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Find the *National Instruments PXI-8330* at our website: *Click HERE*

VXIbus Interface Kits for PCI and PXI/CompactPCI Based on MXI-3 Technology

VXI-PXI834x, VXI-PCI834x, VXI-834x, PXI-833x, PCI-833x

- VXI*plug&play*-compliant
- Complete interface to VXI from any PXI system or PCI-based computer
- VXI Slot 0 capability, including Resource Manager
- Word Serial (message-based) communication
- Register-based communication
- Direct trigger and interrupt control
- Direct access to VXI memory space
- High-performance DMA transfers using the MITE ASIC
- 16 Mbytes/s sustained maximum throughput
- Memory Expansion
  - 4 MB maximum on VXI-834x
- Expandable to several VXI systems
- Fiber-optic or copper cabling
- 200 m maximum distance

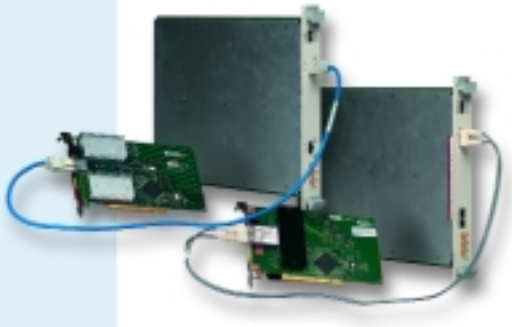
Driver Software

- NI-VXI/NI-VISA
  - Windows 2000/NT/Me/98

Application Software

- LabVIEW
- Measurement Studio

New



Overview

The National Instruments VXI-PXI834x and VXI-PCI834x kits link any PXI system or PCI-based computer running Windows 2000/NT/Me/98 to the VXIbus using the high-speed MXI-3 interface. These kits bridge the PCI bus of your PXI system or external computer to the VXIbus of your test system.

The interface kits are available with fiber-optic (8345) or copper (8340) cabling options. The fiber-optic version is useful when electrical isolation is required between the PC and the VXI chassis. Additionally, the fiber-optic cabling provides long distance control of VXI systems up to 200 m away. Both the copper and fiber-optic versions provide high-speed remote control of a VXI system where flexibility of the connecting cable is an important criterion.

Hardware

Using MXI-3 technology, the VXI-PXI834x and VXI-PCI834x kits extend the PCI bus of the external computer into Slot 0 of the VXI chassis, giving you high throughput across the interface. However, the transparent extension of the PCI bus introduces several requirements. Because the BIOS configures the PCI-to-PCI bridge, you must power on the chassis before you boot the controlling computer. Furthermore, power disruptions to the VXI system may cause additional configuration requirements in the National Instruments Measurement & Automation Explorer.

Each kit includes one half-size PCI MXI-3 interface board (PCI-833x) or PXI module (PXI-833x), one VXI-834x single-port Slot 0 module, a flexible MXI-3 cable, and NI-VXI/NI-VISA bus interface software. Because the NI-VISA and NI-VXI APIs are provided as the interfaces to the VXI-834x, you do not need to modify your applications written with NI-VXI and/or NI-VISA.

Software

The VXI-PXI834x and VXI-PCI834x interface kits feature VXI*plug&play* compliant, integrated software, including interactive tools for troubleshooting and debugging VXI systems. You can configure hardware and software options for your VXI controllers and devices through Measurement & Automation Explorer. With the comprehensive NI-VXI/NI-VISA software and programming libraries, you can program multiple mainframe configurations while maintaining software compatibility across a variety of VXI controller platforms.

INFO CODES

For more information or to order products online, visit *ni.com/info* and enter:

pxi8330series
vxi8340series

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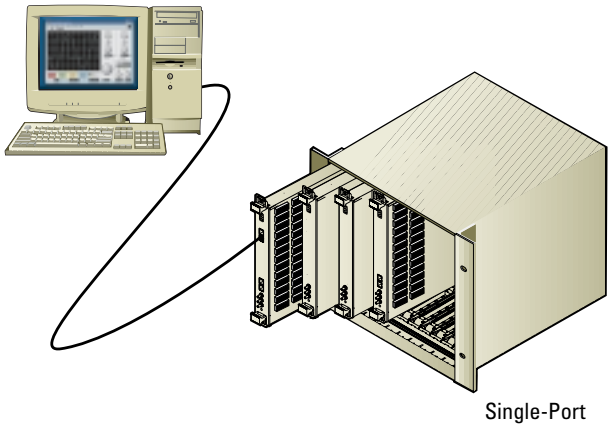


