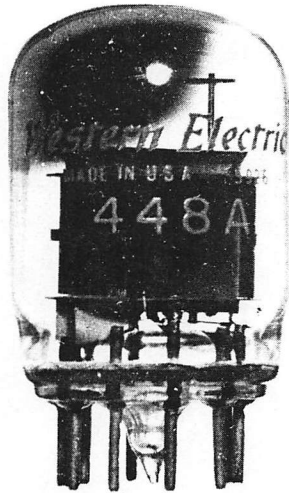


ELECTRON TUBE DATA SHEET
WESTERN ELECTRIC 448A, 448B, 454A ELECTRON TUBE



DESCRIPTION

The 448A, 448B and 454A electron tubes are high figure of merit tetrodes of the indirectly heated cathode type. They have plate characteristics approaching those of a pentode and were designed primarily for use in the TH Radio Relay System.

These three tubes have the same electrical characteristics. The 448B has the same mechanical dimensions and appearance as the 448A except the bulb is aquadag coated to suppress fluorescence effects. The 454A is mechanically equivalent to the 448A except that pin #1 (plate) is shortened to permit its use in a special test probe. (See outline drawing - page 4).

CHARACTERISTICS

| | | | |
|------------------|-------|-------|--------------|
| Heater Voltage | · · · | 6.3 | volts |
| Cathode Current | · · · | 33.7 | milliamperes |
| Transconductance | · · · | 31500 | micromhos |

$$\left(\begin{array}{l} E_b = 135 \text{ volts; } E_{c2} = 135 \text{ volts} \\ E_{cc1} = +9.5 \text{ volts; } R_k = 323 \text{ ohms} \end{array} \right)$$

GENERAL CHARACTERISTICS

Electrical Data

| | | |
|--|------|------------------|
| Heater Voltage | 6.3 | volts |
| Heater Current | 450 | milliamperes |
| Direct Interelectrode Capacitances (without external shield) | | |
| Grid to Plate | 0.03 | $\mu\mu\text{f}$ |
| Input: g to (h + k + g_2 + i.s.) | 15.4 | $\mu\mu\text{f}$ |
| Output: p to (h + k + g_2 + i.s.) | 2.03 | $\mu\mu\text{f}$ |

Mechanical Data

| | |
|---|----------------------------|
| Cathode | Coated Unipotential |
| Bulb | T-9 |
| Base | See outline drawing Page 4 |
| Mounting Position | Any |
| Dimensions and pin connections shown in outline drawing on Page 4 | |

Maximum Ratings, Absolute System

| | | |
|------------------------------------|----------------|--------------|
| Plate Voltage | 150 | volts |
| Screen Grid Voltage | 150 | volts |
| Control Grid Voltage | -50 | volts |
| Plate Dissipation | 6.0 | watts |
| Screen Grid Dissipation | 1.75 | watts |
| Control Grid Dissipation | See Footnote * | |
| Cathode Current | 50 | milliamperes |
| Heater - Cathode Voltage | ± 50 | volts |
| Bulb Temperature | 130* | centigrade |

Maximum Grid Circuit Resistance for:

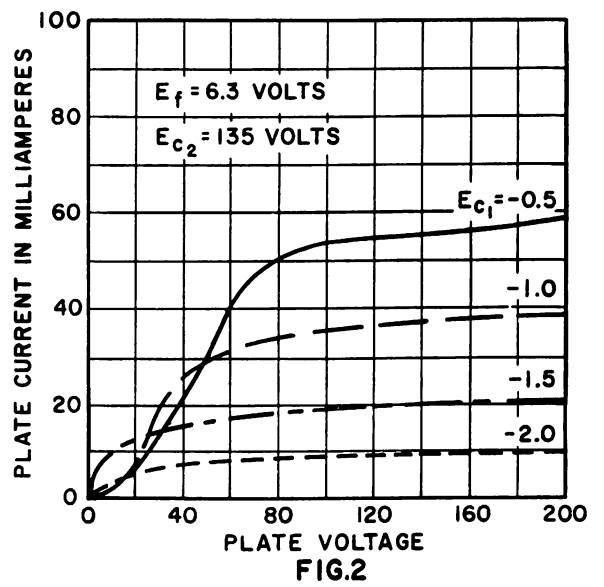
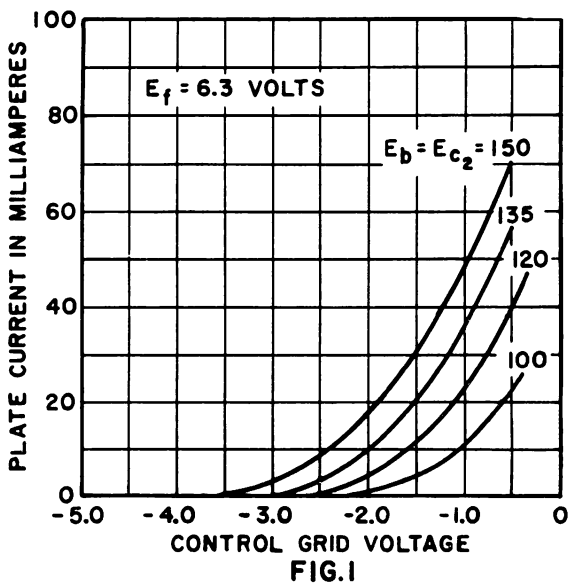
| | | |
|------------------------|------|--------|
| Fixed Bias | 0.05 | megohm |
| Cathode Bias | 0.10 | megohm |

