High-Performance, Flexible Hardware Development Platform

- PICMG 2.0 r3.0 compliant CompactPCI 6U form factor

- The PCI 9656 I/O Accelerator

- Supports 64-bit, 66MHz CompactPCI bus operation

- Supports 32-bit, 50MHz PowerQUICC bus

- 4Kb EEPROM, 8.5 MB Flash, and 64MB SDRAM

- CPLD Local Bus memory controller and 512KB SBSRAM

- One 10/100 Mbit Ethernet port and two RS-232 serial ports

- PLX Option Module (POM) expansion connector

- MPC860 BDM development port

- Includes 0.1" through hole grid space for through hole devices

Complete Design Documentation

- OrCAD schematics

- Bill of Materials (BOM)

- OrCAD layout source with Gerber output files

- CPLD Memory controller Verilog source code

- All hardware manuals in PDF format

Comprehensive Software Development Environment

- Windows 98/Me/NT/2000 device drivers with source code

- PCI 9656 Host and Local APIs and object code libraries with source code

- PLXMon Windows GUI debug tool for monitoring, debugging, configuration, and code download

- VxWorks and Linux support

- Compatible with Motorola MPC860 software development tools

CompactPCI 9656RDK–860

Rapid Development Kit For PCI 9656 with Motorola PowerQUICC Designs

An Invaluable Development Aid

The PLX CompactPCI 9656RDK-860 RDK provides a comprehensive PCI 9656 design and development environment for 64-bit 66MHz PICMG 2.0 r3.0 CompactPCI-compliant adapters based on the Motorola PowerQUICC processor. The RDK supports PICMG 2.1 r2.0 Hot Swap and provides reusable hardware and software components to shorten the design cycles of both hardware and software based on the PCI 9656 and MPC850/860 PowerQUICC combination. The CompactPCI 9656RDK-860's software and hardware registers are backward-compatible with PLX's CompactPCI 9054RDK-860, allowing designers to migrate their existing 32-bit, 33MHz PCI bus PowerQUICC designs into 64-bit, 66MHz PCI solutions. The RDK includes the PLX Software Development Kit Professional Edition (SDK-PRO) to provide a comprehensive host-side and local-side (embedded) software development platform. The SDK-PRO is also compatible with Motorola's MPC850/860 PowerQUICC software development tools.
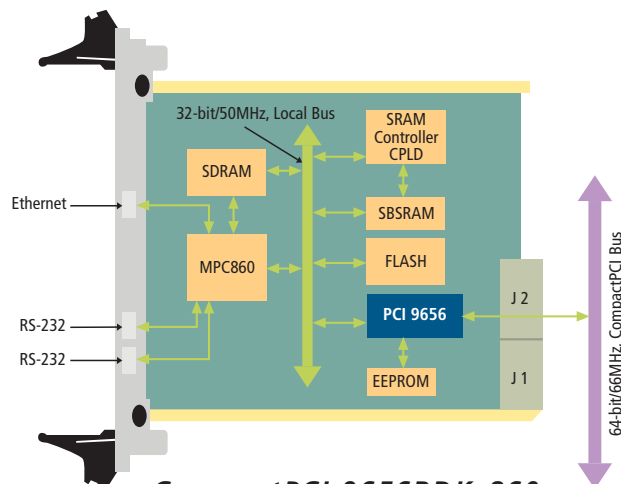
A Complete Package

The CompactPCI hardware reference board serves as both a hardware and software development platform for PCI 9656 based designs. The board is configured for Motorola PowerQUICC Processor bus operation with a MPC860T processor on board. Its local bus CPLD memory controller and SBRAM demonstrates PCI 9656 long burst capability. It also has two RS232 serial ports and one 10/100Mbit Ethernet port which can be used for embedded OS development purpose. A 0.1" through hole grid can be used for through hole devices.

The Hardware Development Kit (HDK) CD-ROM includes complete documentation of the reference board hardware design, making its components easily reusable in your designs. This documentation includes the board schematics, the board layout source and output files, BOM, the Verilog source code for the memory controller CPLD and manuals in PDF format.

The SDK–PRO is a comprehensive software tool providing complete host and local side software programming capability. It includes Windows 98/Me/NT/2000 drivers for the reference board, PCI 9656 specific APIs and object code libraries, the PLXMon Windows GUI debug tool, and VxWorks and Linux OS supports. The drivers and APIs source code are included so that you can easily modify them to fit your special project needs. The APIs are backward compatible with the PCI 9054, enabling the easy migration of PCI 9054 software to the PCI 9656.

CompactPCI 9656RDK-860 Block Diagram

Labels in diagram: Ethernet, RS-232, RS-232, 32-bit/50MHz, Local Bus, SDRAM, MPC860, SRAM Controller CPLD, SBSRAM, FLASH, PCI 9656, EEPROM, J 2, J 1, 64-bit/66MHz, CompactPCI Bus

CompactPCI 9656RDK-860 Board

Function	Description
PCI Bus Interface	PLX PCI 9656 I/O Accelerator
Processor	Motorola MPC860T PowerQUICC
Processor Speed	32-bit, 50MHz Max
PCI Bus Speed	64-bit, 66MHz Max
Local Bus Speed	32-bit, 50MHz
SDRAM	64 Mbytes (16 M x 32)
SDRAM Controller	MPC860 internal memory controller
Sync Burst SRAM	512 Kbytes (128K x 32)
Sync Burst SRAM Controller	Lattice ispLSI 2064 V
Boot ROM FLASH	512 Kbytes (512K x 8)
BULK FLASH	8 Mbytes (8M x 8)
10/100 Mbit Ethernet port	MPC860 10/100 NIC
Two RS-232 Serial Ports	MPC860 SCC1 and SCC2
BDM Port	MPC860 debug port
MPC860 Peripheral Port	PLX Option Module 2 (POM2)

CompactPCI 9656HDK-860 CD-ROM

Contents	Description
CompactPCI 9656HDK-860 CD-ROM	A CD-ROM containing all hardware design information: OrCAD schematics, OrCAD layout source and Gerber output files, Bill of Materials (BOM), glue logic code, hardware manuals in PDF format

PLX SDK-PRO Package

Contents	Description
PCI 9656 API with source code and object code librariesfor the MPC860	Simplifies the programming of complex hardware control with simple, powerful API calls. The reusable components enable easy creation of device drivers for RTOS or customer environments and provide for easy porting to future PLX PCI devices
Board Support Package (BSP) with "C" source code	Allows easy porting to customer design
Windows 98/Me/NT/2000 drivers	PCI 9656 Windows reference drivers
PLXMon™	Enables easy monitoring, debugging, and configuring of PLX's PCI devices and other PCI/local bus devices. Supports downloading of sample boot FLASH code onto RDK or customer design and allows debugging via serial ports
Comprehensive Manuals	Shortens learning curve and development cycles

Product Ordering Information

Part Number	Description
PCI 9656-AA66BI	PCI 9656 I/O Accelerator Chip (PBGA)
CompactPCI 9656RDK-860P	CompactPCI Rapid Development Kit with PLX PCI 9656 I/O Accelerator Chip and Motorola MPC860 PowerQUICC
PCI 9656RDK-LITE	PCI 9656 flexible Rapid Development Kit
SDK-LITE	Windows host side software development kit for PLX I/O Accelerators and Processor
SDK-PRO	Windows host and local sides software development kit, plus RTOS and source code for PLX I/O Accelerators and Processor

Please visit the PLX Web site at http://www.plxtech.com or contact PLX sales at 408-774-9060 for pricing and sample.

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