**GENERAL DATA**

**Electrical:**
- Heater, for Unipotential Cathodes:
  - Voltage: $6.3 \pm 20\%$ ac or dc volts
  - Current at 6.3 volts: 0.45 amp
- Direct Interelectrode Capacitances:
  - **Triode Unit:**
    - Grid to plate: 1.8 µf
    - Grid to cathode and heater: 2.5 µf
    - Plate to cathode and heater: 0.4 µf
  - **Pentode Unit:**
    - Grid No.1 to plate: 0.01 max. 0.006 max. µf
    - Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater: 5 µf
    - Plate to cathode & grid No.3 & internal shield, grid No.2, and heater: 2.6 3.5 µf
    - Heater to cathode (Each unit): 3 3° µf

**Characteristics, Class A, Amplifier:**
- With heater voltage of 6.3 volts
  - **Triode Unit**
    - Plate Supply Voltage: 150 volts
    - Grid-No.2 (Screen-grid) Supply Voltage: 110 volts
    - Cathode Resistor: 56 ohms
    - Amplification Factor: 40
    - Plate Resistance (Approx.): 5000 ohms
    - Transconductance: 8500 µmhos
    - Plate Current: 18 ma
    - Grid-No.2 Current: 3.5 ma
    - Grid-No.1 Voltage (Approx.) for plate µa = 10: −12 volts
  - **Pentode Unit**

**Mechanical:**
- Operating Position: Any
- Maximum Overall Length: 2-3/16" to 3/32" in
- Maximum Seated Length: 1-15/16" in
- Length, Base Seat to Bulb Top (Excluding tip): 1-9/16" to 3/32" in
- Diameter: 0.750" to 0.875"
MEDIUM-MU TRIODE—SHARP-CUTOFF PENTODE

Dimensional Outline. See General Section
Bulb. T6-1/2
Base. Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW. 9AE

Pin 1—Triode Plate
Pin 2—Pentode
Pin 3—Pentode
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Plate
Pin 7—Pentode
Pin 8—Triode Cathode
Pin 9—Triode Grid

CONVERTER SERVICE

Maximum Ratings, Design-Maximum Values:

<table>
<thead>
<tr>
<th></th>
<th>Triode Unit</th>
<th>Pentode Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLATE VOLTAGE</td>
<td>330 max.</td>
<td>330 max.</td>
</tr>
<tr>
<td>GRID-No. 2 (SCREEN-GRID)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUPPLY VOLTAGE</td>
<td>—</td>
<td>330 max.</td>
</tr>
<tr>
<td>GRID-No. 2 VOLTAGE</td>
<td>—</td>
<td>See Grid-No. 2 Input</td>
</tr>
</tbody>
</table>

Rating Chart at front of Receiving Tube Section

GRID-No. 1 (CONTROL-GRID)

VOLTAGE:
Positive-bias value. 0 max. 0 max. volts

GRID-No. 2 INPUT:
For grid-No. 2 voltages up to 165 volts — 0.55 max. watt
For grid-No. 2 voltages between 165 and 330 volts — See Grid-No. 2 Input

Rating Chart at front of Receiving Tube Section

PLATE DISSIPATION. 3 max. 3 max. watts

PEAK HEATER—CATHODE

VOLTAGE:
Heater negative with respect to cathode 200 max. 200 max. volts
Heater positive with respect to cathode 200 max. 200 max. volts

* When the heater is operated from storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. Although such variation in heater voltage is permissible for short periods, reliability can be increased with improved supply-voltage regulation.

O With external shield JEDEC No. 316 connected to cathode of unit under test except as noted.

# With external shield JEDEC No. 315 connected to ground.

The dc component must not exceed 100 volts.
SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:
This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent operation is applied under the following conditions: heater volts = 7.5 cycled one minute on and one minute off, heater 135 volts positive with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.

Transconductance at Reduced Heater Voltage:

Triode Unit:
Average value. . . . . . . . . . . . . . . . . . 6800 μhohm
With heater volts = 5, plate supply volts = 150, and cathode resistor (ohms) bypassed = 56.

Pentode Unit:
Average value. . . . . . . . . . . . . . . . . . 4100 μhohm
With heater volts = 5, plate supply volts = 250, grid-No. 2 supply volts = 110, and cathode resistor (ohms) bypassed = 68.