



***freedom***



**freeStor Mini 210/310**

**2.5"/3.5" USB 2.0 Enclosure with One-Touch  
System Backup**

**USER'S MANUAL**

**P/N: DS-210UB/DS-310UB  
Rev. 1.2**



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# 1 Introduction

## 1.1 Product Introduction

The freeStor Mini 210/310 is more than a standard USB hard drive enclosure. In addition to providing additional portable storage for your data, it also allows you to back up your entire hard drive including data, applications, and operating system for recovery from hard drive failure, virus infection, or accidental file deletion.

In addition to being able to perform a system backup, the freeStor Mini 210/310 can also be booted as a USB drive. Thus, if your hard drive fails, instead of needing to reinstall the operating system and applications before restoring the data from the hard drive, you can run the computer from the USB drive until it is convenient to perform a restoration, and then restore all of your hard drive contents in a few simple steps. If a full volume restoration is not required, individual files and folders can also be recovered when needed.

The freeStor Mini series supports standard IDE disk drives including 3.5" drives (DS-310UB) for greater storage capacity and 2.5" drives (DS-210UB) for easier portability and convenience.

## 1.2 Safety Information

In order to reduce the risk of damage to the product or loss of data, always operate the product according to the manual's instructions and follow all warnings and operating procedures carefully.

## 1.3 Features

- Backs up entire systems including OS, applications, and data.
- Supports booting from the device as an external USB drive.
- Includes an OTB (One-Touch-Backup) button.
- Supports multiple scheduled backups.
- Supports backing up multiple volumes.
- Provides complete logs for backup, recovery and comparison actions.
- Supports both full and incremental backup functionality (requires freeStor SBC Professional Edition).

## 1.4 System Requirements

Before installing the freeStor SBC (System Backup Client) software, make sure you meet the following requirements.

- 200MHz Intel Pentium Processor or equivalent
- 64MB RAM
- CD-ROM or DVD-ROM
- USB 1.1 or USB 2.0 port - If you are using a freeStor Mini 210, you may need 2 USB ports
- BIOS that supports booting up from a USB device is required for remote boot function.



- System backup and recovery functions only supports are only supports for the operating systems listed below:
  - Windows XP Home Edition
  - Windows XP Professional Edition
  - Windows 2000 Professional Edition
  - Windows 2003 Server

## **1.5 Getting Started**

Read the following information before using the freeStor Mini 210/310 or performing a backup or recovery.

1. Use the USB cable included in the package for optimal performance.
2. Handle the freeStor Mini 210/310 carefully to avoid damaging the hard drive. Do not move, shake, lift, or otherwise disrupt the enclosure while it is in use.
3. When using the freeStor Mini 310, it is recommended that the unit be placed in the vertical stand on a stable surface.
4. Connect the USB cable to a USB port on your PC or notebook instead of to a USB hub. If there are any problems, try a different USB port.
5. It is recommended to connect the device to the same USB port each time it is plugged in.
6. When connecting the freeStor Mini 210/310 to a notebook equipped with a USB 2.0 PCMCIA card, make sure that there is sufficient power to power the device.

## 2 Hardware Installation

### 2.1 Installing a Hard Drive for freeStor Mini 210

Follow these instructions to install a hard drive into the freeStor Mini 210:

1. Remove the freeStor Mini 210 hard drive enclosure from the package.
2. Unscrew the two screws on the connector end of the enclosure (Figure 1).



Figure 1: Screws to Remove

3. Pull out the connector end of the enclosure (Figure 2).



Figure 2: Removing the Connector

4. Connect the hard drive to the connector pins. Check that the pins are lined up with the connector, and the top of the hard drive and the one-touch backup button are both facing up (Figure 3).

**Note:** Some hard drives may be difficult to plug the hard drive into the connector. In these cases, insert the pins into the connector using firm and even pressure.



Figure 3: Removing the Connector

5. Insert the hard drive and connector into the enclosure and push inward until the connector is flush with the casing (Figure 4).



**Figure 4: Inserting the Hard Drive**

6. Screw both screws back into the enclosure (Figure 1).
7. Connect one end of the included USB cable to the freeStor Mini 210, and connect the other end to a USB port on your computer (Figure 5).



**Figure 5: Connecting the USB Cable**

**Note:** If your hard drive does not power on after connecting the freeStor Mini 210 to your computer, it may mean that your hard drive requires more power than a single USB port can deliver. Plug the USB power cable into the power jack on the unit, and connect the other end to a USB port on your computer.

## 2.2 Installing a Hard Drive for freeStor Mini 310

1. Remove the freeStor Mini 310 hard drive enclosure from the package.
2. Unscrew the two screws on each side of the enclosure (Figure 6).

**Warning:** After unscrewing the two screws, both ends will become loose and may fall out if the unit is held vertically.



**Figure 6: Screws to Remove**

3. Remove the end cover and pull the hard drive tray out of the enclosure (Figure 7).



**Figure 7: Removing the Tray**

4. Set the jumpers on the hard drive to "Master" mode (refer to the documentation of your hard drive for details). Connect the power cable from the tray to the hard drive.
5. Connect the power cable from the tray to the hard drive and insert the hard drive into the tray label side up, ensuring that the IDE connection is secure (Figure 8).



**Figure 8: Inserting the Hard Drive**

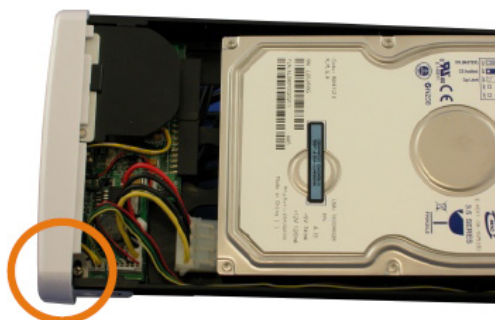
6. Attach the screws to the hard drive to hold it in place (Figure 9).



**Figure 9: Attaching the Hard Drive Screws**

**Note:** If the IDE connector or screw holes on the bottom of the tray do not line up properly, you can move them by loosening the screw that holds the board in place (Figure 10). After adjusting the position of the board, tighten the screw to hold the board in place.





**Figure 10: Adjusting the Connectors**

7. Insert the tray back into the enclosure (Figure 11).



**Figure 11: Inserting the Tray**

8. Screw the two screws back into the enclosure (Figure 6).
9. Connect one end of the included USB cable to the freeStor Mini 310, and connect the other end to a USB port on your computer. Then connect the power cord from the unit to a power outlet (Figure 12).




**Figure 12: Connecting the Cables**

10. Turn on the freeStor Mini 310.

### **2.3 Disconnecting the freeStor Mini 210/310**

To disconnect the freeStor Mini 210/310 from your computer, follow these steps:

1. Click on Safely Remove Hardware icon in the system toolbar (  ).
2. Click on the USB Mass Storage Device icon to remove and click “Stop”.
3. If you are using a freeStor Mini 310, power off the device using the power switch.
4. Unplug the USB cable from the computer.

### 3 Software Installation

#### 3.1 Installing freeStor SBC

To install the freeStor SBC system backup software, follow the steps below. Note that if you already have a previous version of freeStor SBC running on your system, refer to the “Upgrading freeStor SBC” section first.

1. Insert the freeStor SBC Installation CD into your computer's CD-ROM drive.
2. Open Windows Explorer and browse to your CD-ROM drive.
3. Double-click on the file labeled “freeStor SBC.exe” to start the installation wizard.
4. Click on Next on the first screen of the installation wizard. (Figure 13).

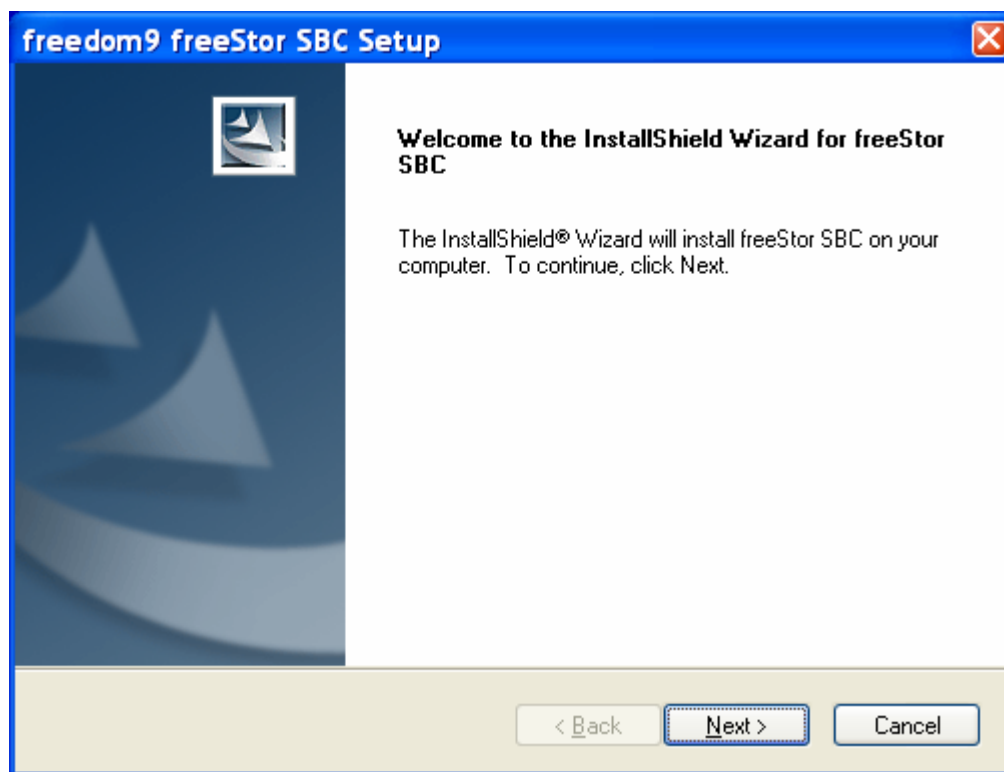
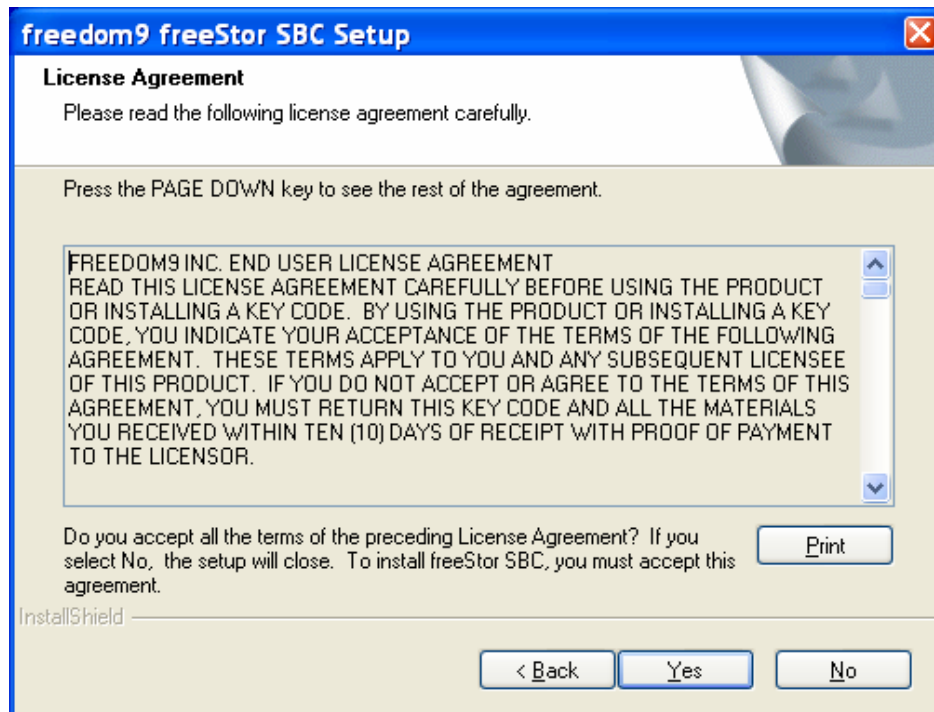


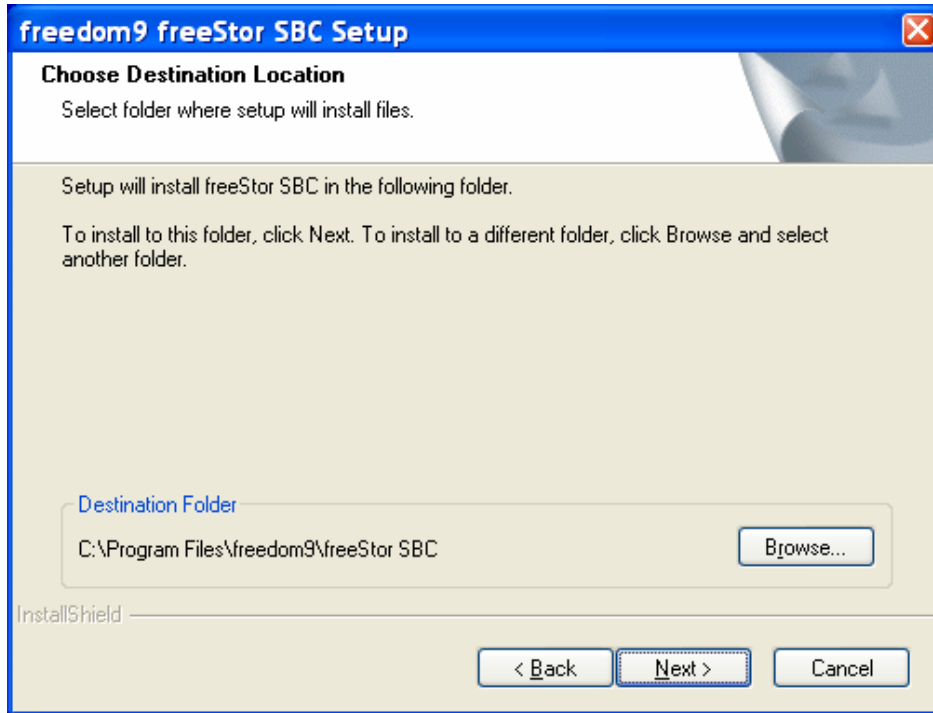
Figure 13: InstallShield Wizard

5. If you agree to the License Agreement on the next screen (Figure 14), click “Yes” to proceed. If you do not agree to the License Agreement, you cannot install the software.



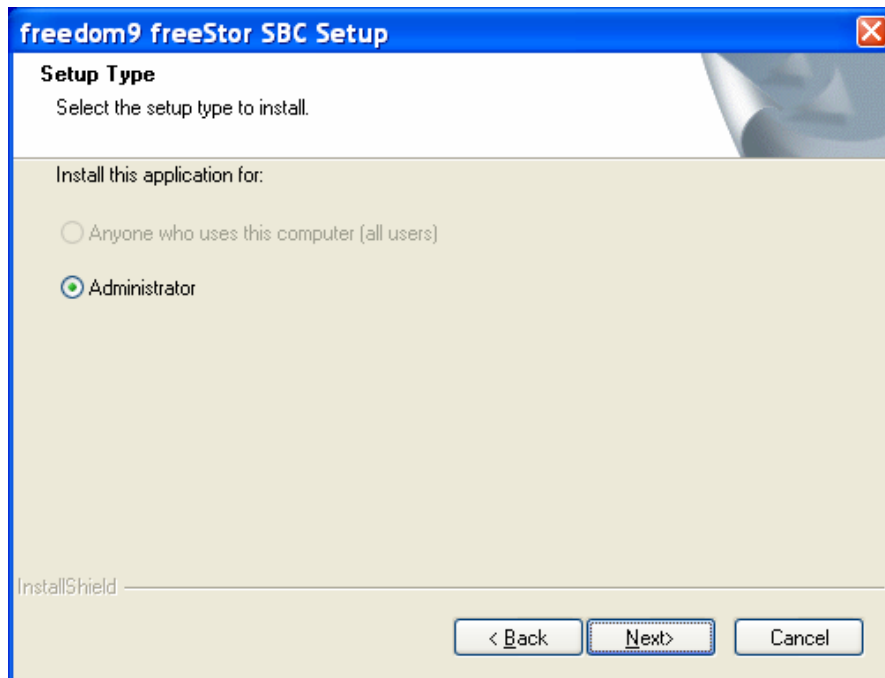
**Figure 14: License Agreement**

6. On the next screen (Figure 15), you can select which folder to install the software to by clicking the “Browse...” button and selecting the folder, or accept the default. When you are ready, click “Next” to continue.



**Figure 15: Installation Folder**

7. The next screen (Figure 16) displays an option of which user to install the software for. The current version of freeStor SBC only supports the Administrator user and no other users. Click "Next" to continue.



**Figure 16: Administrator User**



shut down all programs and choose to reboot the computer. After your computer reboots, go to step 12.

11. If you are not asked to reboot, you can select to view the README file and/or launch freeStor SBC immediately (Figure 19). Click "Finish" to close the installation wizard.

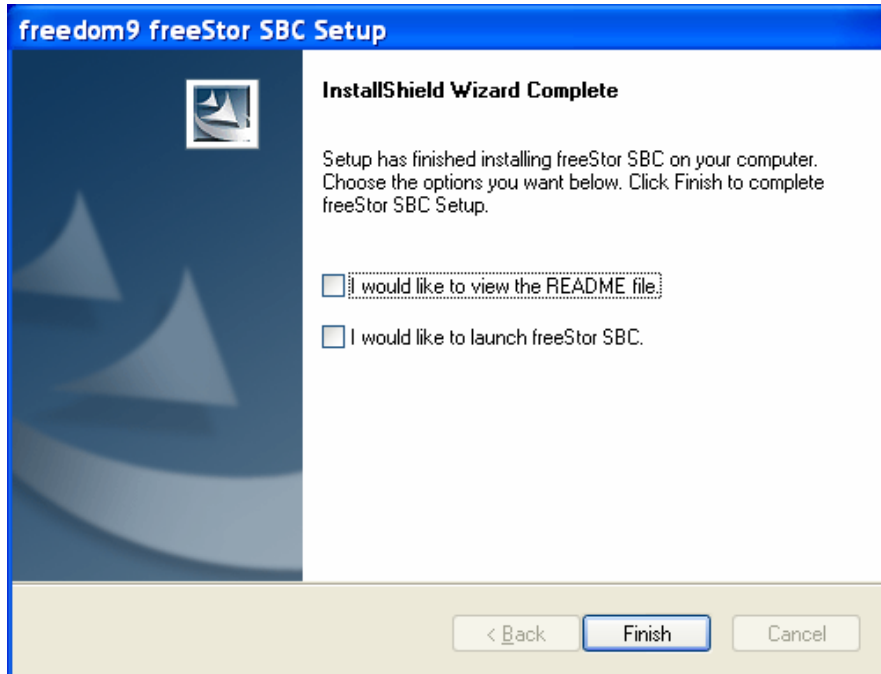


Figure 19: Installation Completed

12. To start freeStor SBC from Windows, click on the Start Menu, then Programs, then freedom9 freeStor SBC folder, then the freedom9 freeStor SBC icon (Figure 20).

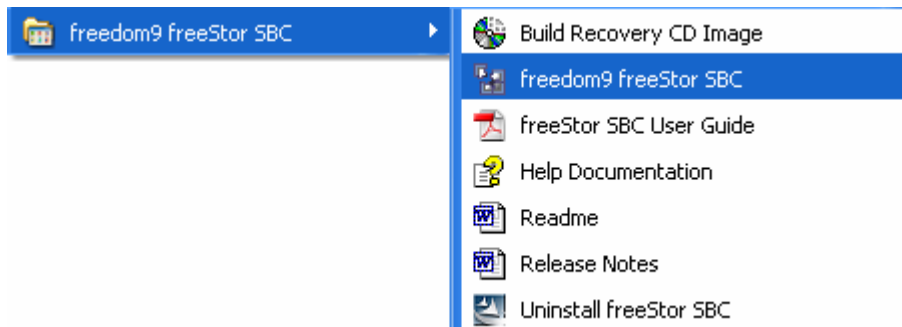



Figure 20: Starting freeStor SBC

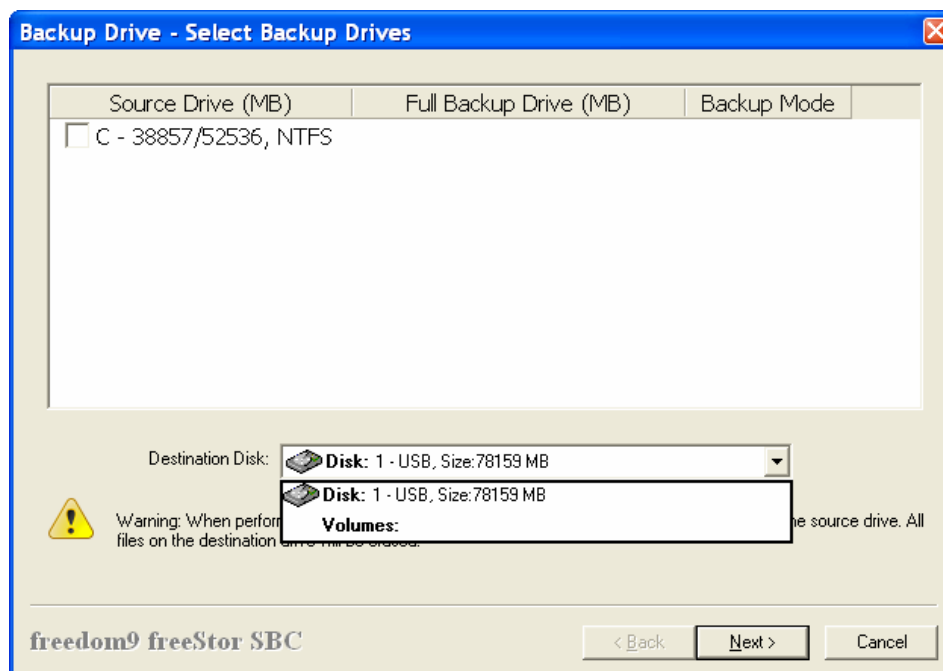
### 3.2 Performing an Initial Backup

Before you can use the one-touch backup button, you have to perform a full backup first. These steps will quickly guide you through your first full backup. For more detailed information regarding using the software, see Section 4.

**Note:** Active databases should be stopped before performing a backup, otherwise the copied version of the database may be corrupted by changes to the database during the backup.

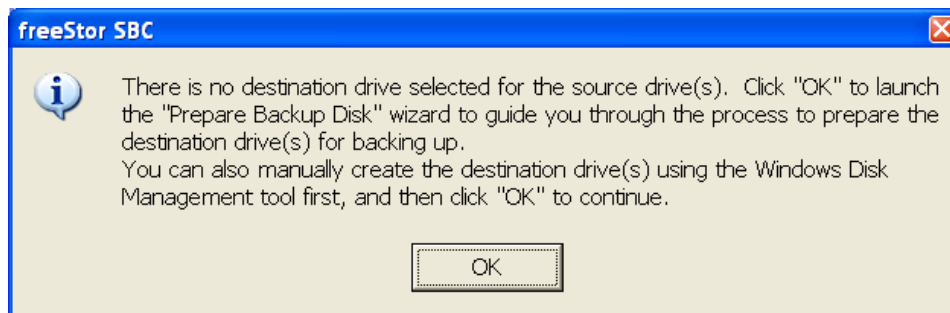
1. Start freeStor SBC.

2. Click the Backup Drive button  in the toolbar in the main window.
3. In the Backup Drive window (Figure 21), select the local drive(s) that you would like to back up in the top window, and select the freeStor 210/310 drive to use under Destination Disk. Click “Next”.



**Figure 21: Select External USB Drive**

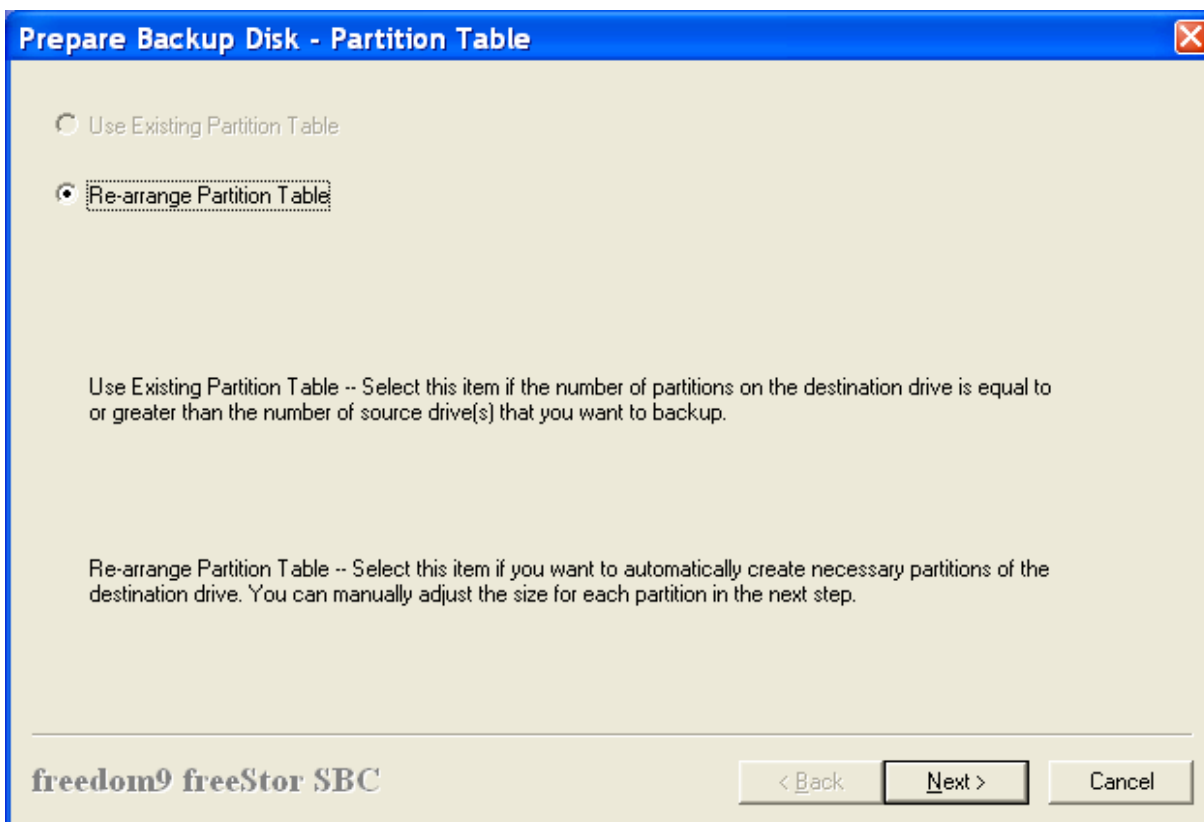
4. If a warning appears to indicate that no partitions are available on the drive (Figure 22), click “OK” to continue to the Prepare Backup Disk wizard. Otherwise, skip to step 12.



