

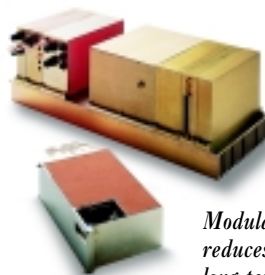


Models 125Ku, 400Ku & 500Ku Ku-Band TWT Amplifiers



ETM's Ku-band satellite uplink amplifiers packaged in ruggedized three rack-unit enclosures have been designed specifically for the demands of fly-away, truck and other mobile applications. Easy to read displays allow the micro-processor control to clearly communicate detailed status and monitoring information. These ETM amplifiers combine the latest technology, ETM's 28 years of TWT experience, and design features based on in-the-field operation.

▪ **Universal Power Input** is achieved through the use of a wide input (99 to 255 vac, 50/60 Hz) power factor correction circuit. This circuit also reduces the power consumption and has enabled ETM to certify the units to the European standards for earth stations described in ETS 300-327.



Modular design reduces cost of long-term maintenance.

▪ **Ease of Operation**

is provided by a 20-character by 4-line fluorescent display and straight-forward four button control. Complete monitoring is provided including forward and reverse power, TWT voltages and currents, and operating temperatures.

▪ **In-The-Field Reliability**

is ensured by ETM's rigorous testing program. Every ETM amplifier is subject to an environmental burn-in that includes temperature cycling, multiple cold starts from -20°C, and, as required, shock and vibration testing.

▪ **Long Term Value**

ETM backs these amplifiers with a full 2 year/9000 hour warranty designed specifically to benefit the satellite newsgathering professional. After the warranty period, ETM's easy to service modular power supply design and module trade-in program 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.

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Specifications

All Models

Frequency Range	13.75 – 14.50 GHz (standard) Extended range available to 12.75 GHz
Amplifier Gain	60 dB min.
Gain Variation	4 dB max. 2 dB max. – optional
Gain Slope	.03 dB/MHz max.
Gain Stability	.25 dB/24-hours – any frequency with constant drive
Gain Adjustment	0 – 35 dB – continuously adjustable
AM-to-PM Conversion	6°/dB at rated power
Harmonic Output	-60 dBc
Residual AM	-50 dBc to 4 kHz max. 4 kHz to 500 kHz -20(1.15 + logF) (F in kHz) max. -85 dBc above 500 kHz
Phase Noise	meets limits 1 & 2 of IESS-308
Noise and Spurious Outputs	-65 dBW/4 kHz max.
Group Delay (in any 40-Mhz band)	Linear: .05 nSec/MHz Parabolic: .01 nSec/MHz (squared) Ripple: .50 nSec/MHz (peak-to-peak)
Input VSWR	1.30:1 max.
Output VSWR	2.00:1 max.
Load VSWR	1.50:1 max. – for spec. compliance 2.00:1 max. – continuous operation

RF Connectors	Input: N-type; rear panel (SMA optional) Output: WR-75; rear panel Sample Port: N-type; rear panel (SMA optional)
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Metering	Vacuum Fluorescent Display, 4-line, 20-character
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Monitored Parameters	Forward Power (dBm, watts, graph), Reverse Power (dBm, watts, graph, % fwd pwr), Cathode Voltage, Helix Current, Filament Voltage, Filament Current, Collector Voltage, Grid Voltage (500Ku only), Cabinet Temperature (°C or °F), TWT Baseplate Temperature (°C or °F)
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User-Settable Warnings	Over Forward Power, Under Forward Power, Over Reverse Power, Over Helix Current, Over Cabinet Temperature, Over Baseplate Temperature
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Altitude	Up to 10,000 ft. (derate 2°C/1,000 ft. above 3,000 ft.)
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Temperature	Operating Temperature: 0° to 50°C Storage Temperature: -40° to 70°C
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Shock and Vibration	Equal to Mobile Van or Antenna Pedestal
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Cooling	Built-in forced air, rear intake and rear exhaust
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Interface	RS-422/RS-485
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Certification	Meets requirements of ETS 300-327
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125Ku

Output Power at the Amplifier Flange	120 watts, typical 100 watts, minimum
Extended Range Output Power	Please contact ETM
Intermodulation Products	-24 dBc at 7 dB backoff
Spectral Regrowth (Single QPSK Digital Signal)	meets -26 dBc at 45 watts output 48 watts (typical)
A-C Power	99 – 255 vac, single-phase, 50/60 Hz, 550 VA
Mechanical	19" wide x 5.25" high x 24" deep, 53 lbs

400Ku

Output Power at the Amplifier Flange	375 watts, typical 350 watts, minimum
Extended Range Output Power	Please contact ETM
Intermodulation Products	-24 dBc at 7 dB backoff
Spectral Regrowth (Single QPSK Digital Signal)	meets -26 dBc at 130 watts output 135 watts (typical)
A-C Power	99 – 255 vac, single-phase, 50/60 Hz, 1400 VA
Mechanical	19" wide x 5.25" high x 24" deep, 67 lbs

500Ku

Output Power at the Amplifier Flange	485 watts, typical 450 watts, minimum
Extended Range Output Power	Please contact ETM
Intermodulation Products	-24 dBc at 7 dB backoff
Spectral Regrowth (Single QPSK Digital Signal)	meets -26 dBc at 165 watts output 180 watts (typical)
A-C Power	99 – 255 vac, single-phase, 50/60 Hz, 1800 VA
Mechanical	19" wide x 5.25" high x 24" deep, 67 lbs



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