

Virtual CD v7



Manual

Table of Contents

Introduction	1
Foreword	1
Legal Notices	2
Document Conventions	2
What Virtual CD can do for you	3
New Features in Version 7	4
Virtual CD Licensing	5
System Requirements	6
Technical Support	7
Installation	9
Notes on Installation	9
Installation	9
Quick Installation	10
Advanced Installation	10
After Installation	10
Folders Installed	11
Removing Virtual CD from Your System	11
First Steps	13
Getting Started the Fast Way	13
Your First Virtual CD in 5 Easy Steps	13
Virtual CD Step by Step	17
Introduction to the User Interface	17
<i>Using Virtual CD Functions</i>	17
<i>Toolbox</i>	18
<i>Virtual CD Sidebar</i>	19
<i>Quick Start Utility</i>	21
<i>Explorer Extension</i>	23
<i>CD Management: The Center of Virtual CD</i>	26
Creating Virtual CDs	28
<i>What you need to know</i>	28
<i>What types of CDs are available?</i>	29
<i>Image Wizard</i>	31
<i>Creating a Data CD</i>	33
<i>Creating an Audio CD</i>	40
<i>Image Writer</i>	44
<i>Copy Templates</i>	45
<i>Creating a Virtual CD Copy Template</i>	48



<i>Quick Copy - The Fast Way to Make Virtual CDs</i>	50
<i>One-Click Copy</i>	53
Composing your own Virtual CDs	54
<i>Making a Customized Virtual CD</i>	54
<i>Editing a Virtual CD</i>	56
Working with Virtual CDs	56
<i>Inserting a Virtual CD</i>	56
<i>Shortcuts for Fast Access</i>	58
<i>Ejecting a Virtual CD</i>	58
<i>Copying Virtual CDs</i>	59
<i>Deleting Virtual CDs</i>	60
<i>Properties of a Virtual CD</i>	62
<i>Keeping Track of Your Virtual CDs</i>	63
<i>User-Defined Views</i>	65
<i>Using Scripts – No Programming Required!</i>	67
<i>Command Line Program</i>	69
Finding Your Data	69
<i>Search Options</i>	69
<i>Integrating Existing Virtual CDs</i>	70
<i>Tasks in the CD Search Program</i>	72
<i>Find and Delete</i>	75
<i>Virtual CD Catalog Functions</i>	76
<i>Display of Catalogs</i>	77
<i>Searching in Catalogs</i>	78
<i>Catalog Management</i>	80
Non-Virtual CD File Formats	81
<i>ISO Images and Other Formats</i>	81
<i>Limitations of ISO Images</i>	82
<i>Converting Images</i>	83
Burning Virtual CDs on CD-ROMs	86
<i>Methods for Backing Up Virtual CDs</i>	86
<i>Notes on Burning CDs</i>	86
<i>Creating 1:1 Copies</i>	87
<i>Burning Smart Virtual CDs</i>	89
<i>Using Smart Virtual CDs</i>	90
<i>Removing the Smart Virtual CD Reader</i>	91
<i>Advantages of Smart Virtual CD Technology</i>	92
Security Measures for Physical CDs	92
<i>Controlling the Use of CDs</i>	92
<i>Disabling the Use of Physical CDs</i>	93
<i>Permitting the Use of Specified CDs</i>	94
Configuring your Virtual CD Program	96
<i>Virtual CD Settings</i>	96
<i>Adding/Removing Virtual CD Drives</i>	97

Virtual CD in the Network	99
Before you get started...	101
Global Configuration Path	102
Access to Virtual CD Folders	104
Client Setup Program	104
Creating a Client Setup	105
Using Multiple License Codes	113
Problems - and Their Solutions	115
Stay up to date!	115
Questions and Answers	115
Contacting VCD Support	116
Troubleshooting	117
Familiar Questions	117
What to do if a virtual CD doesn't work	117
What to do if you cannot make a virtual CD	118
What to do if a virtual audio CD can't be played	119
Driver Problems	122
Questions on Network Operation	123
General Questions	123
Glossary	125
Index	131



Introduction

Foreword

Thank you for choosing Virtual CD. Once again, we have integrated a number of suggestions that we received from users of earlier versions. We would like to take this opportunity to express our thanks to all of you who took the time to share your opinions and your experience with us.

This documentation should give you a good idea of how Virtual CD works, and how you can work with it. You may wish to use it for reference purposes, to look up specific points as you need them. The information provided here is divided into the following sections:

- **Introduction:** Provides an overview and general information.
- **Installation:** Describes the installation of Virtual CD and what you need to know to make it run smoothly.
- **First Steps:** This section is specifically directed at newcomers, and tells how to make your first virtual CD.
- **Virtual CD Step by Step:** Here you will find detailed descriptions and practical examples of Virtual CD functions.
- **Virtual CD in the Network:** If you use Virtual CD in a network, check here for the information you need about configuration and operation.
- **Problems – and Their Solutions:** This sections offers additional details about the program, as well as solutions to problems that may arise when you use Virtual CD.



This documentation was written on the basis of a full Virtual CD version installed under Windows XP. If you use a different operating system or have already changed some of the Virtual CD settings, the windows displayed and the controls available may not be the same as those shown here.



The examples given in this documentation often describe only one of several possible methods for executing a particular task. Once you know your way around the program, you may find other techniques for activating the functions you need.



Legal Notices



If you use Virtual CD with CDs or DVDs that are under license, then creating multiple virtual images from a given CD/DVD or running Virtual CD and the CD/DVD on different computers at the same time may constitute a breach of the software licensing agreement you entered into with the manufacturer of the CD/DVD in question. Make sure to check the licensing agreements you have with the CD/DVD manufacturer(s) for detailed information.

Copyrights on the software, the Virtual CD trademark and all corresponding documentation are owned by H+H Software GmbH. Microsoft and Windows are registered in the US as trademarks of Microsoft Corporation. The names of products mentioned in this manual are used for identification purposes and may be trademarks or registered trademarks of their manufacturers.

Document Conventions

For added clarity in these texts, this documentation uses the following conventions: Texts quoted from the program (buttons, menu items, dialog texts, etc.) are in **bold** type.

Information that is particularly important is marked by one of the symbols shown below. These notes contain information that is essential for trouble-free operation of the software.



Notes or procedures that are especially important are marked by the “exclamation point” symbol you see here.



Tips and tricks for simplifying procedures are marked by the “light-bulb” symbol shown here.

In some cases, step-by-step examples are given of certain tasks or configuration procedures. The individual steps are marked as follows:



Step 1



Step 2

What Virtual CD can do for you

Virtual CD makes your CD/DVD applications faster, more efficient, and easier to use by storing them in the form of “virtual CDs” on your hard drive using highly effective data compression techniques. Once you’ve made a virtual CD from a physical CD or DVD, simply ‘insert’ it in a virtual drive to run it. Virtual drives behave just like physical drives, and are displayed in the same manner in your Windows Explorer.

With Virtual CD v7:

- you get the first program of its kind that has a Microsoft-certified driver, ensuring the greatest possible stability:



- your CD/DVD-based applications are much faster, because the CDs run from your hard drive rather than from the CD-ROM drive.
- you don't have to bother with inserting and removing physical CDs – let alone having to look for them in the first place.
- you can run your CDs on computers that don't even have physical CD drives.
- you can use multiple CDs simultaneously – no need for an expensive CD changer!
- your valuable original CDs won't get lost or damaged.
- you can conserve precious battery power in your notebook, because you don't have to run a CD drive.
- your workplace is quieter, because CD drive noise is eliminated.
- you can use Smart Virtual CD technology to make backups of all your CDs.



- you can choose whether to permit the use of physical CDs on a given computer.
- the CD Management program gives you intuitive, centralized control of all Virtual CD features, with a window layout that you can customize.
- you can use encryption to prevent unauthorized access to sensitive data on virtual CDs.

New Features in Version 7

In case you are already familiar with an earlier version of Virtual CD, the following list will fill you in on the new features available in version 7:

- With the Virtual CD sidebar, you can see at a glance which virtual CDs are currently in which virtual CD drives, without having to open the Windows Explorer or any other program. The VCD sidebar also gives you direct access to the main Virtual CD programs.
- The Catalog Search function has been revised and improved, and lets you access the data structure of virtual and physical CDs without inserting them.
- You can create ISO images using the Image Wizard.
- Improved data-reading capabilities make it even easier to make CDs with special formats.
- Revised analysis functions for optimized automatic creation of virtual CDs in Easy Copy Mode.
- Optimized data readout processes: with many types of CD drive, the process for creating virtual CDs is much faster than before.
- Complete support for all types of ISO-compatible images, for trouble-free exchange and use of images from any source (e.g., from the Internet).
- Define and save “Views” in CD Management to sort virtual CDs in the display according to your criteria.
- The new Virtual CD “Burner” program makes it faster and easier than ever to create exact, 1:1 copies of virtual and physical CDs. In combination Smart Virtual CD, you can now back up data that is stored on almost any medium.
- The Eraser Wizard makes it possible to delete all data, or just the table of contents, from re-writable (RW) media before you write new data on it.
- The CD Search program has been expanded so you can use it in direct combination with the main VCD functions (Copy, Create script, Burn, etc.) without having to add the images to CD Management beforehand.
- Customizable labels and icons for virtual CD drives.

- Added controls for customizing the integration of Virtual CD commands into your Windows Explorer.
- Quick Copy Editor for viewing and modifying the data stored in Quick Copy files, for even more efficient use of the Quick Copy features.
- Image Converter for converting ISO images into virtual CDs – and vice versa!
- Cataloging functions for audio CD.
- The labels and functions of Smart Virtual CDs can now be defined in the Smart Virtual CD Burner program.

Virtual CD Licensing

Virtual CD is licensed on a per-workstation basis. In other words, you need one user license for each computer on which Virtual CD is installed. There are single-user and multi-user license codes. The only difference between the two is the number of workstations on which Virtual CD can be installed. If you have a multi-user license code for 5 users, for example, you can operate Virtual CD on 5 computers. The license code can be entered on individual workstations either during program setup or later, in the CD Management program.

If you wish to test the program, you can use the demo version for up to **30 days** without entering a licensing code.



When you purchase Virtual CD your license code will either be transmitted to you electronically, or is included in the packaging.



If you have purchased an upgrade edition, you will need to enter your Virtual CD Version 5 or Version 6 license code when you enter the Version 7 code.



System Requirements

The following system specifications are required for running Virtual CD v7:

- Windows 98 (SE) with at least 64 MB RAM, or Windows ME with at least 64 MB RAM, or Windows 2000 Professional with Service Pack 4 and at least 256 MB RAM, or Windows XP (Home or Professional) with Service Pack 2 and at least 256 MB RAM
- Pentium 1 GHz processor or faster
- Microsoft Internet Explorer version 6.0 or later
- 50 MB hard disk space for installation of the Virtual CD software
- Recommended display resolution: 1024 x 768
- Optional: Sound card (for CDs with audio tracks)
- Optional: Internet access (to retrieve audio CD data from the FreeDB CDDb server)
- Optional: CD/DVD burner to write your virtual CDs or DVDs on physical blanks using Smart Virtual CD technology



When you operate Virtual CD in a network, choose a workstation that meets the minimum requirements for installing Virtual CD. Make sure that all workstations using Virtual CD can access the computer on which virtual CDs and configuration files are stored, no matter what server platform is used (Windows, Novell, Linux, etc.).



The amount of hard disk space you will need in addition to the 50 MB required for installation of the Virtual CD program depends on the number of virtual CDs or DVDs you create and the volume of data they contain.

Technical Support

If you have any problems with Virtual CD, we'd like to ask that you check the manual, the Help program and our continuously updated Web pages for assistance:

Virtual CD Online: <http://www.virtualcd-online.com/>

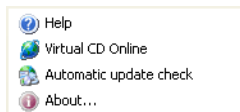
Knowledge Base: <http://www.virtualcd-online.com/kbase>

Support Forum: <http://www.virtualcd-online.com/support>

It is quite likely that your question has already been answered. You are also welcome to publish your own questions in the Support Forum.

The Virtual CD software is under continuous development. We offer **Service Packs and new program versions** on our Web site as they become available, so you can keep your software up to date. If you activate the “**automatic update check**” in your new Virtual CD program, the program will automatically check our site for updates, at intervals that you define.

This setting, as well as links to our Web site, are easy to find in CD Management, the main program window of Virtual CD; for example, under “Tasks” or in the “Help” menu.



We are always interested in hearing from our customers, whether you have questions, suggestions or complaints. After all, we make this software for **you**, so it's important for us to know what you want! Please use the Virtual CD forum to let us know what you think.



Installation

Notes on Installation

Please observe the following when installing Virtual CD:

- **Updates:** You can only update your installation if you have Virtual CD version 5 or 6. During installation of v7, you will need to enter the **license code** from your earlier version. Please have it on hand when you start the installation.
- **Server installation:** Virtual CD is not designed for use as server software. Virtual CD must be installed on a workstation. A special Virtual CD File Server Edition is available for server installation. If you have a server that is used as a workstation, you can install Virtual CD on that machine. When you run the Setup program, you will be prompted to confirm installation of the program on a server before installation continues.

Installation

Place the installation CD in a CD drive and wait a moment for Windows to detect it and start the Setup program.

If installation does not start automatically, double-click on **“My Computer”** in your Explorer and then on the symbol for the drive in which you have inserted the installation CD.

When the program starts up, select “Installation” to run the Setup program. If you access the CD content directly, or have downloaded your Virtual CD program over the Internet, you need to start the Setup program “manually.” Follow the instructions as the Setup Wizard guides you through the installation procedure. Once you have entered your license code and selected the target directory, you can choose between “Quick installation” and “Advanced installation.”



*Virtual CD comes with a Plug & Play driver, which means you do not have to restart the computer after the virtual drives are set up, or after changing the number of virtual drives at a later stage. In some cases, however, you will be prompted by your Windows operating system to restart your computer. During the installation procedure, it is important that you do ***not*** restart the computer before the installation has been completed, regardless of any operating system messages. Otherwise, the installation will not work.*



Quick Installation

If you select “Quick installation,” Virtual CD is set up automatically, with one virtual drive, and can be used right away. You can edit the program settings and add virtual drives as desired following installation. Since only one virtual drive is set up during the quick installation, you might want to run the Drive Editor at some later stage and add more virtual drives.



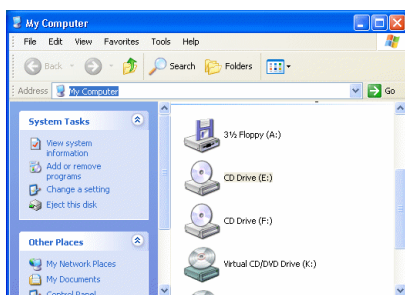
If you already have a license code for your Virtual CD program, you can enter it the first time you run CD Management.

Advanced Installation

If you choose “Advanced installation,” you can enter your license code and configure certain program settings during Setup. Among other things, you can define the number of virtual drives to be set up and which drive letters they use. In general, 3 to 5 virtual drives are sufficient for typical operation. You can add or remove virtual drives at any time using the Virtual CD Drive Editor.

After Installation

Following installation, you can see the virtual drives in your Windows Explorer. The number of virtual drives depends in part on whether you used the “Quick” or “Advanced” installation method.



In this example, ‘E:’ and ‘F:’ are physical CD drives and ‘G:’ is the virtual drive. For easy recognition, a special “Virtual CD” icon is shown next to the drive letter of a virtual CD drive – unless there is a CD in the drive, in which case the CD might provide its own icon.



In our example, the virtual CD drive is empty since the program has just been installed and no virtual CDs have been created yet. In a way, installing the Virtual CD program is roughly equivalent to installing a hardware CD-ROM drive in your computer.



In some cases, the special “Virtual CD” icon might not be shown until after the next computer restart.

Folders Installed

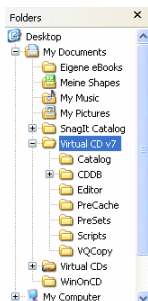
Virtual CD is usually installed in the “Program Files” directory, under **Virtual CD v7**. A folder called **HHVcdV7Sys** is also installed on the same level. The latter folder contains the basic Virtual CD system for creating virtual CD drives. If you have already used Smart Virtual CDs on this computer, the **HHVcdV7Sys** folder may have been created when you installed the Smart Virtual CD Reader. This makes no difference for your installation of the Virtual CD program.

To store the data required by Virtual CD, the **Virtual CDs** and **Virtual CD v7** folders are set up under **My Documents** during installation.

Your virtual CDs will automatically be stored in the **Virtual CDs** folder.

The **Virtual CD v7** folder contains a number of subdirectories for files created using Virtual CD programs:

- **Catalog:** For catalog files.
- **Cddb:** For music CD data.
- **Editor:** For project files made with the Editor.
- **PreCache:** For temporary files.
- **PreSets:** For copy templates.
- **Scripts:** For script files.
- **VQCopy:** For Quick Copy files.



You can change the paths to these folders as needed, in the Virtual CD Settings. This may be necessary, for example, to have virtual CDs stored on a different hard disk.

Removing Virtual CD from Your System

To remove the Virtual CD program from your computer, use the **Add/Remove Programs** function in the Windows Control Panel. Select Virtual CD v7 and begin the deinstallation. The Setup Wizard removes all components of the Virtual CD program from your computer.



First Steps

Getting Started the Fast Way



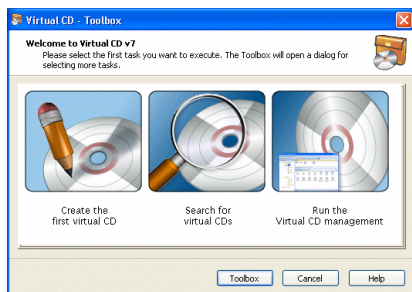
This chapter is directed at readers who have never used Virtual CD before. If you are already familiar with Virtual CD, you might want to skip this section.

Virtual CD offers you a vast array of controls that make it easier than ever to use CDs on your computer. Virtual CDs are easy to manage and organize, can be shared over a network with other users and, using either Smart Virtual CD technology or the “1:1” copy method, can be backed up in the form of physical CDs. Before you start experimenting with all the possibilities, however, you should start by making your first virtual CD, to get a feel for the program. This is a simple procedure, and can be completed in 5 easy steps.

Your First Virtual CD in 5 Easy Steps



The “Welcome” window opens the **first** time you start the program following installation:



Click on the first button to begin making your first virtual CD. The CD Management program opens and automatically runs the Image Wizard, the program that makes virtual CDs.



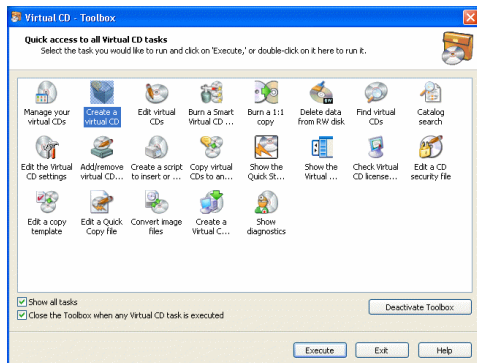
*If you did not enter a license code during installation, you are prompted to do so now. To use the demo version, click on **Cancel**.*



If the program has already been run since installation and the “Welcome” dialog closed, just double-click on the Virtual CD desktop shortcut to run Virtual CD.



This opens the Toolbox, which presents direct links to the main Virtual CD programs. Select **Create a virtual CD** to open the Image Wizard.



If the Image Wizard does not detect a CD that can be used as a source, you are prompted to insert a source CD.



If prompted, insert a CD in your computer's CD-ROM drive. Make sure the data side of the CD is not scratched or dirty.

Wait a few seconds for Windows to detect the CD. If a program on the CD started automatically, shut it down before you continue.



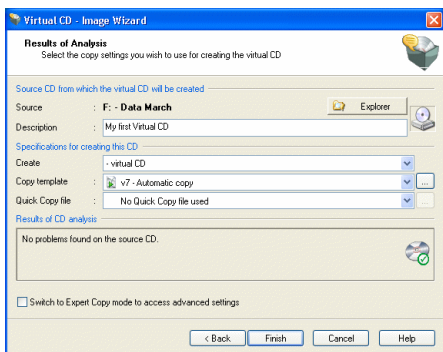
Make sure the source CD is not accessed by any other application while you are making the virtual CD. In particular, make sure that the Windows Media Player is not running; this program is sometimes configured to run automatically any time a CD is inserted.

3

If you have CDs inserted in more than one CD drive on your computer, an **Image Wizard** dialog opens for selecting the desired source CD. In this case, you need to select the CD here again. Click on **Continue** to view the results of Virtual CD's analysis of your source CD.

4

You now have the choice of editing the **Description** of the virtual CD, if desired. You can also edit the **Copy template**, or select a **Quick Copy file**. In this example, we will leave the default settings unchanged for now.



If the source is an audio CD and the “Free DB CDDb” option is enabled, Virtual CD now attempts to download the album title and track titles from the Internet. The Free CD CDDb service is available free of charge from <http://www.freedb.org>. If your computer is not connected to the Internet when this search is attempted, an error message is shown. This does not affect the creation of your virtual CD — simply confirm and continue.

Click on **Finish** to create the virtual CD. When data transfer is complete, the physical CD is ejected from the drive.

If you have any problems while making a virtual CD, refer to the section of this documentation called “**Problems – and Their Solutions.**”



Once the Image Writer has completed the virtual CD, it is automatically added to your Virtual CD “CD Management” program. Now you can select the virtual CD and use the **Insert** command (e.g., in the toolbar) to insert it in a virtual CD drive.



You have now made your first virtual CD *and* inserted it in a virtual drive.

Virtual CD Step by Step

Introduction to the User Interface

Using Virtual CD Functions

Virtual CD provides you with a broad range of functions for working with all types of CDs. There are a number of different user interfaces for working with Virtual CD, so you can use the program in whatever way is best suited to your habits and preferences.

As in the old saying,

ALL ROADS LEAD TO ROME

you can choose whichever interface you like best to access the Virtual CD functions you need.

The Virtual CD program installs the following range of interfaces on your computer:

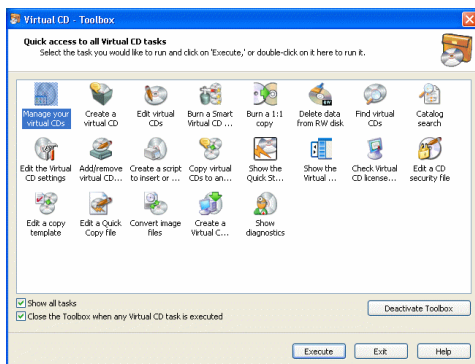
- The Toolbox presents direct access to all the main program functions.
- The Virtual CD sidebar makes virtual CD drives and the main VCD programs available at all times.
- The Quick Start Utility in the notification area (formerly “system tray”) of your Windows task bar gives you quick access to your virtual CD drives.
- The Explorer Extension adds Virtual CD functions to shortcut menus and operating elements in your Windows Explorer.
- The CD Management program combines centralized administration of your virtual CDs and access to all Virtual CD functions in a single program window.



Toolbox

The Toolbox gives you direct access to the main program functions. You can open the Toolbox from the following access points:

- the VCD desktop shortcut
- the Quick Start Utility
- the VCD sidebar
- the CD Management program



The Toolbox can be used to go straight to the task you need, without going through other windows or menu items. If you do not use the Toolbox, just click on **Disable Toolbox** to deactivate it. In this case, the CD Management program is opened rather than the Toolbox when you double-click on the desktop shortcut or the Quick Start icon in the notification area of the task bar.



You can reactivate the Toolbox at any time, on the System page of the Virtual CD Settings program or in the Toolbox itself.

Virtual CD Sidebar

The **Virtual CD sidebar** gives you constant access to all virtual CD drives and the main Virtual CD programs.

