SOFTWARE

Single User Edition

Use CDs/DVDs without a CD/DVD drive
CDs/DVDs ohne CD/DVD-Laufwerk verwenden

Up to 22 virtual CD/DVD drives on your PC
Bis zu 22 virtuelle CD/DVD Laufwerke

Access to CDs/DVDs whereever, whenever
CDs/DVDs sind immer und überall im Zugriff

new *Quick Copy*

new *Smart Virtual CD*

Virtual CD® v5

Deutsch

English

Table of Contents

Foreword

Thank you for choosing Virtual CD. This fifth edition of the Virtual CD program has been improved and expanded both to address the needs and preferences expressed by our users and to integrate broader developments, such as the latest CD technologies and the increasingly widespread use of DVDs.

This manual provides you with an introduction to Virtual CD, as well as basic instructions on all the main functions. The Help program integrated in Virtual CD provides a comprehensive reference, with a complete description of the software. For specific help about particular aspects of the program, you can also check our

Knowledge Base, at
http://www.virtualcd-online.com/vcd/apps/support/knowledgebase.cfm

and the Support Forum, at
http://www.virtualcd-online.com/vcd/apps/support/cforum.cfm.

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 the Virtual CD program with a given virtual CD on more than one computer at a 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 your licensing agreements for detailed information.

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You don't read manuals?

Are you an experienced computer user who never bothers to read instruction manuals?

No problem! The installation procedure is self-explanatory, and the program provides you with direct help the first time you run it.

For any computer pros champing at the bit, we provide the following abbreviated version of the user's manual:

1. **Install** Virtual CD v5.
2. **Configure** the Virtual CD settings
   (depending on your operating system, you might have to **restart** your computer following this step)
3. Insert a CD from which you wish to create a virtual image.
4. Double-click on the "Virtual CD" shortcut on your Desktop. The VCD Wizards take over from there and guide you through the program functions.

That's it! You can use your new virtual CD just like a real CD.

What is Virtual CD?

Virtual CD makes your CD/DVD applications faster, more portable, and easier to use, by storing them in the form of "virtual CDs" your hard drive using highly efficient 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 look the same in your Windows Explorer.

With the Virtual CD program...

- 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
- your notebook conserves precious battery power, because you don't have to run a CD drive
- your workplace is quieter, because CD drive noise is eliminated

What's new in Version 5?

The new version is a completely reworked software suite, with a revised user interface and a variety of new features:

- New techniques for reading your source CDs (including evaluation of CD geometry) support the latest CD applications
- Quick Copy files for faster creation of virtual CDs, even on computers that do not support complex readout techniques for source CDs
- Smart Virtual CD technology lets you back up your virtual CDs on a physical CD, together with the Smart Virtual CD Reader packet which lets you run virtual CDs on other computers without installing the Virtual CD program
- A special script generator makes it easy to write scripts that insert multiple virtual CDs simultaneously
- You can import ISO files (for data exchange with CD burner software) without direct data conversion
- Improved data compression techniques
- Additional support provided by the Virtual CD Option Pack

System Requirements

Trouble-free operation of Virtual CD is generally assured on any system where the Windows operating system also runs smoothly. For the most part, Virtual CD is simply a Windows device driver that uses very little of your system resources.
To run Virtual CD, your system should meet the following minimum specifications:

- Windows 98/98SE/ME with at least 64 MB RAM
  or
  Windows NT4 Workstation + Service Pack 6a/Windows 2000 Professional + Service Pack 2/Windows XP with at least 128 MB RAM
- Pentium processor, 200 MHz or faster
- Internet Explorer version 5.5 or later
- Acrobat Reader (for viewing the manual)
- Approximately 20 MB hard disk space for installation of the Virtual CD software
- Optional: Internet access for downloading audio CD information from the Gracenote CDDB server; CD burner for creating Smart Virtual CDs,

You will also need space on the hard drive for your virtual CDs. The amount of space required by a virtual CD may be anywhere from 1 to over 700 MB, depending on both the CD content and the compression method used in creating the virtual CD. Virtual DVD videos generally require 4 to 8 GB.

Document Conventions

Bold type indicates either a particular procedure or a text quoted from the program (such as buttons, menu items, etc.).

Notes that are especially important are marked by the exclamation point symbol you see here. These notes contain information that is essential for trouble-free operation of your Virtual CD program.

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

Generally, whenever the term “CD” is used in this manual, it is meant to include DVDs as well.

The following definitions of some Virtual CD-specific terms may be helpful:

- **Virtual CD drives:** These look just like “real” CD drives in your Windows Explorer. You can set up as many virtual drives as you have drive letters available (generally E: through Z:).
- **Virtual CDs:** These are images of CD contents, and are shown with symbols in the right-hand pane of the Virtual CD Management program (the main Virtual CD program). The number of virtual CDs you can create is limited only by the disk space you have available for their container files.
- **Virtual CD container files:** These are the files on the hard disk that contain the user data from a CD.

Structure of a Virtual CD Container

You don’t really need to understand how these files are structured in order to work with Virtual CD. But for those who might be interested, here are the details:

Each virtual CD consists of 2 or more files:

- The container file, with the extension .VC4, contains data on the structure of the virtual CD
- Virtual *data* CDs contain one or more files that are numbered sequentially

by their extensions (.000 up to .999) and contain the actual user data. These are especially important for DVDs because the FAT32 file system limits file size to 2GB, while most DVDs contain larger volumes of data. In such cases, user data is divided into a number of separate files. The container file keeps track of the structure so that the virtual CD driver “knows” how to put these files together in virtual CD form.

- Virtual audio CDs made with sound files (as opposed to data tracks) contain a number of audio files corresponding to the number of tracks included from the source CD(s).

Installation

If you are updating an earlier VCD version (v4 or earlier), you need to **deinstall** the older version and then **restart** your system before installing Virtual CD v5. When you deinstall the old version, the program asks whether you wish to delete existing virtual CDs. *Exercise caution* when answering this prompt, to avoid inadvertently deleting virtual CDs that you wish to convert for use with the new program!

Place the installation CD in a CD drive and wait a moment for Windows to detect it.
Double-click on the **My Computer** symbol in your Windows Explorer, and then on the symbol for the drive where you inserted the installation CD.

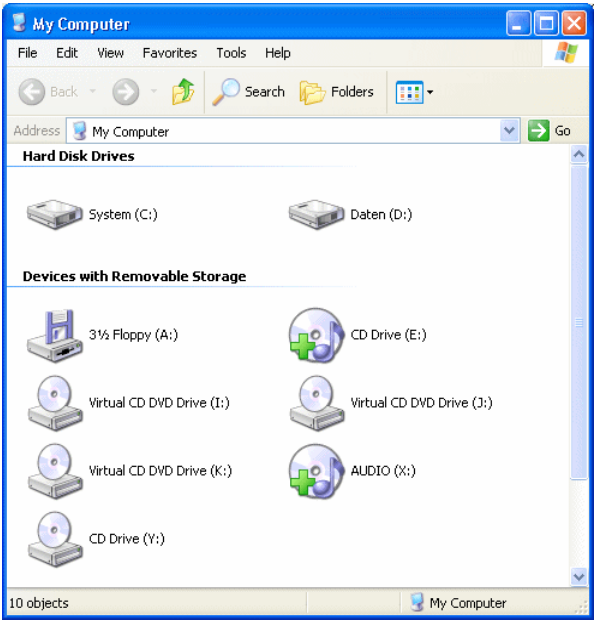
Now you should see the contents of the installation CD. Double-click on the *VirtualCD5.exe* file to start installation.

Follow the instructions as the Wizard guides you through the installation procedure.
The Virtual CD ***Configurator*** starts automatically following installation. This is where you enter your ***serial number*** and the ***number of virtual drives***.

Setting up virtual drives might take quite a while; please be patient!

Virtual CD v5 comes with a Plug&Play driver, which means you generally 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, a restart might be necessary.
The above does not apply if you install Virtual CD under Windows NT 4.0, as this operating system does not support Plug&Play devices. Once the Virtual CD installation is finished, the Windows NT4.0 system **must** be restarted in order to make the virtual drives actually available.

Following installation (and following the restart, under Windows NT 4.0), you can see the virtual drives in your Windows Explorer:



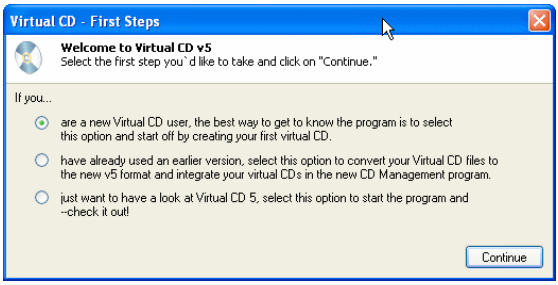
In this example, drives *E:*, *X:* and *Y:* are physical drives, and *I:* through *K:* are virtual drives. (Additional virtual drives can be added at a any time.) Once you create a virtual CD and insert it in a virtual drive, the Virtual CD symbol is shown for the drive, rather than the standard CD-ROM drive symbol usually shown under Windows.

At this point in our example, however, the virtual CD drive is still empty. In a way. installing the Virtual CD program is roughly equivalent to installing a hardware CD-ROM drive inside your PC housing.

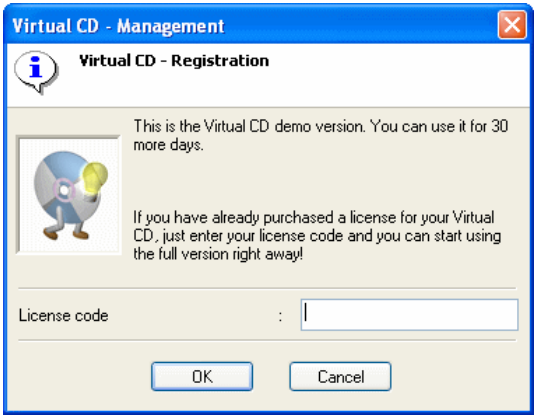
First Steps

This chapter is especially helpful for those of you who have never used Virtual CD before.
If you have already worked with an earlier version of Virtual CD, you might want to skip to page 26 (“Adding Existing Virtual CDs to the Management Program”) for information on converting older virtual CDs for use with the new program.

To work with the Virtual CD program, you need to begin by creating a virtual CD. Start the Virtual CD program; for example, by selecting ***Start -> Programs -> Virtual CD v5 -> CD Management***. The “Welcome” window opens **the first time** you start the program:



Select the first option here. If you are running the demo version, you are prompted at this point to enter your licensing code, which was either sent to you in an e-mail or included in the Virtual CD package:



If you don’t have your licensing code handy at the moment, click on ***Cancel*** to skip this step; you can use Virtual CD for up to 30 days before registering your license. You can enter your license code in the “CD Management” program later, under ***Help -> Licensing...***

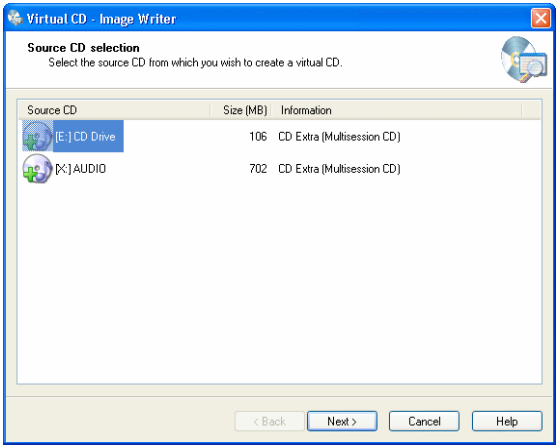
Creating a Virtual CD (Easy Copy Mode)

Select the physical CD from which you want to create a virtual CD and place it label-side up in your physical 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 “Setup” program starts automatically, close it down.

Make sure the source CD is not accessed by any other application while you are making the virtual CD. In particular, make sure that Media Player is not running, as it might be set to start automatically any time a CD is inserted.

