SYMANTEC.

Norton Ghost 2002 OEM Quick Users' Guide

I. Overview

Having to reinstall the complete **Windows** operating system is a very unpleasant task for a computer dealer or user, especially if there are a lot of software applications installed in it. Conflicts may exist between software applications, and if a software application is not removed thoroughly, **Windows** may not function properly, causing the system to crash frequently, especially if the device driver is not removed entirely from the **System.ini** and **Windows** Registry File. If this happens, the only solution may be to reinstall the entire **Windows** operating system. Reinstalling the entire operating system is the worst nightmare for any computer user. In addition to installing all the programs, the backup data must also be restored. All system status and application programs must be set and adjusted again, which may take around 3 hours. This results in a great deal of unnecessary waste of time and energy. Therefore, reinstalling **Windows** is the last resort, not to be undertaken unless there is no better solution.

This also poses a difficult problem for computer dealers, because the user usually does not understand this software conflicts or setting problems. The user may think that the computer is damaged, complain to the dealer and ask to have it repaired. The dealer's engineers end up running about in circles, and after a few service trips the dealers profit has vanished.

Norton Ghost from **SYMANTEC** is the easy solution to all the problems you are likely to experience in reinstalling the complete Windows Operating System. It takes only 2 to 3 minutes for **Ghost** to reinstall the complete Windows Operating System. As for installing the entire operating environment, this only takes 3 to 5 minutes. This is good news for computer dealers and users.

This guide shows you how to use the **Norton Ghost** and create an emergency **Recovery Floppy**, and contains examples for using **Norton Ghost**. Read this guide carefully. The software comes completely with a detailed English Reference Manual on CD-ROM.
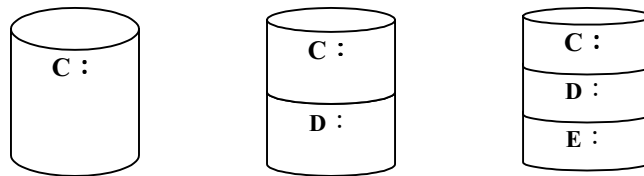
II. Your Hard Disk and Partitions

IMPORTANT:

Please back up your data on the hard disk before proceeding the following steps.

First of all, you need to partition your hard disk using the Fdisk utility (see Note 1), and create a partition for storing data. Since the standard capacity of the hard disks currently available on the market is over 4GB, it is recommended that two partitions be created in the hard disk for easier control and backup. The average user is not familiar with hard disks and partitions. To learn more about hard disk and partitions, read this chapter carefully to get the most of **Ghost!** (Note 1) Fdisk is a partitioning utility that runs under the DOS mode. Its main function is to partition the hard disk. For details on using this utility, refer to the relevant DOS operating system users' guide.

Under the operating system, each hard disk must have at least one partition before it can be used. A hard disk can be divided into several partitions, but each partition must be formatted to become a drive (such as C:, D:, etc.)
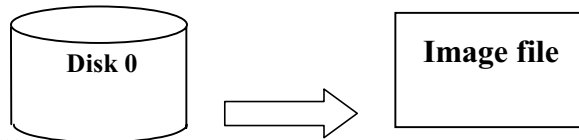
Hard Disk Partition Diagram

Ghost basic operating principle is to convert and process (cloning, backup, restore) the data on the hard disk. It can copy from disk-to-disk or from partition-to-partition in the same hard disk. Refer to the 6 modes below:
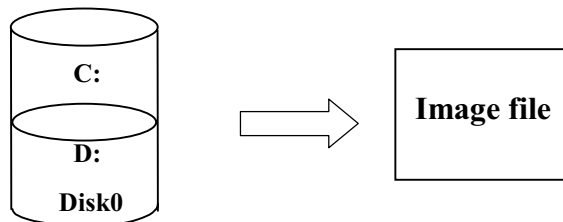
Disk To Image

This method stores the hard disk backup as an **Image File** directly into a specified file.
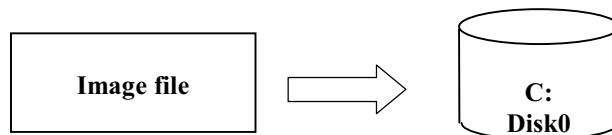

Partition To Image

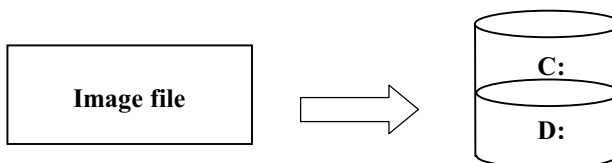This method stores the partition backup as an **Image File** directly into a specified file.