You can have the VCD sidebar displayed as follows.

- **Floating:** The sidebar behaves much the same as any window, and can be moved around in the same way.
- **“Docked” on the right or left side of your screen:** The sidebar remains in the position you choose.

To move the VCD sidebar, put the mouse cursor on its title bar and hold down the mouse button while you move the mouse. If you don't use the Virtual CD sidebar, deactivate it by opening the System page of the Settings program and de-selecting the **Open the Virtual CD sidebar automatically** option.

The Virtual CD Sidebar is divided into sections according to the types of function offered in each area.

Virtual CD drives: This section shows the virtual CD drives and the virtual CDs that are currently inserted, if any. Left-click on a CD drive to open a menu with the following options:

- **Insert:** Opens a submenu showing all virtual CD drives; select one to insert a virtual CD in that drive.
- **Eject:** Opens a submenu showing all virtual CD drives in which CDs are inserted; select one to eject that virtual CD.
- **Explorer:** Opens a submenu showing all virtual CD drives in which CDs are inserted; select one to open the Windows Explorer.

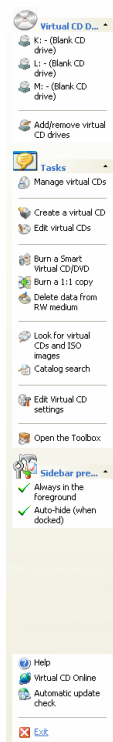


Only the commands that can be executed are displayed. “Explorer” and “Eject,” for example, are available only for CD drives in which a virtual CD is inserted; they are not displayed for an empty drive.



Unlike the Quick Start Utility, changes made in the sidebar are visible right away, giving you an optimum overview of the virtual CD drives.

Below the drives in this section is the **Add/remove virtual drives** command, letting you change your virtual CD drives at any time.





Selecting this option opens the Drive Editor for changing the number of virtual CD drives.

The **Tasks** section provides direct links to the main programs in Virtual CD:

- **Manage virtual CDs:** Opens CD Management.
- **Create a virtual CD:** Runs the Virtual CD Image Wizard.
- **Edit virtual CDs** Runs the Virtual CD Editor for composing customer virtual CDs.
- **Burn a Smart Virtual CD/DVD:** Runs the Smart Virtual CD Burner for putting virtual CDs on a physical disk.
- **Burn a 1:1 copy:** Runs the Virtual CD Burner for making a copy of a virtual CD, image or physical CD.
- **Delete data from RW medium:** Runs the Eraser Wizard for deleting data from a re-writable CD or DVD.
- **Look for virtual CDs and ISO images:** Opens the CD Search program for adding images to your Virtual CD Management.
- **Catalog search:** Opens the Catalog Search program for finding folders and files on your CDs.
- **Edit Virtual CD settings:** Opens the Settings dialog for configuring your Virtual CD program.
- **Toolbox:** Opens the Virtual CD Toolbox.

The **Sidebar preferences** section lets you set parameters for the Virtual CD sidebar:

- **Always in the foreground:** With this setting active, the Virtual CD sidebar is always displayed on top of any other programs windows.
- **Auto-hide (when docked):** If the Virtual CD sidebar takes up too much space on your screen, but you still want it to be available, dock it on one side of the screen and then activate the “Auto-hide” setting. This way, the sidebar is not shown until you move the mouse cursor to that side of the screen, and it remains visible as long as the mouse cursor is on it.

The last section is the **Information section**, which presents links to sources of further information.

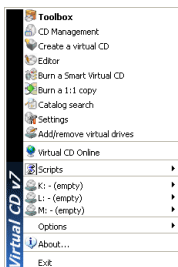
Quick Start Utility

With the default settings, the Quick Start utility runs automatically when you start the Virtual CD program. This utility installs an icon on the right-hand side of the Windows task bar that gives you direct access to the main Virtual CD functions.



When you double-click on the icon, the Toolbox opens; if the Toolbox has been deactivated, the CD Management program opens.

When you right-click on the icon, a shortcut menu opens.



In the Settings program you can define a keyboard shortcut, or “hotkey,” for the Quick Start utility. Pressing the hotkey opens the Quick Start icon’s shortcut menu. This gives you even quicker access to the functions listed there.

The following functions are available in the Quick Start menu:

- **Toolbox:** Opens the Virtual CD Toolbox.
- **CD Management:** Opens the CD Management program.
- **Create a virtual CD:** Opens the Virtual CD Image Wizard
- **Editor:** Opens the Editor for composing customized virtual CDs.
- **Burn a Smart Virtual CD:** Opens the Smart Virtual CD Burner for burning virtual CDs onto physical CD-ROMs.
- **Burn a 1:1 copy:** Runs the Virtual CD Burner for making a copy of a virtual CD, image or physical CD.
- **Catalog search:** Opens the Catalog Search program for finding folders and files on your CDs.



- **Settings:** Opens the Settings program for configuring your Virtual CD Settings.
- **Add/remove virtual drives:** Opens the Drive Editor for modifying the number of virtual CD drives.
- **Virtual CD Online:** Opens the default browser with a page showing links to the most important on-line resources.
- **Scripts:** Opens a menu from which you can run a Virtual CD script.

The next section in the menu shows either the virtual CD drives or the commands for CD drives.

- **<Virtual CD drive>:** When you put the mouse cursor on a drive letter in this menu, the CD in the drive (if any) is shown and the commands “Explorer,” “Eject” and “Insert” are available.

or

- **Explorer:** Opens a submenu showing all virtual CD drives in which CDs are inserted; select one to open the Windows Explorer.
- **Eject:** Opens a submenu showing all virtual CD drives in which CDs are inserted; select one to eject that virtual CD.
- **Insert:** Opens a submenu showing all virtual CD drives; select one to insert a virtual CD in that drive.



Only those commands are displayed that can be executed. “Explorer” and “Eject,” for example, are available only for CD drives in which a virtual CD is inserted; they are not displayed for empty drives.

- **Options:** The is where you define whether the Quick Start utility menu shows the **virtual CD drives** or the **commands** for virtual CD drives.
- **About...:** Shows information about the Quick Start utility
- **Exit:** Closes the Quick Start utility



When the Virtual CD program is busy writing a virtual CD, the Quick Start icon is replaced by an animated symbol.



*If you do not want the Quick Start icon displayed on your task bar — for example, if you already have a lot of icons in the notification area — you can switch off the Quick Start utility on the **System** page of the Virtual CD Settings.*

Explorer Extension

A number of Virtual CD features are directly integrated in the Windows Explorer when you install the program.



*Not all of functions described below are available at all times. The **Create a virtual CD** menu item, for example, is not shown unless there is a CD in the physical drive.*

The Virtual CD extension for Windows Explorer integration makes the following controls available directly in the Explorer:

- **Burn a 1:1 copy:** When you right-click on a drive containing a virtual CD, the **Burn a 1:1 copy** item is in the shortcut menu that opens. This opens the Virtual CD Burner to make a physical copy of the CD in the drive.
- **Inserting a virtual CD:** When you right-click on a virtual drive, the shortcut menu includes the menu item **Insert a virtual CD**. When you select this item, a submenu shows the available virtual CDs. The virtual CD you select from this list is inserted.
- **Ejecting a virtual CD:** When you right-click on a virtual CD drive, the shortcut menu contains the menu item **Eject** the virtual CD.



*The **Eject the virtual CD** function is added to the Explorer because the **Eject** command provided by the Windows operating system does not always work with virtual CD drives.*

- **Creating a virtual CD (1:1 copy):** When you right-click on a CD drive and select the **Create a virtual CD** menu item, the Image Wizard opens for creating a 1:1 image of the CD in that drive.
- **One-Click Copy:** Select the **One-Click Copy using...** menu item to open a list of VCD Copy Templates. Copy templates contain all the settings needed for writing a virtual CD. When you choose a template here, the virtual CD writing process starts automatically without prompting any further input.



*When you right-click on a virtual CD drive in your Explorer, menu items for creating virtual CDs are shown only if the option of the on the CDs/CD Drives page of the Virtual CD Settings to **Permit virtual CD drives as source drives** has been activated.*



Other VCD additions to the Explorer:

- **Choosing virtual CD content:** When you right-click on any folder or drive, the shortcut menu contains the menu item **Create a virtual CD from this folder**, for creating a virtual CD that contains the data in that folder or drive.

When you right-click on a file with the file name extension **.vc4** or **.vc6**, a shortcut menu opens with the following options:

- **Manage your virtual CDs:** Opens the CD Management program.
- **Burn a 1:1 copy:** Opens the Virtual CD Burner to make a physical copy from the virtual CD.
- **Edit the virtual CD:** Runs the Virtual CD Editor and passes the name of the selected container file to the program. The Editor is opened with this file ready for editing.



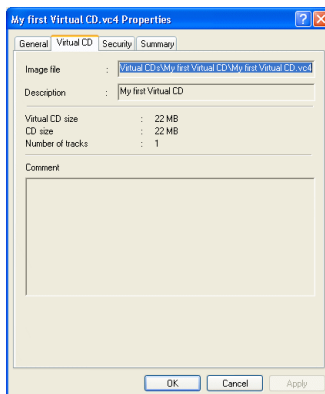
The Virtual CD Editor can only be used to edit existing virtual data CDs. This option is not available for audio CDs or other CDs that contain audio tracks.

- **Insert the virtual CD into:** Opens list of virtual CD drives; the virtual CD is inserted when you select a drive.



*The **Manage your virtual CDs**, **Burn a 1:1 copy** and **Insert the virtual CD into** options can be used with both virtual CDs and ISO images. Make sure the file type(s) of your ISO images are all entered in the **Supported ISO images** list on the Explorer Integration page of your VCD Settings.*

The **Properties** page for a virtual CD file contains an additional page, with **Virtual CD** on the tab. This page shows the Virtual CD-specific properties of the selected file.



Thanks to the Explorer Extension, the type of CD (data CD, audio CD, etc.) is indicated by the symbol next to the container file name. Thus you can tell at a glance what types of CDs are listed.

The menu items added by the Explorer Extension give you direct access to Virtual CD controls in your everyday use of the Windows Explorer. Still, you may find it preferable or even necessary at some point to switch off the Explorer Extension. To do this, activate the **Disable the Virtual CD Explorer Extension** option on the Explorer Integration page of the Virtual CD Settings program.



You also have the option of switching off just some of the Explorer Extension functions on the Explorer Integration page. You can have Virtual CD add only the functions that you need.

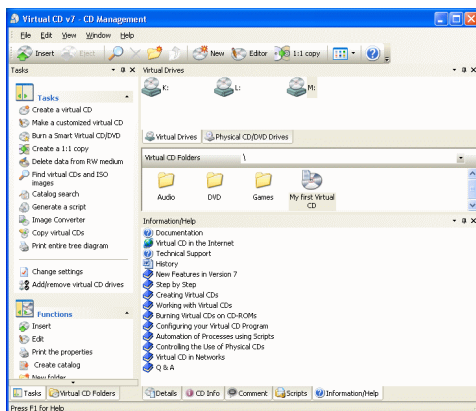


*If you have very large number of virtual CDs, you may find it advisable to switch off the functions for **Inserting/Ejecting virtual CDs and ISO images**. When these functions are added, the Windows Explorer has to load a large amount of data relevant to virtual CDs, which in some cases can take a great deal of time. Shutting off this function can accelerate the process of loading menus in the Explorer significantly.*



CD Management: The Center of Virtual CD

The **CD Management** program brings together all of the functions and administrative tasks in Virtual CD.



The central area of this program window shows all of the virtual CDs registered in your Virtual CD program. You can sort your virtual CDs into folders, which is especially useful if you have a large number of virtual CDs. For example, you can sort virtual CDs according to category (e.g., “Games,” “Music,” etc.).



The “address bar” (actually a selection list) directly above the virtual CDs shows the currently active folder, and lets you change folders in this window pane.

The virtual CD drives in your system are shown above the virtual CDs. Drive letters are shown for each drive, and if there is a CD in the drive, the CD label is shown.

Below and to the left of the virtual CDs are the administration windows. Each administration window covers a different feature.

In addition to the “CD View” and “Virtual CD Drive” panes described above, the following administration windows are available in CD Management:

- **Tasks:** The Tasks panel gives you direct access to most of the controls available in CD Management.



This section shows only the functions available for the element selected (virtual CD, folder, etc.).

- **Virtual CD Folders:** Shows all available Virtual CD folders in a tree diagram.
- **Physical CD/DVD Drives:** Shows all the CD drives that are not managed by Virtual CD.
- **CD Info:** Shows information about the selected virtual CD.
- **Details:** The Details window lets you view the data structure of a virtual CD without having to insert the virtual CD.
- **Comment:** You can use the Comment function to store information, such as a serial number, or remarks concerning a virtual CD. This window gives you quick access to the information stored here.
- **Properties:** This section lists the Properties of a virtual CD, for a quick overview of essential data.
- **Scripts:** Shows all of the scripts available for use with the Virtual CD program.
- **Copy Templates:** Shows a list of the copy templates available for creating virtual CDs.
- **Quick Copy Files:** Shows the Quick Copy files that have been created while writing virtual CDs.
- **Information/Help:** This section shows information and help for using the Virtual CD program. Click on a program element to view information on that element.
- **User-Defined Views:** For administration of your user-defined views (for example, "My Music CDs").



To edit any of the entries in the Scripts, Quick Copy Files or Copy Templates administration windows, just select the desired entry and right-click on it. This opens a shortcut menu offering a choice of functions.

To activate an administration window, click on the name of the window.



*You can change the positions of administration windows, and switch them on and off. To store or load individual versions of the window layout, select the **Window** -> **Layout** menu item. The more you adapt the CD Management program to your preferences, the more efficiently the program will perform for you!*



Creating Virtual CDs

What you need to know

Before you start making your first virtual CD with this version, there are a few things you should know about the program:



Virtual CD 7 is the first version that lets you create not only virtual CDs, but also ISO images. This can be very useful, for example, when you work with other programs. Please keep in mind that the ISO images created with Virtual CD do not support all of the features available in the Virtual CD program.



*Sometimes Virtual CD finds **unreadable sectors** when it is reading a source CD. This is **normal** for CDs that use special formats – especially CDs containing games – and does **not** mean that the CD is **defective**!*



A lot of CDs cause a particular program to start automatically (such as a music player, for audio CDs) as soon as you put the CD in a drive. Before you start the virtual CD-writing process, make sure to close this program, and any other programs that access the physical CD drive. If an application tries to access the CD drive while a virtual CD is being created, the virtual CD might not work.



Different CD drives have different capabilities with regard to reading the data on a given CD. Virtual CD configures the best possible settings available for reading source CDs. Still, it might be necessary to change some of the settings for use with a particular physical drive. There are a few types of CD drive that cannot read all of the information that might be found on a CD. If you have problems creating a virtual CD, it is always a good idea to try again with a different drive, provided you have more than one CD drive available.



If you have the option of working in a Windows NT-based environment (with XP Home or Professional, or Windows 2000), this is definitely preferable to using a Windows 98 or ME system. Because the architecture of NT-based systems is better suited to creating virtual CDs, the process is considerably faster. If you do not have this choice, however, of course you can make virtual CDs under Windows 98 or ME; it just takes longer.

What types of CDs are available?

Virtual CD supports all of the most common types of CD. These are generally divided into music CDs (audio) and data CDs. Some CDs contain both audio tracks and data tracks.

The most common formats for data CDs are:

- **CD-ROM:** Normal CDs; you have probably used these with your computer many times.
- **DVD:** Successor to the CD-ROM, with considerably greater storage capacity. DVDs store all information, including video and audio, as data tracks. This is why DVDs often have mixed content, such as a video for viewing and a data section for use on a computer.



Video DVDs are often copy-protected. Virtual CD informs you when it detects copy-protection. Virtual CD cannot make a viable image from a video DVD that has CSS copy-protection.

- **Video CD:** Video CDs were the electronic medium used for movies before DVDs were released on the market. The video quality is nowhere near as good as that enabled by video DVDs.
- **Super Video CD:** This CD type offers better video quality than a normal video CD. Lower compression is used, which improves the visual quality but also increases the space required, so that only about 20 minutes of video fit on each CD.
- **Photo CD:** Photo CDs are used to store digital photographs; for example, for viewing on a television. Many film developers today offer the option of having photos stored on a CD.

The most common formats for audio CDs are:

- **Audio CD:** Normal music CD, for use with the CD player in your stereo system.
- **CD-Text:** These are audio CDs with additional information about the album, artist and songs on the CD. The additional information can be read only by devices that are CD-Text-capable. In other devices (such as your stereo's CD player) the CD runs like a normal audio CD.



Mixed formats, containing both audio and data tracks, include:

- **CD-Extra:** These CDs have an audio segment and a data segment. When inserted in a CD player, the audio tracks are played just like on a normal audio CD. When inserted in the CD drive on a computer, the data segment is executed.
- **Mixed Mode CDs:** These contain one data track and multiple audio tracks. In the past, this type of CD was widely used for computer games. Today they are rarely used.

In addition to tracks, another unit of data organization used on some CDs is the “session.” **Multisession CDs** are created in a series of steps, and each session can be divided into multiple tracks. This type of CD format is used, for example, to create CDs with both data and audio tracks. One example of this is the “CD-Extra” format. Here, the first session contains the audio segment and the second contains the data segment. When the CD is placed in a computer, the program(s) in the data segment will be executed; usually some type of animation. When the same CD is placed in a CD player, the data sector is ignored and the CD is treated as a normal music CD.

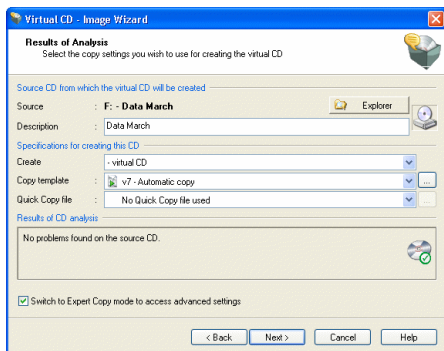
In addition to these normal CD types, there are a few kinds of CD (such as game or audio CDs) that use **special formats**. This means they have properties that are not found in the industry standards that define how CDs are to be made. For example, a data CD that contain unreadable sectors does not conform to the standards for data CDs.



Virtual CD can usually read non-standard CD formats. It may be necessary, however, to configure additional settings (such as “Read CD geometry”) to make a virtual CD from a non-standard source CD.

Image Wizard

The Image Wizard puts together all the settings required for creating a virtual CD, or “image.” When you run the Image Wizard, it analyzes the source CD and shows you the results of the analysis. If more than one CD is available for use as the source CD, a window opens for selecting the desired CD first.



You now have the option of editing the **Description** of the virtual CD and selecting the type of image you want to create.

- **Create a virtual CD:** Creates a virtual CD that supports all of the features available in the Virtual CD program. This is the default setting.
- **Create an ISO image:** Creates an ISO images that is compatible with a lot of other programs, but does not support all Virtual CD features.



*The **Create an ISO image** option is available only if you are writing a CD-ROM or DVD. Other CD formats cannot be stored as ISO images.*

You can also edit the **Copy template**, or select a **Quick Copy file**.



*The default **Description** of the virtual CD is the CD label. If the title and artist name for an audio CD were downloaded from the Internet, the description is derived from this data. You can edit this data as desired. It is important to have a description that clearly identifies the CD. Special characters are not allowed here, and the description is limited to 127 characters. The description is also given as the default for the name of the container file.*



The first time you create a virtual CD, there are no Quick Copy files to choose from.



Virtual CD analyzes the performance of the physical CD drive as well as the data structure of the source CD. This process runs in the background. Then Virtual CD uses the data on the physical CD to create a 1:1 copy on your hard disk. Depending on the CD type and data volume, and on your computer's performance specifications, this can take anywhere from 5 to 45 minutes (for CDs that use a special format, it could even take several hours).

Now you have two options to choose from:

- * You can use the Easy Copy Mode, leaving it up to the Virtual CD program to configure all the settings for the virtual CD – in this case, just click on the **Finish** button to start the Image Writer, and Virtual CD takes over from there

or

- * You can switch to the Expert Copy Mode, and configure the settings for the build process yourself. To do this, activate the **Switch to Expert Copy mode to access advanced settings** option; the **Finish** button label changes to **Continue >**; click here to open the next configuration dialogs.



*Some configuration options are available *only* in the Expert Copy Mode.*

The advanced settings available in Expert Copy Mode are explained under Creating a Data CD and Creating an Audio CD. The options presented in each case are shown only when the corresponding type of CD is inserted (audio or data CD).



Both of these step-by-step descriptions assume that the source CD has already been inserted.

Creating a Data CD

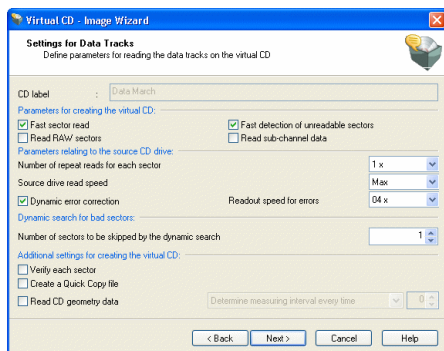
Most CDs and DVDs have a data segment. The Image Wizard settings for making a virtual CD from a data CD are explained in the following.

1

Select the data CD you wish to use as the source and place it in your physical CD-ROM drive.

2

Run the Image Wizard, activate the “Switch to Expert Copy Mode...” option, and click on **Continue >** to open the **Settings for Data Tracks** dialog.



The options in this dialog let you specify the exact methods that are used in reading data from the source CD.

When you insert the source CD, Virtual CD analyzes the performance of the CD-ROM drive and the structure of the source-CD data, and suggests a “conservative” choice of settings. You can modify these settings as desired.

The **CD label** is the designation that identifies the CD within your system. This is the text shown next to the drive letter in your Windows Explorer, when the CD is inserted in a drive.



If you change the CD label, the CD might not run properly. This is why the field for editing the CD label is not active unless you have explicitly activated this option on the “CDs/CD Drives” page of the Virtual CD Settings.



The following **parameters for creating a virtual CD** are defined here:

- **Fast sector read:** The sectors are read out in blocks, rather than individually. This generally accelerates the reading process, but if a defective sector is found in a given block, then the other sectors in that block must be read again individually. In most cases this is the preferred setting. If a given virtual CD created using this method doesn't work, however, deselect this option and try writing the virtual CD again.
- **Fast detection of unreadable sectors:** When this option is active, each sector is read once and check routines are applied for error detection. When "fast detection" is deactivated, each sector is read repeatedly until exactly the same data is read several times in a row. If you have difficulties creating a virtual CD from a given source CD, try deactivating this option. Keep in mind, however, that it will take longer to make the virtual CD.
- **Read raw sectors:** Raw sectors contain other information in addition to the desired user data. If the source CD has a special format, it may be necessary to read it in "raw" mode in order to create the virtual CD. For example, reading raw sectors is required for creating virtual video CDs, CD-Extra CDs and audio CDs. The disadvantage of using this mode is that the virtual CD takes up more disk space, as additional files are included in the container.
- **Read sub-channel data:** Sub-channel data contains additional information which is often required for the CD, especially for the latest CD types. Again, the disadvantage is that the virtual CD takes up more disk space.

The next set of options defines **parameters relating to the source CD drive**:

- **Number of repeat reads for each sector:** Readout quality can be improved – especially for older CD-ROM drives – by reading each sector repeatedly. If a lot of errors are detected, the number of repeat reads should be set to 2 or 3. Unfortunately, this slows down the overall read speed.
- **Source drive read speed:** With some CD-ROM drives, the readout quality can be improved by decreasing the speed. This can also reduce noise, as the source CD rotates more slowly.
- **Dynamic error correction:** The dynamic error correction function adjusts the read speed during the creation of the virtual CD. The degree of precision with which a CD drive can read data depends in part on how fast data is read.
This is especially relevant when defective sectors are found. To improve accuracy when dynamic error detection is active, you can define a slower

read speed, under **Readout speed for errors**, to be applied when errors are detected. If no errors are found, the maximum speed is used throughout the process.



