CPI 500W M-Band TWT Amplifier

for Instrumentation Applications

M-Band

The VZM-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 8.0 to 18.0 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.

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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M-Band

500W TWT High Power Amplifier

SPECIFICATIONS, VZM-2780C2

Electrical

Frequency	8.0 to 18.0 GHz
TWT Model Number	VTM6392M4B
Output Power	
TWT	280 W min. (each)
Flange	500 W min.
Bandwidth	10.0 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 10 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	-45 dBc up to 4 kHz; -20 [1.25 + log F (kHz)] dBc, 4 kHz to 500 kHz (F in kHz); -80 dBc above 500 kHz
Harmonic Content	-6 dBc typ. at 8 GHz
Primary Power 3 phase, 5 wire	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 WRD-750
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	90 lbs (41 kg)
Power Supply	100 lbs (45 kg)
Interconnect	10 lbs (4.5 kg)

OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*

ISO 9001 Certificate Number: 30515

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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