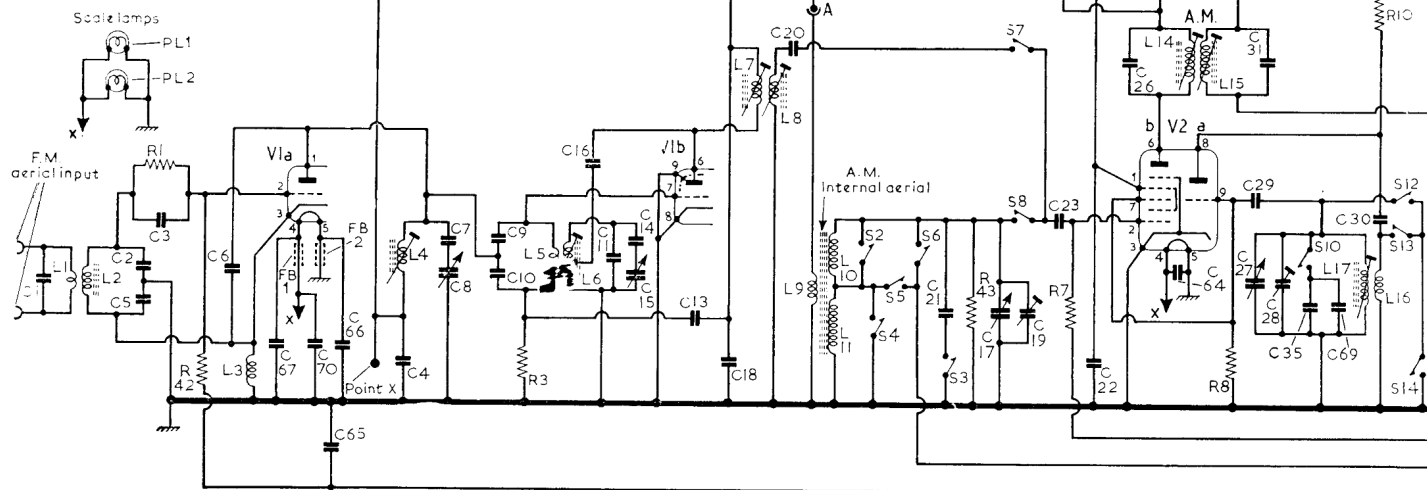


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Valve Table

Valve	Anode (V)	Screen (V)	Cathode (V)
V1 ECC85	No readings quoted.	—	—
V2 ECH81	200	75	—
V3 EBF83	185	79	—
V4 EB91	—	—	—
V5 ECC83	100	—	—
V6 EL84	255	212	—
V7 EL84	255	212	—

Transformers*

T1 { a 300 } { b — } { c — }	T2 { a 300 } { b — } { c — }	T3 { a 100 } { b — } { c 34 }
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*Approximate D.C. resistance in ohms.

Resistors

R1 680kΩ	R34 2.7kΩ	C14 50pF
R2 2.2kΩ	R35 1MΩ	C15 —
R3 680kΩ	R36 1.5MΩ	C16 18.5pF
R4 1.5kΩ	R37 390kΩ	C17 —
R5 6.8kΩ	R38 390kΩ	C18 88pF
R6 33kΩ	R39 560kΩ	C19 40pF
R7 2.2MΩ	R40 1.2kΩ	C20 100pF
R8 47kΩ	R41 100Ω	C21 140pF
R9 2.7kΩ	R42 1.5MΩ	C22 3,900pF
R10 27kΩ	R43 470kΩ	C23 220pF
R11 47kΩ	R44 330kΩ	C24 0.005μF
R12 3.3kΩ	R45 470kΩ	C25 12pF
R13 2.2MΩ	R46 —	C26 220pF
R14 220Ω	R47 —	C27 —
R15 100kΩ	R48 3Ω	C28 40pF
R16 100kΩ	R49 3Ω	C29 220pF
R17 27kΩ		C30 220pF
R18 1MΩ		C31 220pF
R19 47Ω		C32 12pF
R20 1MΩ		C33 0.02μF
R21 2.7kΩ		C34 3,900pF
R22 6.8MΩ		C35 315pF
R23 680Ω		C36 0.01μF
R24 22kΩ		C37 220pF
R25 1MΩ		C38 15pF
R26 680kΩ		C39 0.04μF
R27 680kΩ		C40 220pF
R28 1MΩ		C41 56pF
R29 220kΩ		C42 100pF
R30 6.8MΩ		C43 0.002pF
R31 680Ω		C44 300pF
R32 47Ω		C45 100pF
R33 1MΩ		

