



RESISTORS		Values	Locations
R1	Aerial shunt ...	22kΩ	G4
R2	V1 C.G. ...	1MΩ	F4
R3	V1 S.G. pot. ...	22kΩ	F4
R4	divider ...	33kΩ	F4
R5	V1 osc. C.G. ...	47kΩ	F3
R6	Osc. anode feed ...	10kΩ	F3
R7	V2 S.G. feed ...	33kΩ	F3
R8	A.G.C. pot. divider ...	2-2MΩ	E4
R9	A.G.C. diode load ...	2-2MΩ	F4
R10	V2 G.B. ...	1MΩ	E4
R11	Signal diode load ...	680Ω	E4
R12	Parts tone control ...	470kΩ	F4
R13	Volume control ...	220kΩ	E4
R14	V3 C.G. stopper ...	4-7kΩ	E3
R15	V3 G.B. ...	1MΩ	E3
R16	H.T. smoothing ...	*2-2kΩ	E4
R17	V3 G.B. ...	180Ω	F4
R18	H.T. smoothing ...	†1kΩ	D4
R19	Parts P.U. tone correction ...	100kΩ	—
R20	A.G.C. decoupling ...	1MΩ	—
R21	H.T. decoupling ...	470kΩ	—
R22	V2 S.G. load ...	10kΩ	—
R23	Part tone control ...	22kΩ	—
R24		15kΩ	—

\* Changed to 47kΩ on gram. model.  
† Centie tapped.

CAPACITORS		Values	Locations
C1	Aerial coupling ...	470pF	G4
C2	L.W. aerial coup. ...	0-0024μF	G4
C3	Bandspread aerial ...	100pF	G4
C4	coupling ...	5-6pF	G4
C5	Bandspread tuner ...	100pF	G4
C6	V1 C.G. ...	100pF	F4
C7	V1 S.G. decoup. ...	0-1μF	F4

(Continued next column)

CAPACITORS (continued)		Values	Locations
C8	1st I.F. trans. tun. ...	100pF	B1
C9	V1 osc. C.G. ...	100pF	B1
C10	Bandspread trimmer ...	100pF	F3
C11	M.W. osc. trim. ...	180pF	F3
C12		510pF	G3
C13	I.W. osc. trimmers ...	150pF	F3
C14	A.G.C. decoupling ...	150pF	G4
C15	Osc. anode coupling ...	0-02μF	E4
C16	Bandspread capacitors ...	100pF	G4
C17	V2 S.G. decoupling ...	270pF	G3
C18	A.G.C. coupling ...	150pF	G3
C19	2nd I.F. trans. tun. ...	0-1μF	F4
C20	V2 cath. by-pass ...	10pF	E4
C21	I.F. by-pass ...	100pF	B2
C22		100pF	B2
C23	Part tone control ...	0-1μF	E4
C24		0-1μF	E4
C25		470pF	E4
C26		0-005μF	D3
C27		0-002μF	E3
C28		15pF	E3
C29		0-05μF	E4
C30		0-01μF	E4
C31*	A.F. coupling ...	0-01μF	D3
C32*	V3 cath. by-pass ...	25μF	E4
C33*		24μF	C2
C34*	H.T. smoothing ...	24μF	C2
C35†		24μF	C2
C36†	M.W. aerial trim. ...	50pF	G4
C37†	Aerial tuning ...	\$528pF	A2
C38†	M.W. osc. trim. ...	50pF	G3
C39	Oscillator tuning ...	\$528pF	A1
C40	P.U. coupling ...	0-02μF	—
C41*	P.U. tone corrector ...	0-002μF	—
C42	V2 cath. by-pass ...	50μF	—
C43	V2 S.G. decoup. ...	0-002μF	—
C44	A.F. coupling ...	0-1μF	—
C45*	H.T. decoupling ...	0-01μF	—
C46	Parts tone control ...	16μF	—
C47		500pF	—
C48	Tone corrector ...	0-02μF	—

\* Electrolytic. † Variable. ‡ Pre-set.  
§ "Swing" value, min. to max.

## PYE - P45, P46

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	M.W. aerial coup.	30-0	G4
L2	L.W. aerial tuning	50-0	G4
L3	M.W. aerial tuning	2-3	G4
L4	Band-spread aerial	—	G4
L5	tuning coils ...	—	G4
L6		—	F4
L7	L.W. osc. tuning	3-5	G3
L8	M.W. osc. tuning ...	1-5	G3
L9	Band-spread osc. ...	—	G4
L10	tuning coils ...	—	F4
L11		—	F3
L12	1st I.F. trans. Pri.	12-2	B1
L13	Sec.	12-2	B1
L14	2nd I.F. trans. Pri.	12-2	B2
L15	Sec.	12-2	B2
L16	Speech coil	2-3	—
T1	O.P. trans. {a ...	500-0	C2
	b ...	—	
T2	Mains trans. {a ...	285.0	C2
	b ...	305.0	
	c ...	38.0	
S1-S36	Waveband switches	—	G4
S37-		—	
S41	Tone/gram switches	—	D3
S42,		—	
S43	Mains sw, g'd tone sw.	—	D3
S44-		—	
S52	Tone/gram switches	—	—

## CIRCUIT ALIGNMENT

**I.F. Stages.**—Remove chassis from cabinet and stand it on the bench so that adjustments above and below chassis are accessible. Connect signal generator output, via an 0.1μF capacitor in the "live" lead, to control grid (pin 6) of V1 and chassis. Switch receiver to L.W. and tune to high wavelength end of band. Feed in a 470 kc/s

(638.3 m) signal and adjust the cores of L15 (location reference B2), L14 (F4), L13 (B1) and L12 (F3) for maximum output. Repeat these adjustments until no further improvement results.