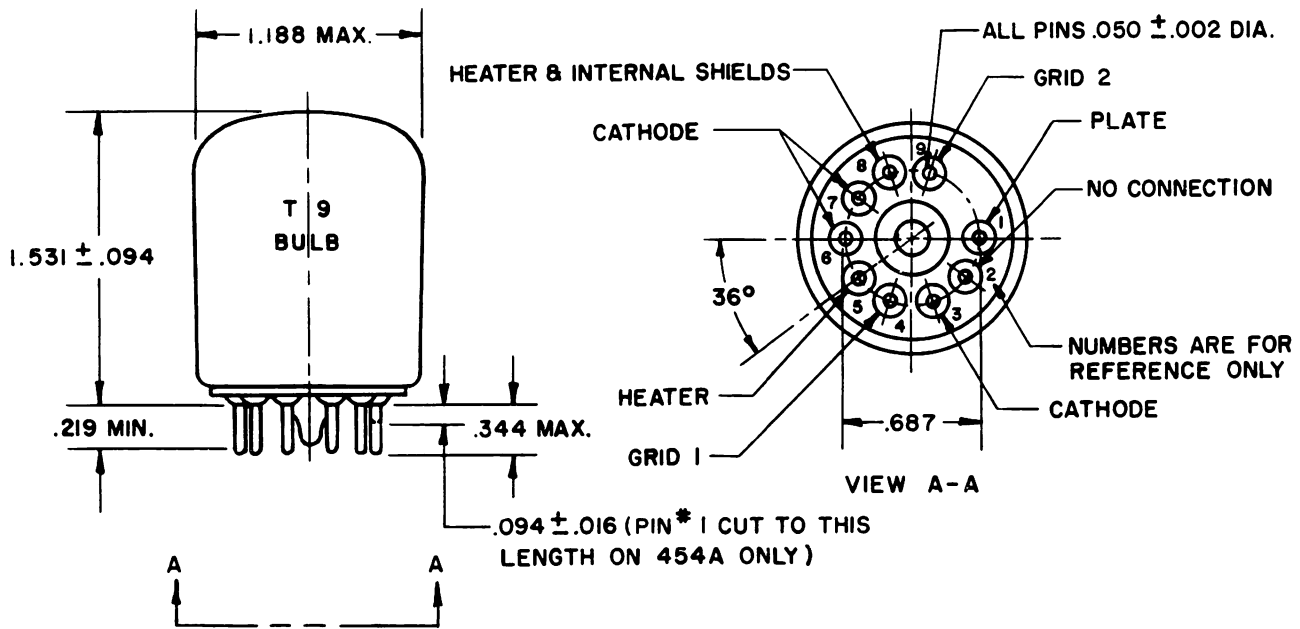
* Operation with the control grid positive with respect to the cathode is not recommended.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

| | | |
|--|-------|--------------|
| Plate Voltage | 135 | volts |
| Screen Grid Voltage | 135 | volts |
| Control Grid Voltage (Note 1) | +9.5 | volts |
| Cathode Bias Resistor (Note 1) | 323 | ohms |
| Plate Current | 24.9 | milliamperes |
| Screen Grid Current | 8.8 | milliamperes |
| Plate Resistance. | 33000 | ohms |
| Transconductance. | 31500 | micromhos |

Note 1: Reference point for control grid voltage is the negative end of the cathode bias resistor.





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