

For Satellite Communications Uplink Applications

Provides 400 watts of power in a 3 RU package, digital ready, for wideband, single- and multi-carrier satellite service in the 5.85 to 6.65 GHz frequency band (other available as options). Ideal for transportable and fixed earth station applications where space and prime power are at a premium.

Cost Effective and Efficient

Employs a high efficiency dual-depressed collector helix traveling wave tube backed by many years of field-proven experience in airborne and military applications.

Simple to Operate

User-friendly microprocessor-controlled logic with optional external serial computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance.

Easy to Maintain

Modular design and built-in fault diagnostic capability with convenient and clearly visible indicators for easy maintainability in the field.



CPI 400 W C-band indoor TWTA
Model VZC-6964A4

OPTIONS:

- Remote control panel
- Integral linearizer
- Redundant and hybrid power combined systems
- External receive band reject filter (increases loss by a minimum of 65 dB up to 4.7 GHz)

Quality Management
System - ISO 9001:2015



Meets Global Requirements

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements. CE Marked.

Worldwide Support

Backed by over 40 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

Specification		CPI Model VZC-6964, 400 W C-Band TWTA		
Frequency		5.850 to 6.650 GHz	5.850 to 7.075 GHz	5.725 to 6.525 GHz
Output Power	TWT Flange	400 W min. (56.02 dBm) 350 W min. (55.44 dBm)		
Bandwidth		800 or 1225 MHz, depending on configuration		
Gain		75 dB min. at rated power output; 78 dB min. at small signal		
RF Level Adjust Range		0 to 20 dB		
Gain Stability		±0.25 dB/24hr max, at constant drive and temperature; ±1.0 dB over temperature, -10°C to +50°C		
Small Signal Gain Slope		±0.02 dB/MHz max.		
Small Signal Gain Variation		0.6 dB pk-pk across any 40 MHz band; 4.0 dB pk-pk max. across full band; 4.5 dB pk-pk max. across full band with linearizer option	0.6 dB pk-pk across any 40 MHz band; 4.0 dB pk-pk max. across full band; 6.0 dB pk-pk max. across full band with linearizer option	0.6 dB pk-pk across any 40 MHz band 2.5 dB pk-pk max. across full band; 4.5 dB pk-pk max. across full band with linearizer option
Input/Output VSWR		1.3:1 max., 1.3:1 max.		
Load VSWR		2.0 max. continuous operation; any value for operation without damage		
Phase Noise	Phase Noise Profile AC Fundamental Sum of All Spurs	-12 dBc better than IESS 308/309 specification; -42 dBc/Hz at 10 Hz; -72 dBc/Hz at 100 Hz; -82 dBc/Hz at 1 kHz; -92 dBc/Hz at 10 kHz; -102 dBc/Hz at 100 kHz; -122 dBc/Hz at 1 MHz -36 dBc -50 dBc		
AM/PM Conversion		2.5°/dB max. for a single carrier at 6 dB below rated power for 5.85 to 6.65 GHz configuration; 3.00/dB max. for all other configurations		
Harmonic Output		-60 dBc at rated power, second and third harmonics		
Noise Density		<-130 dBW/4 kHz from 3.4 to 4.2 GHz <-65 dBW/4 kHz in passband (<-60 dBW/4 kHz with linearizer option) <-110 dBW/4 kHz from 12.0 to 40.0 GHz		
Intermodulation		-24 dBc or better max. with two equal carriers at total output power 7 dB below rated single-carrier output (at 4 dB with optional integral linearizer)	-23 dBc max at 7 dB OBO (at 4 dB OBO with linearizer)	
Group Delay		In any 40 MHz band: 0.01 ns/MHz linear max; 0.001 ns/MHz ² parabolic max; 0.5 ns pk-pk ripple max.		
Primary Power		110-240 VAC ±10%, single phase 47-63 Hz		
Power Consumption		1.35 kVA typ; 1.35 kVA max.		
Power Factor		0.95 min.		
Ambient Temperature		-10°C to +50°C operating; -40°C to +70° non-operating		
Relative Humidity		95% non-condensing		
Altitude		10,000 ft. (3,048 m) with standard adiabatic derating of 20C/1000 ft. (305 m) operating; 40,000 ft. (15,240 m) non-operating		
Shock and Vibration		Designed for normal transportation environment per Section 514.4 MIL-STD-810E. Designed to withstand 20G at 11 ms (1/2 sine pulse) in non-operating configuration.		
Acoustic Noise		65 dBA @ 3 ft. from amplifier		
Cooling (TWT)		Forced air with integral blower. Rear intake and exhaust.		
RF Input Connection		Type N Female		
RF Output Connection		CPR-137G waveguide flange, grooved with UNF 2B 10-32 threaded holes		
RF Output Monitor		Type N Female		
Dimensions (W x H x D)		19 x 5.25 x 24 in. (483 x 133 x 610 mm)		
Weight		70 lbs (31.8 kg) max.		



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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. 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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