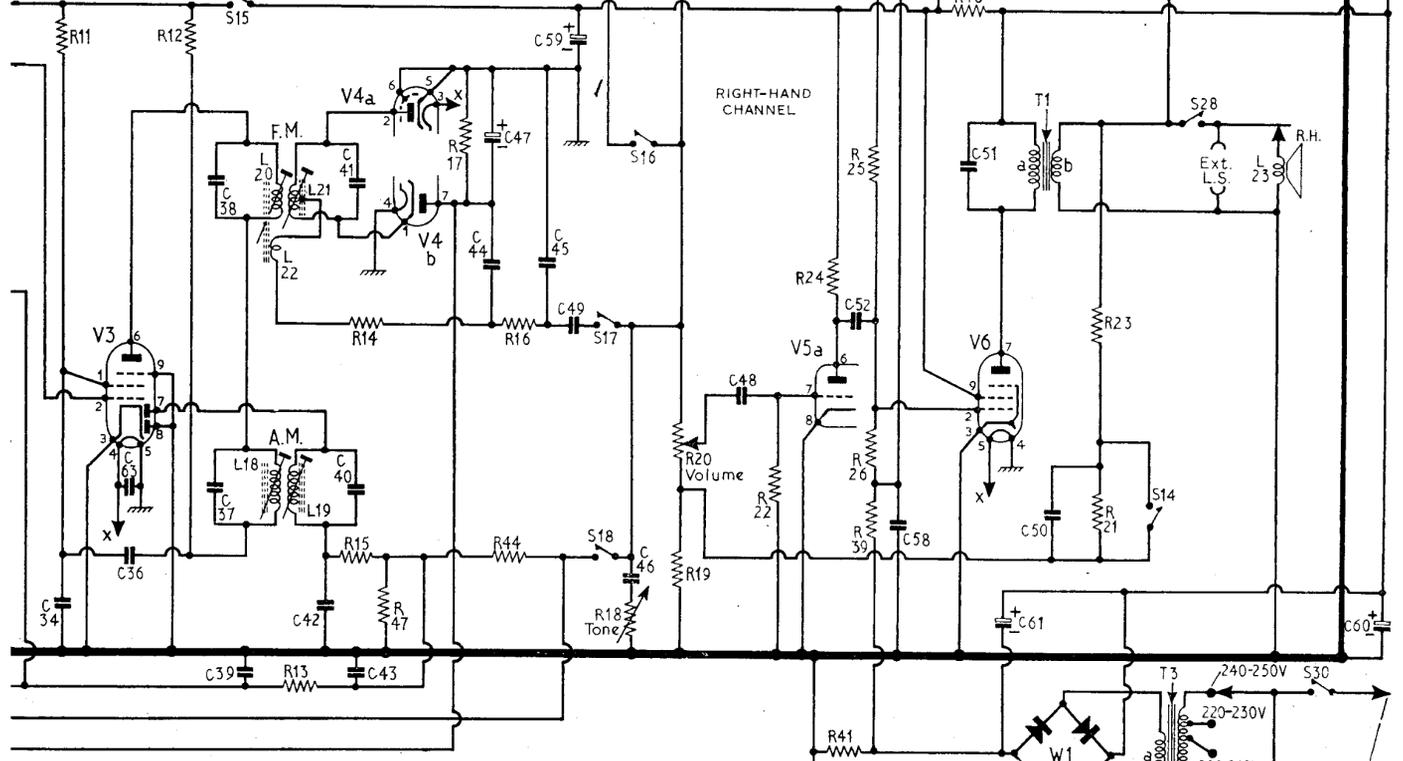
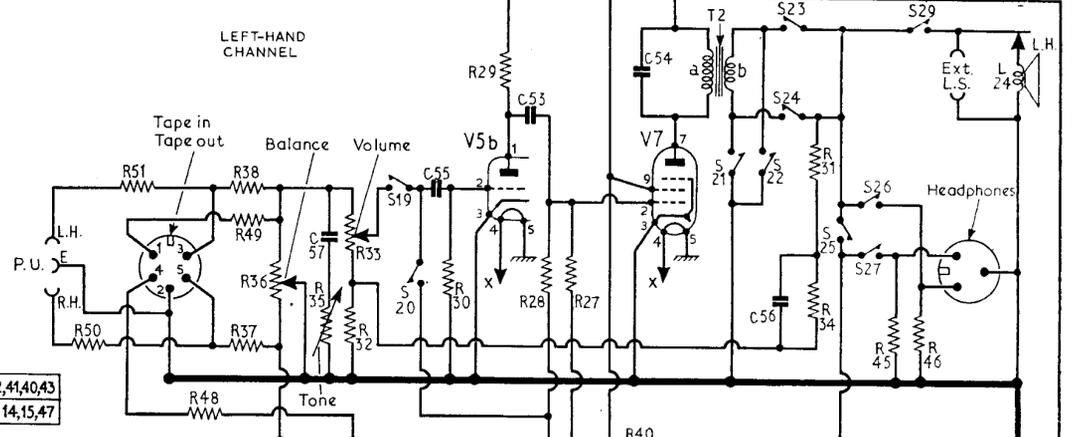


