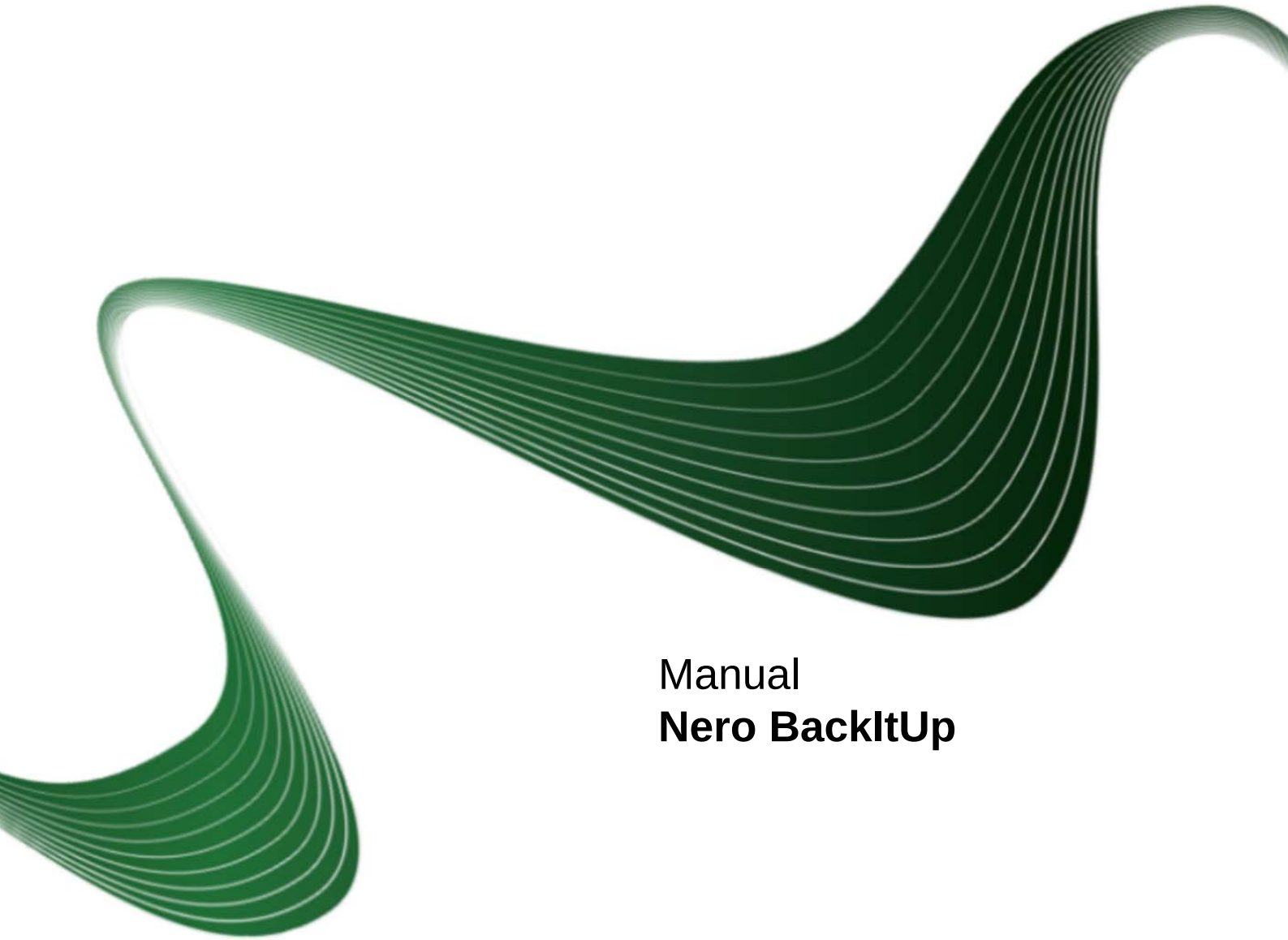
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BackItUp 4



Manual

Nero BackItUp

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1 Start Successfully

1.1 About the Manual

This manual is intended for all users who want to learn how to use Nero BackItUp. It is process-based and explains how to achieve a specific objective on a step-by-step basis.

To make best use of this documentation, please note the following conventions:

	Indicates warnings, preconditions or instructions that have to be precisely followed.
	Indicates additional information or advice.
1. Start …	The number at the beginning of a line indicates a prompt for action. Carry out these actions in the order specified.
→	Indicates an intermediate result.
➔	Indicates a result.
OK	Indicates text passages or buttons that appear in the program interface. They are shown in boldface.
(see…)	Indicates references to other chapters. They are executed as links and are shown in red and underlined.
[…]	Indicates keyboard shortcuts for entering commands.

1.2 About Nero BackItUp

Nero BackItUp is a program for backing up and restoring data. Nero BackItUp saves files (file backup), as well as programs and operating systems (drive backup).
Open files can be backed up with the shadow copy feature, while you continue to work on the file. You can burn the backup to a disc or save it to a hard drive or FTP server. An image file can also be saved. With Nero BackItUp you can verify at any time that the backed up data is complete and correct.

Use Nero BackItUp to set up jobs for regular data backup that are executed automatically. Nero BackItUp can create bootable discs and, if necessary, can restore a previously backed-up system.

You can also use Nero BackItUp to set up the Autobackup feature, which automatically backs up monitored folders.

1.3 Versions of Nero BackItUp

Nero BackItUp is available in two different versions:
Nero BackItUp and Nero BackItUp Essentials.

Nero BackItUp offers the full range of features as described in this manual.

Nero BackItUp Essentials offers a limited feature set. The user interface is supported by wizards and offers a simple introduction to the various tasks.

You can execute the following tasks with Nero BackItUp Essentials:

- Create and update a file backup
- Create a drive backup
- Restore a file or drive backup
- Create a job and manage jobs
- Autobackup

Compared with the full version, Nero BackItUp Essentials does not offer the following features:

File backup

- Backup from Windows Explorer via the shell context menu
- File selection by clicking and dragging
- Shadow copy
- Automatic PC shutdown after the backup
- Backup of access rights (from NTFS-formatted data media)
- File search
- Selected file view
- NTFS stream support

Drive backup

- NTFS stream support

Restore

- Restoration of backed up access rights (to NTFS-formatted data media)
- Adaptation of drive size
- File display in tree structure

Jobs

- Backup when logging onto the system
- Warning if there is insufficient storage space on the disc

General features

- Verification of backups

- Calendar
- Other filters
- Use of the most recent filter setting
- Addition of new files to an incremental backup
- Saving of profiles
- Script support
- Encryption
- Setting of compression levels
- Ignoring of time differences when comparing files
- E-mail notification
- Virus scanner
- Sounds to indicate various events
- Resetting of archive bits after a backup

1.4 Working with Nero BackItUp

Nero BackItUp is a powerful tool for backing up and restoring data. You have to decide between saving files and saving entire drives:
If you choose a file backup, the individual files and folders that you select are backed up. If you want to back up the same files again later, a backup update makes it easier and saves resources and other things.

If you choose Drive Backup, entire drives (hard drives and/or partitions) are backed up, including the programs and the operating system.

Set up Nero BackItUp jobs, if you want to regularly perform backups.

Nero BackItUp offers you useful features to restore data in case of failure.

With the Nero BackItUp, Nero BackItUp ImageTool offers you another tool for backing up files and drives. The Nero BackItUp ImageTool is included on the bootable disc that you can create with Nero BackItUp. With the Nero BackItUp ImageTool, you can back up and restore drives. This particularly lends itself to backing up on otherwise active drives, since such drives are inactive when booting the Nero BackItUp ImageTool.

See also:

- File Backup→ 14
- Updating a File Backup→ 17
- Drive Backup→ 22
- Scheduling a Backup - Jobs→ 38
- Restoring Files And Drives→ 48
- Nero BackItUp ImageTool→ 62
- Autobackup→ 46

2 Installing Nero BackItUp

The installation wizard will walk you through the quick and uncomplicated installation process. To install Nero BackItUp, proceed as follows:

1. Close all Microsoft Windows programs and exit any anti-virus software that may be running.
2. Start the installation process by double-clicking the downloaded installation file.
   → The required files are automatically unzipped and stored on drive C in a temporary folder from which they are automatically deleted once they have been used.
   → The installation is prepared and the installation wizard is displayed.

   If you purchased Nero BackItUp bundled with Nero Suite, insert the disc into your computer's drive and start the installation process by clicking the Nero BackItUp button.

   If the program does not start automatically, select the drive with the disc in Windows Explorer. You can start the installation wizard manually by double-clicking the **setup.exe** file.
3. Select a language for the installation.
4. Click the **Next** button.
   → The **Installation of Nero Ask Toolbar** screen is displayed.
5. If you want to use the Ask Toolbar, please read the licensing agreement carefully and choose the first option button.
6. Click the **Next** button.
   → The **License Conditions (EULA)** screen is displayed.
7. Please read the license agreement carefully and select the appropriate check box if you agree to the terms of the agreement. If you agree to the terms of the license agreement, click "I accept all terms of the preceding License Agreement."
8. Click the **Next** button.
   → The **Personalize Nero BackItUp** screen is displayed.
9. Enter your name and serial number in the input fields. Corporate customers should also include their company's name.

   The serial number can be found on the back of the disc jacket. If you are using the download version you will have received the serial number per e-mail.
10. Click the **Next** button.
    → The **Select Installation Type** screen is displayed. Here it is possible to choose between **Default**, meaning standard installation, or **User Defined** installation. In the user-defined installation, you can determine the languages and choose the installation path.
11. Choose the required installation type and click the **Next** button.
    → If you choose a default installation, the **Optional Settings** screen is displayed. If you choose custom installation, the **User-defined Installation** screen is displayed.

12. If you have chosen the user-defined installation:
    1. Select the required folder and click the **OK** button.
    2. Click the **Next** button.
       → The **Select Application Language** screen is displayed.
    3. Select the check boxes for the languages you wish to install and click the **Next** button.
       → The **Optional Settings** screen is displayed.
13. if you want to adapt optional settings, select or clear the required check boxes.
14. Click the **Next** button.
    → The **Ready to Start Installation Process** screen is displayed.
15. Click on the **Next** button to start the installation.
    → The installation process is started. Nero BackItUp is installed in the selected folder, and a progress bar informs you of the progress of the installation process.
16. Click the **Next** button.
    → The **Help Us to Improve Our Software** screen is displayed. In order to offer a better service, Nero is collecting anonymous data to determine which features are used and what problems, if any, occur.
17. If you want to take part in the anonymous collection of data, select the check box and click the **Next** button.
    → The final screen of the installation wizard is displayed.
18. Click the **Exit** button.
    → The installation wizard is closed.
    → You have now installed Nero BackItUp. The Nero BackItUp link is now available on the computer's desktop.



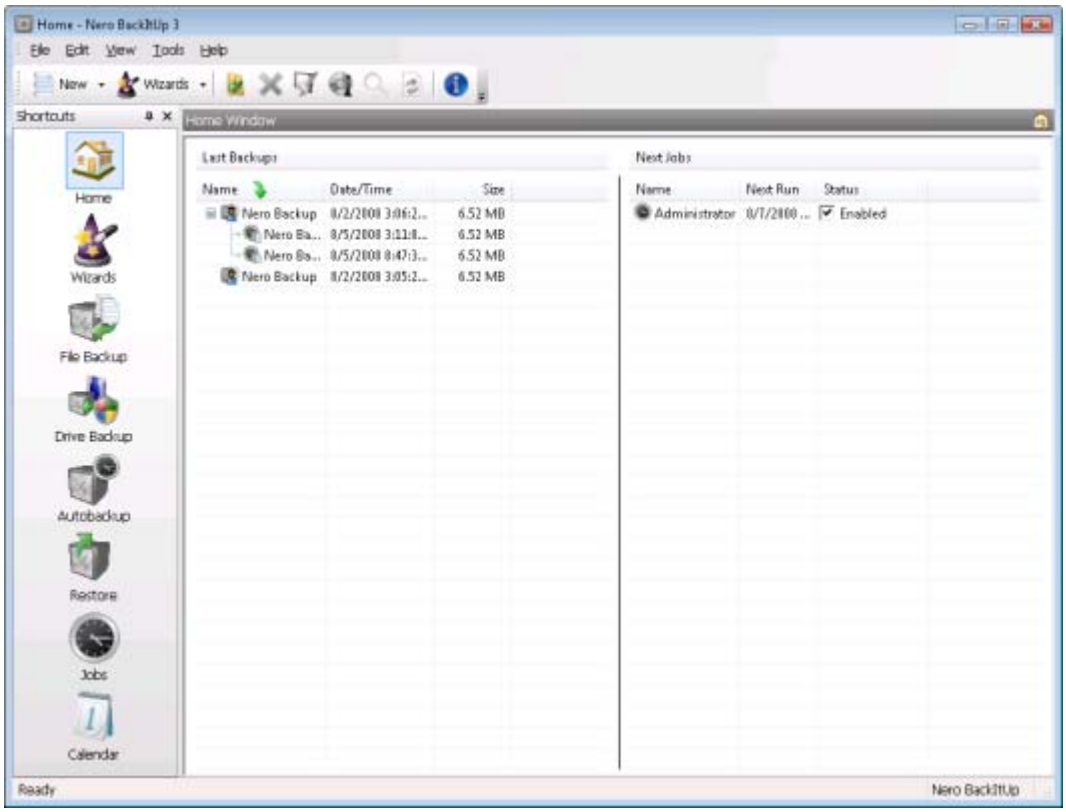
Nero ControlCenter

The Nero BackItUp application is installed with Nero ControlCenter.

With Nero ControlCenter, you can determine whether new updates are available for your Nero products and can download them if required. In addition, you can select an installed language and enter or remove serial numbers. You can find further information in the Nero ControlCenter manual.

3 User interface

The Nero BackItUp user interface is the starting point for backups, restores, and any other actions that you can carry out with Nero BackItUp.
The user interface consists of a menu bar, a top toolbar and a left toolbar, and a screen with changing content (depending on which menu icon is selected on the left bar).



Nero BackItUp - User interface

The following menu icons are available in the left selection list:

Home	Displays the **Home** screen, which offers an overview of the last backups and next jobs. The following icons are used: - Backup carried out - Job carried out - Scheduled job - Disabled job
Wizards	Displays the **Wizards** screen, where you can launch the wizards.
File backup	Displays the **File Backup** screen, where you can select files for backup and start the file backup.

Drive backup	Displays the **Drive Backup** screen, where you can select drives for backup and start the drive backup.
Restore	Displays the **Restore** screen, where you can select a backup to restore and start the restore.
Jobs	Displays the **Jobs** screen, which indicates upcoming jobs and permits jobs to be added. Jobs are scheduled backups that are automatically executed by Nero BackItUp at a defined time.
Calendar	Displays the **Calendar** screen, which offers a calendar overview of planned and executed jobs and restores. You can also add jobs and start the restore. The job names are shown in different colors, which represent the following: Green - Job carried out successfully Red - Job failed Blue - Scheduled job Gray - Disabled job
Autobackup	Displays the **Autobackup** screen, where you can set up Autobackup, start a restore process, and erase files from the Autobackup backup.

The following menus are available in the menu bar:

File	Opens the **File** menu, which provides file-related functions such as open, print, and close. You can also set, import, and export the options as well as launch Nero CoverDesigner. The Open and Print options are only available on the **Restore** screen.
Edit	Opens the **Edit** menu containing file editing functions such as Select, Unselect, Delete, and Show Properties. You can also search for specific files.
View	Opens the **View** menu where you can display toolbars and switch between the screens.
Tools	Opens the **Tools** menu where you can start wizards. You can also display information about the inserted disc, erase a rewritable disc, and create a bootable disc.
Help	Opens the **Help** menu containing help options. You can also update the anti-virus scanner and enter a new serial number if necessary.

The following setting options are available in the **Standard** toolbar:

Menu **New**	Opens a selection list with the menu icons that are also available in the user interface. When you click one of these icons, a new window opens with the respective screen.
Menu **Wizards**	Opens a selection list containing the **File Backup**, **Drive Backup**, **Restore**, **Jobs**, and **Verify** menu icons. When you click one of these symbols, the corresponding wizard opens.
Button 	Chooses an existing backup. In the **Home** and **Wizards** screens, the selected backup can be restored and verified, a job can be created from it, and data backups can be updated. The **Backup Summary** window is opened in the **File Backup** screen. The backup summary shows if any files have been modified or deleted on the PC since the last backup. The selected backup is transferred to the screen in the **Drive Backup** and **Restore** screens.
Button 	Deletes the selected backup or job from the backup or job list. This button is available in the **Home**, **Restore**, and **Job** screens.
Button 	Launches Nero CoverDesigner, which you can use to create labels and covers. Information about a current backup, such as the number and names of files, is incorporated into the document data of the Nero CoverDesigner file.
Button 	Displays information on the inserted disc such as sessions, contents (if any), and capacity.
Button 	Opens the **Find File** window, where you can search for specific files on your computer. This button is available in the **File Backup** and **Restore** screens.
Button 	Updates the information on drives and connected devices. This button is available in the **Drive Backup** screen.
View selection menu	Selects a view for the files that will be displayed. This selection list is available in the **File Backup** and **Restore** screens.
Profile selection menu	Selects a profile and with it, the filters and settings assigned to that profile. This selection list is available in the **File Backup** screen.

Button 	Opens the **About Nero BackItUp** window to display information such as the version number.

The following drop-down menu is available on the **Address** toolbar

Address	Selects a start folder for displaying the folders and files. This toolbar is available in the **File Backup** screen.

See also:

- Selecting Files For Backup→ 14
- Selecting a Drive For Backup→ 22
- Autobackup→ 46
- Restore Screen→ 48
- Setting Up Jobs→ 38

4 File Backup

You can back up files with Nero BackItUp. You can burn the backup to a disc or hard drive (internal, external, USB or FireWire), network drives or removable medium. It is also possible to save on an FTP server or to save as an image file.
A file backup is useful to protect against data loss that can occur due to hardware damage or force majeure (fire, etc.). As a result, we recommend frequent backups so that you can restore data that is as current as possible in case of loss.

If you always want to back up the same folders and files (e.g. the **My Documents** folder), you can simply update the backup, starting with the second backup. On one hand, this saves disk space; on the other, you don't have to configure the same settings every single time. When updating the backup, you can choose between an incremental backup and a differential backup.

See also:

- Specifying The Backup Target And Starting The Backup Process→ 24
- Backup Tab→ 78
- Autobackup→ 46

4.1 Selecting Files For Backup

The first step is selecting files and folders to back up. "File backup" means that individual files can be backed up and then restored at a later point in time. In contrast to drive backups, it is not possible to restore operating systems or programs with this option.
You can select files and folders from your hard drive, from drives, removable data media, from the network, or from an FTP server (if you have entered an FTP server in the options, see).

