

## POWER TRIODE

# MZ2-200

Directly-heated power triode rated for a maximum anode dissipation of 275 watts, and primarily intended for use as a low frequency power valve or as a modulator in transmitting equipment.

This data sheet should be read in conjunction with "Operating Notes, Part I—Power Valves" included in this volume of the Handbook.

**CATHODE** Oxide coated, for use on a.c. or d.c.

|       |      |   |
|-------|------|---|
| $V_f$ | 14.0 | V |
| $I_f$ | 2.2  | A |

### CAPACITANCES

|           |      |                  |
|-----------|------|------------------|
| $C_{g-f}$ | 16.0 | $\mu\mu\text{F}$ |
| $C_{a-f}$ | 5.6  | $\mu\mu\text{F}$ |
| $C_{a-g}$ | 16.2 | $\mu\mu\text{F}$ |

**CHARACTERISTICS** At  $V_a = 2.0 \text{ kV}$ ;  $I_a = 180 \text{ mA}$ .

|       |       |               |
|-------|-------|---------------|
| $g_m$ | 7.2   | $\text{mA/V}$ |
| $\mu$ | 15    |               |
| $r_a$ | 2,085 | $\Omega$      |

### LIMITING VALUES

|                    |     |    |
|--------------------|-----|----|
| $V_a \text{ max.}$ | 2.4 | kV |
| $P_a \text{ max.}$ | 275 | W  |
| $I_k \text{ max.}$ | 400 | mA |
| $I_g \text{ max.}$ | 40  | mA |

**OPERATING CONDITIONS** AS CLASS AB2 PUSH-PULL AMPLIFIER USING DIRECT-COUPLED CATHODE-FOLLOWER DRIVER STAGE WITH TWO EL37 PENTODES AS DRIVERS

### Operating Conditions for Two MZ2-200

|                           |                 |                |                |                |            |
|---------------------------|-----------------|----------------|----------------|----------------|------------|
| $V_a$                     | 1.5             | 1.75           | 2.0            | 2.25           | kV         |
| $I_{a(o)}$                | $2 \times 60$   | $2 \times 60$  | $2 \times 60$  | $2 \times 60$  | mA         |
| $I_a \text{ (max. sig.)}$ | $2 \times 363$  | $2 \times 364$ | $2 \times 363$ | $2 \times 365$ | mA         |
| $I_g$                     | $2 \times 37.5$ | $2 \times 36$  | $2 \times 36$  | $2 \times 36$  | mA         |
| $R_{a-a}$                 | 4.7             | 5.65           | 6.6            | 7.6            | k $\Omega$ |
| $P_{out}$                 | 746             | 897            | 1,048          | 1,213          | W          |
| $D_{tot}$                 | 3.1             | 3.0            | 2.9            | 2.9            | %          |

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### Corresponding Operating Conditions for Driver Stage (see circuit diagram)

|                   |                 |                 |                 |                 |    |
|-------------------|-----------------|-----------------|-----------------|-----------------|----|
| $V_{b1}$          | -375            | -400            | -425            | -450            | V  |
| $V_{b2}$          | 350             | 350             | 350             | 350             | V  |
| $V_{g1}$          | -136            | -156            | -176            | -196            | V  |
| $I_{a(o)}$        | $2 \times 19.5$ | $2 \times 19.8$ | $2 \times 20.5$ | $2 \times 20.5$ | mA |
| $I_a$ (max. sig.) | $2 \times 57$   | $2 \times 56$   | $2 \times 56.5$ | $2 \times 56.5$ | mA |
| $V_{in}$ (r.m.s.) | $2 \times 179$  | $2 \times 192$  | $2 \times 207$  | $2 \times 223$  | V  |

**Notes**—1.  $V_{in}$  for MZ2-200 is approximately  $0.9 \times V_{in}$  (driver).

2. The regulation of the power supply  $V_{b1}$  is not critical, and a capacitance input filter may be used.  $V_{b2}$  however, should have good regulation, preferably using a choke input filter.
3. With no signal input, the bias potentiometers should be adjusted to set the anode currents of the corresponding output valves at the specified no-signal values. The correct driver conditions will then be automatically secured by the specified values of components and supply voltages.