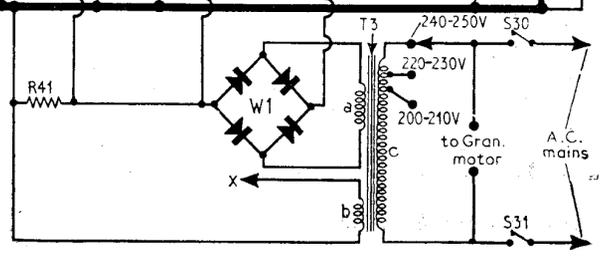
- R39 560kΩ C3
  - R40 1.2kΩ D3
  - R41 100Ω D2
  - R42 1.5MΩ E4
  - R43 470kΩ C3
  - R44 470kΩ C1
  - R45 3Ω C3
  - R46 3Ω C3
  - R47 330kΩ C2
  - R48 2.2MΩ D1
  - R49 2.2MΩ D1
  - R50 100kΩ D3
  - R51 100kΩ D3
- Capacitors**
- C1 47pF E4
  - C2 15pF E4
  - C3 220pF E4
  - C4 1,500pF E4
  - C5 47pF E4
  - C6 7pF E4

47,44	45,49,59	46 57	48 55	52,53	58	54,51,61	50	56	60
50	17,51	44,16,48,38,49,37,36,18,35,33,32,19,20,30,22	29,24	41,28,25,26,39,27,40	23,21	31,34	45	46	

34	63,36	38,37,39	42,41,40,43
11	12	13	14,15,47



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## Resistors

R1	680kΩ
R2	2.2kΩ
R3	680kΩ
R4	1.5kΩ
R5	6.8kΩ
R6	33kΩ
R7	2.2MΩ
R8	47kΩ
R9	2.7kΩ
R10	27kΩ
R11	47kΩ
R12	3.3kΩ
R13	2.2MΩ
R14	220Ω
R15	100kΩ
R16	100kΩ
R17	27kΩ
R18	1MΩ
R19	47Ω
R20	1MΩ
R21	1.5kΩ
R22	6.8MΩ
R23	680Ω
R24	220kΩ
R25	1MΩ
R26	680kΩ
R27	680kΩ
R28	1MΩ
R29	220kΩ
R30	6.8MΩ
R31	680Ω
R32	47Ω
R33	1MΩ
R34	1.5kΩ
R35	1MΩ
R36	1.5MΩ
R37	470kΩ
R38	470kΩ
R39	560kΩ
R40	1.2kΩ
R41	100Ω
R42	1.5MΩ
R43	470kΩ
R44	470kΩ
R45	3Ω
R46	3Ω
R47	330kΩ
R48	2.2MΩ
R49	2.2MΩ
R50	100kΩ
R51	100kΩ

