PENTEK

COMPANY PROFILE

About 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, data acquisition, digital signal processing (DSP) and software defined radio (SDR) products. Our customers enjoy the performance and flexibility afforded by our system and board-level commercial and conduction-cooled product lines and our world-class applications support.

Pentek is the leading board manufacturer offering COTS and rugged 1U Rackmount, AMC, FMC (Flexor™ Series), cPCI, PCIe, PMC, VME, VPX, and XMC products featuring the latest Xilinx Virtex FPGAs (Cobalt® Virtex-6 and Onyx® Virtex-7).

The Bandit™ family of multiband, modular RF slot receivers offers a low noise figure, programmable gain and a high dynamic range ensuring there are no gaps in the RF spectrum coverage.

The Talon® high-speed recording systems arrive complete and are ready for immediate recording and/or playback operation. These systems come installed with a full-featured virtual operator control panel.

The SPARK™ Series was created to save engineers the time and expense associated with building and testing a development system that ensures optimum performance of Pentek boards. A fully integrated system-level solution, the SPARK family provides the user with a streamlined experience.

Company Brief

- Designs and builds boards and recording systems for 25+ years satisfying customer demands in many military programs and commercial markets.

- Pentek engineers maintain a thorough understanding of advanced signal theory and real-world system considerations.

- Small business, privately held, manufactures in the USA.

- Serves high-end radar, communications, SIGINT, beamforming, software radio & SATCOM markets.

- Optimizes design for maximum performance & to satisfy critical requirements.

- Pentek is a technology partner with deep knowledge of customer applications.

- Offers complete technical documentation that saves development time.

- Committed to customer satisfaction with free, lifetime customer support.

- Provides long term product availability and life-cycle support with automated life cycle management notification system.

- Bonded Inventory Program extends product longevity.

- Bundle discount programs and volume discounts available. ➤

Pentek's 88,000 sq. ft. facility in Upper Saddle River, NJ

"Pentek takes pride in listening to its customers and creating new products to meet their needs. We promise an atmosphere of freedom and creativity among our engineers, so they can design industry-leading products to satisfy the most demanding applications. This has been the key to our success through the years."

- Rodger Hosking, Vice President

Product Overview

You can select from a variety of recording systems and processor boards with the industry's most extensive line of advanced analog and digital I/O products, along with exclusive development tools that help you create a custom system.

High-Speed Real-Time Recording Systems
- Economical alternatives to in-house development
- Fully tested and ready to run right out-of-the-box
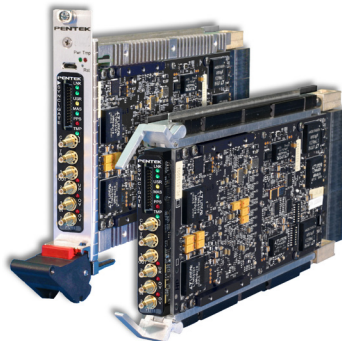- Full-featured SystemFlow® recording software

Processor Engines
- FPGA processors and IP
- GateFlow® FPGA Design Kit

Data Acquisition
- Single or multichannel A/Ds and D/As
- Sampling rates to 3.6 GHz
- Resolution to 24 bits
- Optical, sFPDP and Gbit Ethernet interfaces

Software Radio
- Up to 2200 channels per slot
- Narrow-, wide- & multi-band products
- Downconverters and upconverters

Technology Brief

- Provides over 300 high-performance COTS and rugged board & recording system solutions for the lab & deployment.

- Board level products in AMC, FMC, 3U cPCI, 6U cPCI, PCIe, PMC, VPX, VME and XMC.

- Analog and digital recording systems in portable and rackmount.

- Pre-configured PC development systems speed development.

- First to introduce board-level, digital receiver technology in 1992.

- Exploits new FPGA features and performance levels for real-time embedded applications. As with GateXpress® that improves and simplifies FPGA loading.

- Works closely with other vendors to guarantee interoperability.

