

nero
simply enjoy™



Manual
Nero Burning ROM

Copyright and Trademark Information

This document, like the software described therein, is provided as a license and may only be used or reproduced in accordance with the licensing agreement. The contents of this document, as well as the associated software, is subject to change without prior notice. Nero AG rejects any responsibility for the correctness of the contents of this document and rejects any claims that transcend the clauses of the guarantee agreement.

This document and all of its contents are protected by copyright and are the property of Nero AG. All rights reserved. In addition, this document contains material that is protected by internationally valid copyright. This document may not be reproduced, transmitted, or transcribed in whole or in part without the express written permission of Nero AG.


Please keep in mind that existing graphics, pictures, videos, music titles or other materials that you may wish to insert or transcribe into projects may be protected by copyright. The unauthorized use of this type of material in your projects may violate the rights of the owner of the copyright. Make sure that you obtain all necessary authorizations from the owner of the copyright.

Unless you own the copyright, have permission from the copyright owner or your actions fall under the "fair use" provisions of copyright law, you may be violating national or international copyright laws. The transcribing, re-formation, modification or publication of copyright-protected material may lead to claims for damages and the enforcement of other legal measures against you. If you are unsure of your rights, you should contact your legal advisor.

Some Nero Multimedia Suite applications require technologies developed by third-party manufacturers, some of which are contained in the Nero Multimedia Suite as demo versions. These applications can be activated online free of charge or by sending an activation fax to have unlimited use of the version. Nero will only transmit the data necessary for activation of the technology licensed from third parties. For unlimited use of Nero Multimedia Suite, it is therefore necessary to have an Internet connection or a fax machine.

Copyright © 2010 Nero AG and its licensors. All rights reserved.

Nero, Nero BackItUp, Nero BackItUp & Burn, Nero Burning ROM, Nero Digital, Nero DMA Manager, Nero Essentials, Nero Express, Nero ImageDrive, Nero LiquidTV, Nero MediaHome, Nero MediaHub, Nero MediaStreaming, Nero Move it, Nero Music2Go, Nero PhotoDesigner, Nero PhotoSnap, Nero Recode, Nero RescueAgent, Nero Simply Enjoy, Nero SmartDetect, Nero SmoothPlay, Nero StartSmart, Nero Surround, Nero Vision, Nero Vision Xtra, Burn-At-Once, InCD, LayerMagic, Liquid Media, the SecurDisc logo, and UltraBuffer are common law trademarks or registered trademarks of Nero AG.

| | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Gracenote® is either a registered trademark or a trademark of Gracenote, Inc. in the United States and/or other countries. The Gracenote logo and logotype, and the "Powered by Gracenote" logo are trademarks of Gracenote. |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Adobe, Acrobat, Acrobat Reader and Premiere are trademarks or registered trademarks of Adobe Systems, Incorporated. AMD Athlon, AMD Opteron, AMD Sempron, AMD Turion, ATI Catalyst and ATI Radeon are trademarks or registered trademarks of Advanced Micro Devices, Inc. ATSC is a trademark of the Advanced Television Committee. ICQ is a registered trademark of AOL, LLC. Apple, Apple TV, iTunes, iTunes Store, iPad, iPod, iPod touch iPhone, FireWire, and Mac are trademarks or registered trademarks of Apple, Inc. ARM is a registered trademark of ARM, Ltd. AudibleReady is a registered trademark of Audible, Inc. BenQ is a trademark of the BenQ Corporation. Blu-ray Disc is a trademark of Blu-ray Disc Association. Check Point and Check Point Endpoint Security are trademarks or registered trademarks of Check Point Software Technologies Ltd. CyberLink is a registered trademark of CyberLink Corp. DLNA is a registered trademark of Digital Living Network Alliance. DivX and DivX Certified are registered trademarks of DivX, Inc. Dolby, Pro Logic and the double-D symbol are trademarks or registered trademarks of Dolby Laboratories, Inc. DTS and DTS Digital Surround are registered trademarks of DTS, Inc. DVB is a registered trademark of the DVB Project. Freescale is a trademark of Freescale Semiconductor, Inc. Google and YouTube are trademarks of Google, Inc. WinTV is a registered trademark of Hauppauge Computer Works, Inc. Intel, Intel XScale, Pentium and Core are trademarks or registered trademarks of Intel Corporation. Linux is a registered trademark of Linus Torvalds. Memorex is a registered trademark of Memorex Products, Inc. ActiveX, ActiveSync, DirectX, DirectShow, Internet Explorer, Microsoft, HDI, MSN, Outlook, Windows, Windows Mobile, Windows NT, Windows Server, Windows Vista, Windows Media, Xbox, Xbox 360, Silverlight, the Silverlight logo, the Windows Vista start button and the Windows logo are trademarks or registered trademarks of Microsoft Corporation. My Space is a trademark of MySpace, Inc. NVIDIA, GeForce and ForceWare are trademarks or registered trademarks of NVIDIA Corporation. Nokia is a registered trademark of Nokia Corporation. CompactFlash is a registered trademark of SanDisk Corporation. Sony, Memory Stick, PlayStation, PLAYSTATION and PSP are trademarks or registered trademarks of Sony Corporation. HDV is a trademark of Sony Corporation and Victor Company of Japan, Limited (JVC). UPnP is a registered trademark of the UPnP Implementers Corporation. Labelflash is a registered trademark of Yamaha Corporation.

The trademarks mentioned here are named for information purposes only. All trade names and trademarks are the property of their respective owners.

Nero AG, Im Stoeckmaedle 18, D-76307 Karlsbad, Germany

Table of contents

| | | |
|-------|---------------------------------------------------------|----|
| 1 | Start Successfully | 6 |
| 1.1 | About the Manual | 6 |
| 1.2 | About Nero Burning ROM | 6 |
| 1.3 | Versions of Nero Burning ROM | 7 |
| 1.4 | Working With the Program | 7 |
| 2 | Starting the Program | 8 |
| 3 | User Interface | 9 |
| 3.1 | Main Screen | 9 |
| 3.2 | New Compilation Window | 12 |
| 3.3 | Selection Screen | 16 |
| 4 | Data Disc | 19 |
| 4.1 | Compiling Data Disc | 19 |
| 4.1.1 | Defining Options | 21 |
| 4.2 | Compiling a SecurDisc disc | 24 |
| 4.3 | Nero DiscSpan (UDF) Compilation and Nero DiscMerge Tool | 29 |
| 4.3.1 | Creating Multiple Discs with Nero DiscSpan | 29 |
| 4.3.2 | Remerge and Copy Data with Nero DiscMerge | 32 |
| 4.4 | Check Point Media Encryption CD/DVD | 34 |
| 4.5 | Saving Data Track | 35 |
| 5 | Audio CD and Audio Files | 37 |
| 5.1 | Compiling Audio CDs | 37 |
| 5.1.1 | Customizing Properties of the Audio File | 39 |
| 5.1.2 | Defining Options | 43 |
| 5.2 | Mixed Mode CD and CD EXTRA | 45 |
| 5.2.1 | CD-Extra Settings | 46 |
| 5.3 | Automatic Music Recognition | 47 |
| 5.3.1 | Identifying Audio Files | 47 |
| 5.4 | Copy Audio CDs to Hard Drive | 48 |
| 5.4.1 | Save Audio Tracks to Hard Drive Window | 51 |
| 5.5 | Convert Audio File Format | 54 |
| 5.5.1 | Encode Files Window | 55 |
| 5.5.2 | AIF and WAV Encoding Options | 56 |
| 5.5.3 | MP3 Lame Encoding Options | 57 |
| 5.5.4 | MP3 and MP3PRO Encoding Options | 58 |
| 5.5.5 | Nero AAC Encoding Options | 60 |
| 5.5.6 | OGG Vorbis Encoding Options | 61 |
| 6 | Video | 63 |
| 6.1 | Compiling DVD-Video | 63 |

| | | |
|--------|------------------------------------------------------|-----|
| 6.2 | Compiling an AVCHD Video Disc | 64 |
| 6.3 | Compiling a BDMV-Video Disc | 67 |
| 7 | Bootable Disc | 70 |
| 7.1 | Requirements for Booting From a Disc | 70 |
| 7.2 | Bootable Disc Template | 70 |
| 7.3 | Creating and Burning a Bootable Disc | 71 |
| 8 | Loading Image File | 73 |
| 9 | LightScribe | 76 |
| 9.1 | Printing LightScribe Label | 76 |
| 9.2 | CD Label Editor Window | 78 |
| 10 | Labelflash | 80 |
| 10.1 | Burn Label Screen | 80 |
| 10.2 | Printing Labelflash Labels and DiskT@2 | 82 |
| 11 | Burn Compilation | 84 |
| 11.1 | Choose Recorder Window | 84 |
| 11.2 | Burn Settings | 86 |
| 11.3 | Starting the Burn Process | 87 |
| 11.4 | Burning With Image Recorder – Creating an Image File | 89 |
| 12 | Copying a Disc | 90 |
| 12.1 | Methods of Copying | 90 |
| 12.1.1 | On-the-fly Copying | 90 |
| 12.1.2 | Copy Over Image | 90 |
| 12.2 | Copying Disc | 91 |
| 12.3 | Copy Settings | 93 |
| 12.3.1 | Image Settings | 94 |
| 12.3.2 | Copy Options | 95 |
| 12.3.3 | Read Options | 96 |
| 13 | Erase Rewritable Disc Window | 98 |
| 14 | About Nero SecurDisc Viewer | 100 |
| 14.1 | Starting Nero SecurDisc Viewer | 100 |
| 14.2 | Copying data to hard drive | 101 |
| 14.3 | Checking data integrity | 102 |
| 14.4 | Checking signature | 103 |
| 15 | Configuration Options | 104 |
| 15.1 | Compilation Settings | 105 |
| 15.2 | Cache Settings | 106 |
| 15.3 | Expert Features | 106 |





| | | |
|-----------|--------------------------|------------|
| 15.4 | Ultrabuffer Settings | 107 |
| 15.5 | LightScribe Settings | 108 |
| 16 | Technical Information | 109 |
| 16.1 | System Requirements | 109 |
| 16.2 | Disc Types | 109 |
| 16.3 | Disc Formats | 109 |
| 16.4 | Audio Formats and Codecs | 110 |
| 16.5 | Video Formats and Codecs | 110 |
| 16.6 | Image Formats | 110 |
| 16.7 | Formats for Playlists | 111 |
| 17 | Glossary | 112 |
| 18 | Index | 116 |
| 19 | Contact | 118 |

1 Start Successfully

1.1 About the Manual

This manual is intended for all users who want to learn how to use Nero Burning ROM. 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 Burning ROM

The powerful burning software Nero Burning ROM allows you to burn your data, music and videos to disc. Nero Burning ROM gives you full, customized control of your burning projects. You can – among other things – define the file system, the length of the file name and the character set; you can also change the disc label. And of course, you can also customize the Nero Burning ROM toolbar and change the keyboard shortcuts.

Despite its wide range of features, Nero Burning ROM has remained an easy-to-use burning program that creates discs in just a few steps. You select the disc type to be burned (CD/DVD/Blu-ray), define the project type, add the required data and then start burning.

Using Nero Burning ROM you can save audio files from an Audio CD to the hard drive. In the process, the files are encoded, i.e. converted into a format that the computer can read. The Audio CD can be automatically identified with Gracenote. So called metadata such as title, genre, and track title are accessed by the Gracenote Media Database and associated to the tracks. That way you have audio files that are accurately and fully named after the encoding process.



Music recognition technology and related data are provided by Gracenote®. Gracenote is the industry standard in music recognition technology and related content delivery. For more information, please visit www.gracenote.com.

1.3 Versions of Nero Burning ROM

Nero Burning ROM is available as part of Nero Multimedia Suite and as a standalone product.

Both versions offer the full range of functions, but Nero Burning ROM as part of Nero Multimedia Suite does offer access to other Nero applications such as Nero CoverDesigner.

You can always upgrade your standalone version to Nero Multimedia Suite at www.nero.com.

1.4 Working With the Program

The main function of Nero Burning ROM is to select files and folders and to burn them to a disc. This is done in three basic steps:


- In the **New Compilation** window, select a disc type and the disc format and set the options on the tabs.
- In the selection screen, select files that you want to burn.
- Start the burn process.

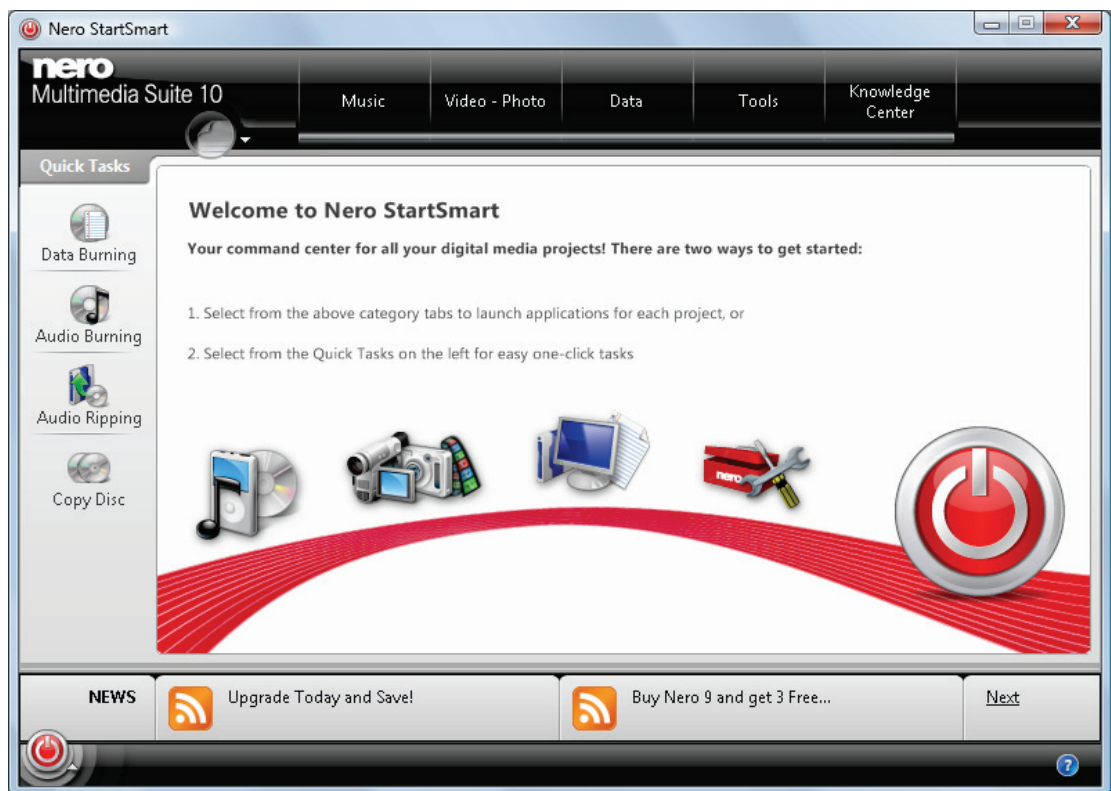
See also

-  [Main Screen → 9](#)
-  [Compiling Data Disc → 19](#)
-  [Compiling Audio CDs → 37](#)
-  [Mixed Mode CD and CD EXTRA → 45](#)
-  [Compiling DVD-Video → 63](#)


2 Starting the Program

To start Nero Burning ROM, 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 Burning ROM entry in the selection list.
→ The Nero Burning ROM window is opened.



Nero StartSmart window

2. If you use Nero Burning ROM.
 1. Click the  Nero Burning ROM desktop icon.
→ The Nero Burning ROM window is opened.
→ You have started Nero Burning ROM.

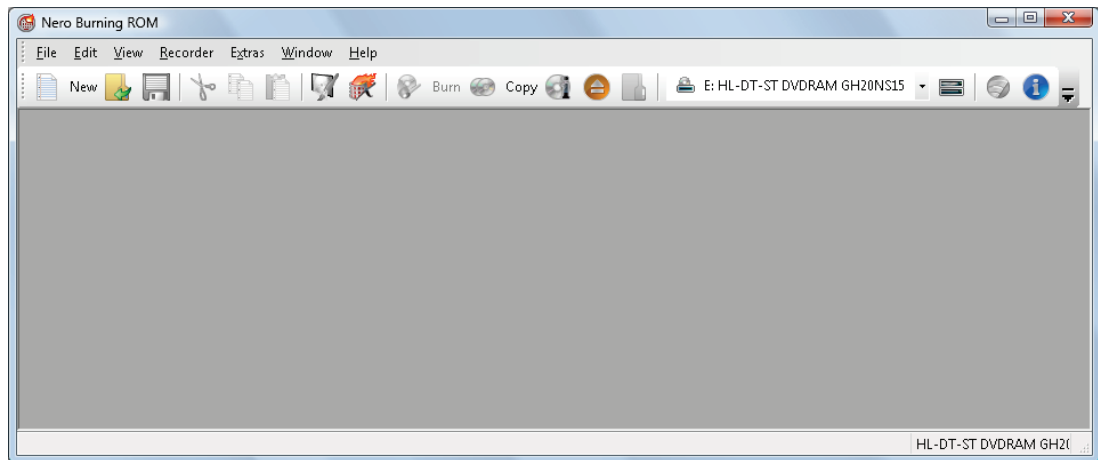


It is also possible to start tasks with Nero Burning ROM from the context menu of a file or folder.

3 User Interface

3.1 Main Screen

The main screen of Nero Burning ROM is the starting point for all actions. It consists of a menu bar and a toolbar with buttons and a drop-down menu.




















Main window with menu and toolbar

The following menus are available:

| | |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| File | Provides program facilities such as opening, saving, and closing. You can also open the setting options for the compilation, update the compilation, and define configuration options. |
| Edit | Provides editing facilities for the files in the selection screen such as cutting, copying, and deleting. You can also display the properties of a selected file. |
| View | Provides the option to customize the user interface and to refresh the file browser. |
| Recorder | Provides recorder facilities. You can select the recorder here, start the burn process, and erase a rewritable disc. You can also eject a disc and display disc information. |
| Extras | Provides the option to convert tracks into other formats and to save the songs on an Audio CD to the hard drive. |
| Window | Provides the option to alter the position of the compilation area and browser area. |
| Help | Provides help facilities such as opening the help, and shows information about the application. |

The following configuration options are available in the tool bar of the main screen.

| | |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Opens the New Compilation window where you can set options for a burn or copy process. |
|  | Opens an existing compilation. |
|  | Saves the active compilation. |
|  | Cuts selected elements in the compilation (selection). |
|  | Copies selected elements of the compilation (selection). |
|  | Pastes a selection that was cut or copied beforehand. |
|  | Starts Nero CoverDesigner, which you can use to create labels and covers. Information about a current compilation such as title, number, and names of the files is incorporated into the document data. You will find further information in the Nero CoverDesigner manual. |
|  | Starts Nero Express. Nero Express is a wizard-driven application based on Nero Burning ROM. You will find further information in the Nero Express manual. |
|  | Starts the burn process by opening the Burn Compilation window containing the Burn tab. |
|  | Starts the copy process by opening the New Compilation window containing the Burn tab. |
|  | Displays information on the disc inserted, such as contents (if any) and capacity for instance. |
|  | Opens the selected drive. |
|  | Shows or hides the file browser. |
| Recorder selection menu | Displays available recorders. |
|  | Opens the Choose recorder window where you select an available recorder for the burn process from a list. |
|  | Opens the Burn Label window where you can create or load a label to print on the label or data side of a Labelflash DVD. Only available if a recorder that supports Labelflash is connected. |

| | |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Launches Nero CoverDesigner to create or load a label to be printed on the label side of a LightScribe disc. Only available if a recorder that supports LightScribe is connected. |
|  | Displays information on the program and version number. |



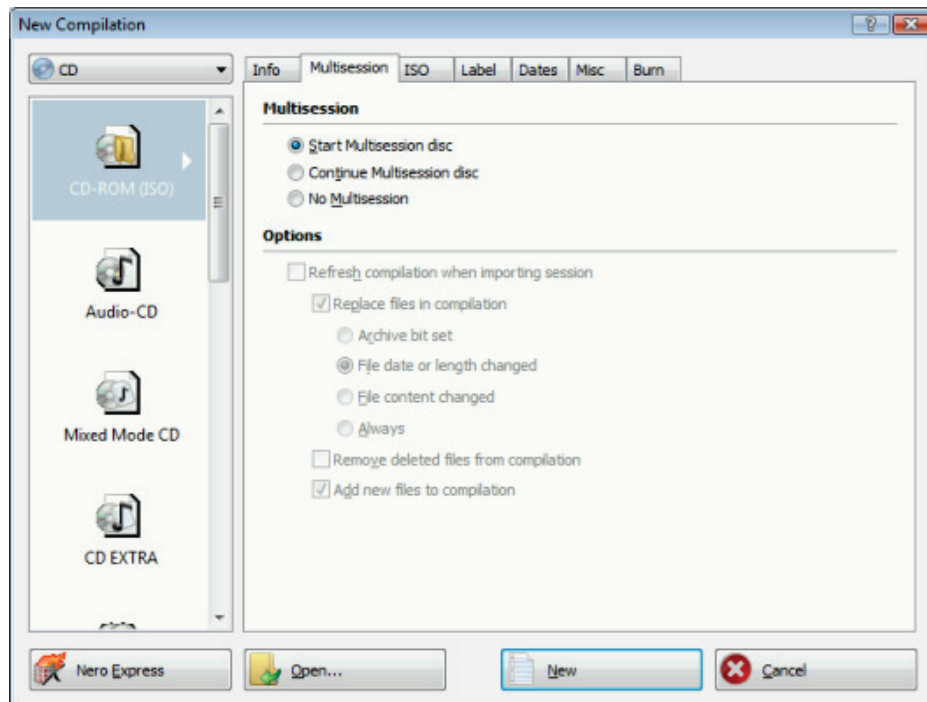
Access to other applications of Nero is only provided by Nero Burning ROM as part of Nero Multimedia Suite.

See also

-  [New Compilation Window → 12](#)
-  [Bootable Disc → 70](#)
-  [LightScribe → 76](#)
-  [Labelflash → 80](#)
-  [Loading Image File → 73](#)
-  [Erase Rewritable Disc Window → 98](#)
-  [Configuration Options → 104](#)

3.2 New Compilation Window

In the **New Compilation** window you can select the disc type and configure the options for the disc format. The window basically looks the same for all disc types. The only difference is the tabs that are available. When you start Nero Burning ROM, the **New Compilation** window opens automatically. If the window is not open, click the **New** button. The window consists of a drop-down menu, a selection list, various tabs, and buttons.



New Compilation window, CD-ROM disc type

If the Image Recorder is not enabled, only those disc types supported by the physical recorder are displayed in the drop-down menu. If the recorder can only burn CDs, the drop-down menu is grayed out.



Using Nero Burning ROM you can create image files for disc types that the installed recorder cannot burn. You can enable this function via the **File > Options > Expert Features** menu, **Enable all supported recorder formats for image recorder** check box. The drop-down menu in the **Compilation** window then makes available all supported disc types.

The following entries are available in the selection list:

| | |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Entry CD/DVD-ROM/Blu-ray (ISO) | Creates a data disc, each file type can be burned. The burned data complies with the ISO 966 standard. |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|

| | |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Entry Audio CD | Creates a standard Audio CD that can be played on all (audio) CD players at least. |
| Entry Mixed Mode CD | Creates a CD with data and audio files in a single session. Usually a data file is followed by one or more audio files for instance (e.g. soundtrack for PC games). Older Audio CD players are often not capable of recognizing the data file and attempt to play it. |
| Entry CD EXTRA | Creates a <u>multisession</u> CD with audio and data files that are stored in two sessions. The first session contains the audio files and the second session the data. Common CD players play the first session as Audio CDs. The second session can only be used by PCs with a CD-ROM drive, it cannot be recognized by a normal CD player. |
| Entry CD/DVD/Blu-ray Disc Copy | Copies a source disc to a CD/DVD/Blu-ray Disc. |
| Entry CD/DVD-ROM (Boot) | Creates a bootable disc. |
| Entry CD/DVD-ROM/Blu-ray (UDF) | Creates a data disc; all file types can be burned. The burned data complies with the UDF standard. |
| Entry CD/DVD-ROM (UDF/ISO) | Creates a data disc; all file types can be burned. The burned data complies with the ISO and UDF standards. |
| Entry DiscSpan (UDF) | Creates a compilation to be burned on multiple discs. All file types can be burned. The burned data complies with the UDF standards. You can mix different disc types. This means you can also insert DVDs and Blu-ray Discs even if you started with a CD compilation. The data is distributed automatically among several discs. |
| Entry DVD-Video | Creates a DVD that delivers high-quality playback of video and/or picture files on DVD players. You can use Nero Burning ROM to burn a DVD if the DVD video title, i.e. a complete DVD folder structure including premastered files is already available. |

| | |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Entry AVCHD (TM) video | Creates an AVCHD video disc that delivers high-quality playback of camcorder video and/or picture files on DVD or Blu-ray players. You can use Nero Burning ROM to burn an AVCHD video disc if a complete AVCHD folder structure including premastered files is already available. |
| Entry BDMV-Video | Creates a Blu-ray Movie (BDMV) disc that delivers high-quality playback of video files on Blu-ray players. You can use Nero Burning ROM to burn a BDMV-Video disc if a complete BDMV folder structure including premastered files is already available. |



In Nero Burning ROM it is not possible to create a DVD-Video, an AVCHD video, or a BDMV-Video from video files. You can convert video files to DVD-Video, to AVCHD video, or BDMV-Video in Nero Vision for example. Nero Vision is included in the full version of Nero Multimedia Suite. More information about Nero Vision is available on the Web site www.nero.com, and more information about video editing is available in the separate Nero Vision manual.



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



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



A Jump List is provided by Nero Burning ROM under the Windows 7 operating system. Compilation types, e.g. Audio-CD, can be chosen directly from the Jump List.

The following buttons are available:

| | |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Button Nero Express | Starts Nero Express. Nero Express is a wizard-driven application based on Nero Burning ROM. Only available in Nero Burning ROM as part of Nero Multimedia Suite. |
| Button Open | Opens a file browser where you can find and open a saved compilation. You can also open an image file in order to burn a disc. |
| Button New | Creates the selected compilation and displays the selection screen where you can select the files for burning. |

| | |
|-------------------------|-------------------------------------------|
| Button Cancel | Closes the New Compilation window. |
|-------------------------|-------------------------------------------|

You can set the options for the respective disc format on the tabs in the **New Compilation** window.



Which tabs are available depends on the disc type that is selected.

The following tabs are available:

| | |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tab Info | Shows statistical information on the compilation. |
| Tab Multisession | Contains options for configuring multisession discs. This tab is only available if a burner is installed. |
| Tab ISO | Contains options for configuring the ISO file system. |
| Tab UDF | Contains options for configuring the UDF file system. |
| Tab Label | Defines the labels of the disc. |
| Tab Dates | Allows you to define the dates of the compilation and of the associated files. You can also specify a validity period for the disc. You can access the data regardless of the validity period specified. |
| Tab Misc | Defines whether and which files are stored in the buffer memory. If you possess a Lightscribe recorder you can create the label here or select what is to be printed. For the CD-ROM (ISO) disc type, you can convert the code for an AVI video here to make it compatible with Xvid/MPEG -4 or DivX. We recommend that you only convert the <u>code</u> if you have experience with FourCC codes and AVI videos. |
| Tab Audio CD | Contains options for configuring audio files. You can also enter additional information about the CD. |
| Tab CDA Options | Defines the strategy used by Nero Burning ROM for handling CD-DA files from a source audio CD. |

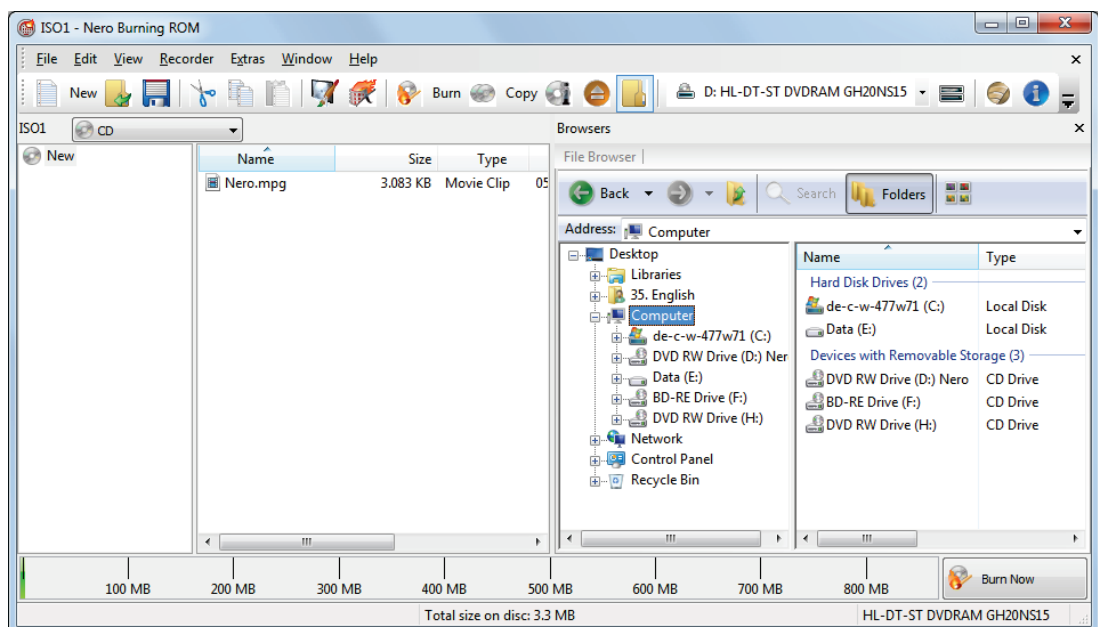
| | |
|-----------------------------|---------------------------------------------------|
| Tab CD EXTRA | Contains options for configuring albums. |
| Tab Nero DiscSpan | Contains the option for splitting of files. |
| Tab Boot | Contains options for configuring a bootable disc. |
| Tab Burn | Contains options for configuring burning. |

See also

-  [Compiling Data Disc → 19](#)
-  [Compiling Audio CDs → 37](#)
-  [Mixed Mode CD and CD EXTRA → 45](#)
-  [Compiling DVD-Video → 63](#)

3.3 Selection Screen

The selection screen is displayed in the main screen after you select the disc type and format in the **New Compilation** window and click the **New** button. The selection screen consists mainly of the compilation area and the browser area. Essentially, all selection screens have the same structure.



Selection Screen

The compilation area is located on the left side of the screen, and is named after the relevant compilation. Files and folders are compiled here for burning. In the browser area (**File Browser**) on the right side you can find the elements that you want to burn. You can add data to your projects using the drag and drop function: Drag and drop the elements from the browser area to the compilation area.



If the Browser area is hidden, you can show it again using the  button.

The following setting options are available:

| | |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Disc type drop-down menu</p> | <p>Allows you to select another disc type without loss of information. The option to change the disc type is useful when starting a compilation without knowing how much space is required by the files.</p> <p>Available for data compilations only.</p> |
| <p>Selection list</p> <p>DVD9 (8.5 GB) / DVD5 (4.7 GB)</p> | <p>Allows you to expand or shrink the capacity bar according to the type of DVD you are going to burn. Choose the DVD9 (8.5 GB) option for a double layer DVD (DVD DL) and DVD5 (4.7 GB) for a single layer DVD.</p> <p>Available for all DVD compilations.</p> |
| <p>Selection list</p> <p>BD QL (BDXL) (128 GB) / BD TL (BDXL) (100 GB) / BD DL (50 GB) / BD (25 GB)</p> | <p>Allows you to expand or shrink the capacity bar according to the type of Blu-ray Disc you are going to burn:</p> <p>BD QL (BDXL) (128 GB) for a quadruple layer Blu-ray Disc, BD TL (BDXL) (100 GB) for a triple layer Blu-ray Disc, BD DL (50 GB) for a double layer Blu-ray Disc (BD DL) and BD (25 GB) for a single layer Blu-ray Disc.</p> <p>Available for all Blu-ray Disc compilations except BDMV-Video.</p> |
| <p>Button</p> <p>Burn Now</p> | <p>Starts the burn process immediately. If you want to check or select the burn or compilation options again before burning, click the Burn button in the upper part of the screen.</p> |

The bottom margin of the screen contains a capacity scale in MB or GB for data discs or minutes (min) for Audio CDs. The exact size of the scale will depend on which disc type you have selected.



Actual capacity of media formats

The actual capacity of the DVD5, DVD9, BD DL, and BDXL media formats is less than as stated by the disc manufacturers. For example, the actual capacity of a 4.7 GB DVD5 is around 4.38 GB only.

This is because of different conversion systems. A DVD5-media format can handle 4.700.000.000 bytes, but this number is not equal to the 4.7 GB stated by the disc manufacturers. The correct conversion factor for bytes is not 1000, but 1024:

1024 byte = 1 KB

1024 KByte * 1024 KByte = 1 MB

1024 KByte * 1024 KByte * 1024 KByte = 1 GB

A DVD can handle 4.700.000.000 bytes:

4.700.000.000 bytes = 4.589.843 KB = 4.482 MB = 4.377 GB

The capacity bar in Nero Burning ROM will always show you the correct amount of bytes measured in MB or GB.

