750W Compact Medium Power Amplifier

for Satellite Communications

The VZX-6987A7

750 Watt TWT Medium Power Amplifierhigh 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 7.9 - 8.4 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 89/336/EEC 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 fourteen regional factory service centers.



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OPTIONS:

• Integral Linearizer

· Remote Control Panel

• Redundant and Power

Combined Subsystems

Reject Filter (increases

loss by a minimum of 90

dB at 7.25 to 7.75 GHz)

· External Receive Band

SPECIFICATIONS, VZX-6987A7 Electrical

Frequency 7.9 - 8.4 GHz

Output Power

TWT 750 W min. (58.75 dBm) Flange 650 W min. (58.13 dBm)

Bandwidth 500 MHz

Gain 75 dB min. at rated power, 88 dB max.

78 dB min. at small signal, 90 dB max.

RF Level Adjust Range 0 to 30 dB (via PIN diode attenuator)

Gain Stability

At constant drive & temp.

±0.25 dB/24 hrs. max. (after 30 min. warmup)

Over temp., constant drive (any frequency)

±1.0 dB over oper. temp. range ±0.75 dB over ±10°C

Small Signal Gain Slope ±0.04 dB/MHz max.

Small Signal Gain Variation

Across any 40 MHz band Across the 500 MHz band Across 500 MHz, 0.5 dB pk-pk max. 2.5 dB pk-pk max.

with linearizer option 3.5 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-308/309

phase noise profile -6 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. With optional integral linearizer, can be tuned to 1.0 deg/dB max.

Harmonic Output -60 dBc at rated power,

second and third harmonics

Noise and Spurious <-90 dBW/4 kHz, 7.25 - 7.75 GHz

<-75 dBW/4 kHz, in passband <-65 dBW/4 kHz, in passband with linearizer option <-165 dBW/4 kHz, in passband

with optional filter

<-155 dBW/4 kHz, in passband

with both options

Noise Figure 10 dB max.; 15 dB max.

with optional integral linearizer

KEEPING YOU ON THE AIR not up in the air



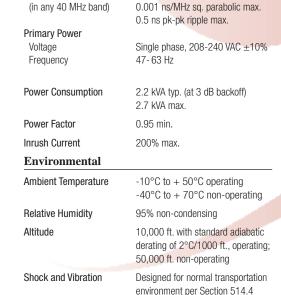
For more detailed information, please refer to the corresponding CPI Technical Description.

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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PDF



-24 dBc max. with two equal

carriers at total output power 7

dB (3 dB with optional integral

linearizer) below rated single-

-30 dBc max. at total output

linearizer) QPSK modulation

0.01 ns/MHz linear max.

power 3 dB backoff (300 W with

carrier output

Electrical (continued)

Intermodulation

Spectral Regrowth

Group Delay

Mechanical

Cooling Forced air w/ integral blower. Rear

air intake & exhaust. Maximum external pressure loss allowable: 0.5 inches water column.

MIL-STD-810E. Designed to

withstand 20G at 11 ms (1/2 sine

pulse) in non-operating condition.

RF Input Connection Type N female

RF Output Connection CPR-112 waveguide flange,

grooved, threaded UNF 2B 10-32

RF Output Monitor Type N 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 2000 Watts max.

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



