CHAMPION - PLANET

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 6K8G	108	2·9	108	6·7
	Oscillator			
	56	2·2		
V2 6K7G	108	8·8	108	1·9
V3 6Q7G	36	0·2	—	—
V4 25A6G	182	27·0	108	4·8
V5 25Z6G†	—	—	—	—

† Cathode to chassis, 190 v, D.C.

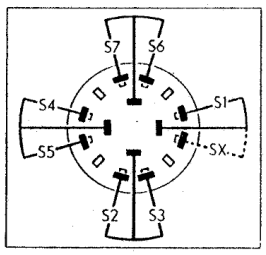


Diagram of the waveband switch unit, as seen from the rear. **SX** is found only in later chassis.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial L.W. coupling coil...	8·7
L2	Frame aerial winding ...	1·3
L3	Aerial L.W. tuning coil ...	19·0
L4	Osc. M.W. reaction coil ...	2·6
L5	Osc. L.W. reaction coil ...	4·5
L6	Osc. M.W. tuning coil ...	3·1
L7	Osc. L.W. tuning coil ...	7·9
L8	1st I.F. trans. Pri. ...	2·2
L9	1st I.F. trans. Sec. ...	2·2
L10	2nd I.F. trans. Pri. ...	2·2
L11	2nd I.F. trans. Sec. ...	2·5
L12	Speaker speech coil ...	3·0
T1	Speaker input transformer Pri. ...	247·0
	Speaker input transformer Sec. ...	0·4
S1-S7	Waveband switches ...	—
S8	Mains switch, ganged R6 ...	—

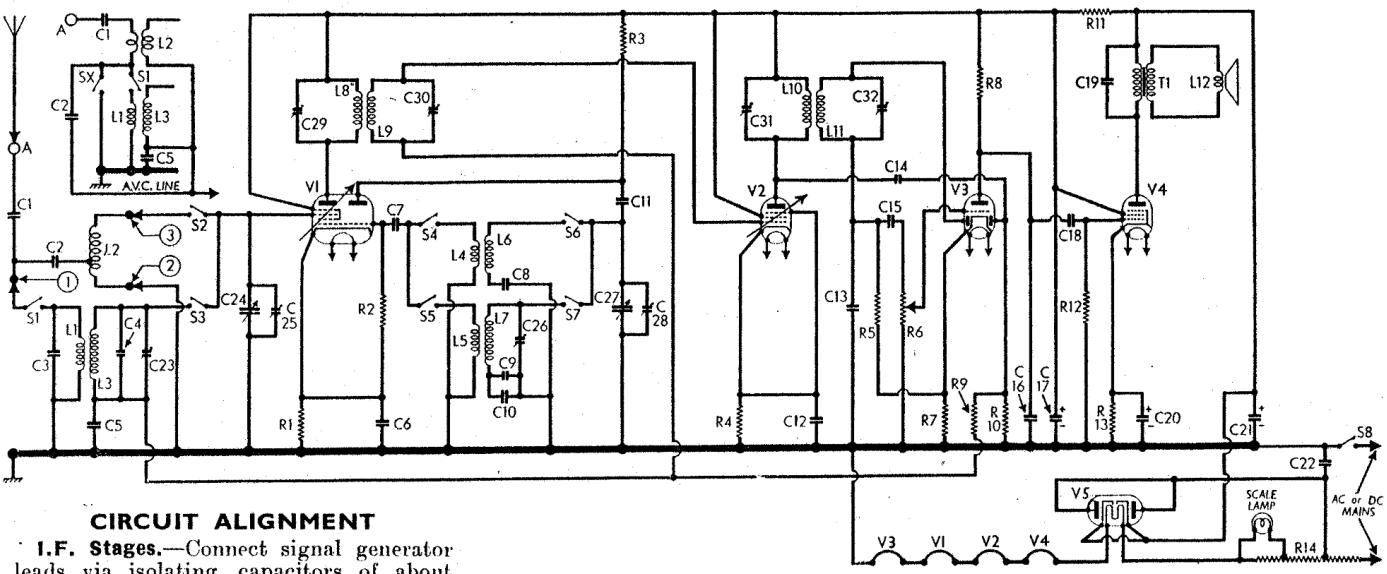
RESISTORS		Values (ohms)
R1	V1 fixed G.B. resistor ...	220
R2	V1 osc. C.G. resistor ...	47,000
R3	V1 osc. anode H.T. feed...	22,000
R4	V2 fixed G.B. resistor ...	220
R5	V3 signal diode load ...	470,000
R6	Manual volume control ...	500,000
R7	V3 fixed G.B. resistor ...	6,800
R8	V3 triode anode load ...	220,000
R9	A.V.C. line decoupling ...	2,200,000
R10	V3 A.V.C. diode load ...	1,000,000
R11	H.T. smoothing resistor...	2,700
R12	V4 C.G. resistor	470,000
R13	V4 fixed G.B. resistor ...	470
R14	Heater circuit ballast, total	510†

