

## Built for Satellite Communications Uplink Applications

Provides 750 watts of power in a rugged and compact weatherproof package, digital ready, for satellite uplinks in the 7.9 to 8.4 GHz frequency band. Ideal for transportable or fixed earth station applications.

### Cost Effective and Efficient

Employs a high efficiency, dual-depressed collector helix traveling wave tube, reducing operating costs.

### Reliable

Designed and built to survive in extremely adverse environmental conditions. CAN-Bus architecture improves reliability and noise immunity. Optional LifeExtender™ significantly increases TWT lifetime.

### Simple to Operate

User-friendly microprocessor-controlled logic with integrated Ethernet computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance. SNMP (v1, v2, or v3) facilitates high level M&C integration.

### Easy to Maintain

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



CPI 750 W X-band outdoor TWTA, Model T07XO

### OPTIONS:

- Remote control panel
- Serial interface
- Redundant and hybrid power combined systems
- Integrated 1:1 or 1:2 switch control and drive
- Integral linearizer
- Integral block upconverter (BUC)
- External receive band reject filter increases loss by a minimum of 115 dB from 7.25 to 7.75 GHz
- Low PIM option mitigates passive intermodulation
- Reduced radiated emissions
- TWT LifeExtender/LifePredictor substantially extends TWT life

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 T07XO 750 W X-Band TWTA
Output Frequency	7.9 to 8.4 GHz
Output Power TWT Power Saturated (P <sub>sat</sub> , CW)	750 W (58.75 dBm) min. 650 W (58.13 dBm) min.
Gain	70 dB min.
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability	±0.25 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup; ±0.75 dB typ over 10°C, constant drive
Small Signal Gain Slope	±0.02 dB/MHz max.
Small Signal Gain Variation	0.5 dB pk-pk max. across any 40 MHz; 2.5 dB pk-pk max. across the 500 MHz transmit band
Input/Output VSWR	1.3:1 max. / 1.3:1 max.
Load VSWR	2.0:1 continuous operation; 1.5:1 for full spec. compliance; any value operation without damage
Phase Noise	12 dB below IESS-308/309 phase noise profile; 10 dB below MIL-STD-188-164B mask; -42 dBc AC fundamentals; -47 dBc sum of spurs (130 Hz to 1 MHz)
AM/PM Conversion	2.5°/dB max. for a single-carrier at 7 dB OBO
Harmonic Output	-12 dBc max. at rated power; -60 dBc optional with harmonic filter option
Noise Density, max.	<-70 dBW/4 kHz passband in 7.25 to 7.75 GHz frequency band; <-70 dBW/4 kHz, transmit band
Intermodulation	-26 dBc max. with regard to the sum of two carriers at 4 dB OBO with linearizer; -24 dBc max. with regard to the sum of two carriers at 7 dB OBO without linearizer; 7 dB below rated signal carrier output, per MIL-STD-188-164-B
Spectral Regrowth	-30 dBc max at total output power 6 dB below rated (3 dB below with linearizer), QPSK modulation
Group Delay	In any 40 MHz band: 0.01 ns/MHz linear max; 0.001 ns/MHz <sup>2</sup> parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 200 - 240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	2.7 kVA max; 2.3 kVA typ. at 3 dB backoff
Power Factor	0.95 min; 0.99 typ.
Inrush Current	200% max.
Ambient Temperature	-40°C to +55°C operating in direct sunlight; -40°C to +60°C out of direct sunlight; -54°C to +71°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 ms (1/2 sine pulse); 2.1 g rms, 5 to 500 MHz non-operating
Cooling	Forced air with integral blower
Connections	RF Input: Type N Female; RF output: CPR112 grooved w/g flange with threaded 8-32 UNC 2B holes
RF Output Monitor	Type N Female
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485, RS-232 serial interface optional
Dimensions, W x H x D	12.75 x 11.50 x 22.25 inches (324 x 292 x 566 mm)
Weight	79 lbs (35.9 kg) typ.
Heat Dissipation	2000 watts max.
Acoustic noise	68 dBA nom, as measured at 3 feet



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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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