

Introduction

What Is Drive Image Pro Limited Edition

Drive Image Pro Limited Edition is an automated, hard-disk imaging utility. By following the simple, step-by-step Wizard, Drive Image Pro Limited Edition creates an image--an exact replica of every partition on your computer's first hard disk.

Drive Image Pro Limited Edition is a restricted, create-only version of PowerQuest Corporation's Drive Image Pro created for Dell Corporation. For more information on Drive Image Pro visit PowerQuest on the web at <http://www.powerquest.com/driveimagepro/index.html>.

Drive Image Pro Limited Edition System Requirements

Drive Image Pro Limited Edition runs on all Dell hardware that is available for customization through Dell Custom Factory Integration.

Getting Started

This chapter includes the following information:

- Installing Drive Image Pro Limited Edition
- Creating DOS Boot Disks for NetWare IPX
- Creating DOS Boot Disks for NetWare TCP/IP
- Creating DOS Boot Disks for Microsoft TCP/IP
- Creating DOS Standalone Boot Disks
- Formatting Diskettes with Drive Image Pro Limited Edition Installation

Installing Drive Image Pro Limited Edition

You can install Drive Image Pro Limited Edition from any of the following operating systems:

- Windows 95/98
- Windows NT Workstation
- Windows 2000 Professional
- Windows Me

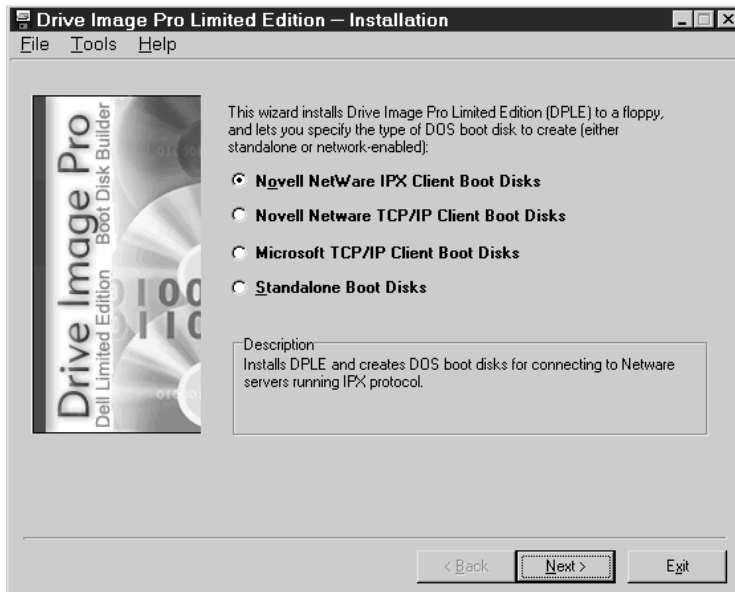
- 1** Download the Drive Image Pro Limited Edition installation package from the DELL. You may choose to “Run this program from its current location” or “Save this program to disk.”
- 2** If “Run this program from its current location” is selected the installation should start automatically. If “Save this program to disk” is selected then you will have to manually navigate to the location you saved DELLDPLE.EXE to and run it from there.
- 3** Once the installation begins you will be presented with a Welcome screen and then an install location screen. The install location defaults to the system TEMP directory but can be changed to any location that is convenient. If you are installing Drive Image Pro Limited Edition on the system that you will be imaging, you may wish to delete the installation directory after the diskettes are created.
- 4** After the installation has extracted all the necessary files, the Drive Image Pro Limited Edition Installation program will start and the following boot diskette types can be created. Since Drive Image Pro Limited Edition runs in DOS, the necessary boot diskettes for connecting to the most common networks as well as a boot diskette for imaging only on a local system are offered for creation. Drive Image Pro Limited Edition will be installed to a second floppy diskette for convenience.
 - Novell NetWare IPX Client
 - Novell NetWare TCP/IP Client
 - Microsoft TCP/IP Client
 - Standalone

Peer-to-peer networking is not supported.

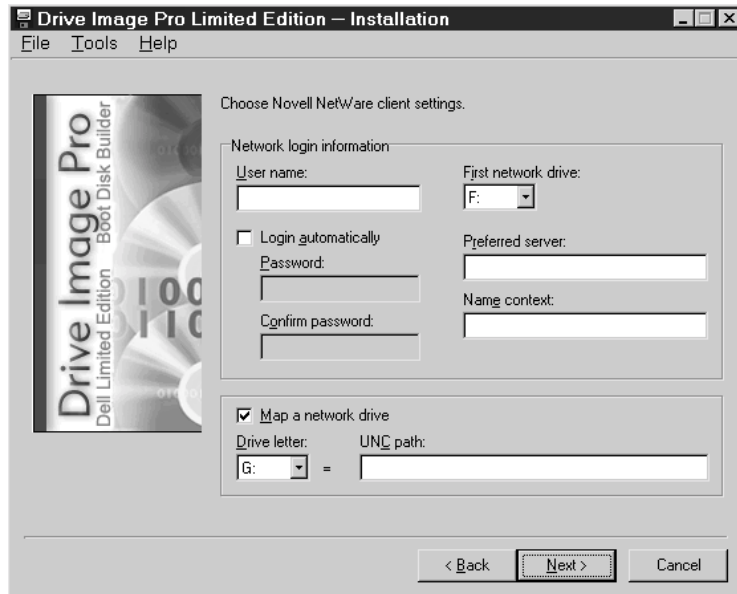
IMPORTANT! Before you start, note that if you add a network driver, you will need the .INF file for the driver and a .COM or .EXE for NetWare IPX, a .LAN or .EXE for NetWare TCP/IP, and/or an .EXE or .DOS file for Microsoft.

Creating DOS Boot Disks for NetWare IPX

To create images on a network drive, you must boot your computer from boot disks that include the network drivers.

