

NI-DAQ™ FOR PC COMPATIBLES VERSION 6.5

These notes contain information you must know before installing NI-DAQ for PC Compatibles, version 6.5. They explain how to install your NI-DAQ 6.5 driver software on Windows NT/98/95. They also contain instructions on how to install and use your electronic documentation set.

What Is Different about Version 6.5

Among the new features of NI-DAQ 6.5 are support for new hardware products, new NI-DAQ examples, the Measurement & Automation Explorer for configuring your devices, and a new NI-DAQ Setup program.

New Functions, Examples, and Newly Supported Hardware

For more details about new functions, examples, and newly supported hardware, refer to the NI-DAQ Readme file, which has a link to the National Instruments home page. Before installation, you can find the `readme.htm` file on your NI-DAQ 6.5 software CD. If you have already installed NI-DAQ, select **Start»Programs»National Instruments DAQ»NI-DAQ Readme File** to access this information.

Measurement & Automation Explorer

The Measurement & Automation Explorer is a new utility that is installed as a desktop icon during your NI-DAQ software installation. Click on the Measurement & Automation icon to configure your National Instruments software and hardware, to execute system diagnostics, to add new channels, virtual channels, and interfaces to your system, and to view the devices and instruments you have connected.

Measurement & Automation Explorer provides multiple views of your National Instruments resources. At the highest level, resources appear in three categories: **Data Neighborhood**, **Devices and Interfaces**, and **Scales**.

The **Data Neighborhood** is a repository of *virtual channels*. A virtual channel is a shortcut to a configured channel in your system. Virtual channels are beneficial because you can name them intuitively, such as “Thermocouple 1.” You configure the attributes of your local or remote hardware products through the **Devices and Interfaces** option. You use **Scales** to define custom scaling algorithms you can use to transform any of your data.

NI-DAQ Setup

You use NI-DAQ Setup to select the specific examples, documents, and support files you want to install for your hardware and application development environments (ADEs). NI-DAQ Setup is automatically launched when you reboot after installing your NI-DAQ software. If you need to install additional components later, select **Start»Programs»National Instruments DAQ»NI-DAQ Setup**.

NI-DAQ 6.5 Replaces VI Libraries and Online Help

If you are using LabVIEW version 4.x or higher, or BridgeVIEW 1.x or higher, NI-DAQ Setup will give you the option of updating DAQ-related components. If you choose this option, the following files will be replaced:

- `VI.LIB\UTILITY\error.llb` (the error handler VIs in the **Time and Dialog** palette)
- `HELP\lvdaq.hlp` and `HELP\findxmpl.hlp` (DAQ Online Help and Search Examples Help)
- All library files in `VI.LIB\DAQ` (all VIs on the DAQ palettes, and all corresponding palettes in `MENU\DEFAULT` and `MENU\DAQVIEW`)
- All library files in `VI.LIB\SOL` (the Solutions Gallery VIs)
- All library files in `EXAMPLES\DAQ` (all the DAQ Example VIs)

If you have saved VIs into any of these libraries, you should quit the installer, launch LabVIEW, copy any such VIs to another place, quit LabVIEW, and restart the installer.

Localized Resources Are Not Provided

The NI-DAQ 6.5 CD does not contain resources localized for Japanese, French, or German. When you run the installer, only English resources are installed. These localized resources will again be available in languages other than English in a future NI-DAQ release in 1999. We sincerely apologize for any inconvenience this causes our customers.

For those products that were supported in the previous version of NI-DAQ (version 6.1), we have included a CD of that version together with your NI-DAQ 6.5 CD. You may, if you wish, install NI-DAQ 6.1 instead of

NI-DAQ 6.5 and use those localized resources. If your kit contains only the NI-DAQ 6.5 CD, your product is too new to be supported in NI-DAQ 6.1.



Note

For users of localized LabVIEW: If you run the NI-DAQ Setup program on your version of LabVIEW, all the DAQ components will become English. If you prefer the localized version of the LabVIEW DAQ components, do not choose to upgrade LabVIEW DAQ components in the NI-DAQ 6.5 Setup program. If you prefer to have the NI-DAQ 6.5-specific enhancements, such as support for new products and improvements to the LabVIEW DAQ VIs, examples, and online help, please select to upgrade LabVIEW DAQ components in the NI-DAQ 6.5 Setup program, which will install the English LabVIEW DAQ components.

Installing NI-DAQ 6.5

Most NI-DAQ software kits contain two CDs, one for NI-DAQ 6.5 and one for NI-DAQ 6.1. If your kit contains only the NI-DAQ 6.5 CD, your product is too new to be supported in NI-DAQ 6.1. If one of the following conditions applies, do not use NI-DAQ 6.5:

- You want Mac OS support.
- You want Windows 3.1 support.
- You want localized resources (French, German, or Japanese). Refer to the previous section, *Localized Resources Are Not Provided*, for more details.

