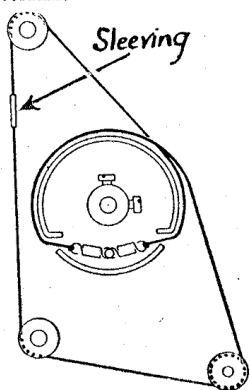


REPLACING CORD DRIVE

First remove the complete scale and drive assembly from the front of the set. This is done by slackening the two setscrews holding drive drum to gang shaft, removing two 2BA nuts holding the assembly to the front of the gang, and removing two 4BA screws holding the bottom of the assembly to front chassis member. Lift off the assembly, and lay it face down on the bench, when its salient points will be seen to agree with the diagram in this column.



Drive cord diagram.

ing between the other two. Replace assembly on chassis, turn gang to maximum, turn drum so that springs are vertical and to left of spindle (viewed from front), tighten boss screws and refit pointer over sleeving.

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 6CH15	220	1.6	67	2.4
V2 6X39	104	2.3	75	1.4
V3 6EN53D	200	4.0	220	5.5
V4 6Y31†	207	32.0	—	—

† Cathode to chassis, 212 V, D.C.

EKCO - U29

Intermediate frequency 470 kc/s.

CAPACITORS	Values (μF)
C1 Aerial isolator ...	0.002
C2 Earth isolator ...	0.1
C3 Aerial circuit L.W. shunt ...	0.0002
C4 I.F. filter tuning ...	0.0001
C5 V1 S.G. decoupling ...	0.1
C6 V1 hex. C.G. capacitor ...	0.0001
C7 1st I.F. transformer tuning capacitors ...	0.0001
C8 V1 cathode by-pass ...	0.1
C9 V1 osc. C.G. capacitor ...	0.00005
C10 H.T. circuit R.F. by-pass ...	0.1
C11 A.V.C. line decoupling ...	0.1
C12 Osc. circ. L.W. tracker ...	0.000162
C13 Osc. circ. M.W. tracker ...	0.000463
C14 Osc. L.W. fixed trimmer ...	0.000065
C15 V1 osc. anode decoupling ...	0.1
C16 V2 H.T. decoupling ...	0.1
C17 V2 S.G. decoupling ...	0.1
C18 2nd I.F. transformer tuning capacitors ...	0.0001
C19 V2 cathode by-pass ...	0.1
C20 V2 cathode by-pass ...	0.0001
C21 I.F. by-pass capacitors ...	0.0001
C22 A.F. coupling to V3 pent. ...	0.01
C23 Fixed tone corrector ...	0.04
C24 V3 A.V.C. diode coupling ...	0.000015
C25 Fixed tone corrector ...	0.0025
C26 V3 cathode by-pass ...	50.0
C27 H.T. smoothing capacitors ...	8.0
C28 Mains R.F. by-pass ...	24.0
C29 capacitors ...	0.1
C30 Aerial circ. L.W. trimmer ...	0.1
C31 Aerial circ. M.W. trimmer ...	—
C32 Aerial circuit tuning ...	—
C33 Oscillator circuit tuning ...	—
C34 Osc. circ. M.W. trimmer ...	—
C35 Osc. circ. L.W. trimmer ...	—

* Electrolytic. † Variable. ‡ Pre-set.

