

## FERGUSON

## Model 342BU

**General Description :** Four-valve, two-waveband, portable receiver.

**Power Supplies :** A.C./D.C./Battery. A.C./D.C. mains, 200-250 volts. Note the mains-voltage adjustment, R21, is calibrated in 10-volt steps, and it is most important that it should be set to exact voltage of the supply.

**Valve Analysis :** Measurements taken on Avo Model 8 with receiver on A.C. mains; with R21 correctly set there should be no significant change in readings within the mains-voltage range.

Valve	Anode, volts	Anode, mA.	Screen, volts	Screen, mA.
V1 DK96 . .	85	0.6	(g4) 70 (g2) 30	* 1.6
V2 DF96 . .	85	1.2	85	0.5
V3 DAF96 . .	17	*	18.5	*
V4 DL96 . .	81.5	4.8	85	0.9

\* Less than 0.5 mA. (Rectifier, Westinghouse 18RA-1-1-16-1.)  
L.T. current 25 mA. H.T. current 10 mA. Bias across R14 -4.1 v.

**Alignment Procedure :** R.F. alignment should be carried out with chassis in cabinet; chassis should be removed for I.F. alignment.

**I.F. :** Inject a 470-kc/s. signal to rear section of gang via a 0.01- $\mu$ F. capacitor and adjust L9, L8, L7 and L6 in that order.

**R.F. :** With tuning control fully clockwise cursor line should coincide with brown dot. Signals may be induced by a closed loop in close proximity to receiver. M.W. must be aligned first.

(1) Set cursor line opposite left-hand end brown dot, inject a 1540-kc/s. signal and adjust C12.

(2) Gang fully clockwise, inject a 535 kc/s. and adjust L4.

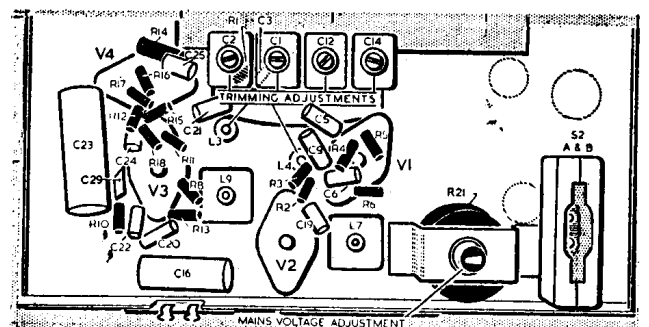
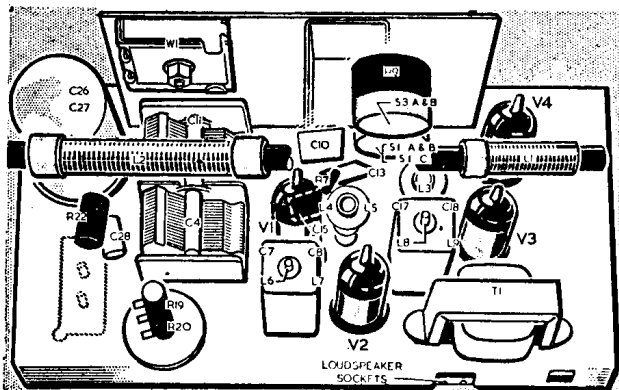
(3) Repeat (1) and (2) until no further improvement results.

