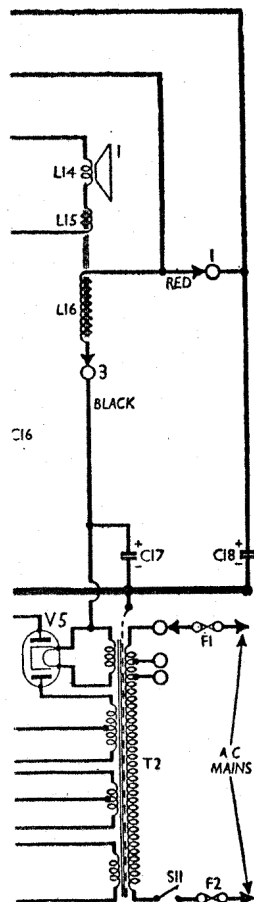
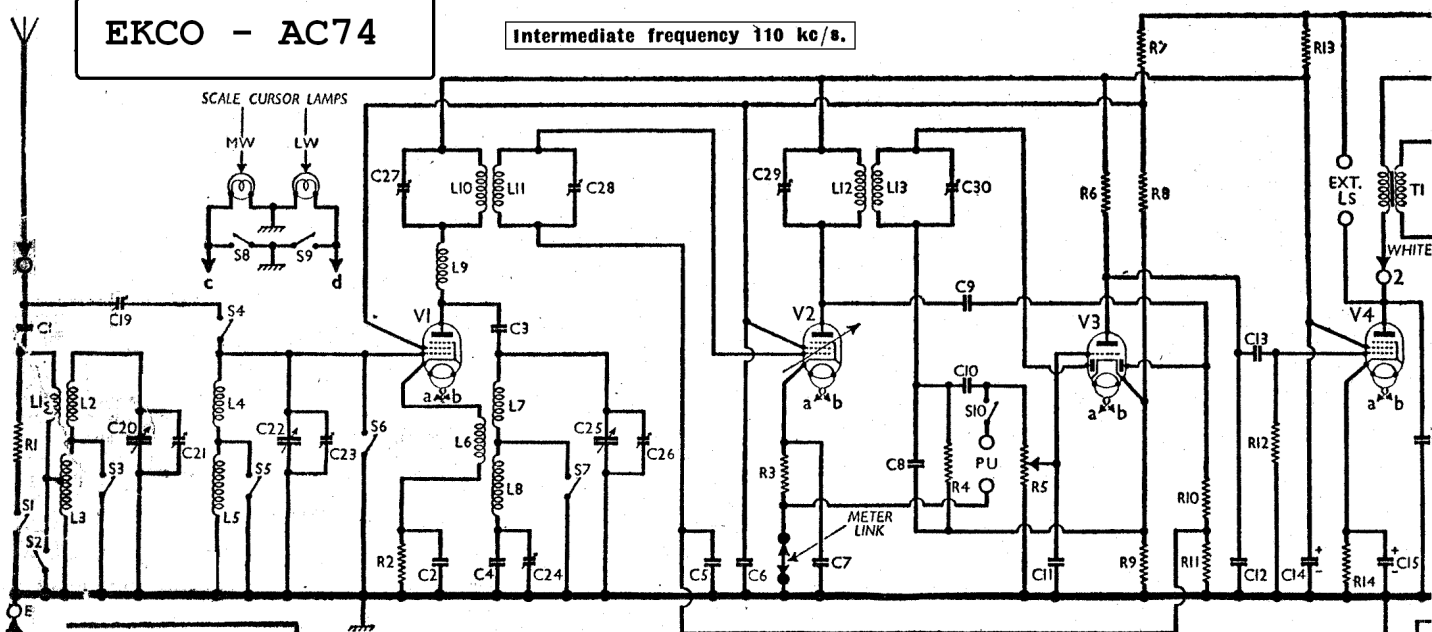


# EKCO - AC74

Intermediate frequency 110 kc/s.



RESISTORS		Values (ohms)
R1	"Local-distant" shunt	20
R2	V1 GB resistor	4,000
R3	V2 fixed GB resistor	300
R4	V3 signal diode load	250,000
R5	Manual volume control	250,000
R6	V3 triode anode load	80,000
R7	V1, V2 SG's HT feed, V3	50,000
R8	triode GB and AVC	50,000
R9	delay potential divider	300
R10	AVC diode load resistor	250,000
R11	V4 CG resistor	1,000,000
R12	HT smoothing resistor	250,000
R13	HT smoothing resistor	4,000
R14	V4 GB resistor	450

