

BUSH RADIO

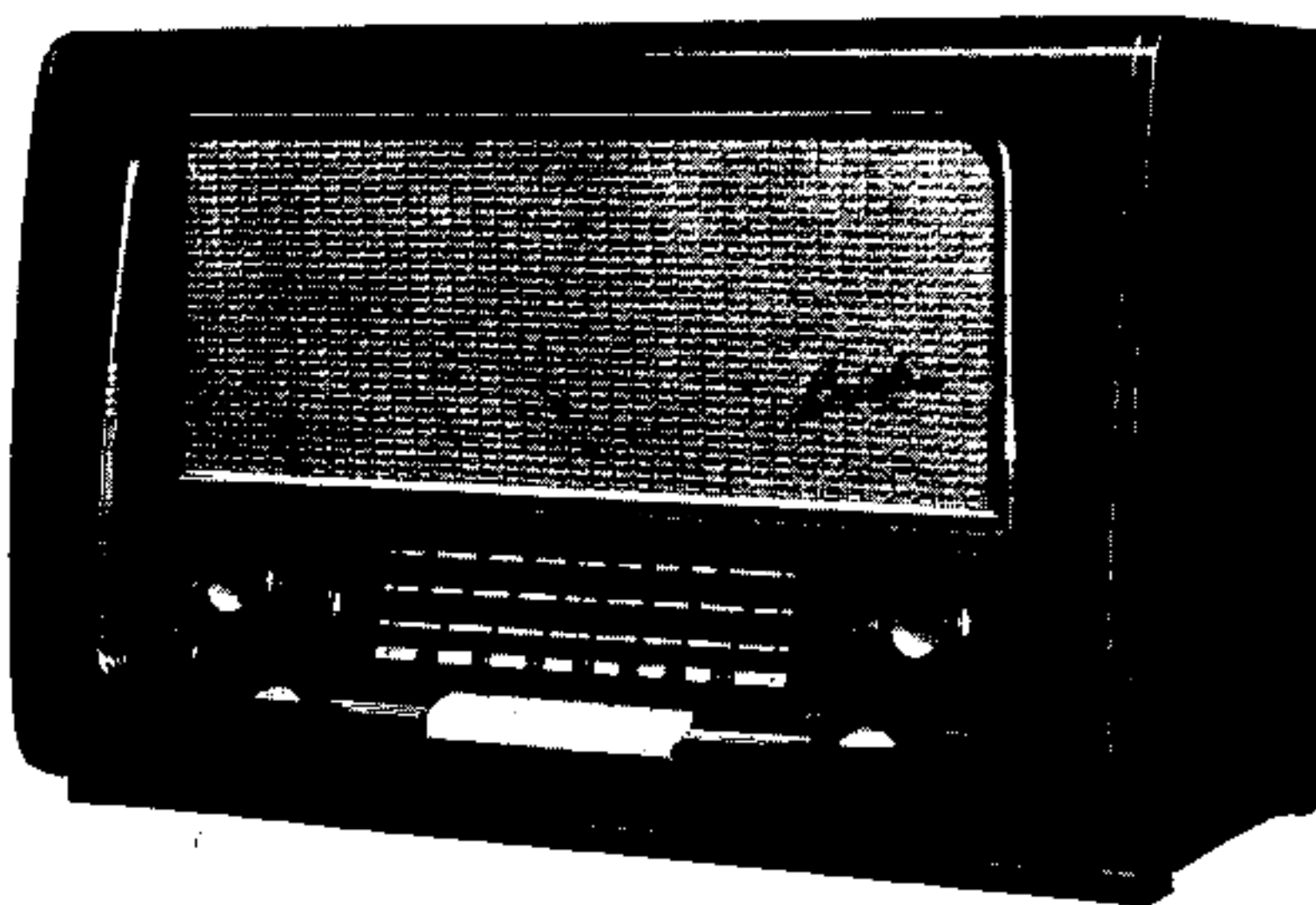
Service Instructions

for

**TABLE RECEIVER
MODEL**

VHF.64

(AC MAINS)