When you are compiling files, a capacity bar shows you the estimated size of the selected files and the available space on the disc. The color of the capacity bar indicates whether the data will fit on the disc or not:

| | |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Green capacity bar | The data will fit on the disc. |
| Yellow capacity bar | The data might fit on the disc. The size of the disc that has been inserted will determine whether the data will fit or not. |
| Red capacity bar | The data will not fit on the disc. (Unless you have inserted an oversize disc.) |

The yellow and red marks are set by default for discs that are commercially available. The disc type you have selected will determine the exact scale value.



Capacity of the CD recordable disc

For example, blank CDs are available with a capacity of 650 MB (74 min) or 700 MB (80 min). Therefore, the yellow mark is set for CDs at 650 MB and the red at 700 MB.



Display the Capacity Bar

If the capacity scale is hidden you can display it again by clicking the **File > Options > Compilation** menu and by selecting the check box **Show the compilation size in the Nero status bar**.

4 Data Disc

4.1 Compiling Data Disc

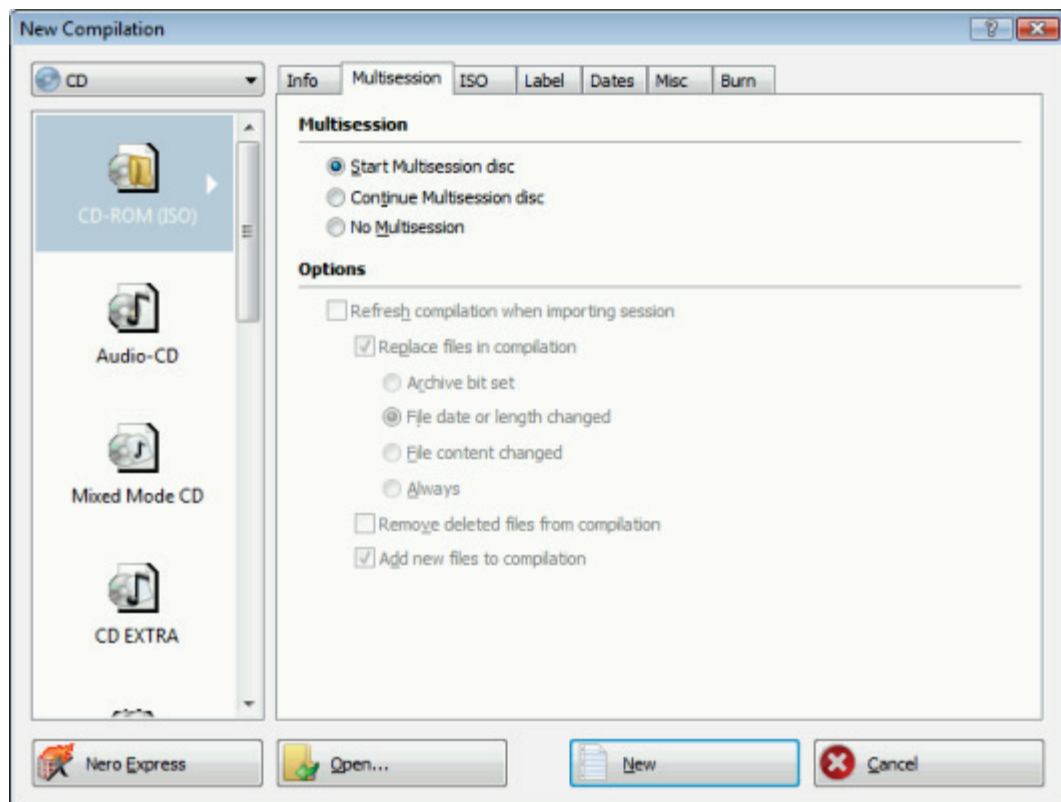
With Nero Burning ROM you can compile and burn all types of files and folders. If a Blu-ray recorder is installed on your computer you can burn data CDs, data DVDs and data Blu-ray Discs. If you have a CD recorder you can only burn data CDs. The procedure for all data compilation methods is identical.



The Image Recorder is also suitable for creating an image of a disc type not supported by the connected recorder. For example, you can therefore create a DVD image without having installed a DVD recorder. You can then write the image to a disc at any time.

To create a data disc, proceed as follows:

1. Select the desired disc format (**CD**, **DVD**, **Blu-ray**) from the drop-down menu in the **New Compilation** window. (In the case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)
 - The selection list shows the compilation types that can be burned.

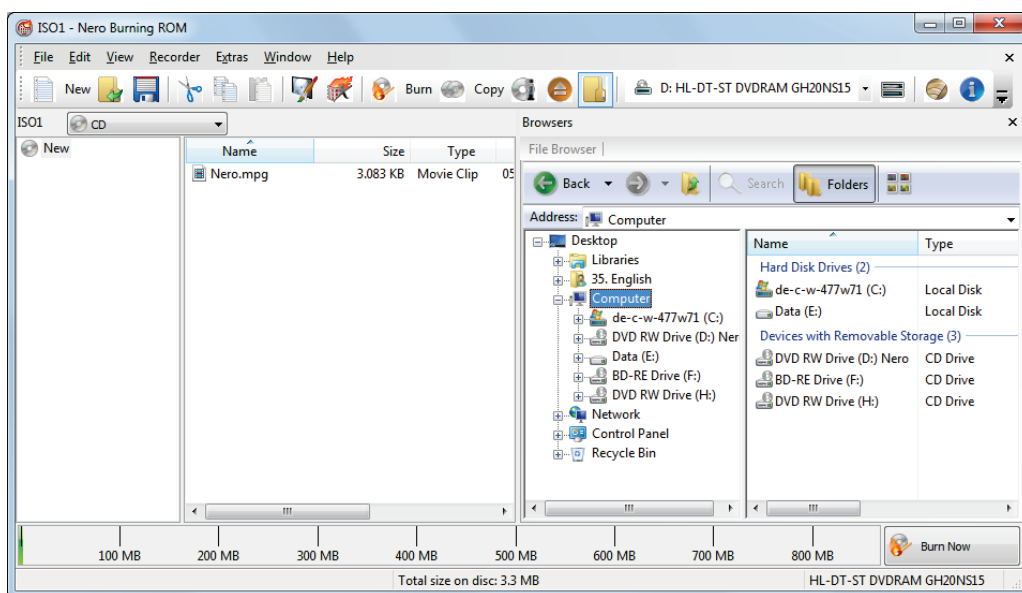


New Compilation Window



You can select an appropriate disc format without loss of information at any time in the main screen. Note that this has to be technically possible - for example you are obliged to burn an Audio CD to a CD. But it is possible to start with a data CD and change later to a data DVD, for example. The possibility to change the disc type is useful when starting a compilation without knowing how much space is required by the files.

2. Select the desired compilation type for a data disc from the selection list (**CD/DVD-ROM/Blu-ray Disc (ISO)**, **CD/DVD-ROM/Blu-ray Disc (UDF)**, or **CD/DVD-ROM/Blu-ray Disc (UDF/ISO)**).
 - The tabs with the configuration options that are valid for this compilation type are displayed.
3. Set the options you require on the tabs.
4. Click the **New** button.
 - The **New Compilation** window is closed and the selection screen is displayed.



Compilation screen

5. Select the files/folders that you want to burn from the browser area.
6. Drag the required files/folders into the compilation area on the left side.
 - The files are added to the compilation and displayed in the compilation screen. The capacity bar indicates how much space is required on the disc.



In Nero Burning ROM, there is the option of defining filters for individual files or folders by dragging files or folders into the compilation areas with the depressed right mouse button. For instance, it is possible to filter for a particular type of file (*.doc, *.xls, *.txt) or select which type of file is not to be taken up in the compilation area.



It is very easy to hide files in data compilations for additional protection or for security reasons so that they do not appear on the normal display. The files behave in the same way as other hidden system files that are hidden by default, but can easily be displayed. To hide files, right-click the required file, select the **Properties** option and then select the **Hide** check box.



Nero Burning ROM supports virtual search folders in the Windows Vista operating system. The search is selected by dragging it into the compilation area. If you want to select the files of the search folder, you must open the search folder and drag the files into the compilation.

7. Repeat the previous step for all files that you want to add.

➔ You have successfully compiled a data disc and can now burn this compilation.

See also

 [Selection Screen](#) → 16

4.1.1 Defining Options

4.1.1.1 Multisession Settings

The **Multisession** tab provides the option to create multisession discs for data discs. Multisession discs can be burned in multiple sessions until you have reached the maximum disc capacity. A session is a self-contained data area that is burned using a single process, and consists of a lead-in (with the table of contents), one or more tracks, and a lead-out. Discs without the multisession option, e.g. Audio CDs, are burned in a single session.

If a new multisession disc is being started, Nero Burning ROM also saves (if possible) the point of origin for the files. This information is used when continuing the multisession disc.

If a multisession disc is being continued, Nero Burning ROM automatically sets a cross reference to the imported session, i.e. the table of contents for the imported session is copied to the table of contents for the current session. You must define which session is being imported at the start of the burn process. The files in the previous sessions are retained and continue to take up space.

In this case Nero Burning ROM automatically verifies whether the correct multisession disc has been inserted for continuation. If not, the disc is ejected.

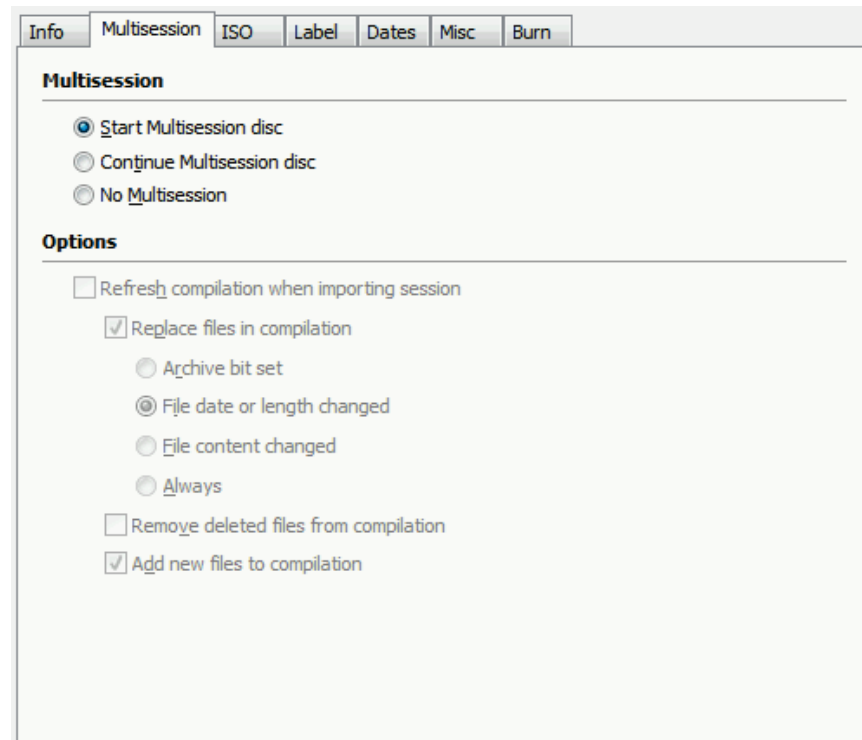


If you disable the **Finalize disc** check box on the **Burn** tab, you can always burn additional sessions on the disc, but then only the last session will be visible and you will only be able to access data from the final session.



Multisession disc

Multisession discs are particularly suitable for backing up important files burned on a regular basis.



Multisession Tab

The following configuration options are available on the **Multisession** tab in the **Multisession** area:

| | |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Option button Start Multisession disc | Burns the selected compilation in one session to the disc. If the disc already contains sessions, you can also select this option. Sessions are then not imported and cross references are not set. This means that only the last session will be visible and you will only be able to access data from the final session. |
| Option button Continue Multisession disc | Continues a multisession disc by burning an additional session to a disc with at least one session. Cross references to the imported session are set in the process. |
| Option button No Multisession | Creates a disc without a multisession. However, even a disc without a multisession can be continued as long as it is not fixated. Sessions are then not imported and cross references are not set. This means that only the last session will be visible and you will only be able to access data from the final session. |

4.1.1.2 ISO Settings

The **ISO** tab provides options for configuring the ISO file system.

ISO 9660 is a system-independent standard. It can be read on all operating systems. The following features apply:

- Permits eight characters plus 3 characters for the file extension (Level 1) or 31 characters (Level 2) for the file name including the file extension.
- Permits eight characters for the folder name.
- Restricts the maximum directory depth to eight levels (including root folder).
- The characters A-Z, 0-9 and the underscore () are permitted.

In the **ISO** tab, in the area **Relax Restriction**, the restrictions imposed by the selected file system can be relaxed. For example, you can allow a higher path level or more than 64 characters for the Joliet name.



If the disc should be read on all operating systems, select ISO 9660 as the file system and clear all check boxes in the **Relax restrictions** area.



An advisory message appears on the **ISO** tab in the **Information** area if the disc cannot be read on all operating systems.



If the disc is to be used mainly on computers with Microsoft Windows and you want to use lowercase letters and/or foreign language characters for the file names, select **ISO 9660 + Joliet** as the file system.

The following setting options are available on the **ISO** tab in the **Data** and **File** areas:

| | |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Data mode | Selects the mode for the data. Mode 1 and Mode 2/XA are available. Newer drives can easily read Mode 1 and Mode 2/XA CDs. However, some older drives cannot read Mode 1 discs correctly. In the case that the disc is to be able to be read in any case on older drives, select the Mode 2/XA format. |
| Drop-down menu File system | Selects the file system that is used for the data. ISO 9660 only: ISO format alone is used. ISO 9660 + Joliet: ISO format is used and is enhanced by the Joliet standard. ISO 9660:1999: The latest ISO format update is used. Among other things it allows the use of 207 characters and a deeper directory depth. |
| Drop-down menu Length of file name | Defines the possible length of the file name. Level 1 and Level 2 are available. In Level 1 the file name can be eight characters long and the file name extension (e.g. *.doc) three characters. In Level 2 the file name can be 31 characters long. |

| | |
|----------------------------------------|-----------------------------------------------|
| Drop-down menu Character set | Defines the character set used for ISO names. |
|----------------------------------------|-----------------------------------------------|

4.1.1.3 UDF Settings

The **UDF** tab provides options for configuring the UDF (Universal Disc Format) file system. The UDF standard was developed by Osta (Optical Storage Technology Association) in response to the requirements of DVDs. The standard works on all platforms.

The following setting options are available in the **Options** drop-down menu:

| | |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Entry Automatic Settings | Sets options automatically for the UDF file system. We recommend that you select this entry. |
| Entry Manual Settings | Enables you to manually define the UDF partition type and the file system version. |
| Entry Enable Xbox compatibility mode | Creates a disc that is compatible with an Xbox. This entry is available if the No Multisession option button is selected on the Multisession tab. |



A disc that is compatible with Xbox cannot be created as a multisession disc.

4.2 Compiling a SecurDisc disc

SecurDisc is a technology with which you can create discs with special protection properties. No special hardware is needed.

Discs that are created with Nero Burning ROM and the SecurDisc compilation type include data integrity and reconstruction. Additional SecurDisc features include the possibility to protect the data on your disc against unauthorized access using a password, to digitally sign the disc, and to configure the data redundancy.

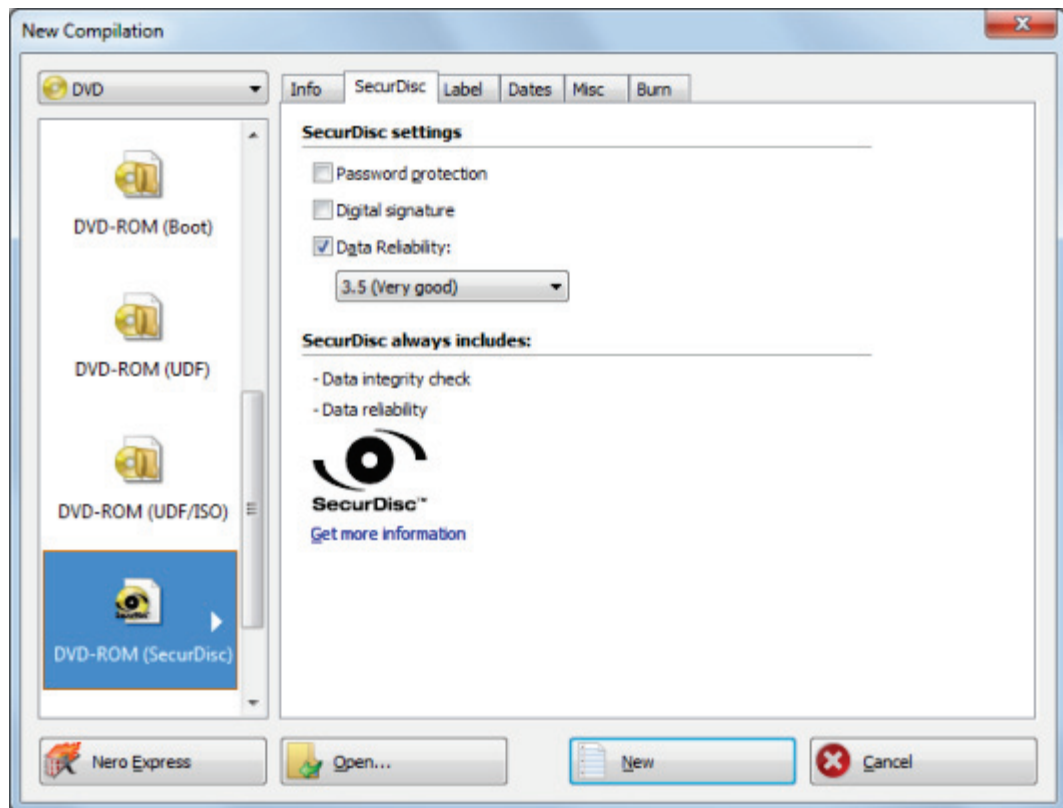
To be able to copy the protected data to your hard drive and to check the security of the data you will need a special application named Nero SecurDisc Viewer. The Nero SecurDisc Viewer is burned automatically to the SecurDisc disc and can be downloaded free of charge at www.securdisc.net or www.nero.com.



More information on SecurDisc technology can be found at www.securdisc.net.

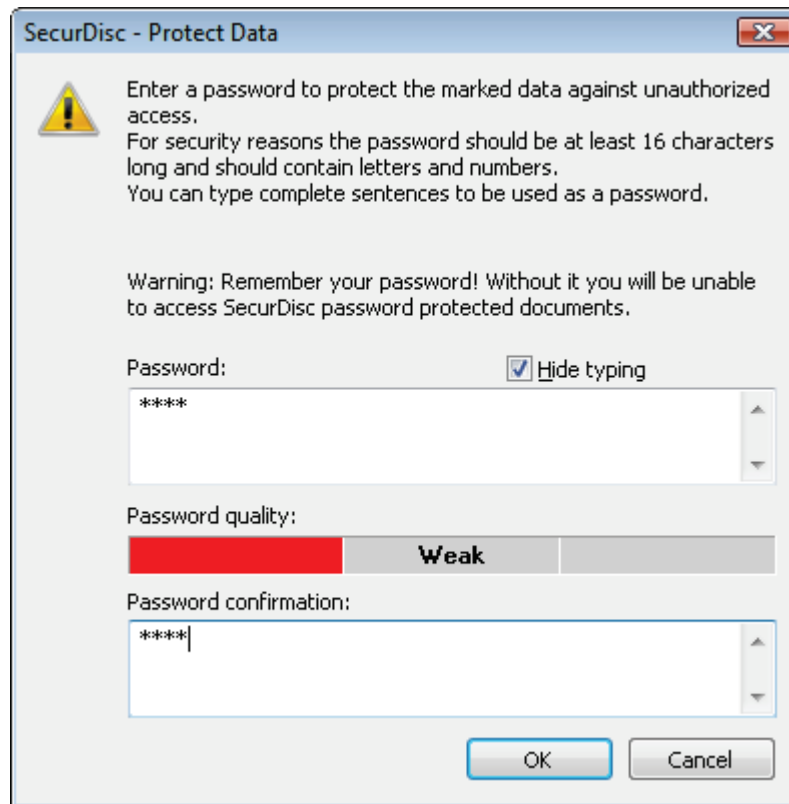
To compile a SecurDisc disc, proceed as follows:

1. Select the desired disc format (**CD, DVD, Blu-ray**) from the drop-down menu in the **New Compilation** window. (In the case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)
 - The selection list shows the compilation types that can be burned.
2. Select the desired compilation type for a SecurDisc from the selection list.
 - The tabs with the configuration options that are valid for this compilation type are displayed.



SecurDisc Compilation

3. If you want to enable the password protection for all files:
 1. Enable the **Password protection** check box on the **SecurDisc** tab.
 - The **SecurDisc – Protect Data** window is opened.

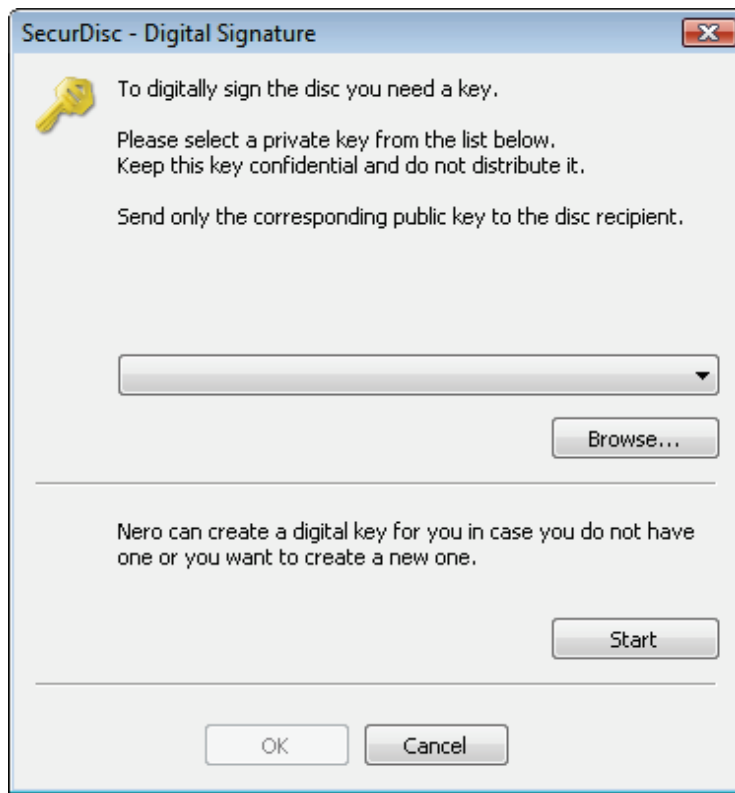


2. Enter the desired password in the **Password** input area and then click the **OK** button.



When appropriate, a wizard offers suggestions in an additional **Tips** dialog box when entering and selecting the password. The wizard estimates the security level, i.e. the quality of the password, during entry.

4. If you want to sign the disc with a digital signature:
 1. Select the **Digital signature** check box on the **SecurDisc** tab.
 - The **SecurDisc – Digital Signature** window is opened.



2. If you have already created a digital key, click the **Browse** button and select the key.
3. If you want to create a digital key, click the **Start** button.
 - The **SecurDisc – Create Digital Key** window is opened.
4. Read the instructions and click the **Next** button.
 - The **SecurDisc Key Creation Process** window is opened.
5. Move your mouse at random until the creation process is complete.
 - You can monitor the status of the creation process using the progress bar. The **Next** button is enabled as soon as the process is complete.
6. Click the **Next** button.
 - The **SecurDisc – Key Creation Completed** window is opened.
7. Enter a file name for the key you have created and click the **Finish** button.
 - The **SecurDisc – Digital Signature** window is opened again and the selected key appears in the drop-down menu.
8. Click the **OK** button.
 - The corresponding window is opened to inform you that the disc is being digitally signed with the selected key.
9. Click the **OK** button.



You can pass on the relevant public key to recipients to enable them to verify the signature.

5. If you want to enhance the burning speed by limiting the data redundancy or to configure the data redundancy:

1. Select the **Data redundancy** check box on the **SecurDisc** tab.
→ The drop-down menu is enabled.
2. Select the desired redundancy level.



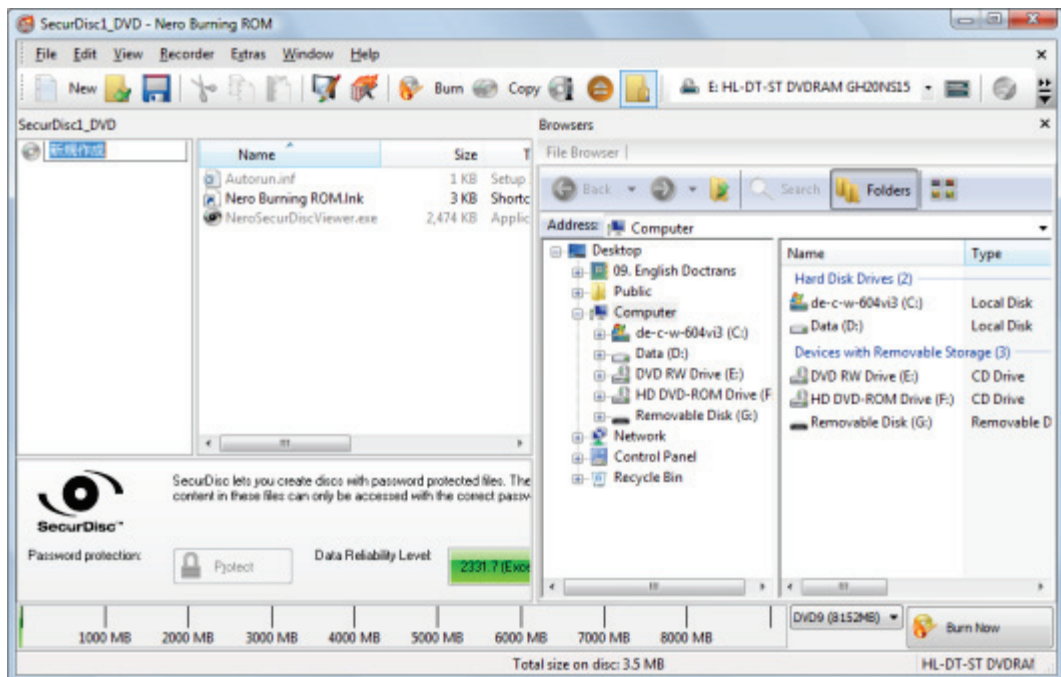
If the **Data redundancy** check box is disabled, the disc will be filled completely with copies of the chosen data and checksums. A display panel in the compilation screen indicates the current redundancy level.



A redundancy level of 1,3 means no redundancy and a redundancy level of 9 means excellent redundancy.
We recommend a redundancy level of at least 2,5.

6. Click the **New** button.

→ The **New Compilation** window is closed and the selection screen is displayed.



SecurDisc Selection Screen

7. Select the files/folders that you want to burn from the browser area.

8. Drag the required files/folders into the compilation area on the left side.

→ The files are added to the compilation and displayed in the compilation screen. The capacity bar indicates how much space is required on the disc.



You can selectively enable the password protection for individual files by marking the desired file in the compilation screen and clicking the **Protect** button.

9. Repeat the previous step for all files that you want to add.

→ You have compiled a SecurDisc disc with settings according to your requirements and can now burn the disc.

See also

 [About Nero SecurDisc Viewer → 100](#)

4.3 Nero DiscSpan (UDF) Compilation and Nero DiscMerge Tool

With Nero Burning ROM you can compile and burn all types of files and folders to multiple discs. The **DiscSpan (UDF)** compilation type is useful when the data to be burned is too large to fit on a single disc or when a single file exceeds the capacity of a disc. Nero Burning ROM splits such files automatically and distributes them dynamically among several discs.

The number of discs to be used is shown in the compilation screen and you can switch the disc type here. However, during the burn process you are allowed to alternate the disc types (CD, DVD, Blu-ray Disc) regardless of which disc type you chose at the beginning.

The restore tool Nero DiscMerge and a file catalog is burned on the last disc of the set by Nero Burning ROM. With this tool the split files can be merged together and copied to the hard drive. Files that are not split can of course be accessed without the help of Nero DiscMerge.

4.3.1 Creating Multiple Discs with Nero DiscSpan

With Nero Burning ROM you can compile and burn all types of files and folders to multiple discs. Files that exceed a certain file size are split if this is necessary to fill up a disc space. Files in general are distributed dynamically among several discs.

The number of discs to be used is shown in the compilation screen and you can switch the disc type here.



The Image Recorder is also suitable for creating an image of a disc type not supported by the connected recorder. For example, you can therefore create a DVD image without having installed a DVD recorder. You can then write the image to a disc at any time.

To create a DiscSpan compilation, proceed as follows:

1. Select the desired disc format (**CD, DVD, Blu-ray**) from the drop-down menu in the **New Compilation** window. (In case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)

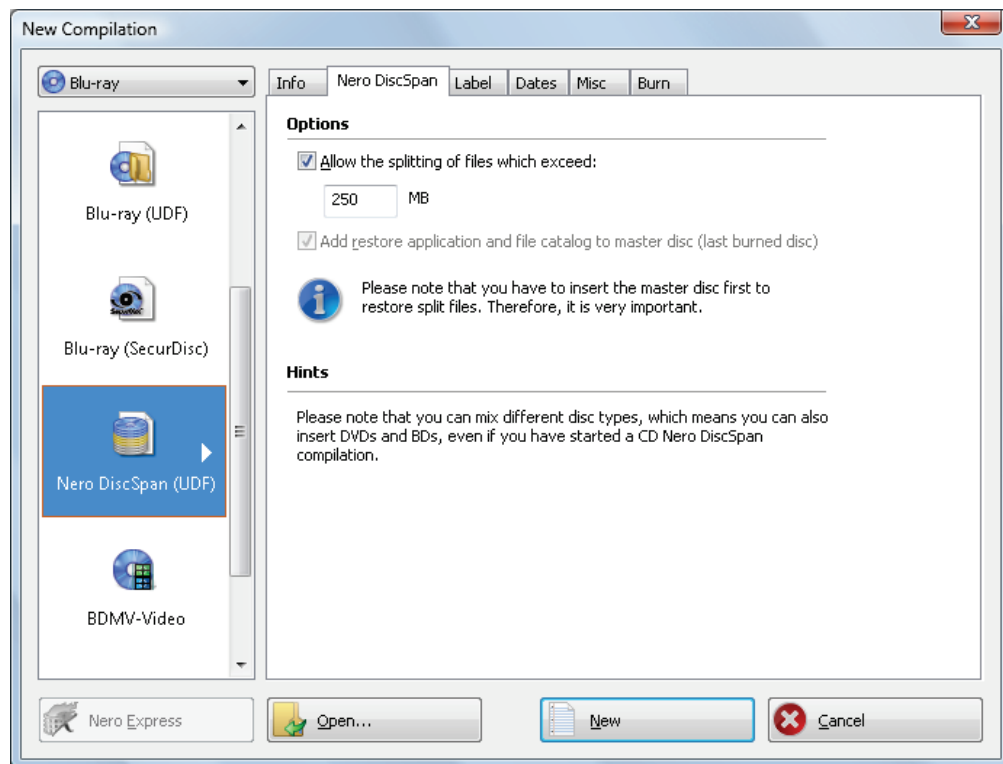
→ The selection list shows the compilation types that can be burned.



You can select an appropriate disc format without loss of information at any time in the main screen. Note that this has to be technically possible - for example you are obliged to burn an Audio CD to a CD. But it is possible to start with a data CD and change later to a data DVD, for example. The possibility to change the disc type is useful when starting a compilation without knowing how much space is required by the files.

2. Select the **DiscSpan (UDF)** compilation type from the selection list.

→ The tabs with the configuration options that are valid for this compilation type are displayed.

