400W Outdoor TWT Power Amplifier

for Troposcatter Applications

Tropo C-Band

The VZC-6964VM

400 watt TWT Outdoor Tropo Amplifier — high reliability in an environmentally sealed compact package designed for outdoor operation

Plays in the Rain

Provides 400 watts of power in a rugged and compact weatherproof package, digital ready, for troposcatter communications in the 4.4 to 5.0 GHz frequency band.

Cost Effective and Efficient

Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a highly reliable helix traveling wave tube.

Reliable

Designed and built to survive in adverse environmental conditions. Operating temperature of up to 50°C, including solar loading.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface. Digital metering and pin diode attenuation for improved intermodulation performance.

Easy to Maintain

Modular design and built-in fault diagnostic capability via remote monitor and control.

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

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

satcom division

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Tropo C-Band

400W Outdoor TWT Power Amplifier

OPTIONS:

- *1 RU Remote Control Panel*
- *Integral L-Band (950 to 1550 MHz) Block Up Converter (BUC)*
- *Waveguide Transition WR-159 to WR-187*
- *Internal 1:1 Switch Control and Drive*

SPECIFICATIONS, VZC-6964VM

Electrical

Frequency	4.4 to 5.0 GHz
Output Power	
TWT	400 W min. (56.0 dBm)
Flange	320 W min. (55.1 dBm)
Bandwidth	600 MHz
Gain	70 dB min. at rated power
RF Level Adjust Range	0 to 30 dB typ.
Gain Stability	
At constant drive & temp.	±0.25 dB/24hr max. (after 30 min. warmup)
Over temp., constant drive	±1.0 dB over 20°C typ.
Small Signal Gain Slope	±0.02 dB/MHz max.
Input VSWR	1.5:1 max. typ.
Output VSWR	1.5:1 max.
Load VSWR	
Continuous operation	2.0:1
Full spec compliance	1.2:1
Operation without damage	Any value
Phase Noise	
MIL-STD-188-164A	3 dB below mask
AC fundamentals	-36 dBc
Sum of spurs (370 Hz to 1 MHz)	-47 dBc
AM/PM Conversion	2.5°/dB max. for a single-carrier at 8 dB below rated power
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise and Spurious	<-65 dBW/4 kHz, 4.4 - 5.0 GHz;

Electrical (continued)

Group Delay (in any 20 MHz band)	0.01 ns/MHz linear max; 0.001 ns/MHz sq. parabolic max; 3.0 ns pk-pk ripple max.
Primary Power	
Voltage	Single phase, 200-240 VAC ±10%
Frequency	47-63 Hz
Power Consumption	2.0 kVA max.
Power Factor	0.95 min.
Inrush Current	200% max.

Environmental (Operating)

Ambient Temperature	-40°C to +50°C operating in direct sunlight (+55°C shaded); -40°C to +70°C non-operating
Relative Humidity	100% condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft., operating; 50,000 ft., non-operating
Shock and Vibration	20 G peak, 11 msec, 1/2 sine; 2.1 G rms, 5 to 500 Hz.
Acoustic Noise	68 dBA (as measured at 3 ft.)
Heat Dissipation	1700 W max.

Mechanical

Cooling (TWT)	Forced air with integral blower
RF Input Connection	Type N Female
RF Output Connection	CPR-159 waveguide flange, grooved, threaded UNC 2B 1/4-20
RF Output Monitor	Type N female
Dimensions (W x H x D)	14.5 x 13.1 x 24 in. (368 x 333 x 610 mm)
Weight	112 lbs (50.8 kg) typ.

ISO 9001 Certificate Number: 30515

NASDAQ GLOBAL SELECT

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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