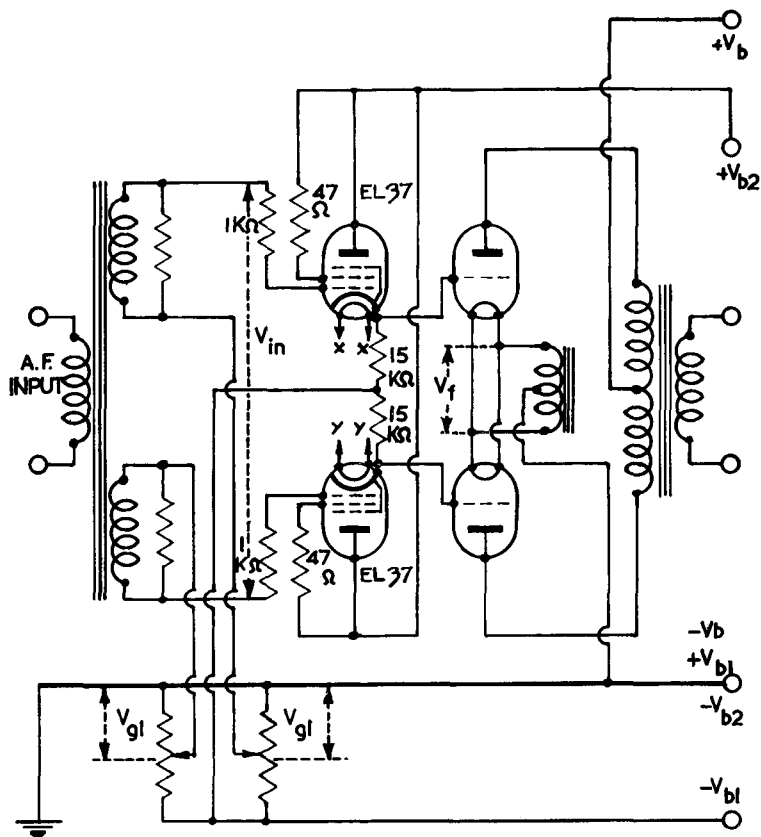
**WEIGHT**     Valve only

{ 2 lb. 5 oz.  
1.04 kg.

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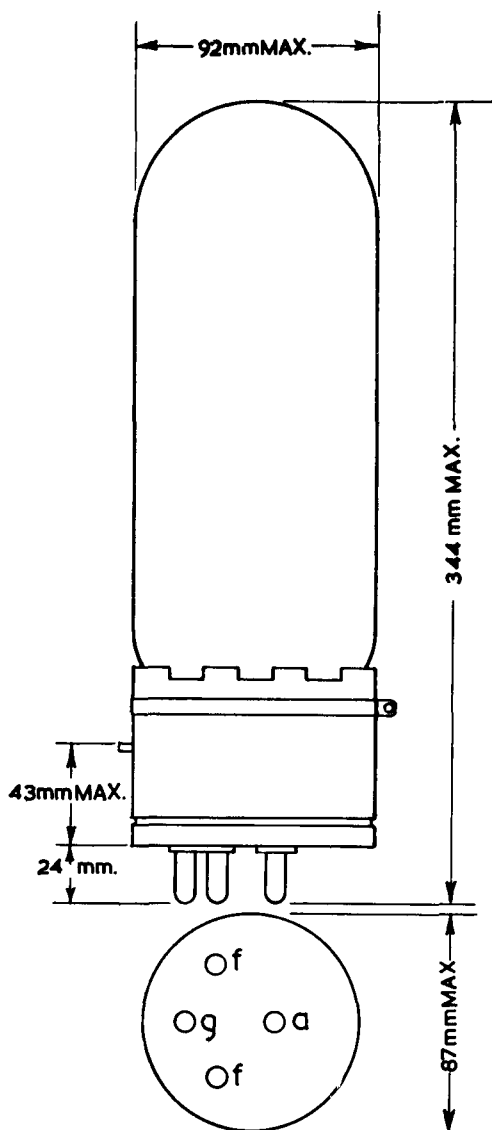
**CIRCUIT DIAGRAM FOR  
OUTPUT STAGE WITH  
DIRECT-COUPLED DRIVER  
STAGE.**

The heaters "x x" & "y y" must be supplied from separate windings on the mains transformer.