**Figure 22: Partition Wizard**

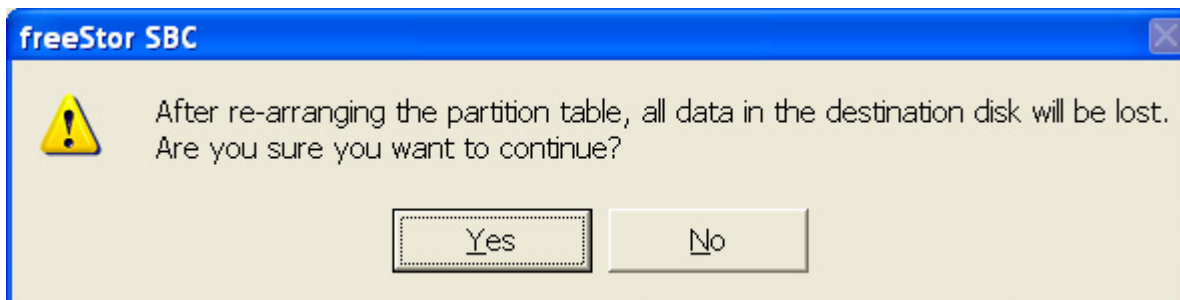
5. In the Prepare Backup Disk screen (Figure 23) select “Re-arrange Partition Table”. Click “Next”.

**Warning:** Selecting “Re-arrange Partition Table” will cause all of the data on the freeStor Mini 210/310 to be erased.



**Figure 23: Prepare Backup Disk**

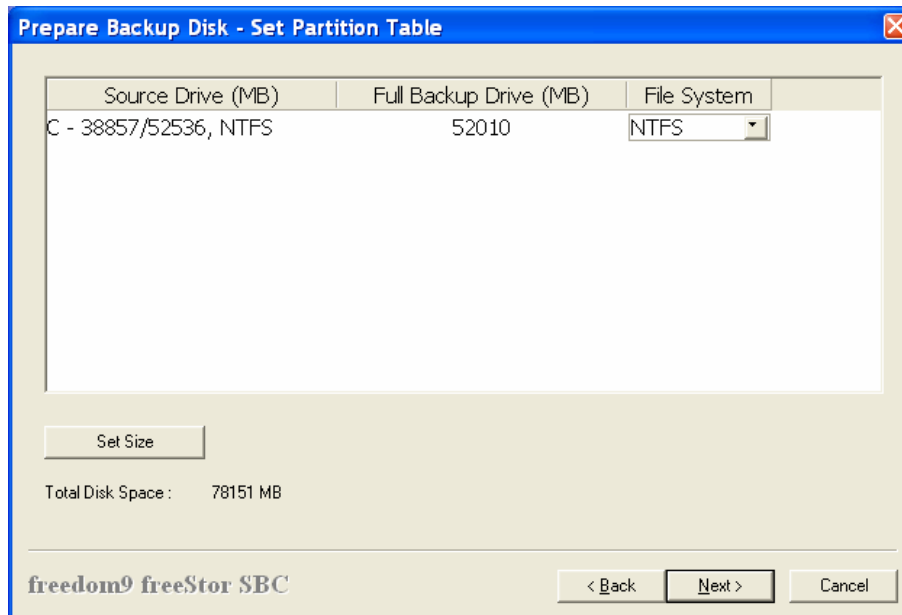
6. When the window appears to ask for a confirmation, click “Yes” (Figure 24).



**Figure 24: Partition Confirmation**

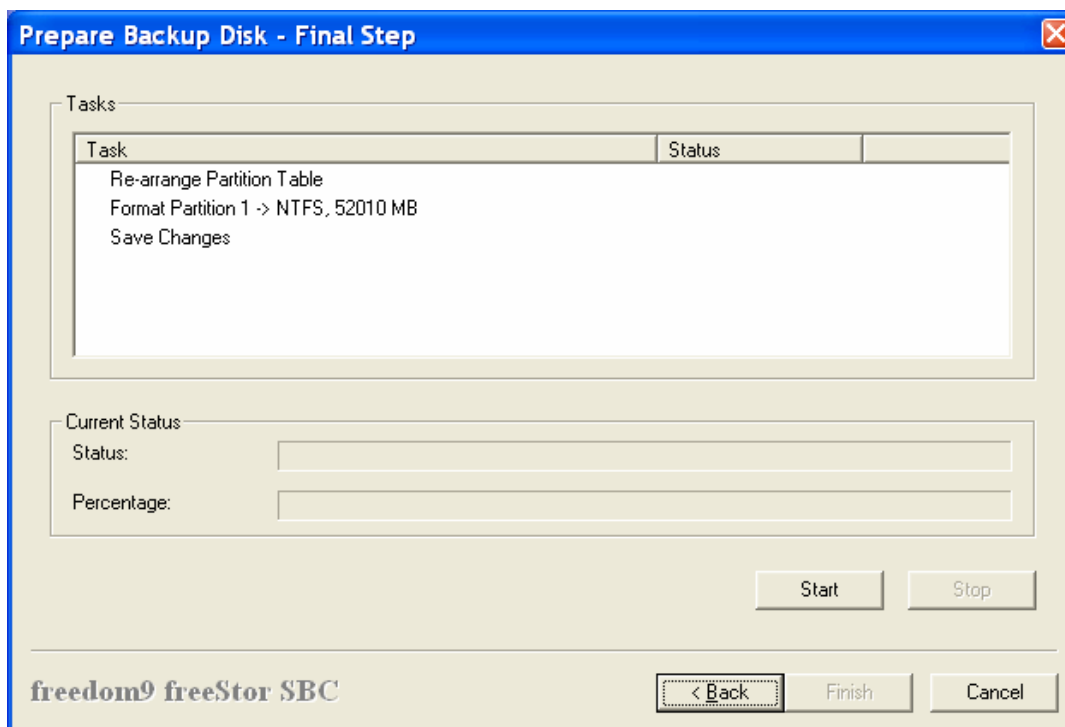


- The next screen (Figure 25) shows the size of the partitions that will be created. The column on the left shows the space used, total space, and file system of the partitions on the local drive. The second column shows the size of the partition that will be created to start full backups, which is the same size as the local partition. Click “Next” to proceed.



**Figure 25: Set Partition Sizes**

- The next screen (Figure 26) shows a summary of the actions to be performed. Click “Start” to start the partitioning process, then “Yes” in the warning window (Figure 27) to confirm.



**Figure 26: Partition Summary**

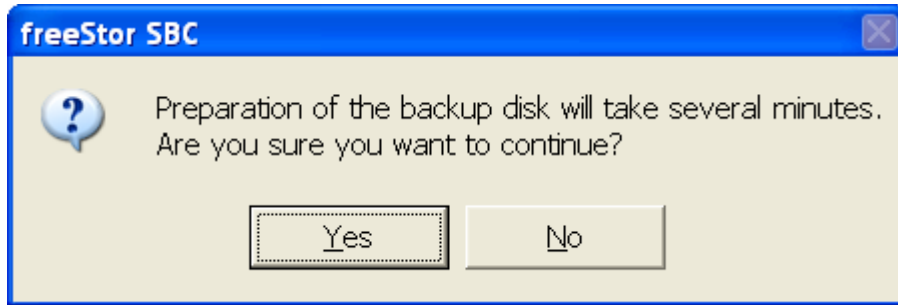


Figure 27: Confirm Hard Drive Partition

9. The progress is displayed on the next screen (Figure 28).

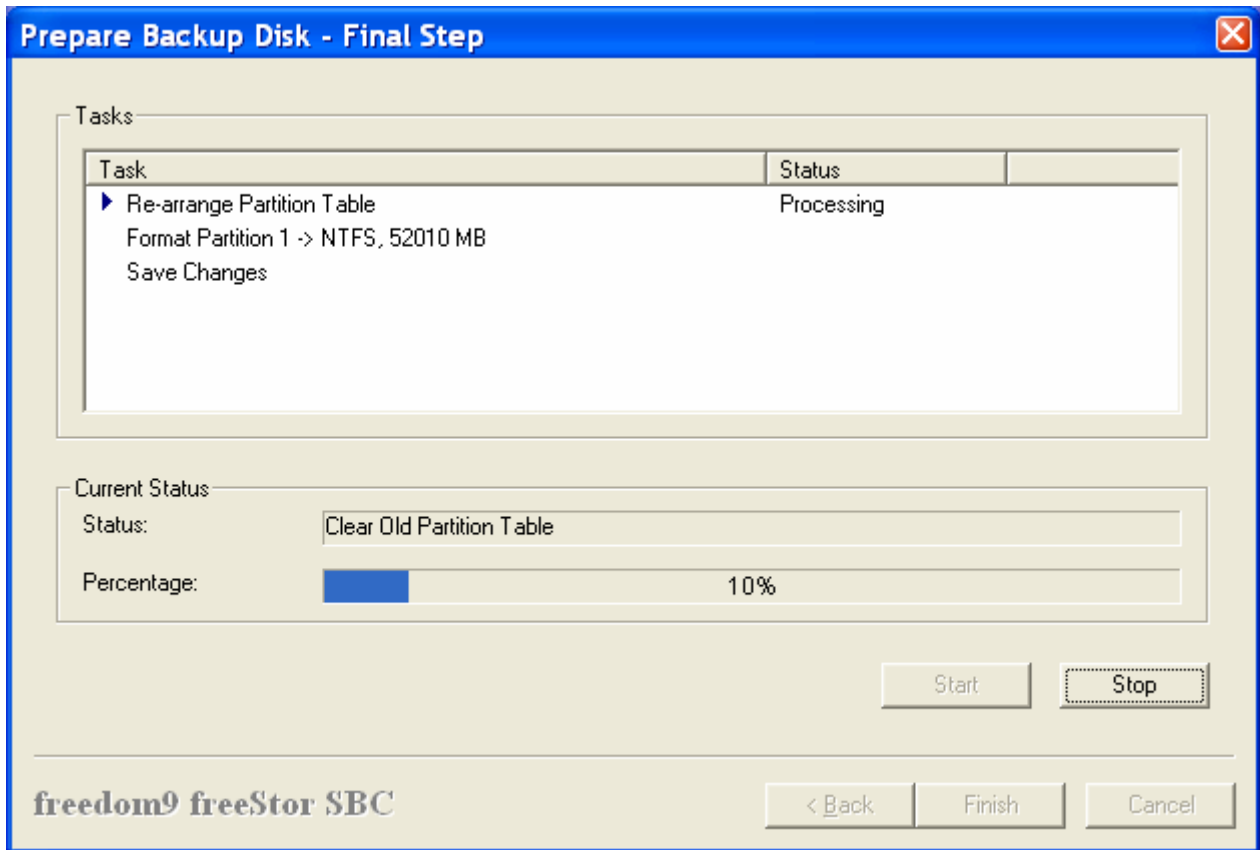


Figure 28: Partition Progress

10. Once the hard drive has been partitioned, click "OK" (Figure 29).

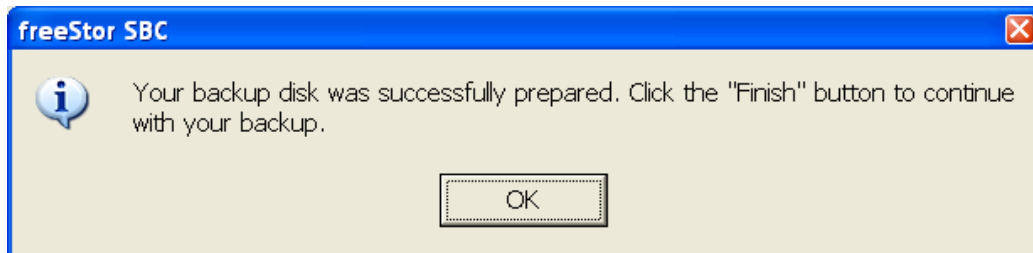
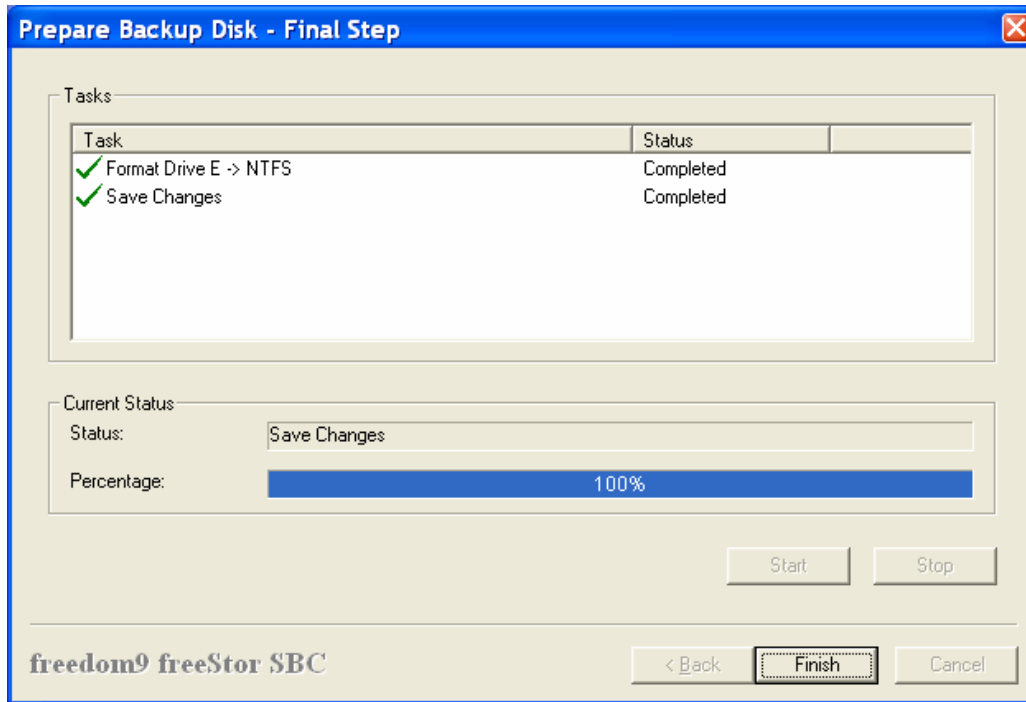


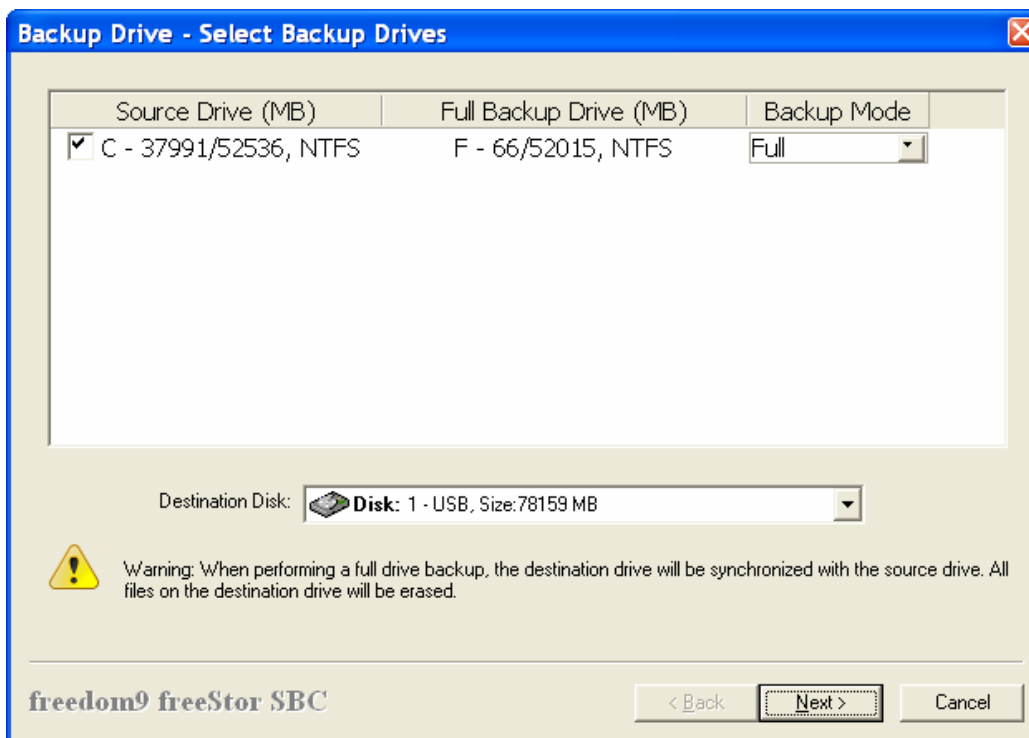
Figure 29: Partition Warning

11. Once the window closes, click “Finish” to continue with the backup (Figure 30).



**Figure 30: Partition Completed**

12. On the next screen (Figure 31), select the drive(s) to back up by clicking the box to the left of the drive. Click “Next”.



**Figure 31: Select Backup Drives**

13. The next screen (Figure 32) shows a summary of tasks to be performed. Click "Start" to begin the backup.

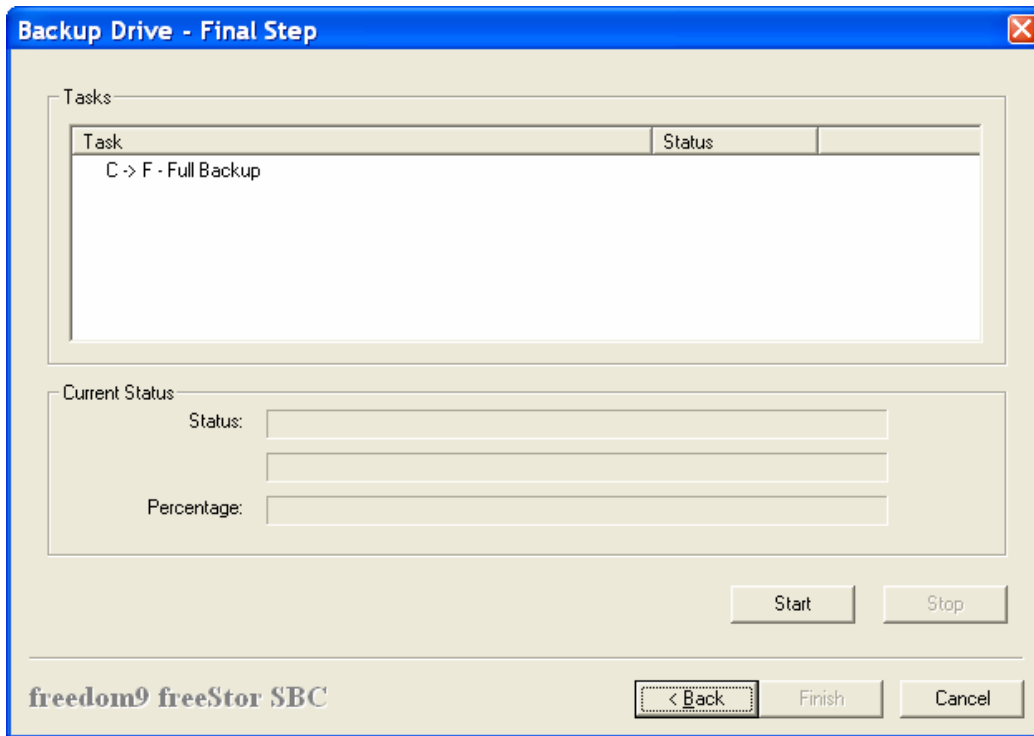


Figure 32: Full Backup Summary

14. The next screen (Figure 33) shows the backup progress.

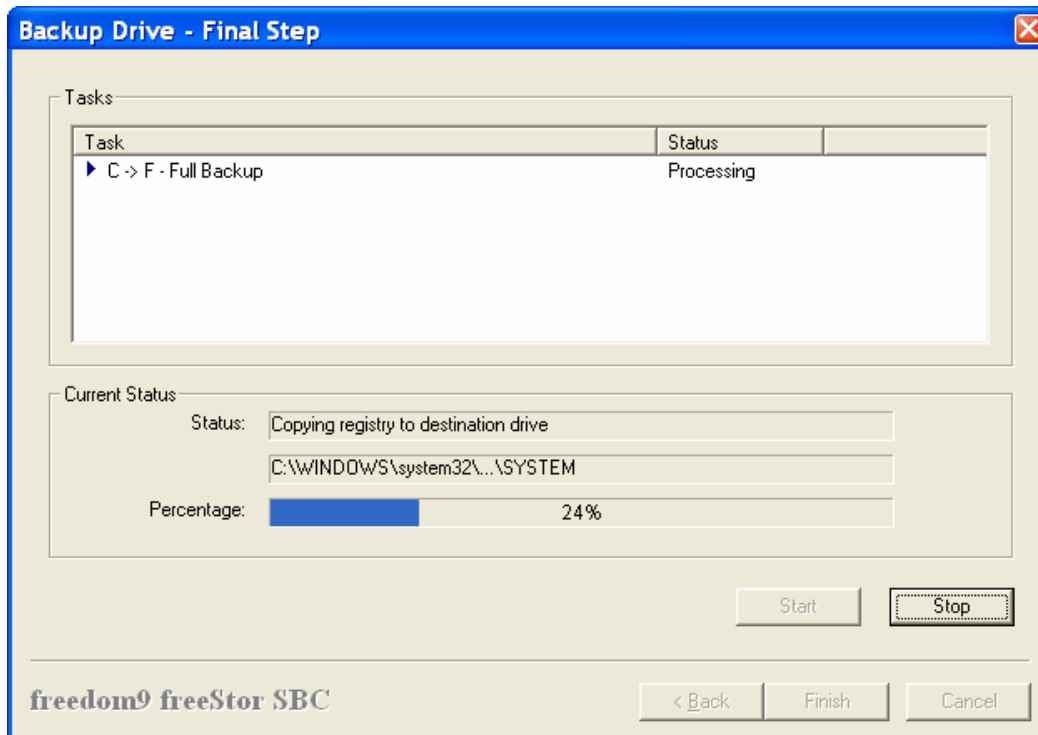
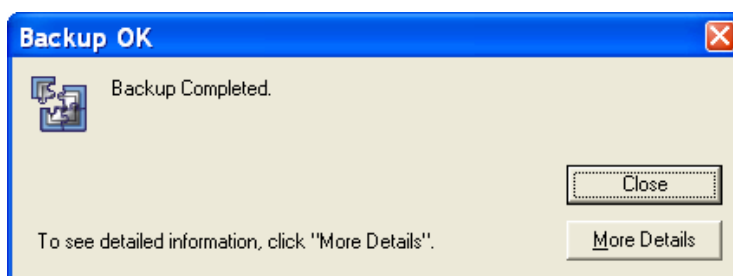


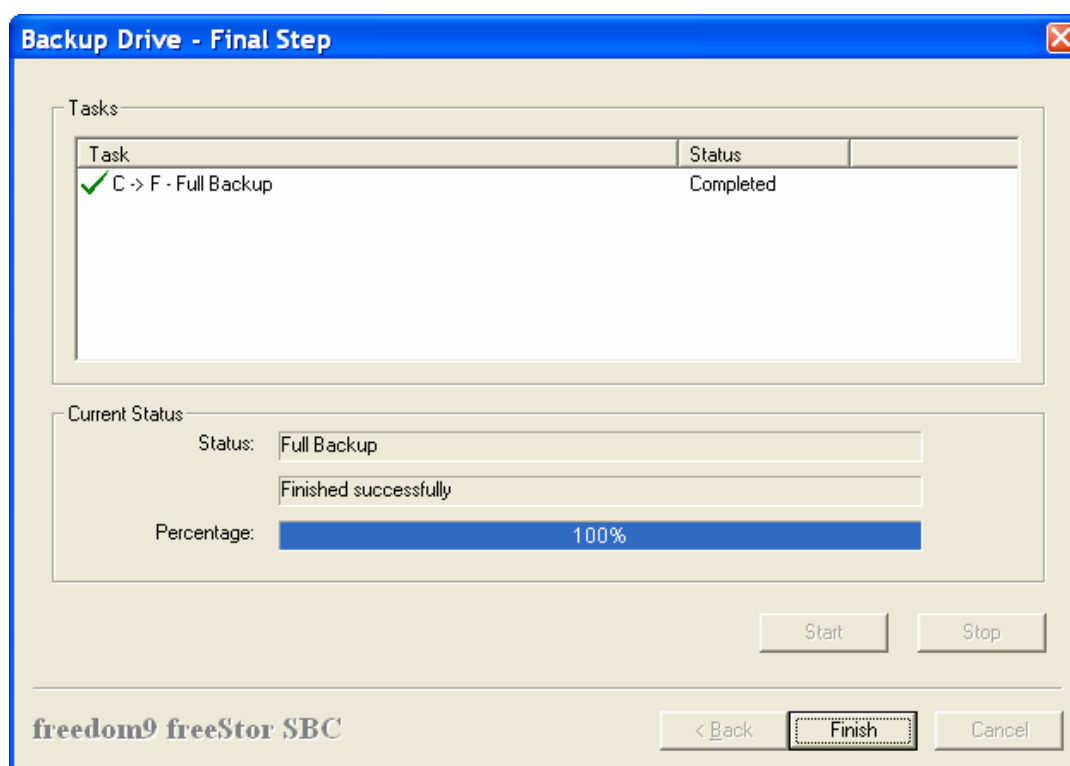
Figure 33: Full Backup Progress

- After the backup has been completed, click “Close” in the window that appears (Figure 34) to close the window.



**Figure 34: Full Backup Report**

- Click “Finish” to complete the backup (Figure 35).



**Figure 35: Full Backup Completed**

- You have now completed your first backup.

### 3.3 Reinstalling freeStor SBC

If you run the setup file for a new version of freeStor SBC with a previous version already installed, the InstallShield Wizard will prompt you to remove the old version from you computer first (Figure 36). After uninstalling the previous version, run the setup file for the new version again to start the installation.