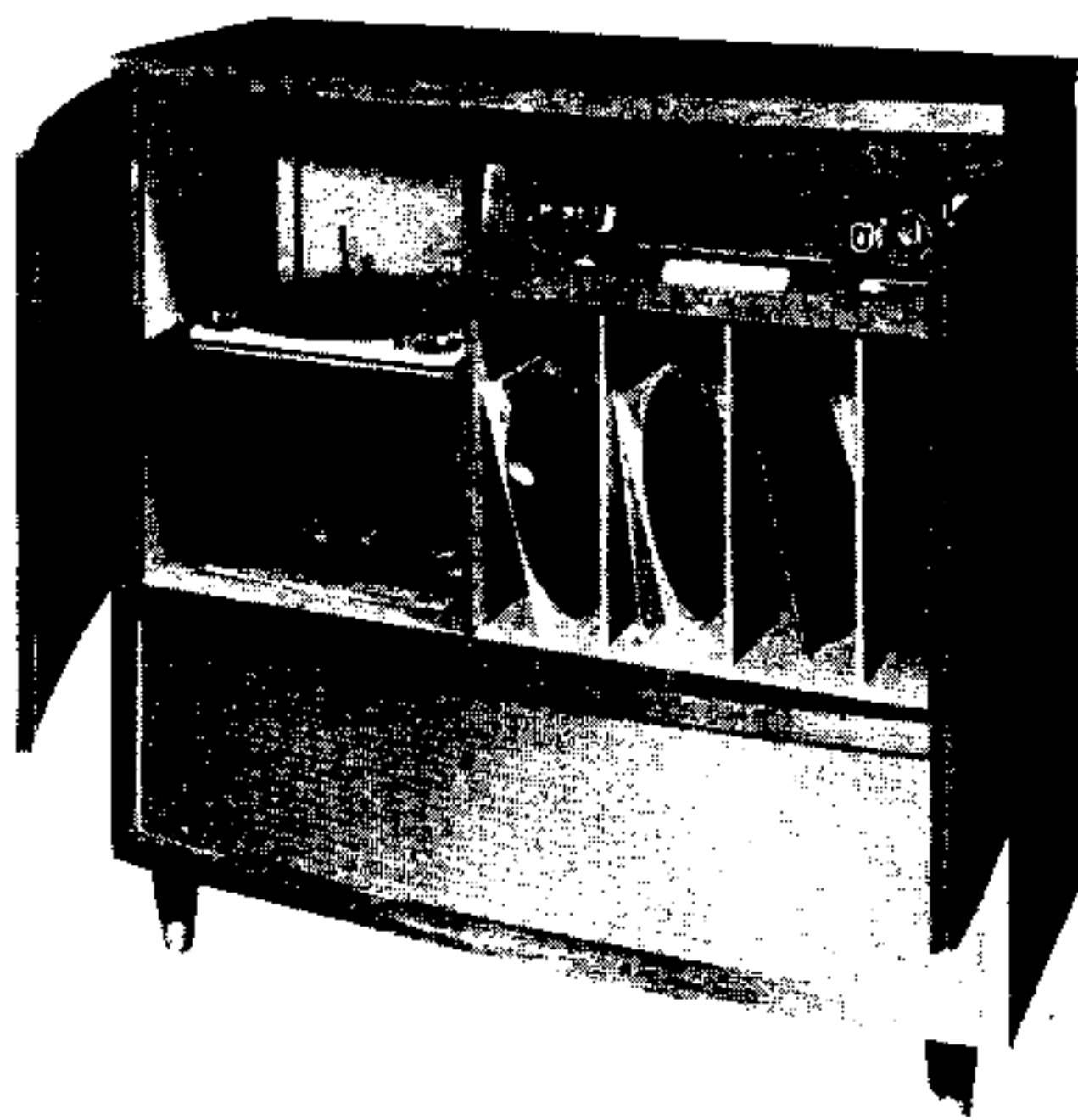


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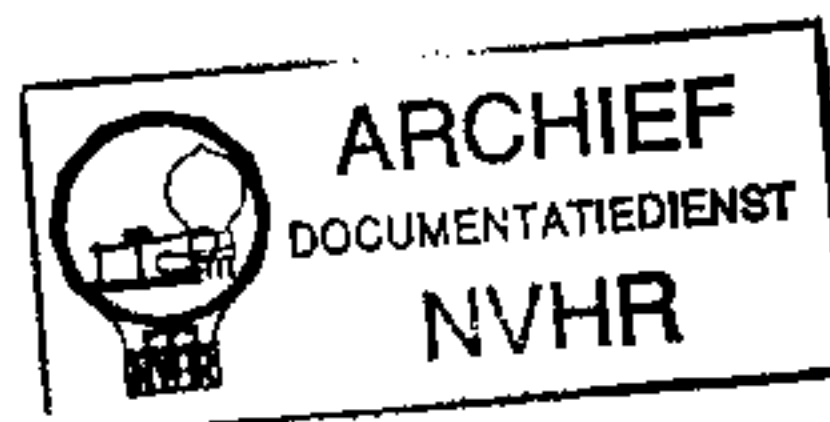
**RADIOGRAM
MODEL**

RG.66

(AC MAINS)

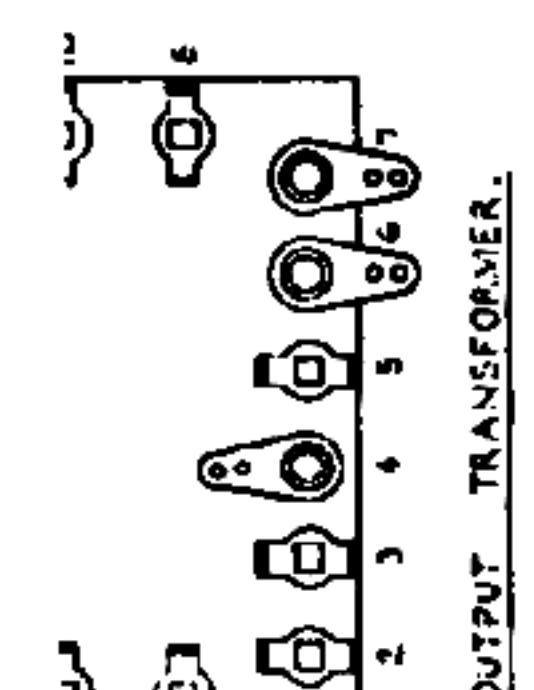
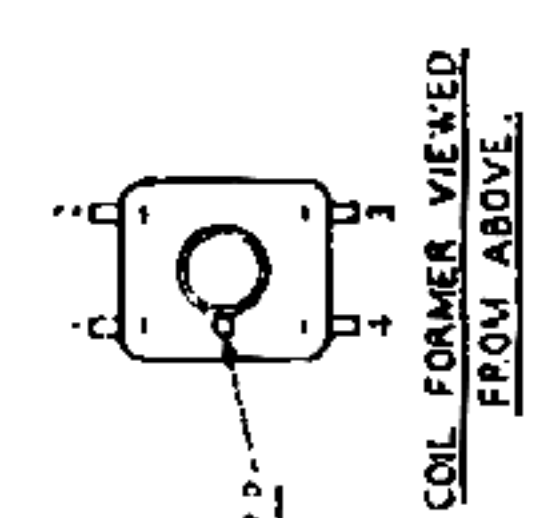
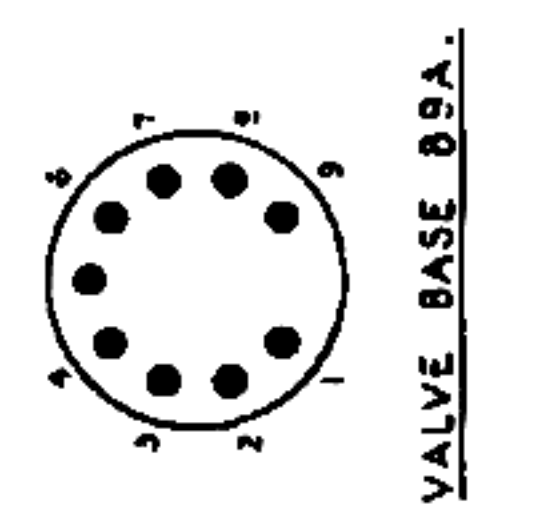


