

PILOT - LITTLE MAESTRO

1945

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial I.F. filter coil ...	24.0
L2	Aerial coupling coil ...	15.0
L3	Aerial circuit tuning coils ...	2.8
L4		17.2
L5	Oscillator circuit tuning coils ...	4.0
L6		6.8
L7	Oscillator circuit reaction coils, total ...	3.5
L8	1st I.F. trans. { Pri. ...	10.0
L9		10.0
L10	2nd I.F. trans. { Pri. ...	34.0
L11		34.0
L12	Speaker speech coil ...	2.8
L13	Output trans. { Pri. ...	480.0
T1	trans. { Sec. ...	0.5
T2	Mains trans. { Pri. ...	136.0
	trans. { Heater sec. ...	0.2
S1-S4	Waveband switches ...	—
S5	Mains switch, ganged R5 ...	—

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 6K8G	137	1.07	69	3.0
V2 6K7G	82	3.0	69	1.5
V3 6Q7G	137	5.5	—	—
V4 6V6GT	45	0.3	137	1.5
V5 6X5GT†	195	21.0	—	—

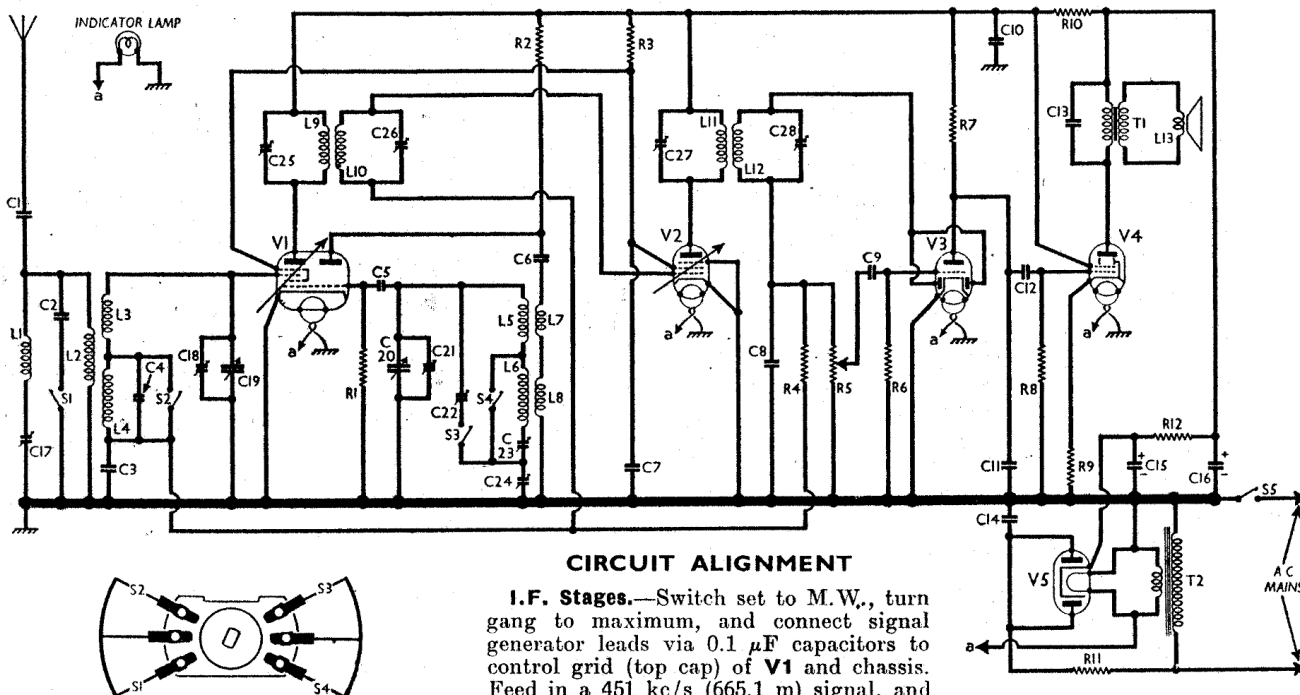
† Cathode to chassis 242 V, D.C.

