

200 W Outdoor TWTA

Built for Outdoor Applications

Provides 200 watts of power in a rugged and compact weatherproof package, digital ready, for wideband, single- and multi-carrier satellite service in the 13.75 to 14.50 GHz frequency band (12.75 to 14.50 GHz also available). Ideal for both transportable and fixed earth station applications.

Cost Effective and Efficient

Employs a high efficiency, dual-depressed collector helix traveling wave tube, reducing operating costs. Consumes only 650 W prime power to achieve 175 W at the flange, in a package measuring 8.5" x 8.5" x 15" (216 x 216 x 381 mm). 10% smaller and 25% lighter than any other 200 W CW TWTA.

Reliable

Designed and built to survive in extremely adverse environmental conditions and features increased cooling margin for longer life. Operates in ambient temperatures up to 60°C.

Simple to Operate

User-friendly microprocessor-controlled logic. Integrated Ethernet computer interface and forward power detection over CIF are now standard. A variety of optional configurations, including integral linearizers and BUCs, is available. **SNMP enabled.**

Easy to Maintain

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

Meets Global Requirements

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

Backed by over three decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional service centers.



Model T02U0-2G

200 watt Ku-band outdoor TWTA for **satellite uplink applications**

OPTIONS

- Integral linearizer
- Remote control panel
- Redundant sub-systems
- Attenuated solid state IPA
- Integrated 1:1 switch control and drive
- L-band block upconverter (BUC) --- specifications for when BUC is included are not contained in this document. Contact CPI for details. This option is available for the 13.75 to 14.50 GHz version only.
- Computer Interface: Ethernet interface (standard) or serial (optional)



811 Hansen Way, PO Box 51625
Palo Alto, CA 94303 USA
tel: +1 (650) 846-3803
fax: +1 (650) 424-1744
e-mail: satcommarketing@cpii.com
website: www.cpii.com/satcom

200 W Ku-Band Outdoor TWTA

Specification	Model T02U0-2G
Output Frequency	13.75 to 14.50 GHz (wideband option 12.75 to 14.50 GHz available)
Output Power (min.) TWT Flange	200 W (53.01 dBm) min. 175 W (52.43 dBm) min.
Gain	38 dB min. at rated power (68 dB with SSIPA option); 40 dB min. small signal (70 dB with SSIPA option, 71 dB min. with SSIPA and linearizer)
RF Level Adjust Range (requires SSIPA option)	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability	±0.25 dB/12 hour max, at constant drive and temperature
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz; 3.5 dB pk-pk max. across 750 MHz; 4.5 dB pk-pk max. across 1750 MHz (wideband option only)
Input VSWR	1.3:1 max.
Output VSWR	2.2:1 max. (1.3:1 max. with optional external output isolator)
Load VSWR	2.0:1 continuous operation; any value operation without damage
Phase Noise	10 dB below IESS-308 continuous mask; -36 dBc AC fundamentals; -41 dBc sum of spurs (130 Hz to 1 MHz)
AM/PM Conversion	2.0°/dB max. for a single-carrier up to 7 dB OBO (at 4 dB OBO with optional linearizer)
Harmonic Output	-60 dBc at rated power
Noise Density	<-130 dBW/4 kHz, below 12.7 GHz (below 11.7 GHz w/ 12.75 to 14.50 GHz amplifier); <-70 dBW/4 kHz passband; <-66 dBW/4 kHz passband with linearizer option
Intermodulation - with respect to the sum of both carriers	-24 dBc max. with at total output power 7 dB OBO (at 4 dB OBO with optional linearizer)
Group Delay	0.02 ns/MHz linear max; 0.003 ns/MHz ² parabolic max; 0.75 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 100-240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	700 W max; 600 W typ. at 100 W output power
Power Factor	0.95 min
Inrush Current	200% max.
Ambient Temperature	-40°C to +60°C operating, including solar loading; -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 pk, 11 mS (1/2 sine pulse in non-operating condition); 3 G rms, 50 to 500 MHz
Cooling	Forced air with integral blower
Connections	RF Input: Type N Female; RF output: WR-75G grooved waveguide flange; RF output monitor: Type N Female, 44 dB nom.
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485 serial interface optional
Dimensions, W x H x D	8.5 x 8.5 x 15.0 inches (216 x 216 x 381 mm)
Weight	24.25 lbs (11 kg) with no options; 25.41 lbs (11.5 kg) with BUC option
Acoustic noise	65 dBA (as measured at 3 ft.) nom.