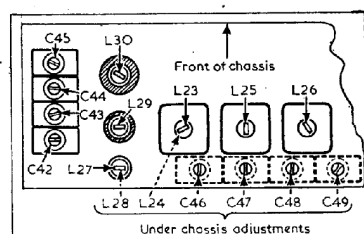
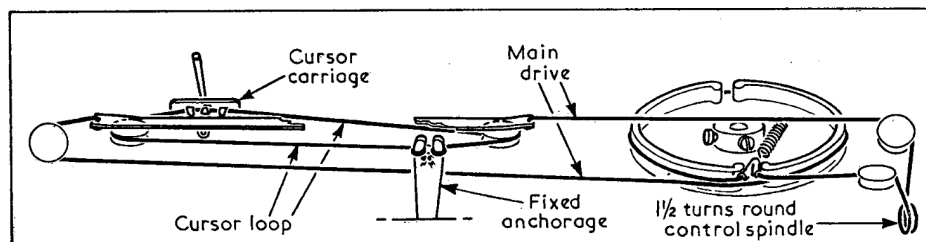


Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 12AH8	{ 90V Oscillator }	2.0	90	3.0	2.0
V2 12BA6	{ 85V 90V }	4.0	90	3.0	0.7
V3 12AT6	50	0.1	90	3.0	5.0
V4 35L6 ...	180	26.0	90	3.0	5.0
V5 35Z4 ...	240*	—	—	—	240.0†

* A.C. reading. † Cathode current, 49 mA.
§ 90V in Model 85U. ¶ 185V in Model 754.



Model 754 trimmer and core positions.



Drive cord as seen from beneath the chassis with the gang at minimum capacitance.

RESISTORS		Values	Locations
R1	V1 G.B. ...	220Ω	F2
R2	V1 osc. C.G. ...	47kΩ	F2
R3	V1 osc. stabilizer...	100Ω	F2
R4	A.G.C. decoupling	100kΩ	G2
R5	Osc. anode feed ...	27kΩ	F3
R6	V2 G.B. ...	68Ω	E2
R7	I.F. stopper ...	47kΩ	E2
R8	Volume control ...	500kΩ	D2
R9	V3 C.G. ...	10MΩ	E2
R10	A.G.C. decoupling	1MΩ	F2
R11	A.G.C. diode load...	1MΩ	E2
R12	V3 anode load ...	470kΩ	E2
R13	Part tone control...	220kΩ	E3
R14	Tone control ...	500kΩ	D3
R15	Neg. feed-back ...	1.5MΩ	E3
R16*	H.T. potential {	4.7kΩ	D2
R17	divider ...	15kΩ	E2
R18	V4 C.G. stopper ...	4.7kΩ	E3
R19	V4 G.B. ...	180Ω	E3
R20	H.T. smoothing ...	1kΩ	D3
R21	V5 surge limiter ...	100Ω	D3
R22	Brimistor CZ2 ...	—	—
R23	Heater ballast ...	740Ω	—
R24		100Ω	—

* 6-8kΩ in Model 754.

CIRCUIT ALIGNMENT

Although all the R.F. and oscillator adjustments are accessible with the chassis in its cabinet, the chassis must be withdrawn when making the I.F. adjustments.

I.F. Stages.—Switch receiver to M.W. and turn gang to maximum capacitance. Connect signal generator output, via an 0.1 μF capacitor in each lead, to control grid (pin 2) of **V1** and chassis. Feed in a 471 kc/s (637 m) signal and adjust the cores of **L15** (location reference B1), **L14** (E2), **L13** (B1) and **L12** (F2) for maximum output. Repeat these adjustments until no further improvement results.

R.F. and Oscillator Stages.—Transfer signal generator leads to **A** and **E** sockets. Replace chassis in cabinet and check that with the gang at maximum capacitance the cursor coincides with the 100 mark on the 0-100 tuning log scale.

Models 85A, 85U.

