

Dell™ Systems

# Information Update

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Dell™ Systems

# Information Update



# Notes, Notices, and Cautions



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



**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 potential for property damage, personal injury, or death.

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This document provides updated information for your system and addresses the following topics:

- Microprocessor support
- Expansion card support
- USB device support
- ECC memory handling
- Using the power button
- Supported IDE drive configurations
- Optional CERC RAID controller
- Using the *Dell OpenManage Server Assistant* CD
- Dell Diagnostics
- Removing the bezel
- Microsoft® Windows® 2000 operating system
  - Support for the tertiary IDE channel
  - TR-40 tape drive support
- Windows 2000 SBS operating system
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  - Installing Linux 7.3
  - Support for the integrated NIC
  - Support for ATA-100 DMA transfer rates on the primary IDE channel
  - PIO Mode 4 support for hard drives on the tertiary IDE channel

## Microprocessor Support

Your system supports the following microprocessors:

- An Intel® Pentium® 4 microprocessor with a speed of at least 1.8 GHz and a 512-Kb cache
- An Intel Celeron® microprocessor with a speed of at least 1.7 GHz and a 128-Kb cache

## Expansion Card Support

The system accommodates five PCI expansion slots. Slots 2 through 5 are 64-bit, 33-MHz slots; slot 1 is a 32-bit, 33-MHz slot. The system supports 3.3-V expansion cards only.

## USB Device Support

Your system supports USB keyboards, mice, and hubs.

## ECC Memory Handling

System memory uses a 128-bit ECC algorithm to correct all single-bit DRAM soft errors and to detect and report all single-bit DRAM hard errors and multiple-bit DRAM errors.

Memory modules must be installed starting with the first connector (farthest from the microprocessor) and leaving no open connectors between installed memory modules. See "Installing System Options" in the *Installation and Troubleshooting Guide* for information on adding additional memory.

## Using the Power Button

To start the system, press the power button and release it as soon as the green power indicator is lit. If you continue to press the power button, the system shuts down.

To turn off the system, press and release the power button. The system will perform an orderly shutdown before power is turned off. If you press the power button for more than 4 seconds to shut down the system, power is turned off immediately.

# Supported IDE Drive Configurations

The IDE subsystem provides three channels (primary, secondary, and tertiary). Each channel supports up to two IDE drives.

Table 1-1 lists guidelines for installing IDE drives connected to the IDE system board connectors.

**Table 1-1. IDE Drive Configuration Guidelines**

| IDE Channel | System Board Connector | Drive Type(s)   |
|-------------|------------------------|---|
| 1           | PRIMARY IDE            | Hard drives only. Hard drives on this channel operate in DMA mode at ATA-33, ATA-66 or ATA-100 transfer speeds.<br><br>To enable DMA mode on this channel, you must install Windows 2000 Service Pack 2 (or later) and enable DMA mode in the device driver properties. |
| 2           | SECONDARY IDE          | CD, DVD, and tape drives only. Hard drives are not supported.<br><br>To enable DMA mode, you must install Windows 2000 Service Pack 2 (or later) and enable DMA mode in the device driver properties. The drives operate at the particular DMA mode that they support.  |
| 3           | THIRD IDE              | Hard drives only. Hard drives on this channel operate in PIO mode 4.  |

**NOTE:** Before installing a hard drive on the tertiary IDE channel, you must install one or more hard drives on the primary channel. You cannot install a bootable hard drive on the tertiary channel.

**NOTE:** The configurations shown in this table describe IDE drives connected directly to the IDE system board connectors. To identify system board connectors, see Figure A-3 in the *Installation and Troubleshooting Guide*.

**NOTE:** The configuration jumper on all IDE drives must be set to Cable Select. Master or slave settings are not supported.

## Optional CERC RAID Controller

If you install an optional CERC RAID controller, the System Setup program may indicate that the boot device is a PERC card. This does not affect the functionality of the CERC card.

## Using the Dell OpenManage Server Assistant CD

If your system has hard drives connected to the tertiary IDE channel and you encounter difficulties booting the system from the *Dell OpenManage Server Assistant* CD, perform the following steps:

- 1 Using the System Setup program, change the **Tertiary Drive 0** and **Tertiary Drive 1** settings to **Off**, save the new settings, and exit the System Setup program.

For more information, see "Using the System Setup Program" in the *User's Guide*.

- 2 Restart the system from the *Dell OpenManage Server Assistant* CD.

For more information, see "Using the Dell OpenManage Server Assistant CD" in your *User's Guide*.

- 3 Shut down the system.