General Installation Steps

Because all system architectures are different, each one requires a different device configuration procedure. However, in most cases you follow the same general steps:

1. Install your application software (LabVIEW or LabWindows/CVI, for example).
2. Install your NI-DAQ driver software.
 - To install NI-DAQ 6.5 on Windows NT/98/95, insert the NI-DAQ version 6.5 CD into your drive and select **Install NI-DAQ**.
 - To install NI-DAQ 5.0 on Windows 3.1, insert the NI-DAQ version 6.1 CD into your drive and run `setup.exe`.
 - To install NI-DAQ 6.0 on the Mac OS, insert the NI-DAQ version 6.1 CD into your drive and run `NI-DAQ Installer`.

**Note**

The NI-DAQ software that ships with your hardware is the latest version of NI-DAQ. In some cases, National Instruments application software will install an older version of the NI-DAQ driver software. In such cases, you should install the NI-DAQ software that shipped with your hardware after you have installed your application software. In all cases, install your NI-DAQ software prior to installing your DAQ hardware.

3. Install your data acquisition (DAQ) hardware device.
4. Reboot your computer. The NI-DAQ Setup program is automatically launched. Follow the prompts to install the appropriate support files, such as examples, online documents, and support files needed by your ADE.
 - a. Click on the device, module, or accessory product name to select specific examples, online documents, and support files you want to install for your hardware and ADEs. You can install the files NI-DAQ Setup recommends, as well as all or none of the documents associated with the devices you have selected. You can also include in your installation any documentation file in the list by manually selecting the filename.

NI-DAQ Setup displays the disk space required for the support files you select so that you know in advance the size of the installation. You can change your selections any time before clicking the **Finish** button.
 - b. Press **Finish** to install the selected support files.
5. Run Measurement & Automation Explorer to configure your device. Right-click on any element of the Measurement & Automation Explorer to navigate and view the available options.
 - a. Select the **Devices and Interfaces** option to display the National Instruments devices that Measurement & Automation Explorer automatically detects. Use this selection to configure resources and other physical properties of your devices and interfaces. using this selection, you can view attributes of one or multiple devices, such as serial numbers.
 - b. For any products you have that are not listed, right-click on **Devices and Interfaces**, and from the list displayed, select **Insert**. A dialog box appears with a list of available National Instruments products. Select your products to add them to the list, then configure them.

**Note**

Plug and Play devices, such as PCI, PXI, DAQCard, USB and other PnP devices, should appear automatically in this list if the hardware has been installed. If you are using a non-PnP device under Windows 98/95, you must use the Add New Hardware wizard to add Data Acquisition Devices. In addition to Plug and Play devices, you can configure SCXI and remote device access (RDA) devices.

- c. Insert virtual channels for your device, if desired. Right-click on **Data Neighborhood** and select **Insert»Virtual Channel**. Use the Virtual Channel Setup wizard to complete your virtual channel configuration.
- d. You can set up simple operations to perform on your data. Right-click on **Scales** and select **Insert»Custom Scale**. Use the Custom Scale Setup wizard to set up the desired operations.

Your software and hardware installation and configuration are complete.

Windows NT 4.0 Support

NI-DAQ 6.5 supports all National Instruments DAQ products in Windows NT 4.0. To facilitate this support, NI-DAQ 6.5 uses 16-bit integers in many function parameters, as compared to the 32-bit integers used in NI-DAQ version 4.9.0 and earlier. Therefore, if you have existing code that uses an old version of NI-DAQ and you want to upgrade the code to use NI-DAQ 6.5 with Windows NT 4.0, you need to change the appropriate function parameters to 16-bit integers.

Windows NT 4.0 assumes that a driver supports only one PC Card (PCMCIA card) at a time, but NI-DAQ 6.5 overcomes this restriction. If you need to use two PCMCIA DAQ cards at the same time, use NI-DAQ 6.5 or later.

Installing for Windows NT

To install devices for Windows NT, you must log into Windows NT as an administrator or as a user with administrator privileges. NI-DAQ 6.5 is compatible with Windows NT 4.0 and later.

ISA Devices

To use ISA Plug and Play devices (for example, AT E Series devices), you must install the Windows NT 4.0 ISA Plug and Play driver and your NI-DAQ driver software before you install your DAQ hardware. The ISA Plug and Play driver is not installed by default. Follow these steps to install the drivers:

1. Insert your Windows NT 4.0 CD.
2. Go to the `\Drvlib\Pnpisa\X86` directory.
3. Right-click once on the `Pnpisa.inf` file, select the **Install** option, and follow the instructions.
4. Follow the *General Installation Steps* section earlier in this note.

