

## Resistors

R1	2.2MΩ	F4
R2	2.2MΩ	F4
R3	33kΩ	F3
R4	5.6kΩ	F4
R5	22Ω	G4
R6	47kΩ	G4
R7	10kΩ	G3
R8	10MΩ	F3
R9	10MΩ	F4
R10	1MΩ	F3
R11	18kΩ	E3
R12	47kΩ	F3
R13	10Ω	F3
R14	47kΩ	F3
R15	470kΩ	F4
R16	33kΩ	F4
R17	1kΩ	E4
R18	47kΩ	E3
R19	100kΩ	E3
R20	1MΩ	E4
R21	180Ω	E4
R22	4.7MΩ	F4
R23	47kΩ	E4
R24	470kΩ	E3
R25	47kΩ	D3
R26	1MΩ	D3
R27	10MΩ	E3
R28	1.5kΩ	E4
R29	220kΩ	E3
R30	680kΩ	E3
R31	250kΩ	D3
R32	100kΩ	E3
R33	220Ω	E3
R34	1.5kΩ	E4
R35	120Ω	D4
R36	120Ω	D4
R37	330Ω	D3

## Capacitors

C1	1,800pF	F4
C2	1,800pF	F4
C3	36pF	F4
C4	12pF	F3
C5	0.001μF	F3
C6	1,500pF	G4

C7	68pF	G4
C8	—	A2
C9	33pF	G4
C10	24pF	G4
C11	4.7pF	G4
C12	—	A2
C13	5.6pF	G4
C14	68pF	G4
C15	6.8pF	A1
C16	200pF	G3
C17	—	A2
C18	—	A1
C19	100pF	F3
C20	0.01μF	F3
C21	0.02μF	E3
C22	100pF	F3
C23	—	A1
C24	—	A2
C25	200pF	G3
C26	75pF	G3
C27	100pF	F3
C28	0.005μF	F3
C29	15pF	B2
C30	10pF	B2
C31	200pF	B2
C32	200pF	B2
C33	0.005μF	F4
C34	0.005μF	F4
C35	47pF	B2
C36	0.001μF	E3
C37	500pF	E3
C38	200pF	B2
C39	200pF	B2
C40	100pF	E3
C41	0.005μF	F4
C42	100pF	F4
C43	2μF	E4
C44	0.02μF	F3
C45	0.005μF	D3
C46	20μF	B2
C47	0.02μF	E3
C48	40μF	B2
C49	0.001μF	E4
C50	0.005μF	E3
C51	0.001μF	D3
C52	40μF	B2
C53	0.003μF	C2

C54	25μF	E3
C55	0.05μF	D4
C56	0.005μF	E4
C57	0.001μF	F3
C58	0.005μF	F3
C59	0.005μF	F4

## Coils\*

L1	—	F4
L2	—	F4
L3	—	F4
L4	—	G4
L5	—	G4
L6	2.0	A1
L7	2.0	A1
L8	1.7	A1
L9	8.3	A1
L10	3.7	F3
L11	0.6	F3
L12	0.9	B2
L13	1.2	B2
L14	5.5	B2
L15	5.5	B2
L16	0.9	B2
L17	1.8	B2
L18	—	B2
L19	5.5	B2
L20	5.5	B2
L21	2.5	—

## Miscellaneous\*

T1 {a	300.0}	C1
T1 {b	0.4}	C1
FB1	—	G3
FB2	—	G3
Thermistor 1	†	D3
Thermistor 2	†	D3
F1	1A‡	C2
S1-S8	—	G3
S9, S10	—	D3

\*Approximate D.C. resistance in ohms.  
†Varistor VA 1010.  
‡Physical length 0.5in.

## Valve Table

Valve	Anode Voltage (V)	Screen Voltage (V)	Cathode Voltage (V)
V1a	F.M. 99.0	—	—
UCC85	A.M. —	—	—
V1b	F.M. 87.0	—	—
UCC85	A.M. —	—	—
V2a	F.M. —	—	—
UCH81	A.M. 52.0	—	—
V2b	F.M. 142.0	70.0	—
UCH81	A.M. 156.0	65.0	—
V3	F.M. 116.0	65.0	—
UBF89	A.M. 128.0	75.0	—
V4‡	F.M. 60.0	—	—
UABC80	A.M. 61.0	—	—
V5	F.M. 186.0	144.0	10.3
UL84	A.M. 186.0	160.0	11.5
V6 UY85	A.M. 216.0	—	203.0

Feed in a 1,500 kc/s signal, tune to 200 m on scale, and adjust C23 (A1) and C18 (A1) for maximum output. Repeat these and the 600 kc/s adjustments in turn until calibration and tracking are correct, then seal L8 on ferrite rod with polystyrene dope.

Switch receiver to L.W., feed in a 214 kc/s signal, tune to 1,400 m on scale, and adjust C25 (A1) and C16 (A1) for maximum output.

