

PEX 8114 Key Features

- ◆ Supports Both Forward- and Reverse-Mode PCI Express to PCI/PCI-X Bridging
- ◆ Small 17x17 mm² Std-Pitch BGA
- ◆ Low Power – 2 Watts
- ◆ x4 PCI Express Link
 - Configurable as x1, x2, or x4
- ◆ On PCI-SIG PCIe Integrators List
 - PCIe 1.0a compliant
 - PCI 3.0-compliant at 64-bit, 66MHz
 - PCI-X 1.0b-compliant at 64-bit, 133MHz
- ◆ Serial EEPROM configuration option
- ◆ Both Leaded and Green Lead-Free packaging available

PLX Advantage Summary

- ◆ Leader in PCI Express offering the broadest product line of bridges and switches which are shipping today
- ◆ Active membership in PCI-SIG
 - PCIe cable working group
 - Express Module working group
- ◆ Active membership of PICMG
- ◆ Fully Tested for Interoperability and SIG Compliance

Application:

PCIe-to-PCI-X Riser Card

PLX Product:

PEX 8114 – PCIe-to-PCI-X Bridge

Key Benefit:

Support PCIe-based Servers with PCI-X I/O Cards

Riser Card Allows PCI-X Cards to Connect to PCIe Based Rack Servers and Storage Controllers

Rack servers and storage controllers often need extra slots to expand the number of I/O cards that can be used in the system.

PCIe riser cards allow this expansion by providing a method of mounting add-in cards parallel to the system board, rather than the traditional vertical mount as seen in full-size systems. While most of today's servers have PCI Express slots, many don't have PCI or PCI-X slots. Question: what do you do if you need to add an I/O card to a low profile rack server that is not available with a PCIe interface?



Small Footprint PEX 8114 Provides PCI-X Connectivity and Shrinks Riser Card

In addition to needing extra slots, these servers also require the ability to connect to PCI-X cards since not every I/O function has been implemented with PCIe native interfaces on an add-in card. This calls for a bridge from PCIe to PCI-X. Not just any bridge either -- this bridge must have a small enough footprint to fit on a narrow riser card, have low power dissipation and must have proven interoperability with a broad variety of PCI-X devices.



This is exactly what you get when you use the PEX 8114 from PLX on a riser card design. The PEX 8114's low power (2W), small footprint (17x17mm²) and extensive interoperability testing make it the best bridge for the job.

PEX 8114 – Flexible & Versatile PCIe-to-PCI-X Bridge

The PLX *ExpressLane*™ PEX 8114 is a high performance bridge designed to the PCI Express-to-PCI/PCI-X Bridge Specification 1.0 that enables designers to migrate legacy PCI and PCI-X Bus interfaces to the new advanced serial PCI Express. This 2-port device is equipped with a standard but flexible PCI Express port that scales to x1, x2, or x4 and a parallel bus segment supporting the advanced PCI-X protocol or conventional PCI operation. The PEX 8114 is capable of operating in forward or reverse transparent bridge modes. In forward mode, the bridge allows legacy PCI/PCI-X chips and adapters to be used with new PCI Express processor systems. Reverse bridge operation allows conventional PCI/PCI-X processors and chipsets to configure and control advanced PCI Express switches and endpoints.



All PLX products go through rigorous simulation verification, pre-silicon emulation, post silicon validation, system interoperability and PCI-SIG compliance testing.

The PEX 8114 also supports hot-plug controllers on the PCIe side, and a wide variety of PCI standards on the other side, including 32-bit, 64-bit PCI and PCI-X protocols from 25 to 133MHz.

Switches & Bridges Available Today!

PLX is shipping three PCIe bridges (PEX 8111, PEX 8114 and PEX 8311) and several PCIe switches. The PEX 8111 is PCIe-to-32bit PCI bridge. The PEX 8311 is a local bus to PCIe bridge.

Test Design Concept Now With Rapid Development Kit

The PEX 8114 Forward Mode Rapid Development Kit (PEX 8114RDK-F) provides a quick utility to prove out your design concept. The RDK offers a known, working hardware environment. You can take your existing PCI-X Card and plug it into this card to prove out the concept. The RDK will be able to plug into a PCI Express socket with your card on the other side of the bridge.

Product Ordering Information

Part Number	Description
PEX8114-BC13BI	Standard PBGA Package
PEX8114-BC13BI G	Standard PBGA Package, Lead-Free
PEX8114RDK-F	Forward Bridge Reference Design Kit
PEX8114RDK-R	Reverse Bridge Reference Design Kit

Design Tools & Documentation:

On PLX Public Tool Box:

<http://www.plxtech.com/PEX8114>

Data Book, IBIS Models, BSDI Files, App Notes, Product Brief, Hspice Models, you-name-it, we got it.

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