Figure 1. PC-to-Single-Port VXI-8340 Series Module

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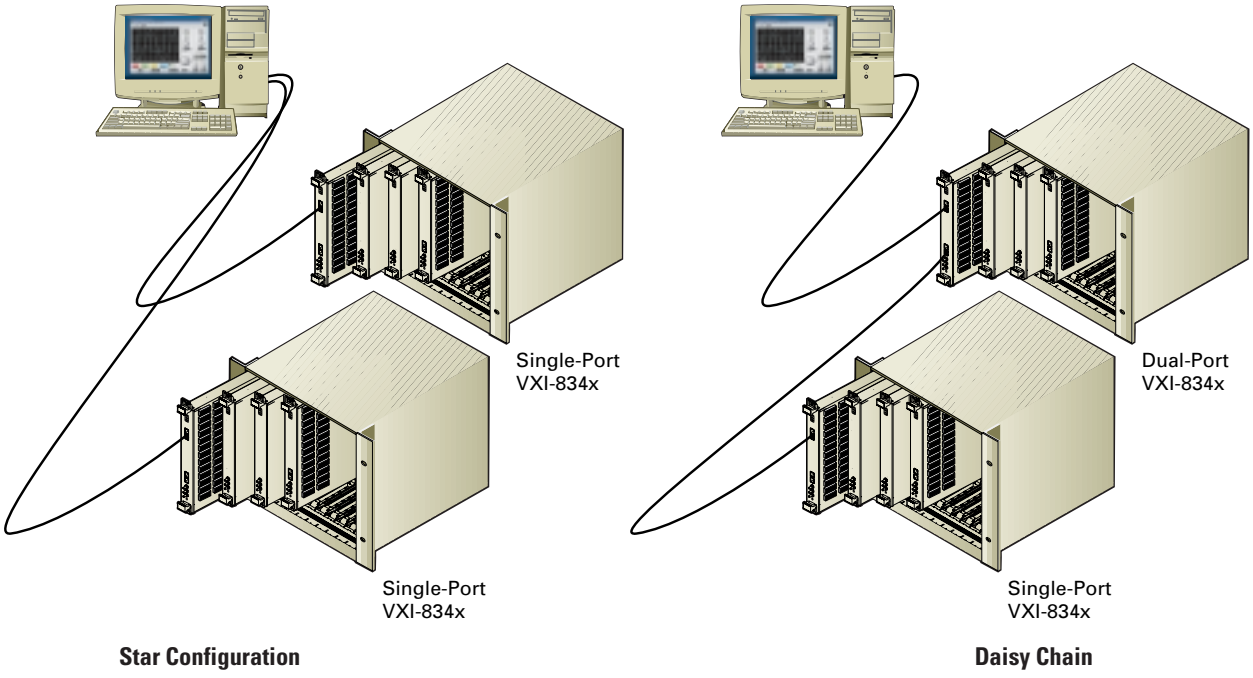


Figure 2. Multiple-Chassis VXI Configurations

Multiple-Chassis Configurations

You can have multiple VXI chassis configurations with the VXI-834x modules (see Figure 2). The VXI-834x is available with a single MXI-3 port or dual-port. You can use the single-port VXI-8340 module in a chassis directly connected to the controlling PC in a star configuration, or as the controller of the last chassis in a MXI-3 daisy chain configuration. The dual-port VXI-834x has two MXI-3 ports, "MXI-in" and "MXI-out", which you can use in multichassis daisy chain configurations.

The VXI-834x interface software considers each VXI chassis as a distinct, separate VXI system. This structure eliminates the complex logical-address assignment issues you may face when setting up a large multichassis system, because the address spaces of the individual systems do not overlap each other. Using NI-VISA, you can use the industry-standard VISA API to access instruments in all VXI systems. You can assert and receive instrument triggers and interrupts from your PC. The VXI-834x also works with the NI-VXI API, and you can use it to access the instruments in a single VXI system.

