ALBA - 3841

CIRCUIT ALIGNMENT

I.F. Stages.—The following adjustments can be made without removing the chassis from its cabinet. Connect output of signal generator, via an 0.1 μF capacitor in the "live" lead, to control grid (pin 6) of **V1** and chassis. Switch receiver to M.W. and turn gang to maximum. Feed in a 470 kc/s (638.3m) signal and adjust the cores of **L14** (location reference C2), **L13** (C2), **L12** (B2) and **L11** (B2) for maximum output. Repeat these adjustments.

R.F. and Oscillator Stages.—The following adjustments should be made with the chassis in the cabinet, as no calibration marks are provided on the chassis itself and the tuning scale is fixed to the cabinet. Our plan view of the chassis shows all the R.F. and oscillator adjustments which are easily accessible upon removing the cabinet back cover. Check that with the gang at maximum capacitance the cursor coincides with the high wavelength ends of the tuning scales. Transfer signal generator leads, via a suitable dummy aerial, to **A** and **E** sockets.

S.W.—Switch receiver to S.W., tune to 16.67m, feed in a 16.67m (18 Mc/s) signal and adjust **C35** (A1) and **C30** (A2) for maximum output. Tune receiver to 50m, feed in a 50m (6 Mc/s) signal and check calibration. Adjustments can be made if necessary by withdrawing the chassis from the cabinet and adjusting the spacing of the turns in the connecting lead to **L7,** labelled "S.W. Tracking adj.," in our under chassis view (location reference H3). Repeat these adjustments until calibration is correct at both ends of band.

M.W.—Switch receiver to M.W., tune to 200m, feed in a 200m (1,500 kc/s) signal and adjust **C36** (A1) and **C31** (A2) for maximum output. Tune receiver to 500m, feed in a 500m (600 kc/s) signal and adjust **C38** (B1) for maximum output while rocking the gang for optimum results. Repeat these adjustments.

L.W.—Switch receiver to L.W., tune to 800m, feed in an 800m (375 kc/s) signal and adjust **C37** (A1) and **C32** (A2) for maximum output. Tune to 1,949m, feed in a 1,949m (154 kc/s) signal and adjust **C39** (B1) for maximum output, while rocking the gang for optimum results.

Valve	Anode V	Anode mA	Screen V	Screen mA	Cath. V
V1 ECH42	260	2·6	95	3·8	2·0
	Oscillator 120	5·0			
V2 EF41	260	5·2	95	1·8	2·3
V3 EBC41	180	0·85	—	—	1·8
V4 EL41	240	31·0	260	4·4	7·2
V5 EZ40	250*	—	—	—	290·0†

* Each anode, A.C. † Cathode current 53mA.

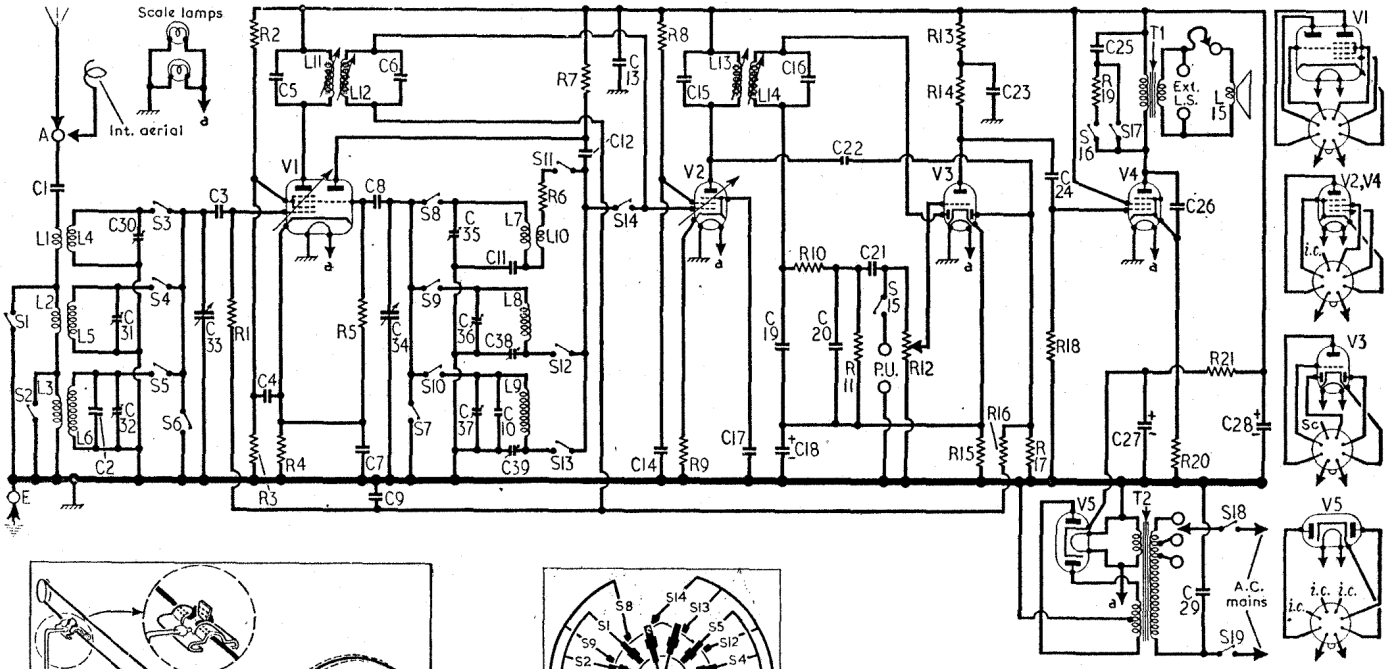
CAPACITORS		Values	Locations
C1	Aerial series ...	200pF	H4
C2	L.W. aerial trim ...	100pF	G4
C3	V1 C.G.	100pF	H3
C4	V1 S.G. decoupling	0·1μF	G4
C5	1st I.F. trans. tuning	100pF	B2
C6		100pF	B2
C7	V1 cath. by-pass...	0·1μF	G4
C8	V1 osc. C.G. ...	100pF	H3
C9	A.G.C. decoupling	0·05μF	G3
C10	L.W. osc. trim. ...	47pF	H4
C11	S.W. osc. tracker...	5,343pF	G3
C12	Osc. reaction coup.	100pF	H3
C13	H.T. by-pass ...	0·25μF	G3
C14	V2 S.G. decoup. ...	0·1μF	G4
C15	2nd I.F. trans. tuning	100pF	C2
C16		100pF	C2
C17	V2 cath. by-pass...	0·1μF	G4
C18*	V3 cath. by-pass...	25μF	F3
C19	I.F. by-passes ...	100pF	G3
C20		100pF	G3
C21	A.F. coupling ...	0·005μF	G4
C22	A.G.C. coupling ...	12pF	F4
C23	H.T. decoupling ...	0·1μF	F4
C24	A.F. coupling ...	0·005μF	F4
C25	Part tone control...	0·05μF	E3
C26	Tone corrector ...	0·005μF	F4
C27*	H.T. smoothing ...	32μF	D2
C28*		32μF	D2
C29	Mains R.F. filter...	0·01μF	E4
C30‡	S.W. aerial trim ...	65pF	A2
C31‡	M.W. aerial trim...	65pF	A2
C32‡	L.W. aerial trim....	65pF	A2
C33†	Aerial tuning ...	528pF§	A2
C34†	Oscillator tuning...	528pF§	A2
C35‡	S.W. osc. trim. ...	65pF	A1
C36‡	M.W. osc. trim. ...	65pF	A1
C37‡	L.W. osc. trim. ...	65pF	A1
C38‡	M.W. osc. tracker...	500pF	B1
C39‡	L.W. osc. tracker...	200pF	B1

