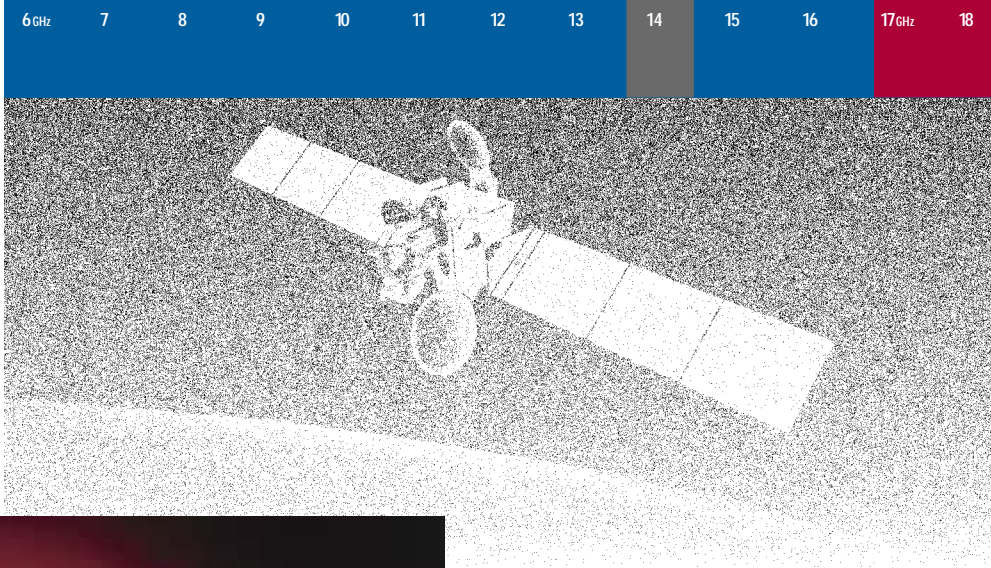


Model 400 Ku/K Dual-Band TWT Amplifier



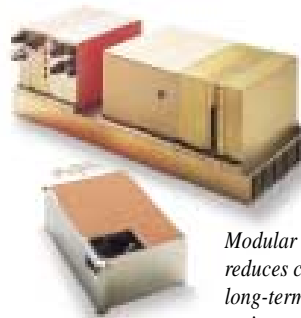
Ku-band and K-band power from a single amplifier provides worldwide satellite uplinking flexibility. The efficient power supply, wide-band TWT and easy to use controls — housed in a compact, ruggedized rack-mounted enclosure — make this system ideally suited for fly-away and other mobile applications.

■ Digital Performance

This amplifier is ideal when transmitting a single, QPSK digital signal with spectral sidelobes measured at least 26 dBc below the carrier. ETM's 400Ku/K is not advised for use where multiple signals are being transmitted or when saturated power is specified.

■ 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 of the Dual-Band to 1800 volt-amperes and has enabled ETM to certify the unit 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 this amplifier 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.

Model 400 Ku/K

Dual-Band TWT Amplifier

Specifications

Frequency Range	13.75 – 14.50 GHz, Ku-Band 17.3 – 18.3 GHz, K-Band (DBS) 18.3 – 18.5 GHz – Optional	Load VSWR	1.50:1 max. – for spec. compliance 2.00:1 max. – continuous operation
Spectral Regrowth	Ku-Band: -26 dBc at 50.8 dBm (120w) K-Band: -26 dBc at 47.9 dBm (62w)	RF Connectors	Input: N-type; rear panel (SMA optional) Output: WR-62; rear panel Sample Port: N-type; rear panel (SMA optional)
Rated Power at the Amplifier Flange (Reference only)	325 watts – typical, 13.75 – 14.5 GHz 275 watts – typical, 17.3 – 18.3 GHz	Metering	Vacuum Fluorescent Display, 4-line, 20-character
Intermodulation (Reference only)	Ku-Band: -24 dBc at 7 dB backoff K-Band: -24 dBc at 11 dB backoff	Monitored Parameters	Forward Power (dBm, watts, graph), Reverse Power (dBm, watts, graph), Cathode Voltage, Helix Current, Filament Voltage, Filament Current, Collector Voltage, Grid Voltage, Cabinet Temperature (°C or °F), TWT Baseplate Temperature (°C or °F)
Amplifier Gain	60 dB min., Ku-Band 50 dB min., K-Band	User-Settable Warnings	Over Forward Power, Under Forward Power, Over Reverse Power, Over Helix Current, Over Cabinet Temperature, Over Baseplate Temperature
Gain Variation	2 dB max. in Ku-Band 9 dB max. in K-Band	Altitude	Up to 10,000 ft (derate 2°C/1,000 ft. above 3,000 ft.)
Gain Slope	.03 dB max. – over any 40 MHz	Temperature	Operating Temperature: 0° to 50°C Storage Temperature: -40° to 70°C
Gain Stability	.25 dB/24-hours – any frequency with constant drive	Shock and Vibration	Equal to Mobile Van or Antenna Pedestal
Gain Adjustment	0 – 35 dB – continuously adjustable	Cooling	Built-in forced air, rear intake and rear exhaust
AM-to-PM Conversion	6 – 8°/dB at rated power	A-C Power	99 – 255 vac, single-phase, 50/60 Hz, 1800 VA
Harmonic Output	Harmonic Filter dependent. Output filters are provided external to TWTA	Mechanical	19" wide x 5.25" high x 24" deep, 69 lbs
Residual AM	-50dBc to 4kHz max. 4kHz to 500kHz -20(1.15 + logF) (F in kHz) max. -85dBc above 500kHz	Interface	RS-422/RS-485
Phase Noise	meets limits 1 & 2 of IESS-308	Certification	Meets requirements of ETS 300-327
Noise and Spurious Outputs	-65 dBW/4 kHz max.		
Phase Linearity	±0.1 radian over any 500 MHz ±0.05 radians over any 40 MHz		
Input VSWR	1.20:1 max.		
Output VSWR	1.50:1 max.		



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