

# TYPE PEN4V

# MULLARD INDIRECTLY HEATED PENTODE

## OPERATING DATA.

Heater Voltage	...	4.0 V.
Heater Current	...	1.0 A.
Max. Anode Voltage	...	250 V.
Max. Auxiliary Grid Voltage	...	200 V.

## Approx. Auxiliary Grid

Current (at 200V.)	7 mA.
Optimum Load	... 10,000 ohms.

## CHARACTERISTICS.

(At Auxiliary Grid volts 100; Control Grid volts Zero.)

Mutual Conductance ... 3.0 mA./V.

## APPLICATION.

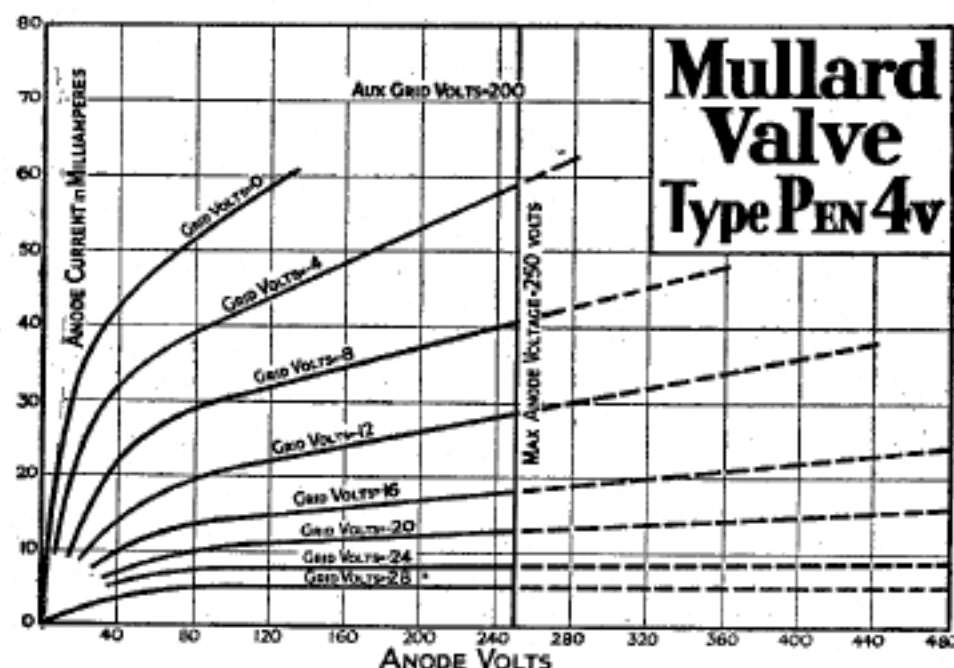
As output valve the Pen. 4V, owing to its high effective amplification, will give a very large output from a comparatively small grid input. It may therefore be used in A.C. mains receivers having no other low frequency stage, when it will develop sufficient power to operate the average moving coil speaker.

## AUXILIARY GRID VOLTAGE

The auxiliary grid voltage to the Pen.4V. may be obtained through a voltage dropping resistance. The correct value of this resistance at 250V. on the anode is about 7,000 ohms.

## GRID BIAS.

Bias should be applied automatically by the arrangement shown in diagram No. 5 on page 56. The total value of the biasing resistance should be 500 ohms, of which 250 ohms should be provided by a variable resistor.



Negative grid bias should be applied to the PEN.4V. according to the following table:—

Auxiliary Grid Voltage	Approx. Neg. Grid Bias Voltage	Approx. Anode Current (mA.)
200	12.0—13.0	28.0

**PRICE 18/6**



# Mullard

**THE MASTER VALVE**