† Line cord, tapped at 15 Ω + 340 Ω + 155 Ω from V5 heater.

CAPACITORS		Values (μF)
C1	Aerial M.W. and L.W. coupling capacitors ...	0·005
C2	Aerial M.W. and L.W. coupling capacitors ...	0·00025
C3	L.W. Aerial shunt ...	0·0001
C4	Aerial L.W. fixed trimmer	0·00001
C5	A.V.C. line decoupling ...	0·1
C6	V1 cathode by-pass ...	0·1
C7	V1 osc. C.G. capacitor ...	0·0001
C8	Osc. circ. M.W. tracker ...	0·00057
C9	Osc. circ. L.W. trackers...	0·00001
C10	Osc. circ. L.W. trackers...	0·00016
C11	V1 osc. anode coupling ...	0·0001
C12	V2 cathode by-pass ...	0·1
C13	I.F. by-pass capacitor ...	0·0003
C14	V3 A.V.C. diode coupling	0·00005
C15	A.F. coupling to V3 triode	0·01
C16	I.F. by-pass capacitor ...	0·0001
C17*	H.T. smoothing capacitor	32·0
C18	A.F. coupling to V4 ...	0·005
C19	Fixed tone corrector ...	§0·02
C20*	V4 cathode by-pass ...	25·0
C21*	H.T. smoothing capacitor	32·0
C22	Mains R.F. by-pass ...	0·002
C23‡	Aerial circ. L.W. trimmer	—
C24†	Aerial circuit tuning ...	—
C25‡	Aerial circ. M.W. trimmer	—
C26‡	Osc. circ. L.W. trimmer...	—
C27†	Oscillator circuit tuning...	—
C28‡	Osc. circ. M.W. trimmer...	—
C29‡	1st I.F. trans. pri. tuning	—
C30‡	1st I.F. trans. sec. tuning	—
C31‡	2nd I.F. trans. pri. tuning	—
C32‡	2nd I.F. trans. sec. tuning	—

* Electrolytic. † Variable. ‡ Pre-set.
§ Two 0·01 μF in parallel.

Intermediate frequency 465 kc/s.



CIRCUIT ALIGNMENT

I.F. Stages.—Connect signal generator leads via isolating capacitors of about 0.1 μF to control grid (top cap) of **V1** and chassis, and connect a voltmeter as indicator across **R4.** Feed in a 465 kc/s (645.16 m) signal, and adjust **C29, C30** and **C31** for minimum deflection on the meter. Then adjust **C32** for maximum deflection.

M.W.—Transfer signal generator leads to **A** socket and chassis, switch set to M.W., tune to 214 m on scale, feed in a 214 m (1,400 kc/s) signal, and adjust **C28,** then **C25,** for minimum deflection. If iron-dust cores are fitted, adjust that of **L6** at 514 m (583.6 kc/s) before adjusting the trimmers.

L.W.—Switch set to L.W., tune to 800 m on scale, feed in an 800 m (375 kc/s) signal, and adjust **C26,** then **C23,** for minimum deflection. If iron-dust cores are fitted, adjust that of **L7,** then that of **L3,** at 1,800 m (166.7 kc/s) before adjusting the trimmers.