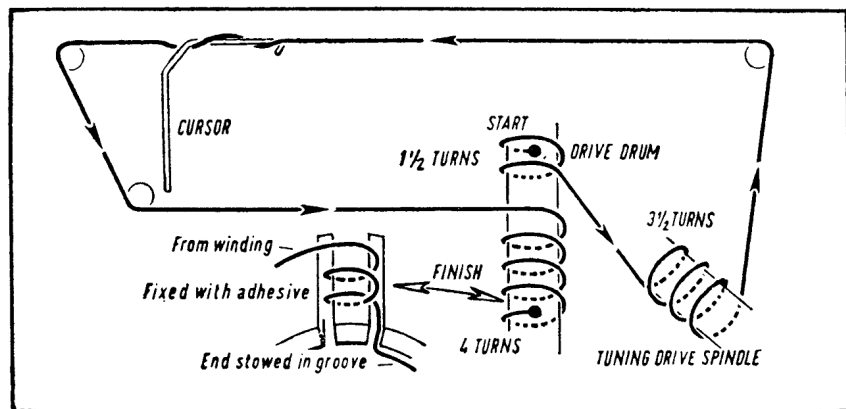
Capacitors

C1 47pF	C14 50pF	C46 2,000pF	L9 —
C2 15pF	C15 —	C47 4μF	L10 —
C3 220pF	C16 18.5pF	C48 0.04μF	L11 5.0
C4 1,500pF	C17 —	C49 0.02μF	L12 —
C5 47pF	C18 88pF	C50 1μF	L13 —
C6 7pF	C19 40pF	C51 1,800pF	L14 6.5
C7 47pF	C20 100pF	C52 0.01μF	L15 6.5
C8 —	C21 140pF	C53 0.01μF	L16 —
C9 5pF	C22 3,900pF	C54 1,800pF	L17 3.5
C10 5pF	C23 220pF	C55 0.04μF	L18 6.5
C11 11.5pF	C24 0.005μF	C56 1μF	L19 6.5
C12 0.01μF	C25 12pF	C57 0.002μF	L20 —
C13 12pF	C26 220pF	C58 0.05μF	L21 —
	C27 —	C59 50μF	L22 —
	C28 40pF	C60 50μF	L23 3.0
	C29 220pF	C61 50μF	L24 3.0
	C30 220pF	C62 0.02μF	
	C31 220pF	C63 0.005μF	
	C32 12pF	C64 0.01μF	
	C33 0.02μF	C65 0.01μF	
	C34 3,900pF	C66 1,000pF	
	C35 315pF	C67 1,000pF	
	C36 0.01μF	C68 100pF	
	C37 220pF	C69 30pF	
	C38 15pF	C70 0.01μF	
	C39 0.04μF		
	C40 220pF		
	C41 56pF		
	C42 100pF		
	C43 0.002pF		
	C44 300pF		
	C45 100pF		

Coils*

L1 —
L2 —
L3 —
L4-L8 —

*Approximate D.C. resistance in ohms.
‡Or 100pF.
†No component.
§Or 2,000pF.



Scale drive assembly showing the direction and method of threading a replacement drive cord. For this operation approximately 6 feet of nylon-braided glass yarn is required

kc/s signal and adjust C69 (C1) and L11 (A3) for maximum output. Adjust L11 by sliding the former along the ferrite rod.

F.M. Circuits

Throughout the alignment of the F.M. circuits the input signal should be adjusted to maintain an audio output of approximately 100mW.

- 1.—Switch receiver to F.M. and allow a ten-minute warm-up period. Set the volume control 90 deg. back from maximum output and set the tone control to maximum treble. Connect the signal generator via

- 4.—Tune receiver to 517m (mark on scale), feed in a 580 kc/s signal and adjust L17 (B1) and L10 (B3) for maximum output. Adjust L10 by sliding the tuning ring along the ferrite rod.

- 5.—Tune receiver to 205m (mark on scale), feed in a 1,460 kc/s signal and adjust C28 (B2) and C19 (B2) for maximum output.

