

CHAMPION - 750

Valve		Anode		Screen		Cath.
		V	mA	V	mA	
V1	12K8GT	98 Oscillator	1.5 2.3	85	5.2	2.0
V2	12K7GT	98	8.0	85	2.2	—
V3	12Q7GT	58	0.4	—	—	—
V4	35L6GT	135	32.0	98	2.0	6.0
V5	35Z4GT	132†	—	—	—	139.0

† A.C. reading.

RESISTORS		Values	Locations
R1	V1 G.B. ...	220Ω	F4
R2	V1 osc. C.G. ...	47kΩ	F4
R3	Osc. anode load ...	6.8kΩ	F4
R4	S.G. feed ...	2.2kΩ	E4
R5	I.F. stopper ...	47kΩ	E3
R6	A.G.C. decoupling ...	1MΩ	E3
R7	Volume control ...	500kΩ	E3
R8	V3 C.G. ...	4.7MΩ	B1
R9	V3 anode load ...	100kΩ	E3
R10	V4 C.G. ...	220kΩ	D3
R11	V4 G.B. ...	180Ω	D4
R12	H.T. smoothing ...	2kΩ	D3
R13	Thermistor CZ3 ...	—	A1
R14	Thermistor CZ2 ...	—	D4
R15	Heater ballast ...	200Ω	C2
R16*	Heater ballast ...	380Ω	D4

CAPACITORS		Values	Locations
C1	Aerial isolator ...	0.001μF	B2
C2	1st I.F. trans. ...	100pF	B2
C3	tuning ...	100pF	B2
C4	A.G.C. decoupling ...	0.05μF	E4
C5	Cath. by-pass ...	0.1μF	F4
C6	V1 osc. C.G. ...	100pF	F3
C7	S.W. osc. tracker ...	0.005μF	F3
C8	M.W. osc. tracker ...	550pF	F3
C9	L.W. osc. tracker ...	150pF	F4
C10	Osc. anode coup. ...	100pF	F3
C11	S.G. decoupling ...	0.1μF	F4
C12	2nd I.F. trans. ...	100pF	B2
C13	tuning ...	100pF	B2
C14	I.F. by-passes ...	100pF	E3
C15	A.F. couplings ...	0.01μF	E3
C16	Tone corrector ...	0.01μF	D3
C17	V4 cath. by-pass ...	25μF	C1
C18*	H.T. smoothing ...	32μF	C2
C19*	H.T. smoothing ...	32μF	C2
C20*	H.T. smoothing ...	32μF	C2
C21*	H.T. smoothing ...	32μF	C2
C22	Mains R.F. filter ...	0.05μF	D4
C23†	S.W. aerial trim. ...	—	F3
C24†	M.W. aerial trim. ...	—	F3
C25†	L.W. aerial trim. ...	—	F4
C26†	Aerial tuning ...	—	B2
C27†	S.W. osc. trim. ...	—	F4
C28†	M.W. osc. trim. ...	—	F3
C29†	L.W. osc. trim. ...	—	F4
C30†	Oscillator tuning ...	—	B1

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial ...	1-3	C2
L2	Aerial coupling ...	10-0	E3
L3	coils ...	95-0	E4
L4	Aerial tuning coils ...	—	E3
L5	—	21-0	E4
L6	Oscillator reaction coils ...	8-0	F4
L7	—	1-2	F3
L8	—	2-3	F4
L9	Oscillator tuning coils ...	—	F4
L10	—	3-3	F3
L11	—	9-0	F4
L12	1st I.F. { Pri. ...	6-5	B2
L13	trans. { Sec. ...	6-5	B2
L14	2nd I.F. { Pri. ...	6-5	B2
L15	trans. { Sec. ...	6-5	B2
L16	Speech coil ...	2-6	—
T1	O.P. trans. { Pri. ...	220-0	C1
S1-S11	Waveband sw. { Sec. ...	0-4	F3
S12	Mains sw., g'd R7 ...	—	E3