S.W.—Switch receiver to S.W., tune to 17.65 m, feed in a 17.65 m (17 Mc/s) signal and adjust **C37** (A1) and **C32** (A1) for maximum output. Tune receiver to 46.16 m, feed in a 46.16 m (6.5 Mc/s) signal and adjust the cores of **L6** (F3) and **L4** (A1) for maximum output. Repeat these adjustments until no further improvement results.

M.W.—Switch receiver to M.W., tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust **C38** (A1) and **C34** (A1) for maximum output. Tune receiver to 500 m, feed in a 500 m (600 kc/s) signal and adjust the cores of **L7** (B1) and **L5** (A1) for maximum output. Repeat these adjustments until no further improvement results.

L.W.—Switch receiver to L.W., tune to 1,200 m, feed in a 1,200 m (250 kc/s) signal and adjust **C39** (A1) and **C33** (A1) for maximum output. Tune receiver to 1,667 m, feed in a 1,667 m (180 kc/s) signal and adjust the core of **L8** (B1) for

CAPACITORS		Values	Locations
C1	L.W. aerial trim. ...	230pF	A1
C2	Aerial series ...	500pF	G2
C3	A.G.C. decoupling	0.1μF	G2
C4	I.F. transformer {	150pF	B1
C5	tuning ...	150pF	B1
C6	Osc. neutralizer ...	—	A1
C7	V1 cath. by-pass ...	0.02μF	F2
C8	V1 osc. C.G. ...	100pF	F2
C9	L.W. osc. trim. ...	220pF	F2
C10	M.W. osc. tracker...	520pF	F3
C11	L.W. osc. tracker...	225pF	F3
C12	Osc. anode coupling	100pF	G2
C13	A.G.C. decoupling	0.1μF	F2
C14	I.F. transformer {	150pF	B1
C15	tuning ...	150pF	B1
C16	I.F. by-passes ...	110pF	E2
C17	A.G.C. coupling ...	110pF	E2
C18		20pF	E2
C19	P.U. isolators ...	0.02μF	E3
C20		0.02μF	F3
C21	A.F. coupling ...	0.02μF	F3
C22		0.001μF	E2
C23	I.F. by-pass ...	300pF	E2
C24	A.F. coupling ...	0.04μF	E2
C25	Part tone control...	500pF	E3
C26	H.T. by-pass ...	0.1μF	D2
C27*	H.T. smoothing ...	8μF	C1
C28*	V4 cathode by-pass	50μF	E3
C29*	H.T. smoothing ...	32μF	C1
C30*		32μF	C1
C31	Mains R.F. by-pass	0.05μF	D3
C32†	S.W. aerial trim ...	60pF	A1
C33†	L.W. aerial trim ...	60pF	A1
C34†	M.W. aerial trim ...	60pF	A1
C35†	Aerial tuning ...	\$532pF	A1
C36†	Oscillator tuning ...	\$532pF	A1
C37†	S.W. osc. trim. ...	60pF	A1
C38†	M.W. osc. trim. ...	60pF	A1
C39†	L.W. osc. trim. ...	60pF	A1
C40	H.T. decoupling ...	0.1μF	—
C41	Chassis isolator ...	0.002μF	—
C42†	S.W.1 aerial trim...	60pF	—
C43†	S.W.2 aerial trim...	60pF	—
C44†	M.W. aerial trim...	60pF	—
C45†	L.W. aerial trim...	60pF	—
C46†	S.W.1 aerial trim...	60pF	—
C47†	S.W.2 aerial trim...	60pF	—

(continued next col.)

maximum output. Repeat these adjustments until no further improvement results.

Model 754.

The positions of the core and trimmer adjustments used in the following alignment instructions are shown in a separate sketch at the foot of this column.

S.W.1.—Switch receiver to S.W.1, tune to 20 m, feed in a 20 m (15 Mc/s) signal and adjust **C46** and **C42** for maximum output. Tune receiver to 50 m, feed in a 50 m (6 Mc/s) signal and adjust the cores of **L27** and **L23** for maximum output. Repeat these adjustments until no further improvement results.

