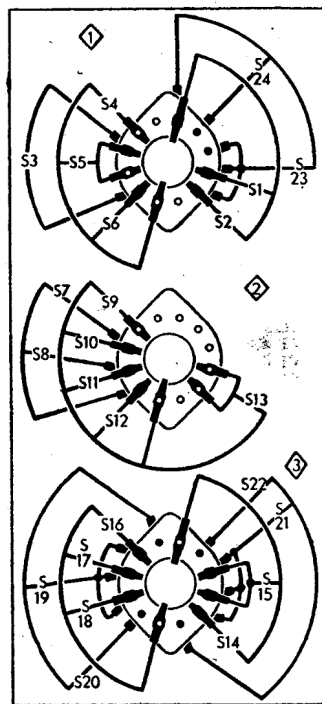
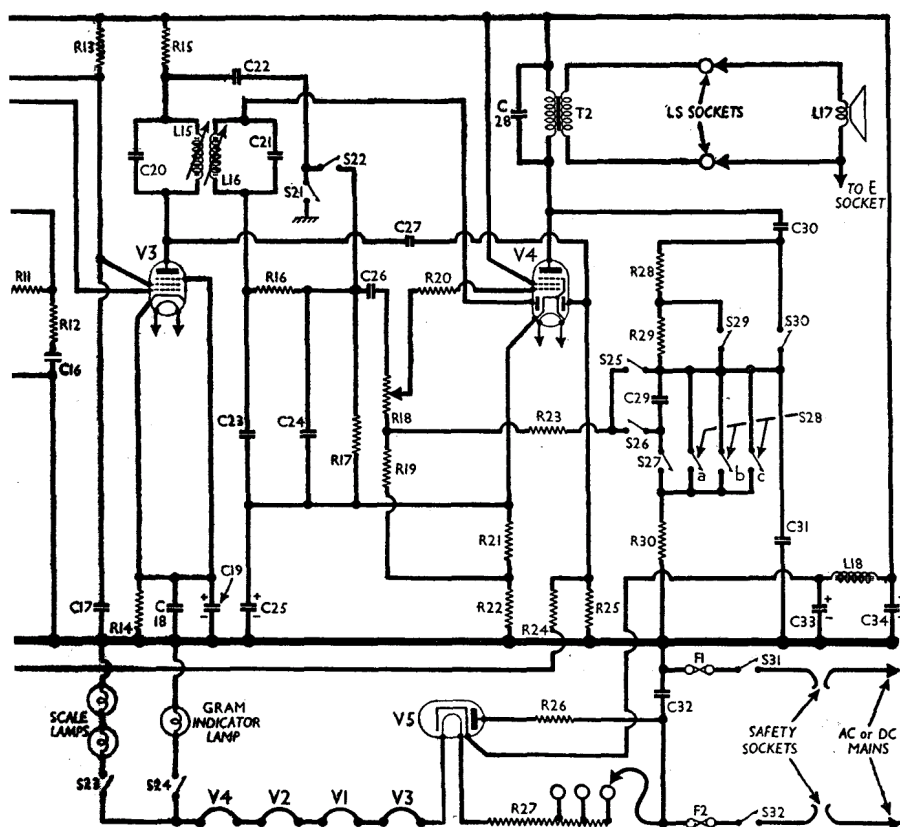


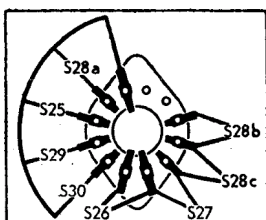
Intermediate frequency 465 kc/s.



Diagrams of the three waveband switch units drawn as seen when viewed from the rear of an inverted chassis

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 EF39	205	8.3	137	2.4
V2 CCH35	212	2.1	87	2.1
V3 EF39	72	2.8	87	1.7
V4 CBL31	185	5.5	212	3.9
V5 CY31†	196	33.0	212	3.9

Tone Control Switch Unit



Switch	S.W.	M.W.	L.W.	Gram.
S1	o	c	—	—
S2	o	c	—	—
S3	o	c	—	—
S4	o	c	—	—
S5	o	c	—	—
S6	o	c	—	—
S7	o	c	—	—
S8	o	c	—	—
S9	o	c	—	—
S10	o	c	—	—
S11	o	c	—	—
S12	o	c	—	—
S13	o	c	—	—
S14	o	c	—	—
S15	o	c	—	—
S16	o	c	—	—
S17	o	c	—	—
S18	o	c	—	—
S19	o	c	—	—
S20	o	c	—	—
S21	o	c	—	—
S22	o	c	—	—
S23	o	c	—	—
S24	o	c	—	—

† Cathode to chassis, 250 v, D.C.

