7 to produce zero response on the microammeter (start with the core ⅜″ inside former).

NOTE.—It is essential that maximum D.C. output coincides with minimum response on the microammeter. Zero response can only occur when the secondary of T7 is in balance. When it is off tune, either positive or negative output will be obtained. The AVO Model 8 has a reversing button to permit readings of current in either direction but with the microammeter the connections would be reversed as necessary.

11. Transfer signal input to V.H.F. aerial sockets and adjust the secondary of T1 for maximum D.C. output.

R.F. Alignment

1. Set the generator and the pointer to 88 Mc/s. Slacken the locking nut on the pivoted adjuster (fig. 3) and rotate the arm for maximum D.C. output. This operation adjusts the cores of L4 (R.F.) and L5/6 (Oscillator). Tighten locking screw.
2. Set the generator and the pointer to 95 mc/s and adjust L2/L3 (aerial) for maximum D.C. output.
3. Check calibration.

NOTE.—The trimmers TC1 and TC2 have been preset during manufacture and normally should not need readjustment.

REMOVING V.H.F. BOX FROM CHASSIS

(1) Unsolder the five connections to the box, see below.
(2) Set the tuning capacitor to minimum and slip the cord loop from the brass boss.
(3) Remove the three bolts holding the box to the bracket and remove the bolt (A fig. 4) from beneath the chassis.

CONNECTIONS TO THE V.H.F. BOX

1. S6B.
2. Pin 5, V1 and C14.
3. Chassis.
4. S6A.
5. Chassis.

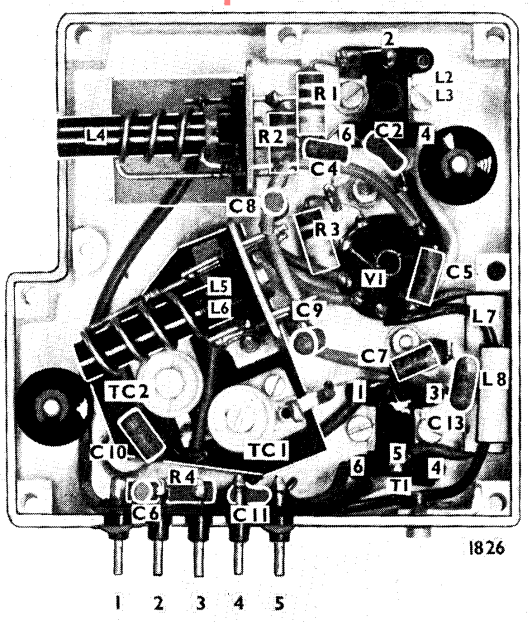


Fig.5—VHF Box, Component Layout

REPLACING V.H.F. TUNING CORD DRIVE

Should a breakage occur in either the cord or the cores it is recommended that the complete assembly (AP.24888) be obtained and fitted as follows:—

1. Remove the front side of the V.H.F. box by removing the seven retaining screws.
2. Set the tuning capacitor to minimum to ease tension on the return spring in the V.H.F. box when the cord is fitted.
3. Thread assembly of tuning cores (fig. 6) through coil formers and hook the spring (fig. 6) to its anchorage.
4. Now take one turn in a clockwise direction around the tuning capacitor spindle and slip the loop in the cord over the brass boss (fig. 6).
5. If necessary reset the pivoted adjuster as laid down in the alignment procedure for V.H.F.

PART NUMBERS

Assembly of Tuning Cores	AP24888
Pulley	AP24684
Spring, cord tension	AP24740

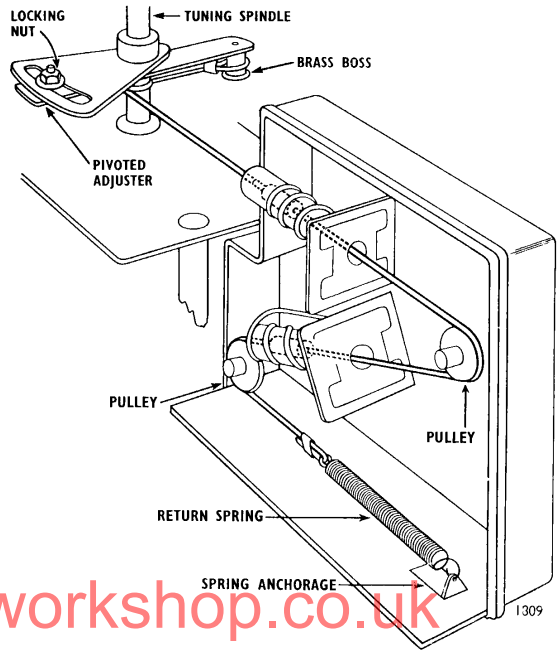


Fig.6—VHF Cord Drive

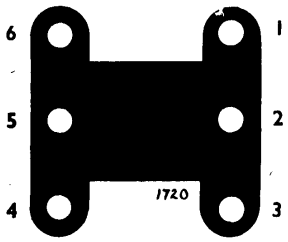


Fig.7—Key to I.F.T. Bases
(See fig.4)