- 4 Using the System Setup program, change the **Tertiary Drive 0** and **Tertiary Drive 1** settings to **Auto**, save the new settings, and exit the System Setup program.

## Dell Diagnostics

If you select the **Test All Devices** option, the maximum error count value does not change. This value is incremented only if you run individual tests.

## Removing the Bezel

If you encounter difficulty removing the system bezel with the system in an upright position, perform the following steps:

- 1 After removing the system cover, carefully place the system on its side.
- 2 Lift the two plastic tabs along the upper edge of the chassis to release the bezel.
- 3 Pull the upper edge of the bezel away from the system and slide the bezel away from the system.

If necessary, lift the front of the system slightly off of the work surface while removing the bezel.

# Windows 2000 Operating System

Refer to this subsection if you install the Windows 2000 operating system or connect hard drives to the tertiary drive channel.



**NOTE:** This information does not apply if you purchased a system with Windows 2000 preinstalled, or if no drives are attached to the tertiary IDE channel.

## Support for the Tertiary IDE Channel

If you install Windows 2000, a yellow “exclamation point” warning icon may appear next to the RAID devices entry in the **Other Devices** section of **Device Manager**. To prevent the appearance of this warning icon, install the device driver for the tertiary IDE channel.

- 1 Turn on the system.

- 2 Log on as an administrator.

Windows 2000 starts, displays a message that new hardware has been detected, and starts the Found New Hardware Wizard.

- 3 Click **Cancel**.

- 4 Check if the operating system includes Service Pack 2 (or later) by clicking **Start**→**Settings**→**Control Panel**→**System** and viewing the system information on the **General** tab.

- 5 If Windows 2000 Service Pack 2 (or later) is not installed, install it now.

For more information, see the documentation supplied with the operating system.

After the installation is complete, Windows 2000 restarts and the **Found New Hardware Wizard** window appears.

Click **Cancel**.

- 6 Insert the *Dell OpenManage Server Assistant* CD into the system’s CD drive, and click **Update drivers**→**PowerEdge600SC**→**Windows 2000**.

- 7 From the list of drivers, select the tertiary IDE channel controller driver.

When prompted to do so, select a destination directory for the files on the hard drive or on a diskette.

A self-extracting file is copied from the CD to the directory you select.

- 8 Run the executable file to extract the driver files.



- 9 Select the **FORCE.BAT** file from the set of driver files in the directory on the hard drive or diskette, and then click **Open**.
- 10 When the Microsoft Digital Signature dialog box for the tertiary IDE controller appears, click **Yes** to continue.
- 11 When the installation is completed and you are prompted to reboot the system, click **Yes**.  
If the system does not reboot automatically, reboot the system.
- 12 Enter the System Setup program, and check that the tertiary IDE drive channel is enabled and that **Maximum UDMA Mode** is set to **ATA-100**.  
For more information, see "Using the System Setup Program" in your *User's Guide*.

## TR-40 Tape Drive Support

If you install Windows 2000 on a system with a TR-40 tape drive, a yellow “exclamation point” warning icon may appear next to the TR-40 entry in **Device Manager**. To prevent the appearance of this warning icon, install the device driver for the TR-40 tape drive.

- 1 Turn on the system.
- 2 Log on as an administrator.  
Windows 2000 starts, displays a message that new hardware has been detected, and starts the Found New Hardware Wizard.
- 3 Click **Next**.  
The **Install Hardware Device Drivers** window appears.
- 4 Click **Search for a suitable driver for my device (recommended)**, if not already selected, and click **Next**.  
The **Locate Driver Files** dialog box appears.
- 5 Install the driver:
  - a Insert the *Dell OpenManage Server Assistant* CD into the system’s CD drive, and click **Next**.  
The **Driver Files Search Results** window appears.
  - b Click **Next**.
  - c Select the driver file for the TR-40 tape drive.

- d** Click **Next**.

When Windows has finished installing the driver, the **Completing the Found New Hardware Wizard** window appears.

- 6** Click **Finish**.

The **Completing the Upgrade Device Driver Wizard** window appears.

- 7** Click **Finish**.

The **Properties** window for the new device appears.

- 8** Click **Close**.

- 9** Restart your system.

## Windows 2000 SBS Operating System

### Installing Windows 2000 SBS

To enable support in Windows 2000 SBS for ATA-100 IDE transfer rates, perform the following steps:

- 1** Install the Windows 2000 Server operating system.

For more information, see the documentation supplied with the operating system.

- 2** Install the Windows 2000 hot fix or Service Pack 2 (or later).

*To install the Windows 2000 hot fix, perform the following steps:*

- a** Download hot fix [Q260233\\_w2k\\_sp2\\_x86\\_en.exe](#) from the Microsoft support web site.

