

RSJ CD-Writer for Windows 95/98

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Preface

With RSJ CD-Writer you have purchased a product which is totally different to other existing mastering programs -- you will notice that right from the start.

RSJ CD Writer provides an own drive letter for your CD Recorder. With this drive letter you can write files on CD by using common commands (COPY, XCOPY,...) or the Explorer.

Using freedb you can get information about the CD via Internet.

You can write MP3 files to audio CDs and you can print your own CD-Cover using the RSJ CD Cover Editor.

RSJ CD Writer supports DAO (disk at once) mode. This copy mode allows the creation of exact copies of audio CDs that do not contain gaps between the tracks (Live-CDs, Musical-CDs).

You can easily create data-DVDs.

In each chapter you will find many useful tips and examples on how to successfully use this software. We hope that you enjoy working with RSJ CD-Writer.

This documentation offers information on the following subject fields:

Installation	Installation procedure of RSJ CD-Writer for Windows 95/98
Operation	General guide for the correct usage of the file system and <i>CD-View</i>
Technical Details	Basic background information
Reference	Description of commands, settings and programs
Help on errors	Definition and removal of eventual malfunctions
System requirements	Hard- and Software requirements for the RSJ CD-Writer
Appendix	Restrictions and Mastering

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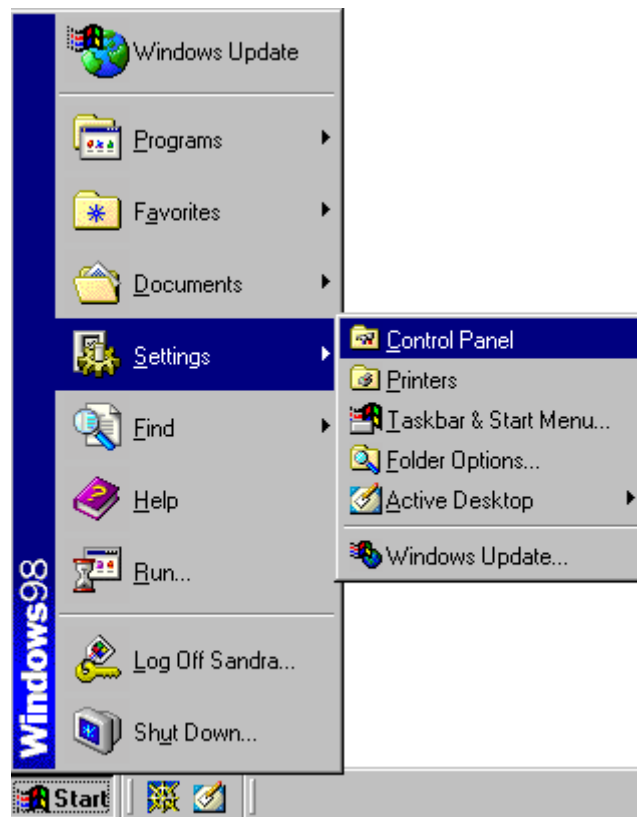
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Installation

The CD-Writer installation program will automatically identify your CD recorder and install the software on your computer.

Note: To install the RSJ CD-Writer software you need to be logged onto the system with administrator privileges.

If you use an external CD recorder, make sure it was turned on before the system was started. If not, turn it out and restart the system before installing RSJ CD Writer.



Open the start menu and choose “Settings” – “Control Panel”.

Installation



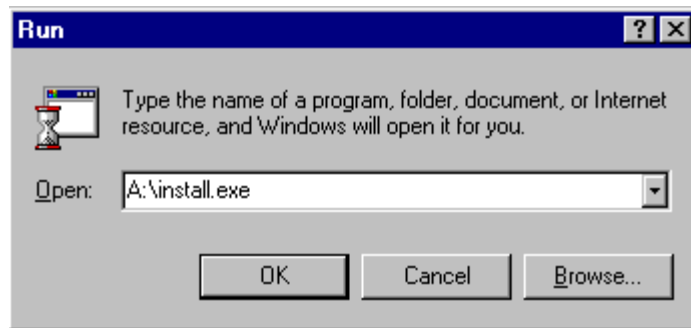
Start software configuration (double click on “Add/Remove Programs”). Insert the RSJ CD Writer installation diskette.

Fill in the required information and click “Install”. If the “Key Code” field is greyed out, please enter the installation key located on a sticker on this manual’s cover page.

In order to complete the installation, reboot your machine by choosing “Yes”.

Additionally, there is another possibility to start the installation of RSJ CD Writer:

- Open the start menu and choose “Run”.



- Type the name of the installation program (normally: “A:\install.exe”) and click on “OK”.

freedb support

freedb.org is a service that provides a huge database of CD data (CD / track titles and more).

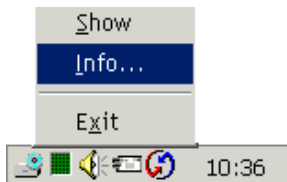
The freedb support in RSJ CD Writer is designed to work right out of the box – with one exception. If you access the Internet through a corporate network it is likely that you have to use a proxy server. If so, you have to provide its name, port and eventually login information on the server page of the freedb options dialog before you can access freedb.

So if you are using freedb for the first time, you should perform the following steps:

- Enter proxy information on the Server page if necessary
- Click the Server List button on the server page and get a new server list. Select a server that is close to you. If you use a proxy, select a server using the HTTP protocol.
- Provide a user name and your e-mail address (needed for submissions)

Registering a demo version

If you install RSJ CD Writer as a demo, it will run for 30 days. The “Info” command of the CD icon in the system tray (right bottom corner of the screen, next to the clock) can be used to display information about the remaining trial period:



If you decide to get the full version, you will receive a file *cdwfs.key* that removes the 30 day limit. To install this file, please proceed as follows:

Choose the “Installation” command under *Startmenu* ⇒ *Programs* ⇒ *RSJ CD Writer* ⇒ *Registering Demo Version*

Alternatively you can call up the installation program with the option */r* from the command line.

Updates

If you are installing over a previous version of RSJ CD Writer, you simply launch the installation program as described above (choose software configuration). During the next system reboot, eventual locked files are automatically replaced, so there is nothing special to observe during updates.

Installation log file

The installation will create a log file “install.log” in the target directory that might be helpful in case of problems.

Uninstallation

To uninstall RSJ CD Writer, please use the "Uninstall" command under *Startmenu ⇒ Programs ⇒ RSJ CD Writer* or use the *add/remove programs* icon in Windows' Control Panel.

Copying files to CD

This chapter describes the usage of RSJ CD-Writer, demonstrated through simple examples.

Introduction to the file system

After installation, the file system will be started automatically, so you do not need to start any programs in order to use the file system.

Since the CD-Recorder receives its own drive letter, you can use the recorder like any other drive. To simplify matters we have assumed the following drive letters for our examples:

C: = hard disk, D: = CD-ROM, E: = CD-Recorder.

Note that the drive letters on your machine might be different.

Note: The recorder's drive letter can be changed using Windows Device Manger (look up *CD-ROM drives* in Windows help or documentation).

Open "My Computer" to check which drive letter is used by the CD recorder:



Your recorder receives a special RSJ CD-R icon. If you do not see it, it might be necessary to use the "Refresh" command in the "View" menu.

Writing to the CD

You can use any program that is capable of copying or creating files to copy data to the CD recorder.

To copy a file using Windows' Explorer, drag the file(s) with the mouse to the CD recorder object.

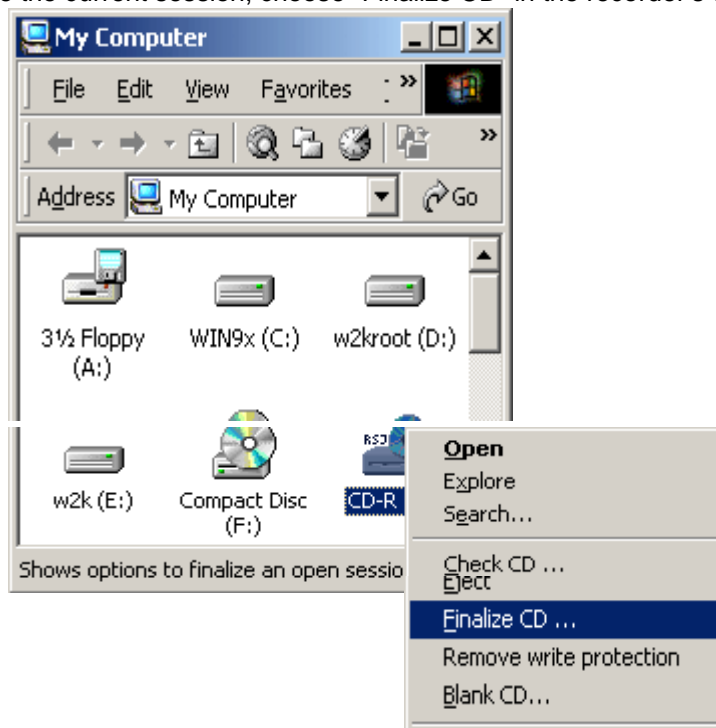


As you can see, copying files to CDs using RSJ CD Writer is the same as copying to hard disks.

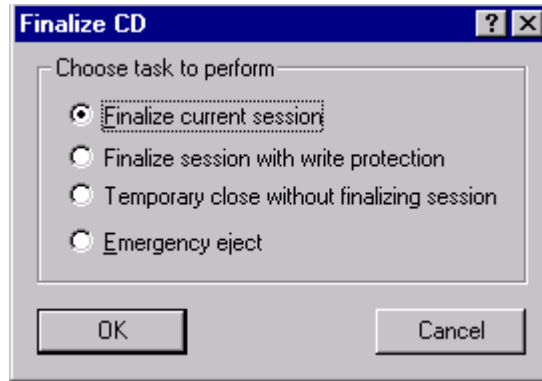
Finalizing the CD

After you have written the data to the CD you have to finalize the current session. This ensures that all data in the cache is written to the medium and therefore prevents data loss. Additionally, to make the CD readable for normal CD-ROM drives, the session has to be written to the disk.

