Built for Satellite Communications Uplink Applications
Provides 400 watts of power in a 3 RU package, digital ready, for wideband, single- and multi-carrier satellite service in the 7.9 to 8.4 GHz frequency band. Ideal for transportable and fixed earth station applications where space and prime power are at a premium.

Cost Effective and Efficient
Employs a high efficiency dual-depressed collector helix traveling wave tube backed by many years of field-proven experience in airborne and military applications.

Simple to Operate
User-friendly microprocessor-controlled logic with integrated Ethernet computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance.

Easy to Maintain
Modular design and built-in fault diagnostic capability with convenient and clearly visible indicators for easy maintainability in the field.

OPTIONS:
- Remote control panel
- Redundant and hybrid power combined systems
- External receive band reject filter (increases loss by a minimum of 50 dB up to 11.7 GHz)


Meets Global Requirements
Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements. CE Marked.

Worldwide Support
Backed by over 40 years of satellite communications experience, and CPI’s worldwide 24-hour customer support network that includes more than 20 regional factory service centers.
<table>
<thead>
<tr>
<th>Specification</th>
<th>CPI Model VZX-6984A4, 400 W X-Band Rack-Mount TWTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>7.9 to 8.4 GHz</td>
</tr>
<tr>
<td>Output Power TWT Flange</td>
<td>400 W min. (56.02 dBm)</td>
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<tr>
<td></td>
<td>350 W min. (55.44 dBm)</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>500 MHz</td>
</tr>
<tr>
<td>Gain</td>
<td>75 dB min. at rated power output; 78 dB min. at small signal</td>
</tr>
<tr>
<td>RF Level Adjust Range</td>
<td>0 to 20 dB</td>
</tr>
<tr>
<td>Gain Stability</td>
<td>±0.25 dB/24hr max. at constant drive &amp; temp.</td>
</tr>
<tr>
<td>Small Signal Gain Slope</td>
<td>±0.02 dB/MHz max.</td>
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<tr>
<td>Small Signal Gain Variation</td>
<td>Across any 80 MHz band: 1.0 dB pk-pk max.</td>
</tr>
<tr>
<td></td>
<td>Across the 500 MHz band: 2.5 dB pk-pk max.</td>
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<tr>
<td>Input/Output VSWR</td>
<td>1.3:1 max.</td>
</tr>
<tr>
<td>Load VSWR</td>
<td>2.0:1 max operational; Any value operation without damage</td>
</tr>
<tr>
<td>Phase Noise</td>
<td>IESS-308/309 phase noise profile: -12 dB</td>
</tr>
<tr>
<td></td>
<td>AC fundamentals related: -42 dBc</td>
</tr>
<tr>
<td></td>
<td>Sum of spurs: (370 Hz to 1 MHz): -50 dBc</td>
</tr>
<tr>
<td>AM/PM Conversion</td>
<td>2.5°/dB max. for a single carrier at 6 dB below rated power (at 4 dB below rated power with optional linearizer)</td>
</tr>
<tr>
<td>Harmonic Output</td>
<td>-60 dBc at rated power, second and third harmonics</td>
</tr>
<tr>
<td>Noise and Spurious</td>
<td>&lt;-75 dBW/4 kHz from 7.25 to 7.75 GHz; &lt;-65 dBW/4 kHz, from 7.9 to 8.4 GHz (&lt;=60 dBW/4 kHz with linearizer)</td>
</tr>
<tr>
<td>Intermodulation</td>
<td>-23 dBc or better typ. with two equal carriers at total output power 7 dB below rated single-carrier output (at 4 dB below with optional linearizer)</td>
</tr>
<tr>
<td>Group Delay</td>
<td>In any 40 MHz band: 0.01 ns/MHz linear max; 0.001 ns/MHz² parabolic max; 0.5 ns pk-pk ripple max.</td>
</tr>
<tr>
<td>Primary Power</td>
<td>110-240 VAC, ±10%, single phase 47-63 Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>1.3 kVA typ.; 1.5 kVA max.</td>
</tr>
<tr>
<td>Power Factor</td>
<td>0.95 min.</td>
</tr>
<tr>
<td>Inrush Current</td>
<td>200% max.</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-10°C to +50°C operating; -54°C to +71°C non-operating</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>95% non-condensing</td>
</tr>
<tr>
<td>Altitude</td>
<td>10,000 ft. (3,048 m) with standard adiabatic derating of 2°C/1000 ft. (305 m) operating; 40,000 ft. (12,192 m) non-operating</td>
</tr>
<tr>
<td>Shock and Vibration</td>
<td>Designed for normal transportation environment per Section 514.4 MIL-STD-810E. Designed to withstand 20G at 11 ms (1/2 sine pulse) in non-operating condition.</td>
</tr>
<tr>
<td>Acoustic Noise</td>
<td>65 dBA (as measured at 3 ft.)</td>
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<tr>
<td>Cooling (TWT)</td>
<td>Forced air with integral blower. Rear air intake and exhaust.</td>
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<tr>
<td>RF Input Connection</td>
<td>Type N female</td>
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<tr>
<td>RF Output Connection</td>
<td>CPR112G waveguide flange, grooved, threaded UNF 2B 8-32</td>
</tr>
<tr>
<td>RF Output Monitor</td>
<td>Type N female</td>
</tr>
<tr>
<td>Dimensions (W x H x D)</td>
<td>19.0 x 5.25 x 24 in. (483 x 133 x 610 mm)</td>
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<tr>
<td>Weight</td>
<td>70 lbs (31.8 kg) max.</td>
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</tbody>
</table>