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PATA Hard Drive Removal and Replacement Procedure for NI PXI/PXI Express Embedded Controllers

This document provides instructions for removing and replacing your PATA hard drive with your NI PXI/PXI Express embedded controller.

Cautions Before you attempt to remove or install a hard drive, remove the devices from the power source and disconnect the power cable.

Before you handle the controller or the drive, discharge any built-up static charge that may have accumulated. Electrostatic discharge may damage the controller and/or the hard drive.

Avoid mounting the disk drive near strong magnetic sources such as loud speakers. Ensure that the disk drive is not affected by external magnetic fields.

Protect the hard drive and embedded controller from hard contact with other objects. Impacts may damage the equipment.

Do not press the cover of the disk drive. Pressing it too hard may cause cover and spindle motor contact, which would damage the drive.

When handling the device, do not touch the printed circuit board. Hold the circuit board by its edges.

Removing The Hard Drive

Complete the following steps to remove the hard drive from your NI PXI/PXI Express embedded computer.

1. Place the controller on its side as shown in Figure 1.

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2. Hold the hard drive firmly in place as you remove the 4 screws that secure the hard drive to the controller. The screw location are indicated by the arrows shown in Figure 1.

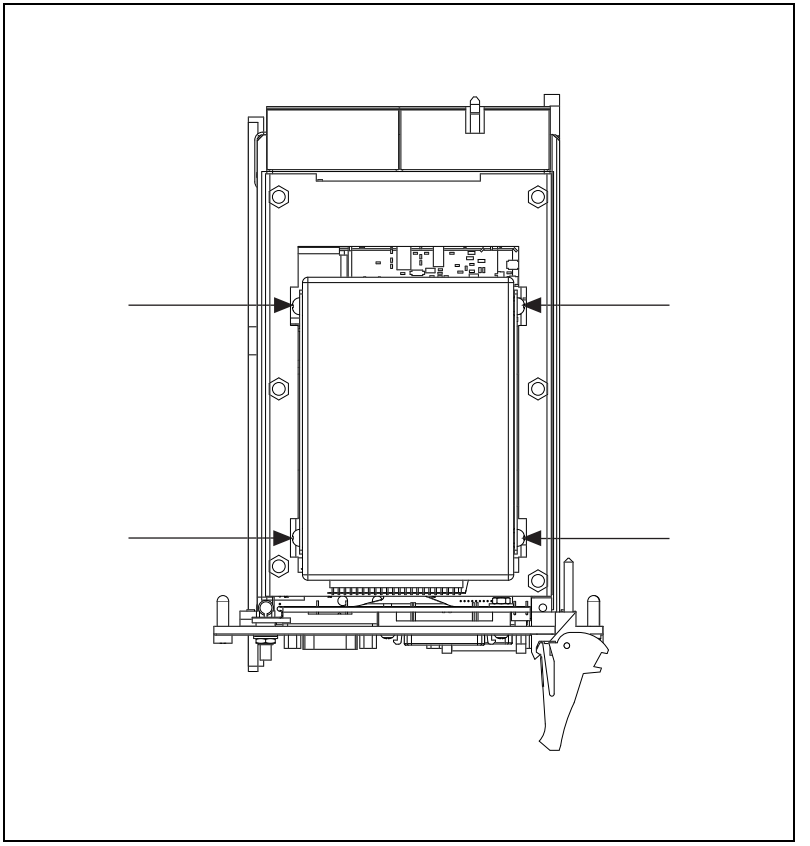


Figure 1. Hard Drive Screws

3. Lift the hard drive from the seating bracket and firmly grasp the sides, then hold the 44-position flex connector firmly at the sides, and pull the hard drive straight back, as shown in Figure 2.