To finalize the current session, choose “Finalize CD” in the recorder’s context menu:



The following dialog will appear:



- | | |
|---|---|
| Finalize current session | Closes the current session. Flushes the cache and writes the table of contents (TOC) and session information to the CD. This task takes up approximately 16 – 20 MB of disk space and makes the CD readable for normal CD-ROM drives. |
| Finalize session with write protection | Same as above, but additionally write protects the CD. To remove the write protection, choose “Remove write protection” in the recorders context menu. |
| Temporary close without finalizing session | Flushes the cache to the CD and writes the TOC. Use this option if you want to eject the CD without investing the 16 – 20 MB for session information right now. Until you finalize the session, the CD can be read only by the recorder, not by normal CD-ROM drives. |
| Emergency eject | This option discards the cache and can be used to eject the CD in case of errors. All data written since the last finalization will be lost. |

Creating Data-DVDs

Using RSJ CD Writer you can create data-DVDs but at the moment it is not possible to create video- or audio-DVDs.

To create a data-DVD please use the filesystem and then finalize the DVD.

The supported DVD types are:

- DVD-R
- DVD+R
- DVD-RW
- DVD+RW

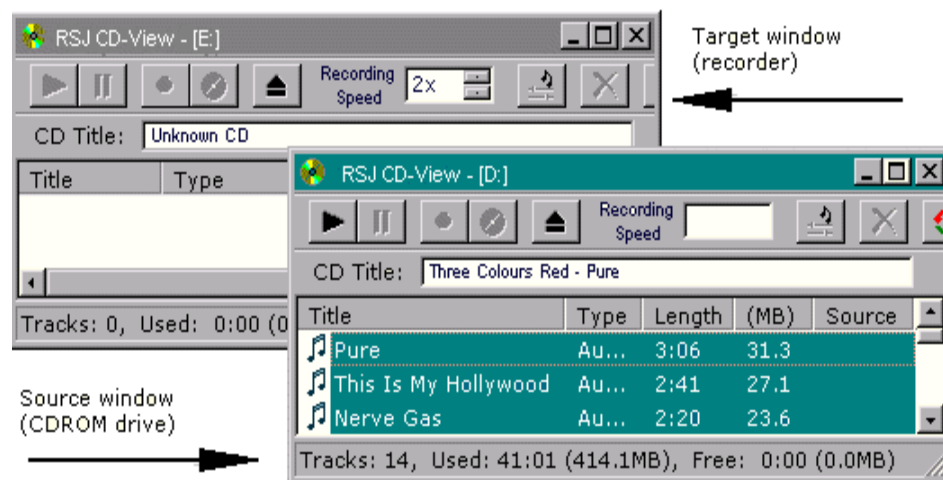
Information about the usage of DVD-RW and DVD+RW:

Before using a rewritable DVD you have to format it. Please do this selecting "blank CD" in the context menu. This can take about half an hour.

The maximal filesize is 2 GB.

Creating Audio-CDs

If you want to copy only specific tracks (titles), use **CD-View**. If you want to copy the whole CD, RSJ CD Copy Wizard is the better solution.



Follow these steps to copy an Audio-CD using **CD-View**:

- Insert a blank CD into the CD-Recorder
- Start **CD-View** by choosing "RSJ CD-View" in the context menu of the target drive (CD-Recorder)
- Start a **CD-View** session for each source drive; the entry "RSJ CD-View" is located in the context menu of any CD-Recorder and CD-ROM drive.
- **CD-View** should show a blank window for the CD-Recorder (no tracks on the CD)
- CD-View's status bar (at the bottom of the window) shows information about the number of existing tracks, the MBs used by these tracks, and the CD's free space in minutes and MBs.

Creating Audio-CDs

- Now select the tracks to be copied in the source session(s). You can also use Window's Explorer as a source to copy WAV or other audio files (MP3). **CD-View** creates a single track for each file.
- If you like to copy tracks from CD-ROM, start **CD-View** by choosing "RSJ CD-View" in the context menu of the CD-ROM.
- Using freedb you can receive the CDs' titles if you want.
- Drag the selected tracks or files to the target's **CD-View** window
- If you want to write WAV or MP3 files to CD, drag the files from the Explorer window to the recorder's **CD-View** window.
- Repeat the previous two steps until all desired tracks (titles) appear in the target **CD-View** in the desired order.
- Verify the target's recording speed; make sure it is not too fast for the source device(s). If you copy audio tracks from a CD-ROM drive, note that some CD-ROMs read audio data with single speed, no matter how fast they can read data tracks.
- If you like to avoid the gaps between the tracks please adjust the pause times using the appropriate context menu commands and press the DAO copy button when done.
- For Track at Once mode, press the normal "Record" button in the target CD-View's tool bar.
- After all tracks have been copied, you must finalize the session. To do so, press the "Finalize" (CD symbol) button in the target CD-View's tool bar.

For more information about when to use DAO or TAO mode, see "Notes about DAO" below.

Notes about DAO

DAO means Disk at Once and allows the creation of exact copies of audio CDs that do not contain gaps between the tracks (Live CDs or Musical CDs). Additionally, it allows you to manually adjust pause times.

- DAO can be used for audio CDs only.
- After a DAO CD is created, no additional tracks can be added. Therefore, you must collect all source tracks **before** you start the copy operation.
- You have to copy the whole CD in one step.
- If the tracks come from various sources, make sure each source device is available during the copy operation (ie CDs cannot be changed).
- If the DAO copy button does not appear, RSJ CD Writer does not support DAO mode for your recorder.
- Besides this, the DAO copy procedure is the same as the former TAO copy procedure (which is of course, still supported).

Pause times

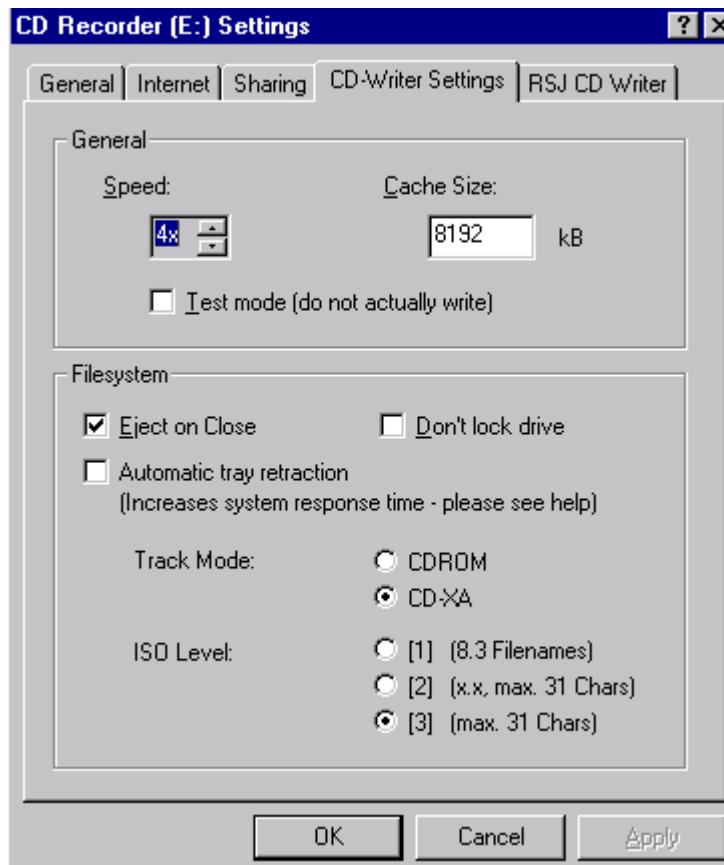
For DAO copies, you can adjust a pause time before each track (except for the first).

Please note:

- Pause times are used only for DAO copies and are only displayed for queued (not yet copied) tracks. They have to be adjusted before the DAO copy operation is started.
- The first track's pause is always 2.
- If a track's source is located on a CD, the pause time displayed is added to the actual pause time from the source CD. Use a zero pause time to preserve the pause time of the source. If the source is a file (MP3 etc.), it is the absolute pause time which is inserted before the track.
- Edit a pause time by simply clicking it with your mouse or by using the appropriate context menu command.

CD Writer File System Settings

The RSJ CD-Writer file system is configured just like any other drive in Windows. Click on the “Properties” command in the recorder’s context menu; this will open its settings – dialog that was extended with a page called “CD Writer Settings”:



The individual options are:

General

Speed

Use the arrow buttons to adjust the recording speed (1x means 150K/sec, 2x means 300K/sec,...)

Cache-size

Size of the memory cache used by the RSJ CD-Writer file system.

Usually, about 6MB is enough. If you create CDs with lots of files or directories, or if you copy at very high speeds (6x and up), you should use a larger cache size

Test mode

Check this button to verify if the source device(s) delivers data fast enough for the selected recording speed. If this button is selected, the recorder does not write to the medium (but "pretends" to do so)

File system settings

Eject on close

Check this box to automatically eject the medium after the session is finalized. Kodak recorders need this option.

Don't lock drive

During the write process, the recorder door must not be opened since this might destroy the CD. If this option is not checked, the drive door is locked until the session is closed. Otherwise the door can be opened (i.e. by pressing the recorder's eject button) any time during the write process. Be cautious with this option.

CD Writer File System Settings

Automatic tray retraction

If this option is set, the recorder drive door is automatically closed when the recorder is accessed. The command required for this feature takes a couple of seconds to complete (depending on the recorder type); since the recorder is frequently accessed (file dialogs, context menus,...), this can be quite annoying. In this case, leave this setting turned off. (Please note that some recorders do not support this feature.)

Track Mode

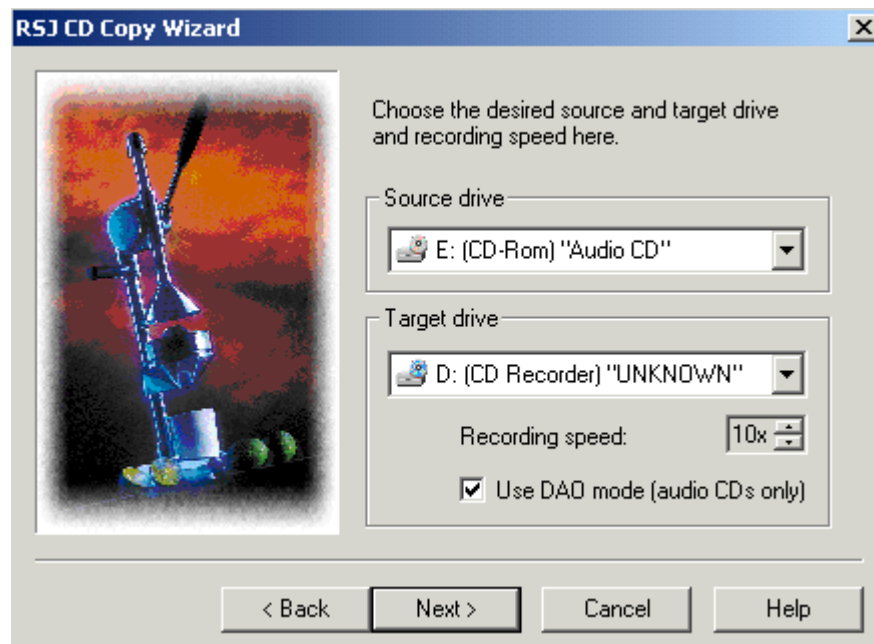
Select desired track mode here
(See: "Technical details")

ISO Level

Choose the desired ISO level (See:
"Track Modes")

CD Copy Wizard

If you want to create a 1:1 copy of a CD, RSJ CD Copy Wizard offers the easiest solution. This wizard creates copies of Audio-CDs, CD-ROM's and Data-CDs.



