Dedicated Systems' News

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5-port GBit Ethernet Switches to enhance harsh Environment Network Interconnections

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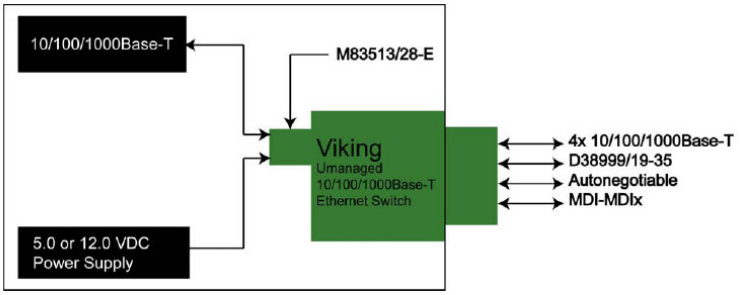
Protokraft has introduced the *Viking* Series of 10/100/1000Base-T unmanaged Ethernet switches with external D38999/19-35 connector interfaces for military, aerospace, industrial or utility applications where significant levels of shock, vibration and extreme temperature ranges are experienced. The Viking series Ethernet switches integrate five 10/100/1000Base-T Ethernet switch ports into the shell of a standard D38999/19-35 connector. These components are ideal for use in harsh environments where small size, weight reduction and resistance to harsh environments are valued.

- 4+1 port unmanaged switch for 5x10/100/1000Base-T switched interface ports
- Full duplex flow control and half duplex back pressure, symmetric and asymmetric
- Olive Drab Cadmium plating meets stringent corrosion resistance specifications
- Small size and weight (< 225g) for simple mounting and installation
- 5.0VDC or 12.0VDC power supply input - maximum < 5.0 Watts
- Shock, vibration and immersion resistant per Mil-Std-810
- Jumbo frame support in all speeds - 10/100/1000 Mbps
- Aluminium housings are strong, durable and light weight
- Cable link distances up to 100 Meters (EIA/TIA Cat-5E)
- Operating temperature range from -40°C to +85°C
- Auto sensing of half or full duplex operation



FMC150 - A dual channel A/D and dual channel D/A FMC VITA57.1 daughter card

- Quad Channel Operation
  - 2-channels 14-bit A/D up to 250 MSps
  - 2-channels 16-bit D/A up to 800 MSps
- Conduction Cooled & Conformal Coated – Standard Options
- Single ended AC-coupled analog signals.
- 6 MMCX/SSMC connectors available from the front panel Clock Source, Sampling Frequency, and Calibration.
- Flexible clock tree: internal clock - external reference clock — external sampling clock
- LPC—Low Pin Count Connector

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FM481: 4 Channel 2.5 GSP Optical sFPDP PMC Virtex-4 with PowerPC Core

The FM481 is a high performance PMC/XMC module dedicated to high bandwidth communication. In addition to 4x 2.5Gbps optical transceivers for Fiber Channel and Gigabit Ethernet, the FM481 offers fast on-board memory resources and one Virtex-4 FX20/60 FPGA.

FPGA

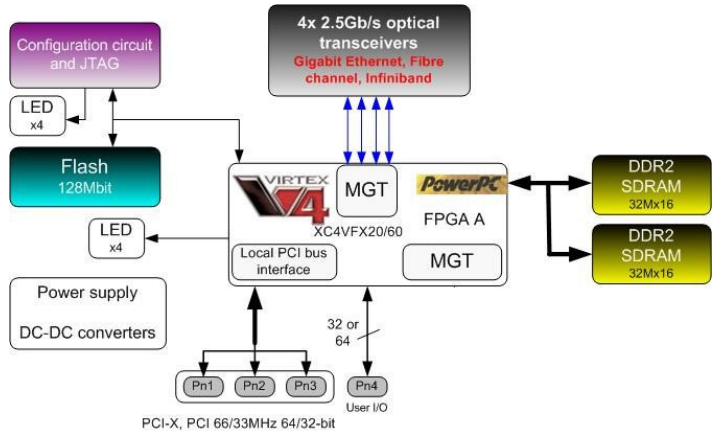
- XC4VFX20 or XC4VFX60 with embedded PowerPC RISC processor
- FPGA configuration on-board storage
- Off-the-shelf IP cores; i.e. SFPDP
- FPGA firmware design services available upon request

Memory

- 2 x 32M x 16 DDR2 SDRAM default (up to 256MB)
- 128Mbit flash device

Measured sustained bandwidth

- 64-bit 133MHz = 760Mbytes/s
- 64-bit 66MHz = 450Mbytes/s
- 32-bit 33MHz = 120Mbytes/s