Only the available read speeds are shown. If no options are offered to choose from, this means your CD-ROM drive does not support this function.

- **Dynamic search for bad sectors:** This option can greatly improve the speed of the overall writing process in cases where defective sectors are found. The default setting here is 1, which means the function is deactivated. If this value is set to 500, for example, and a bad sector is detected, Virtual CD will skip 500 sectors and then start reading again. If the next sector read is also defective, the program reads a few more sectors within this area. If these are also defective, the entire area is marked “defective.”

The following additional settings for creating the virtual CD can also be defined:

- **Verification of each data sector:** Some special formats store multiple instances of a single sector on a CD, with different contents in each instance. When you activate this option, Virtual CD reads the source CD again from back to front at the end of the “build” process, comparing the sectors to detect these differences.

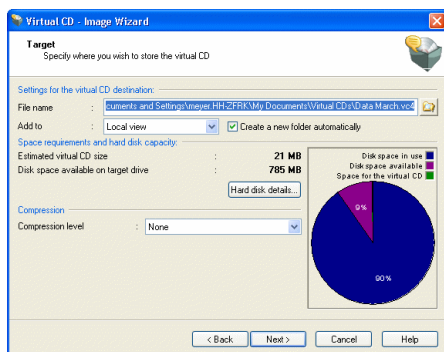


This means a considerable increase in the amount of time spent reading the source CD. Since this type of special format is not particularly widespread, this option should be selected only when you are sure it is necessary.

- **Create a Quick Copy file:** A Quick Copy file (*.vqc) lets you make another virtual CD from this source on a different computer, even if the CD drive on the other machine does not support the reading techniques required. In fact, the Quick Copy file accelerates the process any time you want to make another virtual CD from the same source; for example, if the first virtual CD is inadvertently deleted.
- **Read CD geometry data:** This option is required for use with some source CDs. Certain special formats have “self-evaluating” mechanisms that check the CD geometry (i.e., the number of sectors in certain areas) to determine whether it is a physical or a virtual CD.



Once you have configured all the settings you need on this page, click on **Continue** > to open the **Target** dialog.



The name of the virtual CD and the path in which it is stored are defined under **Settings for the virtual CD destination**. The path shown when this dialog opens is the **Default path for new virtual CDs** as defined in the Virtual CD Settings. You can select a different path if desired.



The path and file name together must not exceed 254 characters in length.

The dropdown list box next to **Add to** lets you define where the virtual CD will appear in user interfaces (default setting: **Local view**):

- **Local view**: The virtual CD is only visible on the computer you are now using.
- **Global view**: The virtual CD is visible on all computers that use the same global configuration path.



Depending on your settings, you might not be offered a choice here; for example, if no global configuration path is configured, or if the use of local virtual CDs has been disabled.

When the **Create a new folder automatically** option (default setting) is active, Virtual CD creates a separate folder for the files that make up your

virtual CD. Virtual CD writes at least two files for each virtual CD. As soon as you have more than one virtual CD, it can be difficult to tell which files belong to which virtual CD. For this reason, we recommend leaving this option activated.

Click on **Hard disk details...** for a quick view of the disk space available on your hard disk(s).

Other options include switching off **compression** for data tracks, and choosing from 4 compression levels. The higher the compression level you choose, the longer it takes to create the virtual CD and the greater the CPU load when you run the CD. On the other hand, the lower the compression, the more disk space is taken up by the resulting virtual CD.

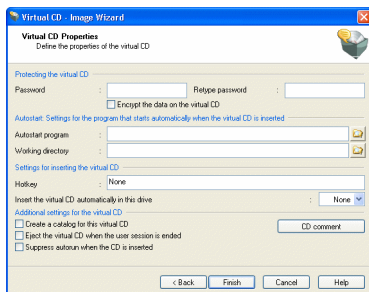
The table below lists the advantages and disadvantages of the different compression options:

- **None**
 - Fastest build process
 - Least CPU load
 - Takes up the most space on the hard disk
- **Level 1**
 - Good compromise between CPU load and storage space taken
 - Little additional CPU load
- **Levels 2 and 3**
 - Especially suited for use with sectors copied in “raw” mode
 - Greater added load on CPU
- **Level 4**
 - Least disk space required
 - Only suitable for processors of 1 GHz or faster
 - Takes longest to create the virtual CD

Once you have configured the settings for the virtual CD destination, you can define **Virtual CD Properties**.

You can assign a **password** if desired, to prevent unauthorized use of a given virtual CD. Once a password has been assigned, it must be entered before the virtual CD can be inserted or ejected, or its properties edited. The password has to be entered twice.

The password merely protects the CD from unauthorized access; select the **Encrypt the data on the virtual CD** option if you want to encrypt the data that is on the CD. In this case, the data is encoded using AES 256 encryption.



If you assign a password, we recommend using a password that is not too easy to guess. The most secure passwords have at least 8 characters and are made up of numbers, letters and special characters. The password is case sensitive (capitals are distinguished from lower-case letters), and can have up to 15 characters.



It might be a good idea to keep a copy of your password in a safe place. Without the password, there is no way to access the data on the virtual CD.



*You can change or deactivate the password later by opening the Virtual CD Properties dialog in the CD Management program, but only if the data on the virtual CD is not **encrypted**. If the data is encrypted, the password cannot be changed.*

You can define an **autostart program** if you want to have a program started automatically when the virtual CD is inserted. For example, if the virtual CD contains images, you can enter an image-viewing program here as the start program.

In some cases, you need to define a **working directory** for the autostart program to run in.

The **Hotkey** option lets you define a “keyboard shortcut” (such as “Ctrl+M”) that inserts the virtual CD automatically. If an autostart program has been defined for the CD, that program is called automatically when the hotkey is pressed.

If you specify a drive letter under **Insert the virtual CD automatically in this drive**, the virtual CD is inserted in that drive as soon as it has been successfully created.

If you want to enable a search of the virtual CD contents, select the **Create a catalog for this virtual CD** option. In this case, Virtual CD creates a catalog at the same time the virtual CD is written, which lets you search the contents later without inserting the virtual CD.

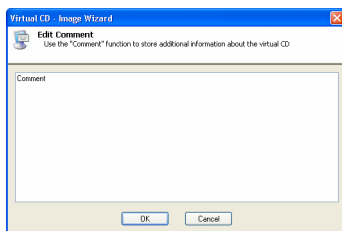
Eject the virtual CD when the user session is ended: When this setting is active, the virtual CD is no longer in the virtual drive after the computer is restarted or when the user logs off.

Some CDs run automatically when they are inserted. If you want to prevent this, activate the **Suppress autorun when the CD is inserted option**.



The “autorun” function is handled in different ways by different operating systems. For this reason, activating the “Suppress...” option here may not work in some cases.

Click on the **CD comment...** button to enter additional information about the virtual CD. The Comment text is limited to 2047 characters:



Once you have configured all the settings you need on this page, click on **Finish** to run the Image Writer and create the virtual CD.



Creating an Audio CD

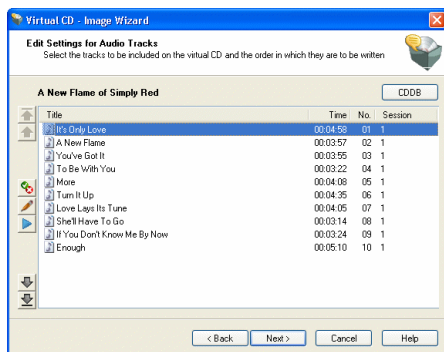
An example of the procedure for creating an audio is given in the following, with explanations of all the Image Wizard settings that are not available when making a data CD.

1

Select the audio CD you wish to use as the source and place it in your physical CD-ROM drive. If an audio player starts automatically when you load the CD, close it down before you continue.

2

Run the Image Wizard and click on **Continue >** to open the **Edit Settings for Audio Tracks** dialog.



The next window shows all of the audio tracks on the source CD.



Some CD formats (e.g., CD-Extra) include a data track in addition to the audio tracks. This is shown here as well.

If you simply click on **Continue >** at this point, all tracks are included on the virtual CD without modification. This is the recommended procedure when making a virtual CD from a software CD.

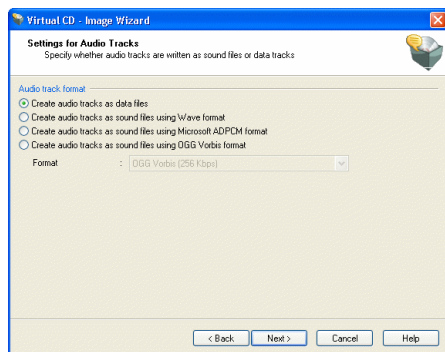
If you are making an audio virtual CD, on the other hand, you may wish to exclude certain tracks, or use the arrow buttons to change the order of the tracks. The buttons for deleting or moving tracks are located next to the track list.



If CD information was downloaded from CDDb, the track titles are shown here automatically. If not, you may want to check the tracks by clicking on “Play” to make sure you enter the correct titles.



Once you have chosen the desired tracks and put them in the order you want, click on **Continue >** to set other settings for the audio tracks.



Audio tracks can be stored in the form of **data tracks** or as **sound files** on your hard disk.



If you choose to write the tracks on the virtual CD as data files, the subsequent procedure for creating the virtual CD is the same as that for data CDs.



If you wish to write the tracks as sound files, you can choose from the following formats:

- **Wave**
- **ADPCM**
- **OGG Vorbis**
- **LAME MP3**



*To use LAME encoding, you need to install the LAME packet and copy the **lame_enc.dll** file to your Windows system directory. The LAME packet is not included in your Virtual CD installation, but is available for download from the Internet free of charge.*

There is no general recommendation as to whether you should record your audio tracks as data files or sound files. Both methods have advantages and disadvantages, as you can see in the following list:

When you save tracks as data files:

- you have full support for music player functions (such as visualization in Media Player).
- you can use the resulting virtual CD as a source for other virtual CDs, CD-writer software, and audio-CD 'ripping' programs.
- the results are more versatile, because the virtual CD created can be used as source for a virtual CD with individual sound files.
- the virtual CD takes up more space on the hard disk.
- certain settings must be configured in Media Player to use the virtual CD.

When you save tracks as sound files:

- you can save a tremendous amount of disk space using formats such as OGG Vorbis and LAME.
- the files can be opened for editing in music programs.
- the audio compression places a much higher load on the CPU.
- it takes much longer to create the virtual CD.
- the CD cannot be used as a source for another virtual CD, nor for CD-writer software or audio-CD 'ripping' programs.



For this example, we will select **Create audio tracks as sound files** using **Wave format** and then click on **Continue >** to open the Target dialog.

The target path and related data are defined here, just as when you create a data virtual CD.

The only difference is that no compression level can be selected here if there is no data track on the CD. Compression of audio tracks is determined by the technique selected in the previous dialog.



In the last step, you can configure additional settings for **Creating the virtual CD**.

The same options are offered here as are available for creating data CDs, with the following exceptions:

- The **encryption** option: Audio CDs cannot be encrypted.

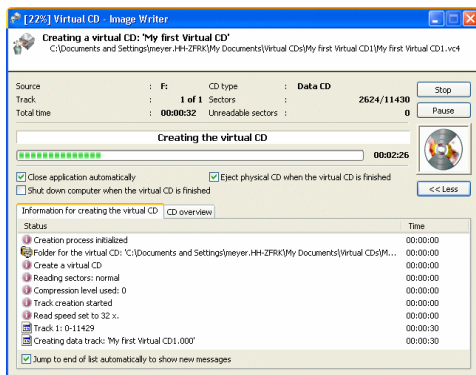


Once you have configured all the settings you need on this page, click on **Finish** to run the Image Writer and create the virtual CD.



Image Writer

No matter what kind of virtual CD you are making, it is the Image Writer that actually puts it together.



The Image Writer keeps you informed of the different steps in progress while it is making a virtual CD. You have the option of canceling the procedure or stopping it momentarily ("Pause"), as well as the following options:

- **Close application automatically:** Shuts down the Image Writer.
- **Eject physical CD when the virtual CD is finished.**
- **Shut down computer when the virtual CD is finished.**



When you know the "build" process will take a long time – for example, when making an image of a CD with special formatting – we suggest starting the build process in the evening, when you will not be needing the computer for anything else, and activating the "Shut down computer..." setting.

Copy Templates

A copy template stores all of the settings configured to create a virtual CD from a particular source CD. When you use the template, the settings it contains are loaded in Image Wizard. This means you can save the settings you need for certain CDs, or types of CDs, for future use. There are two types of template:

- **System copy templates:** These are copy templates that come with your Virtual CD program.
- **User copy templates:** These are copy templates that you create.

The following templates are included with the Virtual CD program:

- **v7 – Automatic copy:** This template uses the results of the CD analysis that the Image Wizard performs when it determines the optimum settings for creating the virtual CD.
- **v7 – Normal copy:** Template for creating normal virtual CDs. In many cases, this template is all you need for creating a virtual CD.
- **v7 – Full copy (raw, sub-channel):** Use this template when you want to read all data on a CD.
- **v7 – CD Geometry copy:** Reads the CD geometry when creating a virtual CD.
- **v7 – Unreadable block copy:** Template for reading CDs that have visible blocks of unreadable sectors.
- **v7 – Exact copy:** For exact reading of a CD. With the settings in this template, the source CD is read one sector at a time. This takes longer, but is more precise than reading data in blocks.



*The **v7 – Automatic copy** is the default copy template. This template generally configures all of the settings necessary to make a virtual CD. In some cases, however, the special formats of certain CDs might not be detected. When this is the case, select a different copy template or activate the Expert Copy Mode to configure settings manually.*



*The **v7 – Normal copy** template is used when you compose a CD with the Virtual CD Editor.*

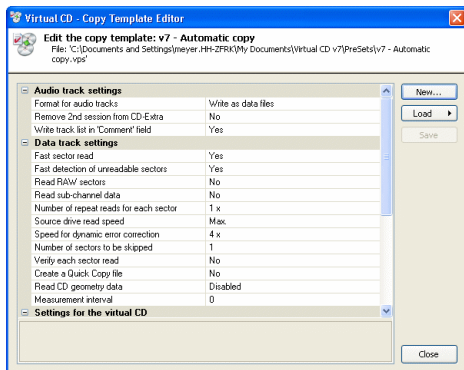
To view the available copy templates, open the **Copy Templates** administration window in CD Management. You can also delete copy templates in this window.



If you delete a system copy template, it is created again the next time you make a virtual CD.

Use the Copy Template Editor to edit copy templates.

You can open the Copy Template Editor from the “Results of Analysis” page of the Image Wizard, the Toolbox, or the Copy Templates administration window in CD Management.



The settings in this list are the same as those available in the Image Wizard, with the exception of settings that require user input (such as a password). You can select a value and change it as desired.

A description of the selected value is shown below the list.

The following settings can only be configured using a copy template:

- **Remove 2nd session from CD-Extra:** Activate this option if you do not want to include the data track from a CD-Extra CD. This makes the resulting virtual CD an audio CD.
- **Write track list in ‘Comment’ field:** Select this option to have Virtual CD write the list of track titles in the “Comment” field of the virtual CD properties.
- **Overwrite settings based on CD analysis:** Before a virtual CD is created, the Image Wizard runs an analysis to determine the optimum combination of settings for the process. When you use a copy template, the settings defined in the template will

be overwritten by the settings determined in this analysis. If you do not want the template settings to be overwritten, select **“No”** for this option.



*In general, you can leave it up to the Virtual CD program to configure the settings. If you do create a copy template, however, and you want to make sure those are the settings used, then set the **Overwrite settings based on CD analysis** option to **“No.”** Otherwise, Virtual CD might overwrite your copy template with other settings, based on its analysis of the source CD.*



*If you use a large number of different folders for your virtual CDs, you might want to make templates with specific **Target folder** and **Add to** settings; this way, your new virtual CDs automatically are stored in the right directory based on your choice of copy template.*

Use the buttons on the right to create a new template, open an existing template, or store changes in the active template.



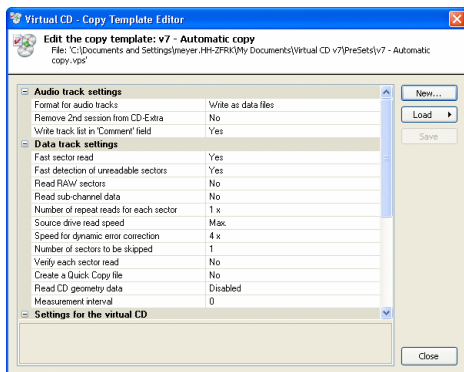
You might set values in a copy template that are not compatible with a given CD type or CD drive. In this case, Virtual CD corrects the settings when the copy template is loaded for use. For example, if the stored template indicates that raw data is to be read, but the source is a DVD, Virtual CD switches off the “Read raw data “ option, since this is not possible for DVDs.

Creating a Virtual CD Copy Template

If the copy templates that come with the program do not cover all your needs, you can create your own copy templates. The procedure for this is demonstrated below in an example for creating a copy template to make virtual audio CDs with the “OGG Vorbis (128 kbps)” format.

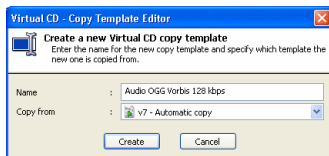
1

Open the Toolbox and run the Copy Template Editor. The editor automatically loads the **v7 – Automatic** copy template.



2

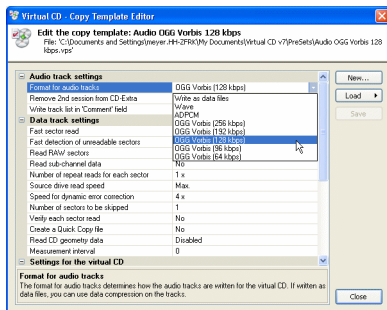
Click on **New** to add a new copy template. This opens a dialog for entering a unique **Name** of the copy template; in our example, “**Audio OGG Vorbis 128 kbps**”.



Under “Copy from,” you can specify an existing copy template to be used as a basis for your new template. In this example, we can leave this field unchanged. Click on **Create** to generate the copy template.

3

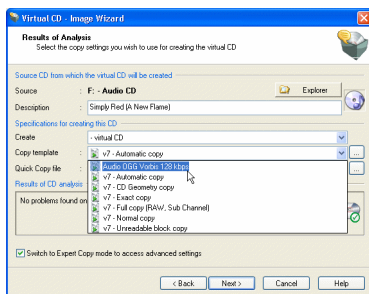
The new copy template is created and automatically loaded in the copy template editor. Select **Format for audio tracks** and then select the format, **OGG Vorbis (128 kbps)** from the list.



Click on **Save** to save your changes, and then close the copy template editor.

4

You can now use your new copy template. To test it, place a music CD in your computer's CD drive and start the program for creating a virtual CD. On the "Results of Analysis" page in the Image Wizard, select your new copy template.





Click on **Finish** – working in the Easy Copy Mode – to store the audio tracks on your CD as sound files in the “OGG Vorbis (128 kbps)” format. This format reduces the size of the resulting virtual CD considerably. On the other hand, it will take longer than it would to write the tracks as data files.

This example shows how easy it is to create new copy templates. We recommend not creating too many templates, as it can be difficult keep track of them all. It helps to give your copy templates meaningful names, so you can tell at a glance what settings they configure even after a good deal of time has passed.

Quick Copy - The Fast Way to Make Virtual CDs

You have the option of creating a Quick Copy file at the same time you make a virtual CD. To do this, activate the **Create a Quick Copy file** option on the “Settings for Data Tracks” page of the Image Wizard.



*When you create a virtual CD with the **v7 – Automatic copy** template, Virtual CD decides whether a Quick Copy file is made or not.*

A Quick Copy file stores various parameters that are detected during the build process when you make a virtual CD. The data in a Quick Copy file includes, among other things, information on the following:

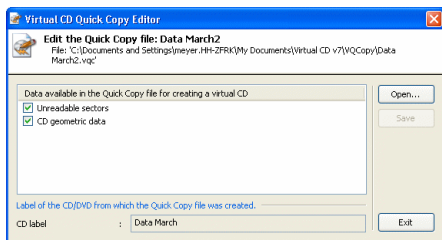
- CD geometry data
- Unreadable sectors
- CD-Text data
- Sub-channel data
- Verification of sectors



*For each of these forms of data, the information is stored in the Quick Copy file ***only*** if the settings that were configured when the virtual CD was made enabled that data to be read.*

You can view and edit Quick Copy files in the Quick Copy Editor. You can open the Quick Copy Editor from the “Results of Analysis” page of the Image Wizard, the Toolbox, or the Quick Copy Files administration window in CD Management. With Quick Copy Editor, you can deactivate certain items in the Quick Copy file to have them skipped when the next virtual CD is made using that file.

This is especially useful, for example, if a Quick Copy file contains a great deal of information on a CD and you are not certain that all of this information is correct.

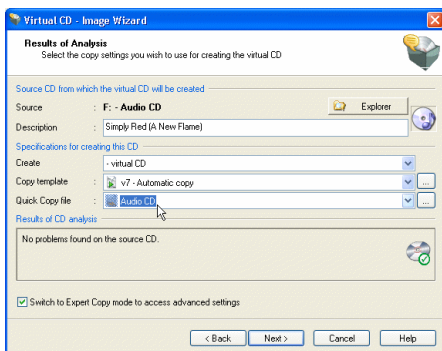


When the next virtual CD is made using this file, only the data marked with a checkmark in this list will be used. Data without a checkmark is only deactivated, not deleted from the Quick Copy file; you can activate these items again as needed.



You cannot edit Quick Copy files that were made using Virtual CD v6! You can view the file content in the editor, but you cannot make any changes or enter additional data.

Every Quick Copy file is unambiguously associated with the physical CD used as the source for the virtual CD. It is not possible to select a Quick Copy file in the Image Wizard that does not match the source CD.



If a Quick Copy file is found for a given source CD, it is automatically displayed in the Image Wizard. When you use a Quick Copy file, the virtual CD is completed far more quickly, since the Quick Copy file contains data that would otherwise have to be read from the source.



For example, unreadable sectors in the Quick Copy file are simply taken over when reading the physical CD. The time-consuming process of reading the unreadable sectors is simply skipped.

With Quick Copy files:

- the virtual CD is created much more quickly
- you know any virtual CDs made with this file will work, as long as the virtual CD made when this Quick Copy file was created is viable.
- data that cannot be read by all CD drives (e.g., geometry data) will still be available for writing the new virtual CD.



*Do not make more than one Quick Copy file for each CD; there is no use for additional versions. If you find that a certain virtual CD doesn't work when the creation process is finished, make sure you delete the Quick Copy file, since it would only serve to create a virtual CD that doesn't work. To delete a Quick Copy file, open the **Quick Copy files** administration window in CD Management.*



To enable an optimized build process when you make a virtual CD, the settings in the Quick Copy file might overwrite those configured by the active copy template.



You can pass Quick Copy files back and forth among your friends or co-workers. If you know someone who has a Quick Copy file they made from the same CD that you want to make a virtual CD from, we recommend using their Quick Copy file. The build process will go much faster that it would if you had to work out the required settings on your own. To use a Quick Copy file that you have received from someone else (e.g., via e-mail), just copy it to the folder specified in your system for Quick Copy files. Virtual CD will automatically recognize which CD the Quick Copy file was made for.

