BootIt™
Next Generation

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Installation and Getting Started Guide

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What Can You Do With BootIt NG

·   Create over 200 primary partitions (if desired).
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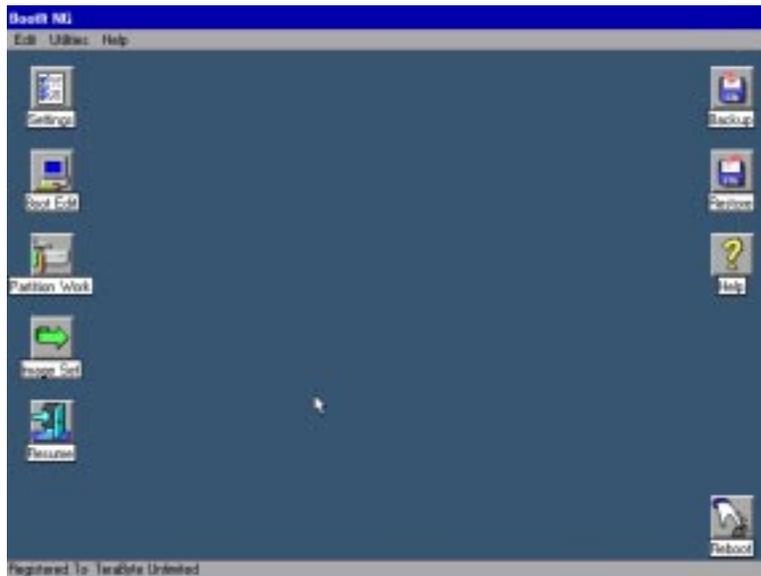
Orders

If you continue to use BootIt NG beyond 30 days you must purchase a "full-use" license. Once this license is purchased the software is considered "registered". Note that it is illegal to continue using BootIt NG beyond 30 days without a "full-use" license.

You can purchase the "full-use" license by using the order form included on page 35 (pdf version) or in a separate file named "ORDER.TXT". You can also purchase it on-line at http://www.terabyteunlimited.com/purchase.html

Limitations

BootIt NG relies on the BIOS for processing disk functions. If your computer BIOS limits access to the hard drive for any reason and no Master Driver Table (MDT) driver is available to correct the limitation, BootIt NG will also be limited. BootIt NG supports BIOS LBA Mode and Interrupt 13h extensions.

System Requirements

100% IBM-compatible personal computer with an i80386-compatible microprocessor, 16MB RAM, VGA, diskette drive, and a BIOS accessible hard drive.

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 a DOS boot diskette or Windows 95 Startup Diskette, which can be used to boot your system should something ever go wrong. You should configure the diskette to give you all the functionality you may need. This includes adding any drivers or utilities as well as configuring the configuration files.

To create a DOS boot diskette, use the DOS FORMAT A:/S command. 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 ROM drive or another device then be sure to copy the required drivers to the diskette. Windows 95/98/ME users can use the "Startup Disk" tab (in Control Panel, Add/Remove Programs) to create the diskette. Windows XP users can create a startup diskette by using the "Create an MS-DOS startup disk" option when formatting a diskette via right clicking the floppy drive.

Getting Started

1) Make sure you have read the previous section titled "Before You Begin".
2) Visit http://www.terabyteunlimited.com to make sure you have the latest version of BootIt NG, as well as the latest support information.
3) If you need to create a system diskette (such as a DOS boot diskette or Windows 95/98/ME Startup Diskette), do so now.
4) Backup all the data on all of your hard drives.
5) Create the installation diskette or CD by following the steps in installation step 1.
6) Install/upgrade BootIt NG on your hard drive by following the steps in installation step 2.
7) Read the "BootIt NG overview for first time users" section.
8) Read through the "Using BootIt NG" section.
9) If you are going to activate the FAT Multi-OS option on a partition, read the "Using the Multi-OS Feature" section.
10) Refer to the "Generic Installations" section for some examples of how to install operating systems.

STEP 1: Make the Boot Diskette or ISO Image.

Installation of BootIt NG is a two-step process. First you will either create the installation diskette or bootable ISO image. If you create the bootable ISO image, you will need to burn it to a CD. After you have created the diskette or bootable CD, you will use that diskette or CD to install BootIt NG to your hard drive. Visit www.terabyteunlimited.com to make sure you have the latest version of this software as well as for any additional information and help.

The BOOTITNG.ZIP package will only contain the 3.5" diskette image. If you need the 5.25" disk image then visit: http://www.terabyteunlimited.com Before beginning the installation of BootIt NG make sure you have read the previous section titled "Before you Begin" (see page 5).

The following instructions will guide you through the first step of the installation process. This step creates the installation diskette or Bootable CD. Windows users may use the File Manager and Win9x/ME/NT/2k/XP users the Windows Explorer to execute the steps listed.

You will need either one blank CD or a formatted diskette that matches the floppy drive A: of the computer that will have BootIt NG installed. If you are installing on multiple machines, each machine should have its own diskette (and license). If the computer does not have a floppy drive then you'll need to create a bootable CD.

1)   Extract the BOOTITNG.ZIP file to its own directory.
2)   Change to the directory used in step 1.
3)   For non-Linux users:

      Type BOOTITNG then press <enter> or Windows users can double click on BOOTITNG.EXE.