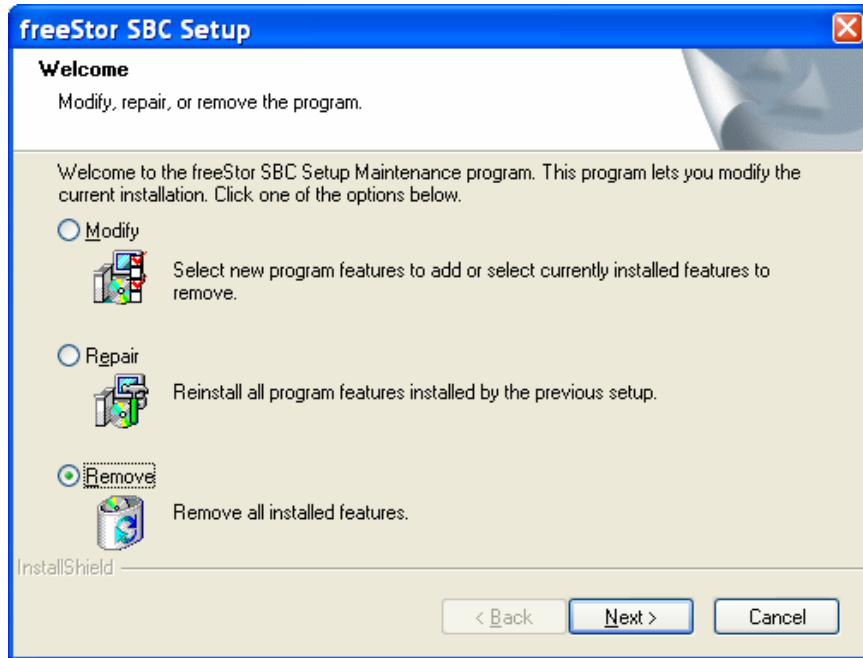


Figure 36: Removing Previous Version

### 3.4 Upgrading from Standard Edition to Professional Edition

To upgrade to freeStor SBC Profession Edition, go to the Upgrade to Pro Edition menu, and select "Upgrade now...". Follow the instructions listed to perform the upgrade (Figure 37).

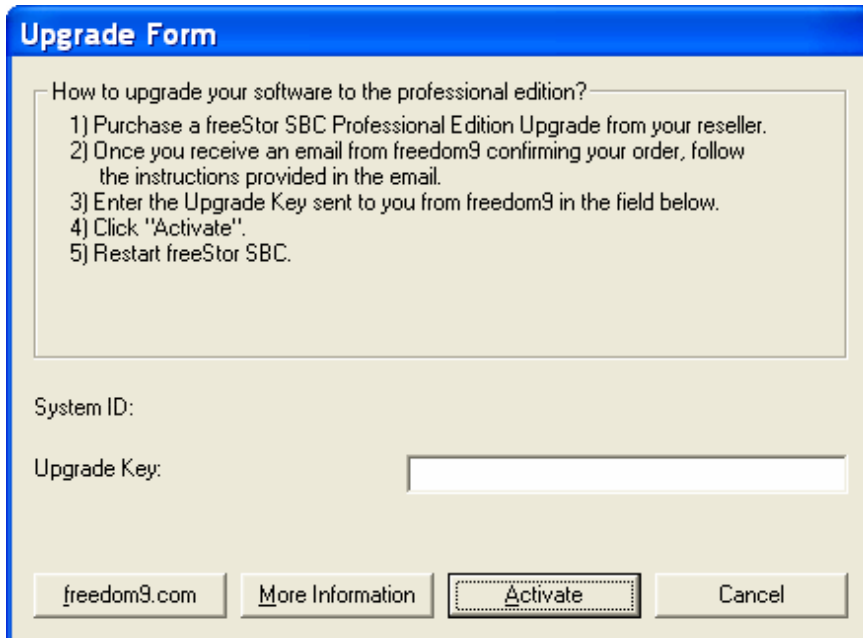



Figure 37: Upgrade Screen

Certain features of the freeStor SBC software described in this manual are only available with the Professional Edition. To view a list of features that are provided by the Professional Edition, go to "Compare Editions..." under the Upgrade to Pro Edition menu. Features available only to freeStor SBC Professional Edition will be *italicized* or otherwise mentioned in this manual. Features that are not available are grayed out in the menus in the software.



## 4.2 Rescan Disk(s)

Click the Rescan Disks button () any time you want to rescan your computer to discover new disks or remove disks that are no longer attached to your computer. You can also rescan the disks through using “Rescan Disks” under the Drive menu.

## 4.3 Performing a Backup

freeStor SBC can perform both full backups *and incremental backups* of your local hard drives. The software can also partition the freeStor Mini 210/310 hard drive to store these backups during the backup process if required. Each local hard drive partition needs its own partition on the freeStor Mini 210/310 for full backups, and another partition for *incremental backups* if desired.

For example, if your computer has two hard drives configured as follows:

Hard drive 1: 120 GB, partitioned into an 80 GB drive C with 50GB used, and a 40 GB drive D with 20 GB used.

Hard drive 2: 80 GB, not partitioned, assigned as drive E with 30 GB used.

For full backups, the freeStor Mini 210/310 should be partitioned into an 80 GB partition to back up drive C, 40 GB to back up drive D, and 80 GB to back up drive E. Note that less space can be allocated for each partition, but if the required space exceeds that available in the partition, the partition needs to be deleted and recreated.

*For incremental backups, an additional partition needs to be created on the freeStor mini 210/310 for each local partition (three partitions in total if all drives undergo incremental backup). The size of these partitions depends on how many backups you want to keep for each partition, and how often the files on these partitions change. The more backups you want to keep, and the more frequently the files change, the larger the space required. If the partition assigned for incremental backups becomes full, the oldest incremental backups need to be merged into the full backup (a process known as Synthetic Backup in freeStor SBC) in order to allow for additional incremental backups.*

In the scenario above, a possible allocation of space on the freeStor Mini 210/310 could be as follows (note that each partition on the freeStor Mini 210/310 is assigned a standard drive letter under Windows Explorer):

Hard drive: 400 GB

Drive I: 80 GB for full backup of drive C

Drive J: 40 GB for full backup of drive D

Drive K: 80 GB for full backup of drive E

*Drive L: 20 GB for incremental backups of drive C*

*Drive M: 10 GB for incremental backups of drive D*

*Drive N: 40 GB for incremental backups of drive E*

Drive O: 130 GB for standard file sharing and backup

As shown above, the freeStor Mini 210/310 can also be used as a standard external USB hard drive by creating a partition used specifically for file storage and not system backup (see Creating Partitions under Windows for more details).



### 4.3.1 Full Backup

When you perform a full backup, an entire partition is backed up to the freeStor Mini 210/310. With freeStor SBC's built-in synchronization feature, you will have the same files on your hard drive and your external drive after the backup is complete. To ensure that the backup is identical to the local partition, any files that were backed up previously that were subsequently deleted from the local partition will also be deleted from the external drive.

**Note:** Before performing a full backup for the first time, it is suggested that you delete all of the partitions on the drive, and let freeStor SBC create partitions for the backup.

**Note:** It is suggested to perform a full backup if you install a new Windows Service Pack or perform any other updates to the operating system.

**Note:** Active databases should be stopped before performing a backup, otherwise the copied version of the database may be corrupted by changes to the database during the backup.

To perform a full backup:

1. Click the Backup Drive button in the toolbar on the main window, or select "Backup Drive" under the Drive menu, or right-click the freeStor SBC icon in the Taskbar and select "Backup Drive".
2. In the Backup Drive window (Figure 39), select the local drive(s) that you would like to back up in the top window, and select the freeStor 210/310 drive to use under Destination Disk. Click "Next".

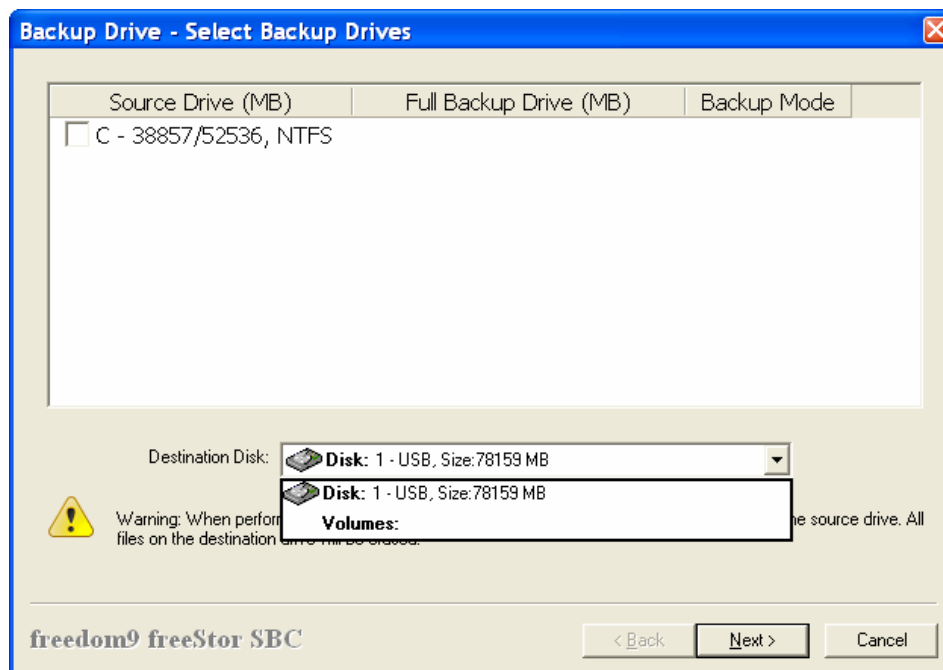
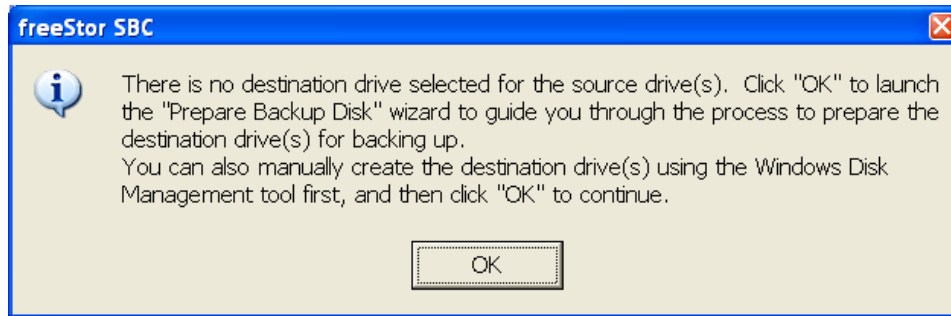


Figure 39: Select External USB Drive

3. If this is the first time a backup is being performed on this drive, a warning will appear to indicate that no partitions are available on the drive (Figure 40). Click "OK" to continue to the Prepare Backup Disk wizard. Otherwise, skip to step 11.



**Figure 40: Partition Wizard**

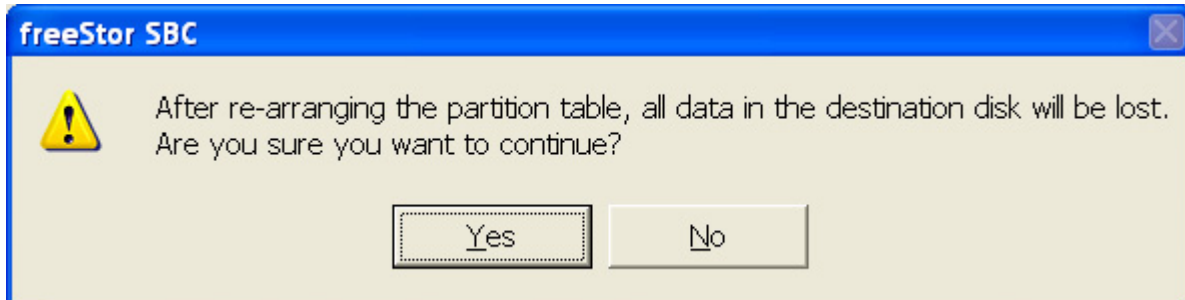
4. In the Prepare Backup Disk screen (Figure 41), you have two options. If you wish to use the partitions that already exist on the freeStor Mini 210/310, and there are enough partitions, select "Use Existing Partition Table". Otherwise, select "Re-arrange Partition Table" to create new partitions. Click "Next".

**Warning:** Selecting "Re-arrange Partition Table" will cause all of the data on the freeStor Mini 210/310 to be erased.



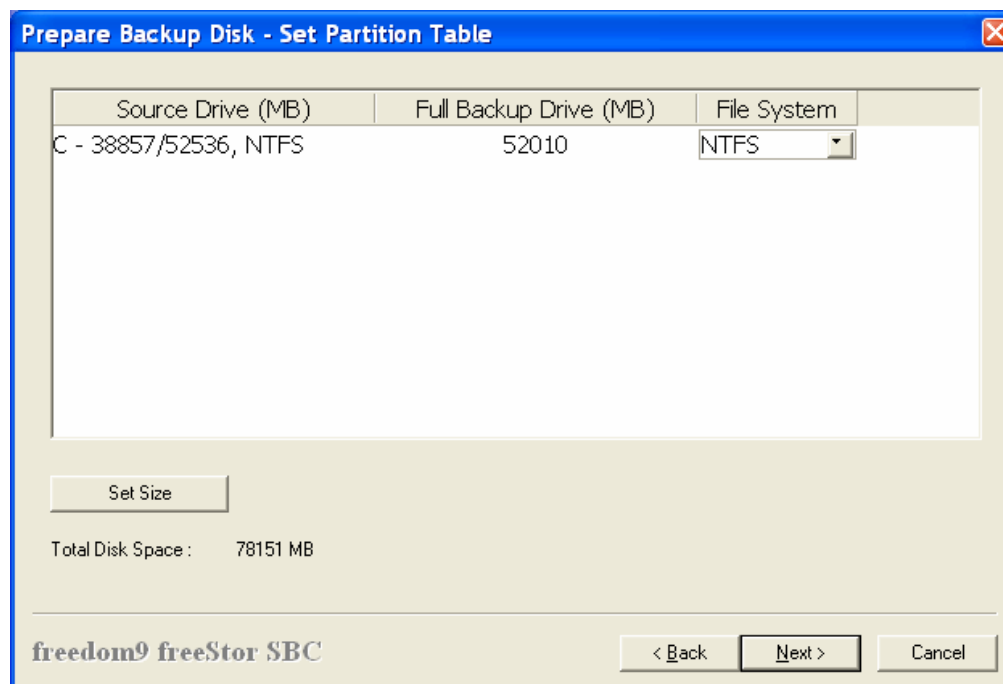
**Figure 41: Prepare Backup Disk**

- If you chose to re-arrange the partition table, freeStor SBC will delete all of the data on the freeStor Mini 210/310. Click "Yes" to partition the external hard drive on the warning that appears (Figure 42).



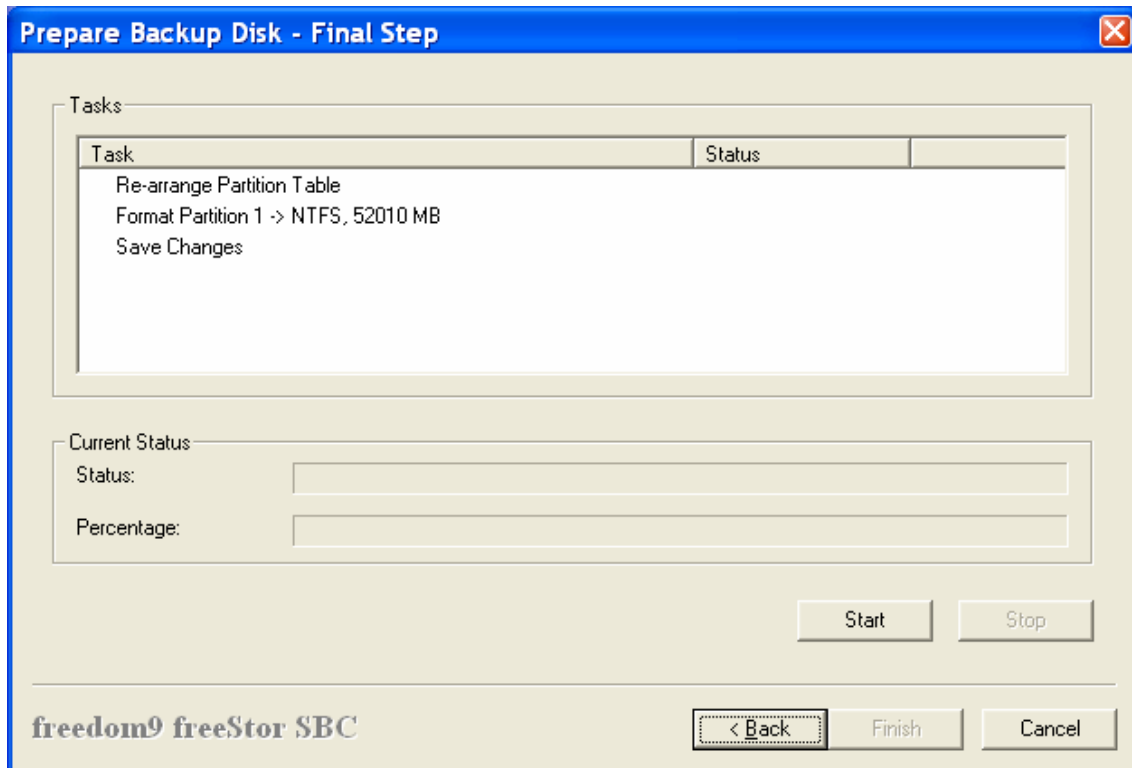
**Figure 42: Partition Confirmation**

- The next screen (Figure 43) shows the recommended size of the partitions to be created. The column on the left shows the space used, total space, and file system of the partitions on the local drive. The second column shows the size of the partition that will be created to start full backups, which is the same size as the local partition. The third column shows the size of the partition that will be created for incremental backups if using freeStor SBC Professional Edition. This size can be adjusted manually by selecting the row and clicking "Set Size". Click "Next" to proceed.

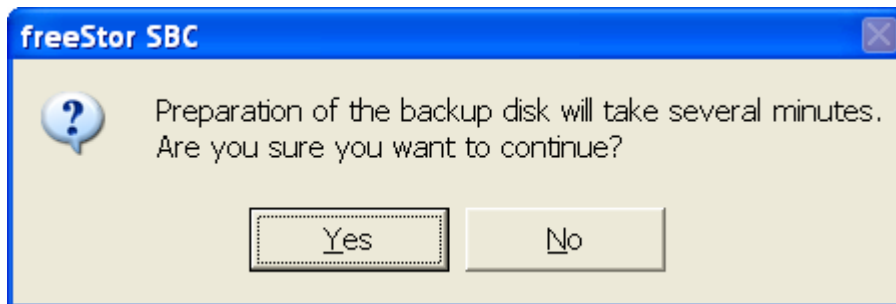


**Figure 43: Set Partition Sizes**

7. The next screen (Figure 44) shows a summary of the actions to be performed. Click "Start" to start the partitioning process, then "Yes" in the warning window (Figure 45) to confirm.

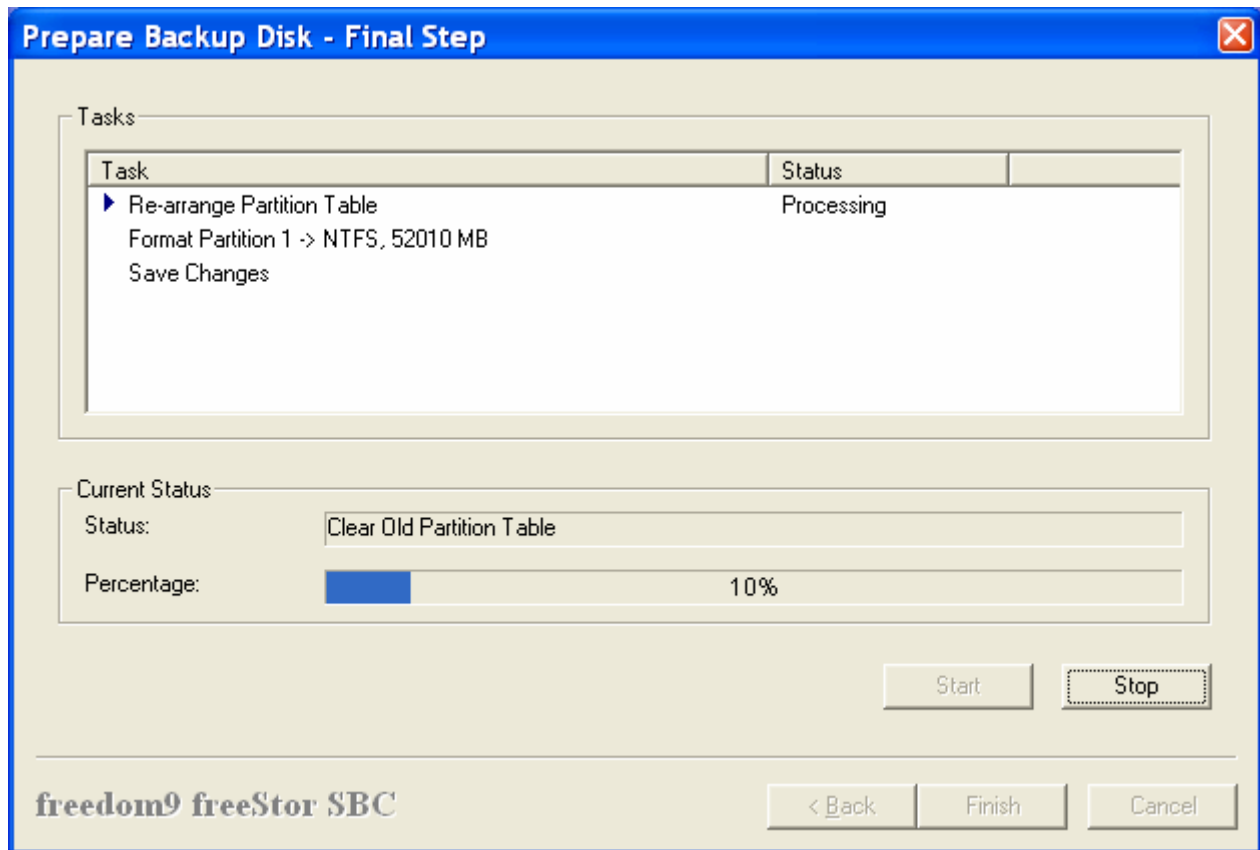


**Figure 44: Partition Summary**



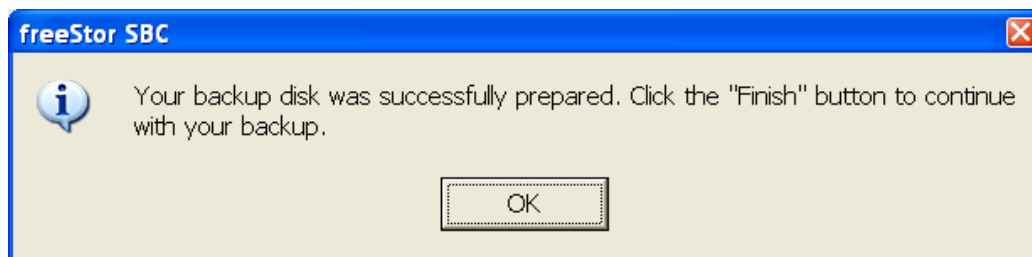
**Figure 45: Confirm Hard Drive Partition**

8. The progress is displayed on the next screen (Figure 46).



**Figure 46: Partition Progress**

9. Once the hard drive has been partitioned, click "OK" (Figure 47).



**Figure 47: Partition Warning**

10. Once the window closes, click “Finish” to continue with the backup (Figure 48).

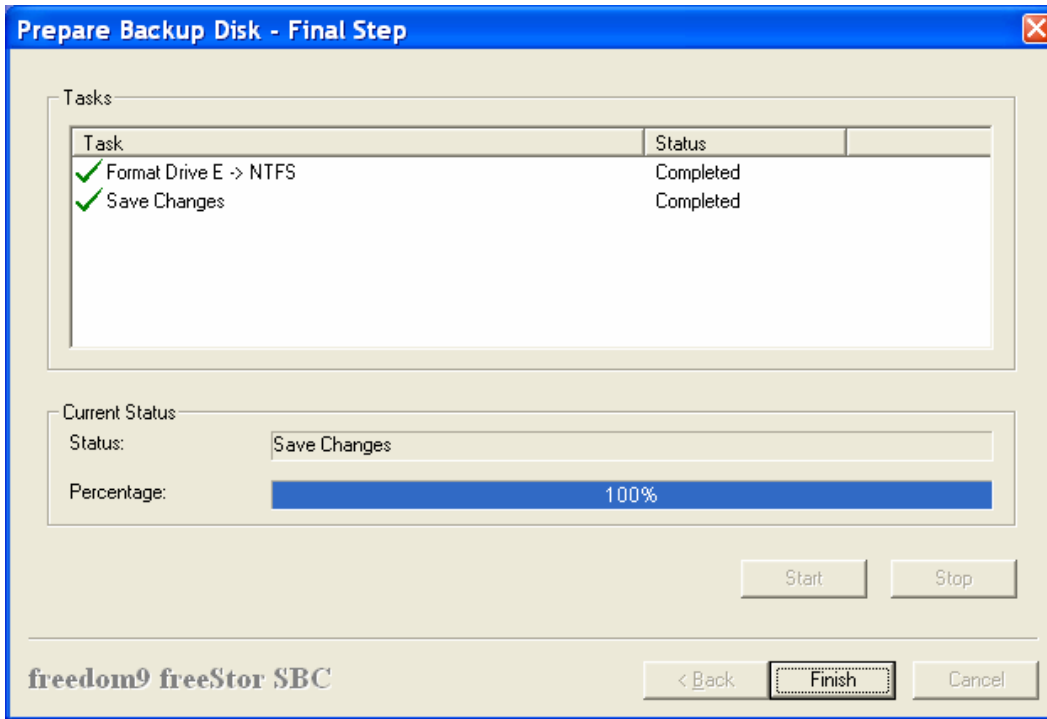


Figure 48: Partition Completed

11. On the next screen (Figure 49), select the drive(s) to back up and select the backup mode. If this is your first time performing a backup or if you are using freeStor SBC Standard Edition, only Full backup mode will be available. Click “Next”.

