STRAD - 511

VALVE ANALYSIS

Valves	Anode		Screen		Cath.
	V	mA	V	mA	V
V1 7S7	80	3·5	80	2·4	—
	53	1·3			
V2 7B7	80	5·5	80	1·8	1·8
V3 7C6	35	0·1	—	—	—
V4 35L6GT	200	28·0	80	0·8	5·0
V5 6X5GT	190†	—	—	—	213·0

† A.C. voltage

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	I.F. filter coil ...	3·25	G4
L2, L3	Aerial coupling coils	1·0 15·0	A1 A2
L4		—	A1
L5, L6	Aerial tun. coils ...	4·5 16·0	A2 A2
L7, L8	Oscillator reaction coils	1·5 0·5	G3 G3
L9		—	G3
L10, L11	Oscillator tun. coils	2·5 6·5	G3 G3
L12	1st I.F. trans. Pri.	10·0	A2
L13	1st I.F. trans. Sec.	10·0	A2
L14	2nd I.F. trans. Pri.	10·0	B2
L15	2nd I.F. trans. Sec.	10·0	B2
L16	Speech coil ...	2·8	—
T1	O.P. trans. Pri.	200·0	E3
	O.P. trans. Sec.	0·75	
T2	Mains trans. a ...	—	
	Mains trans. b ...	6·5	C2
	Mains trans. c ...	30·0	
	Mains trans. Pri. (total)	37·0	
S1-S13	Waveband switches	—	G3
S14	Mains sw., g'd R11	—	D3

Intermediate frequency 465 kc/s.

RESISTORS		Values	Locations
R1	V1 C.G.	820kΩ	F4
R2	V1 osc. C.G. ...	47kΩ	G4
R3	S.W. stabilizer ...	100Ω	G3
R4	Osc. anode load ...	47kΩ	F4
R5	V2 G.B.	270Ω	F4
R6	I.F. stopper ...	47kΩ	E4
R7	A.G.C. decoupling	2·2MΩ	F4
R8	Volume control ...	500kΩ	E3
R9	V3 C.G.	10MΩ	E3
R10	V3 anode load ...	220kΩ	E4
R11	Tone control ...	500kΩ	D3
R12	V4 C.G.	470kΩ	D4
R13	V4 grid stopper ...	47kΩ	D4
R14	V4 G.B.	180Ω	D4
R15, R16	H.T. smoothing ...	180Ω 8·2kΩ	E4 E4

CAPACITORS		Values	Locations
C1	I.F. filter tune ...	560pF	G4
C2	S.W. aerial trim. ...	22pF	A1
C3	V1 C.G.	100pF	A1
C4, C5	1st I.F. trans. tuning	120pF 120pF	A2 A2
C6	V1 osc. C.G. ...	100pF	G4
C7	S.W. tracker ...	0·00379μF	G3
C8	A.G.C. decoupling	0·01μF	F4
C9	Osc. anode coup....	560pF	G4
C10	V2 cath. by-pass ...	0·05μF	F4
C11, C12	2nd I.F. trans. tuning	120pF 120pF	B2 B2
C13, C14	I.F. by-passes ...	100pF 100pF	F4 F4
C15	A.F. coupling	0·005μF	E3
C16	Part tone control	0·005μF	E4
C17	A.F. coupling ...	0·01μF	E4
C18*	V4 cath. by-pass ...	25μF	B2
C19	Tone corrector ...	0·0024μF	D4
C20*, C21*, C22*	H.T. smoothing ...	40μF 30μF 20μF	B2 B2 B2
C23‡	S.W. aerial trim. ...	30pF	A1
C24†	Aerial tuning ...	§485pF	A1
C25‡	M.W. tracker ...	550pF	A2
C26‡	L.W. tracker ...	175pF	A2
C27‡	M.W. osc. trimmer	40pF	A2
C28‡	L.W. osc. trimmer	80pF	A1
C29‡	S.W. osc. trimmer	30pF	A1
C30†	Oscillator tuning ...	§485pF	A1

* Electrolytic. † Variable. ‡ Pre-set.
§" Swing " value, min. to max.