RESISTORS		Values (ohms)
R1	V1 osc. C.G. resistor ...	33,000
R2	V1 osc. anode H.T. feed ...	22,000
R3	V1, V2 S.G.'s H.T. feed ...	22,000
R4	A.V.C. line decoupling ...	1,000,000
R5	Manual volume control ...	250,000
R6	V3 triode C.G. resistor ...	10,000,000
R7	V3 triode anode load ...	270,000
R8	V4 C.G. resistor ...	1,000,000
R9	V4 G.B. resistor ...	270
R10	H.T. line decoupling ...	4,700
R11	V5 anode surge limiter ...	100
R12	H.T. smoothing resistor ...	1,000

CAPACITORS		Values (μF)
C1	Aerial isolator ...	0.0003
C2	Aerial L.W. shunt ...	0.0003
C3	A.V.C. line decoupling ...	0.1
C4	Aerial L.W. fixed trimmer ...	0.00006
C5	V1 osc. C.G. capacitor ...	0.00006
C6	V1 osc. anode coupling ...	0.0001
C7	V1, V2 S.G.'s decoupling ...	0.1
C8	I.F. by-pass capacitor ...	0.0003
C9	A.F. coupling to V3 C.G. ...	0.002
C10	H.T. line decoupling ...	0.1
C11	I.F. by-pass capacitor ...	0.0003
C12	A.F. coupling to V4 C.G. ...	0.01
C13	Fixed tone corrector ...	0.01
C14	Mains R.F. by-pass ...	0.05
C15*	H.T. smoothing capacitors {	16.0
C16*		16.0
C17†	Aerial I.F. filter tuning ...	0.0001
C18†	Aerial circuit M.W. trimmer ...	0.00003
C19†	Aerial circuit tuning ...	0.000483
C20†	Oscillator circuit tuning ...	0.000483
C21†	Osc. circ. M.W. trimmer ...	0.00003
C22†	Osc. circ. L.W. trimmer ...	0.0001
C23†	Osc. circ. L.W. tracker ...	0.0003
C24†	Osc. circ. M.W. tracker ...	0.0007
C25†	1st I.F. trans. pri. tuning ...	—
C26†	1st I.F. trans. sec. tuning ...	—
C27†	2nd I.F. trans. pri. tuning ...	—
C28†	2nd I.F. trans. sec. tuning ...	—

* Electrolytic. † Variable. ‡ Pre-set.

Intermediate frequency 451 kc/s.



CIRCUIT ALIGNMENT

I.F. Stages.—Switch set to M.W., turn gang to maximum, and connect signal generator leads via 0.1 μF capacitors to control grid (top cap) of V1 and chassis. Feed in a 451 kc/s (665.1 m) signal, and adjust C28 and C27 (through chassis deck) then C26 and C25 for maximum output. Transfer signal generator leads to the aerial connection, via a 0.00005 μF capacitor, and chassis, feed in a strong 451 kc/s signal, and adjust C17 for minimum output.

R.F. and Oscillator Stages.—With the gang at maximum, the pointer should be horizontal. Replace the capacitor with a standard dummy aerial, retaining the 0.1 μF isolator in the chassis lead.

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 C21 and C18 for maximum output. Feed in a 500 m (600 kc/s) signal, tune it in, and adjust C24 for maximum output while rocking the gang for optimum results.

L.W.—Switch set to L.W., tune to 1,000 m on scale, feed in a 1,000 m (300 kc/s) signal, and adjust C22 for maximum output. Feed in a 1,596 m (188 kc/s) signal, tune it in, and adjust C23 for maximum output while rocking the gang for optimum results.

Chassis Divergencies.—According to availability at the time of manufacture, the speaker used may have a permanent magnet, as did our sample, or an energized magnet. Where the latter is fitted, the field winding replaces R12 in the circuit diagram, its resistance being 1,000 Ω. The value of R10 is then changed to 6,800 Ω, and V4 screen is transferred to the other end of it. This will raise the screen voltage and increase the anode current.

In some chassis, the dual tracker unit may be reversed, transposing C23 and C24 on the chassis. Also, C1 may be 0.0001 instead of 0.0003 μF.

Diagram of the Waveband switch unit S1-S4 as seen from the rear of an inverted chassis.