Ned. Ver. v. Historie v/d Radio



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C.	1	15	2	4	5	6	7	8	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100		
MISC.	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26	L27	L28	L29	L30	L31	L32	L33	L34	L35	L36	L37	L38	L39	L40	L41	L42	L43	L44	L45	L46	L47	L48	L49	L50	L51	L52	L53	L54	L55	L56	L57	L58	L59	L60	L61	L62	L63	L64	L65	L66	L67	L68	L69	L70	L71	L72	L73	L74	L75	L76	L77	L78	L79	L80	L81	L82	L83	L84	L85	L86	L87	L88	L89	L90	L91	L92	L93	L94	L95	L96	L97	L98	L99	L100
R.	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33	R34	R35	R36	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46	R47	R48	R49	R50	R51	R52	R53	R54	R55	R56	R57	R58	R59	R60	R61	R62	R63	R64	R65	R66	R67	R68	R69	R70	R71	R72	R73	R74	R75	R76	R77	R78	R79	R80	R81	R82	R83	R84	R85	R86	R87	R88	R89	R90	R91	R92	R93	R94	R95	R96	R97	R98	R99	R100
CAPACITORS	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	C31	C32	C33	C34	C35	C36	C37	C38	C39	C40	C41	C42	C43	C44	C45	C46	C47	C48	C49	C50	C51	C52	C53	C54	C55	C56	C57	C58	C59	C60	C61	C62	C63	C64	C65	C66	C67	C68	C69	C70	C71	C72	C73	C74	C75	C76	C77	C78	C79	C80	C81	C82	C83	C84	C85	C86	C87	C88	C89	C90	C91	C92	C93	C94	C95	C96	C97	C98	C99	C100
RESISTORS	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33	R34	R35	R36	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46	R47	R48	R49	R50	R51	R52	R53	R54	R55	R56	R57	R58	R59	R60	R61	R62	R63	R64	R65	R66	R67	R68	R69	R70	R71	R72	R73	R74	R75	R76	R77	R78	R79	R80	R81	R82	R83	R84	R85	R86	R87	R88	R89	R90	R91	R92	R93	R94	R95	R96	R97	R98	R99	R100
MISCELLANEOUS	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51	V52	V53	V54	V55	V56	V57	V58	V59	V60	V61	V62	V63	V64	V65	V66	V67	V68	V69	V70	V71	V72	V73	V74	V75	V76	V77	V78	V79	V80	V81	V82	V83	V84	V85	V86	V87	V88	V89	V90	V91	V92	V93	V94	V95	V96	V97	V98	V99	V100

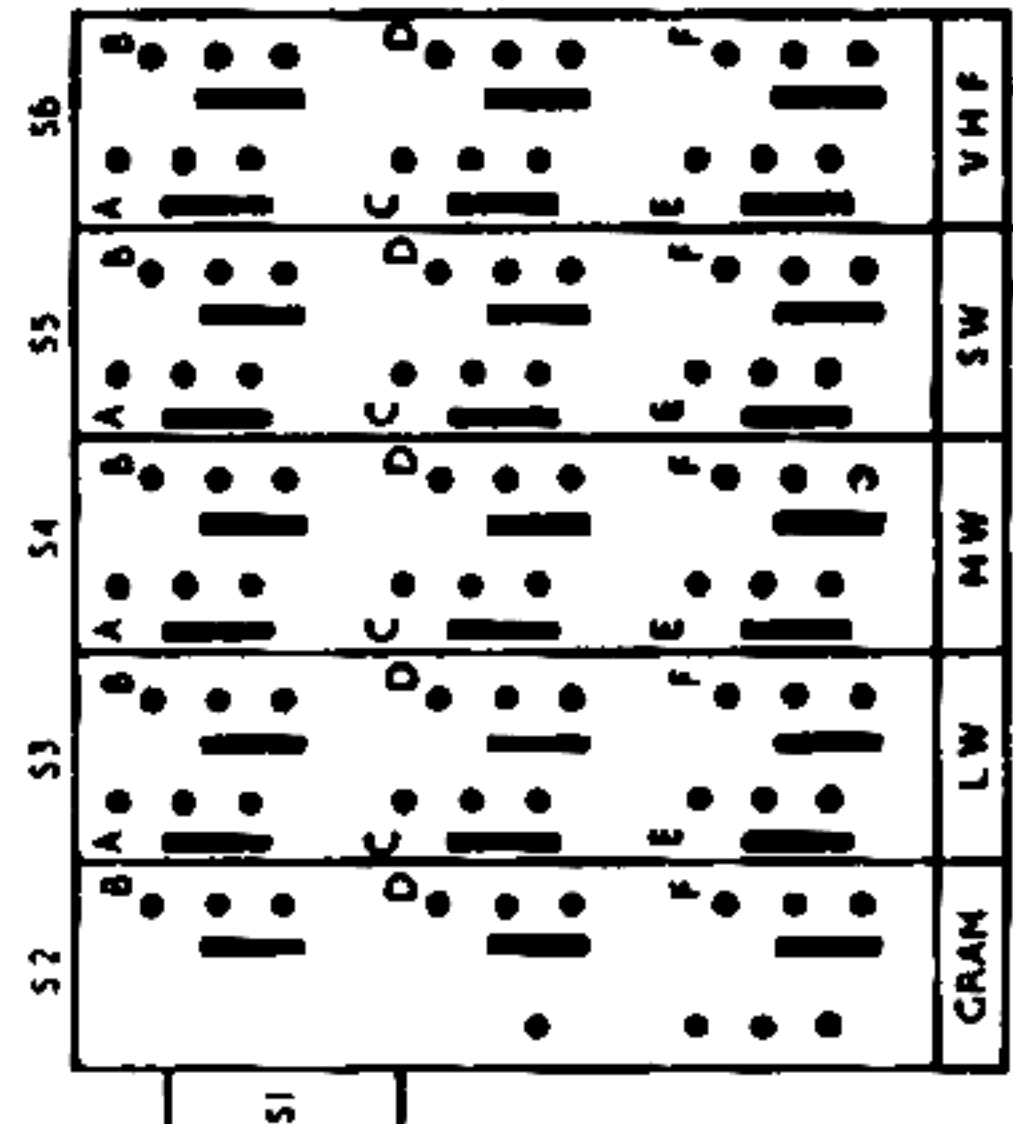
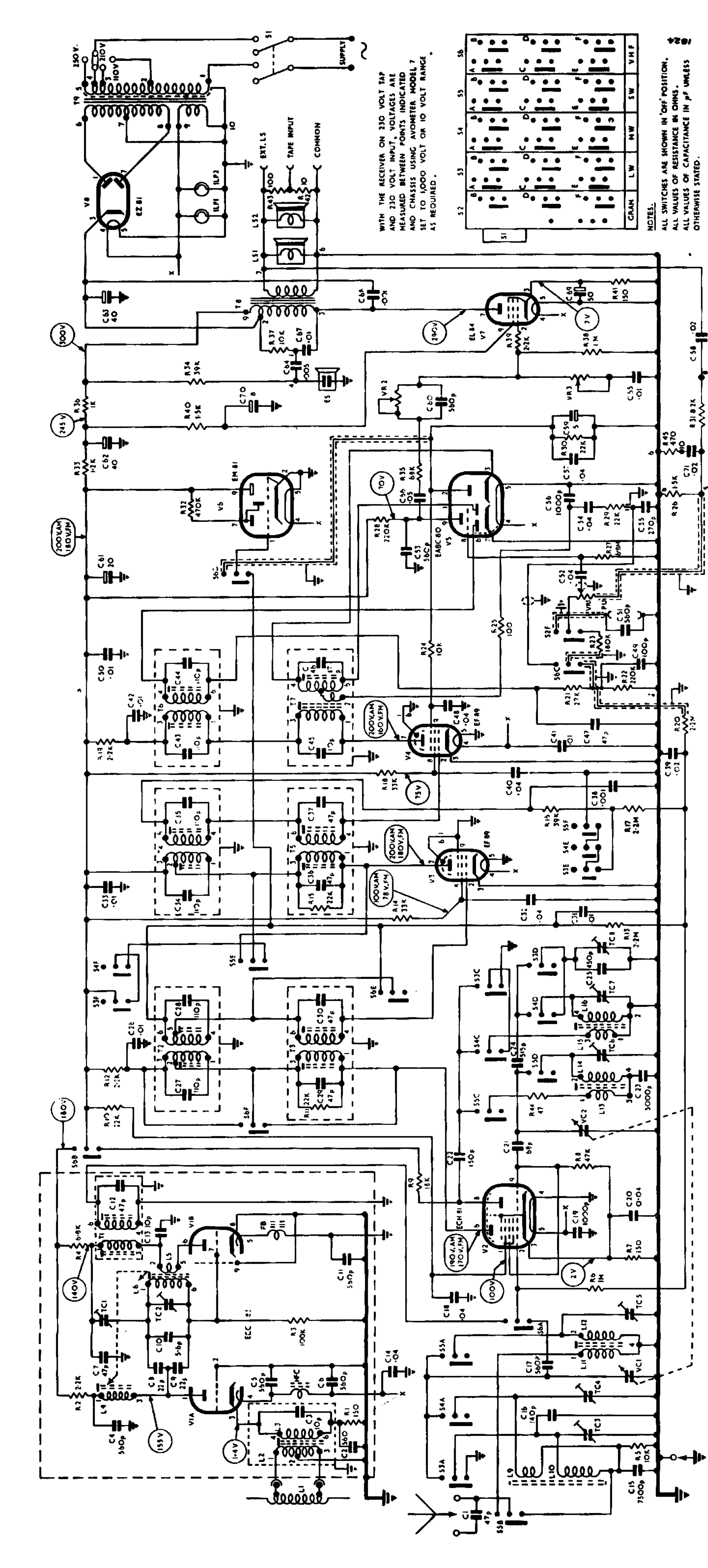