Follow these steps to copy a CD using the CD Copy Wizard:

- Start the CD Copy Wizard by choosing “RSJ CD Copy Wizard” in the start menu.
- Insert the source CD.
- Select the desired source-drive.

CD Copy Wizard

- If your CD-ROM-drive is not able to read Audio-CDs or if you don't have a CD-ROM-drive, you can use your CD-recorder as source and target drive. The CD will be copied to a hard disk and then back to the recorder.
- If you are using two drives insert the target CD.
- Select target drive.
- If you like to avoid the pauses between the tracks, please mark the DAO option.
- Then press "Next".
- Click on "Finish" to start the copy operation.

During the copy process, a dialog is displayed that shows the operation's progress.

CD-View

The RSJ CD-Writer file system copies and processes data on a file basis. Since there are different CD formats and only the CD-ROM format provides files, the **CD-View** application was included in the CD-Writer product.

Introduction

CDs store data in tracks; each CD can hold up to 99 tracks. While CD-ROMs usually contain only one track that contains all files (data), Audio CDs store each title in a single track.

CD-View processes data on a track basis no matter what they contain. It copies all kind of CDs in just a few steps.

However, CD View does not only work with CDs. You can use a hard disk to emulate a CD recorder or copy supported multimedia file types to CD.

Note: CD-View is an independent program and can not be used with the file system at the same time. It works similar to the DOS-command DISKCOPY and copies whole tracks irrespective of their content.

When you work with CD View, you usually use two instances of the program: one for the source device and one for the target. The source can be either a CDRom drive, hard disk directory or CD recorder, while the target must be either a recorder or a hard disk directory.

Launching CD-View

There are three ways to start CD-View: Use the "RSJ CD-View" entry in the start menu, the "RSJ CD-View" entry in the device's context menu or the command prompt (DOS window)

Start from the Start menu

To start CD-View from the Start menu choose "Start – Programs – RSJ CD Writer for Windows NT – CD View CD-ROM".

Start from the context menu

Open "My Computer" on your desktop or Explorer, choose the desired drive, open the context menu with the right mouse button and select "RSJ CD-View".

Command line start for CD-ROM or CD-Recorder

In order to start *CD-View* for a CD-ROM drive or a CD-Recorder, the corresponding drive letter must be entered on the command line.

Example:

```
cdview e:
```

This example will start *CD-View* and shows the track directory of the CD-ROM inserted in drive E:

Hard disks (temporary storage)

For temporary track storage *CD-View* can also work with hard disks. *CD-View* simulates a CD recorder in hard disk sub folders and creates a single file for each track called *TRACKxx.TRK* or *TRACKxx.WAV* (xx is the track number from 01 - 99), respectively.

Notes: The directory should not be altered with applications other than *CD-View*.
Audio files are very large; expect a file size of about 10 MB for a minute of audio data in CD quality.

Data tracks are stored with the *.TRK* extension, while audio-tracks are stored with the *.WAV* extension. If you have a sound card installed, audio-tracks can be played back with a media player application.

Note: Do not use the Windows Sound Recorder to play back *CD-View*'s *WAV* files, since these files usually are very large. Sound Recorder attempts to load the whole file into memory, which might cause the system to hang. Use Media Player instead.

Example:

```
cdview c:\tracks
```

In this example *CD-View* will emulate a CD-Recorder in the directory *c:\tracks* and will store each track in files called *TRACKxx.TRK* or *TRACKxx.WAV*, respectively. Note that you must provide a full path including drive letter.

CD-View Interface

The *CD-View* user interface consists of a tool bar, a track list of the CD and a status bar.

Tool bar

The tool bar contains the following elements:

**Play**

Starts audio play back of the selected track. You need a sound card to play back tracks from hard disks or CD-ROM drives or recorders. However, most CD-ROM drives and recorders have a headphone connector that can be used as well.

**Pause / stop play back**

Pauses or resumes play back.

**Start recording**

Starts the copy (record) process in TAO mode.

**DAO**

Starts the copy (record) process in DAO mode.

**Finalize CD**

After all tracks have been copied, finalize the session with this button. Please note the information in chapter "Finalize CD".

**Eject**

Opens the drive door.

Recording speed

Adjusts the current recording speed. (1x means 150K/sec, 2x 300k/sec,...). Make sure that the source drive delivers data fast enough for the current speed setting.

**Delete track**

Deletes all selected tracks.

**Rescan track directory**

Reads the table of contents of the inserted CD (i.e. after the CD was replaced). All entries of tracks that are prepared for copying will be erased.

CD-View



CD View Options

Displays the CD View options dialog, where you can adjust audio parameters and turn freedb support on or off.



Query freedb

Performs a freedb query about the currently inserted CD.



Print CD cover

Prints a cover and label for the current CD on the default printer.

Whether these buttons actually are enabled depends on the capabilities of the device, the situation and the selection state of the tracks (i.e., the play back button is disabled if a data or no track is selected).

Note: There is also a context menu that appears if you click the right mouse button within the track list.

Track list

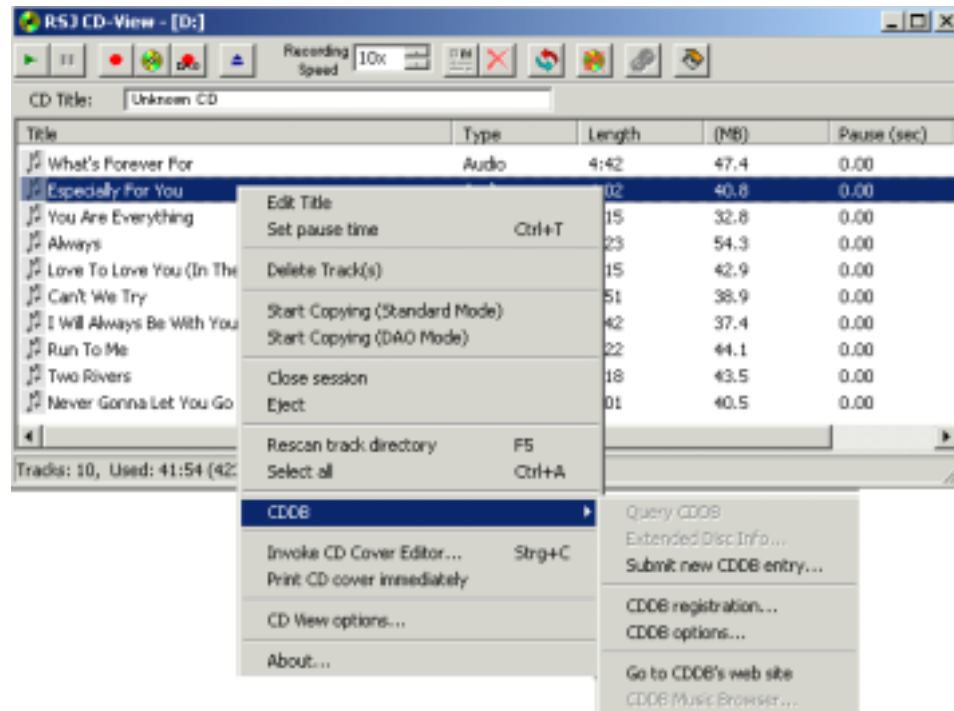
The track list shows each track on the CD with its name, type (Audio, CD-ROM or CD-XA) and the length in minutes and seconds and in Megabytes.

Above the track list the CD-title is displayed. If the CD has not yet been given a title, it says "unknown CD".

The icons on the left indicate the track type and its state. There are different icons for video, audio and data tracks. The icons are shaded if the corresponding track has not been copied yet.

The titles of each track can be edited by choosing the "Edit title" command in the track's context menu.

Context menu



CD View's context menu is displayed if you right click into the track list. It contains all available commands.

Further information about the context menu and its option can be found in CD View's online help (hit F1) or above under "Toolbar".

Status bar

The status bar displays general information about the CD inserted as well as the current status of the program.

Usually, the status line indicates the number of tracks, the space occupied by the tracks and the free space on the CD.

Eventual error messages are displayed here as well.

Copying multimedia files into Audio-tracks

You can also copy various multimedia files to CD using CD View. To do so, simply drag these files from an Explorer window to CD View.

WAV Files

CD-View can copy WAV files to CDs. These files must have the following format:

- 16-Bit
- Stereo
- 44,1 KHz
- uncompressed

The WAV-file format is quite versatile and supports many features, including loops and compression. CD-View supports none of these additional features, so WAV files that are to be copied by CD-View must be in raw format, just like the ones created by, i.e., the Windows sound recorder.

Other file formats

If you have Windows Media Player Version 6 and up installed, you can copy any multimedia file to CD that is supported by Windows Media Player. This includes MP3 files and WAV files in other formats than the CD audio format.

Windows Media Player is available as part of Internet Explorer 5 or separately at <http://www.microsoft.com/windows/windowsmedia>

Copying tracks

In order to copy one or more tracks, open a CD-View session for the target device and one for each source device.

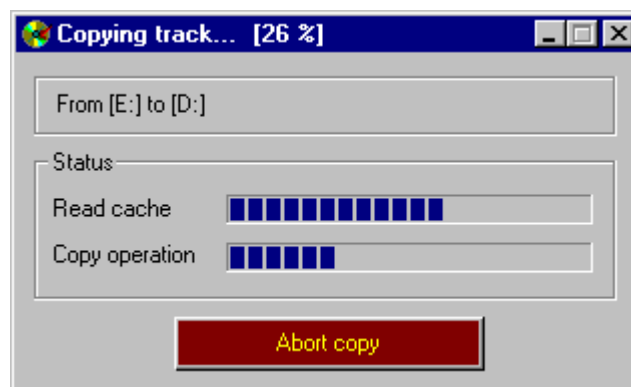
The tracks to be copied are selected and then dragged to the target's CD-View session using the left mouse button. The tracks will appear in the target window with their original name and receive a shaded track icon, indicating that the corresponding tracks have not yet been copied. The source column of the track list shows from which device the track will be copied.

