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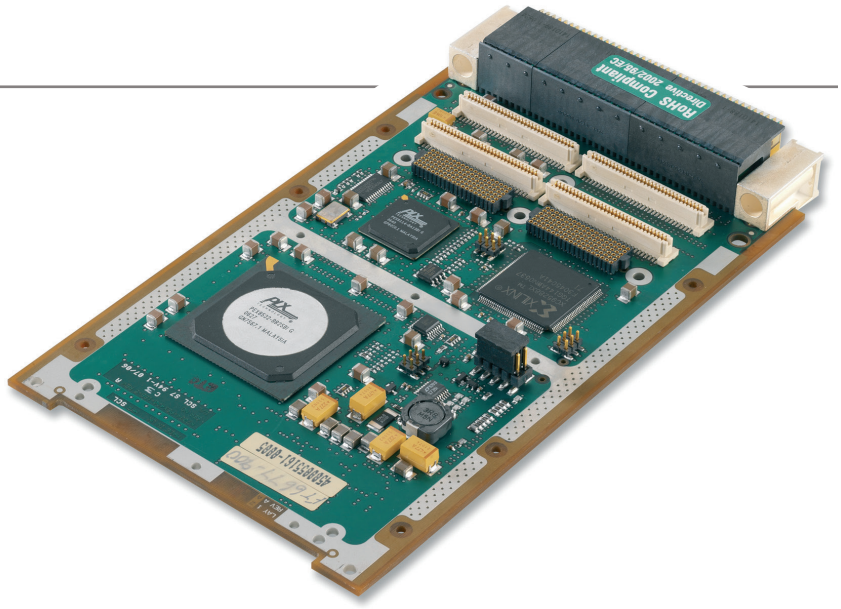
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Find the *Abaco Systems PEX430* at our website: *Click HERE*



PEX430

PCI Express Switch and PMC/XMC Carrier Card

The PEX430 PCI Express Switch and PMC/XMC Carrier Card allows designers to build complex VPX systems with multiple single board computers and multiple I/O modules. It provides two functions to accomplish this: a PCI Express switch, and a mezzanine carrier.

The PCI Express switch of the PEX430 allows up to four ports of 4-lane PCI Express to be connected to a non-blocking line-speed switch, such that a scalable, complex system architecture can be created. In order to support systems requiring interconnection of more than four hosts, multiple PEX430 boards may be daisy-chained together.

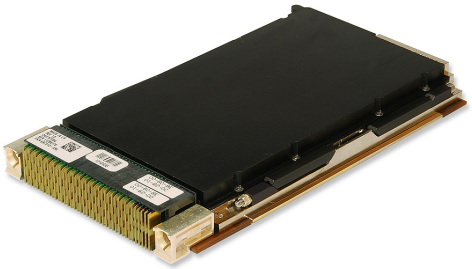
The switch supports non-transparent bridging mode, allowing multiple intelligent hosts to be connected together. Non-transparent bridges allow systems to isolate memory domains by presenting the processor subsystem as an endpoint, rather than another memory system. To facilitate inter-processor communication, base address registers (BARs) are used to translate addresses, doorbell registers are used to transmit interrupts between the address domains, and scratchpad registers are accessible from both address domains.

The switch supports transparent bridging mode in order to expand the I/O capability of the VPX single board computers. A broad range of PMC and XMC daughterboards exists to provide a variety of I/O functionality.

The PEX430 bridges from 4-lane PCI Express to 64-bit 133 MHz PCI-X for the PMC site, providing a peak bandwidth of 1 GByte/second to the mezzanine. All 64 bits of PMC I/O are routed to the VPX backplane connector.

Alternatively, the PEX430 can be configured to carry an XMC card, with eight lanes of PCI Express routed from the PCI Express switch to the mezzanine size. For mezzanines thatrequire the full eight lanes of bandwidth, the PEX430 can be configured for 8-lane PCI Express at the VPX backplane connector. All 64 bits of XMC I/O are routed to the VPX backplane connector.

From a software perspective, each PCI Express port is a virtual PCI-to-PCI bridge device, with its own set of PCI Express configuration registers. The host can configure the other ports by way of the upstream port, using conventional PCI enumeration. The virtual PCI-to-PCI bridges within the PEX4301 are compliant with the PCI and PCI Express system models.



Optionally available as an LRM (Line Replaceable Module) in accordance with the VPX–REDI (formerly VITA 48) standard

FEATURES:

- Four 4-lane PCI Express non-blocking switch
- Non-transparent bridging mode for multi-host systems
- Supports PMC or XMC modules
- Mezzanine I/O routed to VPX backplane
- Air-cooled and rugged conduction -cooled variants

abaco SYSTEMS

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PEX430 *PCI Express Switch and PMC/XMC Carrier Card*

Specifications

PCI Express

- Four ports 4-lane PCI Express, in accordance with VITA 46.4
- Firmware configurable for 8-lane operation to XMC site

PMC interface

- PCI-X (v 1.0b): 64 bits at 133, 100 or 66 MHz
- PCI 3.0: 32- or 64 bits at 66- or 33 MHz
- 3V3 I/O signaling

XMC interface

- 8-lane PCI Express

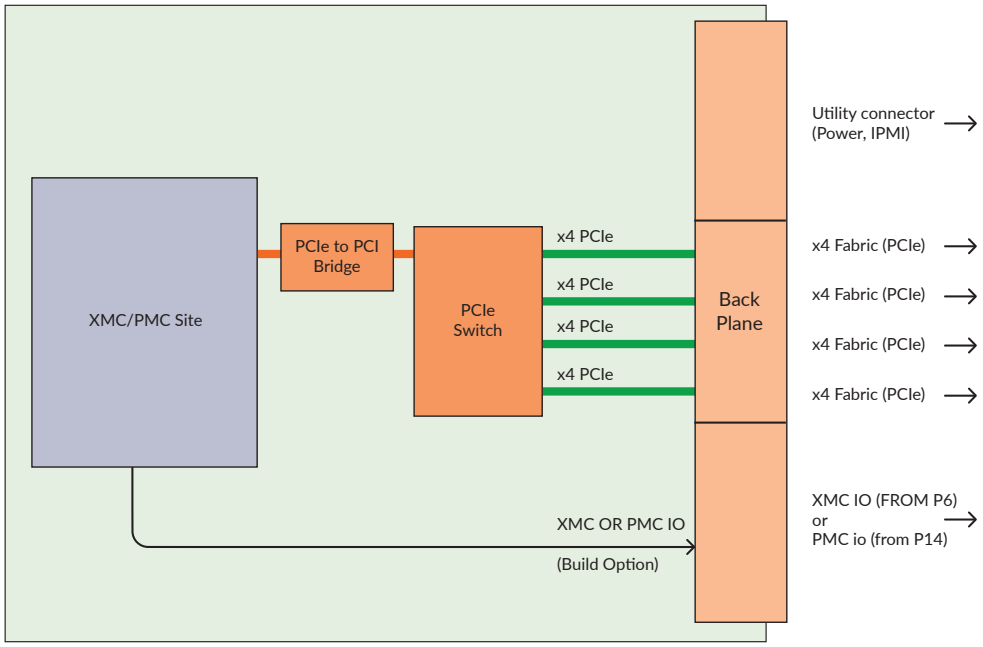
Mezzanine I/O

- 64 bits routed from mezzanine I/O connector to VPX backplane.
- Note: selection of PMC or XMC I/O is a factory build option.

Mezzanine interface

- PMC or XMC, in accordance with VITA 46.9
- Routing from mezzanine I/O connector to the VPX backplane connector is a factory build option.

Block diagram



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