750W Compact High Power Amplifier

for Satellite Communications

DBS-Band

The VZU-6997AY

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 17.3-18.1 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 twenty regional factory service centers.



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OPTIONS:

• Integral Linearizer

• Remote Control Panel

· Redundant and Power

Combined Subsystems

SPECIFICATIONS, VZU-6997AY Electrical

Frequency 17.3 to 18.1 GHz **Output Power** TWT 750 W min. (58.75 dBm min.) Flange 650 W min. (58.13 dBm min.) Bandwidth 800 MHz 70 dB min. at rated power, 88 dB max. Gain 75 dB min. at small signal, 90 dB max.

RF Level Adjust Range 0 to 25 dB (via PIN diode attenuator) Gain Stability

At constant drive & temp. ±0.25 dB/24hr max. (after 30 min. warmup)

±0.02 dB/MHz max. Small Signal Gain Slope

Small Signal Gain Variation Across any 80 MHz band 1.0 dB pk-pk max. Across the 800 MHz band 4.0 dB pk-pk max. Across the 800 MHz band.

with linearizer 5.0 dB pk-pk max. Input VSWR 1.30:1 max.

Output VSWR Load VSWR

Continuous operation 2.0:1 Full spec compliance 1.2:1 Operation without damage Any value

Phase Noise IESS-308/309 -6 dB phase noise profile 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

1.30:1 max.

Noise Density <-65 dBW/4 kHz, 17.3 to 18.1 GHz

<-150 dBW/4 kHz, 10.9 to 12.7 GHz Intermodulation -24 dBc with two equal carriers at total

output power of level 7 dB below rated single-carrier output (at 3 dB backoff with optional linearizer)

Electrical (continued)

0.01 ns/MHz linear max. **Group Delay** (in any 80 MHz band) 0.001 ns/MHz sq. parabolic max. 0.5 ns pk-pk ripple max.

Primary Power Voltage Single phase, 208-240 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)

-10° to +50°C operating **Ambient Temperature**

-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 (WxHxD) 19 x 8.75 x 24 in. (483 x 222 x 610 mm)

Weight 95 lbs (43 kg) max.

Heat and Acoustic

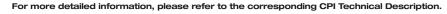
Heat Dissipation 2,000 Watts max.

Acoustic Noise 68 dBA (as measured at 3 ft.)









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.