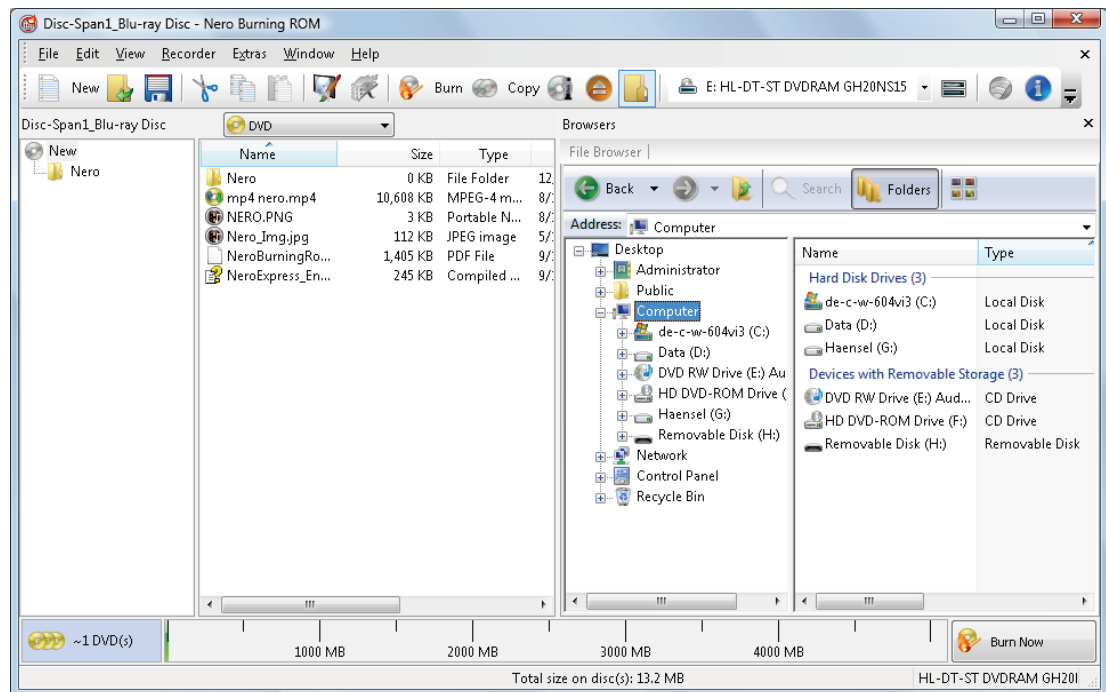


New Compilation - DiscSpan (UDF)

3. Set the options you require on the tabs.

4. Click the **New** button.

→ The **New Compilation** window is closed and the selection screen is displayed.



Selection Screen - DiscSpan (UDF)

5. Select the files/folders that you want to burn from the browser area.
6. Drag the required files/folders into the compilation area on the left side.
 - The files are added to the compilation and displayed in the compilation screen. The capacity bar indicates how much space is required by the DiscSpan compilation. On the left an info field indicates how much discs will be burned.



In Nero Burning ROM, there is the option of defining filters for individual files or folders by dragging files or folders into the compilation areas with the depressed right mouse button. For instance, it is possible to filter for a particular type of file (*.doc, *.xls, *.txt) or select which type of file is not to be taken up in the compilation area.



It is very easy to hide files in data compilations for additional protection or for security reasons so that they do not appear on the normal display. The files behave in the same way as other hidden system files that are hidden by default, but can easily be displayed. To hide files, right-click the required file, select the **Properties** option and then select the **Hide** check box.

7. If required, you can change the disc type.
 - You have successfully compiled a data disc and can now burn this compilation. During the burn process you will be prompted to insert a new disc whenever needed. You are allowed to alternate the disc types (CD, DVD, Blu-ray Disc) regardless of which disc type you chose at the beginning. Files will be distributed dynamically among several discs.

4.3.2 Remerge and Copy Data with Nero DiscMerge

With Nero DiscMerge you can merge split files and folders that had been burned on multiple discs using the **DiscSpan (UDF)** compilation type. The content of the discs is copied on the hard drive during this process. You can exclude individual files from the copy process or select specific files to be copied.

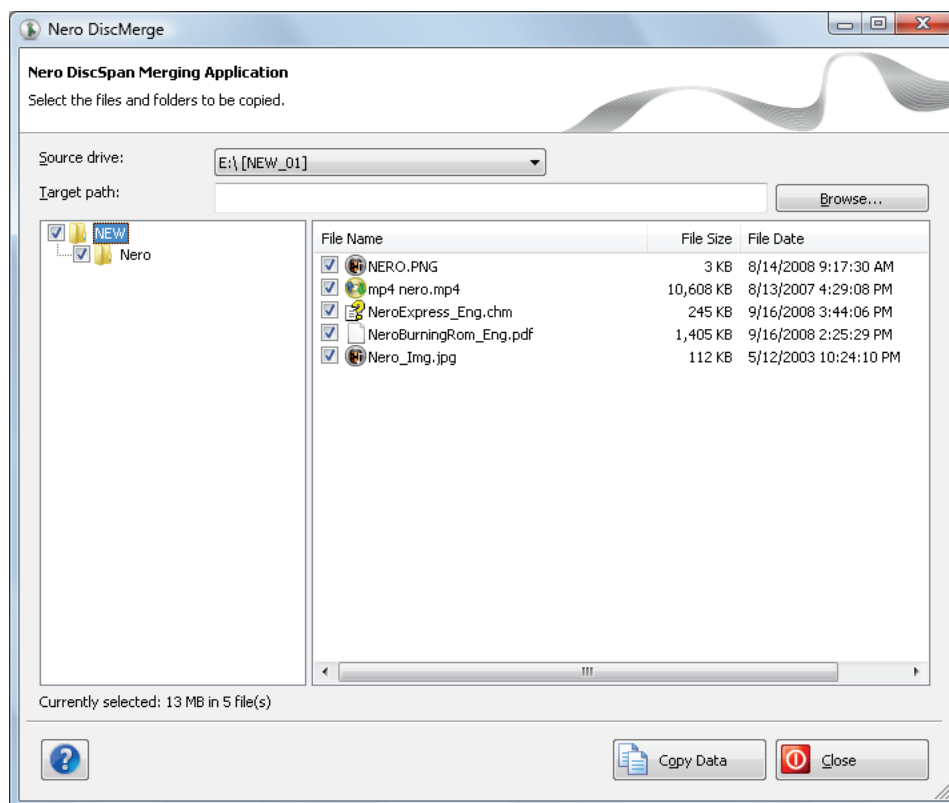
The tool **Nero DiscMerge** was burned on the last disc of the set - the so called Master Disc - by Nero Burning ROM.



Under Windows Vista and Windows 7 you need administrator rights to save the files to secure folders such as C:\Program files. Therefore, a User Account Control message asking for administrator rights may appear with these operating systems.

To restore the data of DiscSpan discs, proceed as follows:

1. Insert the Master Disc - the last burned disc - into a drive.
 - **Nero DiscMerge** starts automatically. The content, i.e. folder structure and files, of the DiscSpan disc set is displayed.

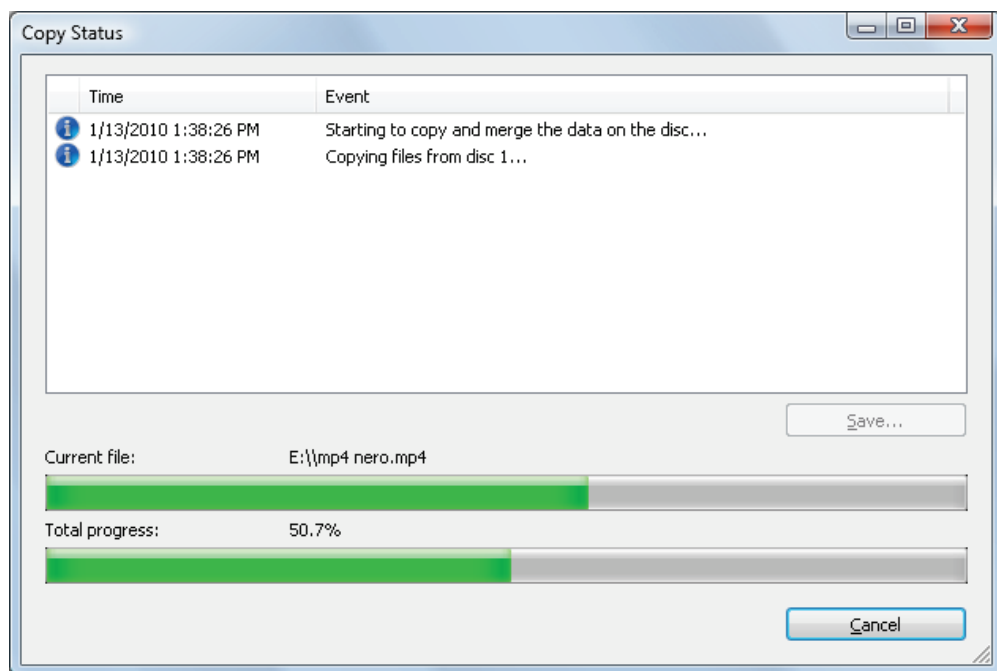


Nero DiscMerge



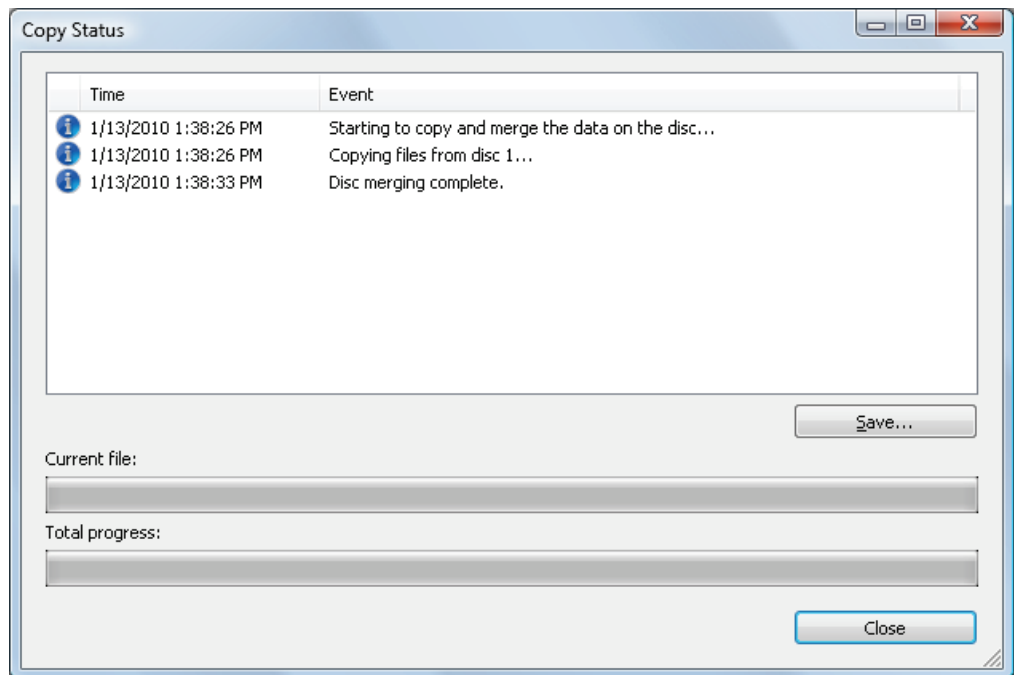
If the program does not start automatically, select the drive with the disc in Windows Explorer. You can start Nero DiscMerge manually by double-clicking the **NeroDiscMerge.exe** file in the **\$Nero\$** folder.

2. Select the copy target in the **Target path** input field by clicking the **Browse** button.
3. Select the check box preceding the folder or the file that you want to copy. Select a folder in the left to show the contained files in the right.
4. Click the **Copy Data** button.
 - The **Copy Status** window is opened.
 - A message window is opened prompting for the first burned disc.
5. Remove the current disc and insert the first burned disc into the drive.
 - The message window is closed and the copy process is started. Split files are merged together. Information about the current step is displayed in the information area. A process bar indicates the progress being made. When the content of this disc is completely copied, then the disc is ejected. The message window is opened again prompting for the next disc.



Copy Status

6. Insert each disc of the set in chronological burning order.
 - Once the copy and merging process is complete, the message "Disc merging complete" is displayed in the information area. The **Cancel** button changes to **Close**.



Copy Status - complete

7. Click the **Close** button.
 - The **Copy Status** window is closed.
8. Click the **Close** button.
 - Nero DiscMerge is closed.
 - You have successfully copied the content of multiple DiscSpan discs to your hard drive.

4.4 Check Point Media Encryption CD/DVD

With Nero Burning ROM and Check Point Media Encryption you can create discs with special encryption security protection.



This feature is only available if all of the following requirements are fulfilled:

- (1) Check Point Endpoint Security Media Encryption, version R73 or later, is installed on your computer.
- (2) You are allowed to create Check Point Media Encryption CD/DVDs.
- (3) You have a special serial number.

The procedure for compiling and burning a Check Point Media Encryption disc is basically the same as the procedure for compiling and burning data discs. Be sure to select the **CD/DVD-ROM (Check Point)** entry in the **New Compilation** window.

When starting the burn process, a window, which originates from Check Point Media Encryption, will be opened. After entering security information, e.g. a password for encryption as defined in your Check Point Media Encryption settings, Check Point Media Encryption then

encrypts the data. When the encryption is finished, the window is closed and Nero Burning ROM continues the burn process. Depending on your Check Point Media Encryption settings, a decryption tool is burned on the disc, allowing another user, who does not have Check Point Media Encryption, to access to the data by entering the password.



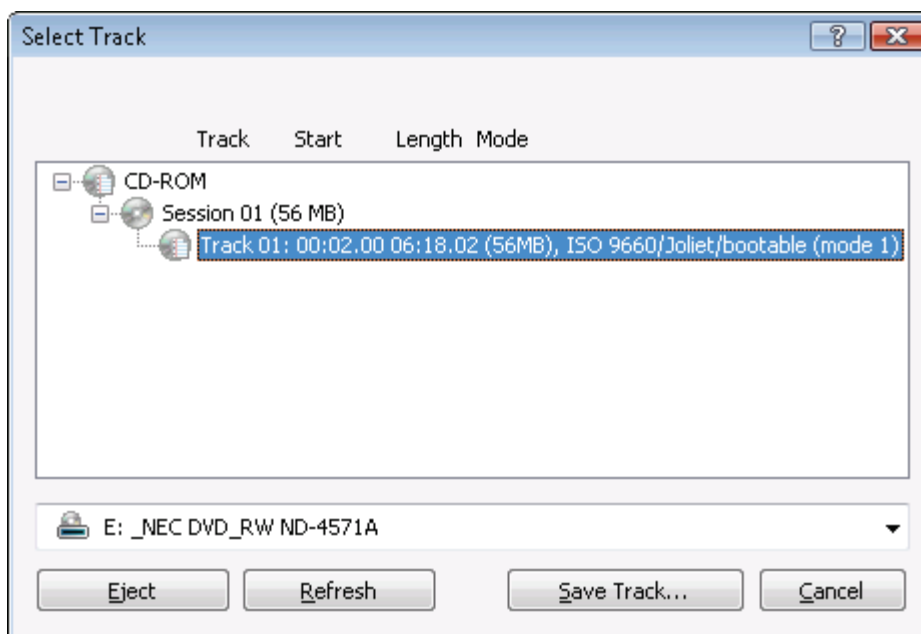
The encryption of the data does not take place in Nero Burning ROM. Nero AG is not responsible for the data encryption and the decryption tool. These features are provided by Check Point Software Technologies.

4.5 Saving Data Track

With Nero Burning ROM you can save a data disc as an image file. The image file can later be burned to a recordable disc. The result is a copy of the original data disc.

To save the data disc as an image file, proceed as follows:

1. Insert the data disc in a drive.
2. Click the **Extras** > **Save data tracks** menu.
 - The **Select Track** window is opened. The tracklist shows you the sessions and data tracks that are found on the disc. Due to the technical reasons, only the first data track of the first session can be saved.



Select Track

3. Select the first data track.
4. Click the **Save Track** button.
 - The **Save As** window is opened.

- 5.** Select a file name and a storage location.
- 6.** In the **Save As** drop-down menu, select the desired output format (ISO or NRG) for the image file.
- 7.** Click the **Start** button.
 - The **Progress** window is opened and displays the progress made while saving. When the save process is complete, the window is closed automatically.
 - You have successfully created an image file starting from a data disc. Now you can burn the image file to a disc.

5 Audio CD and Audio Files

5.1 Compiling Audio CDs

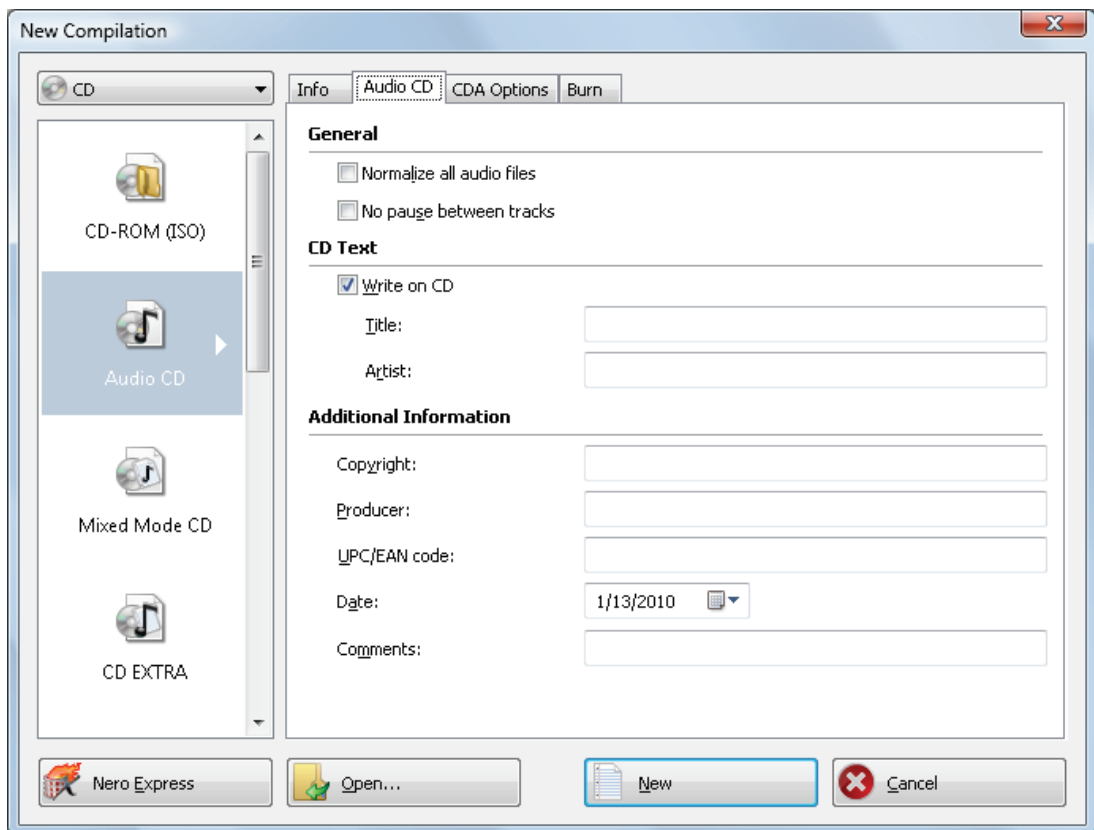
Using Nero Burning ROM you can create an Audio CD that contains music files. It can be played using all standard CD players. To compile an Audio CD, source files with different audio formats are automatically converted into Audio CD format before being burned.



Some CD players cannot play CD-RWs. Use CD-R discs to burn Audio CDs.

To create an Audio CD, proceed as follows:

1. Select the **CD** entry from the drop-down menu in the **New Compilation** window. (In the case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)
2. Select the **Audio CD** compilation type from the selection list.
 - The tabs with the configuration options that are valid for this compilation type are displayed.



Audio CD

3. Set the desired options on the tabs.



Audio CDs should always be burned using the disc-at-once method. This entry is selected by default.

4. Click the **New** button.

→ The **New Compilation** window is closed and the selection screen is displayed.

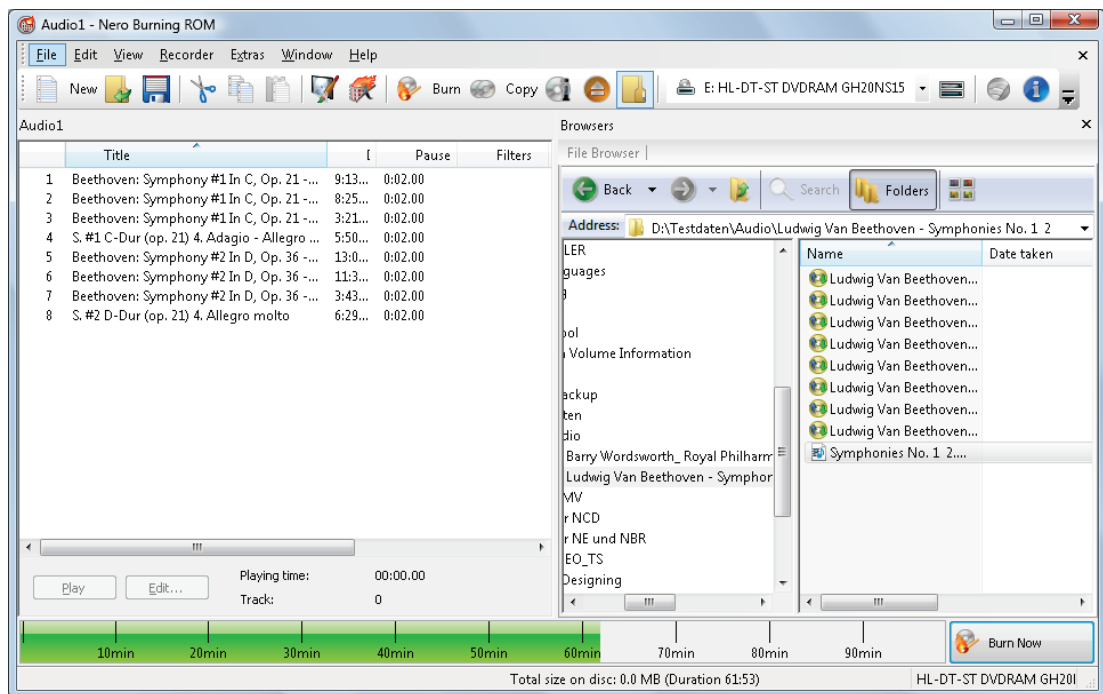
5. Select the audio files that you want to burn from the browser area on the right side. The audio file can come from the hard drive or from an Audio CD.



You can also choose an M3U playlist as a source.

6. Drag the desired audio files into the compilation area on the left side.

→ The files are added to the compilation and displayed in the compilation screen. The capacity bar indicates how much space is required on the disc.



Compilation screen - Audio CD

7. Repeat the previous step for all audio files that you want to add.

8. Customize the properties of the audio file to suit your requirements.

→ You have successfully compiled an Audio CD and can now burn this compilation.

See also

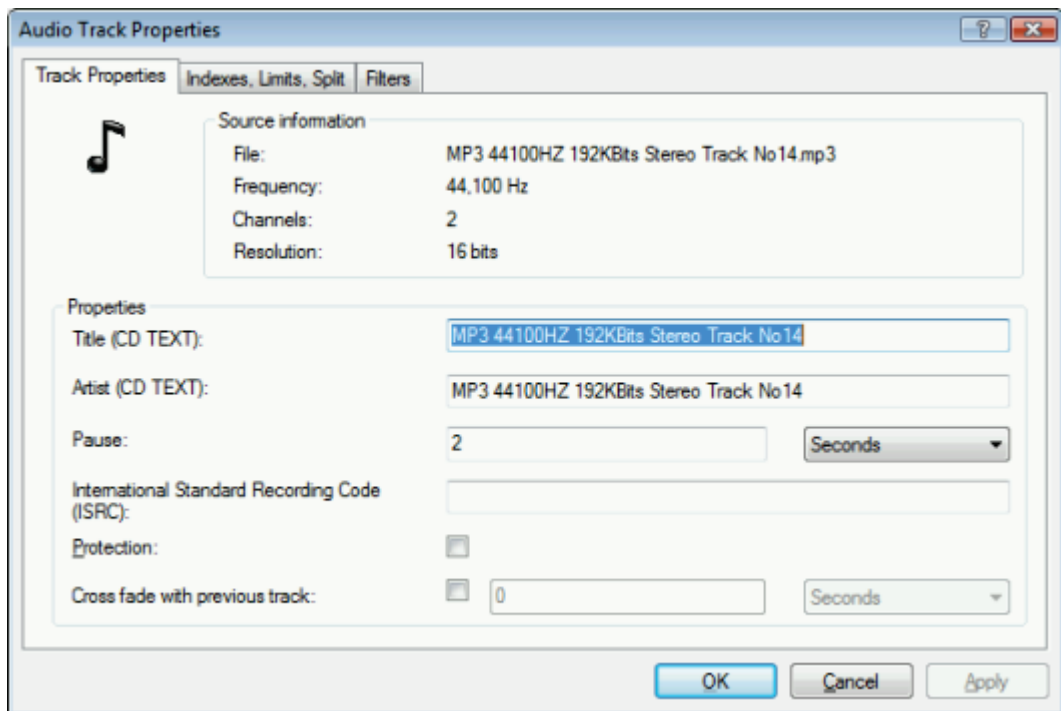
 [Selection Screen](#) → 16

5.1.1 Customizing Properties of the Audio File

You can display and/or make changes to the audio file properties on the **Track Properties**, **Indexes, Limits, Splits** and **Filters** tabs of the **Audio Track Properties** window. To open the window, mark an audio file in the compilation screen for Audio CDs and click the **Properties** button.

5.1.1.1 Track Properties Tab

On the **Track Properties** tab you will find basic information on the selected file in the **Source information** area. To open the window, mark an audio file in the compilation screen for Audio CDs and click the **Properties** button.



Track properties

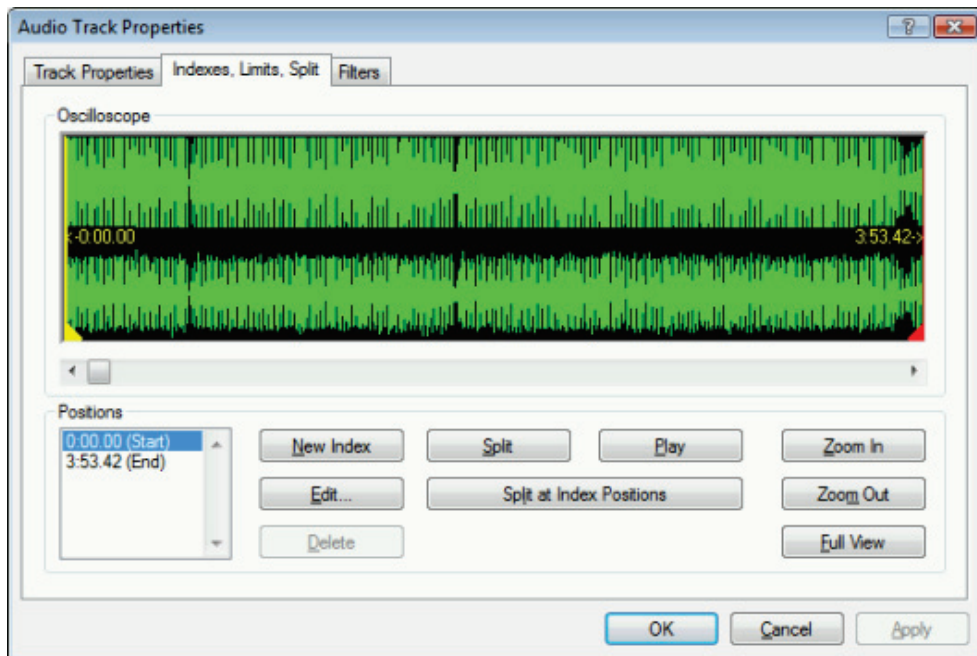
The following input areas are available in the **Properties** area:

| | |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Input field Title (CD Text)</p> | <p>Defines a title which is saved as CD Text. CD players that support CD Text show the title name entered here. Only Latin characters can be displayed as CD Text. CD Text can only be written in disc-at-once mode.</p> |
| <p>Input field Artist (CD Text)</p> | <p>Defines the artist which is saved as CD Text. CD players that support CD Text show the artist's name entered here.</p> |

| | |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Only Latin characters can be displayed as CD Text. CD Text can only be written in disc-at-once mode. |
| Input field Pause | Defines the length of the pause in seconds or frames between the selected audio file and the next one. |
| Input field International Standard Recording Code (ISRC) | Identifies the CD title using a 12-character digital code. The ISRC is entered in the subcode and included silently. If you do not know the ISRC, you should leave this input field blank. |
| Check box Protection | Sets the copy protection bit for the corresponding track on the Audio CD. As most CD recording applications simply ignore this bit, copy protection cannot be ensured. A warning message will be opened in Nero Burning ROM while copying an Audio CD with copy protected tracks. |
| Check box Cross fade with previous track | Defines a crossfade between this and the previous audio file. You can specify the length of the crossfade in seconds or in sectors. |

5.1.1.2 Indexes, Limits, Split Tab

On the **Indexes, Limits, Split** tab you can set and delete indexes and split audio files to create two or more shorter ones. The tab consists of the **Oscilloscope** and **Positions** areas.



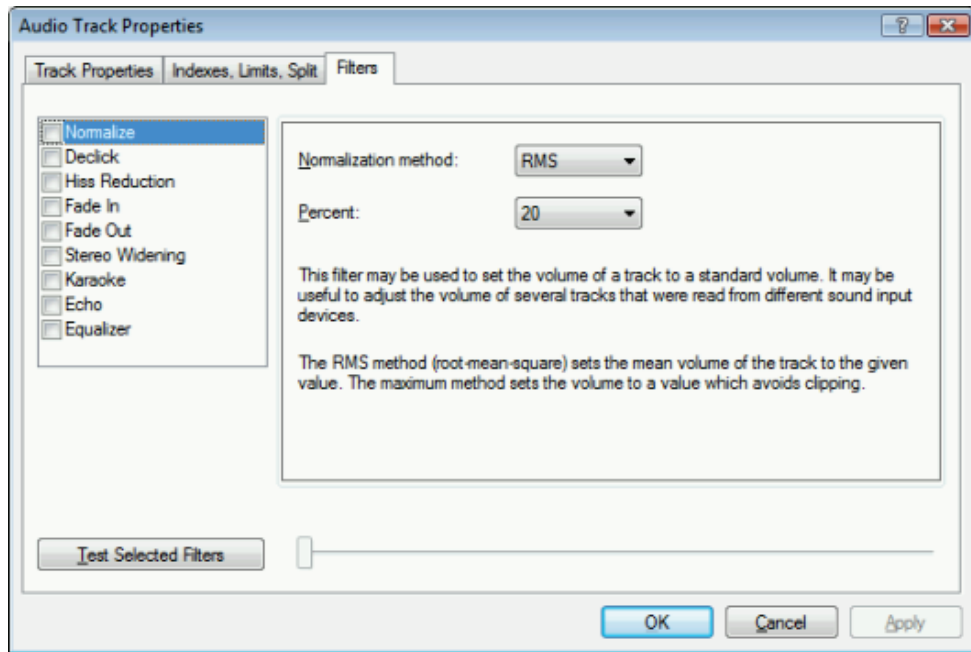
Indexes, Limits, Split Tab

Audio files are displayed graphically in the **Oscilloscope** area. The following configuration options are available in the **Positions** area:

| | |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Selection lists Start/End | Shows the positions for the beginning and end of the audio file on the CD. |
| Button New Index | Sets a new index position at the selected position. For the CD player this is the position from which a new song starts, and the player can also jump to it directly. However, not all CD players support this feature. |
| Button Edit | Opens the Set Track End dialog box. You can enter the exact position of a split. |
| Button Delete | Deletes a selected index. |
| Button Split | Splits the audio file at the marked position. |
| Button Play | Plays the audio file from the marked position. During playback, the Stop playing button is displayed. |
| Button Stop playing | Stops playback of the audio file. If playback is stopped, the Play button is displayed again. |
| Button Split at Index Positions | Splits the audio file at the set index positions. |
| Button Zoom In | Enlarges the graphical representation of the audio file. |
| Button Zoom Out | Reduces the graphical representation of the audio file. |
| Button Full View | Displays a graphical representation of the entire audio file. |

5.1.1.3 Filters Tab

The **Filters** tab includes filters that improve or change the quality of the music. The so-called non-destructive procedure is used for processing, i.e. the actual recording is not changed, but flags are simply set that can be canceled at any time. No additional audio data is created. The audio files on hard drive are not modified during this procedure.