Note: When tracks are dragged over the target CD-View, a gray line is displayed indicating where the dragged track(s) would be inserted. If this line is not displayed or the mouse pointer turns to a "no drop" sign, you attempted to either drop the files on a CD-ROM or before already copied tracks on a recorder. Once tracks are copied you cannot change their order anymore, nor can you place additional tracks before or between them.

After dropping the tracks on the target CD-View, change their order by simply picking them up and dropping them at the desired location.

Before pressing the "record" button, verify that the recording speed setting is not too fast for the source device(s).

After starting the copy process, a window appears where the copy status is displayed:



The window contains two progress indicators where the gap degree of the reading buffer and the progress of the copying process are displayed.

CD-View

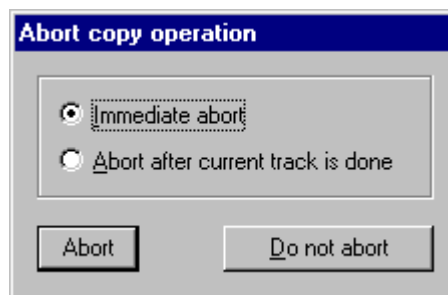
The read cache is needed to balance short-term reading delays and ensures a minimum writing speed while copying tracks. The read cache should have the following status:

Track type	Source	Target	Full reading buffer	Low reading buffer
Data-track	*	CD	While writing minimum speed is kept	Copying process must be truncated if necessary
Data-track	*	HD	Unimportant	Unimportant
Audio-track	HD	CD	While writing minimum speed is kept	Copying process must be truncated if necessary
Audio-Track	CD	HD	Fixed disk too slowly to store Audio data (applies to old CD-ROM only). Possible errors in Audio-files	While reading minimum speed is kept
Audio-Track	CD	CD	Audio data might not be read with the minimum speed; the copying process does not have to be truncated necessarily (applies to old CD-ROM only)	While reading, the minimum speed is kept, but it may happen that the minimum speed cannot be kept while writing and therefore the copying process must be truncated

As this table shows, copying Audio-tracks from CD to CD (e.g. CD-ROM to the CD-Recorder) means the greatest risk: If both drives do not operate at the same speed, either the reading or writing speed cannot be kept. If the minimum speed while reading Audio-tracks cannot be observed, the copying process does not have to be truncated, but the Audio-data may have defects in the form of jumps or reruns. (This applies to old CD-ROM only)

Note: The CD-Recorders have an additional buffer storage, which sometimes is bigger than the reading buffer used by *CD-View*. In that case, the reading buffer will be emptied completely before copying and may, depending on the speed of the source drive, be refilled very slowly or not at all. Usually, this only happens when copying from CD-ROM drives to a CD-Recorder.

The copy process can always be aborted by pressing the “Abort copy” button”. This button displays the following dialog:



If you choose “Immediate abort”, the copy progress is aborted immediately. The current track on the target device will definitely be unusable.

The second option, “abort after current track is done”, ensures that the current track is not damaged and copied in its entirety.

Finalizing the CD

If you performed a TAO copy operation, you have to finalize the session after all tracks have been written.

To do so, press the “Finalize CD” button (CD icon) in the target’s CD-View session. This task may take a couple of minutes. However, to reduce finalizing time, you can adjust the speed setting to its maximum value, since this task does not depend on the source device.

Note: Although you can create multisession CDs with CD View, it does not make much sense. CD audio players only recognize audio tracks located in the first session. This also applies to data tracks copied from normal data CDs; depending on the CDROM driver, only the files in the last or first session will be recognized.

Track size and required space

CD-View

The size of a track is specified in two different units:

- Play back time of the track
- Length of the track in Megabytes

For Audio-tracks you may assume a size of approx. 10 MB per minute.

freedb

freedb support in RSJ CD Writer allows you to

- query CD data via Internet
- query CD data from local database (only standard format; see below)
- edit extended CD information to create your own submissions
- submit updated or new CD data to freedb

freedb allows anyone to download the current database and install it locally. If you want to do so, be sure to get in in "standard format", usually distributed in bziped tar format.

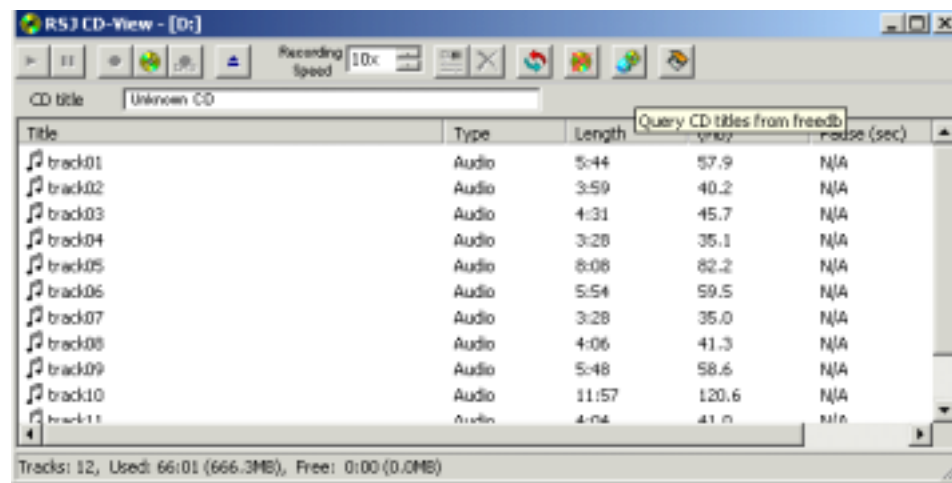
To unpack this format, you will need both bzip2 and GNU tar (or a Linux machine). The "alternate format" (intended for FAT file systems) is not supported by this software.

Performing freedb queries

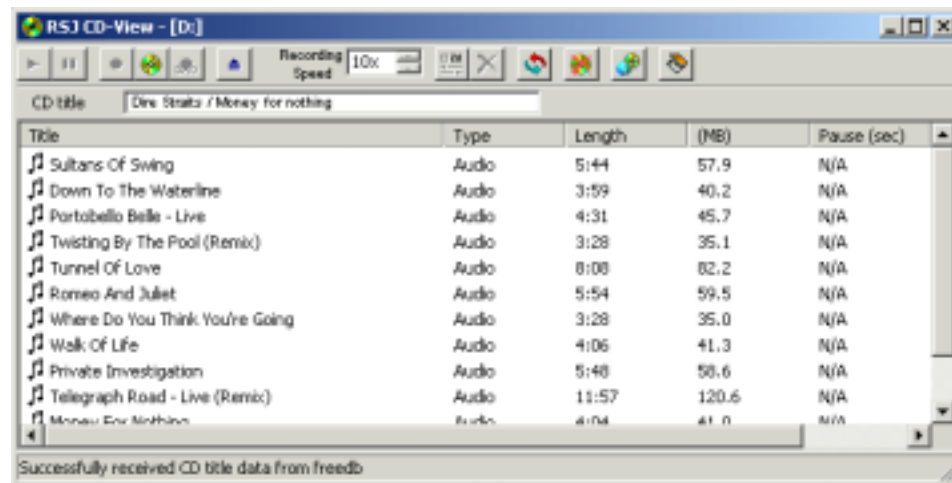
Follow these steps to query title information for a CD:

- Insert the CD into the drive
- Start CD-View for this drive

If CD View does not know the CD, it will display a track list as shown here:

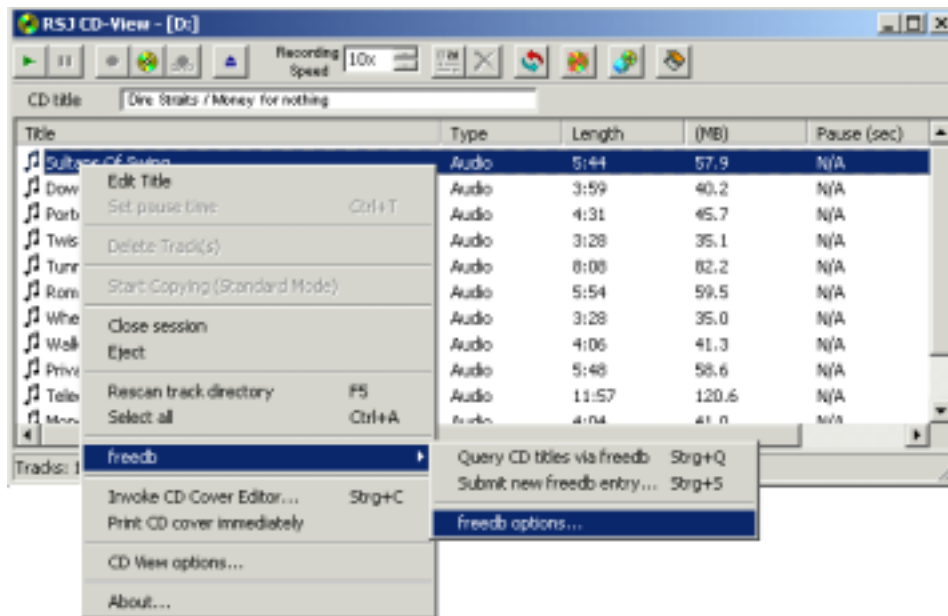


After a successful freedb query, the track list is updated with the title information from freedb:



CD-View

CD View's context menu contains additional freedb related commands:



Query CD titles via freedb

Performs a freedb query for the currently inserted CD. This way, you can access the freedb data base to retrieve the CD title strings.

Submit new freedb entry

If your CD cannot be found in the freedb data base, you can submit a new entry using this command.

freedb options...

