



EKCO - AD37

CIRCUIT ALIGNMENT

The complete alignment operation can be performed without removing the chassis from the cabinet, but the receiver should be turned on to its side to give access to the two MW trimmer adjustments, which are reached through holes in the base of the cabinet.

Connect signal generator via a suitable dummy aerial to **A** and **E** sockets, turn the volume control to maximum; and the reaction control to minimum.

MW.—Switch set to MW (anti-clockwise), feed in a 250 m (1,200 kc/s) signal, tune it in, and adjust **C17** (front) and **C20** (rear) beneath the cabinet for maximum output, at the same time adjusting the reaction control and rocking the gang a little for optimum results. Check calibration at several points on the scale, and adjust the cursor, if necessary, first removing the tuning knob, then slackening the two cursor screws. Finally, tighten up screws and replace knob.

LW.—Switch set to LW, feed in a 1,500 m (300 kc/s) signal, tune it in, and adjust **C18** for maximum output, adjusting the reaction control for optimum output and, while watching the scale cursor, rocking the gang to secure accurate calibration.

Aerial Input Zero Balance.—This device is designed to provide a good working minimum level on the volume control adjustment. Disconnect the signal generator, and replace it with an aerial/earth system, the one with which it is to be used, if possible.

Switch set to MW, tune in the strongest signal normally used, turn the volume control to minimum, and adjust the reaction control, to some normal, usable position, then adjust **C15** for **minimum** output, if possible eliminating the signal entirely. The volume control should now operate satisfactorily.

CONDENSERS		Values (μF)
C1	Aerial isolator ...	0.001
C2	Earth isolator ...	0.1
C3	V1 cathode by-pass ...	0.1
C4	V1 to V2 MW coupling ...	0.00001
C5	V2 CG condenser ...	0.0001
C6*	V2 anode decoupling ...	2.0
C7	V2 anode RF by-pass ...	0.001
C8	V2 to V3 AF coupling ...	0.01
C9	Fixed tone corrector ...	0.01
C10*	V3 cathode by-pass ...	25.0
C11*	HT smoothing condensers {	8.0
C12*		24.0
C13	Mains RF by-pass ...	0.1
C14†	Differential aerial coupling { (a) ...	0.0003
		(b) ... 0.00015
C15†	Zero balance trimmer ...	—
C16†	Aerial circuit tuning ...	0.0005
C17†	Aerial MW trimmer ...	—
C18†	RF trans. LW trimmer ...	—
C19†	RF trans. sec. tuning ...	0.0005
C20†	RF trans. MW trimmer ...	—
C21†	Reaction control ...	0.0003

* Electrolytic. † Variable. ‡ Pre-set.

RESISTORS		Values (ohms)
R1	V1 GB resistor ...	300
R2	V2 CG resistor ...	1,000,000
R3	V2 anode decoupling ...	4,000
R4	V2 anode load ...	50,000
R5	V3 CG resistor ...	500,000
R6	V3 GB resistor ...	165
R7	HT circuit shunt ...	5,000
R8	Scale lamp shunt ...	100
R9	Heater circuit ballast ...	760*

*Tapped at 560 Ω + 100 Ω + 100 Ω from V3 heater end.

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 SP13	190	6.0	190	2.4
V2 HL13	41	2.5	—	—
V3 Pen 3520	166	34.5	190	8.0
V4 1D5	222†	—	—	—

† Cathode to chassis, DC.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial LW choke ...	13.0
L2	Zero balance coil ...	0.2
L3	Aerial tuning coils ...	2.5
L4		27.5
L5	V1 anode MW choke ...	36.0
L6	RF trans. LW pri. ...	2.75
L7	Reaction coils, total ...	3.75
L8		—
L9	RF trans. sec. coils ...	2.5
L10		27.5
L11	Speaker speech coil ...	1.5
L12	Hum neutralising coil ...	0.1
L13	Speaker field coil ...	400.0
L14	Mains RF filter chokes ...	2.5
L15		2.5
T1	Speaker input { Pri. ...	650.0
	{ Sec. trans. ...	0.25
S1-S5	Waveband switches ...	—
S6,S7	Mains circuit switches ...	—