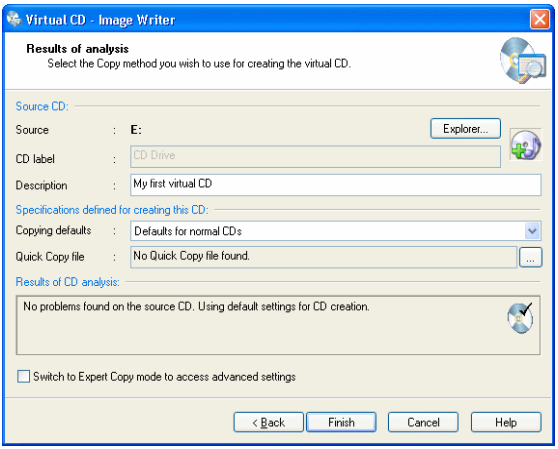
If you have CDs inserted in more than one CD drive on your computer, an ***Image Writer*** dialog opens for selecting the desired source CD:



Select the desired source and click on ***Next***.

If the source is an audio CD and the “CDDB” option is enabled, Virtual CD now attempts to download the CD title and track titles from the Internet. The CDDB service is free of charge and is supplied by CDDB (http://www.gracenote.com). (If you do not have an Internet connection, an error message is shown. This does not affect the creation of your virtual CD—simply confirm and continue.) If you are not registered with CDDB, the registration process runs the first time you access the CDDB server.

In the next Virtual CD dialog that opens, you can edit the ***Description*** of the virtual CD if desired. You can also modify the ***Copying defaults*** and have a ***Quick Copy file*** created.



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 default 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 given as the default for the container file name; in the ***Expert Copy Mode***, you can overwrite this file name in a later dialog.

The first time you create a virtual CD, there are no Quick Copy files to choose from. You can create a Quick Copy file only when working in the Expert Copy Mode (see “Settings for Data Tracks”).

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 of it 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. With copy-protected CDs, it might even take several hours.

The following defaults for copying are available:

- ***Defaults for normal CDs:*** for CDs without copy protection
- **Advanced defaults (RAW and sub-channel):** For copy-protected CDs

...as well as the following defaults for handling special copy-protection techniques:

- ***Advanced defaults with readout of CD geometry***
- ***Defaults for unwritten areas/rings***

Click on ***Finish*** to create the virtual CD. When data transfer is complete, the physical CD is ejected from the drive. You can now insert your new virtual CD in a virtual drive (see “Inserting a Virtual CD”) and use it just like a real CD!

If you have any problems while making a virtual CD, please refer to “Troubleshooting” on page 62.

Creating a Virtual CD (Expert Copy Mode)

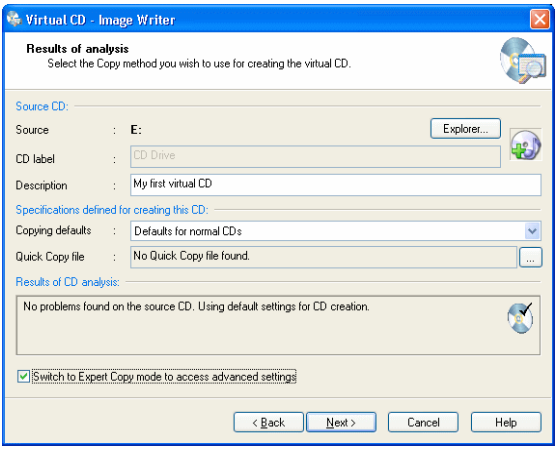
A distinction is made between the ***Easy Copy Mode*** and the ***Expert Copy Mode***. The simplified mode, described above, is designed for creating virtual CDs as quickly and easily as possible. Most of the settings are configured automatically in that mode:

- A 1-to-1 image is made of the source CD/DVD; with audio CDs, for example, you do not have the option of selecting or excluding individual tracks.
- The container file for the virtual CD is given a name automatically.
- The source CD-dependent settings are configured automatically based on the results of Virtual CD’s analysis of the source CD structure.

The Easy Copy Mode is definitely the fastest and least complicated method for creating virtual CDs.

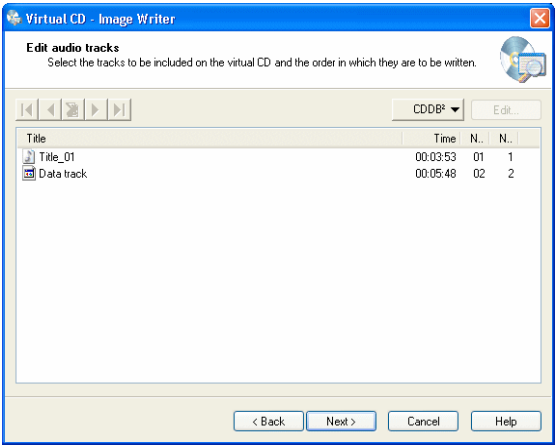
With some CDs, however, manual configuration is preferred--or even required for proper functioning of the virtual CD. In such cases, you need to deactivate the Easy Copy Mode so that you can edit all of the configuration options.

To create a virtual CD in the ***Expert Copy Mode***, activate the ***Switch to Expert Copy mode to access advanced settings*** option below the ***Results of CD analysis*** section.



Click on ***Next*** to continue.

Selecting Data/Audio Tracks



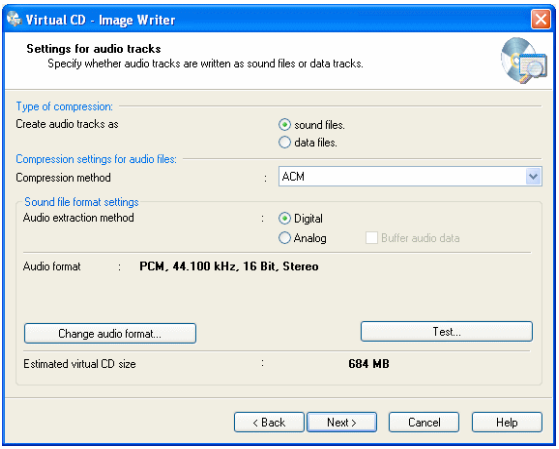
The next window shows all of the data and/or audio tracks on the source CD. If you simply click on ***Next*** at this point, all tracks are included on the virtual CD without modification. We strongly recommend doing this when making a virtual CD from a software CD.

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

You can select multiple tracks by holding down the CTRL key while you click on the desired tracks. If you want to select a number of tracks shown *in a row,* hold down the shift key while you click on the first and then last of the desired tracks.

When you click on ***Next*** to continue, the “Settings for Audio CD” dialog, shown below, opens only if the source is an *audio* CD. The dialog that opens for *data* CDs is explained further down, under “Settings for Data Tracks”.

Settings for Audio Tracks



The first option on this page lets you define whether tracks are written as individual ***sound files***. When you select this option, you can also define the ***audio compression method*** (ACM) to be applied.

A subset of the compression methods you can choose from are the ***audio formats*** available on your PC. The standard setting uses a method that creates 1 : 1 images in audio CD quality (PCM, 44.100Hz, 16-bit, stereo).

> *If you want to change the audio format, keep one thing in mind: Sound quality takes up disk space.*

This is a general rule to keep in mind when selecting the audio format: the better the sound quality, the more space used up on your hard disk by the virtual

CD you create. The standard CODEC (compression-decompression) module integrated in Windows is the MS ADPCM CODEC, which offers a good compromise between the sound quality achieved and the disk space required. Other CODECs, such as MP3, for example, use better compression and provide a sound quality approaching that of the original CD.

When you create music tracks as sound files, you can define whether the source data is read using a ***digital*** or an ***analog*** technique. Almost all CD-ROM drives used today (8x and up) support the function for reading audio tracks ***digitally.*** This option offers better sound quality than the analog technique. Even so, there may be some audible interference. If this is the case, select the ***analog*** recording option. With this setting, the audio data is played from the original CD and recorded by your sound card. You can use the ***Test*** option, with both the digital and the analog techniques, to check the recording quality and volume.

If you select the ***data files*** option, the audio data is not treated as *audio* data by Virtual CD, compressed using *audio* coding/compression methods, but rather the raw data is read digitally and stored as *data* tracks, using the *data* compression selected. This compression method does not have the error tolerance that audio compression does, and is less efficient than audio compression methods designed especially for use with music files.

For details on how to determine whether your CD-ROM drive supports the function for ***Creating audio files as data tracks,*** see “Properties of a Physical CD Drive.”

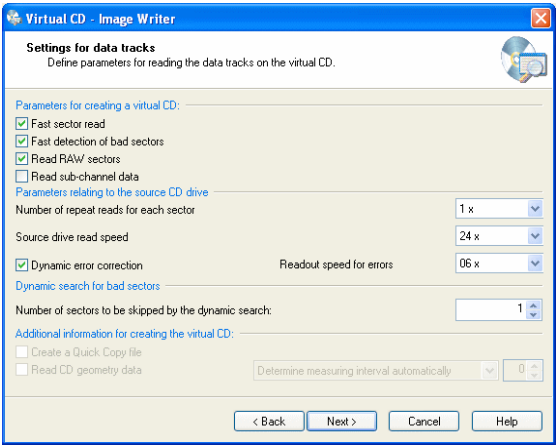
Both methods have advantages and disadvantages, so we can't really recommend one method over the other. The table below lists the pros and cons to help you decide which is best for you in any given case:

Write audio tracks as...	Advantage	Disadvantage
... sound files	Audio compression techniques (such as MP3) can conserves hard disk space Files can be opened by music programs individually for editing The virtual CD can be created using any physical CD-ROM drive	Increased CPU load due to audio (as opposed to data) compression Takes longer to make the virtual CD The CD cannot be used as a source for another virtual CD, nor for CD-R or audio-CD 'ripping' software
... data files	Full support for music player functions (such as visualization in Media Player) The CD can be used as source for another virtual CD, or for CD-R and audio-CD 'ripping' software More flexible, as the files can be used later to create a virtual CD with sound files	Takes up more Hard disk space Doesn't work with every type of physical CD-ROM drive Requires particular settings in Media Player

We recommend creating audio tracks as data files ***only*** if you require one or more of the advantages listed here. Otherwise, we highly recommend selecting the ***sound files*** option, in conjunction with a suitable data compression method (such as MP3).

Click on ***Next*** to continue to the next Image Writer dialog:

Settings for Data Tracks



This dialog give you options for a very precise definition of the method used for reading data from the source CD.

When you insert the source CD, Virtual CD analyzes the performance of its 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 following ***Parameters for creating a virtual CD*** are defined here:

- ***Fast sector read***
  With this option, sectors are read 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, try de-selecting this option to improve the read quality.
- ***Fast detection of bad sectors***
  Each sector is read individually and error detection is implemented by check routines. If “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 activating this option. Keep in mind, however, that it takes longer to make the virtual CD with this option active.
- ***Read RAW sectors***
  RAW sectors contain other information in addition to the desired user data. If the copy-protection technique used on the source CD involves evaluating

these sectors, they must be read in order to create the virtual CD. Furthermore, RAW sectors must always be read to create video CDs, CD-Extra CDs or audio CDs. The disadvantage is that the virtual CD takes up more disk space, as additional files are included in the container. For details on how to determine whether your CD-ROM drive supports this function see “Properties of a Physical CD Drive.”

- ***Read sub-channel data***
  Sub-channels also contain additional information which is often required for the CD, especially for newer audio CDs. Again, the disadvantage is that the virtual CD takes up more disk space. For details on how to determine whether your CD-ROM drive supports this function, see “Properties of a Physical CD Drive.”

These are followed by the ***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***
  This 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 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.
- ***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 ready a few more sectors within this area. If these are also defective, the entire area is marked “defective.”

