

CAN Hardware and the NI-CAN™ Software for Windows 2000/NT/Me/9x

This guide contains instructions to help you install your NI-CAN system. A complete document set, including your user manual and programmer reference manual, is in Adobe Acrobat portable document format (PDF) on your *NI-CAN for Windows 2000/NT/Me/9x* CD. Refer to the files `NI-CAN User Manual.pdf` and `NI-CAN Programmer Reference Manual.pdf` on the CD or in the `NI-CAN\Manuals` folder on your hard drive for the complete document set.

The National Instruments CAN hardware covered in this installation guide includes the AT-CAN and AT-CAN/2 (**Windows Me/9x only**), PCI-CAN, PCI-CAN/2, PCI-CAN/LS (low-speed CAN), PCI-CAN/LS2, PCI-CAN/DS (dual-speed CAN), PCMCIA-CAN, PCMCIA-CAN/2, PXI-8460 (low-speed: one or two port), PXI-8461 (high-speed: one or two port) and PXI-8462 (dual-speed: port one high-speed, port two low-speed).

This document assumes you are already familiar with Windows 2000/NT/Me/9x.

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Install the NI-CAN Software Before the Hardware

Before installing the CAN software, **Windows 2000/NT users** must first log on as Administrator or as a user with Administrator privileges. The NI-CAN setup program must have Administrator privileges because the program modifies the configuration registry of your system. Except for the variation noted in Step 3, users of all Windows operating systems should complete the following steps.



Note If you have a previous version of NI-CAN installed on your machine, you must uninstall it before upgrading to this latest version of NI-CAN.

1. Select **Start»Settings»Control Panel**.
2. Double-click on the **Add/Remove Programs** icon in the Control Panel to launch the Add/Remove Programs applet. You can use this same applet to uninstall the NI-CAN software at a later time. Refer to the [Uninstalling the NI-CAN Software](#) section of this document for more information.
3. **Windows 2000 users:** Click on **Add New Programs**. Click on **CD or Floppy**. **Windows NT/Me/9x users:** Click on the **Install** button.
4. Insert your *NI-CAN for Windows 2000/NT/Me/9x* CD, and click on the **Next** button to proceed.
5. The setup wizard guides you through the necessary steps to install the NI-CAN software. You may go back and change values where appropriate by choosing **Back**. You can exit the setup where appropriate by choosing **Cancel**.

6. If the NI-CAN installer detects LabVIEW Real-Time (RT) on your system, you have the option to install NI-CAN support for LabVIEW RT. Once the NI-CAN installation is complete, launch Measurement and Automation Explorer (MAX) and follow the online help to download NI-CAN Real-Time components to your Real-Time PXI controller.
7. Shut down your computer when the setup is complete.
8. Proceed to the next section, *Install the CAN Hardware*.

Install the CAN Hardware

This section describes how to install your CAN hardware on the AT, PCI, PCMCIA, and PXI busses.

Check the Configuration of Your CAN Hardware

If you plan to use your CAN board in a system where bus power is available, you may want to configure the power supply jumpers on your board. See *Cabling Requirements for High-Speed CAN* in your *NI-CAN User Manual* for more information.

If you are installing a low-speed CAN board or a PCMCIA-CAN/LS cable, you may need to change the power supply jumpers or termination resistors. See *Cabling Requirements for Low-Speed CAN* in your *NI-CAN User Manual* for more information.

If you are installing a dual-speed CAN board or a PCMCIA-CAN/DS cable, you may have to change the power supply jumpers or termination resistors. See *Cabling Requirements for Dual-Speed CAN* in your *NI-CAN User Manual* for more information.

Install Your AT-CAN or PCI-CAN Series Board



Caution Before you remove the board 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 CAN interface.

1. Make sure that your computer is turned off. Keep the computer plugged in so that it remains grounded while you install the CAN interface.
2. Remove the top cover (or other access panels) to give yourself access to the computer expansion slots.
3. Find an unused expansion slot of the appropriate type in your computer.
4. Remove the corresponding slot cover on the back panel of the computer.
5. Insert the CAN interface into the slot with the CAN connector(s) sticking out of the opening on the back panel. It might be a tight fit, but do *not* force the interface into place.
6. Screw the mounting bracket of the CAN interface to the back panel rail of the computer.
7. If desired, you can use a RTSI cable to connect your CAN board RTSI interface to other National Instruments RTSI-equipped hardware. Refer to the *RTSI Bus* section in your *NI-CAN User Manual* for more information about the RTSI interface on your CAN board.
8. Replace the top cover (or the access panel to the expansion slot).
9. Proceed to the [Verify Your Installation](#) section in this document.

