750W Compact High Power Amplifier

for Satellite Communications

DBS-Band

The VZU-6997CY

750 Watt TWT High Power Amplifier—high efficiency in a compact package.

Compact

Provides 750 watts of power in a 5 rack unit 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 where space and prime power are at a premium.

Efficient

Employs a high efficiency dual-depressed collector helix traveling wave tube backed by many years of field-proven experience in airborne and military applications.

Simple to Operate

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

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2004/108/EC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Easy to Maintain

Modular design and built-in fault diagnostic capability with convenient and clearly visible indicators for easy maintainability in the field.

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 Power Combined Subsystems*
- *Block Upconverter (contact CPI for specs)*

SPECIFICATIONS, VZU-6997CY

Electrical

Frequency	17.3 to 18.4 GHz
Output Power	
TWT	750 W min. (58.75 dBm min.)
Flange	650 W min. (58.13 dBm min.)
Bandwidth	1100 MHz
Gain	70 dB min. at rated power, 88 dB max. 75 dB min. at small signal, 90 dB max.
RF Level Adjust Range	0 to 20 dB min. (via PIN diode attenuator)
Gain Stability	
At constant drive & temp.	±0.25 dB/24hr max. (after 30 min. warmup)
Over temp., constant drive (any frequency)	±1.0 dB over oper. temp. range (typical) ±0.75 dB over ±10°C (typical)
Small Signal Gain Slope	±0.02 dB/MHz max.
Small Signal Gain Variation	
Across any 80 MHz band	1.0 dB pk-pk max.
Across the passband	4.0 dB pk-pk max.
Across the passband, with linearizer	6.0 dB pk-pk max.
Input VSWR	1.30:1 max.
Output VSWR	1.30:1 max.
Load VSWR	
Continuous operation	2.0:1
Full spec compliance	1.2:1
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-308/309 phase noise profile	-12 dB
AC fundamentals related	-36 dBc
Sum of spurs (370 Hz to 1 MHz)	-47 dBc
AM/PM Conversion	2.5°/dB max. for a single-carrier at 8 dB below rated power
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise and Spurious	<-120 dBW/4 kHz, below 16.5 GHz <-65 dBW/4 kHz, 17.3 to 17.8 GHz <-60 dBW/4 kHz, in passband with linearizer <-105 dBW/4 kHz, 18.9 to 26.0 GHz <-125 dBW/4 kHz, 26.0 to 40.0 GHz
Noise Figure	10 dB max.; 15 dB max. with optional integral linearizer
Intermodulation	-24 dBc at 7 dB OBO without linearizer; -24 dBc at 3 dB OBO with linearizer

Electrical (continued)

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. (small signal) 2.6 kVA max.
Power Factor	0.95 min.
Inrush Current	200% max.

Environmental (Operating)

Ambient Temperature	-10° to +50°C operating -40° to +70°C non-operating
Relative Humidity	95% non-condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft., operating; 50,000 ft., non-operating
Shock and Vibration	Designed for normal transportation environment per Section 514.4 MIL-STD-810E. Designed to withstand 20G at 11 ms (1/2 sine pulse) in non-operating condition.

Mechanical

Cooling (TWT)	Forced air with integral blower Rear air intake & exhaust Maximum external pressure loss allowable: 0.5 inches water column
RF Input Connection	Type SMA female
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)	19 x 8.75 x 25 in. (483 x 222 x 635 mm)
Weight	100 lbs (45.4 kg) max.

Heat and Acoustic

Heat Dissipation	2,000 Watts max.
Acoustic Noise	68 dBA (as measured at 3 ft.)

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.

MKT 231, ISSUE 2 04/08 PDF

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