**General Data**

**Electrical:**

Heater, for Unipotential Cathode:
- Voltage: 6.3 ac or dc volts
- Current: 0.3 amp

Direct Interelectrode Capacitances (Approx.):
- Grid No.1 to plate: 0.07 max. μf
- Grid No.3 to plate: 0.36 max. μf
- Grid No.1 to grid No.3: 0.22 max. μf
- Grid No.1 to cathode & grid No.5, grid No.4 & grid No.2, grid No.3, and heater: 5.5 μf
- Grid No.3 to cathode & grid No.5, grid No.4 & grid No.2, grid No.1, and heater: 7 μf
- Plate to cathode & grid No.5, grid No.4 & grid No.2, grid No.3, grid No.1, and heater: 7.5 μf

**Characteristics, Class A1 Amplifier:**

- Plate Voltage: 100 volts
- Grid-No.2 & Grid-No.4 Voltage: 30 volts
- Grid-No.3 Voltage: -1 volt
- Grid-No.1 Voltage: 0 volt
- Plate Resistance (Approx.): 0.7 megohm
- Grid-No.3-to-Plate Transconductance: 1500 μhos
- Grid-No.1-to-Plate Transconductance: 1100 μhos
- Plate Current: 0.8 ma
- Grid-No.2 & Grid-No.4 Current: 1.3 ma
- Grid-No.3 Voltage (Approx.) for plate current of 50 μamp: -2.2 volts
- Grid-No.1 Voltage (Approx.) for plate current of 50 μamp: -2.5 volts

**Mechanical:**

- Mounting Position: Any
- Maximum Overall Length: 2-1/8"
- Maximum Seated Length: 1-7/8"
- Length, Base Seat to Bulb Top (Excluding tip): 1-1/2" ± 3/32"
- Maximum Diameter: 3/4"
- Dimensional Outline: See General Section
- Bulb: T-5-1/22
- Base: Small-Button Miniature 7-Pin (JETEC No. E7-1)

**Basing Designation for BOTTOM VIEW:** 7CH

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

*Without external shield.*

*Indicates a change.*
# PENTAGRID AMPLIFIER

## GATED AMPLIFIER SERVICE

<table>
<thead>
<tr>
<th>Maximum Ratings, Design-Center Values:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLATE VOLTAGE</strong> ... 300 max. volts</td>
</tr>
<tr>
<td><strong>GRID-No.2 &amp; GRID-No.4 SUPPLY VOLTAGE</strong> ... 300 max. volts</td>
</tr>
<tr>
<td><strong>GRID-No.2 &amp; GRID-No.4 VOLTAGE</strong> ... See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</td>
</tr>
<tr>
<td><strong>PLATE DISSIPATION</strong> ... 1 max. watt</td>
</tr>
<tr>
<td><strong>GRID-No.2 &amp; GRID-No.4 INPUT:</strong></td>
</tr>
<tr>
<td>For grid-No.2 &amp; grid-No.4 voltages up to 150 volts ... 1 max. watt</td>
</tr>
<tr>
<td>For grid-No.2 &amp; grid-No.4 voltages between 150 and 300 volts ... See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</td>
</tr>
<tr>
<td><strong>CATHODE CURRENT</strong> ... 14 max. ma</td>
</tr>
<tr>
<td><strong>PEAK HEATER-CATHODE VOLTAGE:</strong></td>
</tr>
<tr>
<td>Heater negative with respect to cathode ... 200 max. volts</td>
</tr>
<tr>
<td>Heater positive with respect to cathode ... 200* max. volts</td>
</tr>
</tbody>
</table>

## Typical Operation as Sync Separator and Sync Clipper:

| Plate Voltage ... 10 volts |
| Grid-No.2 & Grid-No.4 Voltage ... 30 volts |
| Grid-No.3 Voltage ... 0 volts |
| Grid-No.1 Voltage ... 0 volts |
| Plate Current ... 2.0 ma |
| Grid-No.2 & Grid-No.4 Current ... 4.5 ma |

## Maximum Circuit Values:

| Grid-No.1-Circuit Resistance ... 0.47 max. megohm |
| Grid-No.3-Circuit Resistance ... 2.2 max. megohms |

* The dc component must not exceed 100 volts.
AVERAGE CHARACTERISTICS

$E_F = 6.3$ VOLTS
GRID-N$\#3$ VOLTS = 0
GRIDS-N$\#2$ & N$\#4$ VOLTS = 30
AVERAGE CHARACTERISTICS

E_c = 6.3 VOLTS
PLATE VOLTS = 100
GRID-N=1 VOLTS = 0

GRID-N=3 VOLTS

IC2+4

GRID-N=2 & N=4 (IC2+4) MILLIAMPERES

PLATE (1b) OR GRIDS-N=2 & N=4 (IC2+4) MILLIAMPERES

-10 -5 0 +5 +10