**6CB5**

**BEAM POWER TUBE**

**GENERAL DATA**

**Electrical:**

Heater, for Unipotential Cathode:
- Voltage: 6.3 ac or dc volts
- Current: 2.5 amp

Direct Interelectrode Capacitances (Approx.):
- Grid No.1 to plate: 0.8 μf
- Grid No.1 to cathode & grid No.3, grid No.2, and heater: 24 μf
- Plate to cathode & grid No.3, grid No.2, and heater: 10 μf

**Characteristics, Class A1 Amplifier:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>75 175 volts</td>
</tr>
<tr>
<td>Grid-No.2 (Screen) Voltage</td>
<td>150 175 volts</td>
</tr>
<tr>
<td>Grid-No.1 (Control-Grid) Voltage</td>
<td>0 -30 volts</td>
</tr>
<tr>
<td>Mu-Factor, Grid No.2 to Grid No.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>5000 ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td>8800 μmhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>460° 90 ma</td>
</tr>
<tr>
<td>Grid-No.2 Current</td>
<td>42° 6 ma</td>
</tr>
<tr>
<td>Grid-No.1 Voltage (Approx.)</td>
<td>-60 volts</td>
</tr>
</tbody>
</table>

**Mechanical:**

- Mounting Position: Any
- Maximum Overall Length: 5-1/8" ± 5/32" | 4-7/16" ± 5/32"
- Seated Length: 2-1/16" ST-16
- Maximum Diameter: Small (JETEC No.C1-1)
- Bulb: Short Jumbo-Shell Octal 8-Pin with External Barriers (JETEC No.B8-71)
- Cap.
- Base: 8GD

**Basing Designation for BOTTOM VIEW:**

- Pin 1 - Grid No.2
- Pin 2 - Heater
- Pin 3 - Cathode, Grid No.3
- Pin 4 - Grid No.1
- Pin 5 - Grid No.1
- Pin 6 - Cathode, Grid No.3
- Pin 7 - Heater
- Pin 8 - Grid No.2
- Cap - Plate

* Without external shield.

**TENTATIVE DATA**

MAR. 1, 1955

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
# 6CB5 Beam Power Tube

## Horizontal Deflection Amplifier

### Maximum Ratings, Design-Center Values Except as Noted:

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Plate Voltage</td>
<td>700 max. volts</td>
</tr>
<tr>
<td>Peak Positive-Pulse Plate Voltage (Absolute Value)</td>
<td>6800 max. volts</td>
</tr>
<tr>
<td>DC Grid-No.2 (Screen) Voltage</td>
<td>1500 max. volts</td>
</tr>
<tr>
<td>DC Grid-No.1 (Control-Grid) Voltage</td>
<td>-50 max. volts</td>
</tr>
<tr>
<td>Peak Negative-Pulse Grid-No.1 Voltage</td>
<td>200 max. volts</td>
</tr>
<tr>
<td>DC Plate Current</td>
<td>3.6 max. ma</td>
</tr>
<tr>
<td>Grid-No.2 Input</td>
<td>200 max. ma</td>
</tr>
<tr>
<td>Plate Dissipation†</td>
<td>23 max. watts</td>
</tr>
<tr>
<td>Peak Heater-Cathode Voltage:</td>
<td></td>
</tr>
<tr>
<td>Heater negative with respect to cathode</td>
<td>200 max. volts</td>
</tr>
<tr>
<td>Heater positive with respect to cathode</td>
<td>200 max. volts</td>
</tr>
<tr>
<td>Bulb Temperature (At hottest point on bulb surface)</td>
<td>210 max. °C</td>
</tr>
</tbody>
</table>

### Maximum Circuit Values:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid-No.1-Circuit Resistance</td>
<td>0.47 max. mohm</td>
</tr>
</tbody>
</table>

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- As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.
- The duration of the voltage pulse must 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.
- Under no circumstances should this absolute value be exceeded.
- The dc component must not exceed 100 volts.
- 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 be employed.

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**March 1, 1955**

Tentative Data

Radio Corporation of America, Harrison, New Jersey
$E_F = 6.3 \text{ VOLTS}$

$\text{GRID-N\#2 VOLTS} = 150$

**AVERAGE PLATE CHARACTERISTICS**

- **GRID-N\#2 MILLIAMPERES ($I_{C2}$)**
  - 200
  - 500
  - 100
  - 200
  - 300
  - 400

- **PLATE MILLIAMPERES ($I_b$)**
  - 0
  - 700
  - 600
  - 500
  - 400
  - 300
  - 200
  - 100
  - 0

**SEPT. 15, 1955**

**TUBE DIVISION**

**92CM-8436**
AVERAGE PLATE CHARACTERISTICS

$E_p = 6.3$ VOLTS
GRID-N#1 VOLTS = 0

GRID-N#2 MILLIAMPERES ($I_{C2}$)

PLATE MILLIAMPERES ($I_P$)

SEPT. 15, 1954
TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-8437