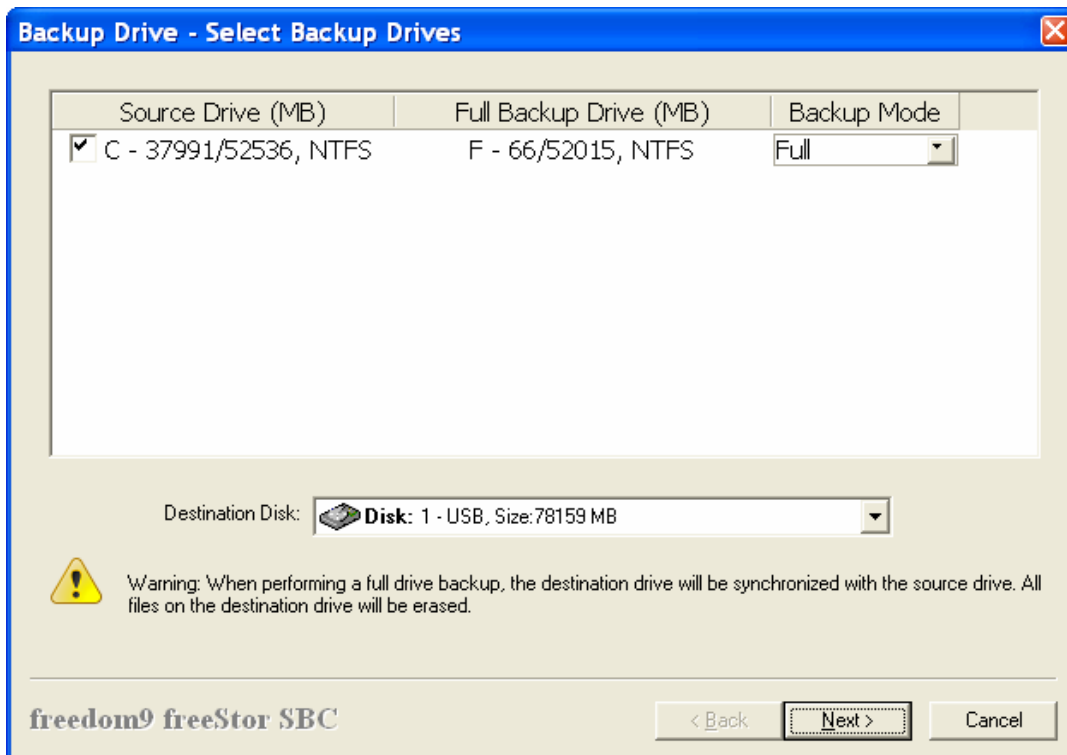
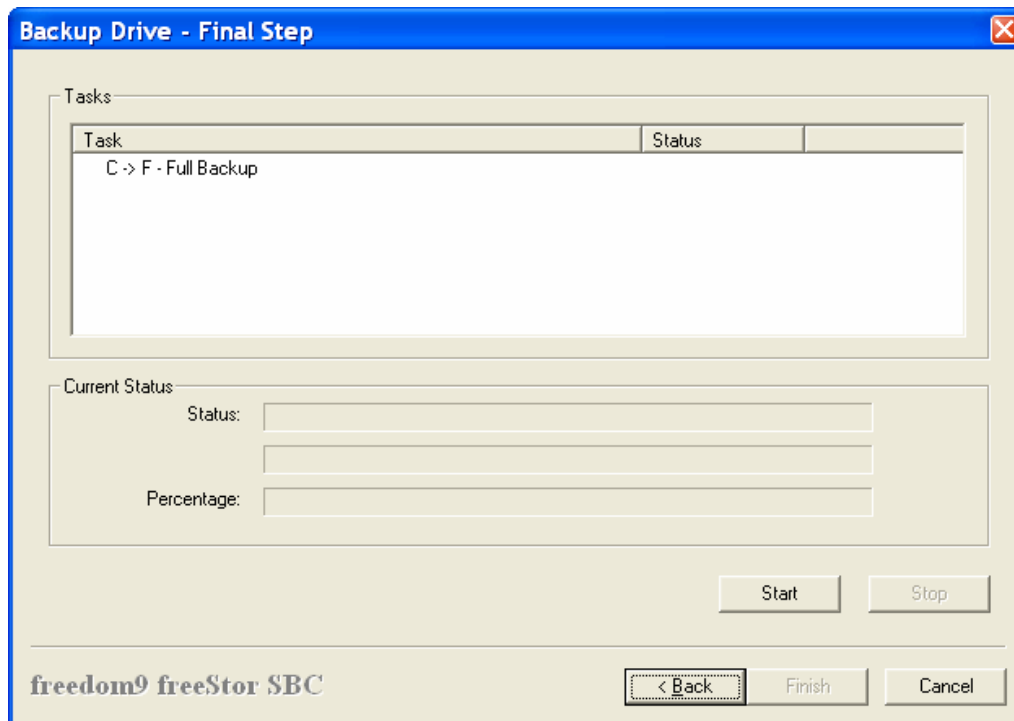


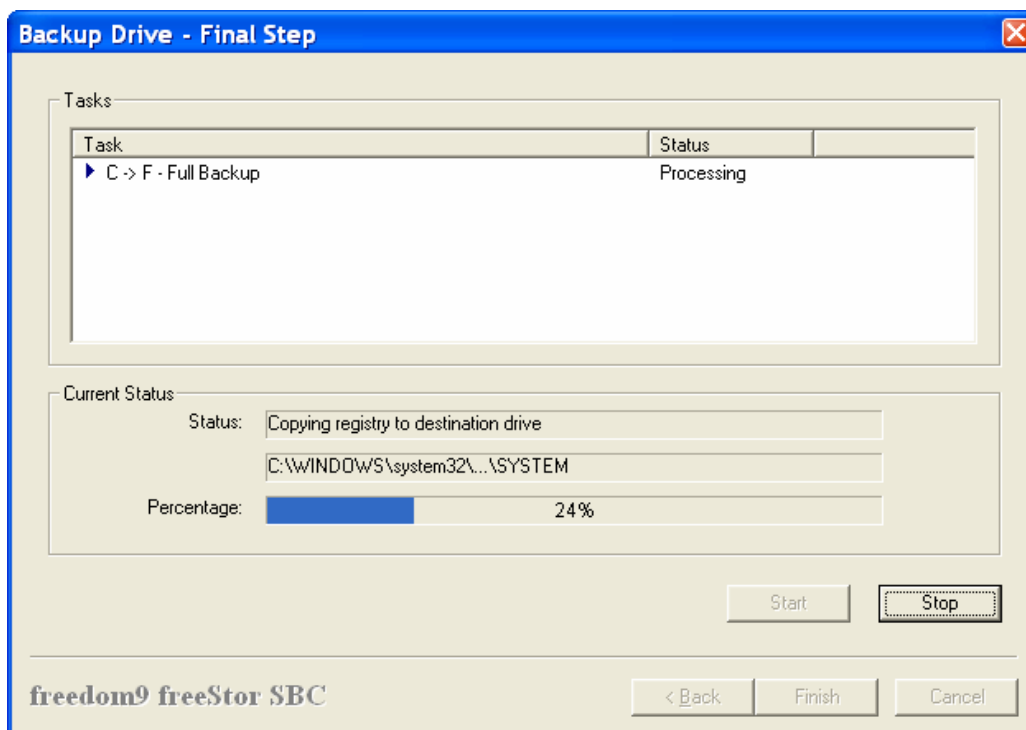
Figure 49: Select Backup Drives

12. The next screen (Figure 50) shows a summary of tasks to be performed. Click “Start” to begin the backup.



**Figure 50: Full Backup Summary**

13. The next screen (Figure 51) shows the backup progress.



**Figure 51: Full Backup Progress**

14. After the backup has been completed, click "Close" in the window that appears (Figure 52) to close the window. Clicking on "More Details" opens a text file with the detailed log of the backup.

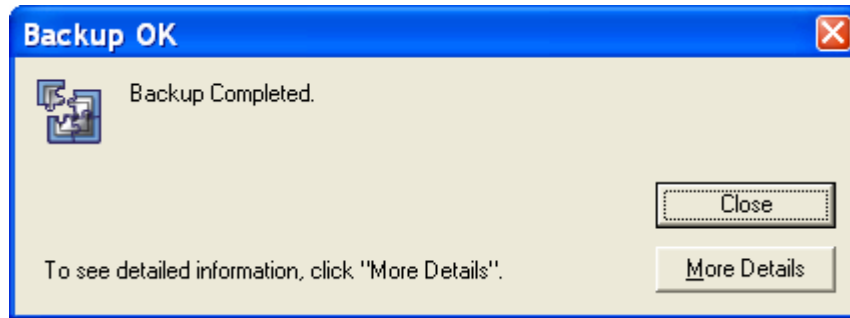


Figure 52: Full Backup Report

15. Click "Finish" to complete the backup (Figure 53).

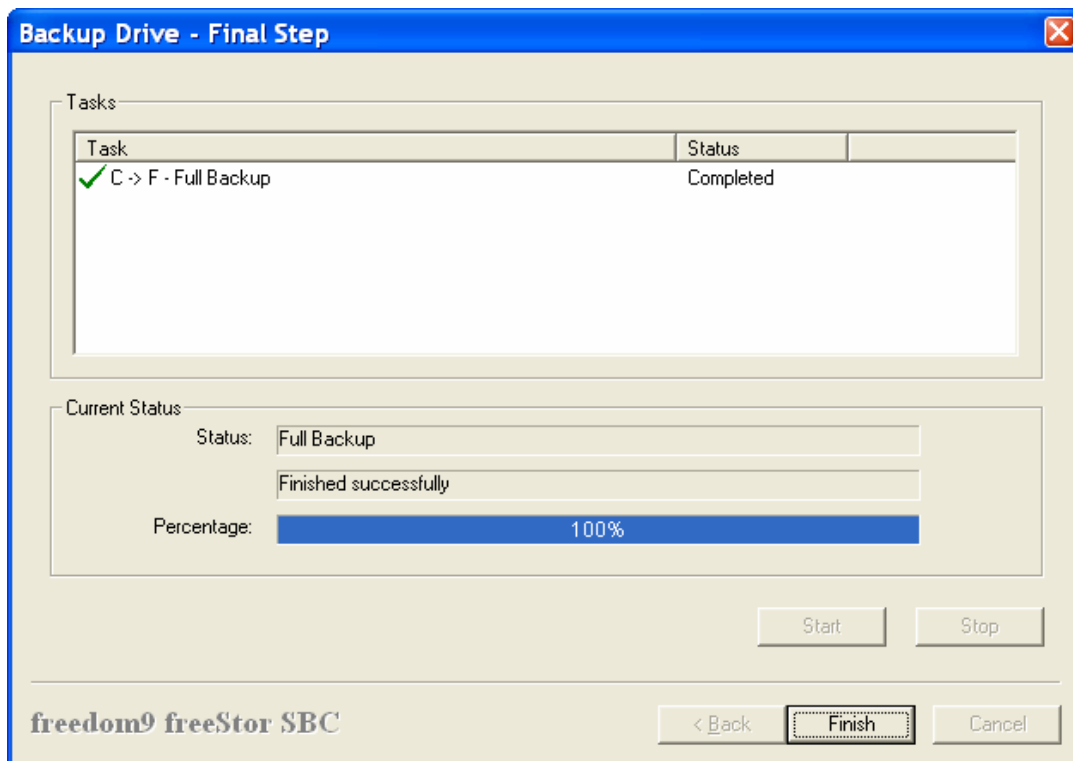


Figure 53: Full Backup Completed

### 4.3.2 Incremental Backup

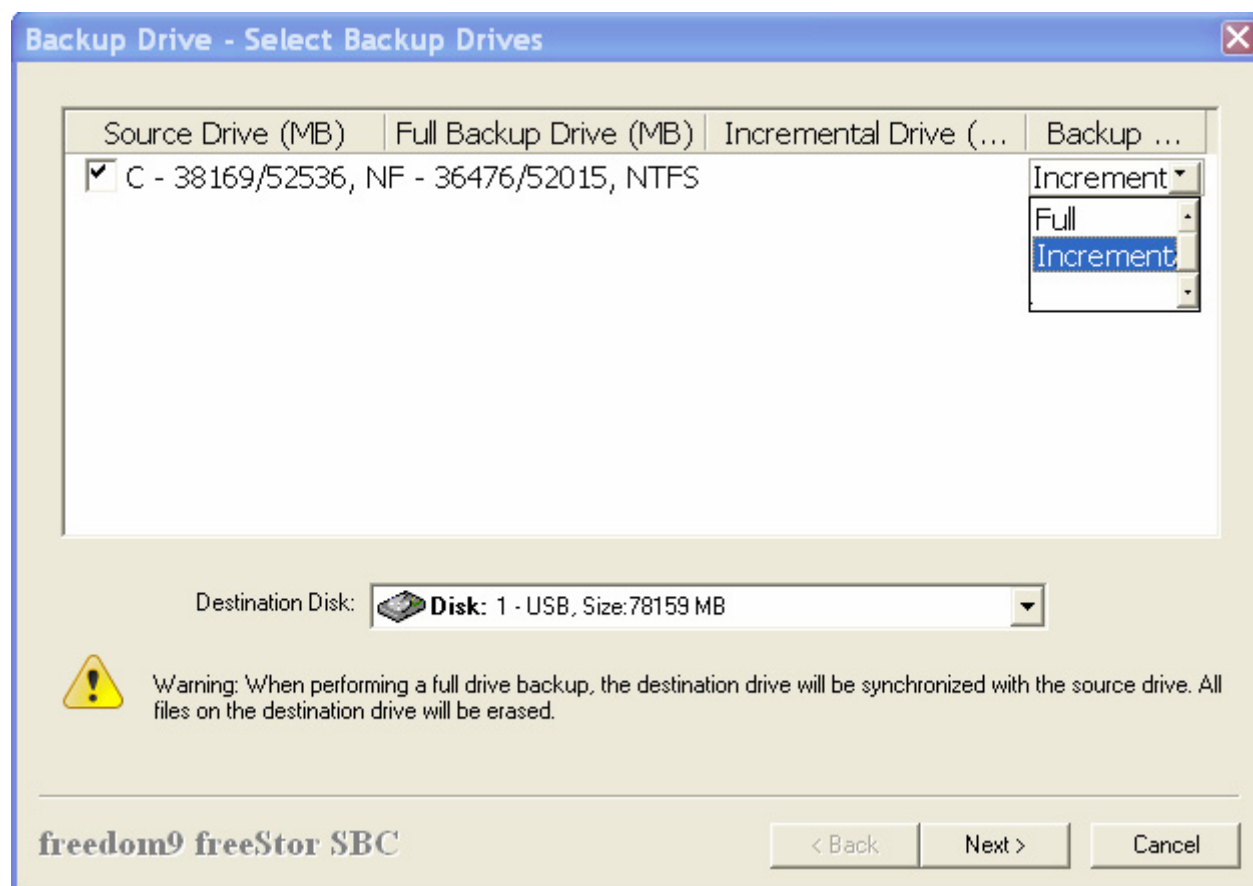
When you perform an incremental backup, only the files and folders which have changed since the last backup are backed up, which results in faster backups and less space taken up. In addition, incremental backups allow you to keep multiple backups available, and restore files from a particular backup if required. A full backup must be performed first before incremental backups can be performed. Incremental backups are only available with freeStor SBC Professional Edition.

**Note:** The shortest interval for keeping separate incremental backups is one day. If you perform more than one incremental backup once per day, freeStor SBC will only keep the latest version and delete the previous ones.



To perform an incremental backup:

1. Click the Backup Drive button in the toolbar on the main window, or select “Backup Drive” under the Drive menu, or right-click the freeStor SBC icon in the Taskbar and select “Backup Drive”.
2. In the Backup Drive screen (Figure 39), select the local partition(s) that you would like to back up in the top window, and select the freeStor 210/310 drive to use under Destination Disk. Click “Next”.
3. On the next screen (Figure 54), select the drives to back up, the Destination Disk to back up to, and select “Incremental” under Backup Mode.



**Figure 54: Selecting Incremental Mode**

4. If there are not enough partitions on the drive, the Prepare Backup Disk wizard will run. Refer to the Full Backup section for details on using the wizard. Note that the Prepare Backup Disk wizard will format the Full Backup partition as well, so you will have to perform a Full Backup again.

5. The next screen (Figure 55) shows a summary of the actions to be performed. Click "Start" button to begin the incremental backup.

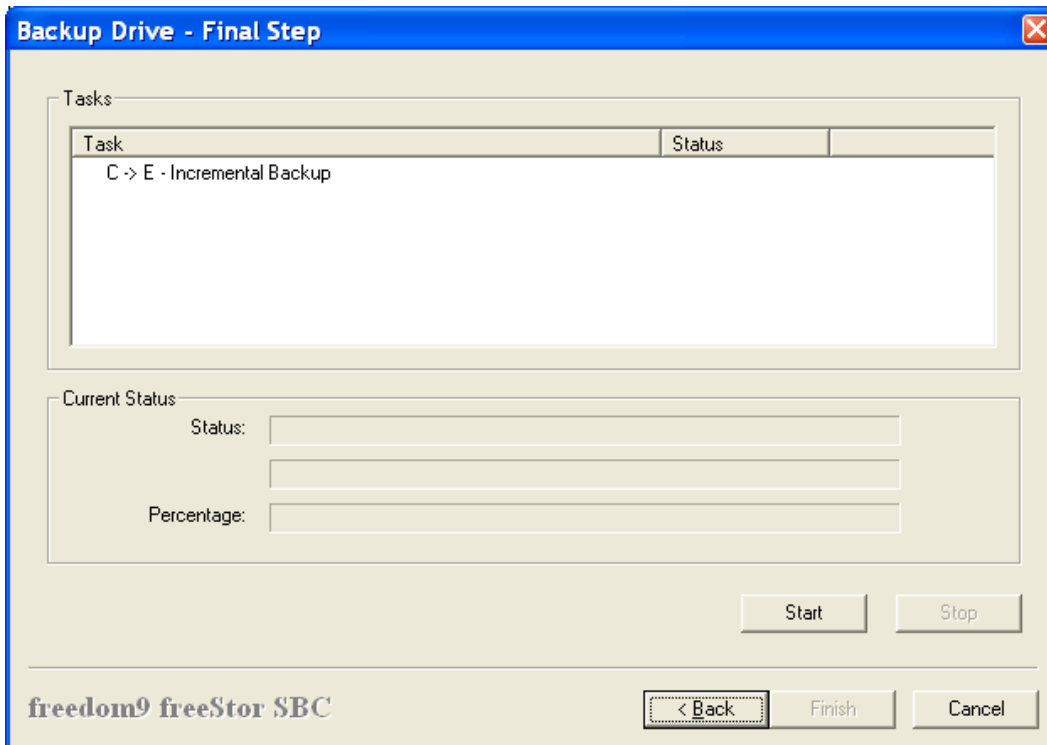


Figure 55: Incremental Backup Summary

6. The next screen displays the backup progress (Figure 56).

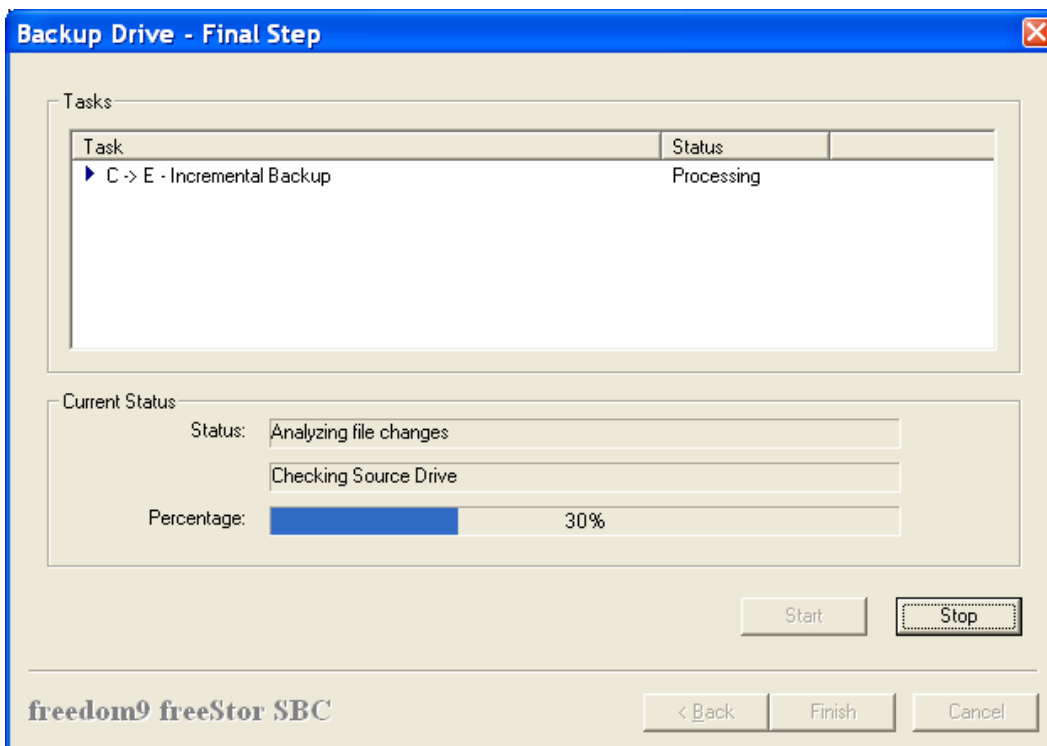
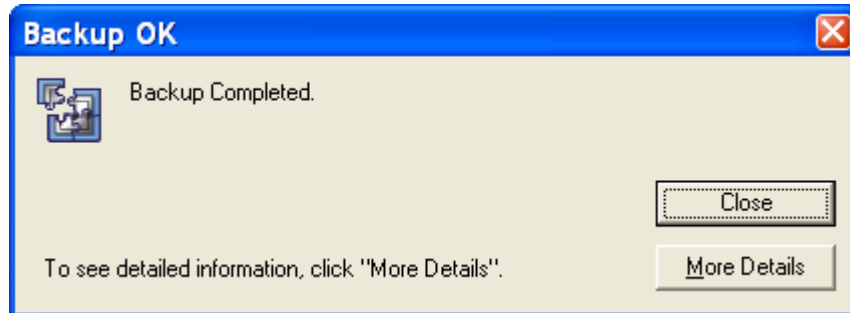


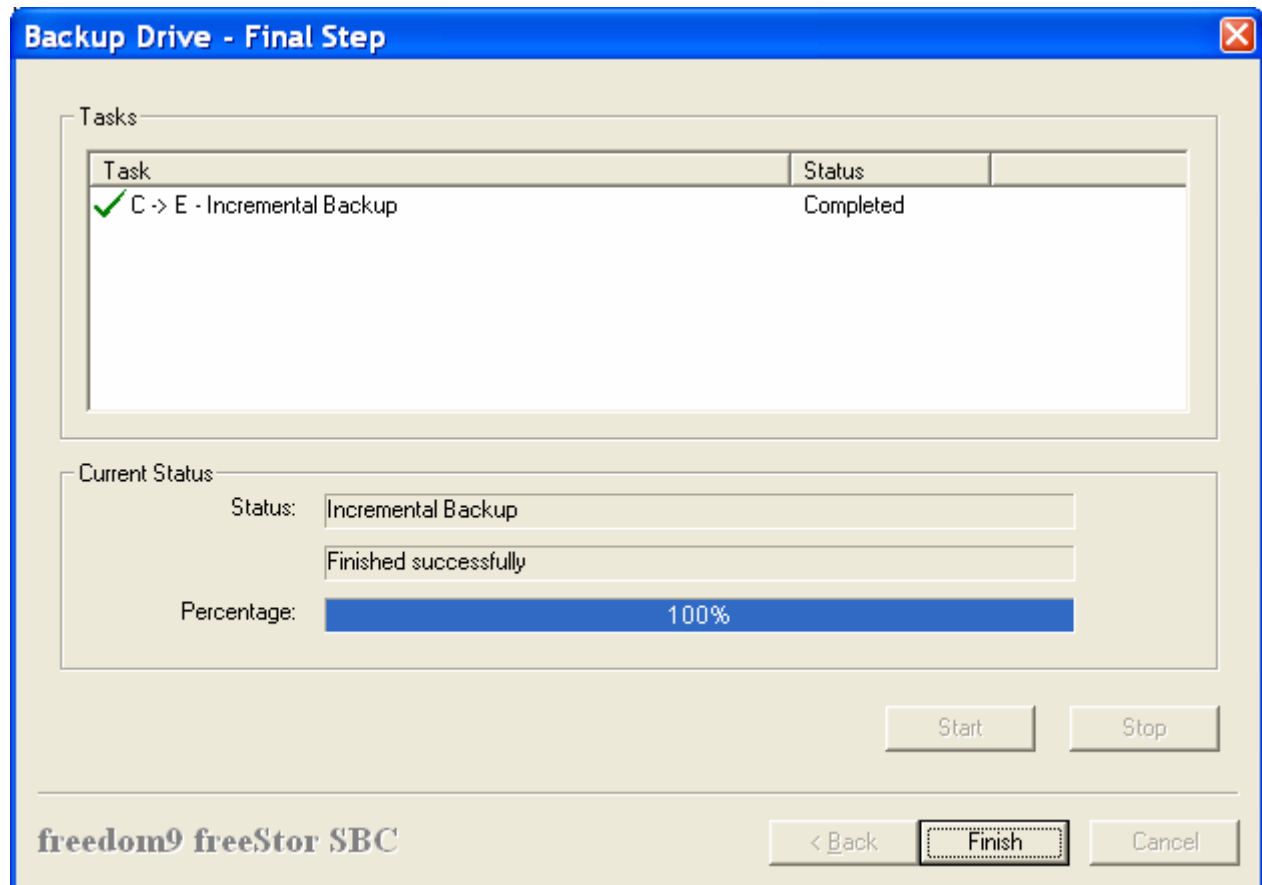
Figure 56: Incremental Backup Progress

- After the backup has been completed, click “Close” in the window that appears (Figure 57) to close the window. Clicking on “More Details” opens a text file with the detailed log of the backup.



**Figure 57: Incremental Backup Report**

- Click “Finish” to complete the incremental backup (Figure 58).