      For Linux users:

      If you accept the license agreement then you can use the dd or cp command to create the diskette. To do so, make sure the diskette is NOT mounted and you are signed on as root then type:
      cp DISKIMG3.DAT /dev/fd0 **or** dd if=DISKIMG3.DAT of=/dev/fd0 bs=1024

      If you accept the license agreement and would like to create a bootable CD instead, then type these two lines (adjusting the dev= to the appropriate value):
      mkisofs –R –J –V "BOOTITNG" –b DISKIMG3.DAT –c catfile –o BOOTITNG.ISO
      cdrecord –v speed=8 dev=1,0 BOOTITNG.ISO

      You can now skip the rest of the steps in this section and proceed with "Installation STEP 2"

4)   If you have accepted the terms, select the correct build option from the menu and press <enter>.

5)   If you chose to build a diskette then skip to the next step. Your
     choice of building a bootable ISO image creates a file named
     BOOTITNG.ISO to the current directory. This file must be burned to
     CD using your existing CD burning software:

     NERO: use the File/Burn Image option (you'll need to change the file
     type to all files in order to find BOOTITNG.ISO).

     Easy CD Creator: use the File/Create CD from CD Image option (you'll need to
     change the file type to ISO in order to find BOOTITNG.ISO.

     Other burning software: You'll need to refer to the programs help on how to
     burn a CD image.

     Once completed, you can skip the rest of the steps in this section and
     proceed with "Installation STEP 2".
6)   Insert the diskette in to the correct diskette drive and press enter.
     After about a minute it will confirm if the installation diskette was
     created or not.
7)   If the diskette was bad, get a new formatted diskette and repeat the
     appropriate steps; otherwise, you're done with step one.

STEP 2: Install to Hard Drive

The following instructions will guide you through the second step of the installation process. This step installs BootIt NG to your hard drive.

Boot from the Installation Diskette or CD

1) Make sure your system boot up sequence is correct. For the diskette it should be something similar to A:/C: and not C:/A:; and for the CD CDROM/C:. This information is found in the CMOS setup. On many systems you should also disable the boot sector virus protection option. If you leave the virus protection option enabled then it will just get in the way.
2) Shut down and <u>turn off</u> your computer.
3) Insert the BootIt NG installation media in to the correct drive then turn on your computer.
4) If your system boots up as it normally does, see step 1, otherwise BootIt NG will start to load from the media.

If you are upgrading a prior version of BootIt 2.x/Lite/Direct or an existing installation of BootIt NG then skip to the appropriate section below.

New Installations

1) At the *Welcome to setup* prompt click the OK button.
2) If mouse support is enabled then a mouse test is done to ensure that the BIOS is working properly. If you have problems with the mouse test and would like more information then click the solutions link on the support webpage.
3) Setup gives you the option of enabling more than four primary partitions.
   a. If you choose yes then you must only partition your hard drives using BootIt NG.
   b. If you choose no then you can continue to use any other partitioning software such as FDISK.
4) Setup asks if you want to manually choose the partition or have setup choose it for you. You should normally click on yes to have setup choose the partition for you. If you click on no then you will have to perform a manual installation.
5) Setup asks if you want to install BootIt NG to its own partition. 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 4 primary partitions.

   Click on your choice. If setup can't accommodate your choice, it will notify you later and give you the option to change it. If you don't want to change your option and need further help then see the first part of tutorial one at http://terabyteunlimited.com/examples.html.

6)   Setup indicates it has all the information it needs. Click OK to begin
      copying files to the hard drive.

Upgrading from Previous BootIt Products

When you install BootIt NG over the top of an existing BootIt product, it
will use your existing partition and volumes names.

For BootIt 2.x users, setup will also upgrade your existing AutoMenu file to
be the "default" menu in BootIt NG. Items that boot to a volume are not
updated and you must recreate them.

For BootIt Lite users, a new menu will be automatically created but you must
reconfigure the menu to boot your existing groups or special configurations.
Multi-OS volumes are not supported in BootIt NG.

1)   At the Welcome to setup prompt, click the OK button.
2)   If mouse support is enabled then a mouse test is done to ensure that
      the BIOS is working properly. If you have problems with the mouse
      test and would like more information then click the solutions link on
      the support webpage.
3)   Setup asks if you want to manually choose the partition or have setup
      choose it for you. You should normally click on yes to have setup
      choose the partition for you. If you click on no then you will have to
      perform a manual installation.
4)   Setup indicates it has all the information it needs. Click OK to begin
      copying files to the hard drive.

For BootIt Lite users, after installation and reboot, activate the Multi-OS
option from the Partition Work utility for each primary partition that you
need to use groups on. Then, reconfigure the Boot Menu to use your existing
groups.

Upgrading an existing BootIt NG Installation

1)   At the Floppy Diskette Menu click on the Upgrade BootIt NG radio
      button then press OK.
2)   At the Welcome to setup prompt, click the OK button.
3)   If mouse support is enabled then a mouse test is done to ensure that
      the BIOS is working properly. If you have problems with the mouse
      test and would like more information then click the solutions link on
      the support webpage.
4)   Setup asks if you want to manually choose the partition or have setup
      choose it for you. Click on yes to have setup choose the partition for
      you.
5)   Setup indicates it has all the information it needs. Click OK to begin
      copying files to the hard drive.

Manual Installation

During setup you are asked if setup should choose the partition or if you want to manually choose it. Normally you should let setup choose the partition but here are the instructions for manually choosing the partition.

1)   When you click on the No button to indicate you want to manually choose the partition, a message is displayed that indicates you must ensure that an Extended Master Boot Record (EMBR) exists on HD0 and on the drive chosen for installation. Click OK to close that message.

2)   The "Work with Partitions" dialog is displayed with a new "Setup" button in the lower right corner. The setup button will only appear if you've entered the "Work with Partitions" dialog during setup.