I/O and Front Panel Interface

- 4x 2.5Gbps optical transceivers for sFPDP, Fibre Channel, Gigabit Ethernet and Infiniband applications and other fiber optic based communication standard protocol applications.
- PMC connector Pn4 64 user I/Os

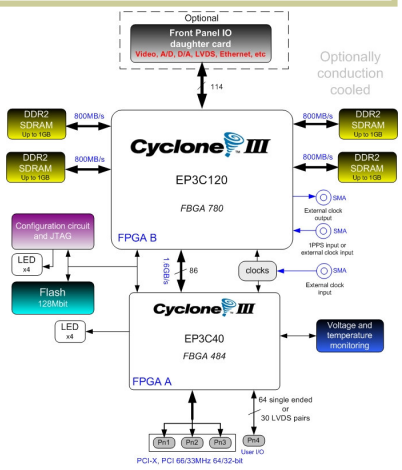
Software Support

- 4DSP's Software design Tool Stellar IP . A simple way to design FPGA firmware with automated code and bitstream generation.
- FPGA reference design
- Software GUI for card control
- Software utility to program on-board Flash with FPGA configuration data
- Device driver for Windows 2000/XP, Linux and VxWorks
- Test /demonstration application
- Custom FPGA firmware /application /driver development available upon request

FM577—Dual Altera Cyclone III based FPGA PMC Low-Cost DSP Solution

The FM577 is a low-cost, low-power 65nm FPGA-based board available in the PMC form factor. The architecture is based on two very competitive and resourceful Cyclone III FPGA devices. The FM577 offers high-functionality without compromising the performance or the ease of design. The board also features high-density DDR2 SDRAM memory devices for memory-intensive algorithms. The FM577 can operate in thermally challenged environments. It is suitable for automotive, consumer, display, industrial, military, video/image processing and wireless markets.

The starting price is AUD4550 plus GST.



- FPGA A: EP3C40 or EP3C120
- FPGA B: EP3C120 with to 288 embedded multipliers
- FPGA configuration on-board storage
- Off-the-shelf IP cores
- FPGA firmware design services available upon request

Ruggedised subrack platform

19" subrack with enhanced shock and vibration resistance

Subracks are used for a wide range of applications. Schroff has now extended its existing product range with new components for use in harsh environments. The europacPRO subrack for railway and traffic systems already meets the requirements for shock resistance up to 5*g*. If however they are to be used in military systems, on aircraft, close to rotating machines or in power generation, these subracks, with their modular construction, are subjected to far higher demands. For these areas of application Schroff's new ruggedized product platform of components and complete subracks offers shock resistance up to 25*g*.

The high versatility of the modular 19" europacPRO subracks and the wide range of designs in the platform allow systems to be built up for the widest range of applications. All parts can be combined with one another. The subracks can be configured for stresses of up to 25*g*. Appropriately robust parts from the product range are used in line with specific customer requirements. Similarly, the EMC shielding can be upgraded simply to the required level. The dimensions of the subracks can be selected in heights from 3 to 12 U and in widths from 21 to 84 HP.

The standard subrack consists of two side panels and at least four horizontal rails. By using stronger side panels, reinforced horizontal rails and 19" brackets or corner profiles the subracks can be adapted to the stresses specified e.g. in mobile applications or in particularly harsh environments.

All standard guide rails can also be used in harsh environments. Where necessary the guide rails can additionally be bolted to the horizontal rail. There are also ductings to accept Card-Loks or clamshells in 0.8" intervals. Other dimensions for guide rails with 0.85" or 1.0" (as per VITA 48.3) increments can also be provided on request. Special cover plates reduce noise caused by vibration. All front surfaces of the subrack parts are anodised, giving the user a functional, scratch-resistant and visually attractive finish. Yellow chromated finishes are also available on request.

The subracks satisfy IEC 60297-3-100 to IEC 60297-3-105 and IEEE 1101.1, 1101.10 and 1101.11. They can be ordered as kits or individually configured on the basis of the extensive product platform, with quantities starting with 1.

GPS Receiver for Data Acquisition Cubes

Synchronise PowerDNA Cubes within 1usec

The DNA-GPS provides a high performance GPS receiver capability for PowerDNA and UEILogger Cubes. The GPS provides location information with a positional error less than 3 meters in areas served by the WAAS and 15 meter accuracy worldwide. In addition to providing location information, the GPS is an ideal source of accurate time/date information. Finally, the GPS 1 PPS (pulse per second) output is synchronized to UTC time within ±1 microsecond. This makes the GPS's 1 PPS signal an exceptionally accurate means to synchronize systems, whether across the room, or across the continent.

