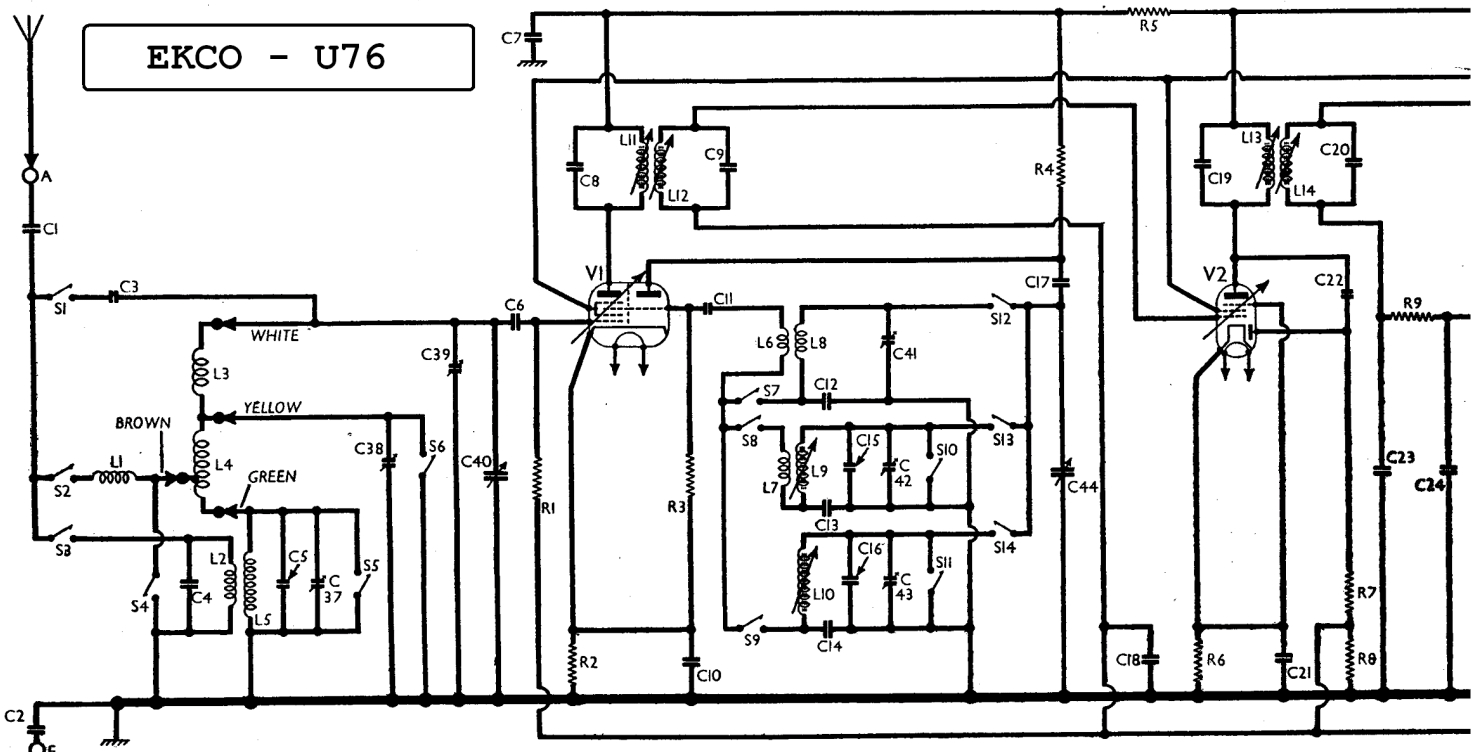
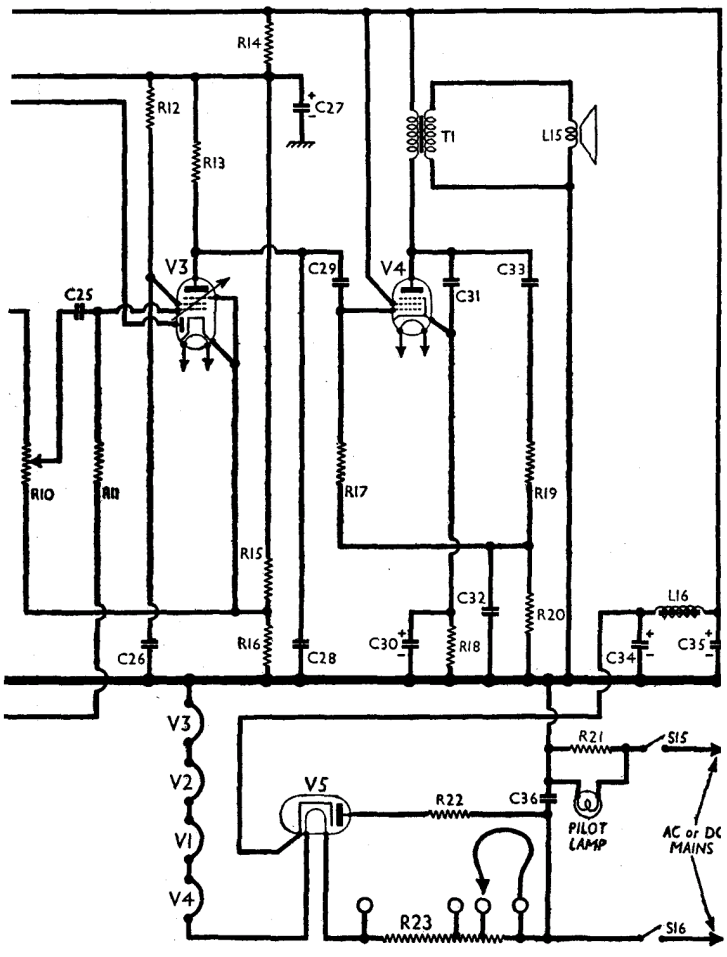
EKCO - U76