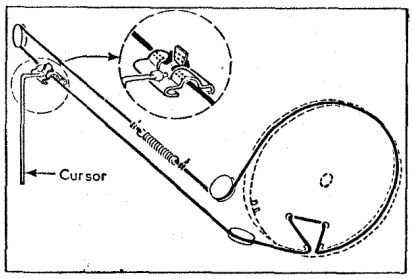
* Electrolytic. † Variable. ‡ Pre-set. § "Swing" value, min. to max.

RESISTORS		Values	Locations
R1	V1 C.G.	1MΩ	G4
R2	V1 S.G. pot.	22kΩ	G3
R3	divider ...	33kΩ	G3
R4	V1 G.B.	220Ω	G4
R5	V1 osc. C.G. ...	47kΩ	G3
R6	S.W. osc. stabilizer	100Ω	H3
R7	Osc. anode feed ...	27kΩ	G3
R8	V2 S.G. feed ...	90kΩ	G4
R9	V2 G.B.	330Ω	G4
R10	I.F. stopper ...	47kΩ	G4
R11	Signal diode load...	560kΩ	F4
R12	Volume control ...	250kΩ	D2
R13	V3 H.T. decoupling	47kΩ	F4
R14	V3 anode load ...	47kΩ	F4
R15	V3 G.B.	2·2kΩ	F4
R16	A.G.C. decoupling	1MΩ	F4
R17	A.G.C. diode load	1MΩ	F4
R18	V4 C.G.	820kΩ	F4
R19	Part tone control	10kΩ	E3
R20	V4 G.B.	200Ω	F4
R21	H.T. smoothing ...	560Ω	E4

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	aerial coupling coils	—	H4
L2		—	H4
L3		—	H4
L4		—	H4
L5	Aerial tuning coils	3·0	H4
L6		9·5	H4
L7	Oscillator tuning coils	—	H3
L8		2·0	H3
L9		4·5	H3
L10	Osc. reaction coil	—	H3
L11	1st I.F. trans Pri.	11·0	B2
L12	1st I.F. trans Sec.	11·0	B2
L13	2nd I.F. trans. Pri.	11·0	C2
L14	2nd I.F. trans. Sec.	11.0	C2
L15	Speech coil ...	2·5	—
T1	O.P. trans. Pri.	420·0	—
	Sec.	—	
T2	Mains trans. Pri., total H.T. sec., total	40·0	
		520·0	D2
	Htr. sec.	—	
S1-S15	Waveband switches	—	H3
S16, S17	Tone control switches	—	E3
S18, S19	Mains sw., g'd R12	—	D2

Intermediate Frequency 470 kc/s.





Three-quarter front view of the tuning drive system. The sketch inset shows how the cord is fastened.

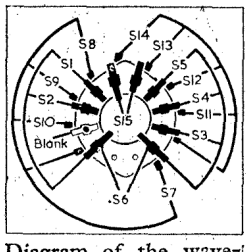


Diagram of the wave-band switch unit (above) and plan view of the chassis (right).

Drive Cord Replacement.—The gang drive is direct via an epicyclic reduction device, but a cord is used for the cursor drive. The course followed by the drive cord is shown in the sketch in col. 1, about four feet of high-grade flax fishing line, plaited and waxed, being required for a new cord.

The first operation is to thread the drive cord through the two holes in the face of the drive drum, near the gap in its rim. Then tie the tension spring to one end, and run the cord as shown, tying the other end of the cord at the free end of the spring. The cord can be drawn through the drum holes as required to bring the spring to the required position.

Switches	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	—
S14	—	—	—	C
S15	—	—	—	C

Switches.—S1-S15 are the waveband and radio/gram switches ganged in a single rotary unit beneath the chassis.