

Valves	Anode		Screen		Cath.
	V	mA	V	mA	
V1 ECH42	250 115	1.0 6.0	68	2.0	2.6
V2 EF41	250	4.4	68	3.4	1.8
V3 EBC41	110	1.0	—	—	0.8
V4 EL41	245	31.0	250	4.6	6.5
V5 EZ40	280*	—	—	—	330.0

* A.C. reading, each anode.

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

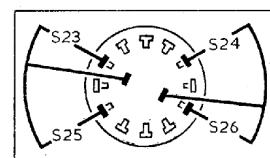


Diagram of the tone control switch unit.

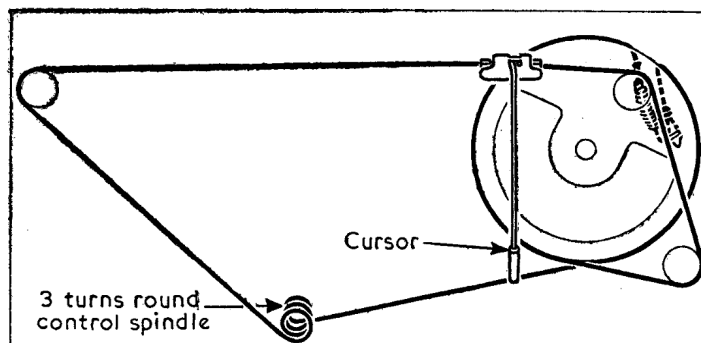
DRIVE CORD REPLACEMENT

About four feet of fine gauge nylon braided glass yarn is required for a new drive cord, which should be run as shown in the accompanying sketch, where the tuning drive system is drawn as seen from the front of the chassis when the gang is at maximum capacitance.

If the cord is fitted with the gang in this position, and the fixed end of the cord is attached to its anchor, the cord can be run while pulling against the gang stop, holding the cord in position. Tie off the finishing end to the tension spring so that the spring is extended to about twice its relaxed length when hooked on to the anchor tag.

The cursor can be fitted afterwards, and it should be finally adjusted as explained under "Circuit Alignment."

Sketch of the tuning drive system, drawn as seen from the front when the gang is at maximum capacitance.



RESISTORS		Values	Locations
R1	V1 C.G. ...	680kΩ	G3
R2	V1 G.B. ...	220Ω	G3
R3	V1 osc. C.G. ...	47kΩ	G3
R4	Osc. anode feed ...	22kΩ	G3
R5	S.G. H.T. pot. divider ...	33kΩ	F3
R6		33kΩ	F3
R7	V2 G.B. ...	130Ω	F3
R8	I.F. stopper ...	47kΩ	F3
R9	Signal diode load ...	680kΩ	E3
R10	Volume control ...	1MΩ	D2
R11	H.T. decoupling ...	47kΩ	E2
R12	V3 anode load ...	100kΩ	E3
R13	A.G.C. diode load ...	1MΩ	E3
R14	A.G.C. decoupling ...	1MΩ	E3
R15	V4 C.G. ...	680kΩ	E3
R16	V4 C.G. stopper ...	100kΩ	E3
R17	V4 G.B. ...	180Ω	E2
R18	Part tone control ...	2-2kΩ	D3
R19		2-2kΩ	D3
R20		1kΩ	E3
R21		2-2kΩ	D3
R22	H.T. smoothing ...	1-5kΩ	D2
R23	Volume control ...	1MΩ	—
R24	V3 G.B. ...	1kΩ	—
R25	H.T. decoupling ...	47kΩ	—
R26	V3 anode load ...	100kΩ	—
R27	A.G.C. diode load ...	1MΩ	—
R28	A.G.C. decoupling ...	1MΩ	—
R29	V4 C.G. ...	680kΩ	—
R30	Part tone control ...	1MΩ	—
R31	V4 C.G. stopper ...	100kΩ	—
R32	Ballast resistor ...	*1,100Ω	—
R33	V4 G.B. ...	180Ω	—
R34	Scale lamp shunt ...	68Ω	—
R35	V5 surge limiter ...	150Ω	—

* Tapped at 850Ω + 125Ω + 125Ω from V5 heater.
† 220Ω in A.C./D.C. model.

