TeraByte™

PROVEN SOFTWARE SOLUTIONS.

BootIt Next Generation

Installation and Getting Started Guide

Contents

List of Procedures

What You Can Do With BootIt Next Generation (BING)

While you can read a detailed description of each BootIt NG feature in *Using BootIt NG* on page 14, the following is a brief overview of just some of the many tasks you can accomplish using BootIt NG:

- Create over 200 primary partitions (if desired).
- Configure detailed boot items to fit your needs.
- Boot from any partition or volume on up to eight hard drives.
- Boot multiple operating systems from a single file allocation table (FAT) or FAT32 partition.
- Logically swap the boot hard drive to look like the first.
- Logically swap floppy disk drives.
- Boot from drive A or B on the fly.
- Resize FAT, FAT32, and NTFS file system partitions without data loss.
- Convert between FAT and FAT32 without data loss.
- Format FAT or FAT32 partitions or volumes.
- Create volumes in extended partitions.
- Set up users and passwords.
- Create compressed images of your partitions (includes USB 2.0 and IEEE 1394 support).
- … and Yes, it supports Windows Server Operating Systems for the same price.
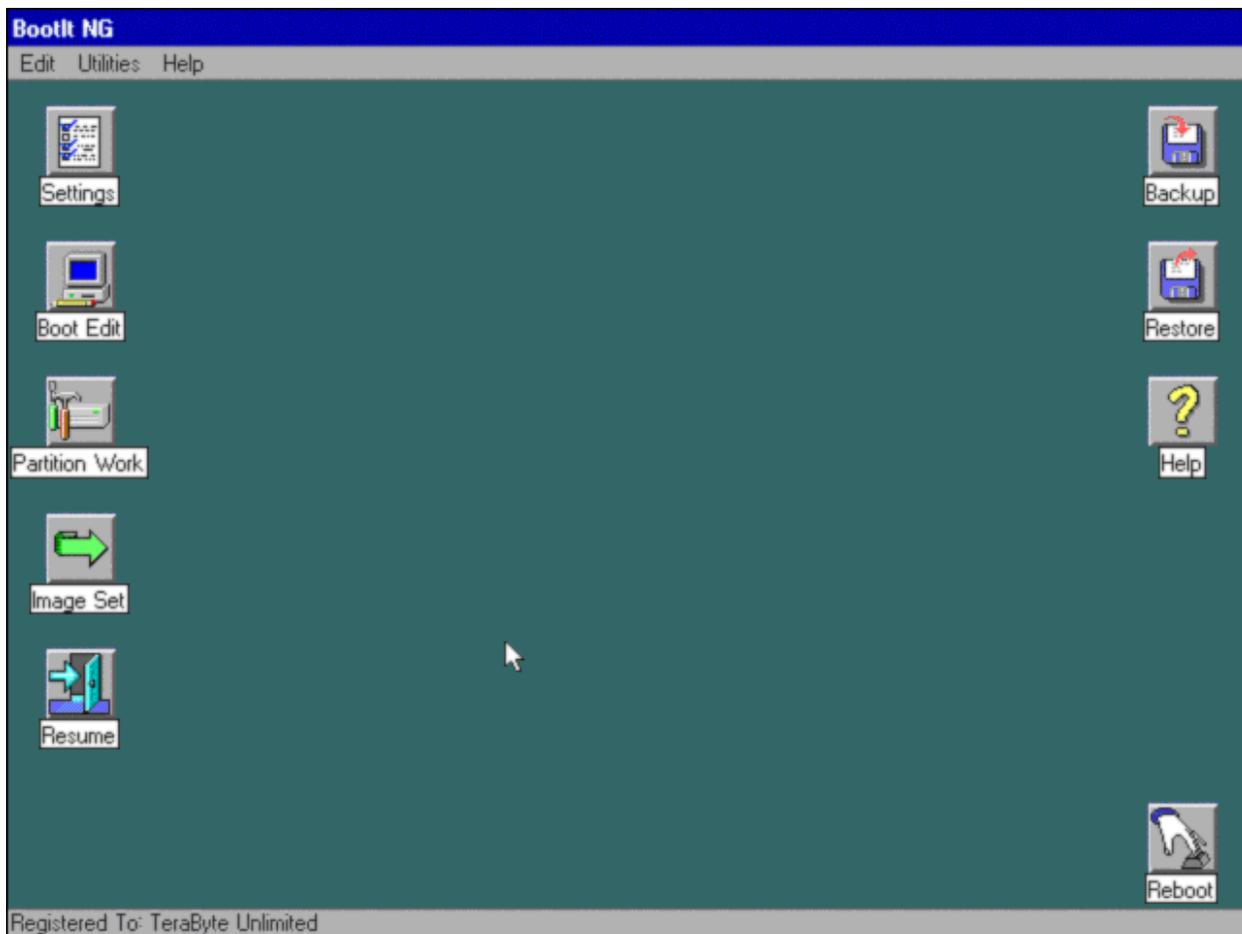
Installing BootIt NG

Before you install BootIt NG, take a moment to read about BootIt NG's limitations and system requirements. Then, complete the procedures in *Before You Begin* on page 5. Finally, create the boot disk or ISO image as described on page 7, and then install BootIt NG on your hard disk as described on page 9.

Limitations

BootIt NG relies on the basic input/output system (BIOS) for processing disk functions. If your computer BIOS limits access to the hard drive for any reason (i.e. speed or size) and no Master Driver Table (MDT) driver is available to correct the limitation, BootIt NG is also limited. BootIt NG supports BIOS LBA Mode and Interrupt 13h extensions.

System Requirements

Verify that your system meets the following minimum requirements:

- IBM-compatible personal computer
- i80386-compatible microprocessor
- 16 megabytes (MB) of random access memory (RAM)
- Video graphics adapter (VGA)
- Floppy disk drive, CD/DVD drive, or USB Flash Drive (booting in floppy mode)
- BIOS-accessible hard disk

Before You Begin

TeraByte Unlimited has taken every effort to make BootIt NG as safe as possible; however, it is not possible to provide a 100-percent guarantee of safety.

It is extremely important that you do not use any partitioning software (such as FDISK) if you are not limiting the number of primary partitions (Limit Primaries Option). If you ignore this warning, you are taking a serious risk of data corruption.

Before using BootIt NG on any system for the first time, *back up all data on all hard drives*. It's better to be safe than sorry.

It's always a good idea to have a system disk—such as an MS-DOS startup disk or Windows 95 startup disk—that can be used to restart your system should something ever go wrong. You should configure the disk to give you all the functionality you may need by adding any drivers or utilities as well as configuring the configuration files. The next page explains how you can create a startup diskette.

Create an MS-DOS startup disk

- At the command prompt, type:
  FORMAT A:/S

Note

- You should also copy the following external commands to the diskette: **SYS**, **FDISK**, **FORMAT**, **ATTRIB**, and **DEBUG**.
- If you think you may need access to your CD/DVD drive or another device, then be sure to copy the required drivers to the disk.

Create a Windows 95/98/ME startup disk

1 Click **Start**, point to **Settings**, and then click **Control Panel**.
2 Double-click **Add/Remove Programs**.
3 In the **Add/Remove Programs** dialog box, click the **Startup Disk** tab, and then follow the on-screen instructions to create the disk.

Create a Windows XP/Vista/W7 startup disk

1 From within Windows Explorer, right-click **3½ Floppy (A:)**, and then click **Format**.
2 Select **Create an MS-DOS startup disk**, and then click **Start**.

Prepare for a BootIt NG setup

1 Be sure to read *Before You Begin* on page 5.
2 Verify that you have the latest version of and support information for BootIt NG by visiting:
   www.terabyteunlimited.com
3 Consider creating a startup disk as described in *Create an MS-DOS startup disk*, *Create a Windows 95/98/ME startup disk*, and *Create a Windows XP/Vista/W7* startup disk.
4 Back up all the data on all of your hard drives.
5 Create the **BootIt NG Setup** floppy disk or CD/DVD disc as described on page 7.
6 Read *BootIt NG Overview for First-time Users* on page 13.
7 Consider reviewing the BootIt NG example tutorials available on the website.
8 Install or upgrade BootIt NG on your hard disk as described on page 9.
9 Read *Using BootIt NG* on page 14.
10 If you are going to activate the FAT multiple operating system (Multi-OS) option on a partition, refer to *Using the Multi-OS Feature* on page 35.
11 For some examples of how to install operating systems, refer to *Installing Operating Systems* on page 38.

Review the two-step installation process

1 If you are using the downloaded version, either create the installation floppy boot disk or bootable international standards organization (ISO) image CD/DVD disc as described in *Step 1: Creating the Boot Disk or ISO Image*.

2 Use either the floppy disk or CD/DVD disc to install BootIt NG on your hard disk as described in *Step 2: Installing BootIt NG on Your Hard Disk* on page 9.

Note

- Verify that you have the latest version of and support information for BootIt NG by visiting:
  www.terabyteunlimited.com
- Before beginning the BootIt NG installation, be sure to read *Before You Begin* on page 5.
- Since the BootItNG.zip file only contains the 3.5-inch disk image, if you need the 5.25-inch disk image, visit:
  www.terabyteunlimited.com

Step 1: Creating the Boot Disk or ISO Image

This step is not necessary if you will be installing BootIt NG from installation media which was provided with your purchase. If you are using pre-made installation media, please skip to Step 2 on page 9.

The first of two steps in setting up BootIt NG from a downloaded copy of the software is to create the installation floppy boot disk or bootable CD/DVD disc; therefore, you need either one formatted floppy disk that matches the floppy disk drive A of the computer that will have BootIt NG installed, or one blank, writable CD/DVD disc. If you are installing on multiple computers, each computer should have its own Setup disk and license. If the computer does not have a floppy disk drive, then you must create a bootable CD/DVD disc or use a USB flash drive. Depending upon your version of Windows, you can either use Windows Explorer or File Manager to complete the following procedure.

Step 1: Create the boot disk using the MakeDisk utility (Windows users)

1 Extract the contents of **BootItNG.zip** to a folder of your choice.
  - ✓ If you are using Windows XP/Vista and its built-in compressed folders feature, you can double click the ZIP file and then use the "Extract all files" link shown in the left pane of Explorer to extract the contents. Alternatively, after opening the ZIP file, you can select all the files listed, and copy them to another folder to extract the contents. Please note that whichever foregoing method you use, the contents of the ZIP file *must* be extracted to another folder before proceeding.

