



Dell Precision™ WorkStation 410
Mini Tower Systems

**DOCUMENTATION
UPDATE**



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Notes, Notices, and Cautions

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, notices, and cautions, and they are used as follows:



NOTE: A NOTE indicates important information that helps you make better use of your computer system.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



CAUTION: A CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

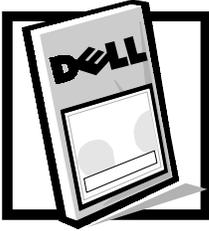
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Dell Precision™ WorkStation 410 Mini Tower Systems Documentation Update

This document updates information contained in the *Dell Precision WorkStation 410 Mini Tower Systems User's Guide*. It provides information about the following topics:

- Small computer system interface (SCSI) drivers for the Microsoft® Windows NT® operating system
- 3Com® Peripheral Component Interface (PCI) 3C905B network interface controller (NIC)
- Microsoft-updated Advanced Technology Attachment Packet Interface (ATAPI) driver
- Owner tag
- New System Setup program features
- Intel® Pentium® II and Pentium III microprocessor availability
- Basic input/output system (BIOS) reinstallation
- Online documentation

Installing SCSI Drivers During Windows NT 4.0 Installation

To install SCSI drivers for the Microsoft Windows NT 4.0 operating system, perform the following steps:

1. Insert the bootable Windows NT CD into the CD-ROM drive, and turn on or reboot the system, perform the following steps.
2. Press <F6> when the following message appears:

```
Setup is inspecting your computer's hardware  
configuration...
```

The setup program copies files to your system and pauses at the **Windows NT Setup** screen to allow you to specify additional devices.

3. Press <s> to specify additional SCSI devices.

Windows NT displays a list of supported host adapters.

4. Select **Other** (the default) and press <Enter>.

The following message appears:

```
Please insert the disk labeled Manufacturer-supplied
hardware support disk into Drive A:
```

5. Insert the diskette containing the Adaptec 7890 and 7880 device drivers and press <Enter>.

You created this diskette using the Dell™ Program Diskette Maker when you made program diskette sets of your Dell-installed software.

6. Follow the instructions on the screen to complete the Windows NT installation.

Configuring a 3Com PCI 3C905B NIC for Windows NT 4.0

This section provides information on the following topics:

- Manually setting the network frame type for an Internetwork Packet eXchange/Sequenced Packet eXchange (IPX/SPX)-compatible network protocol
- Using 3Com EtherDisk® XL diskettes
- Ensuring that the NIC functions properly when you are installing the Japanese version of the Windows NT 4.0 operating system

Setting the Network Frame Type

If your system is connected to an IPX/SPX-compatible network, perform the following steps to set the network frame type:

1. On the Windows desktop, right-click the **Network Neighborhood** icon and click **Properties**.
2. Click the **Protocols** tab in the **Network** window and select **NWLink IPX/SPX-Compatible Transport** protocol if it is not already selected.
3. Click **Properties** to open the **NWLink IPX/SPX-compatible Protocol Properties** window.

4. Click the down arrow next to the **Frame Type** text box and select the appropriate frame type (according to your network requirements) from the drop-down list. Then click **OK**.

See your network administrator if you need more information on which frame type to select.

Using 3Com EtherDisk XL Version 3.01 Diskettes

The 3Com EtherDisk XL version 3.01 diskettes provided by Dell are compatible with the 3C905 family of NICs. If you purchased a 3Com 3C905-based NIC separately, do not attempt to use the 3Com EtherDisk XL diskettes that came with the NIC. Use only the 3Com EtherDisk XL version 3.01 diskettes that were provided by Dell.

For more information on NIC drivers and utilities, see Chapter 5, "Using the Network Interface Controller," in your *Dell Precision WorkStation 410 Mini Tower Systems User's Guide*.

