

PROCeI™ Low Profile PCI Express FPGA Board

Key Features

- Altera Stratix II 60 or 180 FPGA.
- Low profile card
- Up to 179400 logic elements.
- PCI Express x8 lanes with full duplex operation.
- 8 DMA channels.
- Four level memory structure :
 - ✓ Up to 930 M512 RAM blocks (32 x 18 bits).
 - ✓ Up to 768 M4K RAM blocks (128 x 36 bits).
 - ✓ Up to 9 MegaRAM blocks (4K x 144 bits).
 - ✓ 2 DDR II DRAM banks 256MB each. With up to 4.8 GB/s sustain access. (Access of up to 32 ports in parallel).
- Unique DDR memory controller enables innovative algorithm designs.
- One PSDBI (**PROCeI** daughterboard) connector.
- Up to 115 available I/Os via PSDBI connector.
- LVDS I/Os.
- Flexible clocking system.
- Typical system frequencies: 100 - 300MHz.
- Supported by [GiDEL PROCDeveloper's Kit](#) and [GiDEL HIL Developer's Kit™](#).

Benefits

- High performance
- Maximum flexibility to fit your algorithm needs
- Cuts project development cycle time and budget
- Improve system reliability
- Improve system maintainability
- Long life cycle
- Affordable pricing



Overview

PROCeI™ LP boards provide a low profile FPGA-based platform for Hi-Speed data acquisition systems, vision systems, DSP applications and powerful reconfigurable computing. The FPGA, the memory and the daughterboards' flexible architecture (system I/O etc.) of the **PROCeI** system, enable the user to build complex designs at affordable price.

The low profile **PROCeI** LP with the addition of **PROC Developer's Kit™** and the **PROC_HILs™** option, improves the project time-to-market. There is no need to design the boards, the PCI driver, an application driver layer, define board constraints, design memory controller or write host interface code. This enables designers to focus on their proprietary value-added design instead of spending their valuable time to recreate standard design components.

With the **PROCMultiPort™**, **PROC MegaFIFO™**, **PROC MegaDelay™** innovative memory controller, the generated HDL code enables high speed, easy-to-use parallel access to large memories.

PROCeI daughterboards (PSDBIs) enables users to achieve system connectivity with the **PROCeI** board.

Application Examples

- Powerful frame grabber
- Vision, imaging and image recognition
- DSP
- System hardware acceleration
- Test equipment
- Aerospace and military systems
- Algorithm design and verification
- Rapid prototyping

Development Environment

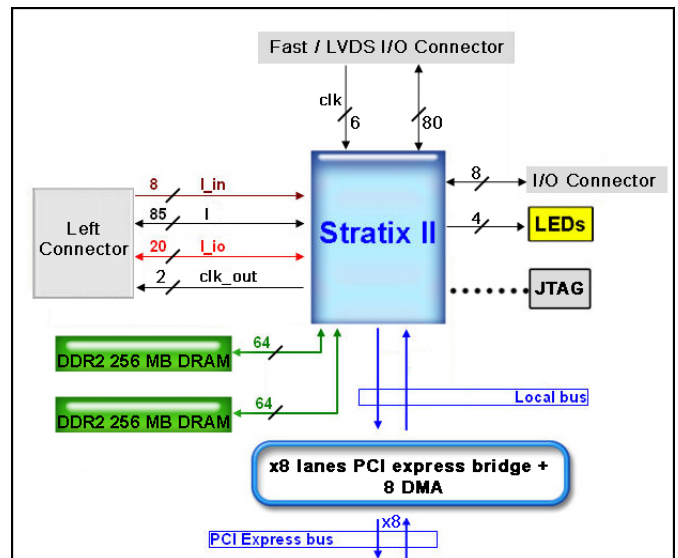
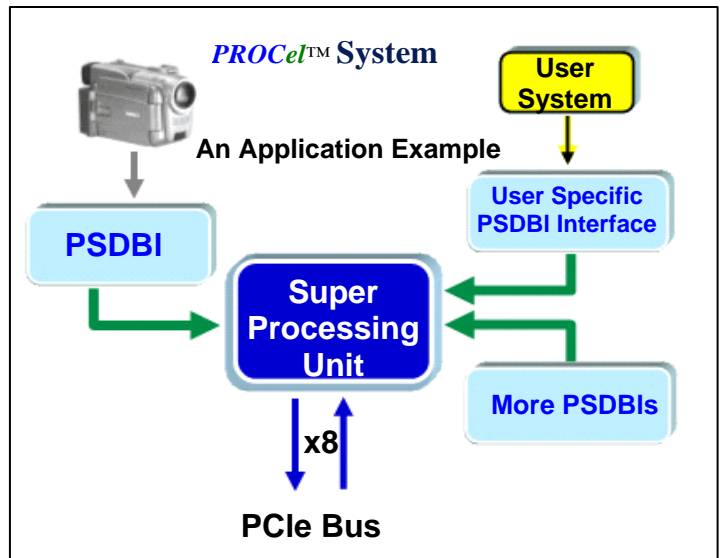
The **PROCWizard™** initializes the hardware and automatically generates the:

- C++ class application driver
- Top-level designs and the interface modules / entities
- Device constraints (as pin-outs and pin drive)
- Interface documentation in HTML or Microsoft Word

The **PROCMultiPort** core provides three basic benefits:

- Simplifies achieving high system performance
- Replaces the need for inventory of special memories with standard memory and IP.
- The USB / ByteBlaster via SignalTap / Identify, enable visibility of internal nodes using the available on-board memory.

PROCel is not supported by Linux Operating System.



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