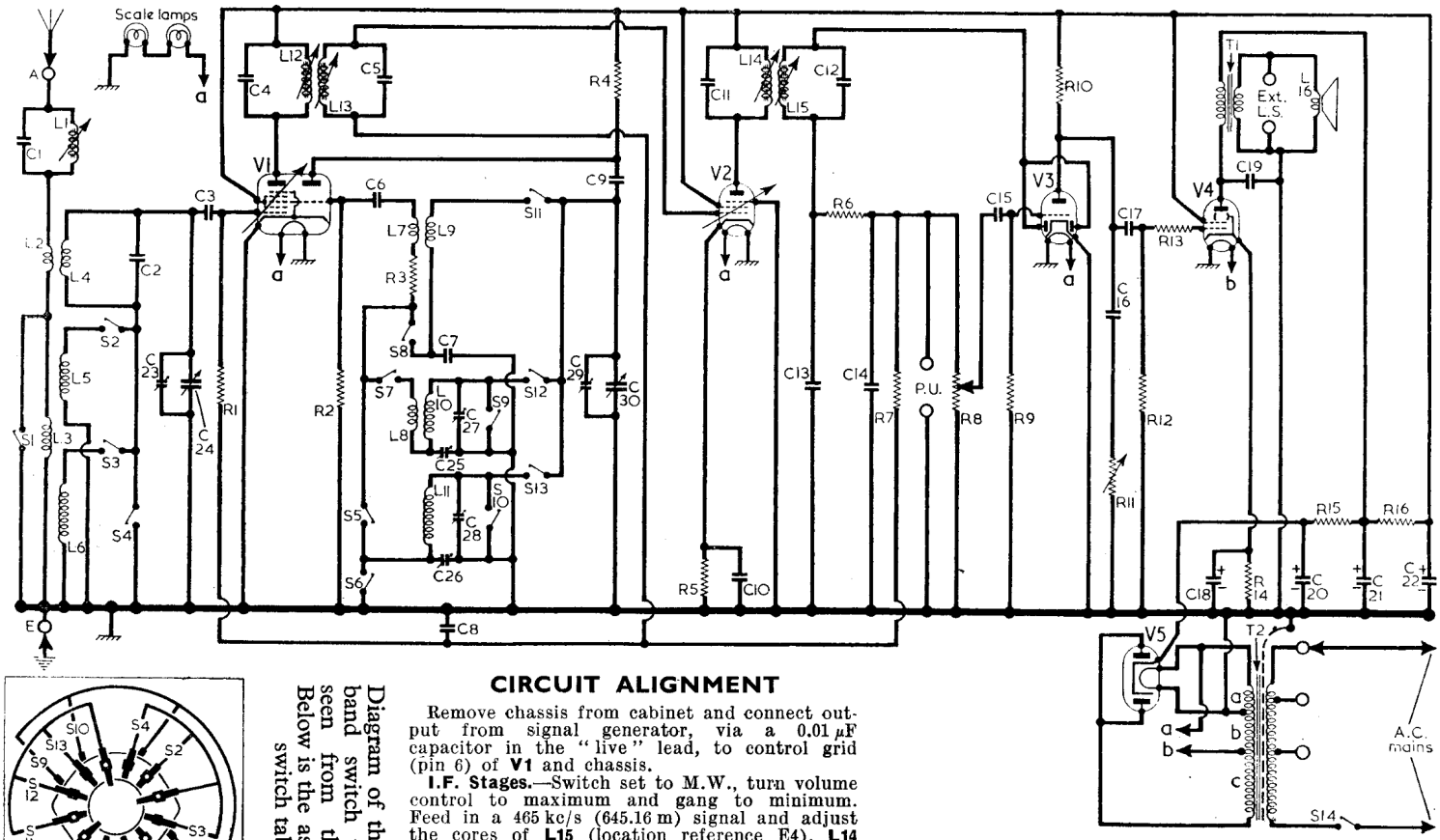

Diagram of the waveband switch unit, as seen from the rear. Below is the associated switch table.

Switches	S.W.	M.W.	L.W.
S1	C	—	—
S2	—	C	—
S3	—	—	C
S4	C	—	—
S5	—	—	C
S6	—	C	—
S7	—	C	—
S8	C	—	—
S9	C	—	—
S10	—	C	—
S11	C	—	—
S12	—	C	—
S13	—	—	C

CIRCUIT ALIGNMENT

Remove chassis from cabinet and connect output from signal generator, via a 0.01 μF capacitor in the "live" lead, to control grid (pin 6) of **V1** and chassis.

I.F. Stages.—Switch set to M.W., turn volume control to maximum and gang to minimum. Feed in a 465 kc/s (645.16 m) signal and adjust the cores of **L15** (location reference E4), **L14** (B2), **L13** (F4) and **L12** (A2) for maximum output, reducing the input as the circuits come into line to avoid A.G.C. effects. Repeat these adjustments.

R.F. and Oscillator Stages.—Transfer signal generator leads, via a suitable dummy aerial, to **A** and **E** sockets. With the gang at maximum, the cursor should cover the short vertical line stamped into the bottom right-hand corner of the scale backing plate. As the tuning scale remains fixed in the cabinet when the chassis is withdrawn, use should be made of the calibration card supplied with the receiver.

This card should be secured by tape or a paper clip to the scale backing plate, and positioned so that with the gang at maximum, the cursor coincides with the vertical line labelled "Pointer Set Max. Cap." on the right-hand end of the card. It is advisable to align the receiver with the chassis in the cabinet as the exact trimming and tracking points are difficult to arrive at on the tuning scale.

S.W.—Switch set to S.W., tune to **17.64 Mc/s** mark on calibration card, feed in **a 17.64 Mc/s** (17 m) signal and adjust **C29** (A1) and **C23** (A1) for maximum output.

M.W.—Switch set to M.W., tune to 1,500 kc/s mark, feed in a 1,500 kc/s (200 m) signal and adjust **C27** (A2) for maximum output, while rocking the gang for optimum results. Tune to 575 kc/s mark, feed in a 575 kc/s (522 m) signal and adjust **C25** (A2) for maximum output. Repeat these adjustments.

L.W.—Switch set to L.W., tune to 300 kc/s mark, feed in a 300 kc/s (1,000 m) signal and adjust **C28** (A1) while rocking the gang for optimum results. Tune to 150 kc/s mark, feed in a 150 kc/s (2,000 m) signal and adjust **C26** (A2) for maximum output. Repeat these adjustments.