nero

Multimedia Suite 10

Manual

Nero BackItUp

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Nero AG, Im Stoeckmaedle 13, D-76307 Karlsbad, Germany

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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, save it to a hard drive or removable medium, or use an online storage. With Nero BackItUp you can verify at any time that the backed up data is complete and correct.

Use Nero BackItUp to schedule backups, e.g. for regular data backup that are executed automatically. You can also use Nero BackItUp to set up the Autobackup feature, which automatically backs up monitored folders.

Nero BackItUp ImageTool is 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.

Nero BackItUp SyncTool is a tool for syncing folders. It is created with Nero BackItUp and stored either on hard disk drive, removable medium or optical disc. Nero BackItUp SyncTool can be started from this medium on any computer; Nero BackItUp doesn't have to be installed to start Nero BackItUp SyncTool.

1.3 Versions of Nero BackItUp

Nero BackItUp is available in three different versions: Nero BackItUp, Nero BackItUp Essentials and Nero BackItUp Autobackup Essentials. Nero BackItUp offers the full range of features.

Nero BackItUp Essential does not offer the following features:

- Backup and restore expert options
- Multiple targets for backups
- Advanced encryption
- Archive splitting
- Extract files from drive backup
- Create file filter
- Backup with Nero BackItUp ImageTool

Features that are not available in Nero BackItUp Essentials are indicated by the icon.

The icon offers you upgrade possibilities, and gives information about it.

In addition, the desktop icon may be missing. However, the application can always be started through the start menu of your computer as well.

Nero BackItUp Autobackup Essentials offers only Autobackup features.

1.4 Working With Nero BackItUp

With Nero BackItUp you can backup, restore and sync. Just click the desired menu to choose a task and start it. You then complete the task by navigating through the different steps where a separate screen is displayed for each individual step.

1.5 Easy Setup Wizard

By starting Nero BackItUp for the first time, the Easy Setup wizard will be opened automatically. It will guide you to turn on Autobackup. You can set up Autobackup to automatically back up files and folders to a local or external hard drive. Nero BackItUp regularly backs up all folders on all hard drives in a defined sequence. You can also choose individual folders and define your own time schedule at any time within the application.

Autobackup formats the external or internal hard drive with the NTFS file system if it is formatted with another file system. In this case, all data on this drive will be lost.

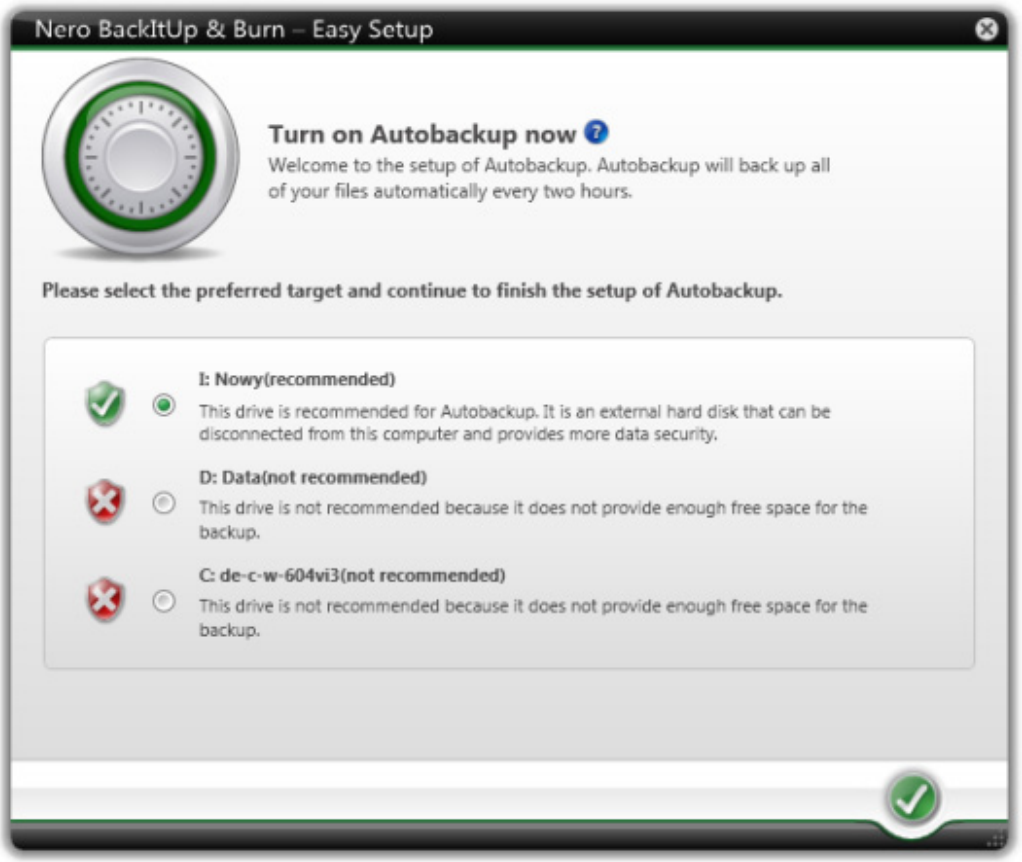
Use only hard drive with more than 4GB

If you want to use an external hard drive which is not formatted with the NTFS file system, make sure that its space has more than 4 GB.

Formatting with the NTFS file system and thus using the Autobackup feature is not possible for some external hard drives (e.g. flash drive or USB stick) with a space less than 4 GB due to technical hard ware restrictions, and may cause serious problems on the existing file system.

Proceed as follows:

1. Connect the external hard drive you want to use as target. (We recommend it to be empty and to be formatted with the NTFS file system.)
2. Double-click the Nero BackItUp icon.
   - → If you are going to start Nero BackItUp for the first time, the **Easy Setup** wizard is opened automatically.
   - → The **Easy Setup** wizard displays possible targets. The best target is automatically pre-selected.



Easy Setup Wizard

3. Select the desired target.
4. Click the button.
   → The first full backup is carried out saving all folders to the chosen hard drive.
   → The **Easy Setup** wizard is closed and Nero BackItUp is opened.
   ➔ You have set up Autobackup carrying out a first full backup. Autobackup will carry out the backup updates automatically due to the specified settings.
   To be fully saved we recommend making a complete drive backup now using Nero BackItUp to backup also your programs and your operating system. We also recommend to create a disc including Nero BackItUp ImageTool, your disaster recovery tool that you can use in case of a system crash or other damage to reboot and restore your operating system.

1.6 Starting the Program

To start Nero BackItUp, proceed as follows:

1. If you use the Nero Multimedia Suite and have Nero StartSmart available:
   1. Click the Nero StartSmart desktop icon.
      → The Nero StartSmart window is opened.
   2. Click the button.
      → The list of Nero applications is displayed.
   3. Select the Nero BackItUp entry in the selection list.
   → The Nero BackItUp window is opened.
2. If you use Nero BackItUp & Burn.
   1. Click the Nero BackItUp desktop icon.
   → The Nero BackItUp window is opened.
   ➔ You have started Nero BackItUp.

Nero BackItUp can also be opened through the start menu or by clicking the EXE file in the Nero BackItUp application folder (by default C:\Program Files\Nero\Nero BackItUp & Burn\Nero BackItUp).

You can also start Nero BackItUp tasks from the context menu of the Nero BackItUp Agent (indicated by the icon). The Nero BackItUp Agent is available on your computer's taskbar. Under Windows 7 you have to open the queue by clicking the triangle.

2 User Interface

The Nero BackItUp user interface is the starting point for backups, restores, syncs, and any other task that you can carry out with Nero BackItUp.

You can start the task via the drop-down menus on the top side of the window. There is also the possibility to open the options and the help. In the left margin of the window you always have an area which gives you information about the steps and tasks you are fulfilling.

Start screen

The following menus are available on the top side of the window:

Backup	Provides backup facilities such as backing up files, backing up drives, setting up Autobackup, or verifying backups. You can also open the **Job list** screen for backup jobs here.
Restore	Provides restore facilities such as restoring file and drive backups.
Sync	Provides sync facilities such as creating a new sync job. You can also open the **Job list** screen for sync jobs here.
Tools	Provides the options to create a bootable disc including the Nero BackItUp ImageTool and to create the standalone tool Nero BackItUp SyncTool. You can also erase a rewritable disc and display disc information.

The following icons are available on the top side of the window:

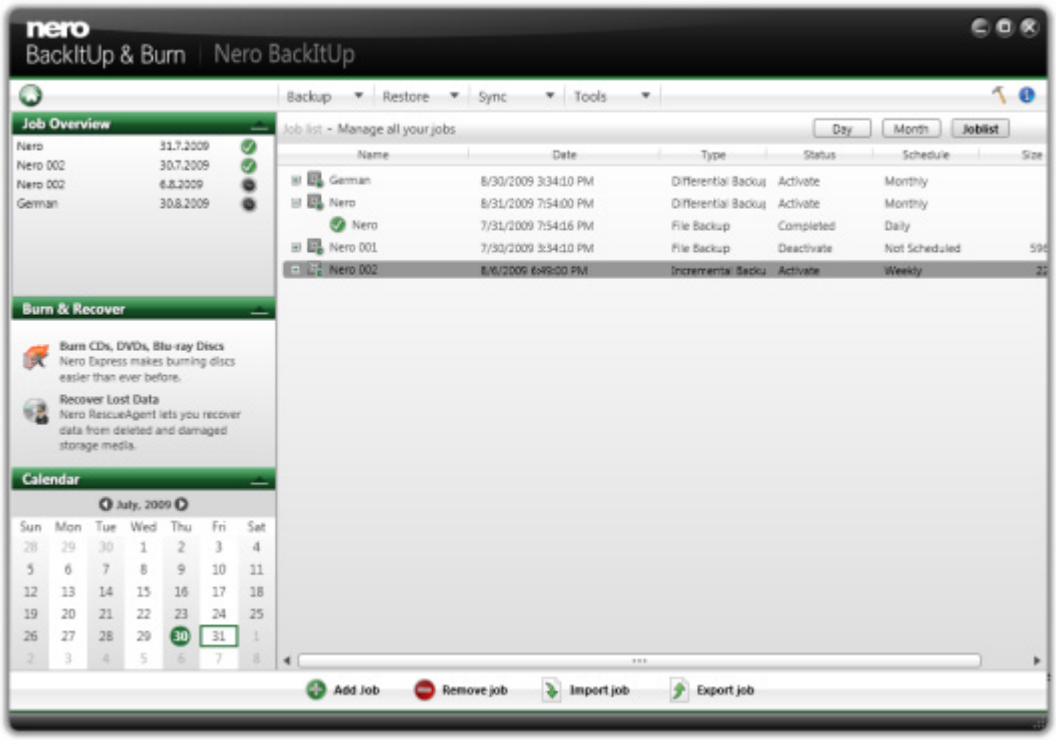
	Displays the start screen.
	Opens the **Options** window.
	Displays help options. You can also enter a new serial number if necessary.

The following areas are available on the left side of the window:

Job Overview	Shows jobs that have been carried out recently, the currently carried out job, and the next jobs that are planned. You can open the **Job list** screen by clicking on a job. Only available in the start screen and the **Job list** screen.
Overview	Provides an overview of the necessary steps to complete the current task. Not available in the start screen and the **Job list** screen.
Information	Shows cumulated information related to the current task. Not available in the start screen and the **Job list** screen.
Burn & Recover	- Starts Nero Express. - Starts Nero RescueAgent.
Calendar	Shows planed and finished backup jobs in a calendar view. You can open the calendar and the job list by clicking on a day.

2.1 Job Screen

The **Job list** screen shows planned and carried out jobs. If you selected **Sync** > **Job view**, only sync jobs are displayed. If you selected **Backup** > **Job view**, only backup jobs are displayed. Click the **+** icon preceding the job to display the respective backups.



Job list

You can modify jobs by opening the context menu with the right mouse button and select the appropriate entry. The following entries are available:

- Run now
- Copy
- Modify
- Deactivate
- Export
- Reschedule
- Delete

From a displayed backup you can start the restore process by opening the context menu and selecting the appropriate entry.

If you select the backup and display the context menu with the right mouse button, then possibilities are available such as **Restore**, **Search and Restore** or **Delete**.

3 Backup With Nero BackItUp

With Nero BackItUp you can back up data. Click the **Backup** menu to start the desired backup task.

The following backup tasks are available:

Autobackup

With Nero BackItUp, you can set up and configure Autobackup, the automatic backup feature. Once it has been set up, Autobackup is available on your computer's system tray and backs up specified folders in the background.

Setting up Autobackup 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).

File backup

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.

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.

Drive backup

If you choose drive backup, entire drives (hard drives and/or partitions) are backed up, including the programs and the operating system. You can select the drives to be backed up.

In contrast to file backups, drive backups restore programs and operating systems when restoring. So, a drive backup is useful to set up the whole operating system plus programs in case of hardware damage.

Verification

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).

See also

- Autobackup → 13
- Backing Up Files → 21
- Backing Up Drives → 24
- Verifying a Backup → 31
- Restore With Nero BackItUp → 33

4 Autobackup

With Nero BackItUp, you can set up and configure the automatic Autobackup. Once it has been set up, Autobackup is available on your computer's notification area and backs up the folders that you specify in the background.

You can choose between two Autobackup options:

- Activate Autobackup to automatically back up files and folders to local and external hard drives
- Activate Autobackup with Nero Online Backup to automatically back up files and folders online.

The one Autobackup option stores the backup on a hard drive whereas the other Autobackup option uses the Internet service Nero Online Backup to store the backup online.

When using Autobackup to store on a hard drive, you can define a backup schedule. The Autobackup that stores online does so automatically every time a change in the monitored folders takes place.

Autobackup formats the external or internal hard drive with the NTFS file system if it is formatted with another file system. In this case, all data on this drive will be lost.