One-Click Copy

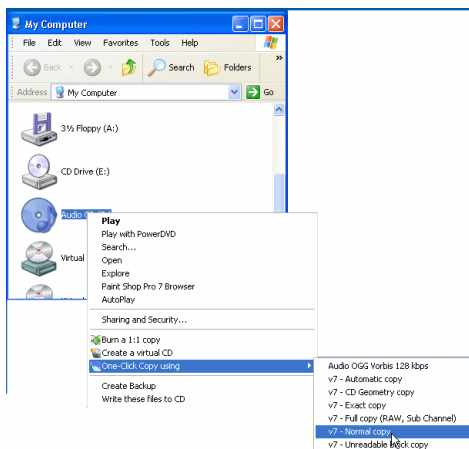
The **One-Click Copy** technique is the fastest way to make a virtual CD.

1

Just place a CD in the CD-ROM drive and open “My Computer” in the Windows Explorer.

2

Select the desired CD drive and right-click on it. This opens a shortcut menu; select **One-Click Copy using...** and then select the copy template you wish to use for this virtual CD.



That's it! The Image Writer opens and begins the build process for making the virtual CD with the settings specified in the copy template.



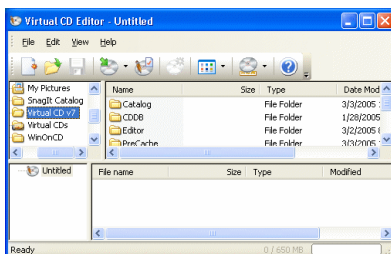
*The same function is available in the **Physical CD/DVD Drives** administration window in **CD Management**.*



Composing your own Virtual CDs

Making a Customized Virtual CD

With the Virtual CD Editor you can create customized CDs with your choice of content. For example, if you want to burn a customized physical CD, you can write the desired tracks to a virtual CD first so that you can test the CD without using up a blank CD-RW.



The Editor program window is divided into four panes: the view on the upper left shows a tree diagram with all of your system's drives, including the folders; the contents of the folder selected here are shown in the upper right-hand pane.

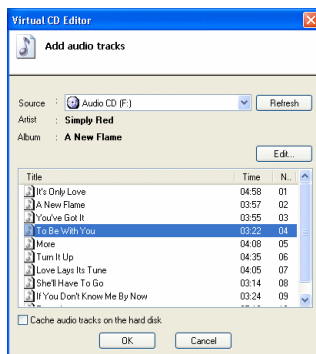
The lower left-hand window pane shows the contents of the virtual CD currently being created, and the lower right-hand pane shows the contents of the selected track.

The second-to-last toolbar button on the right lets you select the size of the CD to be created. Make sure the size is sufficient for the volume of data to be written.



If you plan to burn this CD on a physical CD later, make sure the size you set here matches that of the blank CD.

To add files to your CD, you can either use drag-and-drop or click on the **Add** button, which opens a list for selecting the element you wish to add (audio track, directory, or file). The dialog shown here, for example, opens when you select “Audio tracks:”



If the physical drive selected in the upper left-hand pane of the Editor window contains an audio CD, you can select the desired tracks from the list in the lower portion of this window.

The option to **Cache audio tracks on the hard disk** is especially useful if your virtual CD will contain audio tracks from a number of different source CDs. When you activate this function, the selected track(s) are immediately cached on your hard disk so you do not need to insert the source CD again later, when you have finished composing the CD and start the Image Writer.

Once you have put together all of the data you wish to include on your virtual CD, click on the **Create** button to write the virtual CD.

Alternatively, you can select **Save as...** from the File menu and store the data in a 'definition file' (*.vcx). Then you can load this file in the Editor at a later date to create your virtual CD.



*The *.vcx file stores only the structure of the virtual CD you have defined (references to files and folders), not the data that the virtual CD will contain. This means, for example, if you save a definition file that refers to the "C:\Pictures" folder, and then modify the contents of that folder before making the virtual CD, the virtual CD will contain the modified content rather than the content that existed when you saved the definition file.*



Editing a Virtual CD

You can use the Editor to modify existing virtual CDs. To open a virtual CD for editing, begin by selecting it in the CD Management window. Then right-click on it to open a shortcut menu and select “Edit.” The Editor program opens and loads the selected virtual CD.



Only data CDs can be edited. If the selected CD is of a type that cannot be edited, the “Edit” item cannot be selected from the menu.



If the virtual CD you load for editing has multiple sessions, you need to select the session you wish to edit. The most recent session shows the current status of the CD content.

You can now modify the content of this virtual CD. For example, you can remove files that you don’t need, such as demo software, or adapt the autorun function to your preferences. When you select the “Create” command, your changes are simply written in a new session. This is why the process usually doesn’t take very long. The virtual CD is now a multi-session CD.



Do not edit virtual CDs that are made with special formats (such as games CDs). If you do, the virtual CD will no longer run properly.

Working with Virtual CDs

Inserting a Virtual CD

To make it as easy as possible, we have implemented a number of different controls for inserting virtual CDs. You can use any of the following to execute the “Insert” command:

- CD Management
- Virtual CD sidebar
- the Quick Start Utility
- a shortcut menu in the Windows Explorer (generated by the VCD Explorer Extension)
- a Virtual CD script
- a desktop shortcut that runs the VCD command line program



*When you double-click on a virtual CD in CD Management, either that CD is inserted or its properties are shown, depending on your setting in the **View** menu, under Double-click function.*

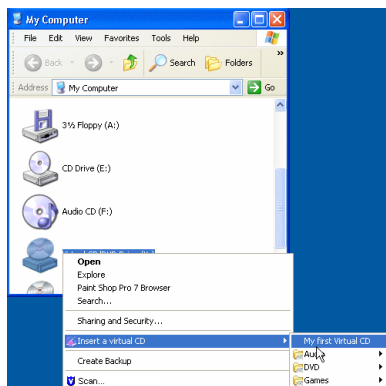
In the following example, we demonstrate the method using the Windows Explorer extension.



Open “My Computer” in the Windows Explorer.



Select the desired virtual CD drive and right-click on it. Select **Insert a virtual CD** and then choose the virtual CD from the list that opens.



The virtual CD is now inserted in the CD drive and is ready for use.



Shortcuts for Fast Access

Desktop shortcuts are handy for virtual CDs that you use often, but don't want to leave continually inserted in a drive, such as a telephone book on CD. The shortcut lets you access the virtual CD immediately without starting any other program first. Your Virtual CD "CD Management" program has a command for creating a shortcut quickly and easily.

1

Open CD Management and select the virtual CD for which you want to make a shortcut.

2

Right-click on the virtual CD and select **Create a desktop shortcut** from the menu. The shortcut is created immediately. The "Description" field of the virtual CD's properties supplies the name of the shortcut.

The icon generated by Virtual CD for the shortcut is now visible on your desktop. Double-click on it to insert the virtual CD. **The virtual CD name is passed as an argument to the command line program (vc7cmd.exe)**, which executes the "Insert" command with the selected CD.



Ejecting a Virtual CD

There are almost as many ways to eject a virtual CD as there are to insert it. You can use any of the following to execute the "Eject" command:

- CD Management
- the Virtual CD sidebar
- the Quick Start Utility
- a shortcut menu in the Windows Explorer (generated by the VCD Explorer Extension)
- a Virtual CD script



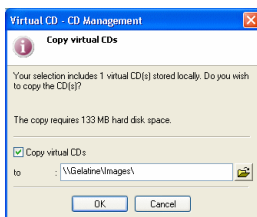
When creating a virtual CD, you can define whether the CD is automatically ejected when a session is ended; i.e., when the user logs out or when the computer is shut down. You can also activate or deactivate this option later in the Properties of the particular virtual CD, or for all virtual CDs in the Virtual CD Settings.

Copying Virtual CDs

In some cases you might find it necessary or useful to copy virtual CDs. For example, you may want to copy all your virtual CDs from one hard disk to another, or copy a virtual CD from a network workstation to a server. There are two methods for copying virtual CDs with your Virtual CD program:

Directly in CD Management:

You can move virtual CDs using “drag and drop,” for example, to move virtual CDs to a different folder. When you use Virtual CD in a network, you can move virtual CDs from the “Global” to the “Local” view and vice versa. A dialog opens to ask you where you want the CD(s).



If you want to make a virtual CD available to over the network, you need to copy it to a central location (e.g., a server) designated by a UNC path. If the virtual CD is stored on a workstation in a location designated by a drive letter, it cannot be seen on other network stations.

Using the Copy Wizard:

You can use the Copy Wizard to copy any number of virtual CDs from one folder to another. If you run the Copy Wizard from the Toolbox, you have to browse for the desired virtual CDs, add them to the list in this window and specify the **path** to which they will be copied. The Copy Wizard shows you how much space is required and how much is available at the selected destination. The copy process can be started only if there is enough space available.



*The process is a little quicker and easier if you run the Copy Wizard from the CD Management program. In this case, you begin by marking the desired CDs in the CD Management list. Right-click on the selection and choose **Copy virtual CDs** from the shortcut menu. This opens the Copy Wizard with the selected CD(s) already loaded in the list. If you right-click on a **folder** in CD Management and open the Copy Wizard, all virtual CDs in that folder are loaded in the Copy Wizard list.*



Deleting Virtual CDs

If you have a virtual CD that you no longer need, it is a good idea to delete it. Virtual CDs – especially DVD images – can take up a great deal of space on your hard disk.



Run the CD Management program, select the virtual CD you want to delete, and choose **Delete**.



A dialog opens, prompting you to confirm the “Delete” command.



If you do *not* select the option to **Delete the virtual CD from the hard disk** before clicking on OK, then the CD in question will remain on your hard disk, although it is no longer displayed in the CD Management program. You can only delete virtual CDs from the hard disk if you have the required directory and file privileges, and the CD is not currently inserted in a virtual drive. If you click on **Yes** (or **Yes, delete all**), the selected CD(s) will be deleted from the hard disk completely.

You can also delete all virtual CDs in a specified folder from the hard disk.

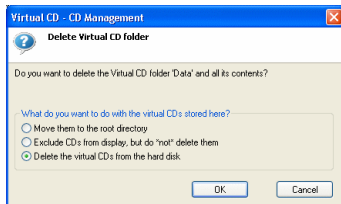
Warning:

All virtual CDs will be deleted from the specified folder!



Open CD Management, select the folder you want to delete, and choose **Delete**.

A dialog opens, prompting you to confirm the “Delete” command.



You can choose from the following options:

- **Move the virtual CDs to the root directory:** All the virtual CDs are moved to the root directory of your Virtual CD installation. Only the selected folder is deleted.
- **Exclude the CDs from CD Management:** The icons that represent these virtual CDs are no longer displayed in CD Management, and the folder is deleted. In other words, these virtual CDs are no longer “known,” or registered, in your Virtual CD program. The virtual CDs themselves, however, are still present on your hard disk.
- **Delete the virtual CDs from the hard disk entirely:** The virtual CDs and the folder are irrevocably removed from the hard disk.

Click on **OK** to confirm your choice and delete the folder.



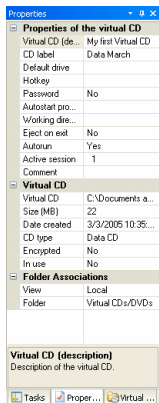
Properties of a Virtual CD

When you create a virtual CD, you can define a number of settings affecting the way the CD can be used, such as autostart program, keyboard shortcut, and more. These settings are stored along with other information about the virtual CD (size, CD type, etc.) as **virtual CD properties**.

You can edit the properties of a virtual CD in the corresponding administration window in the CD Management program. To do this, begin by opening CD Management. When you first run this program, the “Properties” window is not in the foreground. Open the **Window** menu and select **Properties**.

The “Properties” window is divided into the following sections:

- **Properties:** This section shows the settings configured for the virtual CD. This is the only section containing data that you can edit (in the left-hand column).
- **Virtual CD:** This section shows static information about the virtual CD.
- **Folder Associations:** This section lists the Virtual CD Folders in which this CD can be found.



Most of these properties are explained in the earlier steps involved in creating the virtual CD. One setting you may not have seen before is the **Active session** control. The value here defines which session of a multi-session virtual CD is active when the CD is inserted.



This control can be useful with CD-Extra CDs, because it lets you decide whether the audio segment or the data segment is shown on the computer when this virtual CD is inserted.

Rather than opening the Virtual CD Properties administration window, you can edit the properties in a separate dialog box opened in CD Management. To do this, select the desired CD in CD Management, open the **Edit** menu and select **Properties**.



The dialog for editing virtual CD properties contains the same values as those shown in the administration window. Some of the information (e.g., “Comment”) is easier to enter here, as the input fields are larger and give you a better view than the administration window.

Keeping Track of Your Virtual CDs

You can arrange the layout of your CD Management program any way you like for optimum organization of your virtual CDs. This is useful whether you have only a few or a large number of virtual CDs. If you have a lot of virtual CDs, you can use the “print” function to help keep track of them all. The “print” function can be activated from the **Edit** menu, by selecting **Print** and then choosing the desired element(s) from the submenu, or from the “Tasks” panel. You can print the following information:

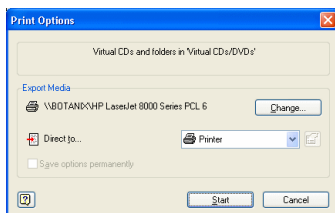
- **Properties of the CD:** This function prints the properties of the selected virtual CD.
- **List of virtual CDs:** Select this item to print a list of all virtual CDs in the active folder.



To print a list of all virtual CDs in your system, the folder diagram view must be set to “CD Overview.”

- **Directory structure:** Select “Entire directory structure” to print a diagram of the entire folder structure, or “Diagram of the active folder” to print a diagram of your Virtual CD folders and the CDs they contain.

After you active the “print” function, you are prompted for the destination of the output.



In this dialog, you can **change** printers or select another **destination**:

- **Printer**
- **Preview**
- **Adobe PDF format**
- **Rich Text Format (RTF)**



In addition to printing, you have the option of storing the data in an RTF or PDF file.



If you store data as a PDF file, you will need the Acrobat Reader from Adobe to view the result. Rich Text Format, on the other hand, can be viewed using the “WordPad” editor that comes with the Windows operating system.



You can use the “Preview” option to test the available output capabilities. This saves paper and helps ensure satisfactory printing results.

User-Defined Views

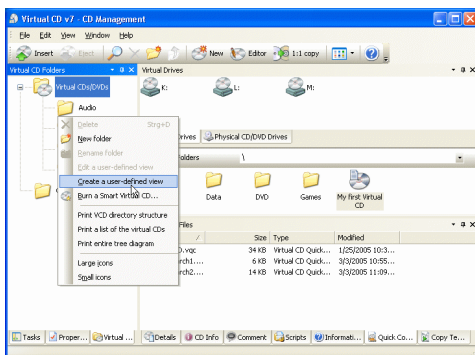
You can customize the way your virtual CDs are displayed by configuring the virtual CD view in **CD Management** and then saving your view settings. Creating a **user-defined view** has the following advantages:

- You can have virtual CDs sorted and displayed according to your choice of criteria.
- You can configure a variety of views and select any of them in the “Virtual CD Folders” window at any time.

The following step-by-step demonstration of the procedure for creating a user-defined view will give you a better idea of how this works:

1

Begin by running the Virtual CD **CD Management** program, if it is not already running, and open the **Virtual CD Folders** window. Right-click in this window and select **Create a user-defined view** from the shortcut menu.



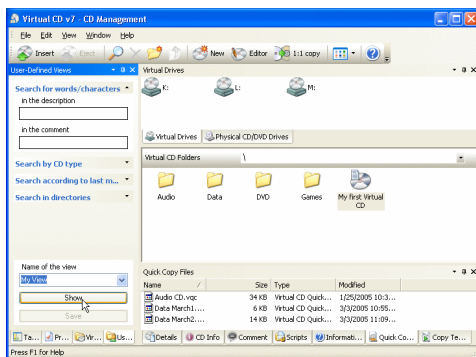


2

This opens a window called **User-Defined Views**. Click on the down-arrow next to the **Search by CD type** field to open a selection list. Select **Audio CDs**.



Following initial start-up of your Virtual CD program, there are a few different types to choose from here. You can also define other types and add them to this list.



3

Now we have entered enough search criteria for our example. Enter a name under **Name of the view** and click on the **Show** button. All audio CDs are displayed. Any time you create a view that you wish to use again in the future, click on **Save** to store it. To use a stored view, open the **Virtual CD Folders** window and select it from the list.

Particularly if you have a large number of virtual CDs, user-defined views make it easier to keep track of them and to find specific CDs when you want them.

Using Scripts – No Programming Required!

The Script Generator makes scripts that execute the following commands:

- Insert virtual CD(s)
- Eject virtual CD(s)

Scripts that insert virtual CDs are especially useful for applications that use more than one virtual CD. The only limiting factor is the number of virtual drives available for the required virtual CDs.

The Script Generator creates a Visual Basic script (*.vbs). The virtual CDs designated in a VBS file are inserted or ejected over the Virtual CD application programming interface (API). Select the “Scripts” administration window in CD Management to view a list of existing script files. Double-click on a script file to run the script, or right-click on to edit it.

Scripts can be very handy, and no programming skills are required to make a Virtual CD script. The following example demonstrates how to make and use a script that **inserts virtual CDs**.

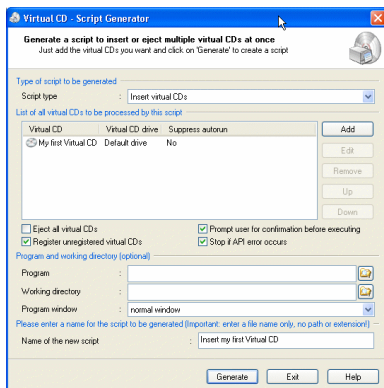


Run CD Management and select the virtual CDs you want to have inserted by the script. Select “Generate script” from the “Tasks” panel to open the Script Generator.



When you open the Script Generator from the CD Management program, the selected CD or

CDs are automatically listed in the Script Generator program window for inclusion in the script. If you select a folder in CD Management, all CDs in that folder are added to the list.





2

You can configure a number of options in the Script Generator program window. For example, you can select **Eject all virtual CDs**, or specify a program to be started automatically when the CDs are inserted or ejected. In this example, we will simply have our virtual CD inserted. All other fields retain their default values.

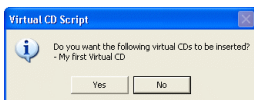
Under **Name of the new script**, we recommend entering a **meaningful name**; in other words, one that will help you recognize the particular script in the future. Click on **Generate** to write the script.

3

The new script is added to the **Scripts** administration window in CD Management. Double-click on it in that window to run it.

Scripts			
Name	Size	Type	Modified
Insert my first Virtual CD.vbs	8 KB	VBScript Script File	3/3/2005 1:12:11 PM
Start.vbs	8 KB	VBScript Script File	2/22/2005 12:50:20 PM

If you left the **Prompt user for confirmation before executing** option active (default setting!) when making the script, a window opens at this point telling you what the script will do and prompting you to either confirm or cancel the operation.



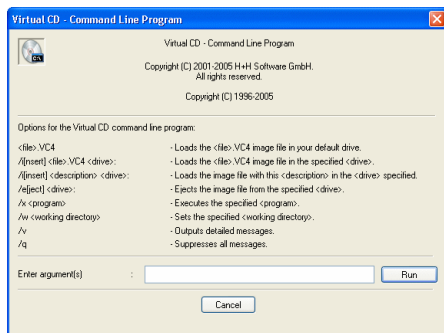
If you want to use Virtual CD scripts, we recommend experimenting with the various settings in the Script Generator to get an idea of the possibilities that are available.



*If you are already familiar with scripts and want write your own with other functions than those offered by the Script Generator, open **Start -> All Programs -> Virtual CD v7 API documentation**. This file contains detailed descriptions of all the functions available over the Virtual CD API.*

Command Line Program

Virtual CD comes with a command line program, **vc7cmd.exe**, which is stored in the Virtual CD system directory when you install the program. You can use this program to insert or eject virtual CDs directly from the command line. When you use the functions in CD Management to create a desktop shortcut, the command line program inserts the virtual CD when the shortcut is activated. If you start the program without command line arguments, a window opens showing the command line options:



If an autostart program is defined in the properties of a given virtual CD, that program starts automatically when the CD in question is inserted by the command line program. If you define an autostart program by entering a program call as a command line argument, this overwrites any previously defined autostart program, and only the program designated on the command line is opened.

Finding Your Data

Search Options

The more CDs you have, the more difficult it can be to find a particular CD, or file on a CD, when you want it. To make it easier, Virtual CD offers you the following search options:

- **CD Search:** Search for virtual CD or ISO images in order to add them to your Virtual CD program, process them with other Virtual CD functions, or delete them.
- **Catalog Search:** Search for specific content on virtual or physical CDs (– without having to load the CDs in a drive!)



Both of these options can be accessed through any of the following:

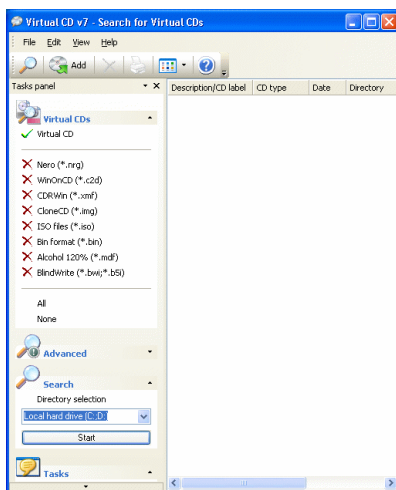
- * VCD Toolbox
- * VCD Sidebar
- * CD Management
- * Quick Start Utility

Integrating Existing Virtual CDs

If you have virtual CDs that are not shown in your Virtual CD Management ("unknown" virtual CDs), the CD Search function lets you integrate them in your VCD system quickly and easily.



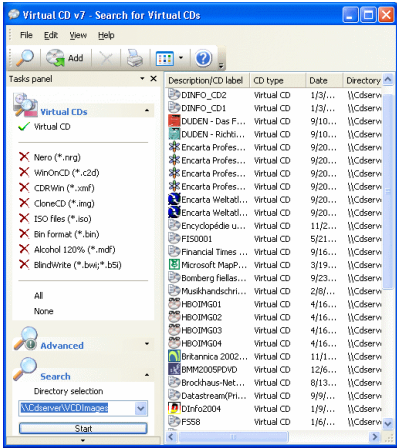
Select **Find virtual CDs and ISO images** in the "Tasks" panel of your CD Management program to start the search.



2

When the “search” function is active, the **Tasks** panel lets you specify the type of virtual CDs to look for and the directory in which the search is started.

Once these settings have been configured, click on **Start** to begin the search.



3

After a brief pause while the search is carried out, the CDs found are listed. Select the CDs you wish to integrate in your CD Management program and click on **Add**.



If you have not specified any CDs when you click on "Add," all the virtual CDs in the list are added. You are prompted to confirm this command, however, in case "Add" was clicked on unintentionally.



At the end of the process, the “Search” window indicates how many virtual CDs were added. When you confirm this message, the “Search” window closes and the newly integrated virtual CDs are ready to use.



If the CD Management program was not already running; e.g., if you used the Toolbox or Quick Start Utility to start the search, the CD Management program is started automatically when virtual CDs are added.

Tasks in the CD Search Program

In some situations, you may want to perform carry out operations on virtual CDs without having to integrate them in the CD Management program. To give you direct access in such cases, a number of tasks have been integrated in the CD Search function:

- **Copy virtual CDs:** Runs the Copy Wizard to copy the selected images to a different directory.
- **Create a script:** Runs the Virtual CD Script Generator to create a script for the selected images.
- **Burn a Smart Virtual CD:** Runs the Smart Virtual CD Burner to burn a Smart Virtual CD containing the selected image.
- **Burn a 1:1 copy:** Runs the Virtual CD CD Burner to burn a physical copy of the selected image.
- **Convert image files:** Runs the Image Converter to convert the selected image to a different format.