**Figure 58: Incremental Backup Completed**

### 4.3.3 Synthetic Backup

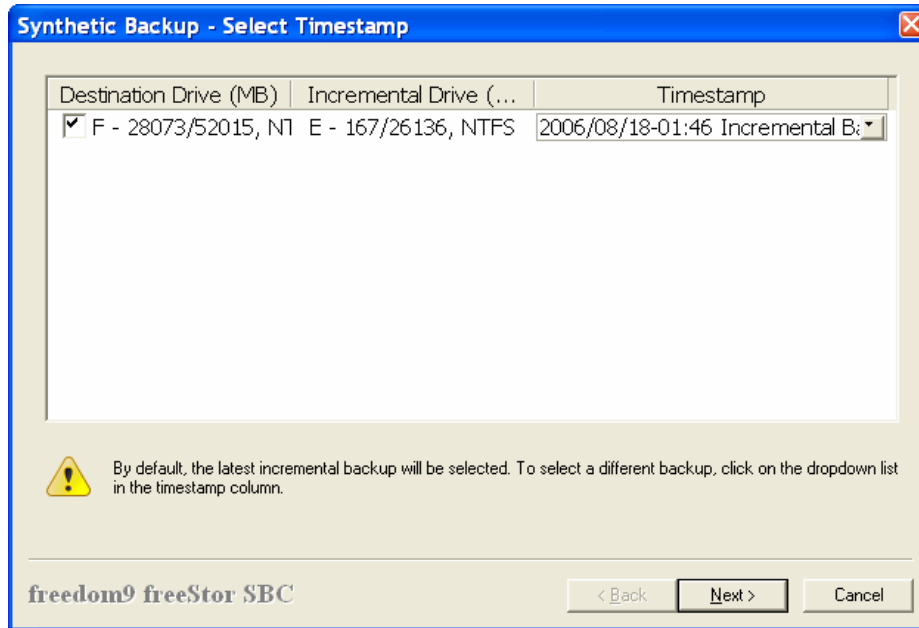
A Synthetic Backup merges data from old incremental backups into the full backup, freeing up the hard drive space taken up by the incremental backup, but no longer allowing you to restore from the original backup.

For example, if you perform a full backup on Monday and incremental backups on Tuesday and

Wednesday, and then perform a Synthetic backup of Tuesday's incremental backup into the full backup, then the Full Backup will consist of Tuesday's data, and you will no longer be able to revert to Monday's backup. Synthetic backups are only available with freeStor SBC Professional Edition.

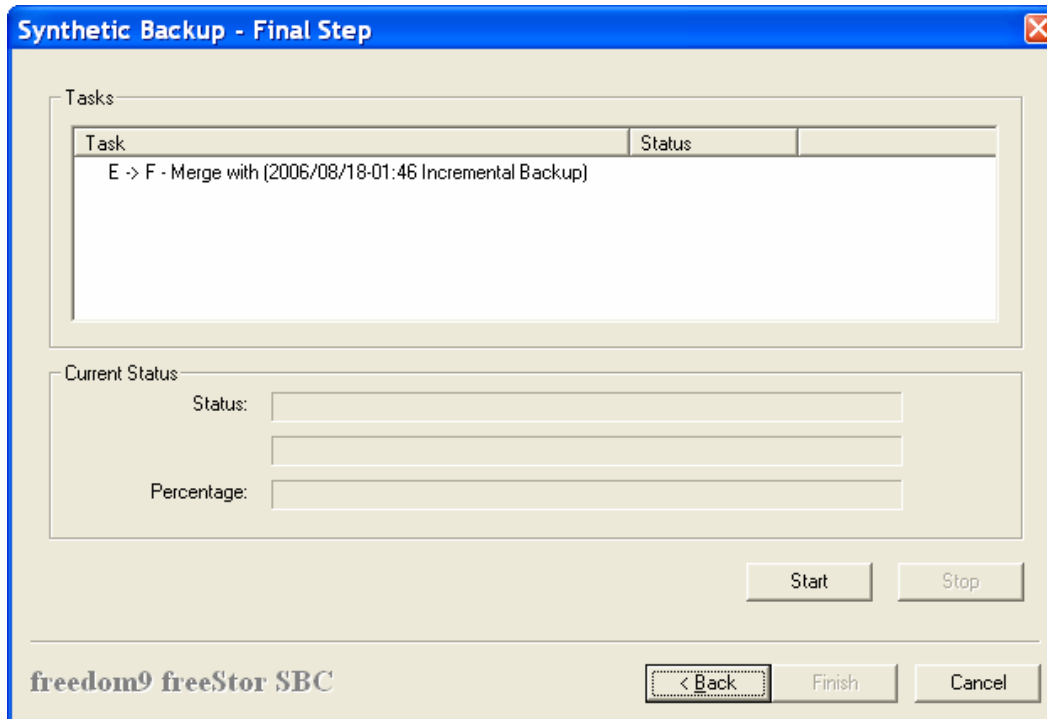
To perform a synthetic backup:

1. Select "Synthetic Backup" under the Drive menu.
2. On the next window (Figure 59), select a time stamp to merge with the full backup. All incremental backups up to and including the one selected will be merged with the full backup. Click "Next".



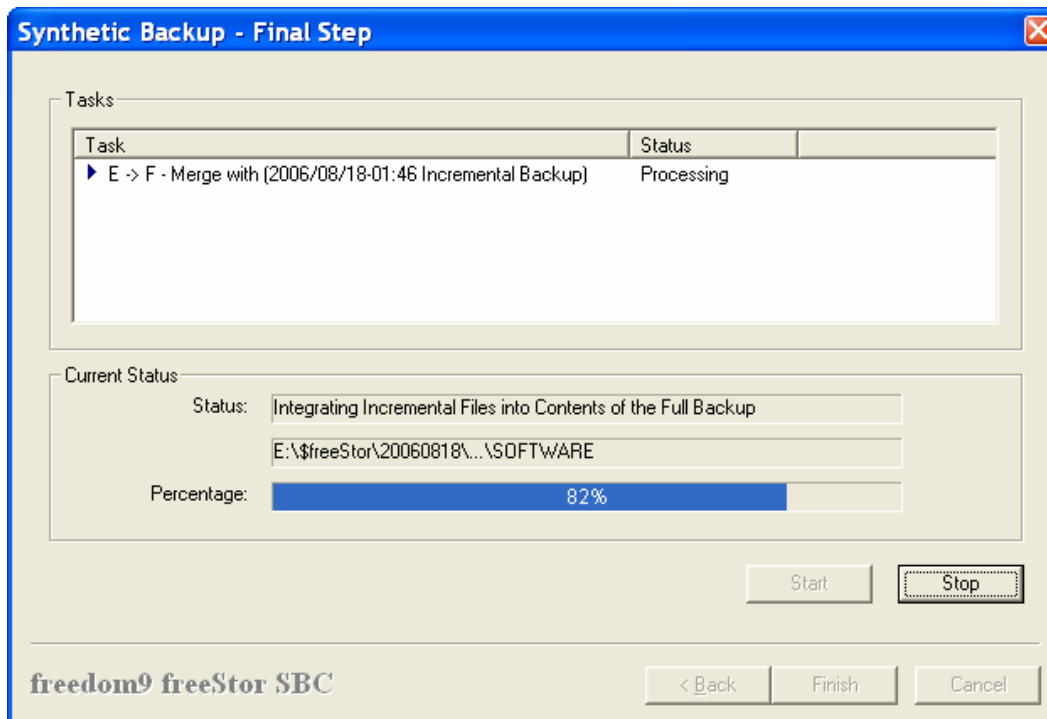
**Figure 59: Select Timestamp**

- The next window (Figure 60) shows a summary of the actions to be performed. Click “Start” button to begin the synthetic backup.



**Figure 60: Synthetic Backup Summary**

- The window displays the backup progress as the backup is running (Figure 61).



**Figure 61: Synthetic Backup Progress**

5. After the backup has been completed, click "Close" in the window that appears (Figure 62) to close the window. Clicking on "More Details" opens a text file with the detailed log of the backup.

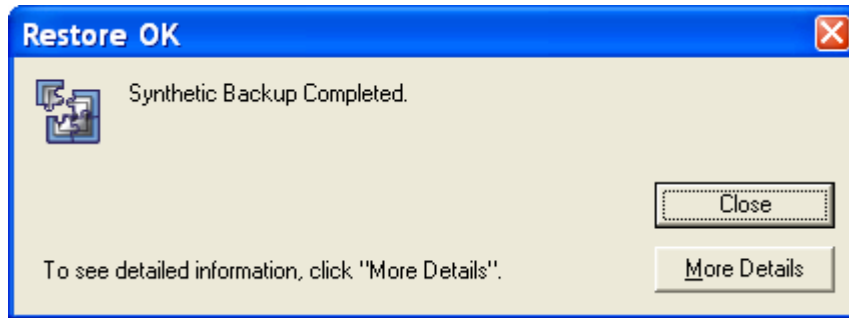


Figure 62: Synthetic Backup Report

6. Click "Finish" to complete the backup (Figure 63).

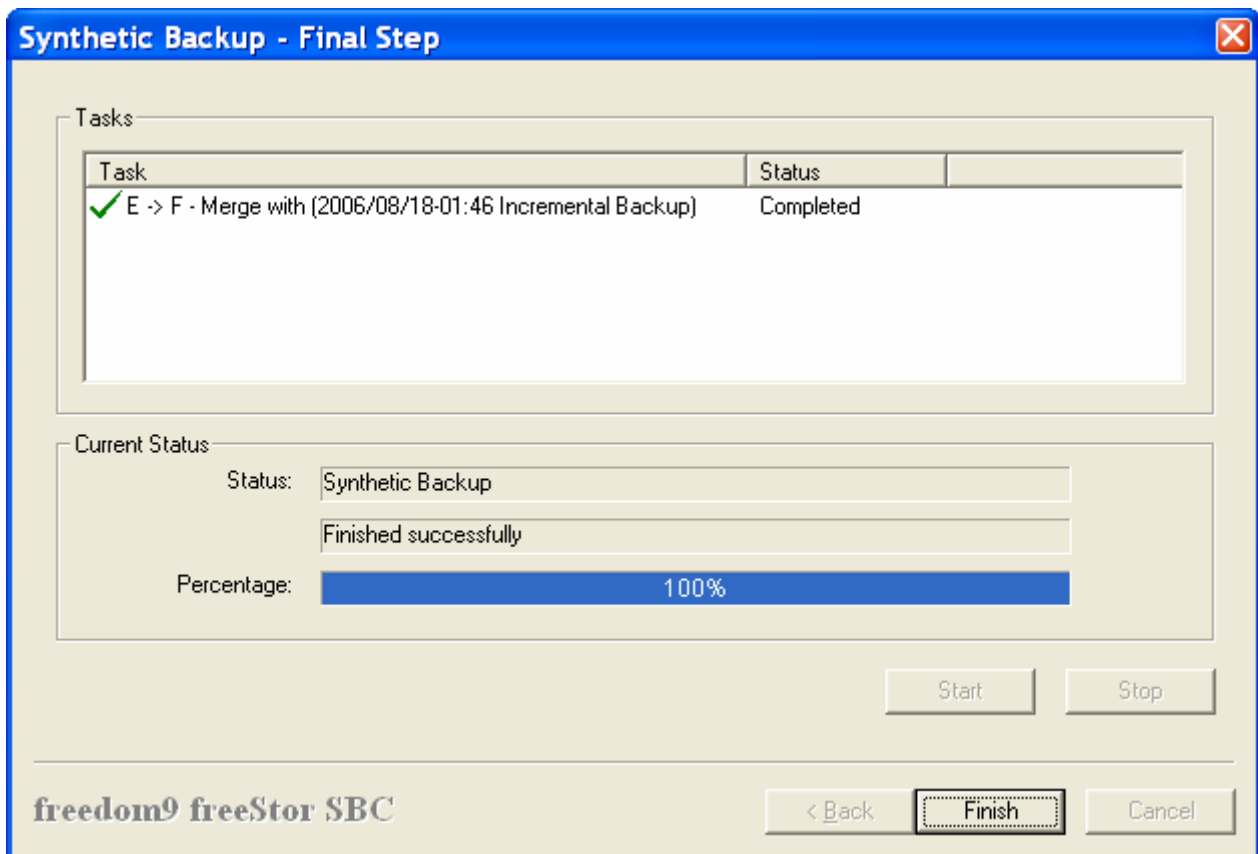


Figure 63: Synthetic Backup Completed

#### 4.4 Scheduled Backups

Backups can be scheduled to run automatically on a regular basis or during certain events such as when the computer starts up or is idling. To create a scheduled backup, first complete a full backup of the computer, and then follow these steps:

**Note:** For freeStor SBC Standard Edition, a full backup will be performed. For freeStor SBC Professional Edition, an incremental backup will be performed. If

there is not enough room to perform an incremental backup, a synthetic backup will be performed if set to do so (see Configuration section for details). Otherwise, the scheduled backup will be aborted.

1. Select “New” under the Schedule menu or right-click “Schedule” in the menu in the left window and select “New”.
2. In the “Create new schedule” window that appears (Figure 64), complete the fields as follows:

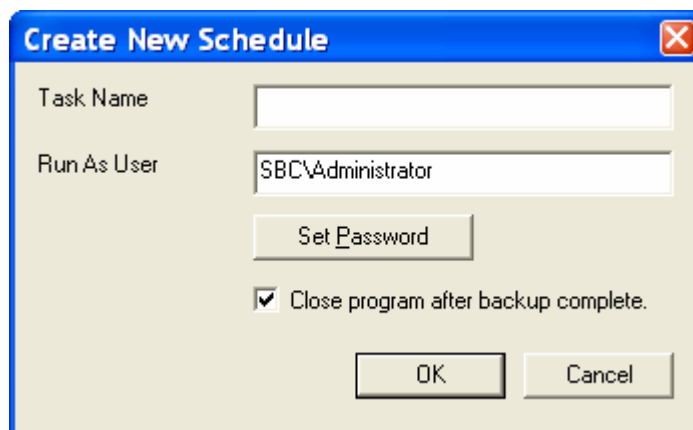
**Task Name:** A name given to the scheduled backup.

**Run As User:** Your Windows user name. Note that only users with Administrator rights can perform a scheduled backup.

**Set Password:** Your Windows password (optional).

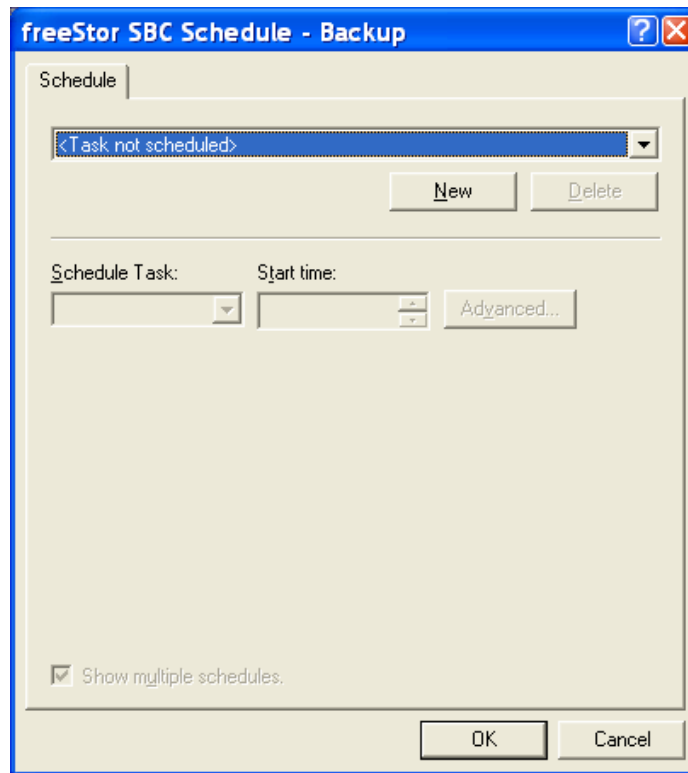
**Close program after backup complete:** If selected, freeStor SBC will shut down after completing the scheduled backup.

After filling out the fields, click “OK”.



**Figure 64: Create New Schedule**

3. On the next window (Figure 65), click "New".



**Figure 65: Schedule Window**

4. Under Schedule Task, select when these backups will run. The available options are listed below. Click the "Advanced" button for more advanced methods of defining the schedule.

**Daily:** Select the number of days between backups and the time of day to perform a backup.

**Weekly:** Select the number of weeks between backups, and the day(s) of the week and the time of day to perform a backup.

**Monthly:** Select which months and which day of the month to perform a backup.

**Once:** Select which day and time to perform a backup. It will only run once.

**At System Startup:** Perform a backup every time the system start up.

**At Logon:** Perform a backup every time you log into Windows.

**While Idle:** Perform a backup when your computer has been idle for a preset amount of time.





the system will restart automatically after the restore is completed from this menu.

**Set Synthetic Backup Policy:** Allows you to set which drives will automatically perform a synthetic backup when the incremental backup partition becomes full (Figure 68). If the synthetic backup policy is set to manual backup, then any incremental backups will fail after the drive becomes full.

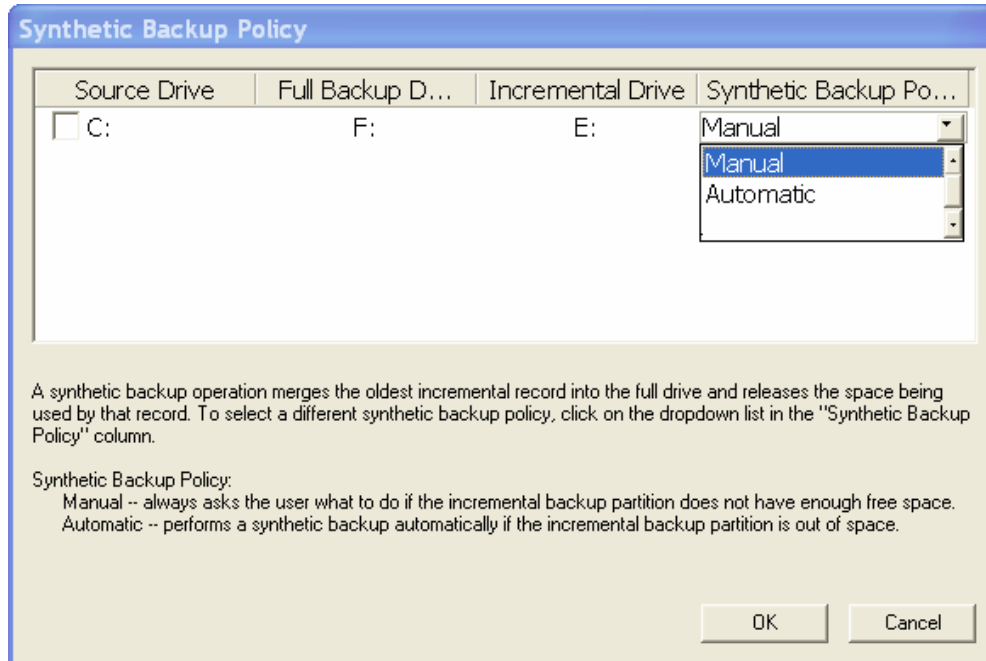


Figure 68: Synthetic Backup Policy

**Set Supported Users:** Allows you to set whether only the administrator or all users are able to use freeStor SBC.

**Miscellaneous Options:** Allows you to set whether or not freeStor SBC performs a backup as soon as a freeStor Mini 210/310 is connect to the computer. Also allows you to set whether or not freeStor SBC launches when Windows starts.

#### 4.6 One Touch Backup Button

The freeStor Mini 210/310 includes a one touch backup (OTB) button which allows you to back up your computer quickly and easily. After you perform a full backup with the freeStor SBC, you can perform an *incremental backup* (a full backup is performed with freeStor SBC Standard Edition) just by pushing the button on the freeStor Mini 210/310 enclosure (Figure 69).



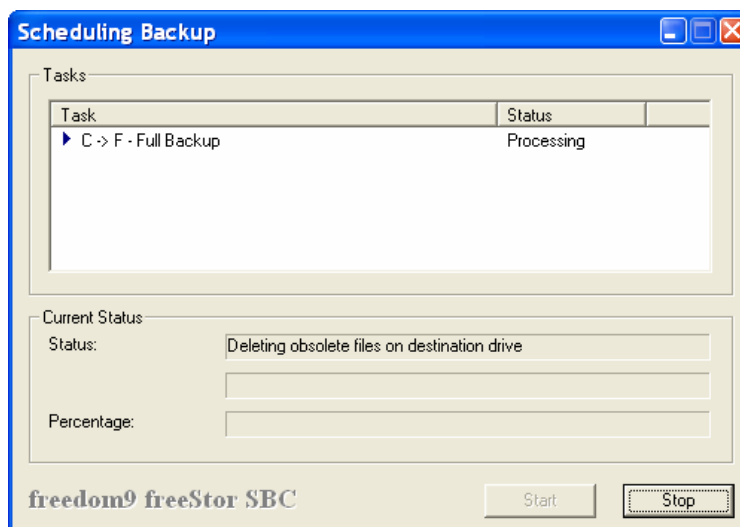
**Figure 69: One Touch Backup Button**

**Notes:**

To perform a one touch backup, the following conditions must be met:

- A full backup must have been completed using the freeStor SBC software.
- The computer must be on.
- freeStor SBC must be running (by default, freeStor SBC starts automatically when the user logs into Windows).

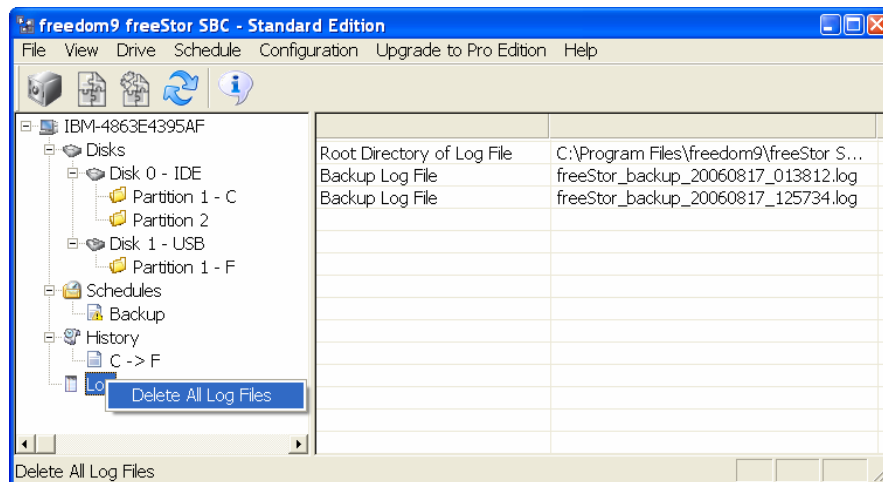
After the OTB button is pressed, freeStor SBC will start performing a backup automatically. The following screen displays the status of the backup (Figure 70). If you are using freeStor SBC Standard Edition, a full backup will be performed. Note that the old backup will be deleted before the new backup is performed, so if you stop the backup before it is completed, you will no longer have a useable backup on the unit.



**Figure 70: Automatic Backup Status**



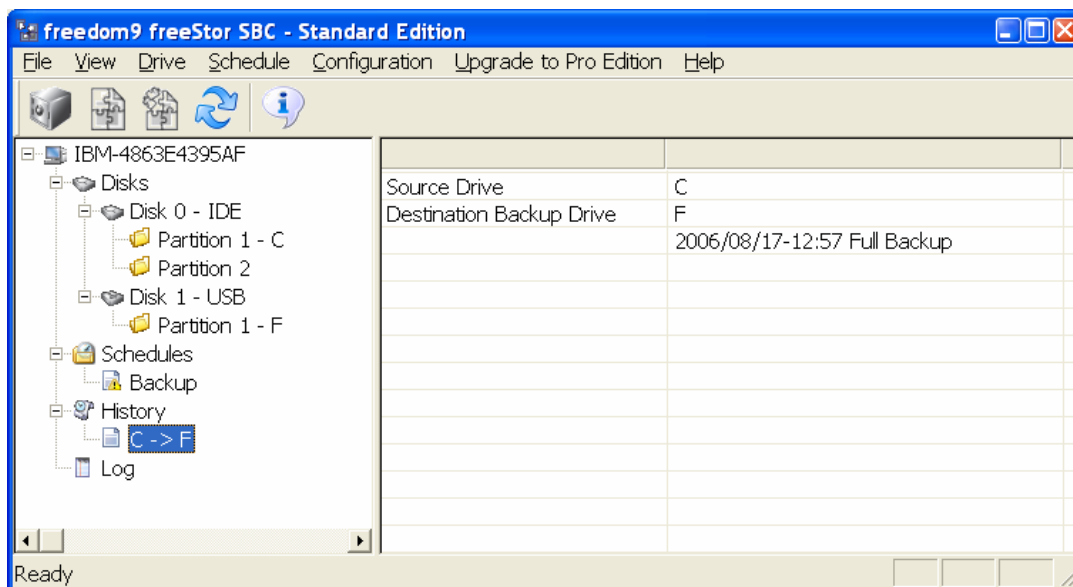
If you want to delete all of the backup log files, right-click on “Log”, then select “Delete All Log Files”. (Figure 73).



**Figure 73: Delete Backup Log Files**

## 4.8 Backup History

You can view the history of backups performed by freeStor SBC by expanding the “History” item in the left menu, then select the partition to view the history for (Figure 74).



**Figure 74: Backup History**

## 4.9 Restoring from a Backup

freeStor SBC allows you to quickly recover from a failed hard drive by saving you from the time required to reinstall the operating system, reload all of the applications, and recover all of the data manually. Instead, you can boot your system directly from the freeStor Mini 210/310 and restore the operating system, applications, and data to the new hard drive quickly and easily.

If you do not need to recover your entire hard drive, you can also recover specific files or

directories from the freeStor Mini 210/310. Also, if you have performed incremental backups, you can recover your drive to any of the previous versions available.

For example, if you perform a full backup on Monday and then perform incremental backups on each following weekday, and on Friday you find out that some files on your computer were infected by a virus on Thursday, you can recover your files from the Wednesday incremental backup to a point before they were infected by the virus.

There are two ways of performing a system restore. The first method is called USB Boot, and it allows you to use your computer using the freeStor Mini 210/310 as if it was an internal hard drive, allowing you to continue to work without any downtime, and then recover the hard drive when it is convenient for you. However, this method is only supported by computers that support USB Boot in the BIOS. The second method is to use the Recovery CD included with the unit, and is more widely supported. The following sections provide detailed instructions on both methods of recovery.

**Note:** Some computers running Microsoft Windows XP don't support booting up from an external USB HDD if there is no internal HDD installed in the computer.

#### 4.9.1 System Restore using USB Boot

A system restore will overwrite the data on the local drive with the backed up system drive. This is used in the event of a hard drive failure to restore the operating system, applications, and data. To perform a system restore by booting from the freeStor Mini 210/310, follow these steps:

1. Install your new hard drive.

**Note:** If you are not restoring to a new, blank hard drive, please delete all original partitions off of the replacement hard drive.

2. When starting up your computer, enter the BIOS (Figure 75). Each computer has a different way to access its BIOS settings. Usually, when you start the computer, you can see a message that tells you to press a specific key or keys to access the system settings. Common keys to access the system BIOS are <F1>, <Esc>, and <Del>.