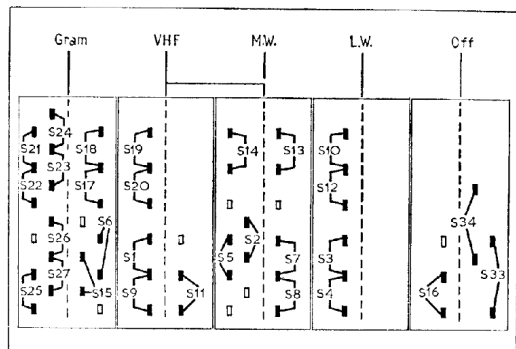
- 6.—Switch receiver to L.W. and tune to 1,364m (mark on scale). Feed in a 220

CIRCUIT ALIGNMENT

Equipment Required.—An A.M. signal generator modulated 30%; an output meter; an R.F. coupling loop for alignment of the A.M. aerial circuits; an F.M. signal generator with 25 kc/s deviation at an output impedance of 75Ω and also capable of supplying a 30% modulated signal at 10.7 Mc/s; two capacitors (0.01μF and 400pF) and a hexagonal trimming tool for the I.F. coil cores, specially shaped to allow the bottom core to be adjusted through the top core in the case of formers which contain two cores.

A.M. Circuits

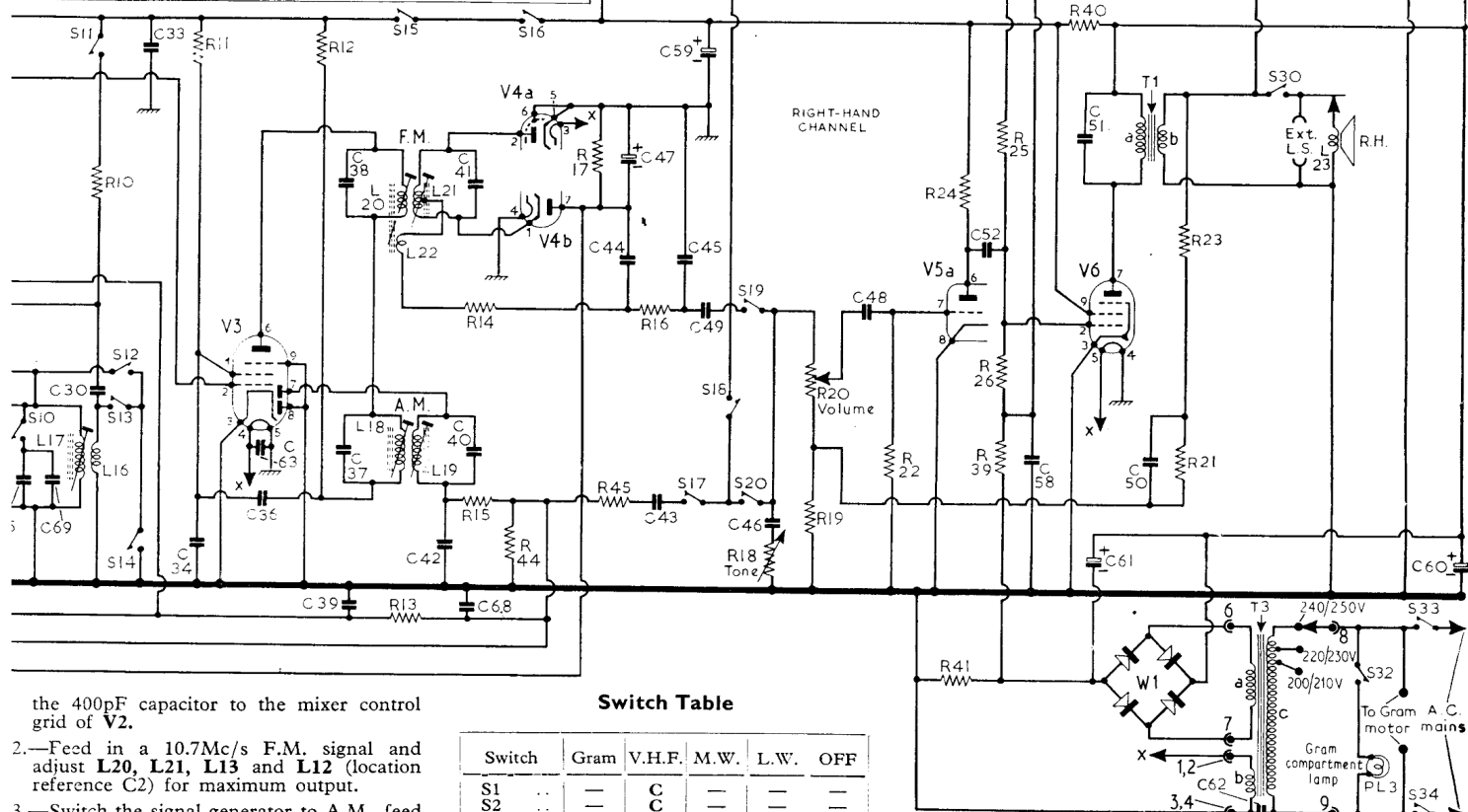
- 1.—Switch receiver to M.W., turn the tuning gang to the minimum capacitance position and the volume control to maximum output. Connect the output meter across the loud-speaker terminals and connect the A.M. signal generator via the 0.01μF capacitor to the control grid of V2 mixer section.
- 2.—Feed in a 470 kc/s modulated signal and adjust L19, L18, L15 and L14 (location reference C2) for maximum output.
- 3.—Disconnect the signal generator from V2b grid and connect its output across the R.F. coupling loop, with the loop loosely coupled to the ferrite rod aerial. Turn the tuning gang to the maximum capacitance position and check that the cursor coincides with the marker dots near the right-hand edge of the scale opening.



