PENTEK

Cobalt

The Cobalt Family

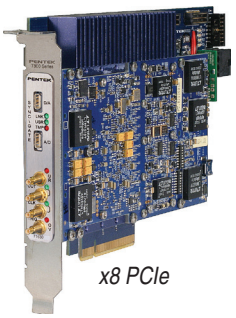
The Pentek Cobalt® family includes radar, software radio and digital I/O boards based on the Xilinx Virtex-6 FPGA. This comprehensive product line offers products that satisfy a very wide range of applications.

XMC Module

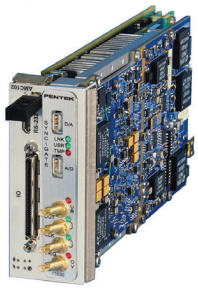
Form Factors

All products in the Cobalt family are available in the following form factors:

- XMC
- x8 PCI Express
- AMC
- 3U OpenVPX
- 6U OpenVPX
- 3U CompactPCI
- 6U CompactPCI



x8 PCIe



AMC

The Cobalt Architecture

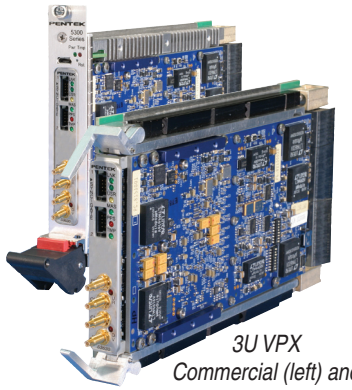
The Pentek Cobalt architecture features a Virtex-6 FPGA. All of the board's data and control paths are accessible by the FPGA, enabling factory-installed functions including data multiplexing, channel selection, data packing, gating, triggering and memory control. The Cobalt architecture organizes the FPGA as a container for data-processing applications where each function exists as an intellectual property (IP) module.

Most members of the Cobalt family are delivered with factory-installed applications ideally matched to the board's analog interfaces. In addition, IP modules for on-board memories, a controller for all data clocking and synchronization functions, a test signal generator, and a Gen. 2 PCIe interface complete the factory-installed functions and enable the board to operate as a complete turnkey solution without the need to develop any FPGA IP.

GateFlow

For applications that require specialized functions, users can install their own custom IP for data processing. Pentek GateFlow® FPGA Design Kits include all of the factory-installed modules as documented source code. Developers can integrate their own IP with the Pentek factory-installed functions or use the GateFlow kit to completely replace the Pentek IP with their own.

Many of the Cobalt models come with off-the-self installed IP that addresses specific applications. This IP provides additional dedicated functions that range from three broadband DDCs (digital downconverters) to 1100 narrowband DDCs.



3U VPX
Commercial (left) and
Rugged

Synchronization

An internal timing bus provides board timing and synchronization. The bus includes a clock, sync and gate or trigger signals. An on-board clock generator receives an external sample clock. This clock can be used directly or divided by a built-in clock synthesizer.

A Clock/Sync connector allows multiple boards to be synchronized. Multiple boards can be driven from the bus master, thereby supporting synchronous sampling and sync functions across all connected boards.

3U cPCI

6U cPCI
Double Density

6U VPX
Double Density

Ruggedization

Except for the PCIe platform, all other boards are available in various ruggedized formats up to and including conduction cooling.

SPARK Development Systems

The Pentek SPARK® systems are fully-integrated development systems for Pentek Cobalt® Onyx® and Flexor® software radio, data acquisition, and I/O boards. They save engineers and system integrators the time and expense of designing and building systems that ensure optimum performance of Pentek boards.

A fully-integrated system-level solution, each SPARK development system provides the user with a streamlined, out-of-the-box experience.