

CAN Hardware and the NI-CAN™ Software for Windows NT

This guide contains instructions to help you install your NI-CAN system. A complete document set, including a getting started manual, user manual and programmer reference manual, is in Adobe Acrobat portable document format (pdf) on your *NI-CAN for Windows NT/9x* CD. Refer to the file `readme for docs.html` on the CD for the complete document set.

The National Instruments CAN hardware covered in this installation guide and supported under Windows NT includes the PCI-CAN, PCI-CAN/LS (low-speed CAN), PCI-CAN/2, PCI-CAN/LS2 (low-speed CAN), PCI-CAN/DS (dual-speed CAN), PCMCIA-CAN, and PCMCIA-CAN/2.

This manual assumes that you are already familiar with Windows NT.

Install the NI-CAN Software

Before installing the CAN hardware, complete the following steps to install the NI-CAN software for Windows NT.

Installing for Windows NT 3.51

1. Log in as Administrator or as a user that has Administrator privileges. The NI-CAN setup program must have Administrator privileges because the program modifies the configuration registry of your system.
2. Insert the CD, *NI-CAN for Windows NT/9x*.
3. In the **Run** dialog box, type the following:
`x:\setup`
where *x* is the letter of your CD drive.
4. After the software installs, shut down Windows NT and turn off your computer when the setup is complete.
5. Proceed to the *Install the CAN Hardware* section, later in this guide.

Installing for Windows NT 4.0

1. Log in as Administrator or as a user that has Administrator privileges. The NI-CAN setup program must have Administrator privileges because the program modifies the configuration registry of your system.
2. Select **Start»Settings»Control Panel**.
3. Double-click on the **Add/Remove Programs** icon in the Control Panel to launch the Add/Remove Programs applet. A dialog box similar to the one in Figure 1 appears.



Figure 1. Add/Remove Programs Properties Dialog Box

You can use this same applet to uninstall the NI-CAN software at a later time. Refer to Appendix A, *Uninstalling the Hardware and Software*, in your Windows NT *Getting Started* manual on the CD for more information.

4. Click on the **Install** button.
5. Insert the CD, *NI-CAN for Windows NT/9x*, and click on the **Next** button to proceed.
6. 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 clicking on the **Back** button. You can exit the setup where appropriate by clicking on the **Cancel** button.

7. Shut down Windows NT and turn off your computer when the setup is complete.

Install the CAN Hardware

This section describes how to install your CAN hardware.

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 Appendix B, *Cabling Requirements for High-Speed CAN*, in your Windows NT *Getting Started* manual on the CD 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 Appendix C, *Cabling Requirements for Low-Speed CAN*, in your Windows NT *Getting Started* manual on the CD 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 Appendix D, *Cabling Requirements for Dual-Speed CAN*, in your Windows NT *Getting Started* manual on the CD for more information.

Install Your PCI-CAN Series Board



Caution Electrostatic discharge can damage several components on these CAN interfaces. To avoid such damage in handling your interface, touch the antistatic plastic package to a metal part of your computer chassis before removing the interface from the package.

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. Figure 2 shows how to install the PCI-CAN into a PCI expansion slot.

