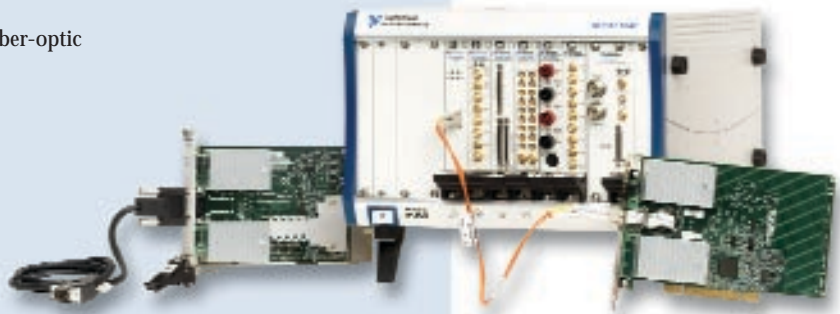


PC Control of PXI (MXI-4)

NI PXI-PCI8331, NI PCI-8331, NI PXI-8331 NI PXI-PCI8336, NI PCI-8336, NI PXI-8336

- Multichassis configurations for PXI and CompactPCI
- MXI-4 link performance
 - 132 Mbytes/s peak
 - 78 Mbytes/s sustained
- Fiber-optic or copper cabling
 - Low cost with copper
 - Electrical isolation and long-range with fiber-optic
- Rugged connectivity
- Error checking and retransmission
- Support for 5 V and 3.3 V PCI

NEW



Overview

The National Instruments PXI-PCI833x interface kits give PCs direct control of PXI systems using MXI-4 technology. You can also use NI PXI-8331 and NI PXI-8336 modules for linking multiple PXI chassis. MXI-4 is a high-bandwidth link that is transparent to software applications and drivers, therefore providing the ability to use high performance desktop computers or servers to control PXI systems.

Hardware

PC Control of PXI

With a MXI-4 link, you can transparently control a PXI system from any PCI slot, so high-performance desktop computers or servers can control PXI systems. Because PXI is based on the industry-standard PCI bus, MXI-4 provides a transparent link where all PXI modules appear to the user as if they were PCI boards within the computer itself. However, you benefit from the increased number of slots, power and cooling per slot, module selection, and synchronization features provided by PXI. Additionally, with fiber-optic MXI-4 you can electrically isolate your PXI measurement hardware from the PC with extended length cabling up to 200 m.

The MXI-4 link consists of a PCI-8331 (copper) or PCI-8336 (fiber-optic) board in the PC, connected via the appropriate cable to a PXI-8331 (copper) or PXI-8336 (fiber-optic) module in slot 1 of a PXI chassis. For convenience, you can purchase either a complete MXI-4 kit with all necessary components, or purchase the PCI board, PXI module, and cable separately.

Multichassis PXI Systems

MXI-4 can be used to connect multiple PXI chassis in a star or daisy-chain configuration within a single system. To connect two PXI chassis together with MXI-4, install a PXI-8331 (copper) or PXI-8336 (fiber-optic) module into any peripheral slot of the master chassis. Connect with the appropriate cable to a second PXI-8331 or PXI-8336 in slot 1 of the slave chassis. For more information on the possible star and daisy-chain topologies, please see the *MXI-4 User Manual*.

MXI-4 Technology

MXI-4 operates as a PCI-to-PCI bridge that achieves software and hardware transparency and high performance. MXI-4 builds on the standard PCI-to-PCI bridge architecture by splitting the bridge into two halves connected by a 1.5 Gb/s serial link. Additionally, you can create multiple-chassis PXI systems using multiple MXI-4 links. The PCI specification allows up to 255 buses to be connected in a system via PCI-PCI bridges such as MXI-4.

MXI-4 is an evolution of MXI-3. MXI-4 improves on MXI-3 by supporting both 3.3 V and 5 V PCI signaling environments, error checking and retransmission on the serial link for greater reliability in electrically noisy or harsh environments, and industrially rugged connectors.

PC Control of PXI (MXI-4)

Ordering Information

For online configuration of a complete PXI system, including chassis, modules, and all accessories, visit ni.com/pxiadvisor.

MXI-4 Kits for PXI/CompactPCI
NI PXI-PCI8331 with 3 m copper cable778640-03
NI PXI-PCI8336 with 10 m fiber-optic cable
(isolated)778641-10
(Kit includes one PCI MXI-4 board (PCI-833x), one PXI MXI-4 module (PXI-833x)
module, and one cable).

