MAZDA

PEN. 220

Pentode Valve

RATING.

Filament Voltage	2.0
Filament Amps.	0.2
Maximum Anode Voltage	150
Maximum Screen Voltage	150
Maximum Anode Current (mA)	12
*Mutual A.C. Conductance (mA/Volt) ...	2.5

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

DIMENSIONS.

The valve is normally capped with a 5-pin International Standard cap, the screen being connected to the centre pin. A 4-pin cap with the screen connected to a side terminal is optional.

Maximum overall length, 5-pin cap ...	115 m.m.
Maximum overall length, 4-pin cap ...	110 m.m.
Maximum diameter	45 m.m.

PRICE ~~20/-~~ ~~17/6~~ 13/6

GENERAL.

The Mazda Pen. 220 Valve is a 2-volt Pentode valve primarily designed for operation in portable and other receivers fitted with dry battery H.T. supply. It has been designed to give the greatest possible power output with the utmost economy in anode current, screen current and filament current when used with H.T. batteries of between 100 to 120 volts. Under the above conditions the anode current is only about 5 milliamps. The Pen. 220 can, however, be used with higher anode and screen voltages, up to 150 volts, with resultant increase in power output. The optimum load resistance is dependent on the value of the anode current and voltage. Owing to the high mutual conductance it is not possible to adjust the anode current to a desired value by variation of the grid bias (if this is obtained from batteries) ; the anode current must therefore be brought to the required value by suitably adjusting the screen volts.

Owing to the remarkable sensitivity of the Pen. 220, the use of an intermediate stage of L.F. is not recommended, as with 120 volts H.T. a signal of only 3 volts peak is required to give the maximum power output. A condenser-resistance filter should always be connected across the speaker to prevent distortion at the higher frequencies.

THE EDISON SWAN ELECTRIC CO. LTD.
Incorporating the Wiring Supplies, Lighting Engineering and Radio Business of the British Thomson-Houston Co. Ltd., and Metro-Vick Supplies.
Radio Division Showrooms:
155 Charing Cross Road, London, W.C.2
Showrooms in all the Principal Towns

EDISWAN

R723-10

MAZDA
PEN. 220

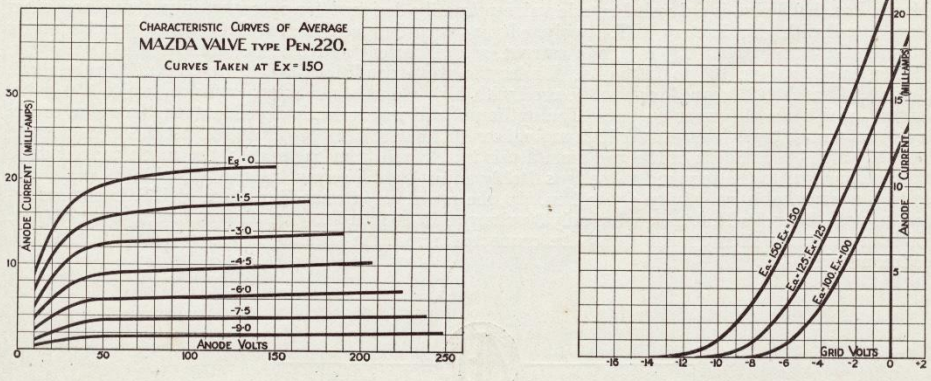
When used with R.C. coupling the value of the resistance in the grid circuit should not exceed ½ megohm. The Pen. 220 is designed for direct operation from a 2-volt accumulator; a filament rheostat is unnecessary and should not be used.

GRID BIAS.

Grid bias may be obtained either from dry batteries or by the semi-automatic bias system. A table giving the best values of bias for different feed currents is given below. The values for the optimum load resistance are also tabulated.

Approx. Anode Current ...	3 mA.		5 mA.			9 mA.
Anode Volts	100	120	100	120	150	150
Screen Volts	90	90	105	105	125	150
Grid Bias (volts)	–3	–3	–3	–3	–4.5	–4.5
Optimum Load Resistance (ohms) (approx.)	30,000	37,000	20,000	23,000	28,000	17,000

The anode current should never be allowed to exceed 12 mA.



BRITISH RADIO VALVE MANUFACTURERS' ASSOCIATION BVA