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

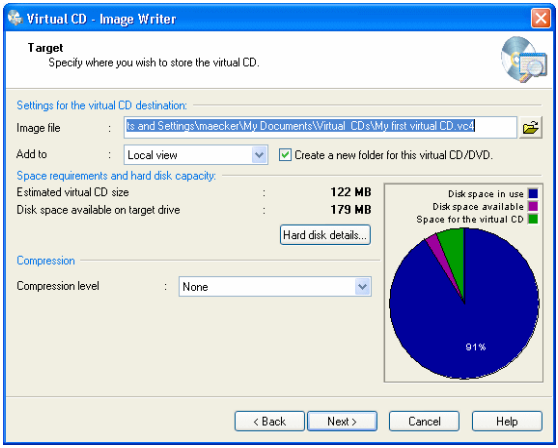
Additional information for creating the virtual CD can also be defined:

- ***Create a Quick Copy file***
  The data stored in a Quick Copy file (*.VQC) enables you to make a virtual image of a given CD using a source drive that does not support the required readout techniques. Furthermore, the Quick Copy file accelerates the process the next time you want to make a virtual CD from this source CD (for example, if the first virtual CD is inadvertently deleted).
- ***Read CD geometry data***
  This option is activated automatically when the use of certain copy-protection techniques is detected on the source CD. Some copy-protection methods evaluate the geometry of a CD (i.e., the number of sectors in certain areas) to determine whether it is a physical or a virtual CD. With this option active, Virtual CD v5 can emulate the CD geometry.

Destination

Under ***Settings for the virtual CD destination,*** you define where the virtual CD will be stored. The path shown here is the ***Default folder for virtual CDs*** as defined in the Virtual CD Settings, and can be edited if desired (page 40, “Folders” Page”).

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: ***Local view***):

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

This field is available only if you have configured a global configuration path and have not disabled the use of “local” virtual CDs (see page 46, “Network” Page”).

Select the option ***Create a new folder for this virtual CD/DVD*** if you want Virtual CD to create a separate folder for the container files that make up your virtual CD. Virtual CD writes at least two files for each virtual CD (see “Structure of a Virtual CD Container,”). 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 available disk space on your hard disk(s).

Compression

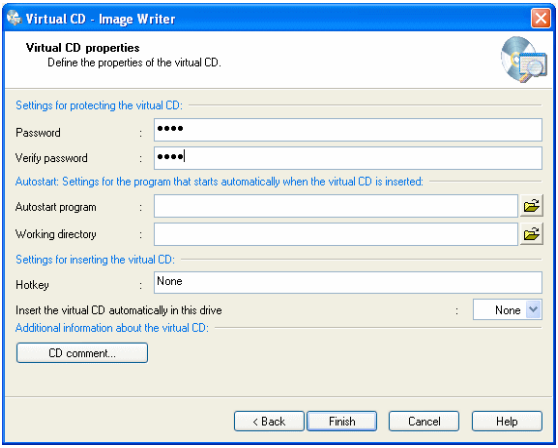
You can switch off data compression, or choose one of four compression levels. The higher the compression level you choose, the longer it takes to create the virtual CD and the greater the CPU load when you run the CD. On the other hand, the lower the compression, the more hard-disk space is taken up by the resulting virtual CD.

The table below lists the advantages and disadvantages of the different compression options to help you decide which is best for you:

Compression	Advantage	Disadvantage
None	Quickest method for creating a virtual CD Least CPU load	Takes up the most space on the hard disk. The size of the container corresponds to the data volume on the CD
Level 1	Good compromise between CPU load and storage space taken	Low added CPU load
Level 2 and 3	Especially suited for use with sectors copied using the RAW mode	Higher added CPU load
Level 4	Lowest disk space requirement	For use only with processors of at least 700 Mhz Takes longest to create the virtual CD

Once you have chosen the options that are best for you, click on ***Next*** to continue.

Additional Properties of the Virtual CD



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; the virtual CD data itself is *not* encrypted.

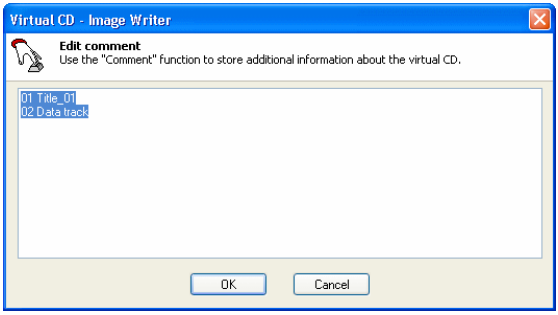
We recommend using a password that is not too easy to guess. The most secure passwords have at least 8 characters and are made up of numbers, letters and special characters. The password is case sensitive (capitals are distinguished from lower-case letters), and can have up to 15 characters. You can change the password at a later stage in the virtual CD's "Properties" dialog.

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

For some CD applications, you need to define a ***working directory*** for the application to run in.

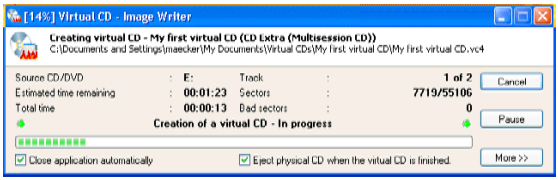
The ***hotkey*** is a combination of keys (such as “Ctrl+M”, for example) that inserts the virtual CD automatically. If a start program has been defined for the CD, this is also started automatically when the hotkey is pressed.
If you specify a drive letter under ***Automatically insert the virtual CD in this drive***, the virtual CD is inserted in that drive as soon as it has been successfully created.

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



In the Virtual CD Settings, you can have the list of track titles from audio CDs added to the Comment field automatically. For details, see “Creating Virtual CDs” Page.”

This completes the configuration of your virtual CD. The ‘write’ process begins when you click on ***Finish,*** and a window opens showing the progress.



You can stop the procedure temporarily by clicking on ***Pause,*** or end it before it has finished by clicking on ***Cancel***.

Click on ***More >>*** to view the following additional details in this window:

- Detailed ***Information on creating the virtual CD*** (this information is also stored in a log file with the file name extension ".VBL" in the virtual CD's folder)
- A ***CD overview*** of sectors

Even if sectors are marked as defective in the Sector overview, this does *not* necessarily mean that the virtual CD created will be defective. Some CDs are *purposely* made with bad sectors; where this is the case, these are automatically included on the virtual CD.

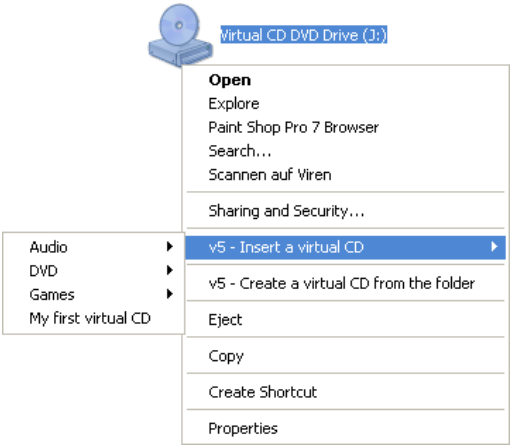
Inserting a Virtual CD

There are a number of ways to insert a virtual CD:

- through the Virtual CD ***Management*** program
- Through the quick-launch symbol in the taskbar (***Quick Start Utility***)
- By right-clicking on a virtual CD drive in the Windows Explorer (thanks to Virtual CD's shell and shortcut menu extensions)
- Through a Desktop shortcut (runs the Virtual CD command line module, ***vcdcmd.exe***); see "General" Page."

The example below uses the "Insert" command in the shortcut menu:

Double-click on the "My Computer" symbol in your Windows Explorer. Right-click on the *virtual* drive in which you want to insert a virtual CD. The Virtual CD program has expanded the shortcut menu that opens here, so that it now includes the items ***v5 – Insert a virtual CD*** and ***v5 – Create a virtual CD from this folder:***



When you move the mouse cursor to the ***v5 – Insert a virtual CD*** command, a list of all your virtual CDs is opened. Move the mouse cursor to the desired CD to insert it. You can now work with this virtual CD in the same manner as if it was a real CD.

Working with the Virtual CD Management Program

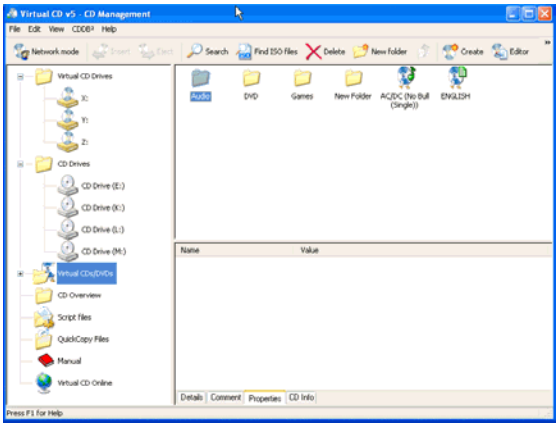
The ***CD Management*** is the main program in Virtual CD, and should be quite familiar to users of any earlier Virtual CD version. You can access all Virtual CD functions and configuration options in this program window.

Starting the Virtual CD Management Program

You can open the ***CD Management*** program by double-clicking on the ***quick-launch symbol*** in your Windows taskbar (if you have not deactivated the Quick Start Utility; see “Global” Page”) or by using the classic method: Open the Start Menu and select ***Programs -> Virtual CD v5 -> CD*** **Management**.

Unless you have deactivated it in the Virtual CD Settings, the ***Start Selection*** dialog (see “Global” Page”), the Start Selection dialog opens rather than the Management program:

This window offers direct access to the most frequently-used Virtual CD functions. To open the Virtual CD Management program from here, click on either ***Manage your virtual CDs*** or on ***Disable the Start Selection Dialog.*** In the latter case, the Start Selection dialog is not opened any more unless you re-activate it (see “Global” Page”).



This main window is divided into three panes. All drives and all virtual CDs are shown on the left, in the ***Navigation view***, along with the folders in which the virtual CDs are stored. You can have the virtual CDs displayed both in the folder tree, under ***Virtual CDs/DVDs,*** and again at the bottom of the tree in a list, under ***CD Overview.*** The CD Overview also shows the ***Script files*** folder (see “Script Generator”) and ***Quick Copy files*** folder (see “Settings for Data Tracks”) as well as shortcuts to the ***manual*** (in PDF format; requires Adobe Acrobat Reader) and to ***Virtual CD Online*** (require Internet Explorer version 5.5 or later).

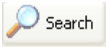
If you obtained your Virtual CD program from our download site, you need to download the manual separately and store it under ***Language\ENG\Manual*** in your Virtual CD program directory. The name of the manual is ***manual.pdf;*** this must not be changed.

The upper half of the right-hand pane shows all of the virtual CDs that are registered (see below) in the Management program. In this pane, you can view the ***Details,*** the ***Comment,*** the ***Properties*** and/or the ***CD info...*** for the selected virtual CD.

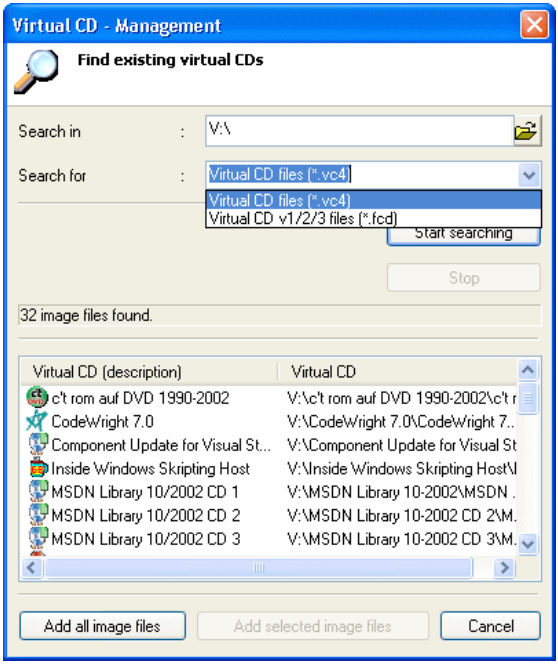
Adding Existing Virtual CDs to the Management Program

When Virtual CD is first installed, it doesn’t “know” about any virtual CDs you may already have on your hard disk. Existing virtual CDs have to be added to the Management program, or “registered,” before you can use them.

