

Set Up Your MXI™-Express (x1) for PXI Express System

This document explains how to set up your PXI Express MXI system.

What You Need to Get Started

To set up and use your PXI Express MXI system, you need the following:

- One NI PCIe-8361/8362 and one NI PXIe-8360
- A MXI-Express cable
- A host PC with an available x1 (or wider) PCI Express slot
- An expansion chassis—the PXI Express/CompactPCI Express chassis that you control with MXI-Express



Note Your PXI Express MXI card will work in any standard CompactPCI Express chassis adhering to the *PICMG CompactPCI Express EXP.0 R1.0* specification, or in PXI Express chassis that are compatible with the *PXI Express Hardware Specification*, Revision 1.0 or later. Your PCI Express MXI-Express card will work in systems compliant with the *PCI Express Base Specification*, Revision 1.0a and *PCI Express Card Electromechanical Specification*, Revision 1.0a or later.

Unpacking

Your PXI Express MXI cards are shipped in antistatic packages to prevent electrostatic damage (ESD) to the devices. ESD can damage several components on the device.



Caution *Never* touch the exposed pins of connectors. Doing so may damage the device.

To avoid such damage in handling the device, take the following precautions:

- Ground yourself using a grounding strap or by holding a grounded object.
- Touch the antistatic package to a metal part of the computer chassis before removing the device from the package.

Remove the device from the package and inspect the device for loose components or any sign of damage. Notify NI if the device appears damaged in any way. Do *not* install a damaged device into the computer or PXI Express/CompactPCI Express chassis.

Store the device in the antistatic envelope when not in use.

Installing an NI PCIe-8361/8362

Complete the following steps to install the NI PCIe-8361/8362 in your computer.

1. Power off your computer, but leave it plugged in. The power cord grounds the computer and protects it from electrical damage caused by ESD.



Caution To protect both yourself and the computer from electrical hazards, your computer should remain off until you finish installing the NI PCIe-8361/8362.

2. Remove the top cover or access port to the PCI Express expansion slots.
3. Touch the metal part of the power supply case inside the computer to discharge any static electricity that might be on your clothes or body. Follow proper ESD precautions described in the *Unpacking* section of Chapter 1, *Introduction*, of the *MXI-Express Series User Manual*.
4. Unplug the computer.
5. Select any available PCI Express expansion slot (x1 or wider).



Note The BIOS or motherboard may not support the NI PCIe-8361/8362 in a slot intended for a graphics card.

6. Locate the metal bracket that covers the cut-out in the back panel of the computer for the slot you have selected. Remove and save the bracket-retaining screw and the bracket cover.

7. Line up the NI PCIe-8361/8362 with the slot on the back panel. Slowly push down on the top of the NI PCIe-8361/8362 until its card-edge connector is resting on the expansion slot receptacle. Using slow, evenly distributed pressure, press the NI PCIe-8361/8362 straight down until it seats in the expansion slot, as shown in Figure 1.
8. Reinstall the bracket-retaining screw to secure the NI PCIe-8361/8362 to the back panel rail.
9. Replace the computer cover.
10. Plug the computer back in.

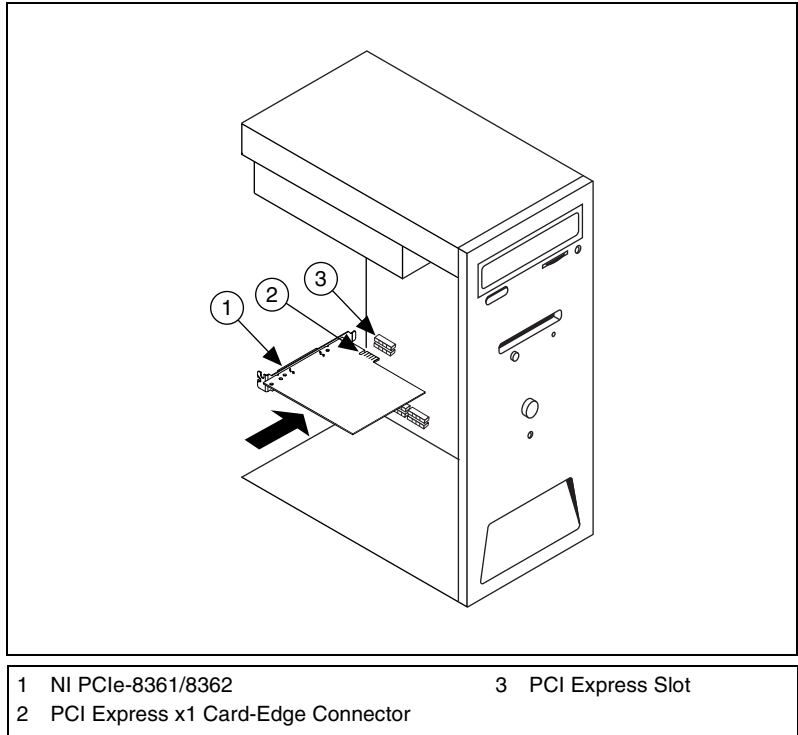


Figure 1. Installing the NI PCIe-8361/8362

Installing an NI PXIe-8360

Complete the following steps to install the NI PXIe-8360 in your PXI Express or CompactPCI Express chassis.

1. Power off your PXI Express or CompactPCI Express chassis, but leave it plugged in. The power cord grounds the chassis and protects it from ESD.



Caution To protect both yourself and the chassis from electrical hazards, leave the chassis off until you finish installing the NI PXIe-8360.

2. Remove or open any doors or covers blocking access to the slot in which you intend to install the NI PXIe-8360.



Note The NI PXIe-8360 *must* be installed in the controller slot (slot 1 in PXI Express).