Fig. 1—Circuit Diagram VHF. 64

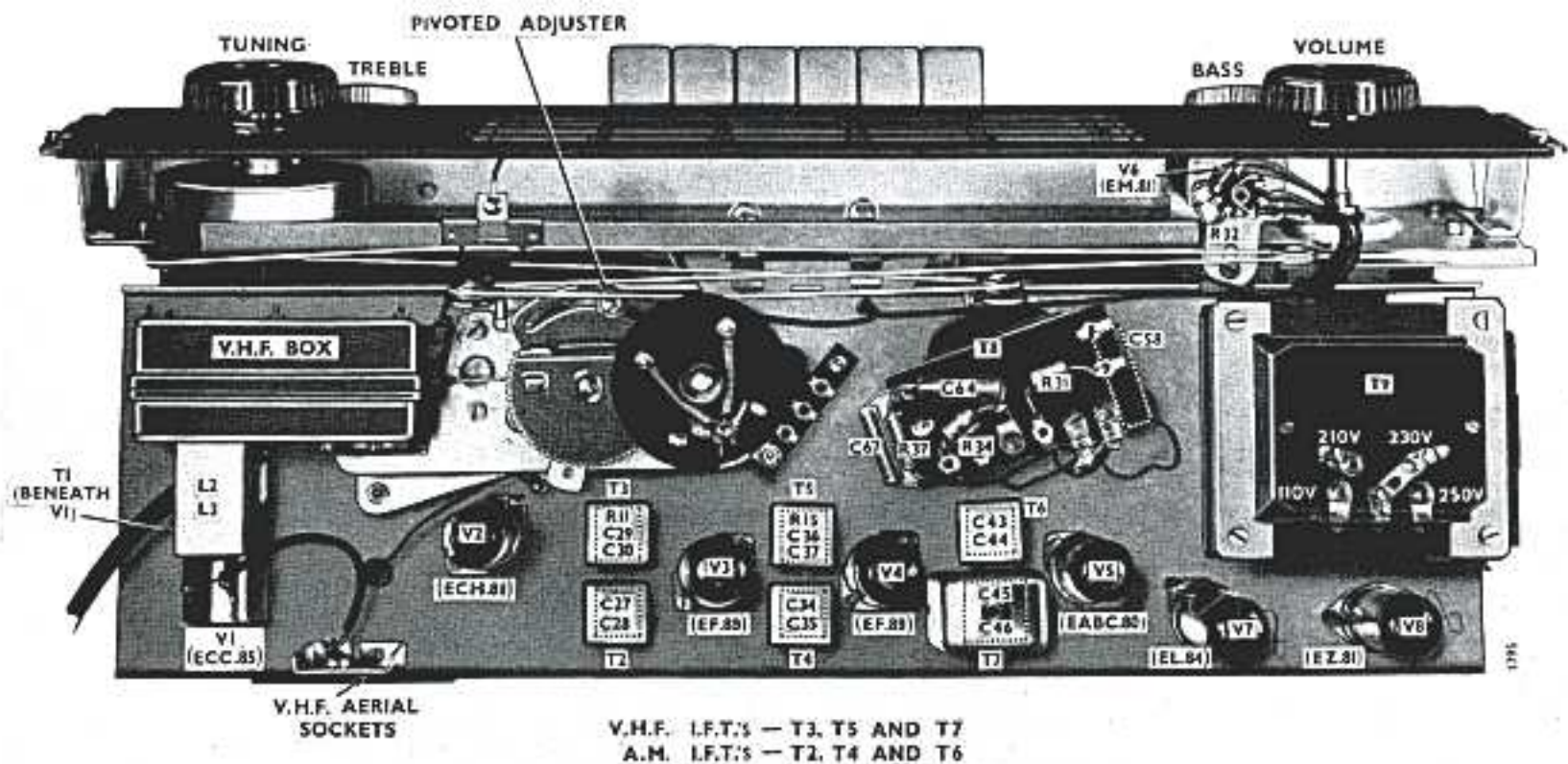


Fig. 3—Top View, VHF64

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.