To do this, click on the ***Find*** button:



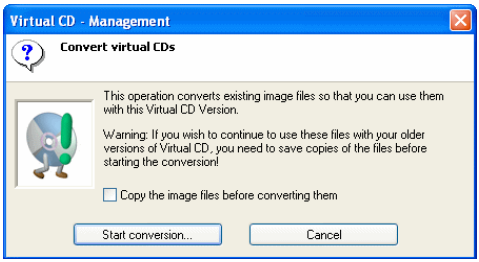
This opens a “Find...” dialog where you can define a path for the search under ***Search in.***



In the ***Virtual CD files*** field you can limit the search to a specific file type; choices include VC4 files, used by the latest program version, and FCD files, created using earlier Virtual CD versions (up to version 3). Click on ***Start searching*** to begin the search; all virtual CDs found are shown in the box at the bottom of this dialog.
Select the desired files from this list and click on ***Add selected image files*** to integrate them in your Virtual CD “CD Management” program. Alternatively, you can click on ***Add all image files*** to integrate *all* of the virtual CDs listed.

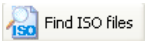
When you add older files (“.FCD” extension) to your new Virtual CD Management program, they are automatically converted to the new file format. Once a file has been converted to the new format, it CANNOT be used with earlier versions of the Virtual CD program. You can activate the ***Copy the image files***

before converting them option before you click on “Add...” if you think you might want to use the virtual CD(s) with an *older* program version. If you do not enable this option, a warning is given before the conversion is carried out. Keep in mind that it is *not* possible to convert the file back to the old .FCD format once it has been converted. When this warning is displayed, you can click on the Cancel button to go back and select the “Copy files... “ option.

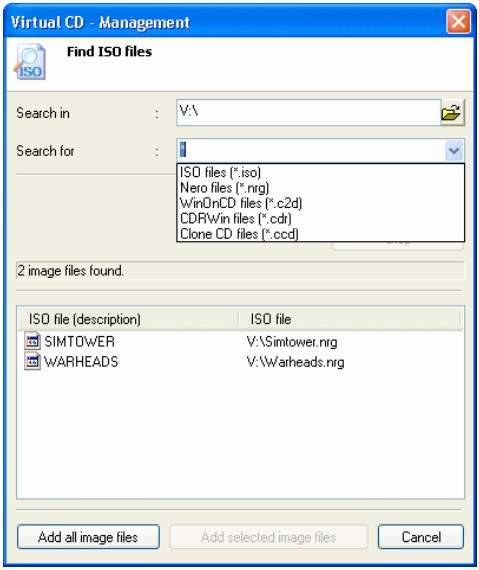


Adding Uncompressed ISO-compatible Files

You can integrate non-compressed ISO-compatible files to your Virtual CD program. This is generally the type of file created by CD-burner software. To do this, click on ***Find ISO files...*** or select this command from the ***Edit*** menu.



This opens a “Find...” dialog where you can define a path for the search under ***Search in.*** Select the desired ***file type*** from the dropdown list box. Alternatively, you can enter an ***asterisk (“*”)*** to search for all ISO-compatible files that can be used in Virtual CD, if you have ISO files with an extension that is not listed.

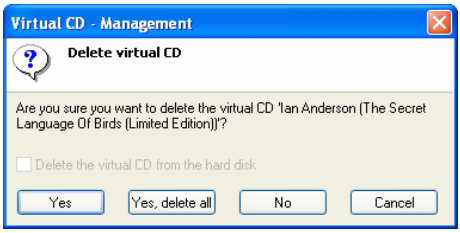


Click on ***Add selected image files*** or ***Add all image files*** to add the desired files to your CD Management program. The ISO format of the files remains unchanged. Their adaptation for use with Virtual CD consists in the addition of a “.VC4” file and a file with the extension “.001” containing additional information. This ensures that your ISO images are still available for use with other software (such as CD burner programs).

Deleting Virtual CDs

To delete a virtual CD—for example, if you don't need it any longer—select it in the upper right-hand window pane and click on ***Delete.***

The following dialog opens, to make sure you don't inadvertently delete a virtual CD that you wish to keep:

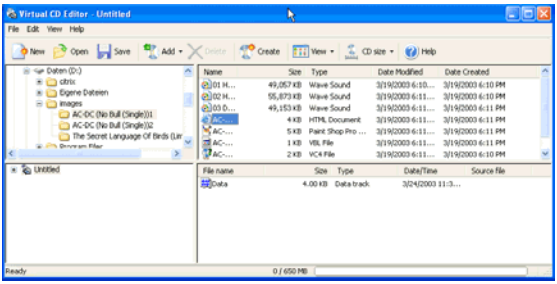


If you do *not* select the option to ***Delete the virtual CD from the hard disk*** before clicking on OK, then the CD in question is no longer displayed in the CD Management program, but remains on your hard disk. In this case, you can add it to the Management program again at any time (see "Adding Existing Virtual CDs..." above). You can only delete virtual CDs from the hard disk if you have the required directory and file privileges, and the CD is not inserted in a virtual drive.

Creating Customized Virtual CDs

With the Virtual CD Editor, you can create customized CDs with *your* choice of content. For example, if you want to 'burn' a custom CD, you can write the desired tracks to a virtual CD first so that you can test the CD without using up a blank physical CD. You can also use this function if you want to make a virtual CD from a software CD, but want to conserve disk space by leaving out data that you don't need; such as demo programs or sample files.

One way to start the Virtual CD Editor is by clicking on the "Edit" button in the toolbar of the ***CD Management*** program:



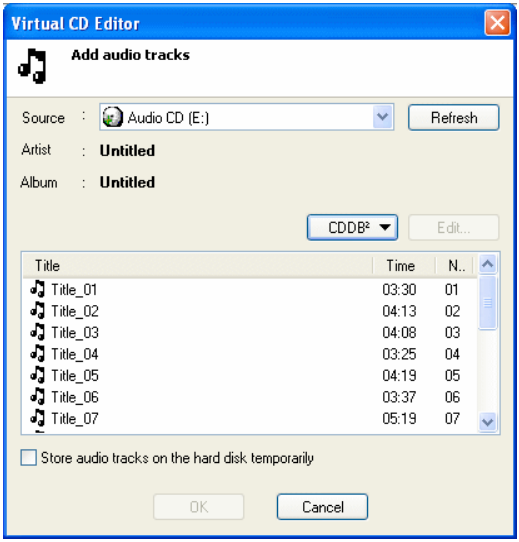
The Editor program window is divided into four panes. The view on the upper

left shows a directory tree with all of your system's drives, including their folder structure. The contents of the folder selected here are shown in the upper right-hand pane.

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

Virtual CD sets the size of the CD to be created at 650 MB, as this is the usual capacity of blank CDs. To change this setting, click on ***CD size.*** Make sure this value is equal to or greater than the data volume to be written.

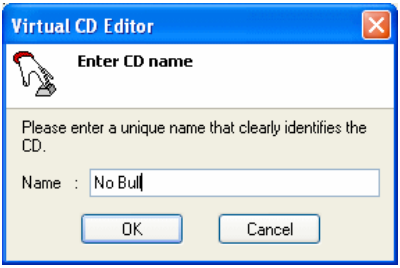
Then start selecting the data you wish to include on the virtual CD. To do this, you can either use 'drag & drop'; that is, drag the desired data from the upper to the lower half of the window, or click on the ***Add*** button, which opens a list where you can select the element you wish to add (audio 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 ***Store audio tracks on the hard disk temporarily*** 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) from the current source CD are stored *immediately* on your hard disk, so that you do not need to insert the source CD again later, when you have finished composing the CD and start the Image Writer.

The next dialog prompts you to enter a name by which the source CD can be identified:



The name you enter here is the name used later, when the Image Writer is writing the virtual CD and you are prompted to insert source CDs. It is important to enter a unique name that clearly identifies the CD.

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.

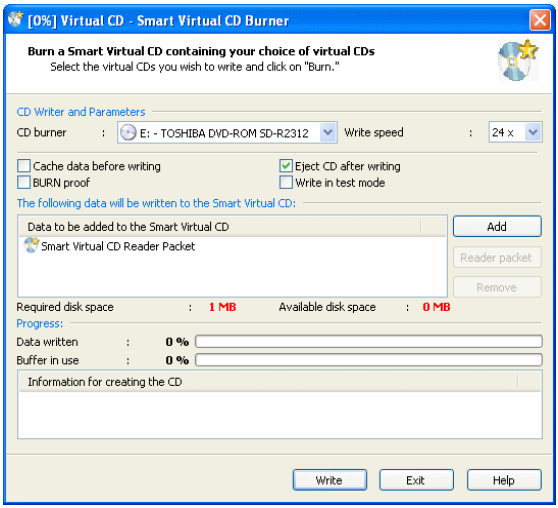
You also have the option of saving your virtual CD data in a 'definition file,' which contains the information (see below) for creating the virtual CD, without actually making a virtual CD at this point. To do this, select ***Save*** from the ***File*** menu.

The file is saved with the extension .VCX, and can be opened in the Virtual CD Editor at a later stage and used to create a virtual CD. The .VCX file stores only the structure of the virtual CD you have defined (references to files and folders), but not the actual *data* that the virtual CD will contain. This means that, for example, if you save a definition file that indicates the folder "C:/Pictures", 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 at the time you saved the definition file.

You can edit the content of an existing virtual data CD by loading its .VC4 file in the Editor. When the modified CD is written, the changes are stored in a new CD session which is added by the Image Writer. The resulting virtual CD is thus a multi-session CD.

Creating a Smart Virtual CD

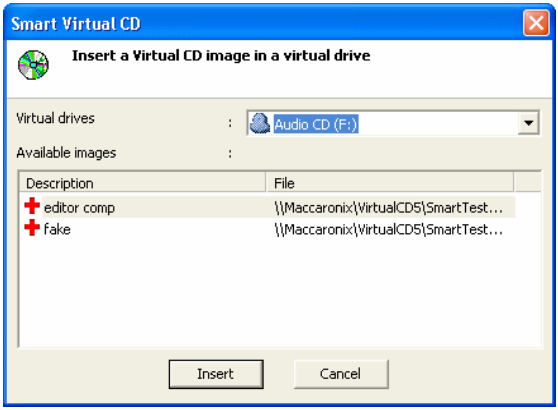
This feature lets you “burn” copies of your virtual CDs on physical CD-ROMs. You can include as many virtual CDs as will fit on your CD blank. The “Smart Virtual CD Burner” adds the ***Smart Virtual CD Reader Packet*** to the CD-ROM, which makes it possible to run virtual CDs without installing the Virtual CD program.
To run Smart Virtual CD Burner, select ***Edit -> Create Smart Virtual CD...*** or right-click on the desired virtual CD(s).



Use the ***Add*** and ***Delete*** buttons to choose the desired virtual CDs. If you (inadvertently) remove the Smart Virtual CD Reader packet, click on the ***Reader packet*** button to add it again.

Keep in mind that you need a physical CD burner to use this program feature. It is *not* possible to save the data as an image on your hard disk (to burn later from another computer).

When you insert a Smart Virtual CD in a physical drive, the following selection dialog opens if there are multiple virtual drives available or multiple virtual CDs on the Smart Virtual CD:



If the selection dialog or the program on the CD does not start immediately (i.e., if “autorun” is switched off), run ***start.exe*** from the CD.

If there is *no* Virtual CD program installed on the computer in which the Smart Virtual CD is inserted, ***Smart Virtual CD*** is installed either by the autorun function or by the “smart.exe” program. A virtual drive is set up which you can use to access your virtual CDs.

Script Generator

The Script Generator lets you write a script that will insert as many virtual CDs as you like, in as many different virtual drives as you like, simultaneously. This is especially useful if you have CD applications that require multiple CDs. The only limiting factors are the number of virtual CDs and the number of (potentially) available virtual drives you have.

Click on ***Add*** to include the selected virtual CD in the script. Click on ***Edit*** to select the drive in which a given virtual CD will be inserted. ***Remove*** excludes the selected CD from the script.

This program create a Virtual Basic script file (extension: .VBS). The virtual CDs designated in a VBS file are inserted using the Virtual CD ***API*** (application program interface). Select the ***Scripts*** folder in the Navigation bar 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. When you select ***Edit,*** the script is opened with the “Notepad” program.