2 Run **MakeDisk.exe** from the folder of step 1. The MakeDisk welcome screen appears.

3 Click Next on the MakeDisk welcome screen. The BootIt NG license agreement screen appears.

4 Read the BootIt NG license agreement, and if you accept it, select the "I accept the agreement" button and click Next. The BootIt NG Mouse Support option screen appears.

5 Choose the appropriate option to either enable or disable mouse support, and then click Next. The BootIt NG Video Options screen appears.

6 Keep the default selection, "VESA Video", unless you know for certain that you need to use one of the other video options. Click Next. The Boot Options screen appears.

7 Keep the "normal" option selected unless you plan on using Partition Work without installing. Click Next. The Default Device Options screen appears

8 Make any desired changes to the default device options BootIt NG will use when booting this disk on a system that does not have BootIt NG installed. The exception is the USB Controller and USB Device fix options which only apply to the command line which starts the BootIt NG program. Both of the "USB Fix" options may result in slower USB access, but will prevent hangs with certain controllers and/or devices. Click Next. The BootIt NG registration screen appears.

9 If you have purchased a BootIt NG license, enter the registration information you were provided with in the text boxes shown on this screen. If you wish to use the trial version of BootIt NG, simply leave the text boxes empty, which will result in BootIt NG operating in a 30-day time-limited trial mode. Click Next. The "Select Target" screen appears.

10 Choose the target that MakeDisk should use. If you choose the "ISO File" option, you must supply an ISO file name. Click Finish, and respond to subsequent prompts as necessary. MakeDisk will then create your bootable media or ISO image. When it is done, the success screen should appear. NOTE: If you created a boot CD/DVD the disc will appear blank, but it is still bootable.

11 If you opted to create bootable media in step 10, you are done with Step 1, proceed to *Step 2: Installing BootIt NG on Your Hard Disk*. If you selected the "ISO File" option instead, you will first have to use other CD/DVD authoring software, such as BurnCDCC, to create a bootable BootIt NG installation disc from the ISO file. Once you have done that, proceed to *Step 2: Installing BootIt NG on Your Hard Disk*.

Step 1: Create the boot disk or ISO image (DOS users)

1 Uncompress the contents of **BootItNG.zip** to its own folder on your hard disk, and then locate (or change to) that folder.

2 Double-click **BootItNG.exe** (or type **BootItNG.exe** and press **Enter**).

3 If you accept the license agreement, select the appropriate build option from the menu, and then press **Enter**.

4 Do one of the following:

- **To create the floppy boot disk**, insert the disk in the appropriate disk drive, and then press **Enter**. After about 1 minute, a message indicates whether or not the boot disk was created. (If the disk was bad, inset a new disk into the drive, and then press **Enter**.)

- **To create the bootable CD/DVD disc**, insert the CD/DVD disc in the appropriate drive, and then use BurnCDCC™ or your CD/DVD burning program to burn the **BootItNG.iso** image file (that was created in step 3) from its folder to the CD/DVD.
  If using NERO, on the **File** menu, click **Burn Image**, and then change the **File Type** to **ISO** to locate **BootItNG.iso**.
  If using Easy CD Creator, on the **File** menu, click **Create CD from CD Image**, and then change the **File Type** to **ISO** to locate **BootItNG.iso**.
  If using other CD/DVD-copying programs, refer to their help systems for copying an ISO image file to a CD/DVD disc.

5 Proceed to *Step 2: Installing BootIt NG on Your Hard Disk*.

Step 1: Create the boot disk or ISO image (Linux users)

1   Uncompress the contents of **BootItNG.zip** to its own directory on your hard disk, and then change to that directory.

2   Do one of the following:

- **To create the floppy boot disk** using the **cp** or **dd** command (if you accept the license agreement), verify that the disk is *not* mounted and that you are signed on as root, and then type:
  cp DISKIMG3.DAT /dev/fd0 or dd if=DISKIMG3.DAT of=/dev/fd0 bs=1024

- **To create the bootable CD/DVD disc** (if you accept the license agreement):
  Type: **mkisofs -o bootitng.iso -V BootitNG -c boot.cat -b DISKIMG3.DAT DISKIMG3.DAT**
  Then type: **cdrecord –v speed=8 dev=1,0 BOOTITNG.ISO**
  (Be sure to adjust **dev=** to the appropriate value)

3   Proceed to Step 2: Installing BootIt NG on Your Hard Disk.

Step 2: Installing BootIt NG on Your Hard Disk

In this step, you will install BootIt NG onto your hard disk, using either the installation media that you created in Step 1, or the installation media that was included with your BootIt NG purchase (if any).

Step 2: Boot from the floppy disk, CD/DVD, or UFD

1   Consider doing the following:

- From within BIOS (basic input/output system) setup, verify that your system boot up sequence is correct:
  For the floppy disk drive, it should be something similar to: **A:/C:** and not **C:/A:**
  For the CD/DVD drive, it should be something similar to: **CDROM/C:**
  For the USB flash drive, it should be something similar to **USB-FDD or USB-ZIP**.

- Disable the boot-sector/mbr virus protection option.
  If you leave the virus protection option enabled, it may cause issues.

2   Shut down and turn off your computer.

3   Insert the **BootIt NG Setup** media in the correct drive, and then turn on your computer.

- ✓   BootIt NG should begin loading from the floppy disk, CD/DVD, or USB flash drive.
- ✓   If BootIt NG doesn't seem to load and your system starts as it normally does, double-check that you configured the BIOS correctly.
- ✓   An "EMBRL Missing" message when booting from floppy typically means a bad diskette. The same message for CD/DVD typically means a bad disc or the BIOS doesn't properly maintain 1.44MB emulation. Contact the BIOS manufacturer for a BIOS update.

Note

- If you're booting a flash drive via USB, you can only install BING if the BIOS boots the flash drive in Floppy (unpartitioned) mode and not in hard drive mode. If you boot the flash drive and a Boot Menu shows up then the system is booting the flash drive as a hard drive and BootIt will think it's already installed.

- If you use a CD or DVD drive and receive a warning that the backups fail and the creation of the transfer file fails, that's because the CD/DVD is not writable.
- If you are installing BootIt NG for the first time, refer to *Install BootIt NG for the first time.*
- If you are upgrading from an earlier version of BootIt 2.x, BootIt Lite, or BootIt Direct, refer to *Upgrade from an earlier BootIt Product.*
- If you are upgrading from an existing BootIt NG installation, refer to *Upgrade* from an earlier version of BootIt NG.

Install BootIt NG for the first time

1 After you boot from the **BootIt NG Setup** media, at the **Welcome to setup** prompt, click **OK**.

2 When asked if you want to enable more than four primary partitions, click **Yes** or **No**.
If you click **Yes**, then you must partition your hard drives only using BootIt NG.
If you click **No**, then you can continue to use any other partitioning software such as FDISK.

3 When asked how you want the partition chosen, click **Yes** to have Setup choose the partition for you or click **No** to choose the partition manually as described on page 10.

4 When asked if you want to install BootIt NG to its own partition, click either **Yes** or **No**.
Installing BootIt NG to its own partition requires unpartitioned space and takes up one primary partition which could be an issue if you chose not to enable support for more than four primary partitions.
If Setup can't accommodate your choice, it notifies you later and gives you the option to change selection. If you don't want to change your selection and need further help, review the first part of tutorial one by visiting:
www.terabyteunlimited.com/bootit-next-generation-tutorials.htm

5 When Setup indicates that it has all of the needed information, click **OK** to begin copying files to your hard disk, and then refer to *Complete the installation* on page 12.

Upgrade from an earlier version of BootIt NG

1 After you boot from the **BootIt NG Setup** floppy disk or CD/DVD, on the **Floppy Diskette** menu, click **Upgrade BootIt NG**, and then click **OK**.

2 At the **Welcome to setup** prompt, click **OK**.

3 When asked how you want the partition chosen, click **Yes** to have Setup choose the partition for you or click **No** to choose the partition manually as described in *Choose* the partition manually.

4 When Setup indicates that it has all of the needed information, click **OK** to begin copying files to your hard disk, and then refer to *Complete the installation* on page 12.

Choose the partition manually

When installing BootIt NG for the first time (page 10), upgrading from an earlier BootIt product (page 11), or upgrading an earlier version of BootIt NG (page 10), when asked how you want the partition chosen, if you click **No** and decide *not* to have Setup choose the partition for you, then you must manually complete this procedure to prepare and choose the partition .

1 Read the displayed message indicating that you must ensure that an Extended Master Boot Record (EMBR) exists on hard disk 0 (HD0) and on the drive chosen for installation, and then click **OK**.

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2   In the **Work with Partitions** dialog box that appears, in the lower-right corner, you'll see the **Setup** button which only appears in this dialog box when accessed during installation.

3   Do one of the following:

- Ensure that HD0 has an EMBR, click **HD0** (if not already selected).
  If the **Create EMBR** button is displayed, click it so that **Undo EMBR** displays in its place. When **Undo EMBR** displays, an EMBR exists on HD0.

- If the partition that you want to create or use is *not* on HD0, then select the desired drive to create an EMBR on it.
  If the **Create EMBR** button is displayed, click it so that **Undo EMBR** displays in its place. When **Undo EMBR** displays, an EMBR exists on the desired hard disk.

4   With the appropriate hard disk selected, click the desired FAT, FAT32, or BootIt EMBRM (Extended Master Boot Record Manager) primary partition for installation.
    If one doesn't exist, you can create and format it at this time. If there is no unpartitioned space to create it then resize one of the existing primary partitions to be 8 MB smaller. Ensure the desired partition is highlighted before continuing with the next step.

5   Click **Setup** to continue.
    If the **Setup** button is grayed out and unavailable, then it either means that HD0 does not have an EMBR, the current drive does not have an EMBR, or the partition that you highlighted is not a FAT, FAT32, or BootIt EMBRM type.

6   When Setup indicates that it has all of the needed information, click **OK** to begin copying files to your hard disk, and then refer to *Complete the installation*.

Upgrade from an earlier BootIt Product

When an earlier BootIt product is already installed on your computer, the BootIt NG upgrade will use your existing partition and volume names.

For BootIt 2.x users, Setup also upgrades your existing AutoMenu file to be the default menu in BootIt NG. Setup does not update items that boot to a volume; therefore, you must recreate them.

