

Built for Satellite Communications Uplink Applications

Provides 750 watts of power in a rugged and compact weatherproof package, digital ready, for satellite uplinks in C-band. Ideal for 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 and Exceedingly Quiet

Modular design and built-in fault diagnostic capability via remote monitor and control. Liquid cooling means no fan noise.



CPI 750 W C-band liquid-cooled TWTA,
Model T07CO-L1

OPTIONS:

- Remote control panel
- Serial interface
- Redundant and hybrid power combined systems
- Integrated 1:1 switch control and drive
- Integral linearizer
- Integral block upconverter (BUC) - contact CPI for specifications.
- TWT LifeExtender/LifePredictor significantly extends TWT life
- Uplink Power Control

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 T07CO-L1 750 W Liquid Cooled C-Band TWTA
Output Frequency	5.85 to 6.65 GHz (Standard); optional: 5.850 to 6.725 GHz or 5.85 to 7.10 GHz
Output Power TWT Flange Power Rated Amplifier Flange Power	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, at constant drive and temperature, after 30 minute warmup; ±0.75 dB typ over 100C, constant drive
Small Signal Gain Slope	±0.02 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz; 4.0 dB pk-pk max. across the full transmit band
Input/Output VSWR	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	10 dB below IESS-308/309 phase noise profile; -42 dBc AC fundamentals; -50 dBc sum of spurs (370 Hz to 1 MHz)
AM/PM Conversion	2.50/dB max. for a single-carrier up to 51.1 dBm rated power (up to 54.1 dBm below with optional linearizer)
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise Density, max.	<-150 dBW/4 kHz, 3.4 to 4.2 GHz; <-70 dBW/4 kHz passband; <-105 dBW/4 kHz, 12 to 18 GHz
Intermodulation - with respect to each of 2 equal carriers 5 MHz apart	-24 dB max. at 51.1 dBm output power; -26 max. at 54.1 dBm with optional linearizer
Spectral Regrowth	-30 dBc at 1 symbol rate at 51.1 dBm (at 55.1 dBm with optional linearizer)
Group Delay	in any 80 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, 208 - 240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	2.5 kVA max
Power Factor	0.95 min; 0.99 typ.
Inrush Current	200% max.
Ambient Temperature	-40°C to +50°C operating in direct sunlight; -40°C to +55°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	Liquid cooled: 1 gallon (3.79 liters) per minute of water, +60°C max. at inlet
Connections	RF Input: Type N Female; RF output: CPR137 grooved w/g flange with threaded 10-32 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 10.06 x 22.25 inches (324 x 256 x 566 mm)
Weight	82 lbs (37.2 kg) typ.
Heat Dissipation	1600 watts typ.
Acoustic noise	Negligible; No cooling fan required



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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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