CAPACITORS		Value	Locations
C1	L.W. aerial shunt ...	100pF	F2
C2	L.W. aerial trim. ...	110pF	F2
C3	V1 C.G. ...	100pF	G2
C4	1st I.F. trans. tuning ...	125pF	A1
C5		125pF	A1
C6	V1 cath. by-pass ...	0-05μF	G3
C7	V1 osc. C.G. ...	100pF	G2
C8	A.G.C. decoupling ...	0-02μF	G3
C9	S.W. osc. tracker ...	0-005μF	F2
C10	T.W. osc. tracker ...	0-0017μF	G2
C11	M.W. osc. tracker ...	500pF	F2
C12	L.W. osc. tracker ...	220pF	F2
C13	L.W. osc. trimmer ...	150pF	F2
C14	Osc. anode coup. ...	100pF	G3
C15	S.G. decoupling ...	0-03μF	F3
C16	2nd I.F. trans. tuning ...	125pF	B1
C17	V2 cath. by-pass ...	125pF	B1
C18		0-05μF	F3
C19	I.F. by-passes ...	100pF	F3
C20		100pF	F3
C21	A.G.C. coupling ...	22pF	E3
C22	A.F. coupling ...	0-01μF	F3
C23*	H.T. smoothing ...	2μF	E3
C24	A.F. coupling ...	0-02μF	F3
C25	Tone corrector ...	0-01μF	E2
C26*	V4 cath. by-pass ...	25μF	C1
C27	Part tone control ...	0-1μF	D3
C28*	H.T. smoothing ...	32μF	C1
C29*		32μF	C1
C30*	S.W. aerial trim. ...	30pF	F2
C31*	T.W. aerial trim. ...	30pF	G2
C32*	M.W. aerial trim. ...	30pF	F2
C33*	Aerial tuning ...	—	A1
C34*	S.W. osc. trim. ...	30pF	F2
C35*	T.W. osc. trim. ...	30pF	G2
C36*	M.W. osc. trim. ...	30pF	F2
C37†	Oscillator tuning ...	—	A1
C38	Earth isolator ...	0-1μF	—
C39	A.F. coupling ...	0-01μF	—
C40*	H.T. smoothing ...	2μF	—
C41*	V3 cath. by-pass ...	50μF	—
C42	A.F. coupling ...	0-02μF	—
C43	Part tone control ...	0-02μF	—
C44		0-001μF	—
C45	Tone corrector ...	0-005μF	—
C46	Mains R.F. by-pass ...	0-02μF	—
C47*	V4 G.B. ...	25μF	—
C48*	H.T. smoothing ...	32μF	—
C49*		32μF	—
C50	Aerial isolator ...	0-001μF	—

* Electrolytic. † Variable. ‡ Pre set.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Aerial coup. coils ...	—	F2
L2		5-0	G2
L3		35-0	F2
L4		200-0	F2
L5	Aerial tuning coils	—	F2
L6		0-5	G2
L7		2-5	F2
L8	Oscillator reaction coils ...	15-0	F2
L9		—	F2
L10	Oscillator tuning coils ...	—	G2
L11		—	F2
L12		—	F2
L13	1st I.F. trans. {Pri. Sec.}	2-0	G2
L14		4-5	F2
L15	2nd I.F. trans. {Pri. Sec.}	9-0	A1
L16		9-0	A1
L17	Speech coil	9-0	B1
L18		2-5	—
L19	H.T. smoothing choke ...	500-0	—
L20	O.P. trans. {a b}	320-0	E2
L21	(A.C. model)	—	—
T1	Mains trans. {a b c d e f, total}	—	C1
T2		310-0	—
T3		310-0	—
T4		20-0	—
F1, F2	O.P. trans. (A.C./D.C. model) {a b}	320-0	—
S1-S22	1A fuses ...	—	—
S23-	Waveband switches	—	G2
S26	Tone switches ...	—	D3
S27	Mains s.w., g'd. R10	—	D2
S28, S29	Tone switches ...	—	—

CIRCUIT ALIGNMENT

All the core and trimmer adjustments are easily accessible upon removing the base cover (two wood screws) and back cover (two clips).