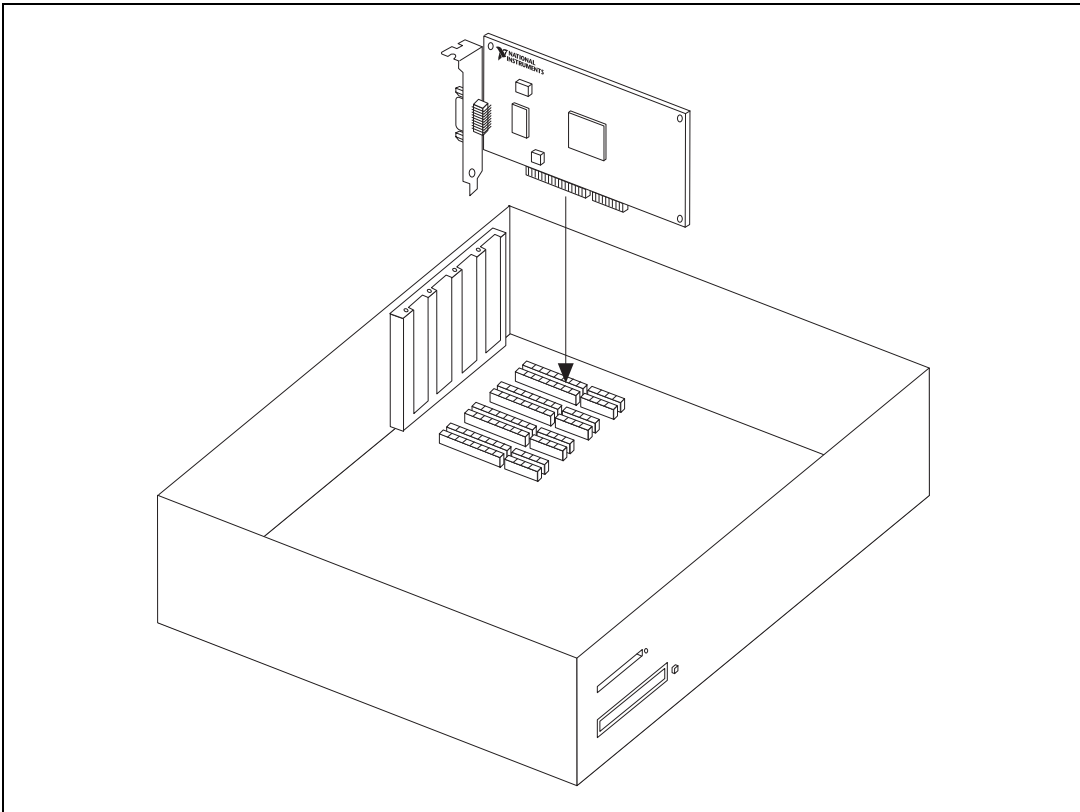


Figure 2. Installing the PCI-CAN

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 to share timing and triggering signals. Please refer to Appendix E, *RTSI Bus*, in your Windows NT *Getting Started* manual on the CD 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. Turn on your computer and start Windows NT.

When you have finished installing the hardware, proceed to the [Connect the Cables](#) section, later in this guide.

Install Your PCMCIA-CAN Series Card



Caution Electrostatic discharge can damage several components on these CAN interfaces. To avoid such damage in handling your interface, touch the antistatic plastic package to a metal part of your computer chassis before removing the interface from the package.



Note Because of restrictions imposed by Windows NT, only one PCMCIA-CAN or PCMCIA-CAN/2 can be used in a Windows NT system. For example, if you have a PCMCIA-CAN card in your system, you cannot use another PCMCIA-CAN card at the same time.

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 3 shows how to insert the card and how to connect a PCMCIA-CAN cable to the card.