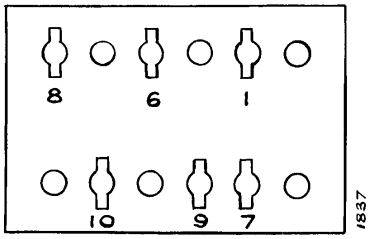


Fig. 8—Key to Mains Transformer Tags

CORD DRIVE

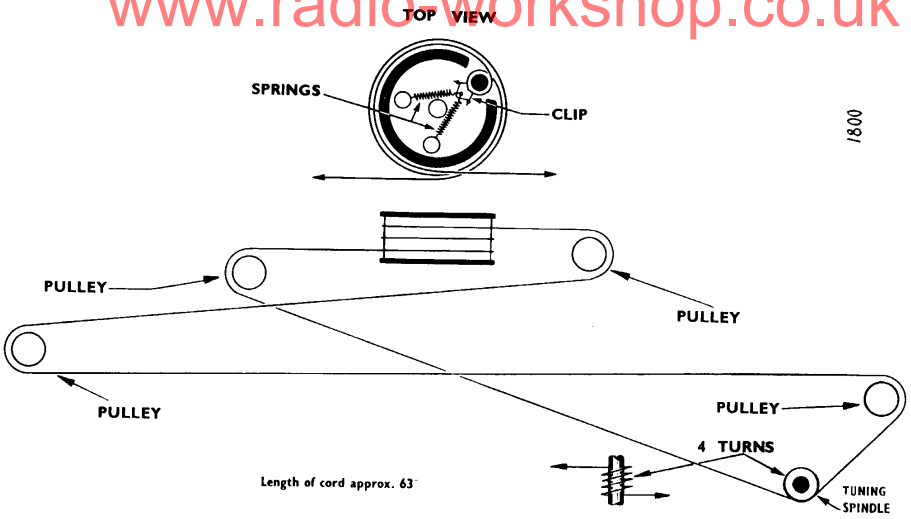


Fig. 9—Cord Drive.

PART NUMBERS

Carriage	AP24797
Clip, Cord Drive	P1940
Cord Drive Assembly (including clip, spring and cord)	AS60100
Drive Drum Assembly	AP60026
Flywheel	BP16663
Pointer	AP60024
Pulley	AP24684
Spring	P1941

RESISTORS

Reference	Valve (ohms)	Rating (watts)	Tolerance ± %	Part No.
R1	150	¼	10	P6155
R2	2·2K	¼	10	P6449
R3	100K	¼	10	P6869
R4	6·8K	½	10	P6574
R5	10K	¼	20	P6611
R6	1M	¼	20	P7115
R7	150	¼	10	P6155
R8	47K	¼	20	P6779
R9	18K	½	10	P6676
R10	22K	½	10	P6700
R11	22K	¼	10	AP25342
R12	2·2K	½	20	P6443
R13	2·2M	¼	20	P7199
R14	33K	½	10	P6742
R15	22K	¼	10	AP25432
R16	39K	¼	20	AP14107
R17	2·2M	¼	20	P7199
R18	33K	½	10	P6742
R19	2·2K	½	20	P6442
R20	2·2M	¼	20	P7199
R21	27K	¼	20	P14077
R22	220K	¼	20	P6947
R23	180K	¼	20	AP14227
R24	10K	¼	20	P6611
R25	100	¼	20	P6107
R26	1·5K	¼	5	P6413
R27	6·8M	½	20	P7325
R28	220K	½	20	P6946
R29	22K	¼	10	P6701
R30	22K	¼	10	P6701
R31	8·2K	¼	5	P6599
R32	470K	¼	20	P7031
R33	1·2K	6 (W.W.)	5	AP60027
R34	220	¼	10	AP14107
R35	68K	¼	20	P6821
R36	1K	6 (W.W.)	5	AP25615
R37	10K	½	20	P6610
R38	1M	¼	20	P7115
R39	2·2K	¼	20	P6442
R40	1·5K	¼	10	P6407
R41	150	½	10	P6154
R42	10	¼	20	P5855
R43	100	¼	20	P6107
R44	47	¼	20	P6023
R45	470	¼	10	P6281
VR1	1M	—	—	BP60028
VR2	2M	—	—	BP60030
VR3	500K	—	—	BP60029