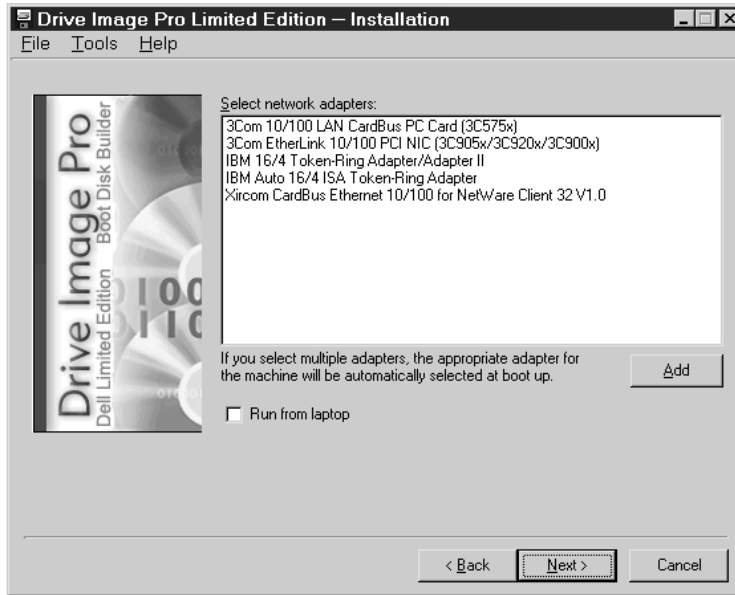


- 1 From the Drive Image Pro Limited Edition Installation main menu, select **Novell NetWare IPX Client Boot Disks**, then click **Next**.



- 2 Enter the Novell NetWare client settings, then click **Next**.
 - a. Enter the User name that will be used to log in to the network.
 - b. If the boot disk needs to run “hands-off,” that is, without user input, mark **Login automatically** and enter the user's password in the **Password** and **Confirm password** fields.
 - c. Indicate the network's first mapped drive in the **First network drive** drop-down list.
 - d. In the **Preferred server** field, enter the full NDS context name for the server that the user typically logs in to (the server that has the user's network files and directories). The preferred server is the same as the NDS tree.
 - e. In the **Name context** field, enter the NDS context for the user's NDS User object. (For example, group.department.organization.)
 - f. If you want to automatically map a network drive at boot up, mark **Map a network drive**.

This requires that you designate the drive letter to be mapped and the UNC path it is mapped to. For example, Q:\ might be mapped to \\SERVER\Volume.



3 Select your network adapter or multiple adapters, then click **Next**

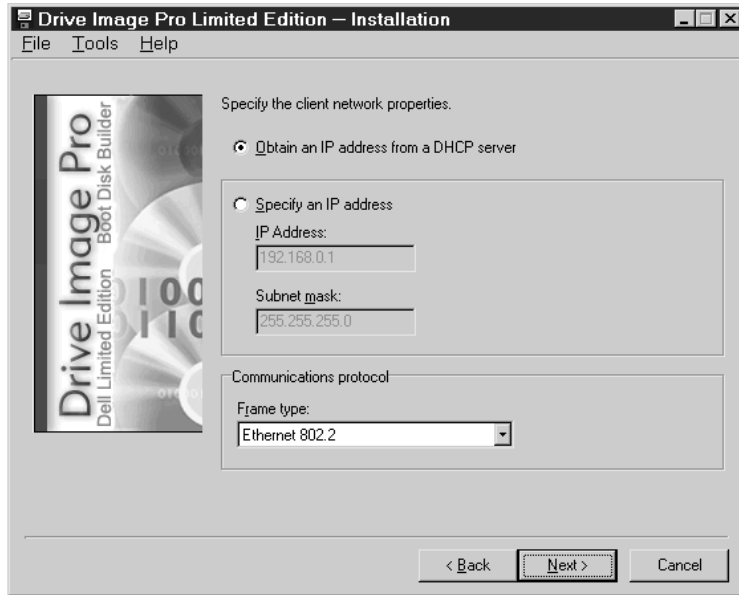
You can select multiple NICs. All of the files for those NICs will be copied to the boot disk. (There must be enough space on the first disk for all the selected NICs.) At boot time, the list of NICs copied is compared to the NIC in the computer. If one matches, that driver is loaded and the system is configured for it. Selecting multiple NICs for the boot disk enables the disk to be used on computers with different NICs.

IMPORTANT! If you are planning to run Drive Image Pro Limited Edition from a laptop, check the **Run on Laptop** box. This will limit the number of NICs you can select to one. On-the-fly NIC selection is not currently supported for laptops.

If your network adapter is not listed, add it to the list of network adapters.

- a. Click **Add**.
- b. Specify the location of the driver file (*.INF) for your network adapter. You can click the browse button to browse the directory tree for the driver file.
- c. Mark **Novell NetWare IPX** as the driver type to add, and click **Next**.

- d. Choose one or more adapters from the list, then click **Next**.
- e. Select the NetWare drivers.
- f. Click **Finish**.
- g. Select the network adapter you are using from the list box, and click **Next**.



- 4 Specify your client network properties, then click **Next**.
 - a. Click **Obtain an IP address from a DHCP server** if a DHCP server is used to assign client IP addresses. On a DHCP server, the IP address is leased out temporarily on a first-come, first-served basis and increments automatically. The DHCP server also provides the subnet mask.
 - b. Click **Specify an IP address** if there is no DHCP server and you need to use TCP/IP on the network. In this case, you must enter a static IP address and subnet mask.
 - c. Select your network's communication protocol from the **Frame type** drop-down list.

Token Ring is included as an option in the Frame type drop-down list. If you are running NetWare on an IBM Token Ring network, select Token Ring in the Frame type list.

5 Click **Back** to make any changes, or click **Finish** to build the boot disk.

In building the boot disk, Drive Image Pro Limited Edition Installation copies the DOS system files and the boot information to the diskette. Any existing information on the floppy diskette is erased.

When you boot a computer from these diskettes, Drive Image Pro Limited Edition will start in graphical user interface (GUI) mode. You can then select any operations.

Creating Additional Boot Disks

After the boot disk file has been created, you are asked if you want to create another boot diskette. If you click **Yes**, Drive Image Pro Limited Edition Installation creates another boot disk file using the current configuration.

If the current configuration uses a static IP address, Drive Image Pro Limited Edition Installation auto-increments the assigned IP address on each boot diskette.

Creating DOS Boot Disks for NetWare TCP/IP

To create images on a network drive, you must boot your computer from boot disks that include the network drivers.

- 1** From the Drive Image Pro Limited Edition Installation main menu, select **Novell NetWare TCP/IP Client Boot Disks**, then click **Next**.
- 2** Enter the Novell NetWare client settings, then click **Next**.
 - a. Enter the User name that will be used to log in to the network.
 - b. If the boot disk needs to run “hands-off,” that is, without user input, mark **Login automatically** and enter the user's password in the **Password** and **Confirm password** fields.
 - c. Indicate the network's first mapped drive in the **First network drive** drop-down list.
 - d. In the **Preferred server** field, enter the full NDS context name for the server that the user typically logs in to (the server that has the user's network files and directories). The preferred server is the same as the NDS tree.
 - e. In the **Name context** field, enter the NDS context for the user's NDS User object. (For example, group.department.organization.)