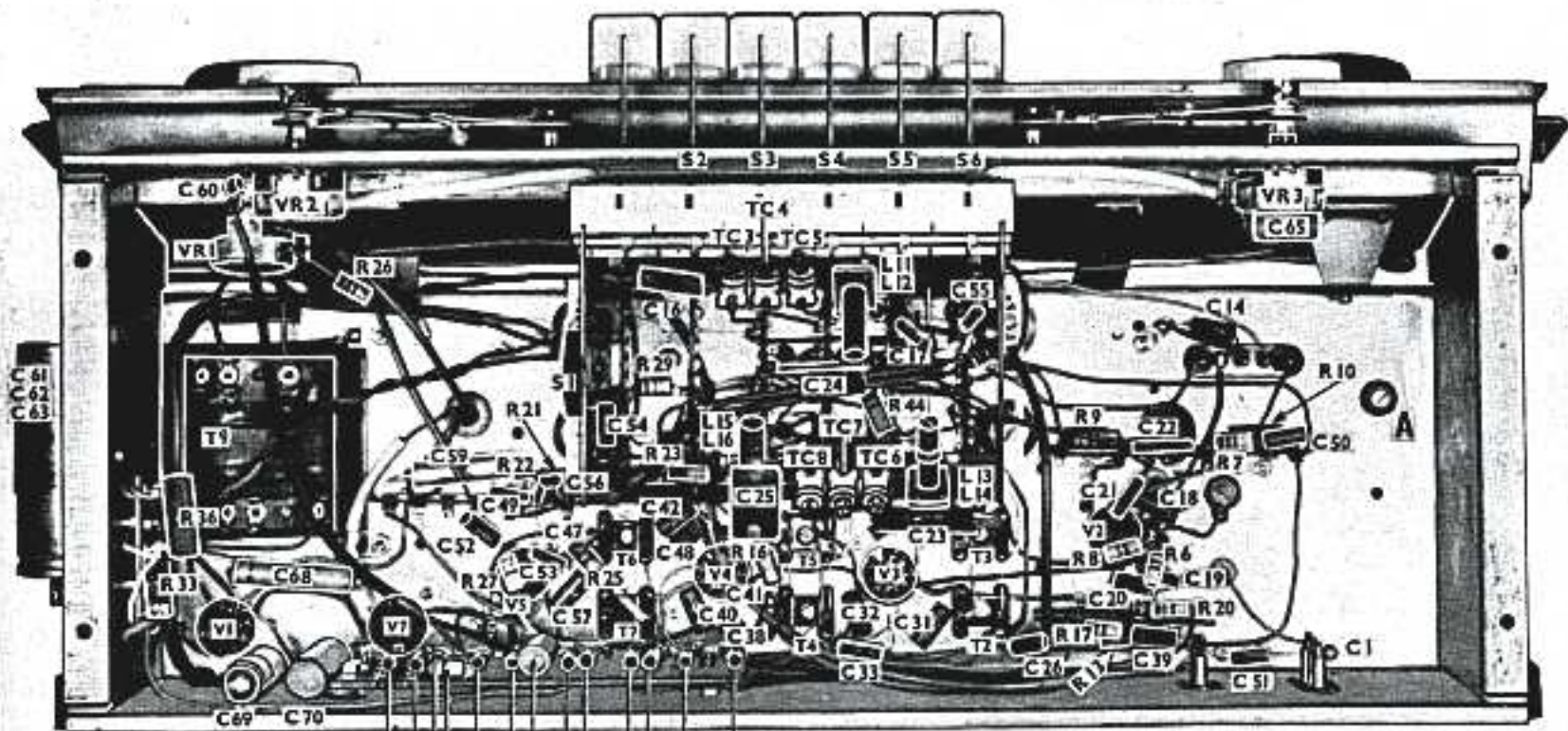
CABINET DIMENSIONS

V.H.F. 64. Height 14½". Width 22½". Depth 9½". Weight 28 lbs.

R.G. 66. Height 37¾". Width 38½". Depth 16¾". 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



R 40 R 30 R 39 C 66 R 19 R 14 R 12
 R 41 R 38 R 35 R 28 R 18 R 24

ALIGNMENT PROCEDURE

GENERAL

1. The V.H.F. 64 may be aligned in 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 (50 μ A FSD).
- (c) 2-47k $\frac{1}{2}$ watt resistors, matched.
- (d) 1-1k $\frac{1}{2}$ 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 $\frac{3}{8}$ " 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. output.

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 50 μ A 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 $\frac{3}{8}$ " 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.