      From this dialog you must ensure that HD0 has an EMBR:

      A.   Make sure the HD0 radio button is clicked
      B.   If the "Create EMBR" button is enabled then click on it and it will change to "Undo EMBR" which means an EMBR exists on HD0.

      If the partition you're going to create or use is not on hard drive 0 then you must also create an EMBR on that drive by:

      A.   Making sure the radio button of the HD you are installing to is clicked.
      B.   If the Create EMBR button is enabled then click on it.

      Now that the EMBR exists where it needs to, you can highlight the partition for installation. It must be a FAT, FAT32, or EMBRM type of primary partition. If one doesn't exist, you can create and format it at this time. (EMBRM, or the Extended Master Boot Record Manager, is the partition where BootIt NG is installed and active.)

      If the setup button is grayed out then it means that HD0 does not have an EMBR, the current drive does not have an EMBR, or the partition you highlighted is not a FAT, FAT32, or EMBRM type.

      If the setup button is not grayed out then click on it to continue with setup.

3)   Setup indicates it has all the information it needs. Click OK to begin copying files to the hard drive.

Finishing up Installation

1)   Create a copy of the installation diskette and keep it in a safe
      place. You <u>will</u> need the installation diskette to recover from any
      problems or situations that may arise in the future. Use the disk copy
      feature of one of your operating systems to create a backup. If your
      installation diskette is ever updated or a new one used you should
      update your backup diskette also.
2)   If your BIOS has the ability to change the boot sequence to C:/A: it
      is recommended that you change it to boot from the C: drive first. If
      you have a CDROM drive you may want to setup the sequence to be
      C/CDROM/A for use of the "Next Device" option.

BootIt NG Overview for First-Time Users

To help you understand BootIt Next Generation, I'll first describe the
partition table and how your system boot process normally works.

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

The partition table is large enough to contain up to four entries. Each
entry contains information on where the partition begins and ends as well
as a flag to mark the active (or bootable) partition and the type of file
system being used in the partition.

It should be noted that there is a special type of partition called an
extended partition. An extended partition can be divided in to several
smaller "volumes" (areas). Each of these volumes are contained entirely
within the extended partition and do not require extra space in the
partition table beyond the extended partition itself.

At some point after the system starts the BIOS will read in the MBR and
transfer control to the program in the MBR. This program will then look
for the active partition and, if found, will load the boot sector of that
partition and transfer 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, I'll
explain the EMBR and how it is used with BootIt NG.

The Extended Master Boot Record (EMBR) specification simply 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. Only the table with partition information is discussed here.

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

At some point when an operating system is loading it will look for partitions in the partition table. At the very least it must find itself and will typically assign access to any of the other partitions or volumes it recognizes.

BootIt NG handles the MPT and partition table by allowing you to create bootable configurations (a.k.a. boot items) in which you choose which partitions from the MPT are to be placed into the partition table (See Figure 1 and page 14). If you are using the "Limit Primaries" setting then all partitions from the MPT are automatically placed into the partition table. The MBR partition table is updated on the fly when the boot item is activated.

It should be clear now why; unless you're using the "Limit Primaries" option; you should not use any utilities that will expand, move, or create a partition if it only recognizes the partitions in the partition table.

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

MPT

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

MBR

Entry1
Entry5
(unused)
(unused)

See Picture on Page 14

Operating Systems Look in the MBR for Partitions.
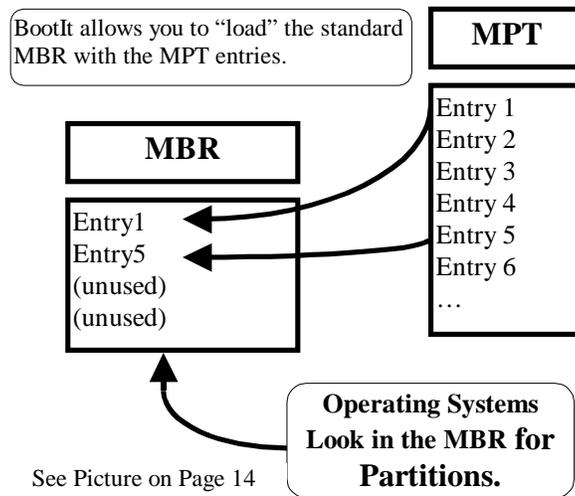
Figure 1

The most asked question new users have is how to get other partitions to show up in the operating system. As you see from the picture above, you must assign which partitions (up to 4) are "loaded". Failure to correctly load the MBR Details section (show on page 14) of the Boot Item is the most common cause.

Using BootIt NG

The following shortcut keys work with most dialogs in BootIt NG:
Esc:Cancel,   F1:Help,   F10:OK/Close/Apply,   Ins:Add/Create/Fill,
Del:Delete/Clear.

The Boot Menu

There are two types of boot menus. The "Normal Boot Menu" which displays the specific "boot items" configured for it and the "Direct Boot Menu" which displays all partitions that haven't been disabled. You will normally want to use the "Normal Boot Menu" especially if you have enabled support for more than four primary partitions.

The "Normal" Boot Menu

The "Normal Boot Menu" ("Boot Menu") displays the items configured for it. To highlight an item, use the arrow keys on the keyboard or click on it with the mouse. The list below shows several ways in which an item can be booted from this menu:

1) Double click the item.
2) Highlight the item and press the enter key.
3) Highlight the item and click the 'Boot' button.
4) Press the associated 'hot key' for the item.
5) Special: Highlight the item and press Alt-N, Alt-S, or Alt-F to perform a one time "Boot Next Device", "BIOS Sequence", or "Floppy" boot. This option requires the maintenance password if there is one.
6) Special: Highlight the item and hold down the left shift key to perform a 'simulated boot' that simply updates the partition table. You'll hear a beep when performing this option (provided your internal speakers work).

