6K6-GT
POWER PENTODE

GENERAL DATA

Electrical:
Heater, for Unipotential Cathode:
  Voltage ........ 6.3 ....... ac or dc volts
  Current ........ 0.4 ....... amp
Direct Interelectrode Capacitances (Approx.):
  Grid No.1 to plate .................. 0.5 \( \mu f \)
  Grid No.1 to cathode & grid No.3, grid No.2, and heater ............ 5.5 \( \mu f \)
  Plate to cathode & grid No.3, grid No.2, and heater ............ 6 \( \mu f \)

Mechanical:
Mounting Position .................. Any
Maximum Overall Length ............ 3-5/16"
Maximum Seated Length ............ 2-3/4"
Maximum Diameter ............ 1-9/32"
Dimensional Outline ............ See General Section
Bulb ................ T-9
Base ................ Intermediate-Shell Octal 7-Pin (JETEC No.E7-7), Short Intermediate-Shell Octal 7-Pin with External Barriers (JETEC No.E7-59), Intermediate-Shell Octal 6-Pin (JETEC No.E6-81), or Short Intermediate-Shell Octal 6-Pin with External Barriers (JETEC No.E6-84)
Base Designation for BOTTOM VIEW .... 7S

Pin 1 – No Connection
Pin 2 – Heater
Pin 3 – Plate
Pin 4 – Grid No.2
Pin 5 – Grid No.1
Pin 7 – Heater
Pin 8 – Cathode, Grid No.3

AF POWER AMPLIFIER – Class A

Maximum Ratings, Design-Center Values:
PLATE VOLTAGE ........ 315 max. volts
GRID-No.2 (SCREEN-GRID) VOLTAGE ........ 285 max. volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:
  Positive bias value .................. 0 max. volts
GRID-No.2 INPUT ........ 2.8 max. watts
PLATE DISSIPATION ........ 8.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
  Heater negative with respect to cathode ........ 200 max. volts
  Heater positive with respect to cathode ........ 200 max. volts

\( ^0 \) Without external shield.
\( ^\dagger \) Pin 1 as well as pin 6 is omitted on the 6-Pin bases.

\( ^\dagger \): See next page. – Indicates a change.
POWER PENTODE

**Typical Operation and Characteristics:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>100 250 315 volts</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>100 250 250 volts</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-7 -18 -21 volts</td>
</tr>
<tr>
<td>Peak AF Grid-No.1 Voltage</td>
<td>7 18 21 volts</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>9 32 25.5 ma</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>9.5 33 28 ma</td>
</tr>
<tr>
<td>Zero-Signal Grid-No.2 Current</td>
<td>1.6 5.5 4 ma</td>
</tr>
<tr>
<td>Max.-Signal Grid-No.2 Current</td>
<td>3 10 9 ma</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>104000 90000 110000 ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>1500 2300 2100 µhos</td>
</tr>
<tr>
<td>Load Resistance</td>
<td>12000 7600 9000 ohms</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>11 11 15 %</td>
</tr>
<tr>
<td>Max.-Signal Power Output</td>
<td>0.35 3.4 4.5 watts</td>
</tr>
</tbody>
</table>

**Maximum Circuit Values:**

- Grid-No.1-Circuit Resistance:
  - For fixed-bias operation: 0.1 max. megohm
  - For cathode-bias operation: 0.5 max. megohm

**PUSH-PULL AF POWER AMPLIFIER - Class A**

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

- PLATE VOLTAGE: 315 max. volts
- GRID-No.2 (SCREEN-GRID) VOLTAGE: 285 max. volts
- GRID-No.1 (CONTROL-GRID) VOLTAGE:
  - Positive bias value: 0 max. volts
- GRID-No.2 INPUT: 2.8 max. watts
- PLATE DISSIPATION: 8.5 max. watts

**PEAK HEATER-CATHODE VOLTAGE:**
  - Heater negative with respect to cathode: 200 max. volts
  - Heater positive with respect to cathode: 200A max. volts

**Typical Operation:**

Values are for 2 tubes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Fixed Bias</th>
<th>Cathode Bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>285</td>
<td>285</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>285</td>
<td>285</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-25.5</td>
<td>-</td>
</tr>
<tr>
<td>Cathode Resistor</td>
<td>-</td>
<td>400</td>
</tr>
<tr>
<td>Peak AF Grid-No.1-to-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>72</td>
<td>61</td>
</tr>
<tr>
<td>Zero-Signal Grid-No.2 Current</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Max.-Signal Grid-No.2 Current</td>
<td>17</td>
<td>13</td>
</tr>
</tbody>
</table>

△: See next page.

→ indicates a change.

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TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA 1
# 6K6-GT

## POWER PENTODE

### Effective Load Resistance
- (Plate to plate) .... 12000 ohms
- Total Harmonic Distortion .... 6 %
- Max.-Signal Power Output .... 10.5 watts

### Maximum Circuit Values:
- Grid-No.1 Circuit Resistance:
  - For fixed-bias operation .... 0.1 max. megohm
  - For cathode-bias operation .... 0.5 max. megohm

### AF POWER AMPLIFIER - Class A1

#### Triode Connection - Grid No.2 Connected to Plate

**Characteristics:**
- Plate Voltage .... 250 volts
- Grid-No.1 Voltage .... -18 volts
- Amplification Factor .... 6.8
- Plate Resistance (Approx.) .... 2500 ohms
- Transconductance .... 2700 µmhos
- Plate Current .... 37.5 ma
- Grid-No.1 Voltage (Approx.) for plate current of 0.5 ma .... -48 volts

### VERTICAL DEFLECTION AMPLIFIER

#### Triode Connection - Grid No.2 Connected to Plate

**Maximum Ratings, Design-Center Values Except as Noted:**
- For operation in a 525-line, 30-frame system:
  - DC PLATE VOLTAGE .... 315 max. volts
  - PEAK POSITIVE-PULSE PLATE VOLTAGE:
    - (Absolute maximum) .... 1200 max. volts
  - PEAK NEGATIVE-PULSE GRID-No.1 VOLTAGE .... -250 max. volts
  - CATHODE CURRENT:
    - Peak .... 75 max. ma
    - Average .... 25 max. ma
  - PLATE DISSIPATION .... 7 max. watts
  - PEAK HEATER-CATHODE VOLTAGE:
    - Heater negative with respect to cathode .... 200 max. volts
    - Heater positive with respect to cathode .... 200 max. volts

### Maximum Circuit Values:
- Grid-No.1 Circuit Resistance:
  - For cathode-bias operation .... 2.2 max. megohms

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*The dc component must not exceed 100 volts.
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 vertical scanning cycle. In a 525-line, 30-frame system, 15 percent of one vertical scanning cycle is 2.5 milliseconds.
Under no circumstances should this absolute value be exceeded.*

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DATA 2
6K6-GT

AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION

$E_F = 6.3$ VOLTS
GRID-Nº2 VOLTS = 250

FEB. 13, 1948
TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
92CM-488IR2
AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION

$E_f = 6.3$ VOLTS
GRID-N\#2 VOLTS $= 250$

GRID-N\#1 (Ic1) MILLIAMPERES

PLATE (Ib) OR GRID-N\#2 (Ic2) MILLIAMPERES

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92CM-63IIIR1