CHARACTERISTICS

GENERAL DATA
- Focusing Method: Electrostatic
- Deflection Method: Magnetic
- Deflection Angles (Approx.):
  - Horizontal: 100 Degrees
  - Diagonal: 114 Degrees
  - Vertical: 83 Degrees
- Phosphor: Aluminized P4
- Fluorescence: White
- Persistence: Medium Short
- Faceplate: Gray Filter Glass
- Light Transmittance (Approx.): 42 Percent

ELECTRICAL DATA
- Heater Voltage: 6.3 Volts
- Heater Current: 0.60 ± 5 % Ampere
- Heater Warm-up Time: 11 Seconds
- Direct Inter-electrode Capacitance (Approx.):
  - Cathode to All Other Electrodes: 5 pf
  - Grid No. 1 to All Other Electrodes: 6 pf
  - External Conductive Coating and Metal Frame to Anode: 2500 pf Max.
    - 1700 pf Min.
  - Resistance Between External Conductive Coating and Metal Frame: 50 Megohms Min.

MECHANICAL DATA
- Minimum Useful Screen Dimensions (Maximum Assured):
  - Height: 15¼ Inches
  - Width: 19¼ Inches
  - Diagonal: 225/8 Inches
  - Minimum Useful Screen Area: 282 Sq. Inches
  - Neck Length: 4½ ± ¾ Inches
  - Overall Length: 14½ ± ¾ Inches
  - Bulb Contact (Recessed Small Cavity Cap): J1-21
  - Bulb: J187L
  - Base: B7-208
  - Basing: 8HR
  - Weight (Approx.): 28 Pounds

RATINGS
MAXIMUM RATINGS (Design Maximum Values)
- Grid Drive Service:
  - Maximum Anode Voltage: 22,000 Volts dc
  - Minimum Anode Voltage: 11,000 Volts dc
  - Grid No. 4 Voltage (Focusing Electrode): -550 to +1100 Volts dc
  - Maximum Grid No. 2 Voltage: 550 Volts dc
  - Minimum Grid No. 2 Voltage: 200 Volts dc
  - Grid No. 1 Voltage:
    - Negative Bias Value: 155 Volts dc
    - Negative Peak Value: 220 Volts
    - Positive Bias Value: 0 Volt dc
    - Positive Peak Value: 2 Volts
  - Peak Heater-Cathode Voltage:
    - Heater Negative with Respect to Cathode During Warm-up Period Not to Exceed 15 Seconds: 450 Volts
    - After Equipment Warm-up Period: 300 Volts
    - Heater Positive with Respect to Cathode: 200 Volts dc
    - DC Component: 100 Volts

SYLVANIA ELECTRIC PRODUCTS INC.

Electronic Components Group
ELECTRONIC TUBE DIVISION
SENECA FALLS, NEW YORK

A Technical Publication
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PAGE 1 OF 3
File Under
TELEVISION PICTURE TUBES
MAXIMUM RATINGS (Design Maximum Values) (Continued)

Cathode Drive Service^2

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Maximum Anode Voltage</td>
<td>22,000 Volts dc</td>
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<tr>
<td>Minimum Anode Voltage</td>
<td>11,000 Volts dc</td>
</tr>
<tr>
<td>Grid No. 4 Voltage (Focusing Electrode)</td>
<td>-400 to +1250 Volts dc</td>
</tr>
<tr>
<td>Maximum Grid No. 2 Voltage</td>
<td>700 Volts dc</td>
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<tr>
<td>Minimum Grid No. 2 Voltage</td>
<td>300 Volts dc</td>
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<tr>
<td>Cathode Voltage</td>
<td></td>
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<tr>
<td>Positive Bias Value</td>
<td>155 Volts dc</td>
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<tr>
<td>Positive Peak Value</td>
<td>220 Volts dc</td>
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<tr>
<td>Negative Bias Value</td>
<td>0 Volts dc</td>
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<tr>
<td>Negative Peak Value</td>
<td>2 Volts dc</td>
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<tr>
<td>Peak Heater-Cathode Voltage</td>
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</tr>
<tr>
<td>During Warm-up Period Not to Exceed 15 Seconds</td>
<td>450 Volts</td>
</tr>
<tr>
<td>After Equipment Warm-up Period</td>
<td>300 Volts</td>
</tr>
<tr>
<td>Heater Positive with Respect to Cathode</td>
<td>200 Volts</td>
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<tr>
<td>DC Component</td>
<td>100 Volts</td>
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TYPICAL OPERATING CONDITIONS

Grid Drive Service^4

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<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Anode Voltage</td>
<td>18,000 Volts dc</td>
</tr>
<tr>
<td>Grid No. 4 Voltage for Focus</td>
<td>-200 to +200 Volts dc</td>
</tr>
<tr>
<td>Grid No. 2 Voltage</td>
<td>400 Volts dc</td>
</tr>
<tr>
<td>Grid No. 1 Voltage Required for Cutoff^5</td>
<td>-48 to -96 Volts dc</td>
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</table>

Cathode Drive Service^6

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Anode Voltage</td>
<td>18,000 Volts dc</td>
</tr>
<tr>
<td>Grid No. 4 Voltage for Focus</td>
<td>-200 to +200 Volts dc</td>
</tr>
<tr>
<td>Grid No. 2 Voltage</td>
<td>400 Volts dc</td>
</tr>
<tr>
<td>Cathode Voltage Required for Cutoff^5</td>
<td>44 to 80 Volts dc</td>
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</table>

CIRCUIT VALUES

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Grid No. 1 Circuit Resistance</td>
<td>1.5 Megohms Max.</td>
</tr>
</tbody>
</table>

NOTES:

1. Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four (4) times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three (3) times rated heater voltage divided by rated heater current.

2. External conductive coating and metal frame must be grounded.

3. Voltages are positive with respect to Grid No. 1 unless indicated otherwise.

4. Voltages are positive with respect to Cathode unless indicated otherwise.

5. Visual extinction of focused raster. For cutoff of the undeflected spot, the absolute value of the bias between cathode and grid will increase by about 5 volts.

WARNING:

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range if this tube is operated at higher than the manufacturer's Maximum Rated Anode Voltage or 16,000 volts, whichever is less.
Diagram Notes:
1. Reference Line is determined by plane C-C' of JEDEC No. 126 Reference Line Gauge, when the gauge is seated against the bulb.
2. Base Pin No. 4 aligns with horizontal centerline (A-A') within 30° and is on same side as anode contact, J1-21.