

Sketch showing the front of the tuning assembly, on which are mounted all the R.F. and oscillator trimmers and core adjustments. Reference is made to this sketch in "Circuit Alignment."

CAPACITORS		Values (μF)	Locations
C1	Aerial series ...	0-0002	L5
C2	Aerial L.W. trim ...	0-000047	N6
C3	V1 hex. C.G. ...	0-0001	K4
C4	H.T. R.F. by-pass ...	0-25	L4
C5	V1 S.G.'s decoup. ...	0-05	K4
C6	1st I.F. trans. former tuning ...	0-0001	B2
C7	V1 cath. by-pass ...	0-00011	B2
C8	V1 osc. C.G. ...	0-1	J4
C9	V1 osc. C.G. ...	0-0001	J4
C10	V1 osc. C.G. ...	0-0056	M6
C11	Oscillator tracking capacitors ...	0-000575	M7
C12	Oscillator tracking capacitors ...	0-0002	M6
C13	Osc. anode coup. ...	0-0001	J4
C14	A.G.C. decoup. ...	0-05	J5
C15	V2 S.G. decoup. ...	0-05	K5
C16	2nd I.F. trans. former tuning ...	0-0001	B2
C17	V2 cath. by-pass ...	0-00011	B2
C18	V2 cath. by-pass ...	0-05	J5
C19	I.F. by-passes ...	0-0001	B2
C20	I.F. by-passes ...	0-0001	B2
C21	A.F. coupling ...	0-005	G5
C22	V3 S.G. decoup. ...	0-1	H5
C23*	V3 cath. by-pass ...	30-0	G4
C24	A.G.C. coupling ...	0-000012	B2
C25	Tone control ...	0-005	E3
C26	A.F. coupling ...	0-005	H4
C27*	V4 cath. by-pass ...	30-0	F4
C28	Tone corrector ...	0-005	F4
C29*	H.T. smoothing ...	32-0	A2
C30*	H.T. smoothing ...	32-0	A2
C31*	H.T. smoothing ...	16-0	L4
C32†	Aerial S.W. trim ...	0-00005	N7
C33†	Aerial M.W. trim ...	0-00005	N7
C34†	Aerial L.W. trim ...	0-00005	N6
C35†	Aerial tuning ...	0-00053§	A1
C36†	Oscillator tuning ...	0-00053§	A2
C37†	Osc. S.W. trim ...	0-00005	M7
C38†	Osc. M.W. trim ...	0-00005	M7
C39†	Osc. L.W. trim ...	0-00005	M6

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

Valve	Anode		Screen		Cath.
	V	mA	V	mA	
V1 UCH42	173 91 Oscillator	2-4 3-7	74	2-5	1-7§
V2 UAF42	173	5-9	82	1-8	1-9§
V3 UAF42	46	0-5	25	0-4	1-4§
V4 UL41	200	56-0	173	9-5	9-4§
V5 UY41	235†	—	—	—	222

† V, A.C. § 10 V meter range.

RESISTORS		Values (ohms)	Locations
R1	V1 hex. C.G. ...	1,000,000	J4
R2	V1 S.G.'s H.T. pot-entail divider ...	18,000	K5
R3	V1 fixed G.B. ...	27,000	K5
R4	V1 osc. C.G. ...	200	J4
R5	V1 osc. C.G. ...	47,000	J4
R6	Osc. anode load ...	22,000	K5
R7	V2 S.G. H.T. feed ...	47,000	J5
R8	V2 fixed G.B. ...	300	H5
R9	I.F. stopper ...	47,000	B2
R10	A.G.C. decoup ...	1,000,000	H4
R11	Sig. diode load ...	470,000	B2
R12	Volume control ...	1,000,000	G3
R13	V3 C.G. stopper ...	47,000	H4
R14	V3 S.G. H.T. potential divider ...	470,000	H5
R15	V3 S.G. H.T. potential divider ...	220,000	H5
R16	F.-B. coupling ...	30	G4
R17	V3 G.B., A.G.C. delay ...	3,300	G4
R18	V3 pent. load ...	220,000	H5
R19	A.G.C. diode load ...	1,000,000	H4
R20	Tone control ...	1,000,000	—
R21	V4 C.G. resistor ...	560,000	E5
R22	V4 C.G. stopper ...	10,000	E4
R23	V4 G.B. resistor ...	150	F4
R24	F.-B. series ...	500	F4
R25	H.T. smoothing ...	1,500	F5
R26	V5 surge limiter ...	100	F5

OTHER COMPONENTS		Approx. Values (ohms)	Locations	
L1	Aerial coupling coils ...	Very low	N6	
L2		1-0	N7	
L3		71-0	N6	
L4	Aerial tuning coils	Very low	N6	
L5		2-0	N7	
L6		16-0	N6	
L7	Oscillator tuning coils ...	Very low	M6	
L8		1-6	M7	
L9		4-2	M6	
L10	Oscillator reaction coils ...	Very low	M6	
L11		0-5	M7	
L12		1-0	M6	
L13	1st I.F. trans. { Pri. 6-0 B2 Sec. 6-0 B2	6-0	B2	
L14		6-0	B2	
L15	2nd I.F. trans. { Pri. 6-0 B2 Sec. 6-0 B2	6-0	B2	
L16		6-0	B2	
L17	Speech coil ...	2-5	D1	
L18	Smoother choke ...	70-0	C1	
T1	Output trans. { Pri. ... 240-0 F4 Sec. ... 0-3 Pri., total 24-0 Sec. y-z 15-0 C2 Sec. w-x 26-0	240-0	F4	
T2		Mains trans. { Pri., total 24-0 Sec. y-z 15-0 C2 Sec. w-x 26-0	Very low	C2
S1-S14		W/band switches	—	N7
S15		Mains sw., g'd R12	—	G8

