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***PXI-1020***

## NI 8171 SERIES INSTALLATION

This document contains information about installing your NI 8171 series controller in a PXI chassis.

For complete configuration and troubleshooting information (including information about BIOS setup, adding RAM, etc.), see the *NI 8171 Series User Manual*. The manual is in PDF format on the recovery CD included with your controller and on the National Instruments Web site, [ni.com](http://ni.com).

### Installing the NI 8171 Series

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This section contains general installation instructions for the NI 8171 series. Consult your PXI chassis user manual for specific instructions and warnings.

1. Plug in your chassis before installing the NI 8171 series. The power cord grounds the chassis and protects it from electrical damage while you install the module. (Make sure the power switch is turned off.)



**Caution** To protect both yourself and the chassis from electrical hazards, leave the chassis off until you finish installing the NI 8171 series module.

2. Remove any panels blocking access to the system controller slot (Slot 1) in the chassis.
3. Touch the metal part of the case 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. Align the NI 8171 series with the card guides on the top and bottom of the system controller slot.

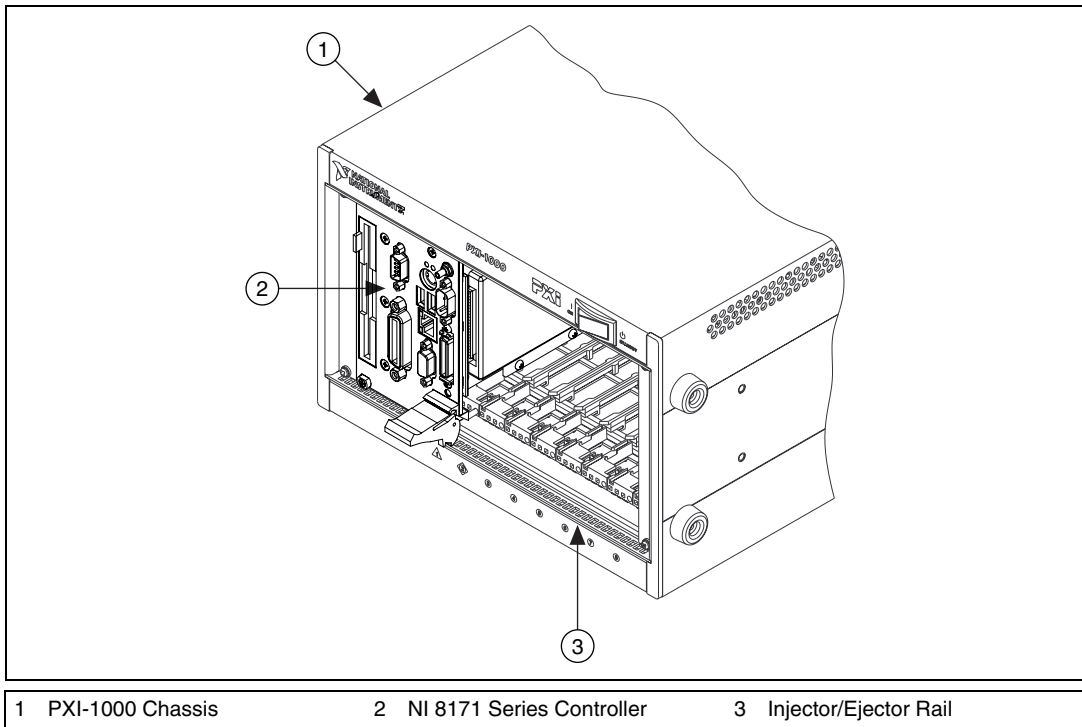


**Caution** Do *not* raise the injector/ejector handle as you insert the NI 8171 series. The module will not insert properly unless the handle is in its downward position so that it does not interfere with the injector rail on the chassis.

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 8171 series should be even with the front panel of the chassis.
7. Tighten the four bracket-retaining screws on the top and bottom of the front panel to secure the NI 8171 series to the chassis.
8. Check the installation.
9. Connect the keyboard and mouse to the appropriate connectors. If you are using a PS/2 keyboard and a PS/2 mouse, use the Y splitter adapter included with your controller to connect both to the PS/2 connector.
10. Connect the VGA monitor video cable to the VGA connector.
11. Connect devices to ports as required by your system configuration.
12. Power on the chassis.
13. Verify that the controller boots. If it does not boot, see the [What If the NI 8171 Series Does Not Boot?](#) section later in this guide.

