PENTAGRID MIXER AMPLIFIER

Heater • Coated Unipotential Cathode
Voltage 6.3 a-c or d-c volts
Current 0.3 amp.

<table>
<thead>
<tr>
<th>Direct Interelectrode Cap.</th>
<th>6L7</th>
<th>6L7-G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid #1 to Grid #3</td>
<td>0.1</td>
<td>0.001</td>
</tr>
<tr>
<td>Grid #1 to Plate</td>
<td>0.2</td>
<td>0.005</td>
</tr>
<tr>
<td>Grid #3 to Plate</td>
<td>7.5</td>
<td>6</td>
</tr>
<tr>
<td>Grid #1 to All Other Electrodes</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Plate to All Other Electrodes</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

Overall Length 3-1/8" max. {4-7/32" to 4-15/32"
Maximum Diameter 1-5/16" 1-9/16"
Bulb Metal Shell,MT-8 ST-12
Cap Miniature Skirted Min.
Base Small Wafer [Small Shell Octal 7-Pin Octal 7-Pin
Basing Designation 7T G-7T
Pin 1 - 6L7, Shell Pin 5 – Grid #3
Pin 2 - Heater Pin 7 - Heater
Pin 3 – Plate Pin 8 – Cathode & Grid #5
Pin 4 – Grids #2 & #4 Cap – Grid #1
Mounting Position Bottom View Any

AMPLIFIER - Class A1

Plate Voltage 300 max. volts
Screen Voltage (Grids #2 & #5) 100 max. volts
Plate Dissipation 1.5 max. watts
Screen Dissipation 1.0 max. watt

Typical Operation:
Plate 250 volts
Screen 100 volts
Control Grid (Grid #1) -3 volts
Control Grid (Grid #3) -3 volts
Plate Res. (approx.) 0.6 megohm
Transcond., Grid #1 to Plate 1100 µmhos
Transcond., Grid #1 to Plate* 5 approx. µmhos
Plate Cur. 5.3 ma.
Screen Cur. 6.5 ma.

MIXER

Plate Voltage 300 max. volts
Screen Voltage (Grids #2 & #4) 150 max. volts
Plate Dissipation 1.0 max. watt
Screen Dissipation 1.5 max. watts

* In circuits where the cathode is not connected directly to the heater, the potential difference between heater and cathode should be kept as low as possible.
** With shell connected to cathode.
AAA With close-fitting shield connected to cathode.
* With grid #1 bias of -15 volts, and grid #3 bias of -15 volts.

FEB. 2, 1940

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.
# PENTAGRID MIXER AMPLIFIER

(continued from preceding page)

<table>
<thead>
<tr>
<th>Typical Operation:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate</td>
<td>250</td>
<td>250#</td>
</tr>
<tr>
<td>Screen</td>
<td>100</td>
<td>150#</td>
</tr>
<tr>
<td>Signal-Grid (Grid #1)</td>
<td>-3 min.</td>
<td>-6# min.</td>
</tr>
<tr>
<td>Oscillator Grid (Grid #3)**</td>
<td>-10</td>
<td>-15</td>
</tr>
<tr>
<td>Peak Osc.-Grid Voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied to Grid #3</td>
<td>12 min.</td>
<td>18 min.</td>
</tr>
<tr>
<td>Plate Res.</td>
<td>Greater than 1</td>
<td>megohm</td>
</tr>
<tr>
<td>Conversion Transcond.</td>
<td>375</td>
<td>350</td>
</tr>
<tr>
<td>Conversion Transcond.</td>
<td>5*</td>
<td>5*</td>
</tr>
<tr>
<td>Plate Cur.</td>
<td>2.4</td>
<td>3.3</td>
</tr>
<tr>
<td>Screen Cur.</td>
<td>7.1</td>
<td>9.2</td>
</tr>
</tbody>
</table>

** The d-c resistance in grid #3 circuit should not exceed 5000 ohms.
* With grid #1 bias of -30 volts.
# With grid #1 bias of -45 volts.
# These conditions are recommended for multi-range receiver applications.
OPERATION CHARACTERISTICS

$E_F = 6.3$ VOLTS
PLATE VOLTS = 250
SCREEN VOLTS = 100
SIGNAL-GRID NO. 1 VOLTS = -3
PEAK OSCILLATOR VOLTS = $E_0$

CONVERSION CONDUCTANCE ($S_e$) MICROMHOS
OPERATION CHARACTERISTICS

$E_f = 6.3 \text{ VOLTS}$

- PLATE VOLTS = 250
- SCREEN VOLTS = 150
- SIGNAL-GRID NO. 1 VOLTS = -6
- PEAK OSCILLATOR VOLTS = $E_o$
AVERAGE PLATE CHARACTERISTICS
WITH EC3 AS VARIABLE

E_F = 6.3 VOLTS
SIGNAL-GRID VOLTS (EC1) = 0
SCREEN VOLTS (EC2 & EC4) = 100

EC3 = 0
-2
-4
-6
-8
-10
-12
-15

CONTROL GRID VOLTS, EC3 = 0
-2
-4
-6
-8
-10
-12
-15

PLATE MILLIAMPERES

JAN. 7, 1936
RCA RADIotron DIVISION
RCA MANUFACTURING COMPANY, INC.
92C-4534
AVERAGE CHARACTERISTICS

$E_f = 6.3$ VOLTS
PLATE VOLTS = 250
SCREEN VOLTS ($E_{C2}$ & $E_{C4}$) = 100

--- = A.V.C. CHARACTERISTIC

SIGNAL-GRID VOLT ($E_{C1}$) vs. SIGNAL-GRID - TO-PLATE (G1 TO P) TRANSCONDUCTANCE

JAN. 8, 1936
RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.