The normal boot menu is setup by entering Maintenance mode. From the main maintenance screen click the "Boot Edit" button (or choose "Boot Menu" from the edit menu) to display the Boot Menu dialog (shown above). Note that the name of the menu being edited is displayed in the title bar.

From this dialog you can rearrange the order of the items by using the "Move Up" and "Move Dn" buttons, create a new menu item by clicking on the "Add" button, Edit an existing menu item by highlighting it and clicking on the "Edit" button, or delete an item by highlighting it and clicking on the "Delete" button.

If you click the Add or Edit buttons you are taken to the "Edit Menu Item" dialog. The fields on that dialog are defined below:

Boot Details

Identity: This is the name that will be displayed in the boot menu. Precede a letter with & to created a hot key on the boot menu.

HD: The hard drive number starting at zero of the hard drive containing the partition/volume to boot.

Boot: The name of the partition or volume to boot.

Group: For Multi-OS partitions this is the group to use.

Captured: For non Multi-OS partitions this is the captured MBR/LVM file to use, if any. MBR/LVM Files are rarely needed or used. If you need both a 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 will be applied whether the MBR or LVM file is chosen.

Sound: The name of the sound file to play when this item is booted.

Floppy Drive: Boot from a floppy drive (The boot partition will be the active partition).

Swap: Enable swapping when booting this item.

Next BIOS Device: Boot from the next BIOS device.

BIOS Sequence: Boot the system devices it the order setup in the BIOS.

Default: Make this item the default.

One-Time Options
These options operate the same as the "Boot Details" section but are turned off after being used.

Keystrokes
This option will allow you to enter 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 in yourself.

MBR Details
This is the area where you indicate what partitions/volumes should be hidden/unhidden and where each partition should be in the MBR partition table when booting this option. At minimum the boot partition must be "loaded" to the MBR (See Figure 1). To add partitions to the MBR Details list, highlight the position, then click on the fill button or press the insert key.

You can also use the volumes button to hide individual volumes. To do so, highlight an extended partition from the list and click the volumes button. You should take care to not 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

From the Direct Boot Menu all you need to do is double click an entry to boot from it. The Active, Swap, Hide columns of the menu indicate the setting for that partition/volume unless partitions are not limited. If partitions are not limited then booting from the Direct Boot Menu will only make the partition being booted visible; all other partitions will be hidden.
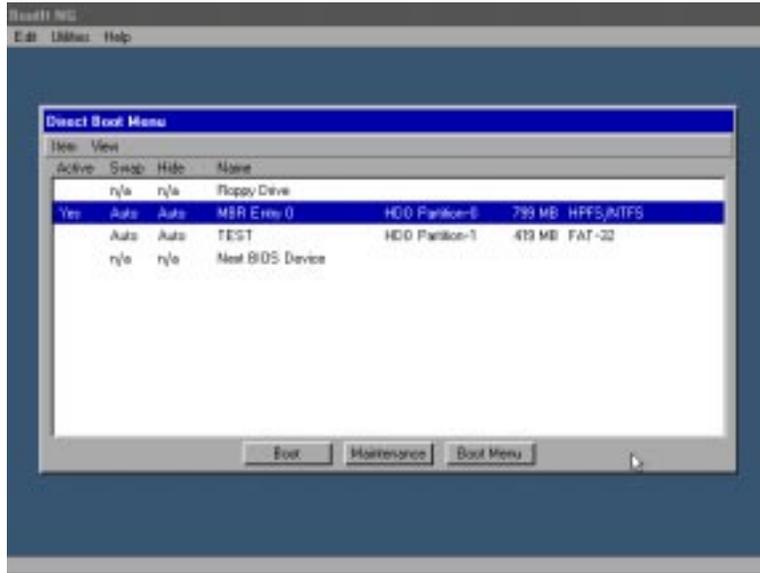
The active column indicates if the partition or volume is set active. Most of the time the active primary partition on HD0 will be the C: drive. When you are installing a new operating system to a new partition you should normally make sure that the installation partition is set active or the installation may go to some other partition that is marked active. You can use the space bar to set the active partition.

The Swap column indicates if the hard drive being booted will be swapped with HD0. In other words, if you boot a partition on HD1 (the second hard drive) with the swap option on, then BootIt NG will swap that hard drive with HD0 so that HD1 is now HD0 and (the real) HD0 is now HD1. You should note that the swapping is done at the BIOS level and once an operating system boots in protected mode it may ignore the BIOS, in effect undoing the swap. You can use the F4 key to cycle though the options for this column or use the item menu.

The Hide column indicates how and what partitions will be hidden. You can use the F6 key to cycle though the options or use the item menu. The options for this column are Auto, All, None, Some, As-Is. When set to anything other than As-Is, volumes are always unhidden. "Auto" mode lets BootIt NG determine which partitions to hide automatically. If set to "All" then all partitions except the boot partition are hidden. "None" indicates that none of the existing partitions should be hidden. "Some" hides all but one primary partition per hard drive. "As-Is" does no hiding or unhiding of partitions or volumes.

When booting from the floppy diskette 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 CDROM drive, you should set your BIOS boot sequence to have the CDROM immediately after the hard drive.

