

## REV UP YOUR SECURE SATELLITE NETWORK

- » Accelerates TCP traffic over TDMA and FDMA networks
- » Low Size, Weight, and Power (SWaP)
- » Works with any HAIPE IP Network Encryptor
- » Supports SCPS (Space Communication Protocol Standard)



Supercharge your network to use every available packet over your secure satellite connection with the Compact xPEP from ViaSat. Because HAIPE® encryption algorithms foil the ordinary TCP acceleration techniques employed by Satcom modems and VSAT equipment, secure satellite networks rely on ViaSat's extreme Performance Enhancing Proxy (xPEP) technology to overcome latency issues. When placed in a satellite network alongside a HAIPE Inline Network Encryptor (INE), the Compact xPEP provides TCP/IP acceleration for reliable end-to-end communications without requiring any changes to end-user equipment or software. The device ensures faster, more dependable performance over high-latency links, so you can successfully run web applications, send email, and transfer files over your secure satellite connection.

Armed with three modes of TCP acceleration, the Compact xPEP is the only acceleration device that automatically detects your network configuration, and dynamically switches to the optimal TCP acceleration technique for your network. When connecting to another vendor's TCP accelerator, xPEP uses the Space Communication Protocol Standard - Transport Protocol (SCPS-TP) to optimize the connection. If another Compact xPEP is detected on the network, XL mode is used for maximum throughput. When no TCP accelerator is detected on the other end of the connection, the device provides one-way acceleration. The Compact xPEP can be paired with any HAIPE INE to boost throughput over the secure satellite connection.

Just 7.5 inches wide and weighing about five pounds, the Compact xPEP packs powerful TCP acceleration technology in a low-SWaP form factor. At 1U high, the device can be teamed with ViaSat's KG-250 INE in a dual rack-mount installation for efficient network configuration.

The device also supports multicast traffic and VLANs (Virtual Local Area Networks). Multicast packets are bridged to provide seamless multicast traffic without any changes to your network. The Compact xPEP can terminate VLAN trunking without an additional VLAN device. The unit also accelerates TCP packets that are encapsulated using GRE tunnels, providing seamless networking regardless of your network configuration.

Ensure faster, more dependable networking over secure satellite connections. The Compact xPEP is the only TCP/IP accelerator with SCPS-TP, XL, and one-way acceleration that maximizes your overall throughput performance over high-latency bandwidth-limited satellite networks.

## COMPACT xPEP AT-A-GLANCE

### EASY TO USE

- » Simple to install, configure and manage
- » Provides terminal window menu options for local and remote management
- » Supports secure shell for remote management
- » Built-in satellite link rate/delay/error simulator for testing

### POWERFUL TCP ACCELERATION

- » Supports Space Communication Protocol Specification - Transport Protocol (SCPS-TP) Recommended standard CCSDS 714.0-B-2
- » Uses faster connection start, faster window recovery, and fast connection set-up
- » Supports over 10,000 simultaneous TCP connections
- » Supports priority queuing and rate limiting
- » Accelerates TCP over high-loss links/networks using ViaSat's proprietary XL mode
- » Preserves TCP end-to-end semantics
- » Uses large TCP window size over satellite networks
- » Flow control and congestion control used to adapt throughput for each TCP connection

### VERSATILE FOR VARYING NETWORK CONFIGURATIONS

- » Supports GRE tunnels
- » Supports multicast forwarding and IGMP bridging
- » Supports 10/100/1000 Ethernet interfaces
- » Can be configured as a VLAN trunk end point
- » Can be used in configurations where xPEP is installed on only one side of a satellite network
- » Works with any HAIPE INE
- » Interoperable with other TCP/IP devices
- » P/IP devices Designed from the ground-up for multi-site, variable rate, asymmetric rate, satellite DAMA networks, not just fixed rate-to-point links
- » Provides fair sharing of bandwidth among multiple connections
- » Adapts quickly to dynamically-varying bandwidth

### XPEP TECHNOLOGY ALSO AVAILABLE AS EMBEDDED SOFTWARE IN KG-250

- » Embedded software upgrade in ViaSat's AltaSec® KG-250 INE
- » Eliminates the need for extra acceleration devices in the network
- » Ideal for secure networking in mobile or space-limited environments
- » Available to KG-250 users via an optional software download—even for already-deployed KG-250s

