

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 TH41	300	2.3	140	4.8	4.0
	100	4.3			
V2 VP41	310	5.0	140	1.15	2.0
V3 VP41	310	9.3	212	2.3	3.0
V4 HL41DD	110	1.75	—	—	5.0
V5 Pen45	310	26.0	295	4.5	10.5
V6 Pen45	310	26.0	295	4.5	10.5
V7 UU6	320†	—	—	—	335.0

† Each anode, A.C.

CIRCUIT ALIGNMENT

The I.F. adjustments may be made with the chassis in its cabinet, but to gain access to the R.F. and oscillator trimmers the chassis should be withdrawn and placed, standing on its transformer end, on the bench.

I.F. Stages.—Switch to M.W., turn gang and volume control to maximum, and tone control fully clockwise. Connect signal generator, via a 0.01 μ F capacitor in the "live" lead, to control grid (top cap) of V1 and chassis. Feed in a 465 kc/s (645.16 m) signal and adjust the cores of L23, L22, L21, L20, L19 and L18 (location references A1, A2), in that order, for maximum output, reducing the input as the circuits come into line to avoid A.G.C. action. Repeat these adjustments.

R.F. and Oscillator Stages.—Remove chassis from cabinet and check that, with the gang at maximum capacitance, the cursor coincides with the ends of the thick black scale lines. Transfer signal generator leads to A and E sockets, using a dummy aerial.

L.W.—Switch set to L.W., tune to 900 m on scale, feed in a 900 m (334 kc/s) signal and adjust C51 (G4), C46 (F3) for maximum output. Tune to 2,000 m on scale, feed in a 2,000 m (150 kc/s) signal and adjust the cores of L17 (B2) and L8 (B1) for maximum output. Repeat these adjustments.

M.W.—Switch set to M.W., tune to 214 m on scale, feed in a 214 m (1,400 kc/s) signal and adjust C50 (G4), C45 (G4) and C42 (G3) for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal and adjust the cores of L16 (B2), L9 (A1) and L7 (A1) for maximum output. Repeat these adjustments.

S.W.2.—Switch set to S.W.2, tune to 25 m on scale, feed in a 25 m (12 Mc/s) signal and adjust C49 (F4) and C44 (F4) for maximum output. Tune to 47.2 m on scale, feed in a 47.2 m (6.35 Mc/s) signal, and adjust the cores of L15 (B2) and L6 (B1) for maximum output. Repeat these adjustments.

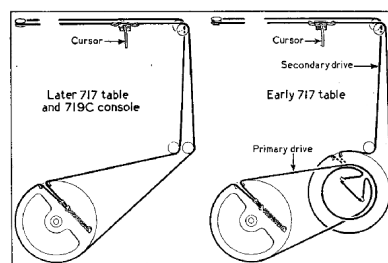
S.W.1.—Switch set to S.W.1, tune to 13.6 m on scale, feed in a 13.6 m (22 Mc/s) signal and adjust C48 (F4) and C43 (F3) for maximum output. Tune to 23.1 m on scale, feed in a 23.1 m (13 Mc/s) signal and adjust the cores of L14 (B2) and L5 (B1) for maximum output. Repeat these adjustments.

RESISTORS		Values	Locations
R1	A.G.C. decoupling	330k Ω	H4
R2	V1 H.T. decoupling	3-3k Ω	H4
R3	V1 G.B. ...	330 Ω	G4
R4	V1 osc. C.G. ...	47k Ω	G4
R5	Osc. H.T. feed ...	47k Ω	H4
R6	A.G.C. decoupling	330k Ω	H4
R7	H.T. potential divider	3-3k Ω	E4
R8		3-3k Ω	E3
R9		6-8k Ω	D3
R10	V2 G.B. ...	270 Ω	H4
R11	A.G.C. decoupling	470k Ω	F5
R12	V3 S.G. H.T. feed	27k Ω	H5
R13	V3 G.B. ...	270 Ω	H5
R14	Signal diode load ...	150k Ω	G5
R15		150k Ω	G5
R16	A.G.C. decoupling	470k Ω	G5
R17	I.F. Stoppers ...	100k Ω	G5
R18		100k Ω	G5
R19	Volume control ...	1M Ω	G3
R20	V4 G.B. ...	1-5k Ω	G5
R21	A.G.C. delay	1-5k Ω	G5
R22	Triode anode load	47k Ω	H4
R23	A.G.C. diode load ...	470k Ω	G5
R24		470k Ω	F5
R25	Tone control ...	100k Ω	F3
R26	V6 S.G. stopper ...	100 Ω	E5
R27	V5 C.G. stopper ...	1-5k Ω	F5
R28	V6 C.G. stopper ...	1-5k Ω	E5
R29	V5 S.G. stopper ...	100 Ω	F5
R30	V5, V6 G.B. ...	150 Ω	C1

