The 8974 is a power tetrode designed for very high powered frequency or high frequency broadcast service and very low frequency communication in the megawatt power range. The 8974 has a two section thoriated tungsten filament mounted on water-cooled supports. The two sections may be fed in quadrature to reduce hum contributed by an arc ac power source. The maximum anode dissipation rating is 1500 kW steady state. Large diameter coaxial terminals are used for the control grid and the RF filament terminals. Filament power and filament support cooling water connections are made through three special couplings with threaded clamping rings.

### CHARACTERISTICS
- **Plate Dissipation (Max.)**: 1,500 Kilowatts
- **Screen Dissipation (Max.)**: 15.0 Kilowatts
- **Grid Dissipation (Max.)**: 4.0 Kilowatts
- **Frequency for Max. rating (CW)**: 30 MHz
- **Amplification Factor**: 4.5
- **Filament/Cathode**
  - Voltage: Thoriated Tungsten
  - Current: 16.3 Volts
  - 600 Amps
- **Capacitance**
  - Input: 1600 pf
  - Output: 250 pf
  - Feedthrough: 6.0 pf
- **Capacitance**
  - Input: Grounded Cathode
  - Output: 260 pf
  - Feedthrough: 1.0 pf
- **Cooling**
  - Base: Water and Forced Air
  - Special Coaxial
- **Air Socket**: N/A
- **Air Chimney**: N/A
- **Boiler**: N/A
- **Length**: 23.75 in; 60.30 cm
- **Diameter**: 17.03 in; 43.30 cm
- **Weight**: 175.0 lb; 80.0 kg

### MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>Class of Operation</th>
<th>Type of Service</th>
<th>Plate Voltage (Volts)</th>
<th>Plate Current (Amps)</th>
<th>Drive Power (Watts)</th>
<th>Output Power (kiloWatts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>RF Amplifier</td>
<td>22,500</td>
<td>125</td>
<td>21,500</td>
<td>7,000</td>
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<tr>
<td>C</td>
<td>RF Amplifier Plate Modulated</td>
<td>17,500</td>
<td>100</td>
<td>17,500</td>
<td>6,465</td>
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<tr>
<td>AB1</td>
<td>RF Linear Amplifier</td>
<td>22,500</td>
<td>125</td>
<td>20,000</td>
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<tr>
<td>AB1</td>
<td>AF Amplifier or Modulator</td>
<td>22,500</td>
<td>125</td>
<td>17,500</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td><strong>Plate Voltage (Volts)</strong></td>
<td>21,500</td>
<td>100</td>
<td>17,500</td>
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<tr>
<td></td>
<td><strong>Plate Current (Amps)</strong></td>
<td>125</td>
<td>86.5</td>
<td>146</td>
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</tr>
</tbody>
</table>

The values listed above represent specified limits for the product and are subject to change. The data should be used for basic information only. Formal, controlled specifications may be obtained from CPI for use in equipment design.

**For information** on this and other CPI MPP products, visit our website at: [www.cpii.com](http://www.cpii.com),
or contact: CPI Microwave Products Division, Eimac Operation, 607 Hansen Way, Palo Alto, CA 94303

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