Audio Track Properties window, Filters tab

The following configuration options are available in the **Audio Track Properties** window:

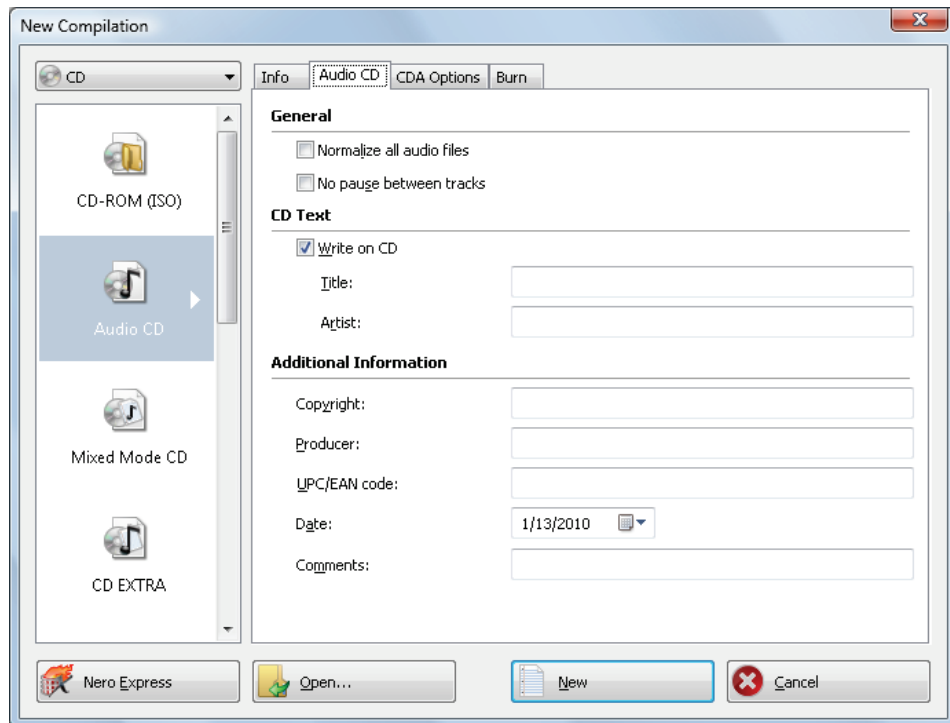
| | |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Normalize | Sets the volume of an audio file to a preset value. This filter can be useful to bring the volume of files originating from different sources into line with one another. |
| Check box Declick | Removes clicking and scratching noises, such as those on old LPs for example. |
| Check box Hiss Reduction | Reduces or removes the hiss on an audio file. All frequencies below a certain threshold (hiss level) are removed. |
| Check box Fade In | Fades in the volume of an audio file from zero to full volume. This filter can be useful for shortening files. |
| Check box Fade Out | Fades out the volume of an audio file from full volume to silence. This filter can be useful for shortening files. |
| Check box Stereo Widening | Increases/reduces the stereo effect of an audio file. This filter only works if the original file was recorded in stereo. |
| Check box Karaoke | Fades out the vocals on an audio file. This is done by fading out the parts of a song that are the same in both stereo channels. |
| Check box Echo | Adds an echo to the audio file. |

| | |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box Equalizer</p> | <p>Opens an equalizer so you can change the volume, bass, and pitch in different frequency ranges.</p> |
| <p>Button Test Selected Filters</p> | <p>Plays the audio file and applies the activated filters. During playback, the configuration options for the filters can be changed, allowing the effect to be controlled.</p> |

5.1.2 Defining Options

5.1.2.1 Audio CD Settings

The **Audio CD** tab provides options for setting the Audio CD.



Audio CD Tab

The following configuration options are available on the **Audio CD** tab in the **General** area:

| | |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box Normalize all audio files</p> | <p>Enables a filter that brings the volume of the audio files to be burned into line with one another. This is particularly recommended if the audio files originate from different sources.</p> |
| <p>Check box No pause between tracks</p> | <p>Allows the audio files to merge into one another on the Audio CD without a pause (just like in live recordings). If the check box is cleared, there are pauses of two seconds between the audio files.</p> |

| | |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | We strongly recommend using the disc-at-once mode. Otherwise the zero pause length may not be supported by all recorders and/or a very short clicking noise may be heard between tracks. |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The following configuration options are available in the **CD Text** area:

| | |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Write on CD | Enables the option for writing CD Text. With CD players that support CD Text, the title of the CD, the name of the audio file as well as the name of the artist appear in the display. CD Text can only be written in disc-at-once mode. |
| Input field Title | Defines the label of the Audio CD. |
| Input field Artist | Defines the artist. |

You can also enter additional information about the Audio CD such as the producer or comments.

5.1.2.2 CDA Settings

The **CDA Options** tab provides options for configuring CD-DA files on the Audio CD. The **CDA file strategy** area allows you to select the strategy that Nero Burning ROM should use for handling selected audio files from a source Audio CD. In general there are two methods:

- Read the audio file and store it in the cache temporarily. The Audio CD can be burned in disc-at-once mode, which supports CD Text.
- Create a reference to the audio file and read it shortly before burning (track reference). The Audio CD can only be burned in track-at-once mode.



To add tracks from a source Audio CD to your audio compilation, we generally recommend the following alternative:

Rip the source Audio CD to hard drive (see [Copy Audio CD to Hard Drive](#) → 48). Ideally, save the tracks in the lossless FLAC format. Then proceed by adding the audio files to the audio compilation.

The following setting options are available on the **CDA Options** tab in the **CDA File Strategy** area:

| | |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop down menu entry Diskspace strategy | Saves the audio files temporarily to the Nero Burning ROM cache. If there is no space available, a reference is created to the audio file and is not read until shortly before burning. This entry is selected by default. |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu entry Tempfile strategy | Saves the audio files temporarily to the Nero Burning ROM cache. If there is no space available, an error message appears. |
| Drop-down menu entry Reference strategy | Creates a reference to the audio file and reads it shortly before burning. The source medium can only be a CD/DVD drive, not a recorder. The disc can only be burned in track-at-once mode. |
| Drop-down menu entry Device dependent strategy | Creates a reference to the audio file if a CD/DVD drive is available. Otherwise the tempfile strategy is used. |
| Button Info | Displays more detailed information on the CDA file strategy. |

The following setting options are available on the **CDA Options** tab in the **Drive** area:

| | |
|--------------------------------------------------------------|---------------------------------------------------|
| Selection list Drive | Lists recognized drives and burners. |
| Drop-down menu Read speed | Selects the speed at which the CD is read. |
| Check box Cache track on hard drive before burning | Saves the audio file in the cache before burning. |

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

| | |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Remove pause at the end of audio tracks | Removes silence at the end of individual audio files, i.e. music tracks transition smoothly from one to the next. This check box is selected by default. To avoid unwanted effects set the pause length to 0 when clearing this check box (to set the pause length see Track Properties Tab → 39). |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

5.2 Mixed Mode CD and CD EXTRA

With Nero Burning ROM you can compile CDs that include both audio and data files.




The following compilation methods are available:

- Mixed Mode CD
- CD EXTRA

A Mixed Mode CD includes the data and the audio files in one session. CD EXTRA includes the audio files in the first session and the data files in the second session.

The procedure for compiling the audio and data files is basically the same as the procedure for compiling data or music CDs. Please be sure to select the corresponding entry in the **New Compilation** window. The selection screen includes a compilation area for audio files and one for data files. The compilation can only be burned if files have been added to both the audio and the data compilation area.

See also

-  [Selection Screen → 16](#)
-  [Compiling Audio CDs → 37](#)
-  [Compiling Data Disc → 19](#)

5.2.1 CD-Extra Settings

The **CD EXTRA** tab provides configuration options for albums.

The following information is available in the **Info** area:

| | |
|-----------------------|------------------------------------------|
| Display panels | Displays information on the compilation. |
|-----------------------|------------------------------------------|

The following configuration options are available in the **Album** area:

| | |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Input field Album identification | Defines a name for the album. This is particularly useful when the album is to comprise several CDs. |
| Input field Number of volumes in album | Defines the number of discs that the compilation should contain. |
| Input field Album sequence number | Defines the album number of the current disc. |
| Button Pictures | Opens the CD EXTRA Pictures window where you can select the pictures for the front and flipside of the CD and define the picture format. |

The following configuration options are available in the **Localization** area:

| | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Display panel Languages | Displays available languages. When you select a language, you can add the title for the album in the Album title text box. Each language can contain a different title. |
| Button Add | Opens the New Language window where you can select a new language from a country list. |

| | |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| Button Delete | Deletes the selected language. |
| Input field Album Title | Adds an album title to the language highlighted in the Languages selection list. |

5.3 Automatic Music Recognition

With Gracenote MusicID Nero Burning ROM can identify music files. So called metadata such as artist, title, and genre are accessed from the Gracenote Media Database and displayed in Nero Burning ROM. The identified metadata is written to the music file and is then available.

Identification is possible for single audio files as well as complete original Audio CDs.

If the metadata of the Audio CD is not yet included in the database then you can enter it and make it available. The metadata is sent to Gracenote and added into the database.

With Gracenote you can have audio files identified out of any sort of audio compilation. This is particularly useful when audio files are not named or are only partially named. The metadata that is made available by Gracenote is used for the compilation and is written into the audio files. In this way your music collection is correctly tagged with all information.

During the following actions, original Audio CDs can be automatically identified in Nero Burning ROM with Gracenote MusicID.

- Copying Audio CD
- Saving Tracks from the Audio CD to Hard Drive



Music recognition technology and related data are provided by Gracenote®. Gracenote is the industry standard in music recognition technology and related content delivery. For more information, please visit www.gracenote.com.

5.3.1 Identifying Audio Files

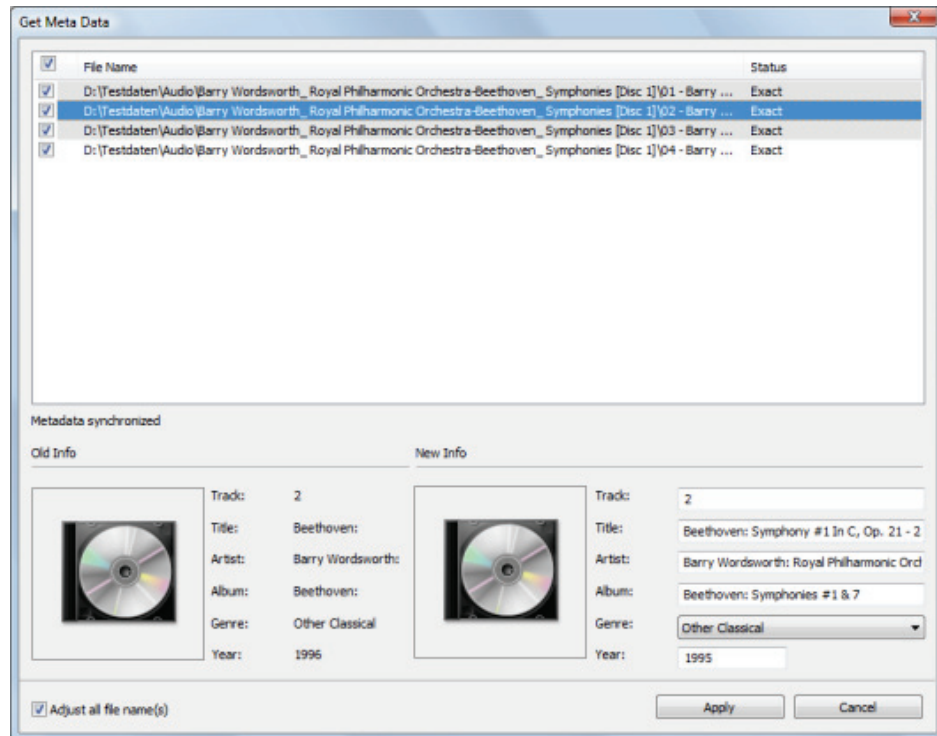
You can have the added audio files in the music compilations identified with Gracenote and access metadata such as artist and title from the Gracenote Media Database.

To do this, proceed as follows:

- 1.** Select the type of compilation to burn a music CD.
 - The compilation screen is displayed.
- 2.** Add audio files from the hard drive to the music compilation.
- 3.** Select one or more audio files in the compilation.
- 4.** Right-click to open the context menu.

5. Select the **Get Meta Data** entry.

- The audio files are analyzed and the required information is sent to Gracenote. The **Edit Meta Data** window is opened. The metadata received by Gracenote is displayed in the **New Info** area.



Edit Meta Data window

6. If necessary, edit the metadata, e.g. track number, title, artist, album title, year, and genre.

7. Click the **Apply** button.

- The **Edit Meta Data** window is closed.
- The metadata is written into the audio file and accordingly shown in Nero Burning ROM. If the **Adjust all file name(s)** check box is selected, the file on hard disk is renamed accordingly (if technically possible).

5.4 Copy Audio CDs to Hard Drive

With Nero Burning ROM you can save audio files from an Audio CD to the hard drive. In the process, the files are encoded, i.e. converted into a format that the computer can read. The audio file is usually compressed.

The Audio CD can be automatically identified with Gracenote MusicID. So called metadata such as title, genre, and track title are accessed by the Gracenote Media Database and associated to the tracks. If available, Album art is also displayed and associated to the tracks. That way you have audio files that are accurately and fully named after the encoding process.



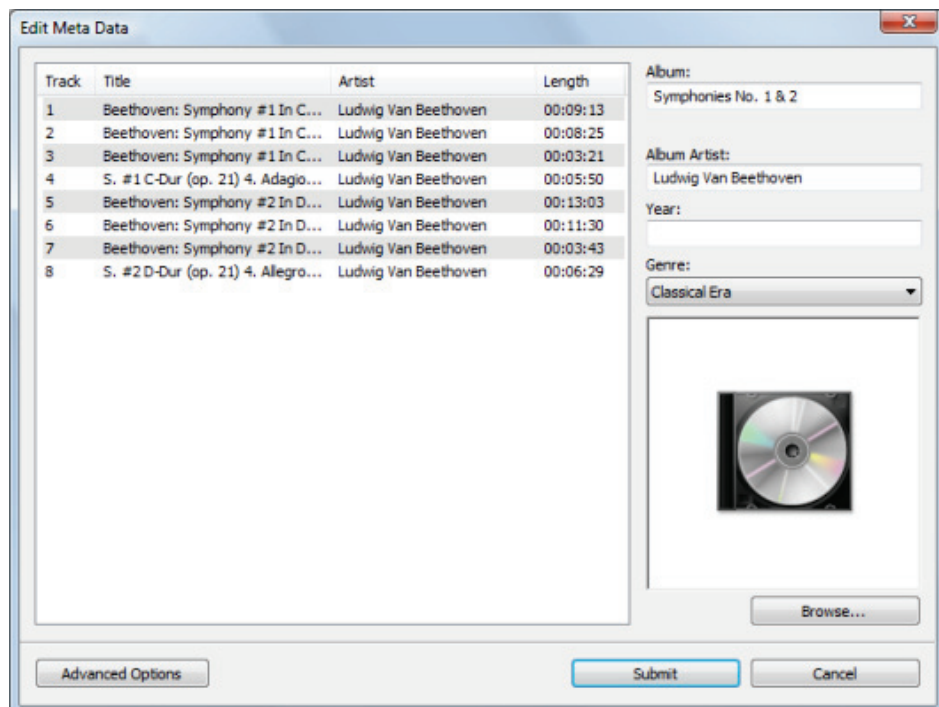
Music recognition technology and related data are provided by Gracenote®. Gracenote is the industry standard in music recognition technology and related content delivery. For more information, please visit www.gracenote.com.



Audio files from copy-protected Audio CDs cannot be saved.

To save audio files, proceed as follows:

1. Click the **Extras > Save Audio Tracks** menu.
 - The **Save Audio Tracks to Hard Drive** window is opened.
2. Insert your Audio CD into a drive.
 - The disc is being analyzed and the required information is sent to Gracenote. If an exact matching entry is found in the Gracenote Media Database then that metadata will be used and displayed.
 - If several entries are found or the found entry is ambiguous, then the **Matches** window is opened and the metadata records in question are displayed.
3. Select the metadata record that matches your Audio CD.
4. Click the **Send New Data** button if none of the metadata records match your Audio CD.
 - The **Edit MetaData** window is opened.

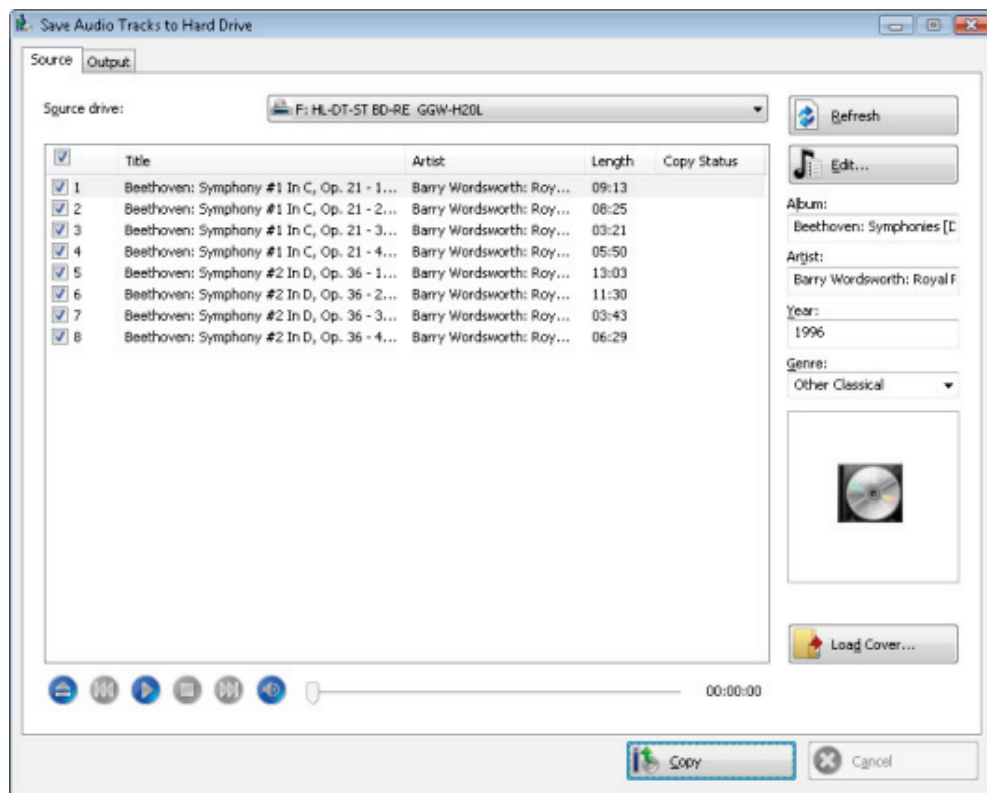


Edit MetaData



The **Edit Meta Data** window also opens if no matching entry is found in the database but you want to enter the metadata and make it available.

5. Edit the audio track metadata (**Title** and **Artist**) by clicking in the track list.
6. Edit the Audio CD metadata (**Album Title**, **Artist**, **Year**, and **Genre** as well as **Album Art**) on the right side.
7. Click the **Advanced Options** button if you want to add additional information.
 - The **Gracenote MusicID Information** window, which originates from Gracenote, is opened. After entering the additional information you have to close this window so that the **Edit MetaData** window is displayed again.
8. Click the **Submit Data** button.
 - If you have changed the Audio CD's metadata or filled them in for the first time then the changes are sent to Gracenote and entered into the Gracenote Media Database.
 - The **Edit MetaData** window is closed and the information is passed on to the **Save Audio Tracks to Hard Drive** window.



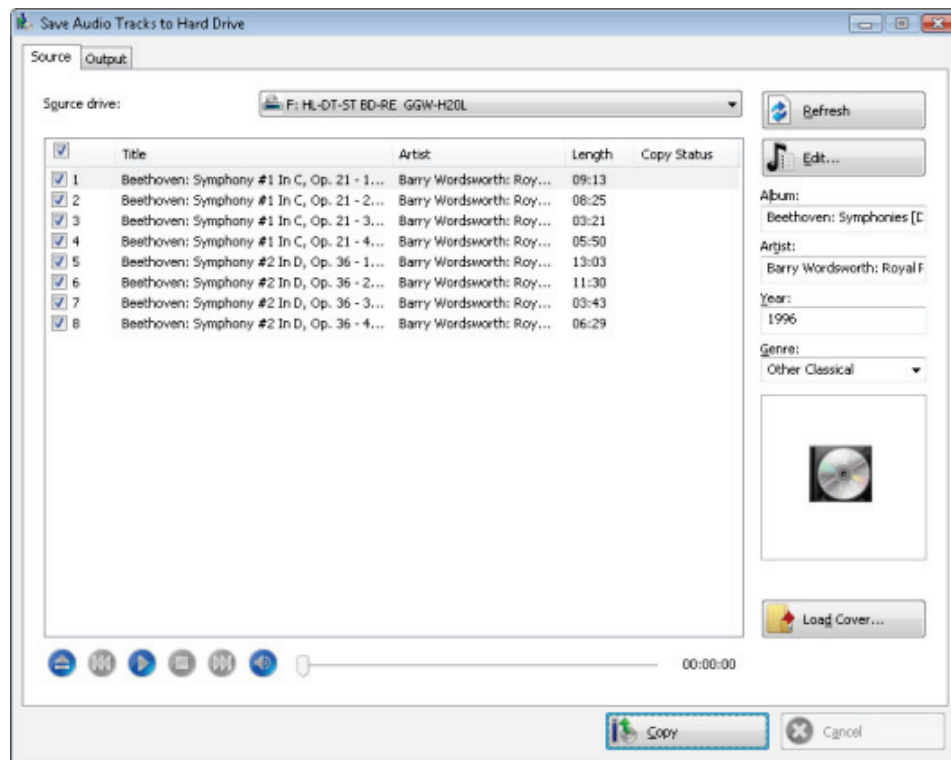
Save Audio Tracks to Hard Drive

9. Select the tracks that you want to save on the hard drive.
10. Click the **Output** tab.
 - The **Output** tab is opened.

- 11.** In the **File Format** drop-down menu, select the target file's audio format.
- 12.** Choose a method for creating the file name in the **Mode for Creating File Names** drop-down menu.
- 13.** Define other settings according to your preferences.
- 14.** Click the **Copy** button.
 - Conversion starts. A folder with the album name is created in the desired folder. The audio files are saved in this folder and named according to the method you chose. A playlist file is created and saved in the same folder. Metadata that is identified with Gracenote is written into the audio file. The **Progress** window indicates the saving progress. When the save process is complete, this window is closed automatically.
- 15.** Click the **Close** button.
 - The **Save Audio Tracks to Hard Drive** window is closed. You have saved audio files.

5.4.1 Save Audio Tracks to Hard Drive Window

Define the settings for audio files to be saved to the hard drive in the **Save Audio Tracks to Hard Drive** window. The window is opened by clicking the **Extras > Save Audio Tracks** menu.



Save Audio Tracks to Hard Drive - Source

The following setting options are available:

| | |
|-----------------------|-------------------------------------------------------|
| Tab Source | Specifies settings for the source of the audio files. |
| Tab Output | Sets output files configuration options. |
| Button Copy | Starts the copy or save process. |

5.4.1.1 Source Tab

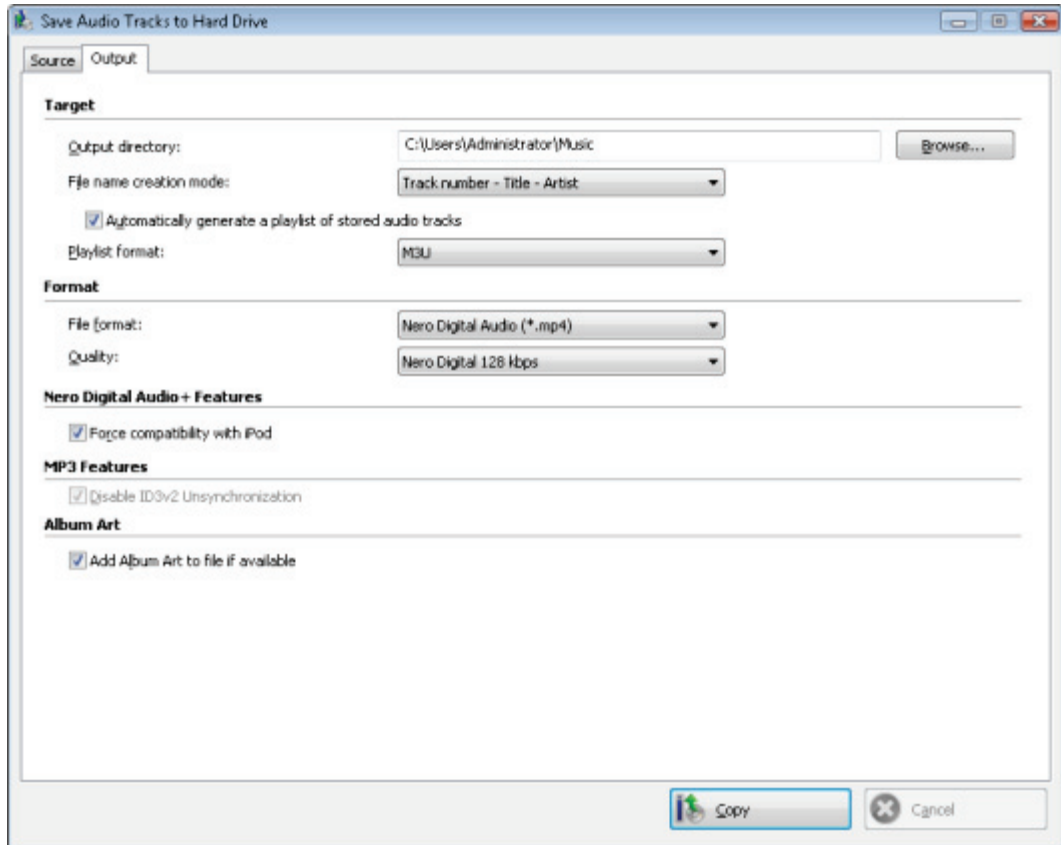
The **Source** tab displays the audio files on the Audio CD. The functions of the control buttons correspond to the familiar control buttons on CD players.

The following setting options are available:

| | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Source drive | Selects the drive where the Audio CD is inserted. |
| Title Selection List | Displays the tracks on the Audio CD. You can select individual tracks to copy by selecting the respective check box. |
| Button Refresh | Sends a new query to the Gracenote Media Database and completes the Audio CD's metadata including artist, title name, and genre if a matching entry exists in the database. |
| Button Edit | Opens the Edit Meta Data window. Here, you can edit the Audio CD metadata sent by Gracenote. You can enter the metadata if no entry for your Audio CD exists in the Gracenote Media Database. This metadata is sent to Gracenote, and added to the Gracenote Media Database. |
| Input fields Album/Artist/Year | Displays or specifies metadata for the album, artist and year. |
| Selection list Genre | Displays or specifies the genre. |
| Cover area | Displays Album Art, i.e., the cover of the Audio CD. |
| Button Load Cover | Loads an alternative cover from your hard drive. |

5.4.1.2 Output Tab

You can define the properties of the audio files to be created on the **Output** tab.



Copy Audio CDs to Hard Drive - Output

The following setting options are available:

| | |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input window Output directory | Selects the storage location for the output file. |
| Button Browse | Opens a browser window where you can select a storage location. |
| Drop-down menu Mode for creating file name | Selects the method to be used for creating the name of the output file. |
| Check box Automatically generate a playlist of stored audio tracks | Creates a playlist of the saved audio files. A playlist is a list of the ripped audio files in the right order with the right metadata. It is a very convenient tool – you simply have to select the playlist to add all the audio files in contains to an audio compilation or a playback application. |

| | |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Playlist format | Selects a format for the playlist. |
| Drop-down menu File format | Selects the output audio format for the selected audio file. The selected file format is available as the first entry the next time it is called up. You can choose between <u>Nero AAC Audio</u> , <u>MP3 Audio</u> , <u>WAVE</u> , <u>AIFF</u> , <u>FLAC</u> and <u>Ogg Vorbis</u> . |
| Drop-down menu Quality | Selects the bitrate for the selected audio file format. If the bit rate is small, less data is transferred. The file is then small, but quality is lower. If the bit rate is high, more data is transferred. The file size is then large, but the quality is high. A value of 128 for MP3 files is near CD quality. For the MP3 Audio file format you can also select if you want to create an MP3 file or an <u>mp3PRO</u> file. Only available if you selected the Nero AAC Audio or MP3 Audio file format. |
| Check box Force compatibility with iPod | Makes Nero AAC Audio available for an iPod. Is only available if you selected the Nero AAC Audio output format. |
| Check box Disable ID3v2 Un-synchronization | Disables the ID3v2 Un-synchronization during the decoding process. ID3v2 Un-synchronization is a part of the MP3 decoding process. It increases the chance that the MP3 file can be played even with old software or hardware that does not support ID3v2. However, some devices that support ID3v2 do not support ID3v2 Un-synchronization. The display of images or text tags might be corrupt on such devices when playing MP3 files with unsynchronized ID3v2. Select the check box if you have encountered such problems. |
| Check box Add Album Art to file if available | Adds Album Art to the files. Album Art works for example as a mini view in the Explorer. Adding Album Art increases the file size. Only available if Album Art is available or chosen for this Audio CD. |

5.5 Convert Audio File Format

With Nero Burning ROM you can convert an audio file into another format, i.e. transcode the audio file (e.g. from WAV to MP3).

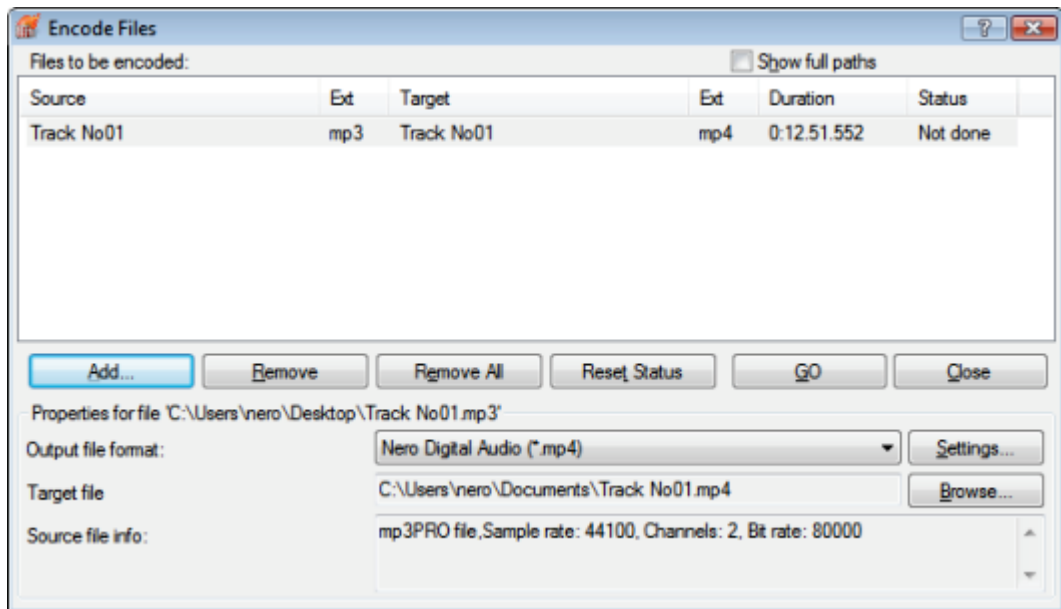
The following formats are usually available (available formats may depend on the source format):

- **AC3**: You can specify the bit rate for this audio format
- **AIFF**: See [Encoding Options AIFF→ 56](#)

- **FLAC:** It is not necessary to specify any settings for this lossless audio format
- **MP3 (Lame Encoder):** See [Encoding Options MP3→ 57](#)
- **MP3/mp3PRO:** See [Encoding Options MP3/mp3PRO→ 58](#)
- **Nero AAC Audio:** See [Encoding Options Nero AAC Audio→ 60](#)
- **OGG:** See [Encoding Options OGG→ 61](#)
- **WAV:** See [Encoding Options WAV→ 56](#)
- **WMA:** You can set different profiles for this audio format

5.5.1 Encode Files Window

In the **Encode Files** window, the audio files that are to be encoded are selected and the properties of the output are defined. You can open the window via the **Extras > Encode Files** menu. The window consists of a selection area and the **Properties** area.



Encode Files Window

The following configuration options are available in the selection area:

| | |
|-------------------------------------|------------------------------------------------------------------------------------------------------|
| List Files to be encoded | Displays the selected files. |
| Check box Show full paths | Displays the full source and destination paths for the files in the Files to be encoded list. |
| Button Add | Opens the browser window where you can select a file to add it to the list of files to be encoded. |

| | |
|-------------------------------|-----------------------------------------------------------------|
| Button Remove | Removes the selected file. |
| Button Remove All | Removes all files from the list of Files to be encoded . |
| Button Reset Status | Resets the status of the selected file to to do . |
| Button Go | Starts the encode process. |
| Button Close | Closes the window. |

The following configuration options are available in the **Properties** area:

| | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Drop-down menu Output file format | Selects the output audio format for the selected audio file. |
| Button Settings | Opens a window where you can define options such as bit rate and frequency for the output audio file. |
| Display panel Destination folder | Displays the storage location of the output file or output files. |
| Button Browse | Opens a browser window where you can select a storage location. |
| Display panel Source file info | Displays information on the selected audio file. |

5.5.2 AIF and WAV Encoding Options

Nero Burning ROM can encode audio files of an Audio CD in AIFF or WAV formats.

Set options in the **AIFF/Wave** window that you can open in the **Encode Files** window via the **Settings** button. Ensure that you have selected **AIFF** or **Wave** as the **Output file format**.

The following setting options are available in the **AIFF** or **Wave** window:

| | |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Frequency | Specifies the scan rate per second and thus determines the frequency of scanning. The higher the frequency, the more frequently scanned. |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Bits | Specifies the scan accuracy and thus determines the quality of the individual scanner. The higher the bit sign, the more accurate. |
| Drop-down menu Channels | Specifies which channels are recorded. |

5.5.3 MP3 Lame Encoding Options

With Nero Burning ROM you can encode audio files of an Audio CD in **MP3** formats using the Lame Codec. Set these options in the **MP3 Settings** window that you can open in the **Encode files** window via the **Settings** button. Ensure that you have selected Lame MP3 Encoder as the **Output file format**.