Nero Online Backup offers you an online data storage (which is subject to charge). We recommend a broadband Internet connection (e.g. DSL-1000 or faster) for uploading the files to be backed up. The costs for the Internet connection and the costs for using the Internet service Nero Online Backup are the user's responsibility.

4.1 Storing on Hard Drive With Autobackup

With Nero BackItUp you can set up and configure Autobackup to automatically back up files and folders to a local or external hard drive. We recommend the drive to be empty. Once it has been set up, Autobackup is available in the Windows notification area. Autobackup regularly backs up all folders on all hard drives in a defined sequence. You can also choose individual folders and define your own time schedule.

Setting up Autobackup is particularly useful when you want to carry out regular backups. 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).

Autobackup formats the external or internal hard drive with the NTFS file system if it is formatted with another file system. In this case, all data on this drive will be lost.

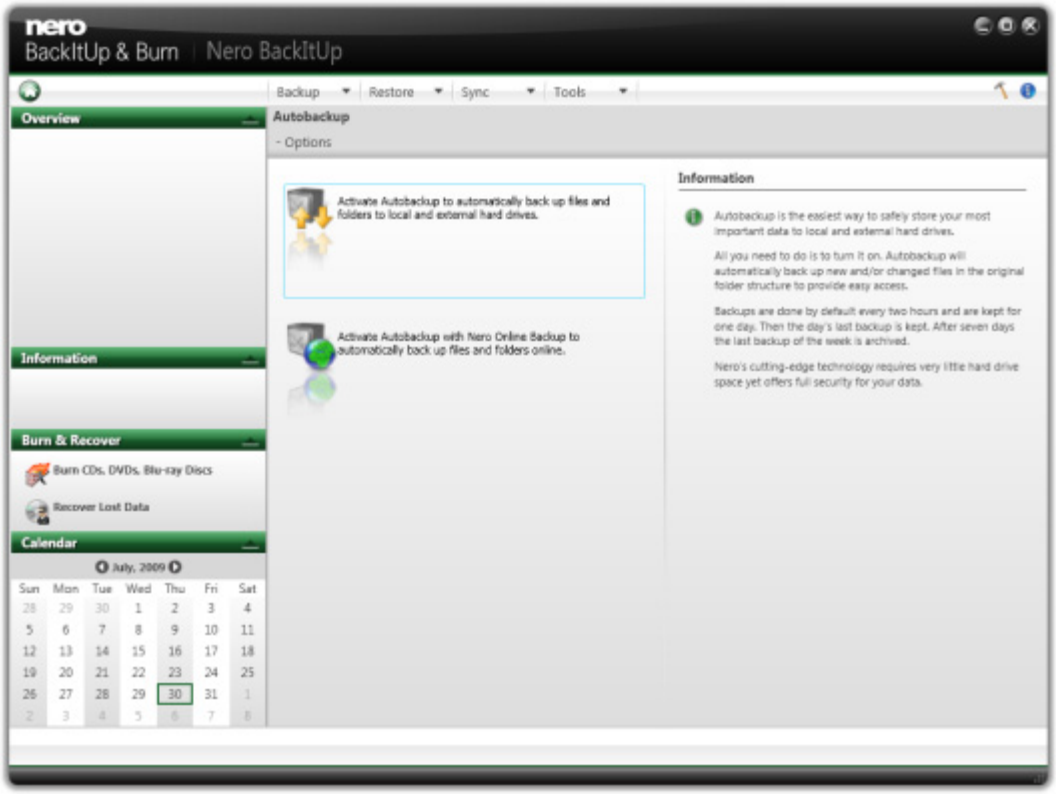
Use only hard drive with more than 4GB

If you want to use an external hard drive which is not formatted with the NTFS file system, make sure that its space has more than 4 GB.

Formatting with the NTFS file system and thus using the Autobackup feature is not possible for some external hard drives (e.g. flash drive or USB stick) with a space less than 4 GB due to technical hard ware restrictions, and may cause serious problems on the existing file system.

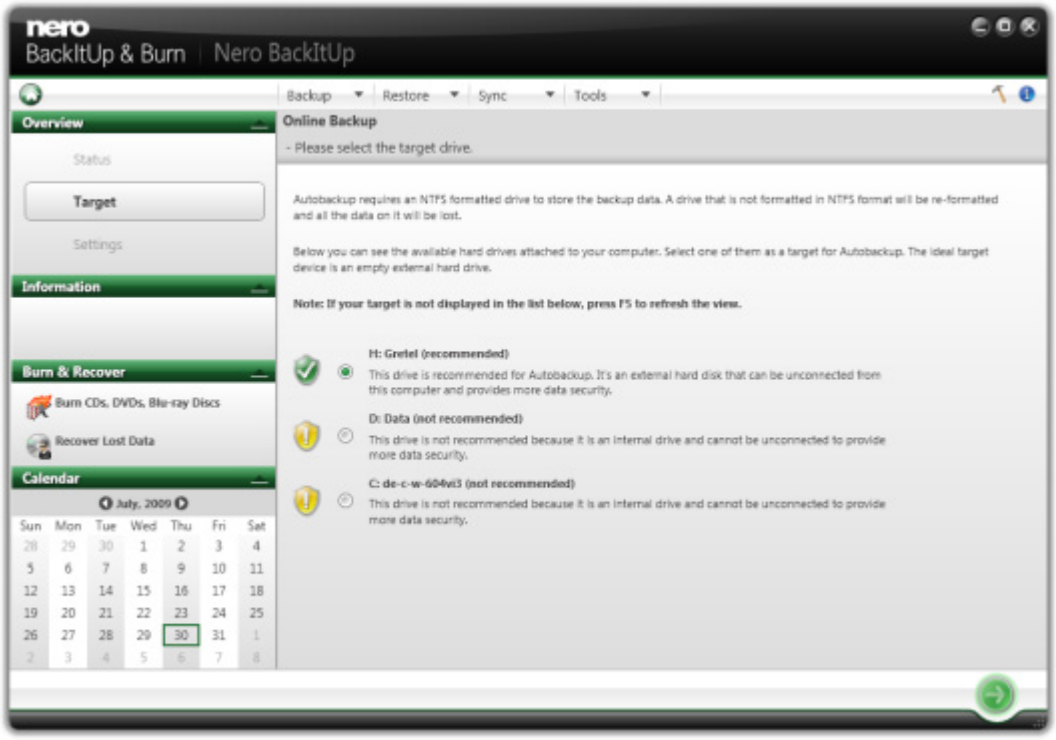
To set up Autobackup or change the settings, proceed as follows:

1. Connect the external hard drive you want to use as target. (We recommend it to be empty.)
2. Click the **Backup** > **Autobackup** menu.
   → The **Autobackup - Options** screen is displayed.



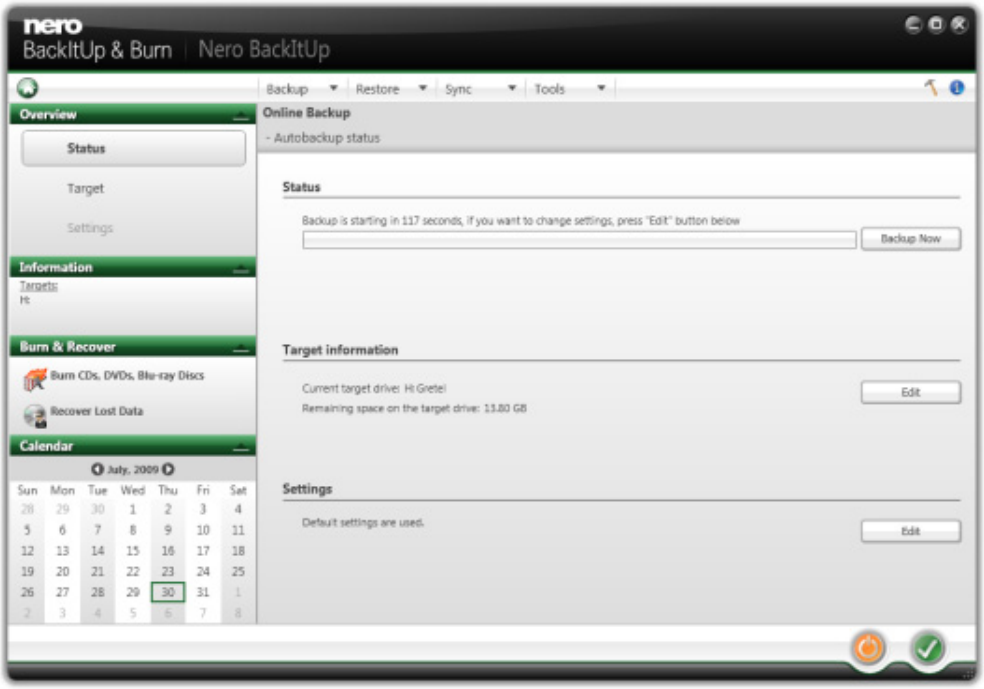
Autobackup - Options

3. Select the appropriate **Autobackup** entry.
   → If Nero BackItUp does not detect an external empty hard drive, a window is opened which asks you how to proceed. To choose the target by yourself, click the **No, select another target** button.
   → The **Autobackup - Select the target drive** screen is displayed.



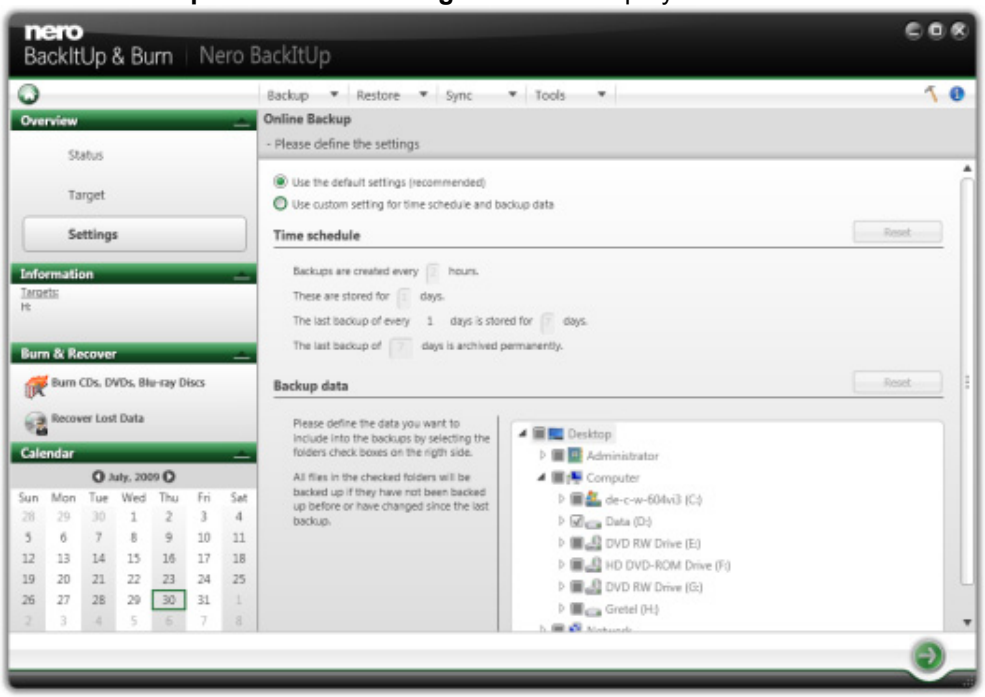
Autobackup - Please select the target device

4. Select the desired target and click the button.
   - → The drive is formatted with the NTFS system. A progress window is opened and displays the progress made while formatting.
   - → The **Autobackup - Autobackup status** screen is displayed.



Autobackup - Autobackup status

5. If you want to change the default settings regarding time schedule and folders to be backed up:
   1. Click the **Edit** button in the **Settings** area.
      → The **Autobackup - Define the settings** screen is displayed.



2. Select the **Use custom setting for time schedule and backup data** option button.
3. Enter the desired values in the **Time schedule** area. You can always set the values back to the default settings by clicking the **Reset** button.
4. Select the check boxes in the **Backup data** area for the folders you want to backup.
5. Click the button.

   → The **Autobackup - Autobackup status** screen is displayed again.

6. If you want to manually start the first backup now, click the **Backup Now** button in the **Status** area.

   → The first full backup for the folders that you have specified is carried out. You can monitor the progress with the progress bar in the **Status** area.

7. Click the button.

   ➔ The final screen is displayed. Autobackup has been set up and carries out the backup updates automatically due to the specified settings.

Turn off Autobackup

If you want to turn off Autobackup, just click the button in the **Autobackup status** screen.

4.2 Storing Online With Autobackup

With Nero BackItUp you can set up and configure Autobackup to automatically back up files and folders online, using the Internet service Nero Online Backup as a backup location. Once it has been set up, Autobackup is available in the Windows notification area and backs up the folders that you specify in the background in the defined sequence.

Setting up Autobackup is particularly useful when you want to carry out regular backups for the same files and want to have a computer independent access to your data.

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.