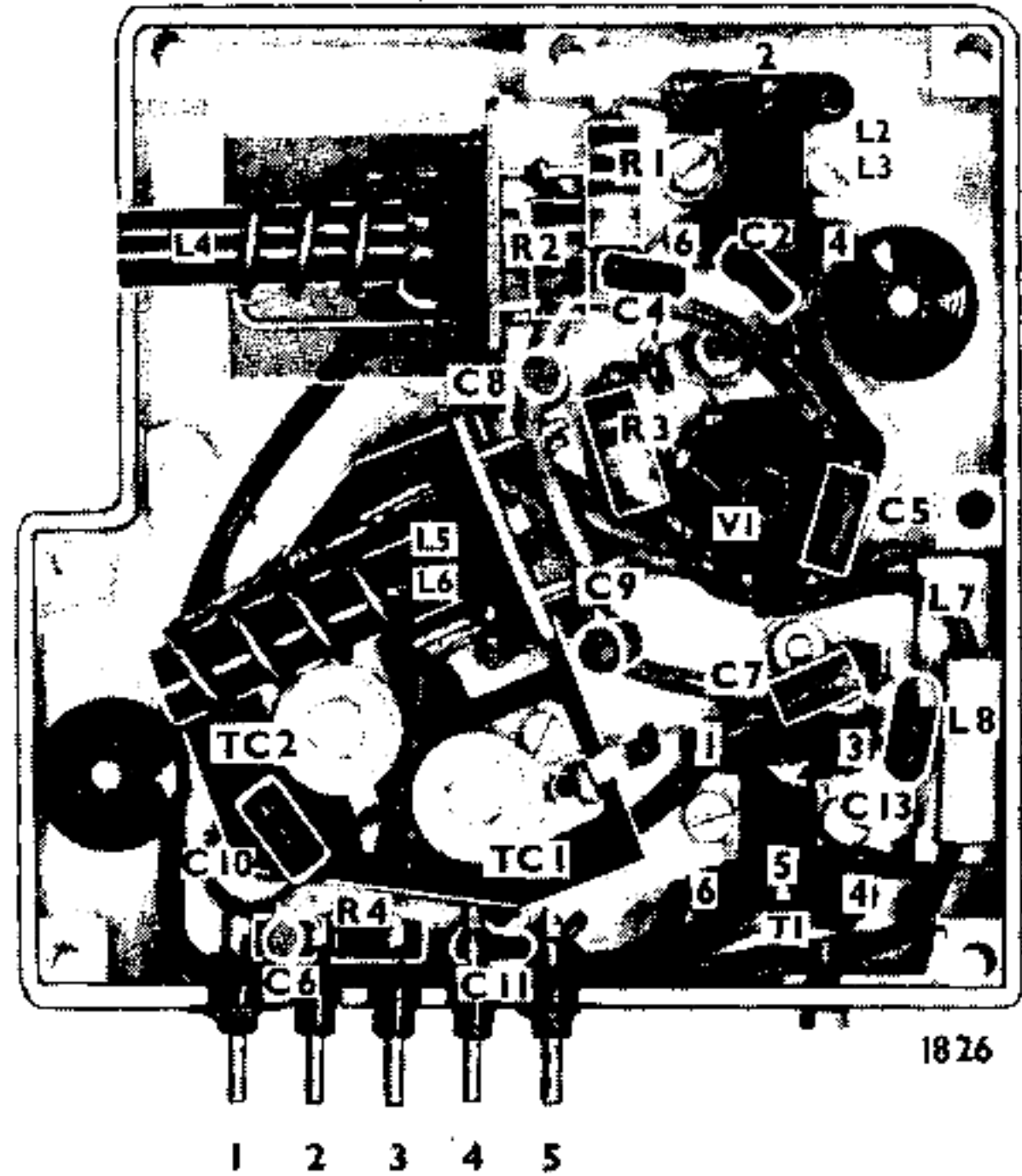


Fig. 5—VHF Box, Component Layout

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

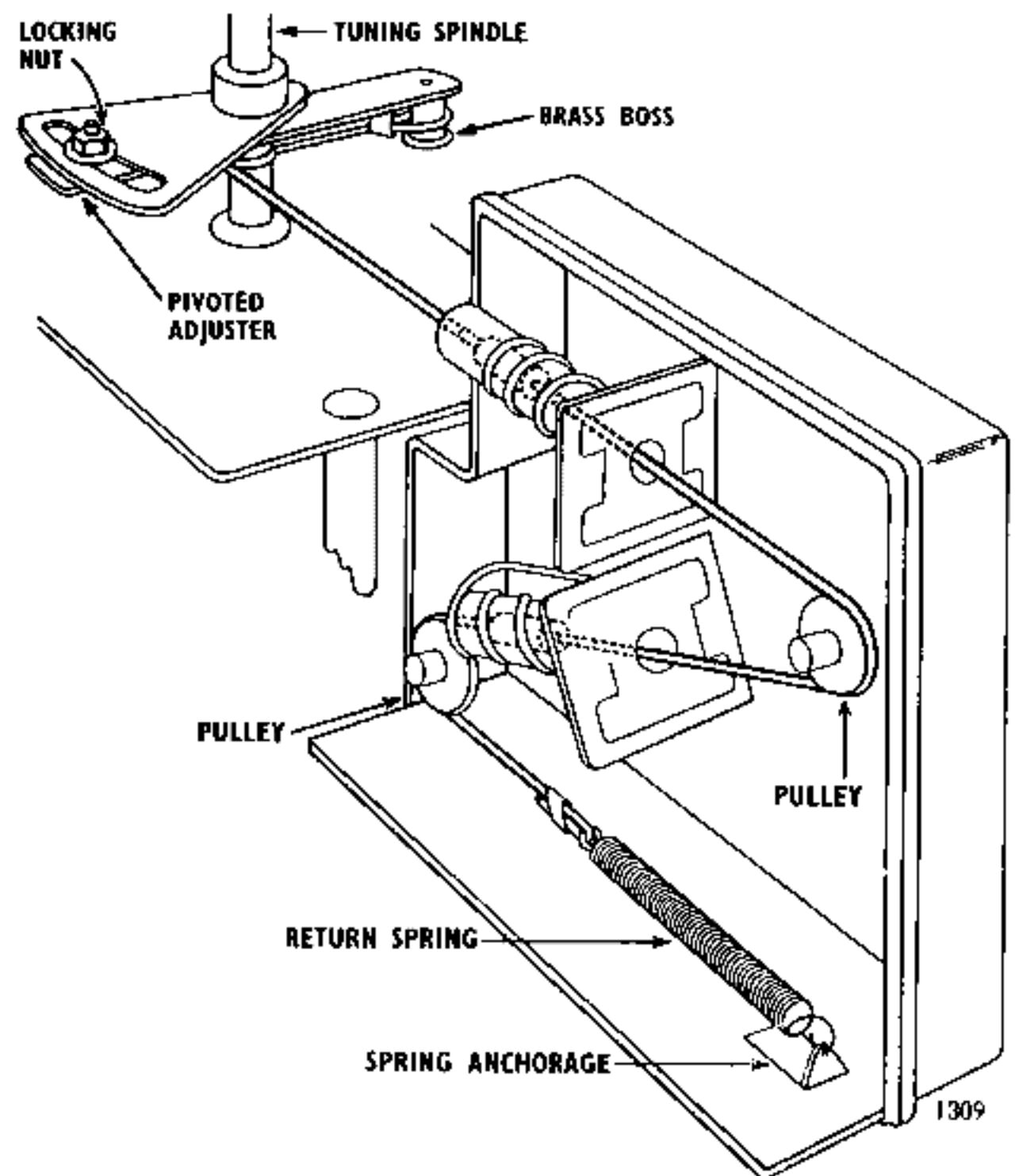


Fig. 6—VHF Cord Drive

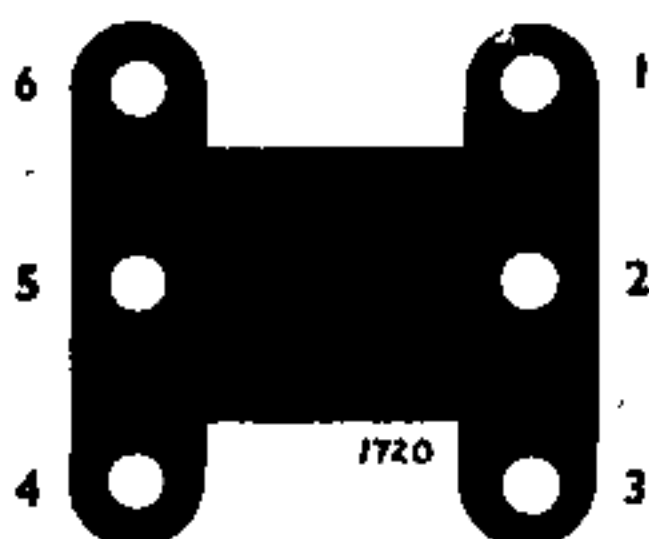


Fig. 7—Key to I.F.T. Bases
(See fig. 4)