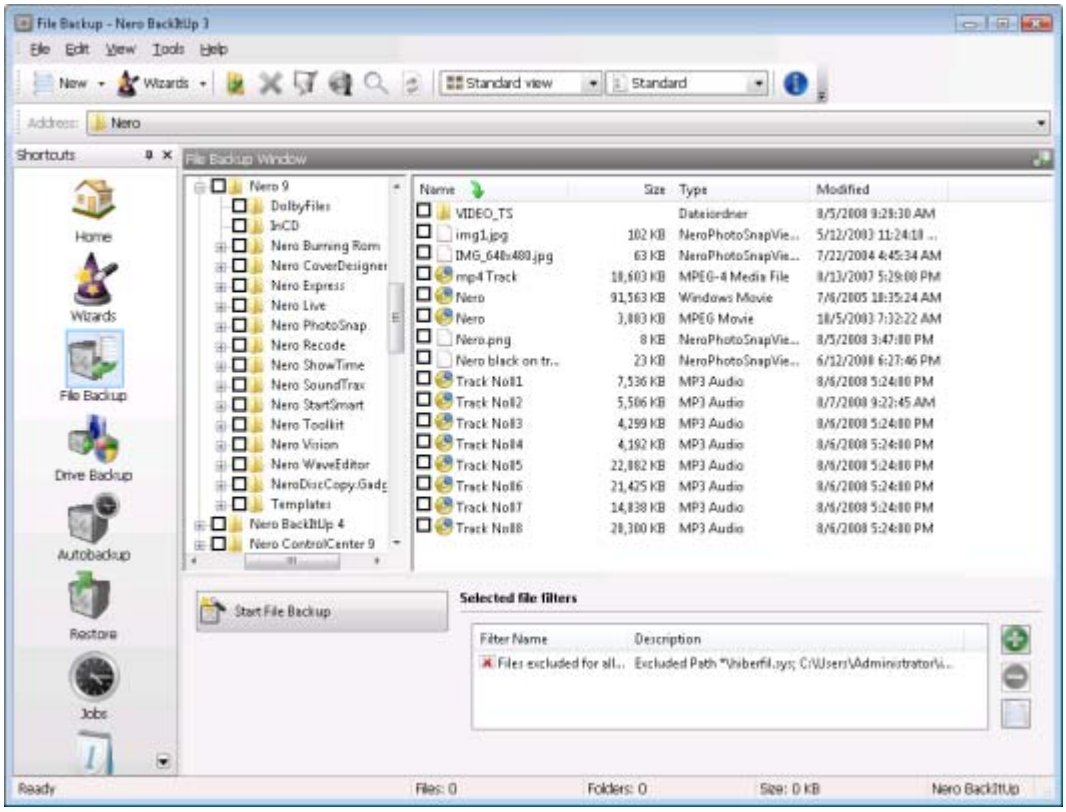


Windows Vista

Search folders are supported both for backup and restore under the Windows Vista® operating system. This means that you can back up search queries, paths, and the original documents. Restore is possible to the original path, a selected path, or in a search folder (virtual folder).

To select files, proceed as follows:

1. Click the **File Backup** menu icon.
   → The **File Backup** screen appears.



File Backup screen

2. If you want to use filters to exclude certain file types from the backup or to allow only certain file types:

   1. Click the  button to select filters.

      → Files that do not meet the filter criteria are excluded from the backup, and the corresponding check box is grayed out automatically.

   2. To use a profile with a predefined combination of filters , select the respective profile from the drop-down menu on the upper right.

   3. To create filters, click the  button.

   4. To remove filters, select a filter in the **Selected File Filters** selection list and click the  button.

3. Check the box preceding the folder or folders that you want to add to the backup.

   → The selected files are added to the backup.

4. If you want to see the selected files in a list, select the **Selected files view** entry from the View drop-down menu.

5. If you want to search for specific files in order to add them to the backup or exclude them from the backup, then execute a file search.

   Advantage of the file search option

   The advantage of the file search option, in addition to specific searches, is the fact that files that have been excluded through filters can still be added to the backup.

➔ You have selected files to back up. Now proceed with the file backup by clicking the **Start File Backup** button and specifying the backup target.

See also:

- Burning a Backup to Disc→ 30
- Saving a Backup to a Hard Drive→ 33
- Saving a Backup on an FTP Server→ 35
- Filters→ 57
- Find Files→ 60

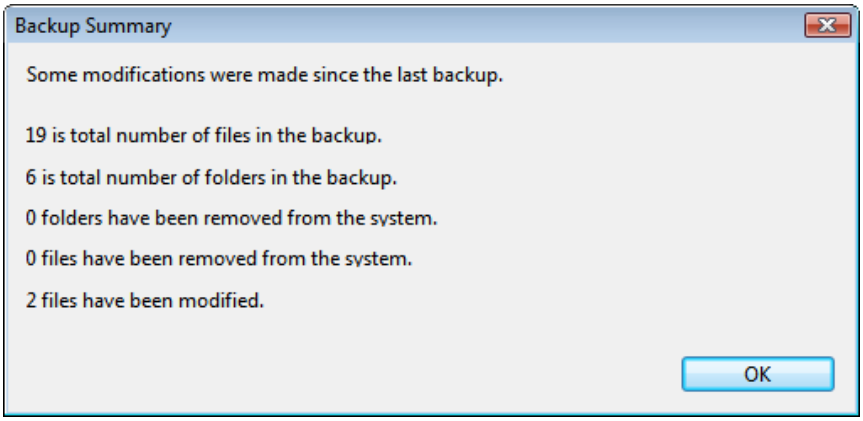
4.2 Backup Summary

The backup summary is useful when you intend to update a file backup and want to know first if there have been any changes (as well as what their extent is) since the last backup. When you select an existing backup, the backup summary tells you whether or not there are any changes, how many folders and files have been removed, and how many files have been changed.

In order to show a backup summary, follow the procedure below:

1. Click the **File Backup** menu icon.
   → The **File Backup** screen appears.
2. Click the  button.
   → The **Open Backup** window opens.

   In the **Open Backup** window all backups are displayed. However you can only select file backups.
3. Select the desired file backup and click the **Open** button.
   → The **Backup Summary** window opens.



Backup Summary window

4. Click the **OK** button.
   ➔ The **Backup Summary** dialog box closes. The selected existing backup is transferred to the **File Backup** screen. Now you can update this backup.

See also:

Updating a File Backup→ 17

4.3 Updating a File Backup

You can update a file backup with Nero BackItUp. Your starting point will be an existing backup. A backup with multiple updates is referred to as a backup set.

The selected backup does not have to be available during the update.

To update a backup, proceed as follows:

1. Click the **Wizards** > **File Backup** button.
   ➔ The **Backup Wizard** window with the welcome screen opens.
2. Click the **Next** button.
   ➔ The **Backup Source** screen appears.
3. Select the **Use Existing Backup** option button.
4. Select an existing file backup from the list or using the button.
5. Click the **Next** button.
6. The **Select Files and Folders** screen appears. The file selection of the chosen backup is transferred.
7. Add additional files and folders to the backup as desired.

8. Click the **Next** button.
   → The **Backup Settings** screen appears.
9. Select the desired type of backup in the **Backup Type** drop-down menu.

Backup types

Depending on the selected backup type, either all files are backed up again (**Full Backup**) or only files that have been modified are backed up. With an**Incremental Backup**, the files that have been modified since the last backup in this backup set are backed up. With a **Differential Backup**, the files that have been modified since the first complete backup are backed up.

If you selected the **Incremental** or **Differential Backup** types, and want newly-added files in a backed-up folder to be backed up, make sure that the **Add new files in incremental or differential backup** check box is enabled in the corresponding options.

→ You have selected a file backup to update. Proceed with the update by clicking the **Next** button and specifying the target of the backup.

See also:

- Burning a Backup to Disc→ 30
- Saving a Backup to a Hard Drive→ 33
- Backup Summary→ 16
- Find Files→ 60
- Backup Tab→ 78

4.3.1 About Backup Types

There are four backup types in Nero BackItUp:

- Full Backup
- Differential Backup
- Incremental Backup
- Update Backup

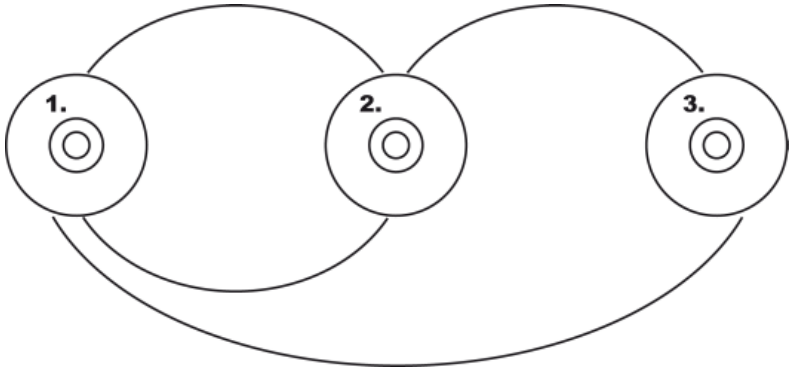
With the **Full backup** type, all files and folders that you have selected will be backed up. A first backup is always a full backup.
With the **Incremental backup** type, all files that have changed in comparison to the last backup will be saved.

With the **Differential backup** type, all files that have changed in comparison to the first backup will be saved.

With the **Update backup** type, the actual procedure depends on the media on which the backup is made:

- If you are backing up to a hard drive with the **Update backup** type, then the data of the previous backup will be overwritten with the changed data. This means that older versions will be erased; access to older backup states will no longer be possible.
- If you are backing up to the disc on which the last backup was burned with the **Update backup** type, then the procedure is the same as described for the **Incremental backup**. In this case a folder will be generated in a new session.

With the three **Full**, **Incremental** and **Differential backup** types, it does not matter which medium you save the backup to. You can, for example, use the disc that you used for the old backup (Nero BackItUp automatically started a multisession disc) as long as there is still space on the disc. You can also back up to a new medium.



Incremental Backup (Above) and Differential Backup (Below)

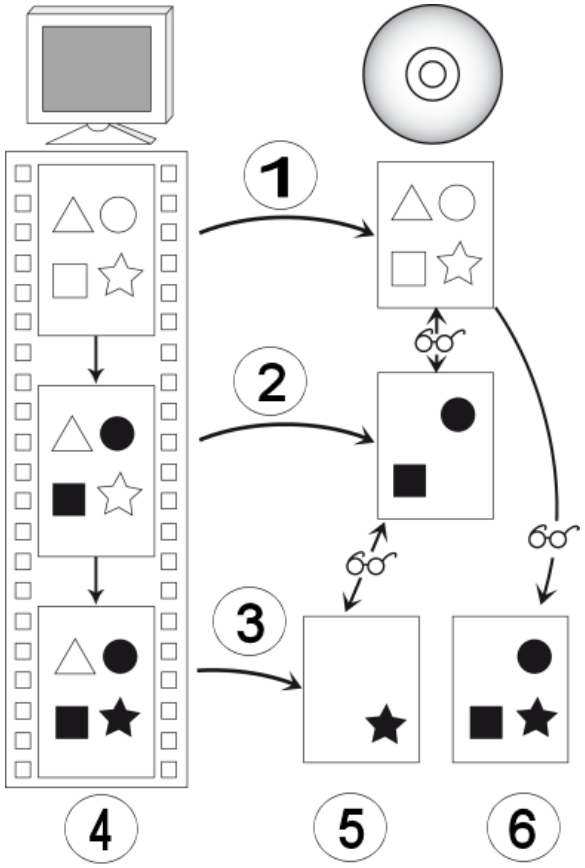
An example is provided below to illustrate the difference between incremental and differential backups:
Let's assume that you have 100 photos and are backing them up. The first (full) backup contains the 100 photos. Then you change 25 of the photos and want to back up again. You select an incremental or differential backup (it does not matter which you select for the second backup). The 25 changed photos are backed up. Then you change another 10 photos and want to back up again:

If you select the **Incremental backup**, 10 photos are backed up, specifically those that have changed since the last backup. (Nero BackItUp compares the current status with the last backup.)

If you select the **Differential backup**, 35 photos are backed up, specifically those that have changed since the first backup. (Nero BackItUp compares the current status with the first backup.)

This means that incremental backups require less storage space, however usually more backup versions will have been created. The result is that the restore takes longer since many small versions must be restored (and made ready) one after the other.

The opposite is true of the differential backup: It requires more storage space, however only two backup versions (the first and the last) are needed. Consequently, for the restore only two versions are restored (and made ready) because the last version contains all changes made since the first backup.



Data backup distinction between differential and incremental backup

1	1st backup	4	Data on the computer White: Original data Black: Altered data
2	2nd backup	5	Incremental backup Data that has been modified since the first backup is backed up
3	3rd backup	6	Differential backup Data that has been modified since the last previous backup are backed up

The following table provides information to help you determine the correct update type for your application:

Backup type	Storage space requirement for the backup set	Effort involved in restoring	Can older versions be accessed?
Full backup	Extremely high	Extremely low (only the current version is required)	Yes
Differential backup	Mid	Low (current and first version must be kept)	Yes
Incremental backup	Low	High (all versions must be kept)	Yes
Backup update to hard drive (old versions will be erased)	Extremely low	Extremely low (only the current version is required)	No

5 Drive Backup

You can back up entire drives with Nero BackItUp. In contrast to file backups, drive backups restore programs and operating systems when restoring.
You can burn the backup to a disc or save it to a hard drive. It is also possible to save on an FTP server or to save as an image file.

When you back up a drive, the backup file is usually quite large. If you burn the backup to disc, you will usually require multiple discs. The first backup disc is always a bootable disc. If you do not burn the backup to disc, it is still quite useful to create a bootable disc so that you can start the computer (and the drive restore) from CD/DVD in the event of an emergency.

It is not possible to update a drive backup.

Administrator rights

You must have administrator rights in order to back up and restore hard drives and partitions.

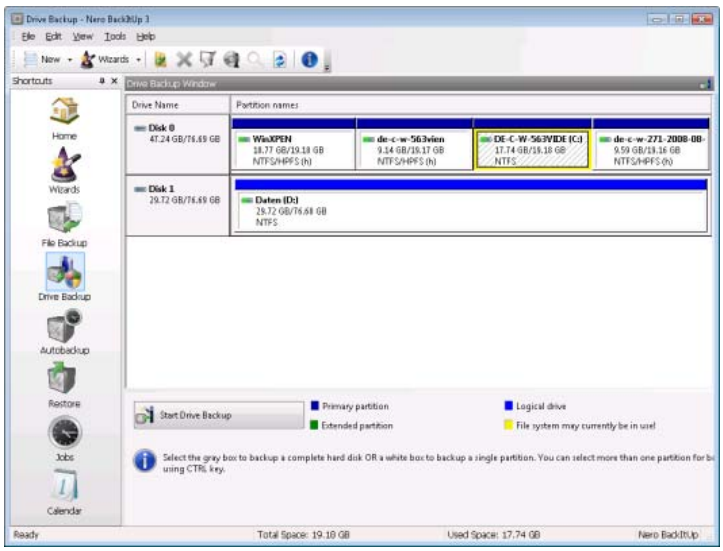
See also:

Specifying The Backup Target And Starting The Backup Process→ 24
Backup Tab→ 78

5.1 Selecting a Drive For Backup

To select a drive to back up, proceed as follows:

1. Click the **Drive Backup** menu icon.
   → The **Drive Backup** screen appears.



Drive Backup Screen

2. If you want to back up a hard drive, click the appropriate button under the **Drive Name** list heading.
   → The hard drive and all its partitions are selected and marked.
3. If you want to back up a Partition, click the appropriate partition under the **Partition names** list heading.
   → The partition is selected and marked.
4. If you want to back up another hard drive partition, repeat the previous step.
   → You have selected a hard drive or partition to back up. Continue with the drive backup by clicking the **Start Drive Backup** button in order to specify the backup target.

See also:

- Burning a Backup to Disc→ 30
- Saving a Backup to a Hard Drive→ 33
- Saving a Backup on an FTP Server→ 35

6 Specifying The Backup Target And Starting The Backup Process

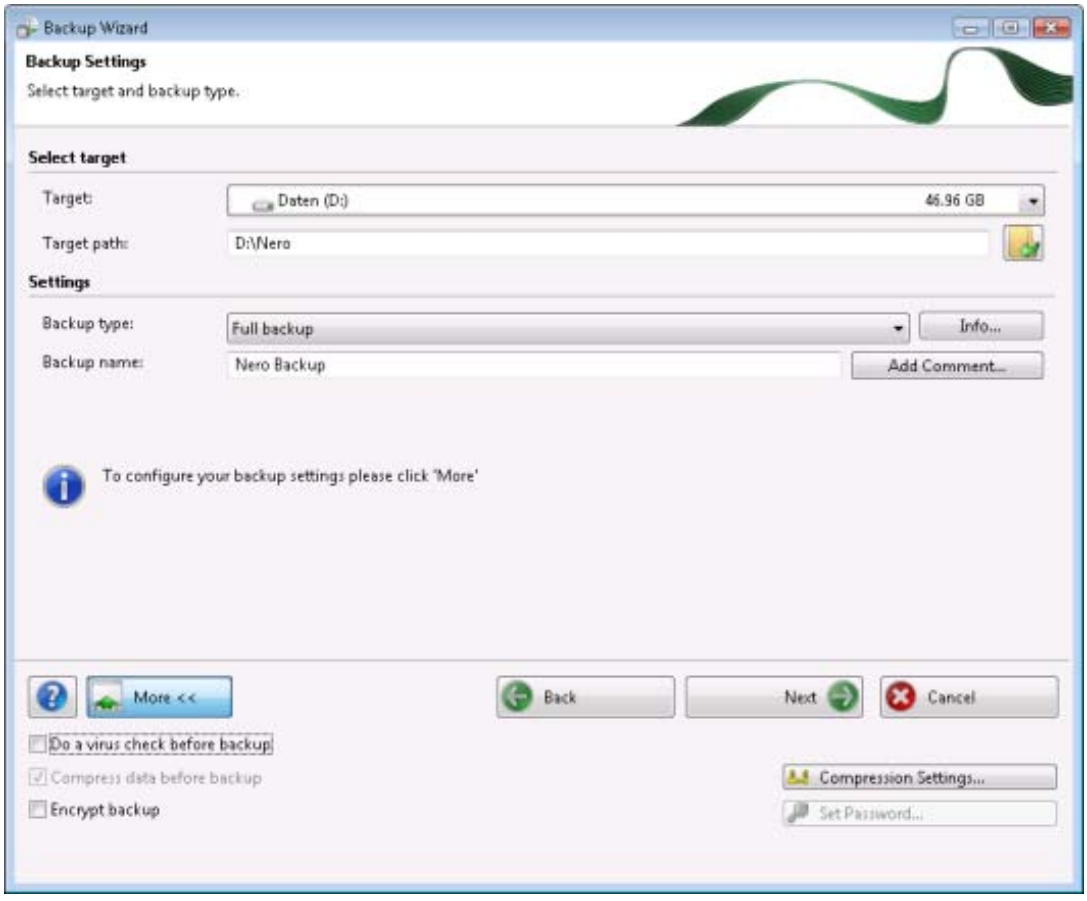
After selecting the files or the drive to back up, specify the target for the backup in the **Backup Settings** window. After specifying the target, configure the final settings in the **Completing the Backup Wizard** window and start the backup process.

See also:

- Selecting Files For Backup→ 14
- Selecting a Drive For Backup→ 22
- Source Media Supported→ 87

6.1 Backup Settings Screen

In the **Backup Settings** screen you specify the backup settings. Here you select the target and thus determine the course of the backup. In addition you can select the backup type if necessary. The screen consists of the main screen and the extended area.