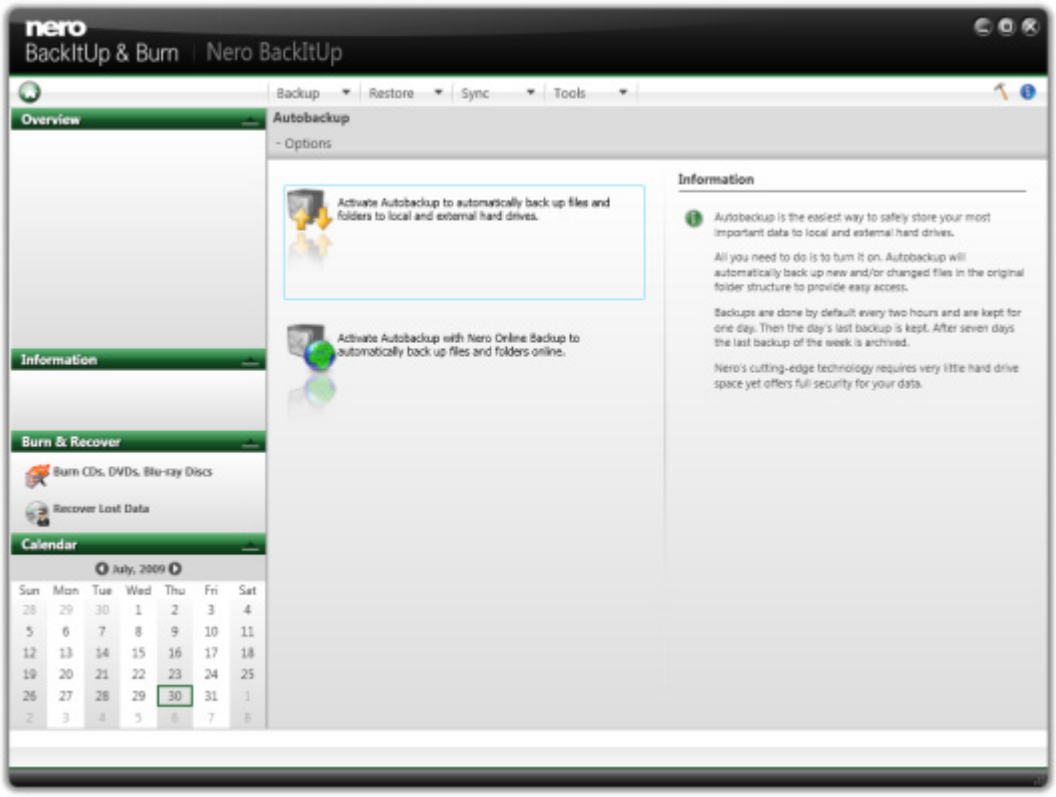
Nero Online Backup offers you an online data storage (which is subject to charge). We recommend a broadband Internet connection (e.g. DSL-1000 or faster) for uploading the files to be backed up. The costs for the Internet connection and the costs for using the Internet service Nero Online Backup are the user's responsibility.

The 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 accessed in the **Autobackup status** screen.

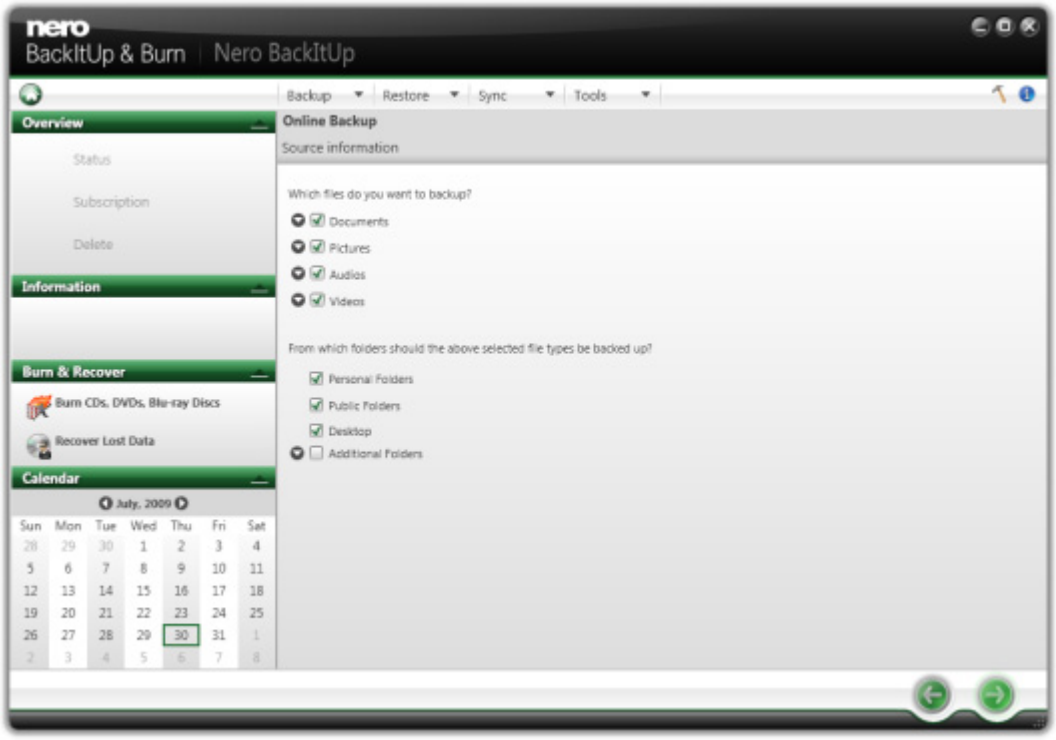
To set up Autobackup or change the settings, proceed as follows:

1. Click the **Backup** > **Autobackup** menu.
   → The **Autobackup - Options** screen is displayed.



Autobackup - Options

2. Select the appropriate **Autobackup** entry.
   → The **Source information** screen is displayed.



Online Autobackup - Source information

3. Specify which file type you want to backup:
   1. Click the ▼ button in front of the file type you want to configure.
   2. Select the check box in front of the file type you want to include in the backup.
   3. Clear the check box in front of the file type you want to exclude from the backup.
   4. Select the **Add file type** check box at the end of the file type list and enter the file type ending you want to add to the backup.
4. Specify which folders you want to monitor with Autobackup:
   1. Select the check box in front of the folder you want to include in the backup.
   2. Clear the check box in front of the folder you want to exclude from the backup.
   3. Select the **Additional Folders** check box and click the ▼ button to add your own folders to the monitoring list.
5. Click the → button.
   → If you have not yet subscribed to the Nero Online Backup service or if Autobackup is turned off, the **Nero Online Backup - Create an account or enter existing account data** screen is displayed. You can enter your account information here.
6. If you have not yet subscribed to the Nero Online Backup service, select the appropriate option button.
7. Click the → button.
   → The **Nero Online Backup - Create new account** screen is displayed.

8. Choose a backup storage and subscription duration.
9. Choose a password for your account.
10. Enter an e-mail address.
11. Please read the terms and conditions agreement carefully by clicking the **Terms & Conditions** link. If you agree to the terms of the agreement, select the **I have read the Terms & Conditions** check box. A subscription is not possible without this agreement.
12. Click the button.

    → The **Autobackup - Autobackup status** screen is displayed. You can view your backup status and your subscription information here and also delete files and folders from your storage at Nero Online Backup.
13. Click the button.

    → The first full backup for the folders that you have specified is carried out. You can monitor the progress with the status information in the taskbar. The final screen is displayed. Autobackup has been set up and carries out the backup updates automatically due to the specified settings.

Turn off Autobackup

If you want to turn off Autobackup, just click the button in the **Autobackup status** screen.

5 Backing Up Files

With Nero BackItUp you can carry out file backups. This means that individual files can be backed up and then restored at a later point in time. In comparison to drive backups, it is not possible to restore operating systems or programs with this option.

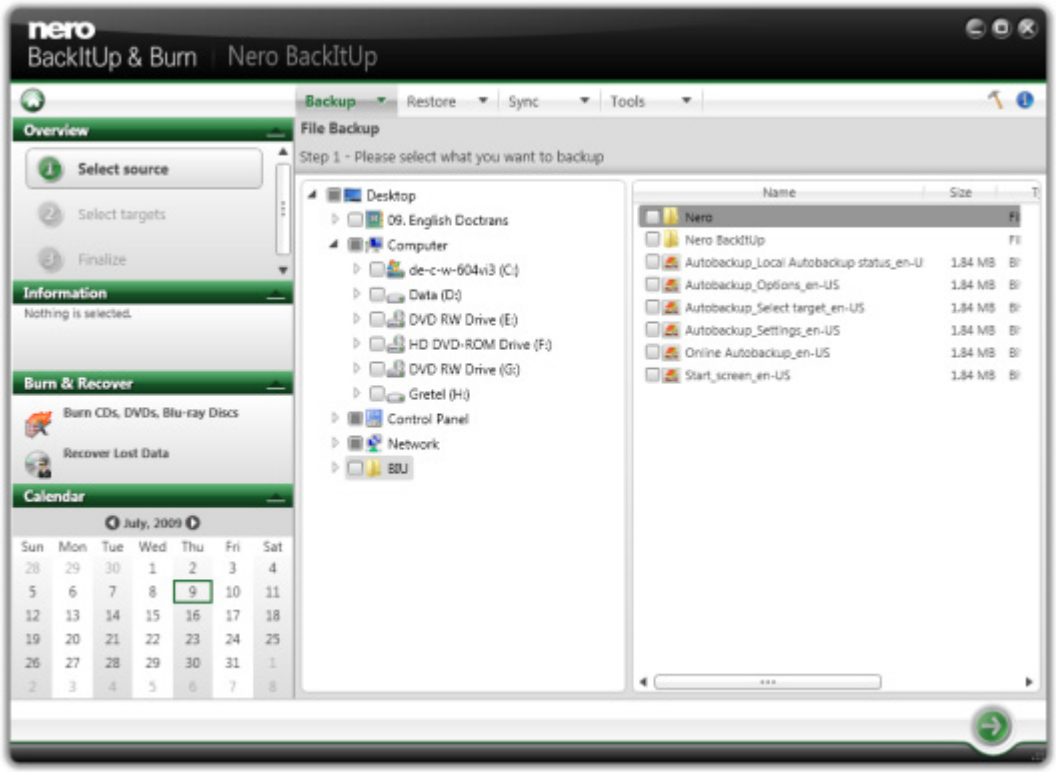
The first step is selecting files and folders to back up.

The next step is to select a target where to save the backup. You can save the backup on your hard drive or removable data media, burn them to a disc or use an online storage.

At last you can make settings according to your preferences.

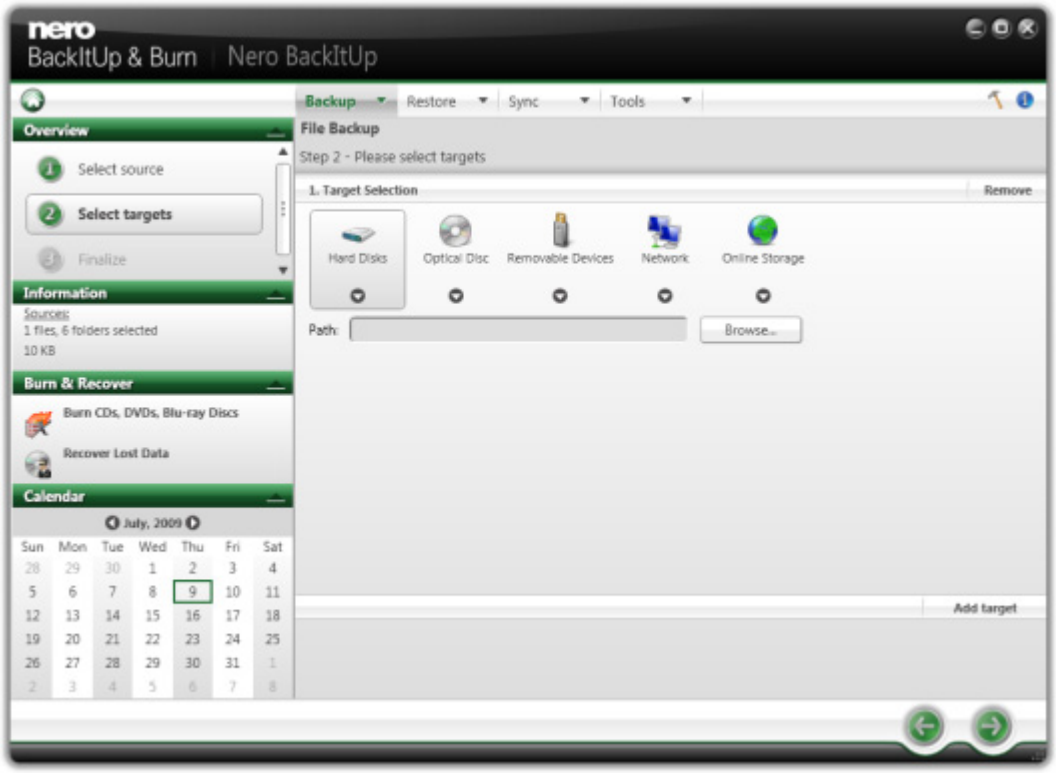
To backup files, proceed as follows:

1. Click the **Backup** > **File Backup** menu.
   → The **File Backup - Select what you want to backup** screen is displayed.



File Backup - Please select what you want to backup

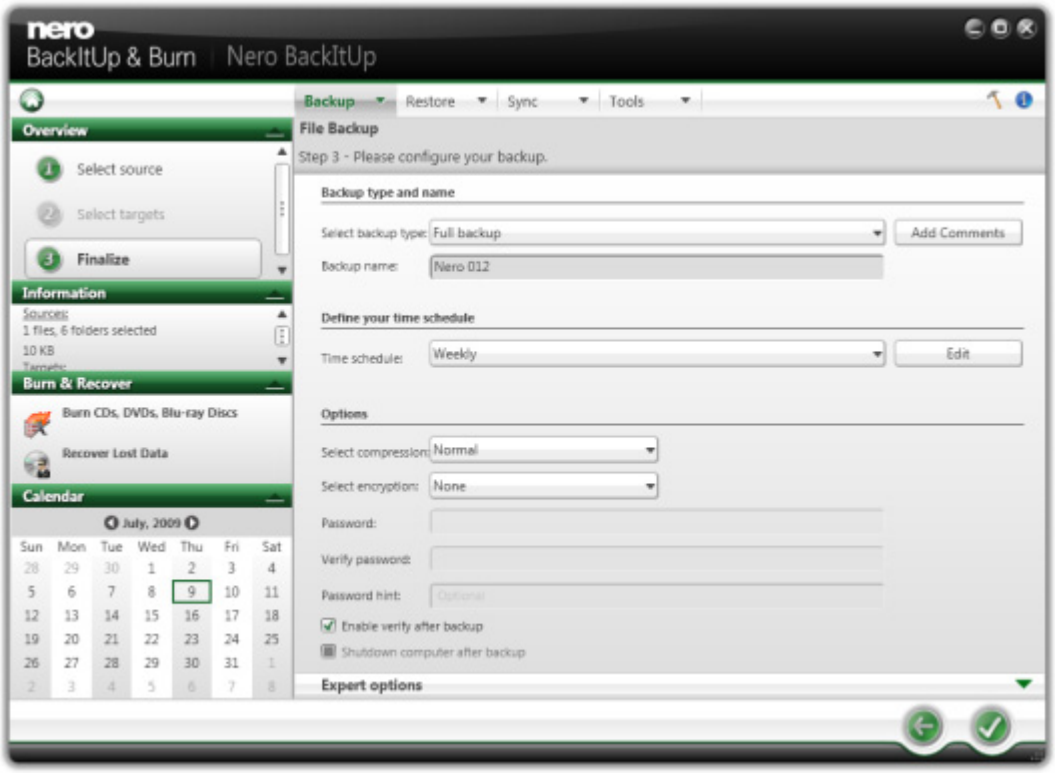
2. Select the check box preceding the folder or the file that you want to add to the backup. Select a folder in the left to show the contained files in the right.
   → The selected files are added to the backup.
3. Click the button.
   → The **File Backup - Please select targets** screen is displayed.