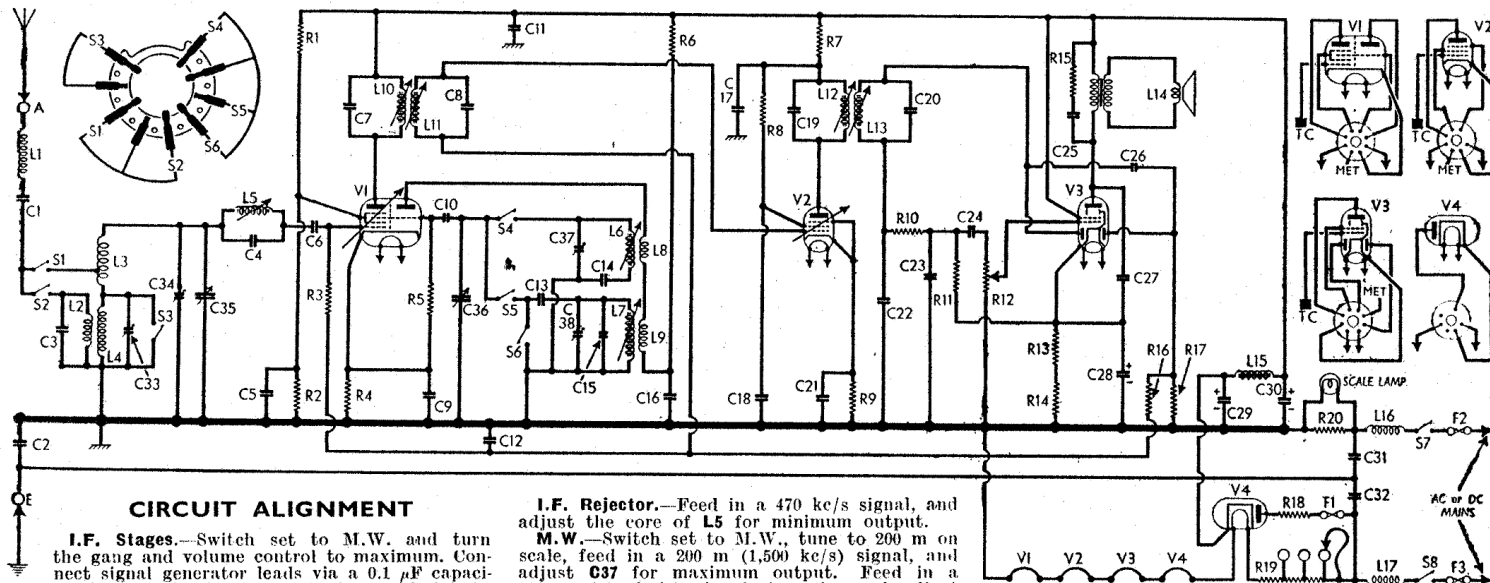
RESISTORS

RESISTORS	Values (ohms)
R1 V1 S.G. H.T. potential divider ...	47,000
R2 V1 hex. C.G. resistor ...	68,000
R3 V1 fixed G.B. resistor ...	750,000
R4 V1 osc. C.G. resistor ...	200
R5 V1 osc. anode decoupling ...	100,000
R6 V2 H.T. decoupling ...	47,000
R7 V2 S.G. H.T. feed ...	2,200
R8 V2 fixed G.B. resistor ...	91,000
R9 1.F. stopper ...	330
R10 Signal diode load ...	100,000
R11 Manual volume control ...	560,000
R12 V3 pent. G.B. and A.V.C. delay resistors ...	1,000,000
R13 V3 pent. G.B. and A.V.C. delay resistors ...	330
R14 Part fixed tone corrector ...	150
R15 A.V.C. line decoupling ...	4,700
R16 A.V.C. diode load ...	470,000
R17 V4 anode surge limiter ...	1,500,000
R18 Heater ballast resistor ...	47
R19 Scale lamp shunt ...	832*
R20	37

* Tapped at 632Ω + 100Ω + 100Ω from V4 heater.

OTHER COMPONENTS

OTHER COMPONENTS	Approx. Values (ohms)
L1 Aerial compensating choke	14.0
L2 Aerial L.W. coupling coil ...	28.0
L3 Frame aerial winding	0.8
L4 Aerial L.W. tuning coil ...	28.0
L5 I.F. filter coil ...	10.0
L6 Osc. M.W. tuning coil ...	2.3
L7 Osc. L.W. tuning coil ...	4.6
L8 Oscillator reaction coils, total ...	1.7
L9 1st I.F. trans. { Pri. ...	10.0
L10 { Sec. ...	10.0
L11 2nd I.F. trans. { Pri. ...	10.0
L12 { Sec. ...	6.0
L13 Speaker speech coil ...	2.4
L14 H.T. smoothing choke ...	360.0
L15 Mains R.F. filter chokes ...	1.6
L16	1.6
L17 Output trans. { Pri. ...	350.0
T1 { Sec. ...	0.5
S1-S6 Waveband switches ...	—
S7-S8 Mains switches, ganged R12 ...	—
F1 H.T. circuit fuse—0.5 A ...	—
F2,F3 Mains fuses—1.0 A ...	—



CIRCUIT ALIGNMENT

I.F. Stages.—Switch set to M.W. and turn the gang and volume control to maximum. Connect signal generator leads via a 0.1 μF capacitor to control grid (top cap) of V1 and chassis, and check that chassis is connected to earthed side of mains if A.C. is used. Feed in a 470 kc/s (638.3 m) signal, and adjust the cores of L13, L12, L11 and L10 in that order for maximum output, reducing the generator output as they come into line.

R.F. and Oscillator Stages.—Transfer signal generator leads to A and E sockets, via a dummy aerial. With the gang at maximum, the cursor should cover the lines beneath "Long, Medium" at bottom of scale.

I.F. Rejector.—Feed in a 470 kc/s signal, and adjust the core of L5 for minimum output.

M.W.—Switch set to M.W., tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust C37 for maximum output. Feed in a 500 m (600 kc/s) signal, tune in, and adjust the core of L6 for correct calibration and optimum results. Tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal, and adjust C34 for maximum output. Repeat these adjustments until no improvement can be obtained.

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 C38 for maximum output. Feed in a 2,000 m (150 kc/s) signal, tune it in, and adjust the core of L7 for correct calibration and optimum results. Tune to 1,300 m on scale, feed in a 1,300 m (231 kc/s) signal, and adjust C33 for maximum output. Repeat these adjustments until no improvement can be obtained.