CONDENSERS		Values (μF)
C1	Aerial series condenser	0.001
C2	V1 cathode by-pass	0.002
C3	V1 anode osc. coupling	0.0001
C4	Osc. LW fixed tracker	0.00055
C5	V2 CG decoupling	0.1
C6	V1, V2 SG decoupling	0.1
C7	V2 cathode by-pass	0.1
C8	IF by-pass	0.001
C9	Coupling to V3 AVC diode	0.0001
C10	AF coupling to V3 triode	0.01
C11	IF by-pass condensers	0.0005
C12	V3 triode to V4 coupling	0.002
C13	HT smoothing condenser	0.1
C14*	V4 cathode by-pass	4.0
C15*	Fixed tone corrector	25.0
C16	HT smoothing condenser	0.0025
C17*	Image suppressor	4.0
C18*	Band-pass pri. tuning	4.0
C19	B-P pri. MW trimmer	0.0005
C20	Band-pass sec. tuning	0.0005
C21	B-P sec. MW trimmer	0.0005
C22	Osc. circ. LW tracker	0.0004
C23	Oscillator circuit tuning	0.0004
C24	Osc. circ. MW trimmer	0.0004
C25	1st IF trans. pri. tuning	—
C26	1st IF trans. sec. tuning	—
C27	2nd IF trans. pri. tuning	—
C28	2nd IF trans. sec. tuning	—

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial coupling coil	2.7
L2	Band-pass primary coils	4.0
L3	Band-pass secondary coils	14.0
L4	Band-pass secondary coils	4.0
L5	Band-pass secondary coils	14.0
L6	Cathode reaction coupling coil	4.5
L7	Osc. MW tuning coil	7.5
L8	Osc. LW tuning coil	11.5
L9	V1 anode RF choke	300.0
L10	1st IF trans. Pri.	100.0
L11	1st IF trans. Sec.	100.0
L12	2nd IF trans. Pri.	100.0
L13	2nd IF trans. Sec.	100.0
L14	Speaker speech coil	4.0
L15	Hum neutralising coil	0.1
L16	Speaker field coil	2,000.0
T1	Speaker input	750.0
T2	Mains trans.	0.3
S1	'Local-distant' switch	—
S2-S5	Waveband switches	—
S6	Radio muting switch	—
S8, S9	Scale lamp switches	—
S10	PU switch	—
S11	Mains switch, ganged R5	—
F1, F2	Mains fuses, 1A	—

## VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 SP4	225	1.3	109	0.22
V2 VP4	225	5.3	109	1.4
V3 TDD4	63	2.8	—	—
V4 Pen 4V	250	27.5	225	4.5
V5 IW3	380*	—	—	—

LW.—Switch set to LW, tune to 1,800 m on scale, feed in a 1,800 m (16.5 kc/s) signal, and adjust C24 for minimum reading. Check calibration at 1,200 m (250 kc/s), and if incorrect, readjust C24 to divide the error between the two settings. Image Suppressor.—This was arranged to operate originally at 479 m, but the relative powers and frequencies of transmitters have since been modified considerably, and their sites may have been changed, so that the original adjustment may not be effective. If image interference is experienced, therefore, it may be minimised by tuning the receiver to the frequency at which the interference is found, and adjusting C18 for minimum interference, using the speaker as an indicator.

\* Electrolytic. † Variable. ‡ Pre-set.

## CIRCUIT ALIGNMENT

Instead of the usual output meter, a milliammeter reading about 0.5 mA is inserted in V2 cathode lead as a tuning indicator, the meter link shown in the diagram being replaced by the meter. Its position is shown in our under-chassis view. An output meter can be used in the normal manner, of course, but the following instructions assume that a milliammeter is used as suggested.

**IF Stages.**—Connect signal generator to A and E sockets, switch set to LW, and turn the gang to maximum. Feed in a 110 kc/s (2,727 m) signal, and adjust C29, C28 and C27 for minimum reading on the meter. Then adjust C30 for maximum reading.

Switch	Gram	MW	LW
S2	—	—	—
S3	—	—	—
S4	—	—	—
S5	—	—	—
S6	—	—	—
S7	—	—	—
S8	—	—	—
S9	—	—	—
S10	—	—	—

**RF and Oscillator Stages.**—Insert a suitable dummy aerial in the lead to the A socket. With the gang at minimum, the cursor should coincide with the 200 m calibration mark on the scale. Set S1 at "Distant" (toggle to left).

**MW.**—Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust C26 for minimum reading on the meter. Tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal, and adjust C23 and C21 for minimum reading. C23 will usually be nearly at its minimum position.

Feed in a 500 m (600 kc/s) signal, and tune it in. If the calibration now reads too high, slacken off C26 slightly, feed in a 250 m (1,200 kc/s) signal, tune it in, and adjust the cursor carrier for correct calibration, readjusting C23 and C21. If the calibration at 500 m is low, screw up C26 slightly, and then proceed as before.