

| Valve | Anode Voltage (V) | Anode Current (mA) | Screen Voltage (V) | Screen Current (mA) |
|------------|-------------------|--------------------|--------------------|---------------------|
| V1 12K8GT | 95 | 0.3 | 35 | 1.5 |
| V2 12K7GT | 95 | 2.5 | 95 | 2.2 |
| V3 12Q7GT | 95 | 8.1 | 95 | 2.2 |
| V4 35L6GT | 23 | 0.14 | 95 | 1.4 |
| V5 35Z4GT† | 167 | 30.0 | 95 | 1.4 |

† Cathode to chassis, 242 V, D.C.

| OTHER COMPONENTS | | Approx. Values (ohms) |
|------------------|------------------------------|-----------------------|
| L1 | Aerial coupling coil ... | 18.5 |
| L2 | Aerial M.W. tuning coil ... | 3.0 |
| L3 | Aerial L.W. tuning coil ... | 14.5 |
| L4 | Osc. M.W. tuning coil ... | 2.4 |
| L5 | Osc. L.W. tuning coil ... | 6.0 |
| L6 | Oscillator reaction coil ... | 2.6 |
| L7 | I.F. trans. { Pri. ... | 8.0 |
| L8 | I.F. trans. { Sec. ... | 8.0 |
| L9 | V2 anode tuning coil ... | 7.0 |
| L10 | Speaker speech coil ... | 2.5 |
| T1 | Output trans. { Pri. ... | 0.6 |
| T1 | Output trans. { Sec. ... | 430.0 |
| S1-S6 | Waveband switches ... | — |
| S7, S8 | Mains switches, ganged R6 | — |

FERGUSON - 203U

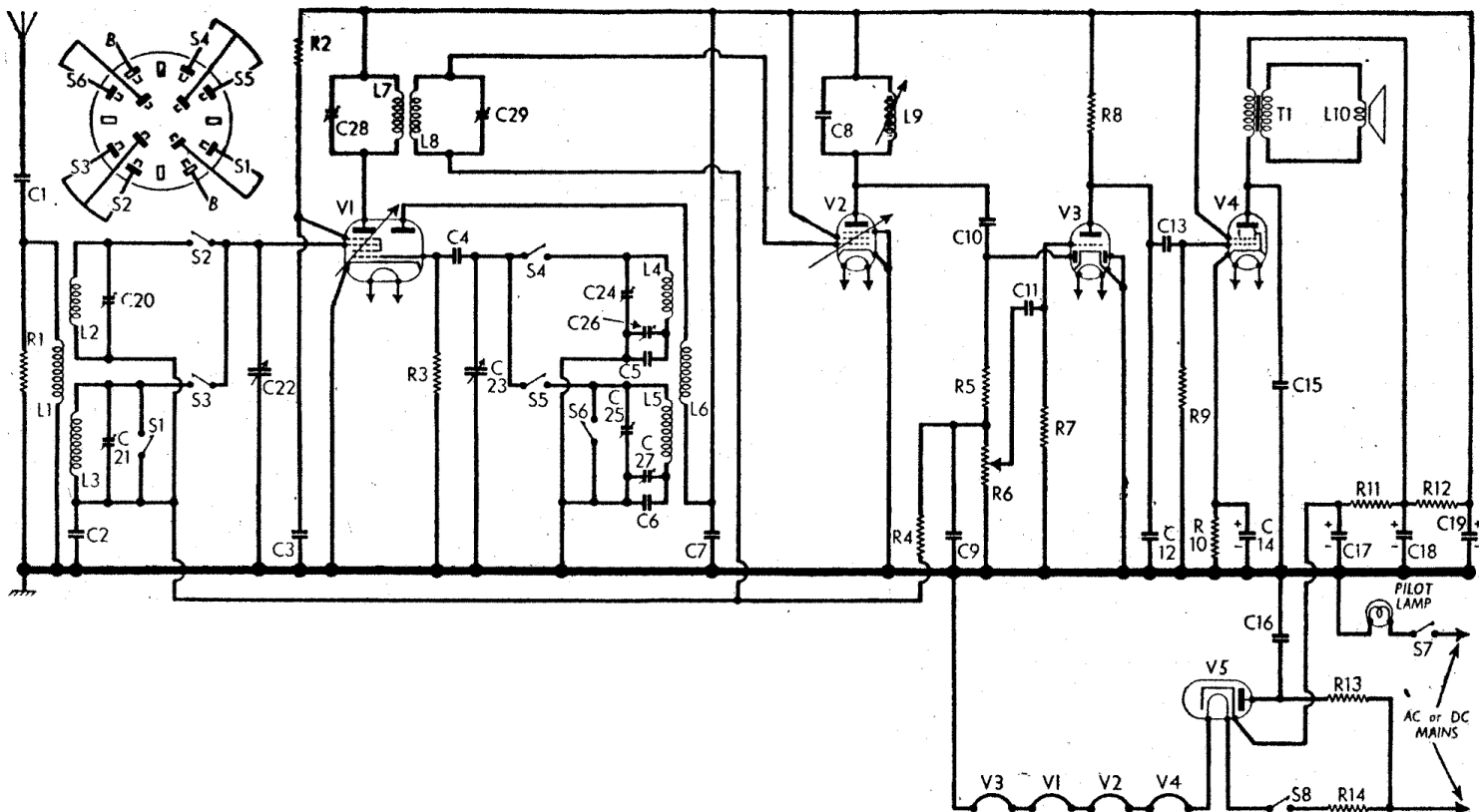
| RESISTORS | | Values (ohms) |
|-----------|-----------------------------|---------------|
| R1 | Aerial circuit shunt ... | 220,000 |
| R2 | V1 S.G. H.T. feed ... | 33,000 |
| R3 | V1 osc., C.G. resistor ... | 47,000 |
| R4 | A.V.C. line decoupling ... | 2,200,000 |
| R5 | I.F. stopper ... | 100,000 |
| R6 | Manual volume control ... | 500,000 |
| R7 | V3 triode C.G. resistor ... | 3,800,000 |
| R8 | V3 triode anode load ... | 470,000 |
| R9 | V4 C.G. resistor ... | 470,000 |
| R10 | V4 G.B. resistor ... | 220 |
| R11 | H.T. smoothing resistors { | 1,200 |
| R12 | H.T. smoothing resistors { | 4,700 |
| R13 | V5 anode surge limiter ... | 100 |
| R14 | Heater circuit ballast ... | 800† |

