MAZDA

AC/PEN

A.C. Mains Pentode

RATING.

Filament Volts	4.0
Filament Amps.	1.0
Maximum Anode Volts	250
Maximum Screen Volts	200
Maximum Anode Current (mA)	40
*Mutual A.C. Conductance (mA/Volt) ...	2.5

* *at* $Ea=100$; $Es=100$; $Eg=0$.

DIMENSIONS.

Maximum overall length	132 m.m.
Maximum diameter	58 m.m.

PRICE ~~15/-~~ 20/- 18/6

GENERAL.

The Mazda AC/Pen Valve is an indirectly-heated, 4-volt, super-power, 5-electrode valve for A.C. mains operation. This valve is exceptionally sensitive and has a large power output. It has been primarily designed for use in the output stage of a receiver, and has sufficient output to operate a moving-coil loud speaker at full volume. The cap of this valve is provided with 5 pins, the centre pin being connected to cathode. The screen is brought out to a side terminal.

APPLICATION.

The AC/Pen is primarily designed for operation of moving-coil and power-cone speakers. It has an optimum load impedance of approximately 10,000 ohms and the output transformer ratio should be chosen to give this load impedance. With a B.T.H. Senior R.K. Speaker, a transformer ratio of approximately 25:1 will be suitable, while with the Minor R.K. a ratio of approximately 42:1 will be required. The rise of the load impedance with frequency should be limited by connecting a condenser in series with a resistance across the primary of the output transformer. With the B.T.H. R.K. Speakers, a filter consisting of an 0.01 μF condenser and a 10,000 ohm resistance will be required.

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MAZDA

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OPERATING VOLTAGES.

This Valve has been re-rated to operate at 250 v. screen.

Self Bias Resistance	400 ohms.
Optimum Load	7,500 ohms.
Anode Current	32 mA.

de voltage of 250 volts and a screen voltage of 200.

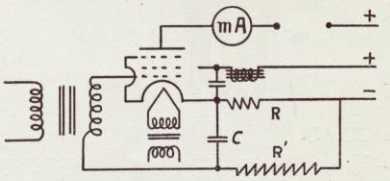
.. ...	200	150
.. ...	–10	–7.5
.. ...	330	390

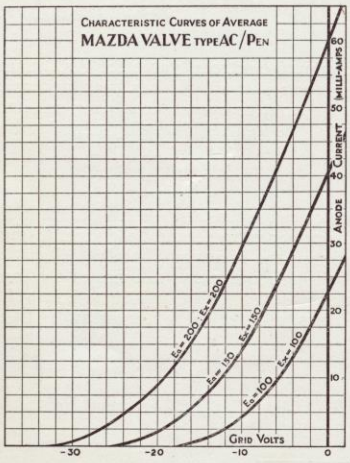
Grid bias must be used and the value required will depend on the screen volts applied. The recommended method of obtaining this bias is given in the circuit diagram. The required value of bias for screen voltages of 200 and 150 volts together with values for the bias resistance R are given in the above table. Bias for other screen voltages may be obtained from the characteristic curves. R_1 is a decoupling resistance of 50,000 to 100,000 ohms ; the condenser C should be 2 μF.

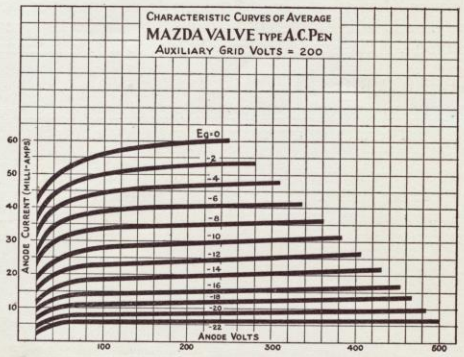
The resistance of the cathode to grid circuit of the AC/Pen should never exceed 500,000 ohms with self bias and 100,000 ohms when automatic bias is not used.

HEATER SUPPLY.

It is recommended that the voltage across the heater pins should be 4 volts $\pm$ 5% under working conditions.







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