# R-F AMPLIFIER PENTODE

## MINIATURE REMOTE-CUTOFF TYPE

For use with 12-cell storage-battery supply

## General Data

### Electrical:

- **Heater, for Unipotential Cathode:**
  - Voltage: 26.5 ac or dc volts
  - Current: 0.07 amp

- **Direct Interelectrode Capacitances:**
  - Grid No.1 to Plate: 0.0035 max. μf
  - Input: 6.0 μf
  - Output: 5.0 μf

### Mechanical:

- **Mounting Position:** Any
- **Maximum Overall Length:** 2-1/8"
- **Maximum Seated Length:** 1-7/8"
- **Length from Base Seat to Bulb Top (excluding tip):** 1-1/2" ± 3/32"
- **Maximum Diameter:** 3/4" T-5-1/2
- **Base:** Miniature Button 7-Pin
- **Basing Designation for BOTTOM VIEW:** 7BK

### Class A1 Amplifier

#### Maximum Ratings, Design-Center Values:

- **Plate Voltage:** 250 max. volts
- **Grid-No.2 (Screen) Voltage:** 100 max. volts
- **Grid-No.2 Supply Voltage:** 250 max. volts
- **Plate Dissipation:** 3 max. watts
- **Grid-No.2 Dissipation:** 0.4 max. watt
- **Grid-No.1 (Control Grid) Voltage:**
  - Negative bias value: 50 max. volts
  - Positive bias value: 0 max. volts
- **Peak Heater-Cathode Voltage:**
  - Heater negative with respect to cathode: 90 max. volts
  - Heater positive with respect to cathode: 90 max. volts

### Typical Operation and Characteristics:

- **Plate Voltage:** 26.5 250 volts
- **Grid No.3 (Suppressor) Voltage:** Connected to cathode at socket
- **Grid-No.2 Voltage:** 26.5 100 volts
- **Grid-No.1 Voltage:**
  - From a grid-No.1 resistor of: 2 – megohms
  - From a cathode resistor of: – 125 ohms

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*With external shield connected to cathode.*

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**JUNE 20, 1946**

**TUBE DIVISION**

**RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY**

**TENTATIVE DATA**
### R-F AMPLIFIER PENTODE

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>0.25</td>
<td>1.0</td>
</tr>
<tr>
<td>Transconductance</td>
<td>2000</td>
<td>4000</td>
</tr>
<tr>
<td>Grid-No.1 Bias (Approx.) for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>transconductance of 40 μmhos</td>
<td>-</td>
<td>-25</td>
</tr>
<tr>
<td>Grid-No.1 Bias (Approx.) for</td>
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<td></td>
</tr>
<tr>
<td>transconductance of 20 μmhos</td>
<td>-8</td>
<td>-</td>
</tr>
<tr>
<td>Plate Current</td>
<td>1.7</td>
<td>10.5</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>0.7</td>
<td>4.0</td>
</tr>
</tbody>
</table>
$E_F = 26.5 \text{ VOLTS}$
GRID-№ 3 VOLTS = 0
GRID-№ 2 VOLTS = 26.5