

## CIRCUIT ALIGNMENT

To gain access to the I.F. core adjustments the chassis should be removed from its carrying case as described under "Dismantling" and, with the frame aerial still connected, placed in a convenient position on the bench. When making adjustments to the I.F. tuning cores, care should be taken to see they are not screwed through to the second tuning position, which will result in over-coupling.

**I.F. Stages.**—Switch receiver to L.W. and turn gang to maximum capacitance. Connect output from signal generator, via an  $0.1 \mu\text{F}$  capacitor in the "live" lead, to control grid (pin 6) of V1 and chassis. Feed in a 470 kc/s (638.3 m) signal and adjust the cores of L9, L8, L7 and L6 (location references B2, D4, A2) for maximum output. Repeat these adjustments, reducing the input as the circuits come into line, until no further improvement results.

**R.F. and Oscillator Stages.**—The following adjustments must be carried out with the chassis in the carrying case, but with the escutcheon removed so that the trimmers and cores are accessible. In order to adjust the core of L3, the core of L4 (A2) should be removed and the trimming tool can then be inserted through the coil former to engage in the top of L3 core, and for this reason M.W.

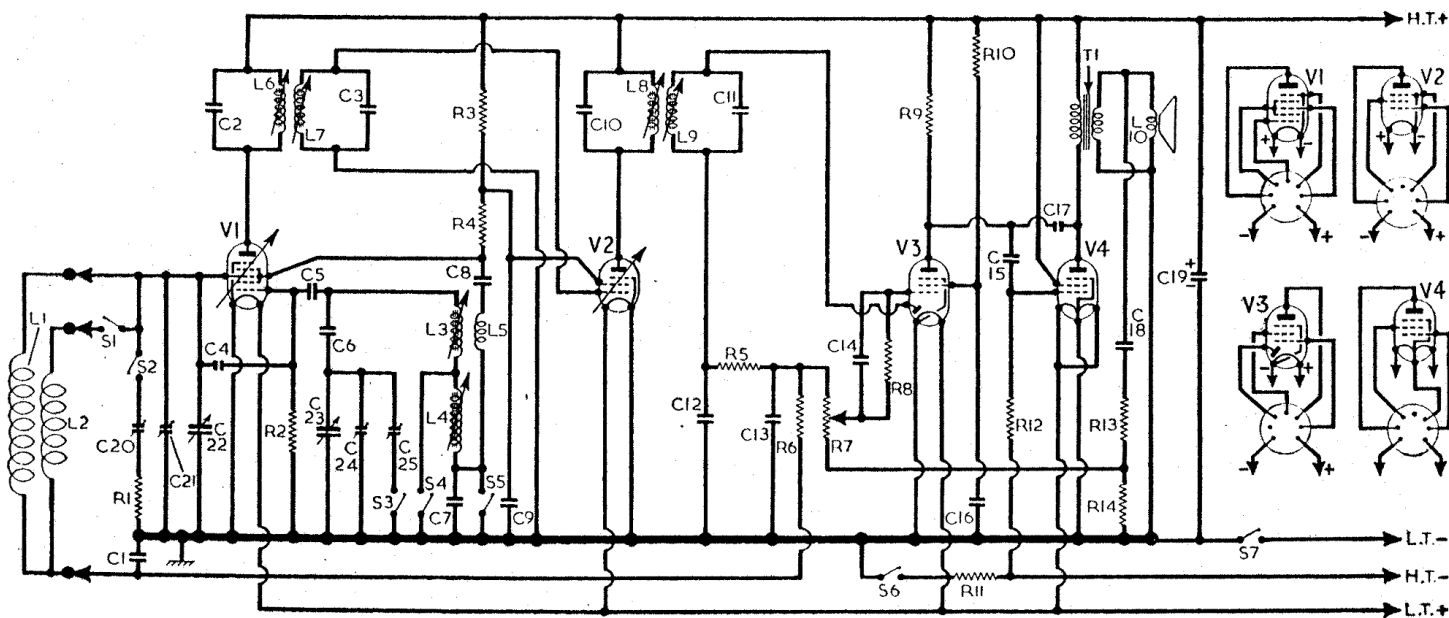
RESISTORS		Values	Locations
R1	L.W. aerial damp...	33 $\Omega$	B2
R2	V1 osc. C.G. ...	100k $\Omega$	D5
R3	S.G. H.T. feed ...	18k $\Omega$	C5
R4	Osc. anode load ...	8.2k $\Omega$	D5
R5	I.F. stopper ...	47k $\Omega$	C4
R6	A.G.C. decoupling ...	2.2M $\Omega$	C3
R7	Volume control ...	500k $\Omega$	B2
R8	V3 C.G. ...	4.7M $\Omega$	C5
R9	V3 anode load ...	1M $\Omega$	C4
R10	V3 S.G. feed ...	3.9M $\Omega$	C5
R11	V4 G.B. ...	560 $\Omega$	C4
R12	V4 C.G. ...	2.2M $\Omega$	C5
R13	Negative feed-back {	10k $\Omega$	C3
R14		2.2k $\Omega$	B1