3. Touch a metal part of the chassis to discharge any static electricity that might be on your clothes or body.
4. Make sure the injector/ejector handle is in its downward position. Be sure to remove all connector packaging and protective caps from retaining screws on the module. Align the NI PXIe-8360 with the card guides on the top and bottom of the system controller slot.



Caution Do *not* raise the injector/ejector handle as you insert the NI PXIe-8360. It will not insert properly unless the handle is in its downward position so that it does not interfere with the injector/ejector rail on the chassis, as shown in Figure 2.

5. Hold the handle as you slowly slide the module into the chassis until the handle catches on the injector/ejector rail.
6. Raise the injector/ejector handle until the module firmly seats into the backplane receptacle connectors. The front panel of the NI PXIe-8360 should be even with the front panel of the chassis.
7. Tighten the bracket-retaining screws on the top and bottom of the front panel to secure the NI PXIe-8360 to the chassis.
8. Replace or close any doors or covers to the chassis.
9. Plug the chassis back in.

Figure 2 shows an NI PXIe-8360 just before installation in the system controller slot of a National Instruments chassis.

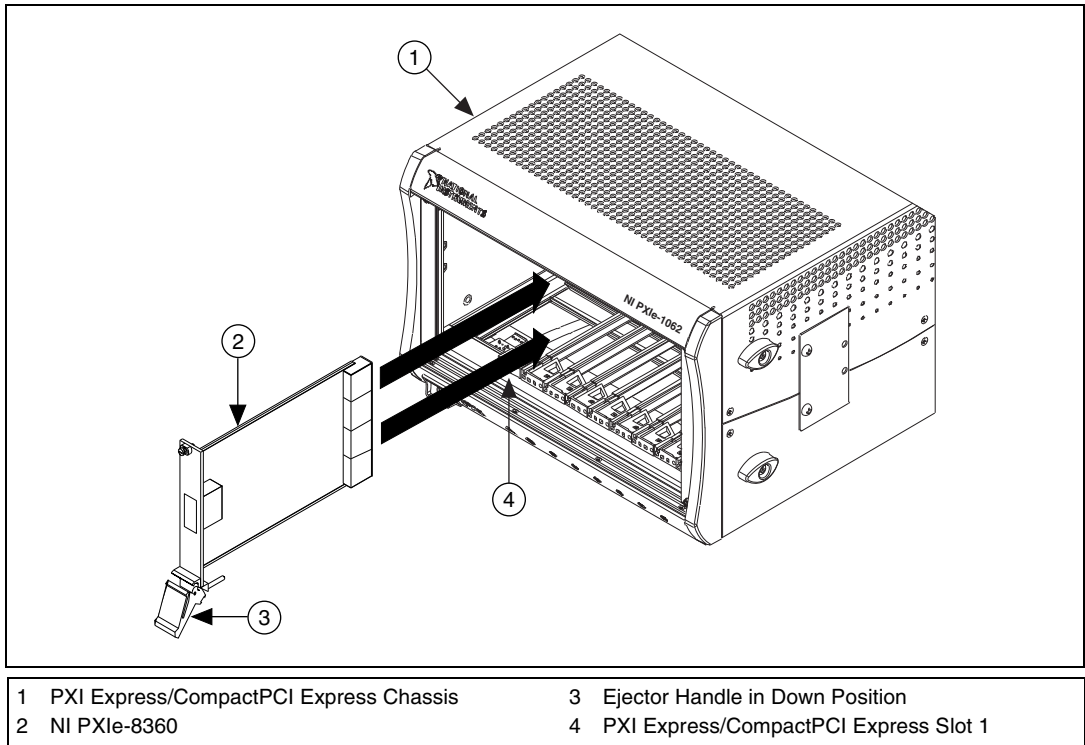


Figure 2. NI PXIe-8360 Card Before Installation

Cabling

Connect the appropriate MXI-Express cable to both PXI Express MXI cards. The cables have no polarity, so either end may be connected to either card.



Caution Do *not* remove the cable after the system is powered on. Doing so can hang or cause errors in applications communicating with devices behind MXI-Express. If a cable becomes unplugged, plug it back into the system.



Note For more information about cables, refer to the *MXI-Express Cable Options* section of Chapter 3, *Hardware Overview*, of the *MXI-Express (x1) for PXI Express Series User Manual*.

Powering On the MXI-Express System

Complete the following steps to power on the system.

1. Power on all of the expansion chassis in any order you choose.
2. Power on the host.

Typical PCI-PCI bridges and switches are used to add PCI devices to a PCI hierarchy in which all the bridges and devices are contained within a single chassis. Because of this, BIOSes and operating systems make the assumption that all PCI devices in the entire hierarchy will be available as soon as code execution begins at power-up time. This assumption means that all of the expansion chassis must be turned on before the host PC for the BIOS and OS to correctly configure a MXI-Express system.



Note There are no requirements on how MXI-Express expansion chassis are powered up relative to each other, as long as they are all on before the computer is powered on.

Checking LEDs for Status

After powering on the system, you should check the LEDs for status to ensure that all connected systems have linked. The following tables provide the meaning of the LEDs.

Table 1. NI PCIe-8362

Color	Meaning
Off	Power is off
Blinking Red	Power is out of spec
Amber	Power is within spec; no link to chassis
Green	Power is within spec; link established



Note The NI PCIe-8361 card has no LEDs. Refer to the NI PXIe-8360 LEDs to determine the status of the system.

Table 2. NI PXIe-8360

LED	Color	Meaning
PWR	Off	No power
	Red	Power is out of spec
	Green	Power is within spec
LINK	Off	Link not established
	Green	Link established

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