MAZDA

PEN.DD.4021

BEAM POWER OUTPUT VALVE FOR A.C./D.C. MAINS

RATING.

Heater Voltage	45
Heater Current (amps.)	0·2
Maximum Anode Voltage	200
Maximum Screen Voltage	200
Maximum Dissipation (watts)	10
*Mutual Conductance (mA/V)	12

*At Va=100 ; Vs=100 ; Vg=0.

OPERATING CONDITIONS.

Anode Voltage	138	150	160
Screen Voltage	150	150	175
Grid Bias	8·7	8·75	10
Anode Current (mA)	50	50	64
Screen Current (mA)	10	10	13
Anode Load (ohms)	2,800	2,900	2,600
Power Output (watts)	2·65	2·95	3·75
Bias Resistance (ohms.)	145	145	130

*For 5 per cent. 3rd harmonic, and 2nd harmonic not exceeding 5 per cent.

INTER-ELECTRODE CAPACITIES.

*Anode to Earth	9·25 $\mu\mu$F.
*Grid to Earth	18·0 $\mu\mu$F.
Anode to Grid	1·1 $\mu\mu$F.
*Diode 1 to Earth	4·0 $\mu\mu$F.
*Diode 2 to Earth	4·0 $\mu\mu$F.
Diode 1 to Diode 2	0·1 $\mu\mu$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.

Maximum Overall Length	140 mm.
Maximum Diameter	54 mm.

GENERAL.

The Pen.DD.4021 is an indirectly heated " beam power " output valve, incorporating a double diode, for use in A.C./D.C. receivers. It is primarily intended for use in radio receivers requiring greater volume than that given by the normal pentode. The diode section is completely screened within the valve from the beam power section, so that both sections may be treated as separate valves as far as circuit considerations are concerned. The bulb is partly metallised and the valve is fitted with a standard 7-pin base, the connections to which are given overleaf.

APPLICATION.

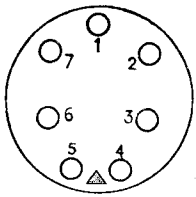
The valve should always be self-biased, and the bias resistance by-passed by a 50 mfd. condenser. The grid-cathode circuit resistance should

not exceed 1 megohm for an anode dissipation of 10 watts. It is advisable to connect a resistance of about 50 ohms in the anode circuit to prevent parasitic oscillation.

The diode connected to Pin No. 1 should be used for detection, and the diode connected to Pin No. 3 should be used for A.V.C. A delay voltage of 15—18 volts is recommended.

The anode load should not drop below the optimum value recommended.

BASING.



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

Viewed from the free end of the base.