

EKCO - U122

Valve	Anode		Screen	
	V	mA	V	mA
V1 UCH42	158	2.1	76	2.0
V2 UF41	73	2.6	76	1.25
V3 UBC41	155	4.5	76	1.25
V4 UI41	76	0.7	76	2.35
V5 UY41	213	25.5	76	2.35
	215†	—	—	—

† A.C. volts.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	M.W. frame aerial...	1.0*	A2
L2	L.W. frame aerial...	10.0	A2
L3	Oscillator tuning coils	3.0	A1
L4	coils	6.8	A1
L5	Oscillator reaction coils	2.0	A1
L6	coils	5.3	A1
L7	1st I.F. Pri.	26.0	A2
L8	trans. Sec.	26.0	A2
L9	2nd I.F. Pri.	16.0	B2
L10	trans. Sec.	16.0	B2
L11	Speech coil	2.5	B1
T1	O.P. trans.	160.0 190.0 0.3	A1
S1-S6	Waveband switches	—	B1
S7, S8	Mains sw., g'd R9...	—	E3

* 0.5Ω each half.

CAPACITORS		Values	Locations
C1	Aerial series	50pF	A2
C2	Chassis isolator	0.05μF	G4
C3	L.W. aerial trim.	50pF	C2
C4	L1 shunt	0.001μF	B2
C5	V1 C.G.	300pF	F4
C6	1st I.F. trans.	56pF	A2
C7	tune	56pF	A2
C8	V1 osc. C.G.	100pF	F3
C9	R.F. by-pass	0.1μF	G4
C10	M.W. tracker	500pF	A1
C11	L.W. tracker	345pF	B1
C12	A.G.C. decoupling	0.1μF	G4
C13	L.W. osc. trim.	195pF	A1
C14	Osc. anode coup.	0.001μF	B1
C15	2nd I.F. trans.	100pF	B2
C16	tune	100pF	B2
C17	I.F. by-pass	50pF	E3
C18	Neg. feed-back	50pF	E4
C19	A.G.C. coupling	15pF	E4
C20	A.F. coupling	0.01μF	E4
C21	H.T. decoupling	0.1μF	F4
C22	Tone corrector	0.01μF	E4
C23*	H.T. smoothing	20μF	G1
C24	A.F. coupling	0.01μF	E4
C25*	H.T. decoupling	2μF	E4
C26	Neg. feed-back	0.002μF	D4
C27	Tone corrector	0.01μF	D4
C28*	H.T. smoothing	50μF	G1
C29	Mains R.F. filter	0.05μF	D4
C30†	Aerial tuning	—	A2
C31†	Oscillator tuning	—	A1
C32†	M.W. osc. trim.	—	G3

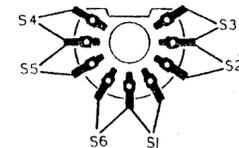
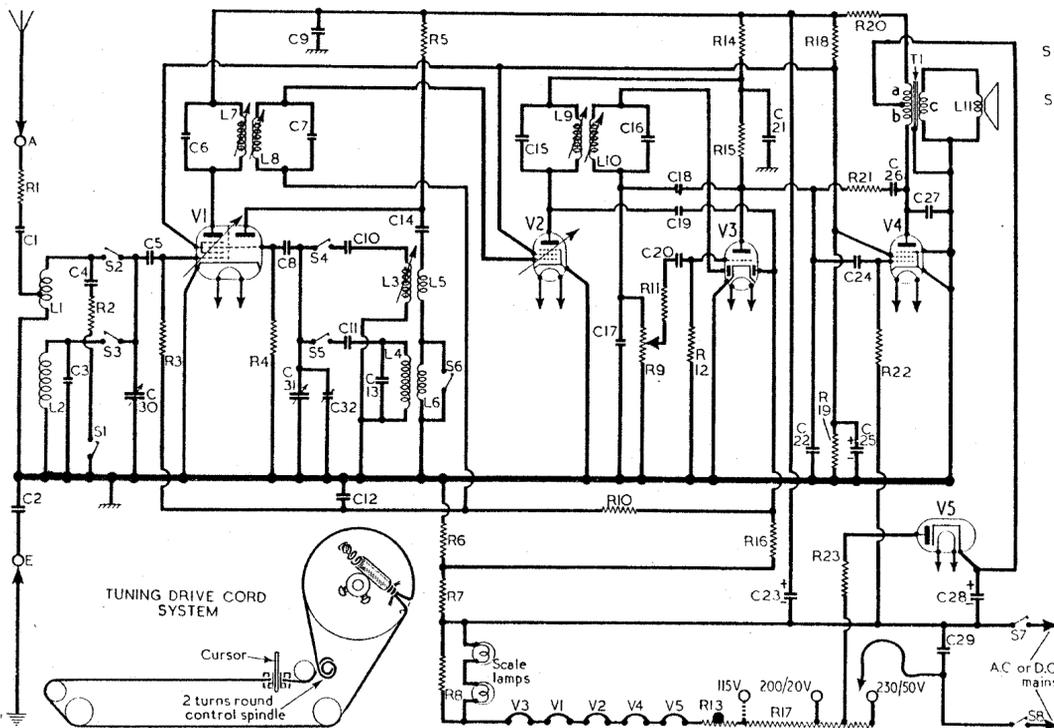
* Electrolytic. † Variable. ‡ Pre-set.