File Backup - Select targets

4. Click the icon that represents your desired target and specify the target in the drop-down menu.
5. Click the **Browse** button to specify the chosen target path.
6. If you want to back up to different targets, click the **Add target** button and repeat the two previous steps.
7. Click the button.

   → The **File Backup - Configure your backup** screen is displayed (see Backup Settings Screen→ 26).



File Backup - Configure your backup

8. Enter a name for the backup in the **Backup name** input field.
9. If you want to schedule this backup or run it on a regular basis:
   1. Select the backup schedule type in the **Time schedule** drop-down menu.
   2. Click the **Edit** button if you want to specify the schedule.
      → The **Define your time schedule** window is opened.
   3. Select the start date and other time settings that are appropriate to your backup schedule.
   4. Select the backup type used for the following backups in the **Select backup type** drop-down menu (see Backup Types→ 27).
10. Configure other settings as desired in the **Options** area.
11. If necessary, specify additional settings in the **Expert Options** area (see Expert Options Overview→ 37).
12. Click the button.
    ➔ The file backup is carried out and the final screen is displayed. You can follow the process status in the task bar.

6 Backing Up Drives

With Nero BackItUp you can carry out drive backups. In contrast to file backups, drive backups restore programs and operating systems when restoring.

It is not possible to update a drive backup.

The first step is selecting a drive to back up.

The next step is to select a target where to save the backup. You can save the backup on your hard drive or removable data media, burn them to a disc or use an online storage. 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.

At last you can make settings according to your preferences.

Administrator rights

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

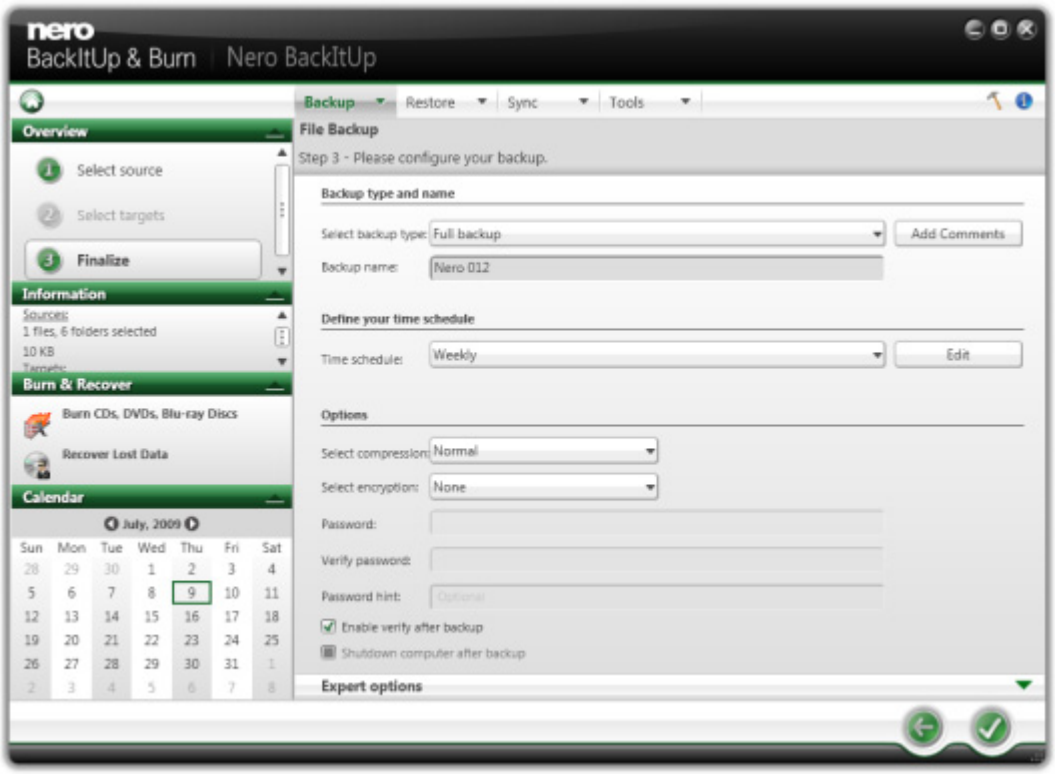
To backup drives, proceed as follows:

1. Click the **Backup** > **Drive Backup** menu.
   → The **Drive backup - Select drives or partitions** screen is displayed.
2. Select the check box preceding the drive or the partition that you want to add to the backup. Select a folder in the left to show the information in the right.
   → The selected drives or partitions are added to the backup.
3. Click the button.
   → The **Drive Backup - Select targets** screen is displayed.
4. Click the icon that represents your desired target and specify the target in the drop-down menu.
5. Click the **Browse** button to specify the chosen target path.
6. If you want to back up to different targets, click the **Add target** button and repeat the two previous steps.
7. Click the button.
   → The **Drive Backup - Configure your backup** screen is displayed (see Backup Settings Screen→ 26).
8. Select a backup name in the **Backup name** field.
9. If you want to schedule this backup or run it on a regular basis:
   1. Select the backup schedule type in the **Time schedule** drop-down menu.
   2. Click the **Edit** button.
      → The **Define your time schedule** window is opened.
   3. Select the start date and other time settings adequate to your backup schedule.

10. Configure other settings as desired in the **Options** area.
11. If necessary specify additional settings in the **Expert Options** area (see Expert Options Overview→ 37).
12. Click the button.
    ➔ The drive backup is carried out and the final screen is displayed. You can follow the process status in the status bar.

7 Backup Settings Screen

After selecting the source to be backed up and specifying the target for the backup, you configure the backup settings in the **File/Drive Backup - Please configure your backup** screen and start the backup process.



File Backup - Please configure your backup

The following setting options are available in the **Backup type and name** area:

Select 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 scheduling the file backup (i.e. carrying out the same backup at a later point in time). The drive backup is always a **Full backup**.
Backup name	Specifies the name of the backup.

The following setting options are available in the **Time schedule** area:

Time schedule	Specifies when and 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. **When Idle**: Starts the backup when the computer is inactive, i.e. no applications are active and there is no user input. **At System Startup**: Starts the backup when the operating system is started. **At Log on**: Starts the backup when you log into the system. **Not Scheduled**: Makes immediately one backup, you cannot schedule it. **On Directory change**: Starts the backup when the source of the backup was changed.
Edit	Opens the **Define time schedule** window. Here you can specify e.g. the start date and time for the (first) backup. The button is available for the schedule types **Once**, **Daily**, **Weekly**, **Monthly**, and **Idle**.

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

Select compression	Compresses the data before backup. Select the compression level here.
Select encryption	Activates the encryption function so that you can encrypt the backup with a password by using the input fields below. Choose between the traditional encryption procedure or the AES encryption procedure.
Password / Verify Password	Specifies the encryption password. (This password is required when the backup is restored at a later point in time!)
Password hint	Allows you to define a hint that will help you if you forgot the password.
Enable verify after backup	Verifies that the data is complete and correct after backup.
Shutdown PC after backup	Automatically shuts down the PC after the backup process has ended.

The option to shut down the computer after a job has been finished can be selected at any time in the context menu of Nero BackItUp Agent. The Nero BackItUp Agent is available in your computer's notification area.

See also

Backup and Restore Expert Options Overview → 37

7.1 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.

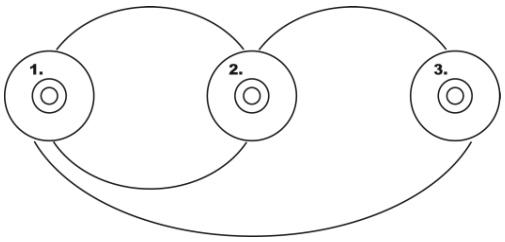
With the **Incremental backup** type, all files that have changed in comparison to the last backup will be saved.

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:

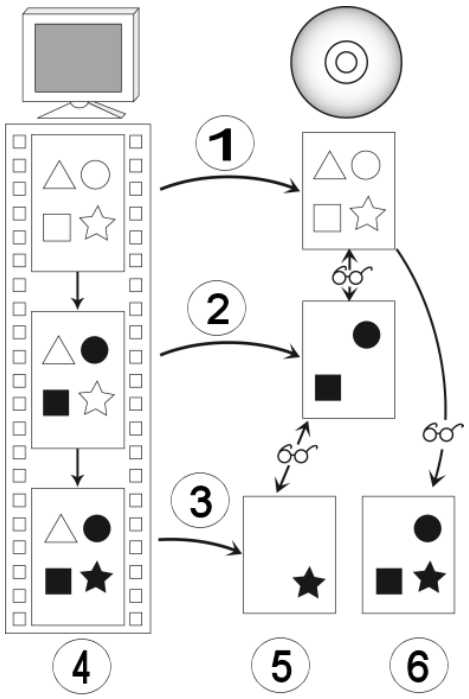
Let's assume that you have 100 photos and are backing them up. The first (full) backup contains the 100 photos. Then you change 25 of the photos and want to back up again. You select an incremental or differential backup (it does not matter which you select for the second backup). The 25 changed photos 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:

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

7.2 About the Time Schedule

If you have definied a time schedule, 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 backup 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.

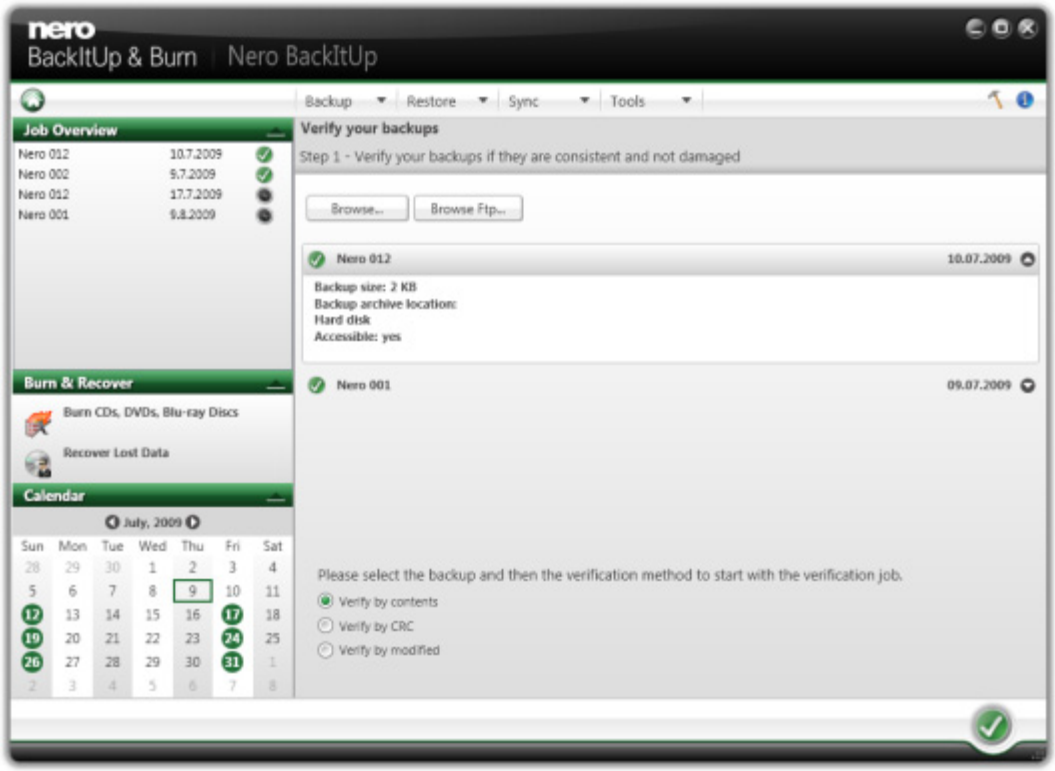
After the backup has been successfully completed, a corresponding message appears in the system tray. If you set notifications in the **Expert Options** area, you will be sent an e-mail (if a network or Internet connection exists).

8 Verifying a Backup

With Nero BackItUp, you can 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 **Backup** > **Verification** menu.
   → The **Verify your backups** screen is displayed.
2. Select a backup from the selection list or select a different backup using the **Browse** buttons. If the backup is located on a FTP server, click the **Browse FTP** button.
   → Verification option buttons are available and information about the chosen backup is displayed.



Verify your backup

3. If you selected a file backup, specify the type of check that should be used for the file backup:
   1. If you want to verify whether all files have been backed up, select the **Verify by contents** option button.

2. 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. .
3. If you want to verify whether files have been changed after the backup, select the **Verify by modified** option button. .