Performance

The VXI-834x achieves superior performance by combining the MXI-3 ASIC with the MITE ASIC used in National Instruments VXI controllers. The MXI-3 ASIC incorporates a complete PCI-to-PCI bridge interface, which operates at the full frequency of the PCI bus at 33 MHz. National Instruments developed the MITE custom ASIC to streamline the connection between the PCI and VXI buses. Because of this combination of technologies, the MXI-3 based kits transfer data between the local computer memory and VXI devices at a sustained transfer rate of 16 Mbytes/s.

The VXI-PXI834x and VXI-PCI834x are flexible, high-performance solutions for control of a VXI system from a PXI system or desktop computer. Any PCI-based computer running Windows 2000/NT/Me/98 can host the VXI-PCI834x. Thus, you have the freedom to choose from the wide variety of general-purpose desktop computers. Using the VXI-PCI834x, you can upgrade your PC at any time to capitalize on the latest computer technology while keeping the same high-speed VXIbus interface. A PC equipped with a VXI-PCI834x combines the high-performance MXI-3 interface with low-cost, general-purpose desktop computers to provide an attractive cost and performance solution for VXI control.

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VXIbus Interface Kits for PCI and PXI/CompactPCI Based on MXI-3 Technology

Ordering Information

MXI-3 VXIbus Interface Kits for PXI

VXI-PXI8340 (with 5 m copper cable) 778522-01
VXI-PXI8345 (with 30 m fiber-optic cable) 778523-01

MXI-3 VXIbus Interface Kits for PCI

VXI-PCI 8340 (with 5 m copper cable).....778300-01
VXI-PCI 8345 (with 30 m fiber-optic cable) 778301-01

Kits include one PXI or PCI MXI-3 board (833x), one VXI MXI-3 (VXI-834x) single-port module, one cable, and NI-VXI/NI-VISA software.

VXI MXI-3 Interface Modules

VXI-8340

Single-port (copper) 778293-01
Dual-port (copper) 778293-02

VXI-8345

Singe-port (fiber-optic) 778294-01
Dual-port (fiber-optic) 778294-02

PCI MXI-3 Interface Boards

PCI-8330 (copper) 777944-01
PCI-8335 (fiber-optic) 777946-01

PXI MXI-3 Interface Modules

PXI-8330 (copper).....777945-01
PXI-8335 (fiber-optic) 777947-01

MXI-3 Cables

Copper

2 m.....763431-02
5 m.....763431-05
10 m.....763431-10

Fiber-optic

5 m.....763427-05
30 m.....763427-30

Specifications

Typical for 25 °C unless otherwise noted.

Performance

Maximum number of links..... 254 (depends on BIOS)
Peak performance*..... 33 Mbytes/s
Sustained performance*..... 16 Mbytes/s
Address access..... A32, A24, A16
Transfer width (master/slave)..... D64, D32, D16, D08 (EO)
VME block transfers ..... Yes
Automatic Slot 0 detection ..... Yes
Read/modify write cycles ..... Yes

*Performance varies depending on host processor, I/O modules, and type/size of data.

Physical

Number of VXI Slots 1
Maximum distance ..... 10 m (copper cable)
200 m (fiber-optic cable)
DRAM options ..... 4 MB

Power Requirements	Typical	Maximum
+5 VDC	4.3 A	7 A
-5.2 VDC	180 mA	1 A
-2 VDC	110 mA	1 A
+12 VDC/-12 VDC	0 A	1 A

Operating Environment

Ambient temperature..... 0 to 55 °C
Relative humidity..... 10 to 90%, noncondensing

Storage Environment

Storage temperature..... -20 to 70 °C
Relative humidity..... 5 to 95%, noncondensing

PCI-833x

Dimensions..... 10.7 by 17.5 cm (4.2 by 6.9 in.)
Weight ..... 150 g (5 oz)

VXI-834x

Size ..... C-size, C-1
Dimensions..... 23.3 by 43.0 cm (9.2 by 13.4 in.)
Weight ..... 1.1 kg (2.6 lb) (single port)
1.2 kg (2.7 lb) (dual port)

PXI-833x

Dimensions..... 10.0 by 16.0 cm (3.9 by 6.3 in.), 3U
Weight ..... 230 g (8 oz)

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