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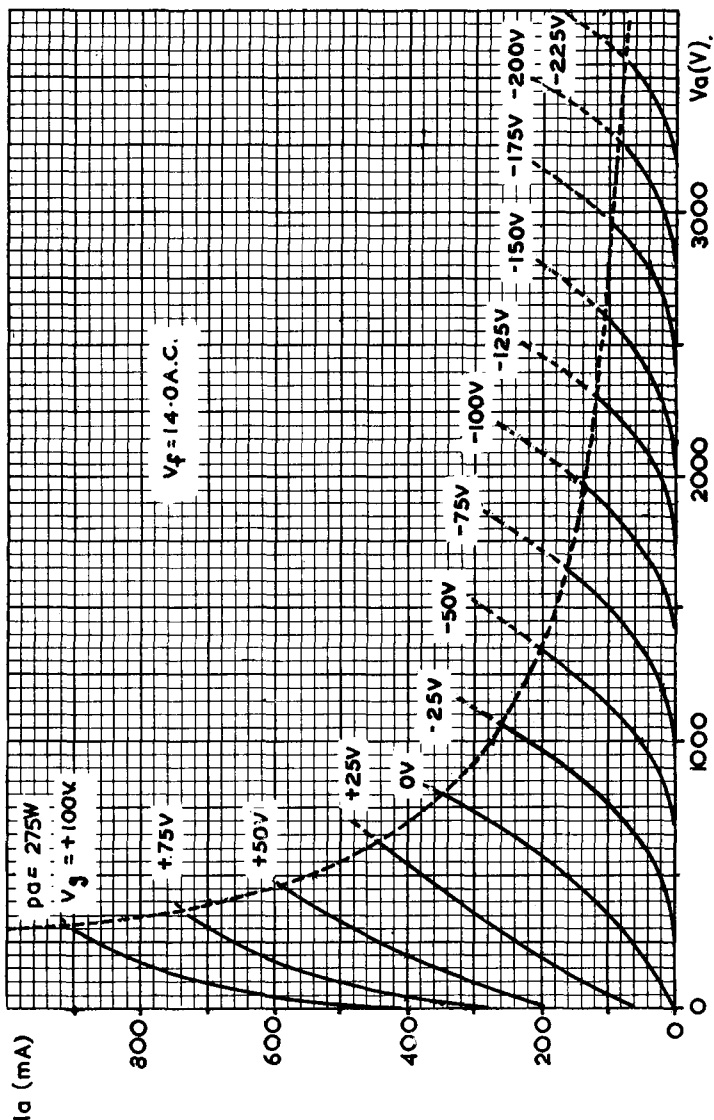


BASE : Large 4-pin bayonet base holder, Type MVH16, available from Mullard Ltd.

