## 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.



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OPTIONS:

· Remote Control Panel

· Redundant and Power

Combined Subsystems

· External Receive Band

loss - consult factory

for details)

Reject Filter (Increases

• Integral Linearizer

# SPECIFICATIONS, VZU-6994 Electrical

13.75 to 14.50 GHz. 12.75 to 14.50 GHz. Frequency 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 350 W min. (55.44 dBm), 13.75 to 14.50 GHz Flange 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  $\pm 0.015 \text{ dB/MHz max.}, 400 \text{ W configurations}$   $\pm 0.02 \text{ dB/MHz max.}, 350 \text{ W configurations}$ 

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 0BO (4 dB w/lin.) for 14.7

- 15.2 GHz config.

Group Delay

(in any 80 MHz band) 0.001 ns/MHz

0.01 ns/MHz linear max. 0.001 ns/MHz<sup>2</sup> parabolic max. 0.5 ns pk-pk ripple max.

#### **Environmental (Operating)**

Primary Power 110 - 240 VAC  $\pm$ 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 (Wx Hx D) 19 x 5.25 x 24 in.

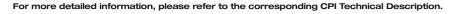
(483 x 133 x 610 mm)

Weight 60 lbs (27.3 kg) max.









Note: Specifications may change without notice as a result of additional data or product refinement.