For BootIt Lite users, Setup creates a new menu but you must reconfigure the menu to boot your existing groups or special configurations. BootIt NG does not support Multi-OS volumes.

1   After you boot from the **BootIt NG Setup** floppy disk or CD/DVD, at the **Welcome to setup** prompt, click **OK**.

2   When asked how you want the partition chosen, click **Yes** to have Setup choose the partition for you or click **No** to choose the partition manually as described on page 10.

3   When Setup indicates that it has all of the needed information, click **OK** to begin copying files to your hard disk, and then refer to *Complete the installation* on page 12.

Note

For BootIt Lite users, after installing BootIt NG and restarting your computer, activate the **Multi-OS** option from the **Partition Work** utility for each primary partition on which you need to use groups. Then, reconfigure the **Boot Menu** to use your existing groups.

Complete the installation

1 Use your operating system's disk copy feature to create a backup copy of the startup disk and keep it in a safe place.

You will need the startup disk to recover from any problems or situations that may arise in the future. If you ever update your startup disk or use a new one, be sure to update your backup disk as well.

2 Consider changing the boot sequence to boot from drive **C** first if your BIOS can change the boot sequence to **C:/A:**. If you have a CD or DVD drive, consider setting up the sequence to be **C/CDROM/A** so that you can use the **Next BIOS Device** option in BootIt NG.

Uninstalling BootIt NG

1 If you *do not* have primaries limited, then the first step to uninstalling BootIt NG is to make sure that you have no more than four primary partitions per hard disk.

Use the **Work with Partitions** dialog box to delete any extra primary partitions as described in *Working with Partitions* on page 22.

2 On the **Utilities** menu, click **Uninstall**.

3 In the **Uninstall** dialog box, select the **Remove BootIt NG** check box.

4 Optional: To also remove all groups and captured operating system files, select the **Remove Group/Captured OS Files** check box.

5 Click **OK**.

Note

The uninstall option is option is only available when using a copy of BootIt NG that has been installed to the hard drive. The currently active partition will remain the active partition when BootIt NG is uninstalled. If your system boots the incorrect partition or won't boot at all, then you can use FDISK to set the correct partition active or you can use the BootIt NG boot disk to set the correct partition active as described in the next procedure *Set the correct partition active using the BootIt NG floppy disk*.

Set the correct partition active using the BootIt NG floppy disk

1 After you uninstall BootIt NG (as described earlier in *Uninstalling* BootIt NG), if your system boots the incorrect partition or won't boot at all, boot the **BootIt NG Setup** disk.

2 To enter maintenance mode, click **Cancel**.

3 Click **Partition Work**.

4 Click **View MBR**.

5 Select the partition that you want active, and then click **Set Active**.

6 Use the **Move Up** or **Move Down** buttons to reorder the partitions if necessary.

7 Click **Std MBR** if you want to ensure the standard MBR boot code is being used.

8 Click **Apply**.

BootIt NG Overview for First-time Users

To help you understand BootIt Next Generation, let's start with a description of the partition table and how your system boot process normally works.

The first sector (or block of data) on your hard disk is called the Master Boot Record (MBR). The MBR contains the partition table that defines the partitions (or areas) on your hard drive and a small program that transfers control to the first sector (boot sector) of one of the partitions.

The partition table can contain up to four primary partition entries that contain information on where the partition begins and ends, a flag to mark the active (or bootable) partition, and the type of file system used in the partition.

You can divide a special type of primary partition—an extended partition—into several smaller areas (or volumes). The volumes are contained entirely within the extended partition and they do not require extra space in the partition table.

Some point after the system starts, the BIOS reads in the MBR and transfers control to the program in the MBR. This program then looks for the active partition and, if found, loads the boot sector of that partition and transfers control to it.

Boot sectors are operating- and file-system specific. The program located in this boot sector is responsible for starting the process that loads and executes the OS kernel.

Now that you know the basics of how the system normally boots, let's focus on the EMBR and how it is used with BootIt NG.

The Extended Master Boot Record (EMBR) specification dynamically extends the capabilities of the system.

The EMBR contains a block of code, called the EMBR Loader, and three tables—one for partition information, one for boot file information, and one for information on drivers that may need to be loaded on your system. Each of these tables can contain up to 255 entries.

The table in the EMBR that contains partition information is called the Master Partition Table (MPT). This table is used in place of the partition table to contain all partition information.

When an operating system is loading, at some point it looks for partitions in the partition table. At the very least it must find itself and typically assigns access to any of the other partitions or volumes that it recognizes.

BootIt NG handles the MPT and partition table by letting you create bootable configurations (or boot items) allowing you to choose which partitions from the MPT are to be placed into the partition table (as seen in the following graphic and on page 16). If you are using the **Limit Primaries** setting, then all partitions from the MPT are automatically placed into the partition table. When the boot item is booted, the MBR partition table is updated to match the configuration of the boot item's MBR Details.

You should now understand why, unless you're using the **Limit Primaries** setting, you *must not* use any utilities that expand, move, or create a partition if it recognizes only the partitions in the partition table.

BootIt allows you to "load" the standard MBR with the MPT entries.

MPT

MBR

Entry 1
Entry 2
Entry 3
Entry 4
Entry 5
Entry 6
…

Entry1
Entry5
(unused)
(unused)

Operating Systems Look in the MBR for Partitions.

See Picture on Page 16
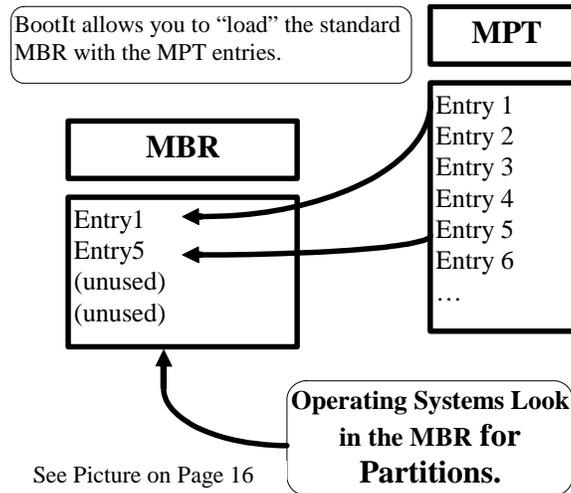
To get other partitions to show up in the operating system, as you can see from the figure above, you must assign the partitions to be loaded (up to four). Failure to correctly load the **MBR Details** section of the Boot Item—see the screen capture in *Set up the Normal Boot Menu* on page 16—is the most common cause of missing partitions.

Using BootIt NG

The following shortcut keys work with most dialog boxes in BootIt NG:

Press	To
Esc	Cancel
F1	Help
F10	OK, Close, or Apply
F12	Capture Screen to A:
Insert	Add, Create, or Fill
Delete	Delete or Clear

You can turn off most computers at the boot menu or main desktop by pressing **Alt+0** (zero). You cannot use this shortcut when editing a boot menu.

The Boot Menu

BootIt NG has the following two types of boot menus:

- The **Normal Boot Menu** displays the specific boot items configured for it as described in *The Normal Boot Menu* (below).
- The **Direct Boot Menu** displays all enabled partitions—those that haven't been disabled—as described in *The Direct Boot Menu* on page 19.

You'll use the Normal Boot Menu most frequently, especially if you have enabled support for more than four primary partitions and want more than the boot partition visible.

The Normal Boot Menu

The Normal Boot Menu (Boot Menu) displays the specific boot items configured for it. Click to select an item or use the keyboard arrow keys. You can boot an item using this menu in the following ways:

- Double click the item.
- Select the item, and then press **Enter**.
- Select the item, and then click **Boot**.
- Press the associated shortcut key for the item (such as **X** for Windows XP).
- Select the item, press and hold the **Alt** key, and then press the **N** key (**Alt**+**N**) to perform a one time **Boot Next Device**, **Alt**+**S** to perform a one time **BIOS Sequence**, or **Alt**+**F** to perform a one time **Floppy** boot. (This option requires the maintenance password if needed.). These one-time hotkeys can be used in lieu of the one-time options setup in the boot item as described below.
- Select the item, and then press and hold down the *left* **Shift** key while selecting boot to perform a simulated boot that only updates the partition table. You'll hear a beep when performing this option (if your internal speakers work).

Set up the Normal Boot Menu

1   On the **Edit** menu, click **Boot Menu**.

Alternatively, from the main maintenance screen, click **Boot Edit**.

2   In the **Boot Menu** dialog box (as displayed in *The Boot Menu* on page 15), do any of the following:

- To rearrange the order of the items, select an item, and then click **Move Up** or **Move Dn** as appropriate.
- To delete an item, select the item that you want to delete, and then click **Delete**.
- To create a menu item, click **Add**, and then refer to the following screen capture and *Add or edit a normal boot menu item*.
- To edit a menu item, select the item that you want to modify, click **Edit**, and then refer to the following screen capture and *Add or edit a normal boot menu item*.
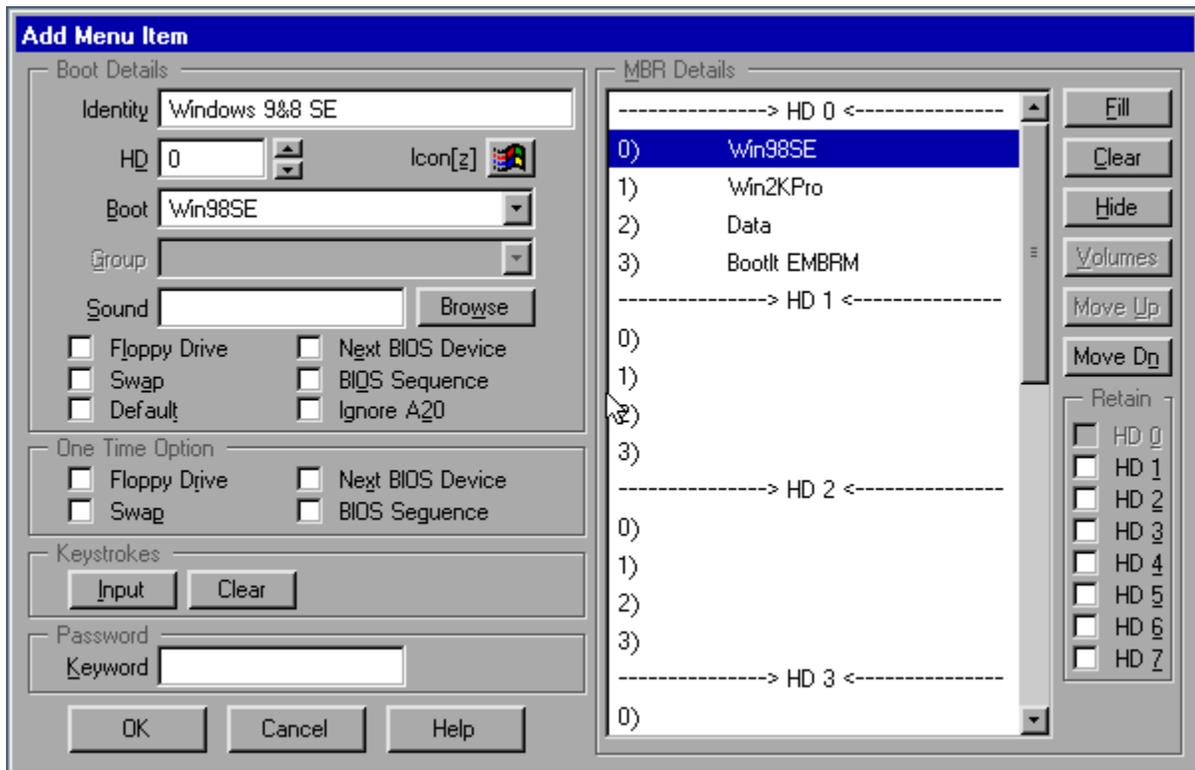
Add or edit a normal boot menu item