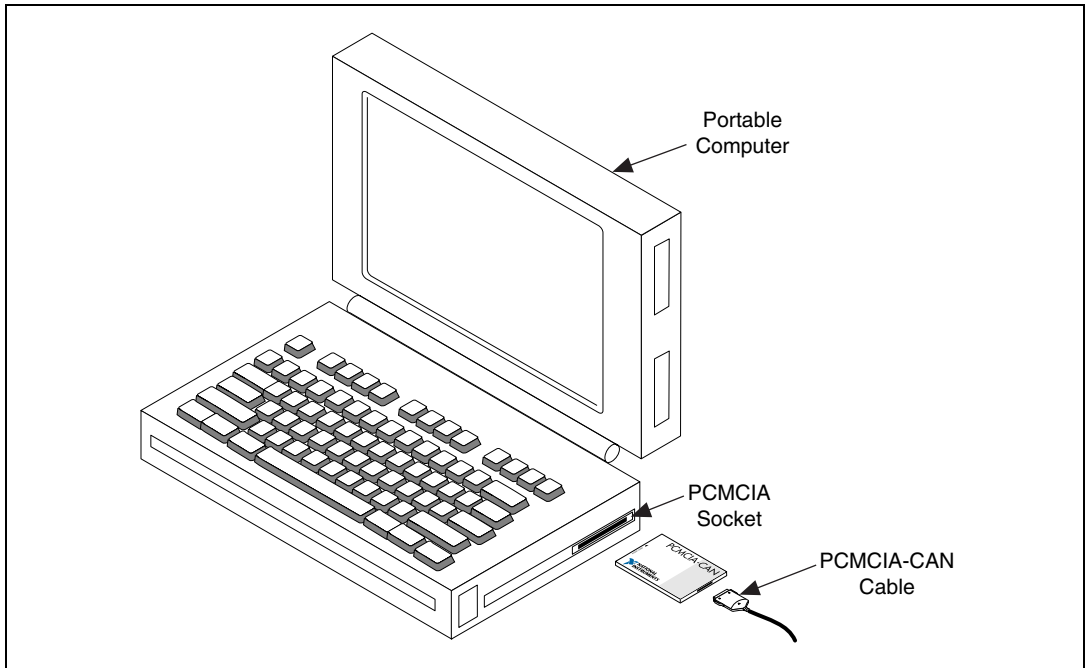


Figure 3. Inserting the PCMCIA-CAN

3. Connect the PCMCIA-CAN, PCMCIA-CAN/LS, or PCMCIA-CAN/DS cable to the card. Starting with NI-CAN Version 1.4, and the PCMCIA-CAN cards with low and high-speed CAN support, the NI-CAN software auto-detects which cable has been attached to the card.
4. Power on your computer.

When you have finished installing the hardware, proceed to the next section, *Connect the Cables*.

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 Appendix B, *Cabling Requirements for High-Speed CAN*, Appendix C, *Cabling Requirements for Low-Speed CAN*, or Appendix D, *Cabling Requirements for Dual-Speed CAN*, in your Windows NT *Getting Started* manual on the CD for information about the cabling requirements of the CAN hardware.

Further Documentation

A complete document set, including a getting started manual, user manual and programmer reference manual, is in Adobe Acrobat portable document format (pdf) on your *NI-CAN for Windows NT/9x* CD. Refer to the file `readme_for_docs.html` on the CD for the complete document set.

Technical Support Resources

NI Web Support

National Instruments Web support is your first stop for help in solving installation, configuration, and application problems and questions. Online problem-solving and diagnostic resources include frequently asked questions, knowledge bases, product-specific troubleshooting wizards, manuals, drivers, software updates, and more. Web support is available through the Technical Support section of ni.com

Worldwide Support

National Instruments has offices located around the world to help address your support needs. You can access our branch office Web sites from the Worldwide Offices section of ni.com. Branch office web sites provide up-to-date contact information, support phone numbers, e-mail addresses, and current events.

If you have searched the technical support resources on our Web site and still cannot find the answers you need, contact your local office or National Instruments corporate. For telephone support in the United States, dial 512 795 8248. For telephone support outside the United States, contact your local branch office:

Australia 03 9879 5166, Austria 0662 45 79 90 0, Belgium 02 757 00 20,
Brazil 011 284 5011, Canada (Calgary) 403 274 9391,
Canada (Ontario) 905 785 0085, Canada (Québec) 514 694 8521,
China 0755 3904939, Denmark 45 76 26 00, Finland 09 725 725 11,
France 01 48 14 24 24, Germany 089 741 31 30, Greece 30 1 42 96 427,
Hong Kong 2645 3186, India 91805275406, Israel 03 6120092,
Italy 02 413091, Japan 03 5472 2970, Korea 02 596 7456,
Mexico (D.F.) 5 280 7625, Mexico (Monterrey) 8 357 7695,
Netherlands 0348 433466, New Zealand 09 914 0488,
Norway 32 27 73 00, Poland 0 22 528 94 06, Portugal 351 1 726 9011,
Singapore 2265886, Spain 91 640 0085, Sweden 08 587 895 00,
Switzerland 056 200 51 51, Taiwan 02 2528 7227,
United Kingdom 01635 523545



322911A-01

Aug00