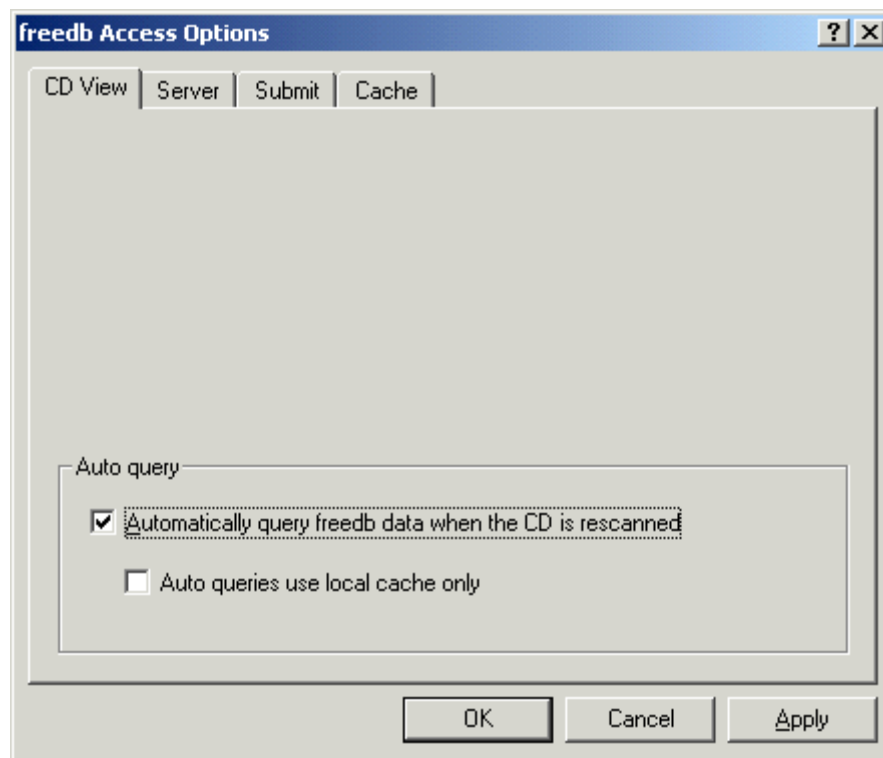
Displays a dialog where you can change freedb specific options.

freedb options

The freedb options dialog allows you to configure the way freedb is accessed.

CD View

The "CD View" page allows you to configure how freedb is accessed by CD View:



The following options are available:

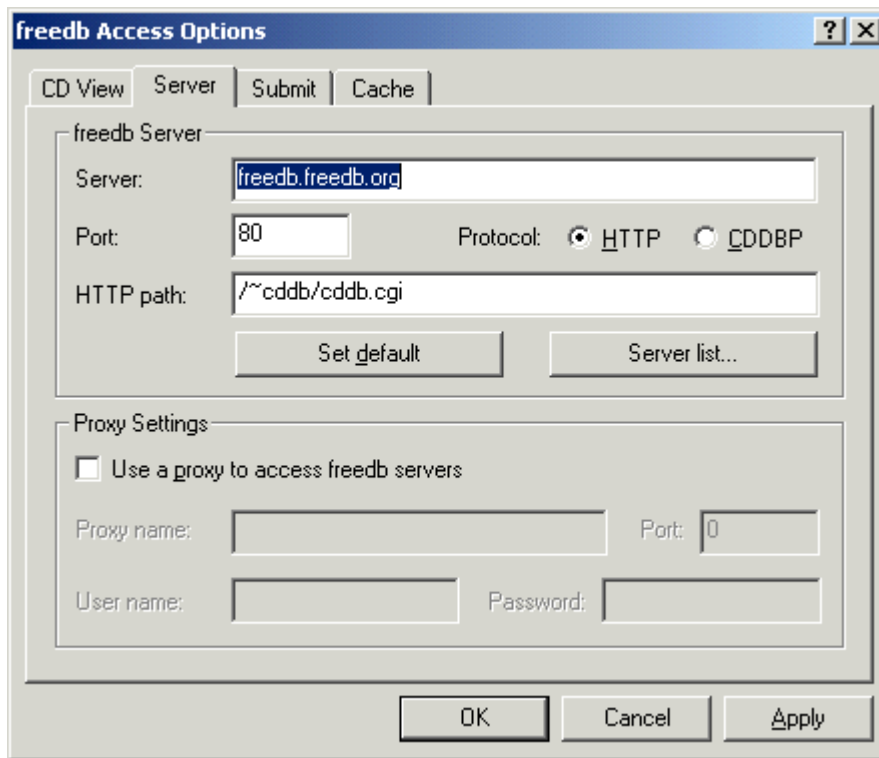
Automatically query freedb data when the CD is rescanned performs a freedb query each time CD View rescans the track directory

CD-View

Auto queries use local cache only uses only data located in the local cache for queries

Server

The “Server” page allows you to configure a proxy server for freedb access. Please ask your network administrator if and which proxy settings you need



The screenshot shows a dialog box titled "freedb Access Options" with a blue header bar containing a question mark and a close button. Below the header is a tabbed interface with four tabs: "CD View", "Server", "Submit", and "Cache". The "Server" tab is selected. The dialog is divided into two main sections: "freedb Server" and "Proxy Settings".

freedb Server section:

- Server: A text box containing "freedb.freedb.org".
- Port: A text box containing "80".
- Protocol: Two radio buttons, "HTTP" (selected) and "CDDBP".
- HTTP path: A text box containing "/~cddb/cddb.cgi".
- Buttons: "Set default" and "Server list..."

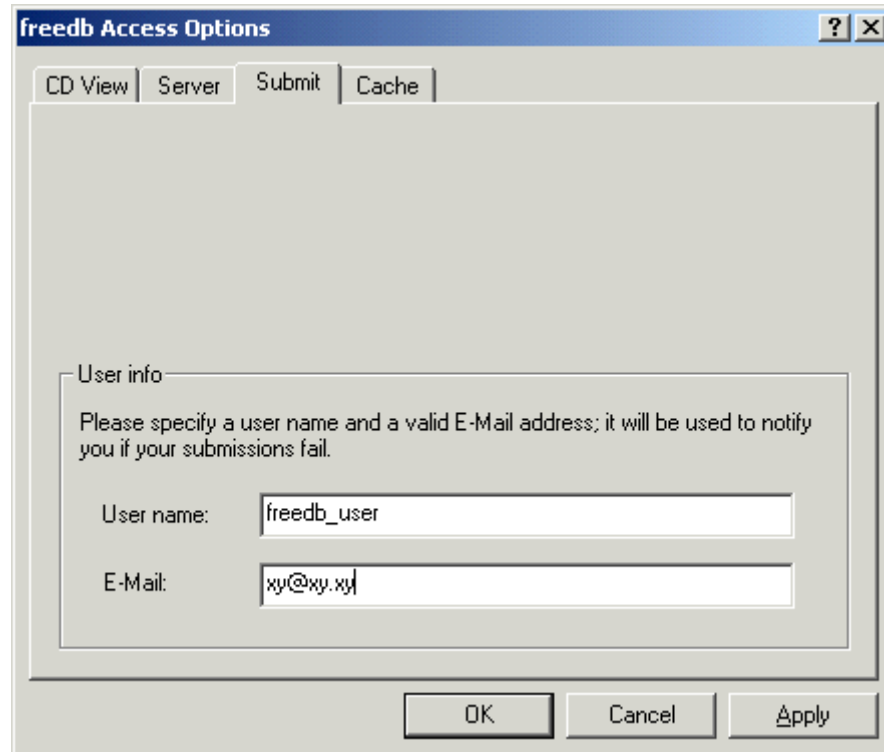
Proxy Settings section:

- Use a proxy to access freedb servers: An unchecked checkbox.
- Proxy name: A text box.
- Port: A text box containing "0".
- User name: A text box.
- Password: A text box.

At the bottom of the dialog are three buttons: "OK", "Cancel", and "Apply".

Submit

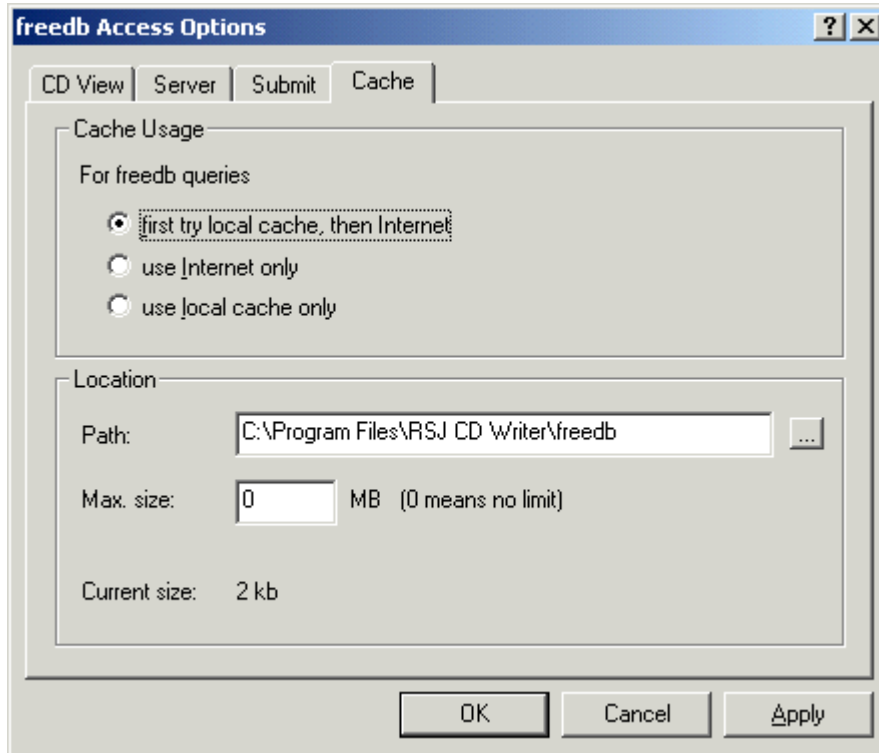
At the "Submit" page, please provide a user name and your e-mail address. The e-mail address is needed for submissions only.



The image shows a screenshot of a Windows-style dialog box titled "freedb Access Options". The dialog has a blue title bar with a question mark and a close button. Below the title bar are four tabs: "CD View", "Server", "Submit", and "Cache". The "Submit" tab is selected. The main area of the dialog contains a "User info" section with the following text: "Please specify a user name and a valid E-Mail address; it will be used to notify you if your submissions fail." Below this text are two text input fields. The first field is labeled "User name:" and contains the text "freedb_user". The second field is labeled "E-Mail:" and contains the text "xy@xy.xy". At the bottom of the dialog are three buttons: "OK", "Cancel", and "Apply".

Cache

Specify the hard disk directory that should be used for freedb data caching here. The local cache is used to avoid duplicate internet queries for already known or queried CDs.




The "Max size" field allows you to specify a maximum size that should be used for caching. If you enter 0 here, the cache has no size limit.

