# HL/DD.1320

## AC/DC MAINS DOUBLE DIODE TRIODE

### RATING.

| | |
|---|---|
| Heater Voltage | 13·0 |
| Heater Current (amps) | 0·2 |
| Maximum Anode Voltage | 250 |
| *Mutual Conductance (mA/V) | 2·0 |
| *Amplification Factor | 30 |
| *Anode A.C. Resistance (ohms) | 15,000 |

*At Ea=100 ; Eg=0.

### INTER-ELECTRODE CAPACITIES.

| | |
|---|---|
| Anode to Cathode | 10·5 $\mu\mu$F. |
| Grid to Cathode | 4·25 $\mu\mu$F. |
| Anode to Grid | 2·0 $\mu\mu$F. |
| *Diode 1 to Earth | 3.75 $\mu\mu$F. |
| *Diode 2 to Earth | 3·5 $\mu\mu$F. |
| Diode 1 to Diode 2 | 0·3 $\mu\mu$F. |

*" Earth " denotes the electrodes of any second valve section and the remaining earthy potential electrodes of the section under measurement, H and M joined to cathode.

### DIMENSIONS.

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|---|---|
| Maximum overall length | 125 mm. |
| Maximum Diameter | 39 mm. |

### GENERAL.

The HL DD.1320 is an indirectly heated double diode triode for use in D.C., A.C./D.C. Mains, or car radio receivers. It is designed to operate as a combined detector-amplifier with or without A.V.C. The diode section is completely screened from the triode section inside the valve. The bulb is metallised, and the valve is fitted with a standard 7-pin base, the connections to which are given overleaf.

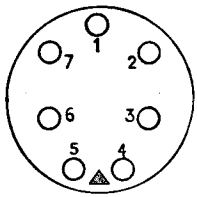
### APPLICATION.

The resistance between heater and cathode is of a very high order, so that the valve is eminently suitable for use in amplified A.V.C. circuits in which the triode unit acts as a combined audio-frequency amplifier and D.C. amplifier for A.V.C. purposes. In normal operation one diode anode (Pin No. 1) is employed as an audio frequency detector and the other (Pin No. 3) to provide A.V.C. voltage. The detector diode load should be returned to the cathode and the A.V.C. diode load to a point at negative potential to provide the necessary delay voltage.

The damping introduced by the diode detector may be quite small provided the load resistance is kept high, say 0·5 to 1 megohm. It is essential to ensure that the effective impedance to audio frequencies of the circuit between the diode anode and cathode, is as nearly equal as possible to the D.C. resistance of this circuit, otherwise distortion at high modulation percentages will occur. The resistance in the grid circuit of the triode should be at least that of the diode load resistance.

The use of the detector at high signal inputs necessitates the provision of a low frequency gain control between the detector output and the low frequency amplifying valve, to prevent any possibility of overloading this amplifier.

## BASING.




Viewed from the free end of the base.

| | | |
|---|---|---|
| Pin No. | 1. | Diode 1. |
| | 2. | Metallising. |
| | 3. | Diode 2. |
| | 4. | Heater. |
| | 5. | Heater. |
| | 6. | Cathode. |
| | 7. | Anode. |
| Top Cap. | | Control Grid. |