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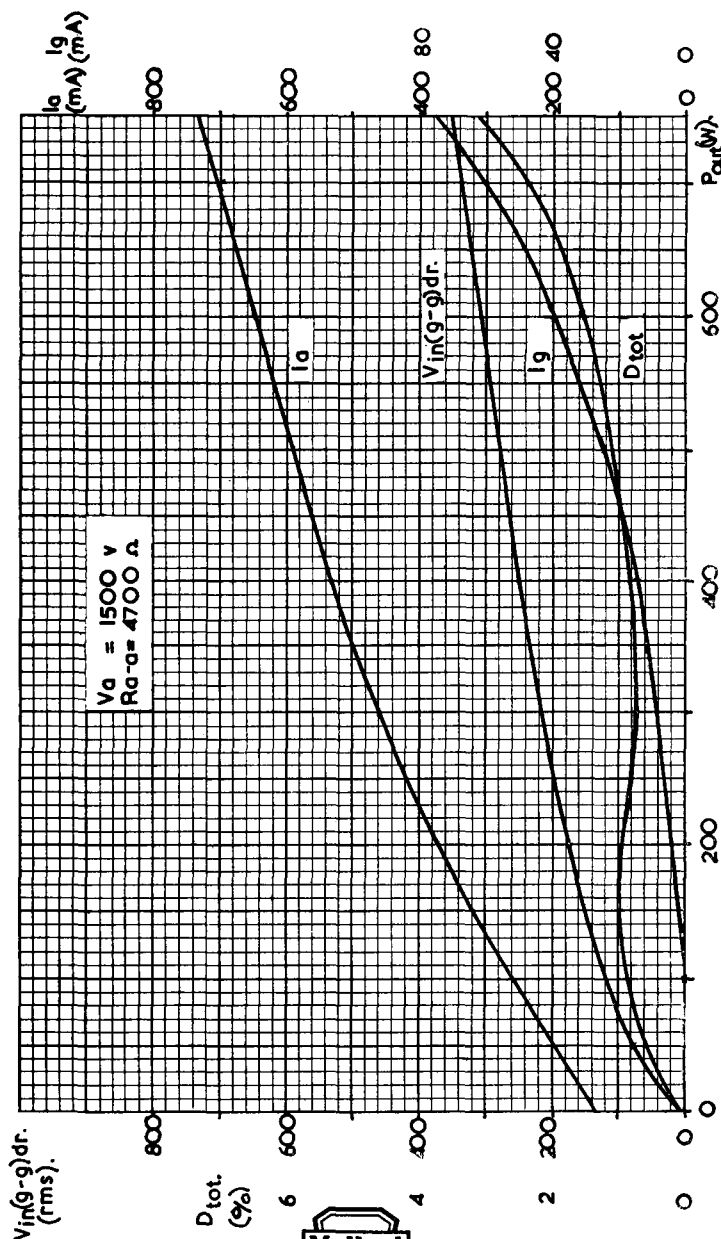
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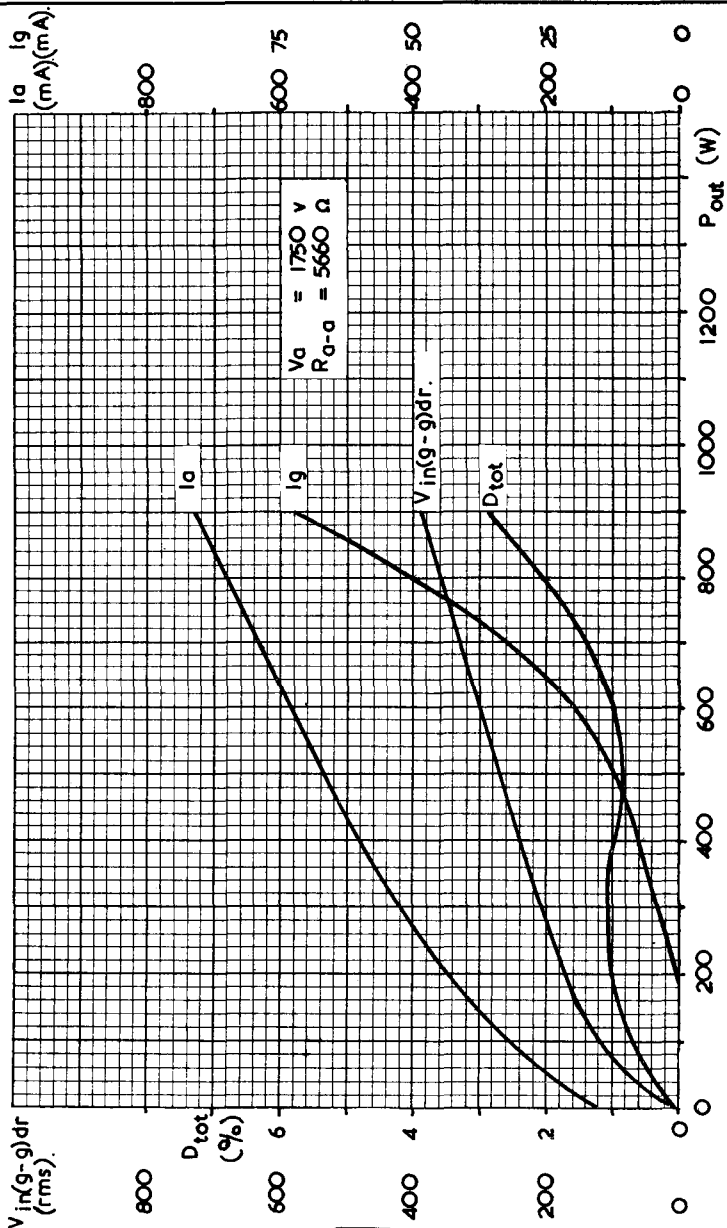
