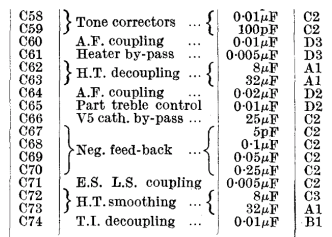


A.M. intermediate frequency 460 kc/s
F.M. intermediate frequency 10.7Mc/s.



Switch Table

Switches	F.M.	S.W.	M.W.	L.W.	Gram
S1	—	C	—	—	—
S2	—	—	C	—	—
S3	—	—	—	C	—
S4	C	—	—	—	C
S5	—	C	C	—	—
S6	—	C	—	—	—
S7	C	—	—	—	—
S8	—	C	C	C	—
S9	—	—	—	—	C
S10	C	—	—	—	—
S11	—	C	—	—	—
S12	—	—	C	—	—
S13	—	—	—	C	—
S14	—	C	C	C	—
S15	—	C	—	—	—
S16	—	—	C	—	—
S17	—	—	—	C	—
S18	—	C	C	C	—
S19	C	—	—	—	—
S20	—	C	—	—	—
S21	C	—	—	—	—
S22	—	C	C	C	—
S23	—	—	—	—	C
S24	—	—	C	C	—

RESISTORS		Values	Locations
R1	V1a G.B. ...	20Ω	F4
R2	V1a C.G. ...	200kΩ	F4
R3	H.T. feed ...	1kΩ	F4
R4	V1b C.G. ...	300kΩ	F4
R5	H.T. feeds	10kΩ	E3
R6		10kΩ	E3
R7		39kΩ	E3
R8	V2b S.G. H.T. feed	1MΩ	E3
R9	V2a C.G. ...	20kΩ	E3
R10	H.T. feeds	27kΩ	E3
R11		1kΩ	D3
R12		100kΩ	D3
R13	V3 S.G. H.T. feed	330Ω	D3
R14	V3 G.B. ...	1kΩ	D3
R15	H.T. feed ...	1MΩ	D3
R16	A.M. A.G.C. decoup.	1.5MΩ	D3
R17	A.M. A.C.G. load ...	150Ω	D3
R18	F.M. balancing ...	220kΩ	D3
R19	A.M. signal load ...	1MΩ	D2
R20	Tone corrector ...	500kΩ	D3
R21	F.M. balancing ...	1MΩ	D2
R22	I.F. stopper ...	20kΩ	D2
R23	D.C. load ...	1.5MΩ	C3
R24	P.U. correctors	6.8MΩ	C3
R25		5MΩ	C2
R26		51kΩ	C2
R27	Bass control ...	1.5MΩ	C2
R28	Tone correction ...	10MΩ	D3
R29	Volume control ...	220kΩ	D2
R30	V4d C.G. ...	10kΩ	D2
R31	V4d anode load ...	820kΩ	D2
R32	H.T. smoothing ...	35kΩ	D2
R33	V5 C.G. ...	2.2kΩ	C2
R34	Part tone control ...	1MΩ	D2
R35	V5 C.G. stopper ...	180Ω	C2
R36	Treble control ...	4.4kΩ	D3
R37	V5 G.B. ...	220Ω	C2
R38	H.T. smoothing ...	1kΩ	C2
R39	Negative feed-back	1kΩ	C2
R40		51kΩ	C2
R41		500Ω	C2
R42	E.S. L.S. polarizer	82Ω	C2
R43		1kΩ	E2
R44		5.6kΩ	C2
R45	T.I. decoupling ...	820kΩ	D2
R46	T.I. loads ...	1MΩ	B1
R47		1MΩ	B1