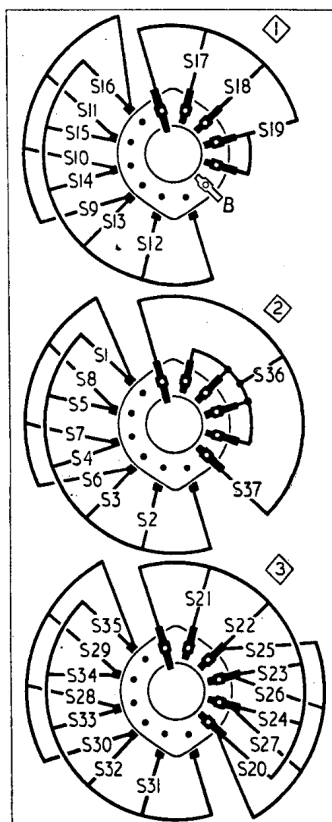
CAPACITORS		Values	Locations
C1	A.G.C. decoupling	0-01 μ F	F3
C2	S.W.1 tracker ...	365pF	G3
C3	V1 H.T. decoupling	0-05 μ F	H4
C4	S.W.2 tracker ...	550pF	G4
C5	1st I.F. trans. ...	400pF	A1
C6		400pF	A1
C7	V1 cath. by-pass	0-1 μ F	G4
C8	V1 osc. C.G. ...	100pF	G4
C9	A.G.C. decoupling	0-25 μ F	G5
C10	S.W.1 osc. tracker	365pF	F4
C11	S.W.2 osc. tracker	465pF	F4
C12	L.W. fixed trim ...	100pF	G4
C13	M.W. osc. tracker	540pF	G4
C14	L.W. osc. tracker	270pF	G5
C15	Osc. anode coup.	100pF	C4
C16	A.G.C. decoupling	0-05 μ F	H4
C17	V2 S.G. decoup.	0-1 μ F	G4
C18	V2 cath. by-pass	0-1 μ F	H4
C19	2nd I.F. trans. ...	400pF	A2
C20		400pF	A2
C21	A.G.C. decoupling	0-25 μ F	H5
C22	V3 S.G. decoup.	0-01 μ F	H5
C23	V3 cath. by-pass	0-1 μ F	H5
C24	3rd I.F. trans. ...	400pF	A2
C25		400pF	A2
C26	I.F. by-pass ...	100pF	G5
C27*	V4 cath. by-pass	50 μ F	G5
C28	A.G.C. coupling ...	100pF	G5
C29	I.F. by-passes ...	50pF	G5
C30		50pF	G5
C31	A.F. coupling ...	0-05 μ F	F3
C32*	V4 H.T. decoup.	8 μ F	C1
C33	A.F. coupling ...	0-1 μ F	F5
C34	Part tone control	0-05 μ F	E5
C35*	H.T. smoothing ...	8 μ F	C1
C36	Tone correctors	0-005 μ F	F5
C37		0-005 μ F	E5
C38*	V5, V6 cath. by-pass	50 μ F	C1
C39*		16 μ F	C1
C40*	H.T. smoothing ...	16 μ F	C1
C41†	M.W. aerial tune	—	B1
C42†	M.W. aerial trim	40pF	G3
C43†	S.W.1 aerial trim	80pF	F3
C44†	S.W.2 aerial trim	40pF	F4
C45†	M.W. aerial trim	40pF	G4
C46†	L.W. aerial trim ...	80pF	F3
C47†	Aerial tuning	—	B1
C48†	S.W.1 osc. trim	40pF	F4
C49†	S.W.2 osc. trim	40pF	F4
C50†	M.W. osc. trim ...	40pF	G4
C51†	L.W. osc. trim ...	100pF	G4
C52†	Oscillator tuning	—	B2