4. If you selected a drive backup, specify the type of check that should be used for the drive backup:
   1. If you want to verify whether all files have been backed up, select the **Verify by contents** option button.
   2. If you want to verify the availability of your backup, select the **Verify backup file format** option button. .
5. Click the button.

   → The verification is carried out.

   → After a successful verification, a window that notifies you of the verification's result is displayed.

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 "The d*ata 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.

→ The message window is closed. You have verified the backup.

9 Restore With Nero BackItUp

9.1 Restore File Backup

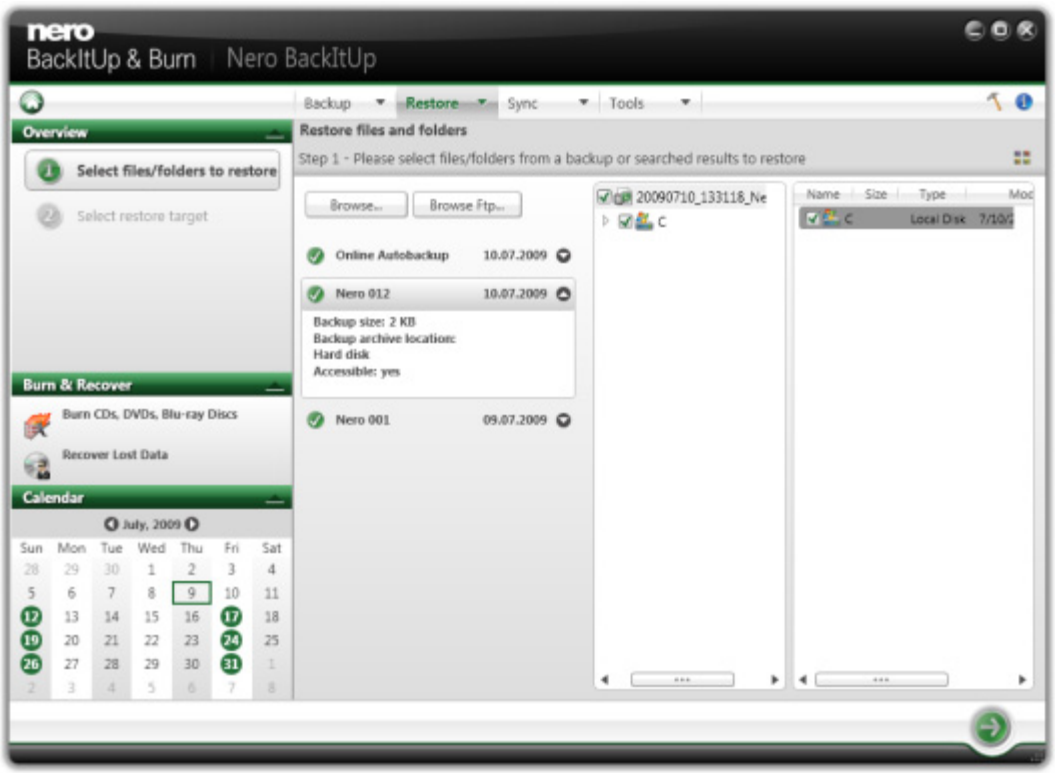
With Nero BackItUp you can restore file backups. The content of the file backup is restored during this process. You can exclude individual files from the restore process or select specific files to be restored. It is even possible to choose a drive backup to restore individual files. In contrast to a drive backup restore process, a file backup does not allow the restore of programs or operating systems.

The first step is selecting files and folders to restore.

The next step is to select a path where to restore the backup and to make settings according to your preferences.

To restore a file backup, proceed as follows:

1. Click the **Restore** > **Restore Files** menu.
   → The **Restore files and folders - Select files/folders from a backup or searched result to restore** screen is displayed. The executed backups are displayed in the middle pane.



Select a backup

2. 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. Select the desired backup.

→ The files and folders of the backup are displayed in the right area.

If the backup you want to restore is not displayed, click the **Browse** button to search for it on hard disk or the **Browse FTP** button to search for it on a FTP server.

If the backup was saved to the online storage Nero Online Backup with Autobackup, click **Online Autobackup** and enter your **Subscription ID** and your **Password**.

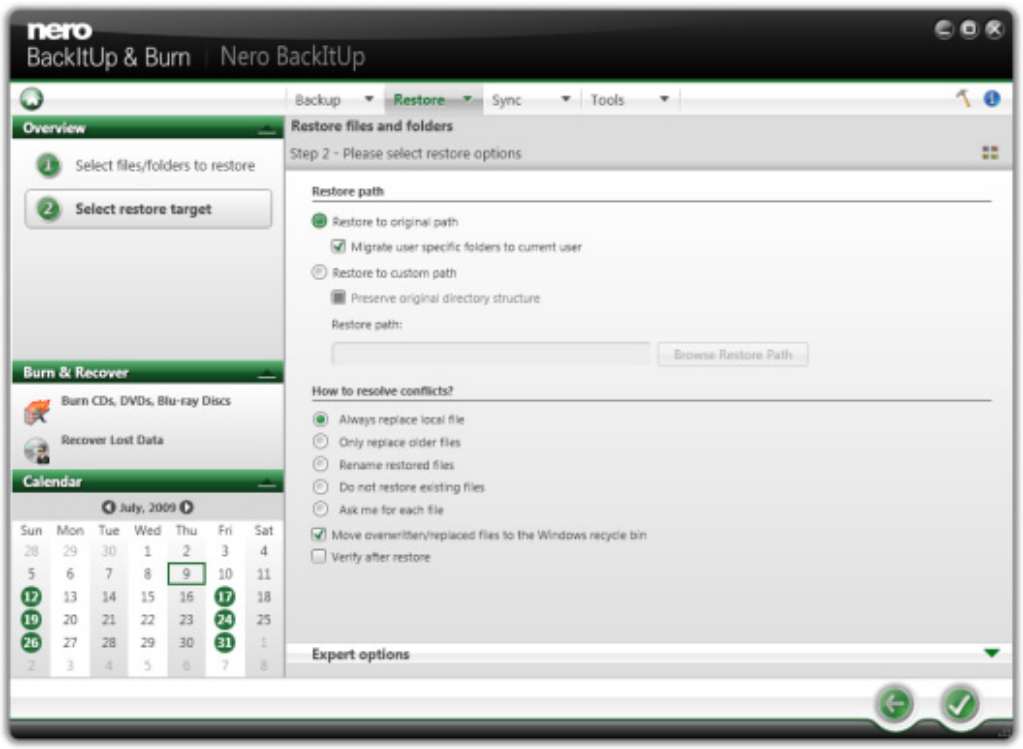
4. Select the check box preceding the folder or the file that you want to restore. Select a folder in the left to show the contained files in the right.

Search view

Click the button to open the **Search view**. It allows you to search backups for specific files so that they can be added to a **Restore Basket**.

5. Click the button.

→ The **Restore files and folders - Please select restore options** screen is displayed.



Restore options

6. If you want to restore the backup to the original path, select the **Restore to original path** option button.
7. If you want to migrate user specific folders, enable the **Migrate user specific folders to current user** check box.

Migrate user specific folders to current user refers to user-specific folders such as **My Documents** which will be restored to path of the user who is currently logged in. If you clear this check box then Nero BackItUp will restore the user-specific folders to the user path under which the backup was saved.

8. If you want to specify the path on which the backup will be restored yourself:
   1. Select the **Restore to custom path** option button.
   2. Click the **Browse** button.
      → The **Browse For Folder** window is opened.
   3. Select the desired restore path and click the **OK** button.
      → The **Browse For Folder** window is closed and the selected path is transferred.
   4. If you want to keep the original directory structure, enable the **Preserve original directory structure** check box.
9. Use the **How to resolve conflicts** option buttons to choose the action to take when a file to be restored is already (or is still) on the computer.
10. If necessary specify additional settings in the **Expert Options** area (see Expert Options Overview→ 37).
11. Click the button.
    ➔ The restore is carried out and the final screen is displayed. You can follow the process status in the task bar.

See also

Backup and Restore Expert Options Overview → 37

9.2 Restore Drive Backup

With Nero BackItUp you can restore drive backups. During this process, the drive backup content is restored. Programs and operating systems are restored. Problems usually occur if you want to restore an active hard drive or partition, e.g. locking an active hard drive or partition for the restore process is usually not possible. In this case, we recommend carrying out the restore process with Nero BackItUp ImageTool, which you create with Nero BackItUp.

Administrator rights

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

For technical reasons, only one single partition or one hard drive with all partitions can be restored during one restore process.

To restore a drive backup, proceed as follows:

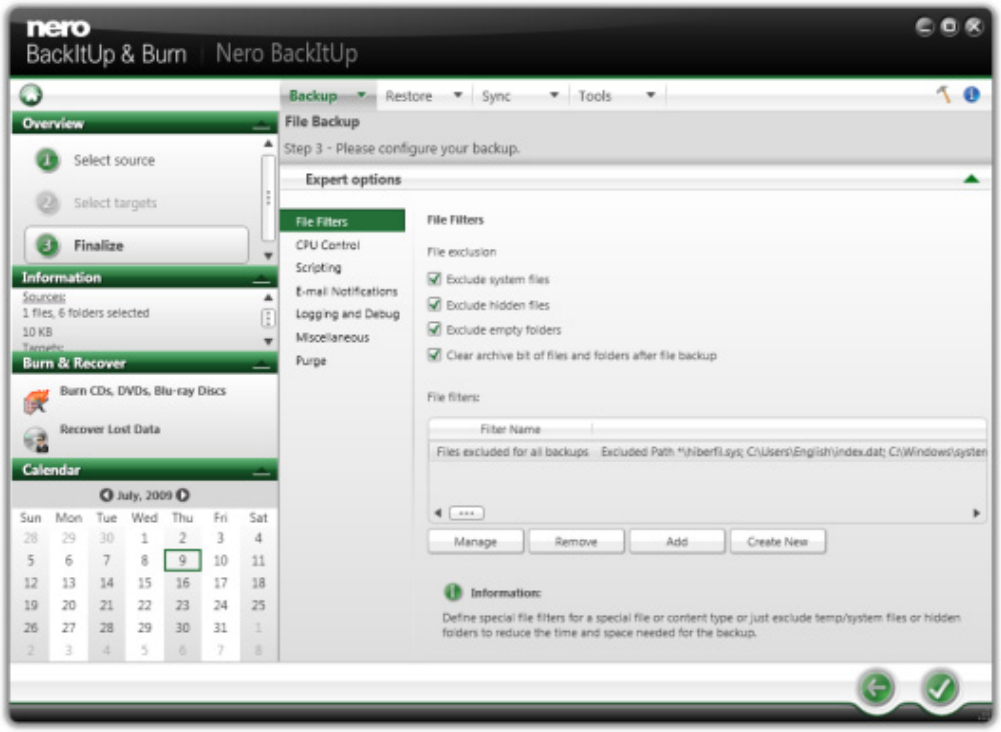
1. Click the **Restore** > **Restore Drives** menu.
   → The **Restore a drive - Select your partitions to restore** screen is displayed. The executed backups are displayed in the middle pane.
2. Make the backup available:
   1. If the backup is located on a disc, insert the disc in a drive.
   2. If the backup has been saved to hard drive, network drive, or removable medium, ensure that your computer has access to the respective drive.
3. Select the desired backup.
   → The drives and partitions of the backup are displayed in the right area. Partitions that were not part of the drive backup are grayed out.

   If the backup you want to restore is not displayed, click the **Browse** button to search for it on hard disk or the **Browse FTP** button to search for it on a FTP server.

4. Select the option button preceding the drive or partition that you want to restore.
5. Click the button.
   → The **Restore a drive - Select your restore target** screen is displayed. The source partition and your selected target are shown.
6. If you want to restore the backup to the original hard drive, select the **Restore to original hard drive** option button.
7. If you want to restore the backup to another hard drive:
   1. Select the **Restore to another hard drive** option button.
   2. Click the icon that represents your desired target and specify the target in the drop-down menu.
8. If necessary specify additional settings in the **Expert Options** area (see Expert options→ 37).
9. Click the button.
   → The restore is carried out and the final screen is displayed. You can follow the process status in the task bar.

10 Backup and Restore Expert Options Overview

You can define expert option settings for the backup or the restore in the **Expert options** area. You can display this area by clicking **Expert options** in the configuration or settings screens. We recommend that you only change the default settings if you have extensive knowledge in the area of backup.



