

## XP862-FPGA ALGORITHM DEVELOPMENT MODULE



**Power PC based with full expansion capability**

**Application expandable using stackable daughter cards**

**Ideal for DSP, communication, network connectivity and high speed video processing**

**Linux/Xilinx based signal processing with free software tools**

**Standard FPGA Development Package includes:**

**XP862 Processor Board (6U) with:**

- 100 Mhz Motorola Power PC
- 512KB Primary Flash & 8MB Secondary Flash
- 128MB SDRAM and 32KB NVSRAM
- 128MB NAND Flash File System
- Dual 10 & 100 Base T Ethernet & Comm Ports
- Linux Pre-installed

**FPGA Daughter Card (stackable 3U) with:**

- Reconfigurable FPGA Parallel I/O Controller Interface
- Dual Xilinx Spartan-II FPGA's
- 1MB Dual Port Memory-simultaneously accessible

**Software Development Kit (CD-ROM)**

- The software development kit (PPC-LDK) contains three basic types of software tools, the first is for host computer build software, the second for device communications and the third for target (FPGA daughter card) software.

- **Host software**

PPC-LDK includes a complete development toolset that allows the software for the embedded board to be built on the host computer. These tools include:

- GNU gcc compiler
- GNU binutils
- uClibc compact C library
- gdb debugger
- jffs2 journalling flash filesystem utilities
- ruby script language

- **Device Communications software**

PPC-LDK includes communications software that allows the host computer to communicate with the target devices via the serial and ethernet ports. These communication programs include:

- minicom serial terminal
- tftp server
- nfs server

- **Target software**

The PPC-LDK target software provides a complete platform for developing embedded linux solutions on the XP862, including all levels of software from bootloader to applications. Source code for all target software is provided under a Free Software license and includes:

- Bootloader
- Hardware diagnostics
- Linux kernel includes drivers for all devices on the XP862 boards including:
  - ethernet
  - serial port
  - NOR flash
  - NAND flash
  - LED bank
  - NVRAM
- Current daughter card drivers for XP862-DSP (FPGA, X2SCSI) include:
  - Xilinx reprogrammable co-processor board
  - PCI controller
  - Cardbus controller
  - SCSI controller
- Linux applications include system software, servers, and development tools.
  - busybox system software
  - telnet server
  - boa embedded webserver
  - iptraf network monitor
  - flash utilities

**Optional Daughter cards:**

- Auxiliary PCI, SCSI, PCMCIA/Card Bus Interface
- IEEE1394B Firewire/USB Interface
- 1.0GB SDRAM
- Hard Disk Cache

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