Ka-Band

250 W Outdoor TWT Power Amplifier

Plays in the Rain
Rugged, compact and lightweight amplifier designed for outdoor use.

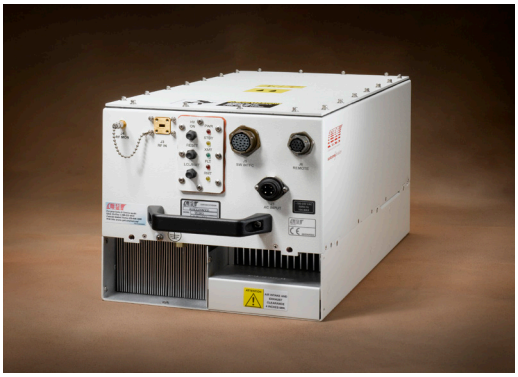
Efficient and Cost Effective
Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a high efficiency helix traveling wave tube, reducing operating costs.

Simple to Operate
User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface. Digital metering is standard.

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 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support
Backed by over two decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes over twenty regional factory service center.



Model T02KO
250 W Outdoor TWT Power Amplifier for **satellite communications**

OPTIONS
- 1 RU Remote Control Panel
- Internal Switch Control and Drive
- Redundant or Power Combined Subsystems
- Linearizer
- Integral Block Upconverter (see MKT-218 for specifications)
- Ethernet Interface
- Low Noise (Reduces Gain by 10 dB: Reduces NPD to -87 dBW/4 kHz
- Remove SSIPA (Lowers Gain by 25 dB)

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250 W Outdoor TWT Power Amplifier

Specification	Model T02KO
Output Frequency	User specified frequency range within the 27.5 to 31.0 GHz band, as limited by bandwidth capability of amplifier[1]
Output Power (min.) Average Power (TWT) CW Power Flange	250 W (53.98 dBm) peak 120 W (50.8 dBm) or 175 W (52.4 dBm) 100 W W (50.0 dBm) or 145 W (51.6 dBm)
Bandwidth	1000 - 2500 MHz, depending on desired frequency range[1]
Gain	70 dB min. at rated power, 75 dB min. at small signal (see options for removal of SSIPA or for low noise option); 70 dB with linearizer option
RF Level Adjust Range	0 to 25 dB typ.
Attenuator Step Size	0.1 dB
Small Signal Gain Slope	±0.025 dB/MHz max.
Small Signal Gain Variation	5.0 dB pk-pk max. across any 40 MHz segment; 2.5 dB pk-pk max, over any 1000 MHz
Gain Stability	±0.25 dB/24 hour max. at constant drive and temp. (after 30 minute warm-up) ±1.0 dB over temperature range
Input/Output VSWR	1.3:1 max., 1.3:1 typ.
Load VSWR	1.5:1 max full compliance; 2.0:1 max continuous; any value operation without damage
Phase Noise	12 dB below IESS 308 continuous mask
AM/PM Conversion	2.5˚/dB max. for a single carrier up to 6 dB OBO(1.0˚/dB max. up to3 dB OBO with optional linearizer
Noise Density	<-150 dBW/4 kHz, below 21.2 GHz <-70 dBW/4 kHz, transmit band (see options for low noise, and note 2 for other options)
Intermodulation	-23 dBc or better with 2 equal carriers at total power level 50 W CW (100 W with linearizer)
Group Delay Linear Parabolic Ripple	In any 40 MHz band 0.01 nsec/MHz max. 0.001 nsec/MHz sq. max. 0.5 nsec pk-pk max.
Primary Power	100-240 VAC ±10%, single phase, 47-63 Hz
Power Consumption	800 VA max., 650 VA typ.
Power Factor	0.95 min.
Ambient Temperature	-40˚C to +60˚C, with extra margin for solar loading
Relative Humidity	100% condensing
Altitude	10,000 ft. with standard adiabatic derating of 2˚C/1000 ft. operating
Shock and Vibration	20 g pk at 11 msec (1/2 sine); 2.1 g_{rms}, 5 to 500 MHz
Cooling	Forced air with integral blower
RF Input Connection	WR-28F
RF Output Connection	WR-34G (WR-28G optional)
RF Output Monitor	2.9 mm SMA female
Dimensions (W x H x D)	10.25 x 9.5 x 20.0 in. max. (261 x 242 x 508 mm)
Weight	52 lbs (23.6 kg) typ.
Heat Dissipation	500 W max.
Acoustic Noise	65 dBA (as measured at 3 ft.) nom.

Note 1: Please consult a CPI representative to confirm that desired bandwidth is available over desired frequency range.
Note 2: Add 5 dBW kHz for inclusion of BUC or linearizer. Add 5 dBW/4 kHz total for inclusion of both BUC and linearizer.
Mounting hardware is provided with each amplifier.

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