The Floppy Boot Menu

The floppy boot menu appears when you boot with the BootIt NG installation diskette after BootIt NG has been installed. The menu has the following options:
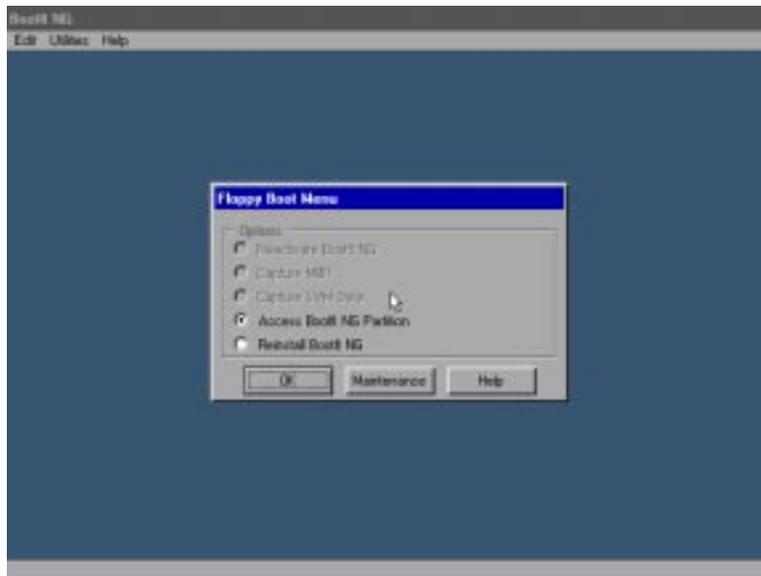
Reactivate BootIt NG
Using this option reactivates BootIt NG. BootIt NG can become deactivated after installing a new operating system like Windows 95/98/ME/2K. It may have also been deactivated by using the deactivate option on the uninstall dialog.

Capture MBR
Most users won't have a need to capture the MBR. If you have a special operating system or need to use a special MBR then use this option to capture it before Reactivate BootIt NG. Once captured you can use it in the boot items you create for the "Normal" Boot Menu.

Capture LVM Data
Most users won't have a need to capture LVM Data. If you have a special need to use this option then once captured, you can use it in the boot items you create for the "Normal" Boot Menu.

Access BootIt NG Partition
This option mounts and changes the current drive to be the BootIt NG partition on the hard drive. This enables you to use files or other items that may only exist on the hard drive partition. It allows you to 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 diskette.

Upgrade or Reinstall BootIt NG
Choosing this option starts the BootIt NG Setup.

Working with Partitions

The Work With Partitions dialog is accessed via the Partition Work button on the desktop or the Partitions option on the edit menu.
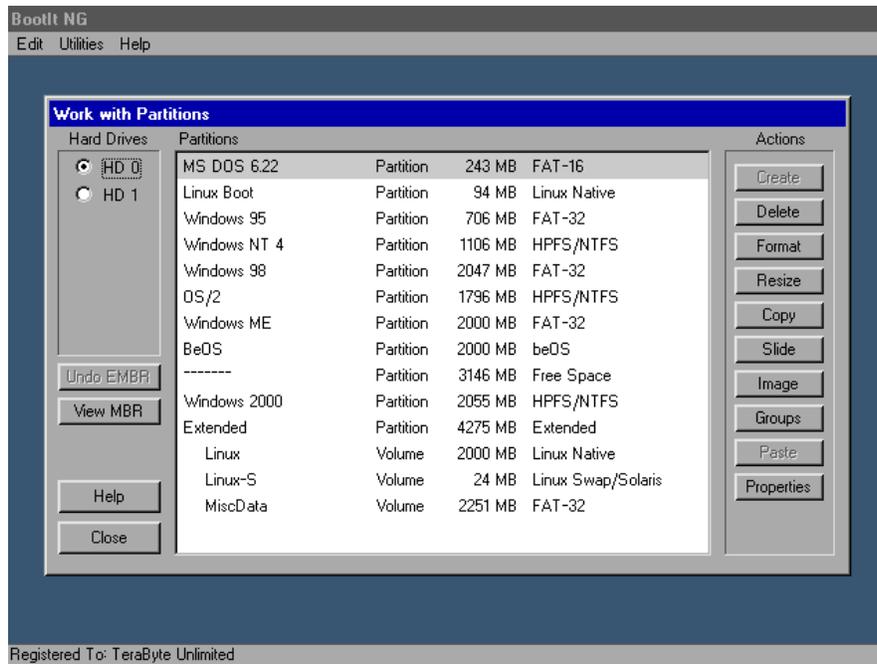
- To create a new partition or volume; highlight a free space entry and click the Create button.
- To delete an existing partition or volume; highlight it, then click on the Delete button.
- To undelete a partition or volume you previously deleted (without using one of the clearing options), highlight the free space entry, then click on the Undelete button. If the partition or volume recovered is not the correct one then you should delete it using the "Clear Boot Sector" option and chose undelete again.
- To format a partition or volume; highlight it, then click the Format button. If the Format button is grayed out, then it means that formatting is not supported for that type of file system.
- To resize a partition or volume; highlight it, then click the Resize button.
- To convert to/from a FAT/FAT32 file system; highlight the existing partition or volume and click the Resize button. Change the radio button to the file system desired and click OK.
- To copy a partition or volume; highlight it then click the Copy button. "Copy Pending" is displayed on the bottom of the dialog. Select a free space block as the destination and then click the Paste button.
- To move or slide a partition or volume; highlight it, then click the Slide button.

- To create a compressed image of a partition or volume; highlight it then click on the Image button. "Paste Pending for Image" is displayed on the bottom of the dialog. Select a free space block, a FAT/FAT32 partition or volume, or a CD-R/RW drive as the destination then click on the Paste Button. NOTE: If you are pasting to a free space volume then be sure it's not the last volume in the extended partition when you boot DOS/Win9x/WinME; you should make sure a FAT or FAT32 volume is last.

