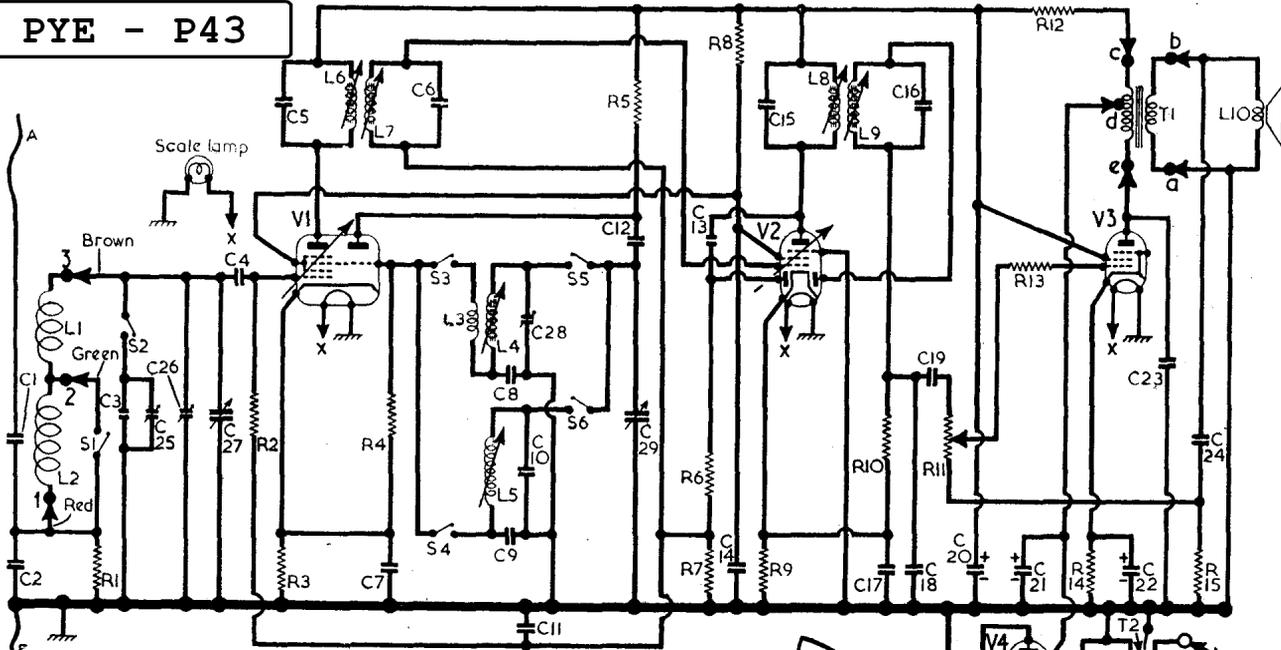


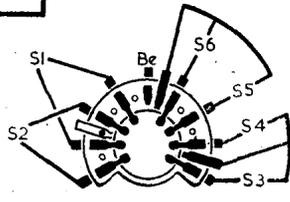
PYE - P43



Intermediate frequency 470 kc/s.

RESISTORS	Values	Locations
R1	Aerial shunt ...	22kΩ G4
R2	V1 C.G. ...	2.2MΩ G4
R3	V1 G.B. ...	220Ω G4
R4	V1 osc. C.G. ...	47kΩ G4
R5	Osc. anode load ...	33kΩ F4
R6	A.G.C. diode load ...	2.2MΩ F4
R7		1MΩ E3
R8	S.G. H.T. feed ...	15kΩ E3
R9	V2 G.B. ...	470Ω F4
R10	Signal diode load ...	470kΩ F4
R11	Volume control ...	800kΩ D3
R12	H.T. smoothing ...	1.5kΩ E3
R13	V3 C.G. stopper ...	100kΩ D3
R14	V3 G.B. ...	150Ω E3
R15	Neg. feed-back ...	6.8kΩ D3

OTHER COMPONENTS	Approx. Values (ohms)	Locations
L1	M.W. frame aerial...	3.0 A1
L2	L.W. frame aerial...	21.0 A1
L3	Osc. reaction coil...	G4
L4	M.W. osc. tuning...	2.5 G4
L5	L.W. osc. tuning ...	7.5 F4
L6	1st I.F. trans. {	Pri. 12.2 A2
L7		Sec. 12.2 A2
L8	2nd I.F. trans. {	Pri. 12.2 B2
L9		Sec. 12.2 B2
L10	Speech coil ...	2.5 —
T1	O.P. trans. {	d-c ... 15.0 —
		d-e ... 410.0 C1
		b-a ... — —
T2	Primary, total ...	56.0 —
	H.T. sec., total ...	310.0 C2
	Heater sec. ...	— —
S1-S6	Waveband switches	G3
S7	Mains sw., g'd R11	D3