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	F.M. int. dipole ...	—	—
L2	F.M. aerial ...	—	F4
L3	Coup. coils ...	—	F4
L4	Heater choke ...	—	F4
L5	F.M. R.F. coil ...	—	F4
L6	F.M. Oscillator coils ...	—	F4
L7	1st F.M. {Pri. ...	—	F4
L8	I.F.T. {Sec. ...	—	F4
L9	A.M. I.F. filter ...	13.0	E2
L10	A.M. aerial coup-ling coils ...	15.0	A1
L11		25.0	A1
L12	A.M. aerial tuning coils ...	2.0	A1
L13		9.0	A1
L14	A.M. oscillator tun-ling coils ...	3.0	E2
L15		7.5	E2
L16	A.M. oscillator re- action coils ...	29.0	E3
L17		1.0	E2
L18	2nd F.M. {Pri. ...	2.0	E2
L19		—	A1
L20	I.F.T. {Sec. ...	—	A1
L21	1st A.M. {Pri. ...	5.0	A1
L22		5.0	A1
L23	I.F.T. {Sec. ...	3.0	A1
L24	3rd F.M. {Pri. ...	—	A1
L25		—	A1
L26	I.F.T. {Sec. ...	—	A1
L27	2nd A.M. {Pri. ...	5.0	A1
L28		5.0	A1
L29	I.F.T. {Sec. ...	400.0	B1
L30	H.T. smoothing ...	2.5	B1
L31	Speech coil ...	400.0	C3
L32	O.P. trans {a ...	—	—
L33		—	—
T1	Mains trans. {b ...	280.0	B1
T2		280.0	—
MR1	A.M. A.G.C. rect. ...	30.0	D3
S1-	Waveband switches	—	E2
S24		—	—
S25	Mains sw., g'd R27	—	C2

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CIRCUIT ALIGNMENT

Equipment Required.—A wobulated F.M. signal generator with an output impedance of 80Ω; an output meter; an accurately calibrated spot-frequency signal generator; a 400Ω resistor; an insulated screwdriver-type trimming tool.

F.M. I.F. Stages.—Connect output meter across T1 secondary winding. Switch receiver to F.M. Connect output of wobulator between chassis and junction of S8, C24, and make the following adjustments:

- 1.—Feed in a 10.7Mc/s signal, deviated by ± 60 kc/s, and adjust the cores of L23 (location reference E3) and L24 (A1) for maximum output.
- 2.—Adjust the cores of L27 (D3) and L28 (A1) for maximum output.
- 3.—Repeat the adjustments made in operations 1 and 2.
- 4.—Transfer wobulator output to F.M. aerial sockets. Feed in a 95Mc/s signal, deviated by ± 60 kc/s, and tune it in on receiver. Adjust the cores of L8 (A1) and L9 (E2) for maximum output.

F.M. R.F. and Oscillator Stages.

Check that with the gang at maximum capacitance, the cursor coincides with the datum line at the low-frequency end of the tuning scale. The tuner drive drive should now be fully clockwise.

- 5.—With wobulator and receiver tuned to 95Mc/s, adjust C11 (A1) for maximum output.

- 6.—Adjust C7 (A1) at the same frequency for maximum output. Disconnect wobulator output leads.

A.M. I.F. Stages.—Connect output of spot-frequency signal generator between chassis and junction of S8, C24. Switch receiver to M.W. and short-circuit C27. Make the following adjustments:

- 7.—Feed in 460kc/s signal and adjust the cores of L25 (E3), L26 (A1), L30 (D3) and L31 (A1) for maximum output.

- 8.—Repeat the adjustments in operation 7 until no further improvement results.

- 9.—Transfer signal generator leads, via a dummy aerial to A.M. aerial and earth sockets, and remove short-circuit from C27. At the same frequency, adjust the core of L10 (E2) for minimum output.

A.M. R.F. and Oscillator Stages.—Connect output of spot-frequency signal generator to A.M. aerial and earth sockets via a 400Ω resistor in the live lead for S.W. alignment, or via a dummy aerial for M.W. and L.W. alignment.

- 10.—Switch receiver to S.W. and tune it to 6Mc/s. Feed in a 6Mc/s signal and adjust the cores of L17 (A1) and L14 (A1) for maximum output, setting the core of L17 to the peak further away from the adjusting end of the coil.

