

CPI 2.25/2.50 kW TWT X-Band HPA for Satellite Communications

The VZX-6986J4/J6

2.25 or 2.50 kW TWT High Power Amplifier features high efficiency, small size and an integral computer interface.

Compact

Provides 2250 or 2500 watts of power in the 7.9 to 8.4 GHz frequency band in a compact 19-inch rack-mount dual drawer configuration, digital ready, for wideband, single- and multi-carrier 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.

X-Band



Safe

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

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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OPTIONS & COMPANION PRODUCTS:

- *Mimic Remote Control Panel*
- *Integral Linearizer*
- *1:1, 1:2 and 1:n Redundant and Power Combined Subsystems*

SPECIFICATIONS, VZX-6986J4/J6

Electrical

Frequency	7.9 to 8.4 GHz
Output Power	
TWT	2250 W min. (63.52 dBm) or 2500 W min. (63.98 dBm)
Flange	2000 W min. (63.01 dBm) or 2250 W min. (63.52 dBm)
Bandwidth	500 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	2.0 dB pk-pk max. over the 500 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 (1.5 +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 -110 dBW/4 kHz from 12.0 to 40.0 GHz
Noise Figure	15 dB max.
Intermodulation	-22 dBc or better with two equal carriers at total output power level 7 dB below rated single-carrier output (4 dB with linearizer)
Group Delay	
(in any 40 MHz band)	0.02 ns/MHz linear 0.002 ns/MHz ² 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

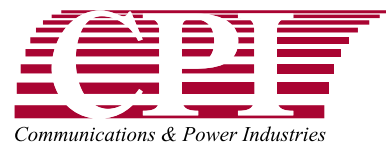
Cooling(TWT)	Forced air with integral blower and power supply fan. Maximum external pressure loss allowable: 0.25 inch water gauge.
RF Input Connection	Type N female
RF Output Connection	CPR 112 F standard
RF Power Monitors	Type N female
Dimensions (W x H x D)	
RF Drawer	19 x 12.25 x 24 in. (483 x 310 x 610 mm)
Power Supply	19 x 10.50 x 24 in. (483 x 267 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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