Backup Wizard Window, Backup Settings Screen

The following setting options are available on the main screen:

Drop-down menu **Target**	Specifies the backup destination. You can select a burner or hard drive, as well as network drives and removable media. If you have enabled the appropriate settings in the Options, you are also given the **FTP** and **Image Recorder** options. You can use the **Choose multiple recorders** entry to select multiple burners as the target, if necessary. The following input field changes depending on the target selected.
Input field **Target Path**	Specifies the save path. The input field is available if a hard drive, a network drive, or removable media was selected as a target.
Drop-down menu **Disc type**	Specifies the disc type (e.g. CD or DVD) of the image file. The drop-down menu is available if the Image Recorder was selected as a target.
Display panel **Path**	Specifies the folder. The display panel is available if an FTP server was selected as a target.
Drop-down menu **Backup type**	Specifies the type of backup. Four types are available: **Full backup**, **Backup update**, **Incremental backup** and **Differential backup**. These entries are only available if you are updating a file backup (i.e. carrying out the same backup at a later point in time). The first file backup and the drive backup are always a complete backup.
Input field **Backup Name**	Specifies the name of the backup.
Button **Add Comment**	Adds a comment to the backup.
Button **?**	Opens a selection list with help tasks.
Button **More**	Opens the extended area.
Button **Back**	Displays the previous screen.
Button **Next**	Shows the next screen, i.e. the **Completing the Backup Wizard** screen.
Button **Cancel**	Cancels the procedure.

Check box **Do a virus check before backup**	Checks the data for viruses prior to backup.
Check box **Compress data before backup**	Compresses the data before backup. If you clear the check box, the data is not compressed and the backup is created in the old Nero BackItUp format.
Button **Compression Settings**	Specifies the level of compression.
Check box **Encrypt backup**	Activates the encryption function so that you can encrypt the backup with a password by using the **Set Password** button.
Button **Set Password**	Opens the **Use Password** window in which you can specify the password for the encryption and select an encryption algorithm.



Keep the following in mind before encrypting a backup:

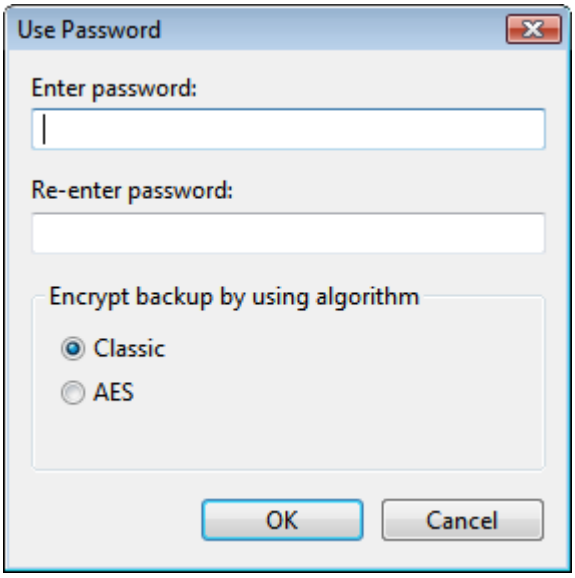
If you protect the backup with a password, you will only be able to restore the data after entering the password. Restoring an encrypted backup without the correct password is impossible!

See also:

- Burning a Backup to Disc→ 30
- Saving a Backup to a Hard Drive→ 33
- Saving a Backup on an FTP Server→ 35
- Remote FTP→ 82
- General Tab→ 77

6.1.1 Use Password Window

In the **Use Password** window, enter a password for the encryption and select an encryption algorithm. You can open the window with the **Set Password** button found in the extended area of the **Backup Settings** screen.



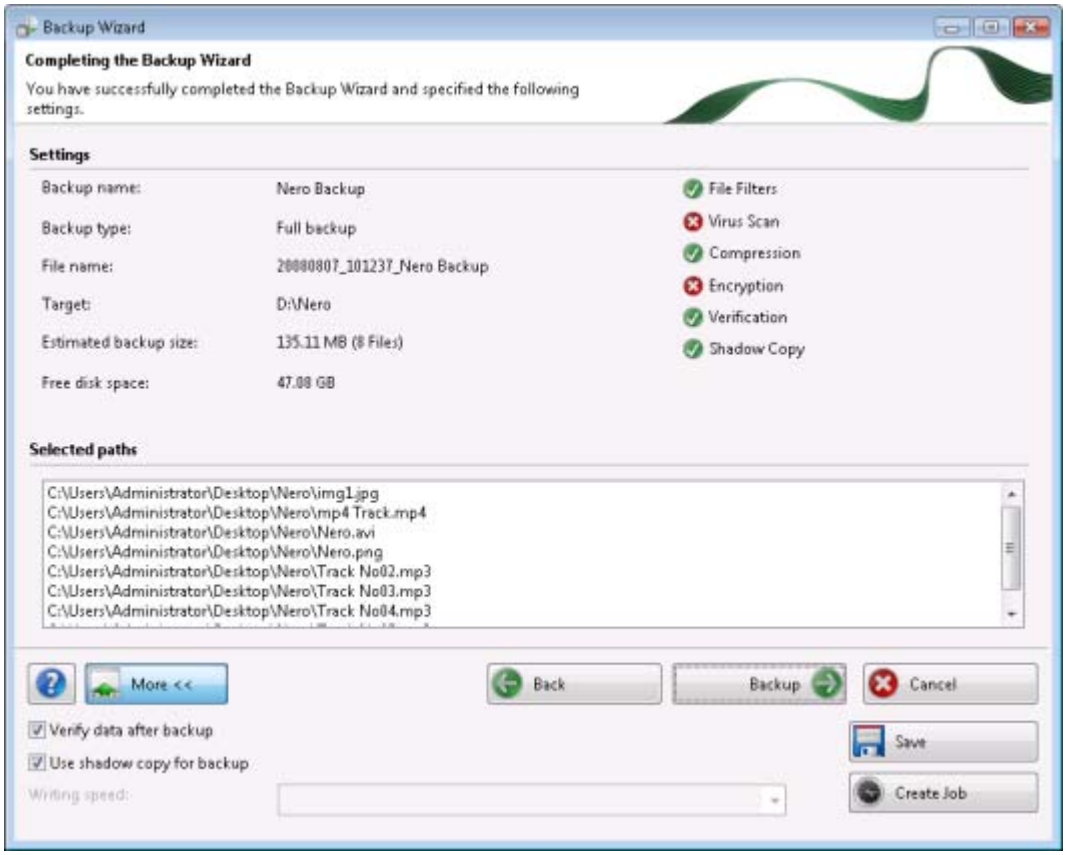
Use Password window

The following setting options are available:

Input fields **Enter password / Re-enter password**	Specifies the encryption password.
Area **Encrypt backup by using algorithm**	Selects an encryption algorithm.
Option button **Classic**	Selects the traditional encryption procedure.
Option button **AES**	Selects the AES encryption procedure (AES = Advanced Encryption Standard), a popular encryption standard.

6.2 CompletingThe Backup Wizard Screen

The **Completing the Backup Wizard** screen is the last screen before the backup process starts. It shows all the settings that you have made so far and offers further configuration options in its extended area.



Backup Wizard window, Completing the Backup Wizard screen

In the **Settings** area, the settings that you have selected are indicated with a green dot.

File Filters	Applies one or more file filters during the backup process. Only files that meet the selected file filter criteria are stored.
Virus Scan	Scans the files for viruses before backup.
Compression	Compresses the files before backup.
Encryption	Encrypts the backup with the selected password. (This password is required when the backup is restored at a later point in time!)
Verification	Compares the backed up files with the original files after the backup process in order to make sure that all the files were copied, among other things. This check is also called verification.
Shadow Copy	Creates shadow copies of the files before backup. Thus files can also be backed up that are currently being worked on.

The following buttons are available:

?	Opens a selection list with help tasks.

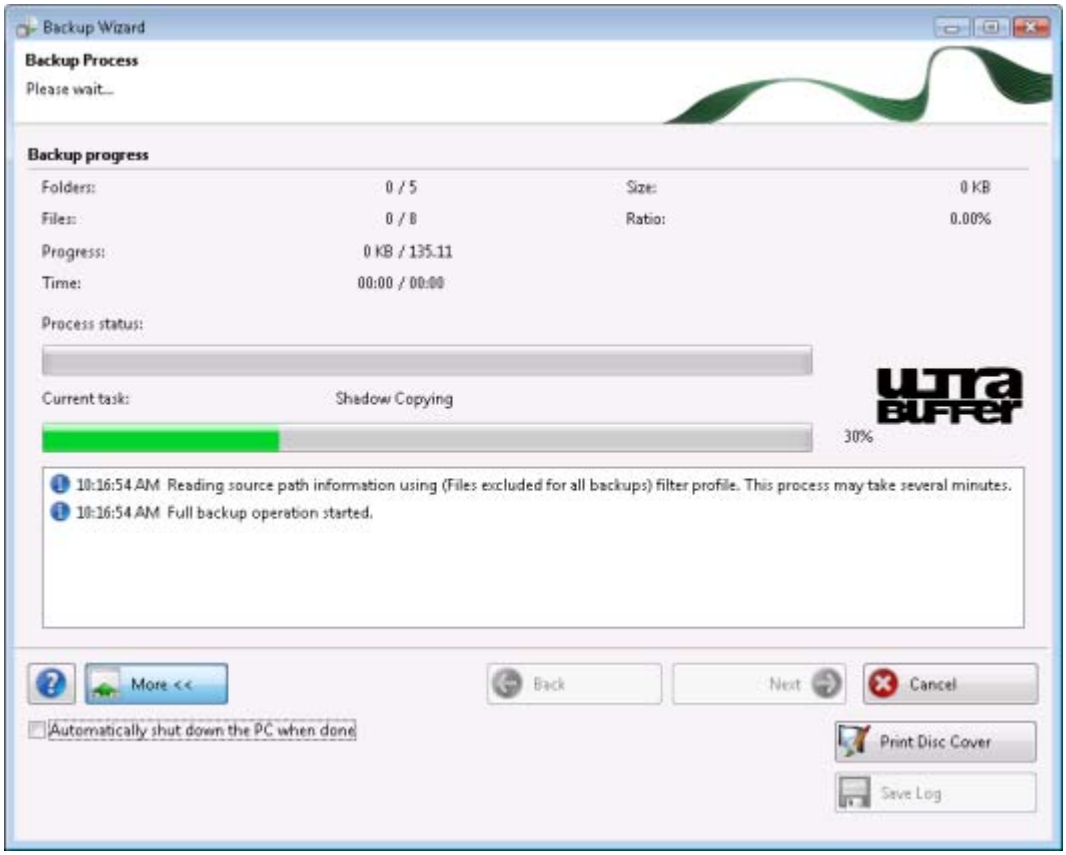
More	Opens the extended area.
Back	Shows the previous screen, i.e. the **Backup Settings** screen.
Backup	Starts the backup process. Depending on the target that you selected previously, the backup is written onto a disc, saved on a hard drive, uploaded onto a server, or created as an image.
Cancel	Cancels the procedure.

The following setting options are available in the extended area:

Check box **Verify data after backup**	Verifies that the data is complete and correct after backup
Check box **Use shadow copy**	Uses a shadow copy for the backup. The shadow copy feature is used to back up files that are open at the time and that you are still working on. This feature is available in the **Backup Wizard** window.
Selection field **Write speed**	Selects the speed at which the disc is written.
Button **Save**	Saves information on the backup such as selection and settings.
Button **Create Job**	Creates a job from the backup. This means that this backup will be carried out regularly at a defined time. The **Job Information** screen, in which you can indicate the cycle for the job, among other things, is shown.

6.3 Backup Process Screen

The **Backup Process** screen is displayed during the backup process. It consists of a main screen and an extended area. You can track the backup process with the progress bar and the messages in the main screen. You can open the extended area with the **More** button and configure further actions.



Backup Wizard window, Backup Process screen

During the backup process, the following setting options are available in the extended area:

Check box **Automatically shut down the PC when done**	Automatically shuts down the PC after the backup process has ended.
Button **Print Disc Cover**	Opens Nero CoverDesigner. The backup data (e.g. which files are included in the backup) is transferred to Nero CoverDesigner - you can find this data in the document data and paste it on the cover with the folder list tool.

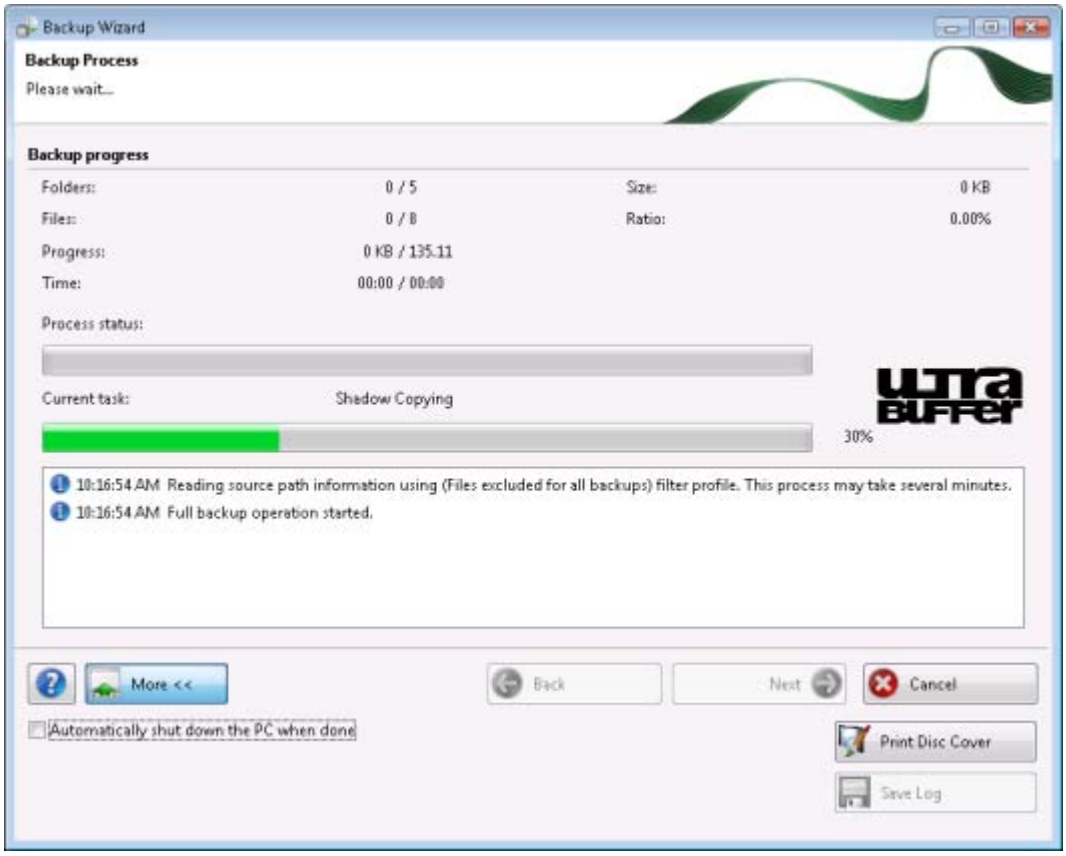
6.4 Burning a Backup to Disc

You can write the backup to a disc with Nero BackItUp. Depending on the backup size, the backup could require several discs. As far as technically possible, the first disc for a drive backup is always a bootable disc, i.e. you can start the restore process for the disc with this disc. The discs that are written are started or continued as multisession discs. This means that you can save other backups on this disc if there is enough storage space.

The following assumes that several discs are written.

To start the backup and burn to a disc, proceed as follows:

1. Select a burner in the **Target** drop-down menu.
2. Place a recordable disc inside the recorder.
3. Make additional settings as necessary.
4. Click the **Next** button.
   → The **Completing the Backup Wizard**screen appears.
5. Check the settings in the **Completing the Backup Wizard** screen.
6. If necessary specify other settings in the extended area.
7. Click the **Backup** button.
   → The **Backup process** screen appears and backup begins. You can track the backup process with the progress bar.

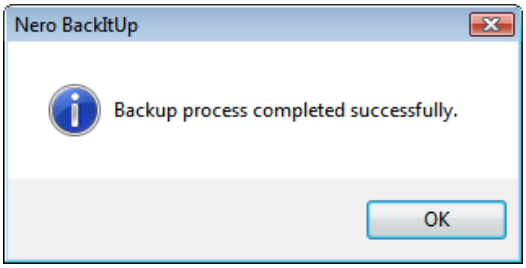


Backup Wizard window, Backup Process screen

8. During the backup process, configure other setting options in the extended area as desired.
   → If the disc's storage capacity runs out, the **Waiting for Disc** window opens and the drive is ejected.
9. Remove the recorded disc and insert a new blank disc.
   → The backup process resumes and the newly inserted blank disc is burned.
10. Repeat the previous step until the backup has been written completely.
    → The **Select source drive for data verification** window opens and the drive is ejected.

    If the backup was written to one single disc, the verification process is started automatically.

11. Insert the first disc of the backup in order to have it verified.
12. In the **Select source drive for data verification** window, select the appropriate drive and click the **OK** button.
13. The verification process is started and the first disc verified. After verification the disc is ejected and the **Select source drive for data verification** window appears again.
14. Repeat the two previous steps for each disc of the backup in chronological order.
    → Once the backup process is complete, the disc is ejected and a message window opens.



"Backup process completed successfully"

15. Click the **OK** button.
    → You have burned the backup. Now you can save the log or click the **Next** button in order to start other actions, e.g. creating a new backup or closing the wizards.

See also:

- Selecting Files For Backup→ 14
- Updating a File Backup→ 17
- Selecting a Drive For Backup→ 22
- Backup Settings Screen→ 24
- CompletingThe Backup Wizard Screen→ 27
- Backup Process Screen→ 29

6.5 Saving a Backup to a Hard Drive

With Nero BackItUp, you can save the backup to a hard drive, network drives, or removable media. When doing this, the backup is saved to the hard drive, network drive, or removable media in a defined backup format.

To start the backup and to save it to the hard drive, proceed as follows:

1. In the **Target** drop-down menu, select a hard drive, a network drive, or a removable drive.
2. In the **Target Path** input field, specify the path of the folder to which the backup is to be saved.
3. Configure other settings as desired.
4. Click the **Next** button.
   → The **Completing the Backup Wizard** screen appears.
5. Check the settings in the **Completing the Backup Wizard** screen.
6. If necessary specify other settings in the extended area.
7. Click the **Backup** button.
   → The **Backup process** screen appears and backup begins. You can track the backup process with the progress bar.
   → If the selected hard drive is active, it cannot be locked, and a window with the message "Nero BackItUp cannot lock the selected partition/hard drive" opens.