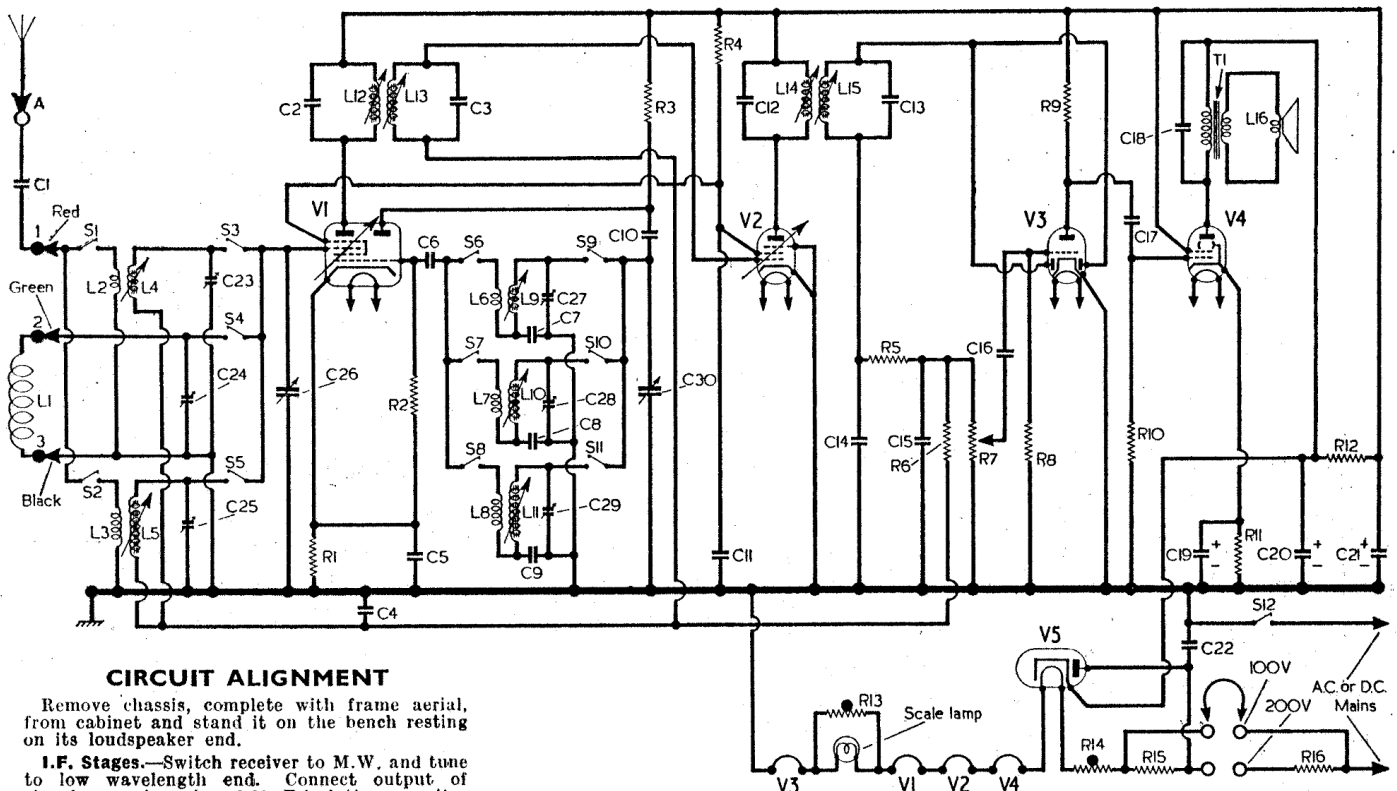
Intermediate frequency 465 kc/s.

* Line cord.

* Electrolytic.

† Variable.

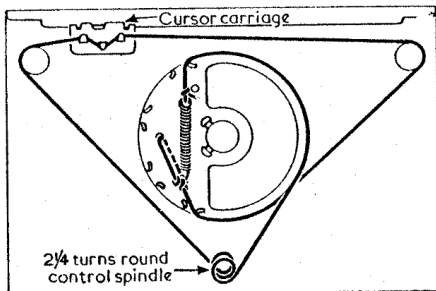
‡ Pre-set.



CIRCUIT ALIGNMENT

Remove chassis, complete with frame aerial, from cabinet and stand it on the bench resting on its loudspeaker end.

I.F. Stages.—Switch receiver to M.W. and tune to low wavelength end. Connect output of signal generator, via a 0.01 μF isolating capacitor in each 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 L15, L14, L13 and L12



Sketch showing the course taken by the tuning drive cord, drawn as seen from the rear with the gang at maximum.

(location references E4, B2) for maximum output. Repeat these adjustments until no further improvement results.

R.F. and Oscillator Stages, Home Model. Transfer "live" signal generator output lead to aerial connector via a dummy aerial. Check that with gang at maximum capacitance the cursor coincides with the vertical lines at the high wavelength end of the tuning scale.

S.W.—Switch receiver to S.W., tune to 16 m, feed in a 16 m (18.75 Mc/s) signal and adjust C27 (A2) and C23 (A1) for maximum output. Tune receiver to 49 m, feed in a 49 m (6.12 Mc/s) signal and adjust the cores of L9 (A2) and L4 (B1) for maximum output. Repeat these adjustments.

L.W.—Switch receiver to L.W., tune to 1,000 m, feed in a 1,000 m (300 kc/s) signal and adjust C29 (A2) and C25 (A2) for maximum output. Tune receiver to 2,000 m, feed in a 2,000 m (150 kc/s) signal and adjust the cores of L11 (A2) and L5 (B2) for maximum output. Repeat these adjustments.

M.W.—Switch receiver to M.W., tune to 200 m, and couple output of signal generator via a loop of wire to the frame aerial. Feed in a 200 m (1,500 kc/s) signal and adjust C28 (A1) and C24 (A1) for maximum output. Tune receiver to 550 m, feed in a 550 m (545 kc/s) signal and adjust the core of L10 (A1) for maximum output. Repeat these adjustments.

Export Model.—The input conditions and alignment instructions for the I.F. stages, and the M.W. band in R.F. and Oscillator stages, are the same as in the Home model.

S.W.1.—Trim both circuits at 13 m (23 Mc/s) and adjust the cores at 35 m (8.57 Mc/s).

S.W.2.—Trim both circuits at 35 m (8.57 Mc/s) and adjust the cores at 100 m (3 Mc/s).

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

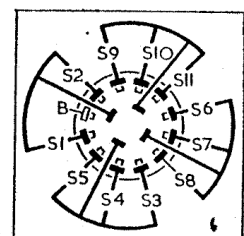


Diagram of the waveband switch unit, drawn as seen from the rear of an inverted chassis.