

EKCO - P63 PRINCESS

CIRCUIT ALIGNMENT

It is necessary to remove the receiver from the carrying case and assemble it on the bench before the following operations can be carried out.

I.F. Stages.—Switch set to M.W. (green spot visible), turn gang and volume control clockwise to maximum, and remove the volume control indicator disc (two cheese-head screws and one felt washer). Connect signal generator via an $0.1 \mu\text{F}$ capacitor in the "live" lead, to control grid (pin 6) of **V1** and chassis, and feed in a 465 kc/s (645.16 m) signal. Using a non-metallic trimming tool, adjust the cores of **L10**, **L9**, **L8** and **L7** (location references **E2**, **J3**, **D1**, **I3**), in that order, for maximum output.

R.F. and Oscillator Stages.—In the absence of the tuning scale "window," which is on the casing, a fixed calibration mark is required as a pointer against the rotatory scale.

This may consist of a strip of metal which can be clipped across the chassis, with line scored across its centre, but for all practical purposes an imaginary centre-line along the length of the chassis is sufficiently accurate. This line would run through the centres of the two control spindles.

The scale is sketched into our upper chassis illustration, with the positions of the three alignment reference lines indicated when the gang is at maximum capacitance. The "Datum" line should lie exactly on the chassis centre-line. The scale is provided with slots for adjustment. Couple signal generator via a loop of wire on the bench.

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial ...	0.4	—
L2	L.W. loading coil ...	16.8	G4
L3	Oscillator tuning coils ...	2.0	C2
L4		6.4	C2
L5	Oscillator reaction coils ...	0.5	C2
L6		1.8	C2
L7	1st I.F. trans. {	13.0	D1
L8		13.0	D1
L9	2nd I.F. trans. {	13.0	E2
L10		13.0	E2
L11	Speech coil ...	2.5	—
T1	Output { Pri.	370.0	F2
	trans. { Sec.	0.4	F2
S1, S2	W/band switches ...	—	H4
S3	L.T. circuit switch	—	K3

Valve	Anode Voltage (V)	Screen Voltage (V)
V1 DK91	57	37
V2 DF91	57	37
V3 DAF91	5	2
V4 DL92	55	57

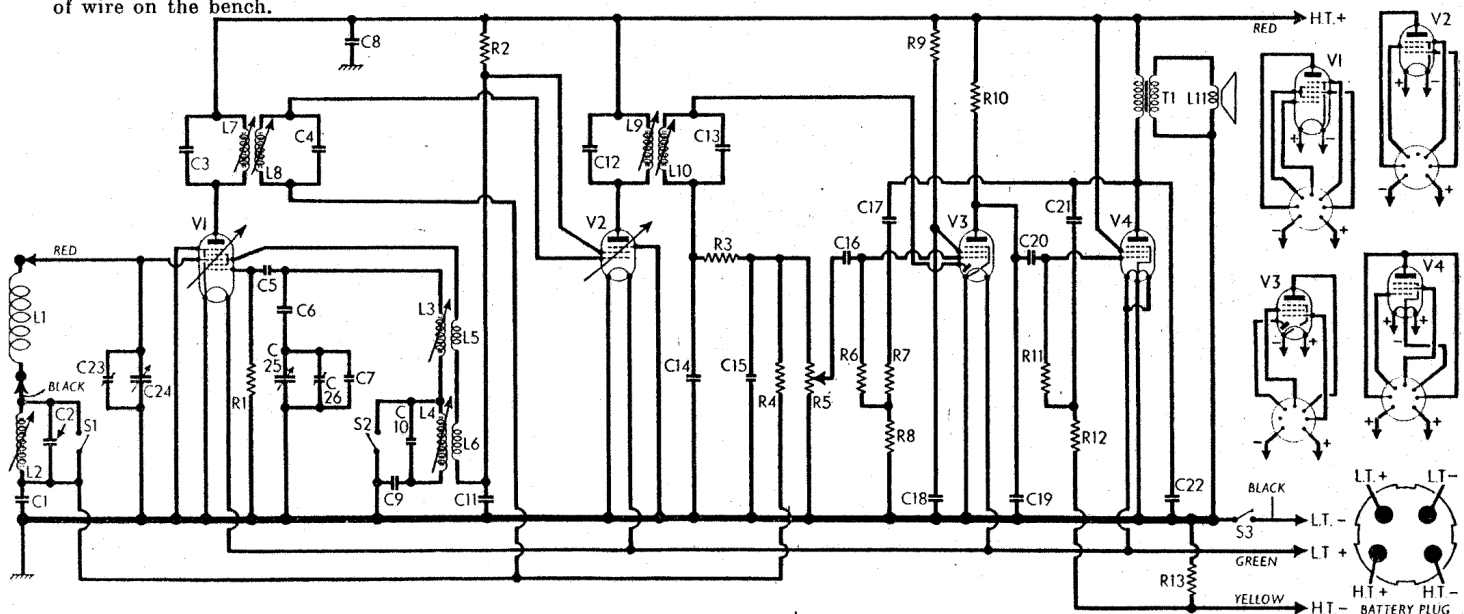
Intermediate frequency 465 kc/s.

