

PCI Express and ExpressCard Remote Control for VXI

NI VXI-PCIe-8361T, NI VXI-PCIe-8362T, NI VXI-ExpressCard8360T, NI VXI-8360T **NEW!**

- 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

Driver Software

- NI-VXI/NI-VISA (Windows Vista/XP)

Application Software

- LabVIEW
- LabWindows™/CVI
- Measurement Studio for Microsoft Visual Studio
- C/C++



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.

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.

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-MXI-Express 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.

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.

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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.

Ordering Information

VXI-MXI-Express Kit Options

NI VXI-PCIe-8361T780141-01

Kit includes one VXI-MXI-Express trigger controller (VXI-8360T), one single-port PCI Express interface (NI PCIe-8361), and one 3 m x1 MXI-Express cable.

NI VXI-PCIe-8362T780142-01

Kit includes one VXI-MXI-Express trigger controller (VXI-8360T), one dual-port PCI Express interface (NI PCIe-8362), and one 3 m x1 MXI-Express cable.

NI VXI-ExpressCard8360T780144-01

Kit includes one VXI-MXI-Express trigger controller (VXI-8360T), one single-port ExpressCard interface (ExpressCard-8360), and one 3 m x1 MXI-Express cable.

VXI-MXI-Express Controller

NI VXI-8360T780143-01

PCI Express MXI-Express Interfaces

NI ExpressCard-8360779507-01

NI PCIe-8361779504-01

NI PCIe-8362779502-01

MXI-Express/ExpressCard MXI Cables

1 m779500-01

3 m779500-03

7 m779500-07

VXI-MXI-Express Trigger Cables

3 m780327-03

7 m780327-07

BUY NOW!

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to ni.com/vxi.

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Specifications

Specifications are subject to change without notice.

NI PCIe-8361/62

Bus Interface

Form factor x1 PCI Express
 Slot compatibility x1, x4, x8, and x16¹
 PCI Express slots

¹Some motherboard manufacturers intend the x16 slot for graphics use. They may preinstall a graphics board or limit the link to x1. Check with the motherboard manufacturer if using the x16 slot for a nongraphics board.

Power Requirements

Power Rail	Typical Current	Maximum Current
+3.3 V	1.8 A	2 A
+3.3 V _{AUX}	0 A	0 A
+12 V	0 A	0 A

Physical

Board dimensions 10.7 by 17.5 cm (4.4 by 6.9 in.)
 Slot requirement 1 PCI Express
 Maximum cable length 7 m
 Compatibility Fully compatible with the PXI Express Hardware Specification, Revision 1.0 and the PICMG CompactPCI Express EXP.0 R1.0

Operating Environment

Ambient temperature range 0 to 40 °C
 (tested in accordance with IEC-60068-2-1 and IEC-60068-2-2)
 Operating relative humidity 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)

NI ExpressCard-8360

Power Requirements

Power Rail	Typical Current	Maximum Current
+3.3 V	220 mA	280 mA
+3.3 V _{AUX}	20 mA	30 mA
+12 V	0 A	0 A

Physical

Board dimensions 10.2 by 3.4 cm (4.0 by 1.3 in.)
 Slot requirement 1 ExpressCard/34 or ExpressCard/54

Maximum cable length 7 m
 Compatibility Fully compatible with the PXI Hardware Specification, Revision 2.1, and the PCMCIA ExpressCard Standard, Revision 1.0 or later

Operating Environment

Ambient temperature range 0 to 65 °C
 (tested in accordance with IEC-60068-2-1 and IEC-60068-2-2)
 Operating relative humidity 5 to 95%, 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)
 Storage relative humidity 5 to 95%, noncondensing
 (tested in accordance with IEC-60068-2-56)

NI VXI-8360T

Power Requirements

Power Rail	Typical Current (DC)	Dynamic Current
+5 V	1.600 A	1.600 A
+12 V	0.020 A	0.020 A
-2 V	0.060 A	0.125 A
-5.2 V	0.177 A	0.125 A

Physical

Board dimensions 23.3 by 34.0 cm (9.2 by 13.4 in.)
 Weight 1292 g (45.6 oz)
 Size C-size (C-1)

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 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%, noncondensing
 (tested in accordance with IEC-60068-2-56)

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Shock

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)
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Vibration

Random vibration	
Operating	5 to 500 Hz, 0.31 g _{rms}
Nonoperating	5 to 500 Hz, 2.46 g _{rms} (tested in accordance with IEC-60068-2-64; nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3)

Safety and Compliance

Safety

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 visit ni.com/certification, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

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

- EN 61326 EMC requirements; Minimum Immunity
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this device according to product documentation.

CE Compliance

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)

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain 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.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers: At the end of their life cycle, all products must be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit ni.com/environment/weee.htm.

NI Services and Support



NI has the services and support to meet your needs around the globe and through the application life cycle – 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.

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Hardware 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.

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.



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