The following encoding options are available in the **Settings** area:

| | |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Constant Bit Rate | Selects a constant bit rate, i.e. the data flow per unit of time and the quality of the saved data are the same over the entire audio file. If the bit rate is small, less data is transferred. The file is then small, but quality is lower. If the bit rate is high, more data is transferred. The file size is then large, but the quality is high. The default value of 128 for <u>MP3</u> files is near CD quality. |
| Drop-down menu Variable Bit Rate | Selects variable bit rate, i.e. the data flow per unit of time - and thus the quantity of the saved data - adapts to the dynamics of the audio file. The bit rate, for example, can be lowered at quieter points in the track. Select your desired quality level in the drop-down menu. |

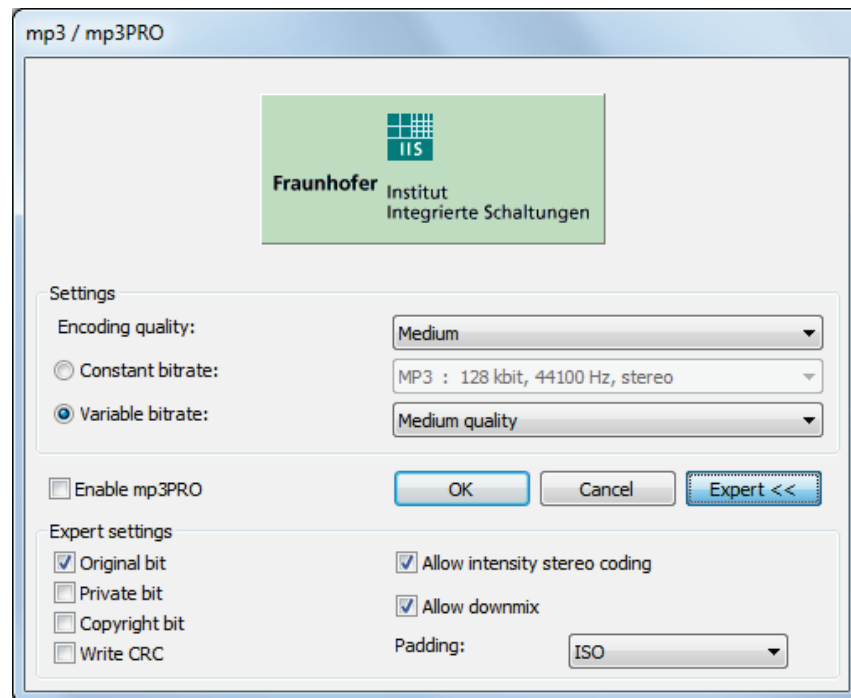
The following encoding options are available in the **Expert settings** area:

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Encoding quality | Specifies the encoder quality. These settings specify whether you place more value on fast encoding (lowest/fastest) or more value on a superior psychoacoustic encoder model for the very best results (highest/slowest). |
| Check box Original bit | Sets the original bit in the music file, which differentiates between the copy and the original. Check box selected: Original bit = 1, i.e. original. Check box cleared: Original bit = 0, i.e. copy. |
| Check box Private bit | Sets the private bit in the music file. It is reserved for the user and is only used for informational purposes. |

| | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Copyright bit | Sets the copyright bit in the music file, which identifies protected content. Check box selected: Copyright bit = 1, i.e. protected. Check box cleared: Copyright bit = 0, i.e. unprotected. |
| Check box Write CRC | Also sets a checksum in the music file to ensure that transfer errors are detected. |

5.5.4 MP3 and MP3PRO Encoding Options

With Nero Burning ROM you can encode audio files of an Audio CD in **MP3** and **MP3PRO** formats. Set these options in the **MP3PRO** window that you can open in the **Encode files** window via the **Settings** button. Ensure that you have selected MP3/MP3PRO as the **Output file format**.



MP3PRO window

The following encoding options are available in the **Settings** area:

| | |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Encoder quality | Specifies the encoder quality. Fast , Medium and Highest are available. These settings specify whether you place more value on fast encoding (Fast) or more value on a superior psychoacoustic encoder model for the very best results (Highest). |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box Constant Bit Rate</p> | <p>Selects a constant bit rate, i.e. the data flow per unit of time and the quality of the saved data are the same over the entire audio file. If the bit rate is small, less data is transferred. The file is then small, but quality is lower. If the bit rate is high, more data is transferred. The file size is then large, but the quality is high. The default value of 128 for <u>MP3</u> files is near CD quality.</p> <p>In the drop-down menu, select the Options that affect the bit rate: scan rate per second in kBit, scan frequency per second in Hertz and the channels.</p> |
| <p>Check box Variable Bit Rate</p> | <p>Selects variable bit rate, i.e. the data flow per unit of time - and thus the quantity of the saved data - adapts to the dynamics of the audio file. The bit rate, for example, can be lowered at quieter points in the track.</p> <p>Select your desired quality level in the drop-down menu.</p> <p>Note that not all players are able to show the correct length of MP3 files that were recorded with variable bit rate.</p> |

The following encoding options are available:

| | |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box Enable MP3PRO</p> | <p>Specifies the encoder method used. If you select the check box, an MP3PRO file is created (*.mp3 file extension).</p> <p>If you clear the check box, an MP3 file is created (also *.mp3 file extension).</p> |
| <p>Button Expert</p> | <p>Opens the advanced area where you can configure Expert Features.</p> |

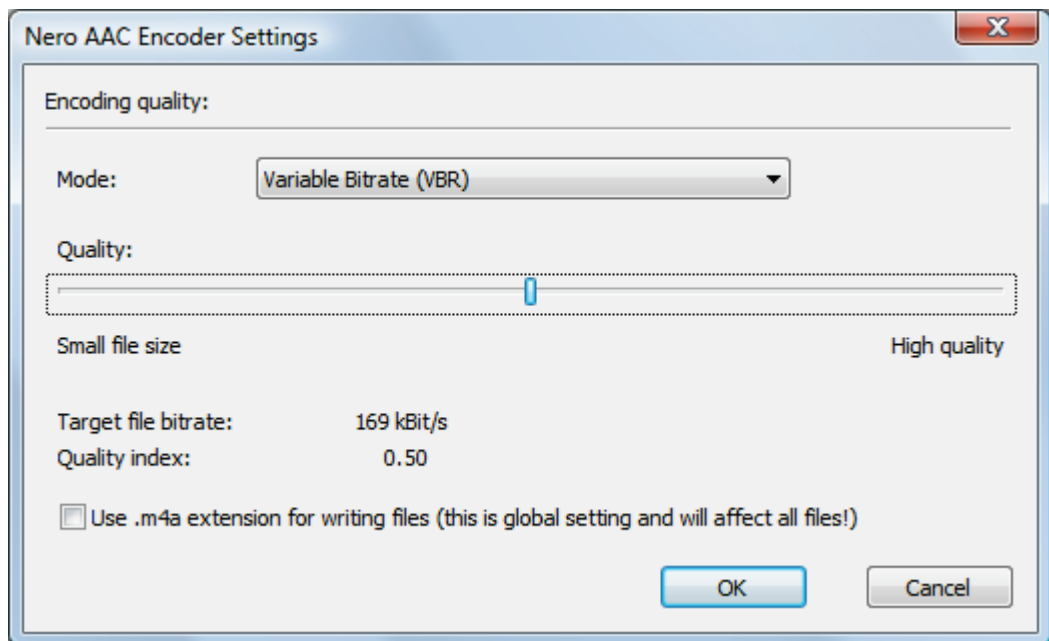
The following encoding options are available in the **Expert Features** area:

| | |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box Original bit</p> | <p>Sets the original bit in the music file, which differentiates between the copy and the original.</p> <p>Check box selected: Original bit = 1, i.e. original. Check box cleared: Original bit = 0, i.e. copy.</p> |
| <p>Check box Private bit</p> | <p>Sets the private bit in the music file. It is reserved for the user and is only used for informational purposes.</p> |
| <p>Check box Copyright bit</p> | <p>Sets the copyright bit in the music file, which identifies protected content.</p> <p>Check box selected: Copyright bit = 1, i.e. protected. Check box cleared: Copyright bit = 0, i.e. unprotected.</p> |

| | |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Write CRC | Also sets a checksum in the music file to ensure that transfer errors are detected. |
| Check box Allow intensity stereo coding | Uses a special <u>codec</u> at high frequencies that only saves the directional information and volume. |
| Check box Allow downmix | Mixes two stereo channels down to one mono signal. This option is useful when the output data is of such poor quality that a poor stereo signal is to be expected. An increase in quality is expected when downmixing to mono. |
| Drop-down menu Padding | Selects a padding type for MP3 blocks. We recommend padding type ISO that pads MP3 blocks according to the ISO specification. |

5.5.5 Nero AAC Encoding Options

Nero Burning ROM can encode audio files of an Audio CD in the Nero AAC Audio format. Set options in the **Nero AAC Encoder Settings** window that you can open in the **Encode Files** window via the **Settings** button. Ensure that you have selected **Nero AAC Audio** as the **Output file** format.



Nero AAC Encoder Settings

The following setting options are available in the **Nero AAC Encoder Settings** window:

| | |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu entry Variable Bitrate | Specifies a variable bit rate, i.e. the data flow per unit of time and thus the quantity of the saved data adapts to the dynamics of the audio file. The bit rate, for example, can be lowered at quieter points in the track. You can set the variable bit rate between 0 and 100 . 0 means the lowest, 100 the highest quality. |
| Drop-down menu entry Average Bitrate | Specifies an average bit rate, i.e. the data flow per unit of time and thus the quantity of the saved data adapts to the dynamics of the audio file but the average bit rate tends to the defined value. In principle is it a variable bit rate with a limited bit band width and thus combining the advantages of the variable and the constant bitrate. |
| Drop-down menu entry Constant Bitrate | Specifies a constant bit rate, i.e. the data flow per unit of time and thus the quantity of the saved data is the same over the entire audio file. |
| Slider Quality | Specifies the bit rate, i.e. the data flow per unit of time and thus the quantity of the saved data. If the bit rate is small, less data is transferred. The file is then small, but quality is lower. If the bit rate is high, more data is transferred. The file size is then large, but the quality is high. The default value of 128 is near CD quality. |
| Check box Use .m4a extension for writing files | Encodes the audio files in the M4A audio file format; which was defined by Apple. |

5.5.6 OGG Vorbis Encoding Options

Nero Burning ROM can encode audio files of an Audio CD in the OGG Vorbis format.

Set options in the **OGG Vorbis Settings** window that you can open in the **Encode Files** window via the **Settings** button. Ensure that you have selected **OGG Vorbis** as the **Output file format**.

The following setting options are available in the **OGG Vorbis Settings** window:

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Constant Bit Rate | Specifies a constant bit rate, i.e. the data flow per unit of time and thus the quantity of the saved data is the same over the entire audio file. If the bit rate is small, less data is transferred. The file is then small, but quality is lower. If the bit rate is high, more data is transferred. The file size is then large, but the quality is high. The default value of 128 is near CD quality. |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box Variable Bit Rate</p> | <p>Specifies a variable bit rate, i.e. the data flow per unit of time and thus the quantity of the saved data adapts to the dynamics of the audio file. The bit rate, for example, can be lowered at quieter points in the track.</p> <p>You can set the variable bit rate between 0 and 100. 0 means the lowest, 100 the highest quality.</p> |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

6 Video

6.1 Compiling DVD-Video

With Nero Burning ROM you can burn DVDs made up of DVD-Video files from your hard drive. You can play your burned DVDs on almost all DVD players.

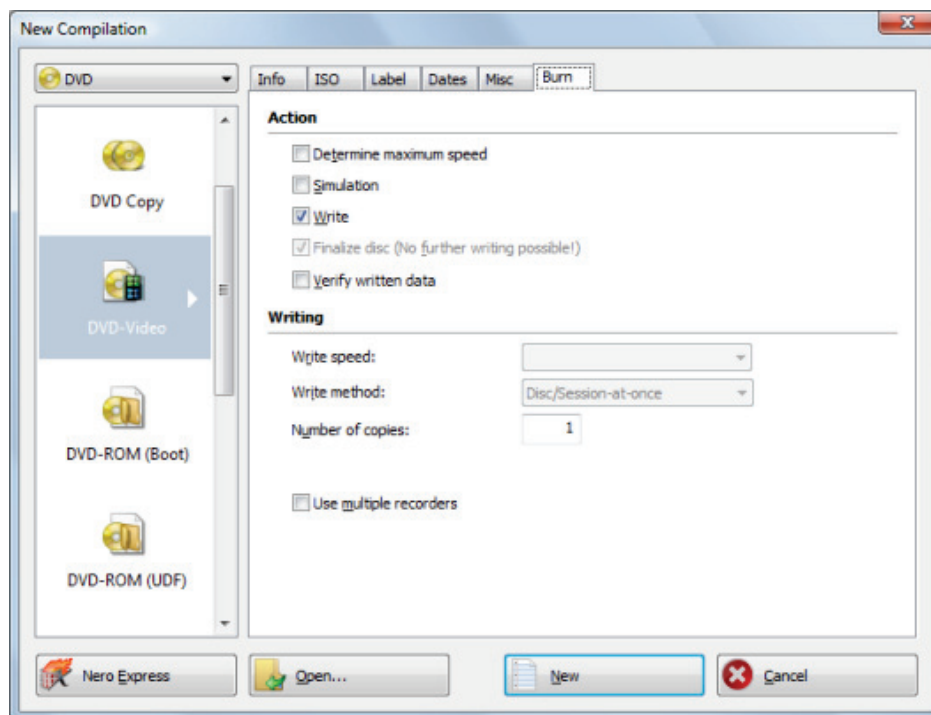
You can use Nero Burning ROM to burn a DVD Video if the DVD video title, i.e. a complete DVD folder structure, is already available.



In Nero Burning ROM it is not possible to create a DVD-Video, an AVCHD video, or a BDMV-Video from video files. You can convert video files to DVD-Video, to AVCHD video, or BDMV-Video in Nero Vision for example. Nero Vision is included in the full version of Nero Multimedia Suite. More information about Nero Vision is available on the Web site www.nero.com, and more information about video editing is available in the separate Nero Vision manual.

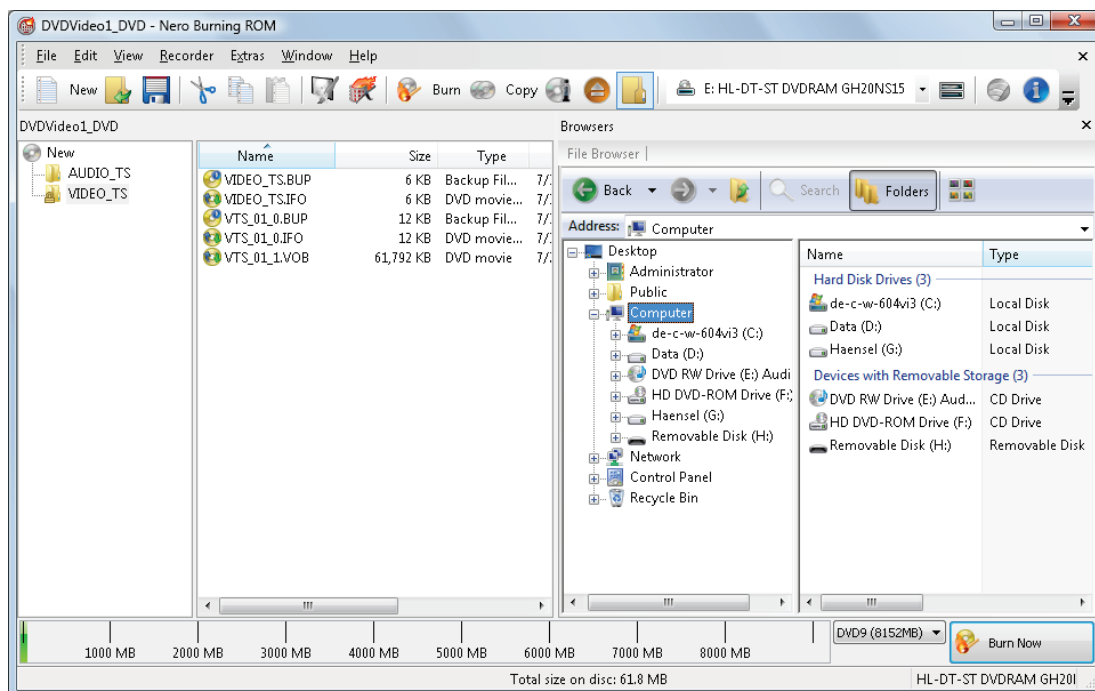
To compile a DVD-Video, proceed as follows:

1. Select the **DVD** entry from the drop-down menu in the **New Compilation** window. (In case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)
2. Choose the **DVD Video** compilation type from the selection list.
 - The tabs with the configuration options that are valid for this compilation type are displayed.



DVD Video Tab

3. Set the options you require on the tabs.
4. Click the **New** button.
 - The **New Compilation** window is closed and the selection screen is opened. It includes a compilation area for video and image files and an area for data.



DVD Video Compilation Screen

5. Select the DVD-Video files that you want to burn from the browser area on the right side.
6. Drag the existing DVD folder structure of the video title (VIDEO_TS) into the video compilation area on the left side.
 - The files are added to the compilation and displayed in the compilation screen. The capacity bar indicates how much space is required on the disc.
 - You have successfully compiled a DVD-Video and can now burn this compilation.

See also

 [Selection Screen](#) → 16

6.2 Compiling an AVCHD Video Disc

With Nero Burning ROM you can burn an AVCHD video disc made up of AVCHD video files from your hard drive or camcorder. The AVCHD video disc can be burned to a DVD as usual, or to a Blu-ray Disc. Burning to a Blu-ray Disc has the benefit that it offers more space than a DVD.

AVCHD video on DVD is compatible to the specification of a Blu-ray Disc. However, playback is not guaranteed on all Blu-ray players.

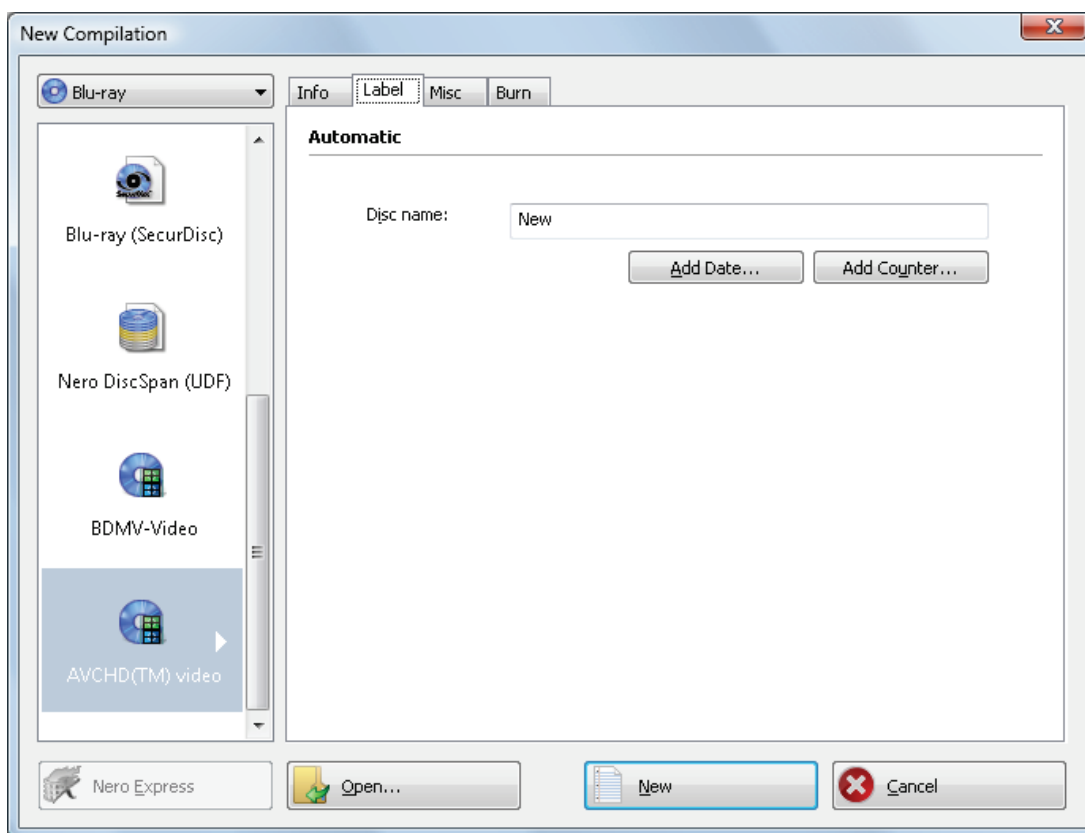
You can use Nero Burning ROM to burn an AVCHD video disc if the complete folder structure including premastered files is already available.



In Nero Burning ROM it is not possible to create a DVD-Video, an AVCHD video, or a BDMV-Video from video files. You can convert video files to DVD-Video, to AVCHD video, or BDMV-Video in Nero Vision for example. Nero Vision is included in the full version of Nero Multimedia Suite. More information about Nero Vision is available on the Web site www.nero.com, and more information about video editing is available in the separate Nero Vision manual.

To compile an AVCHD video disc, proceed as follows:

1. Select the **DVD** or **Blu-ray** entry from the drop-down menu in the **New Compilation** window. (In case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)
2. Choose the **AVCHD (TM) video** compilation type from the selection list.
 - The tabs with the configuration options that are valid for this compilation type are displayed.

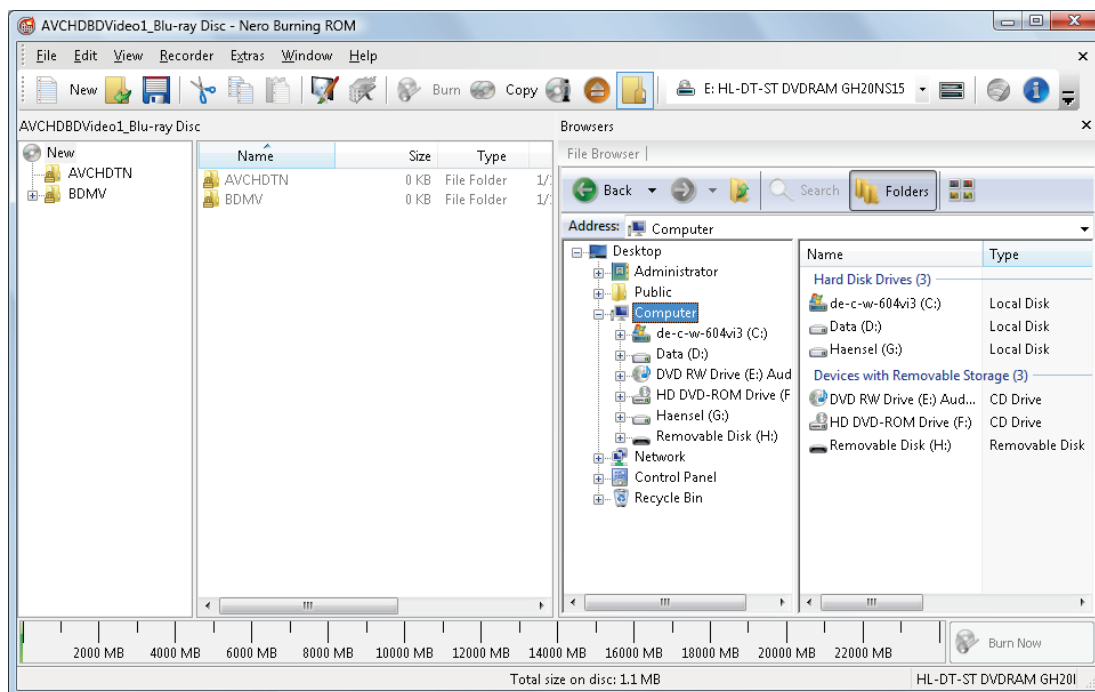


AVCHD (TM) video - New Compilation Window

3. Enter a name for the AVCHD video disc in the **Disc name** input field.

4. Click the **New** button.

- The **New Compilation** window is closed and the selection screen is opened. It includes the specific AVCHD folder structure.



AVCHD video - Selection Screen

5. Select the movie that you want to burn from the browser area on the right side.

6. Drag the existing folder structure including premastered files into the compilation area on the left side.

- The files are added to the compilation and are displayed in the compilation screen. The capacity bar indicates how much space is required on the disc.



Files and Folders

The AVCHD video contains different folders. Only certain files are allowed in an individual folder. If you only have individual files, you must allocate the right files to the specific folder:

`\BDMV\index.bdmv`

`\BDMV\MovieObject.bdmv`

`\BDMV\PLAYLIST*.mpls`

`\BDMV\CLIPINF*.clpi`

`\BDMV\STREAM*.m2ts`

`\BDMV\AUXDATA\sound.bdmv`

`\BDMV\AUXDATA*.otf`

`\BDMV\BDJO*.bdjo` (this files are optional; however, the folder must be available)

Also, the folders `\BDMV\META`, `\BDMV\JAR` and `\CERTIFICATE` must be available.

ble but may remain empty.

If the folder \BDMV\BACKUP is available it contains a copy of the files index.bdmv, MovieObjects.bdmv and the folders PLAYLIST, CLIPINF and BDJO.

Additionally, an AVCHD video may contain the folder AVCHDTN. This folder must not be available if it is empty. If it is available, it has to contain the following files:

AVCHDTN\thumbnail.tidx
AVCHDTN\thumbnail.tdt2

- You have successfully compiled an AVCHD video disc and can now burn this compilation.

6.3 Compiling a BDMV-Video Disc

With Nero Burning ROM you can burn a BDMV-Video disc made up of BDMV (= Blu-ray Movie) files from your hard drive. You can play your burned BDMV-Video on almost all Blu-ray players.

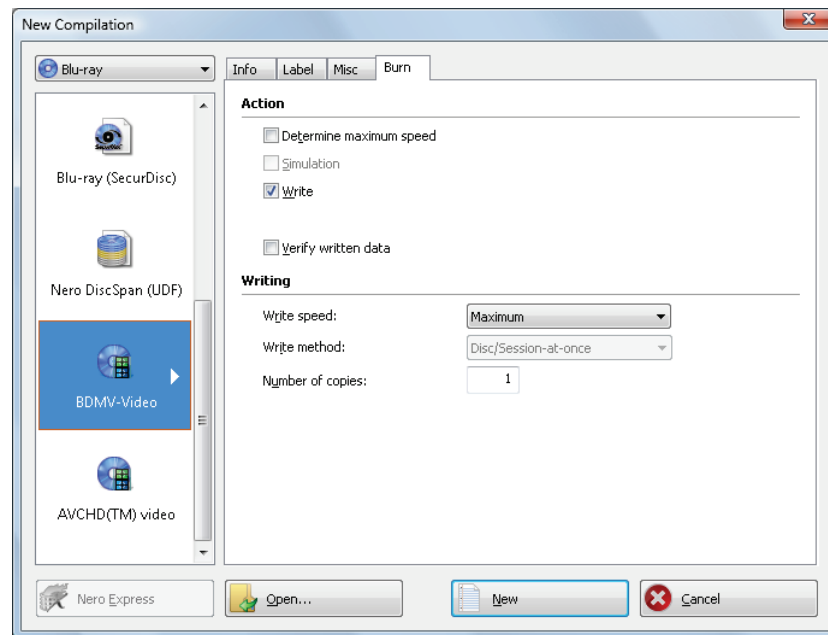
You can use Nero Burning ROM to burn a BDMV-Video if the complete BDMV folder structure including premastered files is already available.



In Nero Burning ROM it is not possible to create a DVD-Video, an AVCHD video, or a BDMV-Video from video files. You can convert video files to DVD-Video, to AVCHD video, or BDMV-Video in Nero Vision for example. Nero Vision is included in the full version of Nero Multimedia Suite. More information about Nero Vision is available on the Web site www.nero.com, and more information about video editing is available in the separate Nero Vision manual.

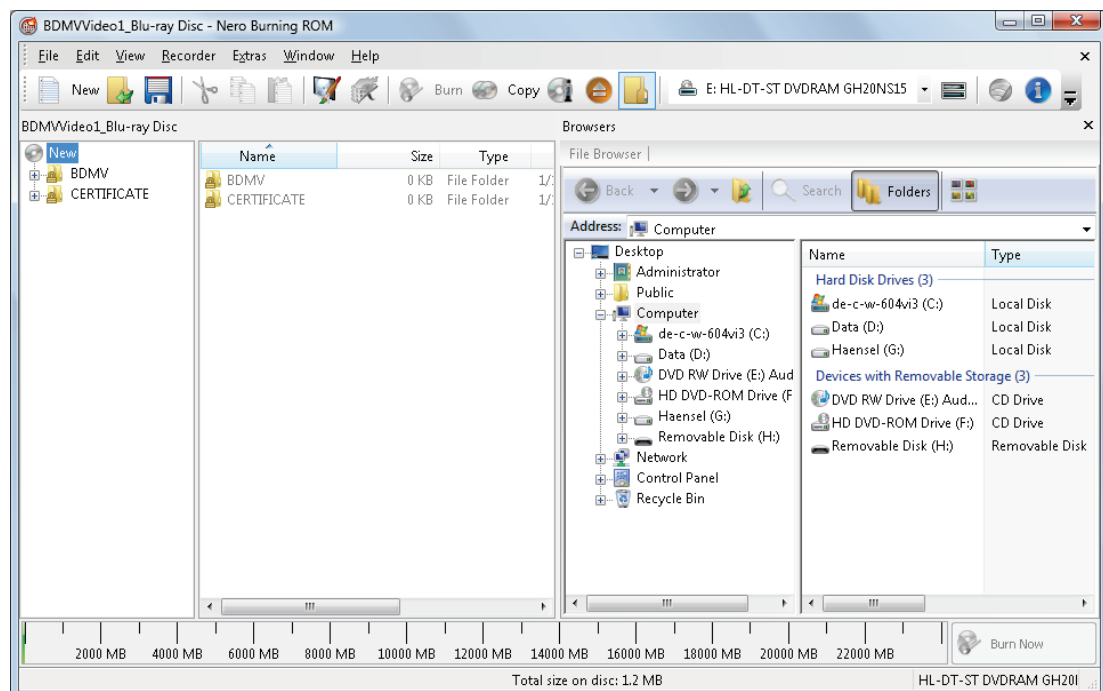
To compile a BDMV-Video disc, proceed as follows:

1. Select the **Blu-ray** entry from the drop-down menu in the **New Compilation** window. (In case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.)
2. Choose the **BDMV-Video** compilation type from the selection list.
 - The tabs with the configuration options that are valid for this compilation type are displayed.



BD Video Compilation Window

3. Enter a name for the BDMV-Video disc in the **Disc name** input field
4. Click the **New** button.
 - The **New Compilation** window is closed and the selection screen is opened. It includes the specific and predefined BDMV folder structure.



BD Video Selection Screen

5. Select the movie that you want to burn from the browser area on the right side.
6. Drag the existing BDMV folder structure including premastered files into the compilation area on the left side.
 - The files are added to the compilation and are displayed in the compilation screen. The capacity bar indicates how much space is required on the disc.



Files and Folders

The BDMV-Video contains different folders. Only certain files are allowed in an individual folder. If you only have individual files, you must allocate the right files to the specific folder:

\BDMV\index.bdmv

\BDMV\MovieObject.bdmv

\BDMV\PLAYLIST*.mpls

\BDMV\CLIPINF*.cpi

\BDMV\STREAM*.m2ts

\BDMV\AUXDATA\sound.bdmv

\BDMV\AUXDATA*.otf

\BDMV\BDJO*.bdjo (this files are optional; however, the folder must be available)

Also, the folders **\BDMV\META**, **\BDMV\JAR** and **\CERTIFICATE** must be available but may remain empty.

If the folder **\BDMV\BACKUP** is available, it contains a copy of the files **index.bdmv**, **MovieObjects.bdmv** and the folders **PLAYLIST**, **CLIPINF** and **BDJO**.

- You have successfully compiled a BDMV-Video disc and can now burn this compilation.

7 Bootable Disc

With Nero Burning ROM you can create a bootable disc with which the computer can be started without having to access the hard drive. For this reason a bootable disc is often used as an "emergency disc" to start the computer if it is not possible to access the hard drive.

Bootable discs are created in accordance with the "El Torito" standard, an extension to the ISO-9660 standard, which defines the structure of data discs. The disc contains a boot image and an ISO part. The boot image contains all files that are required to load the operating system and to start the computer. The ISO part can contain any number of data files that you can back up using this method.

7.1 Requirements for Booting From a Disc

To ensure that a computer can boot from 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.)

When booting from a disc, you can only start an operating system that does not write to the medium, such as "MS DOS" or "Linux". During booting Microsoft Windows 2000 and Microsoft Windows XP write to the medium from which they are being booted. This is not possible with a disc and so the process is canceled and the PC cannot be started.