Figure 1 shows an NI 8176 installed in the system controller slot of a National Instruments PXI-1000 chassis. You can place PXI devices in any other slot.



**Figure 1.** NI 8171 Series Installed in a PXI Chassis

## How to Remove the Controller from the PXI Chassis

The NI 8171 series controllers are designed for easy handling. To remove the unit from the PXI chassis:

1. Turn off power.
2. Remove the bracket-retaining screws in the front panel.
3. Press the injector/ejector handle down.
4. Slide the unit out of the chassis.

## Using the Controllers with PXI-1020 and PXI-1025 Chassis

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The NI 8176 and NI 8175 controllers interface directly to the National Instruments PXI-1020 and PXI-1025 chassis. The interface contains signals to interface to the chassis LCD display, IDE CDROM drive, and PS/2 mouse and keyboard.

### LCD Display

To enable/disable the LCD display for a PXI-1020 or PXI-1025 chassis:

1. Install the controller in a PXI-1020 or PXI-1025 chassis.
2. Connect a CRT monitor to the VGA connector on the controller.
3. Power on the chassis and enter the BIOS setup program during the boot. (When the message **Press <DEL> to enter SETUP** appears, press <Delete> or <Del> on the numeric keypad.)
4. In the **PXI Setup** menu, set the LCD chassis setting to the correct value:
  - PXI-1020—Enables the LCD display and sets the resolution to 640 × 480.
  - PXI-1025—Enables the LCD display for the PXI-1025 chassis and sets the resolution to 800 × 600.
  - NO LCD—Disables the LCD display even if the controller is installed in a PXI-1020 or PXI-1025 chassis.

### IDE CD-ROM Drive

The PXI-1020 and PXI-1025 chassis have integrated CD-ROM drives. The BIOS automatically detects the CD-ROM and enables the IDE interface. The OS loads drivers to access the CD-ROM. Refer to the *NI 8171 Series User Manual* for information on booting from the CD-ROM drive.

### Chassis Mouse and Keyboard

The PXI-1020 has an integrated PS/2 mouse. The PXI-1025 has an integrated PS/2 keyboard and mouse. To simplify configuration for these chassis, the NI 8171 series includes an internal USB-to-PS/2 adapter. When

installed in a PXI-1020 or PXI-1025 chassis, the USB-to-PS/2 adapter is enabled automatically. With this adapter, you can use both the chassis' integrated keyboard/mouse and the PS/2 keyboard and mouse connected to the NI 8171 series front panel. To enable keyboard/mouse access in DOS or Windows NT environments, you must enable the legacy USB. Refer to the *NI 8171 Series User Manual* for more information.

## What If the NI 8171 Series Does Not Boot?

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Several problems can cause a controller not to boot. Here are some things to look for and possible solutions.

### Things to Notice

- Which LEDs come on? The **Power OK** LED should stay lit. The **Drive** LED should blink during boot as the disk is accessed.
- What appears on the display? Does it hang at some particular point (BIOS, Operating System, etc.)? If nothing appears on the screen, try a different monitor. Does your monitor work with a different PC? If it hangs, note the last screen output that you saw for reference when consulting National Instruments technical support.
- What has changed about the system? Did you recently move the system? Was there electrical storm activity? Did you recently add a new module, memory chip, or piece of software?

### Things to Try

- Make sure the chassis is plugged in to a working power source.
- Check any fuses or circuit breakers in the chassis or other power supply (possibly a UPS).
- Make sure the controller module is firmly seated in the chassis.
- Remove all other modules from the chassis.
- Remove any nonessential cables or devices.
- Try the controller in a different chassis or a similar controller in this same chassis.
- Recover the hard drive on the controller. (See the *Hard Drive Recovery* section in the *NI 8171 Series User Manual*.)
- Clear the CMOS. (See the *System CMOS* section in the *NI 8171 Series User Manual*.)

For more troubleshooting information, see the *NI 8171 Series User Manual*. The manual is in PDF format on the recovery CD included with your controller and on the National Instruments Web site, [ni.com](http://ni.com).



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