

# XPand6211

**Not Recommended  
for New Designs**

Rugged Small Form Factor (SFF) COTS 24-Port Gigabit Ethernet Switch, Router with Cisco IOS®, and General-Purpose Processor Module

Please contact X-ES Sales

- ▶ 21 10/100/1000BASE-T Gigabit Ethernet managed switch ports
- ▶ Three 10/100/1000BASE-T Gigabit Ethernet router ports
- ▶ One 10/100/1000BASE-T Gigabit Ethernet SBC port
- ▶ Includes one XPedite8103 Intel® Atom™ E3800 family processor-based XMC/PMC module with up to 32 GB of Solid-State Storage and 8 GB of RAM
- ▶ Includes two XChange3013 Gigabit Ethernet switches with Layer 2/3 management
- ▶ Includes one XPedite5205 Cisco IOS® Gigabit Ethernet Embedded Services Router
- ▶ XPedite5205 is NIST FIPS 140-2 Overall Level 1 validated on certificate #2242 and NIAP Common Criteria Certified
- ▶ Layer 2 switching and Layer 3 routing management with extensive IEEE protocol and IETF RFC support (optional)
- ▶ VICTORY Infrastructure Switch and Router support (optional)
- ▶ Small Form Factor (SFF) sub-½ ATR system
- ▶ Conduction- or convection-cooled chassis
- ▶ Integrated 28 VDC power supply
- ▶ MIL-STD-461E/F, MIL-STD-810, MIL-STD-704F qualified
- ▶ Environmentally sealed
- ▶ Circular connector support



## XPand6211

The XPand6211 is a Commercial-Off-The-Shelf (COTS) Rugged 24-port Gigabit Ethernet switch and router with a compact design that maximizes processing and networking performance while minimizing SWaP. The XPand6211 provides a SWaP-optimized alternative to traditionally larger slot-based systems; it is an actual Small Form Factor (SFF) system based on two COTS XChange3013 3U VPX Gigabit Ethernet switches.

The XChange3013 delivers full wire-speed across all of its ports and supports jumbo packets up to 12 kB. It supports IPv6 and a comprehensive set of IETF RFCs and IEEE protocols. The XPedite5205 Cisco IOS® Router XMC can be installed on the XChange3013 to provide highly secure data, voice, and video communications to stationary and mobile network nodes. The XChange3013 optionally supports compliance with the VICTORY specification as an Infrastructure Switch and Router.

The XPedite8103 provides general-purpose computing with best-in-class performance-per-watt. The E3800 family of processors support extremely low operating temperatures, and its power-efficient 22 nm technology enables operation in the most demanding high-temperature environments.

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 or to an attached cold plate by conduction cooling. The system includes an integrated 28 VDC power supply and MIL-STD-461 EMI filtering.

# X-ES

Extreme Engineering Solutions

*“Fast, Flexible, Customer-Focused  
Embedded Solutions”*

### Extreme Engineering Solutions

9901 Silicon Prairie Parkway • Verona, WI 53593  
Phone: 608.833.1155 • Fax: 608.827.6171  
sales@xes-inc.com • <https://www.xes-inc.com>

**Physical Characteristics**

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

**Ethernet Management Features (Optional)**

- Layer 2 switching and Layer 3 routing
- Extensive IEEE protocol and IETF RFC support
- Configuration through CLI or SNMP
- 196 MB packet buffer
- VICTORY Infrastructure Switch and Router support
- XPedite5205 Cisco IOS® Gigabit Ethernet Embedded Services Router XMC

**Ethernet Switch Features**

- IPv4 and IPv6 support
- Support for jumbo frames up to 12 kB
- Advanced cable open/short detection
- Non-blocking, full wire-speed
- IEEE 1588v2 and SyncE support (optional)

**First Slot I/O (XChange3013 and XPedite8103)**

- 11 10/100/1000BASE-T Gigabit Ethernet ports from the XChange3013 3U VPX Gigabit Ethernet switch to J2
- One 10/100/1000BASE-T Gigabit Ethernet port from the XPedite8103 XMC/PMC processor module to J2
- One USB 2.0 port from the XPedite8103 to J2
- One RS-232 port from the XPedite8103 to J2
- One RS-232 port from the XChange3013 to J2

