

# 500 W Rack-Mount TWTA

## Compact

Provides 500 watts of power in the 1.0 to 2.5 GHz frequency band in a compact 19-inch rack-mount dual drawer configuration for wideband testing.

## Efficient and Reliable

Employs CPI dual-depressed collector helix traveling wave tubes, increasing 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. Includes a built-in interface and serial bus for operation from the station computer

## Global Applications

230 VAC operation. Meets International Safety Standard EN-60215 and Electromagnetic Compatibility 2014/30/EU standards to satisfy world requirements.

## 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 world wide 24-hour customer support network that includes more than twenty regional factory service centers.



## Model VZL-2780C2

1.0 to 2.5 GHz, 500 watt L-band rack-mount TWTA for test and measurement applications

### OPTIONS

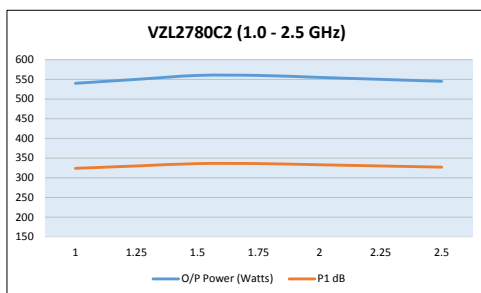
- Mimic remote control panel
- External harmonic filters
- External output isolator
- Ethernet interface



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## 500 W Rack Mount TWTA

Specification	Model VZL-2780C2
Output Frequency	1.0 to 2.5 GHz
Output Power (min.)	550 W min. 500 W min.
TWT Flange	
Gain	57 dB at rated power output, 57 dB typ. at small signal
RF Level Adjust Range	0 to 20 dB
Output Power Adjustability	±0.1 dB
Gain Stability	±0.25 dB/24 hour typ, at constant drive and temperature, after 30 minute warmup
Small Signal Gain Slope	0.02 dB/MHz max.
Gain Variation	10 dB pk-pk typ. over the 1.5 GHz bandwidth
Input VSWR	2.0:1 max (1.65:1 max. with optional input isolator)
Output VSWR	2.0:1 typ.
Load VSWR	2.0:1 for full spec. compliance; any value operation without damage
Residual AM	-50 dBc below 10 kHz; -20 [1.3 + logF (kHz)] dBc, 10 kHz to 500 kHz; -50 dBc 500 kHz to 1 MHz
Noise and Spurious	-60 dBW/4 kHz
Harmonic Content	-6 dBc typical at 2 GHz
Primary Power	Voltage: Single phase, 208-120 VAC ±10%, or 380-415/220-240 VAC ±10%; 5 wires are: phase 1, 2 & 3, neutral and ground (wire 5 can be used if available); Frequency: 47-63 Hz, 15 A max.
Power Factor	0.90 min. at 50 Hz
Power Consumption	6.9 kVA typ, 7.5 kVA max.
Inrush Current	200% max.
Ambient Temperature	-10°C to +40°C operating, -20°C to +70°C non-operating
Relative Humidity	95% non-condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft. operating; 50,000 ft. non-operating
Shock and Vibration	As normally encountered in a protected engineering laboratory environment
Cooling	Forced Air with integral blower. Rear air intake and exhaust. Maximum external pressure loss allowable: 0.5" water column
Connections	RF Input: Type N Female; RF output: Type SC Female; RF output monitors: Type N Female, -50 dB nom.
M&C Interface	Serial RS232 or RS422/485 (Ethernet optional)
Dimensions, W x H x D	RF Drawer: 19 x 17.5 x 28 inches (483 x 445 x 711 mm); Power Supply: 19 x 8.75 x 24 inches (483 x 223 x 610 mm)
Weight	RF Drawer: 115 lbs (52 kg) nom; Power Supply: 100 lbs (45 kg); Interconnect Cables: 10 lbs (4.5 kg)
Acoustic noise	72 dBA @ 1 meter from front panel



VZL-2780C2 typical Psat and P1dB output power, dBm