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Aerial coupling coils ...	0-2	F3
L2		0-4	F4
L3		21-5	G3
L4		200-0	F3
L5	S.W.1 aerial tune	Very low	F3
L6	S.W.2 aerial tune	Very low	F4
L7	M.W. aerial tuning	3-5	G3
L8	L.W. aerial tuning	27-0	F3
L9	M.W. aerial tuning	3-0	G4
L10	Oscillator reaction coils ...	Very low	F4
L11		0-3	F4
L12		1-5	G4
L13		2-6	G4
L14	S.W.1 osc. tuning	Very low	F4
L15	S.W.2 osc. tuning	Very low	F4
L16	M.W. osc. tuning	3-5	G4
L17	L.W. osc. tuning	5-6	G4
L18	1st I.F. { Pri.	7-0	A1
L19	trans. { Sec.	7-5	A1
L20	2nd I.F. { Pri.	7-0	A2
L21	trans. { Sec.	7-5	A2
L22	3rd I.F. { Pri.	7-0	A2
L23	trans. { Sec.	7-5	A2
L24	A.F. choke, total...	800-0	F5
L25	Smoothing choke...	135-0	D4
L26	Speech coil ...	2-2	—
L27	Smoothing choke...	270-0	C2
T1	O.P. { Pri., total	230-0	C1
	trans. { F.-B. Sec.	0-2	
	Primary, total ...	13-0	
	H.T. sec., total ...	19-0	
T2	4V heater ...	260-0	C2
	Rect. heater ...	Very low	
S1-S37	W/band switches	—	F4
S38	Mains sw., g'd R25	—	F3



Sketches showing the tuning drive systems used in almost the whole 717 series (left) and that used in the first 5,000 717 table models (right). In each case the system is drawn as seen from the front with the gang at maximum capacitance.



Diagrams of the waveband switch units drawn as seen from the rear of an inverted chassis. On the right of the diagrams is the associated switch table.

SOBELL 719C

Switch	Gram	L.W.	M.W.	S.W.2	S.W.1
S1 ...	C	—	—	—	—
S2 ...	—	—	—	—	—
S3 ...	—	—	—	—	—
S4 ...	—	—	—	—	—
S5 ...	—	—	—	—	—
S6 ...	—	—	—	—	—
S7 ...	—	—	—	—	—
S8 ...	—	—	—	—	—
S9 ...	—	—	—	—	—
S10 ...	—	—	—	—	—
S11 ...	—	—	—	—	—
S12 ...	—	—	—	—	—
S13 ...	—	—	—	—	—
S14 ...	—	—	—	—	—
S15 ...	—	—	—	—	—
S16 ...	—	—	—	—	—
S17 ...	—	—	—	—	—
S18 ...	—	—	—	—	—
S19 ...	—	—	—	—	—
S20 ...	—	—	—	—	—
S21 ...	—	—	—	—	—
S22 ...	—	—	—	—	—
S23 ...	—	—	—	—	—
S24 ...	—	—	—	—	—
S25 ...	—	—	—	—	—
S26 ...	—	—	—	—	—
S27 ...	—	—	—	—	—
S28 ...	—	—	—	—	—
S29 ...	—	—	—	—	—
S30 ...	—	—	—	—	—
S31 ...	—	—	—	—	—
S32 ...	—	—	—	—	—
S33 ...	—	—	—	—	—
S34 ...	—	—	—	—	—
S35 ...	—	—	—	—	—
S36 ...	—	—	—	—	—
S37 ...	—	—	—	—	—