# **750W Outdoor TWT Amplifier**

for Satellite Communications

#### The T07CO

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 5.85 to 6.65 GHz frequency band (to 6.725 or 7.1 GHz optional). Ideal for transportable and fixed earth station applications.

#### **Cost Effective and Efficient**

Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a high efficiency, dual-depressed collector helix traveling wave tube, thereby reducing operating costs.

# **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.

## Rugged and Easy to Maintain

Built-in fault diagnostic capability via remote monitor and control. Easy access enclosure for improved serviceability. CANBUS architecture improves reliability and improves noise immunity.

#### **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 sixteen regional factory service centers.



811 Hansen Way P.O. Box 51625, Palo Alto, CA 94303

**tel:** +1 (650) 846-3803 **fax:** +1 (650) 424-1744

**e-mail:** satcommarketing@cpii.com www.cpii.com/satcom

OPTIONS:

• Integral Linearizer

· Remote Control Panel

· Redundant and Hybrid

• Integral L-Band Block

*Upconverter (BUC)* 

• Integrated switch control

and drive (1:1 or 1:2)

(standard) or RS422/485

• Extended frequency band,

6.725 GHz or 7.1 GHz

• Computer Interface:

Ethernet Interface

5.85 GHz to either

(optional)

Power Combined Systems

# SPECIFICATIONS, T07CO Electrical

# Frequency

Output Power

TWT 750 W min. (58.75 dBm) Flange 650 W min. (58.10 dBm)

Bandwidth 800 MHz

Gain 70 dB min. at rated power

70 dB min. at small signal

5.85 to 6.65 GHz

RF Level Adjust Range 0 to 30 dB typ.

Gain Stability

At constant drive & temp.  $\pm 0.25 \text{ dB/24hr max.}$  (after 30 min. warmup) Over temp., constant drive  $\pm 0.75 \text{ dB over } \pm 10^{\circ}\text{C}$ 

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 the 800 MHz band 4.0 dB pk-pk max.

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 12 dB below mask
AC fundamentals -42 dBc (IESS-308 by 12 dB)

Sum of spurs (370 Hz to 1 MHz) -50 dBc

AM/PM Conversion 2.5°/dB max. up to 51.4 dBm rated

output power (up to 54.4 dBm below

with linearizer)

Harmonic Output -60 dBc at rated power,

second and third harmonics

Noise Density <-150 dBW/4 kHz, 3.4 to 4.2 GHz

<-65 dBW/4 kHz, passband

(<-60 dBW/4 kHz w/ optional linearizer) <-110 dBW/4 kHz, 12.0 to 18.0 GHz

<-110 ubw/4 knz, 12.0 to 16.0 unz

Intermodulation -24 dBc max. with two equal carriers at total output power 7 dB (3 dB with

optional integral linearizer) below rated

single-carrier output

#### 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** 

Inrush Current

Voltage Single phase, 208-240 VAC ±10%

Frequency 47-63 Hz

Power Consumption 2.7 kVA max. 2.0 kVA typ. at 3 dB backoff

Power Factor 0.95 min.

**Environmental (Operating)** 

Ambient Temperature -40°C to +55°C operating

in direct sunlight (to 60°C

optional);

200% max.

-40°C to +60°C operating out of direct sunlight; -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 typ. (as measured at 3 ft.)

Heat Dissipation 2000 W max.

Mechanical

Cooling (TWT) Forced air with integral blower

RF Input Connection Type N Female

RF Output Connection CPR-137 waveguide flange,

grooved, threaded UNC 2B 10-32

RF Output Monitor Type N female

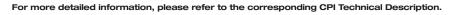
Dimensions (W x H x D) 12.75 x 11.5 x 22.25 in.

(324 x 292 x 566 mm)

Weight 79 lbs (36 kg) max.







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.





Communications & Power Industries