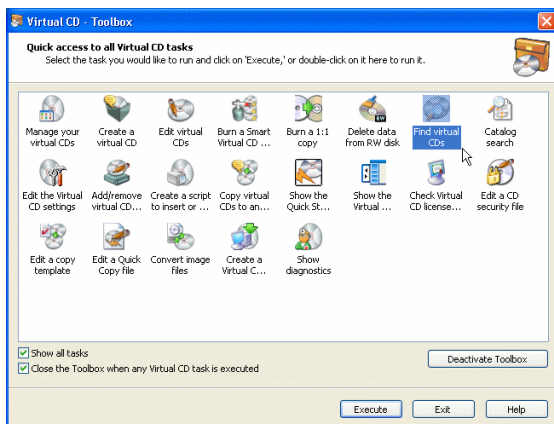


*All of the programs that you call with the CD Search function are automatically opened with the selected image(s). The **Burner** and the **Image Converter** can process only one image. If multiple images are selected when one of these two programs is called, only the first image selected is passed to the program.*

To illustrate the use of tasks in the CD Search function, the following example describes the procedure for copying a number of ISO images using the Copy Wizard.



Run the **Toolbox** by double-clicking on the **Virtual CD v7** icon, and select **Find virtual CDs** to start the CD Search.

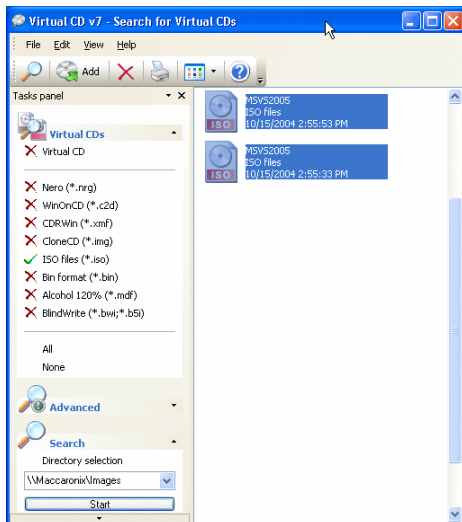




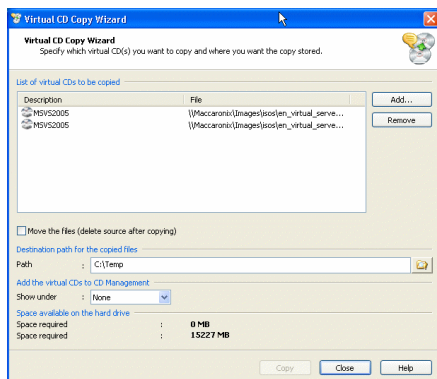
2

In the **Virtual CDs** section of the Tasks panel, select **None** to clear all settings and then select **ISO files (*.iso)**. Under **Search**, specify the directory to be searched and then click on **Start** to begin the search.

If you do not have any ISO images, choose a different file type for this demonstration.



In the list of images found, select one or more images to copy and click on **Copy virtual CDs** in the **Tasks** section.



The Copy Wizard opens and shows a **list of images to be copied**, containing the images that you selected in the CD Search.

All you need to do now is specify the **target path** and choose **Copy** to begin the copying process.

Thus the CD Search function gives you quick and easy access to all of the images in your system, letting you pass them automatically to the program module of your choice.

Find and Delete

In addition to other functions, the CD Search can be used to delete virtual CDs or ISO images from your hard disk. To do this, just mark the files you wish to delete in the search results, and then select the **Delete** command from the “Edit” menu.

The advantage of this function is that you can select a number of virtual CDs or image files regardless of whether they are registered in your CD Management program or not.



*Unlike CDs deleted using the Delete virtual CDs command in CD Management, the CDs deleting using the Search function are ***not*** removed from your CD Management program; they remain as **unknown CDs**. The “CD Search” deletion function is best suited for deleting CDs that are not registered in Virtual CD.*



Virtual CD Catalog Functions

Have you ever had to search for a file when you couldn't remember which CD it was stored on? If so, you know it can take a long time – especially if you have a lot of CDs – regardless of whether you are using physical or virtual CDs.

To solve this problem, we have developed the Virtual CD catalog. This catalog is a compendium of all the catalog files you have created for your CDs. Each catalog file is associated with one specific CD and contains information about all of the files and folders on that CD. There are a number of ways to create catalog files:

- While you are making a virtual CD: On the “Virtual CD Properties” page, select the **Create a catalog for this virtual CD** option. A catalog file is created automatically at the same time the virtual CD is created.
- In the CD Management program: Select a virtual CD and then click on **Create catalog** in the **Tasks** panel.
- In the **Physical CD/DVD drives** administration window of the CD Management program: Select the drive containing the CD-ROM for which you wish to create a catalog and click on **Create catalog**.

The name of the catalog file is derived from the description, for a virtual CD, or from the label, for a physical CD.



Create only one catalog file for each CD; otherwise, when you search for a file, it may appear as though more than one copy of the desired file or folder has been found.



The catalog search detects additional information when a catalog is made (such as version details, for example) and stores this data within the catalog. If the catalog was made from a virtual CD, however, as opposed to a CD-ROM drive, this additional information is not detected.

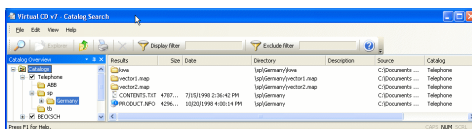
The best way to familiarize yourself with the catalog search functions is to create your own catalog. To do this, run CD Management and insert a virtual CD in a virtual drive, and then right-click on the drive. Select **Create catalog** from the shortcut menu.

When you activate a catalog search, the following functions are available:

- **Display of catalogs:** You can have a catalog of CD contents displayed so that it appears as through the CD itself was in a CD drive.
- **Search in catalogs:** You can search through catalogs for specific files, to find out which CD has the data you are looking for.

Display of Catalogs

Run the **Catalog Search** to display a catalog.



The “Catalog Search” window is divided into two panes: the **Catalog Overview** on the left shows a list of all catalogs, while the “Display View” on the right shows the contents of the catalog selected in the Overview. Select a catalog to have the contents displayed. The display functions are similar to those of the Windows Explorer.



The more data a catalog contains, the longer it takes to load the data for display. If the selected catalog has a particularly large data volume, you are prompted for confirmation before the data is loaded.

When you double-click on an item in the list, the Windows Explorer opens and shows the folder in which the file is stored. If the CD from which the catalog was made is not in a drive, the search function prompts you to insert it. If the catalog was made for a virtual CD, however, the CD is inserted automatically.



Searching in Catalogs

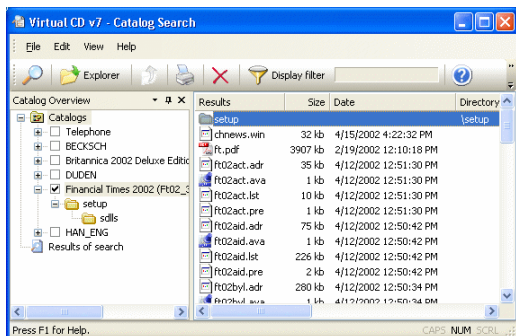
When you run a file search, the “Catalog Search” function searches in all selected catalogs. If the file is found, the display shows the CD on which the file is stored.



To run the search, click on **Catalog Search** in the “Tasks” panel of your CD Management program.

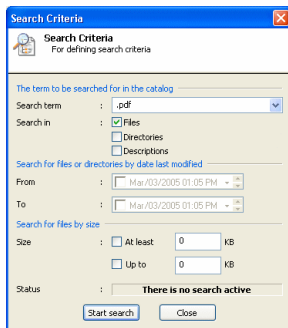


If you want to find the catalog to a particular virtual CD, just select the CD, right-click on it and select the “Catalog Search” command from the shortcut menu. In this case, the catalog that was made for the specified virtual CD is automatically selected for the catalog search.



In the “Catalog Overview,” select the catalogs to be included in your search. Then open the “Edit” menu and select **Search**.

Define your search arguments. In our example, we are searching for **.pdf** files. You can search for files, directories or CD descriptions. (Every folder and every file has a “Description” field which you can use for entering a descriptive text. For some files (such as program files), an attempt is made to create a description when a catalog is made.) Once these parameters have been defined, click on **Start search** to begin the search.



Any files found that meet the specified criteria are displayed at the conclusion of the search operation. To access a file in the search results, just double-click on it or select it and choose **Explorer**.



You will be prompted to insert the CD if it is not already in a CD drive, unless it is a virtual CD, in which case it is inserted automatically.



*You can print the search results by choosing “Print” from the **File** menu or clicking on the “Print” icon in the toolbar.*



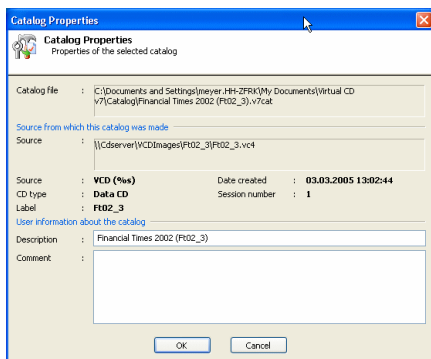
Leave the “Search Criteria” dialog open if you wish to carry out other searches. When you exit the “Catalog Search,” this dialog is closed automatically.



Catalog Management

To view the existing catalogs in your system, open the **Catalog Overview** in the **Catalog Search** window. You can also edit and delete catalogs in the overview.

You also have the option of entering a description and a comment for each catalog. If you want to edit these fields, right-click on the desired catalog and select “Properties.”



The **Properties** dialog shows detailed information on the selected catalog. The “Description” entered here is used as the name of the catalog when it is displayed in the Catalog Overview. The “Comment” is a user-definable text you can store with the catalog.

To delete a catalog, select it with the mouse and then choose the “Delete” command from the “Edit” menu.



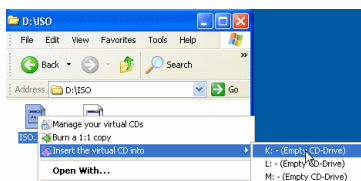
New catalogs can be created only in the CD Management program.

Non-Virtual CD File Formats

ISO Images and Other Formats

Virtual CD supports all images that use the ISO format. ISO images are created by a large number of programs (such as CD-writer software) and are often downloaded from the Internet.

To use an ISO image in Virtual CD, just right-click on it in the Windows Explorer; thanks to the VCD Explorer Extension, the shortcut menu has a command for inserting the image in a virtual CD drive.



When you select this command, the ISO image is inserted but it is not added to your CD Management program. Just like a virtual CD, an ISO image has to be added to your CD Management program – by running a CD Search – if you want to continue using the ISO image in future.

When you first install Virtual CD, it recognizes a number of ISO-compatible image file formats:

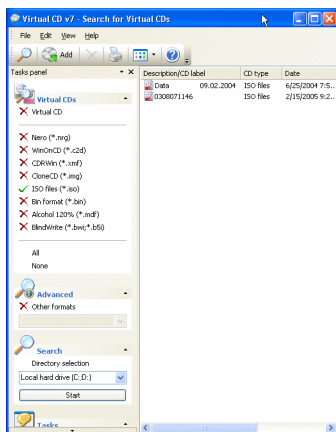
- Nero (*.nrg)
- WinOnCD (*.c2d)
- CDRWin (*.xmf)
- CloneCD (*.img)
- ISO files (*.iso)
- Bin format (*.bin)
- Alcohol 120% (*.mdf)
- BlindWrite (*.bwi; *.b5i)



If you want to use ISO-compliant files with an extension that Virtual CD does not recognize, add the required file name extension on the Explorer Integration page of the Virtual CD Settings. In other words, Virtual CD can support any type of ISO-compatible image!



You also have the option of adding ISO-compliant images to your collection of virtual CDs administered in the Virtual CD Management program. To do this, run a “CD Search” and select the criteria for the desired ISO images. The procedure for adding the images found is the same as that for adding virtual CDs to CD Management.



Limitations of ISO Images

Because ISO images do not have the same structure as virtual CDs, not all Virtual CD functions can be used with ISO images. Virtual CD properties (e.g., “Comment”) can only be applied to a limited extent or, in some cases, not at all.



*If you want to have all the functions available for a particular ISO image that you can use with virtual CDs, you need to convert the ISO image to a virtual CD. To do this, add the ISO image to your CD Management, right-click on it, and select **Quick-convert** from the shortcut menu. Converting an ISO image to a virtual CD really is quick, because it is simply a matter of writing some small data files.*

ISO images are always data CDs. Some CD-writer software and other programs might create image files that are not ISO compliant. These might be proprietary file formats, or audio rather than data CDs.



Virtual CD supports only ISO-compliant images.

There are some images that have what is termed a special format, even though they were created from data CDs and thus are ISO compliant. Virtual CD can read such images, but cannot apply the particular functions it has for handling special formats.



To make a viable image from a CD that uses a special format, the image must be created using the Virtual CD program.

Any time an ISO image is displayed in Virtual CD programs, only those functions that can be applied are available in these programs. The “CD Search” program only finds images that are supported in Virtual CD and thus can be added to CD Management.

Converting Images

Virtual CD can convert data images from one format to another. A distinction is made between the **Quick-convert** function available in CD Management and a **Full conversion**. The quick conversion involves writing a few control files, which takes hardly any time at all. In a full conversion, an entire image is written. In this case it is particularly important to make sure there is enough disk space available for the new image.



Only a full conversion produces an image that supports all of the features available for Virtual CD images.

The Virtual CD Image Converter performs the full image conversion. You can run the Image Converter from CD Management or the Toolbox. You can choose from the following conversion options:

- **Convert source to ISO image:** Converts a virtual CD or an ISO-compatible image (such as a Nero image) to an ISO image.
- **Convert source to virtual CD:** Converts an ISO-compatible image to a virtual CD.

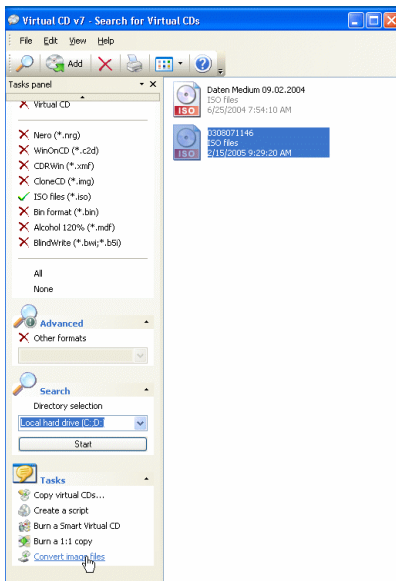


If conversion of a given image is not possible, “Cannot perform conversion” is displayed.

The following example demonstrates the conversion of an ISO image to a virtual CD.

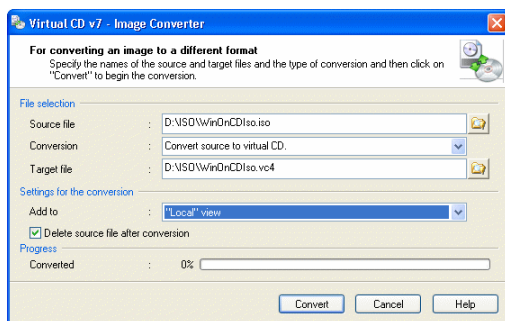


First we need to locate an ISO image to convert. To do this, we run **CD Search** and search the hard disk for ISO files.



To run the Image Converter, we select an ISO file from the list of files found and choose **Convert image files** in the Tasks panel.

The Image Converter runs and automatically specifies the selected files as the source. “Convert source to virtual CD” is activated automatically; the target file name is a combination of the source file name and the **.vc4** extension.



Before the conversion starts, you can specify whether the resulting image is added to the “Local” view, the “Global” view, or neither. You can also define whether the source file is automatically deleted after the conversion. When all settings for the conversion are configured, click on **Convert** to convert the image.

The conversion may take as long as several minutes, depending on the data volume of the source image. The resulting virtual CD supports all of the functions available in the Virtual CD program.



Burning Virtual CDs on CD-ROMs

Methods for Backing Up Virtual CDs

No matter how many or how few virtual CDs you have, the time may come when you want to make backup copies of them on physical CD-ROMs.

To do this, you can choose from the following methods:

- Make a 1:1 copy of each virtual CD
- Make a Smart Virtual CD

Notes on Burning CDs



The Virtual CD Burner cannot make copies of CDs or images that contain special formats.

For this reason, the Burner performs an analysis on the source (whether image file or CD), just as the Image Wizard does. If the analysis turns up an indication that it might not be possible to burn a physical copy, the Burner suggests alternatives. Which alternatives may be suggested depends on the type of source CD:

- **Virtual CD:** For virtual CDs that contain special formats (such as CD geometry data), the Burner suggests making a Smart Virtual CD.
- **Physical CD:** If a physical CD contains special formats, the Burner suggests making a virtual CD from the physical CD.



These recommendations from the Burner program are intended to help prevent the waste of blank CDs. If you wish to attempt making a 1:1 physical copy in spite of these suggestions, the decision is up to you. In this case, we recommend using a re-writable (RW) CD or DVD for your first attempt, to make sure that the burning process can be completed successfully and the results meet your requirements.



*Both the Burner program and the Smart Virtual CD Burner offer the option of running the **Eraser Wizard** to delete data from the RW medium before writing.*

Creating 1:1 Copies

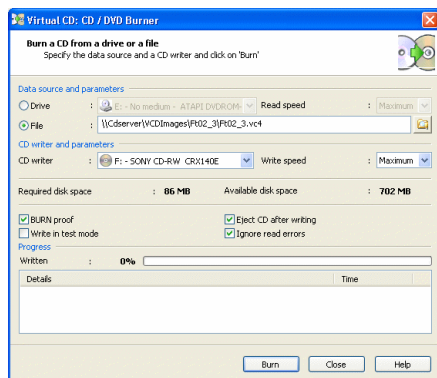
Virtual CD can make exact, 1:1 copies from any of a number of sources. The Virtual CD Burner can make 1:1 copies of the following:

- Physical CDs
- Image files (virtual CDs or ISO-compatible images)

To make an exact copy, proceed as follows:



Run the Virtual CD Burner from the Virtual CD sidebar by selecting **Burn a 1:1 copy** in the **Tasks** panel.



Select the desired source; i.e., the CD or image you wish to copy, in the Virtual CD Burner. To do this, select the CD drive containing the desired virtual or physical CD, or an image file.



In our example, we select an ISO image that we want to burn onto a CD. You can choose a different type of source, if you wish.



*The Virtual CD Burner also supports burning **cue sheets** created when images are made with other programs. You can specify a cue file as a source just like any other file.*



2

Once you have inserted a target medium with sufficient available space and specified the CD writer, you can define a number of parameters relevant to the writing process. When you are ready, click on **Burn** to start burning the CD.



If the CD writer is the only physical CD drive on your computer, you can choose whether Virtual CD creates a virtual copy first. Once the virtual CD is completed, it is automatically defined as the source and the burning process can be started as soon as you insert a blank disk. If you wish, you can have the virtual CD deleted automatically once the burn process has been completed.



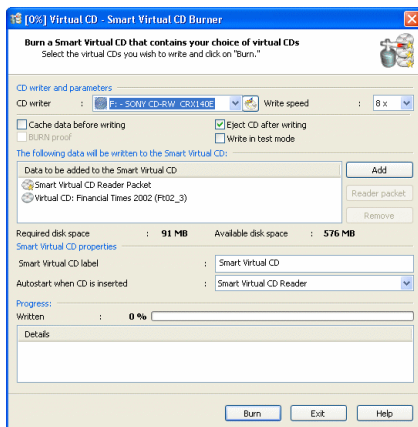
The burn process cannot start if the CD in the target CD writer does not have enough space available. If the target medium is a re-writable CD, however, you are offered the option of running the Eraser Wizard to delete data from the medium.

Burning Smart Virtual CDs

The Smart Virtual CD Burner lets you burn any number of virtual CDs (restricted only by the space available on the blank CD or DVD) onto a single physical CD or DVD.

1

To do this, select the virtual CD(s) you want to burn in CD Management and click on **Burn a Smart Virtual CD** in the **Tasks** panel to run the Smart Virtual CD Burner.



We recommend always starting the Smart Virtual CD Burner from your CD Management program, marking the desired CDs first, as the selected CDs are loaded in the Smart Virtual CD Burner list automatically. If you select a folder in CD Management, all CDs in that folder are added to the list.

2

Insert your blank CD or DVD now, if you have not done so already. The Smart Virtual CD Burner tells you whether the blank disk has enough space available for the selected virtual CDs. If there is not enough space available, you can remove CDs from the list by clicking on **Remove**. Click on **Burn** to write the data on the CD.



3

When the writing process is completed, remove the physical CD from the CD-ROM drive and click on **Exit** to close the Smart Virtual CD Burner.



*The **Smart Virtual CD Reader Packet** should be included on every Smart Virtual CD. It ensures that the virtual CDs stored on the CD can be used on any computer, even if the **Virtual CD** program is not installed.*

You can define a CD label and/or an autostart program, if desired, in the **Properties of the Smart Virtual CD**. The autostart options give you the following choices:

- * Run the Smart Virtual CD Reader
- * Run the Windows Explorer
- * Switch off the autostart function for this Smart Virtual CD



The autostart function can only be used if the Smart Virtual CD Reader Packet is included on the Smart Virtual CD.

Using Smart Virtual CDs

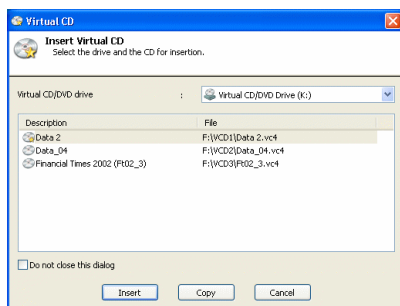
When you place a Smart Virtual CD in a physical CD-ROM drive, the Smart Virtual CD Reader runs automatically – unless the “autorun” function has been deactivated on the computer in question, in which case you need to open the Windows Explorer and run the **Start.exe** program on the Smart Virtual CD.

The Smart Virtual CD Reader Packet checks whether Virtual CD or the Smart Virtual CD Reader has already been installed on the computer. If neither program is found, the Smart Virtual CD Reader is installed. During installation, a virtual drive is set up on the computer, enabling you to use the virtual CDs that are on the Smart Virtual CD.



If a Virtual CD program is found, the Smart Virtual CD Reader checks whether its own version of the Virtual CD driver is newer than the version on the computer. If it is, then the driver on the computer is updated.

If there are more than one virtual drives available or multiple virtual CDs on the Smart CD, a selection dialog opens.



In this dialog you can define which virtual CD is inserted in which drive. When you click on **Insert**, the virtual CD is loaded in the selected virtual drive and the selection dialog closes.



*If the Virtual CD program is installed on the computer, you can click on **Copy** to open the Image Wizard and copy the selected virtual CD from the Smart Virtual CD to the hard disk.*

If there is only one virtual CD on the Smart Virtual CD and only one virtual CD drive available, the CD is inserted automatically. In this case, the selection dialog does not open.



If the Virtual CD program is not installed on the computer, only those virtual CDs that are on the Smart Virtual CD can be used. CDs cannot be copied to the local hard drive and then used.

Removing the Smart Virtual CD Reader

To remove the Smart Virtual CD Reader from your computer, use the **Add/Remove Programs** function in the Window Control Panel. Select “Smart Virtual CD” and start the de-installation process. The Wizard removes all components of the Smart Virtual CD Reader from your computer.