- f. If you want to automatically map a network drive at boot up, mark **Map a network drive**.

This requires that you designate the drive letter to be mapped and the UNC path it is mapped to. For example, Q:\ might be mapped to \\SERVER\Volume.

- 3** Select your network adapter, then click **Next**.

IMPORTANT! Multiple NIC selection is not currently supported for Novell NetWare TCP/IP disks.

If your network adapter is not listed, add it to the list of network adapters.

- a. Click **Add**.
 - b. Specify the location of the driver file (*.INF) for your network adapter. You can click the browse button to browse the directory tree for the driver file.
 - c. Mark **Novell NetWare TCP/IP** as the driver type to add, and click **Next**.
 - d. Choose one or more adapters from the list, then click **Next**.
 - e. Select the NetWare drivers.
 - f. Click **Finish**.
 - g. Select the network adapter you are using from the list box, and click **Next**.
- 4** Specify your client network properties, then click **Next**.
 - a. Click **Obtain an IP address from a DHCP server** if a DHCP server is used to assign client IP addresses. On a DHCP server, the IP address is leased out temporarily on a first-come, first-served basis and increments automatically. The DHCP server also provides the subnet mask.
 - b. Click **Specify an IP address** if there is no DHCP server and you need to use TCP/IP on the network. In this case, you must enter a static IP address and subnet mask.
 - c. Select your network's communication protocol from the **Frame type** drop-down list.

Token Ring is included as an option in the Frame type drop-down list. If you are running NetWare on an IBM Token Ring network, select Token Ring in the Frame type list.
 - 5** Click **Back** to make any changes, or click **Finish** to build the boot disk.

In building the boot disk, Drive Image Pro Limited Edition Installation copies the DOS system files and the boot information to the diskette. Any existing information on the floppy diskette is erased.

When you boot a computer from these diskettes, Drive Image Pro Limited Edition will start in graphical user interface (GUI) mode. You can then select any operations.

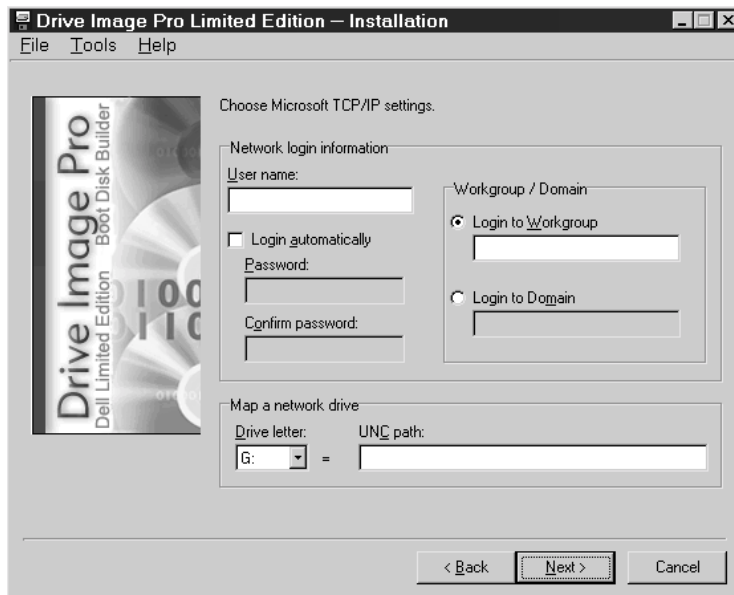
Creating Additional Boot Disks

After the boot disk file has been created, you are asked if you want to create another boot diskette. If you click **Yes**, Drive Image Pro Limited Edition Installation creates another boot disk file using the current configuration.

If the current configuration uses a static IP address, Drive Image Pro Limited Edition Installation auto-increments the assigned IP address on each boot diskette.

Creating DOS Boot Disks for Microsoft TCP/IP

- 1 From the Drive Image Pro Limited Edition Installation main menu, select **Microsoft TCP/IP Boot Disks**, then click **Next**.



- 2 Enter the Microsoft TCP/IP settings, then click **Next**.

- a. Enter the User name that will be used to log in to the network.
- b. If the boot disk needs to run “hands-off” (without user input), mark **Login automatically** and enter the user’s password in the **Password** and **Confirm password** fields. Note that you should not have a password on a shared volume if you are going to access it with a boot disk; the password you enter will only allow access to the domain, not the domain and a shared volume.
- c. Click **Login to workgroup** to log the user into a workgroup, or click **Login to domain** to log the user into a domain.
- d. Designate the network drive letter to be mapped at boot up and the UNC path it is mapped to.

3 Select your network adapter or multiple adapters, and click **Next**.

You can select multiple NICs. All of the files for those NICs will be copied to the boot disk. (There must be enough space on the first disk for all the selected NICs.) At boot time, the list of NICs copied is compared to the NIC in the computer. If one matches, that driver is loaded and the system is configured for it. Selecting multiple NICs for the boot disk enables the disk to be used on computers with different NICs.

IMPORTANT! If you are planning to run Drive Image Pro Limited Edition from a laptop, check the **Run on Laptop** box. This will limit the number of NICs you can select to one. On-the-fly NIC selection is not currently supported for laptops.

If your network adapter is not listed, add it to the list of network adapters.

- a. Click **Add**.
- b. Specify the location of the driver file (*.INF) for your network adapter. You can click the browse button to browse the directory tree for the driver file.
- c. Mark **Microsoft TCP/IP** as the driver type to add, and click **Next**.
- d. Choose one or more adapters from the list, and click **Next**.
- e. Select the Microsoft TCP/IP drivers.
- f. Click **Finish**.
- g. Select the network adapter you are using from the list box, and click **Next**.

4 Specify your client network properties, and click **Next**.

Drive Image Pro Limited Edition Installation does not support token ring NICs on Microsoft TCP/IP networks.

- a. Click **Obtain an IP address from a DHCP server** if a DHCP server is used to assign client IP addresses. On a DHCP server, the IP address is leased out temporarily on a first-come, first-served basis and increments automatically. The DHCP server also provides the subnet mask.
- b. Click **Specify an IP address** if there is no DHCP server and you need to use TCP/IP on the network. In this case, you must enter a static IP address and subnet mask.

5 Click **Back** to make any changes, or click **Finish** to build the boot disk.

In building the boot disk, Drive Image Pro Limited Edition copies the DOS system files and the boot information to the diskette. Any existing information on the floppy diskette is erased.