**F.M. Alignment.**—Connect signal generator via a 0.01μF capacitor to control grid (pin 2) of V3 pentode, and turn gang to maximum capacitance. Feed in a 10.7 Mc/s signal, deviated ±75 kc/s, and adjust cores of L16 (E4) and L17 (B2) for maximum output. Transfer "live" signal generator lead to junction of S3 and C19, and adjust the cores of L12 (F3) and L13 (B1) for maximum output. Transfer "live" signal generator lead to junction of R6 and C13 (G4), and adjust the cores of L6 and L7 (G3, A1) for maximum output.

**R.F. and Oscillator Stages.**—Transfer signal generator output to aerial sockets, feed in an 88 Mc/s signal, deviated ±15 Kc/s, tune to 88 Mc/s on scale, and adjust cores of L5, L3 and L2 (G4, F4, A1) for maximum output.

PYE - R31, R37

## CIRCUIT ALIGNMENT

**Equipment Required.**—The signal generator, in addition to the normal M.W., L.W. and I.F. A.M. frequencies, is required to cover Band II frequencies (87.5-100 Mc/s) and the F.M. I.F. frequency of 10.7 Mc/s, with F.M. deviation of ±75 kc/s. For A.M., a loop should be made up of a few turns of wire about 6in diameter, and some polystyrene dope is needed to seal the M.W. aerial coil. Core adjustments have screwdriver-type slots.

**A.M. Alignment: I.F. Stages.**—Switch receiver to M.W., turn gang to maximum capacitance, when cursor should coincide with spot on scale at 87.5 Mc/s. Connect signal generator output to junction of S4, C19, feed in a 470 kc/s signal, and adjust cores of L20 (B2), L19 (E4), L15 (B1) and L14 (F4) for maximum output, keeping input low to avoid A.G.C. action.

**R.F. and Oscillator Stages.**—Check position of cursor, and see that collar of L.W. aerial coil L9 (A1) is level with end of ferrite rod. Transfer signal generator leads to the loop, which should be placed 50 cm (about 20 in) from L.W. end of ferrite rod. Feed in a 500 m (600 kc/s) signal, tune to 500 m on scale, and adjust core of L10 (location reference B1) and position of L8 on rod (A1) for maximum output.

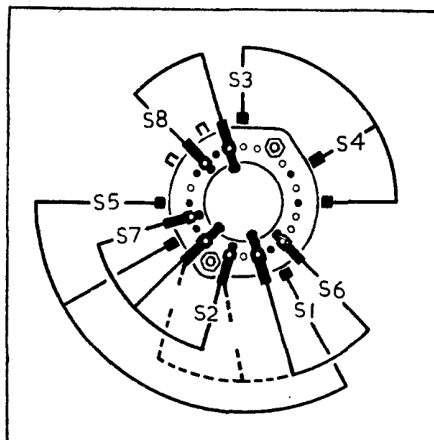


Diagram of the waveband switch drawn as seen in the direction of the arrow in location G3. The switches close as follows: On L.W., S4, S6, S7; on M.W., S1, S4, S7; on F.M., S2, S3, S5, S8 and the two indicated by dotted lines.

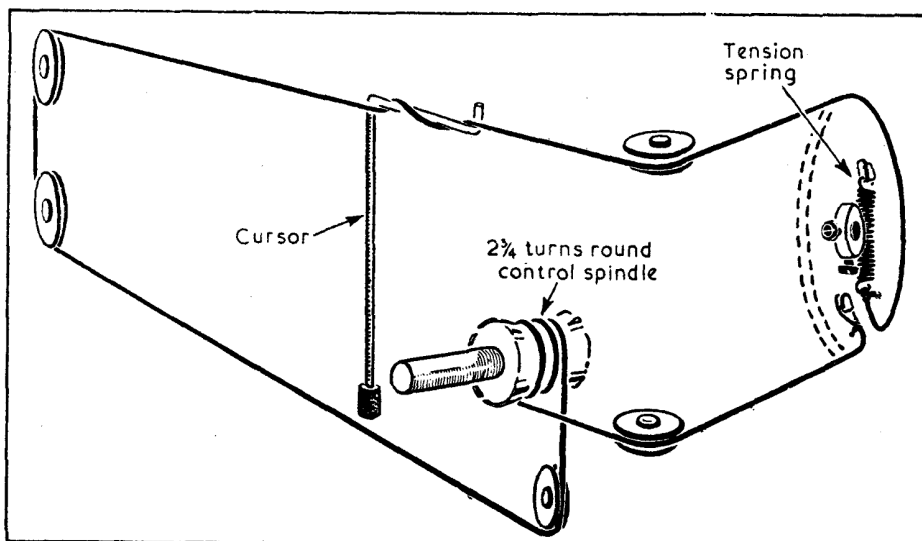


Diagram of the tuning drive system drawn as seen from the front right-hand corner of the chassis. The drive drum is actually higher than our diagram shows and the two right-hand corner pulleys are tilted at angles of about 45 degrees (top) and 20 degrees (bottom).