1 On the **Edit** menu, click **Boot Menu**.

Alternatively, from the main maintenance screen, click **Boot Edit**.

2 In the **Boot Menu** dialog box (as displayed in *The Boot Menu* on page 15), do one of the following:

- To add a menu item, click **Add**.
- To edit a menu item, select the menu item, and then click **Edit**.

3 In the **Edit Menu Item** dialog box, complete the following options as appropriate:

- Under **Boot Details** in the **Identity** box, type the name to be displayed in the boot menu.
  You can type **&** before any letter in the name that you want to become a shortcut key on the boot menu.
- Under **Boot Details** in the **HD** box, click the up or down arrows to enter the hard disk number (starting at zero) of the hard disk containing the partition or volume to boot.
- Under **Boot Details** from the **Boot** drop-down list, select the name of the partition or volume to boot.
- Under **Boot Details** from the **Group** drop-down list, select the name of the group to use for multi-OS partitions.
- Under **Boot Details**, select the **Captured** MBR/LVM file to use, if any, for non multi-OS partitions. This option only displays if captured MBR or LVM files exist.
  MBR/LVM files are rarely needed or used. If you need both an MBR and LVM file for a boot item, then use the same name for the captured MBR and LVM files. Files with the same base name are applied whether the MBR or LVM file is chosen.
- Under **Boot Details**, enter the file name of the **Sound** (.snd) file to play when this item is booted by clicking **Browse**, and then locating the desired sound file.
- Under **Boot Details**, select the **Floppy Drive** check box to boot from a floppy disk.
  The boot partition will be the active partition.
  This same check box under **One Time Option** is cleared after being used.
- Under **Boot Details**, select the **Swap** check box to enable swapping when booting this item.
  This same check box under **One Time Option** is cleared after being used.
- Under **Boot Details**, select the **Next BIOS Device** check box to boot from the next BIOS device.
  This same check box under **One Time Option** is cleared after being used.
- Under **Boot Details**, select the **BIOS Sequence** check box to boot the system devices in the same order set up in the BIOS.
  This same check box under **One Time Option** is cleared after being used.
- Under **Boot Details**, select the **Default** check box to designate the menu item that you are adding or editing to be the default menu item (the one that is always selected to boot on the next reboot).
- Under **Boot Details**, select the **Ignore A20** check box when an OS won't boot properly. This is primarily used with older OSs and for the boot function to operate the same as versions prior to 1.87 did.
- Under **Keystrokes**, click **Input**, and then type up to 15 keystrokes to be played back when booting this item. The keystrokes are buffered and carried forward as if you had typed them yourself.
  To remove any keystrokes, click **Clear**.

- Under **Password**, enter a password/keyword that will be required to boot this item.

4 Under **MBR Details**, each entry represents an entry in the standard MBR for a given hard drive. When this boot item is booted, the MBR of each drive will be updated to reflect the view you see here. To edit or adjust the entries, select a partition or blank entry, and then do any of the following:
- To hide the selected partition, click **Hide**.
- To rearrange the order of the selected partition or volume in the partition table when booting this item, click **Move Up** or **Move Dn** as appropriate.
- To add a partition to the MBR Details list, select a blank space (or a space to be replaced), and then click **Fill** (or press **Insert**). If the Limit Primaries setting is enabled, then all partitions are already listed.
  At minimum, the boot partition *must* be loaded to the MBR (as seen in the illustration toward the end of *BootIt NG Overview for First-time Users* on page 12.
- To hide individual volumes, select an extended partition, and then click **Volumes**.
  Be careful not to hide the last FAT/FAT32 volume as DOS thru Windows 98 has a bug that causes problems mounting partitions if the last volume of an extended partition is not a recognized FAT or FAT32 partition.

The Direct Boot Menu

The **Direct Boot Menu** dialog box displays all enabled partitions—those that haven't been disabled. From the Direct Boot Menu, just double-click an entry to boot from it. The **Active**, **Swap**, and **Hide** columns of the menu indicate the setting for that partition or volume (unless partitions are not limited, in which case booting from the Direct Boot Menu makes only the partition being booted visible; all other partitions will be hidden).
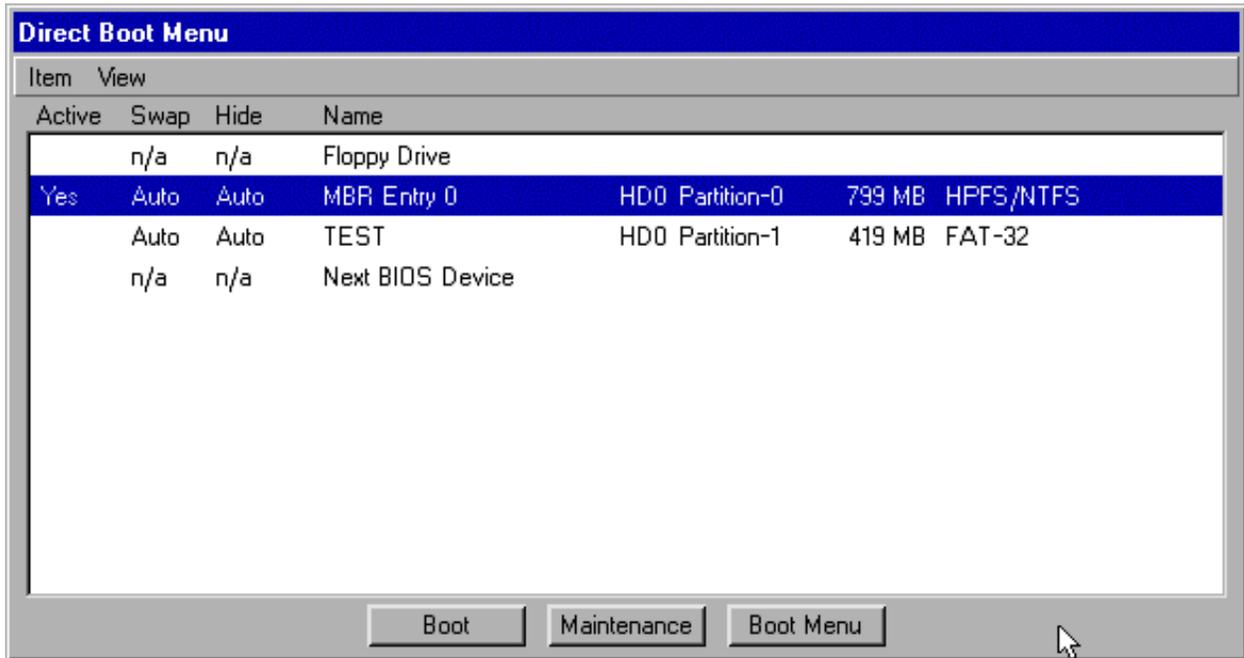
Boot an item using the Direct Boot Menu

1   If the Direct Boot menu is not configured as the default menu, then, on the **Normal boot menu**, click **Direct Boot**.

2   In the **Direct Boot Menu** dialog box (as seen in *The Direct Boot Menu*), do any of the following:

- The **Active** column indicates whether or not the partition or volume is active.
  To set the active partition, select an item, and then press the space bar.
  Usually, the active primary partition on HD0 is drive C. When installing a new operating system to a new partition, verify that the installation partition is active or the installation may go to some other partition marked active. You can set a partition active only if it's in the MBR as indicated by the -# that follows the **Partition type** column. For example, in the earlier graphic you see **Test** has **HD0 Partition-1** which means that partition is in the second partition table entry in the MBR.
- The **Swap** column indicates whether or not the hard disk being booted will be swapped with HD0.
  To change swap options, select the item, and then each press of the **F4** key cycles though the options for this column. (Alternatively, on the **Item** menu, click the appropriate option.)
  In other words, if you boot a partition on HD1 (the second hard disk) with the swap option on, then BootIt NG swaps that hard disk with HD0 so that HD1 is now HD0 and (the real) HD0 is now HD1. Keep in mind that, because swapping is done at the BIOS level, once an operating system boots in protected mode, it may ignore the BIOS and, in effect, undo the swap.
- The **Hide** column indicates how and what partitions will be hidden.
  To change hide options, select the item, and then each press of the **F6** key cycles though the options for this column. (Alternatively, on the **Item** menu, click one of the following commands:
  Auto lets BootIt NG determine which partitions to automatically hide.
  All indicates that all partitions are hidden except the boot partition.
  None indicates that none of the existing partitions are hidden.
  Some hides all but one primary partition per hard disk.
  As-Is does no hiding nor unhiding of partitions or volumes. When set to anything other than **As-Is**, volumes are always unhidden.

