ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *National Instruments 193355A-03* at our website: ***Click HERE***

Technical Sales

(866) 531-6285
orders@ni.com

Ordering Information | Detailed Specifications

For user manuals and dimensional drawings, visit the product page resources tab on ni.com.

Last Revised: 2014-11-06 07:13:50.0

High-Bandwidth PCI Express Control of PXI Express via MXI Express

NI PXIe-PCIe8388/9





- x16 Gen2 PCI Express control of PXI Express (theoretical maximum throughput of 8 GB/s/direction)
- Sustained practical throughput of up to 5.6 GB/s (2.8 GB/s bidirectional or 5.6 GB/s unidirectional)
- Compatible with NI rack-mount controllers (NI RMC-8354)
- Support for multichassis configurations for PXI Express systems with the NI PXIe-8389
- Support for peer-to-peer data transfers between chassis
- 1 m or 3 m copper cable options
- For support with other PCs, contact National Instruments.

Overview

The NI PXIe-PCIe8388/9 MXI-Express for PXI Express kit features a fully transparent, high-bandwidth, cabled PCI Express link for which all PXI and PXI Express modules appear as PCI boards within the computer itself. The NI PXIe-PCIe8388 uses a x16 Gen2 cabled PCI Express link to connect a PXI Express chassis to the NI RMC-8354 rack-mount controller. This kit includes an NI PCIe-8388 board in the PC that is connected via a x16 Gen2 cabled PCI Express copper cable to either an NI PXIe-8388 or NI PXIe-8389 module in slot 1 of a PXI Express chassis.

Back to Top

Application and Technology

Hardware

The NI PXIe-PCIe8388/9 kit uses a x16 Gen2 cabled PCI Express link to connect a PXI Express chassis to the NI RMC-8354 rack-mount controller. This kit includes an NI PCIe-8388 board in the PC that is connected via a x16 Gen2 cabled PCI Express copper cable to either an NI PXIe-8388 or NI PXIe-8389 module in slot 1 of a PXI Express chassis. For convenience, you can purchase either a complete kit with all necessary components or purchase the PCI Express board, PXI Express module, and cable separately.

Building High-Performance Multichassis PXI Express Systems

The NI PXIe-8389 module features a downstream port that operates at x16 Gen2 PCI Express data rates. This downstream port can be used to interface to another NI PXIe-8388/9 module in a downstream chassis. With the NI PXIe-PCIe8388/9 kit, you can interface a total of three PXI Express chassis to the same PC (NI RMC-8354). Besides interfacing to PXI Express chassis, the NI PXIe-8389 can interface external GP-GPU enclosures such as nVIDIA Tesla S2050 to PXI Express systems.

Peer-to-Peer Data Transfers

NI PXIe-8388/9 modules feature an onboard high-lane-count PCI Express switch. Because of this feature, the NI PXIe-8388 allows peer-to-peer data transfers from any PXI Express slot to any other PXI Express slot in a PXI Express chassis. Because the NI PXIe-8389 also features a downstream port, it supports peer-to-peer data transfers not only within a single chassis but also between all the daisy-chained chassis. For example, you can have an NI PXI Express digitizer in Chassis 1 stream data directly to an NI FlexRIO PXI Express module in Chassis 2, bypassing the system PC.

Note that the PXI Express chassis and the NI PXIe-PCIe8388/9 kit provide the necessary infrastructure to allow PXI Express modules to stream data peer-to-peer. However, only certain NI PXI Express modules are capable of streaming data peer-to-peer.

PC Compatibility

The NI PXIe-PCIe8388/9 kit is compatible only with NI rack-mount controllers. Because the MXI-Express link operates at high data rates, it requires low jitter on the PCI Express 100 MHz reference clock that is generated by the PC. NI rack-mount controllers offer the required low jitter and can support daisy chaining a total of four 18-slot PXI Express chassis to the same NI rack-mount controller. Refer to KnowledgeBase: 5J9C7371 for a regularly updated list of supported PCs.

Back to Top

Ordering Information

For a complete list of accessories, visit the product page on ni.com.