M.W.—Still switched to M.W., tune to 250 m on scale (1,200 kc/s line on centre-line, pointing to switch), feed in a 250 m (1,200 kc/s) signal, and adjust **C26** and **C23** (A1) for maximum output. Tune to 500 m (600 kc/s mark) on scale, feed in a 500 m (600 kc/s) signal, and adjust the core of **L3** (H3) for maximum output. Repeat these adjustments.

RESISTORS		Values (ohms)	Locations
R1	V1 osc. C.G. ...	100,000	H4
R2	V1 osc., V2 S.G. H.T. feed ...	10,000	I3
R3	I.F. stopper ...	47,000	J3
R4	A.V.C. decoupling ...	3,300,000	I4
R5	Volume control ...	500,000	E1
R6	V3 pent. C.G. ...	10,000,000	J4
R7	V3 feed-back poten- tial divider ...	2,700,000	E2
R8	V3 S.G. feed ...	150,000	F2
R9	V3 S.G. feed ...	4,700,000	J3
R10	V3 pent. load ...	1,000,000	J3
R11	V4 C.G. ...	3,300,000	K3
R12	F-B coupling ...	220,000	J3
R13	V4 G.B. ...	820	K3

CAPACITORS		Values (μF)	Locations
C1	A.V.C. decoupling	0.05	H4
C2	L.W. fixed trim. ...	0.0001	H4
C3	1st I.F. transfo mer tuning ...	0.0001	D1
C4	V1 osc. C.G. ...	0.0001	D1
C5		0.00005	C1
C6	Osc. M.W. tracker	0.00047	A2
C7	Osc. fixed trim. ...	0.000015	A1
C8	H.T. R.F. by-pass	0.1	K4
C9	Osc. L.W. tracker ...	0.00025	C2
C10	Osc. L.W. trim. ...	0.00006	B2
C11	H.T. feed decoupl. ...	0.25	C2
C12	2nd I.F. transfor- mer tuning ...	0.0001	E2
C13	I.F. by-passes ...	0.0001	E2
C14		0.0001	E1
C15	I.F. by-passes ...	0.00005	E1
C16		0.002	F1
C17	F-B coupling ...	0.01	F1
C18	V3 S.G. decoupl. ...	0.1	I3
C19	I.F. by-pass ...	0.0001	J4
C20	A.F. coupling ...	0.001	K4
C21	F-B coupling ...	0.001	F1
C22	Tone corrector ...	0.005	K3
C23	Aerial M.W. trim. ...	—	A1
C24	Aerial tuning ...	0.0004	B1
C25	Oscillator tuning ...	0.0004	B1
C26	Osc. M.W. trim. ...	—	A1

† Variable. ‡ Pre-set.



L.W.—Switch set to L.W. (red spot visible), tune to 1,500 m on scale (Droit'w facing end of chassis on centre-line), feed in a 1,500 m (200 kc/s) signal, and adjust the cores of **L4** (C2) and **L2** (G4) for maximum output.

Volume Control.—To set the volume control indicator plate correctly, remove the two fixing screws, turn control anti-clockwise to its stop, see that the notch in the fibre disc engages with the locating spring, then replace fixing screws loosely. They should then be tightened up with the "OFF" mark on the plate facing outwards on the chassis centre-line.