

## 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
V <sub>1</sub>	UCH81	175	0.8	48	2.5	—
	(osc.)	96	3.5			—
V <sub>2</sub>	UBF80	175	3.2	48	1.2	—
V <sub>3</sub>	UCL83 (triode)	92	0.8	—	—	—
	(pentode)	183	25	175	4.4	9.5

Rectifier Westinghouse 18RA1-1-16-1.

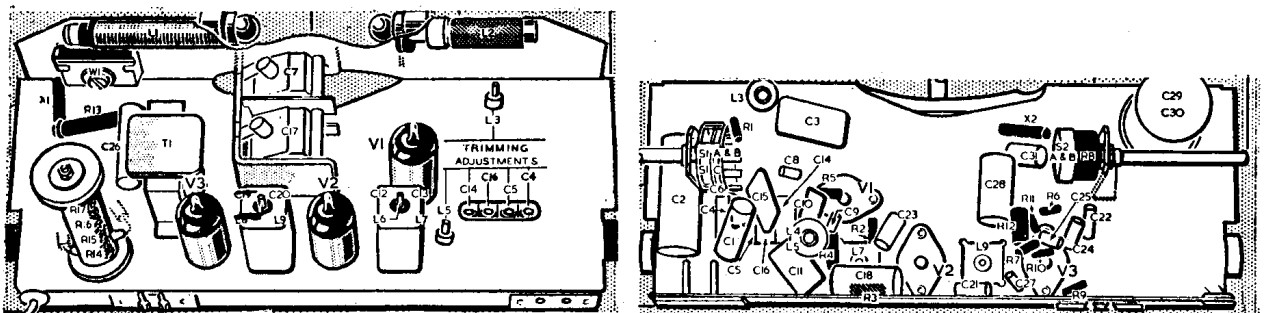
**Alignment Procedure :** Alignment can be carried out without removing the chassis.

**I.F. :** Inject a 470-kc/s. signal to front section of gang via 0.01- $\mu$ F. isolating capacitors and adjust cores of L<sub>9</sub>, L<sub>8</sub>, L<sub>7</sub> and L<sub>6</sub> in that order.

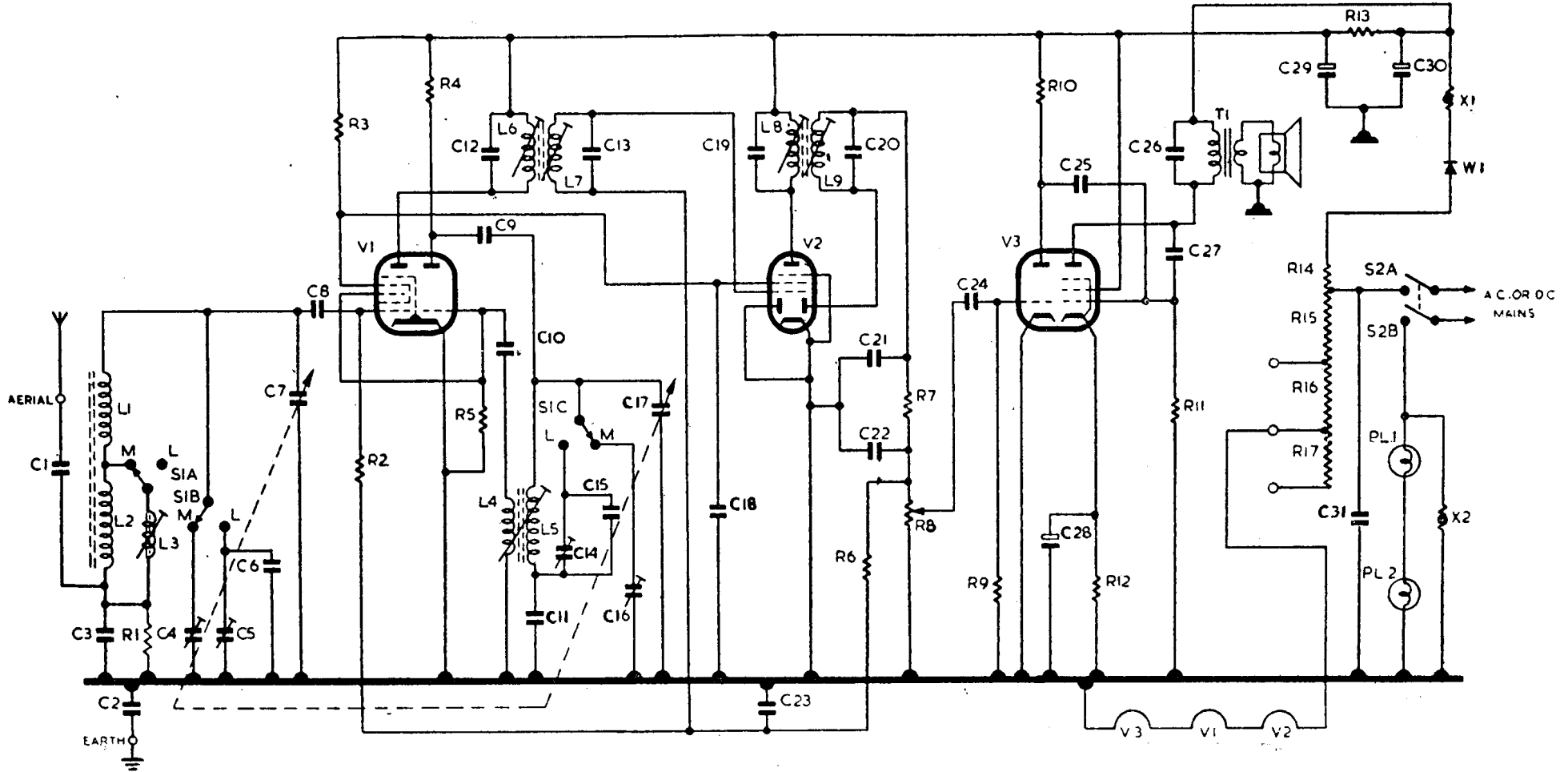
**R.F. :** Check that with gang fully closed top cursor line is central between 550-m. and 1100-m. calibration spots. Inject signals by closed loop of a few inches of wire across output of signal generator. M.W. must be aligned first.

