

CPI 500W L-Band TWT Amplifier

for Instrumentation Applications

The VZL-2780C2

500 watt TWT
High Power
Amplifier features
high efficiency, small
size and an integral
computer interface.

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 a dual-depressed collector helix traveling wave tube, 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.

L-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 fifteen regional factory service centers.



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L-Band

500W TWT High Power Amplifier

OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*

SPECIFICATIONS, VZL-2780C2

Electrical

Frequency	1.0 to 2.5 GHz
Output Power	
TWT	550 W min.
Flange	500 W min.
Bandwidth	1.5 GHz
Gain	57 dB min. at rated power output; 57 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. (at constant drive and temp.)
Small Signal Gain Slope	0.02 dB/MHz max.
Small Signal Gain Variation (typical)	10.0 dB pk-pk max. over the 1.5 GHz bandwidth
Input/Output VSWR	1.25:1 max.
Load VSWR	2.0:1 max. for full spec compliance; any value without damage
Residual AM	-50 dBc max, 10 Hz to 10 kHz; -20 [1.3 + log F (kHz)] dBc max, 10 kHz to 500 kHz (F in kHz); -50 dBc max, 500 kHz to 1 MHz
Harmonic Content	-6 dBc typ. at 2 GHz
Primary Power	208/120 V ±10%, or 380-415/220-240 V ±10%, 47-63 Hz; 5 wires are: Phase 1, 2 & 3, neutral and ground connection. Neutral (wire 5 can be used if available)
Power Factor	0.90 min. (at 50 Hz)
Power Consumption	6.9 kVA typ. 7.5 kVA max.

Environmental (Operating)

Ambient Temperature	-10° to +40°C operating -20° to +70°C non-operating
Relative Humidity	95% non-condensing
Altitude	Up to 10,000 ft (3000 m) with standard adiabatic derating of 2°/1000 ft.
Shock and Vibration	Designed to meet conditions normally encountered in the laboratory
Acoustic Noise	72 dBA one meter from front panel

Mechanical

Cooling (TWT)	Forced air with integral blower and power supply fan. Maximum external pressure loss allowable: 0.25 inch water gauge.
RF Input Connection	Type N female
RF Output Connection	Type SC female
RF Power Monitors	Type-N female
Dimensions (W x H x D)	
RF Drawer	19 x 17.5 x 28 in. (483 x 445 x 711 mm)
Power Supply	19 x 8.75 x 24 in. (483 x 223 x 610 mm)
Weight	
RF Drawer	115 lbs (52 kg) typ.
Power Supply	100 lbs (45 kg)
Interconnect	10 lbs (4.5 kg)



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.