When you boot a computer from these diskettes, Drive Image Pro Limited Edition will start in graphical user interface (GUI) mode. You can then select any operations.

Creating Additional Boot Disks

After the boot disk file has been created, you are asked if you want to create another boot diskette. If you click **Yes**, Drive Image Pro Limited Edition Installation creates another boot disk file using the current configuration.

If the current configuration uses a static IP address and if you are creating the file on floppy diskettes, Drive Image Pro Limited Edition Installation auto-increments the assigned IP address on each boot diskette.

Creating DOS Standalone Boot Disks

- 1** From the Drive Image Pro Limited Edition Installation main menu, select **Standalone Boot Disks**, then click **Next**.
- 2** Click **Back** to select a different type of boot disk to create, or click **Finish** to build the boot disk.

In building the boot disk, Drive Image Pro Limited Edition copies the DOS system files and the boot information to the diskette. Any existing information on the floppy diskette is erased.

Creating Additional Boot Disks

After the boot disk file has been created, you are asked if you want to create another boot disk. If you click **Yes**, Drive Image Pro Limited Edition Installation creates another boot disk file using the current configuration.

Formatting Diskettes with Drive Image Pro Limited Edition Installation

The following steps apply to a Windows 9X (95/98/ME) format only. See below for the steps for formatting under Windows NT/2000.

IMPORTANT! Drive Image Pro Limited Edition Installation does not work with UNFORMATTED floppy diskettes. If you are using diskettes that have never been formatted, please format them with your operating system either before or during the Drive Image Pro Limited Edition Installation.

- 1 Click **Tools** ► **Format** ► drive letter.
- 2 Select the capacity of your floppy disk from the **Capacity** drop-down list.
- 3 Click a format type.

Option	Description
Quick (erase)	Click Quick (erase) to erase existing information on a currently formatted disk.
Full	Click Full to completely format the disk.
Copy system files only	Select Copy system files only to copy DOS system files to a previously formatted disk. Drive Image Pro Limited Edition Installation automatically copies the system files to the floppy disk when building the boot disk.

- 4 Type the disk label in the Label text box, or select **No Label**.
- 5 By default, **Display summary when finished** is selected. This gives you a summary of the disk format for troubleshooting purposes.

If you do not want to have a format summary, deselect this option.

6 Select **Copy system files** to copy the DOS system files while formatting the disk.

This option is only relevant for the Quick (erase) and Full format types.

7 Repeat if you need more than one floppy diskette formatted.

Formatting diskettes under Windows NT/2000

1 Click **Tools ► Format ►** drive letter.

2 Repeat if you need more than one floppy diskette formatted.

Creating Image Files

This chapter includes the following information:

- Preparation
- Running Drive Image Pro Limited Edition
- Creating an Image File

Preparation

You must have a current, qualified Dell system to create your custom image. Before capturing your image, please prepare your system by using the Image Creation Guidelines available on the Custom Factory Integration link on your Premier Page.

- 1 Before running Drive Image Pro Limited Edition, use a disk utility program such as a thorough ScanDisk or Norton's Disk Doctor to identify and repair any errors on your hard disk.
- 2 You may also choose to run a disk defragmenting utility to further optimize your hard drive.

If you are running under Windows 98 Workstation or Windows NT, see Microsoft documentation on running the Microsoft Windows 98 Preparation Tool or the Windows NT 4.0 System Preparation Tool.

You must disable virus detection in the BIOS before creating an image file.

If virus protection is enabled, Drive Image Pro Limited Edition will hang after you click **Finish**.

- 3 On Windows NT and 2000 systems run Sysprep.

Running Drive Image Pro Limited Edition

Drive Image Pro Limited Edition is a DOS executable that will be run from the floppies created by the Drive Image Pro Limited Edition Installation automatically upon booting to floppy diskettes.

Running Drive Image Pro Limited Edition automatically from Diskette

- 1 Insert the boot diskette (Diskette 1 of the Drive Image Pro Limited Edition floppy set).
- 2 Reboot your machine.
- 3 Insert the Drive Image Pro Limited Edition program floppy when prompted (Diskette 2 of the Drive Image Pro Limited Edition floppy set).

IMPORTANT! Certain types of boot diskettes include EMM386.EXE to help load network drivers in high memory. However, because this file limits extended memory to 32 MB, you may see error #3 when you run Drive Image Pro Limited Edition from the rescue disks and work with large

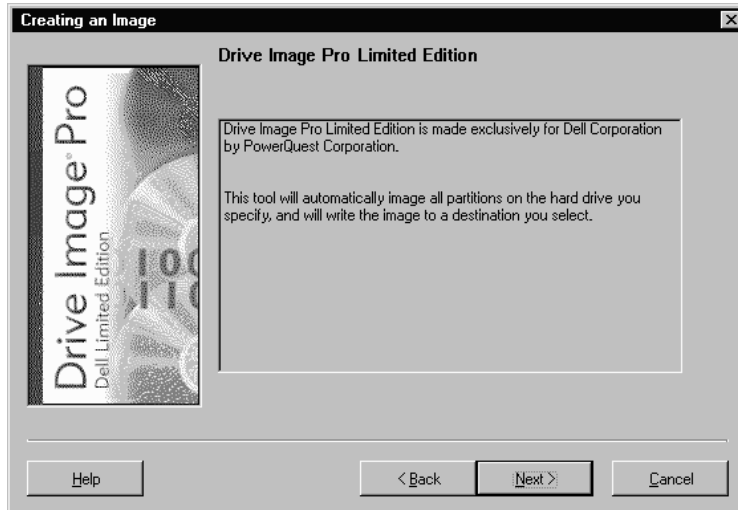
FAT32 and NTFS partitions. If you do not need EMM386.EXE, you can delete it from the bootable floppy to avoid this error. If you delete the EMM386.EXE file, you must also REM or delete the following line in the CONFIG.SYS file on the boot floppy: `DEVICE=EMM386 . EXE`.

