FERGUSON Model 352U

General Description : Three-valve (plus contact-cooled metal rectifier), two-waveband transportable receiver with ferrite-rod aerial and provision for external aerial and earth.

Power Supply : A.C./D.C. mains, 200–250 volts (A.C. 40–100 c/s.).

Wavebands : M.W. 175–565 m.; L.W. 1080–2080 m.

Valve Analysis : Measurements taken with set on 225 volts (50 c/s.) A.C. under no-signal conditions on M.W. Meter used was Avo Model 8, 250- and 10-volt ranges.

Valve	*Anode, volts*	*Anode, mA.*	*Screen, volts*	*Screen, mA.*	*Cathode, volts*
V1 UCH81 . . .	175	0·8	48	2·5	—
(osc.) . .	96	3·5			
V2 UBF80 . . .	175	3·2	48	1·2	—
V3 UCL83 (triode) . .	92	0·8	—	—	—
(pentode) .	183	25	175	4·4	9·5

Rectifier Westinghouse 18RA1–1–16–1.

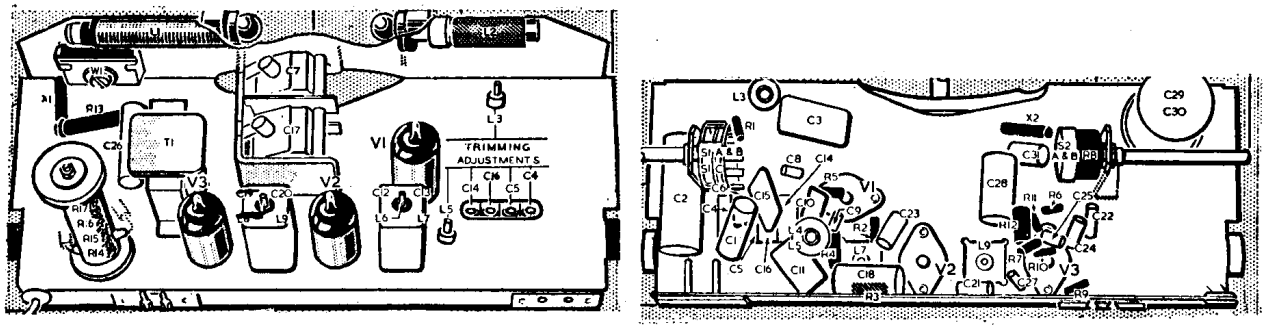
Alignment Procedure : Alignment can be carried out without removing the chassis.

I.F. : Inject a 470-kc/s. signal to front section of gang via 0·01-μF. isolating capacitors and adjust cores of L9, L8, L7 and L6 in that order.

