The Eimac 100TL is a low-mu power triode having a maximum plate dissipation rating of 100 watts, and is intended for use as an amplifier, oscillator or modulator. It can be used at its maximum ratings at frequencies as high as 40 Mc.

Cooling of the 100TL is accomplished by radiation from the plate, which operates at a visible red color at maximum dissipation, and by means of air circulation by convection around the envelope.

**GENERAL CHARACTERISTICS**

**ELECTRICAL**
- Filament: Thoriated tungsten
- Voltage: 5.0 volts
- Current: 6.3 amperes
- Amplification Factor (Average): 14
- Direct Interelectrode Capacitances (Average):
  - Grid-Plate: 2.0 μF
  - Grid-Filament: 2.3 μF
  - Plate-Filament: 0.4 μF
- Transconductance (I_b=225 ma., E_b=3000v., e_f= -90v.) 3000 μmhos
- Frequency for Maximum Ratings: 40 Mc.

**MECHANICAL**
- Base: (Medium 4-pin bayonet, ceramic) RMA type M8-078
- Basing: RMA type 2M
- Mounting: Vertical, base down or up.
- Cooling: Convection and Radiation.

Recommended Heat Dissipating Connectors:
- Plate: Eimac HR-6
- Grid: Eimac HR-2

**MAXIMUM OVERALL DIMENSIONS:**
- Length: 7.75 inches
- Diameter: 3.19 inches
- Net weight: 4 ounces
- Shipping weight (Average): 1.5 pounds

**AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR**
- Class-AB: (Sinusoidal wave, two tubes unless otherwise specified)
- MAXIMUM RATINGS:
  - D-C Plate Voltage: 3000 MAX. VOLTS
  - MAX-SIGNAL D-C Plate Current, PER TUBE: 225 MAX. MA.
  - PLATE DISSIPATION, PER TUBE: 100 MAX. WATTS

**TYPICAL OPERATION**
- D-C Plate Voltage: 1500 2000 2500 Volts
- D-C Grid Voltage (approx.)*: -65 -110 -145 Volts
- Effective Load, Plate-to-Plate: 8800 15000 22000 Ohms
- Peak A-F Grid Input Voltage (per tube): 235 270 290 Volts
- Max-Signal Peak Driving Power: 21 22 20 Watts
- Max-Signal Nominal Driving Power (approx.): 10.5 11 10 Watts
- Max-Signal Plate Power Output: 280 360 425 Watts

*Adjust to give stated zero signal plate current.

**RADIO FREQUENCY POWER AMPLIFIER AND OSCILLATOR**
- Class-C Telegraphy or FM Telephony (Key-down conditions, per tube)
- MAXIMUM RATINGS:
  - D-C Plate Voltage: 3000 MAX. VOLTS
  - D-C Plate Current: 225 MAX. MA.
  - PLATE DISSIPATION: 100 MAX. WATTS
  - GRID DISSIPATION: 15 MAX. WATTS

**TYPICAL OPERATION**
- D-C Plate Voltage: 1500 2000 2500 Volts
- D-C Grid Voltage: -175 -225 -400 Volts
- D-C Plate Current: 190 165 165 Ma.
- Peak R-F Grid Input Voltage: 425 450 650 Volts
- Driving Power (approx.): 14 11 20 Watts
- Grid Dissipation: 7.5 5 8 Watts
- Plate Power Input: 285 335 500 Watts
- Plate Dissipation: 100 100 100 Watts
- Plate Power Output: 185 235 400 Watts

**PLATE MODULATED RADIO FREQUENCY AMPLIFIER**
- Class-C Telegraphy (Carrier conditions, per tube)
- MAXIMUM RATINGS:
  - D-C Plate Voltage: 2500 MAX. VOLTS
  - D-C Plate Current: 180 MAX. MA.
  - PLATE DISSIPATION: 65 MAX. WATTS
  - GRID DISSIPATION: 15 MAX. WATTS

**TYPICAL OPERATION**
- D-C Plate Voltage: 1500 2000 2500 Volts
- D-C Grid Voltage: -300 -400 -500 Volts
- D-C Plate Current: 160 150 140 Ma.
- D-C Grid Current: 32 31 31 Ma.
- Peak R-F Grid Input Voltage: 530 655 750 Volts
- Driving Power (approx.): 17 20 23 Watts
- Grid Dissipation: 8 7.5 7.5 Watts
- Plate Power Input: 240 300 350 Watts
- Plate Dissipation: 65 65 65 Watts
- Plate Power Output: 175 235 285 Watts

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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 1500, 2000 and 3000 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 1500, 2000, and 3000 volts respectively.