3   Click an entry to select it, and then click **Boot**.
Alternatively, you can double-click an entry to boot from it.

Note

- When booting from the floppy disk or next BIOS device, the swap and hide options are determined by the active partition.
- To use the next device option to boot from your CD/DVD drive, set your BIOS boot sequence to have the CD/DVD drive immediately after the hard disk.
- When you boot an item via boot direct and you're not limiting primaries, only the selected primary will be visible in the MBR.

The Floppy Boot Menu

The **Floppy Boot Menu** dialog box appears when you boot with the BootIt NG installation disk after BootIt NG has been installed (it's displayed if booting a floppy, cd/dvd, or UFD in non-partitioned mode).
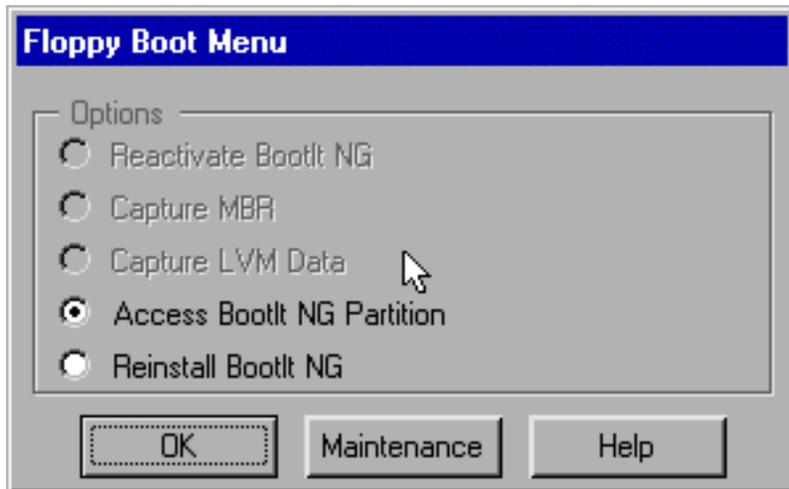

- Select **Reactivate BootIt NG** to reactivate BootIt NG if it was deactivated after installing a new operating system such as Windows 95/98/ME/2K, or by using the deactivate option on the uninstall dialog.
- Select **Capture MBR** if you have a special operating system or need to use a special MBR. This way you can capture the MBR before you reactive BootIt NG. Once captured, you can use it in the boot items that you create for the *Normal Boot Menu* as described on page 15.
  Most users won't have a need to capture the MBR.
- Select **Capture LVM Data** if you have a special need to use this option. Once captured, you can use it in the boot items that you create for the *Normal Boot Menu* as described on page 15.
  Most users won't have a need to capture LVM data.
- Select **Access BootIt NG Partition** to mount and change the current drive to be the BootIt NG partition on the hard disk.
  This lets you use files or other items that may exist only on the hard drive partition. You can still access the hard drive partition if the partition is deleted. If you move the EMBRM partition after installation, you should reinstall BootIt NG to update the pointers on the installation disk. CD/DVD users won't get this option since you can't write to a CD/DVD.
- Select **Upgrade or Reinstall BootIt NG** to start the **BootIt NG Setup**.

Working with Partitions

You can gain access to the **Work With Partitions** dialog box in two ways:

- On the desktop, click **Partition Work**.
- On the **Edit** menu, click **Partitions**.
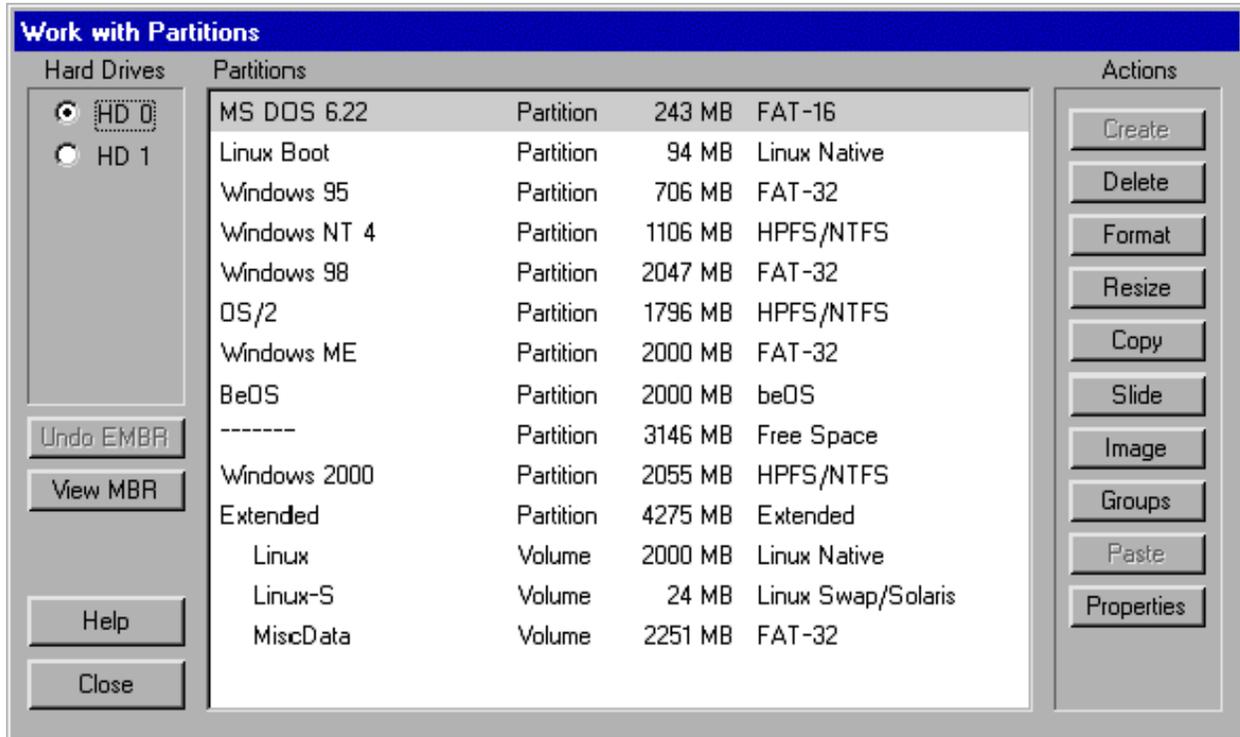
To view the contents of the MBR partition table, click **View MBR**.

From there you can remove, add, or reorder partitions manually as well as set a partition active. (To remove the active status [even though this is not something that most users want to do], press and hold down the *left* **Shift** key, and then click **Set Active** to toggle the status of the individual item).

Std MBR is equivalent to fdisk/mbr which creates the small program to boot the active partition.

Win7 MBR is a Windows 7 specific version which may be required for Win7 to boot on certain systems.

Clear Sig is used to clear the NT/2K/XP/2003 disk signature (needed for Win2K/XP/2003 to boot correctly under several circumstances). For details about why you may need to use Clear Sig, visit **www.terabyteunlimited.com/kb/**, and navigate to the **Windows NT/W2K/XP/2003 section**. **Edit Sig** allows entering a disk signature manually as may be directed by a tech support specialist. **Fill E-CHS** is used to force the ending CHS fields of all MBR partition table entries to their max values which is useful for a catch-22 situation when cylinder unaligned partitions exist and your BIOS does not properly implement or provide "LBA mode" support. This can help if you're getting an error booting BING that reads "**SPT < Minimum**"

Create a partition or volume

1 On the desktop, click **Partition Work**.

2 In the **Partitions** list, select a free-space entry, and then click **Create** under **Actions**.

3 In the **Create** dialog box under **Partition Information**, type the **Name** of the partition that you want to create.

4 Select the appropriate **File System** from the drop-down list.

If the desired file system does not appear in the list, type it in decimal (or hex by starting with 0x [zero x] or octal starting with a zero.)

5 Increase or decrease the **Size** of the new partition (in MB) using the keyboard or up or down arrows respectively.

6 Optional:

- Under **Options**, select the **Format** check box if you want the option of formatting the partition after you create it.

- If you want the option of having multiple operating systems boot from the new partition, select the **Multi-OS** check box.

  This does not mean that you are going to have multiple operating systems on the system itself.

- To create the partition at the end of the free-space block rather than at the beginning of the block, select the **Allocate High** check box.

7 Click **OK**.

Delete a partition or volume

1 On the desktop, click **Partition Work**.

2 In the **Partitions** list, select the partition or volume that you want to delete, and then click **Delete** under **Actions**.

3 In the **Confirm Delete** dialog box, you may complete these optional tasks (that cannot be undeleted or reversed):

- To clear several boot sectors at the beginning of the partition, select the **Clear Boot Sector** check box.

- To clear all sectors in the partition with zeros, select the **Wipe Partition** check box.

4 After reviewing the **Partition Information** to verify that you are about to delete the correct partition, click **Yes**.

Undelete a partition or volume

1 On the desktop, click **Partition Work**.

2 In the **Partitions** list, select the free-space entry that you want to undelete, and then click **Undelete** under **Actions**.

3 In the **Undelete** dialog box that appears, click **OK** to recover missing FAT, HPFS, NTFS, Ext2fs, ReiserFS, and Extended partitions or volumes.

Note

- If the partition or volume recovered is not correct, select it in the **Partition** list, click **Delete**, select the **Clear Boot Sector** check box, click **OK**, and then repeat steps 2 and 3.

Format a partition or volume

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition or volume that you want to format, and then click **Format** under **Actions**.

3   Follow the instructions on the screen.

Note

- If the **Format** button is grayed out and unavailable, formatting is not supported for the selected partition's file system.

- You can suggest a cluster size for FAT/FAT32; however, BootIt NG determines the final size necessary to keep the partition valid.

Resize a partition or volume

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition or volume that you want to resize, and then click **Resize** under **Actions**.

3   In the **Resize** dialog box, click **OK** to error check the file system.

The error-checking process can take a long time. If the hard disk indicator light continues flickering, the error check is progressing.

When the error check is complete, in the **Resize** dialog box you may review the **Partition Information** (such as **Name**, **Type**, and **Size**) to verify that you are resizing the correct partition.

4   Review the **Min Size** and **Max Size**, and then increase or decrease the **New Size** of the selected partition using the up or down arrows respectively.

5   Click **OK**, and then (if you've already backed up your hard disk) click **Continue**.

The **Resize** status bar indicates progress. This process can take a long time when BootIt NG needs to move your existing data in order to resize the partition.

BootIt NG checks for errors once again, after which the **Resize** dialog box displays a message that the resize is complete.

