

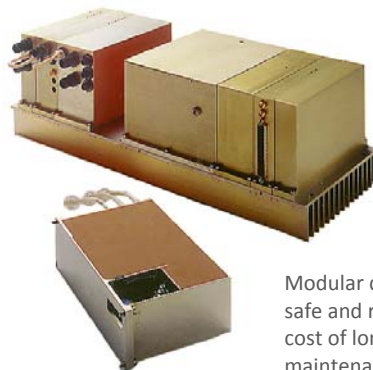


Built To Last

ETM's dual Ku-band and K-band (DBS) outdoor unit (ODU) satellite uplink amplifiers, housed in compact ruggedized enclosures, have been designed specifically for the demands of outdoor ground station and antenna mount mobile applications. These amplifiers combine the latest technology, over three decades of ETM's TWT experience, and design features based on in-the-field operation.

Simple, Low-Cost Maintenance

ETM's modular power supply design simplifies maintenance and reduces downtime. Easy-to-access modules considerably improve MTTR and amplifier availability. Each high voltage module is completely encapsulated, safe, and isolated from other electronics.



Modular design is safe and reduces cost of long-term maintenance.

Ease of Operation

ETM's remote control software, included free-of-charge, provides a graphical interface for operating over the RS-485 port. The GUI display mimics the easy-to-use front panel of ETM's rack-mount products. Optional half-rack, 3U remote control units are also available.

In-The-Field Reliability

During ETM's rigorous testing program, every amplifier is subjected to an environmental burn-in that includes temperature cycling, multiple cold starts, and shock and vibration testing as required.

Long Term Value

ETM stands behind our amplifiers with a full two-year warranty. After the warranty period, ETM's easy-to-service and low cost modular power supply design reduces service time and helps keep your maintenance costs low.

Service, Service, Service

Every ETM product is backed by worldwide service provided 24 hours a day, 7 days a week. (800) 883-4ETM or outside North America: (510) 797-1100.

ELECTRICAL

| | |
|-----------------------------------|--|
| Frequency: | 13.75 – 14.50 GHz, Ku-Band 17.3 – 18.3 GHz, K-Band (DBS) |
| Output Power at Flange: | 325 watts typical, Ku-Band 275 watts typical, K-Band |
| Amplifier Gain: | 60 dB min. at rated power, Ku-Band 50 dB min. at rated power, K-Band |
| Small Signal Gain Variation: | 2 dB max., Ku-Band 9 dB max., K-Band |
| Small Signal Gain Slope: | ±0.03 dB / MHz max. over any 40 MHz |
| Gain Stability: | ± 0.25 dB / 24-hours (after 30 min warm-up, constant drive and temp) |
| Gain Adjust Range: | 0-35 dB (continuously adjustable) |
| Intermodulation: | -24 dBc max. at 7 dB backoff, Ku-Band -24 dBc max. at 11 dB backoff, K-Band (from total o/p power w/ 2 equal carriers) |
| AM to PM Conversion: | 8° / dB at rated power |
| Harmonic Output: | -60 dBc max. (with optional ETM absorptive harmonic filters) |
| Residual AM: | |
| Below 4 kHz: | -50 dBc |
| 4 to 500 kHz: | -20 [1.15+LogF in kHz] dBc max. |
| Above 500 kHz: | -85 dBc |
| Phase Noise: | Meets Limits Part 1 & 2 of IESS-308 |
| Noise and Spurious: | -65 dBW / 4 kHz max. |
| Phase Linearity: | ±0.1 radians over any 500 MHz ±0.05 radians over any 40 MHz |
| Group Delay (in any 40 MHz band): | |
| Linear: | 0.05 ns / MHz |
| Parabolic: | 0.01 ns / MHz (squared) |
| Ripple: | 0.50 ns / MHz (pk-pk) |
| VSWR: | |
| Input: | 1.30:1 |
| Output: | 2.00:1 |
| Load: | 1.50:1 (spec. compliance) 2.00:1 (continuous operation) |
| Primary Power: | |
| Voltage: | 99-255 VAC, single-phase |
| Frequency: | 50/60 Hz |
| Consumption: | 1.8 kVA |

MECHANICAL

| | |
|----------------|-------------------------------------|
| Dimensions: | 10.25" W x 12.75" H x 23" L |
| Weight: | 65 Pounds |
| RF Connectors: | |
| Input: | Type-N (f), front panel |
| Output: | WR-62, front panel |
| Sample Port: | Type-N (f), front panel |
| Cooling: | Built-in forced air w/ integral fan |

ENVIRONMENTAL

| | |
|----------------------|---|
| Altitude: | Up to 10,000 ft (derate 2°C / 1,000 ft above 3,000 ft) |
| Temperature: | |
| Operating: | -40° to 60°C |
| Storage: | -50° to 70°C |
| Humidity: | Up to 100% condensing |
| Shock and Vibration: | MIL-STD-810F per 514.5C-3 |

This HPA is designed for outdoor applications and will withstand rain, snow, blowing sand and dust.

MONITOR & CONTROL

| | |
|-----------------------|--|
| Interface: | RS-422/485 |
| Monitored Parameters: | Fwd Power (dBm, Watts) Rev Power (dBm, Watts, % fwd power) Cathode Voltage Helix Current Filament Voltage and Current Collector Voltage TWT Baseplate and Cabinet Temp |

Note: Specifications subject to change without notice.