- To restore a compressed image of a partition or volume; highlight the existing compressed partition or volume, or a CD drive and click on the Image button. "Paste Pending for Image" is displayed on the bottom of the dialog. Select a free space block or an existing partition large enough to contain the restored image and then click the Paste button. Tip: You can press both ctrl-shift while it says paste pending to see the exact required size.

- To view the properties of the partition or volume; highlight it then click on properties.

- To view the contents of the MBR partition table use the View MBR button. From there you can remove, add, or reorder partitions manually as well as set a partition active. To remove the active status (not something most users want to do), hold down the left shift key while performing the "Set Active" option (This actually toggles the status of the individual item). The "Std MBR" option is equivalent to doing fdisk/mbr and the "Clear Sig" option is used to clear the NT/2K/XP disk signature which is needed for Win2K/XP to boot correctly under several circumstances. See the Win2K/XP section of the website help/information support page for details on why you may need to use Clear Sig.

Setup of Users and Options

To change settings or maintain users, click the Settings button on the desktop or the Settings option on the edit menu.

Startup Items

Timeout: Set this to the number of seconds to wait for user input before automatically booting. If set to zero then no timeout will occur.

Sound: The sound file that will be played when the boot menu is first displayed.

Background: The background (pcx) file that will be used when the main boot menu screen is shown.

Direct Boot Menu: Check this box if you want the Direct Boot Menu to be the default menu displayed.

General Items

Align on End: Most users should just leave this checked.

Keep HD0 Active: Required by most new BIOS's when booting from a hard drive other than HD0.

Fix Swap: Enable this option if your system locks up when you use the swap option. Note: Win9x may run in compatibility mode if this option is enabled.

IT Mode: In this mode the GUI is not displayed and the system boots directly to the default boot item or last boot item if no default is found. It should only be used with the "normal" "default" boot menu. Hold down the Insert key during the initial boot of your system to display the boot menu.

Full Partition List: If enabled, then the full list of partitions will be displayed when creating a new partition or volume; otherwise an abbreviated list is displayed.

ATAPI CD Support: Enables imaging to/from an ATAPI CD-R/RW drive that is attached to the standard ATA primary or secondary controller

Use HD0 in BPB: This special purpose option forces the BPB drive number to HD0 even when it's on another drive.

Completion Alarm: Sounds an alarm at the completion of a copy, slide, resize, format, or image.

Virus Check: A simple check for possible viruses is performed on boot up. If a possible virus is detected, you should use your anti-virus program with the latest updates to check for viruses. If none are found, you can disable this option to suppress the warning message.

Limit Primaries: This option has a profound effect on how BootIt NG operates. If the Limit Primaries option is on then you are limited to having the normal maximum of four primary partitions. You can also continue to use other partitioning software such as FDISK. If the Limit Primaries option is NOT on then you can have more than four primary partitions but you should NOT use any partitioning software except for BootIt NG. This option will be grayed out and disabled if any of your existing hard drives has more than four primary partitions.

Use Volume Label: Uses the volume label of a FAT/FAT32/HPFS partition as the name. If the name of a FAT/FAT32 file system is changed then the volume label is also changed.

BootNow Support: If you are planning on using the separate freeware program "BootNow" from TeraByte Unlimited then you should enable this option.

CHS Alternative: If this option is enabled then the CHS values for partitions and volumes will be filled in using an alternative method.

Burn Extra Track: Enable this option to write the image summary data to CD one as track two when directly imaging to CD. When burned this way, you won't have to insert the last CD before beginning the restore.

NOTE: This option may not work correctly with your device; if you should receive any write or read errors when creating or verifying then you should disable this option.

Keep HD Active: This special purpose option will not disable the active status on any hard drive.

CD Close Method Z: Enable (or disable) this option if you receive errors when the CD is being closed during image to CD operations.

Security

Maintenance Password: The password required to exit a boot menu to the desktop. Enter the password twice to verify its input.

Require User Name: If this option is checked, then when the system is booted a user name and password must be entered.

The Users Button: This button displays the user maintenance dialog. From that dialog you can add, delete, or edit users. Each user can been assigned their own "normal" Boot Menu and Direct Boot menu options. If a special user named "any" is created with no password then that user will be logged on automatically unless the insert key is held down on startup.

Backup/Restore

Using this option you can backup or restore the EMBR information (entire first track) on any hard drive you check. You can also use it to backup/restore the BootIt NG Files.
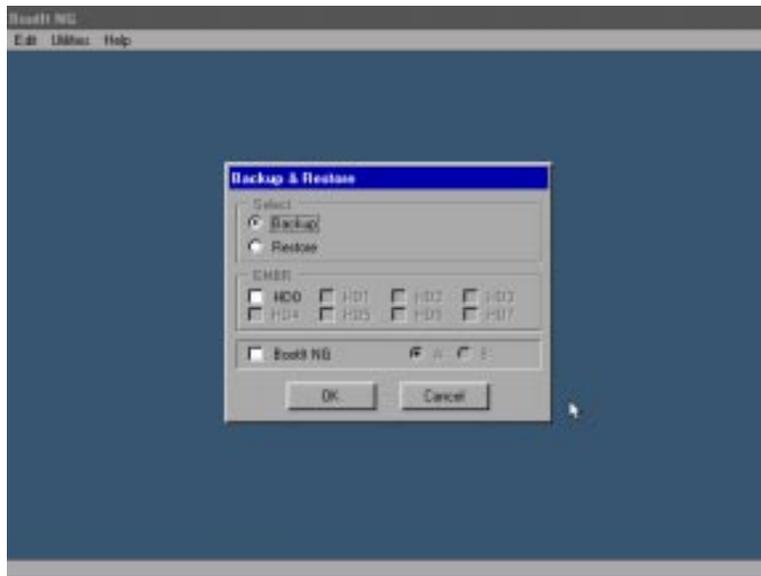
To backup, click the backup radio button, then check the checkboxes of the hard drives you want to have the first track backed up for. If you also want to copy the BootIt NG Files to a diskette, check that check box too.