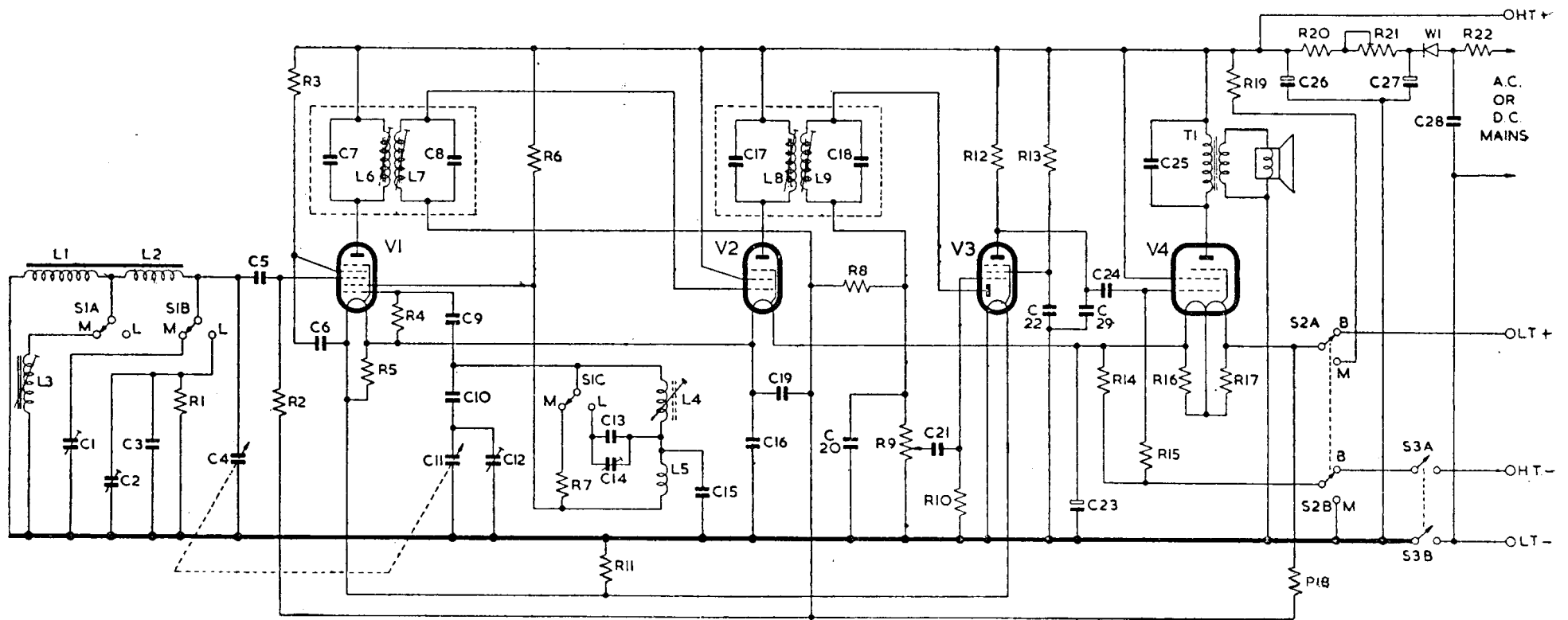
(4) Inject a 1400-kc/s. signal, tune receiver and adjust C1.

(5) Inject a 535-kc/s. signal, tune receiver and adjust L3.

(6) Repeat (4) and (5) until no further improvement results.

(7) Switch to L.W., set cursor to red dot marked 1400. Inject a 214.3-kc/s. signal and adjust C14 and C2.





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CIRCUIT DIAGRAM—FERGUSON MODEL 342BU

*Capacitors.*

- C1 3-50 pF.
- C2 3-50 pF.
- C3 160 pF. (2%)
- C4 528 pF. (2% Swing)
- C5 100 pF.
- C6 0.01
- C7 200 pF.\* (2%)
- C8 200 pF.\* (2%)
- C9 100 pF.
- C10 660 pF. (1%)
- C11 528 pF. (Swing)
- C12 3-50 pF.

- C13 460 pF. (2%)
- C14 3-50 pF.
- C15 0.005 (10%)
- C16 0.5
- C17 200 pF.\* (2%)
- C18 200 pF.\* (2%)
- C19 0.01
- C20 100 pF.
- C21 0.001
- C22 0.01
- C23 100 (12 v.)
- C24 0.0005

- C25 0.003 (350 v.)
  - C26 50 (275 v.)
  - C27 50 (275 v.)
  - C28 0.002 (300 v. A.C.)
  - C29 30 pF.
- \* 125 pF. in some early models.

*Resistors.*

- R1 100k
- R2 2.2M (10%)

- R3 100k
- R4 27k
- R5 1k (10%)
- R6 33k
- R7 100k
- R8 2.2M (10%)
- R9 1M (Pot.)
- R10 10M
- R11 330 (10%)
- R12 2.2M (10%)
- R13 6.8M (10%)
- R14 560 (5%, 1/2 W.)

- R15 2.2M (10%)
- R16 240 (5%)
- R17 330 (10%)
- R18 6.8M (10%)
- R19 3k (2%, 3 W., W.W.)
- R20 2.25k (2%, 3 W., W.W.)
- R21 1.5k (Variable, W.W.)
- R22 500 (2%, 3 W., W.W.)

*D.C. Resistances.*

- L4 2 ohms
- L6 8 ohms
- L7 8 ohms
- L8 8 ohms
- L9 8 ohms
- T1 (pri.) 600 ohms