XS – XipLink Speciality

XO – XipLink Options

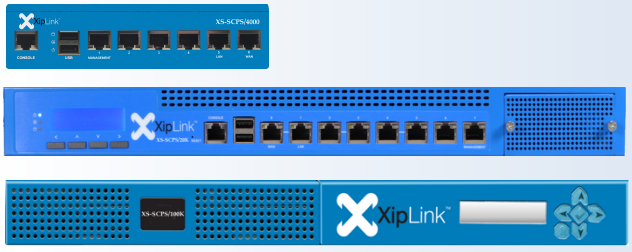
XA – XipLink Appliances

XE – XipLink Embedded

XipLink

XS-SCPS TCP Accelerator Overview

STEP ELECTRONICS
A Division of Av-Comm

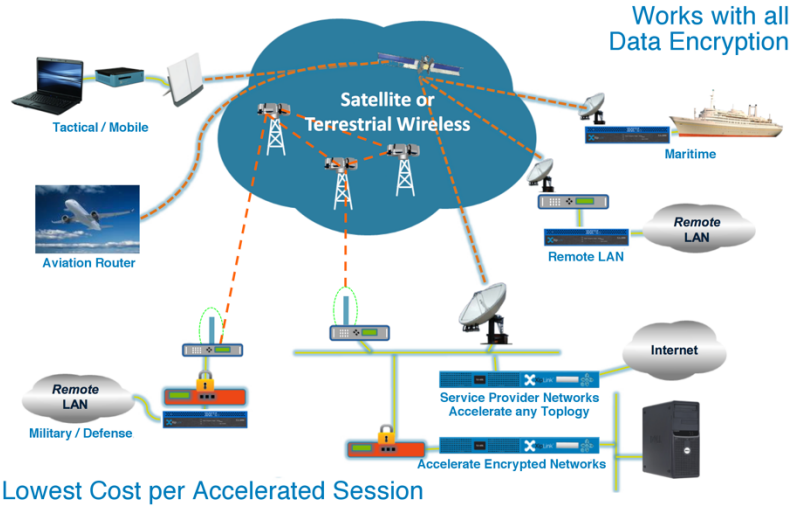


Maximum Wireless Performance

Increased throughput and reduced cost

XS-SCPS TCP accelerators deliver the satellite and wireless industries' most advanced performance in easily installed appliances, assuring exceptional throughput at a nominal capital cost. XipLink offers four models of SCPS accelerators, supporting links with aggregate capacities up to 650 Mbps and 100,000 TCP sessions to dramatically increase throughput to end users.

XipLink's high-performance and efficient kernel-based solution scales to support HTS satellite and wireless backhaul links. XipLink accelerators uniquely support the highest session counts per capital cost due to their scalable dynamic socket buffer design. XipLink has implemented the open and interoperable Space Communication Protocol Standard – Transport Protocol (SCPS-TP), as defined in CCSDS 714.0-B-2, ISO 15893:2010 and MIL-STD-2045-44000.



Lowest Cost per Accelerated Session

XipLink Operating System (XipOS) is a robust network operating system providing bridging and routing functionality to support flexible deployment scenarios. To increase overall effectiveness, XipOS provides a hierarchical class-based QoS mechanism enforcing minimum, maximum and shared bandwidth configurations for traffic shaping of multiple sites, users and applications/services.

XS-SCPS TCP accelerators are interoperable with all SCPS-compliant TCP accelerators and with fully featured XipLink Appliances or virtual solutions in mixed deployments in the same network. If optimization features are later required, XS-SCPS accelerators can be upgraded to fully featured XA optimizers while retaining 90% of the capital invested. XipLink devices work over any wireless, wireline or hybrid network including the following network technologies;

- VSAT, Trunk & Access - TDMA / SCPC / Mesh
- Terrestrial Wireless - WiMAX / Microwave / Extended Wi-Fi
- Cellular Networks - 2G, 3G, 4G/LTE
- MSS & MEO - Inmarsat, Iridium, O3b and similar systems

XipLink Operating System (XipOS)

SCPS-TP Protocol Acceleration

Fills the wireless link to capacity

- SCPS-TP based TCP acceleration
- Interoperable PEP (I-PEP) compliant
- Fast Start saves 1 RTT for HTTP (web) requests
- XipLink Transport Control (XTC) Modes:
  - *Enhanced TCP*
  - *Fixed Rate Control*
  - *Dynamic Rate Control*
  - *Delay-Based Rate Control*

TCP Payload Data Compression

Exceeds the wireless link bandwidth

- Dramatic bandwidth gain, as high as 30% to 200%
- Stream based data compression:
  - Higher savings than packet based compression
  - Reduces packet count by better filling packets
  - Works on unencrypted data flows

