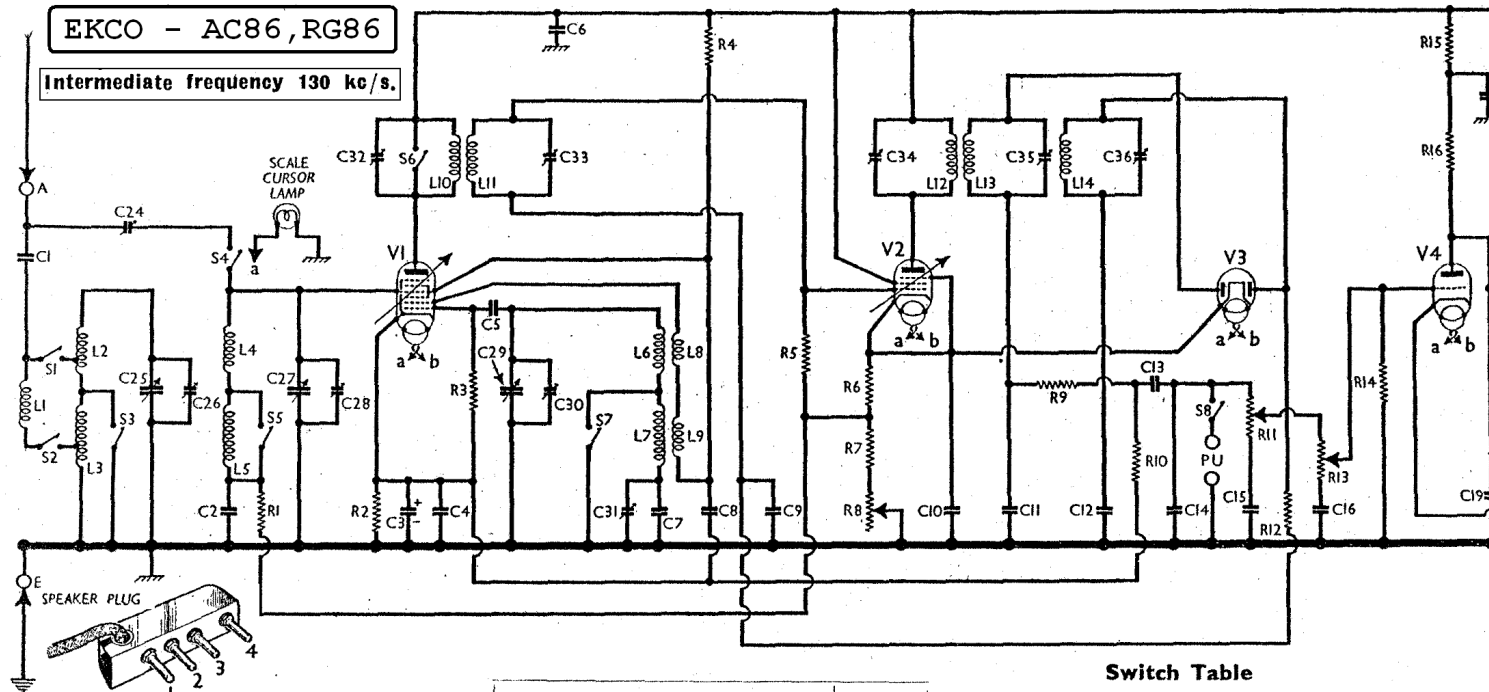


EKCO - AC86, RG86

Intermediate frequency 130 kc/s.



Switch Table

Switch	MW (black)	LW (red)	Gram (white)
S1	—	—	—
S2	—	—	—
S3	—	—	—
S4	—	—	—
S5	—	—	—
S6	—	—	—
S7	—	—	—
S8	—	—	—

CIRCUIT ALIGNMENT

IF Stages.—Connect signal generator to A and E sockets, turn the noise suppressor control to the "All Stations" position, the volume control to maximum, switch set to LW, and turn the gang to maximum capacity.

Feed in a 130 kc/s (2,307.7 m) signal. If it cannot be detected, transfer aerial clip to control grid (top cap) of V1. Adjust C32, C34, C33 and C35 in that order, for maximum output, reducing signal input as the circuits come into line. Now adjust C36 for minimum output.

RF and Oscillator Stages.—Connect signal generator leads via a suitable dummy aerial to A and E sockets. At minimum and maximum positions of the gang the cursor should be horizontal. In this position, stops on the cursor arm should rest, at each end of the sweep, against the condenser drive spindle support bracket.

MW.—Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust C30 for maximum output. Tune to 250 m on scale, feed in a 250 m (1,200 kc/s) signal, and adjust C26 and C28 for maximum output. Check calibration at 500 m (600 kc/s) and other convenient points on the scale.

