CPI 750 W TouchPower™ TWTA

Ku-Band

For Satellite Communications Uplink Applications

Provides 750 watts of power in a 5 rack unit package, digital ready, for wideband, satellite service within the Ku-band frequency range.

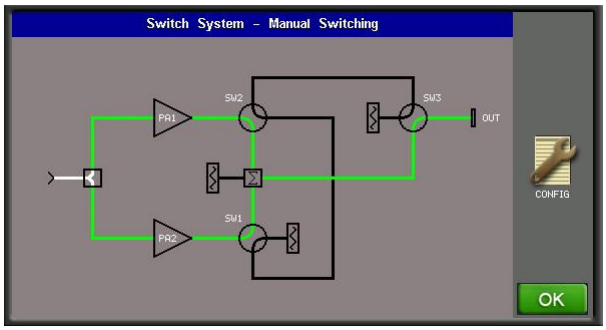
CPI 750 W Ku-band TWTA, Model T5UI

Touchscreen Graphical Interface

State of the art touchscreen interface with both amplifier and/or system level control capabilities. Includes fault logs, parameter trending and scopescreen for monitoring performance. Internal switch control eliminates need for external controllers.

Easy to Maintain

Modular design and built-in fault diagnostic capability with convenient and clearly visible indicators for easy maintainability in the field. A USB port is available for uploading new firmware and system configurations, and downloading logs and system configurations for cloning to other units.



Touchscreen TWTA Sample Redundancy System Schematic Display; Various Configurations Available

OPTIONS:

- Remote control panel
- Redundant and hybrid power combined sub-systems
- Integral block upconverter (BUC): Contact CPI for specifications.
- LifeExtender™/LifePredictor technology to extend TWT lifespan
- Uplink Power Control
- External Receive Band Reject Filter (increases loss by 75 dB min. up to 12.75 GHz)

FEATURES:

- Touchscreen user interface
- Ethernet interface
- SNMP interface (v1, v2, or v3)
- Serial interface (compatible with CHPA)
- CAN-Bus architecture improves reliability and noise immunity

Quality Management System - ISO 9001:2015

CE

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 global customer support network, including regional factory service centers located worldwide.

CPI Communications & Power Industries

www.cpii.com/satcom

Specification	CPI Model T5UI, 750 W Ku-Band TouchPower TWTA
Output Frequency	12.75 to 14.80 or 13.75 to 14.50 GHz
Output Power (min.) TWT Flange (P_{sat}, CW)	 750 W (58.75 dBm) min. 650 W (58.13 dBm) min.
Gain	70 dB min. at rated power, 80 dB max; 75 dB min. at small signal, 85 dB max.
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator), 0.1 dB steps
Gain Stability Over temp, constant drive Over ±10˚C , constant drive	±0.25 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup 2.0 dB pk-pk max. at 48.13 dBm output power, -10˚C to +55˚C 1.5 dB pk-pk max. at 48.13 dBm output power
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz; 3.0 dB pk-pk max. across 750 or 1050 MHz; 5.0 dB pk-pk max. across 1750 MHz
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	-12 dB IESS-308/309 phase noise profile; -50 dBc AC fundamental (50/60 Hz); -50 dBc sum of spurs (370 Hz to 1 MHz)
AM/PM Conversion	2.0°/dB typ. at 3 dB OBO for a single carrier
Harmonic Output	-70 dBc at rated power, second and third harmonics
Noise Density	<-150 dBW/4 kHz, 10.70 to 12.75 GHz; <-65 dBW/4 kHz passband
NPR	-19 dB at 4 dB OBO
Intermodulation - with respect to each or two equal carriers 5 MHz apart	-26 dBc or better at 55.13 dBm
Spectral Regrowth	-30 dBc at 1 symbol rate at 3 dB OBO, QPSK and OQPSK
Group Delay (over any 80 MHz)	0.01 ns/MHz linear max; 0.005 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, 15 A max.
Power Consumption	2.2 kVA typ. at P_{sat}; 2.4 kVA max; 1.8 kVA typ. at P_{LIN}
Power Factor	0.95 min; 0.99 typ.
Inrush Current	200% max.
Ambient Temperature	-10°C to +55°C operating, -54°C to +71°C non-operating
Relative Humidity	95% non-condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft. operating; 50,000 ft. non-operating
Shock and Vibration	Designed for normal transportation environment per section 514.4 MIL-STD-810G. Designed to withstand 20G at 11 ms (1/2 sine pulse in non-operating condition)
Cooling	Forced Air with integral blower. Rear air intake and exhaust. Maximum external pressure loss allowable: 0.5" water column
Connections	RF Input: Type N Female; RF output: WR75 grooved waveguide flange; RF output monitor: Type N Female
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485, RS232 serial interface
USB Port	Download/Upload software, logs
Dimensions, W x H x D	19 x 8.75 x 24 inches (483 x 222 x 610 mm)
Weight	85 lbs (38.6 kg) nom.
Heat Dissipation	1,440 watts to duct; 360 watts to room
Acoustic Noise	68 dBA (as measured at 3 ft.) nom.

Communications & Power Industries

Power Electronics:
Amplifier Products
tel: +1 (905) 877 0161
email: satcommarketing@cpii.com
web: www.cpii.com/satcom

MKT-362 Revision 18 dated MAR 2025