

## PEX 8112 Key Features

- ◆ Small Package Size
  - 10x10mm<sup>2</sup> Fine-Pitch BGA
  - 13x13mm<sup>2</sup> Std-Pitch BGA
- ◆ Low Power (400mW)
- ◆ Single (x1) PCI Express Lane
- ◆ 32-bit/66MHz PCI Interface
- ◆ Supports Both Forward- and Reverse-Mode PCI Express to PCI Bridging
- ◆ Both leaded and lead-free packages available in I-temp

## Other Features

- ◆ Large 8KB Internal FIFO
- ◆ 128 byte maximum PCI Express payload size
- ◆ 3.3V I/O and 5V tolerant PCI
- ◆ PCI Express Flow Control Buffering
- ◆ Eight (8) outstanding PCI Express Transactions
- ◆ Completely integrated PCI Express PHY
- ◆ External EEPROM configuration option
- ◆ Four (4) GPIO pins for maximum design flexibility
- ◆ JTAG
- ◆ External arbiter or internal programmable arbitration for up to four bus masters
- ◆ Option to provide PCI clock
- ◆ Supports PCI and Virtual Interrupts (MSI)
- ◆ Lead-free packaging also available

## Application:

### ***Mobile and Embedded Computing***

## PLX Product:

### ***PEX 8112 – x1 PCIe-to-PCI Bridge***

### ***PEX 8508 – PCIe Gen 1 Switch***

## Key Benefit:

### ***Adding PCI Slots and Extra PCIe Connections to Menlow Chipset-based Systems***

## Still need PCI? Need more PCIe Ports?

The new low power Menlow chipset has been developed for mobile and other low power small form factor applications; as such, it only provides two single-lane Gen1 PCIe interfaces. This means it has no PCI ports and a very limited set of I/O capability. Mobile applications such as UMPC's, or systems using Mini ITX, ATX, micro-ATX and Flex ATX form factors typically need more I/O to connect to networks and storage devices, and many still need PCI connections for various endpoints like modems and codecs that have not been implemented in PCIe native flavors.



## The PEX 8112 and PEX 8505 solve the problem together



The simple addition of the ExpressLane™ PEX 8112 PCIe bridge and the PEX 8505 PCIe switch will quickly solve this problem. This will provide additional PCIe ports, and continued usage of PCI-based legacy devices, without the need to redesign the endpoint silicon.

The PEX 8112 supports up to a 66MHz 32-Bit PCI bus and converts it to a single x1 lane of PCI Express in Forward Mode. The PEX 8112 was built for opportunities such as these on low power system boards that need additional PCI slots.



The addition of the PEX 8112 can require as little as one square centimeter of additional board real estate to convert the PCI interface to a single x1 lane PCIe. In addition, the bridge only draws 400 milliwatts of additional power. The small footprint, low power consumption and low cost of the PEX 8112 make it an ideal fit for this application.

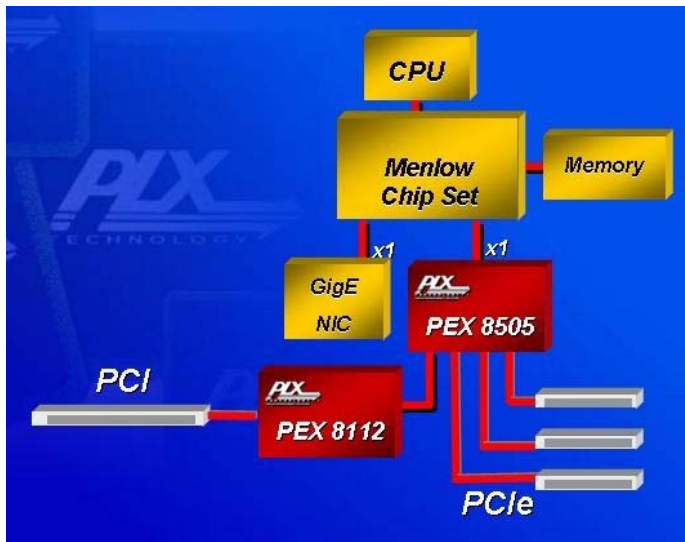


Figure 1. Menlow-based chipset I/O Expansion Block Diagram

## Shipping NOW!

The PEX 8112 and the PEX 8505 are in production today and samples are in stock at PLX. They are offered in both lead-free ROHS compliant versions as well as the traditional leaded packages.

Part Number	Description
PEX8112-BB66BI	Standard BGA Package
PEX8112-BB66BI F	Standard BGA Package, Lead-Free
PEX8112-BB66FBI F	Fine-pitch BGA Package, Lead-Free
PEX 8505-AA13BI	Standard BGA Package
PEX 8505-AA13BI F	Standard BGA Package, Lead-Free

## Key Advantage of using PLX

PLX is the industry's leading supplier of PCI Express Bridges and Switches. The company has been focused on the design and support of silicon since the first wave of PCI Express systems. Below is a table showcasing the PCIe bridges that are available today. Much more info is at

[www.plxtech.com/pcie](http://www.plxtech.com/pcie)

PCIe Bridges	Lanes	Description
PEX 8112	x1	PCI-to-PCIe
PEX 8114	x4	PCI-X-to-PCIe
PEX 8311	x1	Local bus to PCIe

PLX also offers a full line of Gen 1 and Gen 2 PCI Express switches.

## Design Tools & Documentation:

On PLX Public ToolBox:

<http://www.plxtech.com/8112>

- ◆ Data Book, Product Brief, IBIS Models, HSPICE Models, BSDL Files

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