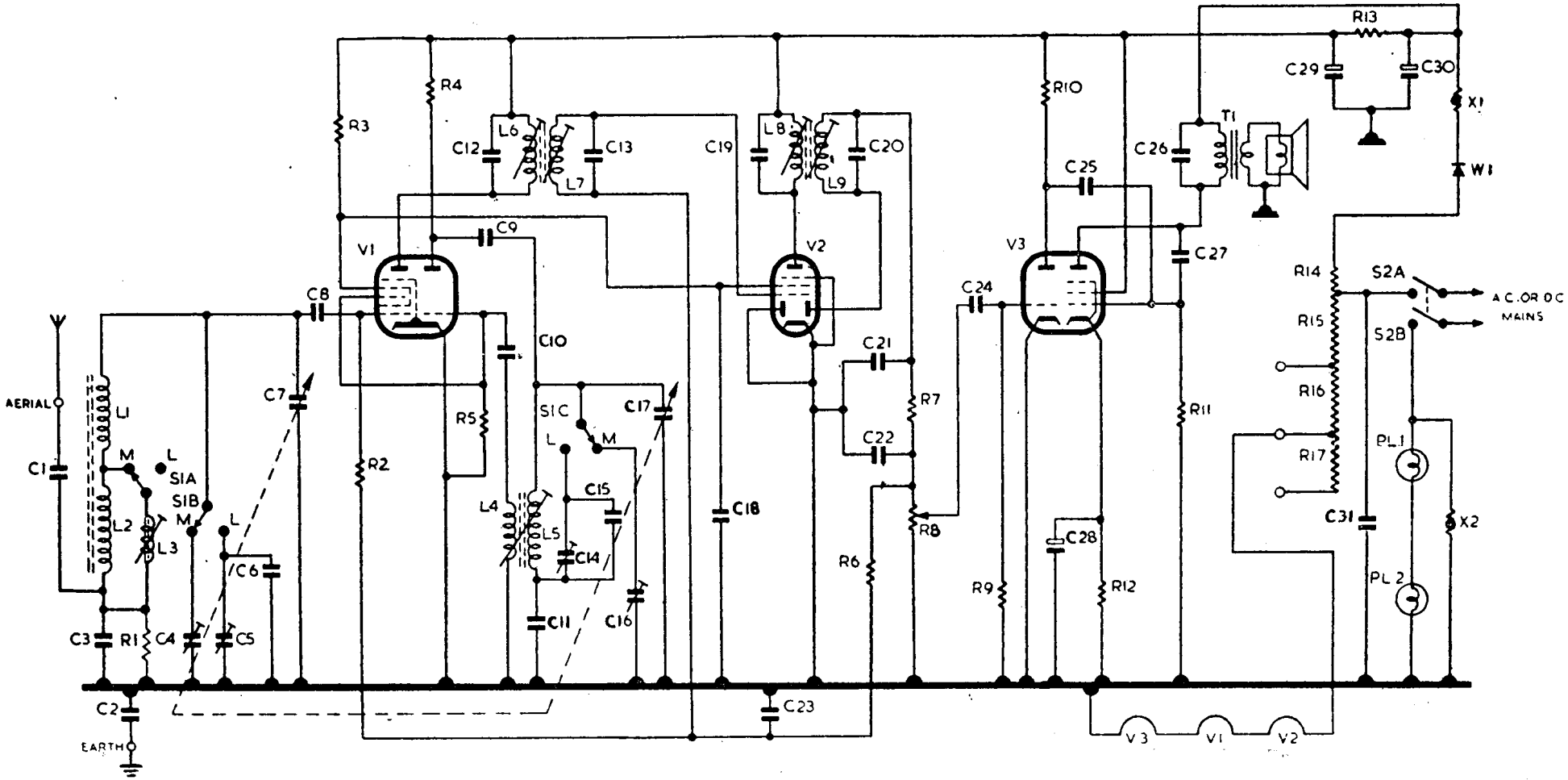
R.F. : Check that with gang fully closed top cursor line is central between 550-m. and 1100-m. calibration spots. Inject signals by closed loop of a few inches of wire across output of signal generator. M.W. must be aligned first.

M.W. : Set receiver to " pad " calibration dot at 517·2 m., inject a 580-kc/s. signal and adjust L5 and L3: take special care to ensure that L3 is exactly peaked. Set receiver to 214·3 m., inject a 1400-kc/s. signal and adjust C16 and C4. Repeat both operations until no further improvement results.

L.W. : Set receiver to smaller red dot at 1364 m., inject a 220-kc/s. signal and adjust C14 and C5.



CHASSIS LAY-OUT DIAGRAMS—FERGUSON MODEL 352U



Circuit Diagram—Ferguson Model 352U

Capacitors.

C1	0·001 (1000 v.)	C12	200 pF.* (2%)	C22	100 pF.
C2	0·05 (1000 v.)	C13	200 pF.* (2%)	C23	0·05
C3	3000 pF. (5%)	C14	4–40 pF.	C24	0·01
C4	4–40 pF.	C15	390 pF. (2%)	C25	0·003
C5	4–40 pF.	C16	4–40 pF.	C26	0·005 (1000 v.)
C6	80 pF. (5%)	C17	528 pF. (Swing)	C27	30 pF.
C7	528 pF. (Swing)	C18	0·1 μF.	C28	50 (25 v.)
C8	220 pF.	C19	200 pF.* (2%)	C29	50 (275 v.)
C9	220 pF.	C20	200 pF. (2%)	C30	50 (275 v.)
C10	56 pF.	C21	100 pF.	C31	0·01 (1000 v.)
C11	390 pF. (2%)				

* 125 pF. in early models.

Resistors.

R1	3·3k	R10	100k
R2	470k	R11	270k
R3	33k (½ W.)	R12	330 (10%, ½ W.)
R4	22k (½ W.)	R13	1·5k (1 W.)
R5	47k	R14	120 (5%, W.W.)
R6	1·5M	R15	1100 (5%, W.W.)
R7	100k	R16	200 (5%, W.W.)
R8	500k (Pot.)	R17	200 (5%, W.W.)
R9	10M		

D.C. Resistances.

L5	2 ohms
L6	8 ohms
L7	8 ohms
L8	8 ohms
L9	8 † ohms
T1 (pri.)	500 ohms.

† 6 ohms in early models.