## SPECIFICATIONS

### NETWORKING FEATURES AND PROTOCOLS

**Protocols Supported** TCP, IPv4, IPv6\*, ICMP, IGMP, ARP, SCPS-TP

**Networking Features** TCP/IP and TCP/IP/GRE acceleration, VLAN trunking, rate limiting and priority queuing

**Management** Terminal window menu based management, local and remote (via SSH) management

**Multicast** Multicast support with IGMP bridge

### PHYSICAL

**Dimensions (WHD)** 7.5 x 1.68 x 11.9 in; 190.5 x 42.7 x 302.2 mm

**Weight**

» **COMPACT xPEP** 3.9 lbs; 1.75kg

» **Power Supply** 1.4 lbs; 0.63kg

**Power** 100-240~, 1.5A, 50-60 Hz, 24w

### ENVIRONMENT

**Operating Temperature** 0°C to +45°C, the maximum operating temperature is reduced 2°C per 1,000 ft of altitude, from 45°C at sea level to 35°C at 1000 ft

**Non-Operating Temperature** -20°C to +70°C

**Operating Altitude** Up to 15,000 ft

**EMI/EMC** FCC Part 15 Class B and EN 55022 Class B

**Operating Humidity** Up to 95% relative humidity (non-condensing) at +40°C

**Non-operating Humidity** Up to 90% relative humidity (non-condensing) at +65°C

### VIBRATION AND SHOCK

**Operational** Random vibration; 5-100 Hz, 10 mins per axis, 0.5grms

**Survival, Unpackaged**

» **Random Vibration** 10 mins per axis, 5-100 Hz 0.01<sup>2</sup>/Hz;

» **Resonant Search** 5-100 Hz, swept sine, 0.1 octave/min sweep rate, 0.1gpeak

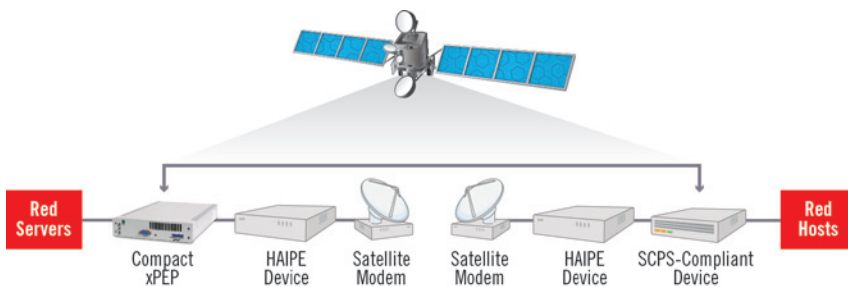
» **Resonant Dwell** 075g, 5 mins each resonance, 4 resonance per axis

**Non-operational Packaged** Random vibration; 50-500 Hz, 3grms

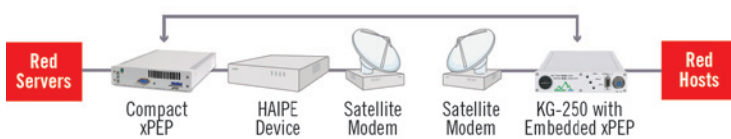
**Operational Shock** 10g, 10 msec, each axis

**Packaged Shock** 80g, 5 msec, each axis

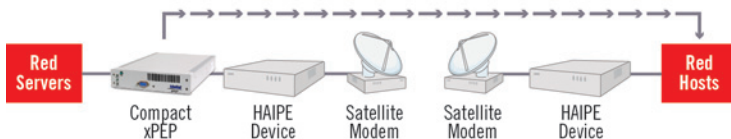
## THREE MODES FOR MAXIMUM TCP ACCELERATION OVER ANY NETWORK



**SCPS-TP: Two-way acceleration with another SCPS-compliant TCP accelerator**



**XL: ViaSat's two-way acceleration for superior performance in noisy, high-loss networks**



**One-way acceleration if there is no TCP accelerator on the other end**

The Compact xPEP is the only TCP/IP accelerator that automatically detects your network configuration and dynamically chooses between SCPS-TP, XL, and one-way acceleration to maximize data throughput.

## CONTACT

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### SALES

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### TECHNICAL SUPPORT

TEL 760.476.4754 OR 888.VIASAT.4 FAX 760.929.3938 EMAIL [ALTASEC@VIASAT.COM](mailto:ALTASEC@VIASAT.COM) WEB [WWW.VIASAT.COM/SUPPORT](http://WWW.VIASAT.COM/SUPPORT)

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