GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:
Voltage .................. 6.3 ................ ac or dc volts
Current .................. 0.9 .................. amp

Direct Interelectrode Capacitances (Approx.):

\[
\begin{array}{ccc}
& 6L6 & 6L6-G^0^0 \\
Grid \text{ No.1 to plate} & 0.4 & 0.9 \ \mu f \\
Grid \text{ No.1 to cathode &} & & \\
grid \text{ No.3, grid No.2,} & & \\
\text{and heater} & 10 & 11.5 \ \mu f \\
\text{Plate to cathode &} & & \\
grid \text{ No.3, grid No.2,} & & \\
\text{and heater} & 12 & 9.5 \ \mu f \\
\end{array}
\]

Mechanical:

Mounting Position ....... Any
Maximum Overall Length .. 4-5/16" .... 5-5/16"
Maximum Seated Length .... 3-3/4" .... 4-3/4"
Maximum Diameter ......... 1-5/8" .... 2-1/16"
Bulb ..................... Metal Shell MT-10
\{ Small-Wafer Medium-Shell
Octal 7-Pin Octal 7-Pin
\} (JETEC No.B7-22) (JETEC No.B7-12)
Basing Designation ...... 7AC G-7AC

\begin{array}{c}
\text{Pin 1 } 6L6, \text{ Shell} \\
\text{Pin 2 - Heater} \\
\text{Pin 3 - Plate} \\
\text{Pin 4 - Grid No.2} \\
\text{Pin 5 - Grid No.1} \\
\text{Pin 7 - Heater} \\
\text{Pin 8 - Cathode, } \\
\text{Grid No.3}
\end{array}

AF POWER AMPLIFIER - Class A\text{\textdagger}

Triode Connection - Grid No.2 Connected to Plate

Maximum Ratings, Design-Center Values:

\begin{itemize}
\item PLATE VOLTAGE ..................... 275 max. volts
\item PLATE DISSIPATION ................. 19 max. watts
\item PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode 180 max. volts
Heater positive with respect to cathode 180 max. volts
\end{itemize}

Typical Operation and Characteristics:

\begin{itemize}
\item Plate Voltage ........................ 250 \hspace{1cm} 250 \hspace{1cm} volts
\item Grid-No.1 (Control-Grid) Voltage ........ -20 \hspace{1cm} - \hspace{1cm} volts
\item Cathode-Bias Resistor .................. 490 \hspace{1cm} ohms
\end{itemize}

\text{\textdagger; } See next page.

\hspace{1cm} \rightarrow \text{Indicates a change.}

NOV. 5, 1954
TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA 1
**BEAM POWER TUBE**

<table>
<thead>
<tr>
<th>Fixed Bias</th>
<th>Cathode Bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak AF Grid-No.1 Voltage</td>
<td>20</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>40</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>44</td>
</tr>
<tr>
<td>Amplification Factor</td>
<td>8</td>
</tr>
<tr>
<td>Plate Resistance (Approx.)</td>
<td>1700</td>
</tr>
<tr>
<td>Transconductance</td>
<td>4700</td>
</tr>
<tr>
<td>Load Resistance</td>
<td>5000</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>5</td>
</tr>
<tr>
<td>Max.-Signal Power Output</td>
<td>1.4</td>
</tr>
</tbody>
</table>

**Maximum Circuit Values (For maximum rated conditions):**

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 A**

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

- PLATE VOLTAGE | 360 max. volts
- GRID-No.2 (SCREEN) VOLTAGE | 270 max. volts
- PLATE DISSIPATION | 19 max. watts
- GRID-No.2 INPUT | 2.5 max. watts
- PEAK HEATER-CATHODE VOLTAGE:
  - Heater negative with respect to cathode | 180 max. volts
  - Heater positive with respect to cathode | 180 max. volts

**Typical Operation and Characteristics:**

**Fixed-Bias Operation**

| Plate Voltage | 200 | 250 | 300 | 350 volts |
| Grid-No.2 Voltage | 200 | 250 | 300 | 350 volts |
| Grid-No.1 Voltage | −11.5 | −14 | −12.5 | −18 volts |
| Peak AF Grid-No.1 Voltage | 11.5 | 14 | 12.5 | 18 volts |
| Zero-Signal Plate Current | 52 | 72 | 48 | 54 mA |
| Max.-Signal Plate Current | 57 | 79 | 55 | 66 mA |
| Zero-Signal Grid-No.2 Current | 3.5 | 5.0 | 2.5 | 2.5 mA |
| Max.-Signal Grid-No.2 Current | 5.7 | 7.3 | 4.7 | 7.0 mA |
| Plate Resistance (Approx.) | 35000 | 22500 | 35000 | 33000 ohms |
| Transconductance | 5300 | 6000 | 5300 | 5200 μhmhos |
| Load Resistance | 3000 | 2500 | 4500 | 4200 ohms |
| Total Harmonic Distortion | 9 | 10 | 11 | 15 % |
| Max.-Signal Power Output | 4 | 6.5 | 6.5 | 10.8 watts |

