

EKCO B38

Three valve, two-waveband tuned radio frequency battery receiver, with separate gain and reaction controls. Sockets are provided for a low impedance extra loudspeaker with an internal loudspeaker muting switch. Marketed by E. K. Cole, Ltd., Southend-on-Sea.

vent overloading by strong transmissions and selectivity is reduced.

Signals from the tuned circuits are fed direct to the grid of the variable-mu HF pentode V1, whose sensitivity is controlled by VR1 which varies the grid bias.

A high-frequency transformer, L5, L7 (MW) and L6, L8 (LW) transfers the signal to the grid of the detector valve, V2. This is an HF pentode but operates as a leaky-grid detector, R2, C2 being the grid leak and condenser.

Reaction is obtained by feeding some of the HF signal from the anode circuit of V2 to the transformer primaries L5, L6, and thence to the grid circuits of the valve. The choke L9 assists this

operation and excess HF is by-passed to earth by C4.

The audio frequency signal is resistance-capacity coupled by R4 and C5 to a tapping on the auto-transformer L10 which steps up the voltage and applies the signal to the grid of the output pentode V3. This valve is biased by the voltage drop across R5 which is connected between HT negative and earth.

A permanent degree of tone correction is effected by C6 and the output from V3 is coupled to the permanent magnet moving-coil loudspeaker by the matching transformer L10, L12.

Extra loudspeaker sockets are provided across the secondary winding and an internal speaker silencing switch is provided in series with the speech coil L13.

CAPACITORS

C	Mfds.	C	Mfds.
1	.1	5	.015
2	15 mmds.	6	.004
3	.1	7	10
4	.0001		

RESISTORS

R	Ohms.	R	Ohms.
1	400	4	100,000
2	2 meg	5	440
3	500,000	VR1	500,000

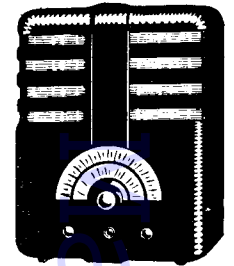
INDUCTORS

L	Ohms.	L	Ohms.
1	14	8	12.3
2	71	9	270
3	1.7	10	3,000 (total)
4	12.3	11	1,250
5	1.7	12	.2
6	8.8	13	2.8
7	1.7		

GANGING

MW Band.—Switch receiver to MW, adjust tuning to 230 metres and inject a signal of this wavelength into the aerial and earth sockets via a .0002 mfd. condenser.

A three-valve battery receiver, this set is housed in a black moulded cabinet similar to that of the three-valve, plus rectifier, AC-DC model AD38.



With gain control at maximum, adjust the reaction control so that the receiver is just short of oscillation.

Adjust T1 and T2 for maximum output re-setting the reaction control if necessary as the sensitivity of the receiver is increased.

LW Band.—Switch receiver to LW, adjust the tuning to 1,090 m. by the scale and inject a 1,090 m. signal and adjust T3 and T4 for maximum output.

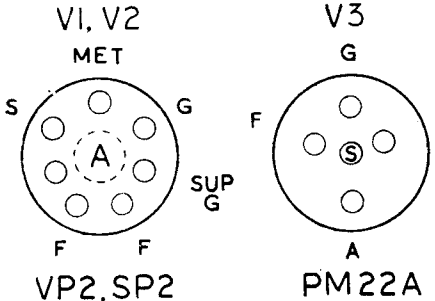
AERIAL signals are fed either to L1 (MW) or L2 (LW) coupling coils which transfer the signals to the tuning coils L3, L4.

In the aerial circuit is a resistance, R1 which is shunted across the coupling coils when S1 is closed. This switch closes automatically when the reaction condenser VC3 is turned to minimum capacity. When R1 is in circuit the input is decreased to pre-

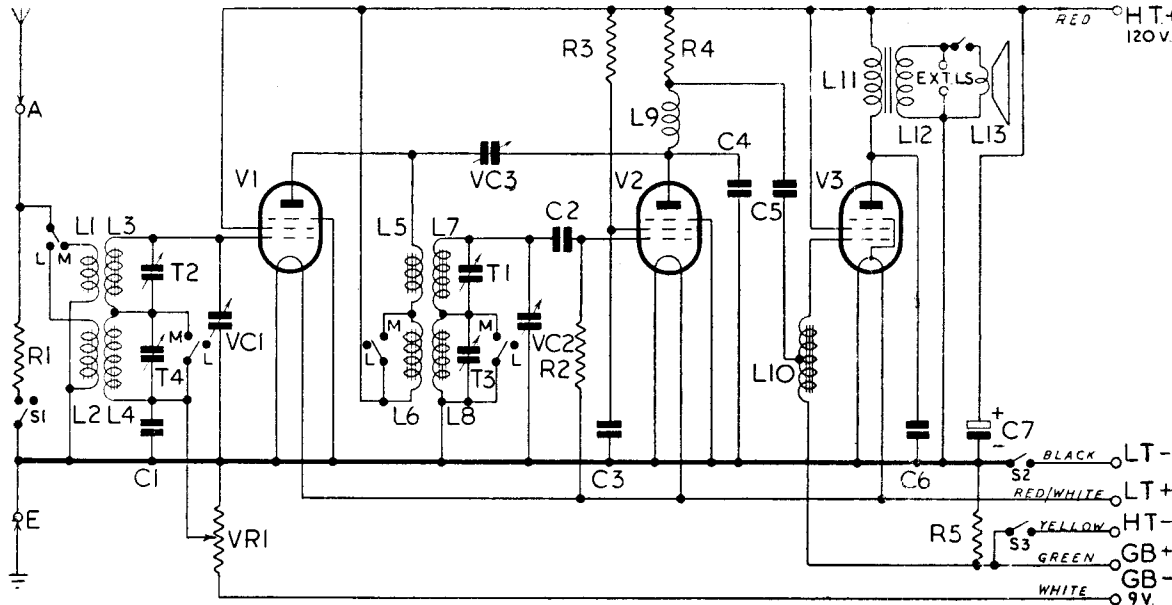
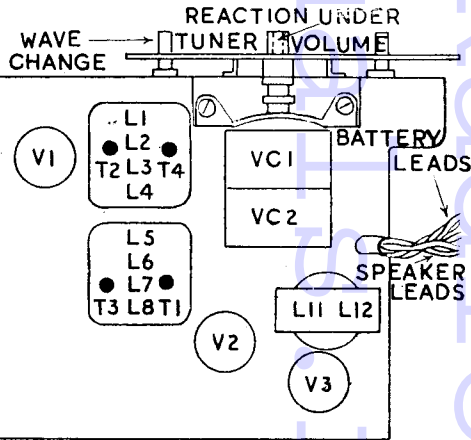
VALVE READINGS

V.	Type.	Electrode	Volts.	MA.
1	VP2 met. Mullard	Anode	115	2.7
		Screen	115	1.0
2	SP2 met. Mullard	Anode	48	.4
		Screen	28	.1
3	PM22A Mullard	Anode	107	4.9
		Screen	115	.8

Readings taken with 1,000 ohm-per-volt meter on 200m. with no signal. Volume control at maximum, reaction control at minimum and with new HT battery.



The two diagrams above identify the internal electrode connections of the pins of the three valves. Bases are drawn as seen with valve, or chassis, inverted.



The circuit and chassis design are both simple and straightforward. Iron dust cores are fitted to the coils, and AF coupling is auto-transformer for increased gain. An original feature is the application of reaction to the primary of the HF intervalve transformer.