Installing 3Com EtherDisk XL With Japanese Windows NT 4.0

If you are installing Japanese Windows NT 4.0 for the first time, follow the steps in "First-Time Installation." If Dell installed the Japanese version of Windows NT 4.0 Service Pack 3 and you need to reinstall 3Com EtherDisk XL, follow the steps in "Reinstallation."

First-Time Installation

If Dell did not install Japanese Windows NT 4.0, or if you are installing Japanese Windows NT 4.0 on a formatted or blank hard-disk drive, perform the following steps:

1. Install Japanese Windows NT 4.0.

For more information on installing Windows NT 4.0, see the *Dell-Installed Microsoft Windows NT Workstation 4.0 Setup Guide* and your operating system documentation.

2. Install the bus-mastering drivers for Windows NT 4.0.

For more information on installing bus-mastering enhanced integrated drive electronics (EIDE) drivers, see Chapter 2, "Using the Software Support Utilities," in your *User's Guide*.

For more information on installing the Microsoft-updated ATAPI driver, see "Microsoft-Updated ATAPI Driver for Windows NT 4.0" found later in this document.

3. Use 3Com EtherDisk XL version 3.01 to install the 3Com 3C905B NIC drivers.

For more information on installing 3Com 3C905B NIC drivers, see Chapter 5, "Using the Network Interface Controller," in your *User's Guide*.

4. Install Service Pack 3 for Japanese Windows NT 4.0.

Use the Windows NT 4.0 CD that came with your system. For more information on installing Service Pack 3 for Windows NT 4.0, see your operating system documentation.

5. Install video drivers and other system drivers.

For more information on installing video drivers and other system drivers and utilities, see your *User's Guide* and the documentation that accompanied your video card.

Reinstallation

If Dell already installed the Japanese version of Windows NT 4.0 Service Pack 3 and you need to reinstall 3Com EtherDisk XL version 3.01, perform the following steps:

1. Use the 3Com EtherDisk XL version 3.01 diskettes provided by Dell to reinstall the 3Com 3C905B NIC drivers.

For more information on reinstalling 3Com 3C905B NIC drivers, see Chapter 5, "Using the Network Interface Controller," in your *User's Guide*.

2. Reinstall Service Pack 3 for Japanese Windows NT 4.0.

Use the Windows NT 4.0 CD that came with your system. For more information on reinstalling Service Pack 3 for Windows NT 4.0, see your operating system documentation.

3. Reinstall video drivers and other system drivers.

For more information on reinstalling video drivers and other system drivers and utilities, see your *User's Guide* and the documentation that accompanied your video card.

Microsoft-Updated ATAPI Driver for Windows NT 4.0

If you are using the Windows NT 4.0 operating system, you should replace the existing Intel PIIX PCI bus-master IDE driver with the Microsoft-updated ATAPI driver. The ATAPI driver provides a performance improvement by off-loading certain functions from the microprocessor during multithreaded operations (when several application programs are running simultaneously).

Dell has installed the Microsoft-updated ATAPI driver, and it is operative when you receive your computer. No further installation or configuration is needed. However, if Windows NT 4.0 is reinstalled, the Microsoft-updated ATAPI driver must also be reinstalled.



NOTE: To complete the driver reinstallation, you must have a mouse connected to the system and Windows NT 4.0 must already be installed on the hard-disk drive that is connected to the primary EIDE channel.

Reinstalling the Microsoft-Updated ATAPI Driver

To reinstall the Microsoft-updated ATAPI driver, perform the following steps:

1. Start the Windows NT operating system. If you are already running Windows NT, close any open documents or application programs.
2. If you have not already done so, make a diskette copy of the ATAPI driver using the Program Diskette Maker (located in the **Dell Accessories** folder).
3. Insert the *Microsoft-Updated ATAPI Driver for Windows NT 4.0* diskette into drive A.
4. Click the **Start** button and click **Run**. Type a : \setu.p.bat in the **Run** window, and then click **OK**.

