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Find the *National Instruments VXI-8360T* at our website: *Click HERE*

Technical Sales

(866) 531-6285
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Requirements and Compatibility | Ordering Information | Detailed Specifications
For user manuals and dimensional drawings, visit the product page resources tab on ni.com.

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PCI Express and ExpressCard Remote Control for VXI

NI VXI-PCIe-8361T, NI VXI-PCIe-8362T, NI VXI-ExpressCard8360T, NI VXI-8360T



- VXIplug&play compliance
- Complete interface to VXI from any PCI Express-based computer or workstation
- PXI or laptop control of VXI with an NI ExpressCard-8360
- Thin, flexible cabling
- 8 TTL backplane triggers and CLK10 available through front panel connectors
- VXI Slot 0 capability, including Resource Manager
- Up to 29 MB/s sustained throughput
- Message-based (word serial) communication
- Register-based communication
- High-performance DMA transfers

Overview

The NI VXI-MXI-Express remote controller for MXI-Express is a flexible, high-performance solution for stand-alone computer control of VXI systems. VXI-MXI-Express makes your computer perform as if it were plugged directly into the VXI backplane, giving your host computer the capability of an embedded computer. By using this controller with any PCI Express-based system running Windows Vista or XP, you can choose from a wide variety of general-purpose desktop computers, laptops, or PXI host controllers. Systems equipped with this controller combine the high-bandwidth, low-latency MXI-Express interface with low-cost, general-purpose desktop computers or laptops to produce an attractive cost/performance solution compared to embedded VXI controllers. By using MXI as your control solution, you can upgrade your PC at any time to take advantage of the latest computer technology while using the same high-speed VXIbus interface.

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Requirements and Compatibility

OS Information

- Windows 7 32-bit
- Windows 7 64-bit
- Windows Vista
- Windows XP

Driver Information

- NI-VISA
- NI-VXI

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Application and Technology

Hardware

The NI VXI-MXI-Express Kit includes the following:

- One C-size NI VXI-8360T controller
- NI PCIe-8361, PCIe-8362, or ExpressCard-8360
- 3 m x1 MXI-Express cable
- NI-VXI and NI-VISA driver software

Like MXI-2 solutions, the VXI-MXI-Express Kit features NI-VXI/NI-VISA, so you do not need to modify your applications written with NI-VXI and/or NI-VISA. VXI-MXI-Express incorporates the same MITE ASIC as the NI PCI-MXI-2 and VXI-MXI-2 interfaces to deliver the performance of MXI-2 across a thinner, more flexible cable.

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VXI-MXI-Express controllers have VXI Slot 0 capability, including a MODID (module ID lines) register and a CLK10 source. VXI-MXI-Express incorporates register-based Slot 0 functions, which the Resource Manager software in your PC uses to bring up the mainframe and begin normal operation. VXI-MXI-Express, which can also reside in non-Slot 0, incorporates automatic Slot 0 detection so you can move the controller from Slot 0 to non-Slot 0 without configuring any jumpers or switches.

VXI-8360T Triggering

With the VXI-8360T, you can extend the 8 TTL backplane triggers and CLK10 between chassis through convenient front panel connectors and a separate trigger cable. Each trigger and the CLK are independently configurable as either inputs or outputs of the frame. The trigger bus is connected in a daisy-chain topology and can support up to six devices with a total of 19 m of cables. The software functions like VXI-MXI-2 with regard to the triggers and clock.

VXI-8360LT Triggering

The NI VXI-8360LT allows you to extend the 8 TTL backplane triggers over a wired VXI backplane trigger bus through convenient front panel connectors. The wired VXI backplane trigger bus allows a simple way to have an event in one system trigger events in other VXI systems.

The wired trigger bus physical interface is based off of the TIA/EIA-899 Multi-Point Low Voltage Differential Signaling (M-LVDS) standard. The physical interface allows the construction of large multi-drop systems and reliable triggering over long distance. Topologies up to 6 devices over 20 m of cable are supported. The wired VXI backplane trigger bus may be capable of supporting more devices over greater cable lengths but, these configurations have not been validated by National Instruments.

Variable Power On Capabilities

NI-VXI 3.8.1 enables a new software feature for VXI-836x series controllers: Variable Power On (VPO). This feature enables additional power sequencing flexibility for the VXI-836x series controllers. Once Variable Power On is enabled on the controller, you can power the VXI chassis on and off independent of the host workstation. This allows you to add, remove, or replace VXI instruments without powering off the host workstation.

