

CIRCUIT ALIGNMENT

In order to make the I.F. adjustments accessible, the chassis should be removed from its carrying case as described under "Dismantling" above.

I.F. Stages.—Switch receiver to L.W. and tune to 1,900m. Connect output of signal generator, via an 0.1 μ F capacitor in the live lead, to control grid (pin 6) of V1 and chassis. Fully unscrew the core of L6 (location reference C2). Feed in a 470 kc/s signal and adjust the cores of L8 (C1), L7 (D3), L6 (C2) and L5 (D4) in that order for maximum output. The cores should be set to the peak nearer the adjusting end of the coil can. Repeat

these adjustments until no further improvement results.

R.F. and Oscillator Stages.—As the tuning scale remains fixed to the carrying case when the chassis is withdrawn, reference should be made to the substitute calibration marks on the rear edge of the scale backing plate. Check that with the gang at maximum capacitance, the cursor coincides with the calibration mark at the extreme left-hand end (viewed from rear) of the backing plate.

M.W. Oscillator.—Switch receiver to M.W. and tune to 600 kc/s calibration mark. With the signal generator still connected to V1 control grid, feed in a 600 kc/s (500 m) signal and adjust the core of L3 (C2) for maximum output. Tune receiver to 1,500 kc/s calibration mark, feed in a 1,500 kc/s (200 m) signal and adjust C29 (C1) for maximum output. Repeat these adjustments until no further improvement results.

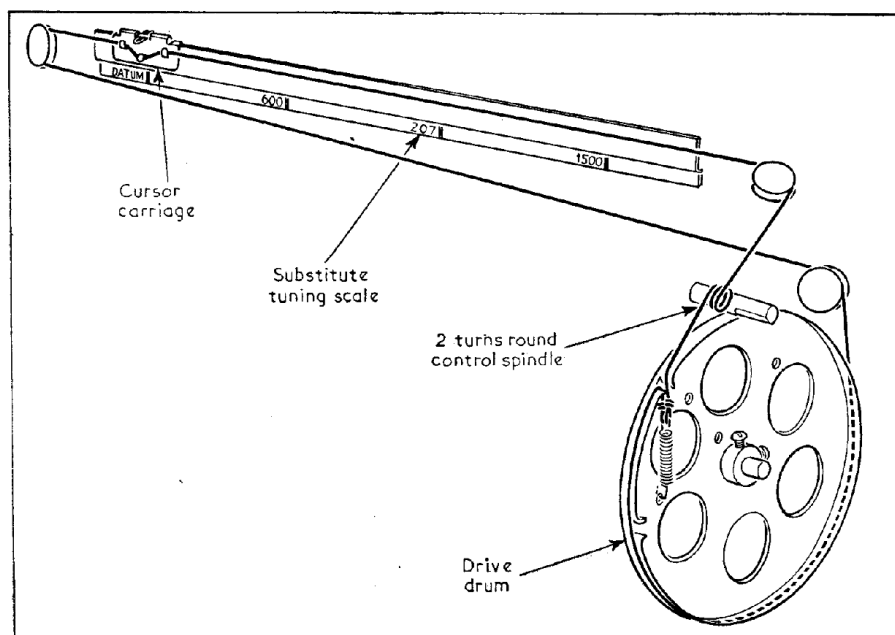
L.W. Aerial.—Switch receiver to L.W. and tune receiver to 207 kc/s calibration mark. Set C26 (C1) to half a turn anti-clockwise from maximum capacitance. Transfer signal generator leads, via a 400 Ω series resistor, to a loop consisting of two or three 10in diameter turns of wire. Place the loop about 12in from the ferrite rod aerial and at right angles to it. Feed in a 207 kc/s (1,450 m) signal and, while rocking the gang, adjust the inductance of L2 (C1) for maximum output by sliding it along the ferrite rod. Final adjustments to C26 and C31 are made after the adjustment of the M.W. aerial circuit.

M.W. Aerial.—Switch receiver to M.W. and tune to 600 kc/s calibration mark. With the signal generator still connected to the loop, feed in a 600 kc/s (500 m) signal and, while rocking the gang, adjust the inductance of L1 (B1) for maximum output by sliding it along the ferrite rod. Tune receiver to 1,500 kc/s calibration mark, feed in a 1,500 kc/s (200 m) signal and adjust C27 (C1) for maximum output. Repeat these adjustments until no further improvement results.