A black screen quickly appears and disappears, indicating that the driver file has been loaded. The setup program automatically saves the existing **atapi.sys** driver as **atapi.000** and loads the new driver into the **system32\drivers** subdirectory in the Windows NT directory.

5. Remove the diskette from drive A. Then restart the computer.
6. Click the **Start** button, point to **Settings**, and click **Control Panel**.
7. Double-click **SCSI Adapters**.
8. Click the **Drivers** tab.
9. Select **Intel PIIX PCI Bus Master IDE Controller** and then click **Remove**.
10. When asked if you are sure you want to remove the driver, click **Yes**.
11. Click **Add** and select **IDE CD-ROM (ATAPI 1.2) Dual Channel PCI IDE Controller**; then click **OK**.
12. Restart the system.

NOTICE: Do not enable direct memory access (DMA) for the Windows NT 4.0 ATAPI driver if your system contains an Iomega Zip drive or when you use Dell Inspector 4.1x. Enabling DMA for the Windows NT 4.0 ATAPI driver on Dell Precision WorkStation 410 systems that have an Iomega Zip drive installed or when you run Dell Inspector 4.1x could result in loss of data on your system.



*NOTE: To enable or disable DMA while using the Microsoft-updated ATAPI driver, run **dmacheck.exe** from **support\utils\386** on the Microsoft Windows NT Service Pack 3 CD.*

Removing the Microsoft-Updated ATAPI Driver

To remove the Microsoft-updated ATAPI driver, perform the following steps:

1. Start the Windows NT operating system. If you are already running Windows NT, close any open documents or application programs.
2. In Windows Explorer, open the **system32\drivers** subdirectory in the Windows NT directory.
3. Rename the existing **atapi.sys** file to **atapi.bak**.
4. Rename the **atapi.000** file to **atapi.sys**.
5. Restart the computer.

Assigning an Owner Tag

You can use the Asset Tag utility to assign an owner tag that will be displayed on the Dell logo screen whenever you boot your system.

An owner tag can be up to 80 characters; any combination of letters, numbers, and spaces is valid. To assign an owner tag, type `asset /o` and a space followed by the new owner tag; then press <Enter>. For example, type the following command line and press <Enter>:

```
asset /o ABC Company
```

When prompted to verify the owner tag, type `y` and press <Enter>. The system then displays the new owner tag.

To delete the owner tag without assigning a new one, type `asset /o /d` and press <Enter>.

New System Setup Features

The following features have been added to the System Setup program (see Figure 1):

- A **CPU IDs** field has been added to the system data area on both System Setup program screens.
- A new option—**Video DAC Snoop**—has been added on page 1 of the System Setup program screens.
- A new setting for **NIC—On (PXE Off)** (the default)—has been added to the configuration options area on page 2 of the System Setup program screens.

Video DAC Snoop

Video DAC Snoop lets you correct video problems that may occur when certain video expansion cards are used. Choosing **Off**—the default—improves system compatibility, but may prevent some video expansion cards from working properly.

If you are using a video expansion card and problems such as incorrect colors or blank windows occur, set **Video DAC Snoop** to **On**.

NIC Settings

The following user-selectable settings for the **NIC** option determine the state of the integrated NIC:

- **On (PXE Off)** — NIC is enabled but not set to boot the system remotely from the Preboot eXecution Environment (PXE) on a network server.
- **On** — NIC is enabled and PXE is set to allow the network administrator to update the system remotely.
- **Off** — NIC is disabled.

Intel Pentium Processors

Dell Precision WorkStation 410 systems now feature Intel Pentium II or Pentium III microprocessors.

Pentium II Features

The Pentium II microprocessors include MM X™ technology, a 32-kilobyte (KB) level 1 (L1) cache, a 512-KB level 2 (L2) cache, and an integrated math coprocessor.

