Plays in the Rain
Provides up to 325 watts of linear power in a rugged and compact weatherproof package, digital ready, for satellite uplinks in the 13.75 - 14.50 GHz frequency band.

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, reducing operating costs.

Reliable
Designed and built to survive in extremely adverse environmental conditions and features increased cooling margin for longer life. Operating temperature of up to 60°C in direct sunlight.

Simple to Operate
User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface. Digital metering and pin diode attenuation for improved intermodulation performance. An Ethernet option with simple web browser interface is also available.

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

Global Applications

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.
SPECIFICATIONS, TL07UO

Electronic

Frequency
13.75 - 14.50 GHz
(12.75 - 14.50 GHz optional)

Output Power
TWT 750 W min. (58.8 dBm)
Flange Peak Power* 650 W min. (58.1 dBm)
Maximum at Flange 350 W max. (55.44 dBm)
Minimum at Flange 325 W min. (55.12 dBm)

*note: this amplifier does not provide 650 W of power at the flange. The 650 W figure is provided so that desired backoff from peak power may be more easily calculated. See minimum output power at flange above for CW power at flange.

Bandwidth
750 MHz (1750 MHz optional)

Gain
70 dB min.

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 ±1.0 dB over oper. temp. range (typical)

Small Signal Gain Slope
±0.02 dB/MHz max.

Small Signal Gain Variation
Across any 80 MHz band 1.0 dB pk-pk max. (1.5 dB pk-pk max. with BUC option)
Across the 750 MHz band 3.5 dB pk-pk max. (4.5 dB pk-pk max. with optional linearizer)
Across the 1750 MHz band 4.5 dB pk-pk max. (5.5 dB pk-pk max. with optional linearizer)

Input VSWR
1.5:1 max.

Output VSWR
1.5:1 max.

Load VSWR
Continuous operation 2.0:1
Full spec compliance 1.2:1
Operation without damage Any value

Phase Noise
10 dB below IESS 308/309 mask

AM/PM Conversion
2.0°/dB max. for a single-carrier at 8 dB below rated flange peak power (at 3 dB below with optional linearizer)

Harmonic Output
-60 dBc at rated power, second and third harmonics

Noise Density
< -130 dBW/4 kHz, 10.70 to 12.75 GHz
< -65 dBW/4 kHz, 13.75 to 15.40 GHz

Electrical (continued)

Intermodulation
-24 dBc or better with two equal carriers at total output power level of 51 dBm (at 55 dBm output power with optional linearizer)

Group Delay
0.01 ns/MHz linear max;
(0.001 ns/MHz parabolic max;
0.5 ns pk-pk ripple max.
(1.5 ns pk-pk ripple max. with BUC option)

Primary Power
Voltage 200 to 240 VAC ±10% single phase
Frequency 47-63 Hz

Power Consumption
1.5 kW typ.
1.8 kW max.

Power Factor
0.95 min.

Inrush Current
200% max.

Environmental (Operating)

Ambient Temperature
-40°C to +60°C including solar loading;
-40°C to +70°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 3 ft.)

Heat Dissipation
950 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
75 lbs (34.1 kg) typ.

OPTIONS:

• 1 RU Remote Control Panel
• Ethernet Interface
• Redundant and Hybrid Power Combined Systems
• Integrated 1:1 Switch Control and Drive
• Integral L-Band Block Up Converter (BUC)
• Integral Linearizer
• External Receive Band Reject Filter (Increases loss by a minimum of 60 dB up to 12.7 GHz)

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.

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