**M.W. :** Set receiver to "pad" calibration dot at 517.2 m., inject a 580-kc/s. signal and adjust L<sub>5</sub> and L<sub>3</sub>: take special care to ensure that L<sub>3</sub> is exactly peaked. Set receiver to 214.3 m., inject a 1400-kc/s. signal and adjust C<sub>16</sub> and C<sub>4</sub>. 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 C<sub>14</sub> and C<sub>5</sub>.



CHASSIS LAY-OUT DIAGRAMS—FERGUSON MODEL 352U



CIRCUIT DIAGRAM—FERGUSON MODEL 352U

Capacitors.

C1	0.001 (1000 v.)
C2	0.05 (1000 v.)
C3	3000 pF. (5%)
C4	4-40 pF.
C5	4-40 pF.
C6	80 pF. (5%)
C7	528 pF. (Swing)
C8	220 pF.
C9	220 pF.
C10	56 pF.
C11	390 pF. (2%)

C12	200 pF.* (2%)
C13	200 pF.* (2%)
C14	4-40 pF.
C15	390 pF. (2%)
C16	4-40 pF.
C17	528 pF. (Swing)
C18	0.1 μF.
C19	200 pF.* (2%)
C20	200 pF. (2%)
C21	100 pF.

\* 125 pF. in early models.

C22	100 pF.
C23	0.05
C24	0.01
C25	0.003
C26	0.005 (1000 v.)
C27	30 pF.
C28	50 (25 v.)
C29	50 (275 v.)
C30	50 (275 v.)
C31	0.01 (1000 v.)

Resistors.

R1	3.3k
R2	470k
R3	33k (½ W.)
R4	22k (½ W.)
R5	47k
R6	1.5M
R7	100k
R8	500k (Pot.)
R9	10M

R10	100k
R11	270k
R12	330 (10%, ¼ W.)
R13	1.5k (1 W.)
R14	120 (5%, W.W.)
R15	1100
R16	200 (5%, W.W.)
R17	200

D.C. Resistances.

L5	2 ohms
L6	8 ohms
L7	8 ohms
L8	8 ohms
L9	8 ohms
Tr (pri.)	500 ohms.
	† 6 ohms in early models.