Install Your PCMCIA-CAN Series Card



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 CAN interface.

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.
3. Connect the PCMCIA-CAN, PCMCIA-CAN/LS, or PCMCIA-CAN/DS cable to the card. The NI-CAN software auto-detects which cable has been attached to the card.
4. Proceed to the *Verify Your Installation* section in this document.

Install Your PXI-8460, PXI-8461 or PXI-8462



Caution Before you remove the board from the package, touch the antistatic package to a metal part of your system chassis to discharge electrostatic energy, which can damage several components on your board

1. Make sure that your PXI or CompactPCI chassis is turned off. Keep the PXI or CompactPCI chassis plugged in so that it remains grounded while you install the PXI board.
2. Choose an unused PXI or CompactPCI 5 V peripheral slot.
3. Remove the filler panel for the peripheral slot you have chosen.

4. Touch a metal part on your chassis to discharge any static electricity that might be on your clothes or body.
5. Regarding the RTSI interface on the J2 connector of your PXI-846x series board, there are important issues to consider when using it in a CompactPCI chassis. Refer to the *RTSI Bus* section in your *NI-CAN User Manual* for more detailed information about the PXI-846x series RTSI interface.
6. Insert the PXI board into the selected 5 V slot. Use the injector/ejector handle to fully inject the device into place.
7. Screw the front panel of the PXI board to the front panel mounting rail of the PXI or CompactPCI chassis.
8. Proceed to the *Verify Your Installation* section in this document.

Verify Your Installation

1. Turn on your computer and start Windows.

Windows 2000/Me/9x users: A **New Hardware Found** dialog box appears, then goes away on its own. If the dialog box does not go away, select **Windows default driver** and click the **OK** button. If the **New Hardware Found** dialog box does not appear when you restart Windows, refer to *Troubleshooting and Common Questions* in your *NI-CAN User Manual* for more information.

Windows NT 4.0 users: Refer to your *NI-CAN User Manual* to verify your installation.

2. Run the NI-CAN Configuration utility to assign a name to each of the CAN ports in your system. The NI-CAN Diagnostic utility is used to verify the installation and configuration of your system. Refer to the *NI-CAN Configuration and Diagnostic Utilities* section of your *NI-CAN User Manual* for further information.

3. Proceed to the *Connect the Cables* section in this document.

Connect the Cables

After you have installed the CAN interface, connect your CAN cables to the interface. Because exact cabling requirements vary for each application, National Instruments does not provide cables, other than the PCMCIA-CAN, PCMCIA-CAN/LS, or PCMCIA-CAN/DS cable. Refer to either *Cabling Requirements for High-Speed CAN*, *Cabling Requirements for Low-Speed CAN*, or *Cabling Requirements for Dual-Speed CAN* in your *NI-CAN User Manual* for information about the cabling requirements of the CAN hardware.

Uninstalling the NI-CAN Software

Before uninstalling the NI-CAN software, remove all CAN interface hardware from your computer.

Complete the following steps to remove the NI-CAN software.

1. Run the **Add/Remove Programs** applet from the **Control Panel**.
2. Select the NI-CAN software you want to remove and click the **Add/Remove** button. The uninstall program runs and removes all folders, utilities, device drivers, DLLs, and registry entries associated with the NI-CAN software.

The uninstall program removes only items that the installation program installed. If you add anything to a directory that was created by the installation program, the uninstall program does not delete that directory, because the directory is not empty after the uninstallation. Remove any remaining components yourself.

After the uninstall program completes, restart your computer.

Further Documentation

A complete document set, including your user manual and programmer reference manual, is in Adobe Acrobat portable document format (PDF) on your *NI-CAN for Windows 2000/NT/Me/9x* CD. The user manual includes a *Troubleshooting and Common Questions* section with more detailed information on installation and configuration of your NI-CAN software and hardware. Refer to the files `NI-CAN User Manual.pdf` and `NI-CAN Programmer Reference Manual.pdf` on the CD or in the `NI-CAN\Manuals` folder on your hard drive for the complete document set.