Locking a hard drive

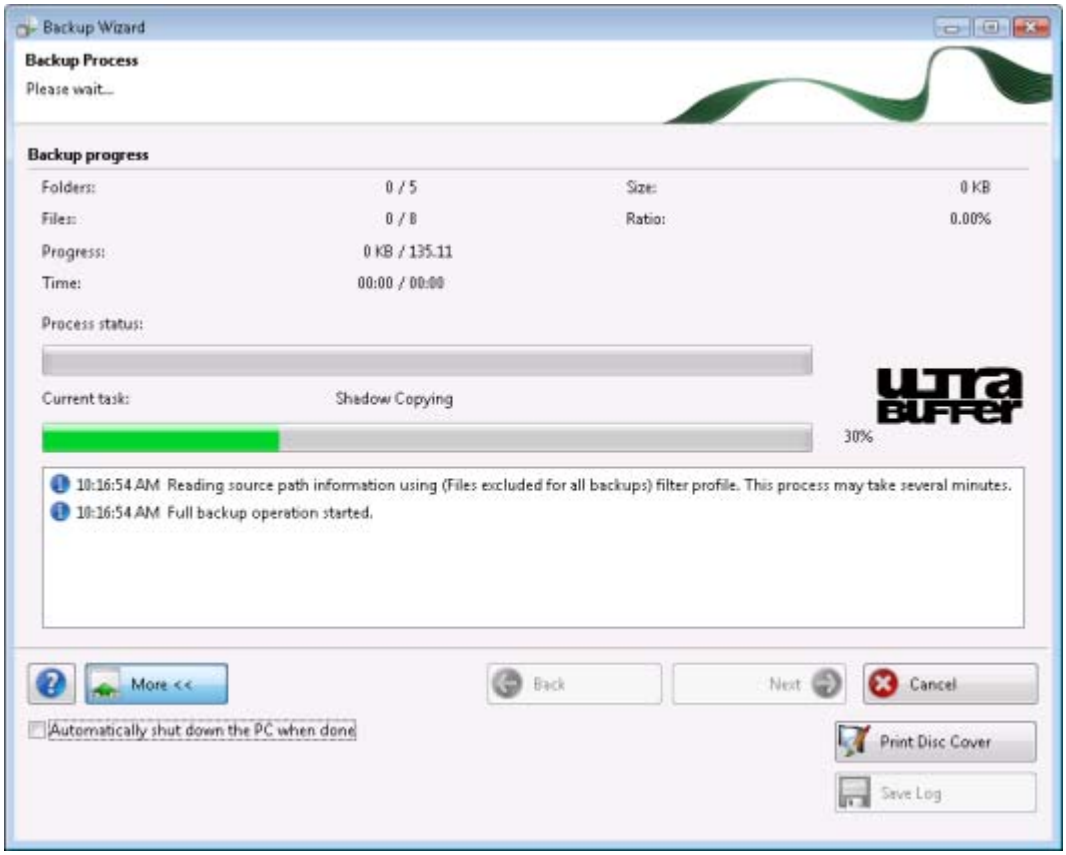
An active hard drive cannot be locked, since it is in use. The operating system is running on it, for example, or other programs are accessing it.

If the hard drive is not locked, system files can be modified during the backup process. This can result in an error during data verification at the end of the backup process. An information window with a corresponding message then appears.

The changes made to files during the backup are usually not relevant for restoration of the system.

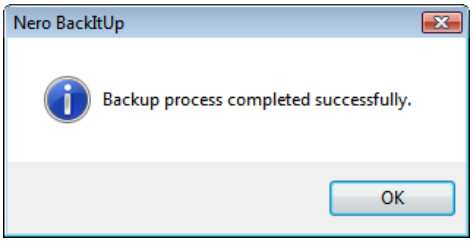
However, if you are interested in a drive backup without verification errors, you can back up the drive with the Nero BackItUp ImageTool. Nero BackItUp ImageTool boots from a disc, which means that the drive in this case is not in operation and thus system files cannot change during the backup.

8. If you want to continue the process without locking, click the **Ignore** button.
   → The backup process resumes.



Backup Wizard window, Backup Process screen

9. Configure further setting options as desired in the extended area during the backup process.
   → Once the backup process has ended, a message window opens.



"Backup process completed successfully"

10. Click the **OK** button.
    → You have saved the backup to a hard drive. Now you can save the log or click the **Next** button in order to start other actions, e.g. creating a new backup or closing the wizards.

See also:

Selecting a Drive For Backup→ 22

Selecting Files For Backup→ 14
Updating a File Backup→ 17
Backup Settings Screen→ 24
CompletingThe Backup Wizard Screen→ 27
Backup Process Screen→ 29

6.6 Saving a Backup on an FTP Server

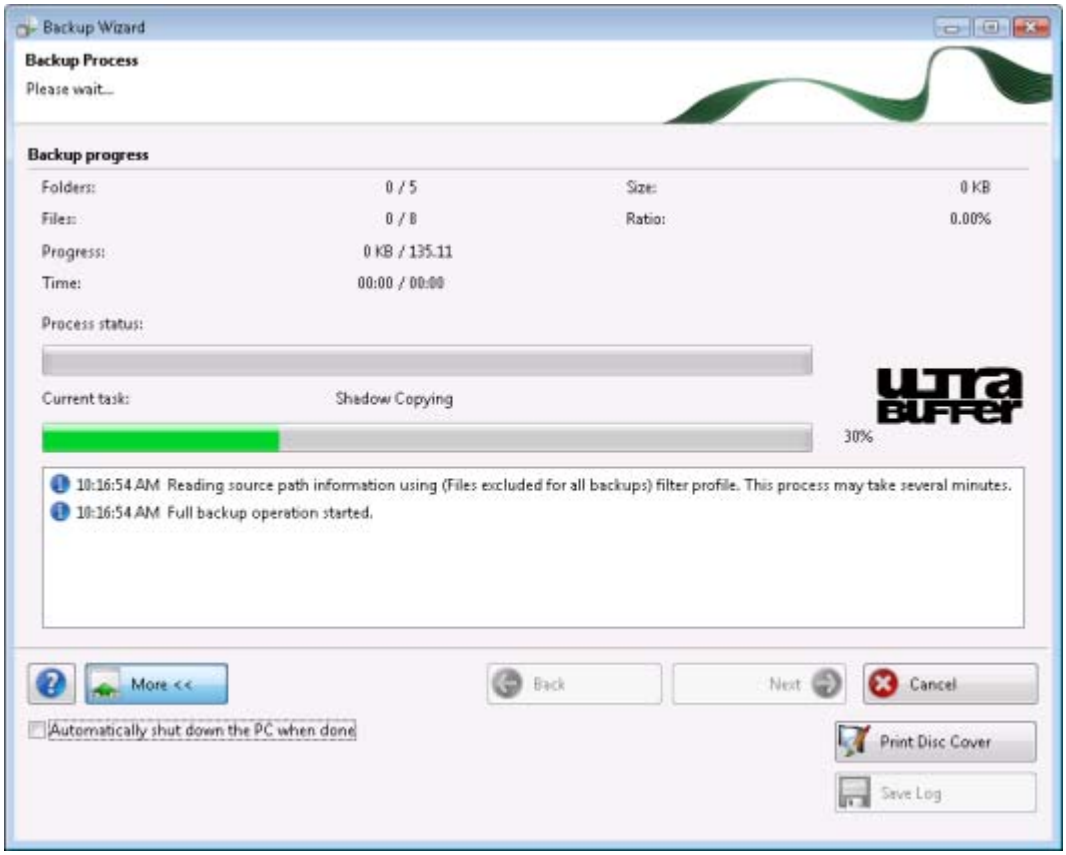
Nero BackItUp can be used to upload and save the backup to an FTP server.

The following requirement has to be fulfilled:

- You have entered an FTP server on the **FTP** tab under Options.

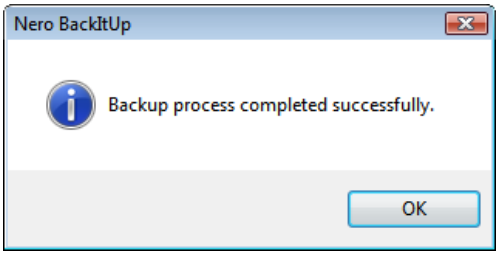
To start the backup and upload it to an FTP server, proceed as follows:

1. Select the desired FTP server in the Target drop-down menu.
2. If you want to specify a folder on the server:
   1. Click the  button.
      → The **Open Folder** window opens.
   2. Click the **New Folder** button and enter a name.
      → A new folder is created and displayed in the **Folder Name** selection list.
   3. Double-click a folder in the **Folder Name** selection list.
      → The folder is transferred into the **Path** display panel.
   4. Click the **Select** button.
      → The **Open Folder** window closes and the selected folder is transferred.
3. If necessary make additional settings in the **Backup Settings** screen.
   → Click the **Next** button.
4. The **Completing the Backup Wizard** screen appears.
   → Check the settings in the **Completing the Backup Wizard** screen.
5. If necessary specify other settings in the extended area.
6. Click the **Backup** button.
   → The **Backup process** screen appears and backup begins. You can track the backup process with the progress bar.



Backup Wizard window, Backup Process screen

7. Configure further setting options as desired in the extended area during the backup process.
   → Once the backup process has ended, a message window opens.



"Backup process completed successfully"

8. Click the **OK** button.
   → You have uploaded the backup to an FTP server. Now you can save the log or click the **Next** button to start other actions, e.g. creating a new backup or closing the wizards.

See also:

Selecting a Drive For Backup→ 22

- Selecting Files For Backup→ 14
- Updating a File Backup→ 17
- Backup Settings Screen→ 24
- Backup Process Screen→ 29
- Remote FTP→ 82

7 Scheduling a Backup - Jobs

Jobs in Nero BackItUp are scheduled backups that are automatically executed by Nero BackItUp at a defined time.
You can see scheduled jobs and jobs that have been carried out in the **Jobs** and **Calendar** screens. You can also set up jobs here. In order for a job to be able to start, i.e. for a scheduled backup to be carried out, the computer must be switched on and an operating system must be running. Nero BackItUp does not necessarily have to be running, since it can work in the background.

See also:

Job Tab→ 80

7.1 Setting Up Jobs

Setting up jobs is particularly useful when you want to carry out regular backups for the same files. The advantages are, e.g. that all the settings for the backup have already been configured and that there is no risk of forgetting a backup date or of not carrying out a backup as scheduled (as long as the computer is on).

To configure a job, proceed as follows:

1. Click the **Jobs** menu icon.
   → The **Job** screen opens.
2. Click the **Add Job** button.
   → The **Job Wizard** window with the start screen opens.
3. Click the **Next** button.
   → The **Job Source** screen appears.
4. If you want to configure the job for a file backup, choose the **Select Files or Folders** option button.
5. If you want to configure the job for a drive backup, choose the **Select a Drive or a Partition** option button.

   Administrator rights

   You must have administrator rights in order to back up and restore hard drives and partitions.
6. If you want to use an existing backup as a template for the job:
   1. Select the **Use Existing Backup** option button.
      → The selection list is activated.
   2. Select an existing backup from the selection list.
7. Click the **Next** button.
   → If you selected a file backup, the **Select Files or Folders** screen will appear.

→ If you selected a drive backup, the **Select Partition or Hard Disc** screen will appear.

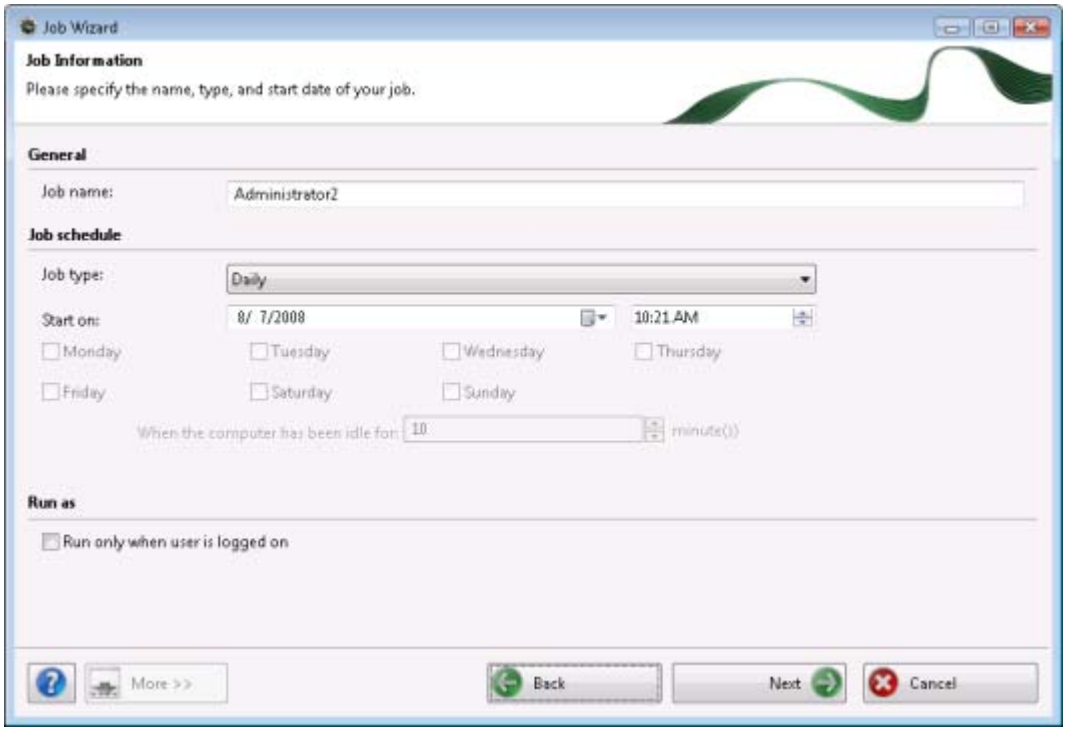
8. Choose files/folders or a drive/partition as desired or edit the selection for the existing backup.
9. Click the **Next** button.
   → The **Backup Settings** screen appears.
10. Specify the settings in the **Backup Settings** screen.
11. Click the **Next** button.
    → The **Job Information** screen appears.
12. Specify the settings for execution as desired.
13. Click the **Next** button.
    → The **Completing the Job Scheduling Wizard** screen appears.
14. Verify the settings in this screen.
15. If necessary specify other settings in the extended area.
16. Click the **Finish** button.
    → If you previously cleared the **Run only if user logged on** check box, the **Set Account Information** window opens.
17. Enter your user name and password in the appropriate boxes and then click the **OK** button.
    → The information is saved (Nero BackItUp needs your user information in order to be able to carry out the job even if a different user is logged on). The **Set Account Information** window closes, and a window with the message "Add Job Successfully" opens.
18. Click the **OK** button.
    → The **Job Wizard** closes. The job that you have configured will appear in the **Job**, **Calendar**, and **Home** screens. If you select the job and display the context menu with the left mouse button, then various possibilities are available such as **deactivating/activating** the job, **deleting** the job, or calling up the **properties**.

See also:

- Selecting Files For Backup→ 14
- Selecting a Drive For Backup→ 22
- Editing Jobs→ 42
- Executing jobs→ 41

7.1.1 Job Information Screen

You specify settings for job execution in the **Job Information** screen.



Job Wizard window, Job Information screen

The following setting options are available:

Input field **Job Name**	Specifies the name of the job.
Drop-down menu **Job Type**	Specifies when / with what frequency backups are made. The following entries are available: **Once**: Makes exactly one backup **Daily**: Makes daily backups **Weekly**: Makes weekly backups on one or more defined days (e.g. every Tuesday and Thursday) **Monthly**: Makes monthly backups **On system start**: Starts the backup when the operating system is started. **On logon**: Starts the backup when you log into the system **On idle**: Starts the backup when the computer is inactive, i.e. no applications are active and there is no user input
Drop-down menu **Start on:**	Defines the start date and time for the (first) backup. The input fields will be activated if the job type **Once**, **Daily**, **Weekly**, or **Monthly** is selected.

Check box **Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday**	Defines the day or days in which the backup is made every week, e.g. you can let the job run on weekdays. These check boxes will be activated if the job type **Weekly** is selected.
Input field **When the computer has been idle for**	Defines how many minutes the computer must be idle before the scheduled backup is started. This input field is activated if the job type **When Idle** is selected.
Check box **Run only if user logged on**	Starts the backup only if the user who set up the job is logged onto the system. If this check box is cleared, the backup is not made if the user is not logged on. In this case, Nero BackItUp asks for your user information when setting up the job.

7.2 Executing jobs

If you have set up a job, the backup process will be carried out automatically at the defined time. The system time is used for this purpose.
The computer must be switched on and an operating system must be running for this to happen. Nero BackItUp does not have to be running in order to carry out the scheduled backup, since it can work in the background.

Depending on which setting you have selected, the job can either be executed without the user being logged on or a user must be logged on.

In order for the backup to be carried out as scheduled, provide the chosen target media:

- If the backup is to be burned to disc, ensure that an appropriate blank disc is inserted in the burner.
- If you are backing up to an FTP server, ensure that the computer is connected to the Internet.
- If you are backing up to a removable medium or to an external hard drive, ensure that the appropriate device is connected or installed.

After the job has been successfully completed, a dialog box with the message "Backup job finished successfully" appears. If you set e-mail notifications in the options, you will be sent an e-mail (if a network or Internet connection exists).

See also:

Setting Up Jobs→ 38

7.3 Editing Jobs

You can edit jobs that have been created at a later time if desired.

To edit a job, proceed as follows:

1. Click the **Jobs** menu icon or the **Calendar** menu icon.
   → The **Jobs** screen or the **Calendar** screen appears.

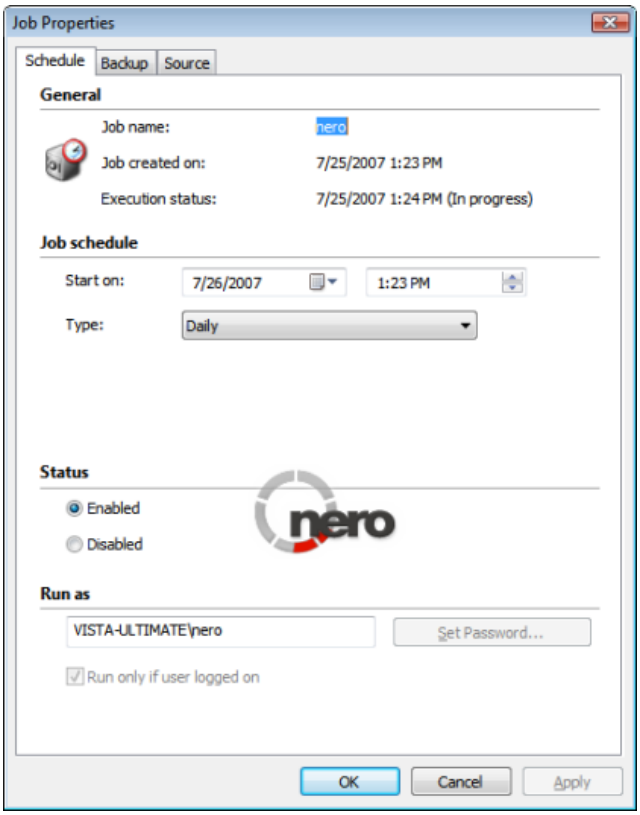
   Job views in the Job and Calendar screens

   The **Job** screen shows a tabular listing of the created jobs.

   The **Calendar** screen shows a calendar view of the created jobs.

   Select the screen with the view that best suits your needs.

2. Select a job.
3. Right-click to open the context menu.
4. Select the **Properties** entry.
   → The **Job Properties** window, containing the **Schedule**, **Backup**, and **Source** tabs, opens.



Job Properties

5. Change the settings on the **Schedule** tab as desired.
6. If you want the backups not to be carried out for some time, choose the **Disabled** option button.
   If you want carry out disabled backups once again, choose the **Enabled** option button.
7. Change the settings on the **Backup** tab as desired.
8. If necessary, use the **Source** tab to check which files or which drive the backup contains.
9. Click the **OK** button.
   ➔ The **Job Properties** window closes. The changed job properties are applied and saved.

8 Verifying a Backup

Nero BackItUp can be used to verify an existing backup. Nero BackItUp verifies whether or not the backup can be used for a successful restore process. During this process, data integrity is checked, and the backed up data is compared to the source data. If you carry out the verification right after the backup and have not modified any data in the meantime, you can use the feature to verify whether or not all data was backed up successfully (data verification).