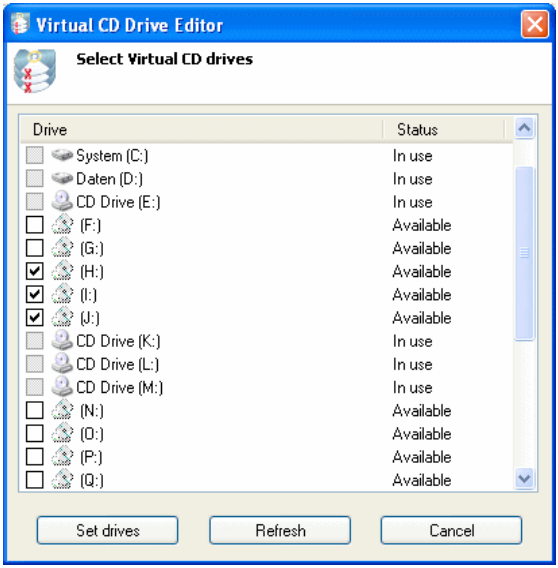
Technical details: The Virtual CD API enables the following functions:

- Inserting and ejecting virtual CDs
- Password checks
- Adding and removing virtual drives
- Viewing and editing virtual CD properties
- Blocking and releasing virtual drives

For more information, refer to the on-line Help about the API.

Adding/Removing Virtual CD Drives

The ***Drive Editor*** is started either from the CD Management program, using the command in the ***Edit*** menu, or using the ***Quick Start Utility***. The dialog opened lets you add and remove virtual CD drives:

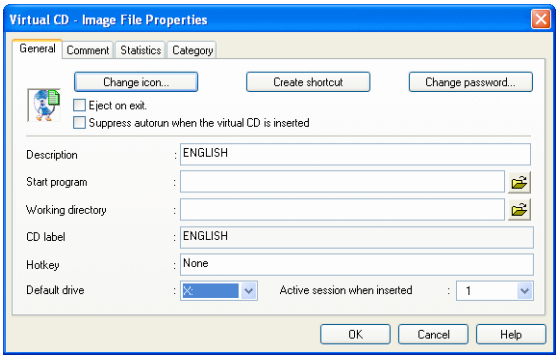


In the example shown above, the drive letters *H:* to *J:* have been selected for use as a virtual drive. After you click on ***Set drives,*** the new virtual CD drive is available, and is shown in the Windows Explorer.

Properties of a Virtual CD

Some of the settings you configure when creating a virtual CD (see “Additional Properties of the Virtual CD”) can be changed later in the ***Image File Properties*** dialog. The easiest way to open this dialog is to right-click on the virtual CD in the Management window. The dialog is divided into four pages:

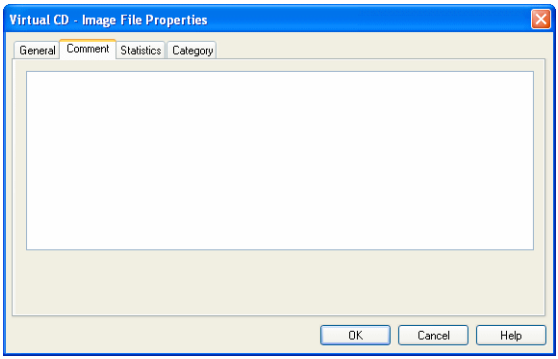
“General” Page



In addition to the properties set when the virtual CD was created (see “Additional Properties of the Virtual CD”), you can configure the following properties here:

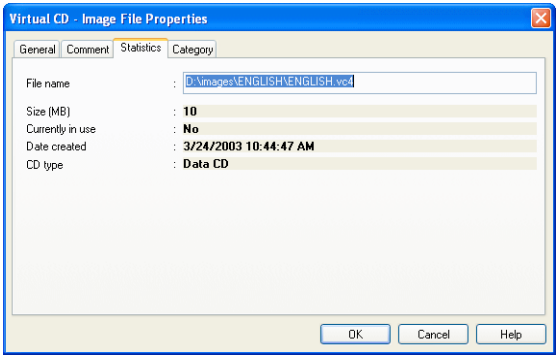
- ***Change icon...*** Lets you select a different symbol for the virtual CD, shown in the CD Management program and in the Windows Explorer.
- ***Create shortcut:*** Creates a desktop shortcut to the virtual CD which uses the Virtual CD command line program to insert the virtual CD.
- ***Eject on exit:*** Ejects the virtual CD when the computer is shut down; if you do *not* select this option, the virtual CD is inserted automatically the next time the computer is (re-)started. The “Eject on exit” option is especially for CD applications that start automatically when the CD is inserted.
- ***Suppress autorun when the virtual CD is inserted:*** Lets you deactivate the “autorun” function for the selected virtual CD.
- ***Default drive:*** The first drive in which the virtual CD was inserted.
- ***Active session when inserted:*** If the virtual CD in question has more than one session (i.e., if it is an image of a “CD-Extra” CD, or is a multi-session virtual CD created using the Editor; see “Creating Customized Virtual CDs”), this option lets you define which session is displayed in the Windows Explorer.

"Comment" Page



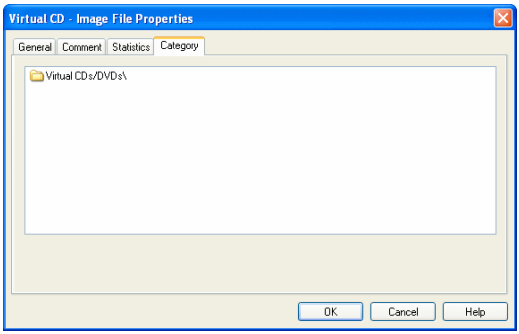
You can add a ***Comment*** of up to 2047 characters to the file properties, if desired; for example, to describe the virtual CD.

"Statistics" Page



The ***Statistics*** page shows information on the virtual CD. The data here cannot be edited.

“Category” Page



The ***Category*** page shows a list of all folders that the virtual CD currently belongs to. A virtual CD can be included in more than one folder only if this is explicitly permitted in the Virtual CD Settings (see “CD” Page”).

Properties of a Physical CD Drive

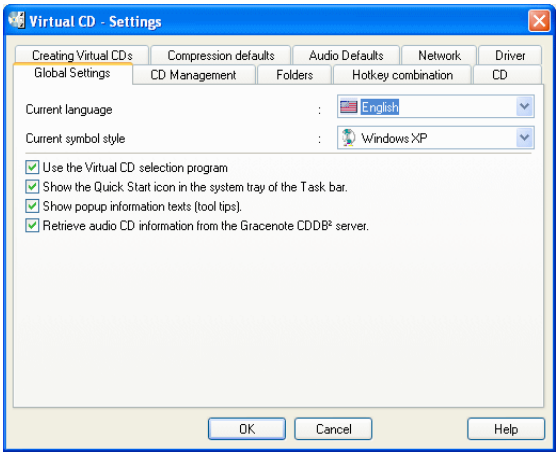
The properties of a physical CD-ROM drive provide information not only about its performance features and drivers, but also about the methods it supports for reading data. The newer the drive, the better the chances that it supports all of the available options.
To view the properties of a given drive, select the drive in the Virtual CD Management program, open the ***Edit*** menu—or right-click on the drive—and select ***Properties:***

If the drive does not support the functions you require, select a different physical drive (if possible) for creating your virtual CD.

Customizing the Virtual CD Program

Select ***View -> Virtual CD Settings*** in the CD Management program to open the Settings dialog. Here you can configure the program in detail to suit your requirements and preferences. The Settings dialog is divided into different categories, each on its own dialog page:

"Global" Page



The ***Current language*** setting applies to all Virtual CD programs. You need to restart your computer after changing this setting.

The ***Current symbol style*** setting lets you choose between the ***Windows XP*** design and the ***classic*** style for the symbols displayed in the main program, the menu bar, and in program windows. This setting does not affect the *functioning* of Virtual CD.

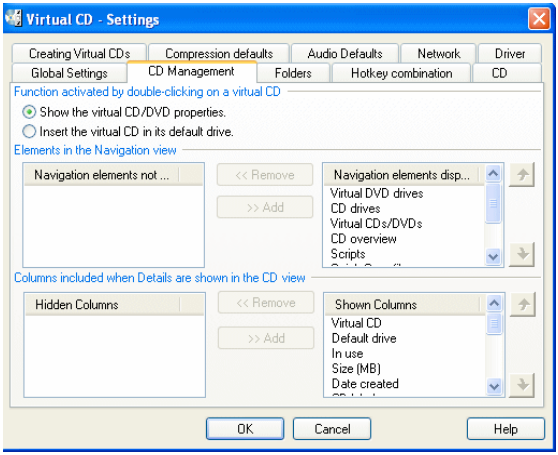
If you activate the ***Use the Virtual CD selection program*** option, then the Start Selection dialog (see "Starting the Virtual CD Management Program"), rather than the Management program, is opened when Virtual CD is started.

When you install the Virtual CD program, the Virtual CD Quick Start Utility, indicated by a small Virtual CD icon, is automatically installed in the Quick Launch portion (or System Tray) of the Windows taskbar. You can double-click on this icon to start the Virtual CD Management program, or right-click on it for a shortcut menu. If you don't want this icon on your taskbar, deactivate the ***Start the Quick Start Utility automatically on system start*** option here. Furthermore, you have the option of defining a hotkey combination (e.g., "Ctrl + X") to open the Quick Start Utility menu without using the mouse.

The ***Show popup information texts*** option lets you activate and deactivate the tool tips. A tool tip is the brief explanatory text that appears when the mouse cursor rests on a given operating element. Once you know your way around the Virtual CD program, you might want to deactivate these texts.

Select the ***Retrieve audio CD information from the Gracenote CDDB² server*** option to have Virtual CD download album names, track titles and artist names automatically from the CDDB server when you work with audio CDs. Please *deactivate* this option if your computer does *not* have Internet access.

"CD Management" Page

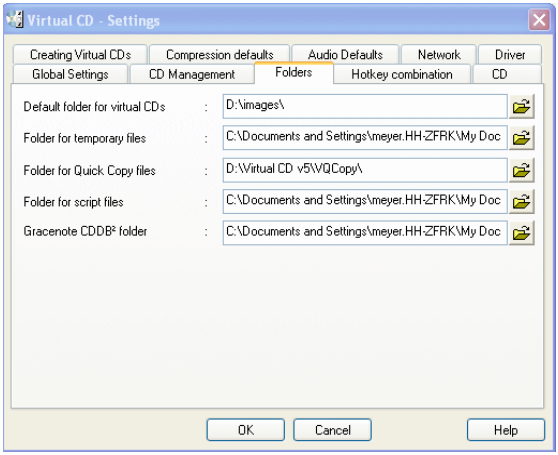


The "CD Management" dialog page lets you set a number of options relating to the display in the Virtual CD Management program.

The ***Function activated by double-clicking on a virtual CD*** option lets you determine what happens when you double-click on a virtual CD in the CD Management program. You can choose between ***Show the virtual CD/DVD properties*** and ***Insert the virtual CD in its default drive.*** If no default drive has been defined for a given virtual CD when you select the latter option, the CD is inserted in the first available virtual drive found. If no virtual CD drive is available, then the virtual CD in the first virtual drive found is ejected, and the virtual CD in question is inserted in its place.

In the lower portion of this dialog, you can define which of the available ***Navigation elements*** (column on the left) and columns are shown in the "List" view of your in CD Management program (***Details in the CD View,*** upper right-hand column of the CD Management window).

“Folders” Page



This dialog page lets you define paths for various Virtual CD-specific folders:

The ***Default folder for virtual CDs*** is where the Image Writer automatically stores container files on the hard disk when a new virtual CD is created. If you enter a different path in the Image Writer dialog when creating a virtual CD, then that path is used instead of this default.

Make sure the directory you define here is on a hard disk that has sufficient space available for your virtual CDs.

