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Foundation Fieldbus Hardware and NI-FBUS™ Software for Windows 2000/XP

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Install the NI-FBUS Software

Note To install Foundation Fieldbus Hardware and NI-FBUS Software on Windows NT, refer to the respective getting started manual for your particular hardware on the Windows NT platform. This installation guide applies only to Windows 2000/XP.

Complete the following steps to install your NI-FBUS software.

Caution If you are reinstalling the NI-FBUS software over an existing version, write down your card configuration and any port configuration parameters you changed from their defaults. Reinstalling may cause you to lose any existing card and port configuration information.

1. Log in as `Administrator` or as a user that has Administrator privileges.
2. Insert the NI-FBUS Communications Manager 3.0 or NI-FBUS Configurator 3.0 (or later version) CD-ROM.
3. Select **Start»Run**.
4. In the **Run** dialog box, type the following:

   x`:\setup`

   where *x* is the letter of the drive containing the CD-ROM for the NI-FBUS Communications Manager 3.0 or the NI-FBUS Configurator 3.0 (or later) version.

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5. The interactive setup program takes you through the necessary steps to install the software. A dialog will prompt you to select the board type. Select **AT** if you want to install the AT-FBUS board, otherwise select **Others** for any other board types.

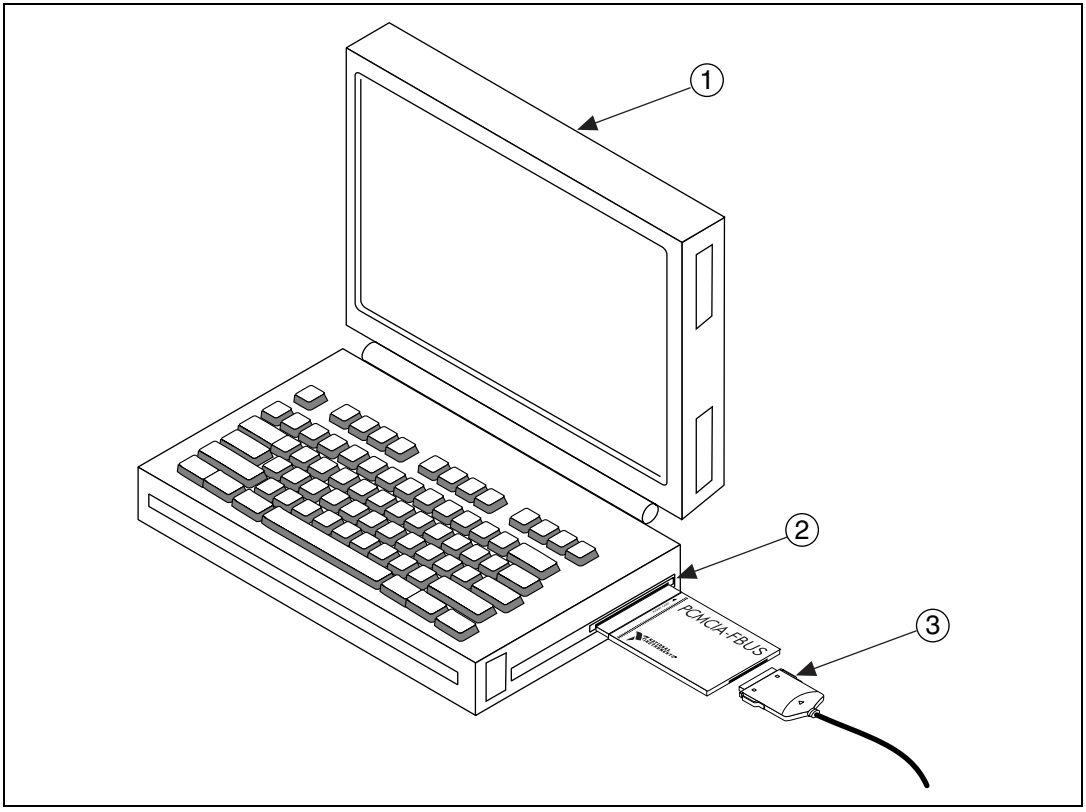
The installation program copies `nifb.dll` and `drvintf.dll` into your `\System32` directory, and it copies the `nifb.sys` driver into the `\drivers` directory. The installation program also adds information to the Windows 2000/XP Registry.