RESISTORS			Values (ohms)	Loca- tion
R1	Aerial shunt ...		500,000	H5
R2	V1 S.G. feed ...		33,000	H7
R3	V1 fixed G.B. ...		330	I6
R4	V1 anode feed ...		1,000	H7
R5	V1 L.W. anode load ...		4,700	H7
R6	R.F. M.W. shunt ...		22,000	H6
R7	V2 hex. C.G. ...		470,000	J6
R8	V2 fixed G.B. ...		330	J7
R9	V2 osc. C.G. ...		47,000	J7
R10	Osc. H.T. feed ...		47,000	I7
R11	Part P.U. tone cor- rector ...		470,000	H8
R12	S.G.'s H.T. feed ...		150,000	H8
R13	V3 G.B. resistor ...		33,000	I8
R14	V3 anode feed ...		220	H8
R15	V3 G.B. resistor ...		4,700	G8
R16	I.F. stopper ...		47,000	G8
R17	Sig. diode load ...		470,000	G8
R18	Volume control ...		1,000,000	F5
R19	F.-B. coupling ...		4,700	F8
R20	Grid stopper ...		47,000	C4
R21	V4 pent. G.B. and A.V.C. delay ...		220	F8
R22	F.-B. coupling ...		15,000	F5
R23	A.V.C. decoupling ...		1,000,000	G8
R24	A.V.C. diode load ...		1,000,000	G8
R26	V5 surge limiter ...		82	E6
R27	Heater ballast ...		750*	D3
R28	Tone control resis- tors ...		27,000	F5
R29			22,000	F5
R30			47,000	G6

Tapped at 570 Ω + 90 Ω + 90 Ω from V5 heater.

CAPACITORS			Values (μ F)	Loca- tion
C1	Earth isolator ...		0.01	I8
C2	V1 C.G. decoupling ...		0.1	B2
C3	Aerial series ...		0.000005	H5
C4	V1 S.G. decoup. ...		0.1	I6
C5	V1 cath. by-pass ...		0.1	H6
C6	V1 anode decoup. ...		0.1	H6
C7	V2 hex. C.G. ...		0.0001	I6
C8	1st I.F. transformer { tuning ...		0.00007	B4
C9	V2 osc. C.G. ...		0.00007	B4
C10	V2 cath. by-pass ...		0.0001	I7
C11	L.W. fixed trim ...		0.00033	H7
C12	Osc. S.W. tracker ...		0.005	I7
C13	M.W. L.W. tracker ...		0.00057	H7
C14	Osc. anode coup. ...		0.0001	I7
C15	P.U. tone corrector ...		0.002	H8
C16	S.G.'s decoupling ...		0.1	I8
C17	V3 cath. by-passes { 2nd I.F. trans- former tuning ...		0.1	H8
C18	V3 anode capacitor ...		50.0	J8
C19*	I.F. by-passes ...		0.00014	C4
C20	V4 cath. by-pass ...		0.00014	C4
C21	A.F. coupling ...		0.1	H7
C22	A.V.C. coupling ...		0.0001	G8
C23	Tone corrector ...		0.0001	G8
C24	Parts of negative feed-back circuit { R.F. by-pass ...		25.0	F8
C25*	H.T. smoothing ...		0.01	G8
C26	Aerial S.W. trim ...		0.00001	H8
C27	Aerial M.W. trim ...		0.001	G7
C28	Aerial L.W. trim ...		0.02	G5
C29	Aerial tuning ...		0.02	G6
C30	R.F. S.W. trim ...		0.01	G6
C31	R.F. M.W. trim ...		0.1	F8
C32	R.F. tuning ...		16.0	C3
C33*	Osc. S.W. trim ...		24.0	C3
C34*	Osc. M.W. trim ...		0.00005	B2
C35†	Osc. L.W. trim ...		0.00005	A3
C36†	Oscillator tuning ...		0.00005	A3
C37†			0.00005	A3
C38†			0.000532	B2
C39†			0.00005	H6
C40†			0.000015	H6
C41†			0.000532	B3
C42†			0.00005	I7
C43†			0.00005	H7
C44†			0.00005	H7
C45†			0.000532	B3

* Electrolytic. † Variable. ‡ Pre-set.

OTHER COMPONENTS			Approx. Values (ohms)	Loca- tion
L1	Aerial S.W. coup. ...		0.1	B2
L2	Aerial tuning coils { R.F. S.W. tuning ...		Very low	B2
L3	R.F. M.W. tuning ...		1.0	A2
L4	Osc. S.W. reaction ...		3.0	A3
L5	Osc. M.W. and L.W. { reaction, total ...		Very low	H6
L6	Osc. tuning coils ...		2.0	G6
L7	1st I.F. {Pri. ...		24.0	I7
L8	2nd I.F. {Pri. ...		2.25	H7
L9	trans. {Sec. ...		2.25	H7
L10	Speech coil ...		Very low	I7
L11	H.T. choke ...		3.8	H7
L12	Pick-up {Pri. ...		4.5	H7
L13	trans. {Sec. ...		10.0	B4
L14	1st I.F. {Pri. ...		10.0	B4
L15	trans. {Sec. ...		6.5	C4
L16	2nd I.F. {Pri. ...		6.5	C4
L17	trans. {Sec. ...		2.5	C4
L18	Speech coil ...		2.5	C4
T1	H.T. choke ...		530.0	D2
T2	Pick-up {Pri. ...		1,150.0	G8
T3	trans. {Sec. ...		5,200.0	G8
T4	Output {Pri. ...		550.0	E7
T5	trans. {Sec. ...		0.3	E7
S1	Waveband switches		—	—
S2	Tone control switches ...		—	—
S3	Mains switches ...		—	G5
S4	Mains switches ...		—	G6
F1,F2	Mains fuses, 1.0 A.		—	D4

