The Eimac 3C24 is a medium-mu, power triode intended for use as an amplifier, oscillator or modulator. It has a maximum plate dissipation rating of 25 watts and can be operated at its maximum ratings at frequencies up to 60 megacycles.

The 3C24 is cooled by radiation from the plate and by air circulation around the envelope. The plate operates at a visible red color at maximum rated dissipation.

This tube is identical to the 25T except that the grid terminal is located at the side of the envelope instead of the base.

## GENERAL CHARACTERISTICS

**ELECTRICAL**

- Filament: Thoriated tungsten
- Voltage: 6.3 volts
- Current: 3.0 amperes
- Amplification Factor (Average): 24
- Direct Inter-electrode Capacitances (Average):
  - Grid-Plate: 1.6 µF
  - Grid-Filament: 1.7 µF
  - Plate-Filament: 0.2 µF
- Transconductance \( (I_b = 25 \text{ ma}, \ E_b = 1000 \text{ v}) \): 2500 µhos
- Frequency for Maximum Ratings: 60 Mc.

**MECHANICAL**

- Base: UX Small 4-pin
- Basing: Fits E. F. Johnson Co. No. 122-224, National Co. No. XB-4 or CIR-4, or equivalent socket
- Mounting: Vertical, base down or up
- Convection and Radiation
- Recommended Heat Dissipating Connector:
  - Plate: HR-1
  - Grid: HR-1
- Maximum Overall Dimensions:
  - Length: 4.38 inches
  - Diameter: 1.44 inches
  - Net Weight: 1.5 ounces
  - Shipping Weight (Average): 1.0 pound

## AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR

### Class-A and AB

<table>
<thead>
<tr>
<th>MAXIMUM RATINGS, PER TUBE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D-C PLATE VOLTAGE</strong></td>
</tr>
<tr>
<td><strong>MAX-SIGNAL D-C PLATE CURRENT</strong></td>
</tr>
<tr>
<td><strong>PLATE DISSIPATION</strong></td>
</tr>
<tr>
<td><strong>GRID DISSIPATION</strong></td>
</tr>
</tbody>
</table>

### PLATE MODULATED RADIO FREQUENCY AMPLIFIER

**Class-C Telephony (Carrier conditions, per tube)**

<table>
<thead>
<tr>
<th>MAXIMUM RATINGS</th>
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</thead>
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<tr>
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</tbody>
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### RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR

**Class-C Telegraphy or FM Telephony (Key-down conditions, per tube)**

<table>
<thead>
<tr>
<th>MAXIMUM RATINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D-C PLATE VOLTAGE</strong></td>
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</tr>
</tbody>
</table>

**TYPICAL OPERATION, CLASS AB:**

- D-C Plate Voltage: 750 to 1000 to 1250 Volts
- D-C Grid Voltage (approx): -20 to -30 to -40 Volts
- Zero-Signal D-C Plate Current: 4 to 8 to 16 Ma.
- Peak-Signal D-C Plate Current: 100 to 125 to 150 Ma.
- Effective Load, Plate-to-Plate: 12,000 to 17,000 to 21,000 Ohms
- Peak A-F Grid Input Voltage (per tube): 110 to 120 to 135 Volts
- Max-Signal Peak Driving Power: 5.5 to 6.0 to 6.8 Watts
- Max-Signal Nominal Driving Power (approx): 2.8 to 3.0 to 3.4 Watts
- Max-Signal Plate Power Output: 60 to 85 to 112 Watts

**Adjust to give stated zero-signal plate current.**

**TYPICAL OPERATION, CLASS C:**

- D-C Plate Voltage: 1000 to 1250 to 1600 Volts
- D-C Plate Current: 60 to 80 to 100 Ma.
- D-C Grid Voltage: -120 to -140 to -170 Volts
- D-C Grid Current: 14 to 15 to 17 Ma.
- Peak R-F Grid Input Voltage: 235 to 255 to 280 Volts
- Driving Power: 3.3 to 3.3 to 3.3 Watts
- Grid Dissipation: 1.6 to 1.6 to 1.6 Watts
- Plate Power Input: 60 to 75 to 85 Watts
- Plate Dissipation: 13 to 15 to 17 Watts
- Plate Power Output: 47 to 60 to 68 Watts

*The above figures show actual measured tube performance and do not allow for variations in circuit losses.*

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DRIVING POWER vs. POWER OUTPUT

The three charts on this page show the relationship of plate efficiency, power output and grid driving power at plate voltages of 1000, 1500 and 2000 volts. These charts show combined grid and bias losses only. The driving power and power output figures do not include circuit losses. The plate dissipation in watts is indicated by $P_P$.

Points A, B, and C are identical to the typical Class C operating conditions shown on the first page under 1000, 1500, and 2000 volts respectively.