MECHANICAL DATA

Bulb ........................................ T-6 3/4
Base ......................................... E9-1, Miniature Button, 9-Pin
Outline ....................................... 6-3
Basing ........................................ 9HN
Cathode ........................................ Coated Unipotential
Mounting Position ......................... Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage ............................... 6.3 Volts
Heater Current ............................... 450 Ma
Heater Warm-up Time1 ....................... 11 Seconds
Heater-Cathode Voltage (Design Center Values)
  Heater Negative with Respect to Cathode 200 Volts Max.
  DC and Peak
  Total DC and Peak
Heater Positive with Respect to Cathode
  DC
  Total DC and Peak

DIRECT INTERELECTRODE CAPACITANCES

Grid No. 1 to Plate ......................... 0.7 μf Max.
Input: g1 to (k+h+g3+g2) .................. 8 μf
Output: p to (k+h+g3+g2) .................. 8.5 μf

RATINGS (Design Center Values—Except as Noted)3

<table>
<thead>
<tr>
<th>Vertical Defl.</th>
<th>Class A1 Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amp.</td>
<td>Amp.</td>
</tr>
<tr>
<td>DC Plate Voltage</td>
<td>315</td>
</tr>
<tr>
<td>Peak Positive Plate Voltage</td>
<td>2200*</td>
</tr>
<tr>
<td>(Abs. Max.)</td>
<td></td>
</tr>
<tr>
<td>DC Grid No. 2 Voltage</td>
<td>285</td>
</tr>
<tr>
<td>Peak Negative Grid No. 1 Voltage</td>
<td>250</td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>10</td>
</tr>
<tr>
<td>Grid No. 2 Input</td>
<td>2</td>
</tr>
<tr>
<td>Average Cathode Current</td>
<td>40</td>
</tr>
<tr>
<td>Peak Cathode Current</td>
<td>140</td>
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<tr>
<td>Grid No. 1 Circuit Resistance</td>
<td>0.5</td>
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<tr>
<td>Fixed Bias</td>
<td>1</td>
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<tr>
<td>Cathode Bias</td>
<td></td>
</tr>
<tr>
<td>Bulb Temperature (At Hottest Point)</td>
<td>250°</td>
</tr>
</tbody>
</table>

CHARACTERISTICS

Plate Voltage ............................... 250 Volts
Grid No. 2 Voltage ......................... 230 Volts
Grid No. 1 Voltage ......................... −14 Volts
Plate Current ................................ 46 Ma
Grid No. 2 Current ......................... 4.6 Ma
Transconductance ......................... 4800 μmhos
Plate Resistance (approx.) ............... 73,000 Ohms
Grid No. 1 Voltage for Ib = 100 μa (approx.) | −35 Volts

Instantaneous Plate Knee Values
  Eb = 70 Volts, Ec2 = 250 Volts, Ec1 = 0 Volts
  Ib = 130 Ma, Ic2 = 16 Ma

SYLVANIA ELECTRIC PRODUCTS INC.
RADIO TUBE DIVISION
EMPORIUM, PA.

Prepared and Released By The
TECHNICAL PUBLICATIONS SECTION
EMPORIUM, PENNSYLVANIA
APRIL, 1957
PAGE 1 OF 5
TYPICAL OPERATION

AF Power Amplifier

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Single Tube</th>
<th>Push Pull</th>
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<tbody>
<tr>
<td></td>
<td>Class A₁</td>
<td>Class AB₁</td>
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<tr>
<td>Plate Voltage</td>
<td>250</td>
<td>350</td>
</tr>
<tr>
<td>Grid No. 2 Voltage</td>
<td>250</td>
<td>280</td>
</tr>
<tr>
<td>Grid No. 1 Voltage</td>
<td>-14</td>
<td>-23.5</td>
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<tr>
<td>Peak AF Grid No. 1 Voltage</td>
<td>13</td>
<td>103</td>
</tr>
<tr>
<td>Peak AF Grid to Grid Voltage</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>Zero Signal Plate Current</td>
<td>48</td>
<td>103</td>
</tr>
<tr>
<td>Max. Signal Plate Current</td>
<td>4.6</td>
<td>3</td>
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<tr>
<td>Zero Signal Grid No. 2 Current</td>
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<td>13</td>
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<tr>
<td>Transconductance</td>
<td>4800</td>
<td>μmhos</td>
</tr>
<tr>
<td>Load Resistance</td>
<td>5000</td>
<td>Ohms</td>
</tr>
<tr>
<td>Load Resistance (Plate to Plate)</td>
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<td>7500</td>
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<tr>
<td>Power Output</td>
<td>5.4</td>
<td>21.5</td>
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<tr>
<td>Total Harmonic Distortion</td>
<td>10</td>
<td>1%</td>
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</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. For operation in a 525-line, 30-frame system as described in "Standards of Good Engineering Practice for Television Broadcast Stations; Federal Communications Commission", the duty cycle of the pulse must not exceed 15% of one scanning cycle.

3. Under no circumstances should this absolute value be exceeded.

4. No Grid No. 1 Current should flow during any part of the input cycle.

5. Low resistance is required by the Grid No. 1 circuit such as transformer or impedance coupling devices.
AVERAGE PLATE CHARACTERISTICS

$E_f = \text{RATED VALUE}$

$E_{C2} = 250 \text{ VOLTS}$

Currents in mA

Plate Voltage

500

400

300

200

100

0
AVERRAGE PLATE CHARACTERISTICS

CURRENT IN MA

0
50
100
150

300 PLATE VOLTAGE

100
200
400

E_f = RATED VALUE
E_C1 = 0 VOLTS
E_C2 = 250 VOLTS

1b
AVERAGE TRANSFER CHARACTERISTICS

$E_f = $ RATED VALUE
$E_b = 250$ VOLTS

GRID NO. 1 VOLTAGE

CURRENT IN MA