Advantages of Smart Virtual CD Technology

When you make a Smart Virtual CD, you do not get an exact, 1:1 copy of your virtual CDs, but there are a number of advantages that make the Smart Virtual CD technique preferable to burning 1:1 copies.

- **You can burn all your virtual CDs:** You cannot burn a 1:1 copy of virtual CDs with audio tracks stored as sound files. This limitation does not apply to Smart Virtual CDs.
- **Information required for special formats is supported:** If a virtual CD requires information for special formats (unreadable sectors, CD geometry data, etc.), this information is automatically included on the Smart Virtual CD.

This means any virtual CD that will run on a machine with the Virtual CD program installed will also run using the Smart Virtual CD technique.

- **Protection from unauthorized access:** Virtual CDs that are protected by a password and encryption can only be accessed by users who know the password.
- **Burn all the CDs you need on one blank:** More and more applications these days are supplied on multiple CDs. Since Smart Virtual CD technology can also be used to burn DVDs, you can put together all the CDs required for a given application on one DVD.
Never again will you have to ask yourself, "Where the heck did that third CD disappear to...?"
- **Availability ensured by Smart Virtual CD Reader:** You can add the Smart Virtual CD Reader Packet to every Smart Virtual CD, so the virtual CDs will run on computers without a Virtual CD installation.

Security Measures for Physical CDs

Controlling the Use of CDs

With Virtual CD, not only can you create, manage and run virtual CDs, you can also control which CDs are used in your system. With virtual CDs, this control is easy to implement.

Just assign a password and the virtual CD can no longer be used by your kids, or your co-workers. It used to be more difficult to exercise the same kind of control over physical CDs, but now Virtual CD has a solution for this issue too. You can

- **Disable the use of physical CDs.** When you activate this option, Virtual CD will automatically eject any physical CD-ROM as soon as it is inserted.

- Permit the use of specified CDs. Just activate the option outlined above to prevent the use of physical CDs, and then you can exclude certain CDs from this restriction.



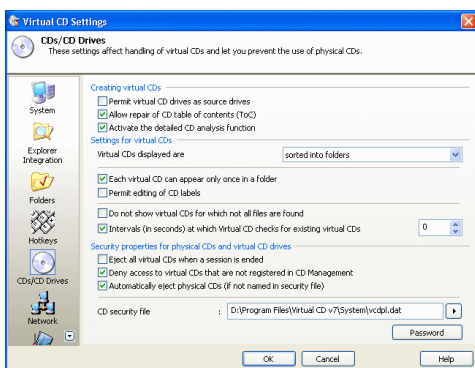
The settings that control the use of physical CDs are applied for all users of the computer on which the settings are configured. Anybody else who uses your computer will be subject to the same settings you configure here for this function.

Disabling the Use of Physical CDs

Preventing the use of physical CD-ROMs is very easy with the Virtual CD program.



Open the Virtual CD Settings program; e.g., from the Toolbox, and select the **CDs/CD Drives** page.



Activate the setting: **Automatically eject all physical CDs (if not named in security file)**.

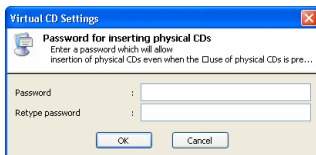


*Click on **OK**. From this point onward, any CD placed in a physical CD drive is automatically ejected. The only way to have a CD remain in a drive is to deactivate this setting.*



2

When this option is active, you can click on **Password** to define a password that will temporarily deactivate it.



3

If a password has been defined for this function, a new item is added to the “Tasks” panel: **Permit use of physical CDs.**

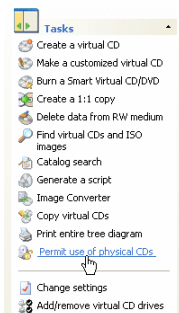
When you click on this item, you are prompted to enter the password assign to this function. Once you enter the password, physical CDs can be used again.



*The text for this item in the Tasks panel changes to: **Prevent use of physical CDs.** Do not forget to switch this function off again when you have finished using the physical CD!*



Steps 2 and 3 (above) are optional. Bear in mind, however, that it can be useful to have the option of inserting a physical CD now and then; for example, to create a new virtual CD, without having to edit the program settings just to permit insertion of your source CD.



Permitting the Use of Specified CDs

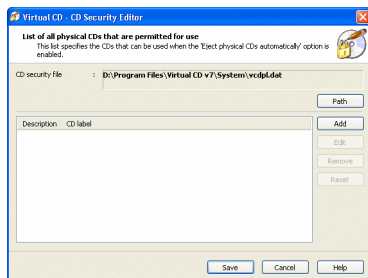
It can be handy to prevent the use of physical CDs. There are limits to the usefulness of this function, however; for example, if you want to use a particular CD but don't want to deactivate the overall control of physical CDs. This situation can occur both at home and at the office.

Here is an example: You want to let your son use the “Mathematics” CD for school work, but you don't want him playing the computer games he has on CD. One solution would be to make a virtual CD from the math CD. However,

if this is not possible (e.g., if you don't have enough space on the hard disk), you can disable the use of physical CDs and then configure Virtual CD to permit use of the math CD.

1

Place the CD you wish to allow in your physical CD-ROM drive. Open the Toolbox and run the CD Security Editor, to edit the CD security file.



The CD Security Editor defines a list of CDs that can be used on the particular computer, even when the use of physical CDs is disabled by the Virtual CD settings.

2

To add a CD to the list of permitted CDs, click on **Add**.

In the next dialog, select the **CD drive** containing the CD. Enter a meaningful **description** and click on **OK** to exit. The CD is now in the list of permitted CDs defined by the CD Security Editor. Once you click on **Save**, the CD can be used.



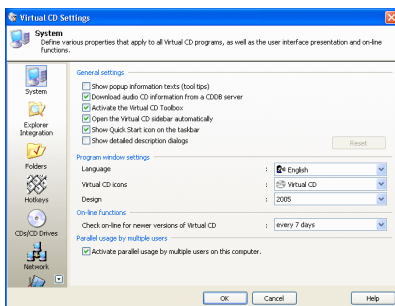
*The CD security file (**vcdpl.dat**) is stored in the Virtual CD system directory. If this file is deleted, all physical CDs are blocked from use when the corresponding option is activated.*

When you open the CD Security Editor, the most recently opened CD security file is loaded automatically.

Configuring your Virtual CD Program

Virtual CD Settings

Many of the functions and controls in Virtual CD can easily be adapted to your own requirements. A majority of the available options are configured in the Virtual CD Settings program. You can run the Settings program from the Toolbox, the Quick Start Utility or CD Management.



This program is divided into different dialogs according to topic, making it easier to find the settings you want. Some of these areas are described in detail in other sections of this documentation.

- **System:** The options on this page define global settings, the program window layout and on-line functions.
- **Explorer Integration:** On this page you can choose Virtual CD functions and specify how they are integrated in your Windows Explorer.
- **Folders:** This page defines the paths in which Virtual CD stores its files and configurations.
- **Hotkeys:** Virtual CD lets you define your own keyboard shortcuts for starting its own and other programs.



If you define a hotkey combination that is assigned to a different function within the context of another program, there is no way to predict which of the two functions will be activated when you press this hotkey.

- **CDs/CD Drives:** Settings affecting virtual and physical CDs and CD drives are configured here.
- **Network:** If you use Virtual CD in a network, you need to configure the settings on this page.



*The Virtual CD Network Management Server enables centralized administration of Virtual CD workstations in a network. This is a separate product and is ***not*** included with your Virtual CD installation.*

- **Driver:** The parameters on this page relate to the Virtual CD driver, which makes the virtual CD drives available in your system.



Parameters relating to the driver do not usually need to be changed. These settings should be modified only under exceptional circumstances.

Adding/Removing Virtual CD Drives

Virtual CD lets you add and remove virtual drives as needed. To do this, you need to run the Drive Editor. This program can be started from the Toolbox, the Quick Start Utility or CD Management. The Drive Editor program window shows a list of all drives and their allocations.

Add a checkmark to the box next to a drive letter to use that letter for a virtual drive. Conversely, removing the checkmark “removes” the virtual drive. In most cases, 3 to 5 virtual drives have proved to be sufficient for general use. You can add more to your system at any time, of course.

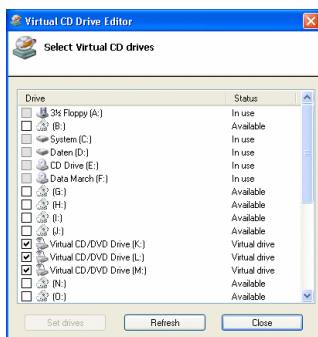


You cannot use a drive letter that is already allocated to another drive (e.g., to a hard drive).



You cannot remove all virtual CD drives, as the Virtual CD program requires at least one drive.

Once you have made the desired changes in this window, click on **Set** to apply your settings. It takes several minutes to save the data.







Virtual CD in the Network



Before you get started...

Virtual CD can run in a network with all its program functions and controls. One of the advantages of network operation is that you can make a single virtual CD available to any number of users.

Regardless of whether you want to install it in your home network or in a company, there are a few things you need to take into account, and several decisions to be made, before you begin with the installation.

Before you install Virtual CD on your network workstations, think about where you want to install the central configuration files and your virtual CDs. Be sure to choose a machine with sufficient space available for the virtual CDs.



Remember: never install Virtual CD on a server to make it available over the network. If you require an installation with server-specific functions, please ask about our Terminal Server and File Server editions of Virtual CD.



Virtual CD is designed to run under a Windows operating system. If your network runs on a different platform (such as Novell, Linux, etc.), make sure the Windows workstations on which you install Virtual CD can access the folders specified for the program and the virtual CDs.



*All directory names and paths to “global” virtual CDs must be specified using **UNC syntax**. If you use the drive, the folders and/or virtual CDs will be available on the workstation where these are configured, but may not be accessible over the network.*



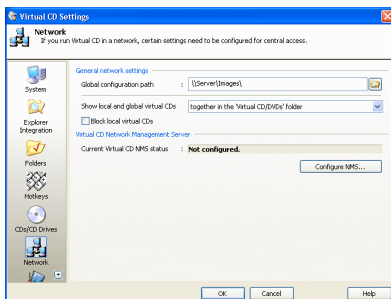
If your workstations do not all use the same operating system (e.g., some use Windows XP and some Windows 2000), make sure you do not use root shares; instead, set up a separate folder for the organizational level (\\server\share\folder). The different Windows versions do not use the same methods for handling root shares, which usually leads to considerable problems in the network.



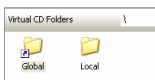
If you want to use Virtual CD in a large network, we highly recommend installing the Virtual CD Network Management Server. This is a supplementary product designed specifically for networks, and enables centralized management of Virtual CD v5, v6 and v7 workstations as well as Virtual CD v6 and v7 FS and TS server editions.

Global Configuration Path

The global configuration path is specified on each workstation, and determines which virtual CDs are displayed. All stations that use the same global configuration show the same set of virtual CDs. To specify this path, run Virtual CD Settings and open the “Network” page. Enter or select the path and save your settings.



If a path is defined here, the display of virtual CDs is divided into a “Local” view and a “Global” view.



Where each virtual CD is displayed now depends on your settings:

- **Local view:** The virtual CDs shown here are accessible only on the machine that displays them in its “Local” view.
- **Global view:** The virtual CDs shown here are available to all machines that use the same global configuration path.



All folders and virtual CDs shown in the “Global” view are marked by a small arrow in the lower left corner. This makes it easy to distinguish “Local” from “Global” virtual CDs when they are all displayed in a list rather than divided into the two “Views.”

The following configuration files determine where virtual CDs are displayed:

- **vcddimg.dat:** Lists the virtual CDs that are included in the display, along with various properties.
- **vcddtree.dat:** Defines the structure of the directory tree for the folders in which virtual CDs are stored.

These configuration files are stored in the Virtual CD system directory of the local installation. The virtual CDs shown in the “Local” view are listed here. If a global configuration path has been specified, the files defining which CDs are shown in the “Global” view are stored here.



Privileges in both of these directories are required for creating virtual CDs.



These “views” define only where the virtual CDs are visible, not where they are stored. For example, if a virtual CD stored on the network is assigned to the “Local” view (using a UNC path name) and not the “Global” view, that virtual CD is available only on the computer specified. Thus, for example, you can store a virtual CD on a UNC path in the network and assign it to a “Local” view for testing before adding it to the “Global” view.



If you want to restrict access to some of the virtual CDs in the “global” path to a limited set of users, this can be achieved by assigning user privileges in the Windows operating system. Begin by assigning file permissions for the CDs in question to those users who should have access to these virtual CDs. Configure Virtual CD so that unknown virtual CDs are not displayed. From this point on, the virtual CDs cannot be seen by users who do not have explicit permission to access them.



To enable management of all Virtual CD data on one machine, it is a good idea to position all folders below the global configuration path.

For example, the folders can be organized as follows:

\\server\share\VCD

This is the global configuration path, and the folder that „Global“ virtual CDs are stored in.

\\server\share\VCD\catalog

Folder for catalog files

\\server\share\VCD\scripts

Folder for scripts



Access to Virtual CD Folders

In addition to the global configuration path, you can store the following in an accessible location to make other Virtual CD functions available over the network:

- Folder for new virtual CDs
- Folder for Quick Copy files
- Folder for scripts
- Folder for catalog files

For example, you might want to permit access to the “new virtual CDs” and the “Quick Copy” folders *only* for those users who are permitted to create virtual CDs, while making the other folders available to all users. This can save you the trouble of distributing a lot of data individually (such as scripts).

You can specify the locations of these folders in the Virtual CD Settings, or in the Client Setup program.

Client Setup Program

When you install Virtual CD in a network, you can either install the program and then configure all your client settings on each workstation separately, or you can make a **Client Setup** program. When you create a Client Setup, you only configure the settings **once**. Then you run your Client Setup on each workstation, and Virtual CD is automatically installed with the settings you configured.

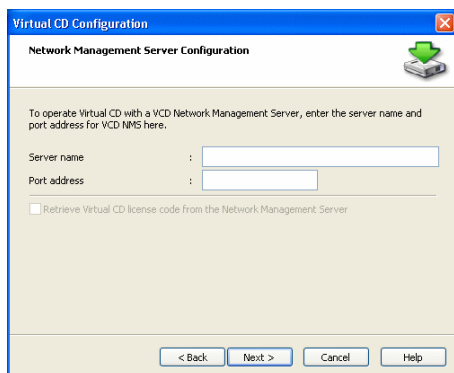


The demonstration given here for “Creating a Client Setup” includes detailed explanations of all the settings available for making Client Setup programs. Please read this example carefully before you use a Client Setup to install virtual CD on your network workstations.

Creating a Client Setup

1

To create a Virtual CD Client Setup, select the item of the same name from the Toolbox. This opens the **Virtual CD Configuration** program for defining your Client Setup. After the “Welcome” window, a dialog opens for **Network Management Server Configuration**.



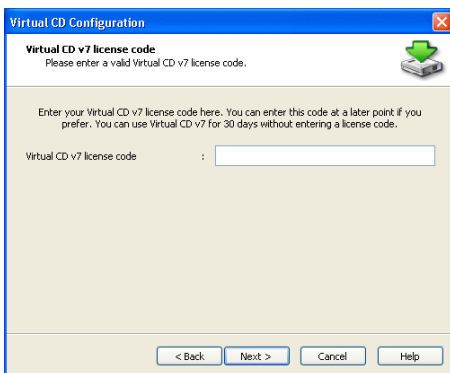
The screenshot shows a dialog box titled "Virtual CD Configuration" with a sub-header "Network Management Server Configuration". The dialog has a green arrow icon pointing down to a server icon. The main text reads: "To operate Virtual CD with a VCD Network Management Server, enter the server name and port address for VCD NMS here." Below this, there are two input fields: "Server name" and "Port address", each preceded by a colon. A checkbox labeled "Retrieve Virtual CD license code from the Network Management Server" is located below the input fields. At the bottom of the dialog, there are four buttons: "< Back", "Next >", "Cancel", and "Help".

If you use the Virtual CD Network Management Server (NMS), enter the **server name** and **port address** here. In this case, you can have the Virtual CD program get its license from the NMS when it is started, by activating **Retrieve Virtual CD license code from the Network Management Server**.



2

If you do not select this option, the next dialog prompts input of a **Virtual CD v7 license code**. Otherwise, go to Step 3.

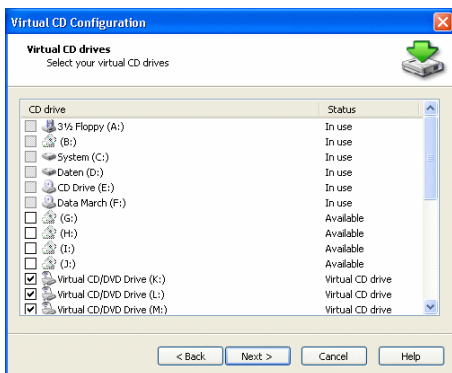


Enter the license code that will be used whenever this Client Setup is executed.



If you do not enter a license code, the Client Setup will install a 30-day demo version of Virtual CD.

The next dialog lets you define which drive letters will be used on the client machine for **virtual CD drives**.

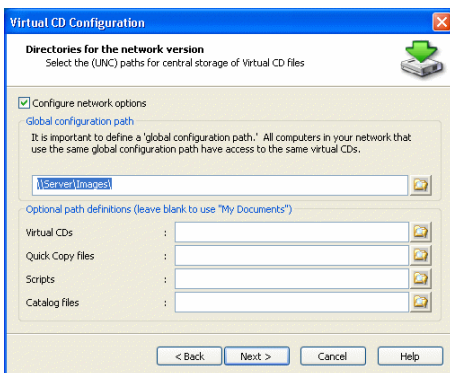


*If you do not specify any drives here, the Client Setup Program will automatically set up **one** virtual CD drive using the first available drive letter.*



4

The next dialog prompts you to define **Directories for the network version**, for centralized storage of certain Virtual CD data.



The most important directory defined here is the global configuration path. This path defines which virtual CDs are shown in the “Global” view – i.e., which CDs are visible for all users.



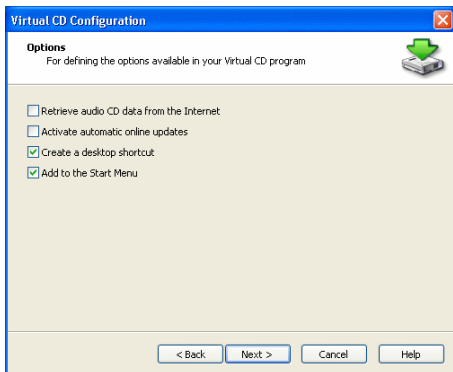
All computers that have the same global configuration path display the same set of virtual CDs in the global view.

The other paths let you determine whether certain Virtual CD files are accessible over the network.



All input on this page is optional. If a path is left blank here, a directory on the local hard disk is used for the data in question.

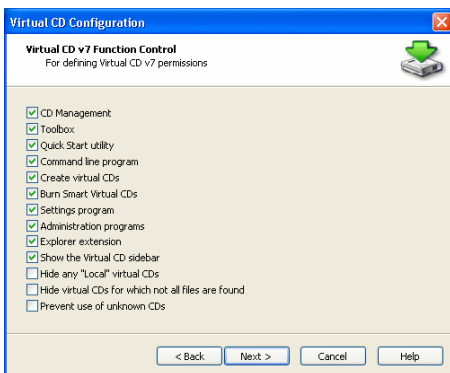
The next dialog defines various **Options** concerning the way Virtual CD operates on the workstation.



- **Retrieve audio CD data from the Internet:** If you wish to permit creation of virtual CDs on network stations, you can define whether data is automatically downloaded from the CDDB server (artist name, track titles, etc.) when a music CD is made.
- **Activate automatic online updates:** You can have Virtual CD check automatically whether a later program version is available. With this option, the check is performed automatically on all workstations that use this Client Setup.
- **Create a desktop shortcut:** Select this option to have a desktop shortcut created on the workstation when the Client Setup runs.
- **Add to the Start Menu:** This option adds Virtual CD to the list of programs shown when the Start Menu is opened.



The next window, **Virtual CD Function Control**, lets you define which Virtual CD features are available to the workstation user.



The following features can be activated or deactivated:

- **CD Management:** Permit users to run the CD Management program.
- **Toolbox:** Permit users to run the Toolbox program.
- **Quick Start utility:** Permit users to run the Quick Start Utility.
- **Command line program:** Permit users to run the Command Line Program.
- **Create virtual CDs:** Permit use of programs for making virtual CDs on the workstation (Image Wizard, Editor, Copy Template Editor.) This setting also controls use of the Copy Wizard.
- **Burn Smart Virtual CDs:** Permit users to run the Smart Virtual CD Burner.
- **Settings program:** Permit users to run the Virtual CD Settings and CD Security Editor programs.
- **Administration programs:** Permit users to run Virtual CD administration programs (Script Generator, Drive Editor, License Monitor, Client Setup).
- **Explorer extension:** Add Virtual CD-specific controls to the Windows Explorer on the workstation.

- **Show the Virtual CD sidebar:** Open the Virtual CD sidebar automatically on start-up.
- **Hide any “Local” virtual CDs:** Prevent the display of virtual CDs which are available only on the local workstation.
- **Hide CDs for which not all files are found:** Prevent the display of virtual CDs for which one or more component files are not found.
- **Prevent use of unknown CDs:** Do not permit use of virtual CDs (e.g., insertion from the Windows Explorer) that are not known to your Virtual CD system.



*If the use of the **Settings program** is permitted, the user will be able to activate the functions that are deactivated here.*

Unlike earlier Virtual CD versions, the Client Setup programs made with VCD v7 always install a **full version** of Virtual CD. Configuring this dialog page is the only way to control which parts of the Virtual CD program can be accessed when a Client Setup is used for installation. The programs themselves will still be shown, but an error message is shown if a user attempts to run a program blocked by these settings.



The Virtual CD programs do not show controls for programs that are not permitted. For example, the Toolbox displays only the functions that are permitted for use on the particular workstation.

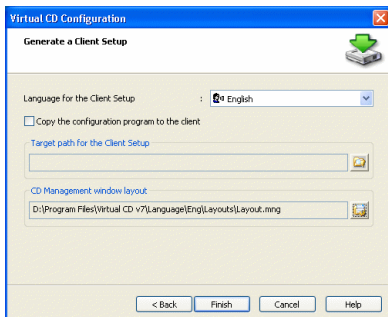


7

The last dialog page, **Generate the Client Setup**, defines where Client Setup is created.

This page is where you specify the **language for the Client Setup** and the **folder in which the Client Setup is created and stored**, and define whether the **configuration program for settings on the client machine** is copied to the workstations as well.

You can also specify a **CD Management window layout** to define the display of CD Management on the workstation.



The configuration program for settings on the client station (**vc7cfg.exe**) makes it possible to change settings that have been defined here on the "Options" page. This program is stored in the Virtual CD system directory and, as a rule, should **not** be copied along with the Client Setup.



If it is necessary to change settings on the workstation after installation, the configuration program can be started using the Windows Explorer. The user must have "write" privileges in the HKLM branch of the Windows Registry.

Once all settings have been configured, click on **Finish** to generate the Client Setup program.



*Because a Client Setup is made up of several files, a separate folder called **v7ClientSetup** is created automatically in the path you designated for the Client Setup program. The Client Setup files are written here.*

8

Once it has been generated successfully, you can use the Client Setup to install Virtual CD on your client computers. The directory in which the Setup is stored must be shared first, so that it can be accessed by your clients over the network.

Using Multiple License Codes

If you have more than one Virtual CD license code, you need to have them distributed throughout your system in accordance with the number of users licensed.