The options of the cache usage have the following meaning:

- | | |
|--------------------------------------|---|
| first try local cache, then Internet | performs internet queries if the CD is not found in the local cache |
| use Internet only | uses only Internet for queries |
| use local cache only | uses only data located in the local cache for queries |

Printing CD booklets and labels

You can print CD booklets and labels from within CD View. While the  button in CD View's toolbar or the "Print CD cover immediately" command in the context menu immediately print a cover without any questions asked, you can use the "RSJ CD Cover Editor" command in the context menu if you want to change the layout of the cover before you print it.

More information about cover printing can be found in the "RSJ CD Cover Print" chapter.

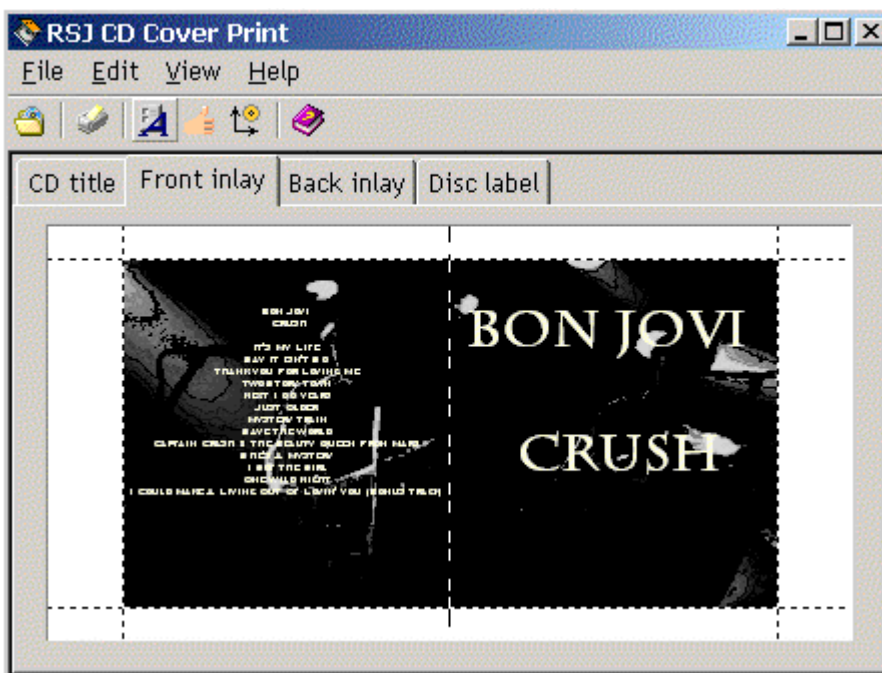
RSJ CD Cover Print

RSJ CD Cover Print allows you to create booklets and labels for your CDs.

If you start RSJ CD Cover Print from within CD View, it will be initialized with the title data of the currently inserted CD; otherwise, you'll have to manually enter the title strings.

User interface

CD Cover Print's main window basically consists of a tabbed window that allows you to switch between four different pages:



The CD *title* page is used to enter/edit the CD's title, artist and song titles. Of course, you can also enter general CD information if you want to create a data CD label.

The Front inlay, Back inlay and CD Label pages allow you to preview the result of your work. If one of the preview pages is active, you can use the format window to apply any of the format options to change the look of the label.

CD Cover Print toolbar

CD Cover Print's toolbar contains the following commands:



CD View's CDs

This dialog displays all CDs ever edited with CD-View. If you select a CD in the upper list, its track titles are displayed in the field below.



Print

Prints the booklet and CD label without any questions asked using the default printer



Show/hide format window

Shows or hides the format window



Save layout as default

Saves the current format options as new default values. The default values will be active next time you start CD Cover Print. They are also used by the immediate print function from within CD View



CD Label Position Wizard


This wizard will help you to determine the position of the CD labels you are using

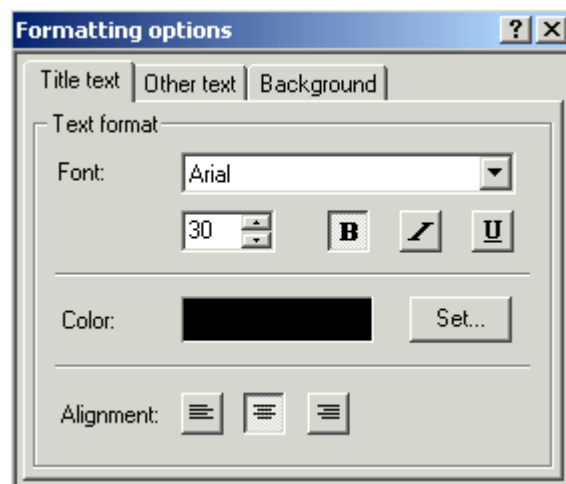



Help

Displays the online help

The format window

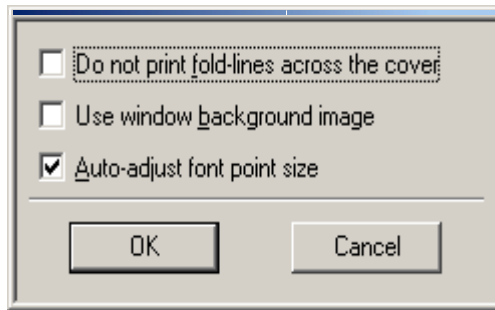
The format window allows you to adjust standard text attributes and the background to use. It is accessible only if one of the preview panes is active. Use the  button in the toolbar to toggle its visibility state.



You can save the current formatting options as default values at any time using the  button in the toolbar. The default settings will be restored each time you start CD Cover Print and will be used for the label print option from within CD View.

CD Cover Print Options

Use the “Options” command in the View – menu to display the options dialog:



Do not print fold lines across the cover	Fold lines will be printed only outside the cover itself
Use window background image	Draw CD Cover Print windows with a background image
Auto-adjust font point size	Ensures that text will fit in its field by reducing the font size if necessary

CD Cover Printout

Pressing the print button on the toolbar will print the booklet and CD label on the default printer. If you use the “Print” command in the “File” menu, you can specify a different printer and which parts of the cover you want to print.

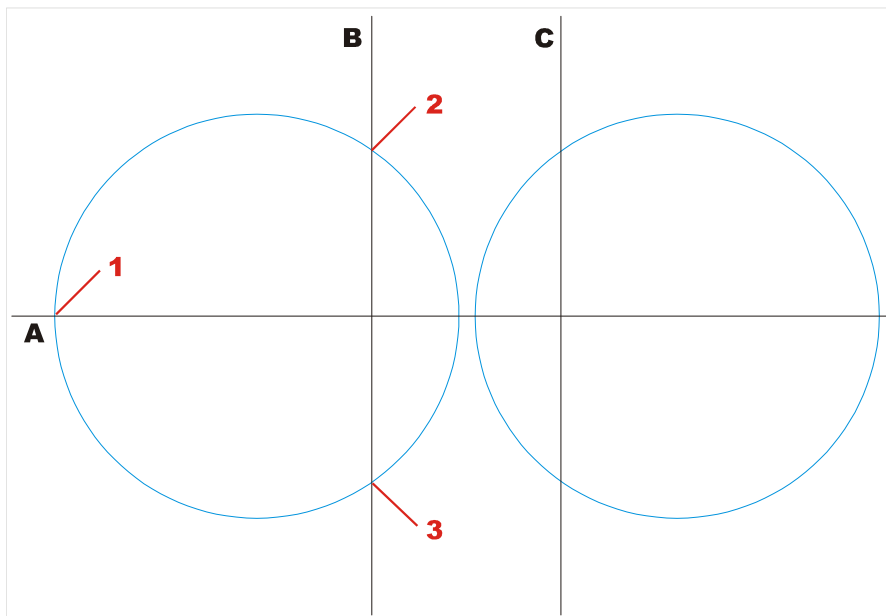
If you print a CD label for the first time, you will be asked if you want to run the CD Label Positioning Wizard. This is necessary to determine the label’s position on the sheet you are using.

The CD Label Positioning Wizard

This wizard helps you to determine the label position on the label sheets.

It prints three “rulers” on one of your label sheets; these rulers cross the label circles at certain points. All you have to do is to determine the values as indicated by the rulers.

Example:



(The circles mark the CD labels as they are cut into the label sheet)

In this sample, we will determine the position of the left circle.

The following values will be entered:

left A-value (#1) intersection of the *left* circle half with the A ruler; the intersection of the right circle half is discarded

upper B-value (#2) intersection of *upper* circle half with the B ruler

lower B-value (#3) intersection of *lower* circle half with the B ruler

In this example we do not use any values from the C-ruler, since the left circle does not hit it.

If the label circle intersects both rulers, you can enter all 4 values (two B-values and two C-values). The Positioning Wizard will automatically choose the value pair that is the best for the following calculation.

Notes:

- If your label sheet contains two CD labels, please specify intersections of one of the two only. The sheets are usually symmetric so you can use the other label by turning the sheet by 180°
- Please be as exact as you can when you enter the intersection values and try to estimate comma values. This will produce a much better result.

Using The Printout

The front page is folded once at the fold line, cut and then slid into the transparent CD cover lid.

The back page is folded twice, cut and then slid into the back part of the CD cover. This requires you to remove the usually dark gray CD holder.

For instructions about how to use the CD label please consult the instructions that came with the label sheets.

TRACKCPY.EXE

Using TRACKCPY.EXE you are able to copy tracks from the command line. TRACKCPY.EXE offers a similar functionality as RSJ CD View.

Commands:

The following commands are supported:

help [command]

Shows explanations to the entered command. If no command is entered, a list of all commands is shown.

dir <drive>

Shows the content of a drive.

Example: `dir d:`

This command shows the track directory of the CD in drive d:

speed <factor>

Sets the writing speed for all of the following write operations. The factor is entered as a multiple of 150k/sec.

Example: `speed 2`

Sets the writing speed to 2x (=300 k/sec).

copy <source drive> <track number> <target drive>

copies the entered track.

Example: `trackcpy -copy e: 1 d:`

Copies the first track of the CD inserted in drive e: to the recorder (drive d:)

finalize <drive>

Finalizes the current session of a drive.

Example: `finalize d:`

eject <drive>

Ejects the medium from a drive.

Example: `eject d:`

blank <drive> <track number>

Deletes the specified track in the drive. Possible only for CD-RW recorders and harddrives. If the specified track number is 0, all tracks get deleted.

Example: `blank d: 0`

Deletes all tracks of the CD inserted in drive d.

quit

Exit the program.

