

# CPI 1.0kW X-Band TWT Amplifier

for Instrumentation Applications

## The VZX-2783C1

1.0 kW TWT  
High Power Amplifier  
features high efficiency  
and power for EMC/EMI  
testing

### Compact

Provides 1000 watts of power in the 8.0 to 12.75 GHz frequency band in a compact 19-inch, rack-mount, dual drawer configuration for wideband testing.

### Efficient and Reliable

Employs a CPI dual-depressed collector helix traveling wave tube which increases efficiency by a nominal 20% over conventional single collector TWTs, and a power supply designed with a minimum number of parts for maximum uptime.

### Simple to Operate

Integrated microprocessor control lets the user adjust and monitor all operating parameters from one easy-to-read local or remote panel, using straightforward menu-driven commands.

## X-Band



### Safety

Conforms to international safety and EMC compliance standards.

### Easy to Maintain

Modular design provides for easy installation and maintainability in the field.

### Worldwide Support

Backed by over two decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes twenty regional factory service centers.



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X-Band

1.0 kW TWT High Power Amplifier

## OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*

### SPECIFICATIONS, VZX-2783C1

#### Electrical

|                                       |  |
|---------------------------------------|--|
| Frequency                             | 8.0 to 12.75 GHz   |
| TWT Model Number                      | VTX6389A2  |
| Output Power                          |  |
| TWT                                   | 1200 W min.  |
| Flange                                | 1000 W min.  |
| Bandwidth                             | 4.75 GHz   |
| Gain                                  | 63 dB min. at rated power output<br>66 dB typ. at small signal   |
| RF Level Adjust                       | 0 to 20 dB continuous  |
| Output Power Adjustability            | ±0.1 dB  |
| Gain Stability (typical)              | ±0.25 dB/24 hr max.<br>(at constant drive and temp.)   |
| Small Signal Gain Slope               | 0.02 dB/MHz max.   |
| Small Signal Gain Variation (typical) | 8.0 dB pk-pk max. over the<br>4.75 GHz bandwidth   |
| Input VSWR                            | 2.5:1 typ. (1.5:1 max. with option A<br>input isolator)  |
| Output VSWR                           | 2.5:1 typ.   |
| Load VSWR                             | 1.67:1 max. for full spec compliance,<br>(8-18 GHz); any value without damage  |
| Residual AM                           | -45 dBc up to 4 kHz,<br>-20 (1.25 +log F kHz) dBc,<br>4 kHz to 500 kHz (F in kHz)<br>-80 dBc above 500 kHz                   |
| Spurious Output                       | -40 dBc max. (at rated power with<br>load VSWR maximum of 1.67:1 max.<br>over 8 to 18 GHz)                                   |
| Harmonic Content                      | -10 dBc typ.   |
| Primary Power                         |  |
| 3 phase, 5 wire                       | 208/120 V ±10%, or<br>380-415/220-240 V ±10%,<br>47-63 Hz;<br>5 wires are: Phase 1, 2 & 3, neutral<br>and ground connection. |
| Power Factor                          | 0.90 min. (at 50 Hz)   |
| Power Consumption                     | 6.9 kVA (typical)<br>7.5 kVA max.  |

#### Environmental (Operating)

|                     |   |
|---------------------|---|
| Ambient Temperature | 0° to +40°C operating<br>-40° to +70°C non-operating                        |
| Relative Humidity   | 95% non-condensing  |
| Altitude            | Up to 10,000 ft (3000 m) with standard<br>adiabatic derating of 2°/1000 ft. |
| Shock and Vibration | Designed to meet conditions normally<br>encountered in the laboratory       |
| Acoustic Noise      | 72 dBA one meter from front panel   |

#### Mechanical

|                        |   |
|------------------------|---|
| Cooling (TWT)          | Forced air with integral blower<br>and power supply fan. Maximum<br>external pressure loss allowable:<br>0.25 inch water gauge. |
| RF Input Connection    | Type N female   |
| RF Output Connection   | WRD-750   |
| RF Power Monitors      | Type-N female   |
| Dimensions (W x H x D) |   |
| RF Drawer              | 19 x 19.2 x 28 in.<br>(483 x 488 x 711 mm)  |
| Power Supply           | 19 x 10.4 x 31 in.<br>(483 x 264 x 787 mm)  |
| Weight                 |   |
| RF Drawer              | 100 lbs (45 kg)   |
| Power Supply           | 115 lbs (52 kg)   |
| Interconnect           | 10 lbs (4.5 kg)   |

This product is subject to the U.S. International Traffic in Arms Regulations (ITAR). Sale of this product is subject to US Government approval. In accordance with part 126.1 of the ITAR, it is the policy of the United States to deny licenses and other approvals for the sales, exports/ imports, and or transfer of items subject to the ITAR destined for or originating in certain countries in which the U.S. maintains an arms embargo.



For more detailed information, please refer to the corresponding CPI Technical Description.

**Note:** Specifications may change without notice as a result of additional data or product refinement.

Please contact CPI before using this information for system design.



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