

## VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 1R5	58	0.9	58	2.6
V2 1T4	58	2.0	53	1.0
V3 185	4	0.04	1	0.005
V4 384	56	2.0	58	0.56

## CIRCUIT ALIGNMENT

**I.F. Stages.**—It is necessary to remove the chassis from the carrying case for these operations, but the frame aerial leads should not be disconnected. The makers state that a slotted knitting needle forms a suitable tool for adjustment of the iron-dust cores of the I.F. transformers.

Turn the gang to minimum capacitance and the volume control to maximum, and connect signal generator, via an 0.01  $\mu$ F capacitor in the "live" lead, to control

## CHAMPIONETTE

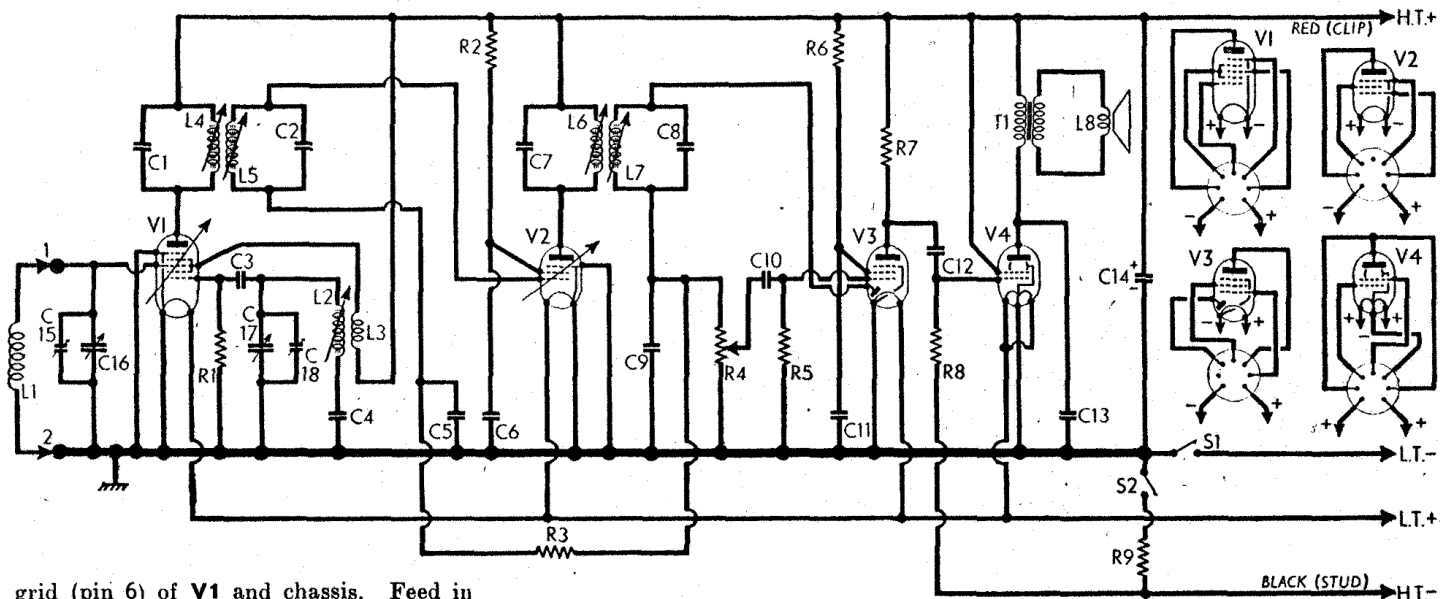
CAPACITORS		Values ( $\mu$ F)	Locations
C1	1st I.F. trans. {	0.0001	A1
C2	former tuning ...	0.0001	A1
C3	V1 osc. C.G. ...	0.0001	E4
C4	Oscillator tracker	0.0006	D3
C5	A.G.C. decoupling	0.1	E3
C6	V2 S.G. decoupling	0.1	D3
C7	2nd I.F. trans. {	0.0001	B1
C8	former tuning ...	0.0001	B1
C9	I.F. by-pass	0.0001	D3
C10	A.F. coupling	0.005	C3
C11	V3 S.G. decoupling	0.002	C3
C12	A.F. coupling	0.005	E4
C13	Tone corrector	0.002	A2
C14*	H.T. reservoir	3.0	A2
C15†	Aerial trimmer	—	E4
C16†	Aerial tuning	0.00037	F4
C17†	Oscillator tuning	0.00037	F3
C18†	Oscillator trimmer	—	E3

RESISTORS		Values (ohms)	Locations
R1	V1 osc. C.G. ...	100,000	E4
R2	V2 S.G. feed ...	4,700	D3
R3	A.G.C. decoupling ...	3,300,000	D3
R4	Volume control ...	1,000,000	D3
R5	V3 pent. C.G. ...	10,000,000	C3
R6	V3 S.G. feed ...	4,700,000	C3
R7	V3 pent. load ...	1,000,000	C3
R8	V4 C.G. resistor ...	3,300,000	F3
R9	V4 G.B. resistor ...	820	F4

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial ...	1.3	—
L2	Osc. tuning coil ...	0.6	E3
L3	Osc. react. coil ...	0.1	E3
L4	1st I.F. trans. {	12.0	A1
L5		12.0	A1
L6	2nd I.F. trans. {	12.0	B1
L7		12.0	B1
L8	Speech coil ...	8.6	A1
T1	Output trans. {	700.0	A2
	Pri. ...	1.4	A2
S1	L.T. circ. switch ...	—	F4
S2	H.T. circ. switch ...	—	F4

Intermediate frequency 465 kc/s.

\* Electrolytic. † Variable. ‡ Pre-set.



grid (pin 6) of V1 and chassis. Feed in a 465 kc/s (645.16 m) signal, and adjust the cores of L7, L8, L5 and L4 (location references B1, C3, A1, E3) for maximum output, progressively attenuating the signal generator output as the circuits are aligned to avoid automatic gain control action.

**R.F. and Oscillator Stages.**—Replace chassis and batteries in carrying case and couple signal generator output by means of a suitable loop of wire set up on the bench parallel to the frame aerial and about a foot from it.

Feed in a 500 m (600 kc/s) signal, tune it in, and check that the dot on the tuning knob coincides with the 500 m calibration point on the scale. The knob may be adjusted in position by rotating it on the gang spindle, after slackening its recessed grub screw. Tune to 214 m on scale, feed in a 214 m (1,400 kc/s) signal, and adjust C18 (E3) and C15 (E4) for maximum output. Repeat these operations until no improvement results.

If the sensitivity appears to be low, and difficulty is experienced in obtaining correct tracking, it will be necessary to remove the plastic control panel (four brass machine screws) in order to gain access to the oscillator iron-dust core adjustment.

Feed in a 500 m signal, tune it in, and adjust the core of L2 (E3) with a pair of pliers, whilst rocking the gang, for maximum output. Replace the control panel, tune in the 500 m signal once more, and adjust the tuning knob in position until its dot coincides with the appropriate calibration mark on the scale. Complete the alignment by following the procedure previously described.