PILOT - 75

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial ...	2·0	—
L2	S.W. aerial coup.	0·3	F3
L3	S.W. aerial tuning	—	F3
L4	L.W. loading coil	9·5	A1
L5	M.W. loading coil	1·7	A1
L6, L7	Oscillator tuning coils	2·0	F2
L8, L9	Oscillator reaction coils	1·0	F2
L10	1st I.F. trans. (Pri.)	7·0	B1
L11	1st I.F. trans. (Sec.)	7·0	B1
L12	2nd I.F. trans. (Pri.)	7·0	B1
L13	2nd I.F. trans. (Sec.)	7·0	B1
L14	Speech coil ...	2·8	—
T1	O.P. trans. (Pri.)	420·0	—
	O.P. trans. (Sec.)	0·6	
T2	Mains trans. a ...	—	
	Mains trans. b ...	220·0	C1
	Mains trans. c ...	—	
	Mains trans. d, total	60·0	
S1-S9	Waveband switches	—	G3
S10, S11	Mains sw., g'd R12	—	D3

Valves		Anode V	Anode mA	Screen V	Screen mA	Cath. V
V1	7S7	96	2·5	96	2·6	1·7
		Oscillator				
		96	2·8			
V2	7B7 ...	96	7·5	96	2·0	2·5
V3	7C6 ...	92	2·6	—	—	—
V4	7C5 ...	161	25·0	159	3·0	6·8
V5	7Y4 ...	195*	—	—	—	216·0†

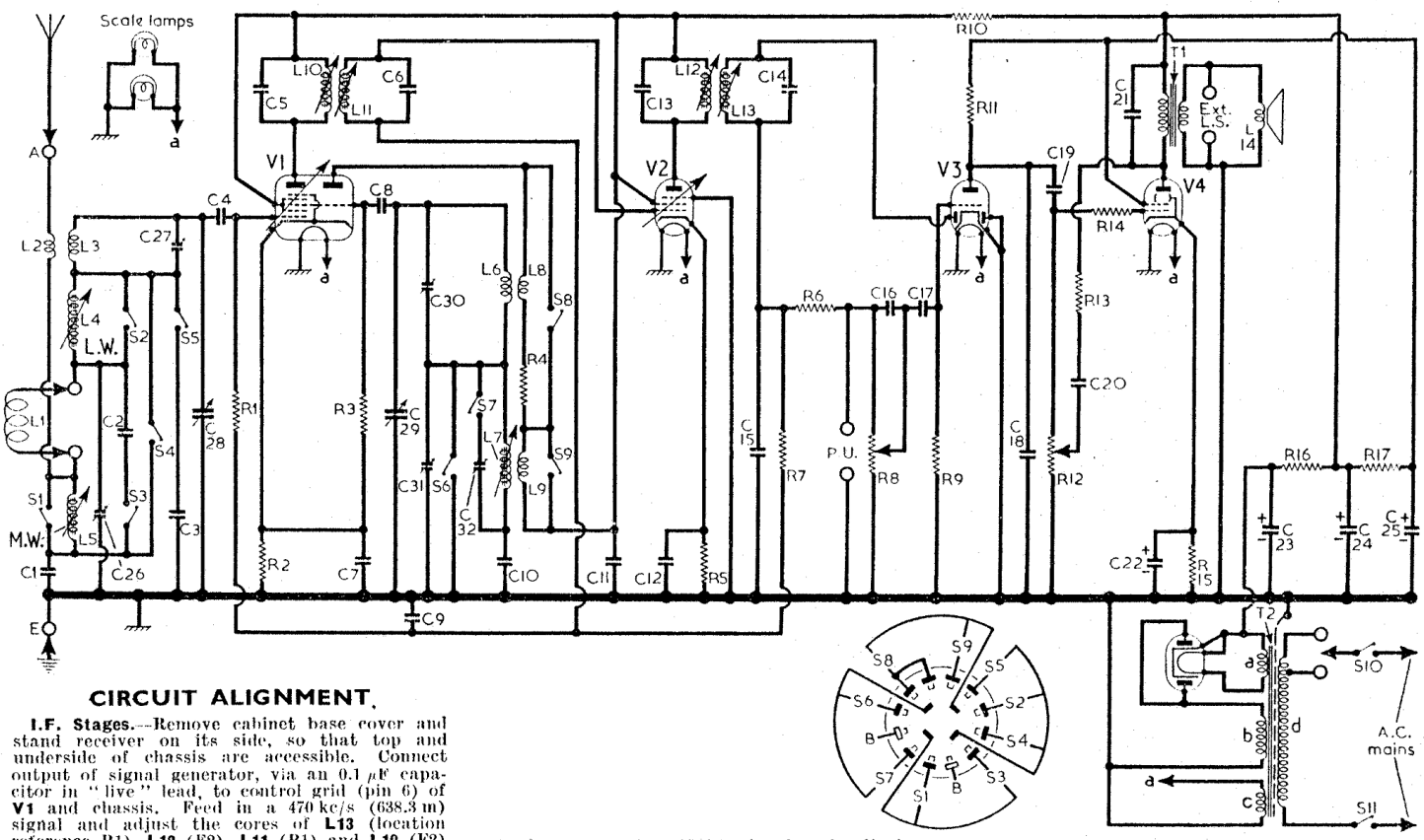
* A.C. reading. † Cathode current 47mA.

