

# XMC Quad Gigabit Ethernet Adaptor

## Product Datasheet

PDSi's new quad gigabit Ethernet adaptor (XMC-GBX4) is a high performance, low latency network adaptor providing four high-speed Ethernet interfaces in PCI Express-based XMC form factor. It is designed for use with VITA 42.3 compatible VME, CompactPCI®, AdvancedTCA®, and PCI Express processor boards with an XMC mezzanine card interface.

Wide internal data paths eliminate performance bottlenecks. The parallel and pipelined logic architecture is optimized for gigabit Ethernet and efficiently handles packets with minimum latency. Using widely-accepted Intel 82571EB Ethernet controllers, this adaptor offers four 10Base-T/100Base-Tx/ 1000Base-T copper ports with front-mounted RJ-45 connectors and full status indicators. Alternatively, four SERDES ports are accessible through the Pn4 connector for use via an appropriate copper or fiber-based rear transition module.

This board can be modified to provide other I/O configurations – PDSi will adapt this design and develop compatible rear transition boards to meet specific OEM requirements. Extended availability from PDSi is assured. PDSi can also provide integration, extended warranty, repair and support services as needed.

### Key Features

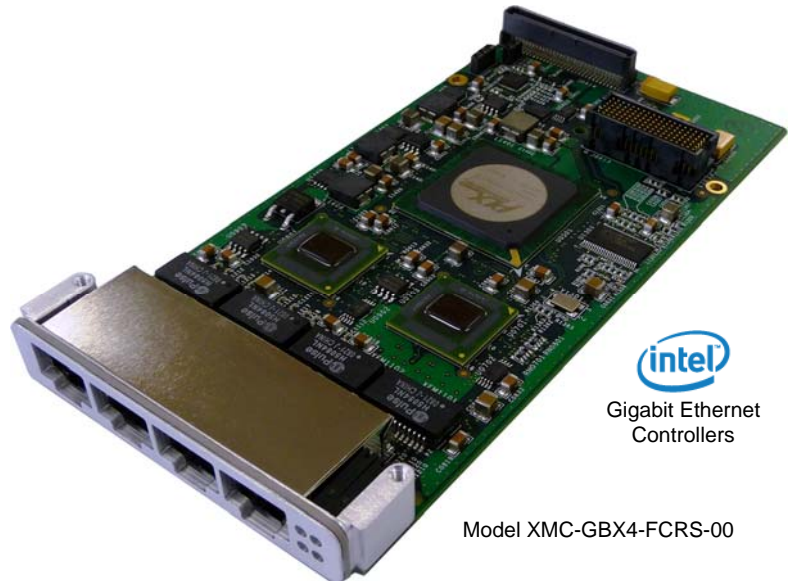
- Quad Copper or SERDES gigabit Ethernet interfaces
- Up to 4 - 10Base-T/100Base-Tx/ 1000Base-T ports
  - RJ-45 front connectors with status indicators
- Up to 4 – rear-accessible SERDES ports via Pn4
- Low-latency data handling
- Efficient packet prioritization
- Enables use of jumbo frames
- Maximum system performance and throughput
- Windows, Linux and Solaris x86 support
- VITA XMC-compliant interfaces for high bandwidth
- Extended availability assured
- RoHS compliant

### XMC for Hi-speed Ethernet

The XMC-GBX4 adaptor extends the network interface capabilities of any VME, Compact PCI, ATCA or PCIe carrier board with an XMC site. This module offers high performance, low cost, flexibility, and long life-cycle availability for embedded applications in industries such as:

- Military
- Aerospace
- Industrial Control
- Telecom
- Datacom
- Imaging

Contact PDSi with custom requirements.



Gigabit Ethernet  
Controllers

Model XMC-GBX4-FCRS-00

<b>Controller</b>	<p>Two dual-channel Intel 82571EB gigabit Ethernet controllers with integrated copper and SERDES outputs</p> <ul style="list-style-type: none"> <li>• Separate x4 PCI Express interfaces for each controller</li> <li>• Wide, pipelined internal data path architecture</li> <li>• Supports Gigabit Ethernet at wire speed</li> <li>• Host offloading features</li> </ul>
<b>Copper Interfaces</b>	<p>10Base-T/100Base-Tx/1000Base-T auto-negotiating, full and half duplex</p> <ul style="list-style-type: none"> <li>• IEEE 802.3 auto-negotiation support</li> <li>• IEEE 802.3 PHY compliance and compatibility</li> <li>• Built-in cable diagnostics and adjustments for cable faults</li> </ul>
<b>SERDES Interfaces</b>	<p>Supports 1000BASE-SX or 1000BASELX (optical fiber) with compatible rear transition module</p>
<b>PXE Boot</b>	<p>PXE flash interface support enables system boot up via LAN</p>
<b>VLAN</b>	<p>IEEE 802.1q virtual local area network (VLAN) support</p>

**Front Panel**

**RJ-45** Up to 4 x RJ-45 Copper Ethernet ports with status indicators (see Ordering Guide)

**XMC Interfaces**

**P15** PCIe x 8 interface  
**Pn4** Up to 4 x SERDES outputs (see Ordering Guide)

**Signaling** Keyed for Universal signaling

**Power** +/-12V , 5V and 3.3V through XMC connector  
 Total power – less than 9 watts

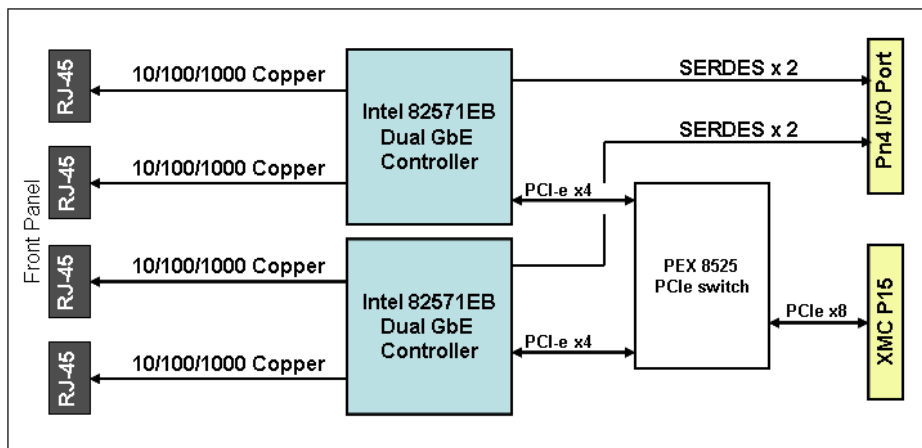
**Power Management** PCI power management, ACPI support

**Compliance** VITA 42.3 (convection cooled)  
 ANSI/TIA/EIA-644 (electrical)  
 RoHS Directive 2002/95/EC

**Operating Systems** Linux, Windows, Solaris x86

**Form Factor/Dimensions** Single height XMC  
 74mm x 149mm x 8.2mm

**Temperature & Humidity** Operation : 0 to 55 degC  
 5% - 95% non-condensing



Ordering Guide	OPN	Description
	XMC - GBX4 - FCRS - 00	XMC Quad Gigabit Ethernet Adaptor, 4 front RJ-45 ports
	XMC - GBX4 - FCRS - 01	XMC Quad Gigabit Ethernet Adaptor, 4 rear SERDES ports
	XMC - GBX4 - FCRS - 02	XMC Quad Gigabit Ethernet Adaptor, 2 front RJ-45 ports, 2 rear SERDES
<i>Other I/O configurations possible. Contact PDSi.</i>		