This method is the best if the computer has only one hard disk. You can back up the partition containing the system programs (usually C:) as a backup file and store it as a file in another partition (usually D:).

Disk From Image

This restores the disk from the Image file. With this method, the disk backup file is restored to its status before backup.
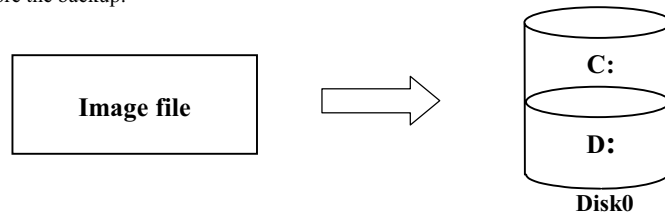

or

Disk0

This backup (Image file) is generated from a partitioned hard disk (C: or D:).

Partition From Image

Restores the partition from the Image file. This method restores the partition backup file to its status before the backup.

```
 _____              ╔════════════╗
|                   |            ║     C:       ║
|                   |            ╠════════════╣
|    Image file     |   ══▷     ║              ║
|                   |            ║     D:       ║
|_____|            ╚════════════╝
                                      Disk0
```

This method is suitable for systems with only one hard disk.
It restores the backup file from D: to C: without taking up too much disk space.

III. Ghost Functions

GHOST is designed to run under the DOS mode and to be executable in a hard disk booted from DOS. Though DOS based, it supports Win98/WinMe/WinNT/Win2000/WinXP long file names, NTFS partition, OS/2 extended attributes and even OS/2 boot manager partition.

GHOST has two modes of operation:
Interactive Graphical User Interface –
provides simple interactive user interfaces.
DOS Prompt Command Mode –
provides all commands for auto-installation

Before Windows 95, there was little demand for utilities such as GHOST because the system could be installed simply using the DOS XCOPY command, But XCOPY cannot handle the long file names used under Windows 95, and this is where utilities such as GHOST come in handy.

GHOST not only provides the quickest method for installing Windows 98, Windows Me, Windows 2000, Windows XP and OS/2, it can also perform complete backup of the entire disk or duplicate the ”in use” system files ignored by other cloning utilities.
GHOST is designed to duplicate or clone IBM compatible hard disks. It copies all partitions on the source disk to the destination disk. The source disk and the destination disk can be in the same computer, or in two different computers that are connected through the network. GHOST is especially effective for cloning Windows 95. There is no need to run FDISK or FORMAT on the destination disk. These actions will be performed automatically.

The size of the source disk can be different from the destination disk. GHOST will automatically adjust the partition location and size on the destination disk.
GHOST can also save the content of an entire hard disk as a single disk file. This file can be saved in the network server, CDROM, JAZ or ZIP as backup, or cloned as the backup of the source disk.

A hard disk is composed of a Master Boot Record (MBR) and one to four partitions.   The main partition is the actual partition in the hard disk, and is usually defined using the FDISK utility.   The main partition can be partitioned further into several logical drives, also using the FDISK utility.   However, understanding the details on how to further partition a hard disk is not important.   GHOST will clone all the partitions from the source disk (hard disk or image file) to the destination disk.

