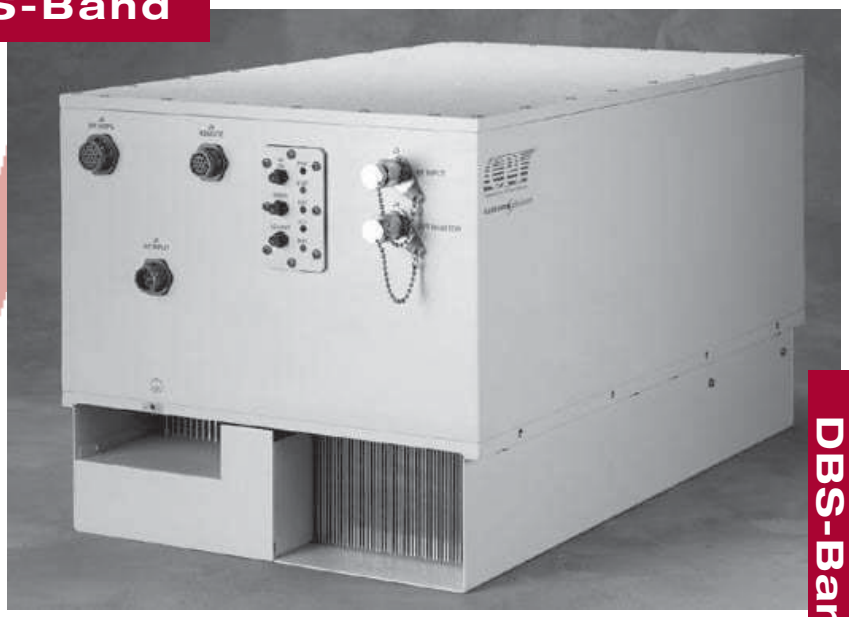
750W Outdoor TWT Amplifier
for Satellite Communications

DBS-Band



The VZU-6998VY

750 Watt TWT Medium Power Amplifier — high efficiency in an environmentally sealed compact package designed for outdoor operation

Plays in the Rain
Provides 750 watts of power in a rugged and compact weatherproof package, digital ready, for wideband, single- and multi-carrier satellite service in the 17.3-18.4 GHz frequency band. Ideal for transportable and fixed earth station applications.

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.

Simple to Operate
User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance.

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 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

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

satcom division

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OPTIONS:

- *Integral Linearizer*
- *Remote Control Panel*
- *Redundant and Hybrid Power Combined Systems*
- *Integrated switch control and drive (1:1 or 1:2)*
- *Integral Block Upconverter (BUC).* ***This data sheet does not provide amplifier specifications for when the BUC is included. Consult CPI for details.***

SPECIFICATIONS, VZU-6998VY

Electrical

Frequency	17.3 to 18.4 GHz
Output Power	
TWT	750 W min. (58.75 dBm)
Flange	630 W min. (58.00 dBm)
Bandwidth	1100 MHz
Gain at Rated Power	70 dB min.
Small Signal Gain	75 dB min. (70 dB min. with linearizer)
RF Level Adjust Range	0 to 20 dB min.
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	70 dB min.
Small Signal Gain Slope	±0.02 dB/MHz max; ±0.03 dB/MHz max. with linearizer
Small Signal Gain Variation	
Across any 80 MHz band	1.0 dB pk-pk max;
Across the 1100 MHz band	4.0 dB pk-pk max.
Input VSWR	1.3:1 max.
Output VSWR	1.3:1 max.
Load VSWR	
Continuous operation	2.0:1
Full spec compliance	1.5:1
Operation without damage	Any value
Residual AM, max.	-50 dBc below 10 kHz -20 [1.5 +log F(kHz)] dBc, 10 kHz to 500 kHz -85 dBc above 500 kHz
Phase Noise	
IESS Phase Noise Profile	12 dB below mask
AC fundamentals	-40 dBc (IESS-308 by 6dB)
Sum of spurs (370 Hz to 1 MHz)	-47 dBc
AM/PM Conversion	2.5°/dB max. for a single-carrier at 8 dB backoff from rated power (at 3 dB backoff from rated with linearizer option)
Harmonics	-60 dBc at rated power, second and third harmonics
Spurious Output	<-65 dBW/4 kHz, 17.3 to 18.4 GHz (<-60 dBW/4 kHz with linearizer option); <-150 dBW/4 kHz 10.9 to 12.7 GHz

Electrical (continued)

Intermodulation	-24 dBc or better with two equal carriers at total output power level 7 dB below rated single-carrier output (at 3 dB OBO with optional integral linearizer)
Group Delay (in any 80 MHz band)	0.01 ns/MHz linear max. 0.001 ns/MHz sq. parabolic max. 0.5 ns pk-pk ripple max.
Primary Power	
Voltage	Single phase, 200-240 VAC ±10%
Frequency	47-63 Hz
Power Consumption	2.3 kVA typ. 2.6 kVA max.
Power Factor	0.95 min.
Inrush Current	200% max.

Environmental (Operating)

Ambient Temperature	-40°C to +55°C operating, including solar loading; -40°C to +75°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	2000 W max.

Mechanical

Cooling (TWT)	Forced air with integral blower
RF Output Connection	WR-62 waveguide flange, grooved, threaded UNC 2B 6-32
RF Output Monitor	Type SMA female
Dimensions (W x H x D)	14.5 x 13.1 x 24 in. (368 x 333 x 610 mm)
Weight	87 lbs (39.5 kg) max.

ISO 9001 Certificate Number: 30515

NASDAQ GLOBAL SELECT

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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