CIRCUIT ALIGNMENT

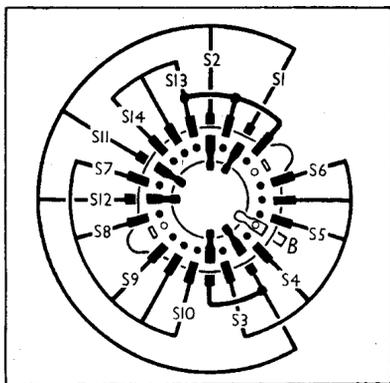
I.F. Stages.—Connect signal generator, via an 0.1 μ F capacitor in the "live" lead, to control grid (pin 6) of V1 and the E socket, switch set to M.W., turn gang and volume control to maximum, feed in a 455 kc/s (659.3 m) signal, and adjust the cores of L16, L15, L14, L13 (location references H5, B2, B2, K5) for maximum output.

R.F. and Oscillator Stages.—When carrying out the following operations reference should be made to our sketch of the tuning assembly in col. 1, where the positions of all adjustments are indicated. With the gang at maximum capacitance the cursor should coincide with the high wavelength ends of the three scales. Transfer "live" signal generator lead to A socket, via a suitable dummy aerial.

M.W.—Switch set to M.W., tune to 215 m on scale, feed in a 215 m (1,396 kc/s) signal, and adjust C38 and C33 for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust the cores of L8 and L5 for maximum output. Check calibration at 350 m (857 kc/s) and repeat these operations if necessary.

S.W.—Switch set to S.W., tune to 18 m on scale, feed in an 18 m (16.67 Mc/s) signal, and adjust C37 and C32 for maximum output.

Waveband Switch Diagram and Table



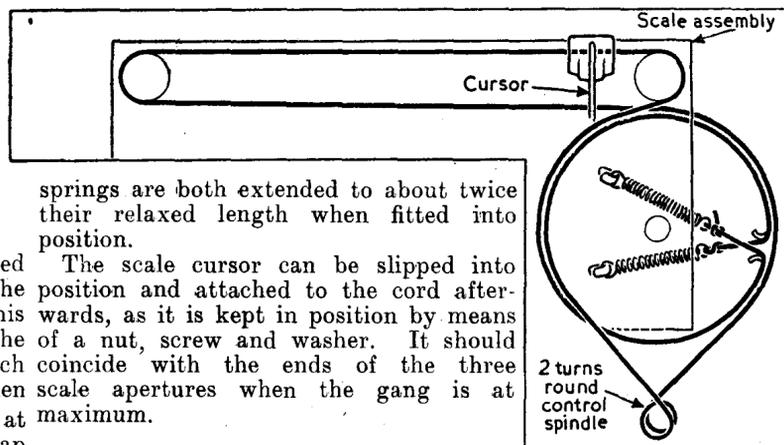
Switch	S.W.	M.W.	L.W.	Gram.
S1	C	—	—	—
S2	—	C	—	—
S3	C	—	—	—
S4	—	C	—	—
S5	—	—	C	—
S6	—	—	—	C
S7	C	—	—	—
S8	—	C	—	—
S9	—	—	C	—
S10	—	—	—	C
S11	C	—	—	—
S12	—	C	—	—
S13	C	C	C	—
S14	—	—	—	C

Diagram of the waveband switch unit, drawn as seen from the rear of the tuning assembly when inverted and with the cover removed. The associated table is on the right.

DRIVE CORD REPLACEMENT

About four feet of fine quality plaited and waxed twine is required for the tuning drive cord replacement. This leaves plenty to spare for tying off. The drive system is shown in the sketch (col. 5), where it is drawn as seen when viewed from the front with the gang at minimum capacitance, showing the gap in the rim of the gang drum.

First tie one of the tension springs to one end of the cord, hook the spring to the lower anchor tag on the drum, run the cord anti-clockwise round the drum and down to the control spindle, then follow the sketch to the end of the run, finally tying off the end of the cord to the second tension spring so that the



springs are both extended to about twice their relaxed length when fitted into position.

The scale cursor can be slipped into position and attached to the cord afterwards, as it is kept in position by means of a nut, screw and washer. It should coincide with the ends of the three scale apertures when the gang is at maximum.

Sketch of the tuning drive system, drawn as seen from the front of the chassis, neglecting obstructions, when the gang is at minimum capacitance. Actually the whole system is behind the scale assembly.

ALBA
3531, 3511,
8531, 4551,
475B

L.W.—Switch set to L.W., tune to 1,000 m on scale, feed in a 1,000 m (300 kc/s) signal, and adjust C39 and C34 for maximum output. Tune to 1,900 m on scale, feed in a 1,900 m (157.9 kc/s) signal, and adjust the cores of L9 and L6 for maximum output. Repeat these operations if necessary.