To verify the backup, proceed as follows:

1. Click the **Wizards** menu icon.
   → The **Wizards** screen appears.
2. Click the **Verify Backup** button.
   → The **Verify Wizard** window opens and the welcome screen appears.
3. Click the **Next** button.
4. The **Verify Settings** screen appears.
5. Click the  button.
   → The **Open Backup** window opens.
6. Select a backup from the selection list or select a different backup using the option buttons and the  button.
7. Click the **OK** button.
   → The **Open Backup** window closes. The selected backup is transferred and the name of the backup is shown in the **Select Backup** display panel. The **Select any option to verify the backup** area is available.
8. If you selected a file backup, specify the type of check that should be used for the file backup:
   1. If you want to compare the CRC checksum of the backed up files with the CRC checksum of the original files, select the **Verify by CRC** option button.
   2. If you want to verify whether files have been changed after the backup, select the **Modified** option button.
   3. If you want to verify whether all files have been backed up, select the **Verify by contents** option button.
9. If you selected a drive backup, specify the type of check that should be used for the drive backup:
   1. If you want to compare the CRC checksum of the backed up drive with the CRC checksum of the original drive, select the **Verify by CRC** option button.
   2. If you want to compare the original drive with the backup sector-by-sector, select the **Sector by Sector** option button.
   3. Select the appropriate hard drive or partition from the lower area.

Calculation of the CRC checksum takes longer than the sector comparison, however it usually supplies more precise results.

10. Click the **Verify** button.
    → The **Verify Process** screen appears. You can track the progress of the verification via the progress bar and the messages.
11. After a successful verification, a window that notifies you of the verification's result appears.

    The message "The data verification process has been completed successfully" means that the verified backup is error-free and is suitable for restoring.

    If the message "Data verification has failed" appears, there is no guarantee that the verified backup is suitable for a restore process. There can be several reasons, e.g. the backup file can have errors or there is no data on the computer for a comparison.
12. Click the **OK** button.
    → The message window closes. The result of the data verification is visible in the message area, marked with the ⚠ symbol. (System and verification messages are marked with the ⓘ symbol.)

See also:

General Tab→ 77

9 Autobackup

You can use Nero BackItUp to set up and configure the automatic Autobackup. Once it has been set up, Autobackup is available on your computer's system tray and backs up the folders that you specify in the background. During this process, the existing backup is replaced by the current one.
In addition to a hard drive, you can use the Nero Online Backup Internet service as a backup target. Autobackup can then restore the saved files from there.

9.1 Configuring Autobackup

In order for Autobackup to be able to carry out the automatic backup process according to your preferences, configure which file types should be automatically backed up in which folders and define the backup target.

Autobackup

This update backup method is used for automatic backups made through Autobackup. In this process, the data from the previous backup is overwritten with the modified data. This means that there are no backup versions, i.e. accessing older backup versions is not possible.

Files that are deleted from a monitored folder are kept in the backup. If you want to delete these files from the backup as well, then use the delete feature, which can be selected in the **Autobackup** screen.

In order to set up Autobackup or change the settings, proceed as follows:

1. Click the **Autobackup** menu icon.
   → The **Autobackup** screen appears.
2. Click the **Backup** entry.
   → The screen for configuring Autobackup backups is displayed.
3. Specify which file types you want to back up in the **Backup Source** area.
4. If you want to edit the file extension, click one of the file types.
5. Specify which files you want to monitor with Autobackup in the **Backup Source** area:
   1. Click **Add** to add folders to the monitoring list.
   2. Click **Remove Folder** to remove folders from the monitoring list.
6. Specify the destination where Autobackup should back up the files in the **Backup Target** area.
7. If you want to save the backup to a hard drive:
   1. Choose the **Local Storage** entry from the **Backup Target** drop-down menu.
      → The corresponding area is displayed.
   2. Define the other settings.

8. If you want to save the backup online and use the Nero Online Backup Internet service:
   1. Choose the **Online Storage** entry from the **Backup Target** drop-down menu.
      → The corresponding area is displayed.
   2. If you already have an account, enter your user name and password in the corresponding fields.
   3. Click the **Log on** button.
   4. If you do not have an account, click the**Set up account** button.
      → A window that will guide you through the registration process opens.
9. Click the **Backup** button.
   → The first full backup for the folders that you have specified is carried out.
   ➔ Autobackup has been set up and is now monitoring the specified folders. If there are modifications or new files, Autobackup carries out a backup update automatically.

10 Restoring Files And Drives

You can use Nero BackItUp to restore the data in a backup (files or a complete drive). Data can be restored to its original path, to a new one, or to an FTP server. Individual files can be excluded from the restore process as desired, and it is also possible to only restore individual files.



Windows Vista

Search folders are supported both for backup and restore under the Windows Vista® operating system. This means that you can back up search queries, paths, and the original documents. Restore is possible to the original path, a selected path, or in a search folder (virtual folder).



Administrator rights

You must have administrator rights in order to back up and restore hard drives and partitions.

See also:

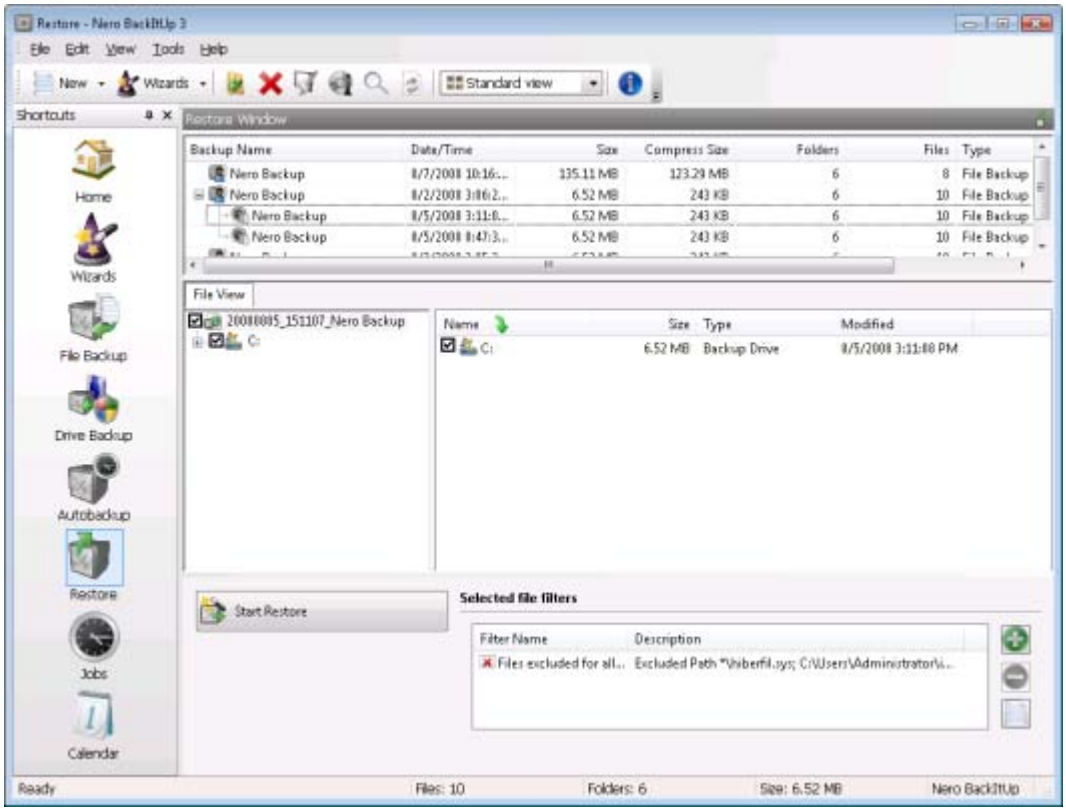
Restore Tab→ 80

10.1 Restore Screen

Choose a backup to restore in the **Restore** screen. The screen is divided into three large areas:

- A list of all backups
- An area that shows the files belonging to the backup
- A filter area

The **Start Restore** button, which begins the restore process, is also available.



Restore screen

The **Drive View** tab is available for drive backups, and shows details regarding the backed-up drive/partition. The files and folders included in the backup are displayed on the **File View** tab. This tab includes three types of views that you can choose with the drop-down menu in the toolbar:

Standard view	Shows the backup folders in a navigation view on the left, and the corresponding content on the right.
Selected file view	Shows all files of the backup in a list.
Explorer view	Shows the computer folders on the left and the corresponding content on the right. Backup folders and files that have been added or modified are shown with green lettering. Folders that are not a part of the backup are marked with a grayed-out check box.

The following buttons are available in the filter area:

	Opens the **Select File Filters** window, where you can select filters that will be applied to the files to be restored.
	Deletes the selected filter from the **Selected filters** selection list, i.e. it is not applied in this restore process.

	Opens the **Filter Settings** window where you can create a new filter.

See also:

Filters→ 57

10.2 Restoring a File Backup

Nero BackItUp can be used to restore a backup. The contents of the file backup are restored during this process. You can exclude individual files from the restore process or select specific individual files. In contrast to a drive backup restore process, no programs or operating systems can be restored.



Windows Vista

Search folders are supported both for backup and restore under the Windows Vista® operating system. This means that you can back up search queries, paths, and the original documents. Restore is possible to the original path, a selected path, or in a search folder (virtual folder).

In order to restore a file backup, proceed as follows:

1. Click the **Restore** menu icon.
   → The **Restore** screen appears.
2. Select the desired backup.
   → The files and folders of the backup are displayed in the view area.



If you want to restore a full backup set (full first backup, plus one or more backup updates) then select the last backup of the backup set.

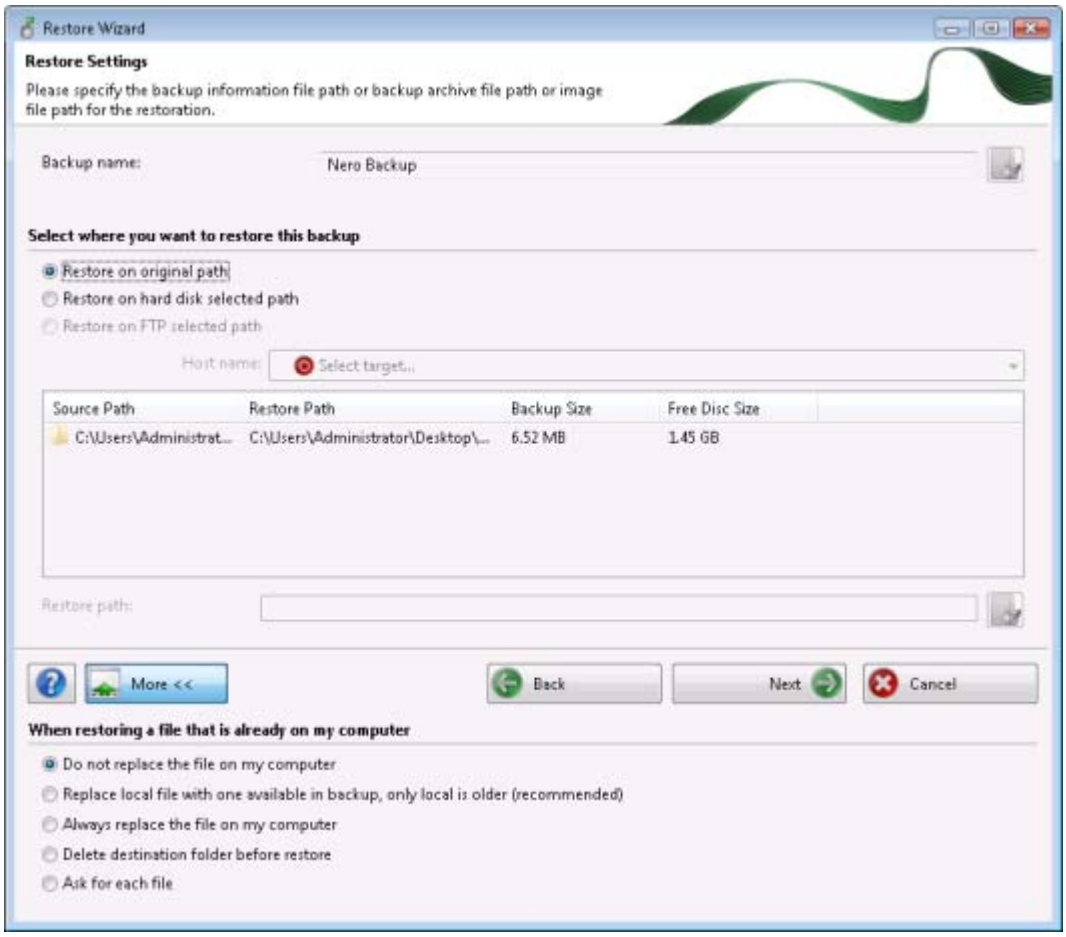
3. Make the backup available:
   1. If the backup is located on a disc, insert the disc in a drive.
   2. If the backup has been saved to hard drive, network drive, or removable medium, ensure that your computer has access to the respective drive.
   3. If the backup has been saved as an image file, load the image file, e.g. with Nero ImageDrive.
4. If you want to exclude specific files or folders from the restore, clear the appropriate boxes.
5. Apply filters to the files or remove them as desired.



Files and folders that do not meet the filter criteria are excluded and shown with a grayed-out check box. The check box cannot be selected. However, individual files can be re-added with the file search feature.

6. If you want to search for specific files in order to exclude them from or add them to the backup, run a file search.

7. Click the **Start Restore** button.
   → The **Restore Wizard** window with the **Restore Settings** screen opens. The selected backup is transferred into the **Backup name** display panel.



Restore Wizard, Restore Settings screen

8. If you want to restore the backup to the original path, select the **Restore to original path** option button.
9. If you want to specify the path on which the backup will be restored yourself:
   1. Select the **Restore on selected hard disk path** option button.
   2. Select the desired entry in the selection list.
      → The **Restore path** display panel and the button are activated.
   3. Click the  button.
      → The **Select folder** window opens.
   4. Select the desired restore path and click the **Select** button.
      → The **Select folder** window is closed and the selected path is transferred.

In order to be able to use the FTP server, you must have entered an FTP server under Options.

10. If you want to restore the backup on an FTP server:
    1. Select the **Restore on selected FTP path** option button.
    2. Select an FTP server in the **Host name** drop-down menu.
       → The **Remote Status** window opens and a connection to the FTP server is established.
    3. Click the **OK** button.
       → The **Remote Status** window closes.
    4. Click the  button to specify a folder for the restore.
       → The **Open Folder** window opens.
    5. Click the **New Folder** button and enter a name.
       → A new folder is created and displayed in the **Folder Name** selection list.
    6. Double-click a folder in the **Folder Name** selection list.
    7. The folder is transferred into the **Path** display panel.
    8. Click the **Select** button.
    9. The **Open Folder** window closes and the selected folder is transferred.
11. If you want to specify further options for the restore:
    1. Click the **More** button.
       → The extended area opens.
    2. Use the option buttons to choose the action to take when a file to be restored is already (or is still) on the computer.
12. Click the **Next** button.
    → The **Restore Wizard Completed** screen appears.
13. Check the information.
14. Configure further options in the extended area as desired:
    1. If you want Nero BackItUp to verify the files after restoring them, select the **Verify data after restore** check box.
    2. If you have also saved access rights for files and folders in the backup and want to retain these, check the **Restore access rights of files and folders** check box.
15. Click the **Restore** button.
    → The **Restore Wizard Completed** screen appears. You can now start the restore.

See also:

- Starting The Restore Process→ 54
- Restore Screen→ 48
- Filters→ 57
- Find Files→ 60
- Remote FTP→ 82

10.3 Restoring a Drive Backup

Nero BackItUp can be used to restore a drive backup. During this process, the drive backup content is restored. Programs and operating systems are restored. Problems can occur if you want to restore an active hard drive or partition, e.g. it's usually not possible to lock the active hard drive or partition for the restore process. In this case, we recommend carrying out the restore process with Nero BackItUp ImageTool. Nero BackItUp ImageTool is always included in the first drive backup disc and can be run from it.

Administrator rights

You must have administrator rights in order to back up and restore hard drives and partitions.

To restore a hard drive or partition, proceed as follows:

1. Click the **Restore** menu icon.
   → The **Restore** screen appears.
2. Select a backup.
   → The details of the backup are displayed in the view area on the **Drive View** and **File View** tabs.
3. If you want to view the selected files and verify them manually:
   1. Click the **File View** tab.
      → The **Creating list of files** window opens and creates a list of the files in the backup. You can track the process via the progress bar and the messages.
      → After the list has been created, a dialog box will open with an appropriate message.
   2. Click the **OK** button.
      → The dialog box closes.
   3. Click the **Close** button.
      → The **Creating list of files** window closes. The files of the selected folder or folders are displayed on the **File View** tab.
   4. If you want to exclude a file from the backup, clear the appropriate box preceding the file.

      Files and folders that do not meet the filter criteria are excluded and shown with a grayed-out check box. The check box cannot be selected. However, individual files can be re-added with the file search feature.
4. If you want to search for specific files in order to exclude them from the restore or add them to the restore, execute a file search.
5. If you have backed up multiple partitions, select the partition that you want to restore.

   For technical reasons, only one partition can be restored in one restore procedure.
6. Make the backup available:
   1. If the backup is located on a disc, insert the disc in a drive.

2. If the backup has been saved to hard drive, network drive, or removable medium, ensure that your computer has access to the respective drive.
3. If the backup has been saved as an image file, load the image file, e.g. with Nero ImageDrive.

7. Click the **Start Restore** button.
   → The **Restore Wizard** window, with the **Restore Settings** screen, opens.
8. In the **Select Target Location** drop-down menu, select where the backup is to be restored:
   1. If you have selected an entire hard drive (with partitions) to restore, select a hard drive as the target location (e.g. **Disc 1**).
   2. If you have selected a partition to restore, select a partition as the target location (e.g. **Data (D)**).

   → If you have selected a complete hard drive (e.g. **Disc 1**) as the target location, the Restored partition size area will be available.
9. In the **Restored partition size** area, specify whether the restore should be fitted to the **target** or **source size**.

   Should I fit to the target or to the source size?

   Fit to target size: The size of the target partition remains intact. The storage space not needed for the restore becomes empty space but remains part of the partition.

   Fit to source size: The size of the target partition is reduced to the size of the backed up partition. Partition storage space that is not needed anymore is no longer part of the partition. You can repartition this unused storage space as needed.
10. If the hard drive or partition to be restored contains an operating system and you want the operating system to be booted when the computer starts, enable the **Restore MBR** check box in order to restore the MBR.
11. Click the **Next** button.
    → The **Restore Wizard Completed** screen appears. You can now start the restore.

