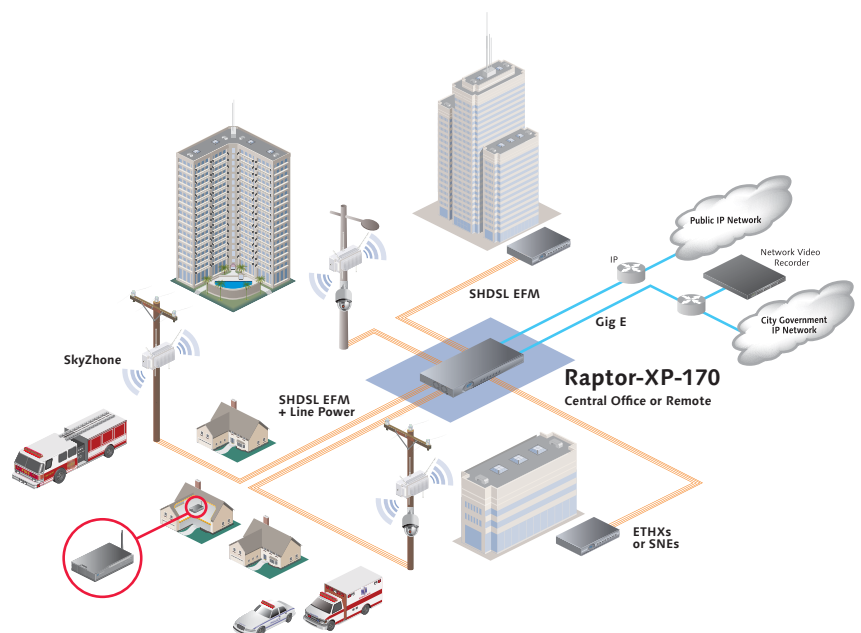


Compact, High-Performance 1U IP/EFM Access Concentrator from eXpress Packet Family

- ✓ *Ideal form factor for initial EFM & Metro Wi-Fi Deployments*
- ✓ *Compatible with all SHDSL Network Extender products as well as new EFM-compliant Ethernet Access Devices*
- ✓ *SLMS family member supporting industry-leading multimedia traffic management for IP QoS, and rate limiting to support business applications*
- ✓ *Supports Loop Bonding using EFM or pre-standard bonding for maximum deployment flexibility*
- ✓ *Automatic loop bonding for reliable and resilient bonded connections*
- ✓ *Fiber or Copper Fed Ethernet Uplinks with RPR (802.17), RSTP (802.w), or LAG/LACP (802.3ad)*
- ✓ *WebGUI, CLI, SNMP Management*



Since the introduction of EFM - Ethernet in the First Mile, service providers can now count on the ability to utilize more than one copper pair and carry far more bandwidth over the existing copper infrastructure. By bonding multiple pairs to be used as a single, high capacity link, EFM over copper provides a replacement solution for places where fiber is not available. The Raptor-XP-170 provides the ideal compact form factor and transport solution for applications like EFM over copper, Transparent LAN Services, Cellular Backhaul and Metro WiFi.



Loop Bonding Capabilities

The Raptor-XP-170 provides 24 individual single copper pair G.SHDSL.bis lines, allowing for data rates ranging from 192Kbps up to 12.7Mbps symmetrical bandwidth per copper pair. It also supports loop bonding, which allows the service provider to bond multiple copper pairs together for bandwidths of over 45Mbps to a single end user using the ETHX CPEs.

Interoperable with a Wide Range of Endpoints

Its compact design allows easy deployment in remote cabinets and space constrained central offices. The Raptor-XP-170 is compatible with all Zhone (N2N) SHDSL Network Extender products - SNEs, EFM-compliant (IEEE 802.3ah) SHDSL Ethernet Access Devices - ETHXs, as well as the award-winning metro Wi-Fi system - SkyZhone. It includes industry-leading MTM traffic management providing IP QoS, and rate limiting to support data, video, VoIP, and other symmetrical business applications.

Reliable Optical or Copper Transport

The Raptor-XP-170 provides dual copper and fiber uplink interfaces to provide simple cost-effective transport. The dual Ethernet uplink ports allow daisy-chained linear or ring deployments RPR (802.17) to ensure < 50 ms restoration in the event of a ring fault. RSTP (802.w) and Link Aggregation / LACP (802.3ad) provide a full set of complementary protocols for Ethernet network integration.

