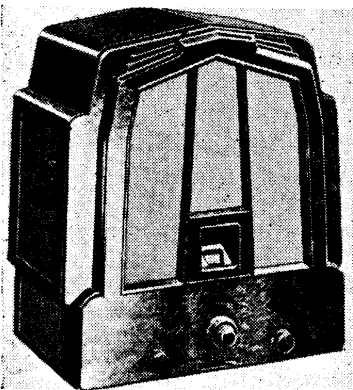


"TRADER" SERVICE SHEET
733

EKCO RS2

DC Model and AC Model



DESIGNED specifically for operation on DC mains of 200-250 V, the Ekco RS2DC receiver, on a sample of which this *Service Sheet* was prepared, has a 3-valve, 2-band TRF circuit using directly heated valves.

The differences in the AC version, which covers the same mains voltage range, are fully described under "AC Model" overleaf.

Release date and original price, both models: 1931; £15 15s.

CIRCUIT DESCRIPTION

Aerial input via gain control capacitors C16, C17 and coupling coils L1 (MW) L2 (LW) to single-tuned circuit L3, L4, C18, which precede tetrode RF amplifying valve (V1, Mullard PM13 or Cossor 410SG). Aerial input via variable capacitor C16 is partially neutralised on MW by input via C17, which is pre-set.

Tuned-secondary RF transformer coupling by L5, L6 and L9, L10, C20 between

V1 and triode detector valve (V2, Mullard PM4DX or Cossor 410LF) which operates on grid leak system with C6, R3. Provision for connecting gramophone pick-up in CG circuit via C7, C8. Reaction coupling from anode via L7, L8 is controlled by C19.

Transformer AF coupling by T1 between V2 and pentode output valve (V3, Mullard PM25 or Cossor 410PT). Fixed tone correction by C12 and provision for connecting high-impedance external speaker across balanced armature internal speaker LS in anode circuit.

HT and filament current is obtained directly from DC mains via input smoothing filter L11, L12, C15. Valve heaters, together with ballast resistors R6, R7 and current regulating resistance lamp (Barretter, Philips 1904) are connected in series across mains input, V1 and V2 being shunted by R8 and R9, R10, R11 respectively.

These resistors, together with R12, R13, form a potential divider in the negative end of the circuit from which are obtained the GB potentials for all valves, tapping points providing suitable bias potentials relative to the positions of the respective filaments. This potential divider operates in conjunction with capacitors C13, C14 to smooth the HT current.

In order to meet the various conditions of DC mains supplies, a hum adjustment panel containing two pairs of tappings E, E1 and A, B is provided. The earth socket may thus be connected directly to chassis (which is isolated from the receiver circuit by C2) at E, or via C3 at E1. Similarly, C14 may be returned to the earth socket at A or to HT negative at B in either position of E, E1.

COMPONENTS AND VALUES

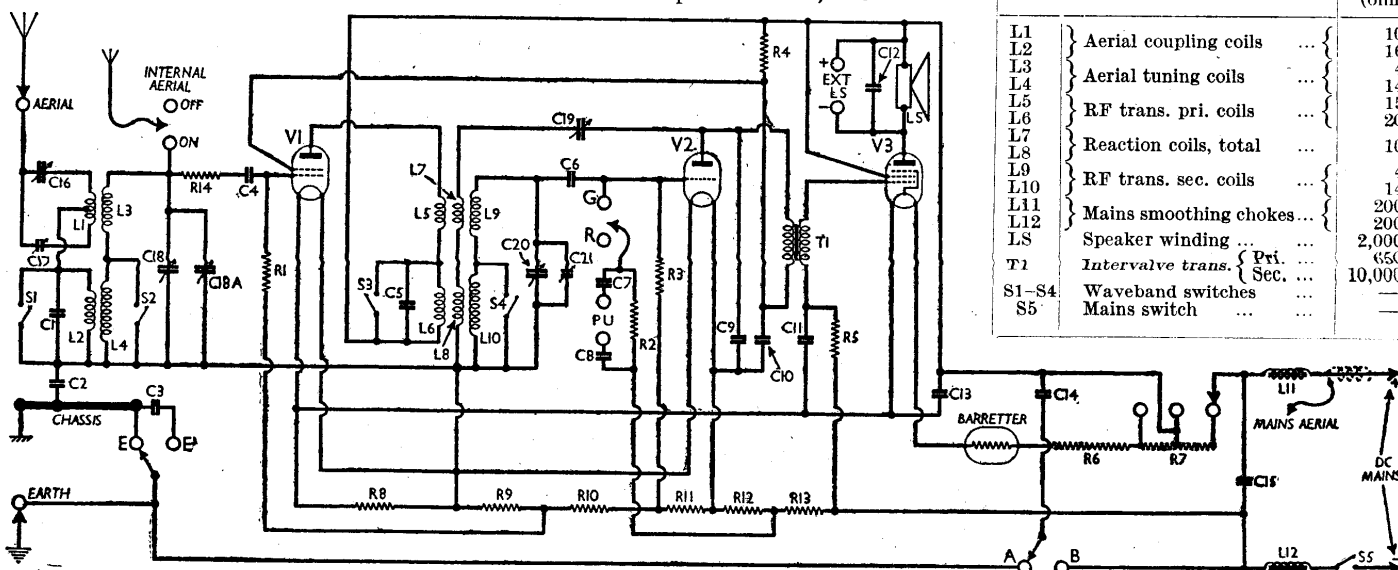
RESISTORS		Values (ohms)
R1	V1 CG resistor ...	2,000,000
R2	PU shunt ...	200,000
R3	V2 gridleak ...	1,000,000
R4	V1 SG and V2 HT feed ...	25,000
R5	V3 CG decoupling ...	250,000
R6	Filament circuit ballast ...	812
R7	Voltage adjustment ...	360*
R8	V1 and V2 filament shunts and V1-V3 GB potential divider resistors ...	210
R9		45
R10		92
R11		45
R12	V1 CG stabiliser ...	12
R13		22
R14		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 capacitor ...	0.0003
C17‡	Aerial circuit tuning capacitor ...	—
C18†	Aerial circuit tuning capacitor ...	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	Speaker winding ...	2,000.0
LS	Intervolve trans. { Pri. ...	650.0
T1	{ Sec. ...	10,000.0
S1-S4	Waveband switches ...	—
S5	Mains switch ...	—



Circuit diagram of the Ekco RS2DC TRF receiver, which uses battery valves. C18A is a manual aerial trimmer. An internal aerial and a mains aerial are provided. Diagrams of valve bases are omitted, as they are very simple, to save space.