New!

Features

- Front Panel x8 PCI Express connection to host PC
- 3U VPX form factor provides a compact, rugged platform
- Cascade mode provides connection to an addtional VPX system
- Compatible with several VITA standards including:
  - *VITA-46 (VPX Baseline Standard)*
  - *VITA-48 (VPX REDI)*
  - *VITA-65 (OpenVPX™ System Specification)*
- Ruggedized and conduction-cooled versions available

Ordering Information

Model	Description
5308	Front Panel x8 PCI Express Adadpter - 3U VPX

Options:

-001	Host Adapter Mode (for connection to external host computer)
-002	Cascade Mode (for connection to additional VPX system)
-703	Level L3 Conduction-Cooled Version

Accessories:

Model	Description
4235	PCI Express x8 Host Card for PC
2180	PCI Express x8 Cable

General Information

Model 5308 is a front panel PCI Express adapter for 3U VPX systems. It provides a convenient interface from a 3U VPX system to an external host computer, to simplify development.

The 5308 features built-in support for PCI Express (PCIe) Gen. 2 over the 3U VPX backplane. A unique fabric-transparent crossbar switch configuration allows selection of the desired VPX-P1 port.

Front Panel Connection

The 5308 provides a front panel interface to the 3U VPX system for connection to a host computer. It supports x4 or x8 PCIe protocol in compliance with PCI-SIG PCI Express® External Cabling 1.0 Specification. It can also be used to connect to an additional VPX system when ordered with Cascade Mode (option -002).

Model 5308 contains built-in PCI Express ReDriver™ circuitry. This circuitry provides signal conditioning that allows the user to correct for signal loss or data errors due to cable length.

PC Connection

The most common use for Model 5308 is for connection to an external host computer. In order to make this connection, the PC requires a PCIe host adapter which is also compliant to PCI-SIG PCI Express External Cabling 1.0 Specification. Adapters supporting either PCIe x8 Gen. 1 or Gen. 2 are available from Pentek under Model 4235.

Fabric-Transparent Crossbar Switch

Two ports from the front panel PCI Express connector are attached to a Fabric-Transparent Crossbar switch. This switch bridges numerous interfaces on the board using gigabit serial data paths with no latency. This allows the user to select the desired port on VPX-P1.

Data paths can be selected as single (x1) lanes, or groups of four lanes (x4). Programmable signal input equalization and output pre-emphasis settings enable optimization. A USB interface is provided for switch programming, and 4 MB onboard FLASH memory allows storage of up to 16 user configurations. Several useful configurations are pre-installed at the factory.
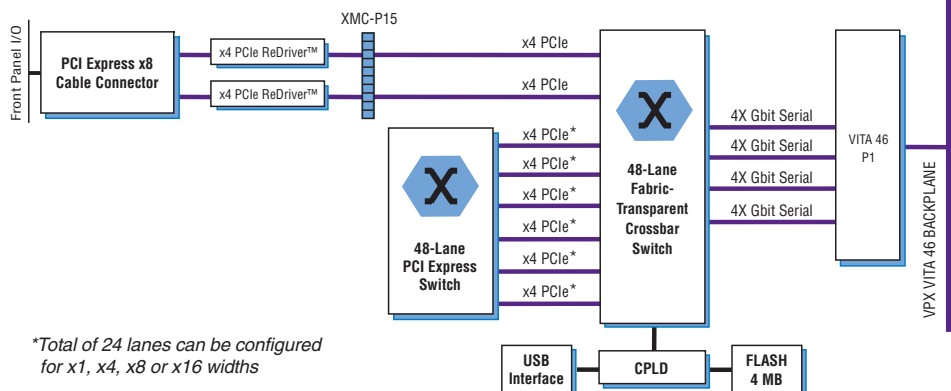
PCI Express Switch

The 5308 includes a multiport PCIe Gen. 2 switch. The switch provides a total of 24 PCIe lanes to the fabric-transparent crossbar switch. Dynamic lane width negotiation within the PCIe switch allows for x1, x4, x8 or x16 widths. These can be selected in any combination.

Data to or from the panel cable can be selected as x4 or x8 width. Both PCIe Gen. 1 and Gen. 2 are supported.

3U VPX Interface

The 5308 provides full-duplex links to the VPX P1 connector, each capable of peak rates up to 1 gigabyte per sec. Four sets of x4 links support PCI Express.

Total of 24 lanes can be configured for x1, x4, x8 or x16 widths