EKCO - RS2

AC MODEL

The receiver circuit of the AC version of the RS2 is virtually the same as that of the DC version, but owing to the employment of a double wound mains transformer and indirectly-heated valves (for **V1 and V2**) the power supply and biasing circuits are considerably simplified.

In the diagram above the DC circuit overleaf is redrawn to show the principal differences in the AC circuit. Certain obvious features, such as the aerial circuit **C5**, etc., which are common to both are omitted to save space. Where possible, components bear the same numbers as in the DC diagram, but added ones are given new numbers. Component values, where they differ from those in the DC model, are given in the table below.

Component	Value	Component	Approx. resist.
R4	9,000Ω	L13	1,000Ω
R15	600Ω		
C14	8·0μF		
C22	0·1μF	T2 Pri., total	220Ω
C23	0·002μF	T2 HT sec.,	430Ω
C24	0·002μF	T2 heat. sec.,	very low

The tuning circuits are now returned to **V1** cathode, and **R1** goes to chassis. **R2** is omitted, and the pick-up is connected across **R3**, which now goes to chassis. The valves are Mullard S4VA, 354V and PM24.

HT current is supplied by a half-wave Westinghouse rectifier **MR1**, fed from an untapped HT secondary on **T2**. Smoothing is effected by an iron-cored choke **L13**, in the negative lead to chassis, and capacitors **C13, C14**. A centre tapping on **L13** provides GB potential for **V3**.

The physical distribution of components follows fairly well that in the DC model, **T2** and **L13** taking the place of L11, L12 on the chassis deck.

CIRCUIT ALIGNMENT

There is no aligning necessary as in the normal modern receiver, except to adjust **C21** at about 200m (1,500 kc/s) on a weak signal, but **C17** needs adjustment to permit **C16** to operate effectively as an input control.

With **C16** set somewhere near minimum, the set should be tuned to receive the local MW station. **C17** should then be adjusted for minimum output, as it neutralises some of the input from **C16**. If **C16** is then advanced signal strength increases.

VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 PM13	160	2·5	105	0·8
V2 PM4DX	105	1·0	—	—
V3 PM25	150	10·0	160	4·0

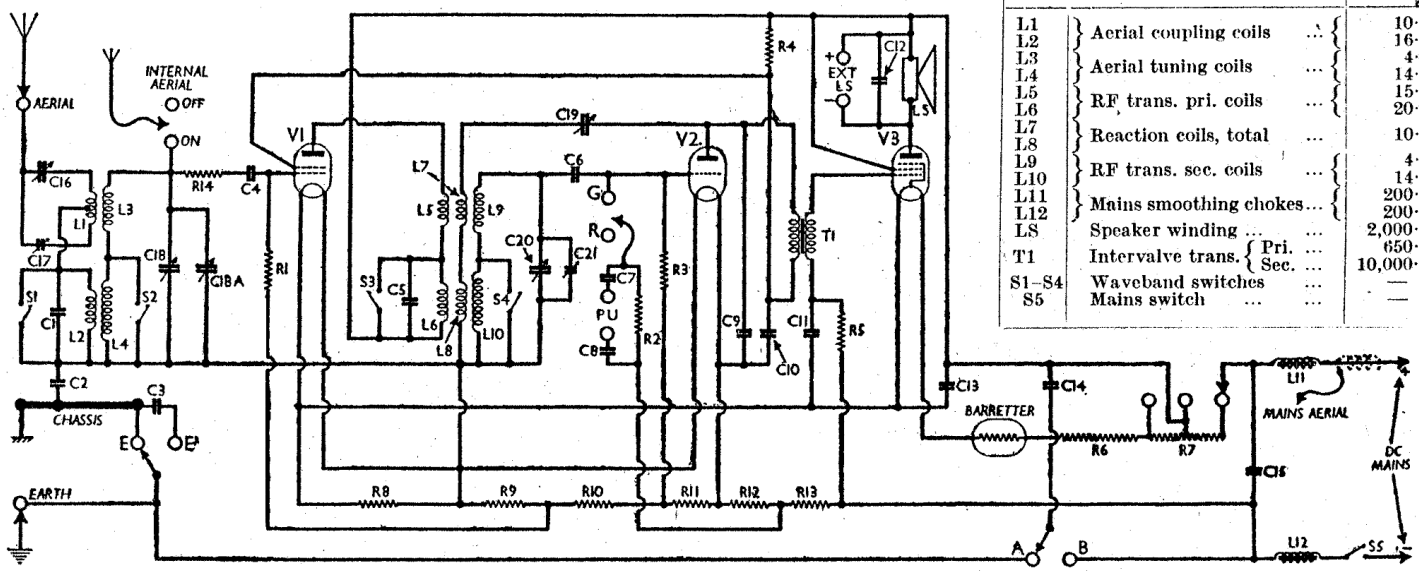
RESISTORS		Values (ohms)
R1	V1 CG resistor	2,000,000
R2	PU shunt	200,000
R3	V2 gridleak	1,000,000
R4	V1 SG and V2 HT feed ...	25,000
R5	V3 CG decoupling ...	250,000
R6	Filament circuit ballast ...	812
R7	Voltage adjustment ...	360*
R8	V1 and V2 filament shunts and V1–V3 GB potential divider resistors ...	210
R9		45
R10		92
R11		45
R12		12
R13		22
R14	V1 CG stabiliser	600

