



## AC/VP.1 and AC/VP.2 A.C. MAINS H.F. PENTODES

<b>RATING.</b>			
Heater Voltage	... ..	...	4.0
Heater Current (amps.)	... ..	...	0.65
Maximum Anode Voltage	... ..	...	250
Maximum Screen Voltage	... ..	...	250
*Mutual Conductance (mA/V)	... ..	...	3.0
	*Ea=250; Es=200; Eg=0.		

<b>OPERATING CONDITIONS.</b>			
Anode Voltage	... ..	250	250
Screen Voltage	... ..	200	250
Grid Voltage	... ..	2.8	4.0
Anode Current (mA)	... ..	7.4	8.8
Screen Current (mA)	... ..	1.85	2.2
Mutual Conductance (mA/V)	... ..	2.0	2.0
Anode A.C. Resistance (megohms)	... ..	1.0	0.85
Grid Bias for Mutual Conductance (10 $\mu$ A/V)	... ..	34.5	43.0
*Maximum Peak Carrier Input Volts	... ..	8.0	10.0
Grid Bias for M.P.C.I. (volts)	... ..	33.0	41.0
	*For 5 per cent. Total Distortion at 60 per cent. Modulation.		

<b>INTER-ELECTRODE CAPACITIES.</b>		<b>AC/VP.2</b>	<b>AC/VP.1</b>
*Anode to Earth	... ..	9.5 $\mu$ F.	8.0 $\mu$ F.
*Grid to Earth	... ..	7.0 $\mu$ F.	9.5 $\mu$ F.
Anode to Grid	... ..	0.0025 $\mu$ F.	0.003 $\mu$ F.
*"Earth" denotes the remaining earthy potential electrodes and metallising joined to cathode.			

<b>DIMENSIONS.</b>		<b>AC/VP.2</b>	<b>AC/VP.1</b>
Maximum Overall Length	... ..	122 mm.	122 mm.
Maximum Diameter	... ..	38 mm.	39 mm.

### GENERAL.

The AC/VP.1 and AC/VP.2 are indirectly heated variable- $\mu$  pentodes for high or intermediate frequency amplification for use on A.C. mains. The variable- $\mu$  characteristics which are the same for both types have been specially shaped to give very small cross-modulation at all values of bias. In each case the screen may be operated at 200 to 250 volts and a potentiometer is therefore unnecessary. The valves are based in standard 7-pin bases, the connections to which are given overleaf.

### APPLICATION.

The valves are designed for operation as radio frequency amplifiers in the signal or intermediate frequency stages, and are particularly suitable with diode or amplified automatic volume control.

The screen may be operated at 250 volts, but it is recommended that the voltage at maximum gain should be limited to 200 volts by a series resistance. The screen current is of the order of 25 per cent. of the anode current. Minimum cross modulation and maximum signal handling capacity is thus achieved without excessive initial anode currents. Under these conditions a carrier of 10 volts peak, modulated at 60 per cent. can be accepted at a bias of approximately —41 volts, without exceeding 5 per cent. distortion. The maximum output signal is dependent on the

impedance of the anode circuit and it is recommended that this should not be less than 100,000 ohms for the last I.F. stage.

The suppressor grid should be connected to cathode or a negative potential and the metal coating to earth. Either valve may be used as a variable-mu frequency changer with a separate oscillator and for a heterodyne voltage of 3 volts and a bias of approximately  $-38$  volts a carrier of 9 volts peak, modulated at 60 per cent. can be accepted.

### BASING.

#### AC/VP.1

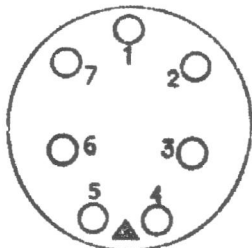
- Pin No. 1. Metallising.  
 2. Control Grid.  
 3. Suppressor Grid.  
 4. Heater.  
 5. Heater.  
 6. Cathode.  
 7. Screen.

Top Cap. Anode.

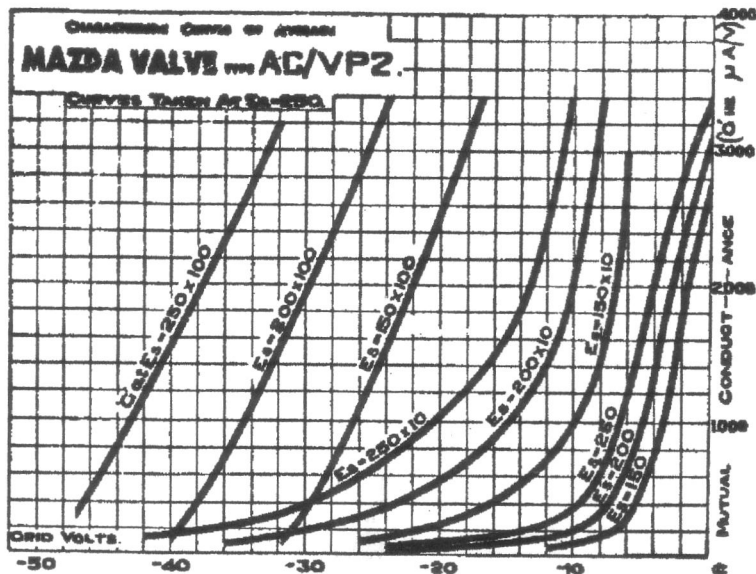
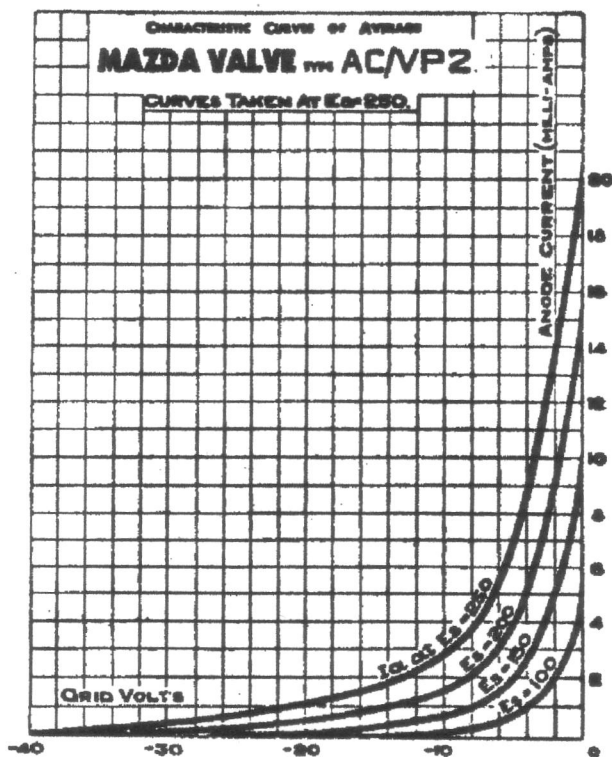
#### AC/VP.2

- Pin No. 1. Metallising.  
 2. Anode.  
 3. Suppressor Grid.  
 4. Heater.  
 5. Heater.  
 6. Cathode.  
 7. Screen.

Top Cap. Control Grid.



Viewed from the free end of the base.



Mazda Radio Valves are manufactured in Great Britain for the British Thomson-Houston Co. Ltd., London and Rugby.