CIRCUIT ALIGNMENT

I.F. Stages.—Connect signal generator via an 0.1 μ F capacitor in the "live" lead, to control grid (top cap) of V2 and the E socket, removing the original top cap connector but connecting a 500,000 Ω resistor between the top cap of the valve and the A.V.C. line. A convenient point on the A.V.C. line is the tag on the frame aerial connecting panel to which is connected a brown plastic covered lead.

Switch set to M.W., turn volume control to maximum, and tune to 570 m on scale. Feed in a 465 kc/s (645.16 m) signal, and adjust the cores of L13, L14, L15 and L16 (chassis locations I8, B4, H8, C4) for maximum output. Finally, remove the 500,000 Ω resistor and replace top cap.

R.F. and Oscillator Stages.—With the gang at maximum, the pointer should be level with the three black dots at the upper ends of the scales. It may be adjusted by rotating the drive drum on the gang spindle after loosening the fixing screw. Transfer "live" signal generator lead to A socket, via a suitable dummy aerial.

M.W.—With set still switched to M.W., tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust C43 (H7), C40 (G6) and C36 (A3) for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and check calibration.

L.W.—Switch set to L.W., tune to 1,200 m on scale, feed in a 1,200 m (250 kc/s) signal, and adjust C44 (H7) and C37 (A3) for maximum output. Tune to 1,800 m on scale, feed in an 1,800 m (166.7 kc/s) signal, and check calibration.

S.W.—Switch set to S.W., using a 400 Ω dummy aerial, tune to 17.5 m on scale, feed in a 17.5 m (17.14 Mc/s) signal, and adjust C42 (I7), C39 (H6) and C35 (B2) for maximum output. Feed in a 43 m (6.98 Mc/s) signal, tune it in, and check calibration. If it is out, adjust the turns of L10 (I7) to correct it; then adjust the turns of L5 (H6) and L2 (B2) for maximum output. Repeat the S.W. adjustments.

DRIVE CORD REPLACEMENT

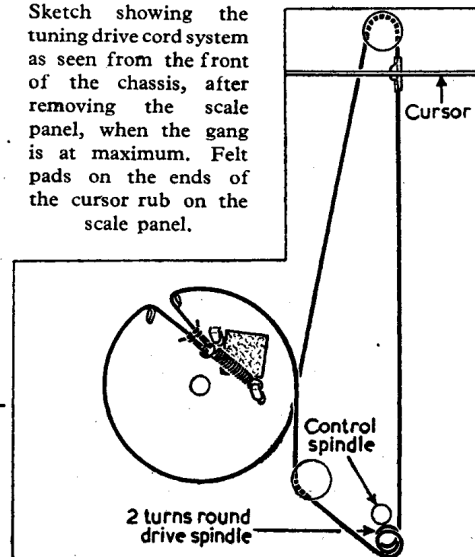
Four feet of Nylon braided glass yarn is sufficient for the drive cord replacement, this length including an ample margin for tying off.

The scale glass must first be dismantled by removing the upper clamp (two set screws) and slackening the screws in the bottom one. The glass can then be lifted out, with its rubber packing pieces.

The sketch (next col.) then shows the course taken by the cord, as seen when viewed from the front of the chassis with the gang at maximum, although in practice the lower portion is partly obscured by metal plates.

One end of the cord should be tied to the free end of the tension spring, which is hooked to its anchor. The cord then passes out of the drum through the gap, clockwise round the drum, down under the guide pulley, then through the slot in the scale backing plate and under the drive spindle round which it makes 2½ turns anti-clockwise. Finally it goes up to the top pulley, over it, and down under the gang drum back to the free end of the

Sketch showing the tuning drive cord system as seen from the front of the chassis, after removing the scale panel, when the gang is at maximum. Felt pads on the ends of the cursor rub on the scale panel.



spring, passing out of the scale assembly through the upper slot.

The cursor carrying plate is clamped lightly on to the long vertical run of cord, then fixed with the cursor about 1¼ in below the centre of the upper pulley. Fine adjustment can be made by turning the drum in the gang spindle when the scale is in position. With the gang at maximum, the cursor should be level with the spots at the tops of the three scales. The felt pads on the cursor rub on the edges of the scale panel.

PYE - K47C