For more information about installing NI-DAQ in Windows NT, read the *Device Configuration* section in Chapter 1, *Introduction to NI-DAQ*, of the

NI-DAQ User Manual for PC Compatibles. Also, refer to the *Using the Online Documentation Set* section later in this note.

After you complete the NI-DAQ installation, you must install and configure your DAQ devices. You can access the NI-DAQ Readme file under **Start»Programs»National Instruments DAQ**. The help file has useful information on installing DAQ hardware.

Windows 98/95 Support of 16-Bit Applications

NI-DAQ 6.5 does not support 16-bit programs under Windows 98/95.

Using the Online Documentation Set

The NI-DAQ for PC Compatibles documentation set includes the following online help and Adobe Acrobat portable document format (PDF) files:

- The NI-DAQ Function Reference online help file
- The LabVIEW/DAQ online help file
- The *NI-DAQ User Manual for PC Compatibles*
- The *NI-DAQ Function Reference Manual for PC Compatibles*
- The *DAQ Hardware Overview Guide*

NI-DAQ Setup automatically installs the online help files and electronic documents that are in the NI-DAQ for PC Compatibles documentation set, unless you choose not to install them.

To view the NI-DAQ function reference online help, open the `Ni-daq` directory installed on your computer, select `Docs`, click on `Nidaqpc`. The LabVIEW DAQ VI help will be in your LabVIEW directory.

The NI-DAQ Device help file, which is part of Measurement & Automation Explorer online help, is also installed. Measurement & Automation Explorer contains two kinds of help—help on using Measurement & Automation Explorer, and help on using your device and application. To view the help while running Measurement & Automation Explorer, select **Help»Help Topics**.

To access information about configuring your DAQ device, from the **Contents** page, click on **Configure DAQ**, which opens a topic called **Introduction to DAQ configuration with the Measurement & Automation Explorer**. This page contains links to extensive information on how to configure all of the available National Instruments DAQ devices.

To view the PDF files listed above, click **Start** on the taskbar and select **Start»Programs»National Instruments DAQ»Documents** and then the document you wish to view.

NI-DAQ Setup also prompts you to install any or all of the PDF files—NI-DAQ 6.5 includes online versions of National Instruments hardware user manuals. You can read all the PDF files with the Adobe Acrobat Reader.

If you are using an earlier version of NI-DAQ, you may need to install Acrobat Reader version 3.0 or later to read the PDF files that ship with NI-DAQ 6.5. To install the Acrobat Reader, launch the `Ar32e30.exe` file from the `Acrobat` folder on the NI-DAQ CD.

To view the PDF documents, click **Start** on the taskbar and select **Start»Programs»National Instruments DAQ»Documents** and then the appropriate document.

Click on any entry in the table of contents to jump directly to that page. You can jump to major sections within each manual quickly and easily by clicking on the bookmarks at the left of each PDF file.

You can use Acrobat Reader to quickly find and go to every occurrence of any word or phrase in the document. Simply select the **Tool»Find** option and type in the key word or phrase you want to find.

When you choose the **View»Go To Page** option or are printing pages, you must use the page numbers in the lower left corner of the Acrobat window, not the number displayed at the bottom center of each manual page or listed in the contents and index. The number in the bottom center of the page is for printed documents only. The PDF files are electronic duplicates of the printed documentation. These numbers may not match those shown at the bottom of each manual page.

After you install your NI-DAQ software, you can access the NI-DAQ documentation on your software CD or diskettes. To install any online documents after the initial installation of NI-DAQ 6.5, reinsert your CD, run NI-DAQ Setup, and select the documents you want to install.

You can assemble your own printed manual by printing either the entire document set or only the sections relevant to your application.

If you would like to purchase the printed NI-DAQ documentation, please contact National Instruments and request part number 777171-01. LabVIEW, ComponentWorks, and VirtualBench users do not need the NI-DAQ documentation. The printed documentation set includes the *NI-DAQ User Manual for PC Compatibles* and the *NI-DAQ Function*

Reference Manual for PC Compatibles but does not include the *DAQ Hardware Overview Guide*. This guide is available only as a PDF file.

DAQ Support

To find sources for additional support, select **Start»Programs»National Instruments DAQ»Online DAQ Support**. The National Instruments web page contains troubleshooting tips and frequently asked questions on many topics, and links to databases such as Example Programs and Product Manuals. This is the most up-to-date location for resources and help.

Use the link to the Product Manuals database to load any PDF document that is not available on the installer.



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