**Cathode-Bias Operation**

| Plate Voltage | 200 | 250 | 300 | 350 volts |
| Grid-No.2 Voltage | 200 | 250 | 300 | 350 volts |

*With shell connected to cathode.
++With no external shield.
††See next page.

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NOV. 5, 1954  
TUBE DIVISION  
RADIO CORPORATION OF AMERICA, MARRISON, NEW JERSEY
Cathode-Bias Resistor: 186 167 218 ohms
Peak AF Grid-No.1 Voltage: 11.5 14 12.7 volts
Zero-Signal Plate Current: 55 75 51 ma
Max.-Signal Plate Current: 56 78 54.5 ma
Zero-Signal Grid-No.2 Current: 4.2 5.4 3.0 ma
Max.-Signal Grid-No.2 Current: 5.6 7.2 4.6 ma
Load Resistance: 3000 2500 4500 ohms
Total Harmonic Distortion: 9 10 11 %
Max.-Signal Power Output: 4 6.5 6.5 watts

Maximum Circuit Values (For maximum rated conditions):
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 A₁

Maximum Ratings, Design-Center Values:
PLATE VOLTAGE: 360 max. volts
GRID-No.2 (SCREEN) VOLTAGE: 270 max. volts
PLATE DISSIPATION: 19 max. watts
GRID-No.2 INPUT: 2.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode: 180 max. volts
Heater positive with respect to cathode: 180 max. volts

Typical Operation and Characteristics:
Unless otherwise specified, values are for a tube

<table>
<thead>
<tr>
<th></th>
<th>Fixed Bias</th>
<th>Cathode Bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>250</td>
<td>270</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>250</td>
<td>270</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-16</td>
<td>-17.5</td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>-</td>
<td>124</td>
</tr>
<tr>
<td>Peak AF Grid-No.1-to-Grid-No.1 Voltage</td>
<td>32</td>
<td>35</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>120</td>
<td>134</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>140</td>
<td>155</td>
</tr>
<tr>
<td>Zero-Signal Grid-No.2 Current</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Max.-Signal Grid-No.2 Current</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Plate Resistance (Per tube) (Approx.)</td>
<td>24500</td>
<td>23500</td>
</tr>
<tr>
<td>Transconductance (Per tube)</td>
<td>5500</td>
<td>5700</td>
</tr>
<tr>
<td>Effective Load Resistance (Plate to plate)</td>
<td>5000</td>
<td>5000</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Max.-Signal Power Output</td>
<td>14.5</td>
<td>17.5</td>
</tr>
</tbody>
</table>

†: See next page. Indicates a change

NOV. 5, 1954 TUBE DIVISION RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
Maximum Circuit Values (For maximum rated conditions):

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 AB₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE ...................... 360 max. volts
GRID-No.2 (SCREEN) VOLTAGE .......... 270 max. volts
PLATE DISSIPATION .................. 19 max. watts
GRID-No.2 INPUT ..................... 2.5 max. watts
PEAK HEATER-CATHODE VOLTAGE:
  Heater negative with respect to cathode . 180 max. volts
  Heater positive with respect to cathode . 180 max. volts

Typical Operation:

Values are for 2 tubes

<table>
<thead>
<tr>
<th>Fixed Bias</th>
<th>Cathode Bias</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>360</td>
</tr>
<tr>
<td>PLATE Voltage</td>
<td></td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>270</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-22.5</td>
</tr>
<tr>
<td>Cathode-Bias Resistor</td>
<td>-</td>
</tr>
<tr>
<td>Peak AF Grid-No.1-to-Grid-No.1 Voltage</td>
<td>45</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>88</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>132</td>
</tr>
<tr>
<td>Zero-Signal Grid-No.2 Current</td>
<td>5</td>
</tr>
<tr>
<td>Max.-Signal Grid-No.2 Current</td>
<td>15</td>
</tr>
<tr>
<td>Effective Load Resistance (Plate to plate)</td>
<td>6600</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>2</td>
</tr>
<tr>
<td>Max.-Signal Power Output</td>
<td>26.5</td>
</tr>
</tbody>
</table>

Maximum Circuit Values (For maximum rated conditions):

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 AB₂

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE ...................... 360 max. volts
GRID-No.2 (SCREEN) VOLTAGE .......... 270 max. volts
PLATE DISSIPATION .................. 19 max. watts
GRID-No.2 INPUT ..................... 2.5 max. watts

A,†,‡: See next page.

