Ka-Band

750 W Outdoor EIK Amplifier

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 to 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

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 2014/30/EU 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 more than twenty regional factory service centers.

Model VZA-6903E
750 Watt Outdoor EIK Amplifier for satellite communications

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

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# Specifications

## Ka-Band 750 W Outdoor ELK Amplifier

### Specification | Model VZA-6903E
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**Frequency** | Custom frequency ranges within the 27.0 to 31.0GHz frequency band
**Output Power** | Klystron Amplifier
- 750 W min. at 300 MHz bandwidth; 600 W min. at 500 MHz bandwidth
- 600 W min. at 300 MHz bandwidth; 475 W min. at 500 MHz bandwidth
**Bandwidth** | 100 to 550 MHz instantaneous
**Gain** | 75 dB min. at rated power; 80 dB min. at small signal
**RF Level Adjust Range** | 0 to 20 dB typ. (30 dB optional)
**Gain Stability** | ±0.25 dB/24hr max. (after 30 min. warmup), at constant drive and temperature
**Small Signal Gain Slope** | ±0.05 dB/MHz max.
**Small Signal Gain Variation** | 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 Size** | ±0.1 dB
**Input/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** | 10 dB below IESS 308 mask
-36 dBc
-47 dBc (370 Hz to 1 MHz)
**AM/PM Conversion** | 1.0˚/dB max. for a single carrier up to 7 dB below rated power
**Harmonic Output** | -30 dBc at rated power, second and third harmonics
**Noise and Spurious** | <-65 dB/W/4 kHz in passband
(at rated gain) | <-150 dBc below 21 GHz
**Intermodulation** | -24 dBc max. with two equal carriers at total output power 7 dB OBO
**Group Delay** | In any 20 MHz band: 0.01 ns/MHz linear max; 0.02 ns/MHz^2 sq max; 2.0 ns pk-pk ripple max.
**Primary Power** | 180-264 VAC, 47-63 Hz
**Power Consumption** | 2.5 kVA, typ; 2.9 kVA, max.
**Power Factor** | 0.95 min.
**Ambient Temperature** | -40˚C to +55˚C operating; -40˚ to +75˚C non-operating
**Relative Humidity** | 100% condensing
**Altitude** | 10,000 ft. (3,048 m) with standard adiabatic derating of 2˚C/1000 ft. (305 m) operating;
50,000 ft. (15,240 m) non-operating
**Shock and Vibration** | 20 g pk at 11 msec (1/2 sine)
2.1 g max; 5-500 Hz
**Acoustic Noise** | 65 dBA @ 3 ft. from amplifier
**Heat Dissipation** | 2300 watts, max.
**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 in. (305 x 432 x 746 mm)
**Weight** | 111 lbs (50.0 kg) max., with no options

*This amplifier is factory adjustable for bandwidth and output power. For instance, it can provide 475 W at the flange over 500 MHz, or 600 W at the flange over 300 MHz. Other combinations of power and bandwidth are available. This setting is selected at time of order and is not field changeable.*

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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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