7.2 Bootable Disc Template

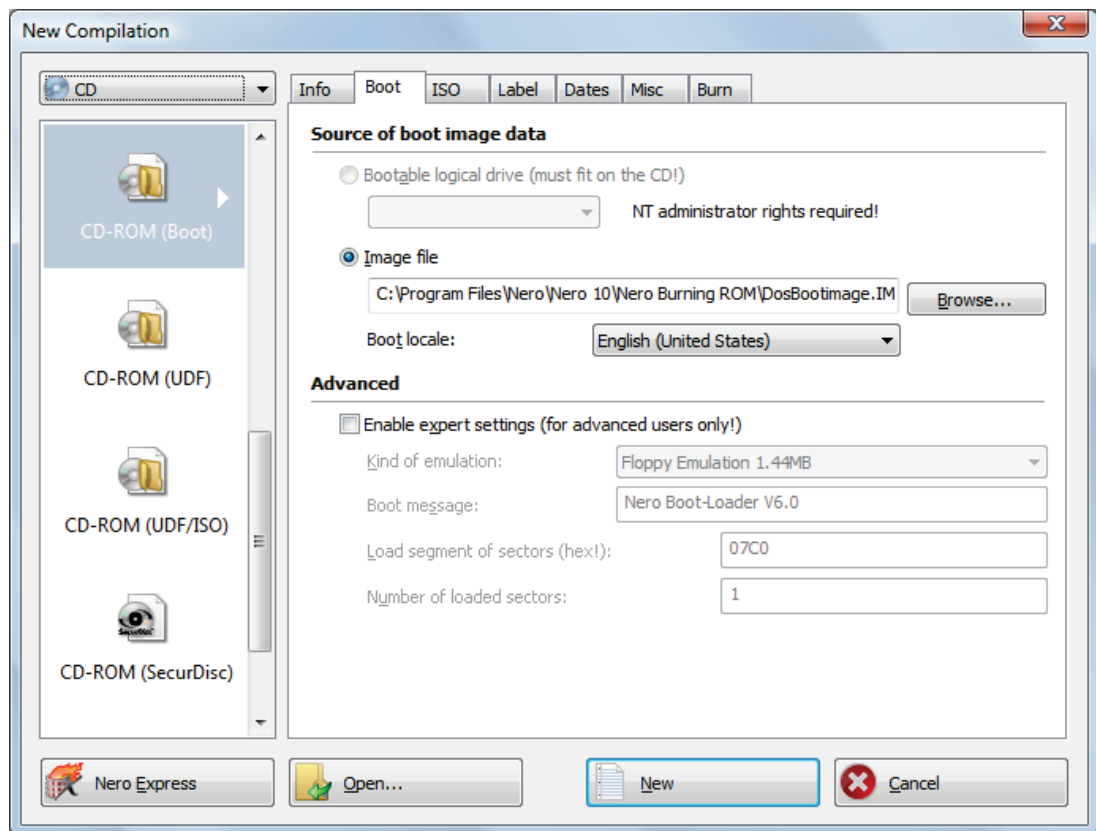
For Nero Burning ROM, the template for creating a bootable disc can be either a logical drive or a drive image file which contains the contents of a drive as a file sector for sector. If the template for the bootable disc is a logical drive, the bootable disc will emulate this when the system is booting. There are three emulation types:

- **Floppy emulation:** This requires a bootable floppy disc for creating the bootable disc. At startup the bootable disc emulates a floppy disk. In the process, the drive letters increment, so that Drive A: corresponds to the bootable disc. The volume of the start data is limited by the capacity of the floppy disk (e.g. 1 MB).
- **Hard drive emulation:** A bootable hard drive is required to create the bootable disc. At startup the disc emulates Drive C. All drive letters from Drive C increment by one. The volume of the start data is limited by the capacity of the CD (e.g. 700 MB) or DVD (e.g. 8.5 GB). If, for instance, you have a 200 GB hard drive with only one (200 GB) partition, you cannot create a bootable disc from it without repartitioning your hard drive accordingly beforehand.
- **No emulation:** In this process the drive names are not changed. This type is used for bootable installation CDs. This setting is intended for users who do not require a floppy or hard drive emulation and who want to install their own device driver.

7.3 Creating and Burning a Bootable Disc

To create a bootable disc, proceed as follows:

1. Click the **New** button in the main Nero Burning ROM screen.
→ The **New Compilation** window is opened.
2. Select the desired disc format from the drop-down menu.
3. Select the desired **Boot** compilation type.
→ The tabs for the bootable disc are displayed; the **Boot** tab is in front.



Boot configuration

4. If the template data for the bootable disc should originate from a logical drive:
 1. Select the **Bootable logical drive** option button in the **Source of boot image data** area.
 2. Select the entry you want from the drop-down menu.



If the logical drive you want does not appear in the drop-down menu, the reason for this is that the drive is bigger than the space available on the disc. Please note that for operating systems such as Microsoft® Windows® 2000 you need to have administrator rights in order to be able to access drives directly, which you will need to do if you are to create bootable discs.

5. If the template data for the bootable disc should originate from an image file:
 1. Select the **Image file** option button in the **Source of boot image data** area.
 2. Click the **Browse** button and select the desired image file.
 3. Select the **Enable expert settings** check box and select the emulation type for the image file from the **Kind of emulation** drop-down menu if appropriate.



DosBootimage

Nero Burning ROM makes the boot image file **DosBootimage.ima** available. The path to the image file is entered in the **Image file** field by default. You can also select the language that should appear while the system is booting and select the correct keyboard layout from the **Boot locale** drop-down menu.

DosBootimage is an image of the Caldera DOS boot floppy disk and emulates a floppy disk. The image contains drivers for reading from disc drives and supports FAT32 (read/write) as well as NTFS (read only). If you choose **DosBootimage** for the bootable disc, the expert settings are already predefined.




If you choose an ISOLINUX boot image file, Nero Burning ROM sets the expert settings automatically correct for ISOLINUX bootable disc.

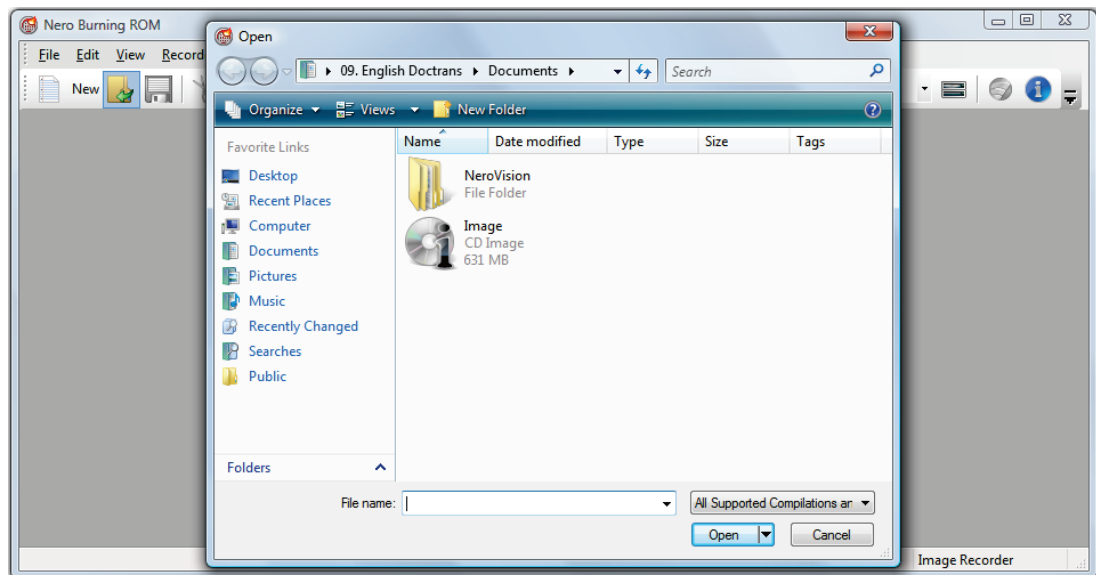
6. Select any other options required on the tabs.
7. Click the **New** button.
 - The selection screen is displayed.
8. Select the files/folders that should be written to the ISO part of the bootable disc and drag them into the compilation area.
 - The files/folders are displayed in the compilation area and the capacity bar indicates how much storage space is required on the disc. You have now created the bootable disc and can start the burn process.

8 Loading Image File

You can use Nero Burning ROM to burn a disc from a disc image that you have previously saved on the hard drive.

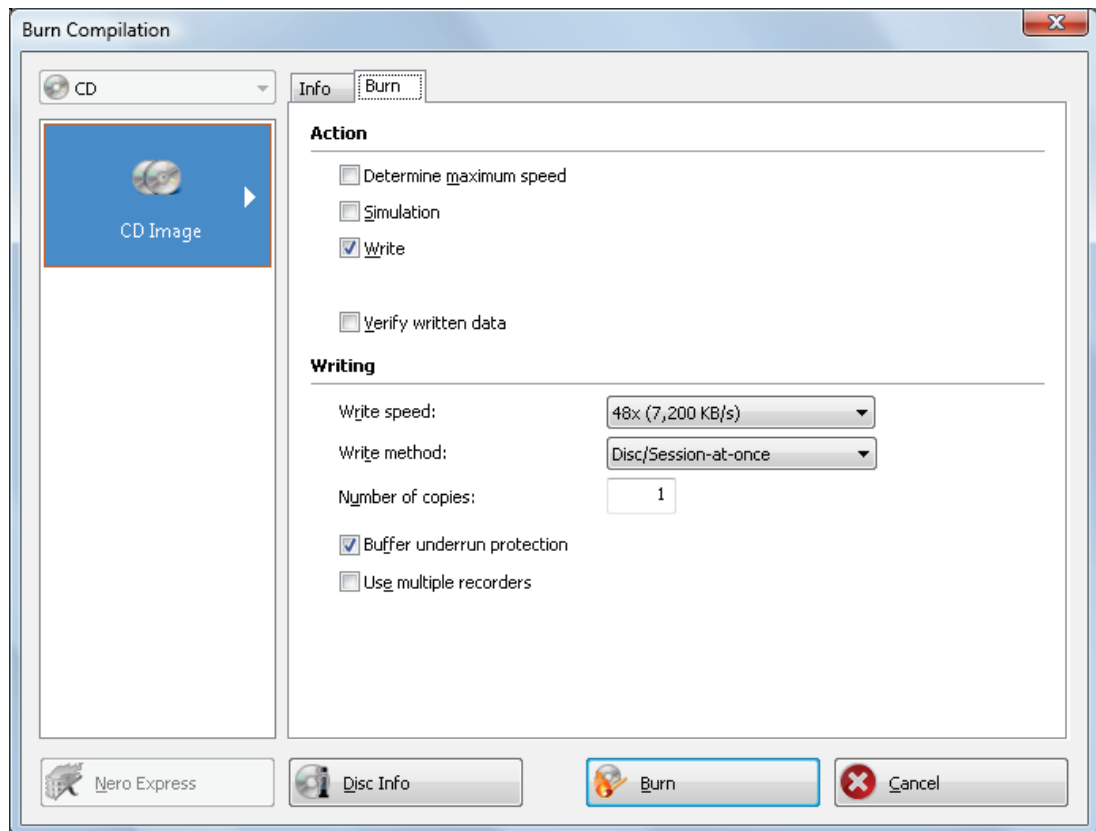
To load a saved image file, proceed as follows:

1. Select a recorder from the drop-down menu.
2. Click the  button in the main screen.
→ The **Open** window is opened.



Open window

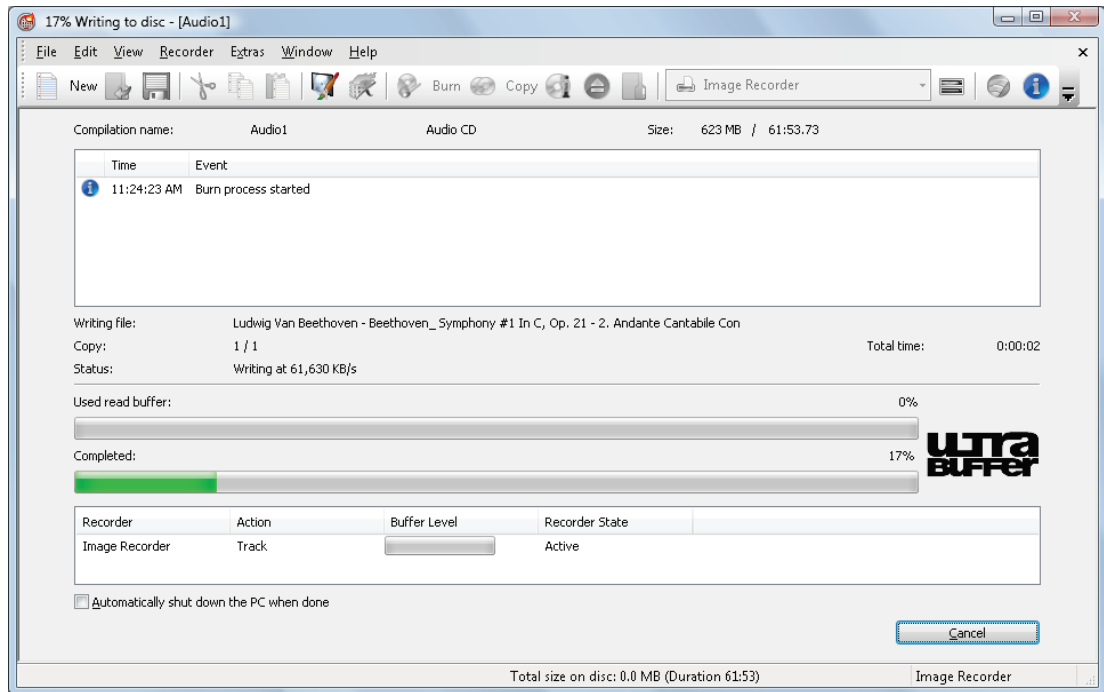
3. Select the desired image file and click the **Open** button.
→ The **Burn Compilation** window is opened.



Burn Compilation window

4. Set the desired burn options.
5. If technically possible, you can change the disc type in the drop-down menu.
6. Click the **Burn** button.
 - The burn process is started. A progress bar indicates the progress being made by the burn process. When the burn process is complete the disc is ejected.

Loading Image File



Burning process

➔ The burning process is complete. You can now remove the burned disc from the recorder.

9 LightScribe

Using Nero Burning ROM and a LightScribe recorder you can create or load labels that you can burn onto the label side of CDs/DVDs in the LightScribe recorder. The function is available as a separate **Print LightScribe Label** option in the start screen or can be integrated as an intermediate step into the creation and burn process of a project.



This function is only available in recorders that support LightScribe technology.

9.1 Printing LightScribe Label

The process for printing the label is integrated into the burn process. First, the compilation is burned. You then flip the disc over, and the label is being burned.

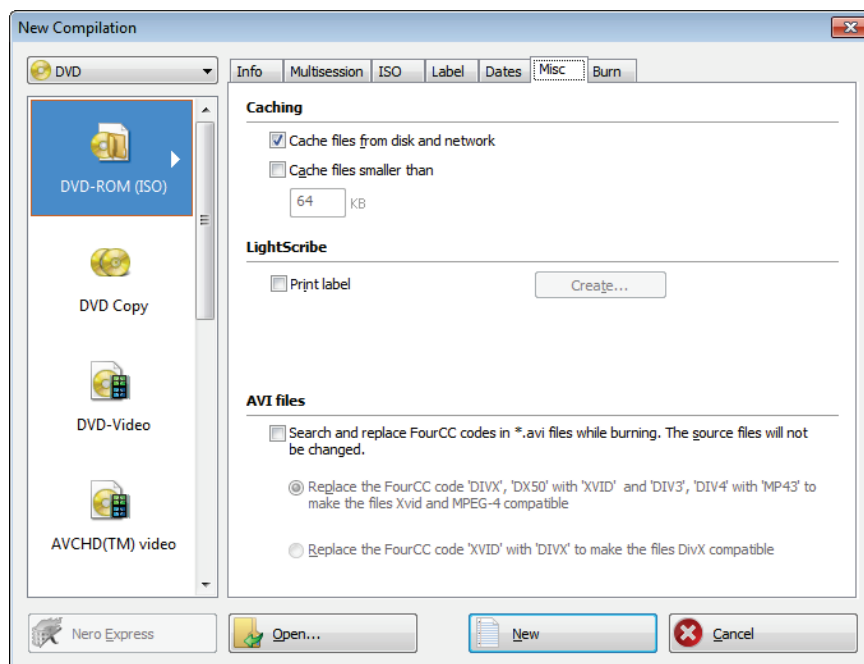
It is possible to burn the label several times to the same LightScribe disc. The printed labels will be aligned. This darkens the label and often improves the quality. It is also possible to extend the label with new elements in an additional burn process.

The following requirement must be fulfilled:

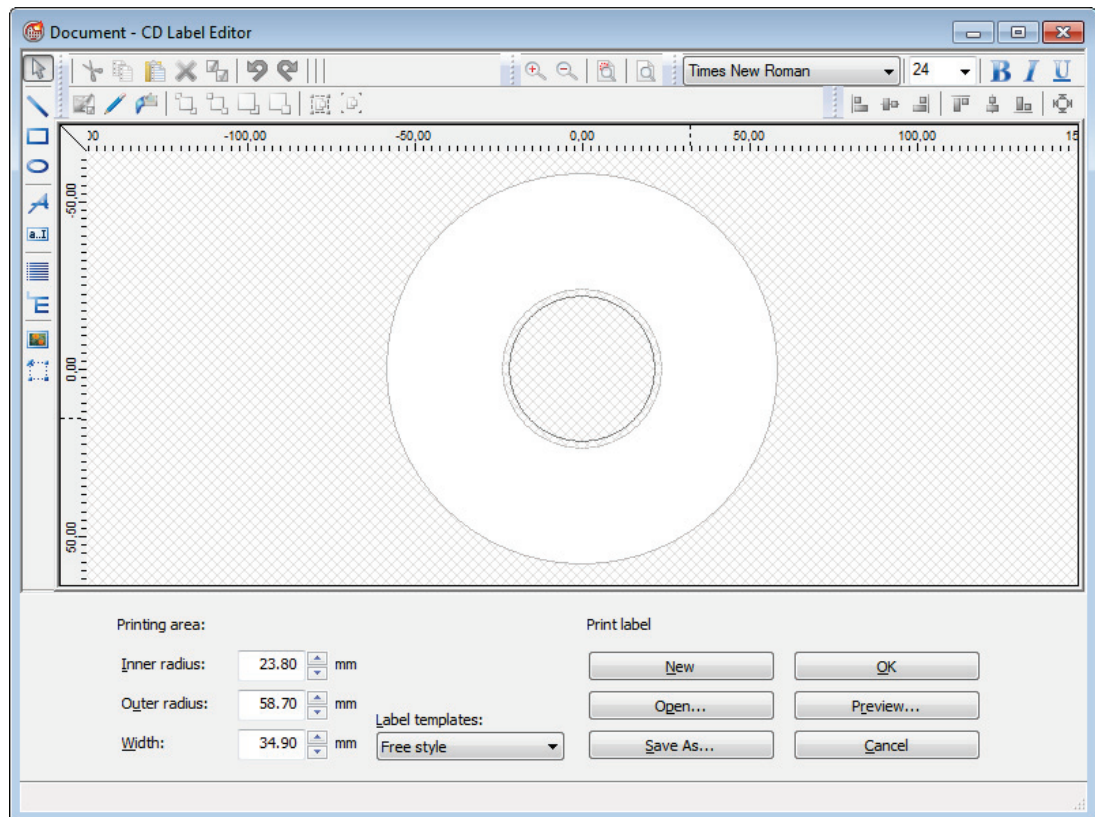
- ▶ A LightScribe recorder is selected.

To print a label within your compilation, proceed as follows:

1. Select the desired compilation type in the **New Compilation** window.
(In the case that the **New Compilation** window is not opened, it can be opened by clicking the **New** button on the main screen.).
2. Click the **Misc** tab.



3. Select the **Print label** check box in the **LightScribe** area.
4. Click the **Create** button.
 - The **CD Label Editor** window is opened.



CD Label Editor

5. Create your label or open an existing one that you have created with Nero CoverDesigner.



The interface in the **CD Label Editor** window and the procedure for creating labels work on the same principle as Nero CoverDesigner. Please see the Nero CoverDesigner user manual for full instructions on how to make professional looking covers and labels.

6. Set further options that you require.
7. Click the **New** button.
 - The **New Compilation** window is closed and the selection screen is displayed.
8. Select the files to burn (see [Compiling Data Disc](#)→ 19).
9. Insert a blank LightScribe CD with the data side facing down.
10. Click the **Burn Now** button.

- The burn process starts and the compilation is burned. A progress bar indicates the progress being made by the burn process. When the burn process is complete the disc is ejected. A window is opened with the message "**Please insert a LightScribe disc into the drive with the label side facing down**".
- 11.** Insert the blank LightScribe disc into the recorder with the label side facing down and click **OK**.
 - The **LightScribe Print Properties** window is opened and the print process starts. In the **LightScribe Print Properties** window a progress bar indicates the progress being made. When the print process has finished, a window is opened with the message "**Burn process completed successfully**".
- 12.** Click the **OK** button.
 - The disc is ejected. You have burned the compilation and printed a LightScribe label.

See also

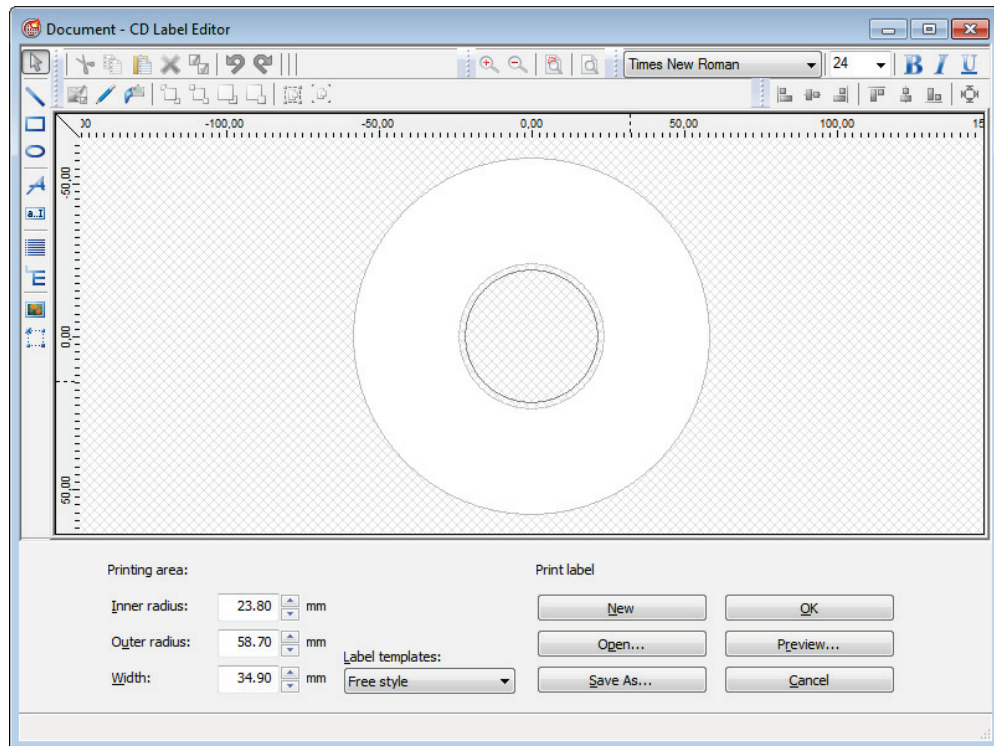
 [LightScribe Settings](#) → 108

9.2 CD Label Editor Window

In the **CD Label Editor** window, you can create or load a label. The window is opened when you click the **Create** button in the **LightScribe** area on the **Misc** tab for the current compilation.



The interface in the **CD Label Editor** window works on the same principle as Nero CoverDesigner. Basically, it is irrelevant whether you print the label on paper or directly onto an appropriate disc. Please see the separate Nero CoverDesigner user manual for full instructions on how to make professional looking covers and labels.



Document - CD Label Editor Window

The following configuration options are available:

| | |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Inner radius | Defines the distance between the label and the inner edge. |
| Outer Radius | Defines the distance between the label and the outer edge. |
| Width | Defines the width of the print area. |
| Label templates | Contains a selection of different templates for designing the label. You can continue to edit and customize a selected template. |
| New | Generates a new label document. |
| Open | Opens an existing label which was created using Nero CoverDesigner. |
| Save As | Saves the label you have created. |
| OK | Adds the label you created to the compilation and closes the window. |
| Preview | Opens the Print Preview window that shows how the label should appear on the LightScribe disc. |
| Cancel | Cancels the procedure and closes the window. |

10 Labelflash

If you have a Labelflash recorder, you can print a label on the label and/or data side of the Labelflash DVD. A Labelflash DVD has a special layer between the top and bottom layers; this layer can be heated by the laser in the recorder so that images and text can be printed on the DVD.



The interface in the **Burn Label** screen works on the same principle as Nero CoverDesigner. Basically, it is irrelevant whether you print the label on paper or directly onto an appropriate disc.

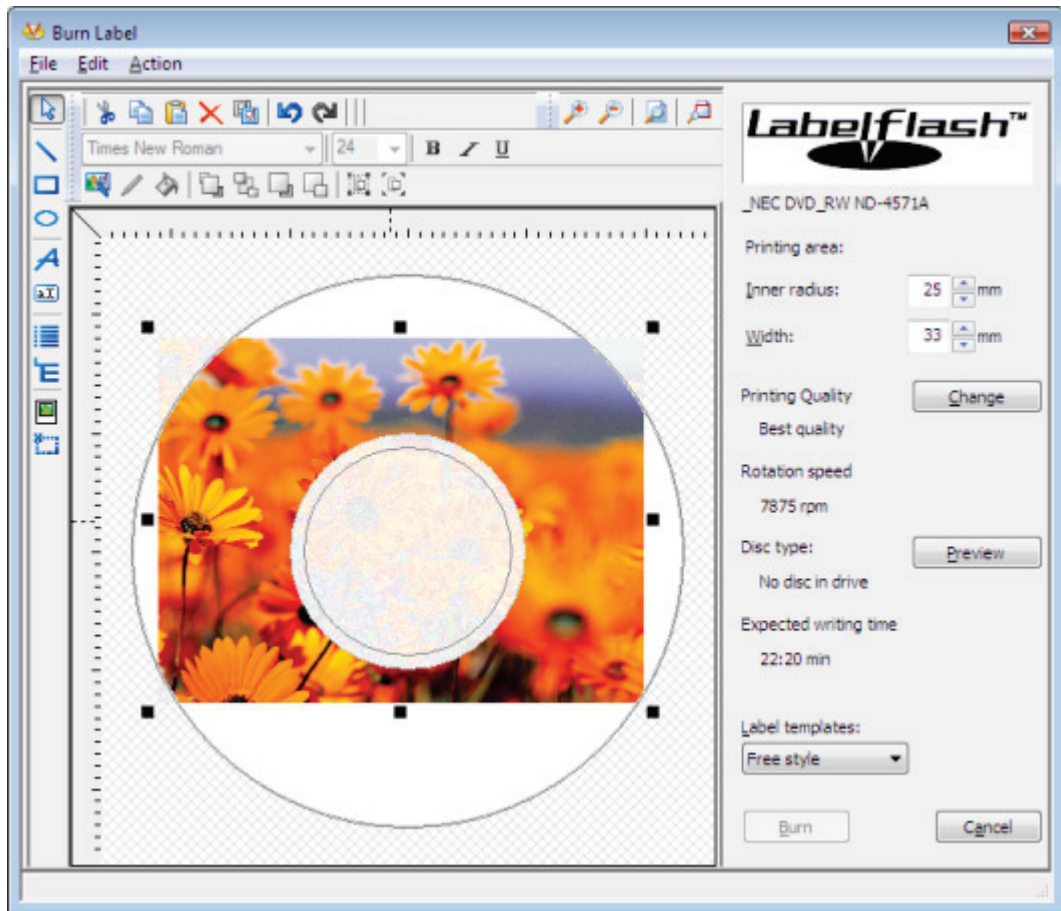
Please see the separate Nero CoverDesigner user manual for full instructions on how to make professional looking covers and labels.



This feature is only available in recorders that support Labelflash technology.

10.1 Burn Label Screen

In the **Burn Label** window you can create or load a label and write it on a Labelflash DVD. Information on the selected printing quality and rotation speed is displayed on the right-hand side of the screen. Under **Disc type** you can see whether the blank disc has been inserted with the label or data side. Either the Labelflash or the DiscT@2 logo is displayed in the **Burn Label** window depending on which side is inserted.



Burn Label Window

The following configuration options are available in the **Burn Label** window:

| | |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input field Inner Radius | Defines the distance between the label and the inner edge. |
| Input field Width | Defines the width of the print area. |
| Button Edit | Opens the Labelflash Print Properties window. This is where you can change the printing quality and the contrast level and display the changes made directly in the print preview. |
| Button Preview | Opens the Print Preview window that shows how the label should appear on the Labelflash disc. |
| Selection list Label templates | Contains a selection of different templates for designing the label. You can continue to edit and customize a selected template. |

| | |
|--------------------------|----------------------------------------------|
| Button Writing | Starts the burn process. |
| Button Cancel | Cancels the procedure and closes the window. |



If you are creating a DiscT@2, Nero Burning ROM displays only the available print area for creating the label by default, i.e. the area on the data side of your DVD that is not already taken up by data. You cannot increase the radius of the print area.

10.2 Printing Labelflash Labels and DiskT@2

Basically, it is irrelevant whether you print on the label or the data side when creating labels. The label is actually printed outside the normal burn process.



You can print on the label side of the DVD at any time.

We recommend that you print on the data side first when you have burned the compilation. It is not possible to burn data on a printed data side. When you insert a DVD on which data has already been burned, Nero Burning ROM automatically identifies the space that is still available on the data side and on which you can print.

To print a Labelflash label on the label side or a DiskT@2 on the data side of your DVD, proceed as follows:

- 1.** If you want to print a Labelflash label on the label side, insert a blank Labelflash disc into the recorder with the label side facing down.
 - The **Burn Label** window is opened with the Labelflash logo.
- 2.** If you want to print a DiskT@2 on the data side, insert a blank Labelflash disc with the data side facing down in the recorder.
 - The **Burn Label** window is opened with the DiskT@2 logo.
- 3.** Create a label according to your requirements or open a label that you have already created with Nero CoverDesigner.

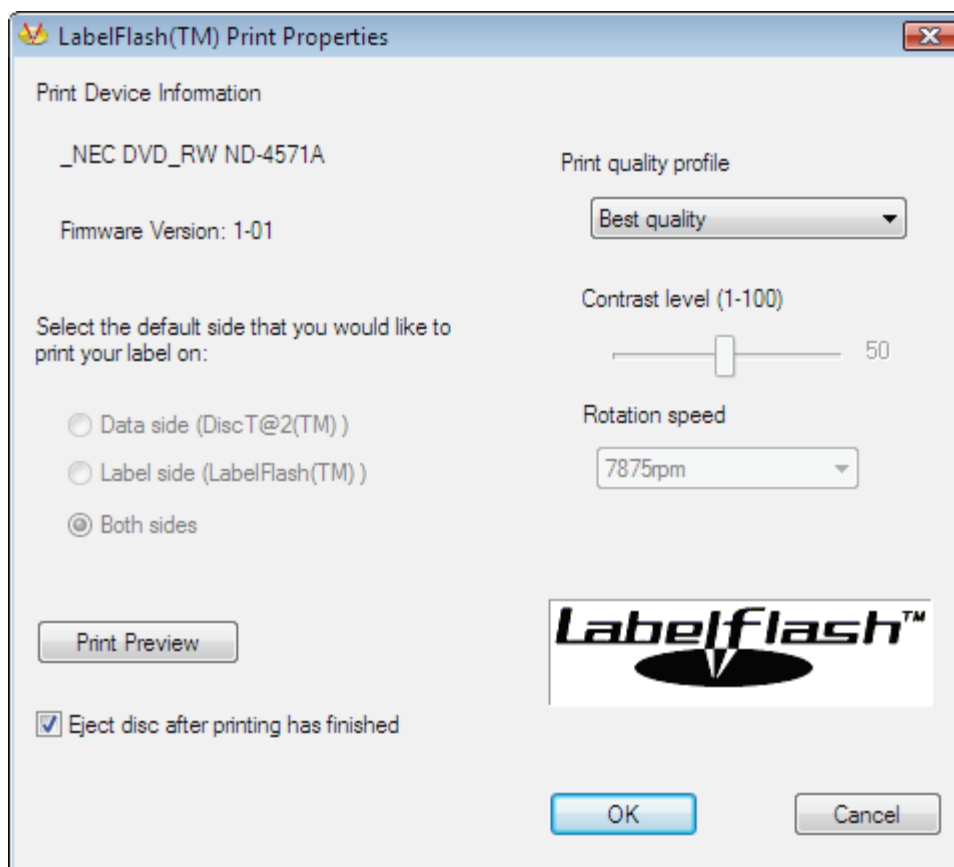


The interface in the **Burn Label** window and creation of a label work on the same principle as Nero CoverDesigner. See the separate Nero CoverDesigner manual for full instructions on how to create professional looking covers and labels.