CAPACITORS	Values	Locations
C1	Aerial coupling ...	470pF G4
C2		0.0024μF G3
C3	L.W. trimmer ...	82pF G3
C4	V1 C.G. ...	100pF G4
C5	1st I.F. trans. tuning ...	100pF A2
C6		100pF A2
C7	V1 cath. by-pass ...	0.1μF G4
C8	M.W. osc. tracker...	380pF G4
C9	L.W. osc. tracker...	200pF G4
C10	L.W. trimmer ...	180pF G4
C11	A.G.C. decoupling	0.02μF F4
C12	Osc. anode coup. ...	100pF G4
C13	A.G.C. coupling ...	10pF F4
C14	S.G. decoupling ...	0.1μF F4
C15	2nd I.F. trans. tuning ...	100pF B2
C16		100pF B2
C17	V2 cath. by-pass ...	0.1μF F4
C18	I.F. by-pass ...	470pF E4
C19	A.F. coupling ...	0.005μF E4
C20*	H.T. smoothing ...	16μF B1
C21*		16μF B1
C22	V3 cath. by-pass ...	25μF E3
C23	Tone corrector ...	0.01μF C1
C24	Neg. feed-back ...	0.1μF E3
C25†	L.W. aerial trim. ...	50pF G3
C26†	M.W. aerial trim. ...	50pF F3
C27†	Aerial tuning ...	§ 528spF A1
C28†	M.W. osc. trim. ...	50pF F4
C29†	Oscillator tuning ...	§ 528spF A2

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 ECH42...	190	2.5	95	4.4	1.9
V2 EBF80 ...	90	3.0	95	1.7	2.8
	190	4.2			
V3 EL41	210	27.5	190	3.5	4.6
V4 EZ40 ...	420†	—	—	—	215.0

† Anode to anode, A.C.

M.W.—Switch set to M.W., tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust C26 (F3) for maximum output.

L.W.—Switch set to L.W., tune to 1,400 m, feed in a 1,400 m (214 kc/s) signal and adjust C25 (G3) for maximum output.

Repeat the above R.F. and oscillator adjustments until calibration is correct.

Switches.—S1-S6 are the waveband switches, ganged in a 2-position unit beneath the chassis. This is indicated in our underside drawing of the chassis, and shown in detail in the diagram inset beneath the circuit diagram overleaf, where it is drawn as seen in the direction of the indicating arrow in our chassis illustration.

All the odd-numbered switches S1, S3 and S5 close on M.W. (control knob anti-clockwise) and all the even-numbered ones close on L.W.

S7 is the Q.M.B. mains switch, ganged with the volume control R11.

Drive Cord Replacement.—Three feet of nylon braided glass yarn is required for a new tuning drive cord, this length leaving an ample margin for tying off. It should be run as shown in the sketch in col. 2, where the system is drawn as seen when viewed from the front with the gang at minimum capacitance.

CIRCUIT ALIGNMENT

As the tuning scale is fixed in the cabinet, the following alignment should be carried out with the chassis in the cabinet. All the adjustments are made easily accessible upon the removal of the base cover.

I.F. Stages.—Connect signal generator, via a 0.1μF capacitor in the "live" lead, to control grid (pin 6) of V1 and chassis. Switch set to M.W., and tune to 560 m. Feed in a 470 kc/s (638.3 m) signal and adjust the cores of L9 (location reference F4), L8 (B2), L7 (F4) and L6

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

(A2) for maximum output, reducing the input as the circuits come into line to avoid A.G.C. effects. Repeat these adjustments.

Oscillator Stage.—Check that with the gang at maximum capacitance the cursor coincides with the dot at the wavelength end of the L.W. scale. This may be adjusted by slackening the two fixing screws in the drive drum bush and rotating the drum independently of the gang.

M.W.—With the signal generator still connected to control grid of V1 and the set switched to M.W., tune to 500 m. Feed in a 500 m (600 kc/s) signal and adjust the core of L4 (G4) for maximum output. Tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust C28 (F4) for maximum output.

L.W.—Switch set to L.W., tune to 1,400 m, feed in a 1,400 m (200 kc/s) signal and adjust the core of L5 (F4) for maximum output.

Aerial Stage.—Disconnect the signal generator leads from V1 and lay them near the frame aeri-

Sketch of the tuning drive cord system, drawn as seen from the front with the gang at minimum capacitance.