Multichassis Configuration

You can use a single NI PCIe-8362 board to simultaneously control two VXI-MXI-Express systems in a star configuration. You can also incorporate multiple NI PCIe-8361, PCIe-8362, or ExpressCard-8360 devices in a PC or laptop to control multiple VXI chassis from a single host. You cannot use a VXI-MXI-Express controller to daisy chain multiple VXI chassis.

Software

VXI-MXI-Express controllers are shipped with NI-VXI 3.5.1 or later and NI-VISA software, making them fully compliant with VXIplug&play specifications. You can run all the latest VXIplug&play software, including executable soft front panels, and standardized instrument drivers to ease your programming tasks. NI-VXI and NI-VISA feature a VXIbus interface library that works with most of the popular programming environments and compilers, including NI LabVIEW, LabWindows/CVI, and Measurement Studio for Microsoft Visual Studio; Microsoft Visual C++; and Borland C++. Application software developed using VXI-MXI-Express and NI-VXI/NI-VISA bus interface software is compatible with many other VXI controller platforms, including PXI and VXI embedded controllers and computers equipped with MXI interfaces. NI-VXI and NI-VISA software compatibility across platforms protects your software investment in the future. You can easily port VXI software to other platforms as your controller requirements change or expand.

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Ordering Information

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

Products	Part Number	Recommended Accessories	Part Number
VXI-MXI-Express Trigger Cables			
3 m	780327-03	No accessories required.	
7 m	780327-07	No accessories required.	
MXI-Express/ExpressCard MXI Cables			
7 m	779500-07	No accessories required.	
1 m	779500-01	No accessories required.	
3 m	779500-03	No accessories required.	
VXI-MXI-Express Controller			
NI VXI-8360T	780143-01	No accessories required.	
PCI Express MXI-Express Interfaces			
779504-01	779502-01	No accessories required.	
NI PCIe-8361, 1 Port MXI-Express Interface	779504-01	No accessories required.	
NI VXI-MXI-Express Products			
VXI-PCIe-8362T, MXI-Express Trigger Kit, 2 Port PCIe, 3m Cable	780142-01	No accessories required.	
VXI-8360T, VXI-MXI-Express Trigger Board Only	780143-01	No accessories required.	
VXI-ExpressCard8360T MXI-Express Trigger Kit ExpressCard 3m Cable	780144-01	No accessories required.	
VXI-PCIE-8361T, MXI-EXPRESS TRIGGER KIT WITH VPO SUPPORT, 1 PORT PCIE, 3M CABLE	780141-02	No accessories required.	
PXI Express MXI-Express Interface			
NI PXIe-8364 MXI-Express Daisy-Chain Copper Interface	781819-01	No accessories required.	

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Support and Services

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.

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Detailed Specifications

Power Requirement

Voltage	Current	
	Typical (DC)	Dynamic
+5 V	1.600 A	1.600 A
+12 V	0.020 A	0.020 A
–5.2 V	0.177 A	0.125 A
–2 V	0.060 A	0.125 A

EXT CLK	
Output Drive	50 Ω source terminated ±24 mA output driver
V_{OL}	<800 mV
V_{OH}	>2.0 V
Input Buffer	TTL compatible input buffer
TRIG IN	
Input Buffer	TTL compatible input buffer
TRIG OUT	

Output Drive	50 Ω source terminated ±40 mA output driver
V_{OL}	<800 mV
V_{OH}	>2.0 V

Physical

Size	C size, C-1
Dimensions	23.3 × 34.0 cm (9.2 × 13.4 in.)
Weight	1.326 kg (46.8 oz)

I/O connectors

- Three front panel SMB connectors for:
  - TTL Trigger I/O
  - CLK10 I/O
- One x1 MXI-Express connector
- Two TRIG/CLK PORTs:
  - Used for trigger bus and/or CLK10 extension across multiple chassis
  - Mechanically compatible with off the shelf x4 PCI Express cables
  - Not to be used for MXI-Express communication

Slot requirements	Single VXI C-size slot
Compatibility	Fully compatible with VXI specification
VXI keying class	Class 1 TTL
MTBF	Contact factory

Environmental

Maximum altitude	2,000 m
Pollution Degree	2

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% (Tested in accordance with IEC-60068-2-56.)

Storage Environment

Ambient temperature range	–40 to 85 °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% (Tested in accordance with IEC-60068-2-56.)
EMI	FCC Class A verified, EC verified

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.)

Note Specifications are subject to change without notice.

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.

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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.

Note When operating this product, use shielded cables and accessories.

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.

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.)

Cleaning

If you need to clean the module, use a soft, nonmetallic brush. Make sure that the module is completely dry and free from contaminants before returning it to service.

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