Running Drive Image Pro Limited Edition manually from Diskette

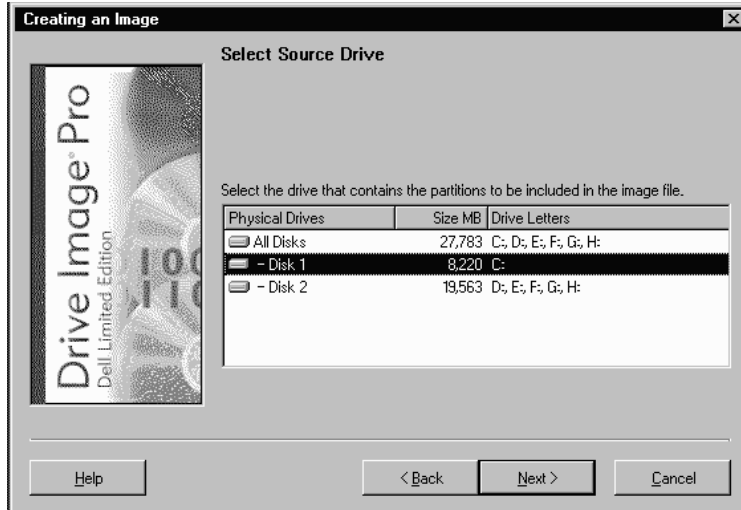
- 1** Insert a boot diskette (such as a customized boot floppy that loads removable drive drivers).
- 2** Reboot your machine.
- 3** Insert the Drive Image Pro Limited Edition program floppy when prompted (Diskette 2 of the Drive Image Pro Limited Edition floppy set).
- 4** Type DPLE, then press <Enter>

Creating an Image File

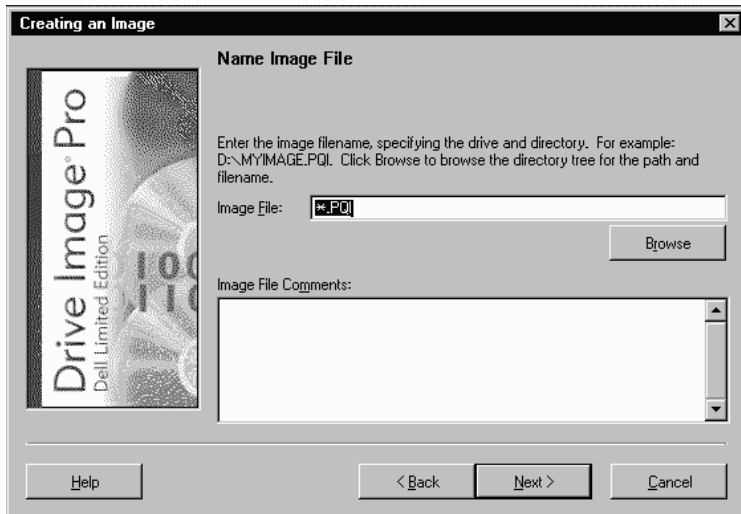
- 1** After Drive Image Pro Limited Edition has launched.



2 In the Drive Image Pro Limited Edition welcome screen, click **Next**.



3 Select a drive to be imaged, and click **Next**.



4 Type the path and image filename in the **Image File** field. Please use the project number to name your image file (for example, D:\123456.PQI).

Do not include spaces or extended characters in the filename or you may not be able to access the image file from DOS. Drive Image Pro Limited Edition uses .PQI as the default image filename extension.

Click **Browse** to find the directory where you want to save the image file.

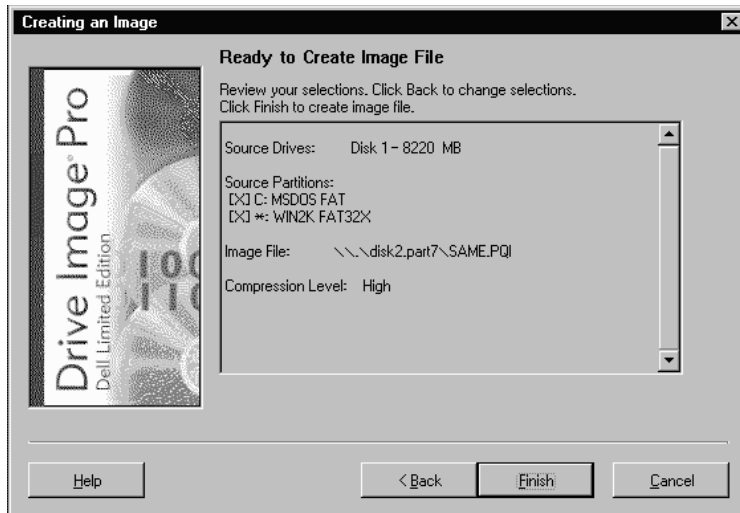
IMPORTANT! You must save your image file to a directory that is *not* on the same hard disk that you are imaging. This means you must save the image file to floppy diskettes, a secondary hard drive, a network drive, or a removable media storage device such as Jaz, Zip, MO, or SyQuest drive. (Drive Image Pro Limited Edition cannot write directly to CDs.)

For more information about saving image files to removable media storage devices, see Appendix B.

- 5 (Optional) Type brief comments about your image file in the **Image File Comments** field.

Image file comments cannot exceed 300 characters.

- 6 Click **Next**.



- 7 Drive Image Pro Limited Edition displays all the information you have entered to this point. To modify any settings, click **Back**.

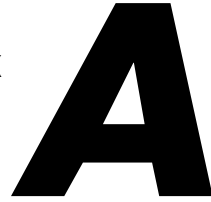
- 8 At the confirmation screen, click **Finish** to begin creating the image file.

If you entered the path and filename of an existing file (step 3), Drive Image Pro Limited Edition notifies you that the file already exists. You can replace the existing file or choose a new filename. **If you click Replace, the existing image file will be deleted immediately.**

If Drive Image Pro Limited Edition detects that you are saving your image file to a floppy drive or removable media, it enables a media-spanning feature that spreads the image file over a series of disks. You must have at least 100K of available space on each disk in the series. If you use the media-spanning feature, be sure to number the disks in order.

Upon completion, the following message appears: “Image was copied successfully to file: *<image filename>*.”

- 9 Click **Close** to exit the program.



Additional Tasks

This appendix includes the following information:

- Using Drive Image Pro Limited Edition with SCSI Hard Disks
- Using Drive Image Pro Limited Edition on a Notebook Computer
- Using Drive Image Pro Limited Edition with a Castlewood ORB Drive
- Creating an image to Linux using Microsoft TCP/IP

Using Drive Image Pro Limited Edition with SCSI Hard Disks

To use Drive Image Pro Limited Edition on a SCSI hard drive, you must have a SCSI controller card that supports software Interrupt 13. Most SCSI controller cards let the user enable software Interrupt 13 support in the BIOS through the card. If your SCSI controller card does not allow you to set it to use software Interrupt 13, Drive Image Pro Limited Edition will not work on drives attached to your SCSI adapter. Contact the manufacturer of the SCSI adapter to determine if your adapter can support software Interrupt 13. As a general rule, if FDISK can be used to partition the drive, you can use Drive Image Pro Limited Edition.