† Line cord.

Intermediate frequency 455 kc/s.

| CAPACITORS | | Values (μF) |
|------------|-------------------------------|-------------|
| C1 | Aerial isolator ... | 0.0001 |
| C2 | A.V.C. line decoupling ... | 0.02 |
| C3 | V1 S.G. decoupling ... | 0.02 |
| C4 | V1 osc. C.G. capacitor ... | 0.0001 |
| C5 | Osc. M.W. fixed tracker ... | 0.0004 |
| C6 | Osc. L.W. fixed tracker ... | 0.0001 |
| C7 | H.T. circuit R.F. by-pass ... | 0.02 |
| C8 | V2 anode circuit tuning ... | 0.0001 |
| C9 | I.F. by-pass capacitor ... | 0.0001 |
| C10 | V3 diode coupling ... | 0.0001 |
| C11 | A.F. coupling to V3 C.G. ... | 0.05 |
| C12 | I.F. by-pass capacitor ... | 0.0001 |
| C13 | A.F. coupling to V4 C.G. ... | 0.05 |
| C14* | V4 cathode by-pass ... | 25.0 |
| C15 | Fixed tone corrector ... | 0.005 |
| C16 | Mains R.F. by-pass ... | 0.02 |
| C17* | H.T. smoothing capacitors { | 16.0 |
| C18* | H.T. smoothing capacitors { | 16.0 |
| C19* | H.T. smoothing capacitors { | 4.0 |
| C20† | Aerial circ. M.W. trimmer ... | 0.00004 |
| C21† | Aerial circ. L.W. trimmer ... | 0.00004 |
| C22† | Aerial circuit tuning ... | 0.00054 |
| C23† | Oscillator circuit tuning ... | 0.00054 |
| C24† | Osc. circ. M.W. trimmer ... | 0.00004 |
| C25† | Osc. circ. L.W. trimmer ... | 0.00004 |
| C26† | Osc. circ. M.W. tracker ... | 0.00008 |
| C27† | Osc. circ. L.W. tracker ... | 0.00008 |
| C28† | I.F. trans. pri. tuning ... | 0.00018 |
| C29† | I.F. trans. sec. tuning ... | 0.00018 |

* Electrolytic. † Variable. ‡ Pre-set.



CIRCUIT ALIGNMENT

I.F. Stages.—Remove existing control grid (top cap) connector of V1 and connect signal generator leads, with a 100,000 Ω resistor in parallel, to control grid and chassis. Switch set to L.W., and turn gang and volume control to maximum. Feed in a 455 kc/s (659.3 m) signal and adjust C28, C29 and the core of L9 for maximum output. Remove signal generator leads and replace top cap connector.

R.F. and Oscillator Stages.—With the gang at maximum capacitance the pointer should be vertical. Transfer signal generator leads to aerial and chassis via a suitable dummy aerial.

M.W.—Switch set to M.W., tune to 214 m on scale, feed in a 214 m (1,400 kc/s) signal, and adjust C24 and C20 for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust C26 for maximum output. Repeat the 214 m and 500 m adjustments until no improvement results.

L.W.—Switch set to L.W., tune to 750 m (spot on scale), feed in a 750 m (400 kc/s) signal, and adjust C25 and C21 for maximum output. Tune to 2,000 m on scale, feed in a 2,000 m (150 kc/s) signal, and adjust C27 for maximum output. Repeat the 750 m and 2,000 m adjustments until no improvement results.