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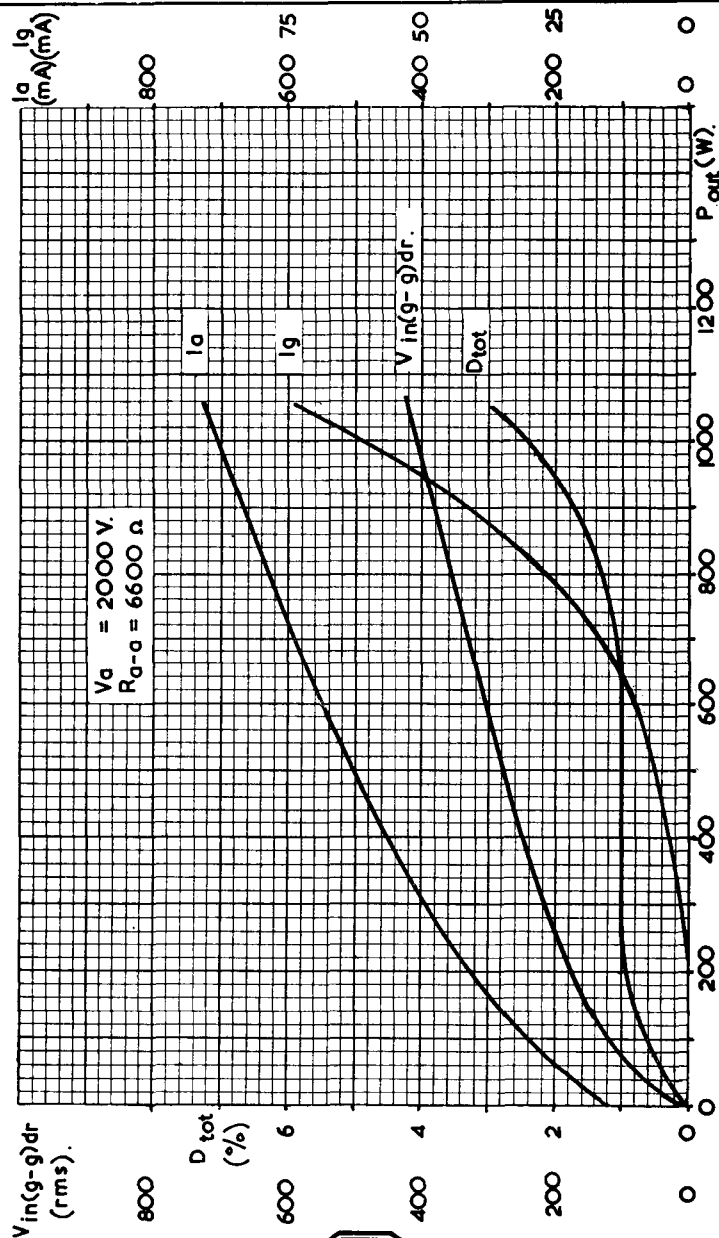
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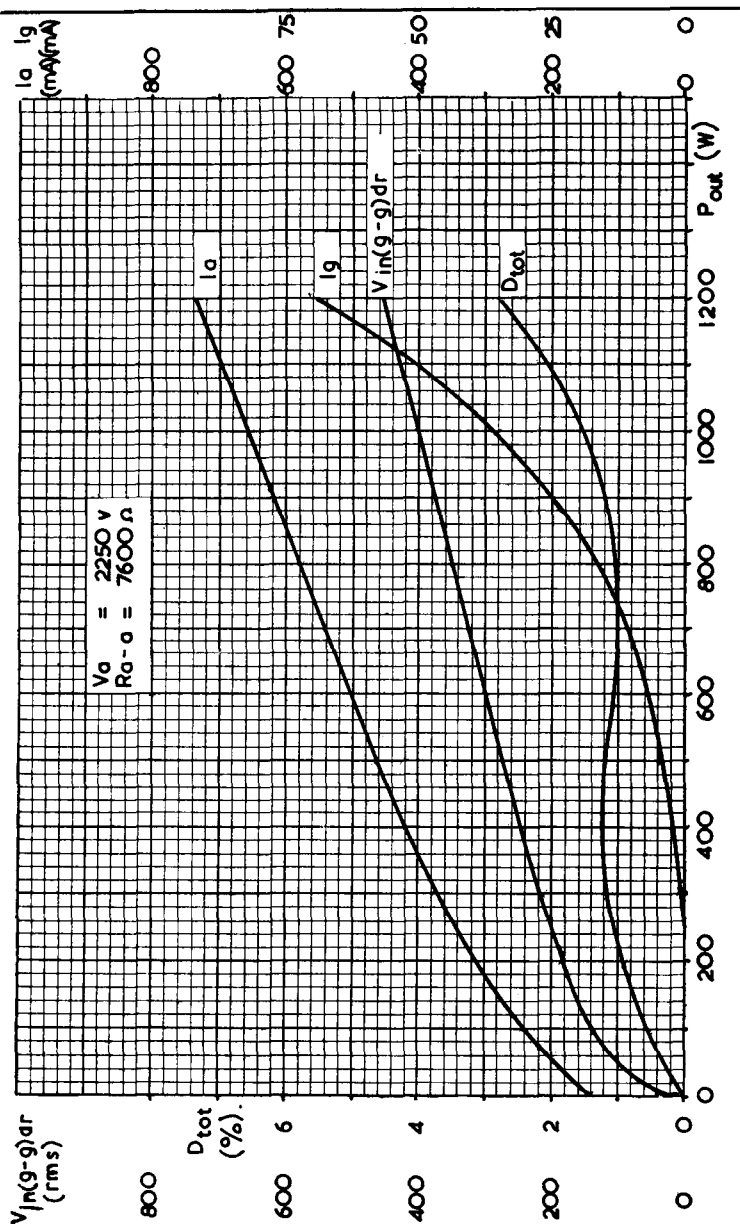
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