Using Drive Image Pro Limited Edition on a Notebook Computer

To make PCMCIA slots on a notebook computer active for use with Drive Image Pro Limited Edition, you must load the correct drivers in DOS.

- 1** Determine the correct card services DOS driver for your hardware.

The driver is supplied by the hardware manufacturer. It may be called card services, card-bus services, CardWare, or another name chosen by the manufacturer. Consult the hardware documentation or contact the manufacturer if you do not know which driver is required.

- 2** Add a statement to your CONFIG.SYS file to load the card services driver.

For example, `DEVICE=PCMI80CL.SYS`.

There may be additional switches to configure the device. The hardware manufacturer can provide detailed information.

- 3** Add a statement to your CONFIG.SYS file to load the NIC or SCSI driver you need.

For example, `DEVICE=C:\3COM\EL589ND4.SYS`.

Using Drive Image Pro Limited Edition with a Castlewood ORB Drive

To use a Castlewood ORB drive with Drive Image Pro Limited Edition, the drive must be correctly configured in the computer BIOS so that DOS can assign it a drive letter and read and copy large files to and from the drive. Drive Image Pro Limited Edition recognizes the ORB drive as removable media only if the computer BIOS can be configured to recognize the drive as removable media.

Refer to your ORB drive owner's manual, or contact Castlewood Systems, Inc. (www.castlewood.com or help@castlewood.com) for more information about configuring the ORB drive for use under DOS.

Creating an image to Linux using Microsoft TCP/IP

It is possible to use DPLE to create an image to a Linux server that is running SAMBA using the Microsoft TCP/IP boot disk. To create a disk that will log into the SAMBA server use the following instructions.

IMPORTANT! You must have your Linux server configured to run SAMBA and allow SAMBA shares to be accessed and written to by the user that you designate in the creation of the boot disk.

- 1** From the Boot Disk Builder main menu, select **Microsoft TCP/IP Boot Disks**, then click **Next**.
- 2** Enter the Microsoft TCP/IP settings, then click **Next**.
 - a. Enter the User name that will be used to log in to SAMBA on the Linux server.
 - b. Do not mark **Login automatically**. The user will have to manually enter the password when prompted during boot.
 - c. Click **Login to workgroup** to log the user into the workgroup specified in smb.conf.
 - d. Designate the network drive letter to be mapped at boot up and the UNC path it is mapped to. This will consist of the hostname of the computer and the share name as designated in smb.conf.
- 3** Select your network adapter or multiple adapters, and click **Next**.

You can select multiple NICs. All of the files for those NICs will be copied to the boot disk. (There must be enough space on the first disk for all the selected NICs.) At boot time, the list of NICs copied is compared to the NIC in the computer. If one matches, that driver is loaded and the system is configured for it. Selecting multiple NICs for the boot disk enables the disk to be used on computers with different NICs.

If your network adapter is not listed, add it to the list of network adapters.

- a. Click **Add**.
 - b. Specify the location of the driver file (*.INF) for your network adapter. You can click the browse button to browse the directory tree for the driver file.
 - c. Mark **Microsoft TCP/IP** as the driver type to add, and click **Next**.
 - d. Choose one or more adapters from the list, and click **Next**.
 - e. Select the Microsoft TCP/IP drivers.
 - f. Click **Finish**.
 - g. Select the network adapter you are using from the list box, and click **Next**.
- 4** Specify your client network properties, and click Next.

Boot Disk Builder does not support token ring NICs on Microsoft TCP/IP networks.

- a. Click **Obtain an IP address from a DHCP server** if a DHCP server is used to assign client IP addresses. On a DHCP server, the IP address is leased out temporarily on a first-come, first-served basis and increments automatically. The DHCP server also provides the subnet mask.
 - b. Click **Specify an IP address** if there is no DHCP server and you need to use TCP/IP on the network. In this case, you must enter a static IP address and subnet mask.
- 5** Click **Back** to make any changes, or click **Finish** to build the boot disk.

Setting Up Removable Storage Devices

This appendix gives instructions for issues involving removable storage devices that you may need for Drive Image Pro Limited Edition. Included are the following:

- Using Removable Media with Network Clients
- Iomega Drivers
- Magneto-Optical Disk Drives
- List of ASPI Managers and Supported Adapters

Using Removable Media with Network Clients

If you are using a Jaz, Zip, or SyQuest parallel port device with a network client, be aware that loading a parallel port device driver with a network client installed will cause the system to hang. To successfully install the device driver for the parallel drive, reboot the system without loading the network client.

Iomega Drivers

Iomega provides a driver loader program that allows you to load drivers from the AUTOEXEC.BAT file. Each time the Iomega driver program loads, it must also load an ASPI manager to communicate with the Zip or Jaz drive.

The Iomega driver program tries to load each ASPI manager until it finds one that matches. If it does not have to use this trial-and-error process to find the correct ASPI manager, it can load more quickly.

Iomega has not provided a DOS driver for their Zip drives that attach to a USB (Universal Serial Bus) port. Consequently, you cannot create or restore image files to a Zip drive that is attached to a USB port.

Editing Your GUEST.INI File

If you use only one or two specific host adapters, you may want to edit the GUEST.INI file and remark (using the REM command) the ASPI managers you do not need. This way only the ASPI managers you normally use will be loaded and tested.

- 1** From the DRIVERS directory where you installed Drive Image Pro Limited Edition, locate the GUEST.INI file and open it using Notepad in Windows, DOS EDIT, or any other ASCII text editor.
- 2** Find the ASPI manager line for the Iomega driver that supports your drive. For example, if you routinely use an Iomega PC1616 adapter, use the line that reads ASPI=ASPI1616.SYS.

The following table lists the supported Iomega Adapters and their corresponding ASPI managers.

Iomega Adapter	ASPI Manager
Jaz jet PCI (PC/Mac model)	ADVASPI.SYS
Jaz jet (PC-only model)	ASPI8DOS.SYS

Iomega Adapter	ASPI Manager
Jaz jet ISA	ASPIPC16.SYS
Jaz Traveller	ASPIPPM1.SYS
Parallel Port Zip drive	ASPIPPM1.SYS
Zip zoom SCSI Accelerator	ASPIPC16.SYS
Zip Card PCMCIA SCSI adapter	ASPIPC16.SYS
Zip IDE drive	ASPIIDE.SYS
PC1616 adapter	ASPI1616.SYS
PC1600 adapter	ASPIPC16.SYS

- 3** Add a REM at the beginning of each ASPI manager line you do not want to load.