6   Click **Close**.

Tip

- To expand a partition, the free-space block must follow and be adjacent to the partition to be expanded. Use the **Slide** feature if necessary *Slide a partition or volume* on page 25.
- If BootIt NG displays a message that it can't use the size or that free space has run out, select a smaller size first, and then try the final size. (Even just increasing the size by 20 to 50 MB can allow the final resize to work.)
- You can suggest a cluster size for FAT/FAT32; however, BootIt NG determines the final size necessary to keep the partition valid.
- To convert to or from a FAT/FAT32 file system select the desired file systems radio button.

Copy a partition or volume

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition or volume that you want to copy, and then click **Copy** under **Actions**.

At the bottom of the **Work with Partitions** window, BootIt NG displays the **Paste Pending for Copy** message.

3   In the **Partitions** list, click the free-space entry where you want to paste the copied partition information, and then click **Paste** under **Actions**.

4   Optional:

- In the **Copy Image** dialog box under **Options**, if you already have four primary partitions (and if **Limit Primaries** is enabled) then you'll need to move the partition by selecting the **Delete Source** check box.

- To create the partition at the end of the free-space block rather than at the beginning of the block, select the **Allocate High** check box.

- To copy just the used areas of the file system rather than copying every sector (including unused sectors) and thereby improve speed (unless the partition is almost full and has a lot of fragmentation), select the **Data Only** check box.

5   Click **OK**.

Slide a partition or volume

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition that you want to slide (or move in an adjacent free space), and then click **Slide** under **Actions**.

In the **Slide** dialog box, review the **Partition Information** to verify that you are about to slide the correct partition.

3   Click the up or down arrows to increase or decrease the megabytes of **Free Space Before** and **Free Space After** as necessary.

4   Optional:

- To move just the used areas of the file system rather than moving every sector (including unused sectors) and thereby improve speed (unless the partition is almost full and has a lot of fragmentation), select the **Data Only** check box.

- To prepare the partition for using the NT/2K/XP/2003 convert command to convert to NTFS so that the final cluster size isn't forced to be 512 bytes, select the **Align for NTFS Only** check box.

5   Click **OK**.

Create a compressed partition image

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition or volume that you want to create a compressed image of, and then click **Image** under **Actions**.

3   In the **Image** dialog box, click **Create Image** to create a new image, and then click **OK**.
At the bottom of the **Work with Partitions** window, BootIt NG displays the **Paste Pending for Image Create** message.

4   In the **Partitions** list, click the free-space entry, CD/DVD R/RW drive, NTFS or FAT/FAT32 partition or volume where you want to paste the copied partition image, and then click **Paste** under **Actions**.
If you are pasting to a free-space *volume* and you use the same extended partition with DOS/Win9x/WinME then, for correct operation of the OS, you must ensure that the last volume in the extended partition is supported by the OS - i.e. FAT or FAT32.
DVD-RW discs must be new or fully blanked (not quick blanked) or the write process will fail.

5   Do one of the following:

- If you are pasting to a free-space entry, in the **Paste Image** dialog box under **Partition Information**, type the **Name** of the partition that you want to create.
- If you are pasting to a CD or DVD drive, the image will span as many disks as needed.
- If you are pasting to an NTFS or FAT/FAT32 partition or volume, in the **Save As** dialog box under **File Name**, type the name of the file to be created. This name must be 8 or less characters with no spaces.
- If you are pasting to an NTFS or FAT/FAT32 partition or volume, BootIt NG lets you adjust the file size being created so that you can copy the image files to a CD or DVD using another program. If you don't plan on copying the image files to a CD or DVD, then it's best to limit the image files to 2 GB because 4 GB is only valid with certain operating systems such as Windows NT, 2000, XP, and 2003.

6   When BootIt NG asks if you want a validation, click **Yes** or **No**.
If you click **Yes** with the **Byte for Byte** check box selected, BootIt NG rereads all of the source data again and compares it with the compressed image; otherwise, BootIt NG performs a normal **Validation** to ensure that the new file is valid (and that the crc/checksum matches).

7   Click **OK**.

Restore a compressed partition image from a file

1 On the desktop, click **Partition Work**.

2 In the **Partitions** list, select the location of the compressed partition or volume (or CD/DVD drive) that you want to restore, and then click **Image** under **Actions**.

If you are restoring from a CD, DVD, or image partition type, BootIt NG displays the **Image Pending for Restore** message and you can skip to step 5.

3 In the **Image** dialog box, click **Restore from file** to restore an existing image from a file, and then click **OK**.

4 In the **Open** dialog box, type the **File Name** of the image file to be restored, and then click **OK**.

5 In the **Partitions** list, click the free-space block or an existing partition large enough to contain the restored image, and then click **Paste** under **Actions**.

To see the exact required size, while the **Paste Pending for Image Restore** message is displayed, press and hold down both the **Ctrl** key and the **Shift** key.

6 If overwriting a partition, BootIt NG asks if you would like to validate the image; this is used to ensure that the image crc/checksum is valid. (If the process aborts on the actual restore, the partition boot sector is cleared.)

Add a partition group

1 On the desktop, click **Partition Work**.

2 In the **Partitions** list, select the FAT/FAT32 partition to which you want to add a group, and then click **Groups** under **Actions**.

3 In the **Groups** dialog box, click **Add**.

4 In the **Add Group** dialog box, type the name of the group that you want to add, and then enter a description.

5 Click **Add** to add a file, and then type the full path name (or click **Browse**) using the DOS 8.3 naming convention for each file that should be part of the group.

6 Optional:

- If you want the file in the group to be updated automatically if it is changed on the partition, select the **Apply Changes Automatically** check box.

  If it's not checked, then you'll be notified whenever the file has been altered and given an option on what to do.

- If the file needs to be in position 1—see *Setting Up Multi-OS Groups on Different Operating Systems* on page 35 for more details—select the **First in root** check box; likewise, select the **Second in root** check box if the file needs to be in position 2. *Do not* select either of these check boxes unless actually required.

7 Click **OK**.

8 Complete steps 5 to 7 for as many files as you want to add, and then click **OK**.

9 Complete steps 3 to 8 for as many groups as you want to add, and then click **Close**.

Note

- Groups are used in conjunction with the Multi-OS feature allowing certain files to be automatically replaced on Multi-OS setup.

Delete a partition group

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition from which you want to delete a group.

3   Under **Actions**, click **Groups**.

4   In the **Groups** dialog box, select the name of the group that you want to delete, and then click **Delete**.

5   Complete step 4 for as many groups as you want to delete, and then click **Close**.

Note

• Groups are used in conjunction with the Multi-OS feature allowing certain files to be automatically replaced on Multi-OS setup.

Copy a partition group

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition from which you want to copy a group.

3   Under **Actions**, click **Groups**.

4   In the **Groups** dialog box, select the name of the group that you want to copy.

5   Click **Copy**, and then click **Close**.

Note

• Groups are used in conjunction with the Multi-OS feature allowing certain files to be automatically replaced on Multi-OS setup.

View partition properties

1   On the desktop, click **Partition Work**.

2   In the **Partitions** list, select the partition or volume that you want to know more about, and then click **Properties** under **Actions**.

3   In the **Properties** dialog box, under **Partition Information**, review the **Name** of the partition, **File System** type, and **Size**.
    Click **Details** to review the partition's **Free** and **Used** space.

4   Under **Options**, if you want the option of having multiple operating systems boot from the selected partition, select the **Multi-OS** check box.
    This option isn't needed if you're going to have each operating system in its own dedicated bootable partition.

5   Under **LBA Information**, review the **Start** and **End** values.

6   Under **Additional Information**, review other information such as the **Bootable file system**, **Cluster size**, and other notes.
    The process of viewing partition properties also checks for some common partition errors; if any errors are found, BootIt NG either prompts you with an option to fix the issues or displays a warning message.

7   Click **OK**.

Setting Up Users and Options

You can gain access to the **Settings** dialog box to change settings or maintain users in two ways:

- On the desktop, click **Settings**.
- On the **Edit** menu, click **Settings**.
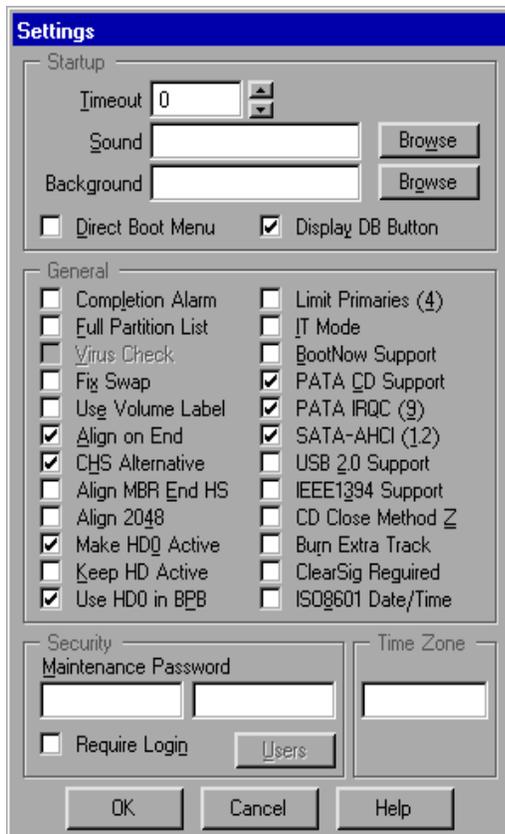
- Under **Startup**, in the **Timeout** box enter the number of seconds to wait for user input before automatically booting by clicking the up or down arrows.
  If set to **0** (zero), then no timeout occurs.
- Under **Startup**, enter the file name of the **Sound** (.snd) file to play when the boot menu displays by clicking **Browse**, and then locating the desired sound file.
- Under **Startup**, enter the file name of the **Background** Paintbrush (.pcx) file to be used when the main boot menu screen displays by clicking **Browse**, and then locating the desired .pcx file.
- Under **Startup**, select the **Direct Boot Menu** check box if you want the Direct Boot Menu to be the default menu displayed.
- Under **Startup**, select the **Display DB Button** check box if you want the Direct Boot button to show up on the normal boot menu.
- Under **General**, select the **Completion Alarm** check box to sound an alarm at the completion of a copy, slide, resize, format, or image.
- Under **General**, select the **Full Partition List** check box to display the full list of partitions when creating a new partition or volume; otherwise, an abbreviated list displays.