**Second Slot I/O (XChange3013 and XPedite5205)**

- 10 10/100/1000BASE-T Gigabit Ethernet ports from the XChange3013 to J3
- Three 10/100/1000BASE-T Gigabit Ethernet ports from the XPedite5205 Embedded Services Router to J3
- Two RS-232 serial ports to J3

**Slot-to-Slot Connectivity**

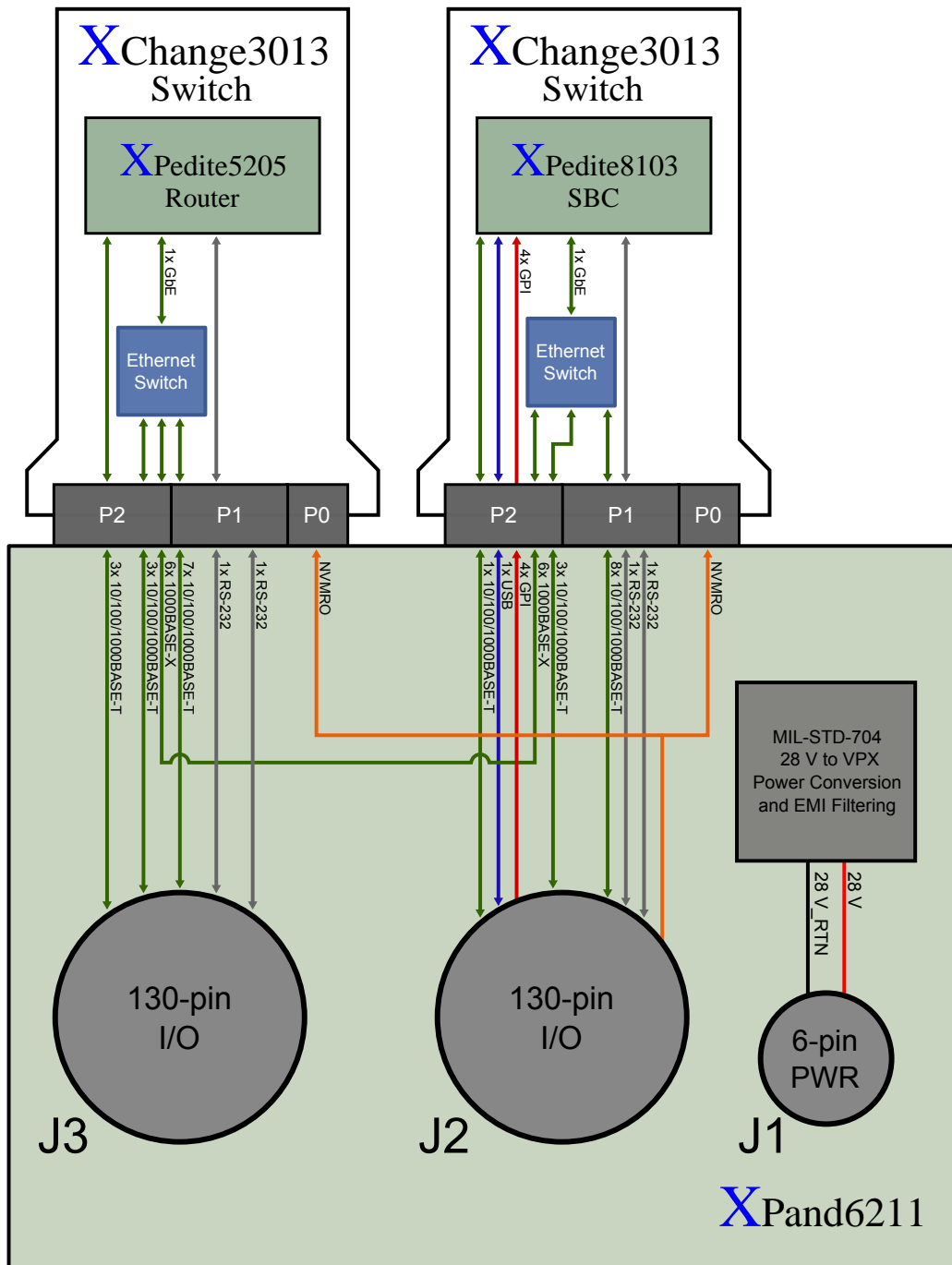
- Six 1000BASE-X Gigabit Ethernet ports

**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.



XPand6211