TRIODE & FRAME-GRID PENTODE CONVERTER
TYPES 4GX7, 5GX7, 6GX7 AND 8GX7

The 4GX7, 5GX7, 6GX7 and 8GX7 are medium-mu triode and sharp-cutoff frame-grid pentode types designed for oscillator-mixer service in V.H.F. television tuners. The pentode section features high transconductance and low grid 1-to-plate capacitance to ensure high gain with good stability in amplifier operation.

The 4GX7, 5GX7 and 8GX7 feature controlled heater warm-up time and render reliable service in properly designed series heater circuits.

**ELECTRICAL**

Cathode: Coated Unipotential

Heater: 4GX7 5GX7 6GX7 8GX7

Voltage: 4.2 5.6 6.3 7.7 Volts

Current: 0.60 0.45 0.40 0.30 Ampere

Warm-Up Time (Note 1): 11 11 – 11 Seconds

Direct Inter-electrode Capacitances: Shielded (Note 2) - Grid to Plate: 1.2 pf

Input: 2.3 pf

Output: 1.9 pf

Grid 1 to Plate: 0.005 pf

Input: 5.40 pf

Output: 3.30 pf

Grid 1 to Grid 2: 1.6 pf

**MECHANICAL**

Bulb: T-6½

Base: Miniature 9-Pin (JEDEC E-9-1)

Outline: 6-2

Basing: 9QA

Mounting Position: Any

**RATINGS**

<table>
<thead>
<tr>
<th>Design Maximum Values</th>
<th>Triode</th>
<th>Pentode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>275</td>
<td>275 max. Volts</td>
</tr>
<tr>
<td>Grid 2 Supply Voltage</td>
<td>–</td>
<td>275 max. Volts</td>
</tr>
<tr>
<td>Grid 2 Voltage</td>
<td>–</td>
<td>See Grid 2 Input Rating Curve</td>
</tr>
<tr>
<td>Plate Dissipation</td>
<td>1.5</td>
<td>2.2 max. Watts</td>
</tr>
<tr>
<td>Grid 2 Dissipation</td>
<td>–</td>
<td>0.45 max. Watts</td>
</tr>
<tr>
<td>Positive Grid 1 Voltage</td>
<td>0</td>
<td>0 max. Volts</td>
</tr>
<tr>
<td>Negative Grid 1 Voltage</td>
<td>40</td>
<td>40 max. Volts</td>
</tr>
<tr>
<td>Cathode Current</td>
<td>20</td>
<td>20 max. Ma.</td>
</tr>
<tr>
<td>Grid 1 Circuit Resistance</td>
<td>Fixed Bias</td>
<td>0.5 0.25 max. Megohm</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>0.5 max. Megohm</td>
</tr>
<tr>
<td>Heater Cathode Voltage:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heater Negative with Respect to Cathode</td>
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<td></td>
</tr>
<tr>
<td>Total DC + Peak</td>
<td>200</td>
<td>200 max. Volts</td>
</tr>
<tr>
<td>Heater Positive with Respect to Cathode</td>
<td>DC Component</td>
<td>100 100 max. Volts</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>200 max. Volts</td>
</tr>
</tbody>
</table>

**CHARACTERISTICS AND TYPICAL OPERATION**

Triode Unit:

Plate Voltage: 100 125 Volts

Grid Voltage: – 1.0 Volts

Grid Circuit Resistance: 0.1 – Megohm

Amplification Factor: – 40 –

Plate Resistance: 4700 Ohms

Transconductance: .8700 8500 \(\mu\)mhos

Plate Current: 12.5 13 Ma.

Grid Cutoff Voltage (Note 3): – 6.0 – Volts

Pentode Unit:

Plate Voltage: 120 125 Volts

Grid 2 Voltage: 90 125 Volts

Grid 1 Voltage: – 1.0 Volts

Grid 1 Circuit Resistance: 0.1 – Megohms

Plate Resistance: – 200000 Ohms

Transconductance: 120000 11000 \(\mu\)mhos

Plate Current: 8.5 8.0 Ma.

Grid 2 Current: 2.8 2.5 Ma.

Grid 1 Cutoff Voltage (Note 3): – 2.5 – Volts

**NOTES**

1. Heater Warm-Up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.

2. With external shield connected to cathode.

3. For a plate current of 20 microamperes.

Receiving Tube

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