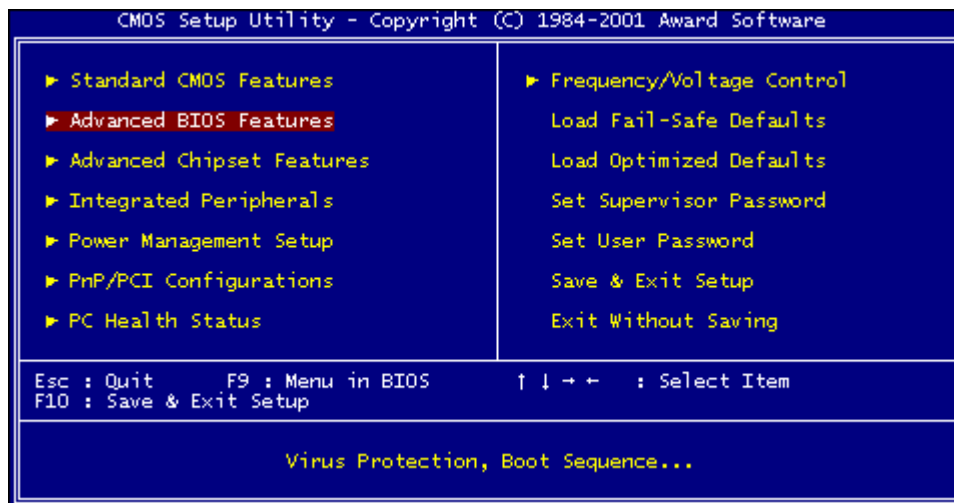
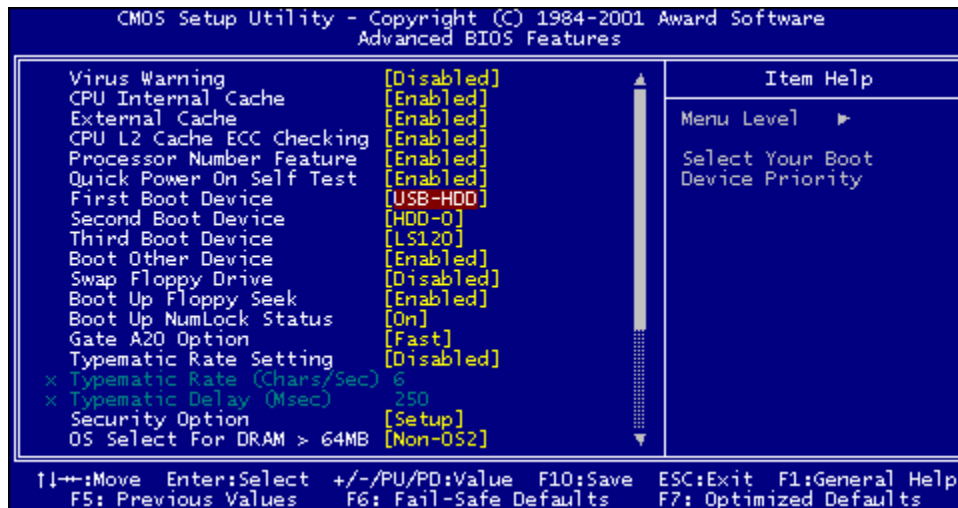


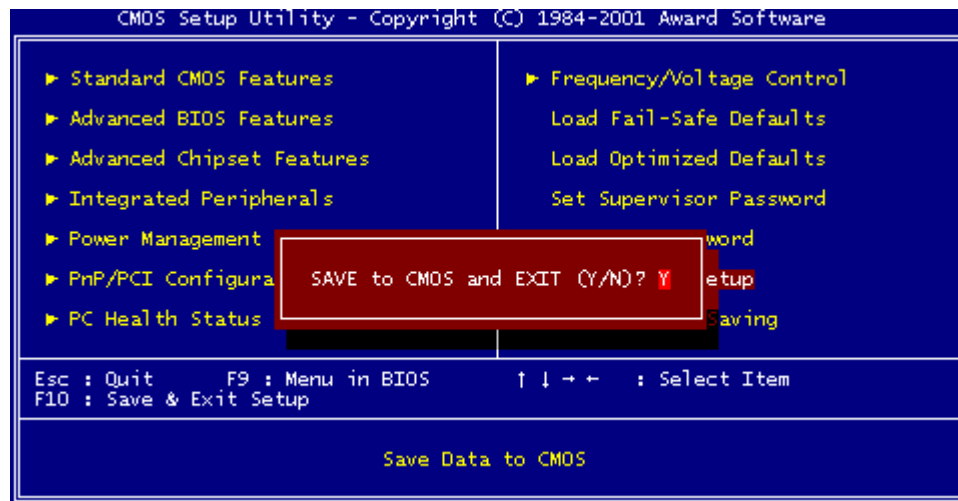
Figure 75: System BIOS

3. Change the boot order on your computer to boot from the external USB hard drive first (Figure 76). The name and menu options vary for each computer.



**Figure 76: Setting First Boot Device to USB-HDD**

4. Exit and save the BIOS (Figure 77).

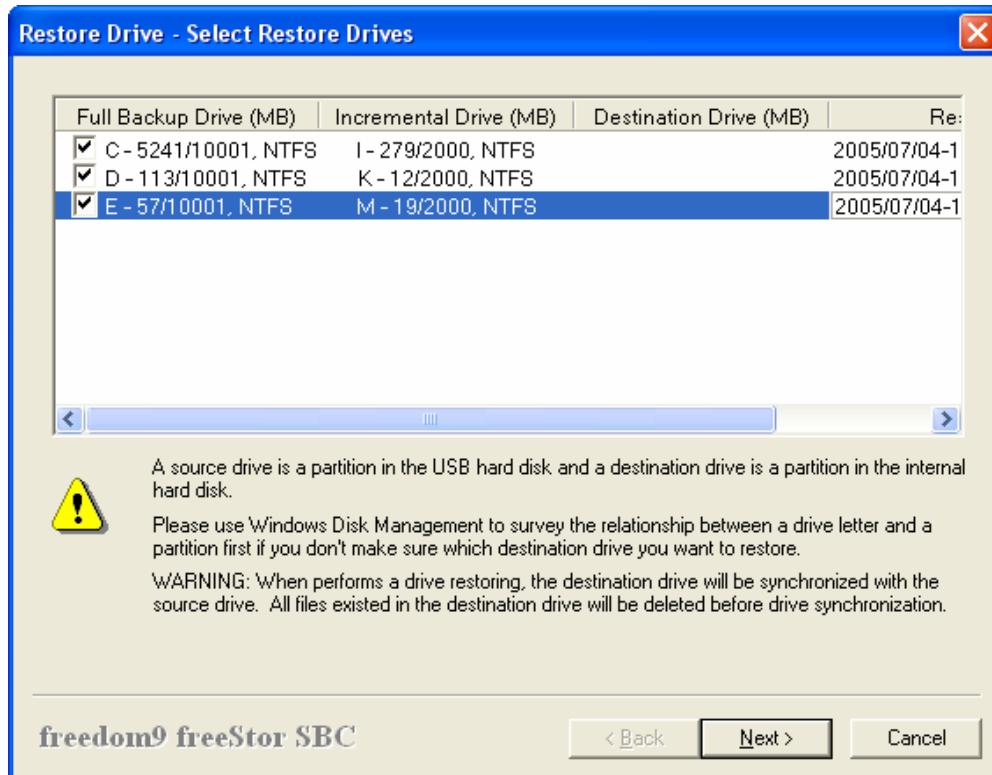


**Figure 77: Exit and Save BIOS**

**Note:** If you are using Windows 2000, the following message may be displayed when booting from an external USB drive: “Memory limitation: your system has no page file or the page file is too small”. This message can be safely ignored as the system will create a temporary page file automatically.

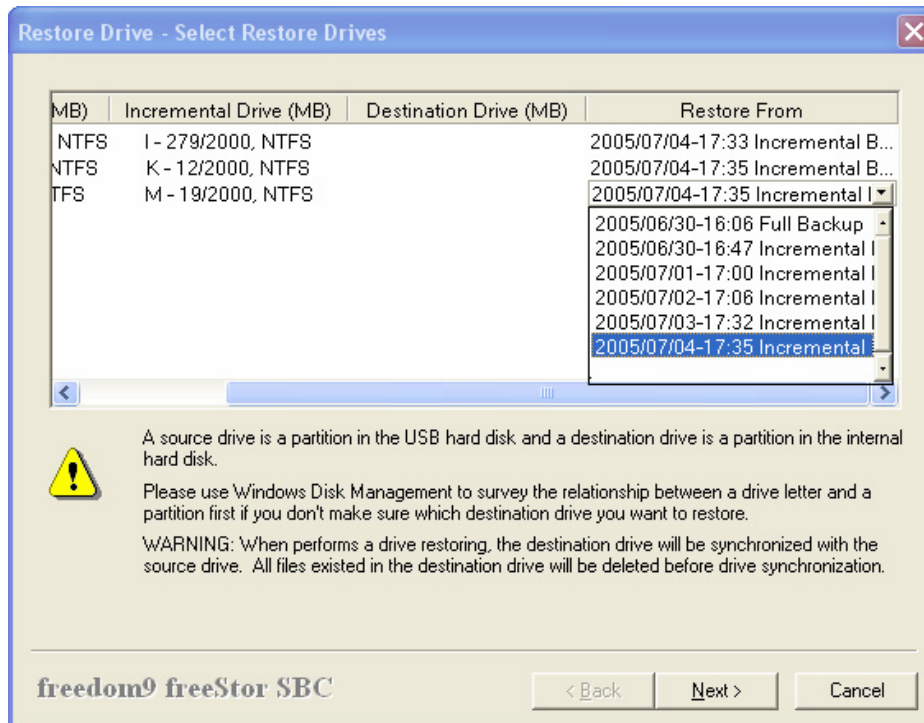
5. When booting from the freeStor Mini 210/310, freeStor SBC will display a message to remind you that you are booting from an external USB drive.
6. Once Windows finishes booting up, start freeStor SBC if it is not already running.
7. Click the Restore Drive button in the toolbar on the main freeStor SBC window, or select “Restore Drive” under the Drive menu, or right-click the freeStor SBC icon in the Taskbar and select “Restore Drive”.

- Select the drive(s) you would like to restore (Figure 78).



**Figure 78: Select Restore Drives**

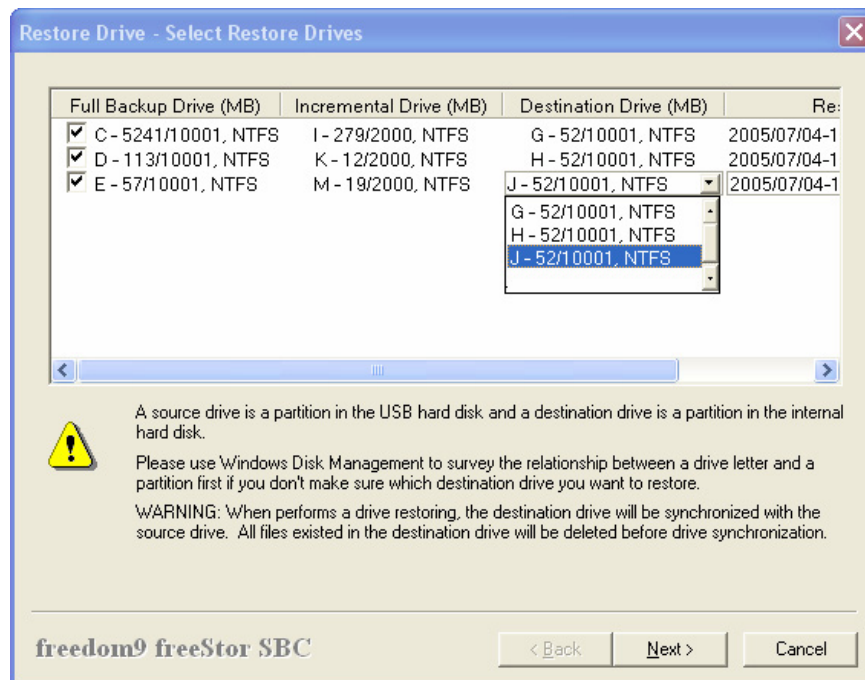
- Select the version of the backup you wish to restore from based on the backup date (Figure 79).



**Figure 79: Select Restore Version**

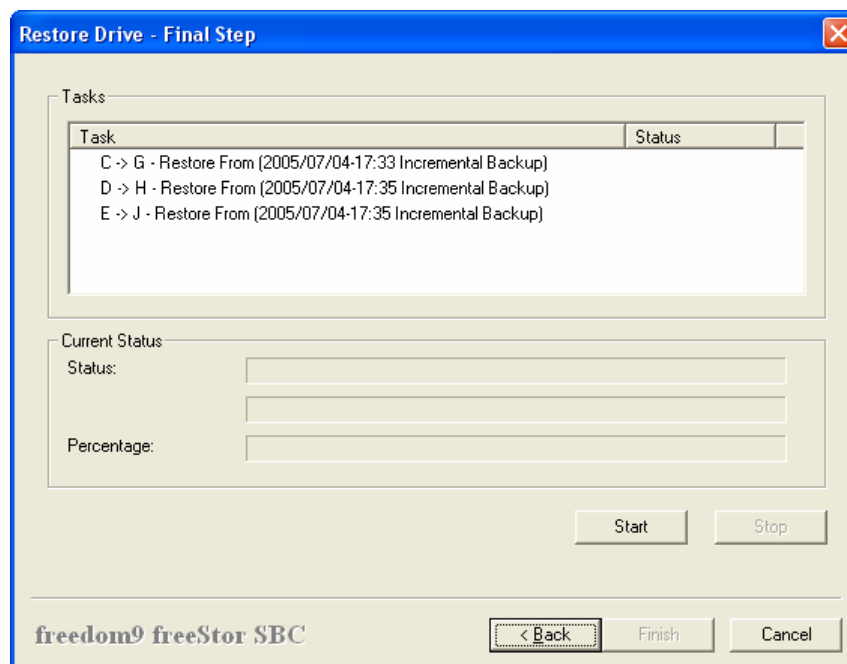


10. If the hard drive you are restoring to isn't formatted or properly partitioned, freeStor SBC will create the partitions and format it automatically (see the section "Preparation of Drive for System Restore" for detailed instructions).
11. Select the drives to restore to (Figure 80). Click "Next".



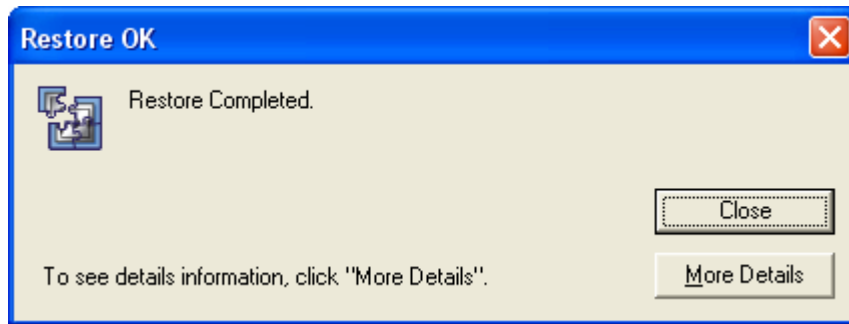
**Figure 80: Select Destination Drives**

12. On the next screen (Figure 81), click "Start" to start the restoration. The screen shows the progress of the restoration while it is running.



**Figure 81: Drive Restore Summary**

13. After the restore has been completed, click "Close" in the window that appears (Figure 82) to close the window. Clicking on "More Details" opens a text file with the detailed log of the restore.



**Figure 82: Drive Restore Report**

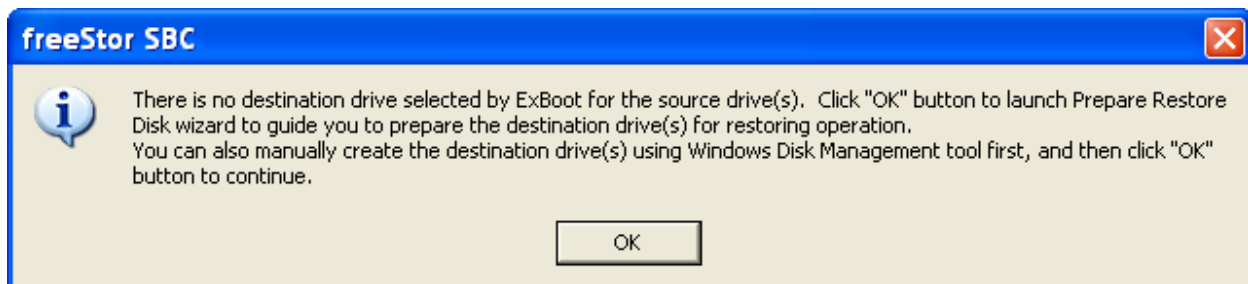
14. Finally, click "Finish" to complete recovery process.

**Note:** If you select the wrong version (date) to restore, you can perform the restore again with the correct version.

**Note:** After you have restored your hard drive, it is suggested to perform a full backup again.

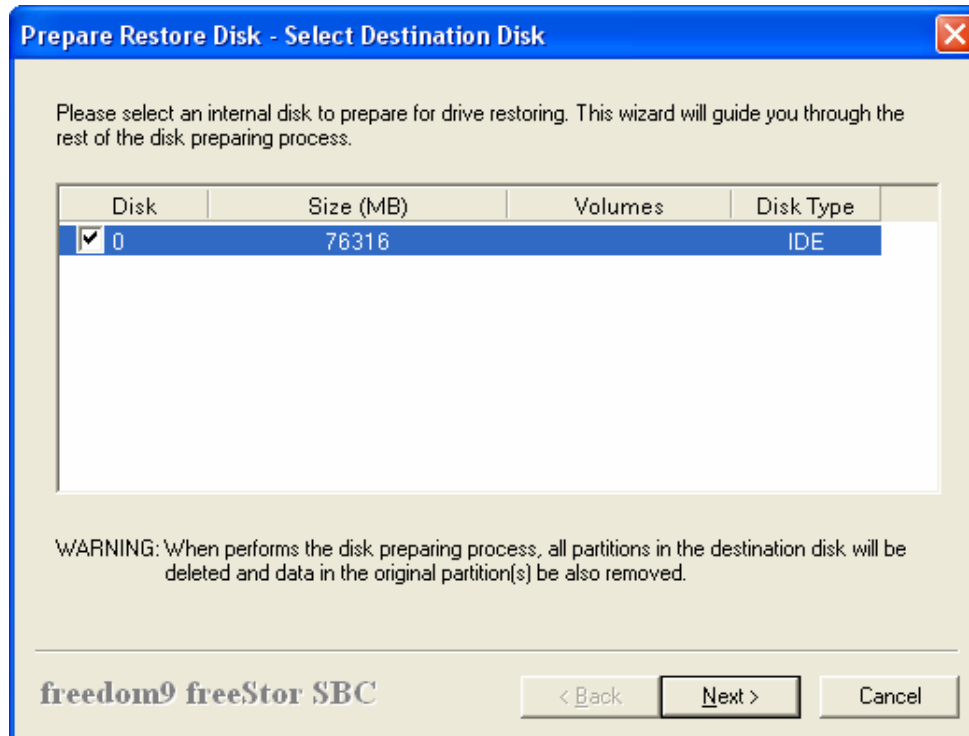
#### 4.9.2 Preparation of Drive for System Restore

1. If the hard drive you are restoring to do not have any partitions on it, freeStor SBC will create the partitions and format it automatically (Figure 83).



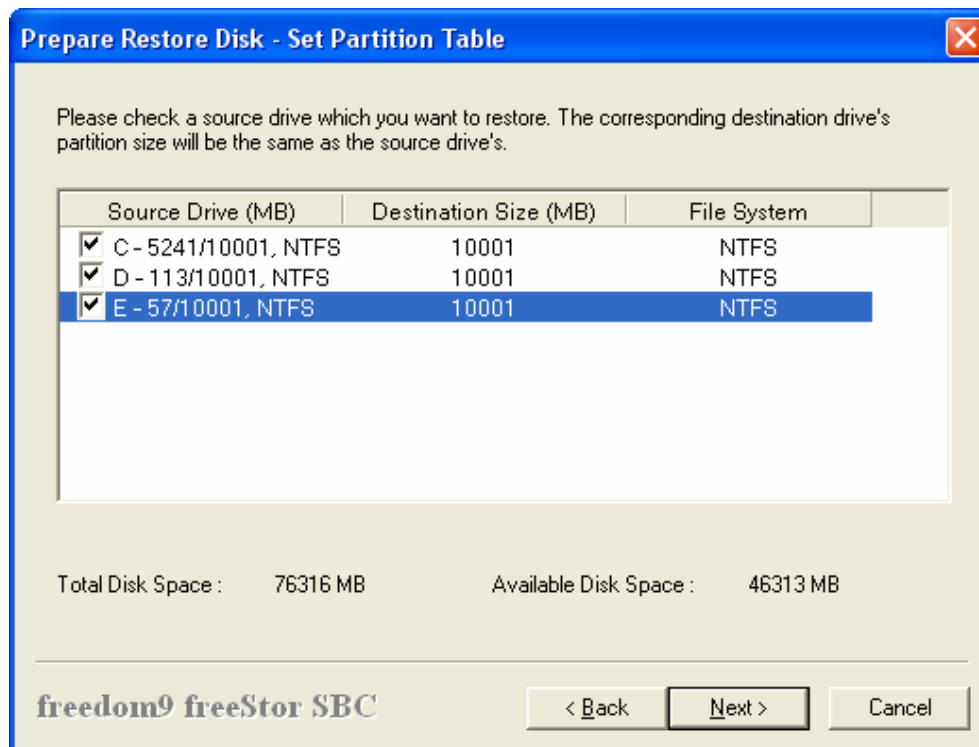
**Figure 83: Partition and Format of New Drive**

2. Select the internal disk to format and partition in preparation for drive restoration (Figure 84).



**Figure 84: Internal Disk Selection**

3. Select the source drive(s) in order to determine the size of the partitions (Figure 85).



**Figure 85: Select Source Drives**

4. On the next screen (Figure 86), click "Start" to begin the restoration.

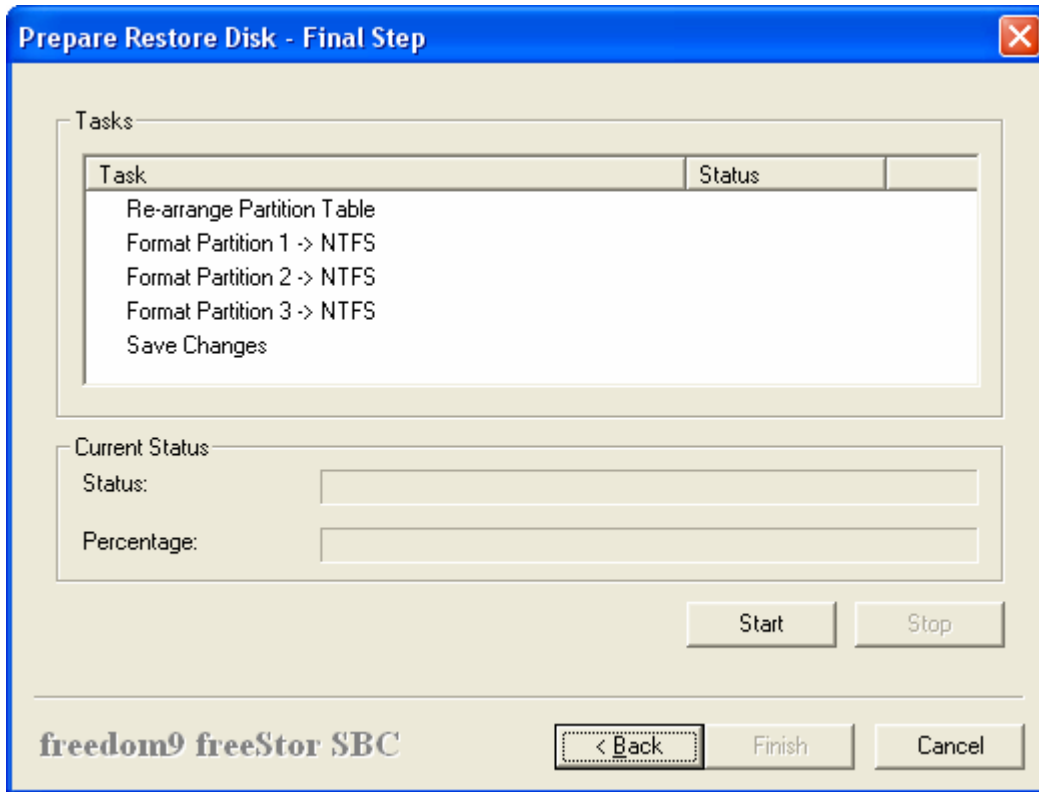


Figure 86: Format Disk Summary

5. On the next prompt (Figure 87), click "Yes" to continue.

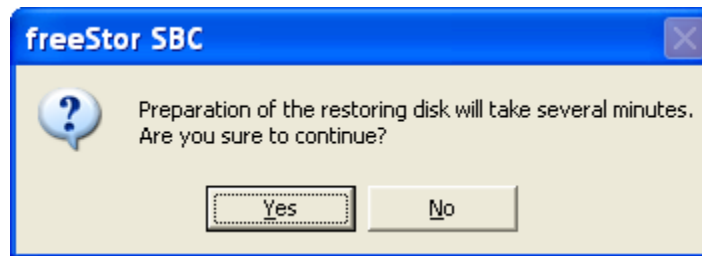
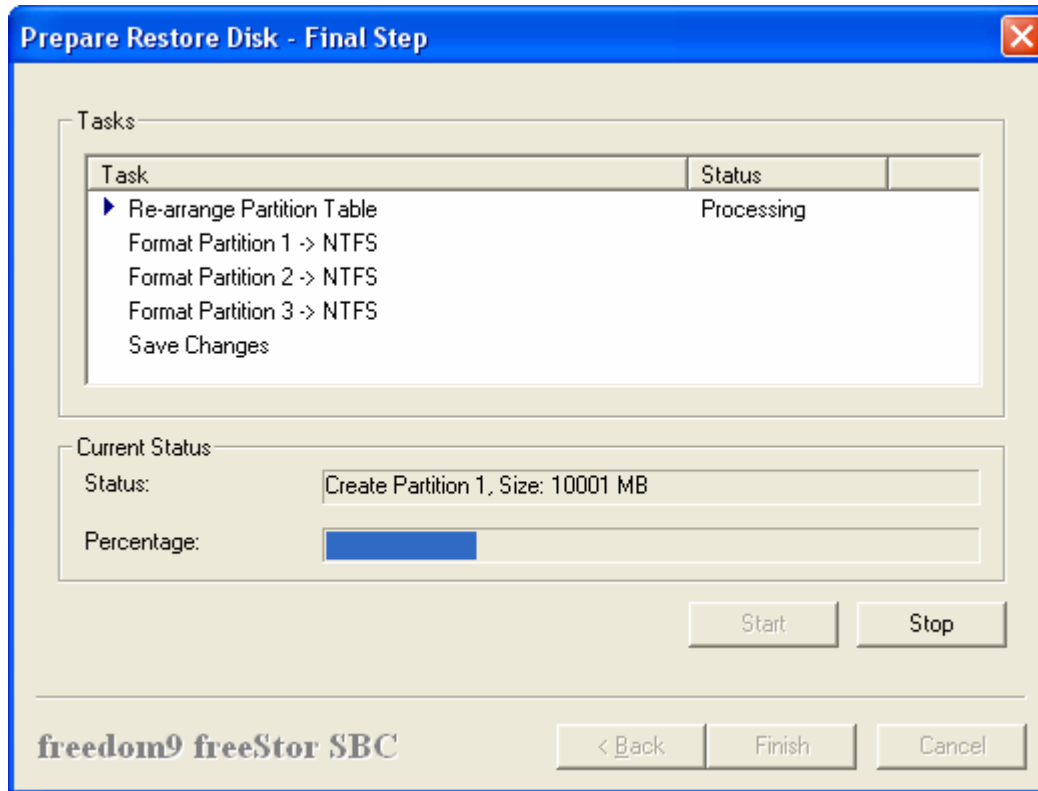