CAPACITORS

Reference	Value µF	Value pF	Type	D.C. Working Volts	Tolerance ± %	Part No.
C1	—	47	S.C.	750	20	AP17338
C2	—	560	S.C.	350	20	AP23405
C3	—	10	S.M.	350	5	AP18211
C4	—	560	S.C.	350	20	AP23405
C5	—	560	S.C.	350	20	AP23405
C6	—	560	S.C.	350	20	AP23405
C7	—	47	S.C. (N750)	750	5	AP24630
C8	—	22	S.C. (P100)	750	2	AP24626
C9	—	22	S.C. (P100)	750	2	AP24626
C10	—	5·6	S.C. (N750)	750	0·5pF	AP24628
C11	—	560	S.C.	350	20	AP23405
C12	—	47	S.M.	350	5	AP24848
C13	—	10	S.C. (N750)	750	5	AP24629
C14	0·04	—	M.P.	200	20	AP24028
C15	—	7,500	P.F.T.	350	5	AP60274 or AP25617
C16	—	140	S.M.	350	1	AP20607
C17	—	560	S.C.	350	20	AP23405
C18	0·04	—	M.P.	200	20	AP24028
C19	—	1,000	S.C.	350	20	AP60040
C20	0·04	—	M.P.	200	20	AP24028
C21	—	68	S.C.	750	20	AP18161
C22	—	150	S.M.	350	10	AP60032
C23	—	5,000	S.M.	350	2	AP60031
C24	—	515	S.M.	350	1	AP17175
C25	—	450	S.M.	350	1	AP25616
C26	0·01	—	M.P.	400	20	AP21909
C27	—	110	S.M.	350	2	AP25808
C28	—	110	S.M.	350	2	AP25808
C29	—	47	S.M.	350	5	AP24848
C30	—	47	S.M.	350	5	AP24848
C31	0·01	—	M.P.	400	20	AP21909
C32	0·04	—	M.P.	200	20	AP24028
C33	0·01	—	M.P.	400	20	AP21909
C34	—	110	S.M.	350	2	AP25808
C35	—	110	S.M.	350	2	AP25808
C36	—	47	S.M.	350	5	AP24848
C37	—	47	S.M.	350	5	AP24848
C38	0·001	—	M.P.	400	20	AP22248
C39	0·02	—	M.P.	150	20	AP22251
C40	0·04	—	M.P.	200	20	AP24028
C41	0·01	—	M.P.	400	20	AP21909
C42	0·01	—	M.P.	400	20	AP21909
C43	—	110	S.M.	350	2	AP25808
C44	—	110	S.M.	350	2	AP25808
C45	—	10	S.M.	350	5	AP24847
C46	—	47	S.M.	350	5	AP24848
C47	—	47	S.C.	750	20	AP17338
C48	0·04	—	M.P.	200	20	AP24028
C49	—	100	S.C.	750	20	AP17336
C50	0·01	—	M.P.	400	20	AP21909
C51*	0·002	—	M.P.	400	20	AP60320
C52	0·04	—	M.P.	200	20	AP24028
C53	—	560	S.C.	350	20	AP23405
C54	0·04	—	M.P.	200	20	AP24028
C55	—	270	S.C.	500	20	AP21906
C56	—	1,000	S.C.	350	20	AP60040
C57	0·04	—	M.P.	200	20	AP24028
C58	0·02	—	P.T.	150	20	AP22251
C59	5	—	E.	50	−20 +50	AP22255
C60	—	560	S.C.	350	20	AP23405
C61	20	—	E.	350	−20 +50	AP22257 (one can)
C62	40	—	E.	350	−20 +50	AP22257 (one can)
C63	40	—	E.	350	−20 +50	AP22257 (one can)
C64*	0·005	—	P.T.	750	25	AP19727
C64†	4	—	E.	70	−20 +100	AP60536
C65	0·01	—	P.T.	500	25	P3769
C66	0·05	—	P.T.	350	20	P3770
C67	0·01	—	P.T.	750	25	AP19745
C68	0·001	—	P.T.	750	25	P12942
C69	50	—	E.	12	−20 +50	AP18622
C70	8	—	E.	350	−20 +50	AP60752
C71	0·02	—	M.P.	150	20	AP22251 or AP60859
TC1	—	3 to 15	S.C.	—	—	AP24623
TC2	—	3 to 15	S.C.	—	—	AP24623
TC3	—	3 to 30	C.M.	—	—	Banked AP102119
TC4	—	3 to 30	C.M.	—	—	Banked AP102119
TC5	—	3 to 30	C.M.	—	—	Banked AP102119
TC6	—	3 to 30	C.M.	—	—	Banked AP102119
TC7	—	3 to 30	C.M.	—	—	Banked AP102119
TC8	—	3 to 30	C.M.	—	—	Banked AP102119
VC1	—	528	Ganged	—	—	AP18210
VC2	—	528	Ganged	—	—	AP18210