- b** Install the hot fix.

For information on installing hot fixes, see article Q249149 in the Microsoft Knowledge Base on the Microsoft web site.

*To install the Windows 2000 Service Pack, see the documentation supplied with the operating system.*

- 3** After installing the hot fix or service pack, install Windows 2000 SBS.

## TR-40 Tape Drive Support

Yosemite Tapeware tape backup software for the TR-40 tape drive is not supported by the Windows 2000 SBS operating system.

# Novell NetWare 6.0

## Memory Requirements

Novell recommends that you install at least 256 MB of memory in your system before installing Novell NetWare.

## Support for Hard Drives on the Tertiary IDE Channel

If you install Novell NetWare 6.0 on a system with an IDE hard drive connected to the tertiary IDE channel, perform the following steps to ensure that the drives on the tertiary IDE channel are recognized by NetWare:

- 1 Using the System Setup program, change the **Tertiary Drive 0** and **Tertiary Drive 1** settings to **Off**, save the new settings, and exit the System Setup program.  
For more information, see "Using the System Setup Program" in the *User's Guide*.
- 2 Perform a standard or express installation of NetWare.  
For more information, see the documentation supplied with the operating system.
- 3 Restart the system, and then perform a graceful shutdown.
- 4 Using the System Setup program, change the **Tertiary Drive 0** and **Tertiary Drive 1** settings to **Auto**, save the new settings, and exit the System Setup program.
- 5 Turn on the system.
- 6 When prompted to do so, install a standard IDE driver for the hard drive(s) on the tertiary IDE channel.

## Support for an Internal Modem

If you install an internal modem in a system using the Novell NetWare 6.0 operating system, go to [www.novell.com/documentation/lg/nw6p/index.html](http://www.novell.com/documentation/lg/nw6p/index.html) for information on configuring the modem.

# Linux 7.3

## Installing Linux 7.3

If you encounter an "unhandled exception" error while completing an installation of Linux 7.3, perform the following steps:

- 1 Start the system from the *Dell OpenManage Server Assistant* CD.
- 2 From the **System Tools** menu, select **Create Linux Update Diskette** and create a diskette containing the **PE600SC\_updates.img** file.
- 3 Restart the system from the Linux installation CD.
- 4 From the Boot prompt, type `Linux updates` and press Enter.  
When prompted, insert the diskette containing the updates image file.
- 5 Complete the installation procedure.

## Support for the Integrated NIC

There is no native driver support for the integrated Intel 10/1000/1000 NIC. To enable Linux support for the NIC, install the **e1000.o** module from the Intel drivers on the *Dell Server Assistant* CD or download the **e1000.o** module from the Dell Support web site.

## Support for ATA-100 DMA Transfer Rates on the Primary IDE Channel

Refer to this subsection if you install the Linux 7.3 operating system.



**NOTE:** This information does not apply if you purchased a system with Linux 7.3 preinstalled.

You can increase the performance of hard drives on the primary IDE channel by configuring the Linux 7.3 operating system to support ATA-100 transfer rates.

*If your system uses the GRand Unified Boot (GRUB) loader:*

- 1 Log in as root.
- 2 Open the `/boot/grub/grub.conf` file in a text editor.
- 3 Add the following text to the `kernel/vmlinuz-2.4.18.4` line in the **grub.conf** file:  
  
`ide0=ata66`

- 4 Save the file.
- 5 Reboot the system to implement the change.

*If your system uses the Linux LOader (LILO):*

- 1 Log in as root.
- 2 Open the `/etc/lilo.conf` file in a text editor.
- 3 Add the following text to the `lilo.conf` file:  
`append="ide0=ata66"`
- 4 Save the file.
- 5 Reboot the system to implement the change.

### **PIO Mode 4 Support for Hard Drives on the Tertiary IDE Channel**

You can increase the performance of hard drives on the tertiary IDE channel by configuring the Linux 7.3 operating system to support processor I/O (PIO) mode 4 data transfers.

- 1 Log in as root.
- 2 Verify that the `hdparm` utility is located in the `/sbin` directory.
- 3 Open the `/etc/rc.d/rc.sysinit` file in a text editor.
- 4 For the master hard drive, add the following lines to the `/etc/rc.d/rc.sysinit` file:  
`/sbin/hdparm -p4/dev/hde`
- 5 For the slave hard drive, add the following lines to the `/etc/rc.d/rc.sysinit` file:  
`/sbin/hdparm -p4/dev/hdf`
- 6 Save the file.
- 7 Reboot the system to implement the change.