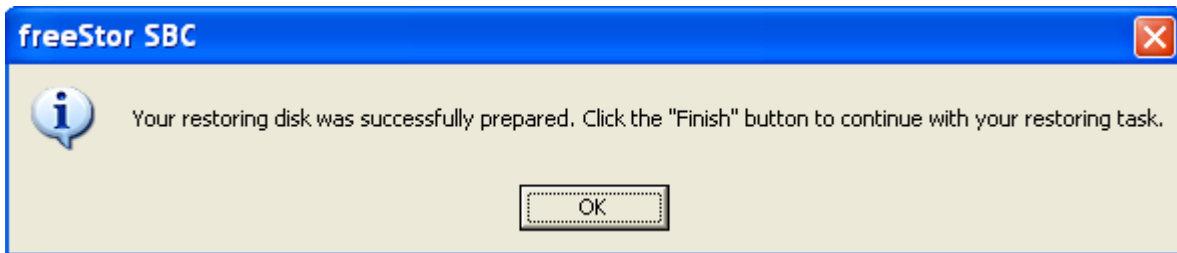
Figure 87: Format Warning

6. The screen displays the status of the preparation (Figure 88)



**Figure 88: Format Disk Progress**

7. Once the preparations are completed, click "OK" (Figure 89).



**Figure 89: Finishing hard drives preparation**

8. Finally, click "Finish" to start the recovery process (Figure 90).

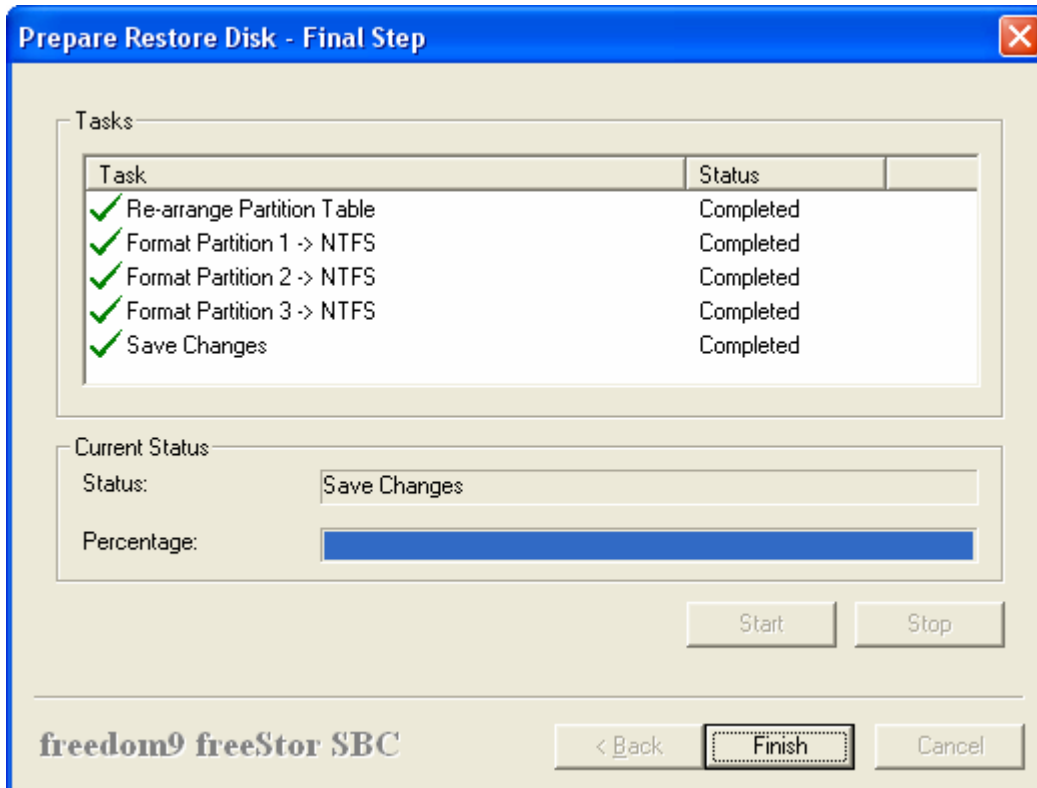


Figure 90: Format Disk Completed

### 4.9.3 System Restore using Recovery CD

1. Insert the freeStor SBC Recovery CD into the CD-ROM drive.
2. Change your BIOS settings to select Boot from CD-ROM as first option (consult your motherboard manual for detailed instructions).
3. Save BIOS setting and continue to boot from freeStor SBC Recovery CD.
4. Windows will start normally, and then the freeStor SBC logo will be displayed on the screen.
5. When freeStor SBC starts, follow the instructions starting from step 7 under the section "System Restore using USB Boot" to restore your data.

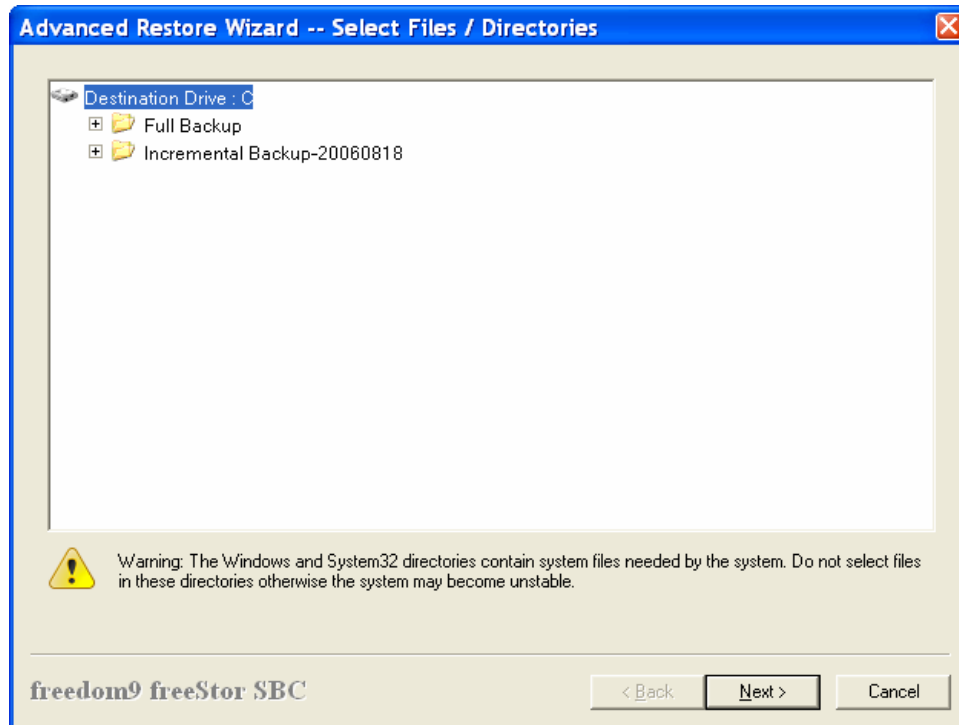
### 4.9.4 Restoring Individual Files and Directories

freeStor SBC allows you to restore individual files and directories from full or incremental backups. This is useful if individual files have been accidentally deleted, corrupted, or otherwise changed. To restore individual files or directories, you can use a file browsing software such as Windows Explorer to view the files on the freeStor Mini 210/310 hard drive itself, and browse the backup partitions to view the previous versions of the files. Restoring of individual files and directories is only available with freeStor SBC Professional Edition.

An alternative method of restoring individual files and directories is to use the interface in freeStor SBC as follows:

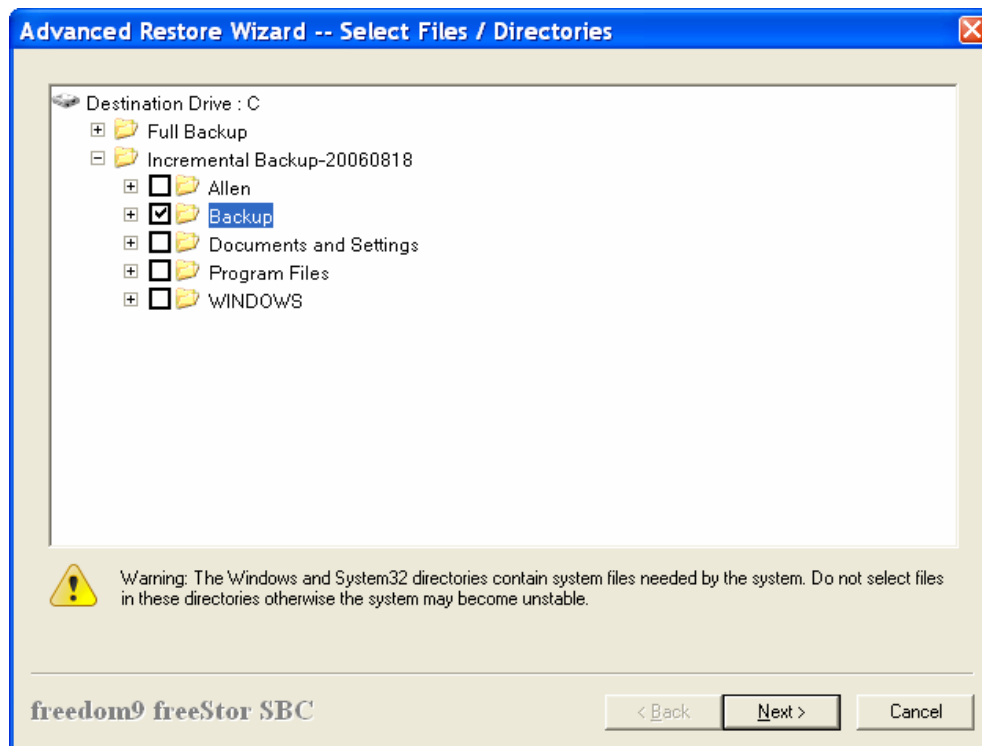
1. Select "Individual Restore" under the Drive menu.
2. In the wizard window, open the folder that contains the version of the backup that you want

to restore from (Figure 91).



**Figure 91: File and Directory Restore Wizard**

3. Select the files and/or directories that you want to restore, then click “Next” (Figure 92).



**Figure 92: File and Directory Restore Selection**

4. On the next screen (Figure 93), confirm that the files to restore are correct. Any files listed in red are system files (Figure 94). Click "Next" to proceed.

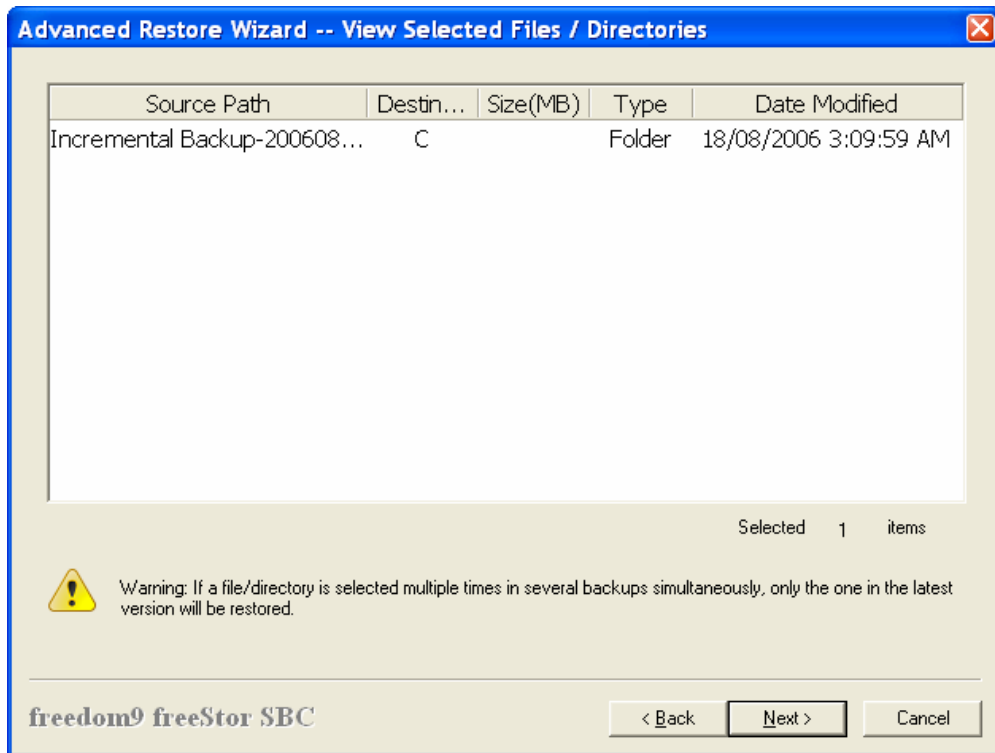


Figure 93: File and Directory Restore Confirmation

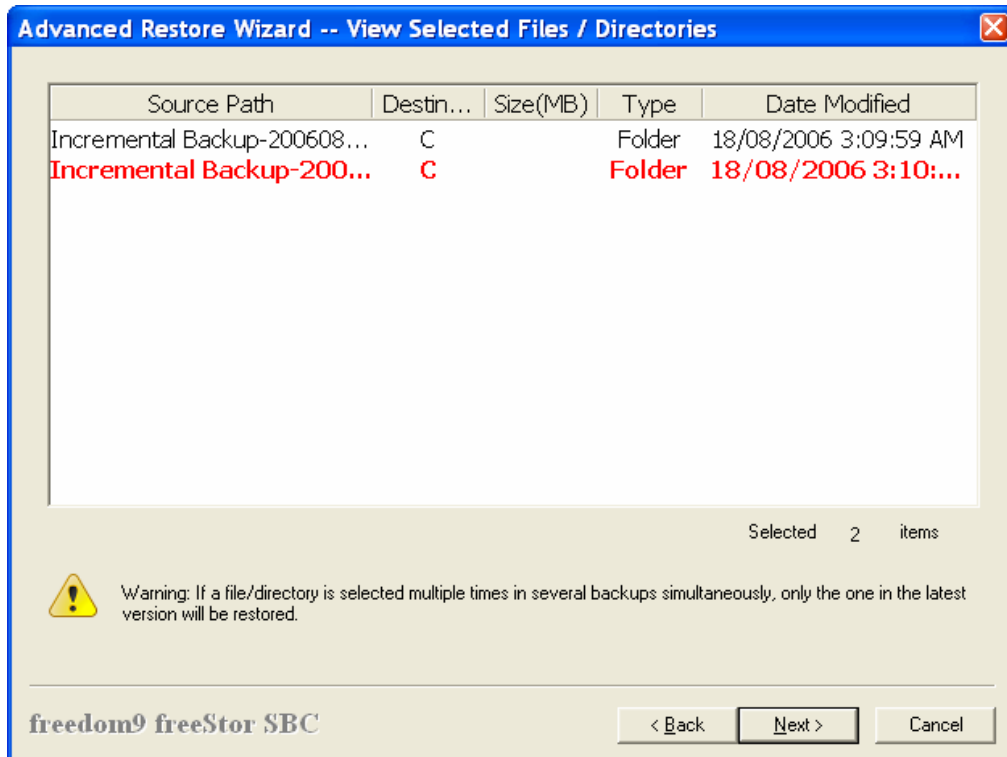
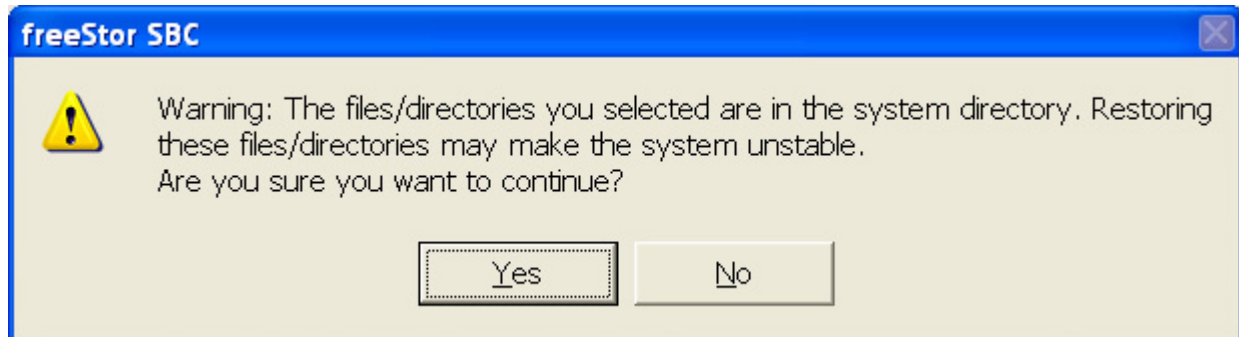


Figure 94: Highlighted System Files

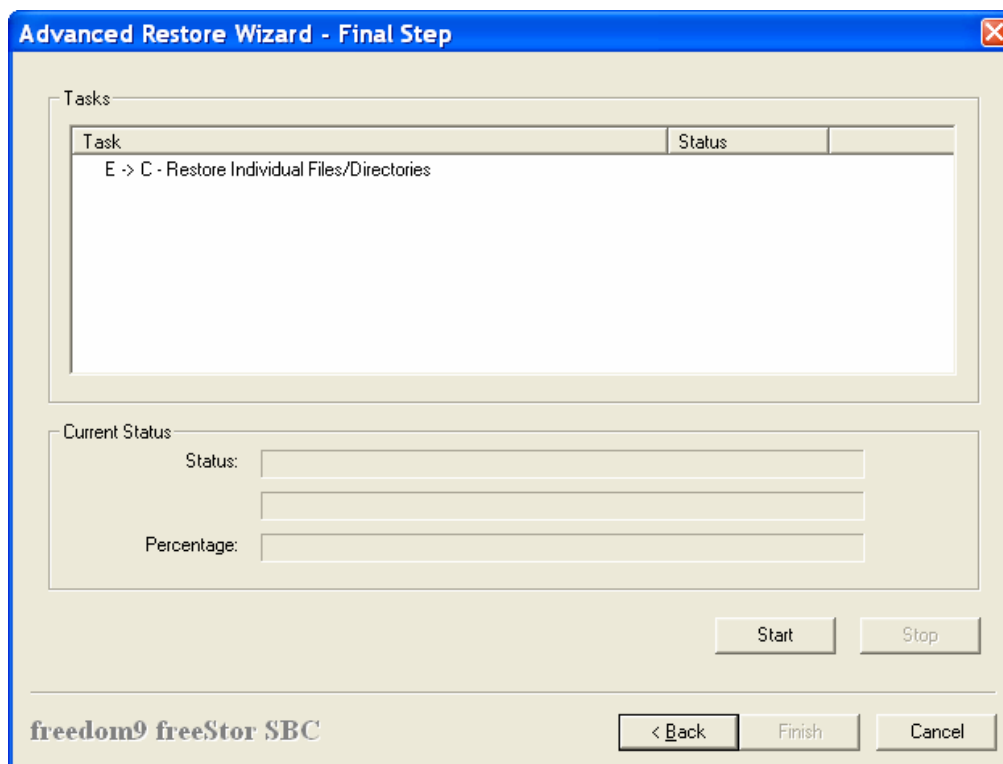


- If you attempt to restore any system files, a warning will be displayed (Figure 95) stating that continuing with the restore might cause the operating system to become unstable. If you would like to proceed with the restore, click “Yes”. Otherwise, click “No” and change the files you would like to restore. It is advised not to restore individual system files in this manner as it may cause your computer to become unstable.



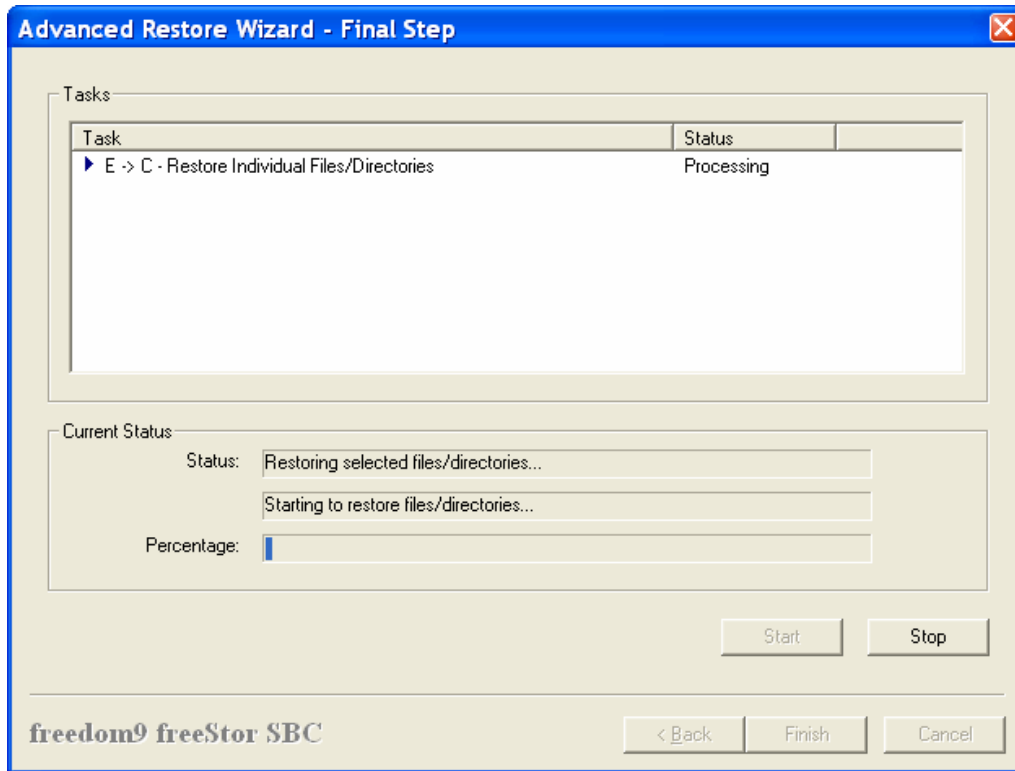
**Figure 95: System File Restore Warning**

- On the next screen (Figure 96) click “Start” to begin the restore process.



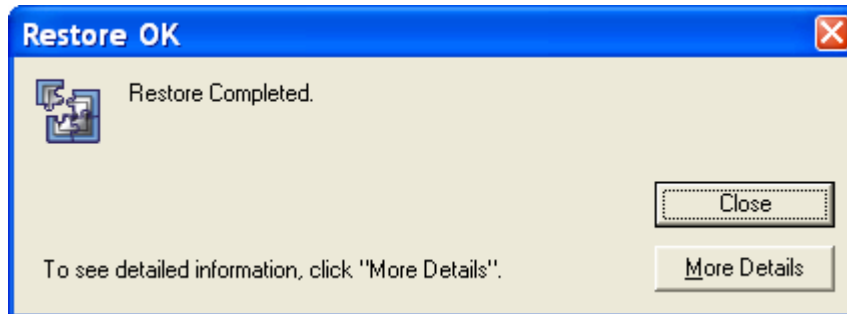
**Figure 96: File and Directory Restore Summary**

7. The screen displays the backup progress as the backup is running (Figure 97).



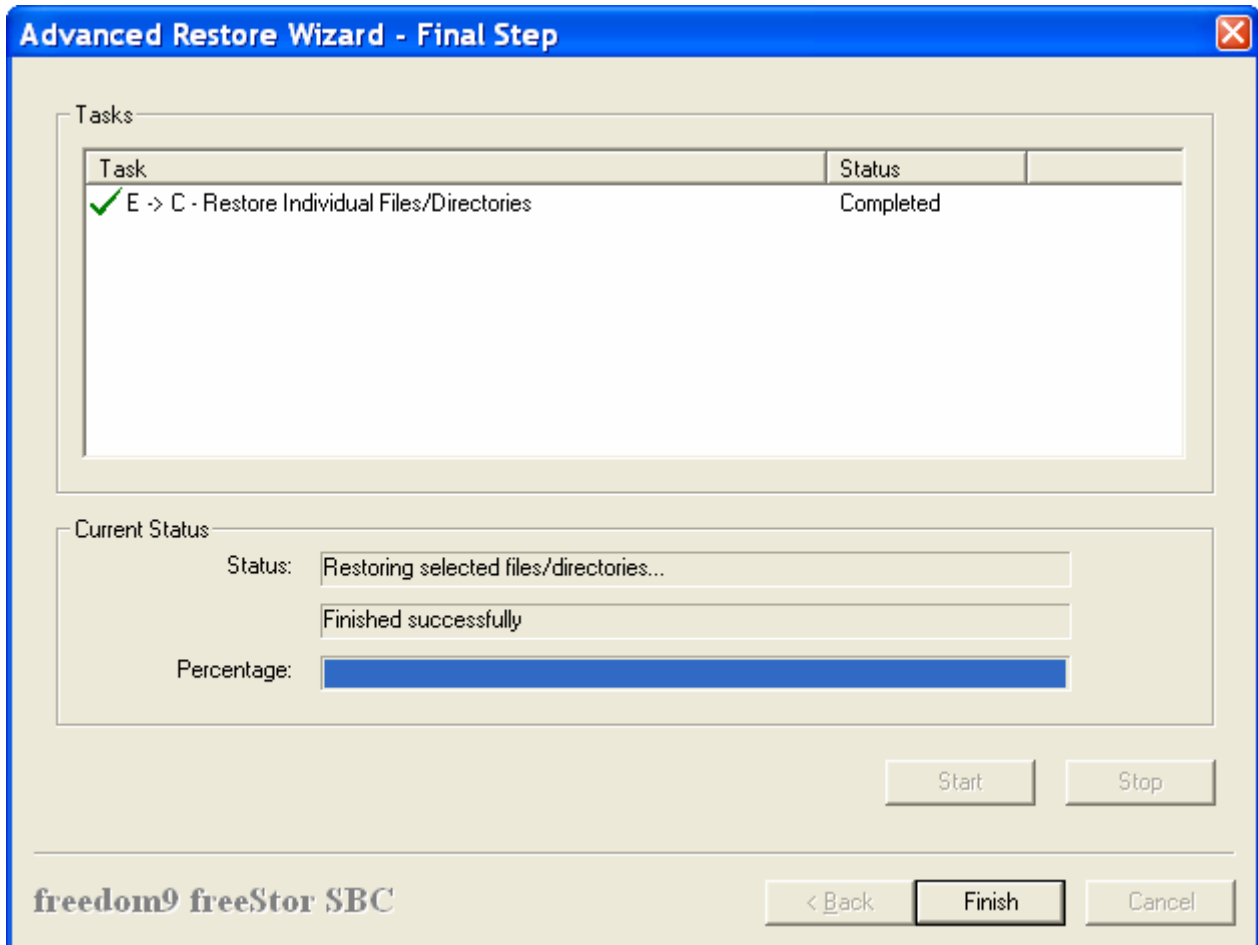
**Figure 97: File and Directory Restore Progress**

8. After the restore has been completed, click "Close" in the window that appears (Figure 98) to close the window. Clicking on "More Details" opens a text file with the detailed log of the restore.