- Superior power & thermal management solutions. Built-in thermal sensors in FPGA modules. Modules in extended temperature & conduction-cooled configurations.

- Optimizes multiboard, multichannel synchronization with line of clock/sync generators.

- Maintains similar hardware architectures to preserve customer familiarity with ReadyFlow board support library and GateFlow FPGA products.

- Efficient manufacturing of Cobalt & Onyx product designs leads to quicker delivery.

- Premier third party for Xilinx, allows for technology preview and early development of new designs that fit into FPGA infrastructure.

Why Customers Buy From Pentek

- **Pentek has been designing and building boards for 25+ years:** We understand how these boards are going to be used and have designed them for maximum performance, signal quality, thermal characteristics, cooling, FPGA loading, I/O to and through the boards and for channel synchronization where low phase noise is critical.

- **Digital Signal Processing & Data Acquisition and I/O Experts:** By thoroughly understanding advanced signal theory and real-world system considerations, our experts have spread this knowledge to the embedded computing community through thousands of tutorials, industry articles, techcasts, webcast seminars and technical handbooks targeting the most demanding applications. These same experts help Pentek customers choose the best system architectures for a successful design delivered on time.

- **Pentek targets the high-end of the market:** Building a board is one thing, getting it to perform correctly and at peak performance is another, especially if the FPGA is an integral part of the application. Pentek thereby offers highly optimized products with superior technical support for maximum performance.

- **Systems Hardware Prequalification:** Pentek characterizes and tests a variety of motherboards, processor boards, RAID controllers, SSDs, etc. so the right components can be used in your systems eliminating system and processing bottlenecks and development time.

- **FPGAs are fully characterized:** Pentek provides detailed information on FPGA utilization and can recommend exactly which FPGA to use on each board based on how much user generated IP will be installed.

QuickPac™ Drive Packs are unique to Pentek's Talon RTX products. They provide the ability to quickly remove and replace storage drives in the field. These canisters hold eight SSDs providing up to 30 TB of storage.

- **GateFlow FPGA Design Resources:** Allows the user to easily modify, replace and extend the standard factory installed functions in the FPGA and add user generated IP. GateFlow includes VHDL source code and all FPGA project files, which significantly shortens the time for end users to develop and install custom IP.

- **FPGA IP development support:** All of Pentek's boards use the FPGA as an integral part of the board for moving data and for signal processing functions. As a result, Pentek is expert at developing IP and using vendor's development and debugging software tool sets. This helps new customers through the process, saving time and money.

- **Technical Support:** Pentek offers free, unlimited, lifetime technical support from seasoned DSP engineers. Pentek's superior support means customers get their application implemented significantly faster. Pentek excels at supporting you until you get your issues resolved.

- **Documentation:** Pentek's documentation is the best in the industry. This level of quality documentation saves an enormous amount of development time.

- **Startup Time:** You can install and use the board immediately by using the ReadyFlow Command Line Interface and Signal Analyzer to display the data without having to do any programming. This saves development time and shortens project start up time.

- **Quality:** Pentek implements the highest quality practices in all operational phases, and is committed to customer satisfaction and on-going improvement. Pentek proudly maintains its ISO 9001:2008 certification.

ASSOCIATIONS

Pentek is an active member in many industry associations that drive new technologies including VITA, OpenVPX, PCI-SIG, PICMG, AUVSI and Wireless Innovation Forum.

VITA
Open Standards, Open Markets

PICMG
PCI INDUSTRIAL COMPUTERS

OpenVPX™

AUVSI
ASSOCIATION FOR UNMANNED VEHICLE SYSTEMS INTERNATIONAL
BRONZE MEMBER
www.auvsi.org

PCI SIG®

WIRELESS INNOVATION FORUM

ISO 9001:2008
CERTIFIED QUALITY MANAGEMENT SYSTEM

PENTEK
Setting the Standard for Digital Signal Processing

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