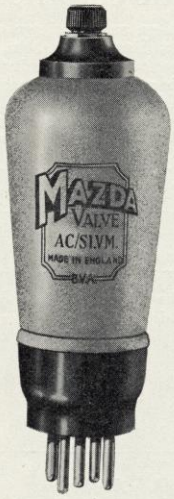
# MAZDA

## AC/S1.VM.

## A.C. Mains Variable-Mu Screened Grid Valve




### RATING.

| | |
|---|---|
| Filament Voltage ... ... ... | 4.0 |
| Filament Amps. ... ... ... | 1.0 |
| Maximum Anode Voltage ... ... | 200 |
| Maximum Screen Volts ... ... | 100 |
| Amplification Factor ... ... ... | 600 |
| Mutual A.C. Conductance (mA/V)... | 1.1* |
| ,, ,, ,, ($\mu$A/V) ... | 5† |

* Ea=200 Es=75 Eg=—1.5

† Ea=200 Es=75 Eg=—40 approx.

### INTER-ELECTRODE CAPACITIES.

| | |
|---|---|
| Anode to Grid ($\mu\mu$F) ... ... ... | 0.0015 |
| Anode to Cathode ($\mu\mu$F) ... ... | 11.5 |
| Grid to Cathode ($\mu\mu$F)... ... ... | 6.5 |

### DIMENSIONS.

| | |
|---|---|
| Maximum overall length ... | ... 130 m.m. |
| Maximum overall diameter ... | ... 45 m.m. |

## PRICE **19/-**

### GENERAL.

The AC/S1.VM is an indirectly heated 4-volt screened grid valve for A.C. mains operation, and is solely for use in sets where the volume is controlled by adjustment of grid bias. The greatest care has, however, been taken to overcome the disadvantages associated with this method of volume control and the characteristics of the valve have been so designed that with an increase of negative bias the anode current and mutual conductance curves follow a shape which minimises the factors responsible for cross-modulation and distortion.

The AC/S1.VM should be used in those receivers where a medium stage gain is required combined with economy of anode current.

The bulb is metallised, which in addition to giving a very low anode-control grid capacity greatly simplifies screening arrangements. The metal coating is connected to the central (cathode) pin.

### APPLICATION.

The AC/S1.VM will be found very suitable for use as an H.F. amplifier in either the signal or intermediate frequency stages.

It can also be used in the frequency-changing (first detector) stages of super-heterodyne receivers. The provision of bias volume control to the frequency changer helps to control the volume of the set and allows the reception of strong local signals without distortion. The AC/S1.VM is not generally suitable for use as a signal frequency detector owing to the special shape of its characteristics.


ASSOCIATED ELECTRICAL INDUSTRIES LTD. AEI

**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.*

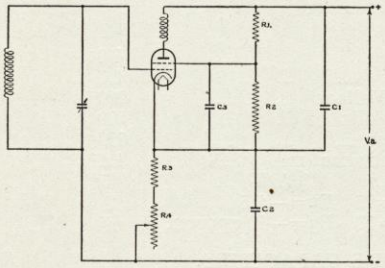
**EDISWAN**

R723-44

4/33

# MAZDA

## AC/S1. VM.




Circuit for Potentiometer adjustment of grid bias—Mazda Variable Mu A.C. Mains Valves. R4 should be tapered at the start to ensure smooth volume control.

### RECOMMENDED OPERATING CONDITIONS.

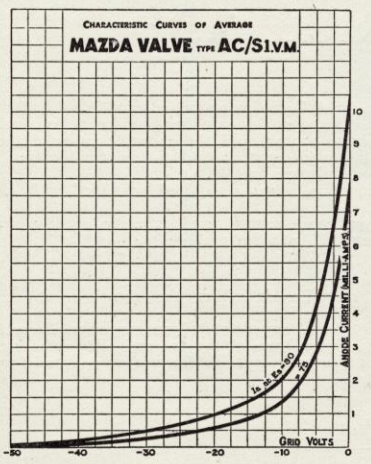
The valve should be operated with an anode voltage of 200 and a screen voltage of 75, the minimum bias being about —1.5 volts. Care should be taken in the design of the feed circuit to the screen to avoid the voltage rising to high value with increasing negative grid bias. The recommended method of obtaining bias is shown in the accompanying circuit and the values of the resistances are given in the table below.

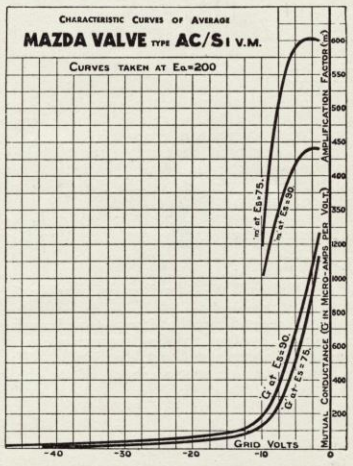
| Anode Volts. 200 | RI (ohms) | R2 (ohms) | R3 (ohms) | R4 (ohms) |
|---|---|---|---|---|
| One H.F. Stage | 27,000 | 25,000 | 145 | 15,000 |
| Two H.F. Stages | 13,500 | 12,500 | 72 | 7,500 |

The variable resistance R4 should be tapered at the start to ensure smooth control. C1 should be 4 mfds. and C2 and C3 non-inductive and 1 mfd.

### HEATER SUPPLY.

It is recommended that the voltage across the heater pins should be 4 volts ± 5% under operating conditions.




BRITISH RADIO VALVE MANUFACTURERS' ASSOCIATION BVA