### Beam Power Tube

**NOVAR TYPE**

For Color-TV Horizontal-Deflection Amplifier Applications

**GENERAL DATA**

### Electrical:

**Heater Characteristics and Ratings:**
- Voltage (AC or DC) ............... 6.3 ± 0.6 volts
- Current at heater volts = 6.3 ....... 2.500 amp
- Peak heater-cathode voltage:
  - Heater negative with respect to cathode ......................... 200 max. volts
  - Heater positive with respect to cathode ......................... 200 max. volts

**Direct Inter-electrode Capacitances** (Approx.):
- Grid No.1 to plate ................ 0.44 pf
- Grid No.1 to cathode, grid No.3, grid No.2, and heater ........ 21.0 pf
- Plate to cathode, grid No.3, grid No.2, and heater ............... 11.0 pf

### Characteristics, Class A1 Amplifier:

<table>
<thead>
<tr>
<th>Triode Connection</th>
<th>Pentode Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage ......</td>
<td>125</td>
</tr>
<tr>
<td>Grid No.3 ..........</td>
<td>125</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>125</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-25</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>3.3</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>- 5500 ohms</td>
</tr>
<tr>
<td>Transconductance...</td>
<td>- 10500 µhos</td>
</tr>
<tr>
<td>Plate Current ......</td>
<td>580° C 115 ma</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>40° C 5 ma</td>
</tr>
</tbody>
</table>

**Plate Voltage for plate ma. = 1** ............... -55 volts

### Mechanical:

- Operating Position .................. Any
- Type of Cathode .................... Coated Unipotential
- Maximum Overall Length ............. 4.600"
- Seated Length ...................... 4.090" ± 0.130"
- Diameter ........................... 1.438" to 1.562"
- Bulb ................................ T12
- Cap ................................ Small (JEDEC No.C1-1)
- Socket ............................. Cinch Mfg. Co. No.149 19 00 033, Industrial Electronic Hardware Corp. No.SD-0968-SL1, or equivalent
HORIZONTAL-DEFLECTION AMPLIFIER

Maximum Ratings, Design-Maximum Values:

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

DC PLATE-SUPPLY VOLTAGE ........ 990 max. volts
PEAK POSITIVE-PULSE PLATE VOLTAGE* .... 7000 max. volts
PEAK NEGATIVE-PULSE PLATE VOLTAGE .... 1100 max. volts
DC GRID-No. 3 VOLTAGE .... 75 max. volts
(See Operating Considerations)
DC GRID-No. 2 (SCREEN-GRID) VOLTAGE .... 190 max. volts
PEAK NEGATIVE-PULSE GRID-No.1 (CONTROL-GRID) VOLTAGE .... 250 max. volts
CATHODE CURRENT:
Peak ..................... 1100 max. ma
Average .................. 315 max. ma
GRID-No.2 INPUT .................. 3.2 max. watts
PLATE DISSIPATIONf .............. 24 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 operationf ........ 0.47 max. megohm
For plate-pulsed operation
(horizontal-deflection circuits only). ..... 10 max. megohms

d The dc component must not exceed 100 volts.
without external shield.
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.
As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.
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.
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.
ALL DIMENSIONS IN INCHES

** APPLIES IN ZONE STARTING 0.375" FROM BASE SEAT.

OPERATING CONSIDERATIONS

In horizontal-deflection amplifier service a positive voltage may be applied to grid No.3 to minimize "snivets" interference which may occur in both uhf and vhf television receivers. A typical value for this voltage is 30 volts.
6JE6

AVERAGE CHARACTERISTICS

$E_f = 6.3\text{ VOLTS}$

GRID No. 3 CONNECTED TO CATHODE AT SOCKET.

GRID - No. 1 VOLTS = 0

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