Beam Power Tube

NOVAR TYPE
SEPARATE GRID-No.3 BASE-PIN TERMINAL FOR "SNIVETS" CONTROL
For Horizontal-Deflection-Amplifier Service in 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 .... 1.200 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.):
Grid No.1 to plate .................. 0.2 pf
Input: G1 to (K+G3,G2,H) .......... 15.0 pf
Output: P to (K+G3,G2,H) ......... 6.0 pf

Mechanical:

Operating Position .................. Any
Type of Cathode .................. Coated Unipotential
Maximum Overall Length ............ 3.505"
Seated Length .................. 2.875" ± 3.125"
Diameter .................. 1.438" ± 1.562"
Dimensional Outline ............. See General Section
Bulb .................. Skirted Miniature (JEDEC No.C1-2 or C1-3)
Base .................. Large-Button Novar 9-Pin with Exhaust Tip (JEDEC No.E9-88)

Basing Designation for BOTTOM VIEW. .......... 9QL

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

Characteristics, Class A\, Amplifier:

<table>
<thead>
<tr>
<th></th>
<th>Triode Connection</th>
<th>Pentode Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>150</td>
<td>60</td>
</tr>
<tr>
<td>Grid No.3</td>
<td></td>
<td>250</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>150</td>
<td>150</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>4.4</td>
<td>-</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>-</td>
<td>15000 ohms</td>
</tr>
</tbody>
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RADIO CORPORATION OF AMERICA
Electronic Components and Devices
Harrison, N. J.

DATA 1
10-64
Triode Connection  |  Pentode Connection

Transconductance  |  7100 µmhos
Plate Current  |  390d  |  70 ma
Grid-No.2 Current  |  32d  |  2.1 ma
Grid-No.1 Voltage (Approx.)
  for plate current = 1 ma... |  -42 volts

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 Voltage  |  70 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  |  550 max. ma
  Average  |  175 max. ma
Grid-No.2 Input  |  3.5 max. watts
Plate Dissipation  |  17.5 max. watts
Bulb Temperature
  (At hottest point on bulb surface)  |  240 max. °C

Maximum Circuit Values:
Grid-No.1-Circuit Resistance:
  For grid-resistor bias operation  |  1 max. meqohm

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*a* A positive voltage may be applied to grid No. 3 to reduce interference from "snivets" which may occur in television receivers. A typical value for this voltage is 30 volts.

*b* The dc component must not exceed 100 volts.

*c* Without external shield.

*d* This value can be measured by a method involving a recurrent wave form such that the plate dissipation, grid-No.2 input, and cathode current will be kept within ratings in order to prevent damage to the tube.

*e* As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

*f* 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.

*g* It is essential that the plate dissipation be limited in the event of loss of grid signal. For this purpose, some protective means such as a cathode resistor of suitable value should be employed.