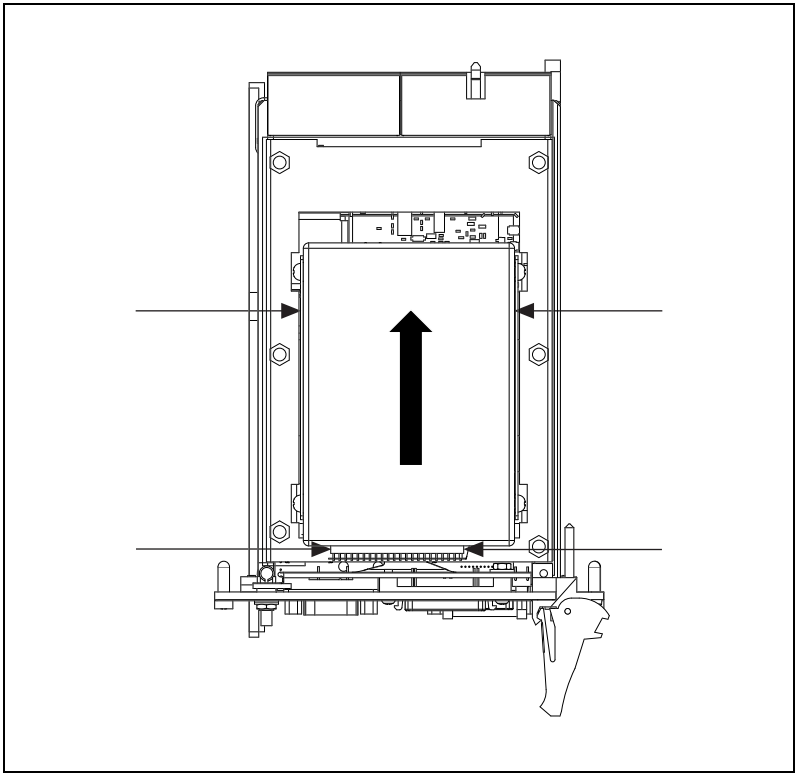


Figure 2. Hard Drive Removal

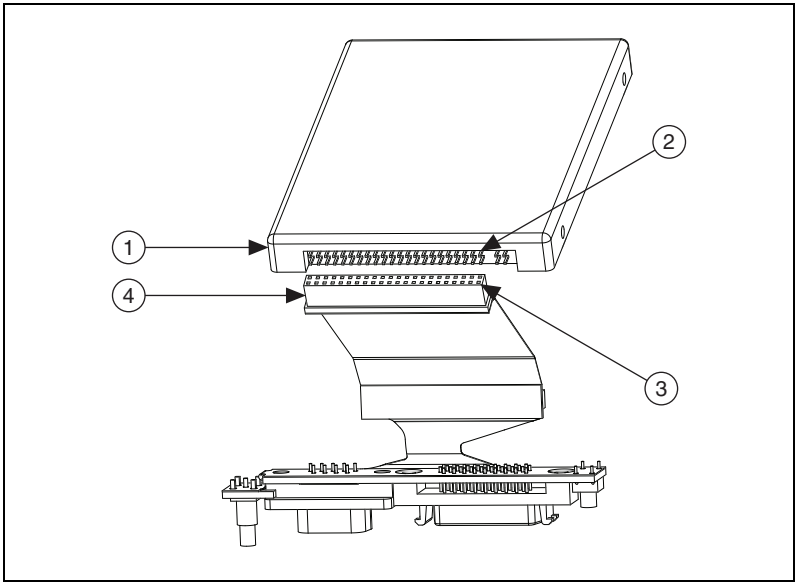
Installing the Hard Drive

Complete the following instructions to install a hard drive on the NI PXI/PXI Express embedded controller.

1. Place the embedded controller on a flat surface with the flex connector facing upward.
2. Grip the flex connector and the hard drive at the positions shown in Figure 2.
3. Align the pin 1 position of the 44-pin flex connector with the pin 1 position of the hard drive as shown in Figure 3.

Caution Be careful in aligning the pin 1 positions of the hard drive and the flex cable. The hard drive has four extra pins separated from the others. These pins are for switch options, and connecting the flex cable to them could damage the hard drive, These pins are pointed out in Figure 3.

4. Apply a steady straight pressure to slide the hard drive into the flex connector without bending the pins.



1	Hard drive	3	Pin 1 position on flex connector
2	Pin 1 position on the hard drive	4	44-position flex connector

Figure 3. Pins on the hard drive and flex connector

5. Seat the installed hard drive into the hard drive bracket on the controller. Ensure that the hard drive is aligned in the bracket properly so that it can be secured with the four mounting screws.
6. Secure the hard drive to the controller with all four mounting screws. These screws are shown in Figure 1.

If you experience issues during the removal of the hard drive, please contact National Instruments.

Installing a Windows OS Using The Recovery CD/DVD

NI PXI/PXI Express controllers ship with an OS Recovery CD/DVD that will allow you to reinstall your operating system onto your hard drive through an external CD-ROM/DVD drive.

Complete the following steps to recover the OS with the Recovery CD.

1. To install your factory-default operating system onto the hard drive, use the included OS Recovery CD/DVD with an external drive.
2. Install the hard drive on the controller and insert your OS Recovery CD/DVD into the USB CD/DVD Drive.

3. Power up your system and check the BIOS by hitting either **F2** or the **Delete** key during the power on self test to ensure your external USB CD-ROM/DVD drive is the first item in the **Boot Order** submenu.
4. Exit the BIOS and allow the controller to boot using the OS Recovery CD.

The recovery process will begin automatically.

Note You also may need to reinstall other software after using the CD/DVD to recover the OS.

For more information on these tools, refer to `ni.com/support`.

Installing LabVIEW RT

After the new hard drive has been installed on your RT controller, the next time you power it up it will boot into RT Safe Mode and the IP will be reset to zeros. The new hard drive must be formatted before an IP address can be assigned or any software can be installed on the remote system.

Format The Remote Target Hard Drive

Complete the following steps to format the hard drive.

1. Open MAX on the host machine and find your system under the **Remote Systems** branch of the configuration tree.
2. Right-click on the IP which will be set to `0.0.0.0`.

Note If you are shown more than one remote system with the same IP, you can identify the appropriate system by looking at the info in the **Identification** field window in the right pane.

3. Click **Format Disk**.
4. Click **Yes** to continue with the format.
5. When the device displays a message showing a successful format and the need for a reboot, click **OK**.

Assign an IP Address

An IP address must be assigned to the remote target before you can install the LabVIEW Real-Time Module or other driver software.

For instructions on how to assign an IP for the remote system, search in MAX Help on the host machine.

Installing LabVIEW Real-Time Module and other driver software

You may now install LabVIEW Real-Time Module and/or other driver software onto the remote system by completing the following instructions.

1. Open MAX on the host machine.
2. Locate the remote system or device under **Remote Systems** and select **Software**.
3. Click the **Add/Remove Software** icon on the toolbar to bring up the LabVIEW Real-Time Software Wizard.

For more information about using NI products in MAX, refer to the NI product help, located on the **Help»Help Topics** menu item within the application on the host system.

For more information on these tools, refer to `ni.com/support`.

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