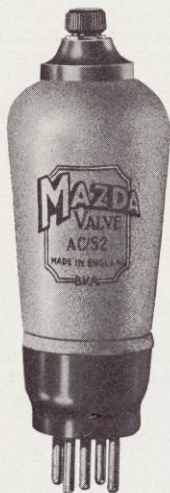


MAZDA

AC/S2

A.C. Mains Screened Grid Valve



RATING.

Filament Voltage...	...	...	...	4.0
Filament Amps. ...	...	...	...	1.0
Maximum Anode Voltage	...	...	...	200
Maximum Anode Current (mA)	...	...	...	14
*Mutual A.C. Conductance (mA/Volt)	...	...	...	5.0
*Amplification Factor	...	...	...	3,000
*Anode A.C. Resistance (ohms)	...	...	...	600,000

* at $E_a=200$; $E_s=60$; $E_g=0$.

INTER-ELECTRODE CAPACITIES.

Anode to Grid ...	...	...	...	0.0015 $\mu\mu\text{F}$.
Anode to Cathode	...	...	...	12 $\mu\mu\text{F}$.
Grid to Cathode	...	...	...	12 $\mu\mu\text{F}$.

DIMENSIONS.

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

PRICE ~~22/6~~ ~~19/6~~ 17/6

GENERAL.

The Mazda AC/S2 valve is an indirectly-heated, 4-volt, screened-grid valve for A.C. mains operation, having a very high Mutual Conductance at its operating point. It has been specifically designed for the amplification of comparatively small input signals. The high mutual conductance of this valve, coupled with the reasonable anode current feed, necessitates a smaller grid swing handling capacity, without cross-modulation, than is permissible with the AC/SG. The AC/S2 should, therefore, only be employed in circuits having a pre-H.F. volume control. In all other circuits, or where large input grid swings are expected, the AC/SG should be used, as that valve has been designed to give the minimum amount of cross-modulation.

The bulb of the AC/S2 has a metallised coating which, in addition to giving a very low anode-grid capacity, greatly simplifies screening arrangements.

GRID BIAS.

Grid Bias must always be provided when the valve is used as an amplifier, as grid current starts at a negative grid potential. A value of about -1.5 volts will be found satisfactory. When used as a cumulative-grid detector, the grid return should be connected to cathode.



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

R723-26

MAZDA

AC/S2

APPLICATION.

H.F. Amplification.

Owing to its very low anode to grid capacity, a very high amplification per stage is possible without instability. Also due to the special electrode construction the variation in inter-electrode capacities is very small from valve to valve. This is of great importance in multi-valve sets with ganged tuning.

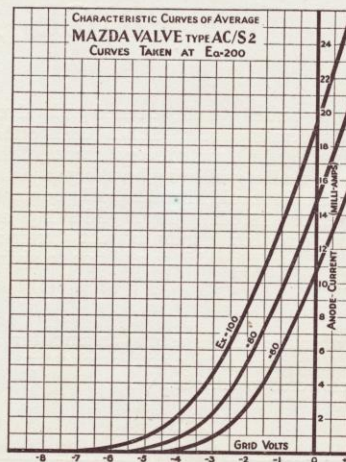
Detector.

The AC/S2 makes a very sensitive cumulative-grid detector, and should be coupled to the output valve with either a low ratio transformer with a high primary inductance or a high inductance choke. A resistance should be connected either across the primary or secondary, so as to ensure that the impedance of the primary remains nearly constant with frequency change. A condenser of about $0.0001 \mu\text{F}$. with a 1 megohm leak will be found suitable, and a feed current of about 5 to 6 milliamperes, with an anode voltage of 150 volts or over, will be found satisfactory.

The AC/S2 may be also used as an anode-bend detector with resistance-capacity coupling, and in super-heterodyne receivers.

IMPORTANT.

In all cases the cathode should be connected to earth, either direct or through a non-inductive condenser, as the metal coating is internally connected to the cathode pin. The condenser between the screened grid and cathode should also be of the non-inductive type.



BRITISH RADIO VALVE
BVA
MANUFACTURERS' ASSOCIATION