**R.F. and Oscillator Stages.**—As the tuning scale remains fixed to the cabinet when the chassis is withdrawn, reference must be made, during the following alignment, to the substitute tuning scale printed on the left-hand side of the scale backing plate (viewed from front). Readings on this scale are taken against the lower horizontal edge of the cursor carriage. Check that with the gang at maximum capacitance the substitute scale reading is 100. Transfer signal generator leads, via a standard dummy aerial, to A and E sockets.

In the gram model, the substitute scale is calibrated 0-50, and when carrying out the following alignment the receiver must be tuned to the substitute scale reading, quoted in each case, after dividing it by two.

**L.W.**—Switch receiver to L.W., tune to 52 on substitute scale, feed in a 214 kc/s (1,400 m) signal and adjust the cores of L7 (G3) and L2 (G4) for maximum output. Repeat these adjustments.

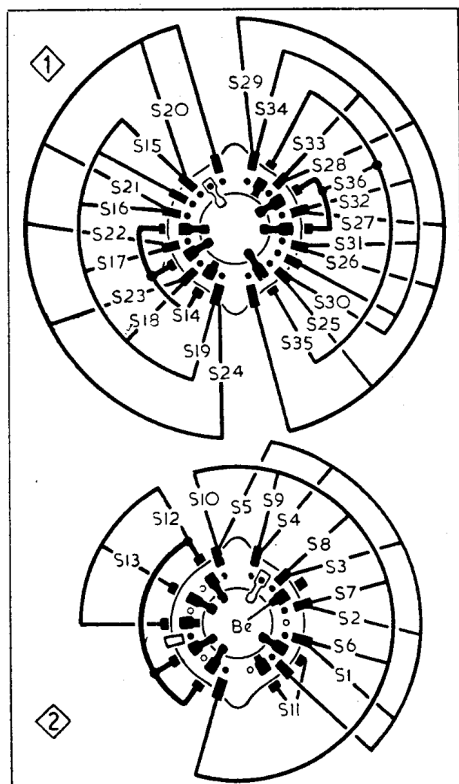
**M.W.**—Switch receiver to M.W., tune to 85 on scale, feed in a 600 kc/s (500 m) signal and adjust the cores of L3 (G3) and L3 (G4) for maximum output. Tune receiver to 15 on scale, feed in a 1,500 kc/s (200 m) signal and adjust C37 (G3) and C35 (G4) for maximum output. Repeat these adjustments until no further improvement results.

**49 m band.**—Switch receiver to 49 m, tune to 50 on scale, feed in a 6.1 Mc/s (49.18 m) signal and adjust the cores of L9 (G4) and L4 (G4) for maximum output.

**31 m band.**—Switch receiver to 31 m, tune to 50 on scale, feed in a 9.6 Mc/s (31.25 m) signal and adjust the cores of L10 (F4) and L5 (G4) for maximum output.

**16 m band.**—Switch receiver to 16 m, tune to 50 on scale, feed in a 17.8 Mc/s (16.85 m) signal and adjust the cores of L11 (F3) and L6 (F4) for maximum output.

## Waveband Switch Diagrams and Table



Switch	L.W.	M.W.	49 m	31 m	16 m
S1	—	○	○	○	○
S2	○	—	○	○	○
S3	○	○	○	○	○
S4	○	○	○	○	○
S5	○	○	○	○	○
S6	○	○	○	○	○
S7	—	○	—	—	—
S8	—	—	○	—	—
S9	—	—	—	○	—
S10	—	—	—	—	○
S11	○	○	○	○	○
S12	○	○	○	○	○
S13	○	○	○	○	○
S14	○	○	○	○	○
S15	○	○	○	○	○
S16	—	○	—	—	—
S17	—	—	○	—	—
S18	—	—	—	○	—
S19	—	—	—	—	○
S20	—	○	○	○	○
S21	○	○	○	○	○
S22	○	○	○	○	○
S23	○	○	○	○	○
S24	○	○	○	○	○
S25	○	○	○	○	○
S26	○	○	○	○	○
S27	○	○	○	○	○
S28	○	○	○	○	○
S29	○	○	○	○	○
S30	—	○	—	—	—
S31	—	—	○	—	—
S32	—	—	—	○	—
S33	—	—	—	—	○
S34	○	—	—	—	○
S35	—	○	—	—	○
S36	—	—	○	○	○

Diagrams of the two waveband switch units as they appear in all three models when viewed from the rear of an inverted chassis. On the right is the associated switch table.