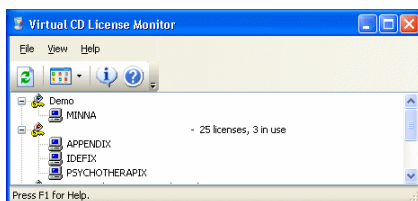
For example, if you have two multi-user licenses for 5 stations each, then you have to allocate one license code to 5 stations, and another license code to 5 other stations.

If you happen to use a license code for one more station than the license covers, an error message is generated. In this case, you can go to that workstation and enter the required license code in CD Management.



To avoid difficulties, generate one Client Setup for each license code and determine before installation which workstations will use which codes. Then run the Client Setups on the stations in accordance with your licensing plan.

If you have any problems managing your license codes, run the License Monitor from the Toolbox or from the **Help Menu** in CD Management. The License Monitor shows you at a glance which license codes are in use on which machines.



This can be particularly useful when you use Client Setups.

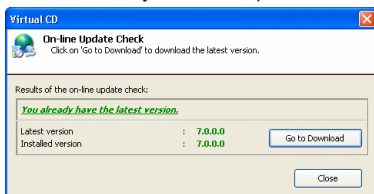


Problems - and Their Solutions

Stay up to date!

We are continuously developing the Virtual CD software. When a problem is reported, we release an update that solves it. If you have a problem with Virtual CD, please check whether you have all the updates that have been released. To check whether you are using the latest program version, select **Automatic update check** in CD Management.

If you do not have the latest version, please download it and then check whether the problem still exists.



Questions and Answers

Virtual CD is a complex software suite that gives you a wide range of controls for working with CDs. To provide the best possible support for our users, there are a large number of sources – both on-line and off-line – for answers to your questions.

- **Documentation:** This documentation gives you an overview of the controls and functions available in Virtual CD. It includes step-by-step examples of many of the procedures used in Virtual CD, and can provide very useful tips even for the experienced user.
- **On-line help:** The Help program describes each of the Virtual CD program modules. It also contains details that we did not find space for in the documentation.
- **Knowledge Base:** Our on-line “knowledge database” at <http://www.virtualcd-online.com/kbase> has the answers to a lot of frequently-asked questions. If anyone else has reported the same problem you are having, you will probably find the solution here.



Check the section called *Solutions in the documentation you are now reading, for the questions that have been asked most frequently and their solutions.*

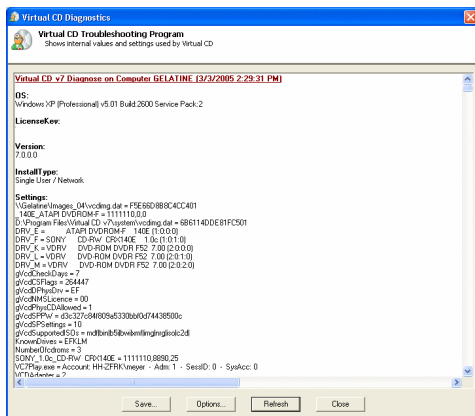
- **Forum:** The latest issues concerning Virtual CD are discussed around the clock in the VCD users forum, at <http://www.virtualcd-online.com/support>. Here, too, you can find help with problems that have already been solved for others.

Contacting VCD Support

If you do not obtain an answer to your question, or a solution to your problem, from any of the sources listed under “Questions and Answers,” please contact our Support Department. To help us help you as quickly as possible, please observe the following as far as applicable:

- Formulate your question as precisely as possible.
- Describe the steps that preceded the problem.
- Check beforehand whether the problem is reproducible.

In the process of looking for a solution to your problem, we may find that we need additional information about your system. If this is the case, please run the VCD Diagnostics program from the **Help** menu in CD Management.



The Diagnostics program detects a number of parameters relating to your system and your Virtual CD installation which can be helpful in understanding and solving problems. Please save the contents of this program window (click on “Save”) in a file, and send the file to our Support Department.



Please send only complete Diagnostics files. If anything is deleted from the file you will be sent a request for a complete file, which means a delay in the processing of solving your problem.

Troubleshooting

Familiar Questions

As you can imagine, since this is the seventh version of the Virtual CD program, there are quite a number of questions that come up again and again and have already been answered.

This section of the documentation provides answers to the most frequently asked questions. For a considerably larger collection of known problems and their solutions, please see the Virtual CD Knowledge Base, at <http://www.virtualcd-online.com/kbase>.

What to do if a virtual CD doesn't work

The procedure for creating a virtual CD is pretty simple. Still, when you try to start an application stored on a virtual CD, it might not work. This happens rather often when the source CD uses a special format. If you make a virtual CD and then find that it doesn't work, please observe the following:

- Virtual CD tries to determine what the best settings are for creating a virtual CD/DVD in each case. Sometimes, however, this does not work, and it may be advisable to experiment with the options available in the **Expert Copy Mode**, and see if this results in a viable virtual CD/DVD.
- Many CD applications require that the CD be loaded in a drive with the same drive letter that was used when the application was installed. If the application has already been installed and operated from the physical CD/DVD drive, de-install it and then install it from the **virtual CD**.
- Some CD applications look for their CD/DVD in the first CD drive; i.e., the CD drive with the letter closest to the beginning of the alphabet. If this might be the problem, change the letter of your virtual CD drive to a letter (alphabetically) **before** that of any physical CD drives.
- In some cases, it might help to use a different physical drive for the source CD when making the virtual CD, since some drives cannot read all of the data on a CD.
- Copying CSS-encrypted DVD videos is prohibited by law. This is why Virtual CD does not support this encryption technique.



Always remove the CD-ROM from the physical drive before trying to start an application from a virtual CD. Otherwise, you might not be able to tell whether the application is using the physical CD or the virtual CD.



When a source CD is read, the results depend to a great extent on the features of the drive in which the CD is loaded – especially in the case of CDs with special formats. In particular, not all CD



drives can read data pertaining to CD geometry. If you are not able to make a virtual CD from a particular source CD on your computer, ask other people you know whether they have made a virtual CD from that source. If so, perhaps you can obtain a Quick Copy file, which you can use to make the virtual CD on your computer regardless of the capabilities of your physical CD drive.

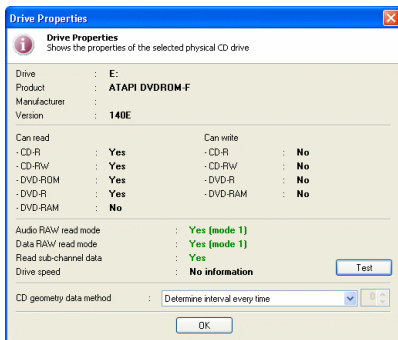
What to do if you cannot make a virtual CD

If you are not able to make a virtual CD from a particular source CD, this may indicate that the data on the source cannot be read. This can be caused by the following:

The source CD drive doesn't support the techniques required for reading the data

The Image Wizard checks whether all functions required for reading the source CD are supported by the drive. If they are not, a different CD drive must be used to read the source CD.

To check which functions your CD drive supports, open the CD Management program and select the "Physical CD/DVD Drives" administration window. Select the CD drive in question and right-click on it. Select "Properties" from the shortcut menu. This opens dialog showing the functions supported by your CD drive.



The CD drive in which the source CD is inserted is not displayed

Some programs open CD drives "exclusively." This means the drive cannot be opened by another program until the first program is closed down. Try closing down all other programs that use CD drives and then starting the Image Wizard again.

The CD “write” process has been running for several hours but has hardly made any progress

Unfortunately, this is quite common for CDs made with special formats (usually game CDs).

On some CDs, you can recognize an obviously unwritten block on the CD surface. Whenever you have a CD like this, try using the **v7 – Unreadable block copy** template included with your Virtual CD installation to make the virtual CD. This should make the reading process noticeably faster.

Which operating system you use can also make a difference, especially with CDs that have a large number of problematic sectors. Windows XP and Windows 2000, for example, are much better for creating virtual CDs than other Windows versions. The entire creation process will be considerably faster if you can use one of these two versions.



As a general rule, any time you have a problem making a virtual CD you should try again with a different source drive, if you have another drive available. In many cases, the problem does not occur with the second drive.

What to do if a virtual audio CD can't be played

When you configure the settings for audio tracks, Virtual CD gives you the choice of writing the tracks as data files or as individual sound files.

If you have problems with a virtual audio CD, the first thing to do is determine which type of audio tracks are on the CD. The easiest way to do this is to check the CD in the “Details” administration window of the Virtual CD Management program.

- If the tracks are stored as individual sound files, the “Details” window shows a numbered list of the track titles.
- If the tracks are stored as data files, a data track is shown for each audio track.

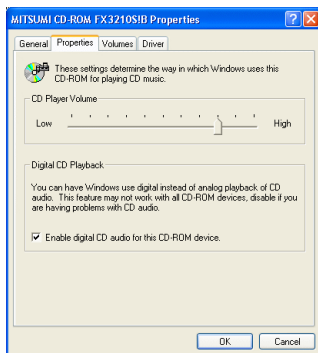


Problems playing audio tracks stored as data files

Symptom: Once you insert the virtual audio CD in a virtual CD drive and the music player starts, an error message is generated by the Virtual CD Player (which passes the music to your CD player).

There are two possible solutions to the problem, depending on which CD player you use:

1. Some CD players cannot play virtual audio CDs as data files (i.e., play them digitally) unless the **Enable digital CD audio for this CD-ROM device** option is activated on the “Properties” page for the virtual CD drive.



This example was generated on a computer running Window XP Professional. Please check the documentation for your operating system to find the settings for digital playback in CD drives.



This setting is not available for all devices under Windows 98; it can be activated for a CD drive only in the Multimedia settings.

- Some CD players have their own settings which overwrite the device settings of the CD drive. With the Media Player, for example, the **Digital playback** option on the **CD Audio** dialog page must be activated.

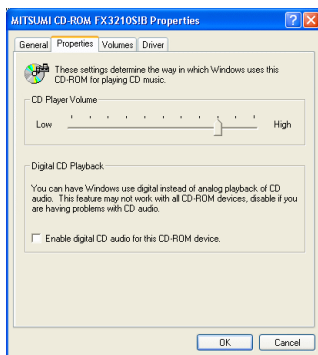


Some CD players cannot directly read and play back audio data, regardless of their device settings. For these players, the virtual music CD must be made using individual sound files rather than data files.

Problems playing audio tracks stored as sound files (analog tracks)

Symptom: The music player apparently starts when you insert the virtual CD, but no sound is produced. There are two possible solutions to the problem, depending on which CD player you use:

- Some CD players cannot play analog tracks unless the **Enable digital CD audio for this CD-ROM device** option is deactivated on the “Properties” page for the virtual CD drive.



This example was generated on a computer running Window XP Professional. Please check the documentation for your operating system to find the settings for digital playback in CD drives.



This setting is not available for all devices under Windows 98; it can be activated for a CD drive only in the Multimedia settings.



2. Some CD players have their own settings which overwrite the device settings of the CD drive. With the Media Player, for example, the **Digital playback** option on the **CD Audio** dialog page must be deactivated.

Notes



Support for digital playback varies from one operating system to the next. In particular, it is not highly developed in Windows 98. For this reason, we recommend using sound files (analog recording) when making virtual audio CDs under Windows 98.



We strongly advise against combining analog and digital files on a single virtual audio CD.



The Windows Media Player resets the option for digital playback (deactivates it) automatically. Thus every time you want to play an audio CD with digital music tracks, you have to set this option again yourself.

Driver Problems

Occasionally you may find that you have difficulties caused by the Virtual CD driver. The following are the most common of these problems:

No virtual CD drives are set up

There is no all-purpose solution to this problem. When it occurs, the computer in question is often a machine on which a large number of programs involving CD drives have been installed and then removed again. Sometimes a de-installation process is incomplete, and leaves “fragments” of code behind that interfere with virtual CD drive setup.

Following installation, an application cannot find any physical CD drives

This kind of problem often occurs with applications that cannot run in conjunction with more than one controller. Once you install Virtual CD, however, you have at least 2 controllers in your system – one for your physical CD hardware, and one for your virtual drives.

There are no generally applicable solutions for driver problems. In many cases, however, it can help to uninstall and then reinstall Virtual CD.

If you have other programs that work with CD drives, you might uninstall those too and then reinstall them after installing Virtual CD.



To eliminate as many problems as possible and ensure the greatest possible compatibility, we have tested the software extensively here at H+H. It is also certified by Microsoft for use with the Windows XP operating system.

Questions on Network Operation

The two issues most commonly raised in regard to using Virtual CD in a network are the following:

No more than 10 users can access a single virtual CD simultaneously

This limitation is not imposed by Virtual CD, but rather by Microsoft. While it is true that Windows NT/2000/2003 Server edition and Windows NT Workstation/2000/XP Professional can be used as file servers, simultaneous access to an NT-based **workstation** is nonetheless limited to **10 users**. This applies both to virtual CDs and to global configuration files.

Virtual CDs are not displayed in CD Management

Make sure you are connected to the network drive (or other medium) on which your virtual CDs are stored. If you are not, then establishing the connection should solve the problem. Another explanation, however, may be that the user who cannot see the virtual CDs does not have the privileges required for access to the files concerned. Changing the relevant permissions should solve the problem.

General Questions

In addition to questions that specifically have to do with Virtual CD, there are a couple of more general topics that are often addressed in the same context:

A hotkey defined in Virtual CD does not work (or, not in all programs)

Check whether the combination of keys chosen for this keyboard shortcut is already in use by another program, for a different function. If it is, then you need to pick a different key combination for one of the two programs.

Activating the option to suppress the “autorun” function on a virtual CD doesn’t have any effect

Suppression of the autorun function is not handled in the same manner by all operating systems. Windows XP is the first Windows version to provide true support for this control. The support provided in earlier versions is rudimentary at best. Thus we cannot guarantee that Virtual CD will be able to suppress this “autorun” function in every instance.

In some cases, suppression of the autorun function may fail when multiple CDs are inserted simultaneously (e.g., by a script). If each individual program call is not passed perfectly by the operating system, the suppression function might fail.



Glossary

A

- AES-256:** Name of data encryption technique available for encoding virtual CDs.
- Audio CD:** CDs with this format contain audio tracks only (no data tracks).
- Audio track:** The data stored on a CD is divided into tracks. On a music CD, the individual tracks are referred to as audio tracks.

C

- Caching:** With the Virtual CD Editor, you can create customized audio CDs with tracks from a number of different source CDs. The tracks you choose are cached (stored on the hard disk temporarily) so you can add songs from a number of different CDs while composing your custom CD, but do not have to insert each CD again once the “write” process starts.
- CD-Extra:** This CD format has two separate sessions, one containing audio tracks and one with data.
- CD-Text:** This is a format for an audio CD with additional information about the album, artist and songs. To make use of the text data, you need a text-capable music player.
- CDDA:** This stands for “CD Digital Audio,” the format used for music CDs.
- CDDB:** CDDB is a free database service offered at FreeDB.org. You (or your Virtual CD program) can request data (artist, track titles, etc.) pertaining to audio CDs from this service over the Internet.



- Client Setup:** This is a Setup program that you configure, for installing Virtual CD on your network stations.
- Convert:** You can convert ISO-compliant images into virtual CDs. This is necessary if you want to have all the functions available for an ISO image that you can use with virtual CDs.
- Copy template:** Files in which frequently-used sets of Image Writer configurations are stored.
- CSS:** "Content Scrambling System," a technique used to prevent video DVDs from being copied.

D

- Data file:** When you make a 1:1 copy of a CD with Virtual CD, the CD data is stored in the form of data files.
- Data track:** The data stored on a CD is divided into tracks. Tracks that contain data, as opposed to music, are referred to as data tracks.
- DVD:** "Digital Versatile Disc," the most commonly used medium for videos today. In addition to "DVD Video," there are also "DVD Audio" and "DVD-ROM" (data) formats.

G

- Global configuration path:** If you designate a directory for this path, you can distribute access to virtual CDs over the network. This gives you the option of dividing each workstation display into to "locally" and "globally" accessible CDs.
- Global view:** The "Global view" shows all CDs that are indicated in the -->Global configuration file. The designation "Local" does not necessarily mean the CDs are stored on the computer on which they are displayed--it only refers to accessibility.

I

ISO: A standardized file system that is mostly used on CDs.

L

LAME MP3: See “MP3.”

Local view: The “Local view” shows virtual CDs that are available only on the local computer where they are displayed. The designation “Local” does not necessarily mean the CDs are stored on the computer on which they are displayed—it only refers to accessibility.

M

Mixed-mode CD: “Mixed Mode” is a CD format that includes both a data track and a number of audio tracks. This format is often used for games.

MP3: Highly error-tolerant compression technique which you can select in Virtual CD to reduce audio tracks to a fraction of their original data volume.

Multisession CD: A CD containing multiple sessions (see “Session”)

O

OGG Vorbis: Highly error-tolerant compression technique which you can select in Virtual CD to reduce audio tracks to a fraction of their original data volume.

Q

Quick Copy file: A “Quick Copy file” stores data relating to problematic features of the source CD (such as unreadable sectors) and accelerates the process the next time this CD is used as a source. Each Quick Copy file is unambiguously associated with the source CD for which it was made.

**R**

Raw sector: Sectors in data tracks contain both the user data they are meant to convey, and additional information that makes sure the user data is correct. When “Read raw sectors” is activated, the entire sector is read.

S

Sector: The smallest unit of organization of data on CDs and DVDs.

Session: Closed segment of a CD. Data CDs usually have one session. If you write data on a CD-R more than once, this is a multisession CD. When the CD is inserted, the most recent session is shown.

Smart Virtual CD: Smart Virtual CD technology makes it possible to burn multiple virtual CDs on a single blank CD/DVD. When you include the Smart Virtual CD Reader Packet on the CD you burn, the virtual CDs it contains can be run on any computer, regardless of whether the Virtual CD program is installed.

Sound files: The audio tracks on a music CD can be recorded for a virtual CD as sound files. Virtual CD offers a choice of formats for sound files. Sound files can be compressed more efficiently than data files, but cannot be written to a physical CD.

Special format: If a CD is not made in accordance with the specified industry standards, this is referred to as “a CD with a special format.”

Sub-channel data: Data on a CD that is not part of the user data; e.g., the textual information on a “CD-Text” CD is stored in the sub-channel range.

VC4:	File name extension for virtual CDs made with version 4 or later of the Virtual CD program.
VC6:	File name extension for virtual CDs made with version 6 of the Virtual CD program. This file name extension is only used for virtual CDs that are created using features (such as encryption) that are not supported by earlier program versions.
VCX:	File name extension for “definition files” used by the Virtual CD Editor to store structural data about a customized virtual CD.
Virtual CD:	Image of a physical CD; stored on the hard disk.
Virtual CD drive:	Emulated CD drive; behaves like a physical drive and is displayed in the same manner in the Windows Explorer.
VPS:	File name extension for copy templates.
VQC:	File name extension for Quick Copy files.
VQC files:	Quick Copy files; created by the Image Writer at the same time a particular virtual CD was made.



Index

A

- Access to Virtual CD folders 104, 115
- Adding/removing Virtual CD drives 97
- Adobe PDF 63
- Advanced installation 10
- Advantages of Smart Virtual CD technology 92
- After Installation 10
- Allowing the use of physical CDs 94
- API documentation 67
- Autorun function 123
- Autostart function 123

B

- Background information 28
- Backing up virtual CDs 86
- Before you get started... 101, 115
- Burning CDs 89
- Burning virtual CDs 86

C

- Catalog 11
- Catalog files 104, 115
- Catalog Management 80
- CD-Extra 29
- CD-ROM 29
- CD-Text 29
- CD-writer software 81, 87
- CDDB 11
- CDs/CD drives 96
- CD geometry data 92
- CD Management 26
- CD search 70
- CD Security Editor 94
- CD security file 94
- Central access to Virtual CD data 104, 115
- Central program window 26
- Check for updates 115
- Client Setup 105, 115
- Client Setup Program 104



- Client Setup programs 104, 115
- Command Line Program 69
- Contacting VCD support 116
- Controlling the use of CDs 92
- Control of physical CDs 93
- Converting Images 83
- Copy 59, 86
- Copying virtual CDs 59
- Copy templates 45, 48
- Copy template editor 48
- Copy wizard 59
- Creating an Audio CD 40
- Creating a Client Setup 105, 115
- Creating a Data CD 33
- Creating a virtual CD 44
- Creating a Virtual CD copy template 48
- Creating physical copies 87
- Customized virtual CDs 54

D

- Definition file 54
- Deinstall 11
- Deinstall Smart Virtual CD Reader 91
- Delete 60
- Deleting virtual CDs 60
- Desktop shortcut 58
- Disabling physical CDs 92
- Disabling the use of physical CDs 93
- Disk space 60
- Display of Catalogs 77
- Documentation 115
- Document Conventions 2
- Driver 96
- Driver Problems 122
- DVD 29

E

- Editing a virtual CD 56
- Editor 54, 56
- Ejecting a virtual CD 58
- Exact copies 87
- Explorer Extension
 - The Explorer Extension 23

F

- Familiar Questions 117
- File extension *.vcx 54
- Find and Delete 75
- Find CDs 70
- First steps 13
- Folders 96
- Folders installed 11
- Foreword 1
- Forum 115

G

- Getting started 13
- Getting started the fast way 13
- Global configuration path 102, 115

H

- Hotkeys 96
- How to make backups of virtual CDs 86

I

- Icon (desktop shortcut) 58
- Image Wizard 13, 31
- Image Writer 44
- Insert 56
- Inserting a virtual CD 56
- Installation 9
- Integrating existing virtual CDs 70
- ISO compliant 82
- ISO files 82
- ISO image 81
- ISO images 82
- ISO images and other formats 81

K

- Keeping track of your virtual CDs 63
- Keyboard shortcuts 96
- Knowledge Base 7, 115



L

- Legal Notices 2
- Licenses 5
- License code 5, 113
- Licensing Virtual CD 5
- Limitations of ISO images 82
- Looking for old virtual CDs 70

M

- Main functions for CD Management 26
- Making 1:1 copies 87
- Making a Client setup program 105, 115
- Making a customized virtual CD 54
- Making a virtual CD 13
- Methods for backing up virtual CDs 86
- Mixed Mode CDs 29
- Multi-user license 113, 115
- Multi-user licenses 5

N

- Network 96
- New Features in Version 7 4
- Notes on Burning CDs 86
- Notes on Installation 9

O

- On-line help 115
- One-Click Copy 53

P

- Password 93
- Permitting the use of specified CDs 94
- Permit only specified CD-ROMs 92
- Photo CD 29
- Physical CD ejected immediately 93
- PreCache 11
- PreSets 11
- Preventing the use of physical CDs 93
- Printing 63
- Printout 63

Print preview 63
Problems - how to solve them 115
Properties 62
Properties of a Virtual CD 62

Q

Questions and answers 115
Questions on Network Operation 123
Quick Copy - the fast way to make virtual CDs 50
Quick Copy file 50
Quick Copy files 104, 115
Quick Installation 10
Quick Start utility 21

R

Reader Packet 89
Removing/adding Virtual CD drives 97
Removing the Smart Virtual CD Reader 91
Removing Virtual CD from Your System 11
Requests for support 116
Rich Text Format 63

S

Scripts 11, 67, 104, 115
Script Generator 67
Search 70
Searching in Catalogs 78
Search for updates automatically 115
Search options 69
Security Editor 94
Security file 94
Shortcuts for Fast Access 58
Smart Virtual CD 89, 90, 92
Smart Virtual CD Burner 89
Smart Virtual CD Reader 89, 90, 91
Smart Virtual CD Reader Packet 89, 92
Special formats 29, 92
Super Video CD 29
Support 7, 116
System 96
System Requirements 6

**T**

- Tasks in the CD Search Program 72
- Technical Support 7
- The Advanced Installation method 10
- The Client setup 104, 115
- The global configuration path 102, 115
- The Image Wizard 31
- The Image Writer 44
- The Quick Installation method 10
- The Quick Start Utility 21
- The Toolbox 18
- The Virtual CD Sidebar 19
- Toolbox 18
- Troubleshooting 115, 119, 123

U

- Update check 115
- User-Defined Views 65
- Use of physical CDs 93
- Use of physical CDs disabled 94
- Using copy templates 45
- Using multiple license codes 113
- Using scripts 67
- Using Smart Virtual CDs 90
- Using Virtual CD Functions 17

V

- VBS 67
- Video CD 29
- Virtual CD 56, 59, 60
- Virtual CDs 104, 115
- Virtual CD Catalog Functions 76
- Virtual CD drive 97
- Virtual CD Online 7
- Virtual CD properties 62
- Virtual CD Settings 96
- Visual Basic scripts 67
- VQCopy 11

W

- What to do if a virtual audio CD can't be played 119
- What to do if a virtual CD doesn't work 117
- What to do if you cannot make a virtual CD 118
- What types of CD are available? 29
- What Virtual CD can do for you 3
- What you need to know 28
- Writing a virtual CD 44
- Writing scripts 67

Y

- Your first virtual CD in 5 easy steps 13



Virtual CD v7

Version 7.1



Manual extension

Table of Contents

Foreword	1
Universal Changes in Virtual CD	3
Improved analysis function	3
Smart Virtual CD support for DVD+R DL	4
Known virtual CDs marked in CD Search window	5
Improved catalog search	6
Easy deactivation of the Virtual CD sidebar	6
Properties listed when multiple entries are selected	7
Improved Client Setup	7
Upgrades in Virtual CD TS	9
Faster loading of programs in a session	9
Upgrades in Virtual CD FS	11
Improved overview when assembling collections	11
Editing CD labels for collections	12
Upgrades in Network Management Server	15
Unified handling of known virtual CDs	15
Availability of Virtual CD programs	16
Central management of Virtual CD configuration files defined in NMS	16
New setting for faster start of NMS Administration	18
Directory for temporary files can be specified in a profile	18
Resolved Issues	19
Issues resolved in Virtual CD	19
Issues resolved in NMS	19
Index	21



Foreword

Virtual CD v7.1 has been upgraded and expanded in a number of ways for higher performance in many areas. This documentation summarizes all of the new features and improvements in version 7.1 in all editions of Virtual CD. Select the corresponding hyperlink to read the section that describes your edition:

- Universal changes in Virtual CD: Describes upgrades that affect **Virtual CD**, **Virtual CD Network Edition**, **Virtual CD FS** and **Virtual CD TS**.
- Upgrades in Virtual CD TS: Describes changes that affect only the **Virtual CD TS** edition.
- Upgrades in Virtual CD FS: Describes changes that affect only the **Virtual CD FS** edition.
- Upgrades in Network Management Server: Describes changes that affect only the **Virtual CD NMS** suite.
- Resolved Issues: This section describes problems encountered in earlier versions that have been fixed in Version 7.1.