S.W.2.—Switch receiver to S.W.2, tune to 60 m, feed in a 60 m (5 Mc/s) signal and adjust **C47** and **C43** for maximum output. Tune receiver to 180 m, feed in a 180 m (1,667 kc/s) signal and adjust the cores of **L28** and **L24** for maximum output. Repeat these adjustments until no further improvement results.

M.W.—Switch receiver to M.W., tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust **C48** and **C44** for maximum output. Tune receiver to 500 m, feed in a 500 m (600 kc/s) signal and adjust the cores of **L29** and **L25** for maximum output. Repeat these adjustments until no further improvement results.

L.W.—Switch receiver to L.W., tune to 1,304 m, feed in a 1,304 m (230 kc/s) signal and adjust **C49** and **C45** for maximum output. Tune receiver to 1,800 m, feed in a 1,800 m (166.7 kc/s) signal and adjust the cores of **L30** and **L26** for maximum output. Repeat these adjustments until no further improvement results.

CAPACITORS (continued)		Values	Locations
C48†	M.W. aerial trim....	60pF	—
C49†	L.W. aerial trim....	60pF	—
C50	S.W.1 osc. tracker	0.005μF	—
C51	S.W.2 osc. tracker	0.0026μF	—

* Electrolytic. † Variable. ‡ Pre-set.
§ "Swing" value, minimum to maximum.
¶ Very low capacitance, formed by twisted wires

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	L.W. frame aerial	16-0	A1
L2	M.W. frame aerial	2-0	A1
L3	S.W. aerial coupling	—	G3
L4	S.W. aerial tuning	—	G3
L5	Loading coil ...	1-0	G2
L6	Oscillator tuning coils ...	—	F3
L7		3-0	F3
L8	Oscillator reaction coils ...	7-5	F3
L9		—	F3
L10	1st I.F. trans. { Pri. Sec.	1-5	F3
L11		2-0	F3
L12	2nd I.F. trans. { Pri. Sec.	7-0	B1
L13		7-0	B1
L14	Speech coil ...	7-0	B1
L15		7-0	B1
L16	Osc. anode choke	2-5	—
L17		25-0	—
L18	Smoothing choke...	150-0	—
L19		—	—
L34	R.F. and oscillator coils (S.S.M.L.), Model 754	—	—
T1	O.P. trans. { Pri. Sec.	340-0	—
T2	Mains trans. { Pri. total Sec.	76-0	C1
S1-S14	Waveband switches	1-0	G3
S15	Mains sw., g'd R14	—	D3
S16		—	—
S17-	Voltage adj. sw. ...	—	—
S20		—	—
S21-	Waveband switches	—	—
S42		—	—

Switch Table, Models 85A & 85U

Switch	S.W.	M.W.	L.W.
S1	—	—	—
S2	—	—	—
S3	—	—	—
S4	—	—	—
S5	—	—	—
S6	—	—	—
S7	—	—	—
S8	—	—	—
S9	—	—	—
S10	—	—	—
S11	—	—	—
S12	—	—	—
S13	—	—	—
S14	—	—	—

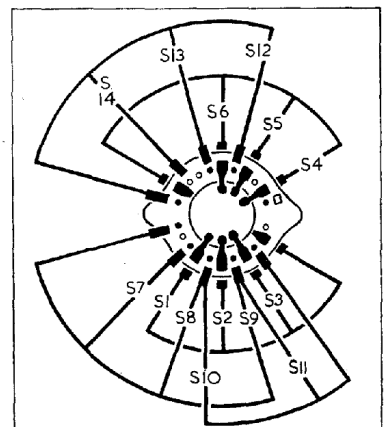


Diagram of the waveband switch unit for the 85A and 85U, drawn as seen from the volume control end of an inverted chassis.