- 4.** If you want to change the area in which the label is printed, change the print area accordingly using the input fields **Inner Radius** and **Width**.

5. If you want to view or change the print properties:

1. Click the **Change** button.
→ The **Labelflash Print Properties** window is opened.
2. If you want to change the printing quality, select a quality level from the **Print quality profile** drop-down menu.
3. If you select the **User defined** entry from the **Print quality profile** drop-down menu, you can change the contrast level and the rotation speed.
4. Click the **OK** button.
→ The **Labelflash Print Properties** window is closed and the changes are accepted.



Labelflash Print Properties

6. Click the **Burn** button.

- The labeling procedure starts and the **Labelflash - printing** or **DiscT@2 - printing** window is opened. The window shows the estimated printing time and the print progress. When printing is complete, a message window is opened informing about the successful print process.

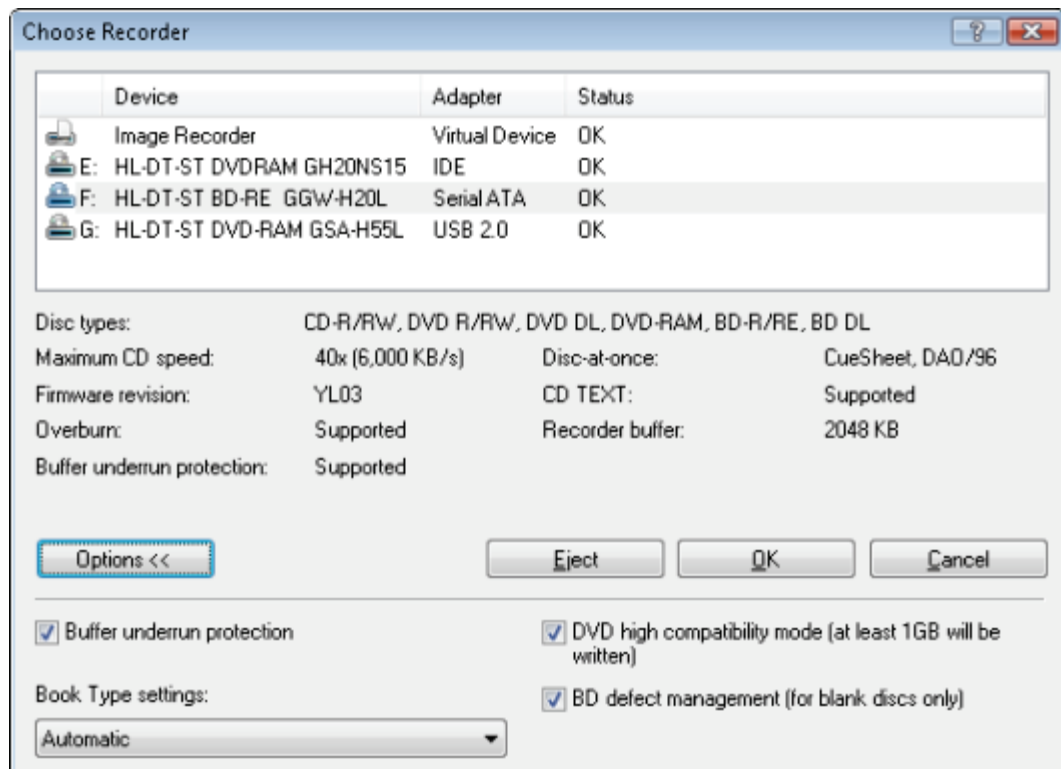
7. Click the **OK** button.

- The message window is closed and the disc ejected.
→ You have successfully printed a label.

11 Burn Compilation

11.1 Choose Recorder Window

In the **Choose Recorder** window you can select a recorder for burning. You can open the window via the button which is on the right side of the recorder drop-down menu. The window shows useful information about the recorder (e.g. supported disc types). In the advanced area you can set expert options. The available options depend on the chosen recorder.



Choose Recorder

The following setting options are available in the advanced area:

| | |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Buffer underrun protection | Provides <u>buffer underrun</u> protection. This feature is particularly useful for burning CDs. |
| Check box Write extended lead-out on double-layer discs | Writes an extended lead-out of 515 MB on the second layer of a double-layer multisession DVD when this area contains less data. Doing so improves the read compatibility. This feature is particularly useful for burning a data multisession DVD on a double-layer disc. It is not needed when the DVD is going to be finalized. |

| | |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box DVD high compatibility mode</p> | <p>Burns the DVD up to a radius of at least 30 mm (approx. 1 GB), even when the compilation contains less data. In doing so the DVD is forced to meet the DVD-Video specification which reduces the possibility of read errors.</p> <p>This feature is particularly useful for burning DVD-Videos.</p> |
| <p>Check box BD defect management</p> | <p>Burns the Blu-ray Disc in defect management mode. In doing so the burner allocates part of the disc so that it is once again able to burn the data that has been damaged in a write error. BD defect management reduces the write speed but increases data security.</p> <p>This feature is particularly useful for burning data Blu-ray Discs or for burning backups to Blu-ray Discs.</p> |
| <p>Drop-down menu Book Type Settings</p> | <p>Defines the <u>book type</u> setting for a DVD.</p> <p>This feature is particularly useful for burning to a blank DVD.</p> |



Four book type settings are available:

Automatic: Automatically selects the most suitable book type for this DVD.

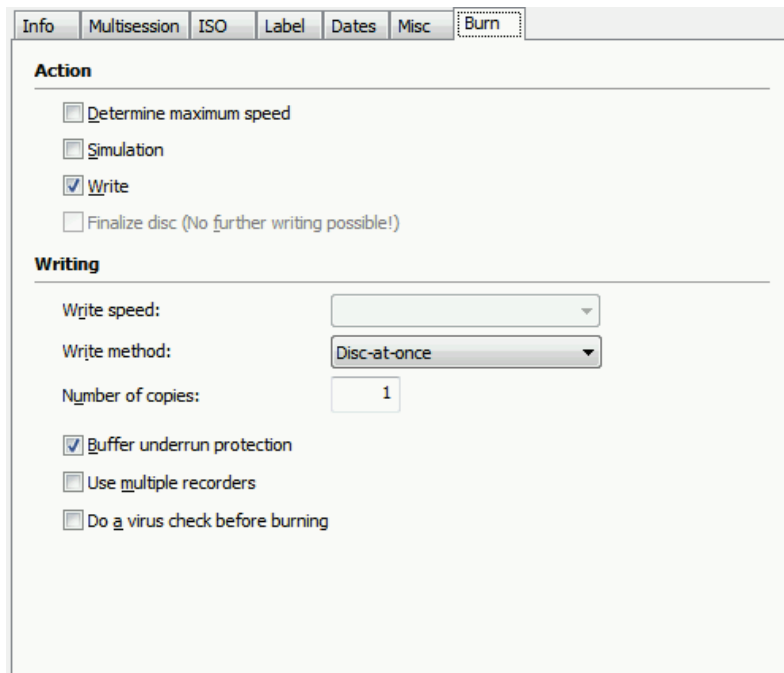
DVD-ROM: Sets the book type to DVD-ROM. Select this setting if the DVD is to be played on several DVD players or your DVD player has difficulties with self-burned DVDs or of the DVD-, DVD+ or DVD-RW specification.

Physical disc type: Selects the book type which is specified on the DVD.

Current recorder setting: Leaves the book type setting to the recorder.

11.2 Burn Settings

The **Burn** tab on the **Burn Compilation** window provides options for the burn process. Which options are enabled, depends on the chosen compilation.



Burn Tab

The following check boxes are available in the **Action** area:

| | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Determine maximum speed | Checks how fast the compiled data can be accessed and reduces the selected writing speed if necessary. This prevents a buffer underrun. Recorders with a feature to prevent buffer underruns do not require a speed test. Not available when saving with Nero Image Recorder. |
| Check box Simulation | Simulates burning. In the process the simulation performs all steps that are also carried out during burning with the exception of setting the laser beam. A test determines whether there is a constant flow of data. |
| Check box Write | Enables the Burn button. |
| Check box Finalize Disc | Closes the disc so that you cannot write to this disc anymore. Depending on the disc format, finalizing may be necessary. Nero Burning ROM automatically checks the box for the relevant disc formats. |

The following configuration options are available in the **Writing** area:

| | |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Write speed | Selects the write speed at which the disc is burned. |
| Drop-down menu Write method | Selects the method used to burn the disc. The following methods are available. Track-at-once: Burns each audio file (track) separately onto the disc, i.e. the laser is turned off and turned on again after each audio file. Disc/Session-at-once: Burns each session of a multisession disc separately onto the disc. Disc-at-once/96: Burns the entire disc in one go without having to turn off the laser between individual audio files. |
| Input field Number of copies | Defines the number of discs that are to be burned. The default is set to one disc. |
| Check box Buffer underrun protection | Provides buffer underrun protection. This check box is only available if the selected burner supports a method which offers buffer underrun protection. |
| Check box Using several recorders | When you click the Burn button, a window is opened in which you can select the desired recorders. The burn process is then carried out simultaneously on the selected recorders. |



The speed test and simulation are not required for recorders that have a function for protecting against buffer underruns. Current recorders mostly have such a feature.



Audio CDs should always be burned using the disc-at-once method. This entry is selected by default.

11.3 Starting the Burn Process



Many CD players cannot read rewritable CDs (CD-RW). You should therefore use normal CD-ROMs for burning Audio CDs.

To start the burn process, proceed as follows:

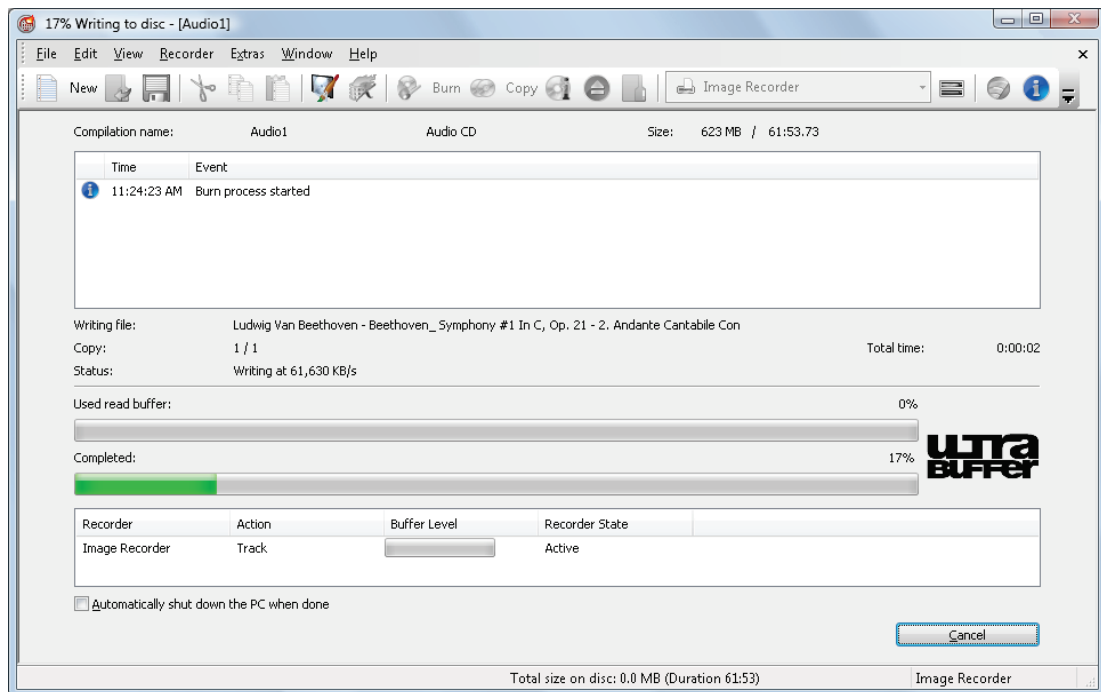
1. Choose a recorder from the drop-down menu in the main screen.

2. Insert an appropriate blank disc.
3. If technically possible you can change the disc type in the drop-down menu.



You can select an appropriate disc format without loss of information at any time in the main screen. Note that this has to be technically possible - for example you are obliged to burn an Audio CD to a CD. But it is possible to start with a data CD and change later to a data DVD, for example. The possibility to change the disc type is useful when starting a compilation without knowing how much space is required by the files.

4. If you want to check or select the options regarding this compilation type:
 1. Click the **Burn** button in the main screen.
 - The **Burn Compilation** window is opened; the **Burn** tab is in front.
 2. Check or select the options on the individual tabs.
 3. Click the **Burn** button.
5. If you want to start directly, click the **Burn Now** button in the lower main screen.
 - The burn process is started. On the screen a progress bar indicates the progress being made by the burn process.



Burning process

6. If you want to shut down the PC when done (as long as this is technically feasible), select the **Shut Down PC after Completion of Burn** check box.
7. If you want to check the written data after burning, select the **Verify written data** check box.

- When the burn process has finished, a message window is opened.
- 8.** If you want to display the extended area with the event log, click the **Details** button.
- 9.** If you want to start another burn process with the same compilation, click the **Burn Again** button.
- 10.** Click the **OK** button.
 - The burning process is complete. You can now remove the burned disc from the recorder.

11.4 Burning With Image Recorder – Creating an Image File

With Nero Burning ROM and the Image Recorder you can create disc images from every compilation. The NRG image file format can always be selected whereas the ISO image file format can only be selected from certain compilation types. Nero Burning ROM only enables the possible image file formats.

The NRG image file format was developed by Nero. In contrast to ISO, NRG can be created from every disc and compilation type. This means that even Audio CDs or multisession discs can be saved as an NRG image file.

To create an image file, proceed as follows:

- 1.** Click the **New** button.
- 2.** Create a new compilation of your choice.



Using Nero Burning ROM you can create image files for disc types that the installed recorder cannot burn. You can enable this function via the **File > Options > Expert Features** menu, **Enable all supported recorder formats for image recorder** check box. The drop-down menu in the **Compilation** window then makes available all supported disc types.

- 3.** Select the files that you want to burn.
- 4.** If you have installed multiple recorders, select Nero Image Recorder from the drop-down menu.
- 5.** Click the **Burn** button.
 - The **Burn Compilation** window is opened; the **Burn** tab is in front.
- 6.** Click the **Burn** button.
 - The **Save Image File** window is opened.
- 7.** Specify a file name and a storage location for the image file and click the **Save** button.
 - The image file is created and saved in the selected storage location. On the screen, a progress bar indicates the progress made while the file is being created. Once the creation process is over, a message window is opened.
- 8.** Click the **OK** button.
 - The message window is closed and you have successfully created the image file.

12 Copying a Disc

12.1 Methods of Copying

Nero Burning ROM can be used for copying discs. There are two methods for this:

- On-the-fly
- Copy Over Image

Each method has advantages and disadvantages which will depend on your requirements.

12.1.1 On-the-fly Copying

When using the on-the-fly method, insert the original disc into a drive and a recordable disc into the drive. The original disc in the drive is copied immediately without any time delay to the blank disc in the recorder. The on-the-fly method allows you to copy discs very quickly, and does not require any additional space on the disc.

In order to be able to use the on-the-fly method, you will need at least two drives: one for reading the disc and a disc burner for writing. The following requirements apply to the read drive and disc burner:

- The disc burner must feature buffer underrun protection, or the drive must be capable of delivering the data sufficiently quickly. The read speed should be at least twice as fast as the write speed.
- The read drive must be capable of delivering information on the number and type of sessions, otherwise Nero Burning ROM may not be able to produce an exact copy.

If you want to copy Audio CDs, we recommend the copy image method because the quality of the read audio files can suffer depending on the drive.

12.1.2 Copy Over Image

With the copy over image method, an image of the original disc is saved to a file first. The image file is then burned to a blank disc. Copying using copy over image takes longer, but it often produces better results.

You must have sufficient storage space to use the copy over image method.

The copy over image method is particularly suitable in the following situations:

- Only one drive is available.
- You would like to make several copies of the same disc.
- You think it likely that read errors may have occurred on the source CD (for example because it is scratched).
- You attach importance to the best possible reproduction (particularly in relation to index positions and the quality of Audio CDs).

12.2 Copying Disc

With Nero Burning ROM you can copy a disc. That means you make an exact copy of a source disc and burn it to a target disc. If your source disc is an Audio CD, for instance, your copy will be an Audio CD as well. Depending on your installed burner, you can copy CDs, DVDs or Blu-ray Discs. The target disc must be the same disc type as the source disc - you can copy a DVD only to a DVD, for example. In any case, Nero Burning ROM will give you a message when the disc type do not fit.



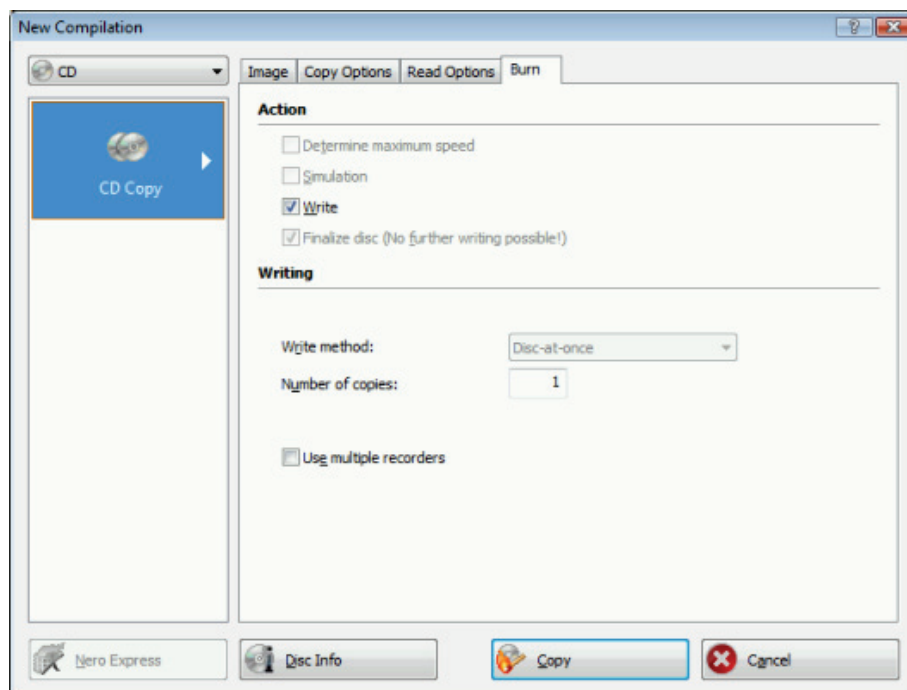
If you are not in possession of the copyright for the relevant disc and do not have authorization from the owner of the copyright, unauthorized copying of discs violates national and international legislation.



Some discs are copy-protected and cannot be copied. If you are not sure whether your disc can be copied, activate simulation before commencing the actual physical burn process.

To copy a disc, proceed as follows:

1. Click the **Copy** button in the main screen.
 - The **New Compilation** window is opened.



Copy Disc window

2. Select the disc format (**CD**, **DVD**, **Blu-ray Disc**) you want from the drop-down menu.
3. Choose the type of disc to be copied (e.g. Audio CD, Karaoke CD, DVD-Video, Data Blu-ray

Disc) from the **Profile** selection drop-down menu on the **Read Options** tab.

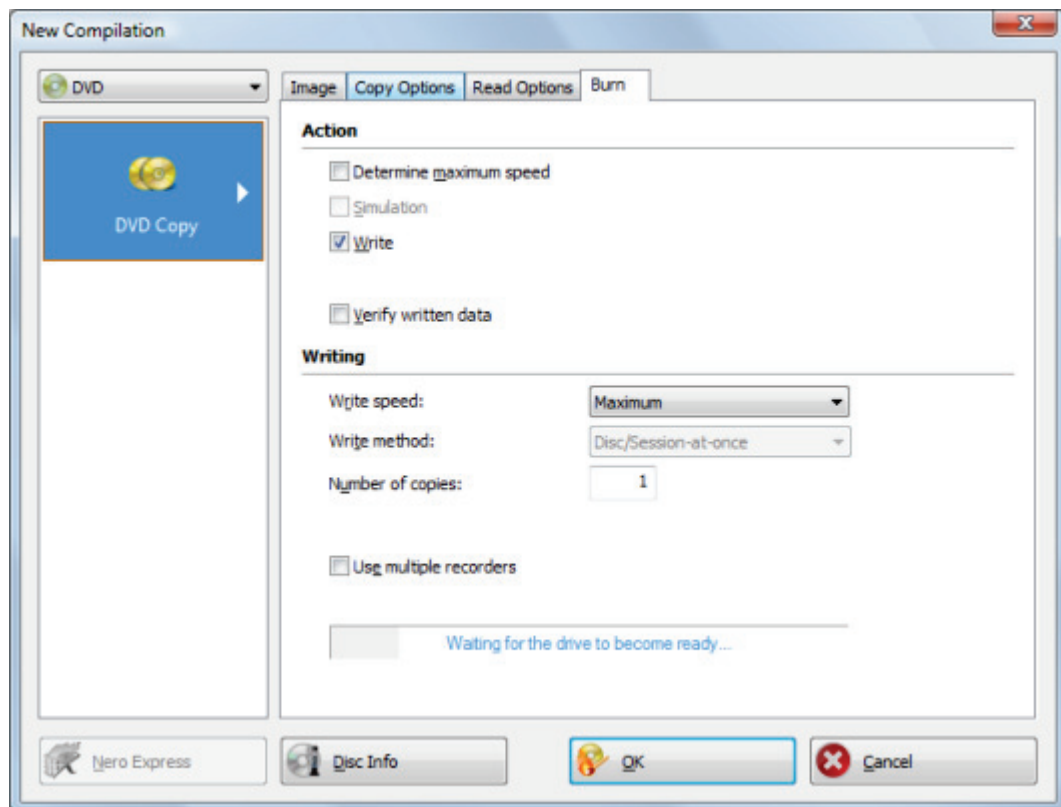
→ The read options are optimally set for the particular type of disc.

4. If you want to copy discs using the **On-the-fly** method:

1. Select the **On the fly** check box on the **Copy Options** tab.
2. Select the drive that contains the disc to be copied from the **Drive** drop-down menu.
3. Insert the disc that you want to copy into the selected drive.
4. Insert a blank disc.

5. If you want to copy discs using the **Image Copy** method:

1. Clear the **On the fly** check box on the **Copy Options** tab.
2. Insert the disc that you want to copy into the recorder.



Copy Options tab

6. Click the **Copy** button.

→ If you are copying via the drive, the copy process starts. If you are using Nero Image Recorder, the **Save Image File** message window is opened.

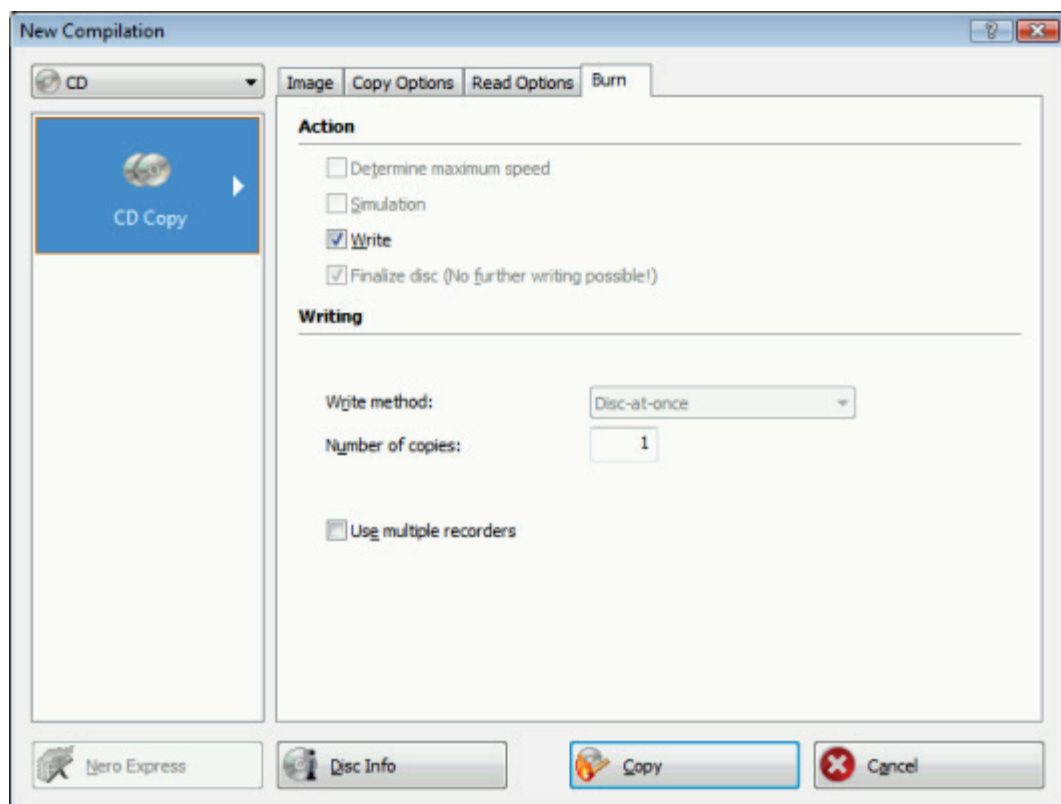
7. Enter a name for your image file in the **File Name** text box.

8. Select the relevant storage location in the **Save to** directory tree and click the **Save** button.

- The copy and/or save process starts. You can follow the process status in the status bar. If you are using a single drive for copying, you will be prompted to remove the source disc and to insert a suitable blank disc after the image file has been written.
- 9. Click the **Next** button.
 - You have successfully copied a disc.

12.3 Copy Settings

In the **New Compilation** window, define the options for copying at the beginning of the copy procedure. You can use the **Copy** button in the main screen to open the window. The **New Compilation** window consists of a drop-down menu, various buttons, and tabs.



Copy settings

Only those disc types supported by the recorder are displayed in the drop-down menu. If the recorder can only burn CDs, the drop-down menu is grayed out.



Using Nero Burning ROM you can create image files for disc types that the installed recorder cannot burn. You can enable this function via the **File > Options > Expert Features** menu, **Enable all supported recorder formats for image recorder** check box. The drop-down menu in the **Compilation** window then makes available all supported disc types.

The following configuration options are available:

| | |
|----------------------------|----------------------------------------------------------------------------------------------------------|
| Button Disc Info | Displays information on the disc inserted, such as contents (if any) or available capacity for instance. |
| Button Copy | Starts the copy process. |
| Button Cancel | Closes the New Compilation window. |

The following tabs are available:

| | |
|---------------------|-----------------------------------------------------------------------------------------------------|
| Image | Gives the path to the temporary image file and provides information on the speed of the hard drive. |
| Copy Options | Contains options for configuring copying. |
| Read Options | Contains options for configuring reading of the original disc. |
| Writing | Contains options for configuring the burn process. |

12.3.1 Image Settings

The **Image** tab provides the two areas **Image file** and **Hard drive speed info**. The **Image file** area is only enabled if the **On-the-fly** check box is cleared on the **Copy Options** tab.

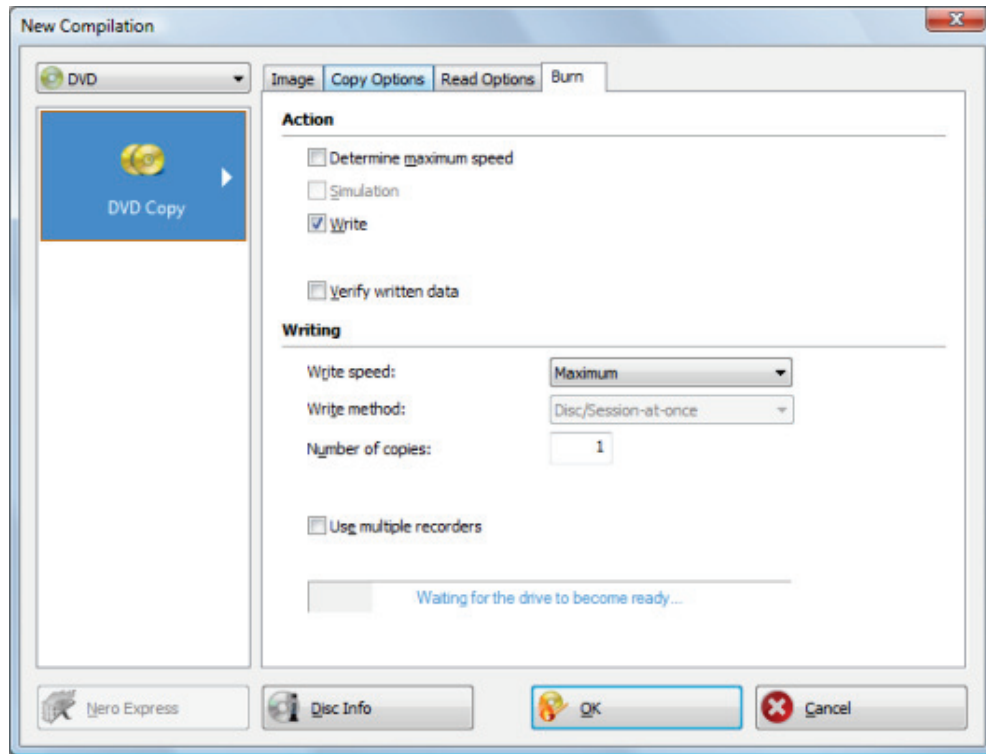
The **Image** tab provides the following configuration options in the **Image File** area.

| | |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Input field Path | Displays the path of the temporary image file. |
| Check box Delete image file after disc copy | Deletes the temporary image file when the copy process is finished. |
| Button Browse | Opens the Save As window where you can specify a file name and a directory where the temporary image file should be stored. |

The following configuration options are available in the **Image** tab in the **Info on Hard Drive Speed** area:

| | |
|------------------------------|--------------------------------------------------------------------------------|
| Drive List | Lists the available drives and hard drives. |
| Button Test Speeds | Tests the speeds of the available drives and adds the speed found to the list. |

12.3.2 Copy Options



Copy Options tab

In the **Copy Options** tag the following configuration options are available in the **General** Area.

| | |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box On-the-fly copying</p> | <p>Creates the copy using the on-the-fly method. If this check box is cleared, the copy is created using the copy-over-image method.</p> |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|

The following configuration options are available in the **Copy Options** tab in the **source** area:

| | |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Drop-down menu Drive</p> | <p>Selects the drive for reading the disc. If a copy over image is created, we recommend that you select the recorder for reading in.</p> |
| <p>Drop-down menu Read speed</p> | <p>Defines the speed at which the disc is read in.</p> |
| <p>Check box Eject source drive once the read process is complete</p> | <p>Ejects the source disc once the read process is finished so that you can insert the target disc.</p> |

12.3.3 Read Options

The **Read Option** tab consists of several areas. In these areas it is possible to set options for reading an original disc.