For example, in a case where the Zip or Jaz drive is connected to an Iomega PC1616 adapter, you would remark all ASPI manager lines except ASPI1616.SYS:

```
REM ASPI=ASPIPPM1.SYS /INFO FILE=NIBBLE.ILM SPEED= 1
REM ASPI=ASPIIDE.SYS /INFO
REM ASPI=ASPI8DOS.SYS /D
REM ASPI=ADVASPI.SYS
REM ASPI=ASPIPC16.SYS INFO
ASPI=ASPI1616.SYS /SCAN /INFO
```

- 4** Save the changes to the GUEST.INI file and exit the text editor. If you are using a word processor, be sure to save the file as ASCII or DOS text.

If you later need to use an ASPI manager which has been remarked, edit the GUEST.INI file again and remove the REM command at the beginning of the ASPI manager line.

ASPI Manager Reference

Detailed reference information on the ASPI managers used by the Iomega driver program is located in the electronic "Installation Manual" (MANUAL.EXE) on the Iomega installation diskette.

- 1** For either Windows or DOS, go to a DOS prompt, type A:, then press <Enter>.
- 2** Type MANUAL, then press <Enter>.

Assigning Specific Drive Letters for Iomega Drives

To specify the first drive letter you want the Iomega drive to use, add the `LETTER=option` to the command line. For example, if you type `GUEST.EXE LETTER=G`, then G will be assigned to the first supported drive it finds.

If you have more than one Iomega drive, each additional drive will receive a drive letter following G in alphabetical order. (When supporting more than one drive, drive letters are assigned in order of SCSI ID number, from lowest to highest.)

More Information

For more information about Iomega drives, refer to the install diskettes that came with your Iomega product or the Iomega web site www.iomega.com.

Magneto-Optical Disk Drives

The 3.5-inch Magneto-Optical (MO) drive is available with either a SCSI or ATAPI interface. Separate DOS device drivers are supplied for each interface type. The device driver supports the FAT (File Allocation Table) file system, read/write, and disk change status.

The SCSI device driver requires a SCSI host adapter card and its matching ASPI manager software. For more information, see the “List of ASPI Managers and Supported Adapters” on page 32 and your SCSI host adapter documentation.

The 3.5-inch Magneto-Optical disks are available in several capacities.

The volume format may be **Super floppy**, **AT Hard disk**, or **NSR** format. The driver automatically detects the volume format and assigns logical drive letters (such as D:). If no valid formats or partitions are detected, the device driver identifies the disk as unformatted. See the driver documentation supplied with the product for additional information about formatting MO disks.

Installation of Magneto-Optical Drivers

The ATAPI MO device driver is loaded in the CONFIG.SYS file using the following command:

```
DEVICE[HIGH]=(path)\MODISKAP.SYS [/P][/Ii][/Rr]
```

The SCSI MO device driver is loaded in the CONFIG.SYS file using the following:

```
DEVICE[HIGH]=(path)\ASPIXXX.SYS
```

```
DEVICE[HIGH]=(path)\MODISK2.SYS [/P][/Ii][/Rr]
```

ASPIXXX.SYS represents the ASPI manager that matches your SCSI host adapter.

Optional Switches

/P

Pauses screen messages after the driver has been loaded and initialized. Press any key to continue the operation. Use this option to check the messages displayed by the driver.

/li ATAPI driver

Only the device connected to port IDE *i* is mounted. Otherwise, all ports are scanned MO devices.

i is defined as:

- 1 = Primary Master
- 2 = Primary Slave
- 3 = Secondary Master
- 4 = Secondary Slave

/li SCSI driver

Only the SCSI device with ID *i* is mounted. Otherwise all SCSI IDs are scanned. To also specify the host adapter number, enter /Ih:i (*h* is the host adapter number and *i* is the SCSI-ID). To specify multiple devices, use the “+” character as a delimiter. For example:
/I0:1+1:2

/Rr

Reserves the specified number of logical drive letters (*r*=1 to 10) for a single drive. Otherwise, a single drive letter is reserved. The number of reserved drive letters is independent of the number of disk partitions. The driver can access only as many partitions as the number of reserved drive letters.

If the inserted disk contains more partitions than specified by the /*r* option, as many drive letters are assigned to the disk drive as there are defined partitions. If the disk has fewer partitions than the number of drive letters reserved, an error occurs only when the driver attempts to access the additional drive letters.

LASTDRIVE

The CONFIG.SYS last drive command does not affect the drive letter assignment in the MO disk drive. If the driver assigns a drive letter higher than the one specified by the LASTDRIVE command (default is E:), the CD-ROM drive cannot be accessed. To enable access to the CD-ROM drive, specify a larger value in the LASTDRIVE command.

If the following conditions exist, the device driver will not be loaded into memory and the message “Driver not loaded” will display.

- No ASPI manager loaded
- Cannot find MO drive (with or without a disk inserted)
- Driver already loaded

IMPORTANT! The SMARTDRV cache is turned off by default for MO disk drives. If you attempt to write data to a write-protected disk while the SMARTDRV write cache is on, you will need to reset the computer.

You can read more about Magneto-Optical disk drivers from the install diskettes that came with the product and from the Fujitsu web site <http://www.fujitsu.com>.

SyQuest Drivers

PowerQuest does not supply, configure, or support SyQuest devices or drivers with Drive Image Pro.

List of ASPI Managers and Supported Adapters

The following is a list of several popular ASPI managers and the cards they support. Drive Image Pro Limited Edition will use the ASPI manager you install to support your SCSI card.