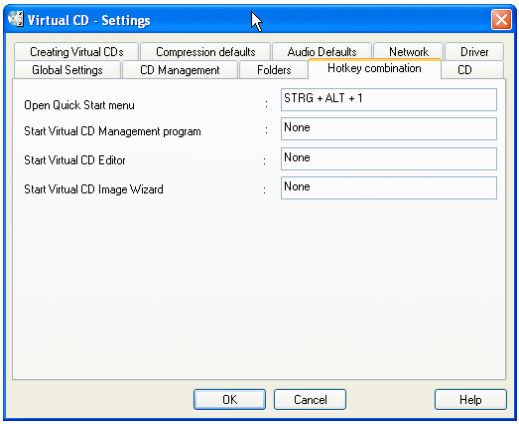
The ***Folder for temporary files*** is where files are cached when a customized virtual CD/DVD is being created. Make sure the directory you define here is on a hard disk that has sufficient space available for the temporary files. All files in this directory are deleted automatically once the virtual CD in question has been created.

The ***Folder for Quick Copy files*** is where Virtual CD stores the “*.VQC” files created when making a virtual CD, or imported from another computer (see “Settings for Data Tracks”).

The ***Folder for script files*** is for storing the script files that let you insert multiple CDs in various drives simultaneously (see “Script Generator”).

The ***Gracenote CDDB² folder*** is for storing databases downloaded from the CDDB² server.

“Hotkey” Page

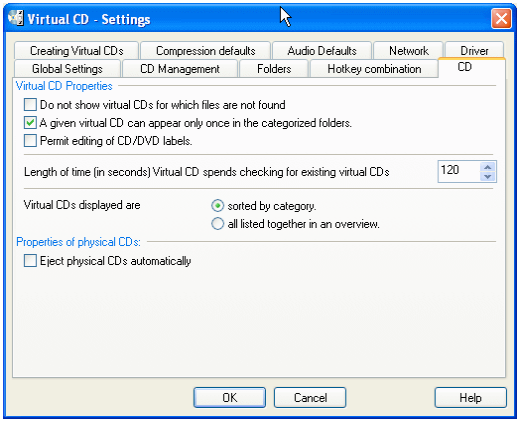


You can define hotkeys as shortcuts for activating the following functions:

- ***Open the Quick Start menu***
- ***Start the Virtual CD Management program***
- ***Start the Virtual CD Editor***
- ***Start the Virtual CD Image Writer***

There are no pre-defined hotkey combinations when you first install Virtual CD.

“CD” Page



On this dialog page, you can define settings relating to the ***Properties of virtual and physical CDs.***

Do not show virtual CDs for which files are not found: With this option active, Virtual CD does not attempt to show icons for virtual CDs that are not currently accessible.

A given virtual CD can appear only once in the categorized folders: Select this option if you do not want to allow duplicate virtual CDs in the display folders.

Permit editing of CD/DVD labels: This option lets you edit the field for CD labels. Keep in mind that some CD applications identify their CD by the label, which means the virtual CD you create might not work if you change the text of the CD label.

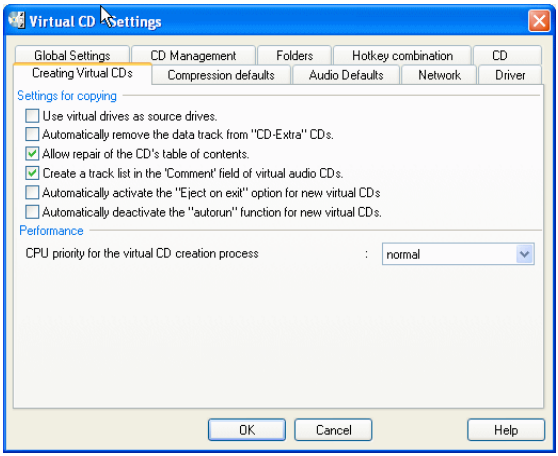
Intervals (in seconds) at which Virtual CD checks for existing virtual CDs: This setting defines how often Virtual CD checks in the background for virtual CDs. The value here can be between 0 (off) and 300. If you have a large number of virtual CDs in your network, we recommend deactivating this setting (by simply setting the interval to “0”) to avoid overloading network data paths.

The ***Sorted by category*** option lets you view virtual CDs in the folders you have defined for them, shown on the right-hand side of the CD Management window. This can make it easier to find a specific virtual CD, especially if there are a large number available in your system. Alternatively, you can have your virtual CDs ***all listed together in an overview,*** using the classic display format, to see a list of all virtual CDs without have to navigate through folders.

If you have a large number of virtual CDs, we recommend using the “sorted by category” option and giving the folders names that indicate the content type, such as “DVD Videos,” “Music CDs” and “Applications,” for example.

Eject physical CDs automatically: With this option active, any CD inserted is automatically ejected as soon as it is detected by the system. This lets you ensure that physical CDs are not used; for example, if all your CD applications are available on virtual CDs. When you activate this option, you are prompted to define a ***password*** to prevent unauthorized de-activation. If you do *not* assign a password, *any* user will be able to deactivate this option, thus enabling use of physical CDs.

“Creating Virtual CDs” Page



When the ***Use virtual drives as source drives*** option is activated, you can create virtual CDs from other virtual CDs. When creating a virtual audio CD, however, you can use a virtual CD as the source only if the audio tracks on it are written as sound files (not as a data files). To make a virtual CD from another virtual CD, select the source virtual drive and then activate the ***Create*** function in the Virtual CD Management program.

CDs made with the “CD-Extra” format have a data track following the audio tracks, which may contain a video, for example. When you activate the ***Automatically remove the data track from “CD-Extra” CDs*** option, this final track is not included on the virtual CD.

Allow repair of the CD’s table of contents: When this option is active, Virtual CD corrects any errors detected in the table of contents of the source CD.

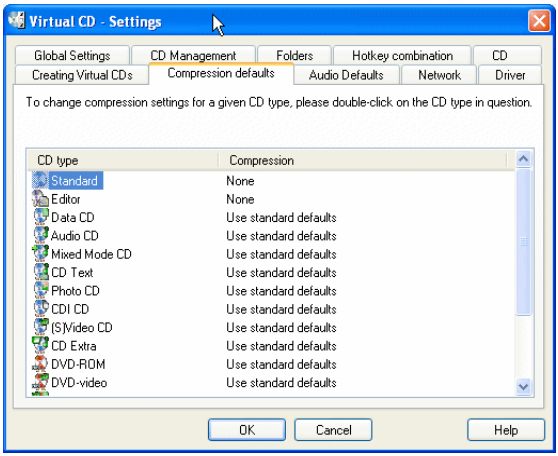
Create a track list in the ‘Comment’ field of virtual audio CDs: With this option active, a list of the tracks on the CD is automatically written in the virtual CD’s “Comment” field when you create an audio CD. The “Comment” field can be edited at any time, regardless of whether this option is selected or not.

Automatically activate the “Eject on exit” option for new virtual CDs: When this setting is active, Virtual CD automatically configures the corresponding property when a new virtual CD is created (see “General” Page”).

Automatically deactivate the “autorun” function for new virtual CDs: Select this option to prevent programs on your virtual application CDs from starting automatically when the CD is inserted in a virtual drive. This setting is protected by a ***password*** to prevent unauthorized users from changing it.

The last option on this page lets you adjust the priority given by the operating system when allotting system resources to the Image Writer for creating a virtual CD. If the computer has nothing else to do besides creating a virtual CD, then selecting ***high priority*** will shorten the time required, because a majority of the available processor performance capacity will be allotted for this process. All other programs running on the computer in question will be allotted less processor capacity. If you plan to do other work with your computer while the Image Writer is running, you should set the priority to ***low*** or ***medium.***

"Compression Defaults" Page



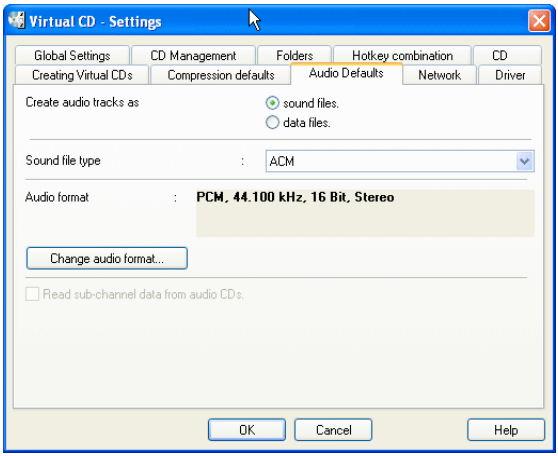
The defaults you set here are applied automatically by the Image Writer when the Easy Copy Mode is active, and are presented as defaults that can be overwritten in the Image Writer when you use the Expert Copy Mode. For detailed information on the use of data compression, please see "Compression" on page 24. You can set separate compression defaults for different CD types.

There are two options for defining the compression used:

- You can specify the ***Compression level.*** Choose from four compression levels, or "None" (no compression).
- Alternatively, you can have Virtual CD estimate the results attainable with each level of compression and select a level based on the value you enter under ***Compression ratio.*** This value is defined as a percentage of the total data volume on the original CD. For example, if you enter 80% as the target compression ratio, then Virtual CD selects the lowest compression level that will reduce the data volume to 80% of the original volume.

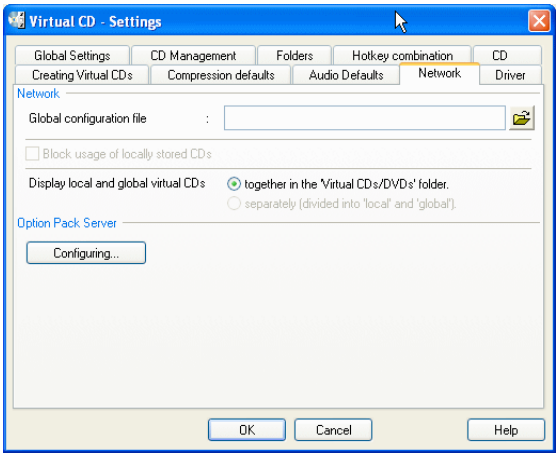
Please don’t set the ratio too low, as this could result in Virtual CD selecting the highest compression level every time—which might put a considerable strain on system resources. The optimum setting is generally around 70% to 80%.

“Audio Defaults” Page



The default settings for audio tracks that you configure here are applied automatically when working in the Easy Copy Mode, and presented as defaults that you can overwrite in the Image Writer when working in the Expert Copy Mode. For more information on these settings, see in the chapter entitled “Settings for Audio Tracks.“

“Network” Page



Prerequisite for administration of virtual CDs that are available throughout the network is a ***Global configuration path.*** This is where Virtual CD stores the configuration files required for working with virtual CDs in the network. All workstations that use the same configuration path have the following in common:

- They show the virtual CDs that are stored on the network
- They have the same tree structure in the Global view

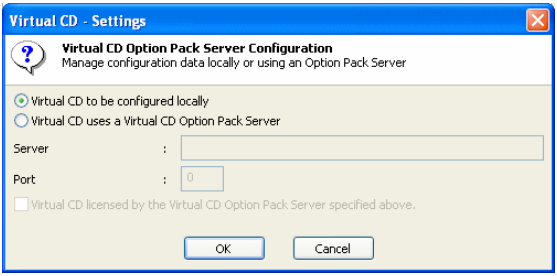
If you want to use the central management functions for virtual CDs stored on the network, we recommend using UNC path designations so that the drive names are independent of the individual workstations used.

You can configure any workstation to work exclusively with virtual CDs stored on the network. To do this, select the ***Block usage of locally stored CDs*** option. This blocks access to virtual CDs that are stored or displayed on the local machine.
Display local and network virtual CDs lets you define how the available virtual CDs are displayed on each station:

- ***Together in the ‘Virtual CDs/DVDs’ folder:*** Virtual CD creates one view showing all of the available virtual CDs.
- ***Separately (divided into ‘local’ and ‘global’):*** Virtual CD creates a view of two additional folders, ‘Global’ and ‘Local’, and sorts the virtual CDs based on your settings for each virtual CD.