See also:

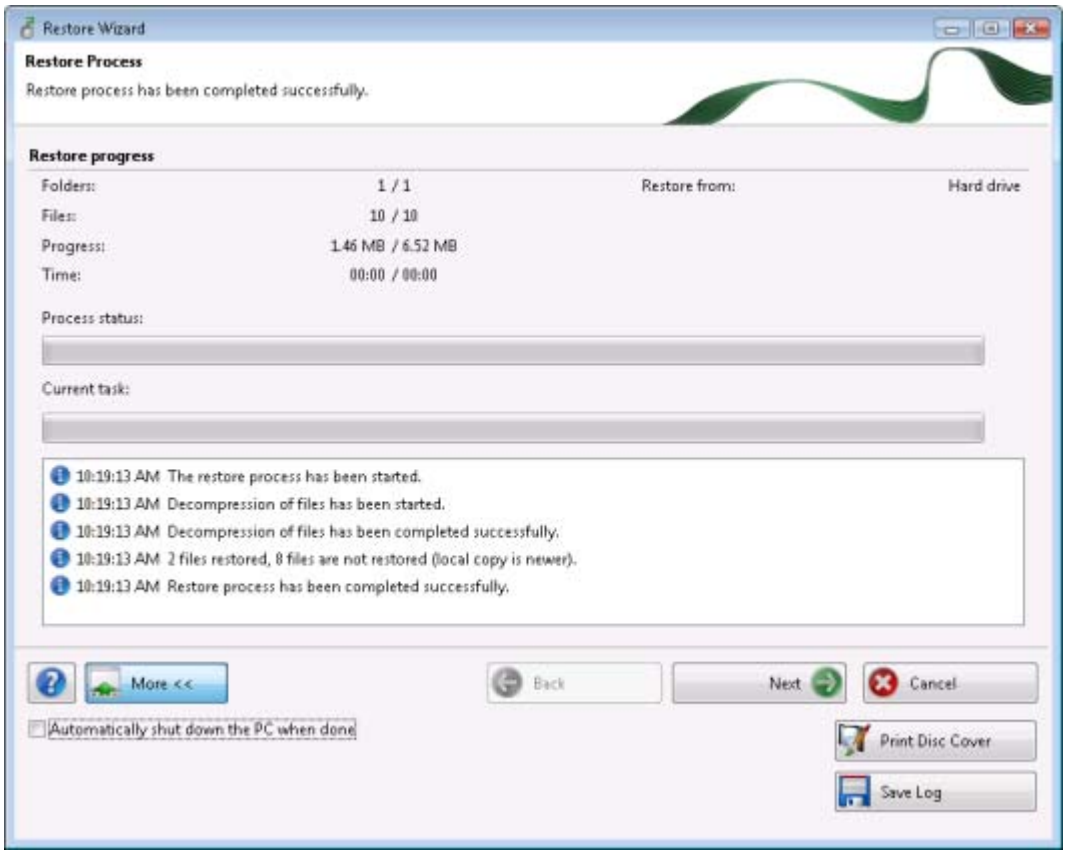
Starting The Restore Process→ 54
Restore Screen→ 48
Filters→ 57

10.4 Starting The Restore Process

If you selected a file backup or drive backup for restoring, you can start the actual restore process. You will be in the **Restore Wizard Complete** screen.

In order to start the restore process, proceed as follows:

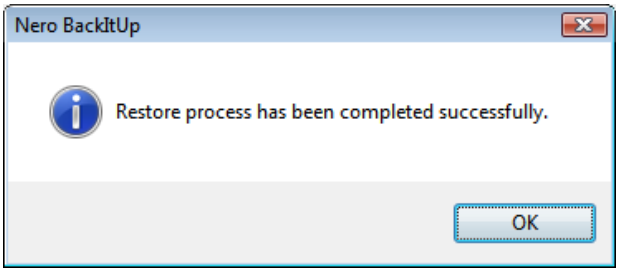
1. Verify the settings. (If you want to change the settings, you can display the previous screen with the **Back** button.)
2. If you want Nero BackItUp to verify the files after the restore, select the **Verify data after restore check box** in the extended area.
3. If you have also saved access rights for files and folders in the backup and want to retain these, check the **Restore access rights of files and folders** box in the extended area.
4. Click the **Restore** button.
   - → The **Restore Process** screen appears and the restore process begins. You can track the restore process with the progress bar.
   - → If you want to restore a drive or a partition, the corresponding hard drive to which the restore data is written is locked. If locking is not possible, an error message will appear.



Restore Wizard, Restore Process Screen

5. Specify further configuration options as desired in the extended area during the backup process.
   - → If you want to restore a complete backup set and need a backup that is in a different location (e.g. on a different disc), a window requesting you to provide the required backup will open.
6. Provide the requested backup and click the **OK** button.

➔ The restore process resumes.
Once the restore process has ended, a window with a corresponding message is opened. If the restore process took place on a disc, the disc is ejected.



Restore process completed successfully.

7. Click the **OK** button.

➔ You have restored a backup. You can now save the log or click the **Next** button and start other actions, e.g. carrying out a different restore process.
If you have restored a drive backup, it may be necessary to restart your computer so that the system can be updated.

See also:

Restoring a Drive Backup→ 53
Restoring a File Backup→ 50

11 Backup And Restore Tools

11.1 Filters

You can define filters in Nero BackItUp, which you can then use for backing up or restoring files or drives. Depending on the definition, the filter includes or excludes certain files. The filters can also be combined.

Nero BackItUp includes pre-defined standard filters that have proven useful:

- **Files excluded for all backups** - Excludes system files

See also:

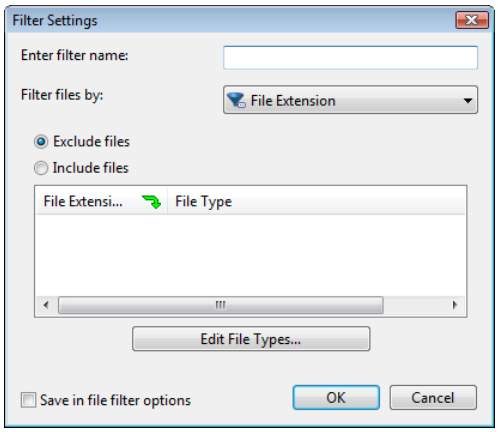
Backup Tab→ 78

11.1.1 Creating Filters

You can create filters to filter certain files for backup or restore. You can either create filters for a particular backup or restore, or create them for all backups and restores.

To create a filter, proceed as follows:

1. If you want to create filters that will subsequently be available for every backup and every restore:
   1. Click **File** > **Options**.
      → The **Options** window opens.
   2. Click the **File Filters** tab.
   3. Click the **Create** button.
2. If you want to create filters for a special backup/restore, click the  **Create** button in the **File Backup/Restore** screen or in the corresponding wizards, in the expanded area.
   → The **Filter Settings** window opens.



Filter Settings window

3. Enter a name for the filter in the **Filter name** input field.
4. Select a filter type in the **Filter files by** drop-down menu.
   → A definition area appropriate to the selected filter type will be displayed below the drop-down menu.
5. If you selected the **File Extension** filter type:
   1. Select the **Exclude files** option button to exclude files with a certain file extension.
   2. Select the **Include files** option button to include files with a certain file extension.
   3. Click the **Edit File Types** button.
      → The **Add Included/Excluded File Types** window opens.
   4. Select an entry on the left and click the **>>** button to add file extensions.
   5. Select an entry on the right and click the **<<** button to remove file extensions.
   6. Enter user-defined file extensions in the input field if necessary.
   7. Click the **OK** button.
      → The window closes. The selected file extensions are added to the list.
6. If you selected the **Date** filter type:
   1. In the **Find all files** drop-down menu, select whether the desired files are to be **generated**, **changed** or **called up** for the last time on a certain date.
   2. Use the option buttons to select a date or a time frame.
7. If you selected the **Size** filter type:
   1. In the **Size** drop-down menu, specify whether the desired files must have a certain **minimum** or **maximum** size.
   2. Specify the size in MB.
8. If you selected the **Attribute** filter type:
   1. Select the check boxes of those attributes for which you want to make more precise specifications.
   2. In the drop-down menu specify whether files with the respective attribute are to be selected or excluded from the selection.
9. If you selected the **Excluded Path** filter type:
   1. Click the **Add** button.
      → The **Select Folder** window opens.
   2. Select a folder and click the **OK** button.
      → The path to the selected folder is added to the **Exclude the following paths** list. The folder and all of its subfolders are excluded in the filtering process.
   3. Add additional paths as desired.
   4. If you want to select a path again, click the **Remove** button.
10. If you opened the **Filter Settings** window via the **File Backup** or **Restore** screen but want the filter to be available in the future for each backup or restore, check the **Save in file filter options** box.
11. Click the **OK** button.
    ➔ The window is closed and the created filter is applied and saved.

See also:

Selecting And Combining Filters→ 59

11.1.2 Selecting And Combining Filters

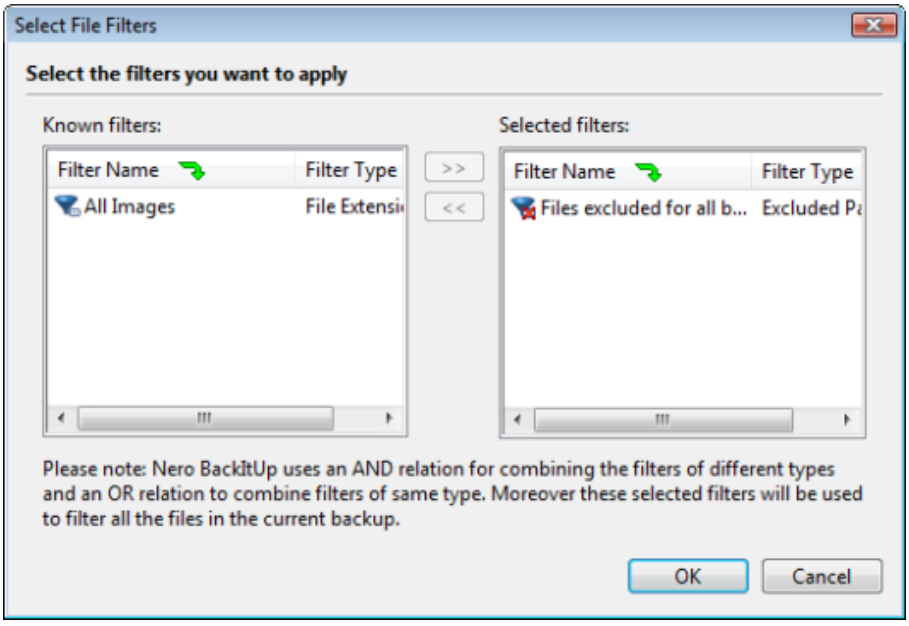
You can select and combine filters created in Nero BackItUp.
Filters of the same filter type (e.g. the **file extension** filter type) are linked with an OR relationship. This means that files to which one or both conditions apply will be filtered.

Filters of different types are linked with an AND relationship. This means that files to which both conditions apply will be filtered.

You can combine filters universally and save the combination as a profile that you can use for backups/restores. You can also combine filters only for a special backup/restore.

To select and combine filters, proceed as follows:

1. If you want to combine filters universally and save them as a profile:
   1. Click **File** > **Options** menu
      → The **Options** window opens.
   2. Click the **Backup** tab.
   3. Click the **Add/Remove** button.
2. If you want to combine filters for a special backup/restore, click the **Add** button in the **File Backup/Restore** screens or in the corresponding wizards.
   → The **Select File Filters** window opens.



Select File Filters Window

3. If you want to select filters:
   1. Select the desired filter in the **Known filters** selection list.
   2. Click the **>>** button.
      → The filter is added to the **Selected filters** list.
4. If you do not want to apply a filter:
   1. Select the filter in the **Selected filter** list.
   2. Click the **<<** button.
      → The filter is removed from the **Selected filters** list.
5. Click the **OK** button.

➔ The window closes and the selected filter combination is applied.
If you have combined the filters in the **Options** window, you can now save the changed profile under a different name.

See also:

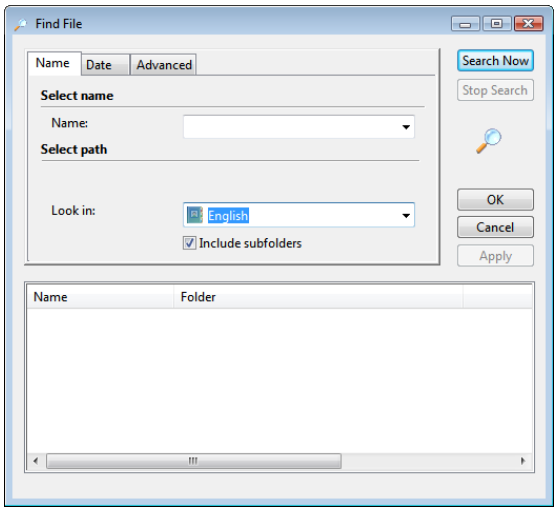
Creating Filters→ 57

11.2 Find Files

You can use the Find File feature to search for specific files on your computer for file backups and restores of file and drive backups. You can add the files to the backup or restore, or you can exclude them from the backup or restore. By using this feature you can even add files that do not meet the filter criteria. The Find File feature is only available in the appropriate screens; it is not available in the wizards.

To search for specific files, proceed as follows:

1. Click the  button.
   → The **Find File** dialog box opens.



Find File Window

2. In the **Look in** drop-down menu, specify where the search will be executed.
3. If you also want to execute the search in the subfolders, check the **Include subfolders** box.
4. If you want to search for files by name, enter a text in the **Name** input field.
5. If you want to search for files of a certain date or time frame, click the **Date** tab and specify the search criteria using the option buttons.
6. If you want to search for files of a certain type or file size, click the **Advanced** tab.
7. Specify the desired file extension in the **Type** drop-down menu.
8. In the **Size** drop-down menu you can specify whether the file should have a certain **minimum** or **maximum** size, and enter the desired size in KB. If you do not want to specify any restrictions, leave the appropriate box empty or set to the default setting.
9. Click **Search Now**.
   ➔ The search is executed. The results of the search are displayed in the lower list.
10. If you want to include a file in the backup/restore, select the appropriate check box preceding the file.
11. If you want to exclude a file from the backup/restore, clear the appropriate box preceding the file.
12. Click the **Apply** button.
13. Click the **OK** button.
    ➔ The **Find File** window closes. The selected files are transferred.

12 Nero BackItUp ImageTool

Nero BackItUp ImageTool is a backup and restore program that is similar to Nero BackItUp, and which is run from a bootable CD or DVD without Windows being active.
The bootable CD or DVD is created with Nero BackItUp.

Nero BackItUp ImageTool is intended for backing up and restoring drives. Since Nero BackItUp ImageTool is booted from a CD or DVD, the computer's hard drives are not active. This makes it possible to back up or restore a drive without verification errors.

See also:

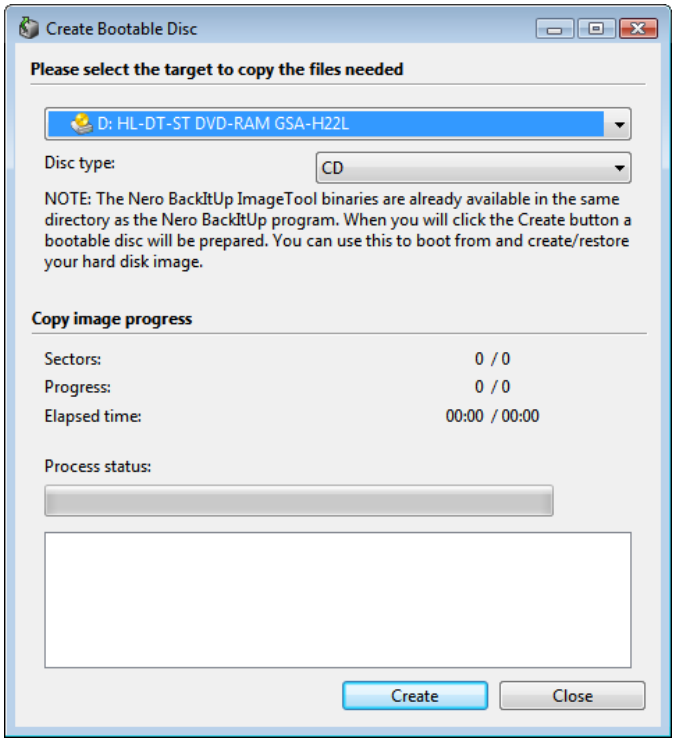
Remote FTP→ 82

12.1 Creating a Bootable Disc

Nero BackItUp can be used to create a bootable CD or DVD that Nero BackItUp ImageTool boots. The FTP servers that you entered in the Nero BackItUp options are applied.

To create a bootable CD/DVD, proceed as follows:

1. Insert a writable CD/DVD in the burner.
2. On the Nero BackItUp toolbar, click the menu **Tools** > **Create bootable disk**.
3. The **Create Bootable Disc** window opens.



Creating a bootable disc window

4. Select the appropriate burner in the upper drop-down menu.
5. Select the type of the inserted disc (CD or DVD) in the **Disc Type** drop-down menu.
6. Click the **Create** button.
   → The creation process begins; you can track the process via the progress bar and the messages. After the creation process is completed, the disc is ejected and a window with the message "Copy image process has finished successfully" opens.
7. Click the **OK** button.
   → The dialog box closes.
8. Click the **Close** button.
   → The **Create Bootable Disc** window closes.
   → You have created a bootable disc that can be used to start Nero BackItUp ImageTool.

See also:

Remote FTP→ 82

12.2 Starting Nero BackItUp ImageTool

Nero BackItUp ImageTool is started from the bootable CD/DVD that you created with Nero BackItUp. If booting from the CD/DVD, the computer is started without having to access the hard drive. Since the hard drive is disabled, backup or restore without verification errors is possible.

The following prerequisites must be fulfilled for the computer to be able to boot from the disc:

- The start sequence must be set in the BIOS of the computer in such a way that the drive is addressed first as the boot drive (start sequence CD-ROM, C, A for instance).
- In the case of an SCSI CD-ROM drive, this drive must be connected to an SCSI adapter with a separate BIOS in which settings can be modified accordingly. (This will only work if there are no IDE hard drives present, as these come before the SCSI adapter in the boot sequence.)
- The bootable CD/DVD that you created with Nero BackItUp is placed in the drive.

To boot the computer from the disc and to start Nero BackItUp ImageTool, proceed as follows:

1. Start the computer.
   → The computer starts and boots from the CD/DVD.
   Nero BackItUp ImageTool is loaded. You can track the process with the messages on the screen.
   The Nero BackItUp ImageTool start screen is displayed. A language selection list is displayed.

Booting from the CD/DVD

It is important for the CD/DVD to already be in the drive when the computer is started, since this is the only way that the CD/DVD will be booted and Nero BackItUp ImageTool run.
Because it is not possible to insert a CD/DVD when the computer is switched off, first start the computer as usual, insert the CD/DVD, and then shut down the computer.

2. Select the language for Nero BackItUp ImageTool from the **Please choose your language** selection list.
3. Click the **OK** button.
   → The Nero BackItUp ImageTool window is opened.
   → A window with a license agreement is opened.
4. Please read the license agreement carefully and select the appropriate check box if you agree to the terms of the agreement. Using Nero BackItUp ImageTool is not possible without your consent to this agreement.
5. Click the **Next** button.
   → The window with the license agreement is closed. The **Options** window is opened with the **Network** tab on front. You can now configure the network or close the window.
   → You have booted Nero BackItUp ImageTool from the disc.

The CD/DVD is no longer needed after Nero BackItUp ImageTool has started. You can remove the CD/DVD if you need the drive for a backup or restore disc.