If the size and structure of the source disk and the destination disk are exactly the same, then all that has to be done is to duplicate the partitions one by one.   GHOST follows the same principle as FDISK in placing each partition and logical drive on the destination disk.   In addition, if the partition is the FAT type (which is the case 90% of the time; the most frequent exceptions are NTFS and HPFS), then GHOST allows the destination partition to be expanded or compressed.
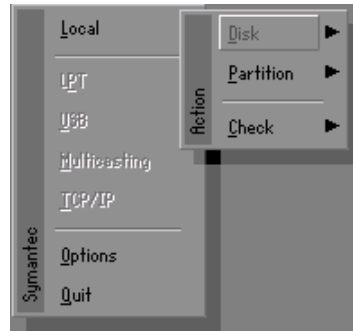
IV. Installing Ghost
Installation

Installation is very easy.   You only need to copy the **Ghost/write and read** folder or **Ghost.exe** to your hard disk.

The current market version is for single **Client**, so the LPT and NetBios portions will not be explained further.

Description of Menus

Ghost clones and backs up **Disk** and **Partition.(ghost.exe under write folder)**

In which   **Disk** indicates hard disk options

Partition indicates partition options

Check indicates check options

Disk

There are 2 hard disk functions:

1.Disk To Image (disk backup)
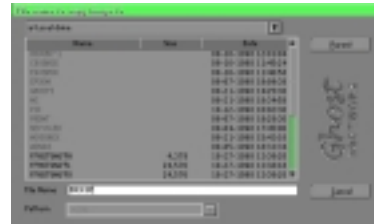**2.Disk From Image** (restore backup)

Important!
1.   To use this function, the system must have at least 2 disks.   Press the **Tab** key to move the cursor.
2.   When restoring to a destination disk, all data in that disk will be completely destroyed.

1.Disk To Image (Disk Backup) – write folder's ghost

Select the location of the Source drive.   Select the location for storing the backup file.

Click OK to display the following confirmation screen. Select Yes to start.
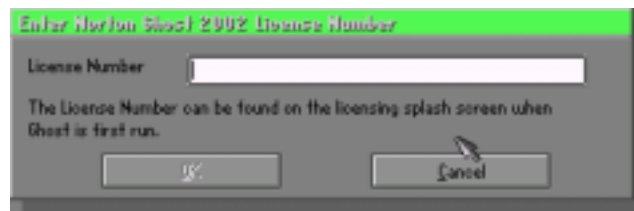

**2.Disk From Image (Restore Backup) –
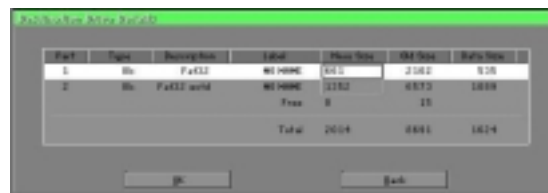ghost.exe under read folder**
1.   Select the Restore file.
      Select the **Destination drive** of the disk to
      be restored.

2.   Enter the License Number (**From the Ghost first start page**)then Click OK.

3.   When restoring disk backup, set the required partition size as shown in the following figure.

3.   Click OK to display the following confirmation screen.   Select Yes to start.

Partition

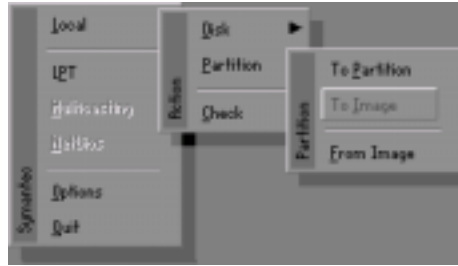There are 2 partition functions:

1.Partition To Image

(partition backup)

2.Partition From Image

(restore partition)

1.Partition To Image (Partition Backup) – write folder's ghost.exe

1. Select the disk to be backed up.
2. Select the first partition to be backed up.
3. This is usually where the operating system and programs are stored.
4. Select the path and file name for storing the backup file.
5. Is the file compressed? There are 3 options:

(1) No: do not compress data during backup

(2) Fast: Small volume compression

(3) High: high ratio compression. File can be compressed to its minimum, but this requires longer execution time.

(4) During confirmation, select [Yes] to start performing backup.

2.Partition From Image (Restore Partition) – read folder's ghost.exe

1. Select the backup file to be restored.
2. Select the source partition.
3. Select the disk to be restored.
4. Select the partition to be restored.
5. Select Yes to start restoring.

Check

This function checks the hard disk or backup file for backup or restoration error due to FAT or track error.