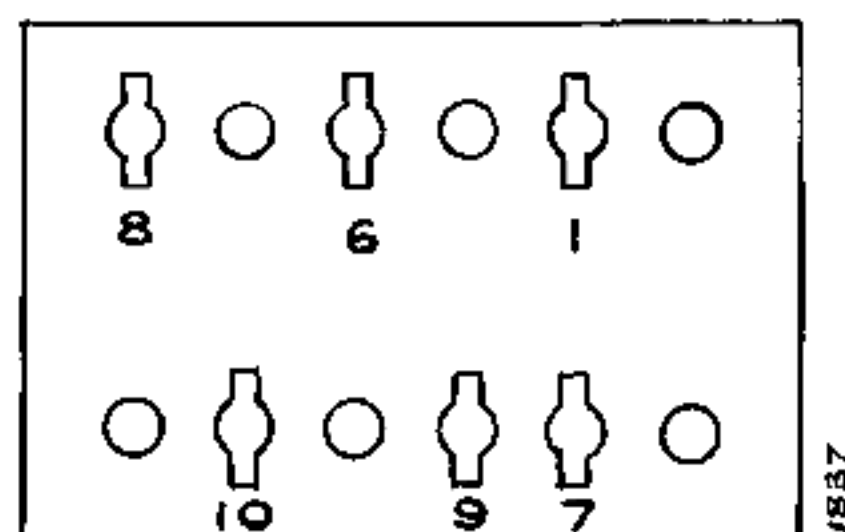
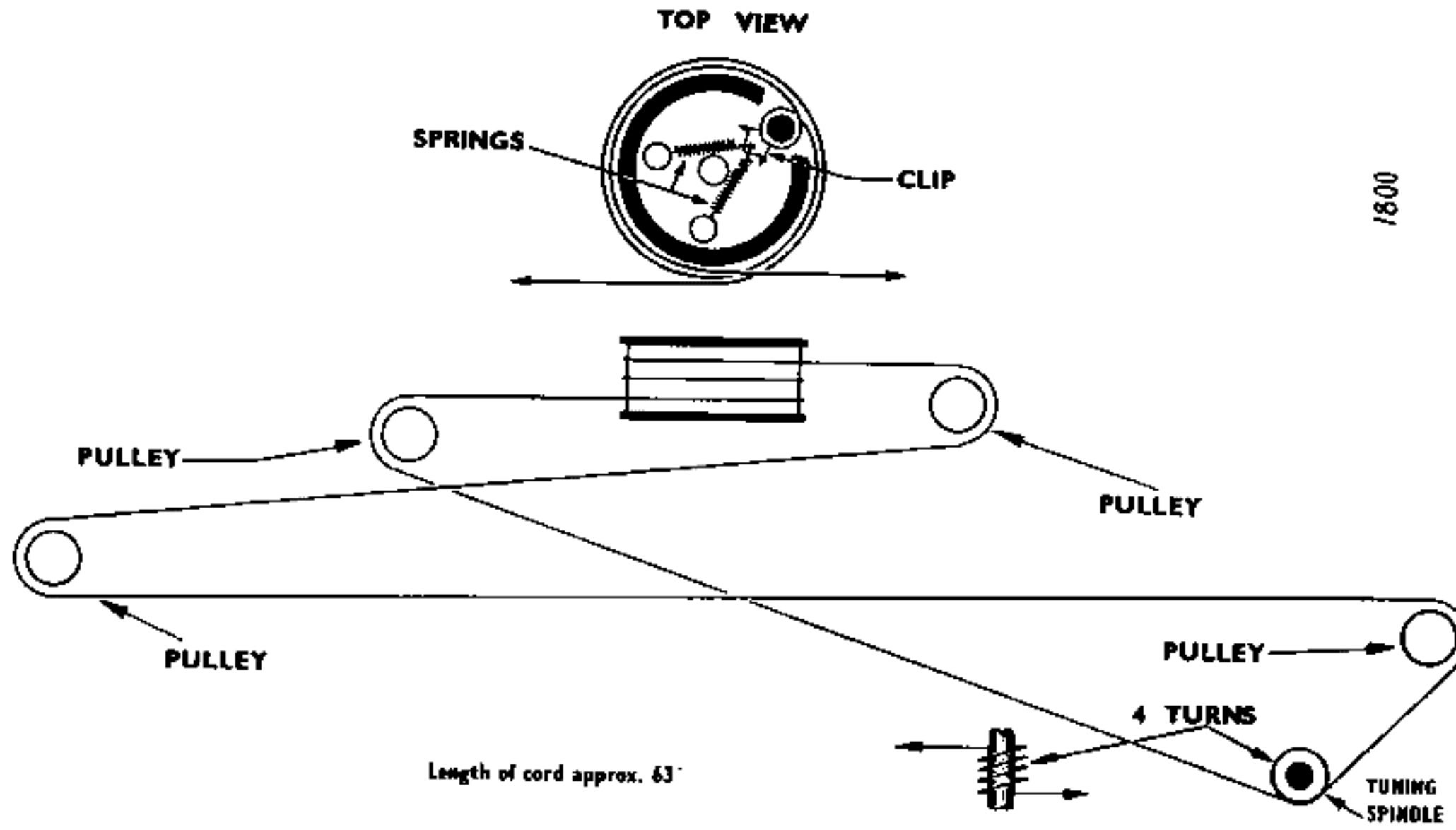


Fig. 8—Key to Mains Transformer Tags

CORD DRIVE



1800

Fig. 9—Cord Drive.

