

XPand6240

Intel® Xeon® D-1700 Processor-Based Rugged Small Form Factor (SFF) COTS System with 12-Port Gigabit Ethernet Switch & Router with Cisco IOS-XE®

- ▶ 12 10/100/1000BASE-T Ethernet switch ports
- ▶ One 10/100/1000BASE-T Ethernet SBC port
- ▶ Includes one XPedite7770 Intel® Xeon® D-1700 processor-based 3U VPX SBC
- ▶ Includes one XChange3031 Gigabit Ethernet switch with Layer 2 switching
- ▶ Layer 2 switching with extensive IEEE protocol and IETF RFC support (optional)
- ▶ Includes one XChange6300 Cisco IOS-XE® Gigabit Ethernet Embedded Services Router (optional)
- ▶ Supports one removable memory module (optional)
- ▶ Small Form Factor (SFF) sub-½ ATR system
- ▶ Conduction- and convection- cooled chassis
- ▶ Integrated 28 VDC power supply
- ▶ MIL-STD-461, MIL-STD-810, MIL-STD-704F qualifiable*
- ▶ Environmentally sealed



XPand6240

The XPand6240 is a true Commercial-Off-The-Shelf (COTS) rugged system based on the Intel® Xeon® D-1700 series (formerly Ice Lake-D) of processors and a Gigabit Ethernet switch optionally hosting an XChange6300 Cisco IOS-XE® Gigabit Ethernet Embedded Services Router. With a compact design, the XPand6240 maximizes processing and networking performance while providing a SWaP-optimized alternative to traditionally larger slot-based systems; it is an actual Small Form Factor (SFF) system based on COTS 3U VPX modules.

The XPand6240's first slot supports the XPedite7770 Intel® Xeon® D-1700 processor-based 3U VPX SBC. The XPand6240's second slot supports the XChange3031 3U VPX Gigabit Ethernet switch. The XChange3031 can be configured as a fully managed Layer 2 switch. The XChange3031 delivers full wire-speed across all of its ports and supports jumbo packets up to 10 kB. It supports IPv6 and a comprehensive set of IETF RFCs and IEEE protocols. The XChange6300 Cisco IOS-XE® router XMC can optionally be installed on the XChange3031 to provide highly secure data, voice, and video communications to stationary and mobile network nodes. The system supports a memory module bay to host a removable PCI Express Solid-State Drive (SSD) flash memory module.

The XPand6240 supports the rear I/O from the installed VPX modules with two 130-pin circular connectors. This fully ruggedized system is designed to meet the rigorous standards of MIL-STD-810 and DO-160, while integrating the latest power-saving and performance-enhancing technology. The heat from the internal conduction-cooled modules is conducted to sidewall heat exchangers, where it is dissipated to the ambient environment by convection cooling and to an attached cold plate by conduction cooling. The system includes an integrated MIL-STD-704 28 VDC power supply and MIL-STD-461 EMI filtering.

*X-ES tests against portions of MIL-STD-461, MIL-STD-810, and MIL-HDBK-704. Please contact factory for details.

X-ES

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Extreme Engineering Solutions

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Physical Characteristics

- Chassis dimensions and weight are dependent on configuration; contact factory for assistance

Ethernet Management Features (Optional)

- Layer 2 switching
- Extensive IEEE protocol and IETF RFC support
- Configuration through CLI or SNMP
- 4 MB packet buffer
- XChange6300 Cisco IOS-XE® Gigabit Ethernet Embedded Services Router XMC

Ethernet Switch Features

- IPv4 and IPv6 support
- Support for jumbo frames up to 10 kB
- Non-blocking, full wire-speed
- IEEE 1588v2 transparent clocking support

First Slot I/O (XPedite7770)

- One 10/100/1000BASE-T Ethernet port to J2
- Two RS-232/422/485 serial ports to J2
- Two USB 2.0 ports to J2
- XMC P16 I/O, mapping P1w9-X12d per VITA 46.9 routes to J2

Second Slot I/O (XChange3031 and XChange6300 (Optional))

- 12 10/100/1000BASE-T Ethernet switch ports to J3
- One RS-232 serial port from XChange3031 to J3
- One RS-232 serial port from XChange6300 to J3

Slot-to-Slot Connectivity

- One 40GBASE-KR4 Ethernet port

Removable Memory Bay (Optional)

- Supports one X-ES ruggedized 2.5 in. Solid-State Drive (SSD)
- Up to 1 TB of TLC NAND flash (configurable as SLC with reduced storage capacity)
- Connects to first slot via one x4 PCI Express Gen3-capable interface

Power Supply

- Integrated power supply
- MIL-STD-704 28 VDC input voltage support
- MIL-STD-461 EMI filtering

Thermal

- The system is designed and tested to operate in ambient temperatures down to -40°C and extreme high temperatures. Maximum operating temperature is dependent on configuration and usage. Contact X-ES for further information.