Install the PCMCIA-FBUS Board

Caution Before you remove the card from the package, touch the antistatic plastic package to a metal part of your system chassis to discharge electrostatic energy, which can damage several components on your PCMCIA-FBUS card.

Complete the following steps to install the PCMCIA-FBUS card.

1. Shut down your operating system and power off your system.
2. Insert the card into a free PC Card (PCMCIA) socket. The card has no jumpers or switches to set. Figure 1 shows how to insert the PCMCIA-FBUS and how to connect the PCMCIA-FBUS cable and connector to the PCMCIA-FBUS card. However, the PCMCIA-FBUS/2 card has two connectors. Refer to Appendix B, *Pinout Information*, of the *Getting Started with Your PCMCIA-FBUS and the NI-FBUS Software* manual for more information about these two connectors.



1 Portable Computer	2 PCMCIA Socket	3 PCMCIA-FBUS Cable

Figure 1. Inserting the PCMCIA-FBUS

3. Connect the PCMCIA-FBUS to the Fieldbus network.

   Your kit contains one PCMCIA-FBUS cable. Refer to Appendix B, *Pinout Information*, of the *Getting Started with Your PCMCIA-FBUS and the NI-FBUS Software* manual if you need to make a longer cable than the PCMCIA-FBUS cable provided.

Note Although very similar, the installation processes for Windows 2000 and Windows XP differ slightly. Where those differences occur in the following, you see the step for your operating system labeled as either **Windows 2000** or **Windows XP**.

4. Power on your computer.
5. In **Windows 2000**, the **Found New Hardware** wizard appears. Click **Next** to continue.

   In **Windows XP**, a slightly different screen appears. Click the selection **Install from a list or specific location (Advanced)** then click **Next** to continue.

6. **Windows 2000** users select **Display a list of the known drivers for this device so that I can choose a specific driver** and click **Next**.

   Windows XP users select **Don't Search. I will choose the driver to install** and click **Next**.

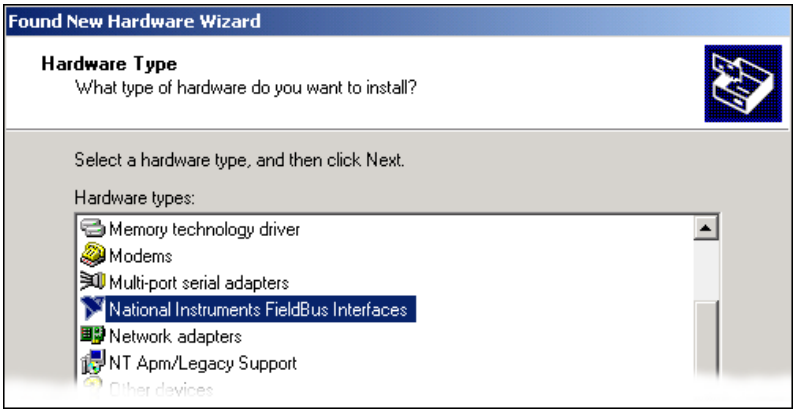


Figure 2. Hardware Type

7. **Windows 2000** users select **National Instruments FieldBus Interfaces** as shown in Figure 2 and click **Next**. If you do not find this hardware type, refer to step 10.

   Windows XP users see a slightly different screen than what is shown in Figure 2, but make the same selection.

8. Choose the appropriate type. **PCMCIA-Fbus** is for the one-port card and **PCMCIA-Fbus/2** is for the two-port card. Click **Next**.
9. To determine if your card is working, in the Windows System Tray click the PCMCIA adaptor icon, shown inside a box in Figure 3.