End-to-End Access Management

This eXpress Packet family product is designed for easy configuration and management via built-in Web Graphical Interface along with complete NMS integration with the easy-to-use Zhone Management System (ZMS). The Raptor-XP-170 is fully remote managed, allowing carriers to reduce service turn-up intervals, reduce truck rolls, and ultimately, improve customer service.

Technical Specifications

Dimensions

- 1.72in H x 17.31in W x 10.02in D
- 4.37cm H x 43.97 cm W x 25.44 cm D

Weight

- 8lbs (3.6kg)

Power

- DC: -42V to -60V
- Optional AC and Line Power Supplies

Interfaces

- Uplink Interfaces:
 - (2) 1000Mbps Ethernet (Copper or Fiber) SFP slots
 - (2) 10/100/1000Mbps Ethernet (Copper) RJ45 connectors
- Subscriber Line Interfaces:
 - 24 extended-rate (12.7Mbps) G.SHDSL.bis (ITU G.991.2)
 - (1) 50-pin Amphenol connector for local loop DSL connections
- Serial craft interface
- Alarm Relay connections
- Narrowband Test Control and Access Ports
- T1/E1 Local Clocking interface

Standards Support

- ITU G.991.2 G.SHDSL
- ITU G.994.1 G.handshake
- IEEE 802.3 Ethernet
- IEEE 802.3ah Ethernet in the First Mile (2Base-TL)
- IEEE 802.3ah OAM
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.17
- IEEE 802.w
- IEEE 802.3ad
- SELT/DELT

Protocol Support

- Network-based routing for per-interface IP subnet address assignments
- RIP v1 (RFC 1058) RIP v2 (RFC 2453)
- DHCP server (RFC 2131, 2132), DHCP Relay with Option 82
- Bridging 802.1D support
- VLAN 802.1p/q and Q-in-Q support
- Transparent LAN Services
- RSTP 802.w support
- Link Aggregation and LACP 802.3ad support
- Integrated access control and content protection
- RADIUS Authentication

Management

- In-band IP
- Out-band IP over 10/100BT Ethernet or V.24 RS-232 serial for async terminal
- ZMS (Zhone Management System) via SNMP v2c for GUI and CORBA IDL machine interface
- Embedded Web Graphical Interface
- Command Line Interface (CLI)

Bandwidth/Distance

- Data rates provisionable up to 12.7Mbps symmetrical
- (TCPAM 4, 8, 16, 32, and 64)
- Distances up to 20,000ft/6,096m

Regulatory Compliance

- Safety
 - CSA C22.2.60950-1:2007
 - UL 60950-1:2007
 - EN 60950-1/A1:2010
 - IEC 60950-21: 2002
- EMC Emissions
 - FCC Part 15 Class A
 - Industry Canada ICES-003
 - EN 55022 Class A
 - ETSI EN 300 386v1.3.3
- EMC Immunity
 - ETSI EN 300 386v1.3.3
- Environmental
 - ETS 300 019-2-x
 - ISTA Transportation and Handling

Operating Requirements

- Operating Temperature: -40°F to 149°F (-40°C to 65°C)
- Storage temperature: -40°F to 158°F (-40°C to 70°C)
- Humidity: Up to 95%, non-condensing
- Altitude: -200ft to 16,500ft (-60m to 5,000m)

Ordering Information

Models

RAPTOR-XP-170-WC	Raptor XP, 24 Ports G.SHDSL.bis, 2 ports FE/GE (SFP + RJ45), with Wetting Current
RAPTOR-XP-170-LP	Raptor XP, 24 Ports G.SHDSL.bis, 2 ports FE/GE (SFP + RJ45), with Line Power
RAPTOR-XP-170-WC-S/D	Raptor XP, 24 Ports G.SHDSL.bis, 2 ports FE/GE (SFP + RJ45), with SELT/DELT, with Wetting Current
RAPTOR-XP-170-LP-S/D	Raptor XP, 24 Ports G.SHDSL.bis, 2 ports FE/GE (SFP + RJ45), with SELT/DELT, with Line Power

Accessories

XP-AC-SUPPLY	Raptor/MALC XP AC Power Supply, 90-264 VAC, 48 VDC, 150W
XP-CO-LP-SHELF	Raptor/MALC XP Line Power CO Shelf 40-60VDC IN, +/- 190VDC OUT, w/ 24 channels
XP-RT-LP-UNIT	Raptor/MALC XP Line Power RT Unit +/- 190VDC IN, 40-60VDC OUT, w/ 5 channels