**Figure 98: File and Directory Restore Report**

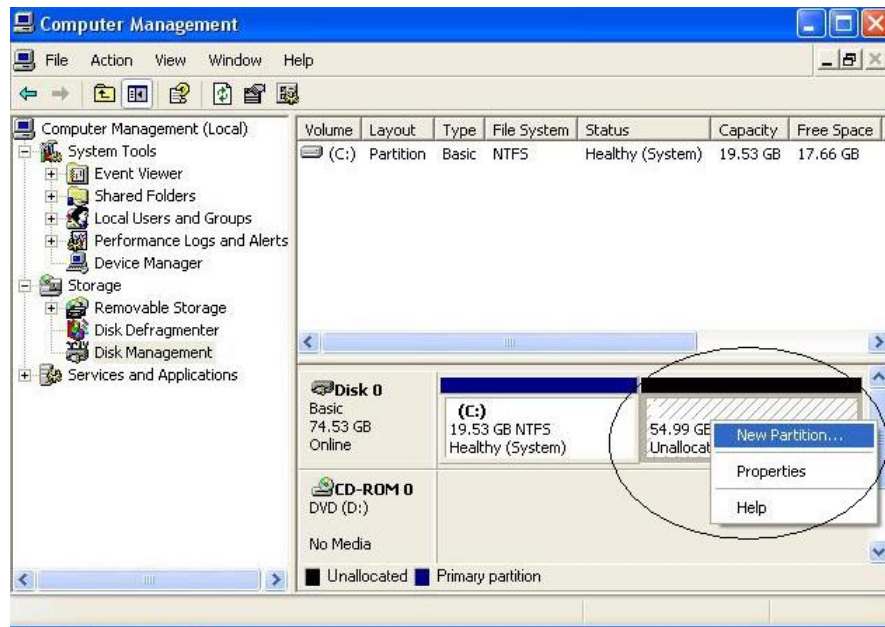
1. Click "Finish" to complete Individual File and Directory recovery (Figure 99).



**Figure 99: File and Directory Restore Completed**

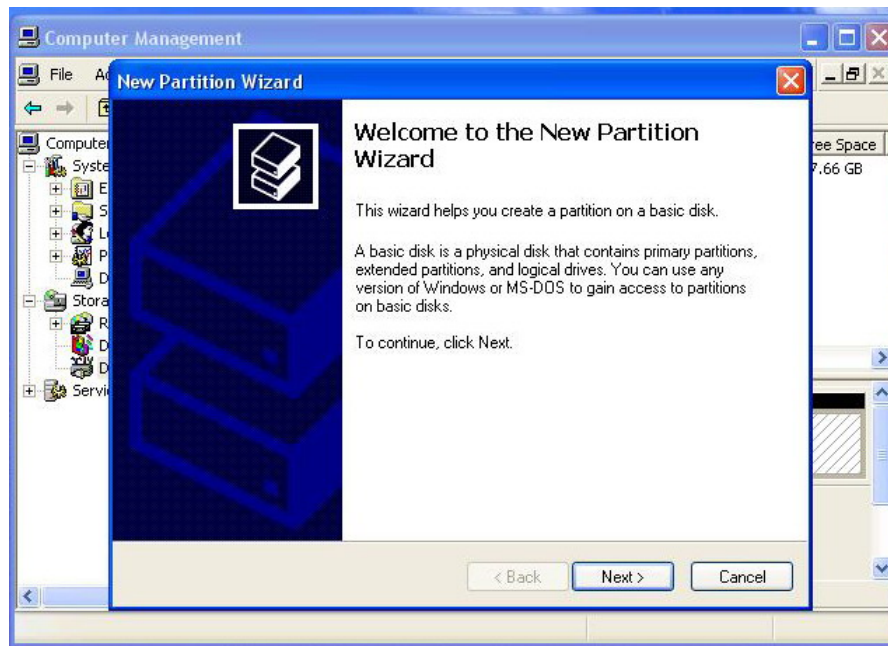


4. Right-click on the section and select “New Partition” (Figure 102).



**Figure 102: New Partition**

5. In the New Partition Wizard (Figure 103), click “Next”



**Figure 103: New Partition Wizard**

6. Select "Extended partition" and click "Next" (Figure 104).

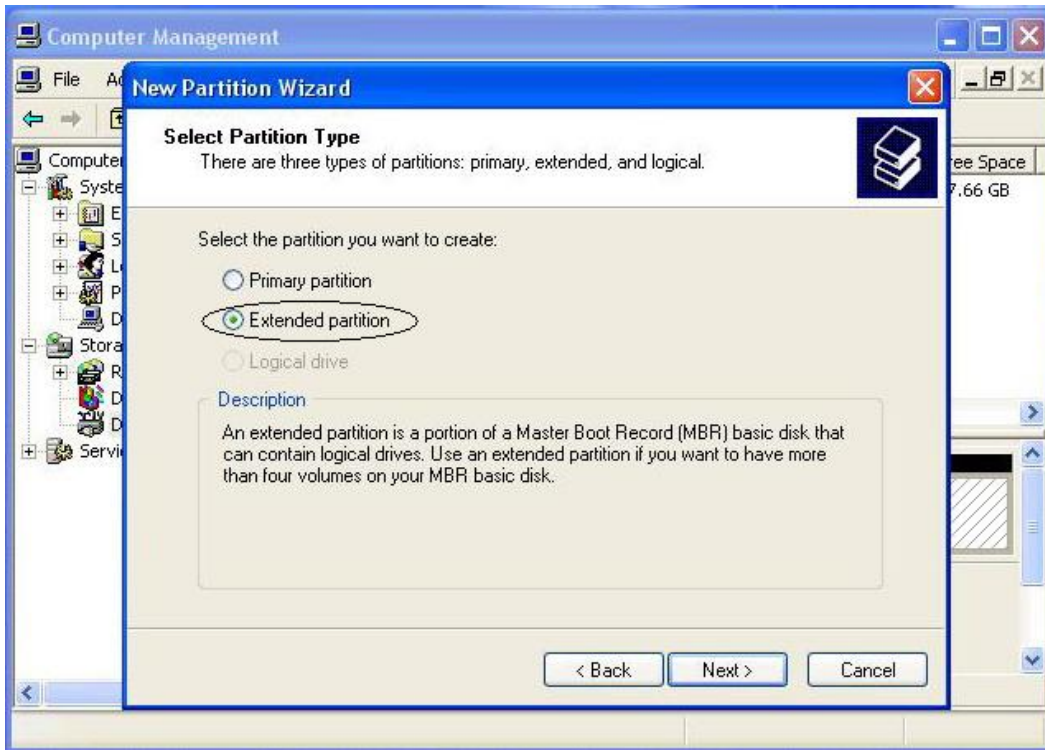


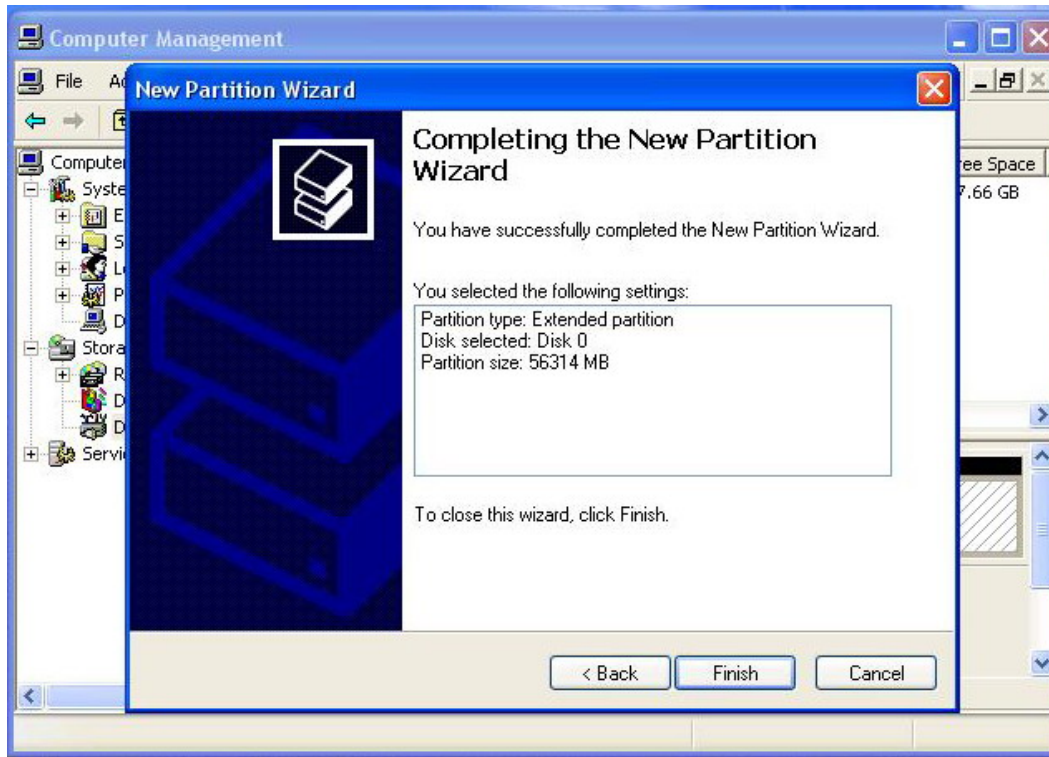
Figure 104: Select Extended Partition

7. Enter the size of this partition and click "Next" (Figure 105).



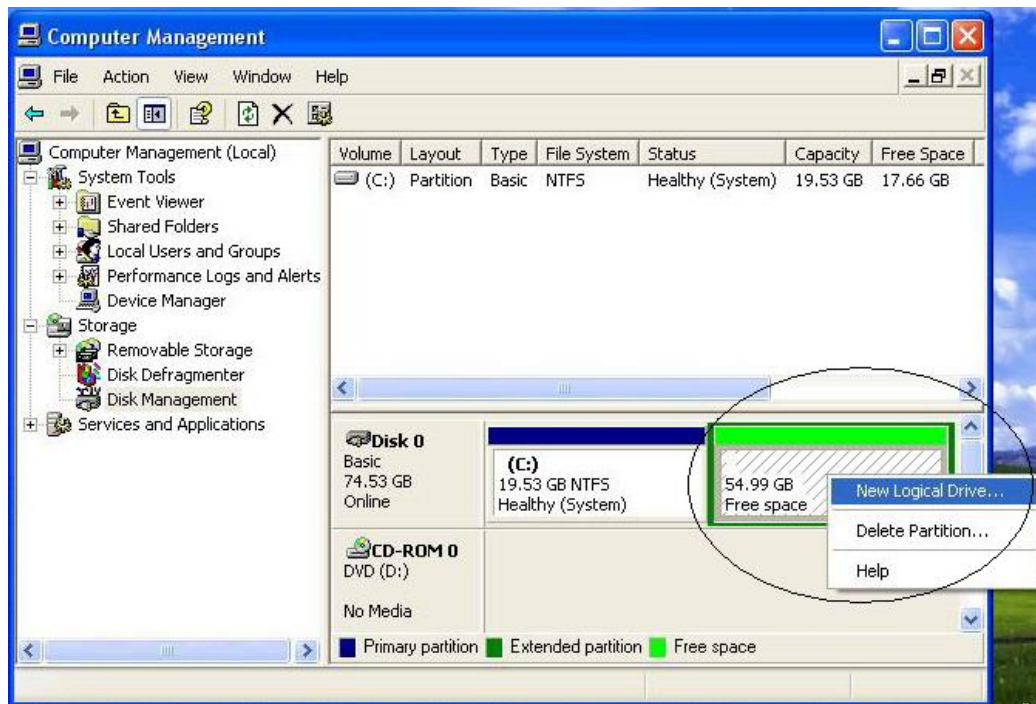
Figure 105: Specify Partition Size

- Click "Finish". (Figure 106).



**Figure 106: Partition Creation Completed**

- A new partition with free space in the bottom-right pane will not be displayed (Figure 107). Right-click on this area and select "New Logical Drive".



**Figure 107: New Logical Drive**

10. When the New Partition Wizard opens again (Figure 108), click “Next”.

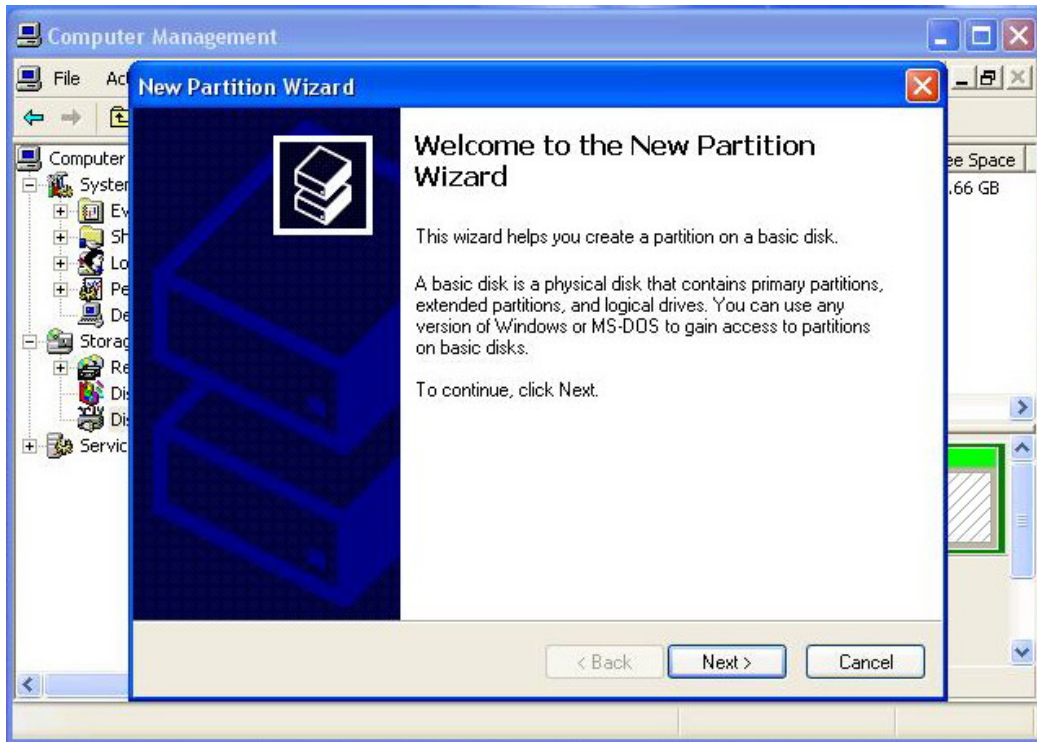


Figure 108: New Partition Wizard for Logical Drive

11. Select “Logical drive” and click “Next” (Figure 109).

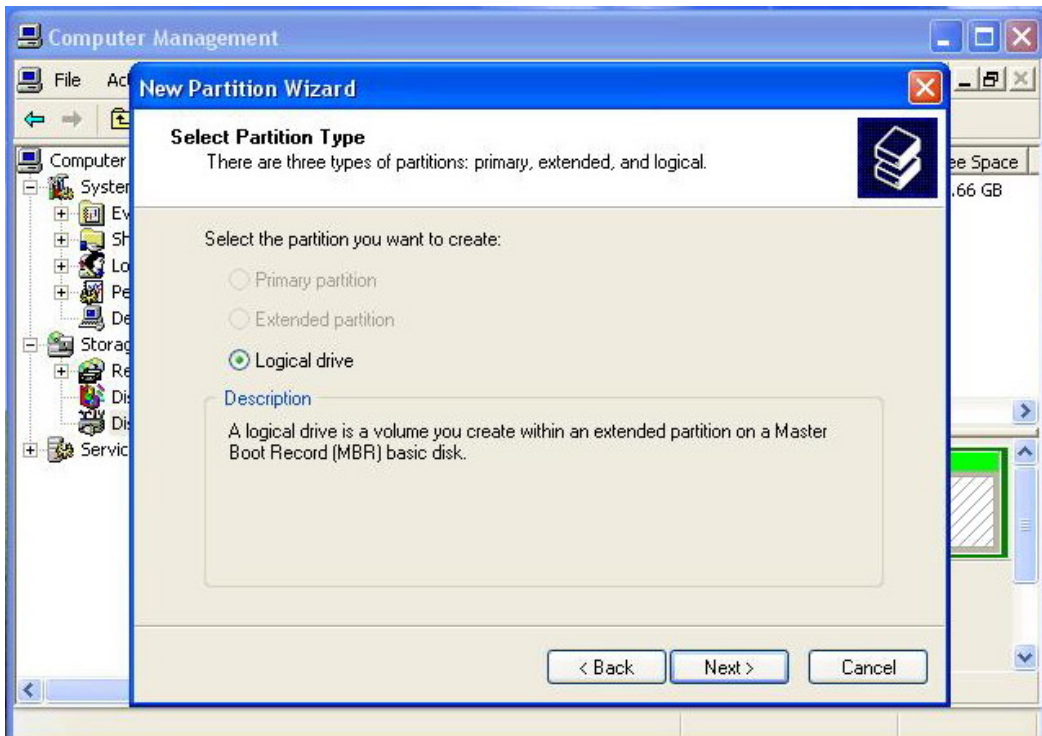


Figure 109: Select Logical Drive



12. Select the size of this logical partition and click “Next” (Figure 110).



**Figure 110: Specify Logical Partition Size**

13. Select a hard drive letter to assign the new partition and click “Next” (Figure 111).



**Figure 111: Drive Letter Assignment**

14. You can choose to format the partition now by selecting the option on the next screen (Figure 112). Select the desired parameters for the new partition, and click "Next".

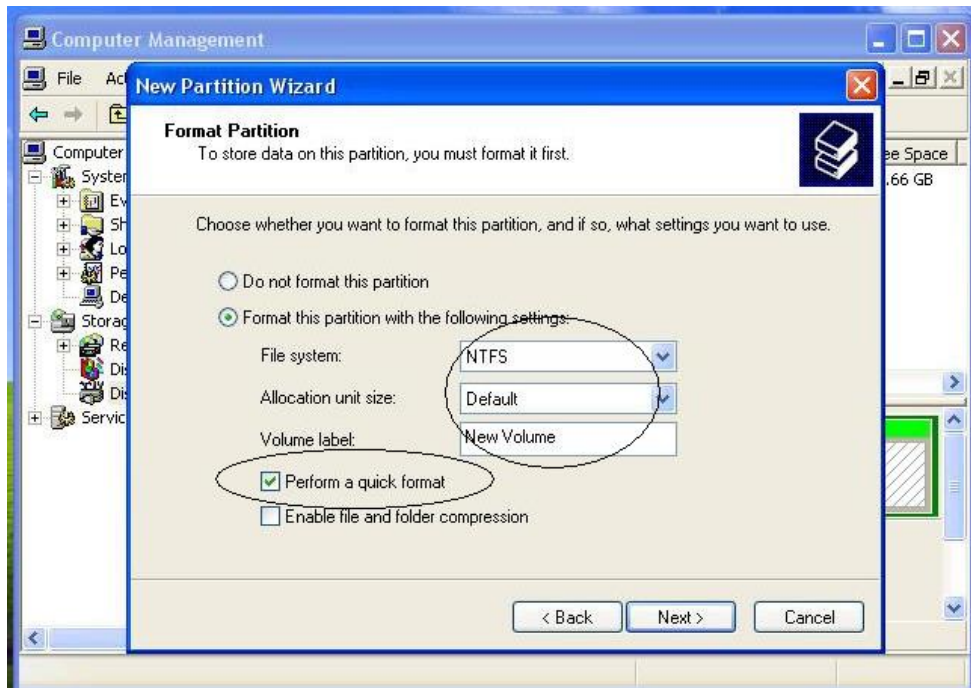


Figure 112: Format Partition

15. Click "Finish" (Figure 113).

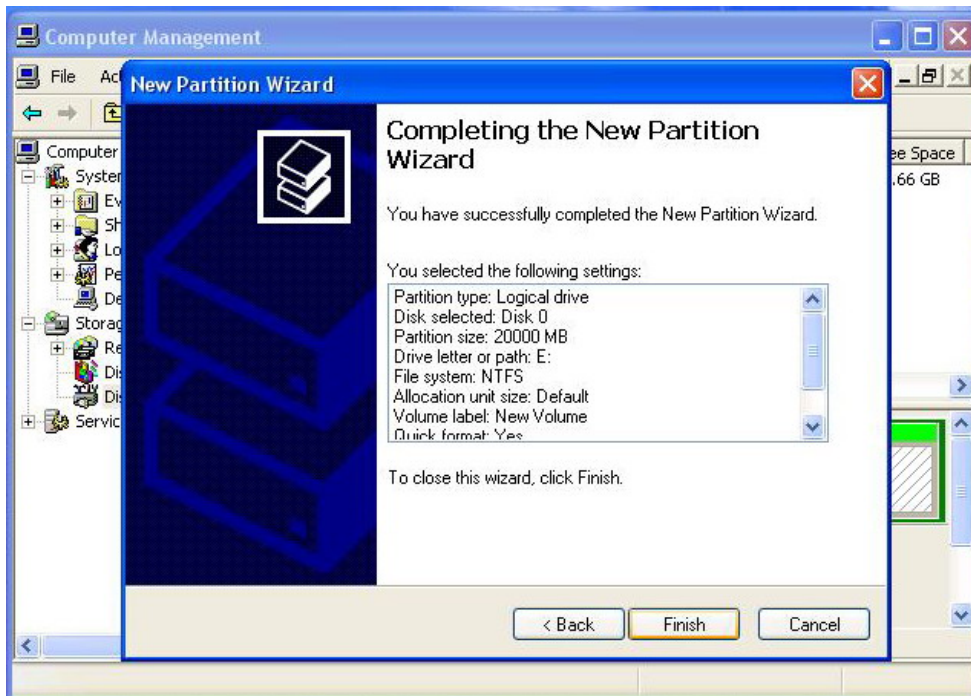
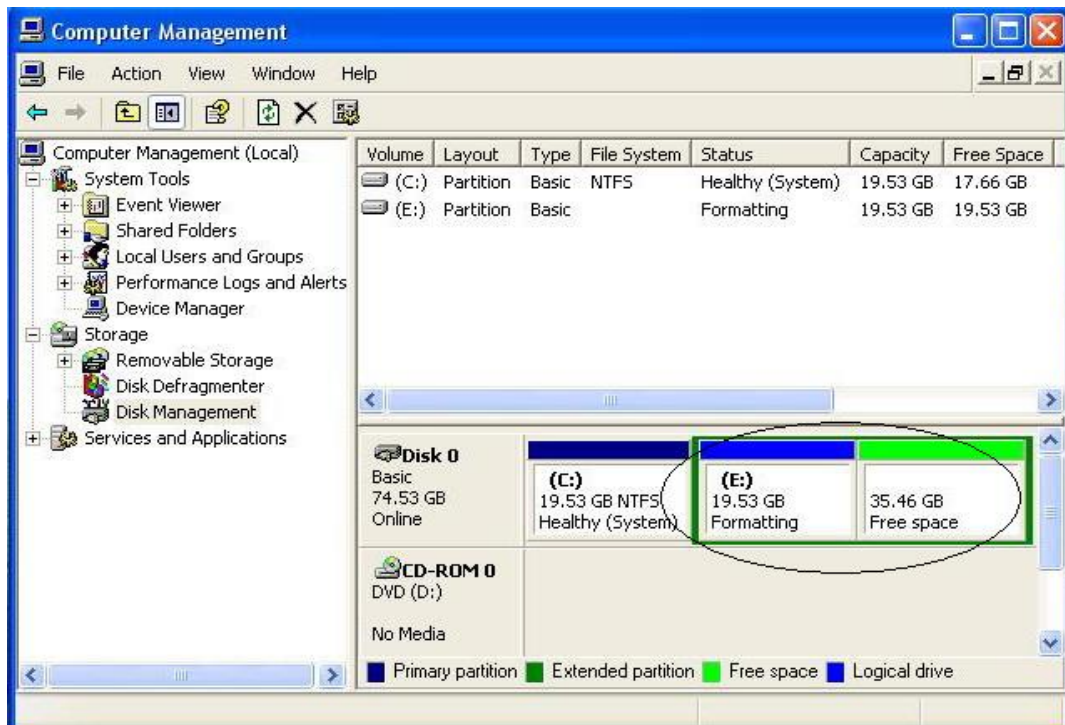


Figure 113: Partition Creation Finished

16. The new partition will be shown in light blue in the bottom-right pane of the Computer Management screen (Figure 114).



**Figure 114: New Partition Created**