

Pentek introduces industry's first FMC/VPX Carrier with Optical Backplane Interface



Product Highlights

- 3U VPX FMC carrier with Virtex-7 FPGA
- VITA 66.4 MT optical backplane interconnect option
- 4 Ch 250 MHz, 16-bit A/D, 2 Ch 800 MHz, 16-bit D/A FMC Module
- Ruggedized versions for harsh military environments available

PENTEK introduced the first members of its Flexor™ line of FMC (FPGA Mezzanine Card) carriers and FMC modules: the Model 5973 3U VPX FMC carrier with a Virtex-7 FPGA and the Model 3312 multichannel, high speed data converter FMC. They combine the high performance of the Virtex-7 with the flexibility of the FMC data converter, creating a complete radar and software radio solution.

“For Pentek, this was a natural evolution of our Virtex-7 XMC modules,” said Rodger Hosking, vice-president of Pentek. “This new product line was inspired by many customers asking for FMC implementations of our popular Cobalt and Onyx family. Pentek also becomes the first supplier to offer VITA 66.4 on a VPX FMC carrier.”

The Flexor Model 5973 features a high pin-count VITA 57.1 FMC site, 4 GB of DDR3 SDRAM, PCI Express (Gen. 1, 2 and 3) interface up to x8, optional user-configurable gigabit serial I/O and optional LVDS connections to the FPGA for custom I/O.

The Flexor Model 5973 delivers new levels of I/O performance by incorporating the emerging VITA 66.4 standard for half size MT optical interconnect, providing 12 optical duplex lanes to the backplane. With the installation of a serial protocol, the VITA-66.4 interface enables gigabit backplane communications between boards independent of the PCIe interface.

The Flexor Model 3312 FMC surpasses the speed and density of previous products with four 250 MHz 16-bit A/Ds and two 800 MHz 16-bit D/As. Its high pin-count FMC connector matches the new Virtex-7 FPGA carrier, boosting performance levels and adding flexibility.

Seamless Integration

The Flexor Model 5973 comes preconfigured with a suite of built-in functions for data capture, synchronization, time tagging and formatting, all tailored and optimized for specific FMC modules, such as the Flexor Model 3312. Together, they provide an ideal turn-key signal interface for radar, communications or general data acquisition applications, eliminating the integration effort typically left for the user when integrating FMC and carrier.

Development Tools and Software Support

While many applications can be satisfied with the board's built-in functions, the Flexor Model 5973 is an ideal development and deployment platform for custom IP. Supported by the Pentek GateFlow® FPGA Design Kit, users have access to the complete factory installed IP at the source level, allowing them to extend or even replace the built in functions.

The Pentek GateXpress® PCIe Configuration Manager supports dynamic FPGA reconfiguration through software commands as part of the runtime application. This provides an efficient way to quickly reload the FPGA, which occurs many times during development. For deployed environments, GateXpress enables reloading the FPGA without the need to reset the host system, ideal for applications that require dynamic access to multiple processing IP algorithms.

The Pentek ReadyFlow® Board Support Package is available for Windows and Linux operating systems. ReadyFlow is provided as a C-callable library, the complete suite of initialization, control and status functions, as well as a rich set of precompiled, ready-to-run-examples, accelerate application development.

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Pentek Inc.

Pentek, an ISO 9001:2008 certified company, was founded in 1986 and is now the premier source for high-speed real-time recording systems and software, digital signal processing (DSP), software radio and data acquisition and I/O products. Our customers enjoy the performance and flexibility afforded by our board and system-level commercial and conduction-cooled product lines and our world-class applications support.

Pentek is the leading board and system manufacturer offering COTS and rugged VME, VXS, VPX, PMC/XMC, cPCI, PCI and PCIe products featuring Texas Instruments DSPs, Freescale PowerPC's and the latest Xilinx Virtex FPGAs. Pentek's data acquisition line is extensive and includes A/D's, D/A's, Digital Receivers/Transmitters, Digital I/O and much more. Pentek equips products with high-speed interfaces including Fibre Channel, Serial RapidIO and more.

No other DSP vendor can provide such seasoned, in-depth technical expertise in data acquisition, digital signal processing and software radio

Manufacturer:

Pentek

www.pentek.com

Specialities:

Designing and building boards and recording systems for 25+ years satisfying customer demands in many military programs, and has a deep knowledge of customer applications. Pentek adheres to the highest quality practices in all operational phases and proudly maintains its ISO 9001:2008 certification.

Pentek serves high-end radar, communications, beamforming, software radio & SATCOM markets and optimizes design for maximum performance & to satisfy critical requirements.

Rugged Interconnect Technologies

Rugged Interconnect Technologies focuses on offering rugged product solutions for industrial, mining, communications, defence and homeland security applications.

Working closely with our valued customers we can propose solutions based on application-ready computing platforms, customer specific requirements or a wide range of commercial off-the-shelf modules.

We represent best-of-breed suppliers with leading edge technologies consisting of rugged systems, processor, communication and multifunction I/O modules. Together we target applications such as sensor management and control, radar / sonar, digital signal processing, imaging, video tracking, situation awareness, recording and storage.

Rugged Interconnect Technologies prides itself in offering customers local sales and engineering support, product life cycle management and, when required assistance with next generation technology insertion. We have provided bus and board technologies to national and international customers for more than 30 years.

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