Once all backup selections are made, click on OK; all checked hard drives will have the EMBR backed up to the partition with BootIt NG, then if you have also chosen to backup the BootIt NG Files, those files plus the other BootIt NG files are copied to diskette.

To restore, click the restore radio button and then check the checkboxes of what you want to restore. Note that the entire EMBR (first track) is restored if you choose to restore one to a hard drive. This includes the MBR.

Image Sets

Image sets are a set of partitions/volumes to be imaged one after the other. The name of an image set is the name of the file you create. This file will have the .IMS extension handled automatically.

Once you create/open the image set, you can then maintain the items via the add, edit, delete buttons on the right hand side. All items need to contain a source hard drive, source partition, destination hard drive, destination partition, file name, and maximum file size.

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

Once setup, the start button can be used to execute the process manually
or you can use 'BootNow' and the new /ims= switch to automatically
schedule execution.

Sound – Creating/Using

A sound file is nothing more than a text file with an extension of SND.
Download the PLAYSND utility from the website to hear what you've created.

The format of the sound file is as follows; note: capitalization/spacing is
not important and the x in the examples represents a number.

cycles=x   (optional-must be first) - number of times to cycle the entire
              routine.

Fx   Frequency to play (in hertz)

FRx|xSxLx Frequency range to play. First x is starting frequency, x after
              '|' is ending frequency. S is optional and is the step frequency
              rate (default=1). L is also optional, it is the latency delay in
              milliseconds between frequency step. (default=0)

Dx   Delay in milliseconds. (1000 milliseconds = 1 second)

N   No sound. Turns sound off.

Here's a sample routine that will play 2000hz for .5 seconds, pause with no
sound for 1 second, then play 500hz to 2000hz stepping 10hz with a delay of
.005 seconds between steps, then do the same thing only from 2000hz to
500hz:

F 2000 D 500 N D 1000

FR 500 | 2000 S 10 L 5

FR 2000 | 500 S 10 L 5

To install a sound file you created:

1)   Copy the file to a diskette
2)   From the "Settings" or "Boot Item" dialog, click on the browse button
     next to sound.
3)   Type in A:*.SND and press enter twice to display a list of files on
     the diskette.
4)   Select the sound file you want to use/copy.

Icons and Backgrounds

For details on creating or contributing, see the graphics.zip file included
with the BootIt NG distribution.

<u>Using the Multi-OS Feature</u>

The Multi-OS feature of BootIt NG allows you to install more than one operating system in the same primary partition. BootIt NG only supports Multi-OS in a FAT or FAT32 primary partition.

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

Once enabled, you can install another operating system into the same partition (but different directory) as another one. When you reboot, BootIt NG will detect the new operating system and create 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 using the "Groups" button from the "Work with Partitions" dialog.

If you want to add, remove, or change the handling of any of the files associated with a group, then you should highlight the Multi-OS partition in the "Work with Partitions" dialog and click the Groups button.

You should note that some operating systems use the same directory structure for some of its files that could cause some files to be overwritten. For example, both Windows 95 and 98 use the \PROGRAM FILES directory for an Accessories folder. So even if you had Windows 95 installed in \WINDOWS and 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 because Windows 98 will install its boot files on the C: drive and the rest would be installed to the D: drive. The Multi-OS feature protects the Windows 95 boot files on C: and creates a new set for Windows 98.

Uninstalling BootIt NG

1)   If you do not have primaries limited then the first step to uninstalling is to make sure you have no more than 4 primary partitions per hard drive. You can use the "Work with Partitions" dialog to delete any extra primary partitions.
2)   From the Utilities Menu choose the Uninstall option.
3)   Check the "Remove BootIt NG" check box.
4)   If you want to also remove all groups and captured OS files then check the "Remove Group/Captured OS Files" check box.
5)   Click OK.

BootIt NG has now been uninstalled. The first primary partition of HD0 has been marked active. If your system boots the incorrect partition or won't boot at all then you can use FDISK to set the correct partition active. You can also use the BootIt NG floppy diskette to set the correct partition active by doing the following:

1.   Boot from the BootIt NG Installation diskette.
2.   Click the cancel button to enter "maintenance mode".
3.   Click on the Partition Work button.
4.   Click on the View MBR button.
5.   Highlight the partition you want active and click on the Set Active button.
6.   Click on the apply button.

Operating Systems

This section contins information on setting up mulit-os groups. **Specific details on specific operating systems has been moved to the website**. Please visit http://www.terabyteunlimited.com/help.html for more information.

DOS

Files and file positions required for boot (not including any compression drivers):

MS DOS	
Position	File Name
1	IO.SYS
2	MSDOS.SYS
0	COMMAND.COM
0	AUTOEXEC.BAT
0	CONFIG.SYS

PC DOS	
Position	File Name
1	IBMBIO.DOS
2	IBMDOS.COM
0	COMMAND.COM
0	AUTOEXEC.BAT
0	CONFIG.SYS

Windows 95/98/ME

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

Files and file positions required for boot:

Position	File Name
0	NTLDR
0	BOOT.INI
0	NTDETECT.COM
0	NTBOOTDD.SYS

Notes:
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

Files and file positions required for boot:

Position	File Name
0	AUTOEXEC.BAT
0	CONFIG.SYS

Notes:

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.