Figure 3. System Tray with PCMCIA Icon

10. Launch the Interface Configuration Utility, locate the PCMCIA-FBUS board and right-click to **Enable**.
11. Close Interface Configuration Utility and start NI-FBUS Communications Manager or NI-FBUS Configurator.

Caution To prevent possible damage, always stop a PCMCIA card before you unplug it.

12. **Windows 2000**—If you could not find the hardware type **National Instruments FieldBus Interfaces** in step 7, select **Other devices** as shown in Figure 4 and click **Next**.

    Windows XP—If you could not find the hardware type **National Instruments FieldBus Interfaces** in step 7, select **Show All Devices** in the **Hardware Type** screen and click **Next**.



Figure 4. Finding Other Devices

13. Click **Have Disk**. Click **Browse**. Locate the installation file `nifb.inf` in `C:\WINNT\inf` as shown in Figure 5.

Note Depending upon how you have configured your computer, Figure 5 may or may not show the path for locating the `Nifb.inf` file in your system. This path is given as one possibility.

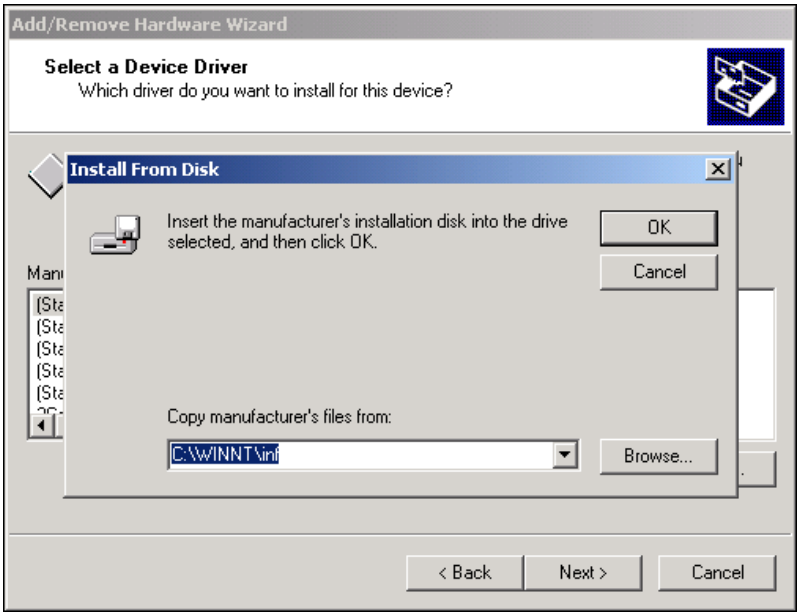


Figure 5. Installing from Disk

14. A message from Windows, **`Update Driver Warning`**, appears. Click **Yes** to continue.
15. **Start Device Driver Installation** appears. Click **Next**.
16. Once the driver is installed, click **Finish**.
17. Launch the Interface Configuration Utility, locate the PCMCIA-FBUS board and right-click to **Enable**.
18. Close the Interface Configuration Utility and start the NI-FBUS Communications Manager or NI-FBUS Configurator.

Install the AT-FBUS Board

Note Before you install your board, double-check to make sure the settings on your board match the resources you have chosen.

1. Shut down your operating system and power off your computer. Keep the computer plugged in so that it remains grounded while you install the AT-FBUS board.
2. Remove the top cover or access port of the I/O channel.
3. Remove the expansion slot cover on the back panel of the computer.

4. As shown in Figure 6, insert the AT-FBUS board into any unused 16-bit ISA slot with the Fieldbus connector sticking out of the opening on the back panel. Make sure all pins are equally far into the connector. Although it might be a tight fit, do not force the board into place.