Advanced Quality of Service (QoS)

Shape the wireless link bandwidth

- Intelligent traffic shaping
- Hierarchical QoS classes
- Configurable committed, maximum rates

Transparent VLAN 802.1Q Acceleration

Accelerates VLAN tagged TCP traffic

- Transparent bridging for 4.096 VLANs
- Traffic isolation per VLAN with acceleration
- VLAN-aware TCP layer prevents data leaks

Transparent GRE Tunnel Acceleration

Accelerates TCP traffic carried in GRE tunnels

- Preserves GRE tunnels for transparency
- Allows for maximum performance inside GRE

Optional Hub-Only Internet Optimizations

Compress & control the explosion of data & video traffic

- XipLink Hub Optimizations (XHO)
- Gzip lossless compression for HTTP traffic
- XiPix JPEG transcoding for bandwidth savings
- HTTP/QoS prioritizes content under congestion

Optional Integrated IPsec Encryption VPN Capability

Accelerate, compress & secure traffic in a single device

- Implements AES data encryption standard
- VPN configuration management GUI included

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XS-SCPS TCP Accelerators

XS-SCPS Accelerator	Total Rate (In + Out)	Max. TCP Sessions	Fail to Wire (Bypass)	TCP (SCPS) Acceleration	TCP Data Compression	QoS & Shaping	XHO Option	VPN Option	Upgradeable to Full Optimizer
XS-SCPS/4000	20 Mbps	4,000	Yes	Yes	Yes	Yes	No	Yes*	Yes (XA-4000C)
XS-SCPS/20K	100 Mbps	20,000	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes (XA-20K)
XS-SCPS/30K	200 Mbps	30,000	Yes	Yes	Yes	Yes	Yes*	Yes*	Yes (XA-30K)
XS-SCPS/100K	650 Mbps	100,000	Yes	Yes	Yes	Yes	Yes*	No	Yes (XA-100K)

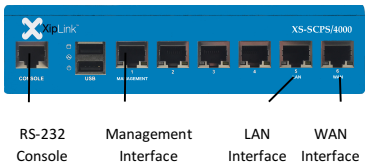
**Premium Options*

XipLink's XS-SCPS TCP accelerator product line provides exceptional investment protection. The model range offers industry-leading acceleration throughput and TCP session counts initially, while also supporting software upgradeability from XS-SCPS to equivalent scale, fully-featured XA models to enable the entire complement of wireless optimization features, if required. XipLink's full feature set includes header compression and coalescing for VoIP, cellular backhaul and real-time traffic, web and byte caching for significant bandwidth savings on repetitive traffic and link balancing and bonding to incrementally scale and add redundancy via aggregation of multiple wireless links.

Hardware Specifications

Models: XS-SCPS/4000 Rev5

H x W x D	Weight	Temp. Range	Power *
44 x 177 x 146 mm	1.2 kg	0° to 40°C	60 W
1.7 x 7.0 x 5.7 in	2.7 lbs	32° to 104°F	60 W

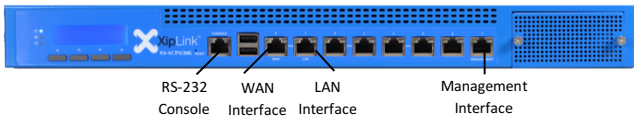


Models: XS-SCPS/20K Rev5

H x W x D	Weight	Temp. Range	Power *
44 x 438 x 415 mm	10 kg	0° to 50°C	300 W
1.7 x 17.2 x 16.3 in	22 lbs	32° to 122°F	300 W

** Redundant power supply modules included.*

** Optional -48V DC power modules available.*

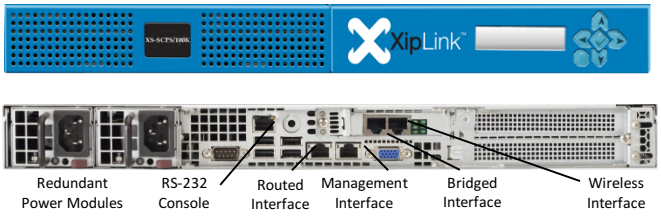


Models: XS-SCPS/30K, XS-SCPS/100K Rev5

H x W x D	Weight	Temp. Range	Power *
44 x 442 x 675 mm	20 kg	0° to 40°C	500 W
1.7 x 17.5 x 26.6 in	44 lbs	32° to 104°F	500 W

** Redundant power supply modules included.*

** Optional -48V DC power modules available.*



All models are CE / FCC certified. Current specification. Subject to change.

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