47,44,43,45,59,49	46,57	48	55	53,52	58	54,51,61	50	56	62	60	C
45,37	16	38	36	18,35,33,32,20,19,22	30	41,29,24,28,25,26,39,27,40	23,21	31,34	48,49		R

Used in conjunction with the switch table below, this diagram shows the location and function of each of the waveband switches. The switch

2,28,35,69	30	33	34	36,63	37,38,39	42	41,40,68
10	11	12	13	14,15	44	17	



Switch Table

Switch	Gram	V.H.F.	M.W.	L.W.	OFF
S1	—	C	—	—	—
S2	—	C	—	—	—
S3	—	C	—	—	—
S4	—	C	—	—	—
S5	—	C	—	—	—
S6	—	C	—	—	—
S7	—	C	—	—	—
S8	—	C	—	—	—
S9	—	C	—	—	—
S10	—	C	—	—	—
S11	—	C	—	—	—
S12	—	C	—	—	—
S13	—	C	—	—	—
S14	—	C	—	—	—
S15	—	C	—	—	—
S16	—	C	—	—	—
S17	—	C	—	—	—
S18	—	C	—	—	—
S19	—	C	—	—	—
S20	—	C	—	—	—
S21	—	C	—	—	—
S22	—	C	—	—	—
S23	—	C	—	—	—
S24	—	C	—	—	—
S25	—	C	—	—	—
S26	—	C	—	—	—
S27	—	C	—	—	—
S33	—	C	—	—	—
S34	—	C	—	—	—

Switches.—S1-S27 are the waveband/gram switches which together with the mains on/off switches S33 and S34 are combined in the press-button unit shown in location reference B1. A diagram of the individual switch contacts is shown above. The switch table shows the position(s) in which each switch is closed. It should be noted that the action of the M.W. press-button is merely to re-set the remaining press-buttons to their neutral position. S28-S31 in location reference D3 are loud-speaker/headphone changeover switches.

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- the 400pF capacitor to the mixer control grid of V2.
- Feed in a 10.7Mc/s F.M. signal and adjust L20, L21, L13 and L12 (location reference C2) for maximum output.
- Switch the signal generator to A.M., feed in a 10.7Mc/s modulated signal and adjust L21 for minimum output. Then feed in a 10.7Mc/s F.M. signal and check that the F.M. output has not reduced. If maximum A.M. rejection does not coincide with maximum F.M. output, adjust L21 for maximum A.M. rejection at the expense of output.
- Unscrew the core of L8 (A2) until it protrudes from the former by approximately 1/16 in. Connect the signal generator to point X (A2).
- Feed in a 10.7Mc/s F.M. signal and adjust L7 (A2) for maximum output then peak L8.
- Fully close the tuning gang and check that the cursor coincides with the right-hand edge of the scale opening, then tune to 91Mc/s on scale.
- Connect the signal generator to the F.M. aerial sockets. Feed in a 91Mc/s signal and adjust L6 (A2) to tune receiver to this signal. If two peaks occur, select the one with the core nearer the top of the former.
- Adjust L4 for maximum audio output with the core towards the bottom of the former.