

ELECTRON TUBE DATA SHEET
 WESTERN ELECTRIC 436A ELECTRON TUBE



DESCRIPTION

The 436A electron tube is a high figure of merit tetrode with an indirectly heated cathode. It was designed primarily for use in the L-3 amplifier. ←

CHARACTERISTICS

| | | | |
|------------------|---------------------------------------------|-----------------|----------------|
| Heater Voltage | · · · · · | 6.3 | volts |
| Cathode Current | ($E_b = 190$ volts; $E_{c2} = 160$ volts) | · · · · · 28.4 | milliamperes ← |
| Transconductance | ($E_{cc1} = +7.5$ volts; $R_k = 315$ ohms) | · · · · · 30000 | micromhos |

Note 1: In the "Absolute System" the maximum ratings specified are limiting values above which the serviceability of the device may be impaired from the viewpoint of life and satisfactory performance. Maximum ratings, as such, do not constitute a set of operating conditions and all values may not, therefore, be attained simultaneously.

Note 2: Reference point for Control Grid Voltage is the negative end of the cathode bias resistor.

File: General Purpose Section

Indicates a change ←

GENERAL CHARACTERISTICS

Electrical Data

| | | |
|----------------------------------------------|-------------------------|-----------------------------------|
| Heater Voltage | 6.3 | volts |
| Heater Current | 450 | milliamperes |
| Direct Interelectrode Capacitances | Without External Shield | With External Shield (JEDEC #309) |
| Grid to Plate (maximum) | .07 | .06 $\mu\mu\text{f}$ |
| Input: g1 to (h+k+g2+i.s.) | 14.0 | 14.2 $\mu\mu\text{f}$ |
| Output: p to (h+k+g2+i.s.) | 3.5 | 4.7 $\mu\mu\text{f}$ |

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.

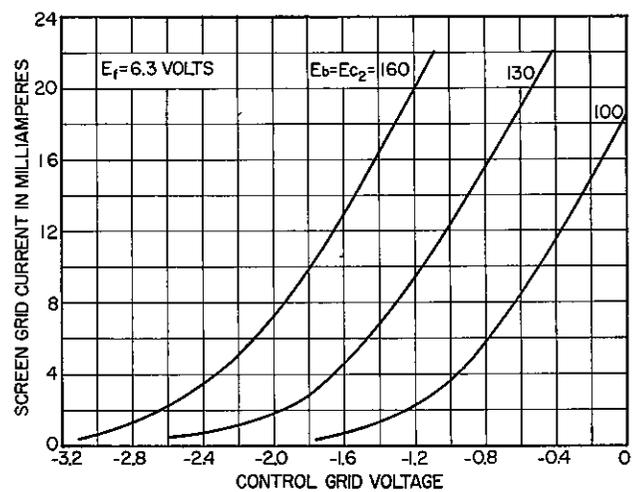
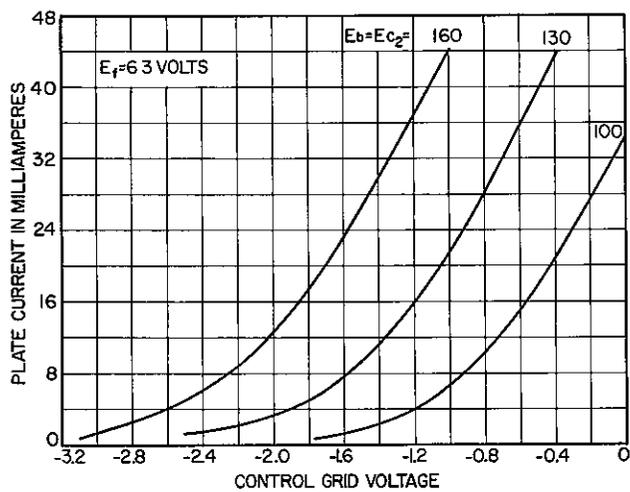
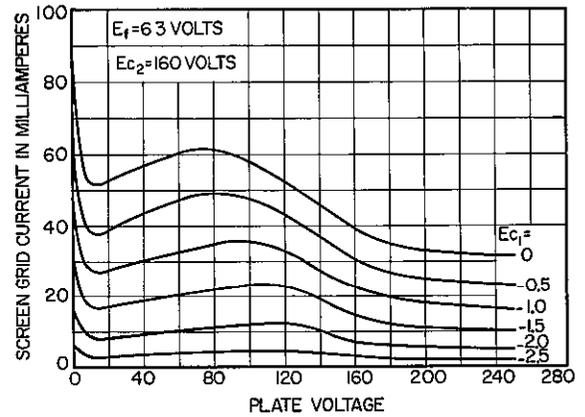
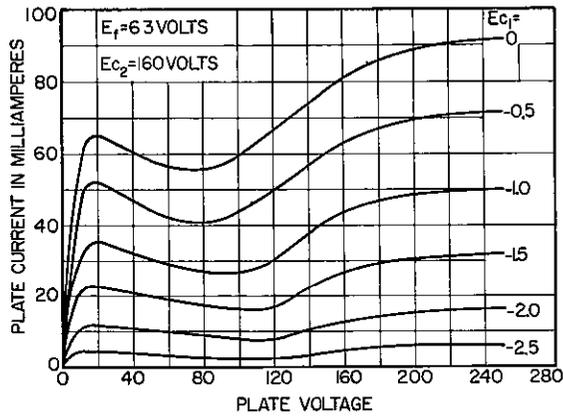
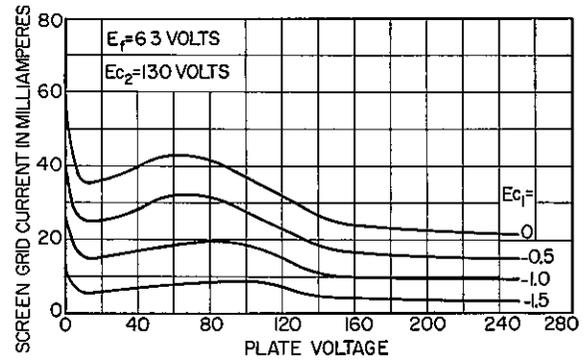
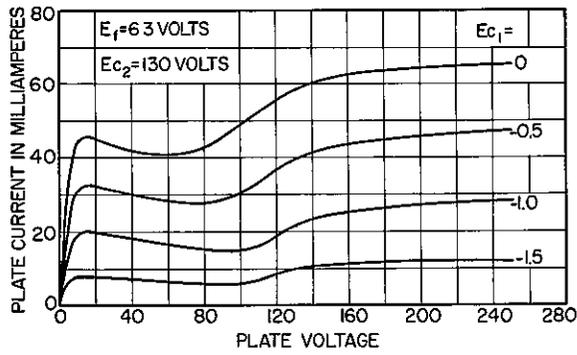
MAXIMUM RATINGS, Absolute System (Note 1, See Page 1)