Intermediate frequency 455 kc/s or **460 kc/s** (see under "Circuit Alignment").



RESISTORS		Values (ohms)
R1	V1 hex. C.G. ...	750,000
R2	V1 fixed G.B. ...	330
R3	V1 osc. C.G. ...	22,000
R4	Osc. anode load ...	15,000
R5	H.T. decoupling ...	1,000
R6	V2 fixed G.B. ...	330
R7, R8	A.G.C. diode load resistors ...	680,000, 1,000,000
R9	I.F. stopper ...	220,000
R10	Volume control ...	500,000
R11	V3 C.G. resistor ...	680,000
R12	V3 S.G. feed ...	750,000
R13	V3 pent. load ...	220,000
R14		22,000
R15	H.T. potential divider resistors ...	47,000
R16		220
R17	V4 C.G. resistor ...	560,000
R18	V4 G.B. resistor ...	150
R19, R20	Negative feed-back potential divider	220,000, 68,000
R21	Pilot lamp shunt ...	33
R22	V5 surge limiter ...	160
R23	Heater ballast ...	§ 1,230

§ Tapped at 930 Ω + 150 Ω + 150 Ω from V5 heater.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial choke ...	15·0
L2	L.W. aerial coup. ...	26·0
L3	S.W. frame aerial ...	Very low
L4	M.W. frame aerial	1·0
L5	Aerial L.W. coil ...	25·0
L6	S.W. react. coil ...	Very low
L7	M.W. react. coil ...	0·6
L8	Osc. tuning coils ...	Very low
L9		2·0
L10		5.5
L11	1st I.F. trans. Pri.	15·0
L12	1st I.F. trans. Sec.	15·0
L13	2nd I.F. trans. Pri.	15·0
L14	2nd I.F. trans. Sec.	15·0
L15	Speech coil ...	2·5
L16	Smoothing choke ...	380·0
T1	Output trans. Pri.	490·0
	Output trans. Sec.	0·8
S1-S14	W/band switches ...	—
S15, S16	Mains switches, ganged R9 ...	—

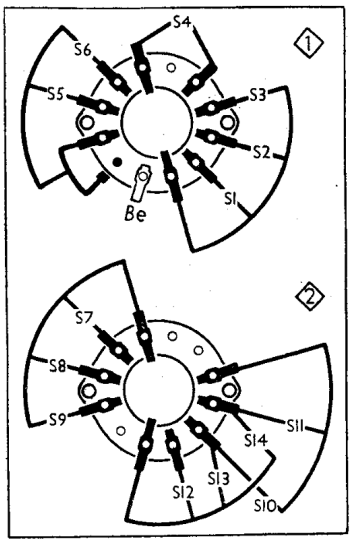
CAPACITORS		Values (μF)
C1	Aerial isolator ...	0·001
C2	Earth isolator ...	0·1
C3	Aerial S.W. series	0·000005
C4	Aerial L.W. shunt	0·001
C5	Aerial L.W. trim. ...	0·00005
C6	V1 hex. C.G. ...	0·0001
C7	V1 H.T. decoup. ...	0·1
C8, C9	1st I.F. transformer tuning	0·0001, 0·0001
C10	V1 cath. by-pass ...	0·1
C11	V1 osc. C.G. ...	0·00005
C12	Osc. S.W. tracker ...	0·006715
C13	Osc. M.W. tracker	0·000643
C14	Osc. L.W. tracker	0·00017
C15	Osc. M.W. trim. ...	0·000022
C16	Osc. L.W. trim. ...	0·00014
C17	Osc. anode coup. ...	0·0005
C18	A.G.C. decoupling	0·1
C19, C20	2nd I.F. transformer tuning ...	0·0001, 0·0001
C21	V2 cath. by-pass ...	0·1
C22	A.G.C. coupling ...	0·000005
C23, C24	I.F. by-passes ...	0·0001, 0·0001
C25	A.F. coupling ...	0·01
C26	V3 S.G. decoup. ...	0·1
C27*	H.T. decoupling ...	2·0
C28	I.F. by-pass ...	0·0002
C29	A.F. coupling ...	0·01
C30*	V4 cath. by-pass ...	50·0
C31	Tone corrector ...	0·0025
C32, C33	Negative feed-back coupling ...	0·002, 0·002
C34, C35	H.T. smoothing ...	8·0, 32·0
C36	Mains R.F. by-pass	0·1
C37‡	Aerial L.W. trim. ...	—
C38‡	Aerial M.W. trim.	—
C39‡	Aerial S.W. trim. ...	—
C40†	Aerial tuning ...	—
C41‡	Osc. S.W. trim. ...	—
C42‡	Osc. M.W. trim. ...	—
C43‡	Osc. L.W. trim. ...	—
C44†	Oscillator tuning ...	—

