

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) - see CPI document TD-74
- External receive band reject filter (increases loss by a minimum of 115 dB from 7.25 to 7.75 GHz)
- Low PIM option: mitigate passive intermodulation
- Reduced radiated emissions: contact CPI for details

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 (Psat, 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 ² 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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