V. How to Reinstall Windows in 2 Minutes

This chapter teaches you how to set your computer properly and, if necessary, reinstall **Windows** in 2 minutes.   **Ghost** can use different methods to complete this task.   The following two sections explain the creation of the emergency

Recover Floppy and Recover CD:

Emergency Recover Floppy

Divide a hard disk into two partitions. The first partition is for storing the operating system and application programs. The second partition is for backing up the operating system and data.   The size of the partition can be set according to the backup requirements.   For example, the **Windows** operating system needs 200MB of hard disk space, while the complete **Office** installation requires 360MB. The remaining space can be used to store other data.

After installing **Windows,** use **write olfder's Ghost** to create a backup of the source system and store the file (Image file) in drive D. The file is named as **Original.gho**. Then, create a recover floppy disk containing:

Bootable files (Command.com, Io.sys, and MSDOS.SYS)

Config.sys (configuration setup file)
Autoexec.bat (auto-execution batch file)
Ghost.exe (Ghost execution file under read folder)
There are two ways to set the content of the recover

floppy for restoration:

(1)   To load **Windows** automatically after booting, set the **Autoexec.bat** command as:
Ghost.exe -clone,mode=pload,src=d:\original.gho:1,dst=1:1 -fx -sure -rb
Description: Runs the restore function automatically using the Image File.   After execution, it exits Ghost and boots the system automatically Refer to the [Introducing Ghosts Functions].

(2)   After booting, the screen displays the Menu. Select Backup or Restore:

Since the user may install other applications in the future, he/she may design **Autoexec.bat** as a Menu to back up or restore the user-defined Image file as follows:

Backup – use write folder ghost.exe
Back up Windows and application programs as a file (Recent.gho)Command is:

Ghost   -clone,mode=pdump,src=1:1,dst=d:\Recent.gho -fx -sure -rb

Restore – use read folder ghost.exe
Restore types include [General Windows] and [Windows and Application Programs].   If you select **[General Windows],** the system is restored to the general **Windows** operation condition.   The command is:

Ghost.exe -clone,mode=pload,src=d:\Original.gho,dst=1:1 -fx -sure -rb

If you select **[Windows and Application Programs],** the latest backup file (Recent.gho) is restored, skipping the installation and setup of application programs.

For description of relevant parameters, refer to **[Introducing Ghosts Functions]**.

For more information about menu design, refer to Config.sys and Autoexec.bat under /Menu in the CD. You can also create a backup CD containing Ghost.exe and these two files.

Recover CD
In recent years, well-known computer manufacturers (such as IBM, Acer, Compaq, etc.) bundle Recover CDs with their computers to reduce the cost resulting from servicing, while at the same time increasing their market competitiveness.
The following is a simple guide to how to create a recover CD:

1. For extremely easy creation of the recover floppy disk, use the copy program for example "Easy CD Creator " (Note 2). First, create a recover floppy disk   containing:
Bootable files (Command.com and Io.sys and MSDOS.SYS)
Config.sys (Configuration setup file)
Autoexec.bat (Auto-execution batch file)
Mscdex.exe (CD-Rom execution file)
Ghost.exe (Ghost execution file – from read folder)
Oakcdrom.sys (ATAPI CD-ROM compatible driver)

The content of Config.sys is:
DEVICE=Oakcdrom.sys /D:IDECD001

The content of Autoexec.bat includes:

MSCDEX.EXE   /D:IDECD001 /L:Z

Ghost.exe clone,mode=load,src=z:\original.gho,dst=1 -sure -rb

2.Write the backup image file (original.gho) of the entire hard disk or partition into the recover CD. Use the Recover CD to boot up the system and restore the backup files automatically. For description of relevant parameters, refer to **[Introducing Ghosts Functions]**.
(Note 2) For more details regarding the creation program and method for creating the recover CD, please refer to the legal software and relevant operation manual.

VI. Ghost Command Line Switches Reference

Ghost may be run in interactive or in batch mode. Batch mode is useful for automating installations for backups using Ghost. Most of the Ghost switches are used to assist with batch mode operation. To list switches from Ghost, type

ghost.exe -h.