Products	Part Number	Recommended Accessories	Part Number
NI RMC-8354 Products			
NI RMC-8354 1U Ctrlr, Core i7-860, 1x500GB, 1GB RAM, Win7, 32-Bit	781650-04	No accessories required.	
NI RMC-8354 1U Ctrlr, Core i7-860, 4x500GB, RAID-5, 2GB RAM, Win7, 32-Bit	781651-04	No accessories required.	
NI RMC-8354 1U Ctrlr, Core i7-860, 1x500GB, 1GB RAM, Real-Time SW	781650-33	No accessories required.	
NI PXIe-PCIe8388/9 Products			
NI PXIe-8388, x16 Gen2, 1 Port, MXI-Express for PXI Express Interface	781760-01	No accessories required.	
NI PXIe-8389, x16 Gen2, 2 Port, MXI-Express for PXI Express Interface	781761-01	No accessories required.	
NI PXIe-PCIe8388, x16 Gen 2 MXI-Express for PXI Express, 1 Port,3m Cable	781759-03	No accessories required.	
NI PCIe-8388, x16 Gen2 MXI-Express for PXI Express Interface	781762-01	No accessories required.	
NI PXIe-PCIe8388/9 Cables			
x16 MXI-Express Cable, 1M	781763-01	No accessories required.	
x16 MXI-Express Cable, 3M	781763-03	No accessories required.	

Back to Top

Support and Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at ni.com/advisor to find a system assurance program to meet your needs.

Technical Support

Get answers to your technical questions using the following National Instruments resources.

- **Support** - Visit ni.com/support to access the NI KnowledgeBase, example programs, and tutorials or to contact our applications engineers who are located in NI sales offices around the world and speak the local language.
- **Discussion Forums** - Visit forums.ni.com for a diverse set of discussion boards on topics you care about.
- **Online Community** - Visit community.ni.com to find, contribute, or collaborate on customer-contributed technical content with users like you.

Repair

While you may never need your hardware repaired, NI understands that unexpected events may lead to necessary repairs. NI offers repair services performed by highly trained technicians who quickly return your device with the guarantee that it will perform to factory specifications. For more information, visit ni.com/repair.

Training and Certifications

The NI training and certification program delivers the fastest, most certain route to increased proficiency and productivity using NI software and hardware. Training builds the skills to more efficiently develop robust, maintainable applications, while certification validates your knowledge and ability.

- **Classroom training in cities worldwide** - the most comprehensive hands-on training taught by engineers.
- **On-site training at your facility** - an excellent option to train multiple employees at the same time.
- **Online instructor-led training** - lower-cost, remote training if classroom or on-site courses are not possible.
- **Course kits** - lowest-cost, self-paced training that you can use as reference guides.
- **Training memberships** and training credits - to buy now and schedule training later.

Visit ni.com/training for more information.

Extended Warranty

NI offers options for extending the standard product warranty to meet the life-cycle requirements of your project. In addition, because NI understands that your requirements may change, the extended warranty is flexible in length and easily renewed. For more information, visit ni.com/warranty.

OEM

NI offers design-in consulting and product integration assistance if you need NI products for OEM applications. For information about special pricing and services for OEM customers, visit ni.com/oem.

Alliance

Our Professional Services Team is comprised of NI applications engineers, NI Consulting Services, and a worldwide National Instruments Alliance Partner program of more than 700 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit ni.com/alliance.

Back to Top

Detailed Specifications

This appendix lists the system specifications for NI PCIe-8388 and NI PXIe-8388/9 cards. These specifications are typical at 25 °C, unless otherwise stated.

Note Specifications are subject to change without notice.