* Electrolytic. † Variable. ‡ Pre-set.

Valve	Anode (V)	Anode (mA)	Screen (V)	Screen (mA)	Cath. (V)
V1 UCH42	157	1·2	68	1·3	2·0
	Oscillator 96	4·0			
V2 UAF42	163	4·0	68	1·1	1·5
V3 UAF42	20	0·2	12	0·07	0·4
V4 UL41	140	45·0	163	9.1	8·0
V5 UY41	215†	—	—	—	193

† A.C.

Waveband Switch Diagrams and Table



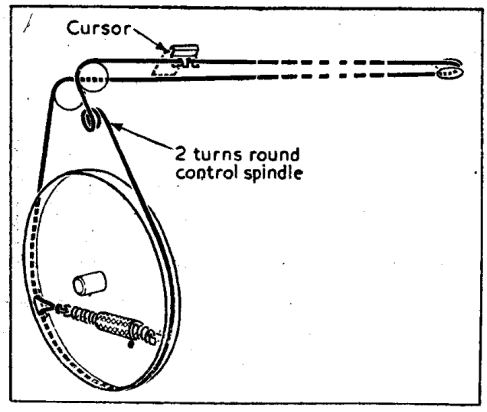
Diagrams of the waveband switch units, drawn as seen when viewed from the side of the chassis on which they are mounted, as indicated in our rear view of the chassis. The associated table is on the right.

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

DRIVE CORD REPLACEMENT

Good quality flax fishing line should be used for a new drive cord, four feet being ample for the job and providing plenty of spare for tying off. The complete drive system is shown in the sketch (col. 4), where it is drawn as seen when viewed from the rear left-hand corner of the chassis when the gang is at maximum.

Both ends of the cord are tied to the same loop at the free end of the tension spring, the tension being adjusted so as to extend the spring to about twice its relaxed length when its fixed end is hooked to the anchor provided for it on the face of the gang drum.



Sketch showing the drive cord system, drawn as seen from the rear left-hand corner with the gang at maximum.

CIRCUIT ALIGNMENT

I.F. Stages.—Alternative intermediate frequencies of 455 kc/s (659.3 m) or 460 kc/s (652.1 m) are employed in this receiver, dependent upon its geographical location. Sets used in Southern England should have an I.F. of 455 kc/s, and this fact will be stamped or written above the serial number on the rear chassis member and indicated by the letter "S" printed on the back cover close to the model number. In Northern England the I.F. should be 460 kc/s, indicated by the letter "N" on the back cover.

Switch set to M.W., turn gang and volume control to maximum, connect signal generator, via an 0.1 μF capacitor in the "live" lead, to control grid (pin 6) of **V1** and the **E** socket, feed in the appropriate I.F., and adjust the cores of **L14, L13, L12, L11** (location references A1, H4, B2, F6) for maximum output.

R.F. and Oscillator Stages.—Before carrying out the following operations the chassis must be inserted in the cabinet, but access may be gained to the trimmer capacitors involved, through holes in the underside of the cabinet. With the gang at maximum capacitance, the cursor should coincide with the long vertical lines at the high wavelength ends of the three scales. It may be adjusted by sliding its carriage along the drive cord in the appropriate direction. Transfer "live" signal generator lead to **A** socket, via an 0.0001 μF capacitor.

S.W.—Switch set to S.W., tune to 20 m on scale, feed in a 20 m (15 Mc/s) signal, and adjust **C41** (G8) and **C39** (H8) for maximum output.

M.W.—Switch set to M.W., tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal, and adjust **C42** (G8) and **C38** (H8) for maximum output.

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 **C43** (G8) and **C37** (H8) for maximum output.

The cores of **L9** and **L10** (H6) are sealed in position by the manufacturers, and should not be disturbed. If they have been tampered with, they should be adjusted at 550 m (545.4 kc/s) and 2,000 m (150 kc/s) respectively for correct calibration. This should be repeated after performing the foregoing M.W. and L.W. adjustments, the oscillator core and trimmer adjustments being repeated again in turn until no improvement can be obtained.