We would like to thank all of you who actively took part in the development of v7.1 by sending us your suggestions for improvements and additions to the software. We have tried to take all of your suggestions into consideration and to integrate your ideas wherever possible, and we hope that as a result you find VCD easier to use and more efficient. Please continue to use our User Forum to send us your suggestions and comments for improving Virtual CD, because this makes us even better able to develop the software in accordance with your needs.



Universal Changes in Virtual CD

A number of the features that have been added or improved in Virtual CD v7.1 are found in all editions of the program. These include the following features:

- Improved analysis function
- Smart Virtual CD support for DVD+R DL
- Known virtual CDs marked in CD Search window
- Improved catalog search
- Easy deactivation of the Virtual CD sidebar
- Properties listed when multiple entries are selected
- Improved Client Setup (network edition)

Other changes affect only the TS, FS or NMS edition, and are listed in the corresponding sections.

Improved analysis function

The function for analyzing source CDs has been revised in Virtual CD 7.1 in accordance with the latest technological capabilities. Furthermore, a button has been added in the Image Wizard that lets you skip the detailed CD analysis function. Detailed CD analysis can sometimes take an extremely long time, which often left users with the impression that the Image Wizard had crashed. Now, if the analysis takes longer than you care to wait, you can simply click the **Skip** button to terminate CD analysis and continue with the creation of the virtual CD.



*If detailed analysis is generally not required, you can deactivate this function altogether on the **CDs/CD drives** page of the **Virtual CD Settings** by deselecting **Activate the detailed CD analysis function**.*



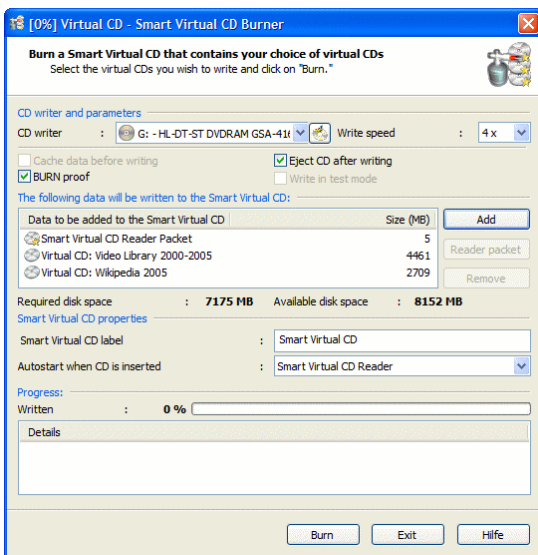
If detailed CD analysis is skipped or deactivated, the Image Wizard might fail to automatically determine the best settings for creating the virtual CD.



Smart Virtual CD support for DVD+R DL

Smart Virtual CD Burner has been expanded so that it can now burn Smart Virtual CDs on **DVD+R DL** blanks. This enables the following capabilities:

- Store even more virtual CDs in a single Smart Virtual CD
- Make Smart Virtual CDs from virtual DVDs.



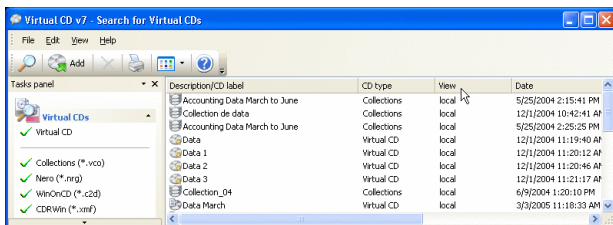
A new column, **Size (MB)**, has been added to the information shown under **"The following data will be written to the Smart Virtual CD"** to provide a clear overview of the disk space required for the Smart Virtual CD. This column shows the disk space requirements for each entry. If the target medium does not have enough space, the user might select a different target medium or, based on the data shown under "Size (MB)," may choose to modify the proposed content to fit the available space.

Known virtual CDs marked in CD Search window

The Virtual CD Search is a fast and easy way to find all VCD-compatible images and add them to your Virtual CD Management. In earlier versions, the list of images found did not include any indication of whether they were already registered in VCD or not. Particularly in cases where large numbers of images were found, this sometimes led to confusion.

To enable a clear overview, a column labeled **“View”** has been added, containing an indication of whether and where each virtual image is registered in Virtual CD. This column shows one of the following three entries for each image:

- **Local:** The image file is shown in the “Local” view of the Virtual CD program.
- **Global:** The image file is shown in the “Global” view of Virtual CD.
- **Unknown:** The image file has not yet been added to your Virtual CD program.



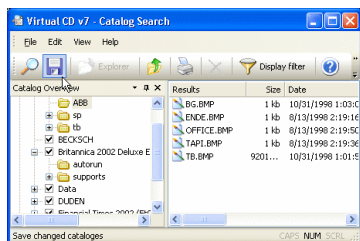
Click on the **“View”** column header to sort the list of images by their entries in this column. This can make it easier to locate and add any unknown images.



Improved catalog search

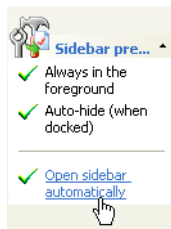
The following changes have been made in the Virtual CD catalog search:

- The memory management features of this tool have been improved so that considerably less memory is required and catalogs are loaded more quickly.
- In earlier versions, any time a description was entered in the file properties it was saved immediately. Now the catalog search feature has a centralized storage function; all changes are saved at one time when the user selects the “save” function.



Easy deactivation of the Virtual CD sidebar

As in previous versions, the Virtual CD sidebar is activated or deactivated on the **System** page of the **Virtual CD Settings** by selecting or deselecting **Open the Virtual CD sidebar automatically**. When this option is active, the VCD sidebar is opened automatically when Virtual CD runs (usually as soon as the computer is powered up). Once VCD is running, however, you may prefer to shut off the VCD sidebar; for example, if there are a number of other sidebars taking up space on your screen. In the new 7.1 VCD version, you no longer have to open the Virtual CD Settings to shut off the sidebar; just open the **Sidebar preferences** and deselect the new **Open sidebar automatically** option. This also deactivates the corresponding setting in the Virtual CD Settings program.

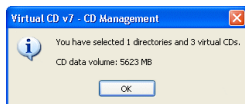


Regardless of whether the sidebar is set to open automatically or not, you can always run it from the Virtual CD Toolbox.

Properties listed when multiple entries are selected

For a better overview of selected virtual CDs in the Virtual CD Management program, the properties page now lists exactly what is selected and how much disk space is used by the selected entries when you select multiple entries (folders or virtual CDs) before opening the properties page.

To view this information, select several entries, open the **Edit** menu and select **Properties / Virtual CD**.



The display of disk space requirements is especially useful, for example, if you plan to open a particular VCD program such as Smart Virtual CD Burner to process your selection and want to check whether sufficient space is available on the target medium.

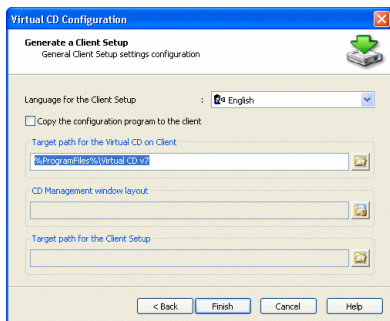
Improved Client Setup



Changes in the Client Setup program affect only the Network edition of Virtual CD.

The following options have been added to the Virtual CD Client Setup program:

- The **Options** page of the Client Setup wizard now includes an **Open the Virtual CD sidebar automatically** option.
- The **Generate the Client Setup** page now lets you define the folder in which VCD will be installed (**Virtual CD installation folder on the client station**). The default is **%ProgramFiles%\Virtual CD v7**.



Use of system variables (such as %ProgramFiles%) allows a great degree of flexibility in defining target folders. We recommend using system variables wherever possible to specify folders.



Upgrades in Virtual CD TS



The following changes apply only to the Terminal Server edition of Virtual CD.

In addition to the general upgrades in Virtual CD, the following changes have been incorporated specifically for version 7.1 of the Virtual CD TS edition:

- Faster loading of programs in a session

Faster loading of programs in a session

In a terminal server session, you want applications to open as quickly as possible whether the network connection is slow or fast. To improve the performance of Virtual CD programs in terminal server sessions – particularly for slow connections – the following changes have been made:

- No start screen (also called “splash screen”) is shown when the program starts.
- Animation features (e.g., when windows are opened) are deactivated.



Upgrades in Virtual CD FS



The following changes apply only to the File Server edition of Virtual CD.

In addition to the general upgrades in Virtual CD, the following changes have been incorporated specifically for version 7.1 of the Virtual CD FS edition:

- Improved overview when assembling collections
- Editing CD labels for collections

Improved overview when assembling collections

Gathering virtual CDs with different file systems into a single collection has sometimes been a problem, and often a source of program errors. When a virtual CD is inserted in a virtual drive, its file system is not relevant. When multiple virtual CDs with different file systems are put together, however, the collection is defined by the “lowest common denominator.” The **Collection Wizard** recognizes the following file systems:



ISO: *Max. name length: 8 characters (+ 3 characters for file name extension); directory depth: 8 levels; no special characters permitted.*



Joliet: *Max. name length: 64 characters; directory depth: unlimited; special characters permitted.*

If you assemble a collection of virtual CDs with ISO and Joliet file systems, all tables of contents are “downward”-converted to the ISO standard and written as a summarized ISO file system for this collection. The result is a collection in which all content listings have been adapted to the ISO system (long file names are shortened, etc.). This can make some of the CDs unusable; e.g., if the program on the CD expects the long name.



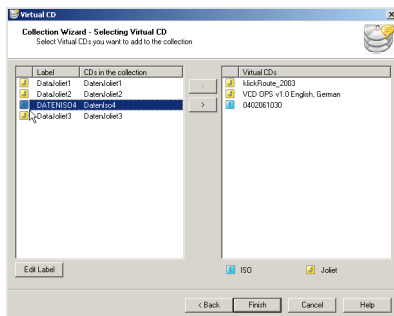
Creating collections with mixed file systems can lead to CD applications that do not run. This applies, however, only if the CDs that use the Joliet system actually make use of its expanded capabilities.

For a better overview when creating collections, the icons shown for each CD in the collection now indicate the file system used in each case.

If problems occur when running an application from one of the CDs in a col-



lection, it is now easier to check whether the mixture of different file systems in the collection could be the source of the error.

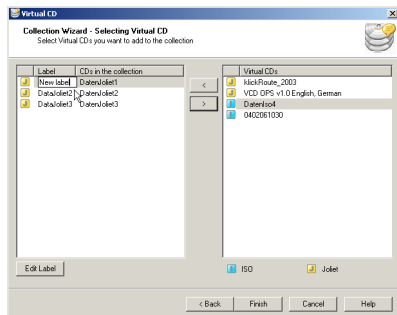


Click on the header of the first column to sort the virtual CDs according to file system.

Editing CD labels for collections

When a collection is inserted in a virtual CD drive that is shared, the CD label of each CD in the collection is used as the name for the directory containing that CD. Because these labels are not always indicative of the CD content, they can be edited while you are creating the collection. This lets you make collections that have meaningful CD directory names when inserted in shared drives.

To edit a **label**, begin by adding the CD to a collection. Then click **Edit label** to change the name shown for the directory containing that CD. Alternatively, you can just click on the label text itself.



The procedure described here only changes the label used in the collection. The actual label of the CD remains unchanged.

You can choose whether to change a CD label only for purposes of identification within a collection, or change the label of the CD itself. The two different procedures are compared in the following:

- If you want to assign a directory name that indicates the content of a CD when it is displayed in a shared CD collection, simply change the label in the Collection Wizard as described above. In this case, the new label applies only within the particular collection.
- To change a CD label permanently, edit it in the CD's "Properties" window. This change applies for the virtual CD globally, and cannot be automatically undone (see below).



If a CD label was changed only in the Collection Wizard and you wish to change it back to the original text, all you have to do is remove that CD from the collection and then add it again. The edited label is discarded when the CD is removed from the collection, and the CD's own label is loaded when you add the CD again.



Regardless of whether a CD label is changed at the CD level or only for the collection display, the application on the CD might not run correctly after the change; for example, if the application checks the CD label before executing.



Upgrades in Network Management Server



The following changes apply only to, or in conjunction with, a Virtual CD Network Management Server.



Most of the new features described in the following can only be used if the latest versions (7.1) of both NMS (server and administration programs) and the Virtual CD clients are installed. Earlier versions will still run, but do not support the new features.

The following features have been added or improved for version 7.1 of the Virtual CD NMS edition:

- Unified handling of known virtual CDs
- General availability of Virtual CD programs
- Central management of Virtual CD configuration files defined in NMS
- New setting for faster start of NMS Administration
- Directory for temporary files can be specified in a profile

Unified handling of known virtual CDs

To unify the way in which virtual CDs are handled and to provide a better overview of available CDs, Virtual CD NNMS – starting with version 7.1 – recognizes only virtual CDs that are identified by a UNC path. Keep in mind that virtual CDs must be entered in your VCD programs using a UNC path name, even if they are stored on the same server as your NMS (or Virtual CD TS) installation.

In previous versions of NMS, the Network Management Server simply did not support all available actions for virtual CDs that were entered using a drive letter. Unfortunately, it was not always clear to users why certain actions were not supported. This change ensures that all functions are available for all CDs in NMS.



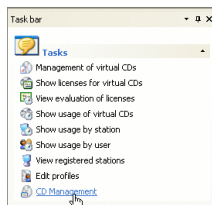
Virtual CDs defined using a drive letter (also referred to as “local virtual CDs”) are no longer displayed in NMS Administration. If you have any local virtual CDs entered in your NMS program, a message to this effect is shown when you run NMS Administration.



Availability of Virtual CD programs

When NMS and Virtual CD are installed on one computer, you can run NMS Administration directly from the Virtual CD programs (see below), and run CD Management directly from the NMS Administration window.

- You can run **NMS Administration** from the **CD Management** program, the **Virtual CD sidebar**, the **Quick Start Utility** and from the **Toolbox**.
- You can run **CD Management** from the **NMS Administration** program window.



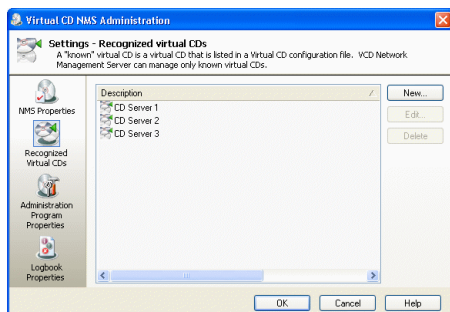
The control for running NMS Administration is available in Virtual CD programs only if the user has permission to run Virtual CD Management.

Central management of Virtual CD configuration files defined in NMS

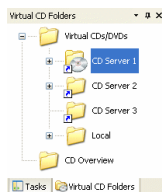
In conjunction with the Virtual CD Management program, all virtual CDs known to your NMS can now be centrally managed. This means all the virtual CD from your NMS program can be displayed in the CD Management folder system as well.

In this case, all actions that can be applied to these CDs (such as central editing of all Virtual CD directory structures) can be carried out as though the CDs were registered under “global” or “local” in CD Management.

To illustrate this feature, the screen capture below shows the **Recognized Virtual CDs** dialog in NMS Administration, listing 3 Virtual CD configuration files that are stored on different servers.



After running CD Management from the Tasks Panel in NMS Administration, these 3 entries are displayed as folders in the **Virtual CD Folders** view.



In the example shown here, the path shown for “Server 1” corresponds to the path defined in the **Virtual CD Settings** as the **global configuration path**. This is why this entry is preceded by the designation: “**global.**” The virtual CDs, or more specifically the directory structures, on these 3 CD servers are now directly accessible.

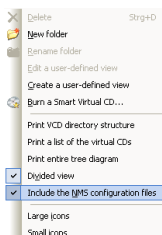
In some cases, you might not wish to have all virtual CDs from NMS included in the Virtual CD Management display. For this reason we have included a feature that lets you toggle the display as follows:

- **Normal display:** Shows only local and global (not NMS) virtual CDs and folders.
- **NMS display:** Includes all virtual CDs and folders that are assigned in the Network Management Server.

To toggle the display, right-click in the **Virtual CD Folders** view and select **NMS configuration files** from the shortcut menu.



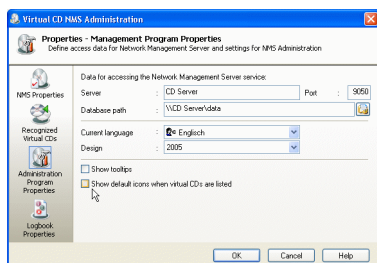
When the virtual CDs/folders from NMS are included in the display, it might take considerably longer to load the CD Management program, especially if you have a large number of CDs in the NMS program, or if any of the specified configuration files are not found. In this case, we recommend deactivating this feature and using it only as needed; e.g., to perform a particular administrative task on all virtual CDs or folders.



*Virtual CDs from NMS **cannot** be processed in Virtual CD Management unless sufficient **permissions** are granted. It is important to make sure that the user who runs the CD Management program has sufficient permissions to the various image file directories in NMS.*

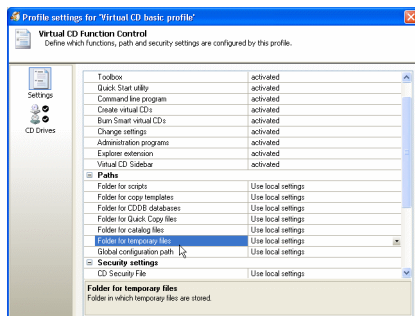
New setting for faster start of NMS Administration

When a user runs the NMS Administration program, loading the icons for display of known virtual CDs can take a long time if that user does not have permissions in the relevant UNC paths. This is because NMS waits for a message from the network regarding access to the icon files. Furthermore, if there are multiple virtual CDs that are not entered using existing UNC path names, it can take several minutes for the NMS Administration program to open. To avoid these problems, you can select the new **Show default icons when virtual CDs are listed** option on the **Properties** page of the NMS Administration program. When this option is active, NMS Administration no longer tries to access the virtual CDs, which can speed up the process considerably.



Directory for temporary files can be specified in a profile

In the **Profile Editor** you can now specify the **Folder for temporary files** in the profile settings, if desired.



Resolved Issues

In addition to the new features that have been added in the various Virtual CD editions, a number of problems that had been reported have been eliminated as well.

- Issues resolved in Virtual CD
- Issues resolved in NMS

Issues resolved in Virtual CD

The following problems have been eliminated from the Virtual CD program:

- Video CDs stored as ISO images were not read correctly when inserted in a virtual CD drive.
- When creating an ISO image, the Image Wizard would crash when unreadable sectors were encountered on the source CD.
- The Virtual CD Quick Start Utility sometimes transposed commands when not all Virtual CD programs were active on a given computer (e.g., due to a Client Setup configuration).
- With some CD drives, data relating to multisession CDs was not read correctly.
- In some constellations, physical CD drives were mistaken for virtual CD drives by the program.
- When creating a virtual CD with the VCD Editor, the program sometimes recorded the date and/or time of creation incorrectly.
- Communication with storage area networks was sometimes problematic.
- The control element for generating a Client Setup was displayed when this option was not available.
- When the CD Management program was closed while its program window was minimized, the View positions were not saved correctly.

Issues resolved in NMS

The following problems have been eliminated from the Virtual CD NMS program:

- When multiple Virtual CD TS versions were registered in NMS, a new server entry was displayed for every session subsequent to the first terminal server.



Index

A

Advanced analyzing functions 3
Advanced Client setup 3
Analyzing CDs 3

C

Catalog search 3
CDs/CD drives 3
CD analysis 3
CD label 11
CD Management 15
CD search 3
CD Server 15
Client Setups 3
Collections 11
Collection Wizard 11

D

Detailed CD analysis 3
Different file systems 11
Directory structure 15

E

Editor 19

F

File systems 11
Folder names 11
Folder view 15

G

Global 3, 15

I

Image files 3
ISO 11



Issues resolved in NMS 19
Issues resolved in Virtual CD 19

J

Joliet 11

M

Multisession CDs 19

N

Names of folders 11
Name length 11
NMS Administration 15
NMS configuration files 15

P

Problems in NMS solved 19
Problems in Virtual CD solved 19
Profile Editor 15
Profile Settings 15

Q

Quick Start Utility 15

R

Resolved issues 19

S

Server 15
Settings 3
Sharing 11
Smart Virtual CDs 3

T

Target directory 3
Toolbox 3

U

Universal 3

Upgrade 3

V

Virtual CD 3, 11

Virtual CDs 11

Virtual CD folders 15

Virtual CD FS 1

Virtual CD FS edition 11

Virtual CD NMS 1, 15

Virtual CD search 3

Virtual CD Sidebar 3

Virtual CD sidebar 15

Virtual CD TS 1, 15





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