



| RESISTANCES |   | Values (ohms) |
|-------------|---|---------------|
| R1          | V1 fixed GB resistance ...                      | 220           |
| R2          | V1 osc. CG resistance ...                       | 39,000        |
| R3          | Part V1 osc. anode HT feed ...                  | 22,000        |
| R4          | V1, V2 SG's HT feed ...                         | 22,000        |
| R5          | IF stopper ...                                  | 33,000        |
| R6          | AVC line feed resistance ...                    | 1,000,000     |
| R7          | Manual volume control; V3 signal diode load ... | 1,000,000     |
| R8          | V3 triode CG resistance ...                     | 9,500,000     |
| R9          | V3 triode anode load ...                        | 100,000       |
| R10         | V4 CG resistance ...                            | 270,000       |
| R11         | V4 GB resistance ...                            | 470           |
| R12         | Part V1 osc. anode HT feed ...                  | 10,000        |
| R13         | Heater circuit ballast ...                      | 660*          |

\*Tapped at 150 Ω + 360 Ω + 120 Ω + 30 Ω from V5 heater end.

| CONDENSERS |                                  | Values (μF) |
|------------|----------------------------------|-------------|
| C1         | Aerial isolating condenser...    | 0-00006     |
| C2         | Aerial SW coupling condenser ... | 0-00006     |
| C3         | V1 cathode by-pass ...           | 0-025       |
| C4         | AVC line decoupling ...          | 0-04        |
| C5         | V1 osc. CG condenser ...         | 0-00006     |
| C6         | Osc. circuit SW tracker ...      | 0-006       |
| C7         | V1 osc. anode coupling ...       | 0-00015     |
| C8         | V1, V2 SG's decoupling ...       | 0-05        |
| C9         | IF by-pass condensers ...        | 0-00015     |
| C10        |                                  | 0-00015     |
| C11        | AF coupling to V3 triode ...     | 0-004       |
| C12        | V3 triode to V4 AF coupling ...  | 0-025       |
| C13*       | V4 cathode by-pass ...           | 25-0        |
| C14        | Fixed tone corrector ...         | 0-01        |
| C15*       | HT smoothing condensers...       | 20-0        |
| C16*       |                                  | 20-0        |
| C17*       |                                  | 8-0         |
| C18        | Mains RF by-pass ...             | 0-1         |
| C19†       | Aerial circuit MW trimmer ...    | 0-00003     |
| C20†       | Aerial circuit tuning ...        | —           |
| C21†       | Aerial circuit SW trimmer ...    | 0-00003     |
| C22†       | Oscillator circuit tuning ...    | 0-00003     |
| C23†       | Osc. circuit SW trimmer ...      | 0-00003     |
| C24†       | Osc. circuit MW trimmer ...      | 0-000025    |
| C25†       | Osc. circuit MW tracker ...      | 0-00005     |
| C26†       | 1st IF trans. pri. tuning ...    | —           |
| C27†       | 1st IF trans. sec. tuning ...    | —           |
| C28†       | 2nd IF trans. pri. tuning ...    | —           |
| C29†       | 2nd IF trans. sec. tuning ...    | —           |

\*Electrolytic. †Variable. ‡Pre-set.

### VALVE ANALYSIS

Valve voltages and currents given in the table below are those measured in our receiver when it was operating on our AC mains of 235V, using the top tapping on the mains resistance. The receiver was tuned to the lowest wavelength on the MW band and the volume

| Valve    | Anode Voltage (V) | Anode Current (mA) | Screen Voltage (V) | Screen Current (mA) |
|----------|-------------------|--------------------|--------------------|---------------------|
| V1 6A8G  | 130               | 2-0                | 51                 | 2-6                 |
| V2 6K7G  | 130               | 3-2                | 51                 | 0-9                 |
| V3 6Q7G  | 55                | 0-6                | —                  | —                   |
| V4 25A6G | 115               | 34-0               | 130                | 7-8                 |
| V5 25Z6G | 185†              | —                  | —                  | —                   |

† Cathode to chassis, DC.

| OTHER COMPONENTS |                                 | Approx. Values (ohms) |
|------------------|---------------------------------|-----------------------|
| L1               | Aerial SW coupling coil ...     | 2-2                   |
| L2               | Aerial MW coupling coil ...     | 16-0                  |
| L3               | Aerial SW tuning coil ...       | Very low              |
| L4               | Aerial MW tuning coil ...       | 2-7                   |
| L5               | Osc. circuit SW tuning coil ... | Very low              |
| L6               | Osc. circuit MW tuning coil ... | 2-5                   |
| L7               | Oscillator SW reaction ...      | 0-2                   |
| L8               | Oscillator MW reaction ...      | 0-2                   |
| L9               | 1st IF trans. { Pri. ...        | 9-0                   |
| L10              |                                 | 9-0                   |
| L11              | 2nd IF trans. { Pri. ...        | 30-0                  |
| L12              |                                 | 30-0                  |
| L13              | Speaker speech coil ...         | 2-5                   |
| L14              | Hum neutralising coil ...       | 0-1                   |
| L15              | Speaker field coil ...          | 1,000-0               |
| T1               | Speaker input trans. { Pri. ... | 450-0                 |
| S1, S2           | Waveband switches...            | 0-5                   |
| S3               | Mains switch, ganged R7 ...     | —                     |

### CIRCUIT ALIGNMENT

**IF Stages.**—Connect signal generator, via a 0.1μF condenser, to control grid (top cap) of V1, and, via another 0.1μF condenser, to chassis. Feed in a 451 KC/S signal, and adjust C29, C28, C27 and C26 in turn for maximum output. Repeat these adjustments.

**RF and Oscillator Stages.**—With gang at maximum, pointer should be horizontal. Connect signal generator to aerial side of C1 and, via a 0.1μF condenser, to chassis.

**SW.**—Switch set to SW, tune to 17 m on scale, feed in a 17 m (17.6 MC/S) signal, and adjust C23, then C21, for maximum output. C23 should be set to the peak involving the lesser trimmer capacity.

**MW.**—Switch set to MW, tune to 200 m on scale, feed in a 200 m (1,500 KC/S) signal, and adjust C24, then C19, for maximum output. Feed in a 500 m (600 KC/S) signal, tune it in, and adjust C25 for maximum output, while rocking the gang for optimum results.