The heart of the DNA-GPS is the Garmin GPS 16-HVS. It offers an ideal combination of high accuracy, low power, small size and ease of use. It's even waterproof (1 meter for 30 minutes). To simplify connection of the GPS to the Cube, the DNA-GPS product includes the DNA-STP-GPS break-out board. The DNASTP-GPS splits the signals on the GPS RJ-45 connector into more easily connected utilized connectors. It provides the two GPS serial ports on standard DB9 connectors. It maps the 1 PPS signal directly into the cube's sync connector (as well as a BNC). It receives power from a standard cube daisy-chain connector. An on board LED flashes on each 1 PPS signal, allowing a quick visual confirmation of proper GPS operation and satellite synchronization. The DNA-GPS includes all the appropriate cables required to interface the various GPS signals to the Cube.

Wind River Expands Multi-core Software Capabilities and Support for 2nd Generation Intel® Core™ Processor Family

ALAMEDA, Calif. — Jan. 5, 2011 — Wind River, a world leader in embedded and mobile software, will optimize its multi-core solutions and commercially support the 2nd Generation Intel® Core™ processor family with board support packages across Wind River's diverse software portfolio.

Aligning its long-term product roadmaps with Intel, Wind River will expand hardware support for the 2nd Generation Intel Core processor family on its VxWorks and Wind River Linux operating system platforms, Wind River Hypervisor, Wind River Workbench and Wind River Workbench On-Chip Debugging multi-core JTAG tools and provide Wind River Simics model library pre-silicon support. Additionally, these solutions are backed by Wind River's world-class global support and services. Given the new processor's strong emphasis on graphics performance, Wind River's extended hardware support is especially significant to customers in the aerospace and defence, industrial, medical, and networking market segments, for a variety of use cases such as military radar imaging or patient monitoring systems.

"The level of sophistication and computing power required for graphics in embedded devices is growing dramatically, especially in the areas of aerospace and defence, industrial and medical imaging, and networking," said Warren Kurisu, vice president of VxWorks product management at Wind River. "Through tight integration to optimize our portfolio of multi-core software solutions for the 2nd Generation of Intel® Core™ processors, Wind River helps developers keep pace and stay competitive, especially as they tackle multi-core environments and create rich visual environments for embedded devices."

"The 2nd Generation Intel® Core processor family is a tremendous advancement in embedded computing performance and capabilities over any previous generation," said Matt Langman, director of product marketing, Embedded Computing Division at Intel. "Early solutions from our ecosystem members and affiliate companies, like Wind River, helps customers get to market faster with highly optimized hardware and software solutions."

The 2nd Generation Intel Core processor family delivers enhancements extending chip performance and battery life as well as several significant built-in features designed to deliver rich visual experiences. Intel's "ring" architecture allows the built-in processor graphics engine to share resources with the processor's core to increase computing and graphics performance while maintaining energy efficiency. The processor graphics deliver enhanced visual features in areas such as HD video, 3-D imaging, gaming, multitasking, and online social engagements and multimedia.

DNA-AI-217 Rugged Analog Input Board
For very high resolution Test & Measurement Tasks

The DNA-AI-217 is a 16-channel simultaneously sampling A/D board compatible with UEI's popular Cube . The AI-217 features 24-bit resolution, and 7 software selectable input ranges.

One A/D per channel allows all channels to be sampled simultaneously at rates up to 120 kS/s each (480 kS/s max aggregate entire board). The A/D per channel configuration virtually eliminates input cross talk and channel settling time issues even when connected to high impedance signal sources.
The DNA-AI-217 is fully isolated from the Cube and is over-voltage protected up to ±40 V (power on or off). The inputs go into a high impedance mode when power is removed making the AI-217 ideal for use in redundant measurement/control applications.

Software included with the DNA-AI-217 provides a comprehensive yet easy to use API that supports Windows as well as Linux and most real-time operating systems. Finally, the UEIDAQ Framework supplies complete support for those creating applications in data acquisition software packages such as LabVIEW, MATLAB/Simulink, DASYLab or any application which supports ActiveX or OPC servers.

Rated to withstand -40°C to 85°C temperatures, 50-g shock, 5-g vibration, and altitudes to 70,000 ft, the DNA-AI-217 offers environmental specifications unmatched in the industry. Up to 96 channels are possible in a single 4x4x5.8-in. cube. Higher channel counts are easily supported by adding cubes. These additional boards and cubes may be located adjacent to each other, or may easily be distributed at intervals up to 100 m via standard CAT5 Ethernet cables (20 km via fiber interface). All channels in multiple cube applications can be easily synchronized, and all channels will sample simultaneously at distances up to 1000 ft.