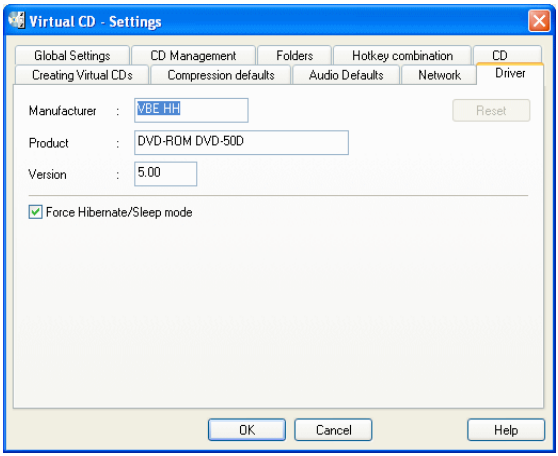
Virtual CDs can be divided into ‘Global’ and ‘Local’ views only if you have entered a valid global configuration path and have not blocked the use of locally stored CDs on the workstation in question.

When you click on ***Configuring...*** under ***Option Pack Server***, a dialog opens where you can define whether your configuration files are managed ***locally*** or using a ***Virtual CD Option Pack Server***.



The Option Pack enables central management for the Virtual CD v5 Network Edition. The Option Pack program is available only for the Network Edition of Virtual CD v5, and requires a Windows server. For more information, please see our home page at http://www.virtualcd-online.com.

“Driver” Page



You can edit the specifications of your virtual CD drives as needed. ***Reset*** restores the factory defaults in these fields.

As a rule, it is not necessary to change these values. Please keep in mind that an error in entering data here can lead to errors in all programs that work with CD drives.

With the ***Force Hibernate/Sleep mode*** option selected, Virtual CD provides optimal support for the mode in question. If this option is not activated, the VCD driver might prevent the computer from switching to the ‘hibernate’ or ‘sleep’ mode.

If you select this option, the system might eject some or all active virtual CDs, as some operating systems do not allow a sleep mode when files that are stored on shared resources are open.

Troubleshooting

Some circumstances can lead to difficulties with your Virtual CD program. We've listed these in the following, along with descriptions of how to solve or work around the problems:

The source CD-ROM drive doesn't support the RAW technique for reading data

Virtual CD checks whether the source drive supports this technique or not, but some drives return an incorrect response.
Solution: If possible, use a different CD drive for your source CD.

The source CD or DVD has a special type of copy-protection

Virtual CD analyzes source CDs to determine both their data structure and the optimum method for reading their data. Of course, Virtual CD doesn't have standard settings for absolutely every single type of CD that is available on the market. If Virtual CD doesn't recognize the structure of a given CD, it may help to set certain options manually. Activate the ***Expert Copy Mode*** in the Image Writer (see "Creating a Virtual CD (Expert Copy Mode)") if the Easy Copy Mode was active, and then try configuring other settings in the Image Writer when defining your virtual CD. If the source CD is a video DVD with CSS copy protection, legal restrictions prevent the creation of a virtual CD from it.

The application on a software CD cannot be installed from a virtual CD

If the application has already been run from the physical CD, it probably "expects" to find its data on a physical CD rather than on a virtual CD.
Solution: Deinstall the application in question and then install it from the virtual CD.

Before running the deinstallation, make sure you save any user data that was generated with that application to avoid data loss.

Other applications interfere with Virtual CD functions

Before its release, Virtual CD was thoroughly tested for compatibility with the most widely used computer programs. However, there are innumerable possible combinations of system configurations, and we couldn't test every single possibility.

Technical Support

If you have any problems with Virtual CD, please check the manual, the on-line Help and the continuously updated Web pages in our Knowledge Base (http://www.virtualcd-online.com/vcd/apps/support/knowledgebase.cfm) and at the Support Forum (http://www.virtualcd-online.com/vcd/apps/support/cforum.cfm); chances are, your question has already been answered. You are welcome to publish your own questions in the Support Forum.

We are continuously developing the Virtual CD software. Please check our Web site for **Service Packs or new program versions** to keep your software up to date.

If you still have questions, please do not hesitate to contact us. For information on how to reach us, see the ***Readme*** file installed with Virtual CD, or check our Web pages.

You have now reached the end of the manual. Thank you once again for choosing Virtual CD, and we hope you enjoy using it!

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 send any comments you have about Virtual CD to eSales@virtualcd.de.

SOFTWARE

Network Edition

Use CDs/DVDs without a CD/DVD drive
CDs/DVDs ohne CD/DVD-Laufwerk verwenden

Up to 22 virtual CD/DVD drives on your PC
Bis zu 22 virtuelle CD/DVD Laufwerke

Access to CDs/DVDs whereever, whenever
CDs/DVDs sind immer und überall im Zugriff

new *Quick Copy*

new *Smart Virtual CD*

Virtual CD® v5

Deutsch

English

Table of Contents

Introduction

The network edition of Virtual CD continues the tradition of high quality of the world's most successful virtual CD emulator. Whether you want a simple CD network or a high performance multimedia network, you can set it up quickly and economically with Virtual CD.
Thanks to improved administrative functions such as the centralized management of virtual CDs, the ***centralized client setup***, and the ***network mode***, it is easier than ever to implement Virtual CD in your environment and to operate your "Virtual CD network".
This manual is designed to supplement the standard manual of Virtual CD. For details on Virtual CD performance features and general operation, please refer to the single user manual.

Conceptional Notes

Advantages of Virtual CD in the Network

Alongside the general benefits of the Virtual CD/DVD emulation tool, in network use there are some additional important advantages.

The Clients get "Real" CD Drives

Without Virtual CD: When your users access a CD/DVD on a file server's CD drive, their application programs "see" a network drive rather than a CD. This can lead to difficulties in many cases. For example, applications with a copy protection mechanism that checks whether its data is on a CD don't run. The data is found, of course, but the applications detect it on a network drive rather than on the CD. This check returns a negative answer and the program quits. Furthermore, when the physical CD is accessed over the network, none of the CD/DVD-specific forms of access (such as playing audio CDs) or CD/DVD special data formats are available.
Virtual CD v5 for Networks changes all that. Each network client with Virtual CD gets a number of virtual CD drives. Applications do not distinguish between these and real CD drives. Since the application has access to the virtual CD via these virtual CD drives, it can't recognize that it isn't using a real CD drive and reading a real CD. Thus with Virtual CD your CD applications function properly.

No Limit to Drive Letters

With Virtual CD you can provide access to as many CDs as you like. Because each client can insert his choice of a variety of CDs into his virtual CD drives, there is no limit on the number of virtual CDs available to a given station. Only the number of available drive letters limits simultaneous (at the same time) access to multiple CDs.
Here too, the Virtual CD network edition offers a distinct advantage to central

CD drive sharing. A file server is also subject to the limitation of the available drive letters. Vrtual CD sets no limit to the number and size of virtual CDs in the system; the only limit is the disk space available for storing them.

Returns on Investment

Since Virtual CD doesn't have any restriction on the number of virtual CDs you can provide to your users, the purchase pays off quickly. Using just a few virtual CDs, you save the expense of new hardware to run them. Furthermore, the Virtual CD program significantly improves the speed and performance of CD applications, which leads to wider acceptance and utilization of these applications, thus improving efficiency.

Functional Considerations

It is important to plan your management system from the beginning. Because networks are used by a number of people, there are a variety of needs. There are users who only are to read virtual CDs and others who also need to copy CDs. Virtual CD offers different installation forms to deal with these various situations. The administrator can make a predefined setup available in the network by using the ***centralized client setup*** (see Centralized Client Setup), where the desired functions of Virtual CD are defined. You configure a centralized Virtual CD Setup program, stored in the network and started by your users – automatically installing Virtual CD with your pre-defined settings. Needless to say, the installing user has to have administrative rights on the respective working station.

Drive Management

It's good advice to plan your drive management system from the beginning, since in most cases you are providing not only access to a given CD/DVD, but also to the applications that run from it. "Drive management" in this context means reserving one or more free drive letters throughout the network – i.e. for all clients – to be used as virtual CD drives. This ensures that all users and all virtual CD applications use the same drive letters for virtual CDs. This is especially important for CD applications that run only from the drive they were originally installed on – an application that looks for its data on drive F: , for example, expects to find it on drive F: in the entire network every time it is run. There are programs that expect data on the first CD drive letter they find. For this reason, you should put at least one virtual CD drive letter before the physical CD drives.

Since programs usually "remember" from which drive they were installed, you should always carry out program installations from the virtual CDs.

You can make as many virtual CD drives as you have available drive letters on the PC. As a rule, we recommend limiting the number of virtual CD drives to approx. 3 to 5 in order to prevent confusion. The number of virtual CD drives only limits the number of virtual CDs accessible **at the same time (simultaneously)**. The number of available virtual CDs is a separate matter and has nothing to do with the number of CD drives.

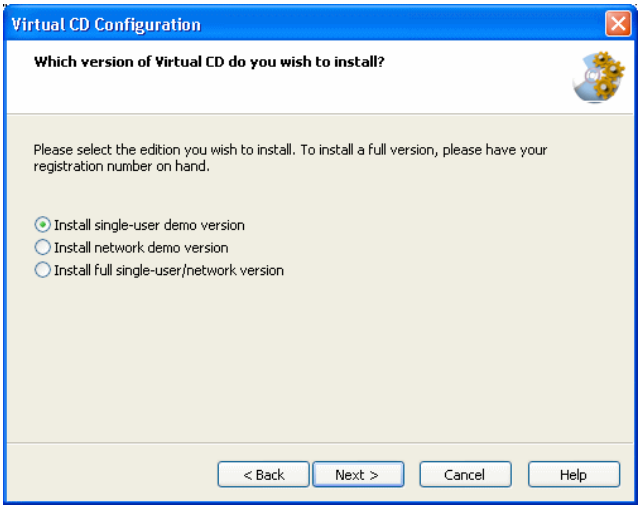
Installation and Configuration

For the most part, the procedure for installing the network edition of Virtual CD is the same as that of the single user edition. Additionally you have the option of storing a ***centralized client setup*** program on the network, an option that simplifies the distribution of Virtual CD in the network.

When installing Virtual CD on Windows NT, Windows 2000 and Windows XP you need administrative rights.

After the installation of Virtual CD starts a configuration dialog. Here you can select the installation of one of the following:

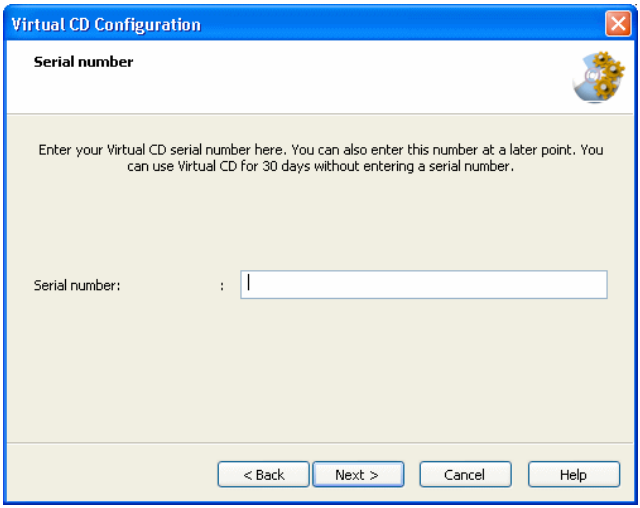
a) Install single-user demo version
b) Install network demo version
c) Install full single-user/network version.



To just test the network edition or the client setup, select b). If you already have a license code, choose c).