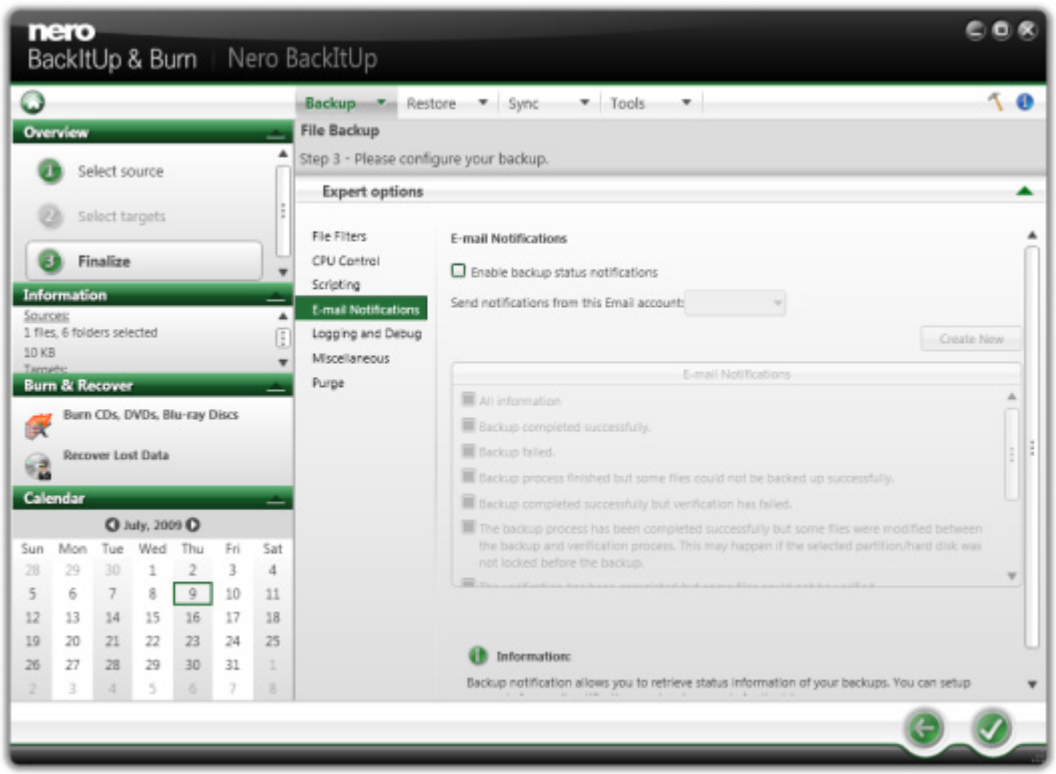
The following options are available:

File Filters	Offers options for using filters for the backup. Only available for file backup.
CPU Control	Selects the priority of the backup in the computer system. Due to this you can have your system always accessible or give the backup the highest priority.
Scripting	Enables scripting. You can select autowrite action scripts and specify whether they are executed before or after a certain procedure. You can also select an application for execution.
E-mail Notification	Offers options to set up automatic e-mail notifications for certain events (see E-mail Notification→ 38).
Logging and Debug	Selects the detail level of the log file. You can include the log file in the backup or store it elsewhere.

Miscellaneous	Offers several specific options (see Miscellaneous→ 39).
Burning	Offers several burn options such as choose the writing speed and automatically erase rewritable discs. You can also include Nero BackItUp to the disc. Only available for backups.
Purge	Offers options to delete backups automatically. Only available for backups.

10.1 E-mail Notification

With Nero BackItUp you can set up automatic e-mail notifications for certain events.



Expert options - E-mail Notifications

The following setting options are available:

Check box **Enable backup/restore status notifications**	Enables sending of e-mail notifications.

Drop-down menu **Send notifications from this e-mail account**	Chooses the account used for sending the e-mail notifications.
Button **Create New**	Opens the **E-mail accounts** window, where you can create a new e-mail account.
List **E-mail Notifications**	Opens the **E-mail events** window, where you can enter the e-mail address to which the notification will be sent. Click **All information** to select all events as a trigger for e-mail notifications.

10.2 Miscellaneous

Here you can specify general options.

The following setting options are available for backup:

Check box **Do not back up user access rights**	If this check box is cleared then Nero BackItUp will also back up the access rights of files and folders if such rights have been configured. Note that if you clear this check box then the backup can only be restored precisely to the same account on the same computer from which the backup was made! This function can only be performed if the data medium uses the NTFS file system. Only available for file backup.
Check box **Only run this job in case the user is logged in**	Starts the backup only if the user who set up the job is logged onto the system. If this check box is disabled, 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. This function can only be executed if you had scheduled the backup.
Check box **Always run this job silent**	Performs the backup without displaying status messages.
Check box **Use shadow copy**	Creates a shadow copy for the file backup, i.e. open files that are being worked on can be saved. Only available for file backup.
Check box **Execute backup on button press**	Allocates the backup job to 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. Only available if such a hard drive is connected. Information about this feature is normally available in the Help of the respective hard drive or application.
List **Compare files by**	Selects the verification type Nero BackItUp uses and by so doing increases the certainty that the same file will be replaced. **Modified Date/Time**: Compares files by their change date. **NTFS change journal**: Compares files using the NTFS change journal **CRC**: Calculates the CRC checksum during the drive backup process. This provides additional security but requires more time. Only available for file backup.
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.) Only available for file backup.

When you clear the **Do not back up user access rights** check box then the backup can only be restored to the account on the computer from which the backup was performed. In this case it is not possible to restore the backup on another account or computer. We recommend that you only use this function if you have extensive knowledge in access rights management.

The following setting options are available for restore:

Check box **Restore access rights of files and folders**	If this check box is selected then Nero BackItUp will restore the access rights of files and folders if such rights have been saved. Note that if you select this check box then the backup can only be restored to precisely the same account on the same computer from which the backup was made! This function can only be executed if the data medium uses the NTFS file system. Only available for file backup.
Check box **Always run this job silent**	Performs the backup without displaying status messages.

11 Syncing With Nero BackItUp

With Nero BackItUp you can sync folders. Click the **Sync** menu to start the desired backup task.

Synchronizing exchanges files between two folders. The folders can be located on the same computer or on different computers and devices. For example, you can synchronize your desktop computer with your laptop to make sure that relevant directories contain the same contents.

11.1 Syncing Folders

With Nero BackItUp you can sync two folders.

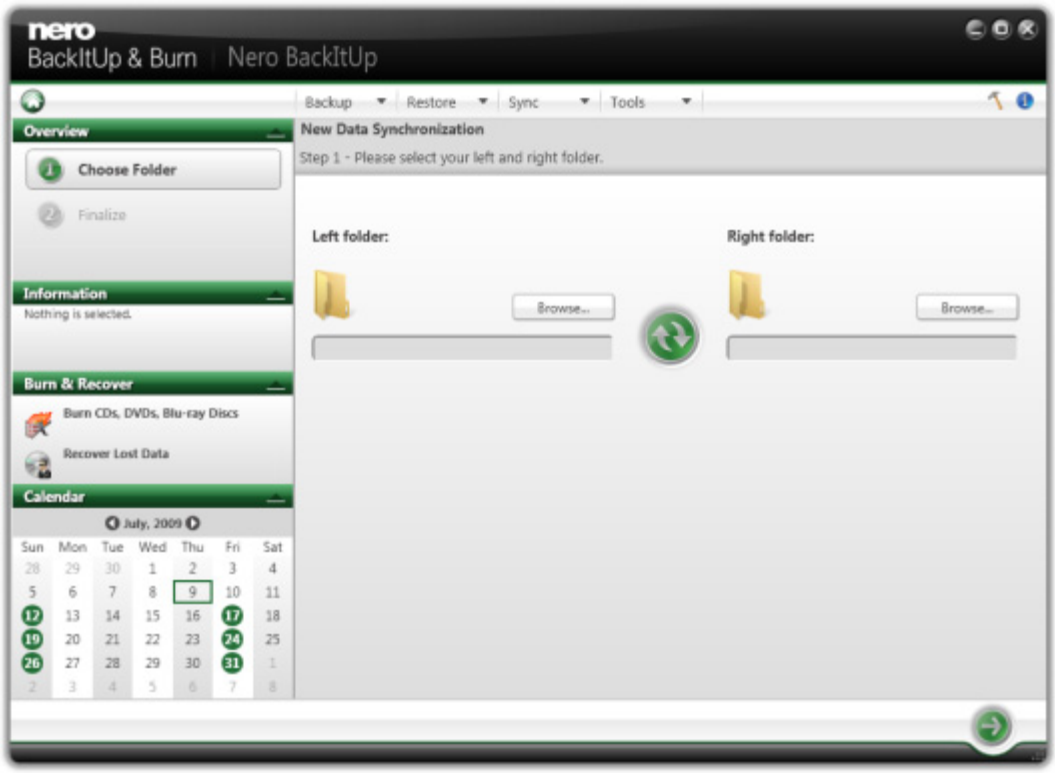
The first step is to select two folders (a left folder and a right folder) for syncing.

The next and final step is to define your preferred settings.

To sync, proceed as follows:

1. Click the **Sync** > **Create New** menu.

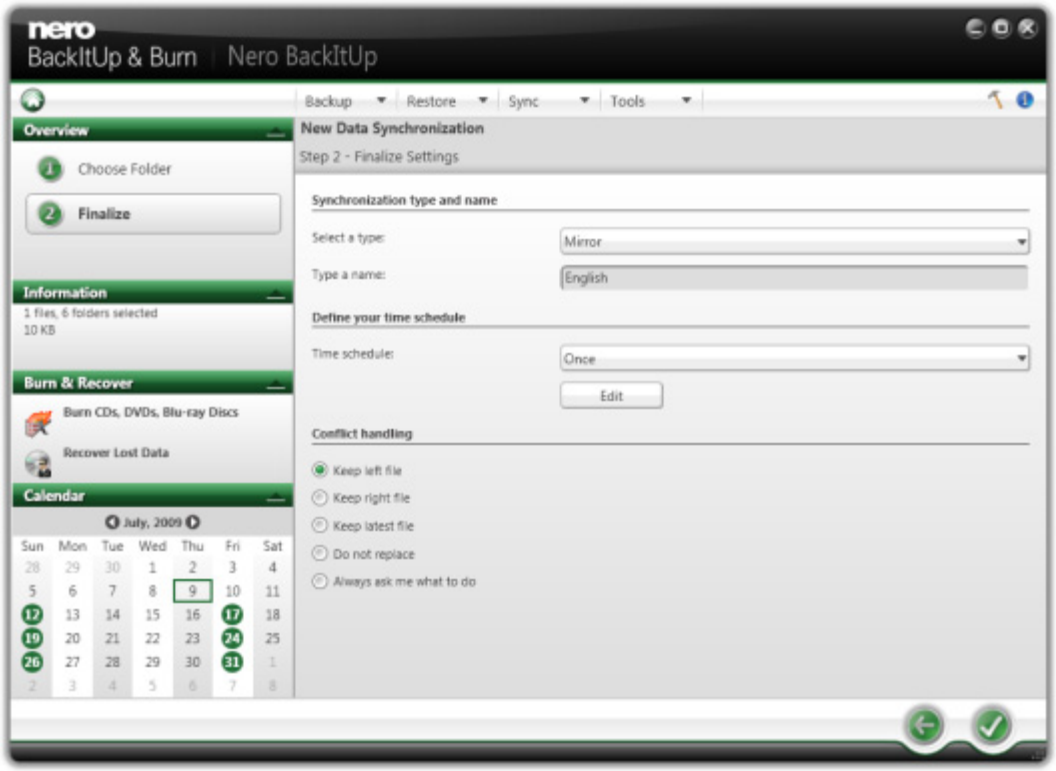
   → The **New Data Synchronization - Please select your left and right folder** screen is displayed.



New Data Synchronization - Please select your left and right folder

2. Click the **Left folder Browse** button to choose the left folder.
3. Click the **Right folder Browse** button to choose the right folder.

4. Click the button.
   → The **New Data Synchronization - Finalize Settings** screen is displayed.



New Data Synchronization - Finalize Settings

5. Select a sync type in the **Select a type** drop-down menu (see About Sync Types→ 42).
6. Enter a name for the sync job in the **Type a name** input field.
7. If you want to schedule the sync job or to run it on a regular basis:
   1. Select the sync schedule type in the **Time schedule** drop-down menu.
   2. Click the **Edit** button if you want to specify the schedule.
      → The **Define your time schedule** window is opened.
   3. Select the start date and other time settings that are appropriate to your backup schedule.
8. Choose your preferred conflict-handling option in the **Conflict handling** area.
9. Click the button.
   → The sync job is started and the final screen is displayed.

11.2 About Sync Types

Nero BackItUp has five sync types:

- Mirror
- Copy
- Partial synchronization
- Update
- Partial mirror

The **Mirror** type synchronizes two folders. New and updated files are copied from one folder to the other folder. Files that are deleted in one folder are also deleted in the other folder.

The **Copy** type copies new and updated files from the left to the right folder. Files that are deleted in the left folder are also deleted in the right folder.

The **Partial synchronization** type copies updated files from the right to the left folder. This sync type only deals with the same files, new files or deleted files will be ignored.

The **Update** type has the same function as the **Copy** type with the exception that the **Update** type does not delete.

The **Partial mirror** type has the same function as the **Mirror** type with the exception that the **Partial mirror** type does not delete.

Note, that Nero BackItUp cannot identify changed or renamed files during the first run. The reason is that sync information is stored in a separate file and changes are compared to this information.

You can also specify how Nero BackItUp should handle a conflict. For example: you are running a sync job using the **Partial synchronization** type so that updated files are copied from left to right. When a file in the right folder is newer than its counterpart on the left, a conflict occurs. Depending on your choice, Nero BackItUp will keep the specified file (either the left, the right or the newest file), does not replace the file on the right, or asks you what to do.

