

750W Outdoor EIK Amplifier for Satellite Communications

Ka-Band



The VZA-6903E

750 Watt EIK Amplifier
— high efficiency in an
environmentally sealed
compact package
designed for outdoor
operation

Plays in the Rain

Provides up to 750 watts of power in a rugged and compact weatherproof package, digital ready, for wideband, single- and multi-carrier satellite service within the 27.0 – 31.0 GHz frequency band. Ideal for transportable and fixed earth station applications.

Cost Effective and Efficient

Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a high efficiency, integral cooling system for light weight and compact size.

Reliable

Designed and built to survive in extremely adverse environmental conditions (-40° to +55°C) and features increased cooling margin for longer life.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated RS422/485 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 via remote monitor and control.

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 89/336/EEC and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

Backed by over three decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes fifteen regional factory Service Centers.

satcom  **division**

811 Hansen Way
P.O. Box 51625, Palo Alto, CA 94303

tel: +1 (650) 846-3803
fax: +1 (650) 424-1744

e-mail: marketing@satcom.cpii.com
www.cpii.com/satcom

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750W Outdoor EIK Amplifier

OPTIONS:

- Remote Control Panel
- Integrated Linearizer
- Integrated 1:1 Switch Control and Drive
- Redundant and Power Combined Subsystems
- Ethernet Interface

SPECIFICATIONS, VZA-6903E

Electrical

Frequency	Custom frequency ranges with the 27.0 to 31.0 GHz frequency band
Bandwidth*	100 to 550 MHz instantaneous
Output Power*	
Klystron	750 W min. at 300 MHz bandwidth; 600 W min. at 500 MHz bandwidth
Amplifier	600 W min. at 300 MHz bandwidth; 475 W min. at 500 MHz bandwidth
Gain	75 dB min. at rated power; 80 dB min. at small signal
RF Level Adjust	0 to 20 dB typ. (30 dB optional)
Gain Stability	±0.25 dB/24hr max. after 30 min. warmup (at constant drive and temp.)
Small Signal Gain Slope	±0.05 dB/MHz max.
Small Signal Gain Variation	
pk-pk over any 40 MHz, max.	1.0 dB at 300 MHz bandwidth; 1.5 dB at 500 MHz bandwidth
over entire passband, max.	1.5 dB at 300 MHz bandwidth; 5.0 dB at 500 MHz bandwidth
Attenuator Step Resolution	±1.0 dB
Input VSWR	1.3:1 max.
Output VSWR	1.3:1 max.
Load VSWR	2.0 max. operational; any value for operation without damage
Residual AM	-50 dBc below 10 kHz -20 [1.5 +log F (kHz)] dBc, 10 kHz to 500 kHz -85 dBc above 500 kHz
Phase Noise	
Single Carrier	10 dB below IESS 308 mask
AC fundamentals related	-36 dBc
Sum of Spurs	-47 dBc (370 Hz to 1 MHz)
AM/PM Conversion	1.0°/dB max. for a single carrier at 7 dB below rated power
Harmonic Output	-30 dBc at rated power, second and third harmonics
Noise and Spurious (at rated gain)	<-65 dBW/4 kHz in passband <-150 dBc below 21 GHz

Electrical (continued)

Intermodulation	-24 dBc max. with two equal carriers at total output power 7 dB OBO
Group Delay (in any 20 MHz band)	
Linear	0.1 ns/MHz max.
Parabolic	0.02 ns/MHz sq. max.
Ripple	2.0 ns pk-pk max.
Primary Power	180-264 VAC, 47-63 Hz
Power Consumption	2.5 kVA, typ. 2.9 kVA, max.
Power Factor	0.95 min.

Environmental (Operating)

Ambient Temperature	-40°C to +55°C operating, -40°C to +75°C non-operating
Relative Humidity	100% condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft., operating; 50,000 ft., non-operating
Shock	20 g pk, 11 msec, 1/2 sine pulse
Vibration	2.1 g _{rms} , 5-500 Hz
Acoustic Noise	65 dBA @ 3 ft. from amplifier
Heat Dissipation	2300 watts, max.

Mechanical

Cooling (TWT)	Forced air with integral blower
RF Input and Output	UG-1530/U grooved waved flange (WR-34 waveguide); WR-28 flange/waveguide optional
RF Output Monitor	2.9 mm coax, female
Dimensions (W x H x D)	12.0" x 17.0" x 29.36" (305 x 432 x 746 mm)
Weight	111 lbs with no options (50.0 kg)



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.