See also:

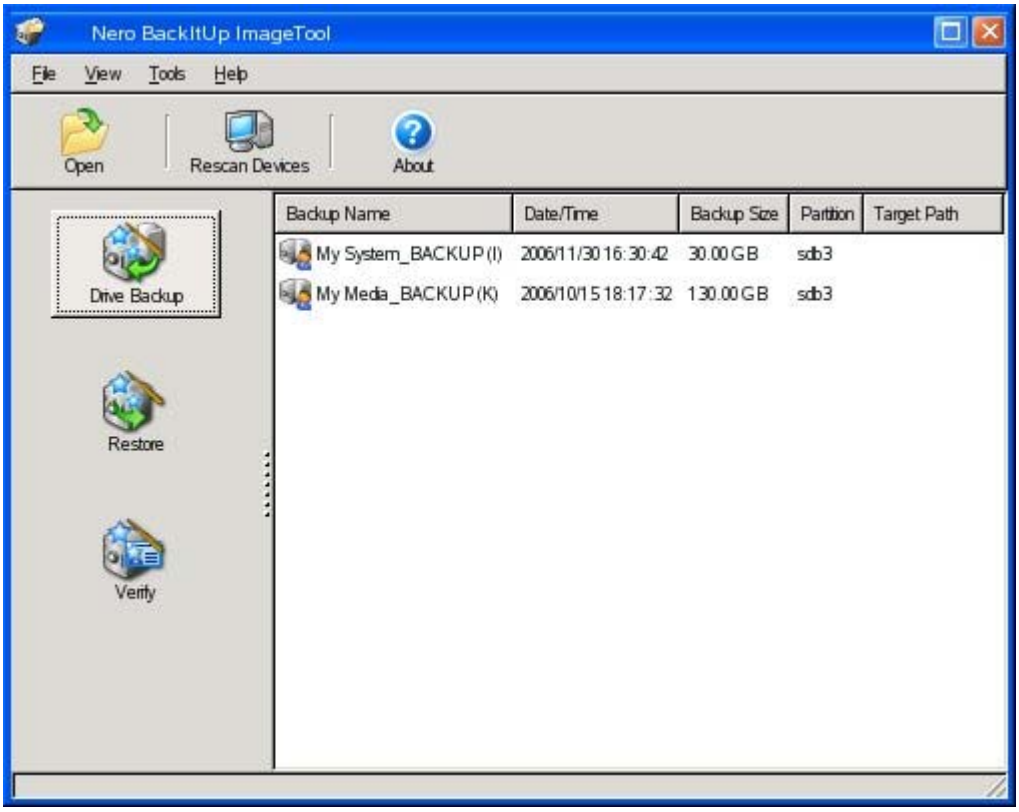
Exiting Nero BackItUp ImageTool→ 73
Expert Features Tab→ 83

12.3 User Interface

The Nero BackItUp ImageTool user interface is the starting point for:

- Drive backups
- Restoring drives
- Verifying drive backups

The user interface is similar to that of Nero BackItUp.



Nero BackItUp Image Tool

The following menus are available:

File	Includes program tasks such as Open and Exit. Also, you can configure, import, and export options, save the log file, and restart or shut down Nero BackItUp ImageTool.
View	Selects which toolbars are shown.
Tools	Allows wizards to be started. You can also display information about the inserted disc, erase a rewritable disc, and update device information.
Help	Shows information about Nero BackItUp ImageTool.

The following buttons are available in the toolbar:

Open	Opens a drive backup to restore.
Rescan Devices	Updates the information about the hard drives, drives, and connected devices.
About	Displays information about Nero BackItUp ImageTool, such as the version number.

The following buttons are available in the selection list:

Drive backup	Starts a drive backup.
Restore	Starts the recovery.
Verification	Starts verification of a drive backup.

12.3.1 Options Window

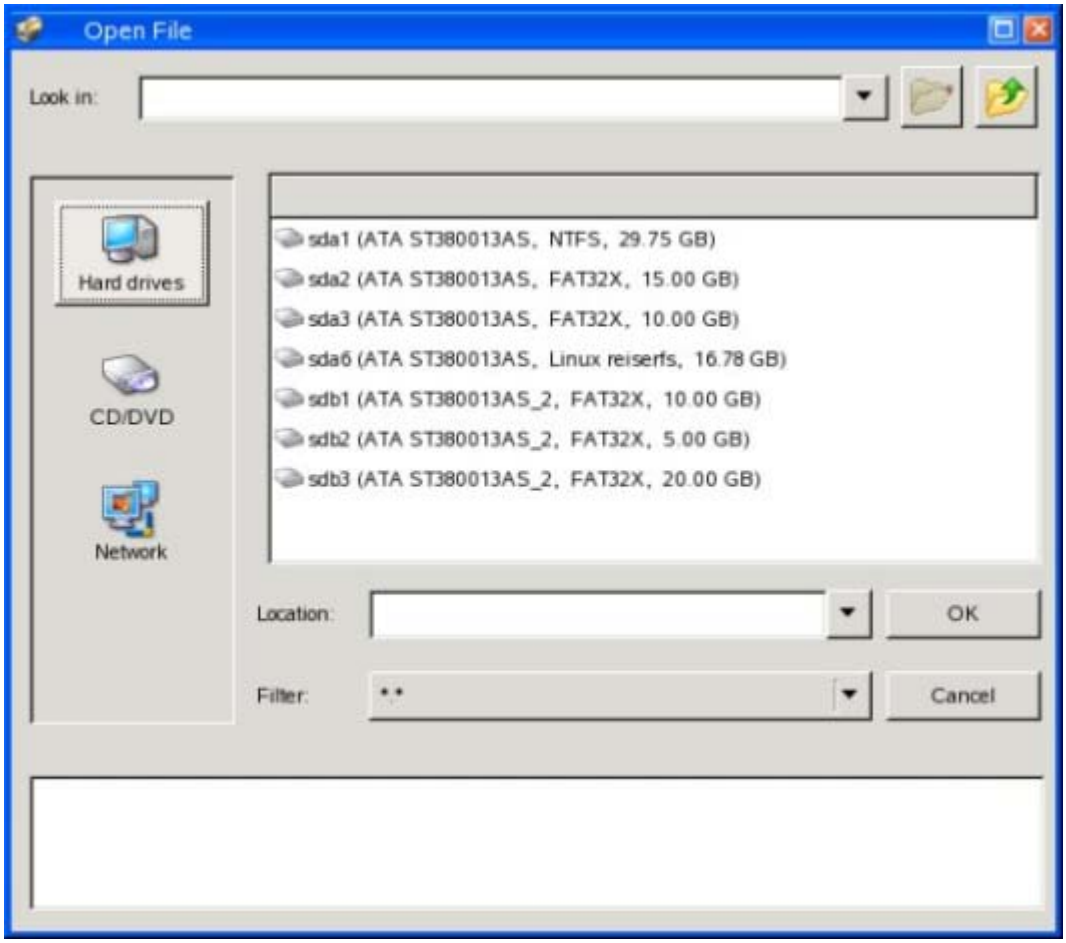
The **Options** window offers setting options for network and FTP. Use the **Options** entry in the extended area to open the window. The functionality is similar to the one in Nero BackItUp.

The following tabs are available:

FTP	Configures an FTP server. Displays FTP servers that were entered in Nero BackItUp at the time when the bootable CD/DVD was created. You can also enable proxy settings here and set the maximum archive size. FTP servers can only be displayed or configured if the network has been configured.
Network	Offers configuration options for the network: **None**: No network is configured. **DHCP**: Dynamically references the IP address. **Static IP**: Uses the static IP address that you enter in the input fields. The network must be configured for Nero BackItUp ImageTool to connect with an FTP server.
Cache	Specifies where data is stored in the cache.

12.3.2 Open File/Folder Window

The **Open File** or **Open Folder** window opens when you select a file or a folder, for example a drive backup to restore. The window is similar to the search windows in Windows®.



Open File/Folder Window

The following setting options are available:

Drop-down menu **Look in:**	Shows the path information. Use the buttons to create a new folder or to move one folder up.
Button **Hard drives**	Shows the content of hard drives in the display area.
Button **CD/DVD**	Ejects all drives and shows them in the display area.
Button **Network**	Shows the network in the display area.
Button **FTP**	Shows the entered FTP servers in the display area. This button is only available if you entered one or more FTP servers under Options.

Display area	Shows the selected content. You can open a folder or an entry by double-clicking it.
Display/Input field **Location:**	Specifies the current path or specifies a file name.
Button **Filter:**	This button is currently not assigned.
Button **OK**	Closes the window and transfers the selected folder or the selected file.
Button **Cancel**	Cancels the action and closes the window.
Message area	Shows messages when drives are read.

12.4 Drive Backup

With Nero BackItUp ImageTool you can back up a hard drive or partition. The advantage in comparison to drive backups made with Nero BackItUp is that the drive is not active, since Nero BackItUp ImageTool is booted from the disc. This way, no verification errors occur during the backup process - active hard drives can be backed up.
To back up a drive with Nero BackItUp ImageTool, you must first select the backup source. You can then write the backup to a disc or save it to a hard drive. It is also possible to save it to an FTP server.

If you connect a device, you may need to click the **Rescan Devices** button in the extended area so that Nero BackItUp ImageTool recognizes the devices.

12.4.1 Burning a Backup to Disc

With Nero BackItUp ImageTool you can make a drive backup and write it to a disc.
The following assumes that the backup is written to several discs.

In order to write a drive backup to a disc, proceed as follows:

1. Click the **Backup** > **Drive Backup** button.
   → The **Manual drive backup** screen is displayed.
2. Select the appropriate check box to select the desired hard drive or partition.
   → The hard drive or partition is selected.

   You can select several partitions in a hard drive for a backup. However, only one hard drive can be selected per pass.
3. Click the **Next** button.
   → The **Select target and options** screen is displayed.
4. Select a burner in the **Target** drop-down menu.

5. Make additional settings as desired.
6. Click the **Next** button.
   → The **Finalize** screen is displayed.
7. Verify the settings in this screen.
8. Click the **Backup** button.
   → The **Backup Process** screen is displayed and the backup process starts. You can track the process with the progress bar.
   → The **Waiting for Disc** window is opened, and the selected drive is ejected.
9. Insert a suitable recordable disc.
   → The **Waiting for Disc** window is closed and the backup process continues. (Nero BackItUp ImageTool starts a multisession disc automatically or continues with it.)
   → If the disc's storage capacity is exhausted, the **Waiting for Disc** window is opened again and the disc is ejected.
10. Remove the recorded disc and insert a new blank disc.
    → The backup process resumes and the newly inserted blank disc is burned.
11. Repeat the previous step until the backup has been completely burned to disc.
    → Once the backup is complete, the disc is ejected and the **Backup Process** window is opened.
    After the backup has been written completely, Nero BackItUp ImageTool will want to verify the data by default. For this purpose, it will require the discs in the sequence that they were written.

    If the backup was written to one single disc, the verification process is started automatically.
12. Remove the disc.
13. Click on the **Disc drives** button in the **Backup Process** window.
14. Insert the first disc of the backup in order to have it verified.
15. Double-click the drive containing the disc.
    → The verification process is started and the first disc verified. The disc is then ejected and the **Backup Process** window is opened again.
16. Repeat the two previous steps for each disc of the backup in chronological order.
    → When the backup is completed, a window with an appropriate message is opened.
17. Click the **OK** button.
    → You have written the drive backup to a disc. Now you can save the log or click the **Next** button to start other actions.

See also:

Backup Settings Screen→ 24
CompletingThe Backup Wizard Screen→ 27

Exiting Nero BackItUp ImageTool→ 73

12.4.2 Saving the Backup to a Hard Drive or FTP Server

With Nero BackItUp ImageTool you can save a drive backup to a hard drive or to an FTP server. Hard drives, network drives, and removable media are generally supported as storage media.

In order to be able to use the FTP server, you must have entered an FTP server under **Options**.

To save a drive backup to a hard drive or FTP server, proceed as follows:

1. Click the **Backup** > **Drive Backup** button.
   → The **Manual drive backup** screen is displayed.
2. Select the appropriate check box to select the desired hard drive or partition.
   → The hard drive or partition is selected.
3. Click the **Next** button.
   → The **Select target and options** screen is displayed.
4. Select a hard drive, a network drive, removable media, or the desired FTP server in the **Target** drop-down menu.
5. If you selected a hard drive as a target, specify the folder in which the backup should be saved in the **Target path** input field.
6. If you selected an FTP server as a target, choose a folder if applicable.
7. Make additional settings as desired.
8. Click the **Next** button.
   → The **Finalize** screen is displayed.
9. Verify the settings in this screen.
10. Click the **Backup** button.
    → The **Backup Process** screen is displayed and the backup process starts. You can track the process with the progress bar.
    → When the backup is completed, a window with an appropriate message appears.
11. Click the **OK** button.
    → You have saved the drive backup. Now you can save the log, click the **Next** button to start other actions.

See also:

Backup Settings Screen→ 24
CompletingThe Backup Wizard Screen→ 27
Exiting Nero BackItUp ImageTool→ 73
Remote FTP→ 82

12.5 Verifying a Drive Backup

Nero BackItUp ImageTool can be used to verify an existing drive backup. Nero BackItUp ImageTool verifies whether the backup can be used to restore successfully. The data integrity is checked. The backup is also checked against the source data. If you perform the verification immediately after the backup and no data has changed in the meantime, you can use the function for data verification.

To verify a backup, proceed as follows:

1. Click the **Verify** button.
   → The **Verify Wizard** window opens and the welcome screen appears.
2. Click the **Next** button.
   → The **Verify Settings** screen appears.
3. Click the  button.
4. The **File** window opens.
5. Select a drive backup and click the **OK** button.
   → The **File** window closes. The selected backup is transferred and the name of the backup is shown in the **Select Backup** display panel.
6. If you want to compare the CRC checksum of the backed up drive with the CRC checksum of the original drive, select the **Verify by CRC** option button.
7. If you want to compare the original drive with the backup sector-by-sector, select the **Sector by Sector** option button.

   Calculation of the CRC checksum takes longer than the sector comparison, however it usually supplies more precise results.
8. Select the appropriate hard drive or partition from the lower area.
9. Click the **Verify** button.
   → The **Verify Process** screen appears. You can track the progress of the verification via the progress bar and the messages.
10. After successful verification a dialog box opens, showing the result of the verification.

    The message "The data verification process has been completed successfully" means that the verified backup is error-free and is suitable for restoring.

    If the message "Data verification has failed" appears, there is no guarantee that the verified backup is suitable for a restore process. There can be several reasons, e.g. the backup file can have errors or there is no data on the computer for a comparison.
11. Click the **OK** button.
    → You have verified a drive backup.

See also:

Exiting Nero BackItUp ImageTool→ 73

12.6 Restoring a Drive Backup

Nero BackItUp ImageTool can be used to restore a drive backup. The hard drive is not active during the restore since Nero BackItUp ImageTool is booted from CD/DVD. This provides greater security as opposed to restoring with Nero BackItUp under Windows®. However, Nero Nero BackItUp ImageTool cannot be used to select individual files in the drive backup - the drive is restored completely.

To restore a drive, proceed as follows:

1. Click the **Restore** button.
   → The **Restore Wizard** window with the welcome screen opens.
2. Click the **Next** button.
   → The **Restore Settings** screen appears.
3. Click the  button.
   → The **File** window opens.
4. Select a drive backup and click the **OK** button.
   → The **File** window closes.
   → The backed up hard drive with all partitions or the backed up partition of the hard drive is displayed in the **Restore Settings** screen. Partitions that are not backed up are grayed out.
5. Select the hard drive or partition that you want to restore.

   For technical reasons, only one partition can be restored in one restore procedure.

6. Click the **Next** button.
   → The **Drive Restore Settings** screen appears.
7. In the **Select Target Location** drop-down menu, select where the backup is to be restored:
   1. If you have selected an entire hard drive to restore, select a hard drive as the target location (e.g. **Disc 1**).
      → The **Restored partition size** area is displayed.
   2. If you have selected a partition to restore, select a partition as the target location (e.g. **Data (D)**).
8. In the **Restored partition size** area, specify whether the restore should be fitted to the **target** or **source size**.

Should I fit to the target or to the source size?

Fit to target size: The size of the target partition remains intact. The storage space not needed for the restore becomes empty space but remains part of the partition.

Fit to source size: The size of the target partition is reduced to the size of the backed up partition. Partition storage space that is not needed anymore is no longer part of the partition. You can repartition this unused storage space as needed.

9. If the hard drive or partition to be restored contains an operating system and you want the operating system to be booted when the computer starts, select the **Restore MBR** check box to restore the MBR.
10. Click the **Next** button.
    → The **Restore Wizard Completed** screen appears. The previously set options are displayed.
11. If you want to verify the data after the restore, select the appropriate check box.
12. Click the **Restore** button.
    → The **Restore Process** screen appears and the restore process begins. You can track the process via the progress bar and the messages.
    → When the restore is concluded, a window with an appropriate message will appear.
13. Click the **OK** button.
    → You have restored a drive backup. Now you can save the log or click the **Next** button and start other actions such as executing the same restore again, creating a new restore, or closing the wizard.

See also:

Exiting Nero BackItUp ImageTool→ 73

12.7 Exiting Nero BackItUp ImageTool

To exit Nero BackItUp ImageTool, proceed as follows:

1. Remove the bootable CD/DVD from the drive.
2. If the drive is locked, click **Open**> **CD/DVD** to eject all drives and to be able to remove the CD or DVD.
3. Click the **File** menu followed by **Shutdown System**.
   → Nero BackItUp ImageTool is exited and the computer shut down.

13 Other Operations

13.1 Updating the Virus Scanner

A virus scanner that checks the data to be burned is integrated in Nero BackItUp. This ensures that infected data will not be burned. We recommend that you update the virus scanner database regularly. The database is updated via an Internet connection.

The following requirement must be satisfied to update the virus scanner:

- An active Internet connection must exist.

To update the virus scanner, proceed as follows:

1. Click the **Help** menu followed by **Update Antivirus Scanner**.
   → The **Remote status** window opens.
   → Nero BackItUp is connected to the FTP server av.nero.com and the antivirus files are downloaded. Progress of the update is displayed in the window.
   → Once the database has been updated, the **OK** button is enabled.
2. Click the **OK** button.
   ➔ You have updated the virus scanner database.

See also:

Backup Tab→ 78

13.2 Erasing a Rewritable Disc

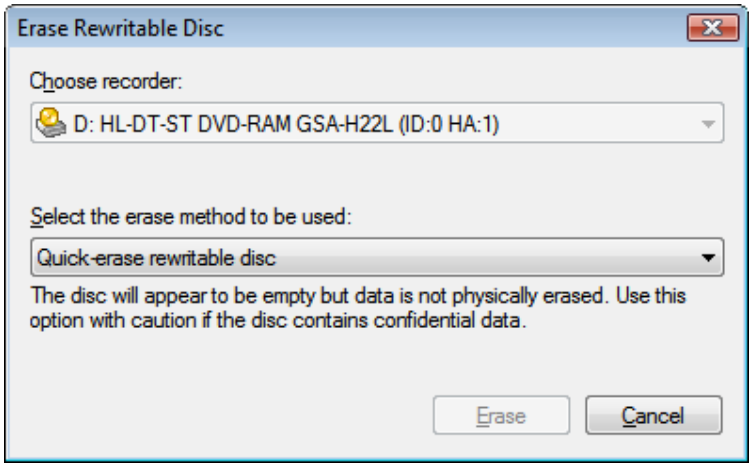
Nero BackItUp can be used to erase rewritable discs, i.e. discs with the RW specification, as long as your recorder supports this feature. The following disc types are supported when erasing a rewritable disc: CD-RW, DVD+RW, DVD-RW, and DVD-RAM.
The following erase methods are available:

Quick erasing does not remove the data physically from the disc, but instead only makes it inaccessible by erasing the references to existing content. The data can be restored!

Full erasing removes the data from the disc by overwriting it with zeroes. The contents cannot be restored with conventional methods. Repeated full erasing increases the probability that third parties will not be able to reconstruct the contents.

To erase a rewritable disc, proceed as follows:

1. Insert a rewritable disc whose content you want to erase.
2. Click the **Tools** menu followed by **Erase Rewritable Disc**.
   → The **Erase Rewritable Disk** window opens.



Erase Rewritable Disc window

3. If you have installed multiple burners, select a recorder in the **Choose recorder** drop-down menu.
4. Select an erase method from the **Select the erase method to be used** drop-down menu.