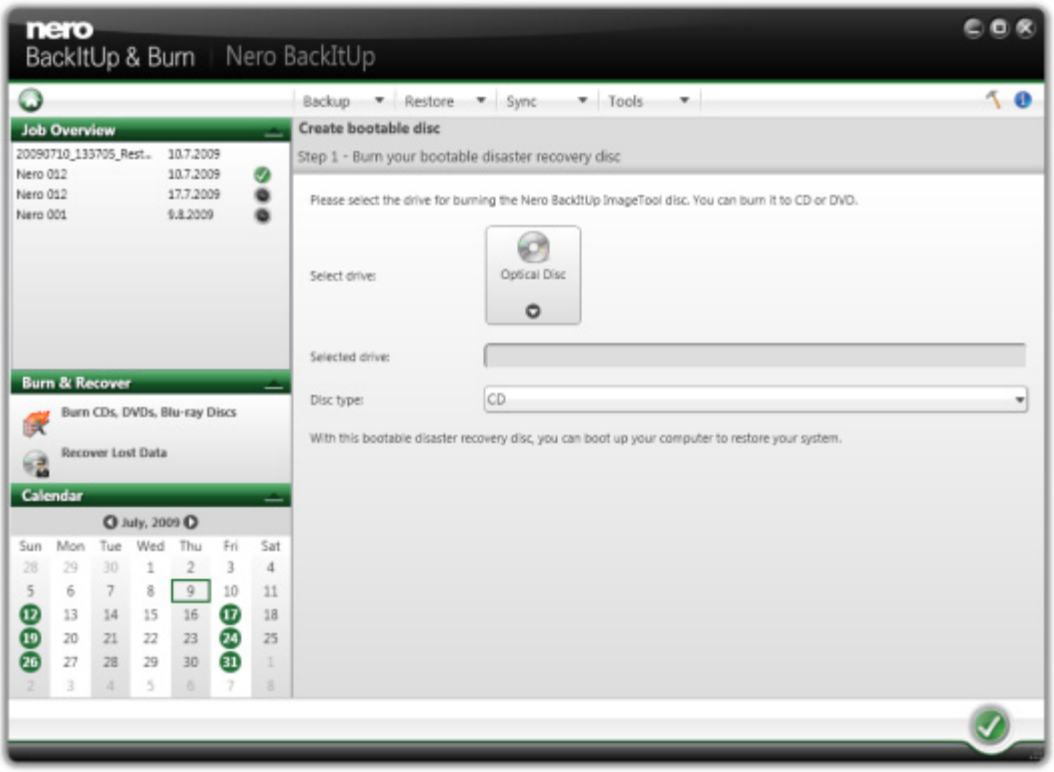
12 Tools

12.1 Creating Bootable Nero BackItUp ImageTool

With Nero BackItUp, you can create a bootable CD or DVD including Nero BackItUp ImageTool. 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. Click the **Tools** > **Create Nero BackItUp ImageTool Disc** menu.
3. The **Create bootable disc** screen is opened.



Create bootable disc

4. Select the appropriate burner in the **Optical Disc** drop-down menu.
5. Select the type of the inserted disc (CD or DVD) in the **Disc type** drop-down menu.
6. Click the button.

➔ The creation process begins; you can track the process via the messages in the task bar. After the creation process is completed, the disc is ejected. You have created a bootable disc that can be used to start Nero BackItUp ImageTool.

See also

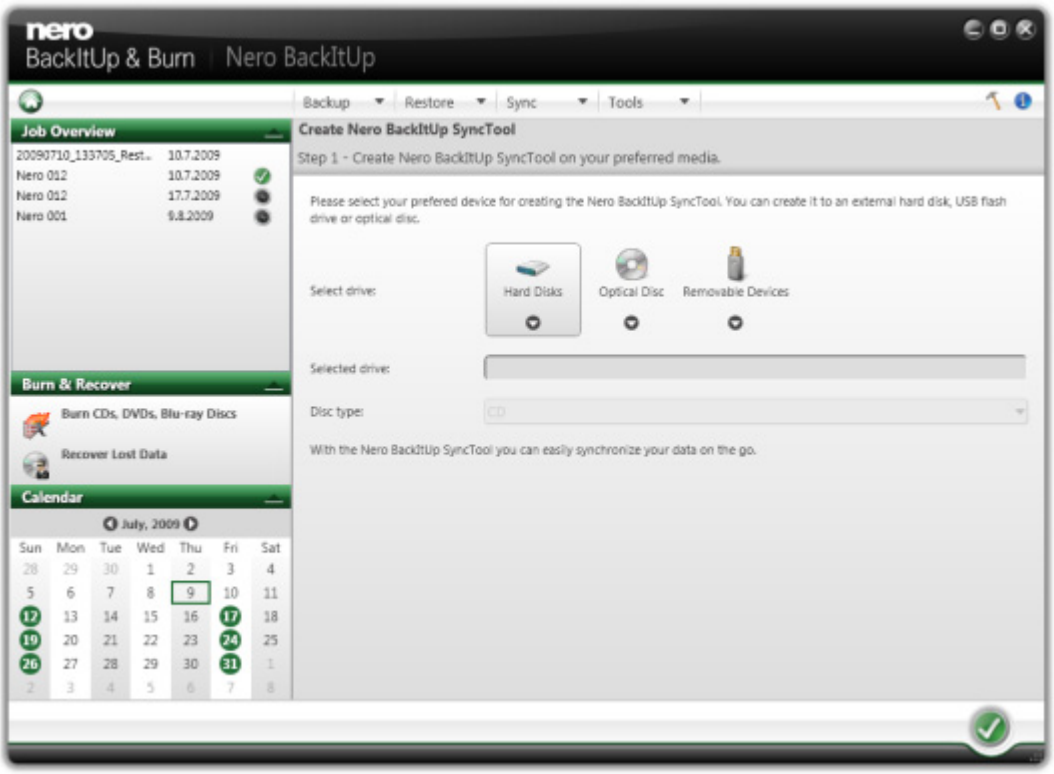
Nero BackItUp ImageTool → 56

12.2 Creating Standalone Nero BackItUp SyncTool

Nero BackItUp can be used to create Nero BackItUp SyncTool. This tool is used for sync functions, and can be run from hard disk, removable medium (USB) or an optical disc.

To create Nero BackItUp SyncTool, proceed as follows:

1. Click the **Tools** > **Create Nero BackItUp SyncTool Media** menu.
   → The **Create bootable disc** screen is opened.



Create standalone sync client

2. If you want to create the Nero BackItUp SyncTool to hard drive, select the appropriate hard drive from the **Hard Disks** drop-down menu.
3. If you want to create the Nero BackItUp SyncTool to an optical disc:
   1. Insert a writable CD/DVD in the burner.
   2. Select the appropriate burner in the **Optical Disc** drop-down menu.
   3. Select the type of the inserted disc (CD or DVD) in the **Disc Type** drop-down menu.
4. If you want to create the Nero BackItUp SyncTool to removable medium:
   1. Connect the removable medium to your computer.

2. Select the removable medium from the **Removable Media** drop-down menu.

5. Click the button.

➔ The creation process begins; you can track the process via the messages in the task bar. After the creation process is completed, the disc is ejected. You have created the standalone Nero BackItUp SyncTool and can now start it.

See also

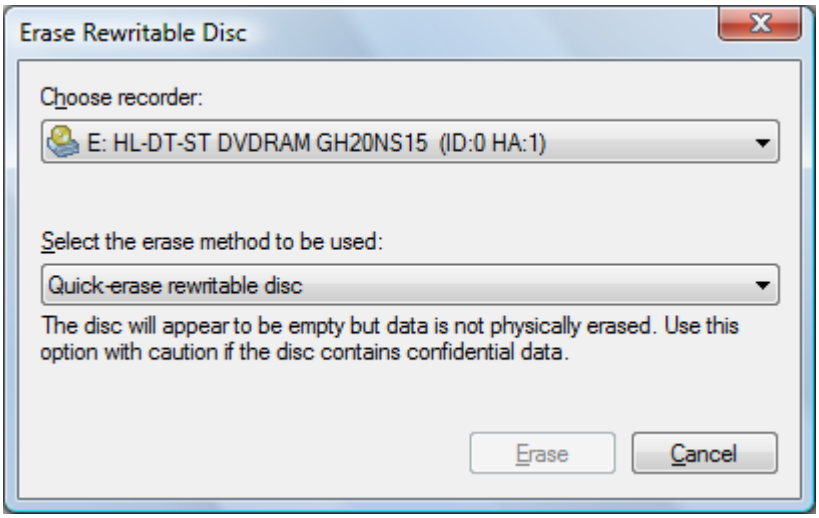
Nero BackItUp SyncTool → 65

12.3 Erase Rewritable Disc Window

Nero BackItUp can be used to erase rewritable discs, i.e. discs with the RW specification, as long as your recorder supports this feature. Two erase methods are available for this purpose:

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.



Erase Rewritable Disc window

The following configuration options are available in the **Erase Rewritable Disc** window:

Selection list **Choose recorder**	Defines the desired recorder.
Selection list **Select the erase method to be used**	Defines the erase method. Two options are available: The **Quick-erase rewritable disc** method does not physically erase all data from the disc, but only the references to the

	contents. The disc will appear to be empty even though the data is still physically available. Erasing a disc using this method takes between one and two minutes. The **Full-erase rewritable disc** method physically erases all data from the disc. 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. Erasing the disc using this method takes longer than the other method, depending on the type of disc involved.
Button **Erase**	Starts the erase process.
Button **Cancel**	Cancels the action and closes the window.

13 Nero BackItUp Options Overview

You can define options for working with Nero BackItUp in the **Options** window. You can open the window via the button.

The following options are available:

General	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.
Help	Enables tooltips. You can also re-enable all windows that you had disabled with the "Never show me this message again" check box.
Remote	Sets up remote targets. You can add, change, or remove FTP server. In addition you can enable and configure proxy settings.
E-mail accounts	Sets up e-mail account information.
File Filters	Defines file filters which can be used for backups and restores. Depending on the definition, the filter includes or excludes certain type of files. The filters can also be combined.

See also

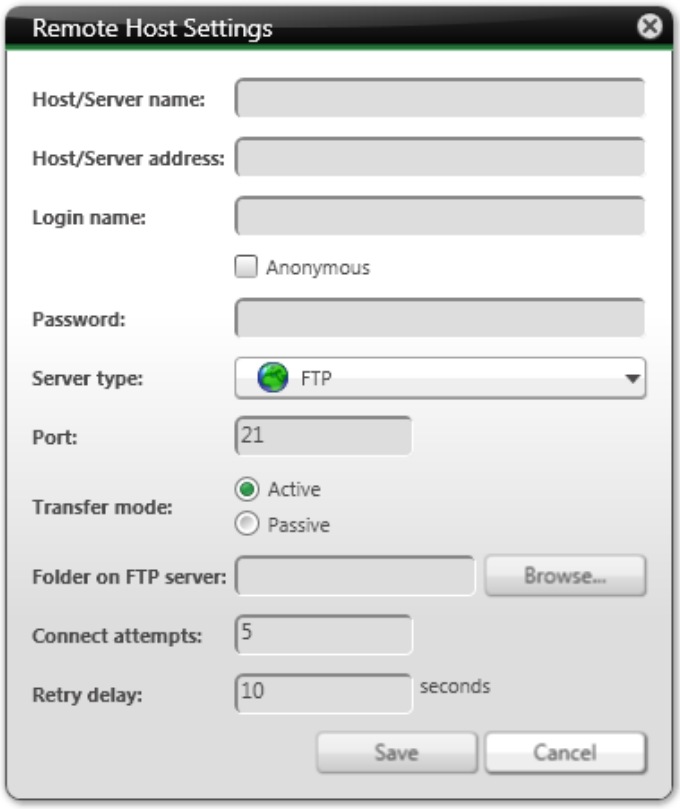
- Setting Up FTP Server Connection → 48
- Remote Proxy → 50
- Setting Up E-Mail Account → 50
- Creating Filter → 52

13.1 Setting Up FTP Server Connection

With Nero BackItUp you can enter the connection information for your FTP server so that you can choose it as a backup target. The FTP server itself is not provided by Nero BackItUp. You usually gain access to it through an FTP server provider such as a webspace provider.

To set up a new FTP server connection, proceed as follows:

1. Click the button.
   → The **Options** window is opened.
2. Click the **Remote** entry in the selection list.
   → The **Remote** screen is displayed with the **FTP** tab on top.
3. Select the **Enable FTP servers** check box.
4. Click the **New** button.
   → The **Remote Host Settings** window is opened.



Remote Host Settings

5. Enter a name for the connection in the **Host/Server name** input field.
6. Enter the required values **Host/Server address**, **Login name**, **Password**, **Server type**, **Port** and **Transfer mode**.

   The values for **Host/Server address**, **Login name**, **Password**, **Server type**, **Port** and **Transfer mode** are provided by the FTP server provider, e.g. your webspace provider or your network administrator.

7. Click the **Browse** button to select a folder on the FTP server and to test the FTP server connection.
   → The **Remote Host Settings** window is opened. Nero BackItUp connects to the FTP server.

   Note that it is not possible to save the FTP server connection without a positive connect result.

8. Select a folder or create a new folder on the FTP server where Nero BackItUp should store the backup.

9. Click the **OK** button.
10. Click the **Save** button.
    ➔ The FTP server is saved and displayed in the list of FTP servers. You can now store other FTP server information or close the window and use the FTP server for backups and restores.

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.)

13.2 Remote Proxy

You can enable and configure proxy server on the **Remote** > **Proxy** tab in the **Options** window. You only need to configure the proxy if you need to use it for accessing the Internet or any other network. In this case, the proxy settings are relevant for all network task you can do with Nero BackItUp such as using online storage, FTP server, network connections, and e-mail notifications.

The following setting options are available:

Check box **Enable proxy server**	Activates the proxy server connection information which are now used by Nero BackItUp.
Option button **Use system settings**	Uses the proxy settings. This is only possible if you have configured and stored proxy settings on your system.
Option button **Use local settings**	Uses the local proxy settings and allows you to enter them in the input fields below.

The correct settings for the proxy connection need to be provided by your system administrator or internet provider.

