

750 W Outdoor TWT Amplifier

for Satellite Communications

Ku-Band

The T07UO

750 watt TWT Medium Power Amplifier — high efficiency in an environmentally sealed compact package designed for outdoor operation



Plays in the Rain

Provides 750 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. Ideal for transportable and 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 and features increased cooling margin for longer life. CAN-Bus architecture improves reliability and noise immunity.

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 enabled.**

Easy to Maintain

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

Global Applications

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 twenty regional factory service centers.



satcom  products

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OPTIONS:

- *Integral Linearizer*
- *Remote Control Panel*
- *Redundant and Hybrid Power Combined Systems*
- *Integral L-Band Block Upconverter (BUC - refer to TD-192 for specifications)*
- *Integrated switch control and drive (1:1 or 1:2)*
- *Computer Interface: Ethernet Interface (standard) or RS422/485 (optional)*

SPECIFICATIONS, T07UO

Electrical

Output Frequency	13.75 to 14.50 GHz (12.75 to 14.50 GHz optional)
Output Power	
TWT	750 W min. (58.75 dBm)
Flange	650 W min. (58.13 dBm)
Bandwidth	750 or 1750 MHz
Gain	70 dB min. at rated power 70 dB min. at small signal
RF Level Adjust Range	0 to 30 dB typ.
Gain Stability	
At constant drive & temp.	±0.25 dB/24hr max. (after 30 min. warmup)
Over temp., constant drive	±0.75 dB over ±10°C
Small Signal Gain Slope	±0.02 dB/MHz max.
Small Signal Gain Variation	
Across any 80 MHz band	1.0 dB pk-pk max.
Across 750 MHz	3.5 dB pk-pk max. (4.5 dB w/ linearizer)
Across 1750 MHz	4.5 dB pk-pk max. (5.5 dB w/ linearizer)
Input VSWR	1.3:1 max.
Output VSWR	1.3:1 max.
Load VSWR	
Continuous operation	2.0:1
Full spec compliance	1.5:1
Operation without damage	Any value
Phase Noise	
IESS Phase Noise Profile	10 dB below mask
AC fundamentals	-42 dBc
Sum of spurs (370 Hz to 1 MHz)	-50 dBc
AM/PM Conversion	2.5°/dB max. for a single-carrier at 8 dB below rated power (at 4 dB below rated power with optional linearizer)
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise Density	<-150 dBW/4 kHz, 10 to 12.7 GHz (10 to 11.7 GHz w/ 12.75 to 14.50 GHz amplifier); <-65 dBW/4 kHz, passband (-60 dBW/4 kHz w/ linearizer) <-105 dBW/4 kHz, 18.9 to 26.0 GHz
Intermodulation	-25 dBc max. with two equal carriers at total output power of 50.5 dBm (at 54.63 dBm with optional integral linearizer)

Electrical (continued)

Group Delay	0.01 ns/MHz linear max. (in any 80 MHz band) 0.001 ns/MHz sq. parabolic max. 0.5 ns pk-pk ripple max.
Primary Power	
Voltage	Single phase, 208-240 VAC ±10%
Frequency	47-63 Hz
Power Consumption	2.7 kVA max. 2.3 kVA typ. at 3 dB backoff
Power Factor	0.95 min.
Inrush Current	200% max.

Environmental (Operating)

Ambient Temperature	-40°C to +60°C operating; -40°C to +75°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 msec, 1/2 sine; 2.1 G rms, 5 to 500 Hz.
Acoustic Noise	68 dBA (as measured at spatial average 3 ft.)
Heat Dissipation	2000 W max.

Mechanical

Cooling (TWT)	Forced air with integral blower
RF Input Connection	Type N Female
RF Output Connection	WR-75 waveguide flange, grooved, threaded UNC 2B 6-32
RF Output Monitor	Type N female
Dimensions (W x H x D)	12.75 x 11.5 x 22.25 in. (324 x 292 x 566 mm)
Weight	79 lbs (35.9 kg) typ.



For more detailed information, please refer to the corresponding CPI Technical Description.

Note: Specifications may change without notice as a result of additional data or product refinement.

Please contact CPI before using this information for system design.

MKT 285, ISSUE L MAY 14 PDF

