

**Acromag**

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[www.acromagembedded.com](http://www.acromagembedded.com)**Acromag**   
THE LEADER IN INDUSTRIAL I/O**PMC Virtex-5 FPGA I/O for Logic or DSP**

Acromag's new PMC-VLX and PMC-VSX modules interface I/O signals to a user-configurable Xilinx Virtex-5 FPGA. This powerful FPGA can process user-defined algorithms and custom logic routines on analog or digital I/O signals depending on the interchangeable I/O extension module inserted. All models are designed for either air-cooled or conduction-cooled applications. Typical uses include sonar/radar, military servers, signal intelligence, hardware simulators, communication processing, and automated test equipment.

Powerful and versatile, these PMC modules offer a choice of Virtex-5 FPGAs to match your logic and signal processing requirements. PMC-VLX models are optimized for high-performance logic with a choice of three logic cell capacities. The PMC-VSX is designed for high-speed DSP operations.

The PMC base board provides 64 I/O lines, configurable as LVTTTL or 32 LVDS, via the J4 rear connector. Optional AXM extension I/O mezzanine modules can plug in to interface a variety of additional analog and digital I/O signals.

Large, high-speed memory banks provide efficient data handling. Generous DDR2 SDRAM buffers store captured data prior to FPGA processing. Afterward, data is moved to dual-port SRAM for high-speed DMA transfer to the bus or CPU. A PCI-X interface ensures fast data throughput.

Acromag's Engineering Design Kit provides utilities to help users develop custom programs, load VHDL into the FPGA, and establish DMA transfers between the FPGA and the CPU. The kit includes a compiled FPGA file and example VHDL code for all major board functions.

**FEATURES**

- › User-configurable Xilinx Virtex-5 FPGA optimized for logic or DSP
- › XC5VLX85T/110T/155T FPGA models provide up to 155K logic cells
- › XC5VSX95T FPGA provides 94K logic cells and 640 DSP48E slices
- › PCI-X bus 100 MHz 64-bit interface
- › Supports dual DMA channel data transfer to CPU/bus
- › Supports front I/O (via extension modules) and rear I/O (internal)
- › Plug-in I/O extension modules provide 16-bit 105 MHz A/D, RS-485 differential, CMOS, or LVDS I/O
- › 64 I/O lines with direct connection to FPGA via rear J4 connector
- › FPGA code loads from PCI bus or flash memory
- › Two banks of 256 Kb x 32-bit dual-ported SRAM and two banks of 32 Mb x 16-bit DDR2 SDRAM
- › Supports both 5 V and 3.3 V signaling
- › Supports Xilinx ChipScope™ Pro interface
- › Conduction-cooled or up to -40 °C to +85 °C operating range