

750 W Touchscreen TWTA

Compact, Efficient, Reliable

Provides 750 watts of power in a 5 rack unit package, digital ready, for wideband, single- and multi-carrier satellite service within the 17.3 to 18.4 GHz frequency range. Ideal for transportable and fixed earth station applications where space and prime power are at a premium. CAN-Bus architecture improves noise immunity and reliability.

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.

Global Applications

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

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.

Worldwide Support

Backed by over 35 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

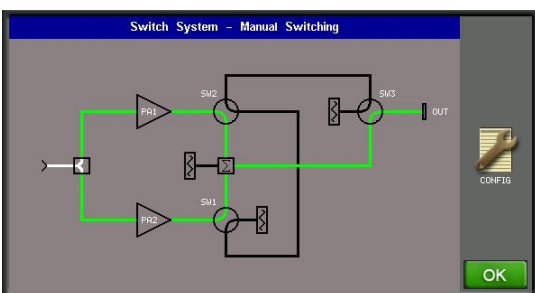


Models T5DI

750 watt DBS-band Touchscreen TWTA for **satellite uplink applications**

OPTIONS

- Integral linearizer
- Remote control panel
- Redundant and power combined sub-systems
- External receive band reject filter (increases loss by a minimum of 75 dB up to 12.75 GHz)
- SNMP compatibility
- LifeExtender™/LifePredictor
- High altitude/temperature kit
- L-band block upconverter (BUC) --- specifications for when BUC is included are not contained in this document. Contact CPI for details.
- 17.3 - 17.8 GHz and 17.3 - 18.1 GHz operation



Touchscreen TWTA Sample Redundancy System Schematic Display; Various Configurations Available



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750 W DBS-Band TouchPower™ Touchscreen TWTA

Specification	Model T5DI std. band	Model T5DI ext. band
Output Frequency	17.3 to 18.1 GHz	17.3 to 18.4 GHz
Output Power (min.) TWT Saturated (P_{sat} , CW)	750 W (58.75 dBm) min. 630 W (58.00 dBm) min.	750 W (58.75 dBm) min. 630 W (58.00 dBm) min.
Gain	70 dB min. at rated power, 80 dB max; 70 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 $\pm 10^{\circ}\text{C}$, constant drive	± 0.25 dB/24 hour max, max. at constant drive and temperature, after 30 minute warmup 2.0 dB pk-pk max. over operating temperature range, at 48 dBm output power 1.5 dB pk-pk max, at 48 dBm output power	
Small Signal Gain Slope	± 0.04 dB/MHz max. at 48 dBm output power	
Small Signal Gain Variation	1.0 dB pk-pk max. over any 80 MHz; 3.5 dB pk-pk max. over 800 MHz (4.0 dB pk-pk max. over 800 MHz with linearizer)	1.0 dB pk-pk max. over any 80 MHz; 4.0 dB pk-pk max. over 1100 MHz (4.5 dB pk-pk max. over 1100 MHz with linearizer)
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; -42 dBc AC fundamentals; -50 dBc sum of spurs (370 Hz to 1 MHz)	
AM/PM Conversion	2.5°/dB max. for a single-carrier at 6 dB below rated power. Improves to 2.0°/dB typ. at 3 dB OBO with optional linearizer	
Harmonic Output	-70 dBc at rated power, second and third harmonics	
Noise Density	<-150 dBW/4 kHz, 10.70 to 12.75 GHz; <-75 dBW/4 kHz passband; <72 dBW/4 kHz passband with linearizer option	
NPR	-19 dBc at 4 dB OBO with optional linearizer	
Intermodulation - with respect to each of two equal carriers 5 MHz apart	-24 dBc or better at 51.0 dBm output power; -26 dBc or better at 54.0 dBm with linearizer	
Spectral Regrowth	-30 dBc at 1 symbol rate at 3 dB OBO with optional linearizer, QPSK and OQPSK	
Group Delay	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, 208-240 VAC $\pm 10\%$; Frequency: 47-63 Hz, 15 A max.	
Power Consumption	2.2 kVA typ. at P_{sat} ; 2.3 kVA max; 1.8 kVA typ. at P_{LIN}	
Power Factor	0.95 min; 0.99 typ.	
Inrush Current	200% max.	
Ambient Temperature	-20°C to +60°C operating, -40°C to +70°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 SMA Female; RF output: WR-62G waveguide flange; RF output monitor: Type SMA 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	78 lbs (35 kg) nom.	
Heat Dissipation	1,440 watts to duct; 360 watts to room	
Acoustic noise	68 dBA (as measured at 3 ft.) nom.	