Physical

Dimensions	
NI PXIe-8388	10.0 × 16.0 cm (3.9 × 6.3 in.)
NI PXIe-8389	10.0 × 16.0 cm (3.9 × 6.3 in.)
NI PCIe-8388	6.9 × 15.4 cm (2.72 × 6.06 in.)
Maximum cable length	3 m
Slot requirements	
NI PXIe-8388/9	One system slot, plus one or two controller expansion slots (PXI Express or CompactPCI Express)
NI PCIe-8388	One PCI Express x16 slot (approved hosts only)

Note The NI PCIe-8388 requires a host computer that supplies a PCI Express clock that adheres to the *PCI Express Specification*. The NI PCIe-8388 may not be compatible with systems with noncompliant clocks, particularly systems with clocks whose frequency peaks over 100 MHz. Refer to *KnowledgeBase 5J9C7371* on ni.com for host compatibility information.

Compatibility	
NI PXIe-8388/9	Fully compatible with the *PXI Express Hardware Specification,* Revision 1.0 and the *PICMG CompactPCI Express EXP.0 R1.0 Specification*
NI PCIe-8388	Fully compatible with the *PCI Express Specification,* Revision 2.0
Weight	
NI PXIe-8388	9.2 oz (261 g)
NI PXIe-8389	14.2 oz (403 g)
NI PCIe-8388	3.4 oz (96 g)

Power Requirements

NI PXIe-8388/9		
Power Rail	**Typical Current**	**Maximum Current**
+3.3 V	1.54 A	5.25 A
+5 V	0 A	0 A
+12 V	0.55 A	2.0 A
+5 V_{aux}	0.6 A	0.85 A

Environment

NI PXIe-8388/9	
Pollution Degree	2
Maximum altitude	2,000 m
Indoor use only.	
Operating Environment	
Ambient temperature range	0 to 55 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. Meets MIL-PRF-28800F Class 3 low temperature limit and MIL-PRF-28800F Class 2 high temperature limit.)

Relative humidity range	10 to 90%, noncondensing (Tested in accordance with IEC-60068-2-56.)
Storage Environment	
Ambient temperature range	– 40 to 71 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2. Meets MIL-PRF-28800F Class 3 limits.)
Relative humidity range	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. Meets MIL-PRF-28800F Class 2 limits.)
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 test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)
NI PCIe-8388	
Pollution Degree	2
Maximum altitude	2,000 m
Indoor use only.	
Operating Environment	
Ambient temperature range	0 to 55 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range	10 to 90%, noncondensing (Tested in accordance with IEC-60068-2-56.)
Storage Environment	
Ambient temperature range	–20 to 70 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-56.)

Caution Clean the NI PXIe-8388/9 and NI PCIe-8388 with a soft nonmetallic brush. Make sure that the device is completely dry and free from contaminants before returning it to service.

Safety Standards

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions

Note For EMC declarations and certifications, refer to the *Online Product Certification* section.

CE Compliance CE

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

- 2006/95/EC; Low-Voltage Directive (safety)
- 2004/108/EC; Electromagnetic Compatibility Directive (EMC)

Online Product Certification

To obtain product certifications and the DoC for this product, visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Artisan Technology Group - Quality Instrumentation Guaranteed | (888) 88-SOURCE | www.artisantg.com

Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial not only to the environment but also to NI customers.

For additional environmental information, refer to the *NI and the Environment* Web page at ni.com/environment. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)



EU Customers At the end of the product life cycle, all products *must* be sent to a WEEE recycling center. For more information about WEEE recycling centers, National Instruments WEEE initiatives, and compliance with WEEE Directive 2002/96/EC on Waste Electrical and Electronic Equipment, visit ni.com/environment/weee.htm.

电子信息产品污染控制管理办法 （中国 RoHS）



中国客户 National Instruments 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。
关于 National Instruments 中国 RoHS 合规性信息，请登录 ni.com/environment/rohs_china。
(For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

Back to Top

©2011 National Instruments. All rights reserved. CompactRIO, FieldPoint, MXI, National Instruments, National Instruments Alliance Partner, NI, ni.com, and NI FlexRIO are trademarks of National Instruments. Other product and company names listed are trademarks or trade names of their respective companies. A National Instruments Alliance Partner is a business entity independent from National Instruments and has no agency, partnership, or joint-venture relationship with National Instruments.

My Profile | RSS | Privacy | Legal | Contact NI © 2014 National Instruments Corporation. All rights reserved.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP