The Eimac 100TH is a high-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 100TH 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): 38
- Direct Inter-electrode Capacitances (Average):
  - Grid-Plate: 2.0 μF
  - Grid-Filament: 2.9 μF
  - Plate-Filament: 0.3 μF
- Transconductance (iₚ=200 ma., Eₛ=3000v., Eᵢ=−5v.): 4500 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
  - Grid
- Maximum Overall Dimensions:
  - Length
  - Diameter
- Net weight
- Shipping weight (Average)
  - Eimac HR-6: 7.75 inches
  - Eimac HR-2: 3.19 inches
  - 4 ounces
  - 1.5 pounds

**AUDIO FREQUENCY POWER AMPLIFIER AND MODULATOR**
- Class-A/B: (Sinusoidal wave, two tubes unless otherwise specified)
- **MAXIMUM RATING**
  - D-C Plate Voltage: 1500 2000 2500 Volts
  - D-C Grid Voltage (approx.): -80 -100 -150 Volts
  - Zero-Signal D-C Plate Current: 80 100 150 mA
  - Zero-Signal D-C Plate Current: 80 100 150 mA
  - Effective Load, Plate-to-Plate: 15,000 22,000 Ohms.
  - Peak A-F Grid Input Voltage (per tube): 150 150 155 Volts
  - Max-Peak Driving Power: 18 19 15 Watts
  - Max-Signal Driving Power (approx.) 9 9.5 7.5 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 Telephony or FM Telephony (Key-down conditions, per tube)
- **MAXIMUM RATING**
  - D-C Plate Voltage: 1500 2000 2500 Volts
  - D-C Grid Voltage: -65 -80 -200 Volts
  - D-C Plate Current: 190 165 165 Ma.
  - Peak R.F. Grid Input Voltage: 230 230 385 Volts
  - Driving Power (approx.): 10 8 18 Watts
  - Grid Dissipation: 7 5 10 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 Telephony (Carrier conditions, per tube)
- **MAXIMUM RATING**
  - D-C Plate Voltage: 1500 2000 2500 Volts
  - D-C Grid Voltage: -150 -200 -250 Volts
  - D-C Plate Current: 160 150 140 Ma.
  - D-C Grid Current: 46 41 40 Ma.
  - Peak R.F. Grid Input Voltage: 325 375 425 Volts
  - Driving Power (approx.): 15 15.5 17 Watts
  - Grid Dissipation: 8 7.3 7 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 Pp.

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.