The following configuration options are available in the **Profile** area:

| | |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drop-down menu Profile selection | Selects predefined copy settings or a user-defined setting. In the case of predefined copy settings, Nero Burning ROM sets the configuration options automatically. You can select the configuration options yourself with a user-defined setting. |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The following configuration options are available in the **Database** area for the **CD** disc type:

| | |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Ignore read errors | Ignores read errors on the original disc and continues the read process. If this check box is cleared, Nero Burning ROM may interrupt the burn process depending on the type of error. |
| Check box Write defect sectors | Still passes on corrupt sectors (that have caused read errors) for burning. If this check box is cleared, corrupt sectors are not passed on and remain blank. |
| Check box Read sectors in raw mode | Reads PQ subchannel data. |
| Check box Read all subchannel data | Reads all subchannel data during copying. Subchannel data is used to save additional information. The burner has to be capable of reading all the subchannel data. |

The following configuration options are available in the **Audio Track** area for the **CD** disc type:

| | |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Ignore read errors | Ignores read errors on the original disc and continues the read process. If this check box is cleared, Nero Burning ROM may interrupt the burn process depending on the type of error. |
| Check box Read indexes of audio data | Reads the audio file indexes. This is particularly useful for copying an Audio CD as it makes sure that all index positions of the Audio CD are copied correctly. The disadvantage is that it increases the time it takes to analyze a disc before the copy process starts. |

| | |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Read all subchannel data | Reads all subchannel data during copying. Subchannel data is used to save additional information, e.g. CD Text. The burner has to be capable of reading all the subchannel data. |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The following configuration options are available in the **Advanced** area for the **CD** disc type:

| | |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Read Media Catalog Number and ISRC | Reads the media catalog number, a globally unique number for compilations, and the ISRC (International Standard Recording Code), a globally unique number for audio recordings. |
| Check box Use jitter correction | Jitter corrector removes scratches from audio and video files. |

The following configuration options are available in the **Error Correction** area for **DVD** and **Blu-ray Disc**:

| | |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Option button Read with error correction | Performs error correction while reading. In the process, the checksum of a corrupt sector is adjusted so that the sector in itself is consistent. |
| Input field Read retry count | Establishes the number of attempts that are made to correct errors. |
| Option button Fast reading without error correction | Performs fast reading without error correction. |

The following configuration options are available in the **Dealing with Non-Correctable Reading Errors** area for **DVD** and **Blu-ray Disc**:

| | |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Ignore read errors | Ignores read errors on the original disc. If this check box is cleared, Nero Burning ROM may interrupt the burn process depending on the type of error. |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|



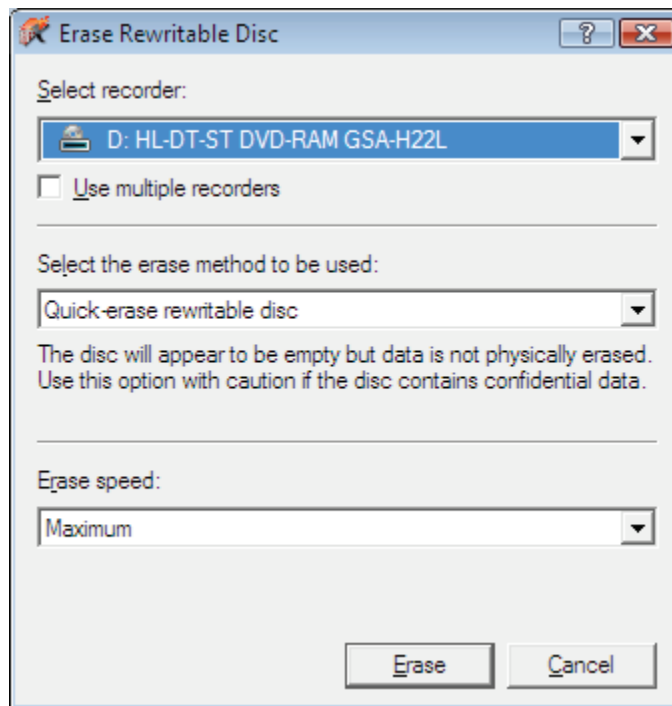
With certain disc formats such as video CD and audio CD, read errors often have little or no impact because they are not perceptible when the CD is played.

13 Erase Rewritable Disc Window

Nero Burning ROM 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 Select recorder | Defines the desired recorder. |
| Check box Use multiple recorders | Simultaneously erases CDs/DVDs in multiple recorders. |
| 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 |

| | |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>between one and two minutes.</p> <p>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.</p> |
| Selection list Erase speed | Defines the erase speed. |
| Button Erase | Starts the erase process. |
| Button Cancel | Cancels the action and closes the window. |

14 About Nero SecurDisc Viewer

Nero SecurDisc Viewer is a standalone application that is part of the SecurDisc technology platform. SecurDisc is a technology developed by Nero and HLDS to create discs with special protection properties. No special hardware is needed.

Nero SecurDisc Viewer is available as a free download at www.securdisc.net or www.nero.com and is also included automatically in a SecurDisc disc that is burned with Nero Burning ROM or Nero Express.

Discs that are created with Nero and the SecurDisc compilation type include data integrity and reconstruction. Additionally the data on the SecurDisc disc can be protected against unauthorized access by using a password. The data can also be digitally signed. Nero SecurDisc Viewer allows you to copy the protected data to your hard drive and to check the security of the data.



More information on SecurDisc technology can be found at www.securdisc.net.

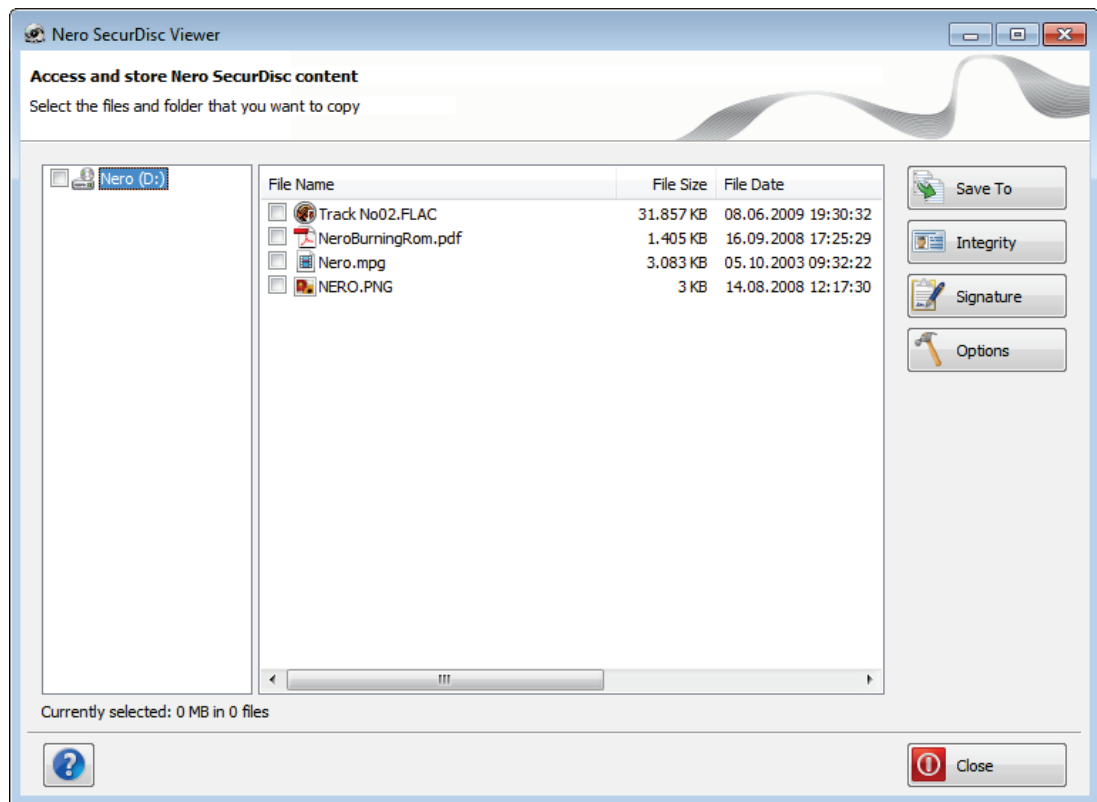
See also

 [Compiling a SecurDisc disc → 24](#)

14.1 Starting Nero SecurDisc Viewer

Nero SecurDisc Viewer is included automatically in a SecurDisc disc that is burned with Nero Burning ROM or Nero Express. Insert the SecurDisc disc in a drive to open Nero SecurDisc Viewer automatically.

Nero SecurDisc Viewer can also be opened by double-clicking the **NeroSecurDiscViewer.exe** file. This file can either be found on the SecurDisc disc or it can be downloaded from www.securdisc.net or www.nero.com.



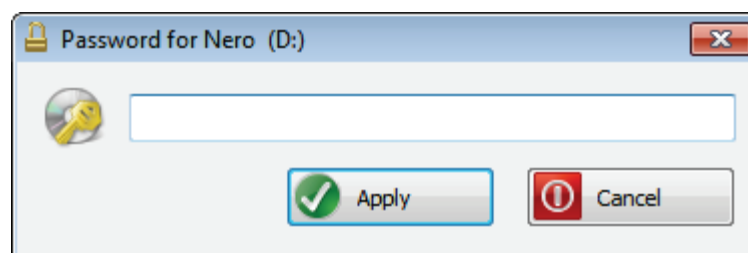
Main screen

14.2 Copying data to hard drive

With Nero SecurDisc Viewer you can copy the files from the SecurDisc disc to your hard drive. If the files have been protected against unauthorized access, you can insert the password here.

Proceed as follows:

1. Select the check boxes of the files you want to copy to the hard drive.
2. Click the **Save to** button.
 - If data on the SecurDisc disc is password-protected, the **Password Protection** window is opened.



3. Enter the password in the text box and click the **Apply** button.

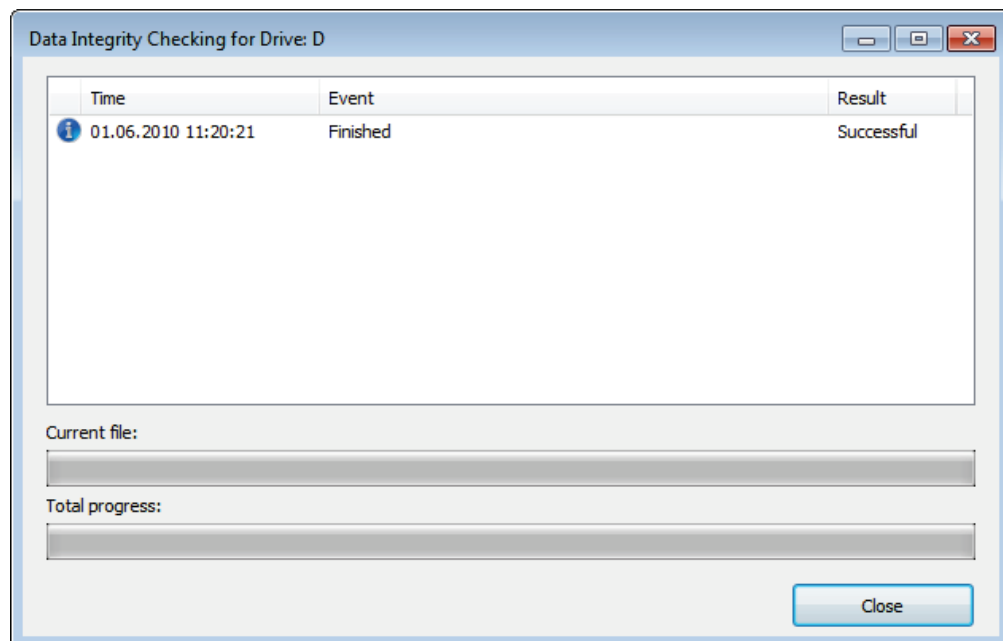
- An explorer window is opened.
- 4. Select the required folder and click the **OK** button.
 - The **Copy Data** window is opened and the files are copied. You can follow the progress with the status bar and the displayed messages. As soon as the copy process is finished, a message is displayed to notify you.
 - The selected files are copied to the selected folder.

14.3 Checking data integrity

Nero SecurDisc Viewer can be used to check the data integrity of a SecurDisc disc by using the checksum feature. The data integrity check warns you if the data on a disc is at risk of disc decay so that you have time to back it up to another disc.

Proceed as follows:

1. Click the **Integrity** button.
 - The **File Integrity Check** window is opened and the integrity check is carried out. You can follow the progress with the status bar and the displayed messages.
 - As soon as the integrity check is finished, a message is displayed to notify you about the result of the check.



14.4 Checking signature

With Nero SecurDisc Viewer you can verify the authenticity of the SecurDisc disc if it is digitally signed. You need the public key from the distributor of the SecurDisc disc for this purpose. By checking the public key, Nero SecurDisc Viewer is able to confirm that the data is authentic and has not been manipulated.

Proceed as follows:

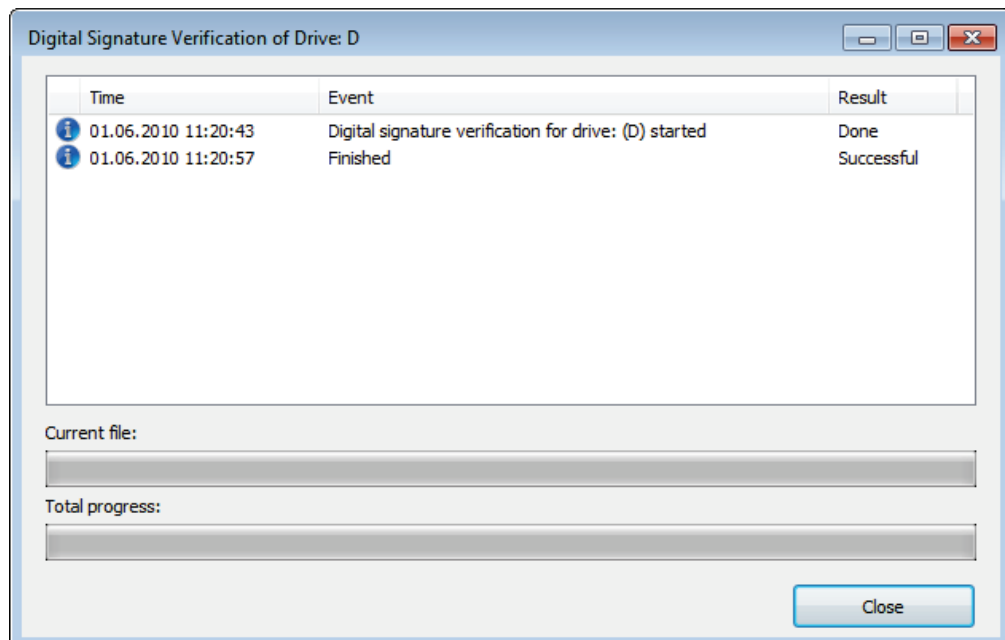
1. Click the **Signature** button.
 - An explorer window is opened.
2. Select the public key (*.bpk) which the SecurDisc disc is signed with.



Public key

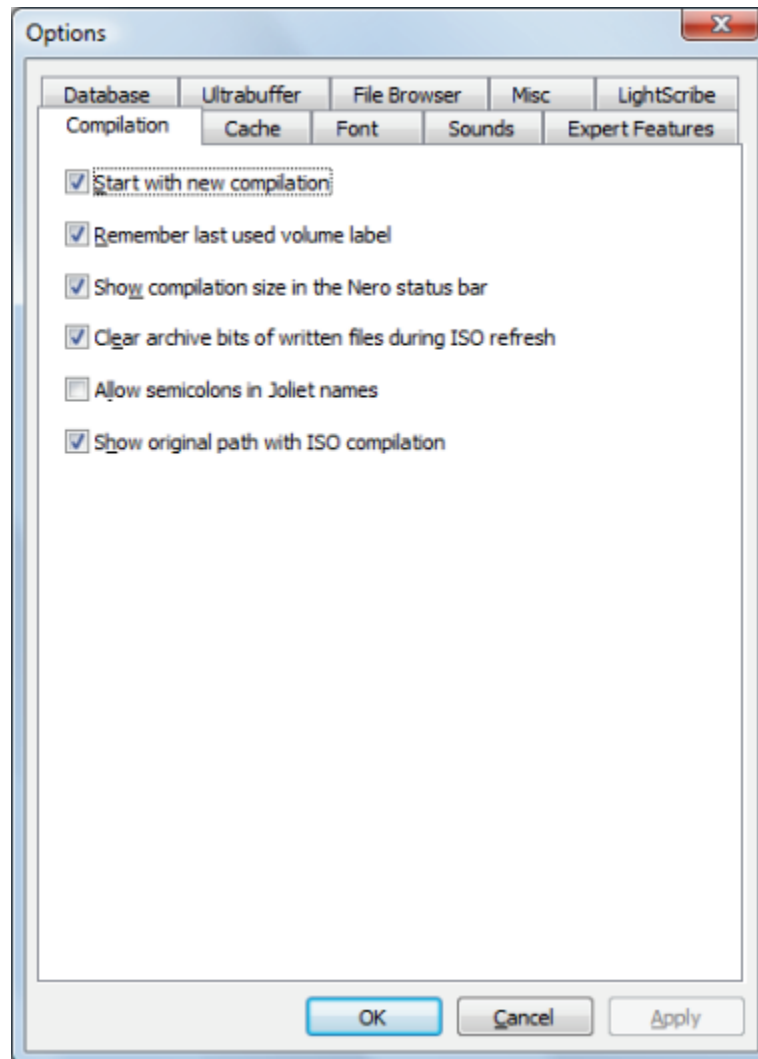
The creator of the SecurDisc disc has also created or selected the public key for the disc. The key is to be distributed by the creator of the disc, too.

3. Click the **OK** button.
 - The explorer window is closed and the **Check** window is opened.
 - The signature is checked. You can follow the progress with the status bar and the displayed messages.
 - As soon as the copy process is finished, a message is displayed to notify you about the result of the check.



15 Configuration Options

You can define options for working with Nero Burning ROM in the **Options** window.



Options Window

The following tabs are available:

| | |
|--------------------|----------------------------------------------------------------------|
| Compilation | Contains options for the compilation and the selection screen. |
| Cache | Contains options for the cache. |
| Font | Contains selection options for the font. |
| Sounds | Contains selection options for sounds in connection with burn tasks. |

| | |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expert Features | Contains options for configuring overburning and burning. We recommend that you retain the default settings. |
| Database | Selects the default naming method for audio files to be saved from an Audio CD to the hard drive. |
| Ultrabuffer | Defines the size of the RAM buffer. |
| File Browser | Contains options for configuring the file browser. |
| Misc. | Contains options for configuring compilations, burning, the database, the user interface, as well as advanced settings. |
| LightScribe | Contains options for configuring LightScribe recorders such as the print contrast (quality), default drive, and default template. This tab is only available if a LightScribe recorder has been installed. |

15.1 Compilation Settings

The following configuration options are available on the **Compilation** tab:

| | |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check box Start with new compilation | Starts when opening a new compilation from Nero Burning ROM. |
| Check box Remember last used volume label | Makes available the title for the next disc. |
| Check box Show compilation size in the Nero status bar | Displays the storage volume of your files in a status bar. |
| Check box Clear archive bits of written files during ISO refresh | Deletes the <u>archive bits</u> of saved files. |
| Check box Allow semicolons in Joliet names | Allows the use of semicolons in addition to standard uppercase and lowercase letters and Unicode characters (and German umlauts) in file names in the <u>Joliet</u> file system. |
| Check box Show original path with ISO compilation | Lists the full path of the added files in the compilation screen in the Source column. |

15.2 Cache Settings

The following configuration options are available on the **Cache** tab:

| | |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input field Path for cache | Displays the path of the <u>C</u> ache memory. You can enter the path manually or select the path in the browser window. |
| Button Browse | Opens a browser window. You can select a folder in which data is buffered before and during the burn process. |
| Input field Minimum space on hard drive, which Nero should not use | Defines the minimum storage volume on the cache drive that is not used by Nero Burning ROM. |
| Check box Cache files that have been dragged over from a CD-ROM drive | Saves files that have been added to the compilation from a source disc in a temporary directory. If you clear this check box then you have to insert the original source disc during the burn process. |

15.3 Expert Features

The following configuration options are available on the **Expert Features** tab:

| | |
|-----------------------------------------------------------------------------------|---------------------------------------------------------|
| Check box Enable Disc-at-once CD overburning | Enables the option that CDs can be overburned. |
| Drop-down menu / Input field Absolute/Relative maximum overburning size | Defines how much a CD can be overburned. |
| Check box Enable DVD overburning | Enables the option that DVDs can be overburned. |
| Drop-down menu / Input field Maximum DVD size | Defines how much a DVD can be overburned. |
| Check box Enable generation of short lead-out | Enables the option to write additional data to your CD. |

| | |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Check box</p> <p>Do not eject disc after burning</p> | <p>Enables the option that your disc remains in the recorder and is not ejected when the burn process is finished.</p> |
| <p>Check box</p> <p>Enable all supported recorder formats for image recorder</p> | <p>Enables the option that all supported recorder formats for the Image Recorder are available.</p> <p>It is now possible to create compilations that the installed recorder cannot burn. For instance, you can create a Blu-ray compilation without a Blu-ray recorder and create an image file with Nero Image Recorder.</p> |
| <p>Area</p> <p>Nero burn functions in the context menu</p> | <p>Allows Nero Burning ROM 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.</p> |



Overburning

Overburning means writing more data on the disc than originally intended. It is achieved by reducing the lead-out area to a few seconds, which is sufficient in most cases. However, this violates the CD standard and may result in recording and playback errors (depends on the used recorder).

15.4 Ultrabuffer Settings

The following configuration options are available on the **Ultrabuffer** tab:

| | |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Selection list</p> <p>Method</p> | <p>Defines the memory capacity that Nero Burning ROM uses as a RAM buffer.</p> <p>The <u>ultrabuffer</u> is a second memory that enhances the physical buffer in the recorder.</p> |
| <p>Input field</p> <p>Data buffer size</p> | <p>Defines the memory capacity that can be manually entered.</p> <p>The input field is only enabled when Manual Configuration is selected in the selection list.</p> |

15.5 LightScribe Settings

The following configuration options are available on the **LightScribe** tab:

| | |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Area Print contrast | Adjusts the desired print quality. |
| Selection list Default LightScribe drive | Selects the drive with the LightScribe recorder. |
| Selection list Genre | Specifies the genre. |
| Selection list Current template | Defines a template for labels. |
| Selection list Default print resolution (DPI) | Adjusts the desired print resolution. |
| Check box Printing LightScribe labels | Enables the option to automatically burn a LightScribe label. This tab is only available if a LightScribe recorder has been installed. |

16 Technical Information

16.1 System Requirements

Nero Burning ROM is part of the Nero product you have installed. Its system requirements are the same. Detailed system requirements of this and all other Nero products can be found in the Support section on our Web site www.nero.com.

16.2 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.

16.3 Disc Formats

- Data CD (ISO, UDF, ISO/UDF)
- Data DVD (ISO, UDF, ISO/UDF)
- Blu-ray data disc (ISO)
- SecurDisc CD/DVD/Blu-ray Disc
- Audio CD
- Mixed Mode CD
- CD EXTRA
- DVD-Video
- Nero Image (NRG)
- CUE-Image [Import only]
- ISO-Image
- AVCHD video
- BDMV-Video
- Nero DiscSpan (UDF)

16.4 Audio Formats and Codecs

- AAC elementary stream (AAC) - not ripping
- Audio Interchange File Format (AIFF, AIF)
- Compact Disc Digital Audio (CDA) - not encoding
- Dolby Digital (AC3) - only source format in compilations
- MP3 / mp3PRO (MP3)
- Nero AAC (MP4, M4A)
- OGG Vorbis (OGG, OGM)
- PCM WAV file, ADPCM Wav file (WAV, WAVE)
- Windows Media Audio (WMA) - not ripping
- Free Lossless Audio Codec (FLAC)

16.5 Video Formats and Codecs

- Advanced Streaming Format (ASF)
- Audio Video Interleave (AVI)
- Digital Video (DV)
- Moving Picture Experts Group-2 (MPG, MPEG, DAT, M2T)
- Nero AAC Codec (MP4)
- QuickTime Movie (MOV)
- Video Object (VOB)

16.6 Image Formats

- Bitmap (BMP)
- Device Independent Bitmaps (DIB)
- Graphics Interchange Format (GIF)
- Icon Image File (ICO)
- JPEG File Interchange Format (JFIF)
- Joint Photographic Expert Group (JPEG, JPG, JPE)
- Picture Exchange (PCX)
- Portable Network Graphics (PNG)
- Portable Pixel Map (PPM)
- Targa Image File (TGA)
- Tagged Image File Format (TIFF, TIF)
- Windows Media File (WMF)

16.7 Formats for Playlists

- Moving Picture Experts Group Audio Layer 3 Uniform Resource Locator/MP3 URL (M3U)
- Moving Picture Experts Group Audio Layer 3 Uniform Resource Locator/MP3 URL + UTF-8 (M3U8)
- Playlists File Format (PLS)

17 Glossary

AIFF

The Audio Interchange File Format is an uncompressed audio file format from Apple® and represents a sort of counterpart to the WAV format from Microsoft. Files are larger than when using a compressed format, but the quality is higher. AIFF compressed is the compressed variation.

Archive Bit

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

AVCHD

AVCHD is an HD capturing format for camcorders. It is used for DVDs but compatible to Blu-ray Discs.

Book Type

The book type defines the specification (e.g. DVD-, DVD+, DVD-ROM) of a DVD. In order to ensure correct playback, the DVD specifications are defined in books so that all media can be read correctly. The specifications are defined in the so-called Rainbow Books, which are distinguished by means of their color (e.g. Yellow Book).

Bootable CD

Bootling 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.

Buffer

A buffer refers to temporary memory that records and delivers data that cannot be processed immediately as required. The buffer also allows for continuous data flow.

Buffer Underrun

A buffer underrun is an interruption in the data flow in the internal memory (e.g. of the recorder). A buffer underrun results from an interruption in the data flow to the internal buffer. The buffer continues to deliver data until it is finally empty. When recording, data is fed continuously to the recorder's buffer in order to keep a steady flow of data. If the steady flow of data is interrupted, the media becomes unusable. Most modern recorders have a protective mechanism against buffer underruns.

Cache

Cache is a faster buffer that is used in various areas of a computer to access larger data volumes faster. Cache ensures a continuous flow of data.

CD-R

Compact Disc-Recordable is a technology for write-once media. The Orange Book standard defines the storage of audio data and other computer-readable data.

Codec

The compressor/decompressor encodes the data for recording or saving digitally and then decodes it for playback. Various software codecs are available such as Cinapak, Indeo, Quicktime, Video for Windows, etc. Hardware codecs include MPEG, H.261, Motion JPEG, etc.

Disc-At-Once

Disc-At-Once refers to a method in which the laser in your recorder burns straight through in one session without turning off and on between each track. This method is best when re-recording Audio CDs you would like to play in your home or car stereo.

Frame

With an Audio CD, 75 sectors provide one second of played music. One sector consists of up to 98 frames; one frame contains 24 data bytes and 9 control bytes. Similarly, "frame" describes a full screen in television and video technology. Two successive half images result in a full screen within a second due to interlacing.

Image

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

Jitter

Jitter refers to an abrupt and undesired change in the signal characteristics. Small gaps occur in the data stream as a result. Audio correction synchronizes the data by overlapping the sectors. This way, the gaps are not audible.

Joliet

Joliet refers to an extension of the ISO-9660 standard for file names. Joliet was designed by Microsoft in order to represent more characters. The file name can be up to 64 characters long and contain the letters A-Z, a-z, umlauts, as well as characters from Chinese, Japanese, and Korean.

Label

A label refers to a label on a disc. Some drives, e.g. drives that use LightScribe or Labelflash technology, can transfer labels directly to special media.

Labelflash

Labelflash is a technology with which pictures and texts can be burned on the label or data side of a disc with a laser.

LightScribe

LightScribe is a technology with which pictures or texts can be burned on the label side of discs with a laser.

MP3

The MPEG-1 Audio Layer 3 audio format is used to reduce the size of audio files to a fraction of their original size (factor 1:10) with little loss of quality. You can estimate about 1 MB per minute as opposed to 10 MB for the original files. This value and the quality can vary depending on the complexity of the audio signal. The bit rate used can be used as a measure of quality. The higher the bit rate, the better the quality, but also the more memory required.

mp3PRO

mp3PRO is an MP3 codec that compresses audio files even more but in lower bit rates and better quality. 64 kBit/s in mp3PRO is the equivalent to 128 kBit/s in MP3.

MPEG-1

The Moving Picture Experts Group defined this industry standard for video and audio codecs. MPEG-1 is part of the MPEG compression family and has the highest compression rate. MPEG-1 is the format for video CDs.

MPEG-2

The Moving Picture Experts Group defined this industry standard for video and audio codecs. There is little difference between MPEG-1 and MPEG-2: MPEG-2 is a broadcast standard and better for televisions that are interlaced. MPEG-2 is used as a video format for DVDs.

Multisession

A multisession refers to completing a disc in multiple cycles. After a first session has been written to the disc, information can then be added in another record because the disc has not been finalized.

Nero AAC

Various MPEG-4 video and audio codecs are collated in Nero AAC and are fully compatible with the standard MPEG-4. Nero AG is continuing to develop these. In this way a substantially higher quality of the multi-media data is achieved. Further, additional features such as subtitles have been implemented.

Track-At-Once

Track-At-Once refers to a write method in which each track is written to the disc individually. The writing process is interrupted briefly after each track, i.e. the laser starts again for each track. With this write method, it is only possible to continue writing to a DVD sometimes and at a later stage. There is a pause of at least 27ms between tracks, which can be disruptive for Audio CDs.

WAV

The WAV audio format, also called WAVE or Waveform audio format, is an audio format from Microsoft and uses no data compression. WAV is the counterpart to the AIF format from Apple.

18 Index

| | | | |
|--------------------------------------|-----|----------------------------------|--------|
| Album | 46 | CD EXTRA | 46 |
| Audio CD | 37 | Check Point | 34 |
| Burn in disc-at-once mode | 44 | Compilation | |
| Burn in track-at-once mode | 44 | Choose disc type | 12 |
| Burn note | 87 | Choose from Jump List | 14 |
| CD Text | 44 | Create an AVCHD video disc | 65 |
| Configuration options | 43 | Create Audio CD | 37 |
| Convert | 51 | Create BDMV-Video disc | 67 |
| Copy an Audio CD | 91 | Create CD EXTRA | 45 |
| Copy options | 96 | Create Data disc | 19 |
| Copy tip | 90 | Create DiscSpan disc | 29, 29 |
| Cross fade with previous track | 40 | Create DVD-Video | 63 |
| Identify with Gracenote | 47 | Create Mixed Mode CD | 45 |
| Normalize audio files | 43 | Configuration options | 104 |
| Obtain metadata | 47 | Copy | |
| Save to Computer | 51 | Copy over image | 90 |
| Track properties | 39 | Copying a disc | 91 |
| Audio file | | Ignore read error | 96 |
| Add Album Art | 54 | Jitter correction | 97 |
| Convert into another format | 54 | On-the-fly | 90 |
| Declick | 42 | Set options | 93 |
| Fill titles | 52 | Data disc | 19 |
| Filter | 41 | Copy a data disc | 91 |
| Identify with Gracenote | 47 | Copy over image | 35 |
| Indexes | 40 | Define character set | 24 |
| Normalize | 42 | ISO | 23 |
| Obtain metadata | 47 | Joliet | 23 |
| Remove pause at the end | 45 | Multisession | 21 |
| Save | 48 | Select data mode | 23 |
| Save to hard drive | 52 | Select file system | 23 |
| Book type setting | 85 | UDF | 24 |
| Bootable disc | | Xbox compatible disc | 24 |
| Backup part | 70 | Data track | 35 |
| Create bootable disc | 71 | Disc type | |
| DosBootimage | 72 | Audio CD | 13 |
| El Torito | 70 | AVCHD video | 14 |
| Emulation type | 70 | BDMV-Video | 14 |
| ISOLINUX | 72 | Bootable Disc | 13 |
| Requirements | 70 | CD EXTRA | 13 |
| Burn options | | Data disc | 12 |
| Buffer Underrun | 87 | DVD-Video | 13 |
| Disc-at-Once | 87 | Mixed Mode CD | 13 |
| Finalize disc | 86 | DiscSpan | |
| Simulation | 86 | Create discs | 29, 29 |
| Track-at-Once | 87 | Restore data | 32 |
| Write method | 87 | DiskT@2 | 80 |
| Burning | | | |
| Overburning | 106 | | |
| Set recorder options | 84 | | |
| Use Image Recorder | 89 | | |

- Encoding options
 - AIF 56
 - MP3 57, 58
 - Nero AAC Audio..... 60
 - OGG 61
 - WAV 56
- Gracenote 7, 47, 49
- Hide file 21, 31
- Image
 - Burn disc from image 73
 - Create from data disc..... 36
 - Create image file..... 89
 - Load image file..... 73
- Image Recorder 19, 29
 - Create image file..... 89
 - Enable all supported formats..... 107
- iPod 54
- Jump List..... 14
- Labelflash 80
 - Burn label..... 82
 - Create label 80
- LightScribe 76
 - Burn label..... 76
 - Create label 78
 - Set options..... 108
- Main screen..... 9
 - Menu bar..... 9
 - Toolbar 10
- Manual, conventions 6
- Multisession 21
 - Continue multisession disc..... 22
 - Start a disc..... 22
 - Use of multisession discs..... 21
- Music
 - Compile Audio CD..... 37
 - Convert audio files 55
 - Encoding options 55
- Nero CoverDesigner 78, 80
- Nero SecurDisc Viewer 100
 - Check data integrity 102
 - Checking the signature..... 103
 - Copy data from SecurDisc disc 101
 - Remove password protection 101
 - Starting 100
 - Verifying authenticity 103
- Program
 - Use of the program 6
- Read speed 95
- Rewritable disc
 - Erase 98
 - Erase method..... 99
- SecurDisc
 - About SecurDisc 100
 - Digital signature 26
 - Explanation 24
 - Limit data redundancy..... 28
 - Nero SecurDisc Viewer 100
 - Password protection..... 25
- Selection screen
 - Browser area..... 17
 - Burn Now button 17
 - Capacity bar..... 17
 - Compilation area..... 17
- Start
 - From context menu 8
- System requirements 109
- User interface 9
- Video
 - Compile an AVCHD video disc..... 64
 - Compile Blu-ray Disc Video..... 67
 - Compile DVD-Video 63
- Window
 - Choose recorder 84
 - Encode Files 55
 - Erase Rewritable Disc..... 98
 - Main screen 9
 - New Compilation..... 12
- Work overview..... 7
- Xbox
 - Create compatible disc..... 24

19 Contact

Nero Burning ROM is a Nero AG product.

Nero AG

Im Stoeckmaedle 18

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>

Copyright © 2010 Nero AG and its licensors. All rights reserved.