RESISTORS		Values	Locations
R1	Damping resistors	4.7kΩ	A2
R2		100Ω	B2
R3		470kΩ	F4
R4		47kΩ	F4
R5	V1 osc. C.G.	33kΩ	F4
R6		39Ω	D3
R7	Common G.B.	68Ω	D3
R8		150Ω*	D3
R9	Scale lamp shunt	500kΩ	E3
R10	Volume control	1MΩ	F4
R11	A.G.C. decoupling	47kΩ	E3
R12	I.F. stopper	10MΩ	E4
R13	V3 C.G.	—	C2
R14	Brimistor, type C/2	—	C2
R15	H.T. decoupling	1kΩ	F4
R16	V3 anode load	100kΩ	E4
R17	A.G.C. diode load	1MΩ	E4
R18	Heater ballast	88Ω†	C2
R19	H.T. pot. divider	10kΩ	E3
R20		33kΩ	E3
R21	H.T. smoothing	3.3kΩ	A2
R22	Neg. feed-back	560kΩ	E4
R23	V4 C.G.	1MΩ	D4
R24	V5 surge limiter	70Ω	C1

* Two 330Ω resistors are used in parallel.

† Tapped at 670+90+128Ω from R13.

Intermediate frequency 470 kc/s.



CIRCUIT ALIGNMENT

To facilitate these adjustments, remove the chassis from the cabinet and stand it on one end, so that the top and under-chassis sides are accessible.

I.F. Stages.—Switch set to M.W., turn gang to maximum and connect signal generator leads, via a 0.1μF capacitor in the "live" lead, to control grid (pin 6) of V1. Feed in a 470 kc/s (688.3 m) signal and adjust the cores of L10 (location reference B2), L9 (E4), L8 (A2) and L7 (F4) for maximum output. Repeat these adjustments.

R.F. and Oscillator Stages.—Transfer signal generator leads via a suitable dummy aerial to A and E sockets. Check that with the gang at maximum capacitance the cursor coincides with the vertical scale mark at the high wavelength end of M.W. scale.

M.W.—Tune set to 250 m, feed in a 250 m (1,200 kc/s) signal and adjust C32 (G3) for maximum output. Tune set to 352.9 m, feed in a 352.9 m (850 kc/s) signal and adjust the core of L3 (F3) to the peak at which the adjusting screw is the more fully exposed. Repeat these adjustments.

L.W.—There are no adjustments to be made on L.W., and provided that the M.W. alignment has been correctly carried out, the L.W. calibration should be satisfactory.

Drive Cord Replacement.—The drive cord forms a loop of plaited flax fishing line about 22 inches long circumferentially. Allowing a comfortable margin for tying off, about 30 inches is required for a new cord. It should be run as shown in the sketch inset beneath the circuit diagram overleaf, where the system is drawn as seen from the front with the gang at maximum capacitance.

Access is gained to the tuning drive system by removing the scale escutcheon as described under "Scale Lamps," and then removing the speaker baffle, which is held by four 6BA screws. These screw into the uprights with a flat washer under their heads, and a lock-nut is run on finally. It is unnecessary to disconnect the speaker leads, but when replacing, the earthing tag goes under the top right-hand screw.

Switches.—S1-S6 are the waveband switches, ganged in a lever-operated 2-position rotary unit mounted on the chassis deck. This is indicated in our plan view of the chassis, and shown in detail in the diagram inset in the upper right-hand corner of our circuit diagram overleaf. In the M.W. position of the unit (control lever to left), the even-numbered switches close; in the L.W. position the odd-numbered switches close.

S7, S8 are the Q.M.B. mains switches, ganged with the volume control R9.

Divergency.—In early versions of this receiver, V3 anode decoupling components R14, C21 were not used.