CLASS B TWIN AMPLIFIER

Heater: Coated Unipotential Cathode
Voltage 6.3 a-c or d-c volts
Current 0.8 amp.

Maximum Overall Length
6N7 3-1/4" 6N7-GT/G 3-5/16"
Maximum Seated Height
6N7 2-11/16" 6N7-GT/G 2-2/4"
Maximum Diameter
6N7 1-5/16" 6N7-GT/G 1-5/16"
Bulb Metal Shell, MT-8 T-9
Base Small Wafer Intermed. Sh.
Octal 8-Pin Octal 8-Pin

Basing Designation
8B Pin 5-Grid (Triode T₁)
6N7 Shell Pin 6-Plate (Triode T₁)
Pin 1- 6N7-GT/G, Pin 7-Heater
Pin 2-Heater Pin 8-Cathode
Pin 3-Plate (triode T₂)
Pin 4-Grid (triode T₂)
Mounting Position BOTTOM VIEW Any

For convenience, one triode unit is identified as T₁, the other as T₂.

Maximum Ratings Are Design-Center Values

CLASS B POWER AMPLIFIER

Plate Voltage 300 max. volts
Peak Plate Current (per plate) 125 max. ma.
Average Plate Dissipation (per plate) 5.5 max. watts

Typical Operation:
Unless otherwise specified, values are for the two units
Plate-Supply Impedance 0 1000Ω ohms
Effective Grid-Circuit Impedance (per unit) 0 516Ω ohms
Plate Voltage 300 300 volts
Grid Voltage 0 0 volts
Peak A-F Grid-to-Grid Voltage 58 82* volts
Zero-Sig. D-C Plate Cur. 35 35 ma.
Max.-Sig. D-C Plate Cur. 70 70 ma.
Peak Grid Cur. (per unit) 20 22 ma.
Effective Load Res. (plate to plate) 8000 8000 ohms
Total Harmonic Distortion 4 8 %
Third Harmonic Distortion 3.5 7.5 %
Fifth Harmonic Distortion 1.5 2.5 %
Max.-Sig. Power Output 10 10 watts

☐ Practical design value.
☐ At 400 cycles for class B stage in which the effective resistance per grid circuit is 500 ohms, and the leakage reactance of the coupling transformer is 50 millhenries. The driver stage should be capable of supplying the grids of the class B stage with the specified values at low distortion.
☐ Includes peak voltage drop through the grid circuit impedance.
☐ For power output shown.

Two 6N7’s or 6N7-G’s can be operated in a class B output stage with the two triode units of each tube connected in parallel to give a power output of 20 watts (approx.) under conditions of 300 volts on the plates and a 5000-ohm plate-to-plate load.

☐ See next page.

June 1, 1942

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.
CLASS B TWIN AMPLIFIER

(continued from preceding page)

CLASS A1 AMPLIFIER - As Driver

Both grids connected together at socket; likewise, both plates.

<table>
<thead>
<tr>
<th>Plate Voltage</th>
<th>300 max. volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Dissipation (per plate)</td>
<td>1.0 max. watt</td>
</tr>
</tbody>
</table>

Typical Operation:

<table>
<thead>
<tr>
<th>Plate</th>
<th>250</th>
<th>294</th>
<th>volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid</td>
<td>-5</td>
<td>-6</td>
<td>volts</td>
</tr>
<tr>
<td>Amp. Fact.</td>
<td>35</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Plate Res.</td>
<td>11300</td>
<td>11000</td>
<td>ohms</td>
</tr>
<tr>
<td>Transcond.</td>
<td>3100</td>
<td>3200</td>
<td>μmhos</td>
</tr>
<tr>
<td>Plate Cur.</td>
<td>6</td>
<td>7</td>
<td>ma.</td>
</tr>
</tbody>
</table>

Plate Load—depends largely on the design factors of the class B amplifier. In general, the load will be between 20000 and 40000 ohms.

Power Output—under max. voltage conditions, upwards of 400 mw. can be obtained.

- In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.

- The d-c resistance in the grid circuit of the 6N7 or 6N7-GT/G as a class A amplifier may be as high as 0.5 megohm with cathode bias. With fixed bias, the resistance should not exceed 0.1 megohm.

For additional curves, see Types 6A6 and 53; for data, see RESISTANCE-COUPLED AMPLIFIER CHART.

 Indicates a change.

June 1, 1942
AVERAGE PLATE CHARACTERISTICS
EACH TRIODE UNIT

$E_f = 6.3$ VOLTS

D-C PLATE ($I_p$) OR D-C GRID ($I_C$) MILLIAMPERES

DEC. 18, 1939
RCA RADIotron DIVISION
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92C-4611