## Capacitors

C1	47pF
C2	15pF
C3	220pF
C4	1,500pF
C5	47pF
C6	7pF
C7	47pF
C8	—
C9	5pF
C10	5pF
C11	11.5pF
C12	0.01μF
C13	12pF
C14	50pF
C15	—
C16	18.5pF
C17	—
C18	100pF
C19	40pF
C20	100pF
C21	140pF
C22	3,900pF
C23	220pF
C24	0.005μF
C25	12pF
C26	220pF
C27	—
C28	40pF
C29	220pF
C30	220pF
C31	220pF
C32	12pF
C33	0.02μF
C34	3,900pF
C35	315pF
C36	0.01μF
C37	220pF
C38	15pF
C39	0.04μF
C40	220pF
C41	50pF
C42	100pF
C43	100pF
C44	300pF
C45	100pF
C46	2,000pF
C47	4μF
C48	0.04μF
C49	0.02μF

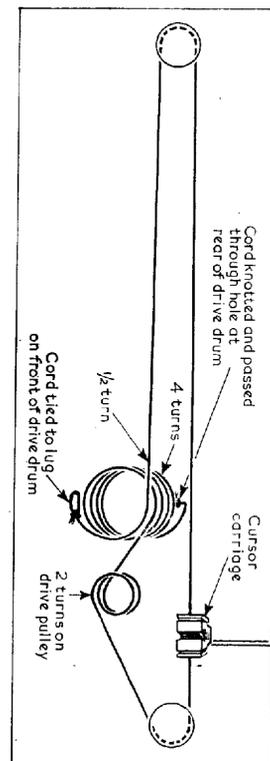
C50	1μF
C51	2,000pF
C52	0.01μF
C53	0.01μF
C54	2,000pF
C55	0.04μF
C56	1μF
C57	0.002μF
C58	0.05μF
C59	50μF
C60	50μF
C61	100μF
C62	—
C63	0.005μF
C64	0.01μF
C65	0.01μF
C66	1,000pF
C67	1,000pF
C68	—
C69	30pF
C70	0.01μF

## 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 25kc/s deviation at an output impedance of 75Ω and also capable of supplying a 30% modulated signal at 10.7Mc/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 loudspeaker 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 470kc/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. With the tuning gang at maximum capacitance check that the cursor coincides with the "zero" mark on the edge of the scale diffuser.



- 4.—Tune receiver to 517m (if out of the cabinet, tune to the 517m calibration mark on the edge of the scale diffuser). Feed in a 580kc/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 diffuser), feed in a 1,460kc/s signal and adjust C28 (B2) and C19 (B2) for maximum output.
- 6.—Switch receiver to l.w. and feed in a 220kc/s signal. Tune receiver to this signal then adjust C69 (C1) and L11 (A3) for correct calibration and maximum output.

## 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 the 400pF capacitor to the mixer control grid of V2.
- 2.—Feed in a 10.7Mc/s f.m. signal and adjust L20, L21, L13 and L12 (location reference C2) for maximum output.
- 3.—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.
- 4.—Unscrew the core of L8 (A2) until it protrudes from the former by

- approximately  $\frac{3}{8}$  in. Connect the signal generator to point X (A2).
- 5.—Feed in a 10.7Mc/s f.m. signal and adjust L7 (A2) for maximum output then peak L8.
- 6.—Fully close the tuning gang and check that the cursor coincides with the "zero" mark on the edge of the scale diffuser, then tune to 91Mc/s on scale.
- 7.—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.
- 8.—Adjust L4 for maximum audio output with the core towards the bottom of the former.

## 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 the 400pF capacitor to the mixer control grid of V2.
- 2.—Feed in a 10.7Mc/s f.m. signal and adjust L20, L21, L13 and L12 (location reference C2) for maximum output.
- 3.—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.
- 4.—Unscrew the core of L8 (A2) until it protrudes from the former by

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