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	L.W. frame aerial ...	16.0	—
L2	M.W. frame aerial ...	1.3	—
L3	Oscillator tuning {	2.0	A2
L4	coils ...	4.5	A2
L5	Osc. reaction ...	1.0	A2
L6	1st I.F. trans. { Pri.	7.5	D4
L7		7.5	D4
L8	2nd I.F. trans. { Pri.	7.5	D4
L9		5.5	D4
L10	Speech coil ...	2.3	—
T1	O.P. trans. { Pri.	650.0	C3
S1-S5	Waveband switches	0.6	D5
S6, S7	Battery switches	—	—

CAPACITORS		Values	Locations
C1	A.G.C. decoupling	0.05 $\mu\text{F}$	C4
C2	1st I.F. trans. tuning {	100pF	D4
C3		100pF	D4
C4	Osc. neutralizing ...	3pF	D5
C5	V1 osc. C.G. ...	100pF	E5
C6	Oscillator trackers {	550pF	E5
C7		200pF	D4
C8	Osc. anode coup. ...	200pF	E5
C9	S.G. decoupling ...	0.05 $\mu\text{F}$	C5
C10	2nd I.F. trans. ...	100pF	D4
C11	tuning ...	180pF	D4
C12		100pF	C4
C13	I.F. by-passes ...	100pF	C4
C14	A.F. coupling ...	0.005 $\mu\text{F}$	C4
C15		0.005 $\mu\text{F}$	C5
C16	V3 S.G. decoup. ...	0.05 $\mu\text{F}$	C4
C17	Negative feed-back {	15pF	C5
C18		0.05 $\mu\text{F}$	C3
C19*	H.T. reservoir ...	2.0 $\mu\text{F}$	C4
C20†	L.W. aerial trim. ...	200pF	B2
C21†	M.W. aerial trim. ...	21.5pF	E4
C22†	Aerial tuning ...	523pF	E4
C23†	Oscillator tuning ...	523pF	E4
C24†	M.W. osc. trim. ...	60pF	A2
C25†	L.W. osc. trim. ...	120pF	A2

\* Electrolytic. † Variable. ‡ Pre-set.

Intermediate frequency 470 kc/s.



adjustments must always be followed by L.W. re-alignment.

Connect the signal generator output to a loop consisting of two turns of stout copper wire approximately 10in in diameter and placed 12in behind and parallel to the receiver frame aerials. Check that with the gang at maximum capacitance the cursor coincides with the 550 m mark on the tuning scale.

**M.W.**—Switch receiver to M.W. and tune to 200 m, feed in a 200 m (1,500 kc/s) signal, and adjust C24 (A2) and C21 (A1) for maximum output. Tune receiver to 500 m, feed in a 500 m (600 kc/s) signal, and removing the core of L4 (A2) adjust the core of L3 (through the coil former) for maximum output. Repeat these adjustments until no further improvement results and then replace the core of L4.

**L.W.**—Switch receiver to L.W., tune to 1,000 m, feed in a 1,000 m (300 kc/s) signal and adjust C25 (A2) and C20 (B2) for maximum output. Tune receiver to 1,800 m, feed in a 1,800 m (167 kc/s) signal and adjust the core of L4 (A2) while rocking the gang for optimum results. Repeat these adjustments until no further improvement results.

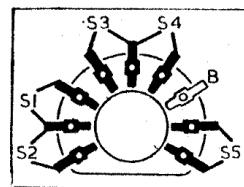


diagram of the waveband switch unit

Valve	Anode		Screen	
	V	mA	V	mA
V1 DK91	81	0.4	33.0	1.2
V2 DF91	81	2.6	45.0	0.9
V3 DAF91	3	0.065	0.8	0.018
V4 DL94	77	4.3	81.0	0.8