RESISTORS		Values	Locations
R1	V1 C.G.	1MΩ	F3
R2	V1 G.B.	220Ω	F3
R3	V1 osc. C.G. ...	47kΩ	F3
R4	Osc. stabilizer ...	68Ω	F2
R5	V2 G.B.	270Ω	E3
R6	I.F. stopper ...	47kΩ	E2
R7	A.G.C. decoupling	1MΩ	F2
R8	Volume control ...	500kΩ	D2
R9	V3 C.G.	10MΩ	E2
R10	H.T. decoupling	4·7kΩ	D2
R11	V3 anode load ...	270kΩ	E3
R12	Tone control ...	500kΩ	D3
R13	Part tone control ...	470kΩ	D3
R14	V4 C.G. stopper ...	4·7kΩ	E3
R15	V4 G.B.	270Ω	E3
R16*, R17	H.T. smoothing ...	1·03kΩ	D3
	H.T. smoothing ...	4·7kΩ	E3

* Two resistors, 1·5kΩ + 3·3kΩ, in parallel.

CAPACITORS		Values	Locations
C1	Aerial coupling ...	0·01μF	F3
C2, C3	L.W. aerial trimmers	0·001μF	G3
		180pF	G3
C4	V1 C.G.	100pF	F3
C5, C6	1st I.F. trans. tuning	100pF	B1
		100pF	B1
C7	V1 cath. by-pass	0·1μF	F3
C8	V1 osc. C.G. ...	100pF	F2
C9	A.G.C. decoupling	0·1μF	F2
C10	Osc. tracker ...	500pF	F3
C11	H.T. decoupling ...	0·1μF	F3
C12	V2 cath. by-pass	0·1μF	E3
C13, C14	2nd I.F. trans. tuning	100pF	B1
		100pF	B1
C15	I.F. by-pass ...	100pF	E2
C16	Tone compensator	100pF	E3
C17	A.F. coupling ...	0·002μF	E3
C18	I.F. by-pass ...	100pF	E2
C19	A.F. coupling ...	0·04μF	E3
C20	Part tone control	500pF	D3
C21	Tone corrector ...	0·001μF	E3
C22*	V4 cath. by-pass	50μF	E3
C23*, C24*, C25*	H.T. smoothing ...	16μF	C1
		16μF	C1
		16μF	C1
C26‡	M.W. aerial trim.	65pF	G3
C27‡	S.W. aerial trim.	50pF	F3
C28†	Aerial tuning ...	—	A1
C29†	Oscillator tuning	—	A1
C30‡	S.W. osc. trim. ...	50pF	F3
C31‡	M.W. osc. trim. ...	65pF	G3
C32‡	L.W. osc. trim. ...	700pF	G2

* Electrolytic. † Variable. ‡ Pre-set.



CIRCUIT ALIGNMENT

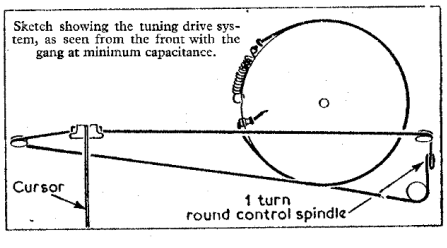
I.F. Stages.—Remove cabinet base cover and stand receiver on its side, so that top and underside of chassis are accessible. Connect output of signal generator, via an 0.1 μF capacitor in "live" lead, to control grid (pin 6) of **V1** and chassis. Feed in a 470 kc/s (638.3 m) signal and adjust the cores of **L13** (location reference B1), **L12** (E2), **L11** (B1) and **L10** (F2) for maximum output, reducing the input as the circuits come into line to avoid A.G.C. action. Repeat these adjustments until no further improvement results.

R.F. and Oscillator Stages.—As the tuning scale is fixed to the cabinet, and a substitute tuning scale is not provided, the following adjustments must be carried out with the chassis in its cabinet. Transfer signal generator leads to **A** and **E** sockets.

S.W.—Switch receiver to S.W., tune to 16.5 m, feed in a 16.5 m (18.2 Mc/s) signal and adjust **C30** (F8) and **C27** (F3) for maximum output. If two peaks are obtained when adjusting **C30**, it should be set to the one involving the higher capacitance. Repeat these adjustments until no further improvement results.

M.W.—Switch receiver to M.W., tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust **C31** (A1) and **C26** (A1) for maximum output. Tune receiver to 500 m, feed in a 500 m (600 kc/s) signal and adjust the cores of **L7** (F2) and **L5** (A1) for maximum output. When adjusting **L7** core it should be set to the peak which occurs with the core in the windings of both **L7** and **L9**. Repeat these adjustments until no further improvement results.

L.W.—Switch receiver to L.W., tune to 1,300 m, feed in a 1,300 m (230 kc/s) signal and adjust **C32** (G2) for maximum output. If any further M.W. adjustments are made, they must be followed by L.W. re-alignment.



Drive Cord Replacement.—About 60 inches of fine-gauge nylon-braided glass yarn is required for a new drive cord, which should be run as shown in the accompanying sketch. This length includes an ample margin for tying off.

Waveband Switch Table

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