Beam Power Tube

NOVAR TYPE
For Horizontal-Deflection-Amplifier Service
in Low-B+ Black-and-White TV Receivers

Electrical:
Heater Characteristics and Ratings:
Voltage (AC or DC) ............... 6.3 ± 0.6 volts
Current at heater volts = 6.3 .......... 1.600 amp
Peak heater-cathode voltage:
Heater negative with respect to cathode .......... 200 max. volts
Heater positive with respect to cathode .......... 200* max. volts

Direct Interelectrode Capacitances (Approx.)*b
G1 to P .................................. 0.7 pf
Input: G1 to (K,G3,G2,H) ............... 22.0 pf
Output: P to (K,G3,G2,H) ............... 9.0 pf

Mechanical:
Operating Position ........................................ Any
Type of Cathode ........................................ Coated Unipotential
Maximum Overall Length .................................. 3.410"
Maximum Seated Length .................................. 3.030"
Length, Base Seat to Bulb Top
(Excluding tip) ......................................... 2.510" to 2.690"
Diameter .................................................. 1.438" to 1.562"
Bulb ......................................................... T12
Socket ..................................................... Cinch Mfg. Co. No. 149 19 00 033, Industrial
Electronic Hardware Corp. No. S0-0968-SL1, or equivalent
Base ....................................................... Large-Button Novar 9-Pin (JEDEC No.E9-76)
Basing Designation for BOTTOM VIEW ............... 9QU

Pin 1 - Grid No.2
Pin 2 - Grid No.1
Pin 3 - Cathode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Grid No.3
Pin 7 - Grid No.2
Pin 8 - Do Not Use
Pin 9 - Plate

Characteristics, Class A1 Amplifier:

<table>
<thead>
<tr>
<th></th>
<th>Triode Connection</th>
<th>Pentode Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>125</td>
<td>50</td>
</tr>
<tr>
<td>Grid No. 3</td>
<td>-</td>
<td>130 volts</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>-</td>
<td>Connected to cathode at socket</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-20</td>
<td>125</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>4.1</td>
<td>125 volts</td>
</tr>
<tr>
<td>Plate Resistance</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(Approx.)</td>
<td>-</td>
<td>12000 ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>-</td>
<td>10000 µmhos</td>
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</tbody>
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RADIO CORPORATION OF AMERICA
Electronic Components and Devices
HARRISBurg N 1
DATA
4-64
<table>
<thead>
<tr>
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<th>Triode Connection</th>
<th>Pentode Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Current</td>
<td></td>
<td>525&lt;sup&gt;d&lt;/sup&gt; 80 ma</td>
</tr>
<tr>
<td>Grid-No.2 Current.</td>
<td></td>
<td>32&lt;sup&gt;d&lt;/sup&gt; 2.5 ma</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td></td>
<td>-50 volts</td>
</tr>
<tr>
<td></td>
<td>(Approx.) for plate ma. = 1.</td>
<td>-40 volts</td>
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**HORIZONTAL-DEFLECTION AMPLIFIER**

**Maximum Ratings, Design-Maximum Values:**

*For operation in a 525-line, 30-frame system*

- DC Plate Supply Voltage: 770 max. volts
- Peak Positive-Pulse Plate Voltage: 6500 max. volts
- Peak Negative-Pulse Plate Voltage: 1500 max. volts
- DC Grid-No.3 (Suppressor-Grid) Voltage: 75 max. volts
- DC Grid-No.2 (Screen-Grid) Voltage: 220 max. volts
- DC Grid-No.1 (Control-Grid) Voltage: 55 max. volts
- Peak Negative-Pulse Grid-No.1 Voltage: 330 max. volts
- Cathode Current:
  - Peak: 950 max. ma
  - Average: 275 max. ma
- Grid-No.2 Input: 3.5 max. watts
- Plate Dissipation: 7 max. watts
- Bulb Temperature (At hottest point on bulb surface): 220 max. °C

**Maximum Circuit Values:**

- Grid-No.1-Circuit Resistance:
  - For grid-No.1-resistor-bias operation: 2.2 max. megohms

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<sup>a</sup> The dc component must not exceed 100 volts.

<sup>b</sup> Without external shield.

<sup>c</sup> With grid No.2 connected to plate at socket.

<sup>d</sup> This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

<sup>e</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

<sup>f</sup> This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system 15 per cent of one horizontal scanning cycle is 10 microseconds.

<sup>g</sup> An adequate bias resistor or other means is required to protect the tube in the absence of excitation.

**OPERATING CONSIDERATIONS**

In Horizontal-Deflection-Amplifier Service, a positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in both vhf and uhf television receivers. A typical value for this voltage is 30 volts.

**DIMENSIONAL OUTLINE AND CURVES**

shown under Type 22JG6 also apply to the 6JG6