I.F. Stages.—Switch receiver to L.W. and turn gang to maximum. Connect signal generator output, via an 0.1μF capacitor in each lead, to control grid (pin 6) of V1 and chassis. Feed in a 420 kc/s (714.3 m) signal and adjust the cores of L19 (location reference B1), L18 (F3), L17 (A1) and L16 (G3) for maximum output. Repeat these adjustments.

R.F. and Oscillator Stages.—As the tuning scale is fixed to the cabinet, the following alignment should be carried out with the chassis in the cabinet. Check that with the gang at maximum capacitance, the cursor coincides with the short vertical mark at the right-hand end of the M.W. tuning scale. Transfer signal generator leads to A and E sockets.

L.W.—Switch receiver to L.W., tune to 1,428.5 m, feed in a 1,428.5 m (210 kc/s) signal and adjust the cores of L15 (F2) and L8 (F2) for maximum output. Repeat these adjustments.

M.W.—Switch receiver to M.W., tune to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust C36 (F2) and C32 (F2) for maximum output. Tune receiver to 500 m, feed in a 500 m (600 kc/s) signal and adjust the cores of L14 (F2) and L7 (F2) for maximum output. Repeat these adjustments.

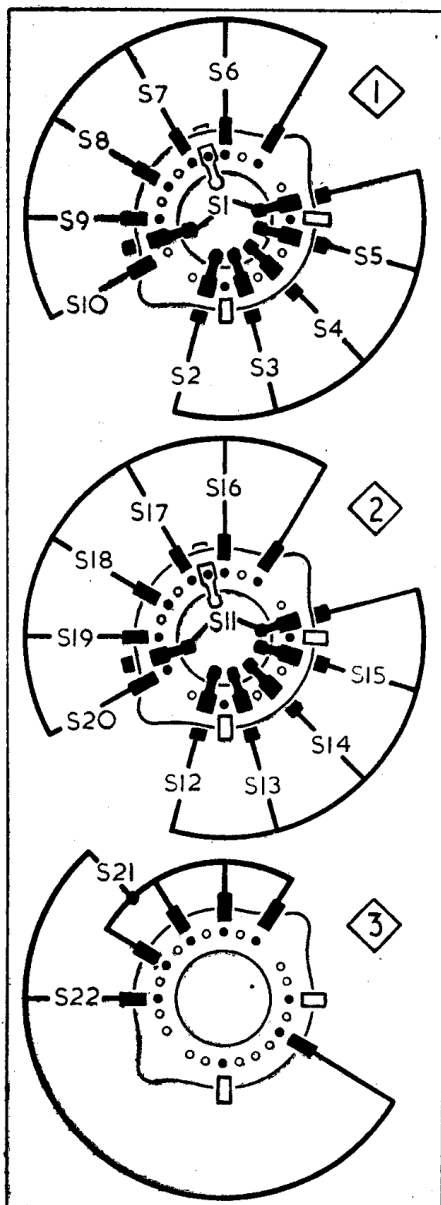
T.W.—Switch receiver to trawler band, tune to 90 m, feed in a 90 m (3.3 Mc/s) signal and adjust C35 (G2) and C31 (G2) for maximum output. Tune receiver to 200 m, feed in a 200 m (1,500 kc/s) signal and adjust the cores of L13 (G2) and L6 (G2) for maximum output. Repeat these adjustments.

S.W.—Switch receiver to S.W., tune to 15 m, feed in a 15 m (20 Mc/s) signal and adjust C34 (F2) and C30 (F2) for maximum output. Tune receiver to 37.5 m, feed in a 37.5 m (8 Mc/s) signal and adjust the cores of L12 (F2) and L5 (F2) for maximum output. Repeat these adjustments.

MODEL 34 (Export)

S.W.1.—The range of this band is 25-60 m. Adjust aerial and oscillator trimmers at 25 m (12 Mc/s) for maximum output, and adjust the cores of L5 and L12 at 60 m (5 Mc/s). Repeat these adjustments until no improvement can be obtained, and check calibration.

S.W.2.—The range of this band is 11-27 m. Adjust aerial and oscillator trimmers at 12 m (25 Mc/s) for maximum output, and adjust the cores of L6 and L13 at 25 m (12 Mc/s). Repeat these adjustments until no improvement can be obtained, and check calibration.



Diagrams of the waveband and radio/gram change-over switches, as seen from the rear of an inverted chassis.