ASPI8DOS.SYS

PCI Bus

Adaptec AHA-2910A/2910B
Adaptec AHA-2930A/2930B
Adaptec AHA-2940/2940AU/2940W/2940U/2940UW
Adaptec AHA-2944W/2944UW
Adaptec AHA-3940/3940U/3940W/3940UW
Adaptec AVA-2904, AVA-2902E/I

Adaptec AIC-7850/7855/7860/7870/7880 based SCSI host adapters
Jaz jet (PC-only model)

ASPI7DOS.SYS

EISA Bus

Adaptec AHA-1740/1742/1744
Adaptec AHA-1740A/1742A
Adaptec AHA-2740/2742/2740T/2742T
Adaptec AHA-2740A/2742A/2740AT/2742AT
Adaptec AHA-2740W/2742W
Adaptec AIC-7770 based SCSI host adapters

VL BUS

Adaptec AVA-2825
Adaptec AHA-2840VL/2842VL
Adaptec AHA-2840A/2842A

ASPI4DOS.SYS

ISA Bus

Adaptec AHA-1540B/1542B
Adaptec AHA-1540C/1542C
Adaptec AHA-1540CF/1542CF
Adaptec AHA-1540CP/1542CP
Microchannel Adaptec AHA-1640

ASPI2DOS.SYS

ISA Bus

Adaptec AVA-1502P/AP
Adaptec AVA-1505
Adaptec AVA-1515
Adaptec AHA-1510/1520/1522
Adaptec AHA-1510A/1520A/1522A
Adaptec AHA-1510B/1520B/1522B
Adaptec AHA-1530P/1532P
Adaptec AVA-1502AE/AI, AVA-1505AE/AI, AVA-1505AES
Adaptec AIC-6260/6360/6370 based SCSI host adapters
Adaptec AVA-1502AE/AI, AVA-1505AE/AI, AVA-1505AES

PCMCIA Bus

Adaptec SlimSCSI (APA-460 & APA-1425/50/50A/60/60A)

MCAM18XX.SYS

PCI Bus

Adaptec AHA-2920/2920A

MA160.SYS

If needed, add this adapter to the ASPI manager lines in your GUEST.INI or LDSQSCSI.BAT files.

ISA Bus

Trantor T160
Microchannel Trantor T260

MA348.SYS

If needed, add this adapter to the ASPI manager lines in your GUEST.INI or LDSQSCSI.BAT files.

Parallel Port Trantor MiniSCSI Plus (T348)
Adaptec MiniSCSI Plus (APA-348)

MA358.SYS

If needed, add this adapter to the ASPI manager lines in your GUEST.INI or LDSQSCSI.BAT files.

Parallel Port Trantor MiniSCSI EPP (T358)
Adaptec MiniSCSI EPP (APA-358)
Adaptec MiniSCSI EPP (APA-358A)

ASPIIDE.SYS

IDE

SCSI to IDE ASPI Manager
Zip IDE drive

ASPIATAP.SYS

SCSI to ATAPI ASPI Manager

ASPIPPM1.SYS and ASPIPPM2.SYS

SCSI to Parallel Port Zip Drivers
Jaz Traveller

ASPIEDOS.SYS

Adaptec AHA-1740/1742/1744 (in Enhanced Mode only)

ASPIPC16.SYS

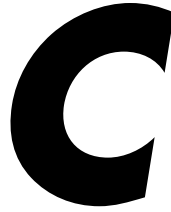
PC1600 adapter Zip Zoom SCSI Accelerator
Adaptec APA-1460 and other AIC-6260/5360 based adapters
Jaz jet ISA adapter
Zip zoom SCSI Accelerator
Zip Card PCMCIA SCSI adapter

ASPI1616.SYS

PC1616 adapter and other NCR-53C406A based adapters

ASPI2930.SYS

AHA-2930 adapter



Troubleshooting

This appendix gives solutions to problems that you may encounter while using Drive Image Pro Limited Edition. Included are the following:

- Fixing SyQuest Driver Load Failure
- Resolving Check Errors
- Resolving Partition Table Errors
- Partition Tables and Viruses
- Error Messages and Solutions

Fixing SyQuest Driver Load Failure

When you start Drive Image Pro Limited Edition, the batch file loads the Iomega and SyQuest drivers. You may receive the following message when loading your SyQuest removable drive: “Removable Drive(s) Not Found. See Readme for ways to correct this problem. Driver Not Installed.” Please refer to “SyQuest Drivers” in *Appendix C*.

If your SyQuest driver is a SCSI drive and is connected by an adapter not supported by the ASPI8DOS, ASPI7DOS, ASPI4DOS, ASPI2DOS, or ASPIEDOS ASPI managers, edit the LDSQSCSI.BAT file to include the correct ASPI manager.

Resolving Check Errors

Drive Image Pro Limited Edition checks the integrity of a partition very thoroughly prior to creating an image file or copying a partition. These checks are substantially the same as those made by the operating system's CHKDSK, SCANDISK, or AUTOCHK utility.

If you receive a Check error message for any partition, after backing up your hard drive, run your operating system's CHKDSK program on that partition. CHKDSK usually shows the same problems as Drive Image Pro Limited Edition. (If you are using Windows NT CHKDSK, DO NOT use the /F switch on the initial run.)

Run SCANDISK if you have MS-DOS 6.x or Windows 95.

The DOS CHKDSK program does not detect problems in Extended Attributes.

If the CHKDSK (or SCANDISK) program and Drive Image Pro Limited Edition detect the same errors (which is usually the case), run CHKDSK with the /F switch to fix the problem.

After running CHKDSK /F, run CHKDSK without the /F switch to make sure the partition is free of errors. Under OS/2, you should perform this procedure twice before proceeding. If Drive Image Pro Limited Edition still reports a problem, reformat the partition and restore your files from the backup copy to correct the error.

Drive Image Pro Limited Edition also checks a partition after restoring it. The problem is usually a minor file system error that CHKDSK /F can correct without data loss. For more extensive errors, you may need to restore your files from a backup copy.

Resolving Partition Table Errors

To resolve some partition table errors, you must create new, error-free partition tables.

- 1** Make sure you have no viruses.

See “Partition Tables and Viruses” on page 39.

- 2** Back up the data on the affected partitions.

- 3** Delete the partitions.

You may need to use the FDISK program from a recent DOS version because earlier versions of DOS may refuse to delete HPFS or hidden partitions.

If using OS/2, the OS/2 FDISK program may recognize the partition's corruption and refuse to modify it. In this case, use the FDISK program from a recent DOS version.

- 4** Recreate the partitions.

- 5** Restore the contents of the partitions.

Partition Tables and Viruses

If partition changes made under one operating system are not reflected under the other, and vice versa, it is possible that a master boot record (MBR) virus is present.

Use a virus check utility that can detect the latest viruses. If a virus is found, data loss is likely. If a virus is found, perform the following:

- 1** Before removing the virus, run ScanDisk or CHKDSK under each of the operating systems to evaluate the integrity of the partition.
- 2** Back up the files from any partition that passes the Check operation.
- 3** After backing up the files from all operating systems, remove the virus.
- 4** Run ScanDisk or CHKDSK under each of the operating systems again.
- 5** Delete and recreate any partitions which fail the check.
- 6** Reinstall the operating systems.
- 7** Restore the backup files as necessary.

Error Messages and Solutions

You can also view a list of error messages and solutions at the PowerQuest Knowledge Base at www.powerquest.com/support/er/er-0000.html.