LW.—Switch set to LW, tune to 1,600 m on scale, feed in a 1,600 m (187.5 kc/s) signal and adjust C31 for maximum output while rocking the gang slightly for optimum results.

Image Suppressor.—This was originally intended to operate at various wavelengths according to the location of the receiver, 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 it is found and adjusting C24 for minimum interference, using the speaker as an indicator.

RESISTORS	Values (ohms)
R1	V1 pent. CG decoupling ... 500,000
R2	V1 fixed GB resistor ... 6,000*
R3	V1 osc. CG resistor ... 50,000
R4	V1 osc. and SG HT feed ... 15,000*
R5	Part AVC diode load ... 250,000
R6	V2 fixed GB resistor and AVC delay ... 300
R7	Noise suppressor limiter ... 5,000
R8	Noise suppressor control ... 10,000
R9	IF stopper ... 100,000
R10	V3 signal diode load ... 100,000
R11	Manual volume control ... 250,000
R12	Part AVC diode load ... 250,000
R13	Variable tone control ... 500,000
R14	V4 CG resistor ... 1,000,000
R15	V4 anode decoupling ... 9,000
R16	V4 anode load ... 25,000
R17	V5 CG resistor ... 250,000
R18	V4, V5 GB resistor ... 400†

* Tolerance limits $\pm 5\%$.
† Tapped at 75 Ω from chassis.

CONDENSERS	Values (μ F)
C1	Aerial series condenser ... 0.0008
C2	V1 pent. CG decoupling ... 0.1
C3*	V1 cathode AF by-pass ... 10.0
C4	V1 cathode RF by-pass ... 0.1
C5	V1 osc. CG condenser ... 0.001
C6	HT circuit RF by-pass ... 0.1
C7	Osc. LW fixed tracker ... 0.0007
C8	V1 HT decoupling ... 0.1
C9	V2 CG decoupling ... 0.01
C10	V2 cathode by-pass ... 0.1
C11	IF by-pass ... 0.0002
C12	Link coil DC isolator ... 0.01
C13	AF coupling to V4 ... 0.01
C14	IF by-pass ... 0.0003
C15	Base compensator ... 0.25
C16	Part variable tone control ... 0.0005
C17*	V4 anode decoupling ... 2.0
C18	V4 to V5 AF coupling ... 0.01
C19	IF by-pass ... 0.001
C20	Fixed tone corrector ... 0.0025
C21*	V5 cathode by-pass ... 25.0
C22*	HT smoothing condensers { 8.0
C23*	{ 8.0
C24*	Image suppressor ... —
C25†	Band-pass pri. tuning ... —
C26†	B-P pri. MW trimmer ... —
C27†	Band-pass sec. tuning ... —
C28†	B-P sec. MW trimmer ... —
C29†	Oscillator circuit tuning ... —
C30†	Osc. circ. MW trimmer ... —
C31†	Osc. circ. LW tracker ... —
C32†	1st IF trans. pri. tuning ... —
C33†	1st IF trans. sec. tuning ... —
C34†	2nd IF trans. pri. tuning ... —
C35†	2nd IF trans. sec. tuning ... —
C36†	Link coil tuning ... —

* Electrolytic. † Variable. ‡ Pre-set.

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 FC4	250	3.4	90*	4.0
V2 AC/VP1	125	2.8	—	—
V3 2D4A	250	7.1	250	0.9
V4 354V	150	2.5	—	—
V5 AC/Pen	225	28.0	250	5.4
V6 IW3	360†	—	—	—

OTHER COMPONENTS

	Approx. Values (ohms)
L1	Aerial LW choke ... 50.0
L2	Band-pass primary coils ... 30.0
L3	Band-pass secondary coils ... 30.0
L4	Osc. MW tuning coil ... 5.0
L5	Osc. LW tuning coil ... 10.0
L6	Oscillator reaction coils, total ... 5.0
L7	1st IF trans. { Pri. ... 80.0
L8	{ Sec. ... 80.0
L9	2nd IF trans. and link coil ... 80.0
L10	120.0
L11	Speaker speech coil ... 2.2
L12	Hum neutralising coil ... 0.2
L13	Speaker field coil ... 2,200.0
L14	Speaker input trans. { Pri. ... 800.0
L15	{ Sec. ... 0.4
L16	Mains { Pri. total ... 36.5
L17	{ Heater sec. ... 0.1
T1	trans. { Rect. heat. sec. ... 0.2
T2	{ H.T. sec., total ... 600.0
S1-S5	Waveband switches ... —
S6	Radio muting switch ... —
S7	Gram PU switch ... —
S8	Internal speaker switch ... —
S9	Mains switch, ganged R11 ... —
S10	—

† Cathode to chassis, D.C.
* Screen to chassis.
- V1 cathode (all stations), 44V approx.
V1 cathode (strong), 80 V approx.
V2 cathode (all stations), 42V approx.
V2 cathode (strong), 90V approx.