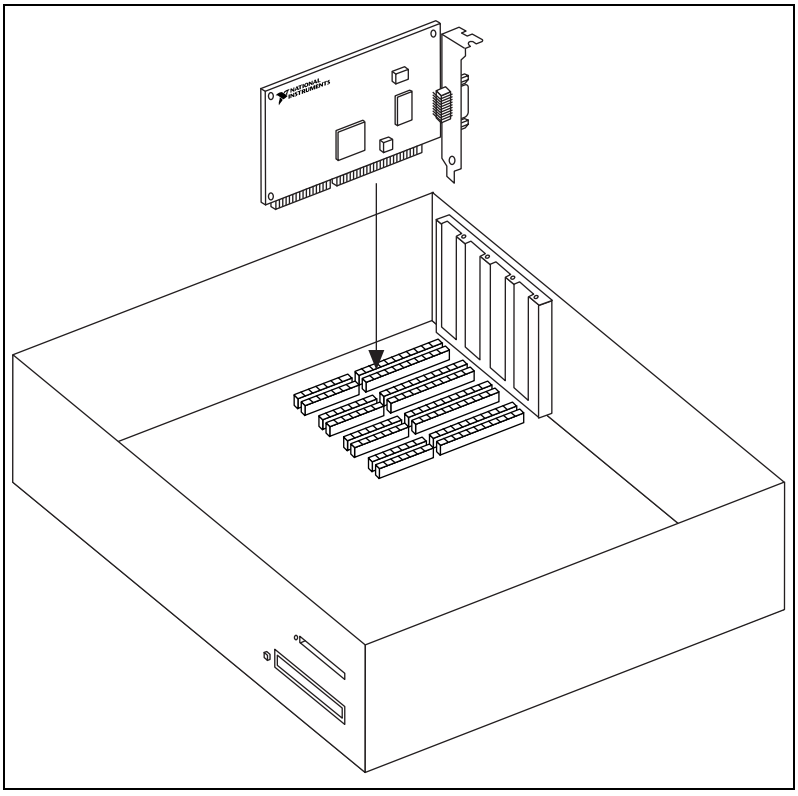


Figure 6. Installing the AT-FBUS Board

5. Screw the mounting bracket of the AT-FBUS board to the back panel rail of the computer.
6. Keep the top cover or access port off until you have verified that your resources are non-conflicting. This is described in the *Set the NI-FBUS Software to Use Your NI-FBUS Board* section of Chapter 2, *Installation and Configuration*, of the *Getting Started with Your AT-FBUS and the NI-FBUS Software* manual.
7. Power on your computer.
8. From the **Start** menu, invoke the **Device Manager**. Select **Settings» Control Panel»System»Hardware»Device Manager**. Select the menu item **Show hidden devices** as shown in Figure 7.



Figure 7. Selecting Hidden Devices

You now see the non-Plug & Play device information. Locate the kernel-mode device driver `nifb`, as shown in Figure 8.

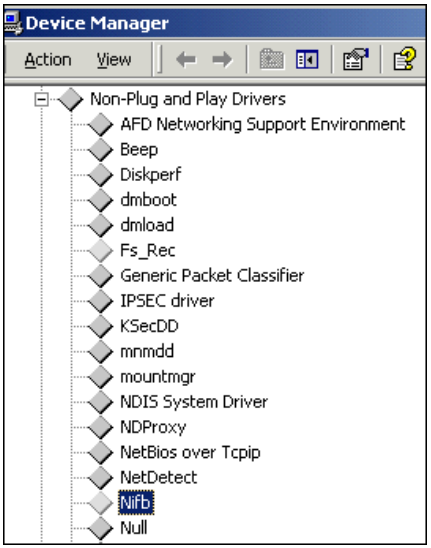


Figure 8. Non-Plug & Play Devices

Double-click or right-click on `Nifb` and select **Properties**. Select **Driver** from the properties page. Clicking the **Start** button starts the driver. You can now set up the driver to start automatically at system start-up by setting the **Startup Type** to **Automatic** as shown in Figure 9.