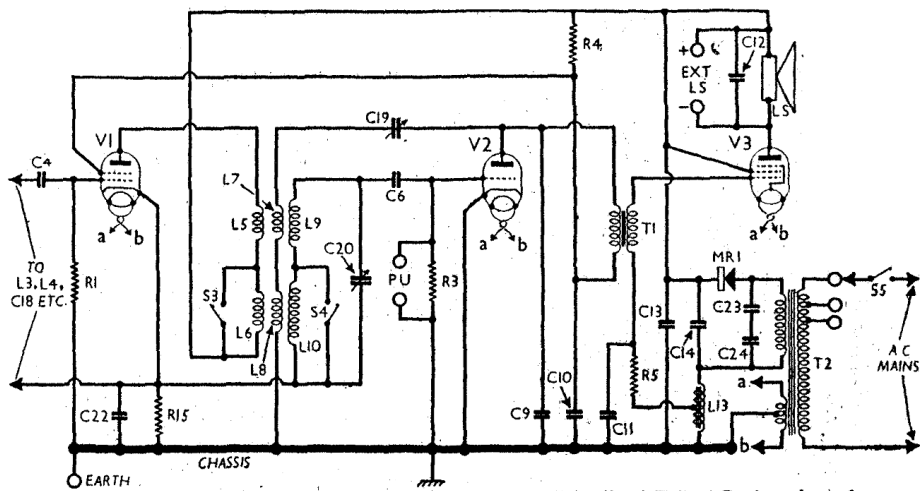
* Tapped at 200Ω + 160Ω from R6.

CAPACITORS		Values (μF)
C1	Aerial LW shunt ...	0·001
C2	Chassis isolator	1·0
C3	Hum adjustment... ...	0·002
C4	V1 CG capacitor	0·0001
C5	V1 anode and LW shunt...	0·001
C6	V2 CG capacitor	0·0003
C7	PU isolators	0·1
C8		0·1
C9	RF by-pass	0·0005
C10	V1 anode decoupling ...	1·0
C11	V3 CG decoupling ...	1·0
C12	Fixed tone corrector ...	0·002
C13	HT smoothing capacitors	2·0
C14		4·0
C15	Mains input smoothing ...	2·0
C16†	Aerial input control capacitors ...	0·0003
C17‡		—
C18†	Aerial circuit tuning ...	0·0005
C18A†	Manual aerial trimmer ...	—
C19†	Reaction control	0·0003
C20†	RF trans. sec. tuning ...	0·0005
C21‡	RF trans. MW trimmer...	—

† Variable. ‡ Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Aerial coupling coils ...	10·0
L2		16·5
L3	Aerial tuning coils ...	4·0
L4		14·0
L5	RF trans. pri. coils ...	15·0
L6		20·0
L7	Reaction coils, total ...	10·5
L8		
L9	RF trans. sec. coils ...	4·0
L10		14·0
L11	Mains smoothing chokes...	200·0
L12		200·0
LS	Speaker winding	2,000·0
T1	Intervalve trans. Pri. ...	650·0
	Sec. ...	10,000·0
S1–S4	Waveband switches ...	—
S5	Mains switch	—





Essential portion of the circuit diagram of the Ekco RS2AC showing the differences in this model as compared with the DC circuit diagram overleaf.