Pentium III Features

The Pentium III processors use a new instruction set known as streaming single instruction, multiple data (SIMD) extensions and a new feature called the processor serial number. The SIMD extensions instruction set is made up of more than 70 new instructions and includes floating-point SIMD to enhance 3D display performance and other multimedia capabilities. The processor serial number uniquely identifies each Pentium III processor.

The Pentium III processors also include MMX technology and an L2 cache.

Operating Systems and Pentium III Features

Pentium III processors require specific drivers and Service Packs for each Microsoft operating system. Without the correct driver or Service Pack, the new features of your Pentium III processor may not be available.

Windows NT 4.x

If you ordered your Dell Precision WorkStation with a Pentium III processor, the Microsoft Windows NT 4. x operating system, and Service Pack 3, your system functions normally and benefits from the higher clock speed and the cache/memory management improvements offered by the Pentium III processor. However, your system cannot take advantage of the new SIMD extensions instruction set. To use the SIMD extensions instruction set, you must install Windows NT 4. x Service Pack 4 and the Intel streaming SIMD extensions (SSE) instruction set driver. You can download Windows NT Service Pack 4 from the Microsoft Web site at <http://www.microsoft.com> and the Intel SSE driver from <http://www.dell.com>.

If you ordered your Dell Precision WorkStation with a Pentium III processor, Windows NT 4. x, and Service Pack 4, the Intel SSE driver required to take advantage of the SIMD extensions instruction set was also factory installed. A Windows NT Service Pack 4 CD is included with your system should you need to reinstall Windows NT. The Intel SSE driver is one of the drivers copied when you run the Dell Program Diskette Maker program included with the system. You must make backup driver diskettes. You need these diskettes to reinstall the drivers if you reinstall the Windows NT 4. x operating system.

Windows® 98

If you ordered your Dell Precision WorkStation with the Microsoft Windows 98 operating system, your system has all the components required to take full advantage of the new Pentium III features. If you reinstall Windows 98, the components required to use the Pentium III features are also reinstalled. The Windows 98 reinstallation CD is included with your system.

Windows 95

If you ordered your Dell Precision WorkStation with the Microsoft Windows 95 operating system, it runs normally with the new Pentium III processors but it does not support the new SIMD extensions instruction set. Windows 95 does not support the Pentium III features.

Processor Serial Number

If you ordered your Dell Precision WorkStation with a Pentium III processor, the processor serial number feature is disabled in the BIOS by default. If you want to enable the processor serial number feature, you must use the Dell utility **SN_ONOFF.exe**. You can download **SN_ONOFF.exe** from <http://www.dell.com>.

If you want to read the processor serial number, you must use the Processor Number Control Utility (PNCU) from Intel. You can download the PNCU from <http://www.dell.com>. The PNCU reads the processor serial number and reports whether the processor serial number feature is enabled or disabled by the system BIOS.

BIOS Versions

To take full advantage of the benefits offered by the Pentium II and Pentium III processors, your Dell Precision WorkStation 410 must use an appropriate BIOS version.

If your system has a factory-installed Pentium II or Pentium III processor, an appropriate BIOS version was also factory installed.

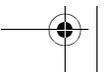
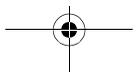
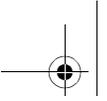
If you need to restore or upgrade your system BIOS, download the most recent version from the Dell Web site at <http://www.dell.com>.

Online Help

For your convenience, the documentation that accompanied your Dell Precision WorkStation is available online. The *Dell Precision WorkStation 410 Mini Tower Systems Help* can be a handy reference tool as you work on your desktop. It allows you to search for information in multiple ways and to link quickly to related topics.

To open the *Help*, click the **Start** button, point to **Programs—> Dell Documents**, and click **Dell Precision WorkStation 410 Mini Tower Systems Help**.

You may also double-click the **Dell Documentation** icon on the Windows desktop, click **System Information**, and then click **Dell Precision WorkStation 410 Mini Tower Systems Help**.





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