

## Built for Satellite Communications Uplink Applications

Provides up to 400 watts of power in a 3 RU package, digital ready, for wideband, single- and multi-carrier satellite service in the 13.75 to 14.50 GHz or 12.75 to 14.50 GHz frequency band. Ideal for transportable and fixed earth station applications where space and prime power are at a premium.

### Cost Effective and 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 serial computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance.

### Easy to Maintain

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



CPI 350/400 W Ku-band outdoor TWTA, Model VZU-6994

### OPTIONS:

- Remote control panel
- Integral linearizer
- Redundant and hybrid power combined systems
- External receive band reject filter (consult factory for details)

Quality Management System - ISO 9001:2015



### Meets Global Requirements

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements. CE Marked.

### Worldwide Support

Backed by over 40 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

Specification				CPI Model VZU-6994, 350/400 W Ku-Band Rack-Mount TWTA		
Output Power/Frequency Combinations	Model Number - Configuration		Output Power (min.)		Output Frequency	
	VZU6994AD		400 W TWT / 338 W HPA		13.75 to 14.50 GHz	
	VZU6994AC		350 W TWT / 275 W HPA		13.75 to 14.50 GHz	
	VZU6994AB		350 W TWT / 275 W HPA		12.75 to 14.50 GHz	
Bandwidth	750 to 1750 MHz, depending on configuration					
Gain	73 dB min. at rated power output; 78 dB min. at small signal					
Gain Stability	±0.25 dB/24hr max, at constant drive and temperature; ± 1.0 dB typ, over oper. temp. range					
Small Signal Gain Slope	±0.015 dB/MHz max, 400 W configuration; ±0.02 dB/MHz max, 350 W configurations					
Small Signal Gain Variation	1.0 dB pk-pk across any 80 MHz band; 2.5 dB pk-pk across the entire passband (4.5 dB pk-pk across passband, with linearizer)					
RF Level Adjust Range	0 to 20 dB					
Input/Output VSWR	1.3:1 max. / 1.3:1 max.					
Load VSWR	2.0:1 max. continuous operation; 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 with linearizer					
Intermodulation	-24 dBc max. with two equal carriers at total output power 7 dB (4 dB with optional linearizer) below rated single-carrier output					
Group Delay	In any 80 MHz band: 0.01 ns/MHz linear max; 0.001 ns/MHz <sup>2</sup> parabolic max; 0.5 ns pk-pk ripple max.					
Primary Power	110-240 VAC ±10%, single phase 47-63 Hz (100 VAC optional)					
Power Consumption	1.25 kVA typ, 1.35 kVA, max. for 350 W configurations; 1.35 kVA typ, 1.45 kVA max. for 400 W configuration					
Power Factor	0.95 min.					
Ambient Temperature	-10°C to +50°C operating; -54°C to +71°C non-operating					
Relative Humidity	95% non-condensing					
Altitude	10,000 ft. (3,048 m) with standard adiabatic derating of 2°C/1000 ft. (305 m) operating; 40,000 ft. (12,192 m) 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					
Cooling (TWT)	Forced air with integral blower. Rear intake and exhaust.					
RF Input Connection	Type N Female					
RF Output Connection	WR75 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.					



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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. 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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