# FERRANTI OUTPUT BEAM TETRODE

Indirectly heated beam tetrode designed for use as a Low Frequency Amplifier or Modulator, or as a Radio Frequency Power Amplifier or Oscillator.

## PHYSICAL DETAILS.
- **Base**: UX-5 pin bayonet.
- **Max. Overall Length**: 147 mm.
- **Max. Seated Height**: 130 mm.
- **Max. Diameter (Bulb)**: 53 mm.
- **Mounting Position**: Any.

## BASE CONNECTIONS.
- **Pin 1—Heater**.
- **Pin 2—Screen Grid**  
  **Pin 3—Control Grid**.  
  **Pin 4—Cathode, Beam Plates**.  
  **Pin 5—Heater**.  
  **Top Cap—Anode**.

## HEATER.
- **Heater Voltage**: 6.3 volts.
- **Heater Current**: 0.9 amp.

## RATINGS.
- **Max. Anode Voltage**: 600 volts.
- **Max. Peak Anode Voltage**: 2000 volts.
- **Max. Screen Grid Voltage**: 300 volts.
- **Max. Negative Control Grid Voltage**: 200 volts.
- **Max. Cathode Current**: 150 mA.
- **Max. Peak Cathode Current**: 400 mA.
- **Max. Screen Grid Current**: 10 mA.
- **Max. Control Grid Current**: 5 mA.
- **Max. Peak Control Grid Current**: 25 mA.
- **Max. Anode Dissipation**: 25 watts.
- **Max. Screen Grid Dissipation**: 3.5 watts.
- **Max. V<sub>b-k</sub>**: 100 volts.
- **Max. R<sub>g-k</sub>**: 25 kΩ.

## TYPICAL OPERATION.

**Single Valve Class A Amplifier.**
- **Anode Voltage**: 300 volts.
- **Screen Voltage**: 250 volts.
- **Control Grid Voltage**: -12.5 volts.
- **Anode Current**: 83 mA.
- **Screen Current**: 8 mA.
- **Anode Impedance**: 24 kΩ.
- **Mutual Conductance**: 6.5 mS.
- **Cathode Bias Resistor**: 140 ohms.
- **Anode Load**: 3 kΩ.
- **Power Output**: 4.8 watts.
- **Total Harmonic Distortion**: 6 %.

**2 Valves Push Pull Amplifier.**

<table>
<thead>
<tr>
<th>Class AB1</th>
<th>Class AB2†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anode Voltage</td>
<td>500</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>300</td>
</tr>
<tr>
<td>Control Grid Voltage</td>
<td>-27.5</td>
</tr>
<tr>
<td>Cathode Bias Resistor</td>
<td>270</td>
</tr>
<tr>
<td>Peak AF Input Voltage</td>
<td></td>
</tr>
<tr>
<td>Grid to Grid</td>
<td>59</td>
</tr>
<tr>
<td>Anode Current (Zero Signal)</td>
<td>100</td>
</tr>
<tr>
<td>Anode Current (Max. Signal)</td>
<td>119</td>
</tr>
<tr>
<td>Screen Current (Zero Signal)</td>
<td>2.5</td>
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<tr>
<td>Screen Current (Max. Signal)</td>
<td>16.5</td>
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<tr>
<td>Optimum Load Resistance</td>
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<tr>
<td>Anode to Anode</td>
<td>9</td>
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<tr>
<td>Power Output</td>
<td>32</td>
</tr>
<tr>
<td>Total Harmonic Distortion</td>
<td>2.7</td>
</tr>
</tbody>
</table>

## CAPACITANCES.
- **C<sub>in</sub>**: 11 pF.
- **C<sub>out</sub>**: 7 pF.
- **C<sub>g-g</sub>**: <0.2 pF.

*Measured with external shield.
†Anode and Screen supply voltages must not vary by more than 5% and grid bias voltage by not more than 3% between no signal and peak signal conditions to obtain the maximum output at low distortion.

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FERRANTI LIMITED, GEM MILL, CHADDERTON, OLDHAM, LANCS.

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All dimensions shown are in millimetres (max.).