NUVISTOR TYPE
HAVING EXTENDED CUTOFF CHARACTERISTIC
For Use as Grounded-Cathode, Neutralized RF-Amplifier
Tube in Tuners of VHF Television and FM Receivers
Featuring Improved Weak-Signal-Area Reception

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (Design-Maximum Values):
- Voltage (AC or DC) ........................................... 6.3 ± 0.6 volts
- Current at heater volts = 6.3 ................................... 0.135 amp
- Peak heater-cathode voltage:
  - Heater negative with respect to cathode ................... 100 max. volts
  - Heater positive with respect to cathode .................. 100 max. volts

Direct Interelectrode Capacitances (Approx.):
- Grid to plate ................................................. 0.92 µf
- Grid to cathode, shell, and heater ......................... 4.3 µf
- Plate to cathode, shell, and heater ....................... 1.8 µf
- Plate to cathode ........................................... 0.18 µf
- Heater to cathode .......................................... 1.6 µf

Characteristics, Class A1 Amplifier:
- Plate Supply Voltage ........................................... 110 volts
- Grid Supply Voltage ........................................... 0 volts
- Cathode Resistor ............................................. 130 ohms
- Amplification Factor ......................................... 63
- Plate Resistance (Approx.) ................................. 7000 ohms
- Transconductance ............................................ 9000 µmhos
- Plate Current .................................................. 6.5 mA
- Grid Voltage (Approx.) for plate µa = 100 ................... -5 volts
- Grid Voltage (Approx.) for plate µa = 10 ................... -6.8 volts

Mechanical:
- Operating Position ........................................... Any
- Type of Cathode ............................................... Coated Unipotential
- Maximum Overall Length .................................... 0.800"
- Maximum Seated Length ...................................... 0.625"
- Maximum Diameter ............................................. 0.440"
- Envelope ....................................................... Metal Shell MT4
- Socket ......................................................... Cinch Mfg. Corp. No.133 65 10 001, Industrial Electronic Hardware Co. No. Nu 5044 or No. Nu 5060, or equivalent
- Base ......................................................... Medium Ceramic-Wafer Twelvar 5-Pin (JEDEC No.E5-65)

 Indicates a change.
Basing Designation for BOTTOM VIEW. ......... 12AQ

Pin 1a - Do Not Use
Pin 2 - Plate
Pin 3 - Same as Pin 1
Pin 4 - Grid
Pin 5 - Same as Pin 1
Pin 6 - Same as Pin 1
Pin 7 - Same as Pin 1
Pin 8 - Cathode
Pin 9 - Same as Pin 1
Pin 10 - Heater
Pin 12 - Heater

AMPLIFIER — Class A1

Maximum Ratings, Design-Maximum Values:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLATE SUPPLY VOLTAGE</td>
<td>3000 volts</td>
</tr>
<tr>
<td>PLATE VOLTAGE</td>
<td>135 volts</td>
</tr>
<tr>
<td>GRID VOLTAGE:</td>
<td></td>
</tr>
<tr>
<td>Negative-bias value</td>
<td>55 volts</td>
</tr>
<tr>
<td>Peak-positive value</td>
<td>0 volts</td>
</tr>
<tr>
<td>CATHODE CURRENT</td>
<td>15 ma</td>
</tr>
</tbody>
</table>

PLATE DISSIPATION:
With a minimum series plate-circuit resistance of 5000 ohms. . . . 1.5 max. watts
For lower values of series plate-circuit resistance. . . . See accompanying Plate-Dissipation-Rating Chart

Typical Operation:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>70 volts</td>
</tr>
<tr>
<td>Grid Supply Voltage</td>
<td>0 volts</td>
</tr>
<tr>
<td>Grid Resistor</td>
<td>47000 ohms</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>68</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>5440 ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>12500 µmhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>7 ma</td>
</tr>
</tbody>
</table>

Maximum Circuit Values:

<table>
<thead>
<tr>
<th>Grid-Circuit Resistance:</th>
</tr>
</thead>
<tbody>
<tr>
<td>For fixed-bias operation.</td>
</tr>
<tr>
<td>For cathode-bias operation.</td>
</tr>
</tbody>
</table>

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a Pin is of a length such that its end does not touch the socket insertion plane.

b A plate supply voltage of 300 volts may be used provided sufficient plate-circuit resistance and ac voltage are used to limit the voltage at the plate of the tube to 135 volts under conditions of maximum-rated plate dissipation (1.5 watts).

c For operation at metal-shell temperatures up to 135°C.

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Indicates a change.

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Electron Tube Division
Harrison, N. J.
NOTE 1: MAXIMUM OUTSIDE DIAMETER OF 0.440" IS PERMITTED ALONG 0.190" LUG LENGTH.

NOTE 2: SHELL TEMPERATURE SHOULD BE MEASURED IN ZONE "A" BETWEEN BROKEN LINES.
AVERAGE PLATE CHARACTERISTICS

$E_p = 6.3$ VOLTS

PLATE MILLIAMPERES

PLATE VOLTS

92CM-11209

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DATA 3
1-63
AVERAGE CHARACTERISTICS

$E_f = 6.3 \text{ VOLTS}$

PLATE RESISTANCE ($r_p$) — OHMS

TRANSCONDUCTANCE ($g_m$) — MICROAMPS

GRID VOLTS

PLATE VOLTS GRID

AMPLIFICATION FACTOR ($A$)

$92CM-11210$

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