- 11.—Tune receiver to 18Mc/s, feed in an 18Mc/s signal and adjust C28 (E3) and C17 (A1) for maximum output, setting C28 to the lesser capacitance peak.

- 12.—Repeat operations 10 and 11 until calibration is correct at both ends of band.

- 13.—Switch receiver to M.W. and tune it to 500m. Feed in a 600kc/s signal and adjust the core of L18 (A1) for maximum output.

- 14.—Tune receiver to 250m, feed in a 1,200 kc/s signal and adjust C30 (E2) and C10 (A1) for maximum output.

- 15.—Repeat operations 13 and 14 until calibration is correct at both ends of band.

- 16.—Switch receiver to L.W. and tune it to 2,000m. Feed in a 150kc/s signal and adjust the core of L19 (E2) for maximum output.

- 17.—Tune receiver to 1,200m, feed in a 250kc/s signal and adjust C32 (E2) and C31 (A1) for maximum output.

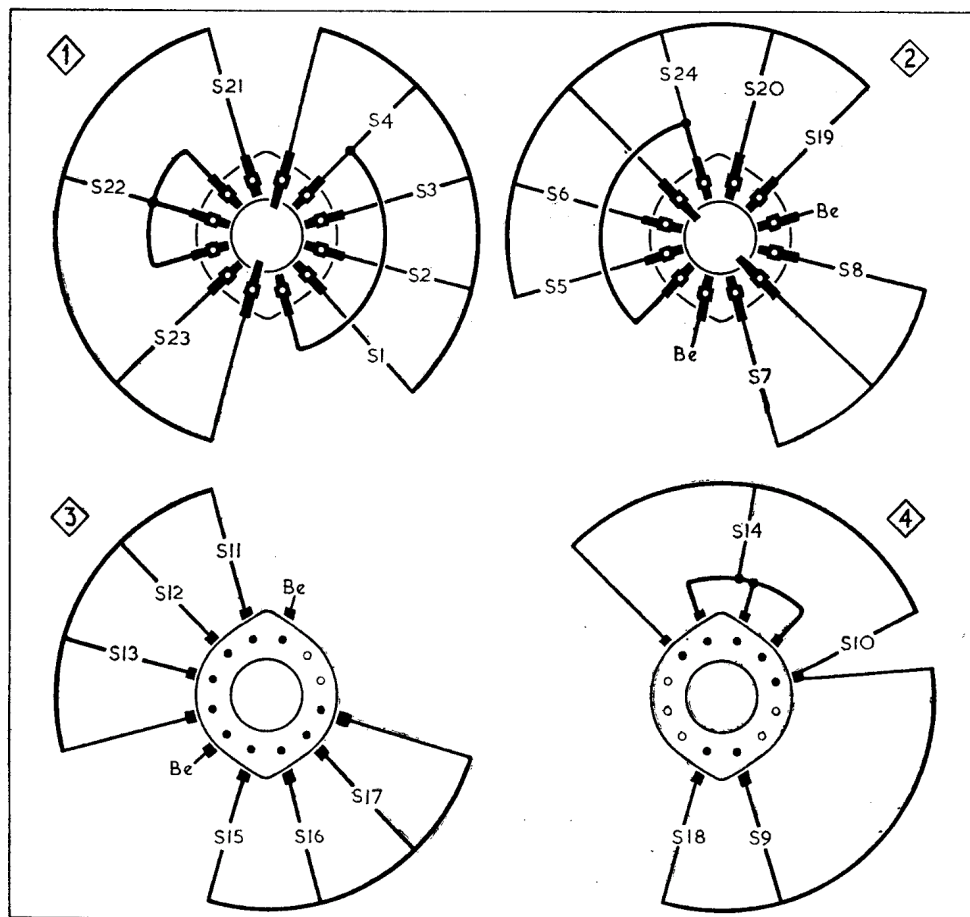
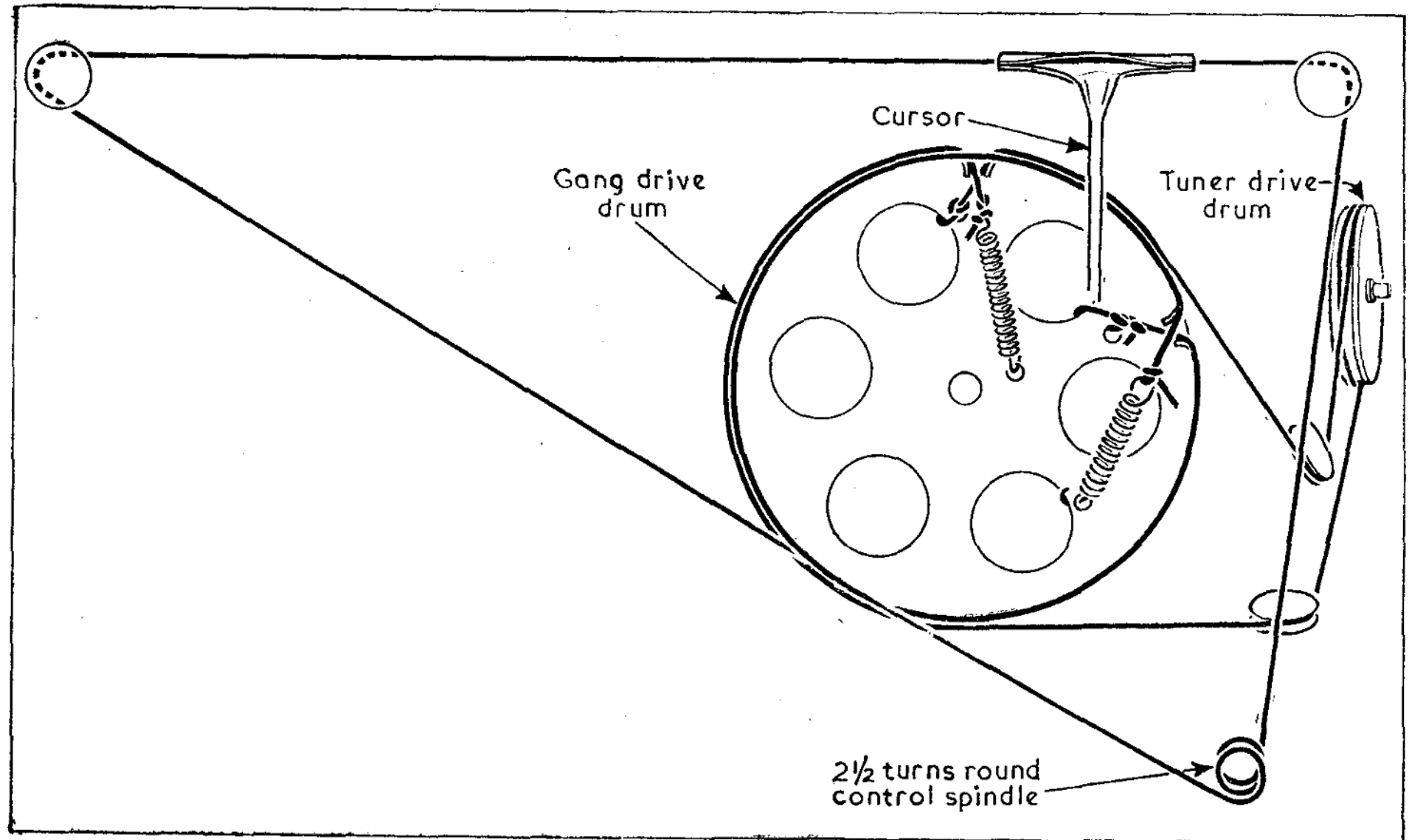


Diagram of the waveband switch units. They are identified by the numbers 1-4 in diamond surrounds in the underside illustration of the main chassis.



Sketch of the gang drive and F.M. unit drive cord systems as seen from the front of the chassis with the tuning scale and backing plate removed.