KEY.—E.—Electrolytic. CM..—Compression Mica. M.P.—Metallized Paper. P.F.T.—Polystrene Film Tubular. P.T.—Paper Tubular. S.C.—Silver Ceramic. S.M.—Silver Mica.

*Used on VHF.64 only. †Used on RG.66 only.

COILS, CHOKES AND TRANSFORMERS

Reference	Resistance (ohms)	Part No.	Description
L1	Less than 0·5	AS60341	V.H.F. aerial loading coil
L2	„ „ „	CS24884	V.H.F. aerial coils
L3	„ „ „		
L4	„ „ „	BS24885	V1A anode coil
L5	„ „ „	BS24883	V.H.F. oscillator coils
L6	„ „ „		
L7	„ „ „	AS24886	Heater choke
L8	—	AP22966	Ferroxcube core
L9	Less than 0·5	DS60137*	Ferrite rod aerial coils
L10	12	DS60471†	
L11	Less than 0·5	BS60113	S.W. aerial coils
L12	„ „ „		
L13	„ „ „	BS60114	S.W. oscillator coils
L14	„ „ „		
L15	1	BS60118	M.W./L.W. oscillator coils
L16	4·5		
T1	Pri. Less than 0·5 Sec. „ „ „	BS 24879	V.H.F. 1st I.F.T.
T2	Pri. 14 Sec. 14	CS24880	A.M. 1st I.F.T.
T3	Pri. less than 0·5 Sec. „ „ „	BS24878	V.H.F. 2nd I.F.T.
T4	Pri. 14 Sec. 14	CS24881	A.M. 2nd I.F.T.
T5	Pri less than 0·5 Sec. „ „ „	BS24878	V.H.F. 3rd I.F.T.
T6	Pri. 14 Sec. 14	BS24304	A.M. 3rd I.F.T.
T7	Pri. less than 0·5 Sec. 1 „ „ „ Sec. 2 „ „ „	CS24882	V.H.F. discriminator
T8	Pri. 230 Sec. less than 0·5	CS60123	Output transformer
T9	Pri. 18·5 H.T. Sec. 188 L.T. Sec. less than 0·5	DS60121	Mains transformer

Replaceable iron-dust cores—AP17109

*Complete ferrite rod aerial (V.H.F. 64 only). †Complete ferrite rod aerial (R.G. 66 only.)

MISCELLANEOUS PART NUMBERS

†Aerial, ferrite	DS60471	Plug, red	P3733
*Aerial, ferrite	DS60137	Plug, black	P3734
Assembly of pointer	AS60101	Plug, 2-pin	AP20161
*Assembly of back, cabinet	DS60132	†Record changer, R.C. 120/4H	AP60462
Assembly of drive drum	BS60026	Reflector plate	EP25832
†Back, cabinet (receiver)	EP60456	Rod, ferrite	AP24619
†Back, cabinet (loudspeakers)	DP60457	Scale, tuning, V.H.F. 64	EP60147
*Cabinet	EP60006	*Speaker, electrostatic	CP60090
†Cabinet	FP60452	*Speaker, 8″, type J8Q0 (flared cone)	CP60095
Clip, cord	P1940	*Speaker, 8″, type L8Q0 (straight cone)	CP60096
Cord drive, tone control	AS60102	†Speaker, 10″ (Celestion Z10Z0/Spec. CT3516)	AP60465
Drum, drive	AP60002	†Speaker, 10″ (Celestion Z10Z0/Spec. CT3494)	AP60466
Knob, edgewise	CP60005	†Speaker, 4″	BP60467
Knob, piano-key	CP60001	Switch, 6-way, piano-key	EP60033
Knob, control	CP60042	Valveholder, B9A	AP22419
Pilot lamp, 6·5V. 0·3A.	AP18628	Valveholder, B9A	AP3935
Gram. Compt. Lamp 110V. 15W.	AP60586	Valveholder, B9A, with skirt	AP22843