Valve	Anode		Screen	
	V	mA	V	mA
V1 DK96 ...	95	0.44	69	0.12
	40	1.5		
V2 DF96 ...	95	1.9	69	0.3
V3 DAF96 ...	29	0.06	24	0.02
V4 DAF96 ...	27	0.08	24	0.02
V5 DL96 ...	93	3.2	95	0.7
V6 DL96 ...	93	3.2	95	0.7

CAPACITORS		Values	Locations
C1	L.W. aerial shunt	150pF	C2
C2	V1 C.G. ...	200pF	D4
C3	1st I.F. trans. ...	100pF	C2
C4	tuning ...	100pF	C2
C5	V1 osc. C.G. ...	100pF	D4
C6	A.G.C. decoupling	0.05μF	D4
C7	Osc. tracker	560pF	C2
C8	L.W. osc. trimmer	480pF	C2
C9	M.W. osc. trimmer	15pF	C2
C10	H.T. decoupling	0.05μF	D4
C11*	S.G. decoupling ...	2μF	D4
C12	2nd I.F. trans. ...	100pF	C1
C13	tuning ...	300pF	C1
C14	I.F. by-pass ...	100pF	D3
C15	H.T. by-pass ...	0.1μF	D3
C16	A.F. coupling ...	0.005μF	D3
C17	S.G. decoupling ...	0.1μF	E3
C18	A.F. couplings ...	0.001μF	E3
C19		0.005μF	E3
C20		0.005μF	E3
C21*		25μF	F3
C22*	L.T. smoothing ...	2,500μF	B1
C23*		2,500μF	B1
C24*	H.T. smoothing ...	32μF	A2
C25*		32μF	A2
C26†	L.W. aerial trim.	40pF	C1
C27†	M.W. aerial trim.	40pF	C1
C28†	Aerial tuning	—	C1
C29†	M.W. osc. trim.	40pF	C1
C30†	Osc. tuning	—	C1
C31†	L.W. osc. trim.	40pF	C2

* Electrolytic † Variable ‡ Pre-set.



Sketch of the drive cord system as seen from the right-hand rear corner of the chassis with the gang turned to maximum capacitance.

RESISTORS		Values	Locations
R1	L.W. aerial shunt	330kΩ	B1
R2	V1 C.G. ...	1MΩ	D4
R3	V1 osc. C.G. ...	27KΩ	D4
R4	Osc. stabilizer	560Ω	D4
R5	Osc. anode feed	33kΩ	D4
R6	S.G. H.T. feed	33kΩ	D4
R7	V2 C.G. stopper	3.3kΩ	D4
R8	I.F. stopper	47kΩ	D3
R9	A.G.C. decoupling	2.2MΩ	D3
R10	Volume control	500kΩ	A1
R11	V3 G.B. pot. divider	220Ω	D3
R12		330Ω	D3
R13	V3 C.G. ...	10MΩ	D3
R14	V3 anode load	1MΩ	E3
R15	S.G. H.T. feed	1.5MΩ	E3
R16	Neg. feed-back	3.3MΩ	E3
R17		3.3MΩ	E3
R18	V4 C.G. ...	10MΩ	F3
R19	V4 anode load	1MΩ	E3
R20	V4, V5 C.G. resistors	2.2MΩ	F3
R21		2.2MΩ	F4
R22	V4, V5 G.B.	560Ω	F3
R23	H.T. smoothing	820Ω	A2

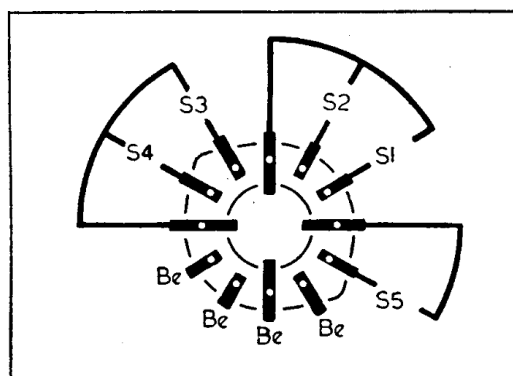


Diagram of the waveband switch unit.

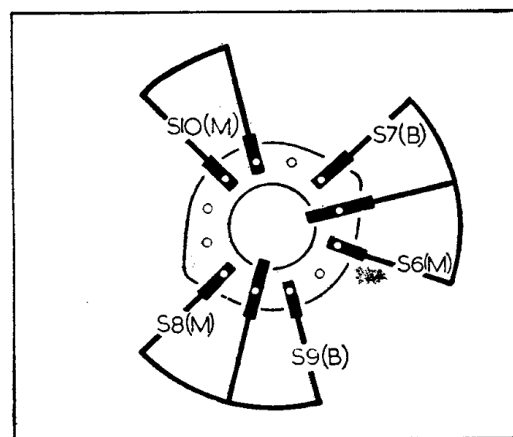


Diagram of the mains/battery switch unit.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Internal aerial coils {	0.75	B1
L2		6.5	C1
L3		1.5	C2
L4	Osc. reaction coup.	1.0	C2
L5	1st I.F. trans. {	7.5	C2
L6		7.5	C2
L7	2nd I.F. trans. {	7.5	C1
L8		3.2	C1
L9	Speech coil	2.5	—
L10	L.T. smoothing choke	6.0	B1
MR1	L.T. rectifier	—	A2
MR2	H.T. rectifier	—	A2
T1	O.P. trans. {	160.0	A1
		160.0	A1
		—	A1
T2	Mains trans. {	800.0	A2
		6.5	A2
		6.5	A2
		880.0	A2
S1-S5	Waveband switches	—	C2
S6(M)-S10(M)	Mains/batt. sw. ...	—	A2

FERRANTI
945, 955