   Two erase methods are available:

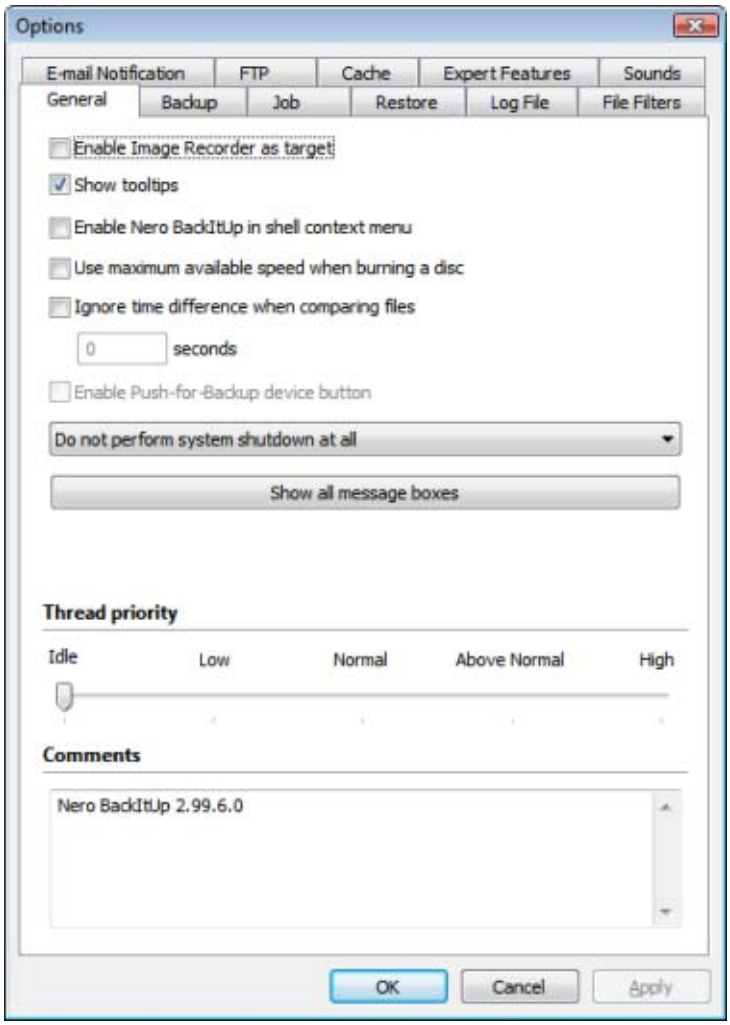
   Quick erasing does not remove the data physically from the disc, but instead only makes it inaccessible by erasing the references to existing content. Please note that the data can be restored.

   Full erasing removes the data from the disc by overwriting it with zeroes. The contents cannot be restored with conventional methods. Repeated full erasing increases the probability that third parties will not be able to reconstruct the contents.

5. Click the **Delete** button.
   → The erase procedure starts. A progress bar in a window informs you about the progress being made by the erase process. When all data has been fully erased, the window is closed and the disc ejected.
6. Remove the disc.
   → You have successfully erased a rewritable disc and can now write to the disc again.

14 Options Window

You can define options for working with Nero BackItUp in the **Options** window. To open the window, select **File** > **Options** from the menu.



Options Window

The following tabs are available:

General	Offers general options for working with Nero BackItUp.
Backup	Offers options for profile and filter selection for the backups.
Job	Offers options for executing jobs.
Restore	Offers options for restoring files. You can specify how to proceed when restoring a file that already exists on the computer.

Log File	Offers options for the log file. Here you can specify the information that the log file will contain and where it will be saved.
File Filters	Allows you to create, change, or remove filters.
E-mail Notification	Allows you to set up e-mail notifications for various events.
FTP Server	Configures an FTP server.
Cache	Contains options for the cache. Here you can specify where the files are to be cached. Additionally, you can enable the backup database and indicate a path for it. The backup database saves the backup name, date of creation, and size, as well as the name and path for all included files. The backup database is used for file searches during restore processes, among other things.
Expert Features	Offers expert features for working with Nero BackItUp. We recommend that you only change the default settings if you have extensive knowledge in the areas of file backup and burning.
Sounds	Allows you to assign sounds to different events.

14.1 General Tab

The **General** tab offers general configuration options for working with Nero BackItUp.

The following setting options are available:

Check box **Show tooltips**	Enables the display of tooltips. Tooltips contain brief explanations about screen elements and are displayed in a "bubble" when you pause over a screen element with your mouse.
Check box **Enable Nero BackItUp in shell context menu**	Allows Nero BackItUp to be started from the shell context menu. The shell context menu offers various pertinent information and is opened by clicking a file or folder with the right mouse button in the Windows® Explorer.
Check box **Use maximum available speed when burning a disc**	Burns the disc at the maximum possible speed.
Check box **Ignore time difference when comparing files**	Ignores a time difference in the file properties when verifying files after the backup. (Such a time difference can occur, for example, if the file is very large and the backup took some time.) Enter in the input field the allowable time difference in seconds during which the file is recognized as identical.

Check box **Enable Push-for-Backup device button**	Enables the "Push for Backup" service. This service can be started only from an appropriately equipped external hard drive and the corresponding software with the help of the hard drive's "Push for Backup" button, and carries out a previously defined backup automatically with Nero BackItUp. Information about this feature is normally available in the Help of the respective hard drive or application.
System shutdown selecti-on list	Specifies whether the system will be switched off and if so, when.
Check box **Show all message boxes**	Shows all messages that you have disabled.
Slider **Thread priority**	Specifies the priority of Nero BackItUp processes in the system. If the **Idle** value is selected, Nero BackItUp processes are only started when the system is running no other or only standard processes.
Comments	Allows you to enter a standard comment.

14.2 Backup Tab

The **Backup** tab offers setting options for backups.

The following setting options are available in the **Backup Profile Selection** area:

Drop-down menu **Standard profile**	Selects a profile as the default profile for backups. A profile consists of defined filters and settings on this tab.
Button **Save**	Saves an edited profile under a new name. This button is only enabled if you have changed settings - and therefore the profile - on this tab.
Button **Remove**	Removes the selected profile. The standard profile cannot be deleted.

The following setting options are available in the **Options** area:

Check box **Do a virus check before backup**	Checks the files and performs a virus check before backup.
Check box **Encrypt backup**	Encrypts the backup; you must set a password.
Check box **Verify data after backup**	Verifies whether the data is complete and readable after backup.

Check box **Compress data before backup**	Compresses the data before backup.
Button **Compression Settings**	Determines the degree of compression.

The following setting options are available in the **Advanced Options** area:

Drop-down menu **File backup format**	Offers options for the format in which the file backup is saved. The following entries are available: **Back up each file individually**: Backs up each file individually. Choose this option if it is important for you to have access to the backup contents from any computer or system. Please note: If you want to compress the backup contents, this means that every single file will be compressed when this backup type is chosen. **Save multiple files in one archive**: Creates a backup in Nero BackItUp format with the file extension *.nba. Structure information about the file is saved in the backup file. Select this option if full backup functionality and minimal memory are important to you. **Back up several files with NTFS streams in one archive**: Generates the backup in the MTF (Microsoft Tape File) format. Backup content includes any existing data streams (NTFS streams from NTFS version 5.0) in addition to individual files. Choose this option if it is important for you to back up the NTFS stream.
Button **Add/Remove**	Opens the **Select File Filters** window, where you can add or remove filters to/from the profile.
Selection list **File Filter**	Shows the filters of the profile you have selected in the **Default Profile** drop-down menu.
Check box **Use 8.3 file names for backup**	Saves the backup in a DOS-compatible format.
Check box **Do not backup empty folders**	Excludes empty folders from the backup.
Check box **Add new files in incremental or differential backup**	Adds newly added files belonging to the backup if you choose the **incremental** or **differential backup** type for a backup update.

See also:

Filters→ 57
Updating the Virus Scanner→ 74

14.3 Job Tab

The following check boxes are available:

Display Nero BackItUp Scheduler icon in system tray	Displays an icon for the Nero BackItUp Scheduler in the operating system's system tray.
Display a warning before writing to a disc	Before executing the job, the system will display a dialog box with an appropriate message and will only burn the disc after the message is confirmed.
Always use updated settings from preferences	Uses the latest settings that you specified in the Options when executing a job. If this check box is disabled, the settings are used that were enabled when the job was created.
Display a warning when less than the following space is available on target drive	Displays a warning if there is insufficient free space on the backup target. In the input field, specify the minimum storage space that must be available.
Keep last versions of the same full backup on hard drive	Specifies the number of full backups that are saved on the hard drive.

14.4 Restore Tab

On the **Restore** tab, you can define which actions to take when, during a restore process, a backed up file is already (or still) on the computer.

The following setting options are available:

Option button **Do not replace the file on my computer**	Does not restore the backup file; the file on the computer remains intact.
Option button **Replace local file with one available in backup, only local is older**	Replaces the file on the computer with the backed-up file only if the latter is newer. We recommend selecting this option.

Option button **Always replace the file on my computer**	Restores the backup file; the file on the computer is overwritten.
Option button **Delete destination folder before restore**	Deletes the target folder before the restore operation and then restores the backup files.
Option button **Ask for each file**	Opens a dialog box for each questionable file. You can choose whether or not the file should be replaced with the backup copy.
Check box **Create backups before overwriting files**	Creates a backup copy of the file on the computer before it is overwritten.

14.5 E-mail Notification Tab

The E-mail Notification tab allows you to set up e-mail notifications for various events.

The following setting options are available:

Check box **Enable e-mail notifications**	Enables sending of e-mail notifications.
Area **E-mail settings**	Specifies settings for sending e-mails, such as server name and sender.
Button **Add**	Specifies when and to whom an e-mail will be sent. You can specify the events that will trigger an e-mail notification.
Button **Edit**	Edits the selected entry.
Button **Delete**	Deletes the selected entry.

14.5.1 Events And E-mail Notifications

You can use Nero BackItUp to set up automatic e-mail notifications for certain events. You can add these events under the **E-mail Notification** tab in the **Options** window (**File** > **Options**).

The following events are available for selection:

- Backup process completed successfully.
- Backup process completed. Some files could not be backed up.
- Backup process completed successfully but verification process has failed.

- The backup was completed successfully, however several files were changed between backup and verification. This can occur if the selected partition/hard drive was not locked before the backup.
- Backup process failed.
- Restore process completed successfully.
- The restore process has been completed successfully. The changes in the restored volumes may be updated after system restart.
- The restore process has failed.
- The restore process has been aborted by the user.
- The data verification process has been completed successfully.
- The verification process has been completed, but some files could not be verified.
- The data verification process has failed.
- The restore process has been completed successfully. The changes in the restored volumes may be updated after system restart.

14.6 Remote FTP

You can set up remote targets in the **Remote destinations** screen: On the **FTP** tab you can add, change, or delete FTP servers. On the **Shares** tab you can organize network connections.

The following setting options are available:

Check box **Enable FTP servers**	Activates the entered FTP server connections as a target and a source for backups and restores. Only available on the **FTP** tab.
Remote connection list	Shows the FTP servers/the network connections that have been configured.
Button **New**	Opens the **Remote Host Settings** window where you can enter a remote target. ????? You can only accept the FTP server if a connection could be established with the **Test** button.
Button **Change**	Edits the selected remote target.
Button **Set as Default**	Chooses the selected remote target as default connection.
Button **Remove**	Deletes the selected remote target server.

Area **Proxy settings**	Specifies the proxy settings. If you are using a local proxy, you can configure it.
Input field **Maximum archive size**	Specifies the maximum size for backups on FTP servers.

The created FTP servers are saved when creating a bootable CD/DVD and applied to the respective Nero BackItUp ImageTool options. (To enable them in Nero BackItUp ImageTool, the network must be configured in the Nero BackItUp ImageTool options.)

14.7 Expert Features Tab

The **Expert Features** tab offers further configuration options for working with Nero BackItUp.

The following check boxes are available:

Do not use temporary storage for compression	The program will not store temporary data in the cache.
Back up access rights of files and folders	The program will also back up the access rights of files and folders if such rights have been configured. This function can only be executed if the data medium uses the NTFS file system.
Use CRC checksum for file comparison	Verifies the CRC checksum when restoring and replacing files and by so doing increases the certainty that the same file will be replaced. If this box is not checked, only the file name will be compared.
Clear archive bit of files and folders after file backup	After the backup, sets the archive bit for the files and folders to 0. This value of 0 indicates that the file/folder was archived and has not been modified since then.
Enable scripting	Enables scripting and the **Settings** button.
Settings	Opens the **Scripting Settings** window. You can select autowrite action scripts and specify whether they are executed before or after a certain procedure.
Do not eject the disc after the backup	Does not eject the disc after the backup.
Erase rewritable disc automatically when required	Erases a rewritable disc if there is no longer sufficient space for the backup. Prior to erasing, a dialog box will be displayed that offers the option of not erasing the rewritable disc.

Wait time	Specifies how long the dialog box waits for input before Nero BackItUp erases the rewritable disc.
Enable intelligent compression	Enables intelligent compression and the **Settings** button.
Settings	Opens the **Intelligent Compression Filter** window. You can specify what file types are not compressed when backing up to save backup time.
Use shadow copy for file backup	Creates a shadow copy for the file backup, i.e. open files that are being worked on can be saved.
Scan files accessibility before file backup	Verifies prior to backup whether the files can be accessed.
Split files having size greater than	Specifies the size at which a file is split into smaller files if a disc limit is reached when backing up. Files that are smaller than the specification made here will be written to the new disc rather than split when a disc limit is reached.
Create bootable disc with Nero BackItUp ImageTool	Creates the first disc of a drive backup as bootable disc. It enables the computer to boot with Nero BackItUp ImageTool.
Print selected items in tree structure	Prints the files of the backup in a tree structure. If this box is not checked, the files will be printed out in a list.
Enable change of language in Nero BackItUp ImageTool	Enables the language selection dialog when Nero BackItUp ImageTool is booted. If the check box is disabled, Nero BackItUp ImageTool is started with the language that was enabled in Nero BackItUp at the time of the creation.
Enable drive backup CRC	Calculates the CRC checksum during the drive backup process. This provides additional security but requires more time.

If a rewritable disc is **automatically erased** as needed, you cannot select the erase method. The **Quick-erase** method is used. If you want to use the **Full-erase** method, you have to manually erase the rewritable disc.



The backup copy in *.nba format created during backup is a ZIP archive. Normally the files in the ZIP archive are compressed. With **Intelligent compression** you can specify the files within the archive that are not to be compressed. This is useful for file types that are already compressed, such as JPG, ZIP, or MP3. In this case the backup will take less time, but the backup file may be somewhat larger.

See also:

- Erasing a Rewritable Disc→ 74
- Nero BackItUp ImageTool→ 62

15 Technical Information

15.1 Formats Supported

15.1.1 Disc Types

- CD
- DVD
- Blu-ray - burning only

You can find more information on Blu-ray support at www.nero.com/link.php?topic_id=416.

The actual entries that are available, and the actual disc types (e.g. **DVD**) that can be written to depend on the recorder used.

15.1.2 Supported File Formats

Nero BackItUp supports the following file systems:

The following file systems are supported for **file** backup and restore processes:

- FAT16
- FAT32
- NTFS

The following file systems are supported for **drive** backup and restore processes:

- FAT16
- FAT32
- NTFS
- ext2/3
- ReiserFS

The following **NTFS streams** (starting with NTFS Version 5.0) are generally supported for file backup and restore processes under an NTFS file system:

- Standard Data Stream
- Security Stream
- Encrypted Stream
- Object Identifier Stream
- Alternate Data Stream
- Reparse Stream, e.g. Junction Points (for backups that fit on one disc only)
- Extended Attribute Stream

- Sparse Stream
- Hard Link

NTFS streams

NTSF streams are hidden file fragments that belong to a main file. Particularly relevant are NTSF streams under the Windows 2000 and Windows XP operating systems. For drive backups, NTFS streams are automatically backed up, since entire sectors are backed up.

Nero BackItUp supports the following file systems when saving drive backups and image files on a hard drive:

- FAT16
- FAT32
- NTFS

Nero BackItUp ImageTool supports the following file systems when saving drive backups and image files on a hard drive:

- FAT16
- FAT32
- ext2/3
- ReiserFS
- NTFS

See also:

Backup Tab→ 78

15.1.3 Source Media Supported

Nero BackItUp generally supports the following source media for backups:

- Disc
- Internal hard drive
- External hard drive
- USB hard drive
- FireWire hard drive
- Network drive (LAN)
- Removable media
- FTP Server
- Image file

In order to be able to use the FTP server, you must have entered an FTP server under **Options**.

See also:

- Remote FTP→ 82
- General Tab→ 77

16 Glossary

AES Encryption
The Advanced Encryption Standard uses symmetrical encryption with key lengths of 128, 192, and 256 bits. With it, sensitive data is protected from unauthorized access.

Archive Bit
Archive bits are used to identify files that have been edited. A file is only resaved during the next backup process if it was edited (and an archive bit is thus reset).

Backup
Copying data from the computer to an alternative storage medium. Backups are created in a special format with the help of a backup program.

Backup Set
A backup set consists of individual backups that belong together - a complete backup and a differential backup extension, or a complete backup and one or more incremental backup extensions.

Bootable CD
Booting refers to loading the operating system when a computer is started. This is normally done from the hard drive. However, if you do not want to boot or cannot boot your computer from your hard drive for whatever reason, you can load an operating environment from the drive with a boot CD.

Classic Encryption
Classic encryption is the predecessor of AES encryption. It uses a symmetrical encryption algorithm as well. The key length is 56 bits.

CRC
Cyclic Redundance Check refers to an error-detection procedure used during the transmission or copying of data. A checksum is calculated with a defined amount of data at the beginning, and provided with the data block. After the operation has ended, the checksum is calculated again and compared to the first value. Deviations indicate the presence of errors.

Differential Backup
Differential backup refers to a type of backup update / backup extension. Only data that has been modified or added since the first full backup is backed up.

Drive
General term for a storage device with read, and possibly write, capabilities that is located outside RAM. Drives are e.g. physical drives (hard drives), logical drives (partitions), or optical drives (CD/DVD drives).

FTP Server

An FTP server is a data storage unit that can be accessed through the Internet. Access is usually anonymous. FTP servers are frequently used as storage locations for backups.

Hard Drive

A hard drive is a physical drive that writes binary data on a rotating magnetic disk. The hard drive can be installed in the computer or be connected to the computer as a so-called external hard drive.

Image

An image refers to a single file on the hard drive that contains the image for a complete disc. A disk image can be used to create exact copies on media at a later point in time if problems occur during the write process or if no recorder is connected to your PC. The image requires as much free space on the hard drive as the contents of the original disc.

Incremental Backup

Incremental backup refers to a type of backup update / backup extension. Only data that has been modified or added since the last backup - the first full backup or an earlier incremental backup - is backed up. The reason why this type of backup extension is called incremental backup is that several incremental backups are usually added to a full backup.

Master Boot Record MBR

The Master Boot Record (MBR) is located in the hard drive's first sector. It contains a boot file that starts the operating system. It also defines the drive's partitioning.

Multisession Disc

A multisession disc can contain several sessions that are not fixed. This way, more data can be added in new sessions at a later point in time, and the disc is not closed until it is full.

NTFS

New Technology File System is a Windows® file system. Its advantages include differentiated access and rights management, as well as defragmented data storage, which allows the processing speed to remain high.

Partition

A partition is a section of the hard drive. A hard drive can be divided into several partitions that can work independently of each other, as if they were separate drives. Because of this, partitions are also called "logical" drives.

Restore

Restore stands for restoring data to a previous condition or to copying data by using a backup copy that was created previously and a backup program, e.g. Nero BackItUp.

Shadow Copy

A shadow copy is a snapshot of a file at a certain point in time. The advantage is that you can keep working with this file while the backup program, e.g. Nero BackItUp, backs up the

file in the background. This feature is particularly relevant when you want to save system files, which are modified continuously by the system.

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