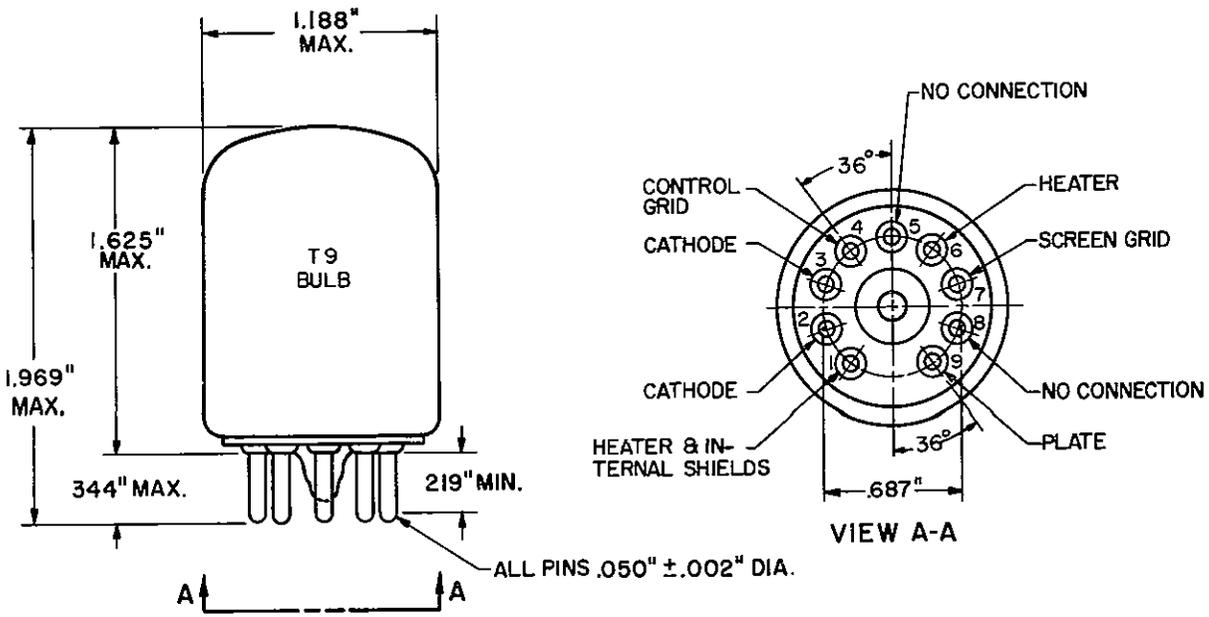
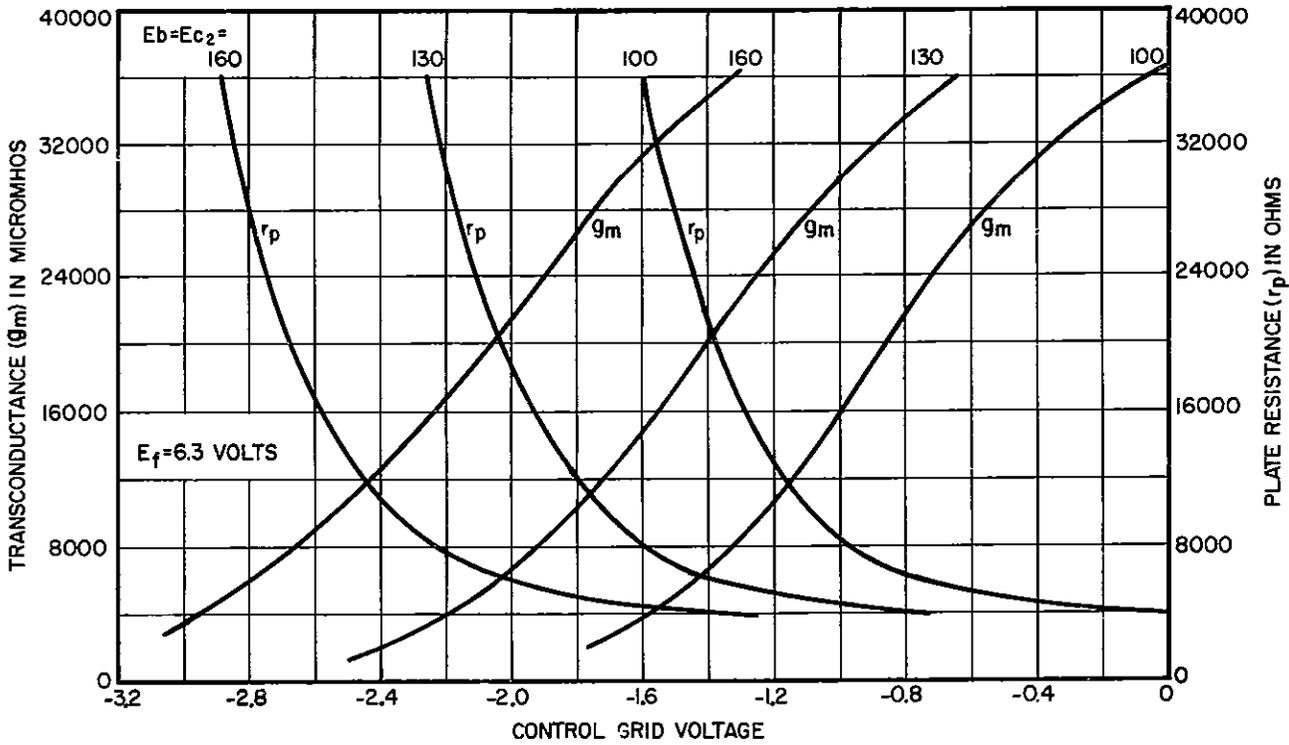
| | | |
|-------------------------------------|----------------|--------------|
| Plate Voltage | 210 | volts |
| Screen Grid Voltage | 175 | volts |
| Plate Dissipation | 5.0 | watts |
| Screen Grid Dissipation | 2.2 | watts |
| Control Grid Dissipation | See footnote * | |
| Cathode Current | 50 | milliamperes |
| Heater-Cathode Voltage | 55 | volts |
| Bulb Temperature | 130 | centigrade |
| Maximum Grid Circuit Resistance for | | |
| Fixed Bias | 0.05 | megohm |
| Cathode Bias | 0.10 | megohm |