                                         TUBE DIVISION
DATA 2
NOV. 5, 1954                             RADIO CORPORATION OF AMERICA, MASHUION, NEW JERSEY
**6L6, 6L6-G**

**BEAM POWER TUBE**

**PEAK HEATER-CATHODE VOLTAGE:**
- Heater negative with respect to cathode: 180 max. volts
- Heater positive with respect to cathode: 180 max. volts

**Typical Operation:**

<table>
<thead>
<tr>
<th>Values are for 2 tubes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Bias</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>360</td>
<td>360</td>
</tr>
<tr>
<td>Grid-No.2 Voltage</td>
<td>225</td>
<td>270</td>
</tr>
<tr>
<td>Grid-No.1 Voltage</td>
<td>-18</td>
<td>-22.5</td>
</tr>
<tr>
<td>Peak AF Grid-No.1-to Grid-No.1 Voltage</td>
<td>52</td>
<td>72</td>
</tr>
<tr>
<td>Zero-Signal Plate Current</td>
<td>78</td>
<td>88</td>
</tr>
<tr>
<td>Max.-Signal Plate Current</td>
<td>142</td>
<td>205</td>
</tr>
<tr>
<td>Zero-Signal Grid-No.2 Current</td>
<td>3.5</td>
<td>5</td>
</tr>
<tr>
<td>Max.-Signal Grid-No.2 Current</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>Effective Load Resistance</td>
<td>6000</td>
<td>3800</td>
</tr>
<tr>
<td>(Plate to plate)</td>
<td></td>
<td>ohms</td>
</tr>
<tr>
<td>Peak Grid-Input Power</td>
<td>140</td>
<td>270</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Max.-Signal Power Output</td>
<td>31</td>
<td>47</td>
</tr>
</tbody>
</table>

**Maximum Circuit Values (For maximum rated conditions):**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid-No.1 Circuit Resistance†</td>
<td>0.1 max.</td>
<td>megohm</td>
</tr>
<tr>
<td>For fixed-bias operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For cathode-bias operation</td>
<td>Not recommended</td>
<td></td>
</tr>
</tbody>
</table>

† Subscript 1 indicates that grid-No.1 current does not flow during any part of input cycle.

‡ Subscript 2 indicates that grid-No.1 current flows during some part of input cycle.

§ Driver stage should be capable of supplying the specified driving power at low distortion to the No. 1 grids of the A62 stage. To minimize distortion, the effective resistance per grid-No.1 circuit of the A62 stage should be held at a low value. For this purpose, the use of transformer coupling is recommended.

▲ The type of input coupling used should not introduce too much resistance in the grid-no.1 circuit. Transformer- or impedance-coupling devices are recommended.
AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

E_f = 6.3 VOLTS
GRID N°2 CONNECTED TO PLATE

SEPT. 8 1938
TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-4966R1
6L6
AVERAGE PLATE CHARACTERISTICS
WITH ECL AS VARIABLE

$E_f = 6.3$ VOLTS  SCREEN VOLTS = 250

LOAD LINE CORRECTED TO COMPENSATE
FOR EFFECTS OF RECTIFICATION
WITH LARGE SIGNALS

PLATE ($I_B$) OR SCREEN ($I_C$) MILLIAMPERES

MAY 6, 1936
TUBE DEPARTMENT
92CM-4581RI

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
OPERATION CHARACTERISTICS

- $E_f = 6.3$ VOLTS
- PLATE VOLTS = SCREEN VOLTS = 250
- CONTROL-GRID VOLTS = -14
- SIGNAL VOLTS (RMS) = 10

MAY 7, 1936
RCA RADİOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

92C-4608
OPERATION CHARACTERISTICS

$E_f = 6.3 \text{ VOLTS}$

PLATE VOLTS = SCREEN VOLTS = 250

CONTROL-GRID VOLTS = -14

LOAD RESISTANCE (OHMS) = 2500

MAY 7, 1936

RCA RADIotron DIVISION

RCA MANUFACTURING COMPANY, INC.