

## **CPI 2.25kW TWT C-Band HPA** for Satellite Communications

### **The VZC-6965B5**

*2.25kW TWT  
High Power  
Amplifier features  
high efficiency, small  
size and an integral  
computer interface.*

#### **Compact**

Provides 2250 watts of power in the 5.850-6.650 GHz frequency band in a compact 19-inch rack-mount dual drawer configuration, digital ready, for wideband, single- and multi-carrier commercial satellite service.

#### **Efficient and Reliable**

Employs a CPI dual-depressed collector helix traveling wave tube which increases 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.

#### **Safe**

Meets International Safety Standard EN60215 and EMC Standard 2004/108/EC to satisfy worldwide requirements.

**C-Band**



#### **Easy to Maintain**

Modular design provides for easy installation and maintainability in the field.

#### **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.

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**C-Band**

**2.25 kW TWT High Power Amplifier**

## OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*
- *Integral Linearizer*
- *1:1, 1:2 and 1:n Redundant and Power Combined Subsystems*
- *Extended Frequency (5.85 to 6.725 GHz). Contact factory for specifications.*

## SPECIFICATIONS, VZC-6965B5

### Electrical

Frequency	5.850 to 6.650 GHz
TWT Model Number	VTC-6369D4
Output Power	
TWT	2250W min. (33.5 dBW)
Flange	2000W min. (33.0 dBW)
Bandwidth	800 MHz
Gain	76 dB min. at rated power output 79 dB min. at small signal
RF Level Adjust	0 to 20 dB continuous
Output Power Adjustability	±0.1 dB
Gain Stability	±0.25 dB/24 hr max. (at constant drive and temp.)
Small Signal Gain Slope	0.02 dB/MHz max.
Small Signal Gain Variation	3.0 dB pk-pk max. over the 800 MHz bandwidth (4.0 dB with optional integral linearizer)
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
Phase Noise	Single carrier at 7 dB below rated power, exceeds requirements of IESS-308/309 by 6 dB
AM/PM Conversion	2.5°/dB at 8 dB output power back off
Harmonic Output	-60 dBc
Noise and Spurious	-130 dBW/4 kHz from 3.6 to 4.2 GHz -65 dBW/4 kHz from 4.2 to 12.0 GHz (-60 dBW/4 kHz with optional linearizer) -110 dBW/4 kHz from 12.0 to 40.0 GHz
Intermodulation	-23 dBc or better with two equal carriers at total output power level, 7 dB below rated single-carrier output (4 dB with linearizer) up to 6.425 GHz; -20 dBc or better above 6.425 GHz
Group Delay (in any 40 MHz band)	0.01 ns/MHz linear 0.001 ns/MHz <sup>2</sup> parabolic 0.5 ns pk-pk ripple max.

### Electrical (continued)

Primary Power	3 phase, 5 wire	208/120 V, ±10%, 50/60 Hz ±5%; 380-415/220-240 V, ±10%, 50/60 Hz ±5%; 5 wires are: Phase 1, 2 & 3, neutral and ground connection.
Power Factor		0.90 min. (at 50 Hz)
Power Consumption		6.3 kVA (typical) 7.5 kVA max.

### Environmental (Operating)

Ambient Temperature	-10° to +50°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 satellite earth stations
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	CPR 137 F standard
RF Power Monitors	Type-N female
Dimensions (W x H x D)	
RF Drawer	19 x 12.25 x 24 in. (483 x 310 x 610 mm)
Power Supply	19 x 10.50 x 24 in. (483 x 268 x 610 mm)
Weight	
RF Drawer	90 lbs (41 kg)
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.



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