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

| | | | | |
|------------------------------------------------------------|-------|-------|-------|--------------|
| Plate Voltage | 130 | 160 | 190 | volts |
| Screen Grid Voltage | 130 | 160 | 160 | volts |
| Control Grid Voltage | -1.0 | -1.75 | - | volts |
| Control Grid Supply Voltage (Note 2, See Page 1) | - | - | +7.5 | volts |
| Cathode Bias Resistor (Note 2, See Page 1) | - | - | 315 | ohms |
| Plate Current | 21.5 | 18.8 | 20.2 | milliamperes |
| Screen Grid Current | 12.5 | 10.8 | 8.2 | milliamperes |
| Plate Resistance | 5000 | 5000 | 36000 | ohms |
| Transconductance | 30000 | 28000 | 30000 | micromhos |
| Control Grid Voltage (approximate) for | | | | |
| Plate Current of 10 microamperes | -3.7 | -4.7 | - | volts |
| Modulation | | | | |
| Second Order (2F)** | - | - | -32 | db |
| Third Order (3F)*** | - | - | -54 | db |
| Load Resistance | - | - | 270 | ohms |

* Operation with the control grid positive with respect to cathode is not recommended.
 ** Ratio of product to fundamental at output for 0.1 volt rms signal from grid to cathode.
 *** Ratio of product to fundamental at output for a 0.2 volt rms signal from grid to cathode.
 → Indicates a change





A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company.