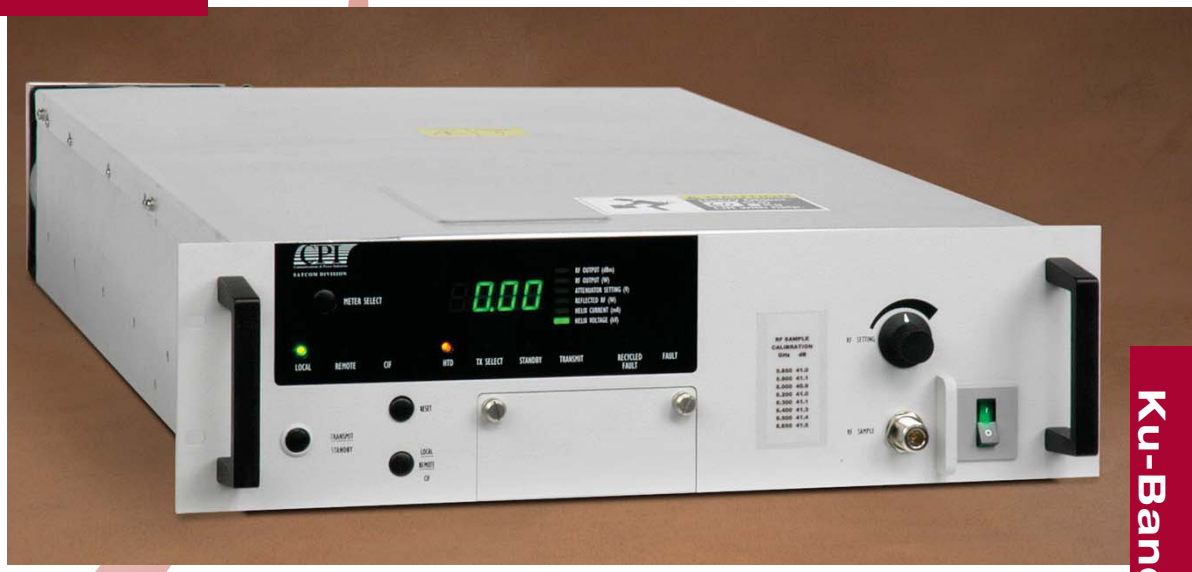
350/400W Compact Medium Power Amplifiers

for Satellite Communications

Ku-Band



The VZU-6994

Up to 400 Watt TWT Medium Power Amplifier — high efficiency in a compact package.

Compact

Provides up to 400 watts of power in a 3 rack unit package, digital ready, for wideband, single- and multi-carrier satellite service in the Ku-Band frequency range. 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 behind front panel door 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.

Communications & Power Industries

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Ku-Band

350W/400W Compact Medium Power Amplifier

OPTIONS:

- *Remote Control Panel*
- *Integral Linearizer*
- *Redundant and Power Combined Subsystems*
- *External Receive Band Reject Filter (Increases loss - consult factory for details)*

SPECIFICATIONS, VZU-6994

Electrical

Frequency	13.75 to 14.50 GHz, 12.75 to 14.50 GHz, 14.7 to 15.2 GHz, or 13.75 to 14.80 GHz
Output Power	
TWT	400 W min. (56.02 dBm), 13.75 to 14.50 GHz, and 13.75 to 14.80 GHz; 350 W min. (55.44 dBm), all others
Flange	350 W min. (55.44 dBm), 13.75 to 14.50 GHz and 13.75 to 14.80 GHz; 275 W min. (54.39 dBm), all others
Bandwidth	500 to 1750 MHz, depending on configuration
Gain	73 dB min. at rated power output; 78 dB min. at small signal
RF Level Adjust Range	0 to 20 dB
Gain Stability	±0.25 dB/24hr max. (at constant drive and temp.)
Small Signal Gain Slope	±0.015 dB/MHz max., 400 W configurations ±0.02 dB/MHz max., 350 W configurations
Small Signal Gain Variation	1.0 dB pk-pk across any 80 MHz band; 3.0 dB pk-pk across the entire passband, 13.75 - 14.80 configuration; 2.5 dB pk-pk across the entire passband all others; 4.5 dB pk-pk across passband, with linearizer
Input VSWR	1.3:1 max.
Output VSWR	1.3:1 max.
Load VSWR	2.0:1 max. operational; any value for operation without damage
Phase Noise	
IESS Phase Noise Profile	-12 dBc
AC Fundamental	-42 dBc
Sum of All Spurs	-50 dBc
AM/PM Conversion	2.5°/dB max. for a single carrier at 6 dB below rated power (at 4 dB below rated power with optional linearizer)
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise Density	<-150 dBW/4 kHz in Receive/Reject Band <-65 dBW/4 kHz in Passband to 18 GHz <-60 dBW/4 kHz in Passband w/linearizer

Electrical (continued)

Intermodulation	-24 dBc max. with two equal carriers at total output power 7 dB (4 dB with optional integral linearizer) below rated single-carrier output; -22 dBc max. at 7 dB OBO (4 dB w/lin.) for 14.7 - 15.2 GHz config.
Group Delay (in any 80 MHz band)	0.01 ns/MHz linear max. 0.001 ns/MHz^2 parabolic max. 0.5 ns pk-pk ripple max.

Environmental (Operating)

Primary Power	110 - 240 VAC ±10%, single phase 47-63 Hz (100 VAC optional)
Power Consumption	1.3 kVA typ., 1.4 kVA, max. for 350W configurations; 1.35 kVA typ., 1.5 kVA max. for 400W configuration
Power Factor	0.95 min.
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; 40,000 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 configuration.
Acoustic Noise	65 dBA @ 3 ft. from amplifier

Mechanical

Cooling (TWT)	Forced air with integral blower Rear air intake & exhaust
RF Input Connection	Type N female
RF Output Connection	WR 75 waveguide flange, grooved with UNC 2B 6-32 threaded holes
RF Output Monitor	Type N female
Dimensions (W x H x D)	19 x 5.25 x 24 in. (483 x 133 x 610 mm)
Weight	60 lbs (27.3 kg) max.

ISO 9001 Certificate Number: 30515

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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