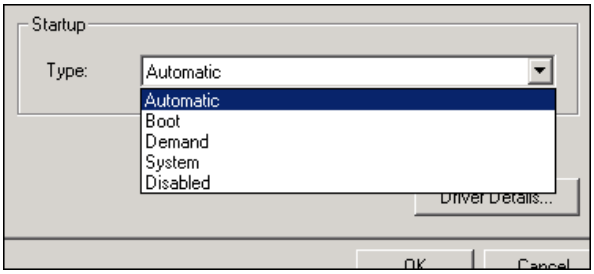


Figure 9. Setting Nifb to Automatic

To view or troubleshoot the hardware resources being used by the AT-FBUS boards, select **Nifb»Properties»Resources**.

Note You also can start the kernel-mode driver by entering `net start nifb` at the command prompt. This method is especially helpful if you are unable to find `nifb` on the **Show hidden devices** list.

If you receive the message **`System error 31 has occurred`**, the cause is most likely an interrupt or memory address conflict. Set the device to poll mode or change the memory address value.

Install the PCI-FBUS Board

Note Before you install your board, double-check to make sure the settings on your board match the resources you have chosen.

1. Shut down your operating system and power off your computer. Keep the computer plugged in so that it remains grounded while you install the PCI-FBUS board.
2. Remove the top cover or access port of the I/O channel.
3. Remove the expansion slot cover on the back panel of the computer.
4. As shown in Figure 10, insert the PCI-FBUS board into any unused PCI slot with the Fieldbus connector sticking out of the opening on the back panel. Make sure all pins are equally far into the connector. Although it might be a tight fit, do not force the board into place.

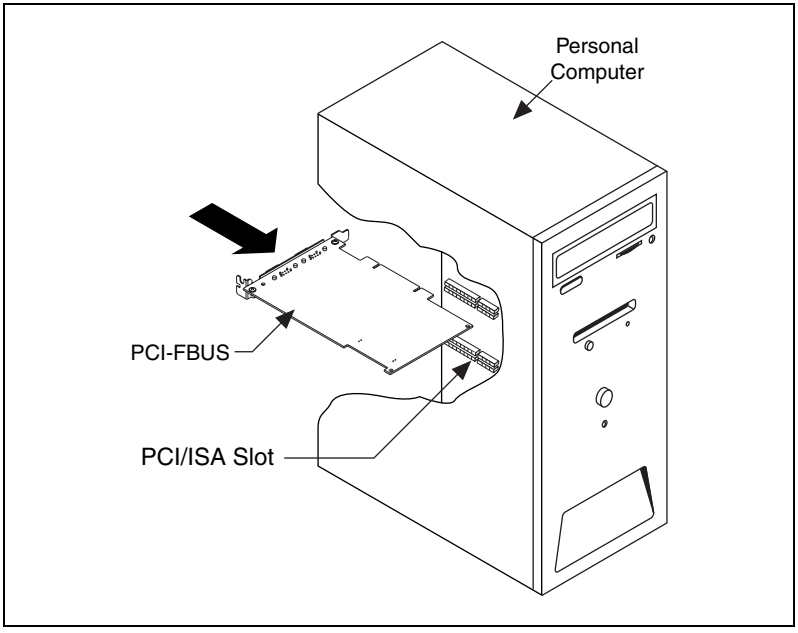


Figure 10. Installing the PCI-FBUS Board

5. Screw the mounting bracket of the PCI-FBUS board to the back panel rail of the computer.
6. Keep the top cover or access port off until you have verified that your resources are non-conflicting. This is described in the *Set the NI-FBUS Software to Use Your PCI-FBUS Board* section of Chapter 2, *Installation and Configuration*, of the *Getting Started with Your PCI-FBUS and the NI-FBUS Software* manual.
7. Power on your computer.
8. Launch the Interface Configuration Utility. Find the PCI-FBUS board and right-click to **Enable**.
9. Close the Interface Configuration Utility and start the NI-FBUS Communications Manager or NI-FBUS Configurator.

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