TRACKCPY.EXE

Further examples:

```
trackcpy -copy e: 1 d: -finalize d: -quit
```

Using this command the first track of the CD-ROM drive (e:) is copied to the CD recorder. After that the session gets finalized and the program ends. Please note the "*quit*" command at the end of the line; if omitted, Trackcpy.exe shows a command prompt after finalizing the CD.

```
trackcpy -copy e: 1 d: -copy e: 2 d: -copy e: 3 d: -  
finalize d: -quit
```

This command copies track one to three to the recorder and finalizes the session.

Notes:

The purpose of TRACKCPY.EXE is the automation of track based copy processes. In general, we recommend the use of CD-View in order to copy tracks; if the same copy process should be executed repeatedly, trackcpy.exe can be integrated into a Batch-Program.

To end trackcpy.exe you have to use the *Quit* command. That's why every call of trackcpy.exe should contain the parameter *-quit*. Otherwise the Batch-Program is not finished.

If an error occurs during the execution of a command, the program ends in any case and returns an error code (unequal 0).

Technical details

This chapter describes the format of a CD. In fact, you do not need this knowledge in order to use the RSJ CD-Writer file system. However, you will get a deeper insight into the subject.

ISO9660

This standard of ISO (International Organization for Standardization) defines the method which should be used for storing data on a CD. The CD-Writer file system writes CDs using this standard, i.e. an operating system able to read CDs according to ISO9660-standard can read CDs created with RSJ CD-Writer.

Format of a CD

An ordinary CD-ROM consists of a track directory (TOC) and one or more tracks.

T O C	Track #1	Track #2	Track #3	Track #4	Track #5
-------------	----------	----------	----------	----------	----------

The track directory actually does not contain names or positions of the files stored on the CD, but the numbers and positions of the tracks (i.e. songs on Audio-CDs). The directory of the files is stored in one of these tracks.

Track

Data on CDs is stored in tracks. Each CD can contain up to 99 tracks. On Audio CDs, each title (song) is stored in a separate track.

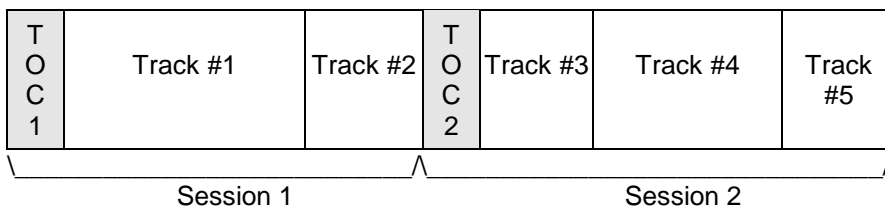
Actual CD-Recorders have to write a single track at once, without any breaks. So, if the input data stream is interrupted (even for a short time), the current track will be corrupted. That's why the CD-Writer file system collects as much data as possible before it starts "burning" the CD. Additionally, the CD Writer file system has to make sure that the files copied are stored in no more than 99 tracks.

Technical details

Therefore, the minimum cache size should not be less than 6144 kB (6 MB * 99 = 630 MB, a CD's capacity). Also, a file's data must not be split into two different tracks.

Multisession CDs

Since a storage area on a CD can only be written to once, a new table of contents (TOC) has to be written for each new session.



Each session has its own TOC. After closing a CD without finalizing the session the new data cannot be accessed from normal CD-ROM drives, because the new TOC was not written to the CD and the CD-ROM drive does not see the new track(s) (data).

The CD-Recorder, however, stores this information in an unused space in the previous TOC and therefore can access the new data.

Note: A session occupies approx. 12-20MB of space on the CD. So that's why a new session should only be closed if the CD should be accessible to normal CD-ROM drives.

Track mode

A track consists of sectors that contain 3234 bytes. 2352 bytes per sector can be used to store data, the rest is used for CD error correction.

Audio

Audio-tracks do not have any additional error correction. The entire sector is occupied by digitized music. For music data no error correction is needed, since data errors are not recognized by the listener.

Mode 1, Form 1

This is the original CD-ROM data format. 2048 of a sector's bytes are used for data; the rest is used for system information and error correction data.

This format can be read by all CD-ROM drives.

Mode 1, Form 2

This format lacks error correction data, so error correction is not provided. It allows 2336 bytes per sector.

This format is used by some (older) Multimedia applications.

Mode 2, Form 1

Similar to Mode 1, Form 1, though 8 unused bytes out of the error correction field are added to the system data at the beginning of the sectors. This format is used by Kodak Photo-CDs.

The RSJ CD-Writer also uses this format to guarantee that non-standard-conforming CD-ROM drives and drivers identify all sessions.

Mode 2, Form 2

Similar to Mode 1, Form 2. 2324 bytes of user data fit in one sector.

Note: This format can only be read by recent Photo-CD-compatible drives (all currently sold CD-ROM drives).

XA, Photo-CD, Multisession

XA

XA was launched by several companies to enable the simultaneous reading of image and sound data. This is achieved by storing data alternately. Because the sector formats of image and sound data differ, the more flexible Mode 2, Form 1 resp. 2 is used.

Photo-CD

Besides the additional data for CDI devices, a Photo-CD consists of single files that contain the image data. Generally, Photo-CDs differ from Writable-CDs only through their imprint.

Format Mode 2, Form 1 is used, so Photo-CDs cannot be read by older CD-ROM drives.

Warning: The RSJ CD-Writer file system accepts Photo-CDs as writable, but sealed and therefore write-protected CDs. By choosing "Remove write protection" in the recorders context menu this write protection can be removed, but the CD might become unusable for CDI-players. That's why used Photo-CDs should not be written to with RSJ CD-Writer. Another option to unseal the CD is the CDWTOOL command.

Multisession

Multisession CDs became common with the arise of Photo-CDs: each Photo-CD which is sent in a second time becomes a multisession CD.

Note: CD-Writer creates Multisession-CDs as well. Some CD-ROM drives are able to read the new Mode 2, Form 1 sector format, but not necessarily have to be able to read multisession CDs. These drives can only access the first session of multisession CDs.

Long file names

Long file name support is based on 2 different standards:

Rock Ridge Extensions

This standard is used to store long file names and Unix-attributes especially within the Unix-area. The RSJ CD-Writer file system (currently) supports file names up to approx. 160 characters. Generally, the file system writes predefined UNIX file attributes to the CD, so existing attributes are not used.

Please note that in UNIX environments upper and lowercase characters in file names are distinguished. When reading Unix-CDs with the RSJ CD-Writer file system, it may happen that a file cannot be opened if another file in the same directory has the same name, but different upper or lower case characters.

This standard is the basis of the RSJ CD-Writer file system and is used for reading and writing.

Joliet

This is the "Windows"-standard for long file names on CDs. It allows up to 64 characters per file name.

Generally, both standards are written to the CD. If a writable CD that already has been written to is reinserted, always the best possible standard is used to display directory and file names.

If CDs are to be accessed under DOS, either the ISO-level in the recorder's settings dialog has to be set to "1" (8.3-names) or their must not be any file names that violate the 8.3 file name convention.

Burn-Proof

RSJ CD-Writer supports Burn-Proof. Recorders with that feature will automatically compensate buffer under-runs.

Buffer under-runs occur when a copy source cannot deliver data quickly enough to the CD as it is recording. This is usually due to heavy system load or a source device that is simply not fast enough.

How can I activate the burn-proof feature?

There is no user option concerning the burn-proof feature.

The recorder's driver checks if burn-proof is supported or not. If burn-proof is supported, it is automatically activated.

Burn-proof and RSJ CD View or the RSJ CD Copy Wizard:

If the recorder supports burn-proof there will be no more buffer under-run errors.

Burn-proof and the filesystem:

Up to now if there was a buffer under-run the current track was finished and a new track started when there was enough harddisk cache. Using a recorder which does not support burn-proof this mechanism still exists.

Using a recorder which supports burn-proof, this mechanism is deactivated.

Tips and tricks

In this section we would like to provide answers and solutions to some known problems. Please read this chapter before contacting your dealer or our customer support.

Incorrect SCSI termination or wiring

Our customer support experience showed that many problems are caused by an incorrect SCSI termination or installation. Please make absolutely sure that your system is correctly configured and terminated. This especially applies to WIDE or U2W SCSI adapters.

In the following section we provide a short and hopefully helpful guide concerning correct termination and wiring.

Termination

A SCSI bus always has to be terminated at both ends. If there is both an external and an internal wire, the internal cable has to be terminated at its end as well as the external cable. To do this, activate the termination on the last device or use a special terminator.

Please also make sure that no device in the chain may be terminated. This happens for example if the adapter is terminated and a device is attached to the external slot connector.

If you use a WIDE adapter that has its wide (16 bit) bus connected to a narrow (8 bit) external port you have to make sure that the high order byte of the bus is properly terminated. This can be achieved using the adapter's setup program or, with onboard SCSI adapters, by a special slot adapter.

However, many onboard adapters come with a slot panel that does not provide proper termination of the high order byte of the wide bus. These slots should not be used.

Correct wiring

SCSI devices must be connected using a single wire as a „daisy chain“ without any forks. With WIDE adapters providing three internal connectors you have to observe that two of these connectors are connected to the same bus. Using these two connectors at the same time results in a fork that is not allowed and very likely to cause problems.

Tips and tricks

SCSI cable length

The maximum cable length differs depending on the interface type:

Number of devices (incl. Adapter)	SCSI-1	SCSI-2	Ultra(W)-SCSI	U2W-SCSI
1 – 4 devices	6 meter	3 meter	3 meter	12 meters
5 – 7 devices	3 meter	3 meter	1 meter	12 meters

If both external and internal devices are used, the lengths of both cables have to be added.

Please make sure that there is a minimum cable length of 30 cm (approx 7.5 ") between each device.

If these explanations do not solve your problem, please ask your hardware dealer or check the manual of your SCSI adapter.

Error solutions

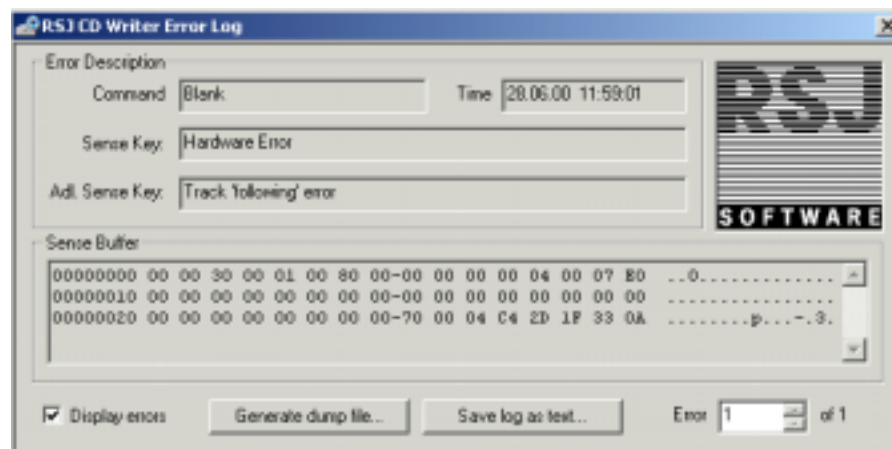
This chapter will assist you in correcting problems which may arise using the CD-Writer file system.