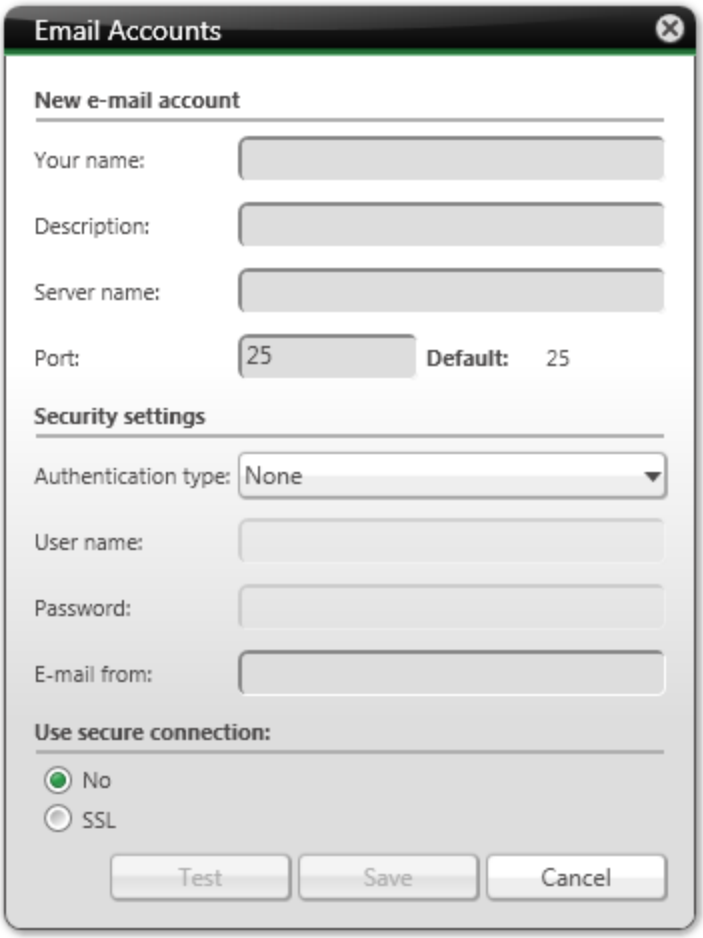
The created proxy connection is saved when creating a bootable CD/DVD and applied to the respective Nero BackItUp ImageTool options.

13.3 Setting Up E-Mail Account

In Nero BackItUp you can add your e-mail account information. Thus can be used to send status information about backup and restore processes via e-mail. The receiver is later on added in the same screen where you set up options regarding your backup or restore (see Backup And Restore Expert Options→ 37).

To set up an e-mail account, proceed as follows:

1. Click the button.
   → The **Options** window is opened.
2. Click the **E-Mail accounts** entry in the selection list.
   → The **E-Mail accounts** screen is displayed.
3. Enable the **Enable e-mail accounts** check box.
4. Click the **New** button.
   → The **E-mail accounts** window is opened.



E-mail accounts

5. Enter a name in the **Your name** input field.
6. Enter a description in the **Description** input field.
7. Enter the required values **Server name**, **Port**, **Authentication type**, **User name**, **Password** and secure connection.

   Note, that the **Server name** input field requires an SMTP server, because Nero BackItUp uses the account information only to send e-mails (not to receive). You need to enter your complete e-mail address (e.g.john.doe@domain.example) in the **User name** input field.

   The values for **Server name**, **Port**, **Authentication type** and the secure connection are provided by your e-mail provider or your network administrator.

8. Enter your e-mail address in the **E-Mail from** input field.
9. Click the **Test** button to test the connection.

   → A message window is displayed.

   Note that it is not possible to save the e-mail account without a connection to the Internet.

10. Click the **Save** button.

    ➔ The e-mail account is saved and displayed in the list. You can now store other e-mail account information or close the window and use the e-mail account for e-mail notifications during backups and restores.

13.4 Creating Filter

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

One filter does always have **one** specific filter criteria! First, you select one filter criteria in the respective area, followed by adding the specifics to the filter, and then the filter is saved.

To create a filter that will subsequently be available for every backup and every restore, proceed as follows:

1. Click the button.

   → The **Options** window is opened.

2. Click the **File Filters** button.

   If you want to create filters for a special backup/restore, click the **Create New** button in the **Expert options** area in the **File Backup/Restore** configure screen.

3. Click the **New** button.

   → The **Create a New Filter** window is opened.

Create a new filter

4. If you want to filter by **File Extension**:
   1. Select the **Exclude file types from my backup** option entry to exclude files with a certain file extension.
   2. Select the **Include only files types in my backup** option entry to include files with a certain file extension.
   3. Click the blue underlined **file types** link.
      → The **Add File Types To Filter** window is opened.
   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 is closed. The selected file extensions are added to the filter.
5. If you want to filter by **Date**:
   1. Select the option entry to include only files which are created, modified or accessed on a specific date or time frame.

2. Click the blue underlined **date or time frame** link.
   → The **Select Date or Time Frame** window is opened.
3. Select a specific date using the calendar or a time frame using the calendar or the input fields.
4. Click the **OK** button.
   → The window is closed. The selected date or period of time is added to the filter.

6. If you want to filter by **Size**:
   1. Select with the option entries whether the desired files must have a certain **minimum** or **maximum** size.
   2. Specify the size in MB in the input field.
7. If you want to exclude a specific path:
   1. Select the **Exclude path from my backup** option entry.
   2. Click the blue underlined **path** link.
      → The **Exclude Path** window is opened.
   3. Click the **Add** button.
      → A browser window is opened.
   4. Select the folder you want to exclude and click the **OK** button.
      → The window is closed. The path to the selected folder is added to the **The following paths are excluded** list. The folder and all of its subfolders are excluded in the filtering process.
   5. Add additional paths as desired.
   6. If you want to select a path again, click the **Remove** button.
   7. Click the **OK** button.
      → The window is closed. The selected path is added to the filter.
8. If you want to exclude a specific file:
   1. Select the **Exclude files from my backup** option entry.
   2. Click the blue underlined **files** link.
      → The **Exclude Files** window is opened.
   3. Click the **Add** button.
      → A browser window is opened.
   4. Select the file you want to exclude and click the **OK** button.
      → The window is closed. The selected file is added to the **The following files are excluded** list.
   5. Add additional files as desired.
   6. If you want to select a file again, click the **Remove** button.
   7. Click the **OK** button.
      → The window is closed. The selected file is added to the filter.
9. Enter a name for the filter in the **Filter name** input field.

10. If you have opened the **Create a New Filter** window via the **File Backup** or **Restore** screen but want the filter to be available in the future for each backup or restore, select the **Save this filter** check box.
11. Click the **OK** button.

    ➔ The window is closed and the created filter is applied and saved.

14 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

Creating Bootable Nero BackItUp ImageTool → 44

14.1 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.

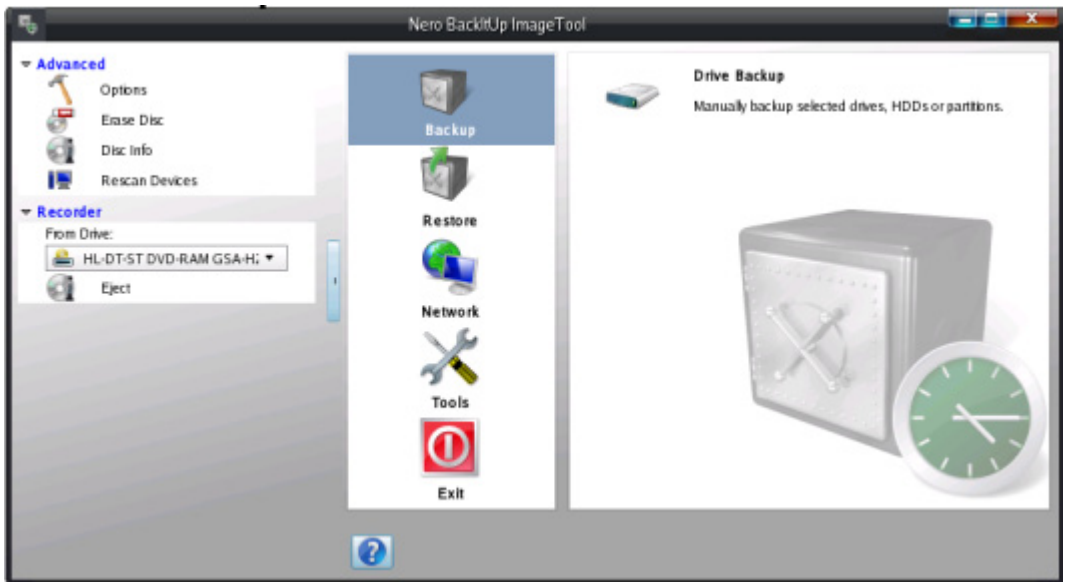
See also

Creating Bootable Nero BackItUp ImageTool → 44

14.2 User Interface

The user interface in Nero BackItUp ImageTool is the starting point for backups, restores, and any other task that you can carry out with Nero BackItUp ImageTool. Click here on the relevant menu icons to go to desired screen where you can start the task.

Click the button in the left margin of the window to display an extended area with additional options and features.



Nero BackItUp ImageTool

The following menu icons are available:

Backup	Performs a drive backup.
Restore	Includes restore tasks. You can restore the full system or restore single files from a backup archive.
Network	Configures your network, so that a network drive or FTP server can be used.
Tools	Offers the option to show mounted partitions. You can also start a shell command box to type and execute Linux shell commands. We recommend you only use the Linux shell command if you have experienced knowledge in this area.
Exit	Exits Nero BackItUp ImageTool. You can simply shutdown your computer system or reboot it.

14.2.1 Extended Area

You can access the additional options and features in the extended area of the user interface by clicking the button in the left margin of the window. The extended area is available in all Nero BackItUp ImageTool screens.

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

Options	Opens the **Options** window, which offers setting options for **FTP**, **Network** and **Cache**.
Erase Disc	Erases a rewritable disc, i.e. a disc with the RW specification, as long as your recorder supports this feature.
Disc Info	Displays information about the inserted disc (e.g. content if applicable or available capacity).
Rescan Devices	Searches for new devices.

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

From Drive	Defines the desired recorder.
Eject	Ejects the disc.

14.3 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.

14.3.1 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.

14.3.2 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.

14.4 Restore

14.4.1 Restoring a Drive Backup

With Nero BackItUp ImageTool you can 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 in comparison to restoring with Nero BackItUp under Windows. However, **Drive backup restore** cannot be used to select individual files in the drive backup - the drive is restored completely. If you want to select individual files, choose the **Extract files from backup** feature.

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

1. Click the **Restore** > **Drive backup restore** button.
   → The **Please select the backup to restore** screen is displayed.
2. 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. Select a backup. If the backup you want to restore is not displayed, click the **Browse** button to search for it.
   → The details of the backup are displayed in the area below.

4. If the backup is password protected, enter the password in the **Password** input field.
5. Click the **Next** button.
   → The **Please select what you want to restore** screen is displayed. The backed up hard drive with all partitions or the backed up partition of the hard drive is displayed. Partitions that are not backed up are grayed out.
6. Select the hard drive or partition that you want to restore.

   For technical reasons, only one single partition or one hard drive with all partitions can be restored during one restore process.

7. 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 **Master Boot Record** check box in order to restore the MBR.
8. Click the **Next** button.
   → The **Please select where you want to restore** screen is displayed.
9. If you want to restore the backup to the original path, select the **Restore to original path** option button.
10. If you want to specify the path on which the backup will be restored yourself, select the **Restore to custom path** option button.
11. Click the **Next** button.
    → The **Please check the restore setting screen** is displayed.
12. Click the **Restore Now** button.
    → The restore is carried out and the final screen is displayed. You can follow the process status in the task bar.

14.4.2 Extract Files From Backup

With Nero BackItUp ImageTool you can restore single files from a drive backup. Programs and operating systems are **not** restored. If you want to restore the programs and operating systems, choose the **Drive backup restore** feature.

To restore single files, proceed as follows:

1. Click the **Restore** > **Extract files from backups** button.
   → The **Please select the backup you want to extract files from** screen is displayed.
2. 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. Select a backup. If the backup you want to extract files from is not displayed, click the **Browse** button to search for it.

→ The details of the backup are displayed in the area below.

4. If the backup is password protected, enter the password in the **Password** input field.
5. Click the **Next** button.

   → The **Please select the files you want to extract from backup** screen is displayed. The files and folders of the backup are displayed.
6. Select the check box preceding the folder or the file that you want to restore. Select a folder in the left to show the contained files in the right.
7. Click the **Next** button.

   → The **Please select the target and restore options** screen is displayed.
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, select the **Restore to custom path** option button.
10. Use the **How to solve conflicts** option buttons to choose the action to take when a file to be restored is already (or is still) on the computer.
11. Click the **Restore Now** button.

    → The restore is carried out and the final screen is displayed. You can follow the process status in the task bar.

14.5 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.

See also

- Setting Up FTP Server Connection → 48
- Remote Proxy → 50

14.6 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, open the extended area and click the **Eject** button.
3. Click the **Exit** button.
4. If you want to reboot your computer system, click the **Reboot** button.
   If you want to shutdown your computer system, click the **Shutdown** button.
   ➔ Nero BackItUp ImageTool is exited and the computer shuts down.

15 Nero BackItUp SyncTool

Nero BackItUp SyncTool is a program that is used for sync functions. It is run from hard drive, removable medium (USB) or an optical disc.

Nero BackItUp SyncTool is created with Nero BackItUp. It offers the same features as the sync feature integrated in Nero BackItUp.

Nero BackItUp SyncTool is particularly useful when you want to automatically sync the same folders. It can be used to sync two folders on the same computers or two folders located on a computer and a removable medium.

See also

- Syncing Folders → 41
- Creating Standalone Nero BackItUp SyncTool → 45

16 Technical Information

16.1 System Requirements

Nero BackItUp is installed along with Nero BackItUp & Burn. Its system requirements are the same. You can find more detailed information on the system requirements under www.nero.com.

16.2 Formats Supported

16.2.1 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**) to which can be written depend on the selected recorder.

It is technically impossible to make a DL DVD-R bootable.

16.2.2 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

16.2.3 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**.

17 Glossary

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.

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.

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.

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.

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.

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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19 Contact

Nero BackItUp is a Nero AG product.

Nero AG

Im Stoeckmaedle 13
76307 Karlsbad
Germany

Internet: www.nero.com
Help: http://support.nero.com
Fax: +49 724 892 8499

Nero Inc.

330 N Brand Blvd Suite 800
Glendale, CA 91203-2335
USA

Internet: www.nero.com
Help: http://support.nero.com
Fax: (818) 956 7094
E-mail: US-CustomerSupport@nero.com

Nero KK

Rover Center-kita 8F-B, 1-2-2
Nakagawa-chuou Tsuzuki-ku
Yokohama, Kanagawa
Japan 224-0003

Internet: www.nero.com
Help: http://support.nero.com

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