Generic Installations

Here is an example on how to setup a Multi-OS partition. Other generic examples on setting up an OS in its own partition are also given. Be sure you have read the Getting Started section of this document so that you have some understanding of what is going on.

Enabling Multi-OS on a Partition

Assumes partition already contains an OS, using the normal boot menu.

1)   Install BootIt NG.
2)   Click the Maintenance button on the boot menu.
3)   Click the Partition Work Button on the desktop.
4)   Highlight the existing partition.
5)   Click the properties button.
6)   Rename it to whatever you wish. For the example, I'll assume it's named "My C Drive".
7)   Check the Multi-OS check box.
8)   Click the OK button to apply the changes.
9)   If BootIt NG recognizes the installed operating system, a new group and menu configuration item is created. If not, you can use the groups button to add the files/group manually (see the Using the Multi-OS Feature section in this document)
10)   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.

Paired Partitions or Multi-OS Installations

Use these instructions when installing the bulk of a MS OS on another HD 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 2's) whereas with paired partitions the pair of partitions (step 1 and step 2) are always different.

1) Create (if needed) a Partition for the OS on HD0 using the Work with Partitions dialog. You can create the partition small as possible, which is going to be depending on the OS. 5MB may be enough. Leave the format option checked. If using Multi-OS: Place a check in the "Multi-OS" check box.
2) Create (if needed) the main OS partition or volume using the Work with Partitions dialog. (Leave the format option checked)
3) Create a boot menu item for the new OS partition.
   - Click on the "Boot Edit" button on the desktop
   - Click the add button to add a new menu item.
   - Select the partition you created in step 1 as the boot partition.
   - Highlight an entry under MBR Details for the correct HD and then click on the Fill button.
   - Choose the main OS partition from the list.
   - Under the "One Time Option" section:
     - If the installation boot media is a diskette then check the Floppy Option.
     - If the drive to boot the installation boot media is set to boot after your hard drive then check the "Next BIOS Device" option; otherwise check the "BIOS Sequence" option[1].
   - Click Ok twice to save the new item.
4) Click on the resume button.
5) Insert the OS installation media.
6) Boot the new boot item you created (step 3).
7) The OS Setup starts; choose the existing (main OS) partition you created on hard drive 1 as the installation drive.
8) That's it–you're done. The OS boots from the partition on HD0 (step 1) and transfers itself over to main OS partition (step 2).

   Some operating systems (such as Windows 95) will deactivate BootIt NG. If that is the case all you need to do is boot with your BootIt NG installation diskette and run the Reactivate BootIt NG option.

Single Partition (the most common choice)

An example of installing an OS in its own single partition (Using the "Normal" boot menu)

1) Install BootIt NG.
2) Create a Partition for your OS using Work with Partitions Dialog.
3) Create a new menu item for booting the new partition.
   - Click the "Boot Edit" button on the desktop
   - Click the add button to add the new item to the boot menu.
   - Choose the partition you created in step 2 as the boot partition.
   - Under the "One Time Option" section:
     - ◆ If the OS boot media for installation is a diskette then check the "Floppy" option.
     - ◆ If the drive to boot the OS boot media for installation is set to boot after your hard drive then check the "Next BIOS Device" option otherwise check the "BIOS Sequence" option[1].
   - Click OK twice to save the entry and return to the desktop.
4) Click the resume button on the desktop.
5) Insert your installation media.
6) Boot the boot item you just created (step 3). If a "One Time Option" was NOT set then 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 the option to boot from the floppy instead. Hit the appropriate key to continue.
7) The installation media will now be booted and you can begin installation to the C: drive.
8) If you don't have partitions limited under settings, then you should usually use the advanced or custom installation choices to make sure the installation routine doesn't try to create a new partition. Remember that the OS and system tools only see the partitions that are in the MBR, so 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.
9) That's it—you're done. Some operating systems (such as Windows 95) will deactivate BootIt NG. If that is the case, all you need to do is boot with your BootIt NG installation diskette and choose 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 you indicate the boot partition and then add the extended partition to the MBR for each boot menu configuration.

For more information and/or OS specific information, see the help/info page at www.terabyteunlimited.com/help.html

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[1] Note: Some systems will 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 anyway you want; just make sure the last booted boot item is the one you're installing to. Even a simulated boot (as explained elsewhere) is fine too.

Orders, Support, and Licensing

If you continue to use BootIt NG beyond 30 days you must purchase a "full-use" license. Once this license is purchased the software is considered "registered". Note that it is illegal to continue using BootIt NG beyond 30 days without a "full-use" license.

You can purchase the "full-use" license by using the order form included in this document or in a separate file named "ORDER.TXT". You can also purchase it on-line at http://www.terabyteunlimited.com/purchase.html

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The primary support communication method will be use of on-line services. The most resent versions of software and information will be available on the TeraByte Unlimited website, http://www.terabyteunlimited.com.

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BootIt NG Order Form

Text version in file ORDER.TXT
Remit To:
TeraByte Unlimited
1350 Town Center Dr. #1049
Las Vegas, NV 89144

Registration Name: Date:
_____

Mailing Address: Phone #:
_____

                                                Phone #:
_____

                                                Fax #:
_____

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

Shipping Address: Hard Drive Type: IDE EIDE SCSI
_____

                                                Primary OS:
_____

How did you learn about BootIt NG: Floppy Drive Size(s):3.5" 5.25"

Description	Unit Price	Qty	Extended Price
BootIt Next Generation	$34.95		$
Sub-Total			$
Shipping and Handling Fees for orders not sent TO YOU via 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.**

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