PART NUMBERS

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

RESISTORS

Reference	Valve (ohms)	Rating (watts)	Tolerance ± %	Part No.
R1	150	1	10	P6155
R2	2.2K	1	10	P6449
R3	100K	1	10	P6869
R4	6.8K	1	10	P6574
R5	10K	1	20	P6611
R6	1M	1	20	P7115
R7	150	1	10	P6155
R8	47K	1	20	P6779
R9	18K	1	10	P6676
R10	22K	1	10	P6700
R11	22K	1	10	AP25342
R12	2.2K	1	20	P6443
R13	2.2M	1	20	P7199
R14	33K	1	10	P6742
R15	22K	1	10	AP25432
R16	39K	1	20	AP14107
R17	2.2M	1	20	P7199
R18	33K	1	10	P6742
R19	2.2K	1	20	P6442
R20	2.2M	1	20	P7199
R21	27K	1	20	P14077
R22	220K	1	20	P6947
R23	180K	1	20	AP14227
R24	10K	1	20	P6611
R25	100	1	20	P6107
R26	1.5K	1	5	P6413
R27	6.8M	1	20	P7325
R28	220K	1	20	P6946
R29	22K	1	10	P6701
R30	22K	1	10	P6701
R31	8.2K	1	5	P6599
R32	470K	1	20	P7031
R33	1.2K	6 (W.W.)	5	AP60027
R34	220	1	10	AP14107
R35	68K	1	20	P6821
R36	1K	6 (W.W.)	5	AP25615
R37	10K	1	20	P6610
R38	1M	1	20	P7115
R39	2.2K	1	20	P6442
R40	1.5K	1	10	P6407
R41	150	1	10	P6154
R42	10	1	20	P5855
R43	100	1	20	P6107
R44	47	1	20	P6023
R45	470	1	10	P6281
VR1	1M	—	—	BP60028
VR2	2M	—	—	BP60030
VR3	500K	—	—	BP60029

CAPACITORS

Reference	Value		Type	D.C. Working Volts	Tolerance ± %	Part No.
	μF	pF				
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	
C63	40	—	E.	350	{ -20 +50	
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
TC4	—	3 to 30	C.M.	—	—	AP102119
TC5	—	3 to 30	C.M.	—	—	
TC6	—	3 to 30	C.M.	—	—	Banked
TC7	—	3 to 30	C.M.	—	—	AP102119
TC8	—	3 to 30	C.M.	—	—	
VC1	—	528	} Ganged		—	AP18210
VC2	—	528			—	

KEY.—E.—Electrolytic. CM.—Compression Mica. M.P.—Metallized Paper. P.F.T.—Polystyrene 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	" " "		
L5	" " "	BS24883	V.H.F. oscillator coils
L6	" " "		
L7	" " "		
L8	—	AP22966	Ferroxcube core
L9	Less than 0.5	DS60137* DS60471†	Ferrite rod aerial coils
L10	12		
L11	Less than 0.5	BS60113	S.W. aerial coils
L12	" " "		
L13	" " "		
L14	" " "	BS60114	S.W. oscillator coils
L15	1		
L16	4.5	BS60118	M.W./L.W. oscillator coils
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, $\frac{1}{4}$ w., 10%) and C70 (0·2 μ F, 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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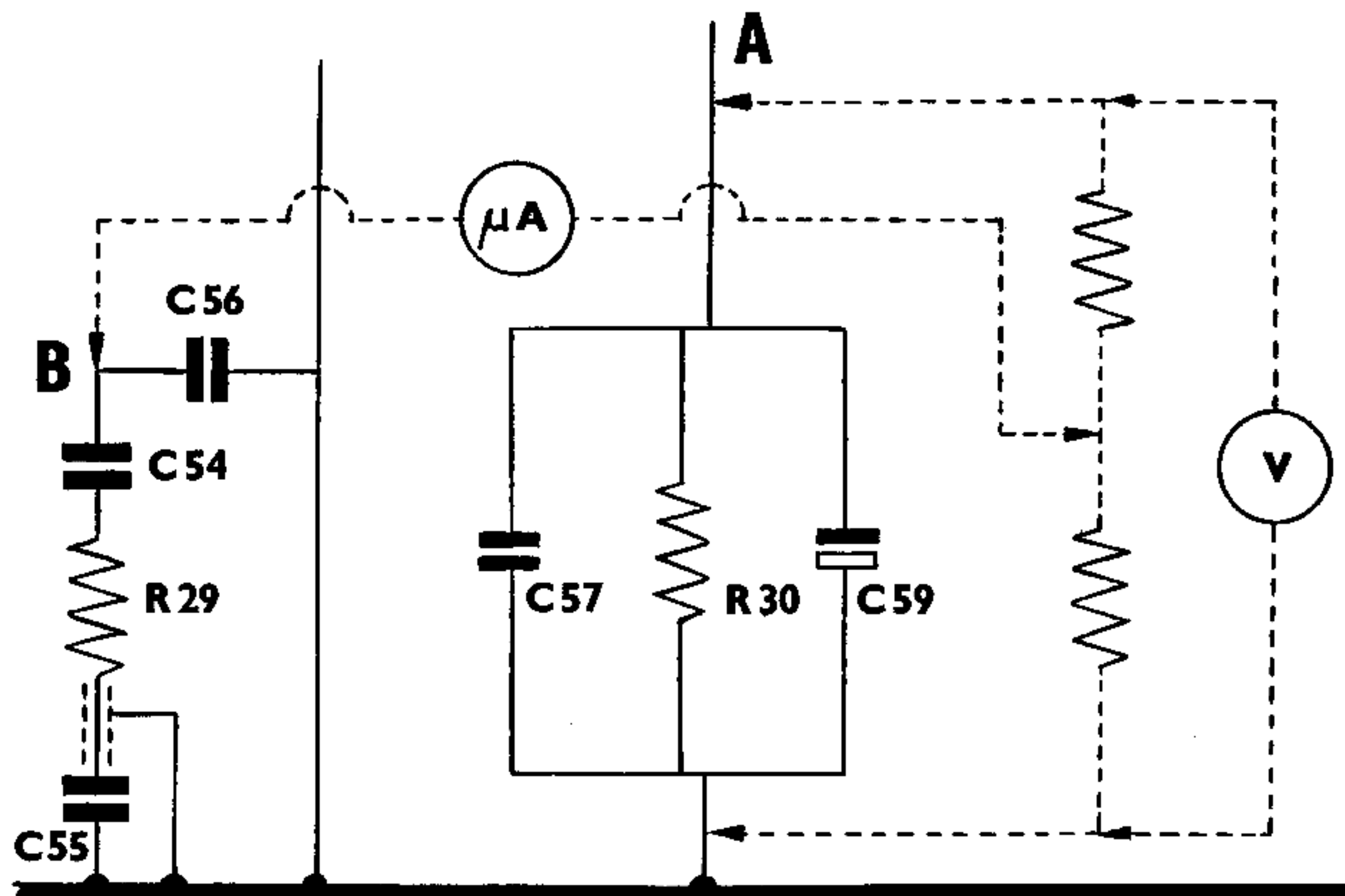
June 1957

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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