- Under **General**, select the **Virus Check** check box to perform a simple check for possible viruses on boot up.
  If a possible virus is detected, you should use your anti-virus program with the latest virus definitions to check for viruses. If none are found, you can disable this option to suppress the warning message.
- Under **General**, select the **Fix Swap** check box if your system locks up when you use the swap option.
  Win9x may run in compatibility mode if you enable this option.
- Under **General**, select the **Use Volume Label** check box to use the volume label of a FAT/FAT32/HPFS/NTFS partition as the name. Note that you can change an NTFS file system label, but not create a new one when one doesn't exist.
  If the name of a FAT/FAT32 file system is changed, then the volume label is also changed.
- Under **General**, select the **Align on End** option to ensure partitions are aligned at the end of a cylinder boundary (or 2048 sector boundary if **Align 2048** is enabled). This option should normally be enabled except when **Align 2048** is enabled.
- Under **General**, select the **CHS Alternative** check box to fill in the CHS values for partitions and volumes using an alternative method that is compatible with older third-party partitioning software. When **Align 2048** is enabled, this option should be disabled.
- Under General, select the **Align MBR End HS** check box to cause all entries in the MBR to be created with the ending head and sectors set to the current geometries max values. This option is typically needed when **Align 2048** is enabled or **Align on End** is disabled and your BIOS doesn't properly maintain LBA mode.
- Under General, select the **Align 2048** check box to cause all partitions and volumes to be aligned on a 2048 sector boundary. When this option is enabled, you'll typically want to disable **Align on End**, disable **CHS Alternative**, and enable **Align MBR End HS**.
- Under **General**, select the **Make HD0 Active** check box because most new BIOSs require it when booting from a hard disk other than HD0.
- Under **General**, select the **Keep HD Active** check box to ensure that the active status on all hard drives remains active. In other words, you will not disable the active status on any hard drive.
- Under **General**, select the **Clear Sig Required** check box to disable additional processing that attempts to suppress the need to use "Clear Sig" after moving, sliding, or restoring partitions used by Win2K/XP/2003.
- Under **General**, select the **Use HD0 in BPB** check box to force the BPB drive number to HD0 even when it's on another drive.
- Under **General**, select the **Limit Primaries** check box to limit your system to the normal maximum of four primary partitions. In this mode you can continue to use other partitioning programs such as FDISK.
  If you *clear* the **Limit Primaries** check box, you can have more than four primary partitions. In this mode you should *not* use any partitioning software except for BootIt NG.
  This check box is grayed out and unavailable if any of your existing hard drives has more than four primary partitions.
  This option has a profound affect on how BootIt NG operates.
- Under **General**, select the **IT Mode** check box so that the graphical user interface (GUI) is not displayed and the system boots directly to the default boot item or last boot item if no default is found.

IT Mode is to be used with the normal, default boot menu (see page 15). To display the boot menu, during the initial boot of your system, press and hold down the **Insert** key.

- Under **General**, select the **BootNow Support** check box if you are planning on using TeraByte Unlimited's BootNow™ freeware program.

- Under **General**, select the **PATA CD Support** check box to enable imaging to and from an ATAPI CD-R/RW or DVD drive attached to the standard ATA primary or secondary controller.

- Under General; select or deselect the **PATA IRQC** if you experience hangs or no partitions while in Partition Work when the **PATA CD Support** option is enabled.

- Under General; select **SATA-AHCI** to enable support for CD/DVD drives on SATA controllers configured in your BIOS to use AHCI. Note that this will not show CD/DVD drives on RAID controllers.

- Under **General**, select the **USB 2.0 Support** check box to support high speed USB 2.0 hard drives and CD/DVD drives while in Partition Work or Image Sets.

- Under **General**, select the **IEEE1394 Support** check box to support IEEE1394 hard drives and CD/DVD drives while in Partition Work or Image Sets.

- Under **General**, select the **CD Close Method Z** check box if you receive errors or hang-ups when the CD/DVD is being closed during image to CD/DVD operations.
If you experience the same issues with this check box selected, try clearing this check box.

- Under **General**, select the **Burn Extra Track** check box to write the image summary data to CD/DVD 1 as track 2 when directly imaging to the CD/DVD. When burned this way, you won't have to insert the last CD/DVD before beginning the restore.
This option may not work correctly with your device. If you receive any write or read errors when creating or verifying, consider clearing this check box.

- Under **General**, select the **ISO8601 Date/Time** check box to use that standard for displaying the time and date.

- Under **Security**, type the **Maintenance Password** required to exit a boot menu to the desktop.
Type the password twice to verify its input.

- Under **Security**, select the **Require User Name** check box to require that a user name and password must be typed when the system is booted.

- Click **Users** to add, delete, or edit users in the **User Maintenance** dialog box.
You can assign each user their own *Normal Boot Menu* (page 15) and *Direct Boot Menu* (19) options. If you add a user named **any** with no password, then that user will be logged on automatically unless you press and hold down the **Insert** key during startup.

- Under **Time Zone**, type the **Formatted Time Zone Identifier** as follows:
zzz[+/-]d[d][lll] where zzz is a three character time zone identifier, d is the opposite of the UTC offset, and lll is an optional three character daylight savings time identifier.

e.g. PST8PDT, MST7MDT, CST6CDT, EST5EDT

Backing Up and Restoring

You can back up or restore the EMBR information (the entire first track) from any selected hard disk. You can also back up and restore BootIt NG Files.

Back up a hard disk's EMBR information

1 On the main maintenance screen, click **Backup**.

2 In the **Backup & Restore** dialog box, under **Select**, click **Backup**.

3 Under **EMBR**, select the check boxes next to each hard disk whose entire first track EMBR information you want to back up.

4 Optional: To copy the BootIt NG Files to a floppy disk, insert a floppy disk, select the **BootIt NG** check box, and then select either drive **A** or drive **B** as appropriate.

5 Click **OK**.

The EMBR of all selected hard disks is backed up to the partition with BootIt NG. If you have also chosen to back up the BootIt NG Files, those files plus the other BootIt NG files are copied to a floppy disk.

Restore a hard disk's EMBR information

1 On the main maintenance screen, click **Restore**.

2 In the **Backup & Restore** dialog box, under **Select**, click **Restore**.

3 Under **EMBR**, select the check boxes next to each hard disk whose entire first track EMBR information (including the MBR) you want to restore.

4 To restore the BootIt NG Files from a floppy disk, insert the disk, select the **BootIt NG** check box, and then select either drive **A** or drive **B** as appropriate.You can only restore the BootIt NG files or the EMBR for given drives per single operation.

5 Click **OK**.

The EMBR of all selected hard disks are restored. If you chose to restore the BootIt NG Files, the EMBR files plus the other BootIt NG files are restored from the floppy disk to the EMBRM partition.

Working with Image Sets

On the main maintenance screen, click **Image Set** to select a set of partitions or volumes to be imaged one after the other. The name of an image set is the name of the file you create. The .ims extension is automatically added.

Once you create or open the image set, **Add**, **Edit**, or **Delete** items as appropriate. All items must contain a source hard disk, source partition, destination hard disks, destination partition, file name, and maximum file size.

All images created using the image set feature must be created as files on a FAT, FAT32, or NTFS partition. The source and destination must be different.

Once set up, click **Start** to execute the process manually, or use **BootNow** and the **/ims=** switch to automatically schedule execution.

Setting up Colors and Screen Resolution

On the **Utilities** menu, click **Colors** to change the colors and resolution used by the program. You'll be able to change the each items color by selecting it in the list box and clicking **Change**.

To change the resolution and number of possible colors, click on the radio button in the **Mode** group. You should be aware that when changing between an entry that ends with x256 and x64K that the colors will drastically change. This is normal; you'll simply need to adjust the colors while in that mode. For example, when you move from an x256 mode to x64K, everything will be black and blue (*if you don't see anything on your screen, adjust the contrast and/or brightness so you can see it.*)   If changing a mode causes the screen to go black or scramble then click **Escape** or **Alt-R** to revert back to the last saved settings.

Once you get the colors and mode adjust the way you like, you can click the **Save** or **OK** button to save the changes.

If you find that you don't like the color settings that you have chosen, you can click **Cancel** or the **Revert** (**Alt-R**) button to revert back to the last saved colors and mode.

Creating and Using Sound

A sound file is nothing more than a text file with a **.snd** extension. To help you create sound files for BootIt NG and play them back at a command prompt, download the TeraByte Unlimited PLAYSND shareware utility by visiting **www.terabyteunlimited.com**, clicking **Free Software** under **Downloads**, and then clicking **PLAYSND**. The sounds may run faster under Windows than under real mode DOS and BootIt NG.

Capitalization and spacing is not important; the **x** in the following commands represents a number:

cycles=x	Number of times to cycle the entire routine (optional—must be first)
Fx	Frequency to play (in hertz [Hz])
FRx|xSxLx	Frequency range to play.
	The first **x** is the starting frequency; the second **x** is the ending frequency.
	S (optional) is the step frequency rate (the default is 1).
	L (optional) is the latency delay in milliseconds between frequency step (the default is 0).
Dx	Delay in milliseconds (1000 milliseconds equals 1 second)
N	No sound—turns sound off

The following sample routine plays 2000 Hz for 0.5 seconds, pauses with no sound for 1 second, plays 500 Hz to 2000 Hz stepping 10 Hz with a delay of 0.005 seconds between steps, and then does the same thing only from 2000 Hz to 500 Hz:

F 2000 D 500 N D 1000

FR 500 | 2000 S 10 L 5

FR 2000 | 500 S 10 L 5

Install a sound file

1   Copy the sound (.snd) file to a floppy disk.
2   On the main maintenance screen, click **Settings**.
3   In the **Settings** dialog box under **Startup**, next to the **Sound** box, click **Browse**, and then type:
    A:*.SND
4   Press **Enter** to display a list of files on the floppy disk.
5   Select the sound file that you want to use or copy.

Creating Icons and Backgrounds

To create or contribute icons or backgrounds, in the BootIt NG folder, double-click **graphics.zip**.

Using the Multi-OS Feature

The BootIt NG Multi-OS feature lets you boot more than one operating system from the same primary partition. BootIt NG supports Multi-OS only in a FAT or FAT32 primary partition.