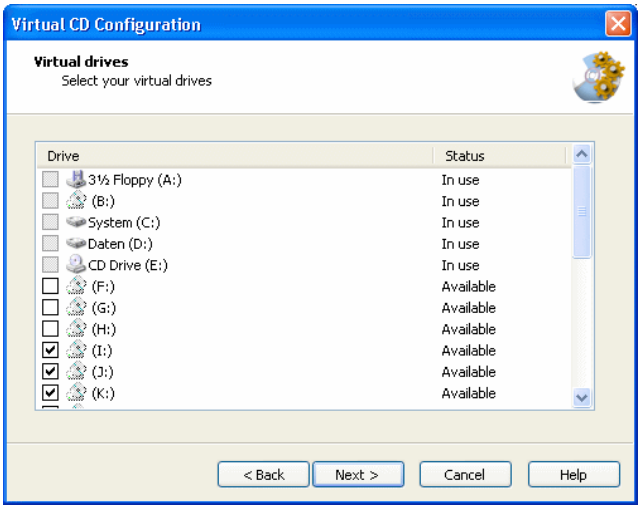
If you would like to install a full version, first you are prompted to enter your ***serial number***. The serial number determines the installation of Virtual CD program as a network edition; in other words, the options available for selection

during setup depend on the type of serial number you enter. Your serial number also defines the number of licenses purchased.



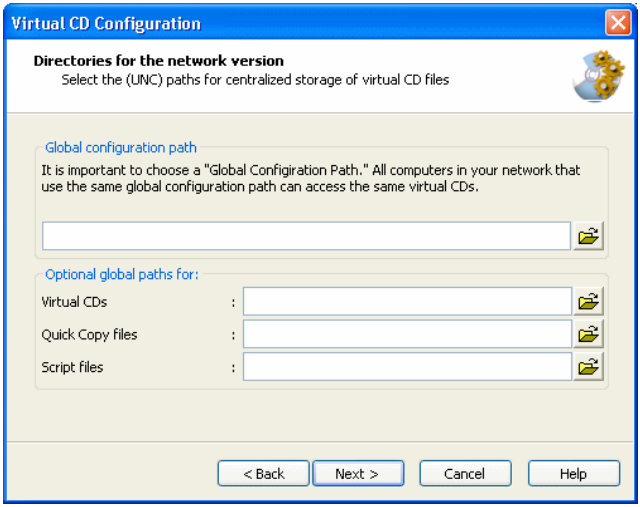
Virtual Drives

Here you define which drive letters Virtual CD will use as virtual drives. If you do not define any drive letter explicitly, a virtual drive is installed, using the first available drive letter.



Directories for the Network Edition

Clients that use ***global*** (***central) management*** can access new or modified virtual CDs as soon as they are created. New and updated Virtual CDs are immediately at the disposal of all clients; deleted virtual CDs are removed from the CD management. If you use ***local management***, on the other hand, the client has the work and responsibility for implementing the virtual CDs in his system. If the configuration files are to be managed centrally, you have to declare a UNC path, which the client can access.



In addition to the ***global configuration path*** you have the option of selecting optional paths for ***Virtual CDs***, ***Quick Copy files*** and ***Script files***.

If possible you should **NOT** use a root share (syntax: \\server name\share name) as a path. Instead you should use a subdirectory (syntax: \\server name\share name\folder name); otherwise you might have problems depending on your operating system.

If the user has no rights to write in the folder in which the central configuration files are, the program's functions that require the right to write (e.g. Virtual CD Editor) will not be activated or will not appear in the menu.

Virtual CD related information is stored in three configuration files:

- ***VCDImg.dat*** contains the virtual CDs, incl. their respective properties, added to the CD management.
- ***VCDTree.dat*** contains the folder trees laid out in the CD management and the virtual CDs added to these folders.
- ***VCDAdm.dat*** contains the password and further information about the administrative network mode (see Network Mode – Centrally-controlled Insertion and Ejection of Virtual CDs,).

Centralized Client Setup

With the ***centralized client setup*** you can put a pre-defined setup in a central place (e.g. on the file server.). It is important to consider which functions of Virtual CD should be available. Please read the notes about this beforehand (see Functional Considerations,).

The ***centralized client setup*** is started by the Virtual CD configuration program **Vc5cfg.exe** (in the subdirectory system of the program folder).

VC5CFG.exe

Entering the serial number

If Virtual CD is already installed on the client: after the start of the program you can see the ***serial number*** and substitute it, if desired (e.g. if you have several serial numbers). This serial number is stored in the client setup.

If you have **several serial numbers**, you don't have to create different client setups for each client (if all client setups are to contain the same components). The serial number is stored under `SNR` in the file **VCDSETTINGS.INI** of the client set-up. This can be substituted with a different network serial number.

Virtual Drives

In the drive selection dialog you can define which drive letters are to be implemented as in the Virtual CD setup of the full version (see Virtual Drives, p. 5). If no drive is selected explicitly, a virtual CD drive is set to the first free drive letter.

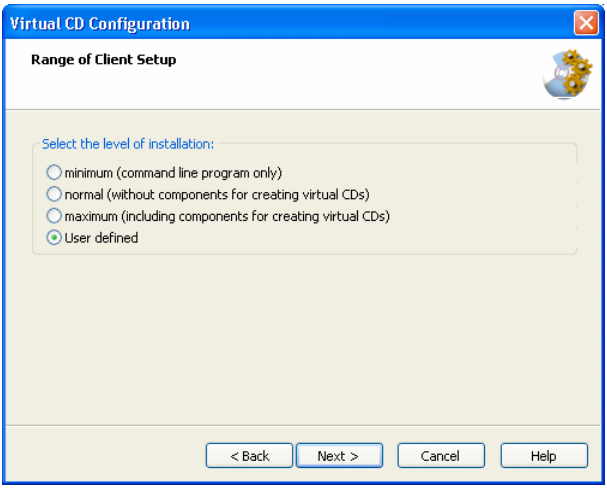
If the client has already (before the client setup) allocated the selected drive letter, the client setup will not be able to map the virtual drive. Make sure to assign conform network drive letters since installed programs sometimes expect its data in the disk drive where the CD was installed (see Drive Management).

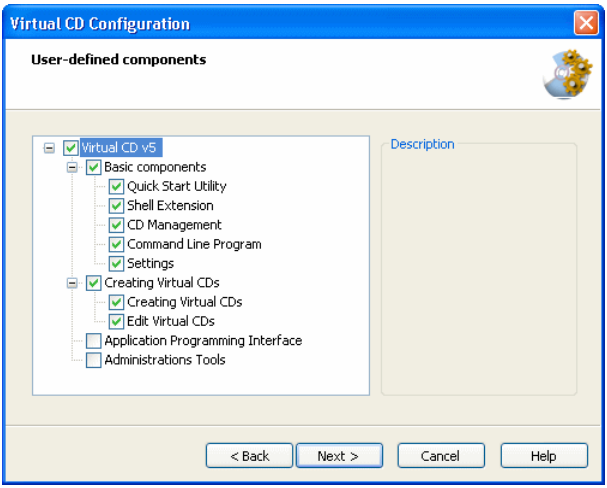
Directories for the Network Edition

The ***centralized (global) management*** (see Directories for the Network Edition) has the advantage that all virtual CDs are immediately (upon installation) available to all clients – depending, of course, on accessing rights and password protection. All clients that access virtual CDs via the global management automatically get the new or changed virtual CDs (e.g. newest version). Deleted virtual CDs are immediately eliminated from the CD management. If you do **not** provide a ***global configuration path***, the client has to imbed the virtual CDs himself.

Range of Client Setup

You can either use the predefined settings, or determine the performance range of the centralized client setup yourself – a user-defined installation.

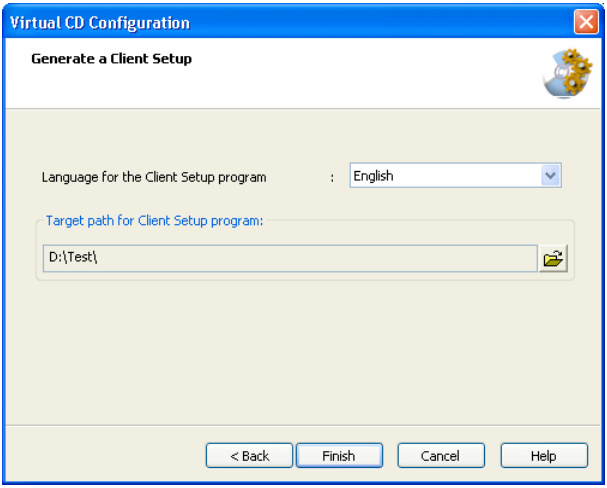




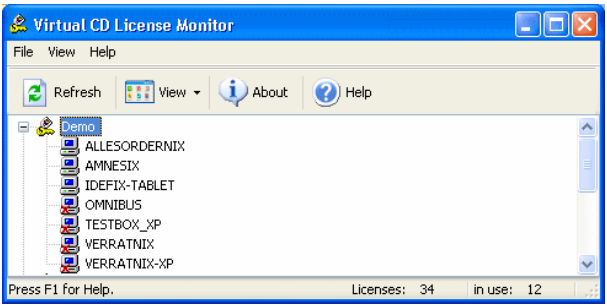
In principle, the essential components are installed for Virtual CD in all installations. The main limits deal with the option of creating and changing virtual CDs.

Target Path for the Client Setup Program

The destination directory defines the place where the client setup is to be stored. The clients can install Virtual CD from here.



The license monitor



The ***license monitor***, a menu option in the ***CD Management***, gives you an overall view of your Virtual CD licenses and shows which clients are using which serial numbers.
The license monitor uses the following symbols to show which computers have a Virtual CD installation:

This symbol shows a computer, that either has a valid Virtual CD serial number or a regular, still active, demo version.

This symbol appears, for example, when a computer is using an **invalid** serial number, e.g. by a 5-user license and he is the sixth user, or when trial period of the demo version is expired.
Computers with this symbol **cannot** work with Virtual CD until a valid serial number is entered.

How Licensing of the Virtual CD Network Edition Works

As a rule, there are two types of licensing for network programs: “by seat” or “concurrent”. Virtual CD is licensed **“by seat“**, in other words, any PC that accesses virtual CDs needs a license. The number of PCs accessing virtual CDs at the same time (“concurrent“) is **irrelevant**.

Example:

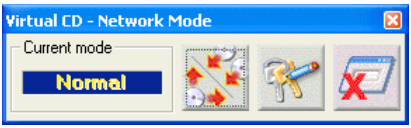
You have 30 PCs in your network. Of the 30 PCs 25 PCs are to work with Virtual CD; therefore, you need a license for 25 users.

Technical realization:

A license is “bound“ to the particular PC with the serial number. There are license packages of 5, 25 or 100 licenses. With a 25-license package the serial number can be entered on 25 stations. For a network in which 50 stations are to work with Virtual CD, you need two 25-license packages. One **serial number** will be used for the first 25 stations and the other **serial number** is assigned to the other 25.

If you have **several serial numbers** and all client setups are to use the same components, you don’t have to create more client setups. The **serial number** is stored under `SNR` in the file ***VCDSETTINGS.INI*** of the client setup. It can be replaced with a different network **serial number**.

Network Mode – Centrally-controlled Insertion and Ejection of Virtual CDs



In order to be able to insert and to eject virtual CDs centrally, Virtual CD must be switched to ***central network mode***. The corresponding dialog can be started over the fast start program or the task bar of the CD Management.

Current mode shows which network mode is active:

- ***NORMAL – Each user can insert virtual CDs himself.***
- ***CENTRAL – The insertion and ejection of virtual CDs is carried out centrally from this workstation.***

In addition to the current mode display there are three buttons that permit:

- Change between the normal and central mode.
  For a change to the central mode there is a password query before the mode change follows.
- Enter a new password.
  In order to change the password it is necessary to enter the current password once and the new one twice.
- Exit dialog for network mode control.

The configuration for central insertion and ejection of virtual CDs is carried out via the file ***VCDAdm.dat***, always found in the global configuration path. **Make sure** that only you have the right to write in this file. All other users who don't need to control central use of virtual CDs only need to be able to read this file.

There is no password with the initial start or after configuring a new global configuration path (i.e. the ***VCDAdm.dat*** doesn't exist yet). To make the network mode work, you **have to define a password**. The main user must as well have **system permission** to write on this file, so he can access the network mode.

In order for the **central** insertion and ejection of virtual CDs to work, all stations have to use the **same drive letters** for virtual CD drives. If you decide to use central management of virtual CDs, you should create a ***centralized client setup*** for the installation of Virtual CD. (See Centralized Client Setup).