

# MAZDA

## AC/2HL

### A.C. Mains Receiving Valve



**RATING.**

Filament Voltage ... ..	4.0
Filament Amps. ... ..	1.0
Maximum Anode Voltage ... ..	200
Maximum Anode Current (mA) ... ..	14
*Mutual A.C. Conductance (mA/V) ... ..	6.5
*Amplification Factor ... ..	75
*Anode A.C. Resistance (ohms) ... ..	11,500

\*at  $E_a=100$  ;  $E_g=0$ .

**INTER-ELECTRODE CAPACITIES.**

Anode—Grid ... ..	6.5 $\mu\mu\text{F}$ .
Anode—Cathode ... ..	6.0 $\mu\mu\text{F}$ .
Grid—Cathode ... ..	9.0 $\mu\mu\text{F}$ .

**DIMENSIONS.**

Maximum overall length ... ..	115 m.m.
Maximum overall diameter ... ..	45 m.m.

**PRICE ~~15/-~~ 13/6**

**GENERAL.**

The Mazda AC/2HL Valve is an indirectly-heated, 4-volt, 3-electrode valve for A.C. Mains operation. The bulb is metal coated to prevent stray coupling, the coating being internally connected to the central pin. The AC/2HL has been designed to have a very high operating mutual conductance and amplification factor. A special material is employed to insulate the heater; consequently, the valve may be operated, if necessary, with a high voltage between heater and cathode.

**APPLICATION.**

**Detector.**

The AC/2HL will be found suitable for use as a cumulative grid detector with a condenser of 0.0001 to 0.0002 micro-farad and grid leak of 1 to 2 megohms. It is also suitable for power-grid detection with a condenser of 0.0001  $\mu\text{F}$  and a grid leak of 100,000 to 250,000 ohms. In either method the grid return should be connected to the cathode.



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## EDISWAN

# MAZDA

## AC/2HL

The low impedance of this valve, together with its high mutual conductance, makes it particularly suitable for use as an anode-bend detector. The table given below may be used as a rough guide when choosing the required value for bias, though the actual amount depends mainly on the amplitude of the applied signal.

Anode Volts ... ..	100	150	200
Bias Anode-bend Detector ... ..	-1.5 to -3	-3 to -6	-4.5 to -7.5
Bias Amplifier ... ..	1.0	1 $\frac{1}{4}$ to 1 $\frac{3}{4}$	1 $\frac{1}{2}$ to 2 $\frac{1}{4}$

### AMPLIFIER.

The AC/2HL may be used as a low-frequency amplifier with either transformer, choke, or resistance-capacity coupling. With resistance coupling, an anode coupling resistance of 50,000 to 100,000 ohms will be found satisfactory. By keeping the anode coupling resistance down to these values, we ensure that the higher audio-frequencies are produced without attenuation.

When using transformer or choke coupling, the primary inductance need not be high, the anode A.C. resistance of the AC/2HL being exceptionally low for this class of valve.

### GRID BIAS.

Grid Bias must be used in all stages except in the case of the grid-circuit detectors. The table above may be used as a guide.

**IMPORTANT.**—It is important that the metal coating (cathode pin) be connected to earth either directly or through a non-inductive condenser.