To enable this feature, select the **Multi-OS** check box when creating the partition or, after the partition is created, select the **Multi-OS** check box in the properties dialog box available through the **Work with Partitions** dialog box.

Once enabled, you can install multiple operating systems into the Multi-OS partition (but in different folders) or, you can install multiple OSes in separate partitions and use the Multi-OS partition as a shared boot partition. When you reboot, BootIt NG detects the new operating system and creates a new boot menu option for it. If BootIt doesn't detect the new operating system, then you can manually capture the required files by clicking **Groups** in the **Work with Partitions** dialog box.

To add, remove, or change the handling of any of the files associated with a group, select the Multi-OS partition in the **Work with Partitions** dialog box, and then click **Groups**.

Some operating systems use the same folder structure for some of their files, and this could cause some files to be overwritten. For example, both Windows 95 and 98 use the \PROGRAM FILES folder for an Accessories folder; so even if you had Windows 95 installed in \WINDOWS, and then installed Windows 98 to \WIN98, Windows 98 Setup could overwrite the files in the Accessories folder. To solve this, you could have installed Windows 98 to its own drive letter—D:\WINDOWS for example. In this case you still need the Multi-OS feature on the boot partition because Windows 98 will install its boot files on drive C, and the rest would be installed to drive D. The Multi-OS feature protects the Windows 95 boot files on drive C and creates a new set for Windows 98.

Setting Up Multi-OS Groups on Different Operating Systems

Review the following sections for information about files and file positions required for boot for DOS, Windows 95/98/ME, Windows NT/2K/XP, and OS/2. *For specific details about specific operating systems*, visit:
www.terabyteunlimited.com/kb/

DOS

The following files and file positions required for boot (not including any compression drivers):

MS DOS			PC DOS	
Position	**Name**		**Position**	**File Name**
1	io.sys		1	ibmbio.dos
2	msdos.sys		2	ibmdos.com
0	command.com		0	command.com
0	autoexec.bat		0	autoexec.bat
0	config.sys		0	config.sys

Windows 95/98/ME

The following files and file positions required for boot (not including any compression drivers):

Position	File Name
0	io.sys
0	msdos.sys
0	command.com
0	autoexec.bat
0	config.sys

Windows NT/2K/XP/2003

The following files and file positions required for boot:

Position	File Name
0	ntldr
0	boot.ini
0	ntdetect.com
0	ntbootdd.sys

Note

NTBOOTDD.SYS is used with NT version 3.x with SCSI hard drives. It is a copy of the SCSI driver renamed to NTBOOTDD.SYS.

OS/2

The following files and file positions required for boot:

Position	File Name
0	autoexec.bat
0	config.sys

Note

Actually, the system files for OS/2 are OS2KRNL, OS2LDR, OS2LDR.MSG, OS2RAS, OS2VER, OS2BOOT, and WP ROOT.SF. If you were going to install more than one version of OS/2 in the same partition, then you would need to do something with these files.

Setting Up a Multi-OS Partition

Review the following examples about how to set up a Multi-OS partition. Before reading this section, consider reading *Prepare for a BootIt NG setup* on page 6.

Enable Multi-OS on a partition

1   Install BootIt NG as described on page 5.

2   On the **Boot** menu, click **Maintenance**.

3   On the maintenance screen, click **Partition Work**.

4   Select the existing partition, and then click **Properties**.

5   Rename the partition as appropriate.

6   Select the **Multi-OS** check box, and then click **OK**.

If BootIt NG recognizes the installed operating system, a new group and menu configuration item is created.

7   If BootIt NG does *not* recognize the installed operating system and a new group and menu configuration item is *not* created, click **Groups** button to add the files or group manually as described in *Using the Multi-OS Feature* on page 35.

8   If you had an existing boot item configured, you can now edit the boot menu and either delete the previous entry or add the group name to it.

Note

This procedure assumes that the partition already contains an operating system. Also, you use the normal boot menu when booting multi-OS partitions; otherwise, booting an item without a group causes the last booted item to boot.

Installing Operating Systems

Review the following generic examples about setting up an operating system. Before reading this section, consider reading *Prepare for a BootIt NG setup* on page 6.

Install an OS in its own single partition—the most common choice

1 Install BootIt NG as described on page 5.

2 Use the **Work with Partitions** dialog box (as described on page 22) to create a partition for your OS.

3 To create a new menu item for booting the new partition, on the desktop, click **Boot Edit**.

4 Click **Add** to add a new menu item.

5 Select the partition that you created in step 2 as the boot partition.

6 Under **One Time Option**, do one of the following:

- If the installation boot media is a floppy disk, then select the **Floppy** check box.
- If the drive to boot the installation boot media is set to boot after your hard disk, then select the **Next BIOS Device** check box.
- If the drive to boot the installation boot media is set to boot before your hard disk, then select the **BIOS Sequence** check box.

   Some systems hang when using the **Next BIOS Device** option and others will use the **BIOS Sequence** option as a **Boot Next Device** option. In the end, you can boot from the CD/DVD any way you want; just be sure that the last booted boot item is the one to which you are installing. Even a *simulated boot* is fine.

7 Click **OK** twice to save the new item and return to the desktop.

8 On the desktop, click **Resume**.

9 Insert the OS installation media.

10 Boot the new boot item that you created in step 3.

   If you did *not* select a **One Time Option** in step 6, depending on the partition, it will either display a message saying that there is no operating system installed on the partition or that the partition is not bootable and presents the option to boot from the floppy disk instead. Press the appropriate key to continue or ctrl-alt-del if you need to boot from a CD/DVD drive that is setup (in the BIOS) to boot before the hard drive.

   The installation media is now booted and you can begin installation to drive C.

Create paired partitions or Multi-OS installations

Complete the following steps when installing the bulk of a Microsoft operating system (MS OS) on another hard disk or drive letter. This also applies to installing a MS OS to a volume. The difference between paired partitions and Multi-OS installations is that using Multi-OS you can share the boot partition (step 1 to many step 2s) whereas with paired partitions the pair of partitions (step 1 and step 2) are always different.

1 If needed, use the **Work with Partitions** dialog box (as described on page 22) to create a partition for the OS on HD0.

   You can create the partition as small as possible depending on the OS. A 5 MB partition may be enough. Verify that the **Format** check box is selected. If you are going to use Multi-OS, select the **Multi-OS** check box.

2   If needed, use the **Work with Partitions** dialog box to create the main OS partition or volume.
   If available, verify that the **Format** check box is selected.

3   To create a boot menu item for the new OS partition, on the desktop, click **Boot Edit**.

4   Click **Add** to add a new menu item.

5   Select the partition that you created in step 1 as the boot partition.

6   Under **MBR Details**, select an entry for the correct HD, and then click **Fill**.

7   From the list, select the main OS partition.

8   Under **One Time Option**, do one of the following:

- If the installation boot media is a floppy disk, then select the **Floppy** check box.
- If the drive to boot the installation boot media is set to boot after your hard disk, then select the **Next BIOS Device** check box.
- If the drive to boot the installation boot media is set to boot before your hard disk, then select the **BIOS Sequence** check box.

9   Click **OK** twice to save the new item and return to the desktop.

10 On the desktop, click **Resume**.

11 Insert the OS installation media.

12 Boot the new boot item that you created in step 3.

13 When **OS Setup** starts, select the existing (main) OS partition that you created in step 2.
   Once setup completes, the OS boots from the partition on HD0 (step 1) and transfers itself to main OS partition (step 2).

OS Installation Notes

- If you don't have partitions limited under settings, then you should usually use the advanced or custom installation choices to verify that the installation routine doesn't try to create a new partition. Because the OS and system tools only see the partitions that are in the MBR, if it creates or moves a partition, it may put it right on top of an existing one that is not currently in the MBR partition table. You can, however, create or move volumes in an extended partition provided that the actual extended partition doesn't get moved or expanded.
- Some operating systems (such as Windows 95/98) deactivate BootIt NG. If that is the case, all you need to do is boot with your BootIt NG installation disk, and then select the **Reactivate BootIt NG** option.
- One common configuration is to have multiple primary partitions—one for each operating system— and one common (shared) extended partition for data. To do this, indicate the boot partition, and then add the extended partition to the MBR for each boot menu configuration.
- For more information or OS-specific information, visit: **www.terabyteunlimited.com/kb/** and then navigate to the desired area of interest.

Obtaining Technical Support

The primary support communication method will be use of on-line services. The most recent versions of software and information will be available on the TeraByte Unlimited Web site:
www.terabyteunlimited.com

Registered users that require technical support should try to use the following e-mail address as the primary communication method:

support@terabyteunlimited.com

Telephone support is also available as needed.

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If you are using the trial version of BootIt NG then to continue using it past the 30-day trial period, you *must* purchase a full-use license. It is illegal to continue using the trail-use version beyond the trial period.

To purchase the full-use license, use one of the following methods:

- Complete and submit the order form on page 49
- Visit: **www.terabyteunlimited.com/purchase-bootit-next-generation.htm**

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    (h) ***SURVIVAL.*** The provisions of paragraphs 1(b)(iv), 1(b)(vii), 1(b)(ix), 2, 3 and 6 of this Agreement shall survive any termination or expiration of this Agreement.

BootIt NG Order Form

Remit To:
TeraByte Unlimited
10220 Lazy Bear Street
Las Vegas, NV 89131

Registration Name: _____   Date: _____

Mailing Address: _____   Phone 1: _____

_____   Phone 2: _____

_____   Fax: _____

E-Mail Address: _____   PC Brand/CPU Type: _____

Shipping Address: _____   HD Connect: ❒ IDE   ❒ S-ATA   ❒ SCSI

_____   Primary OS: _____

How did you learn about BootIt NG?   FDD: ❒ None   ❒ 3.5-inch   ❒ 5.25-inch

_____

_____

Description	Unit Price	Qty	Extended Price
BootIt Next Generation	$34.95		$
Shipping and Handling Fees for orders not sent *to you* by e-mail add $9.95			$
Nevada Residents add applicable sales tax			$
TOTAL CHECK OR MONEY ORDER ENCLOSED◆			$

- ◆ Check or Money Order must be drawn on a U.S. bank in U.S. dollars.

- ◆ If you do not have a U.S. checking account, you can send an international postal money order or have your bank issue a check on a U.S. bank in U.S. dollars. Be sure to send this order form whichever method you choose.

- ❒ **Check mailed separately.** (Please ask your bank to include your name on the memo line of the check.)

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