*VHF.64 only †RG.66 only

MODIFICATIONS

Earlier models of both receivers differ from the circuits shown here as follows :—

1. There was no hum cancellation winding on the output transformer.
2. R40 (6·8k, ¼ w., 10%) and C70 (0·2μF, P.T., 350 V.W.) were in series between pin 3, V7 and the junction of C68 and H.T. line.
3. R26 was from VR1 to chassis as shown in Fig. 4. It is now situated on the output transformer.
4. R45 and C71 were not used.

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TP1095
June 1957

BUSH RADIO

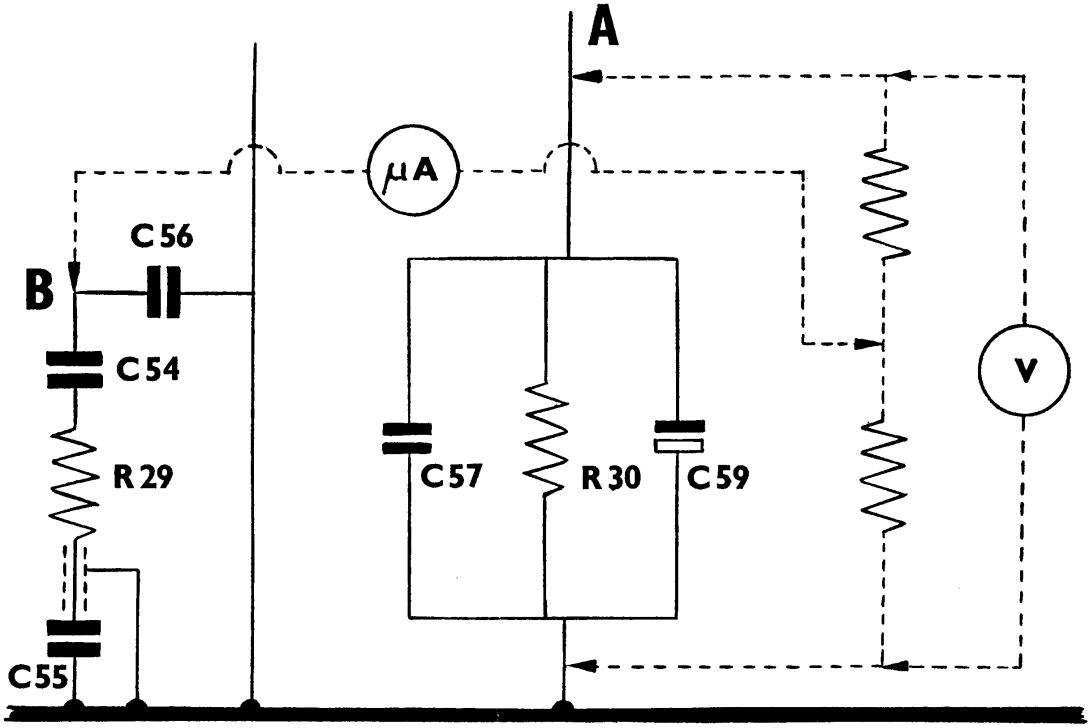
Amendment to Service Instructions

for

MODELS VHF.64 AND RG.66

CORRECTIONS

1. Reference is made in the VHF alignment instructions to points A and B and these have been omitted from the circuit diagrams. The diagram below shows the method of measuring the d.c. output across the discriminator and the d.c. balance.



2. There is an additional indicator lamp on the RG.66 situated beneath the speaker compartment at the front of the cabinet. The method of replacement is the same as that for the scale lamp (i.e. remove the lampholder clip from the bracket and replace the lamp, then replace the clip.)

3. In the list of resistors, for R34 read,

R34 (VHF.64 only) 39k. 1/4W. 20% tol. Pt.No. AP14107.
R34 (RG.66 only) 220Ω, 1/4W. 10% tol. Pt.No. P.6197.

MODIFICATIONS

1. C51 (VHF.64 only) has been changed to 560pF, S.C., 350V, 20%
2. C64 (RG.66 only) has been changed to 5μF, Elect., 20V, a.c.—20% + 100%
3. On the VHF.64, R34 is now connected to tag 2 on T8 instead of tag 9.

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