RSJ CD Writer Error Log

All CD-Recorder errors are recorded by the program "CDWPOPUP" and dumped onto the screen. This information is essential if you contact customer support, so the program should not be terminated.

Note: A defective CD should not be inserted into the CD-Recorder; already closed sessions can be read by CD-ROM drives anyway.

RSJ CD Writer Error Log only reports errors returned by the CD recorder. File system errors are returned and processed with standard Windows error codes. If you have any problem with RSJ CD-Writer, please send the output of RSJ CD Writer Error Log to support@rsj.de



To send the error log please do the following:

- Click (right mouse button) on the CD-symbol in the task bar.
- Select 'Show'.
- Press "Save log as Text". This will generate a file called cdwpopup.txt.

Error solutions

- Send this file to support@rsj.de

Table of errors

The following table contains the most important errors that might be reported by *RSJ CD Writer Error Log*.

Sense Key	Adl. Sense Key	Cause/Correction
Illegal Request	Invalid Block Address	The CD and the file system do have a different status. Release CD with "Emergency eject" command. The reason could be a buffer underrun. Please reduce the writing speed.
Medium Error	Unable to read PMA, TOC or sub code	The CD is either damaged or dirty. If cleaning does not solve the problem the CD must be replaced.
Medium Error	Absorption Control Error	The track could not be written correctly. In general, this error arises after the CD was removed improperly and replaced by another CD. A system reboot without closing the CD might cause this error, too. The CD is defective and must be replaced.
Hardware Error	*	The CD-Recorder has located an internal error. Remove the CD with "emergency eject", switch off and reactivate the recorder and try again. If the error persists, the Recorder needs service.
Unit Attention	*	The CD was manually replaced (drive door not locked) or the external recorder was turned off and back on by accident. To avoid loss of data, use the "Emergency eject" command.

Other errors

The following table contains a list of errors which cannot be assigned to a special command. Especially an incorrect configuration may cause these errors.

Errors	Cause/Correction
CD with write protection	<ul style="list-style-type: none"> • CD-ROM is inserted. Only writable CDs can be written to. You may recognize writable CDs by their golden (sometimes greenish gleaming) color. • There are too many tracks on the CD. This can be checked with the "Check CD" command. • The CD is full. • The CD was released with the "Close with write protection" command.
Drive cannot be accessed	<ul style="list-style-type: none"> • The drive is not ready (no CD, switched off, bad connection). • Drive was turned off or not connected during system boot. • The drive is defective. <p>Please send the INSTALL.LOG to support@rsj.de</p>
CD cannot be finalized	An error occurred during the write process. If closing the CD does not work even after a second try, the CD must be released using the "Emergency eject" command. The CD might be unusable.
Perhaps there is a memory fault	Usually a memory fault is not recognized at all (no Parity Bit) or signaled through a complete system crash. If you are not absolutely sure that the installed memory is o.k., set the memory access speed in the BIOS setup to its minimum value and try again. If it seems ok now, the memory in your system is either of poor quality or defect. Disabling the 2 nd level cache in the BIOS setup might be helpful for testing, too.

FAQ's

After changing the cache size, the writing process is aborted with an error message

The maximum cache size mainly depends on the memory (RAM) installed. If the Cache size exceeds free memory, space must be made available by swapping other programs and data to the hard disk. This reduces CD-Writers performance and reliability. If the cache size is way too large, the memory cannot be made available at all and the writing process will be aborted with an error message.

Self-written CDs cannot be read by some CD-ROM drives

Unfortunately, there is no general solution. The CD-ROM drives have to be able to recognize multiple sessions and read CD-XA-tracks. Some of the drives available today are not able to read CD-RW's. A reason therefore is that they have other optical features as CD-R's or CD-ROM's. In such a case, please try to use CD-R's instead of CD-RW's.

Sometimes certain CD recorder and CD-ROM drive combinations cause problems. For example, a NEC 6-speed CD-ROM drive CDR502 cannot read CDs written with Yamaha's CDR100E. There still are combinations which cause problems – in these cases, “try and error” is the only help. In rare cases CD-ROM drives cannot cope with more than approx. 80 tracks; then raise the cache size to reduce the number of tracks.

Sometimes my CD-ROM drive cannot identify all sessions. But it should be multi-session capable (at least according to producer's specification)

Although there is no limit for the maximum number of sessions on a CD, it seems that more than 10 sessions might not be managed by some CD-ROM drives. In that case the only solution is to copy the CD from the Recorder to a hard disk and then back to a new CD (with one single session)

How do I erase a CD-RW?

Erase the CD-RW by opening the context menu of the drive and choosing Blank CD. Please note that you can only delete the whole CD-RW.

My CD is not copied at the speed I expected.

Most of CD-RW's are copied with 2x speed. Some can be copied with a higher speed. Here it depends on the medium. If you write to a CD-R, you can choose the speed. The software checks the speed and reduces it, if it thinks it's necessary.

The Audio CD I copied does not contain audio, but tracks.

RSJ CD Writer uses the Windows CD-ROM driver to read from the CD-ROM drive. This driver sometimes is not able to read audio data in a digital mode (but may be able to play Audio). In this case copy the tracks from the CD-Writer to the harddisk and then from the harddisk to the CD-Writer.

How do I finalize a data CD from the command line?

Finalize the session with

```
CDWTOOL E: -S
```

How can I create a CD from an ISO image?

Simply drag the ISO file to the recorder's CD-View window and start recording. This procedure is the same as with WAV and other audio files.

System requirements

This chapter lists the hard- and software requirements for RSJ CD-Writer.

Hardware

The following hardware requirements must be met:

- IBM compatible PC with 80486-CPU or higher
- At least 16 MP Main memory
- SCSI host adapter or ATAPI adapter
- supported CD-Recorder

Our website <http://www.rsj.de> shows a list of supported CD recorders.

If your recorder is not in the list of supported drives, the installation program tries to detect it automatically because RSJ CD Writer does support automatically detection of MMC and ATAPI compatible drives.

Software

The following software requirements must be met:

- Microsoft Windows 95 or Windows 98 or Windows ME
- SCSI/IDE host adapter driver support
- Internet connection for freedb access
- Microsoft Windows Media Player Version 6.x or higher for MP3 support (<http://www.microsoft.com>)
- does not run with Windows NT and Windows 2000/XP

CD-ROM

Generally, CDs created by the RSJ CD-Writer file system can be read by all current CD-ROM drives.

The following restrictions apply:

- Verify that the driver software used supports multiple sessions (e.g. MSCDEX.EXE) if you want to read multi session CDs
- For reading of CD-RWs a CD-RW capable CD-ROM drive is required.

Appendix

The appendix contains general information and specifications concerning restrictions.

Restrictions

In the current version the following restrictions apply:

- Only one file may be open for write access at a time.

Mastering

The RSJ CD-Writer file system was not designed for mass production of CDs. Application examples are, among other things, filing of data, production of application specific CDs, the use of CDs as transfer medium (e.g. DTP) and the production of prototypes.

If you want to create a master CD, we recommend to point out to the CD-producer that a new CD should be created that contains all data in one single track. Otherwise the photo CD-similar format of the CD-Writer CDs might cause problems creating or using the glass master (several tracks, more than one session, etc...).

Conditions of use

- 1) The product contains data processing programs and their documentation. We would like to point out that at the current state of technology it is not possible to develop data processing programs which work totally free of errors in all environments (especially if they work with other programs).
- 2) Object of this contract is, however, a data processing program which is fundamentally useful as an application. The responsibility for choice, installation and use as well as the results intended exclusively bears the purchaser.
- 3) The program may be used with or in connection with only one single machine. If the programs are altered or connected with other programs, they may also be used only on one machine.
- 4) The delivered, altered or linked programs may be copied in machine-readable or printed style if the copy serves as a backup or to alter the program. 3 also applies to copies.
- 5) The program contains a Copyright note. This note must be adopted in every single copy, every altered version and every part of the program which is connected with another program.
- 6) Other usage of the product is not allowed.
- 7) If you export the program, the export regulations of the Federal Republic of Germany must be observed.
- 8) The purchaser may assign his license to a third party in the extent and restrictions of the above mentioned regulations. With the assignment the person assigning loses all rights of use for the original, all copies, altered versions and connections.

Glossary

Burn-Proof	Recorders with the burn-proof feature will automatically compensate buffer under-runs.
Cache	The cache is a buffer memory.
CD-Copy-Wizard	Copies entire CDs in just a few steps.
Cover Editor	Creates and prints CD covers for your CD.
CD-View	CD-View processes data on a track basis no matter what they contain. It copies all kind of CDs in just a few steps.
CDWPOPUP	All CD-Recorder errors are recorded by the program "CDWPOPUP" and dumped onto the screen.
DAO	Using Disk at Once you can avoid the pauses between tracks.
freedb	freedb is an online CD data base that RSJ CD-Writer accesses to retrieve CD and track title information.
ISO9660	This standard defines the method which should be used for storing data on a CD.
Joliet	This is the "Windows"-standard for long file names on CDs. It allows up to 64 characters per file name.
MP3	MP3 is a compressed form of audio data.
Postgap	Distance between the end of the song and the end of the track.

Pregap	Distance between the beginning of the track and the beginning of the song.
Read Cache	The read cache is needed to balance short-term reading delays and ensures a minimum writing speed while copying tracks.
Rock Ridge Extensions	This standard is used to store long file names and Unix-attributes especially within the Unix-area.
Status Bar	The status bar displays general information about the CD inserted as well as the current status of the program.
Track	Data on CDs is stored in tracks.
Track Size	The size of a track describes the play back time of the track and the length of the track in megabytes.
.TRK	Data tracks are stored with the .TRK extension
.WAV	Audio tracks are stored with the .WAV extension
Windows Media Player	A microsoft program to play multimedia files. You can download it from http://www.microsoft.com

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