PXI MXI-4 Interface Modules
NI PXI-8331 (copper)778955-01
NI PXI-8336 (fiber-optic)778957-01

PCI MXI-4 Interface Boards
NI PCI-8331 (copper)778956-01
NI PCI-8336 (fiber-optic)778958-01

MXI-4 Cables
Copper
3 m190957-03
5 m190957-05
10 m190957-10
Fiber-optic
10 m778959-10
30 m778959-30
200 m778959-200

BUY ONLINE!

Visit ni.com/info and enter pxi-pci833x.

Specifications

Power Requirements

Volts	Current (ADC)			
	Typical PCI-8331, PXI-8331	Maximum PCI-8331, PXI-8331	Typical PCI-8336, PXI-8336	Maximum PCI-8336, PXI-8336
+3.3	0.25	0.30	0.35	0.4
+5	1.5	1.7	1.5	1.7

Physical

Dimensions

PCI-8331/6 10.7 by 17.5 cm (4.2 by 6.9 in.)
PXI-8331/6 3U-size module, 10.0 by 16.0 cm (3.9 by 6.3 in.)

Slot requirements One 3U PXI system controller slot or peripheral slot

Maximum cable lengths

8331 (copper) 10 m
8336 (fiber) 200 m

Compatibility Fully compatible with PXI Hardware

..... Specification 2.1, and the PCI
..... Specification 2.2

Operating Environment

Temperature 0 to 55 °C (tested in accordance with IEC-60068-2-1
and IEC-60068-2-2)

Relative humidity 10 to 90% (tested in accordance with IEC-60068-2-56.)

Storage Environment

Temperature -20 to 70 °C (tested in accordance with IEC-60068-2-1
and IEC-60068-2-2)

Relative humidity 5 to 95% noncondensing (tested in accordance
with IEC-60068-2-56.)

Shock and Vibration

Operational Shock 30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC-60068-2-27.
Test profile developed in accordance with MIL-PRF-28800F)

Random Vibration

Operating 5 to 500 Hz, 0.3 g_{rms}

Nonoperating 5 to 500 Hz, 2.4 g_{rms}

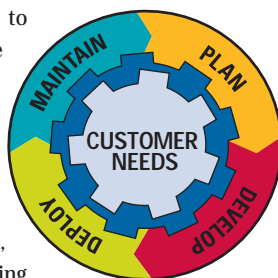
(Tested in accordance with IEC-60068-2-64. Nonoperating profile exceeds the requirements of
MIL-PRF-28800F, Class 3.)

*Specifications subject to change without notice

Note: For full EMC compliance, you must operate this device with shielded cabling. In addition, all covers and filler panels must be installed. Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, click Declaration of Conformity at ni.com/hardref.nsl/. This Web site lists the DoCs by product family. Select the appropriate product family, followed by your product, and a link to the DoC appears in Adobe Acrobat format. Click the Acrobat icon to download or read the DoC.

NI Services and Support

NI has the services and support to meet your needs around the globe and through the application lifecycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing. Visit ni.com/services.



Training and Certification

NI training is the fastest, most certain route to productivity with our tools. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application lifecycle. We schedule instructor-led courses in cities worldwide, or can hold a course at your facility. We also offer a professional certification program which identifies individuals who have a high level of skill and knowledge about using NI products. Visit ni.com/training.

Professional Services

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide NI Alliance Partner Program of more than more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit ni.com/alliance.



OEM Support

We offer design-in consulting and product integration assistance if you want to use our products in OEM applications. Visit ni.com/oem.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at ni.com/support.

We offer service programs which provide automatic upgrades to your application development environment and higher levels for technical support. Visit ni.com/ssp

Hardware Services

NI Factory Installation Services (FIS)

NI Factory Installation Services (FIS) is the fastest and easiest way to use your PXI or PXI/SCXI™ combination systems right out of the box. Trained NI technicians install the software and hardware and configure the system to your specifications. NI extends the standard warranty by one additional year on hardware components (controllers, chassis, modules) purchased with FIS. To use FIS, simply configure your system online with ni.com/pxiadvisor.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated, calibration software specifically designed for use by metrology laboratories. Visit ni.com/calibration.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit ni.com/services.



ni.com • (800) 433-3488

National Instruments • Tel: (512) 683-0100 • Fax: (512) 683-9300 • info@ni.com

© 2004 National Instruments Corporation. All rights reserved. Product and company names listed are trademarks or trade names of their respective companies.